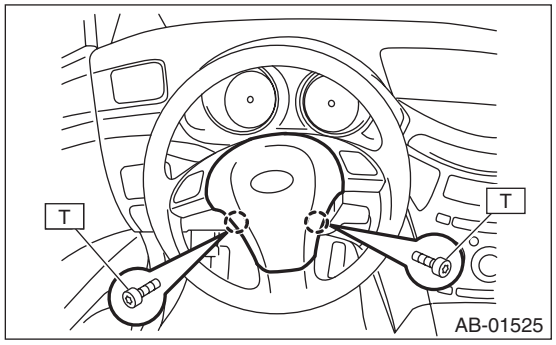
1. General Description

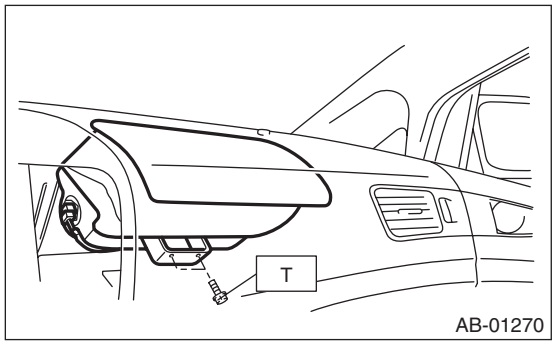
A: COMPONENT

1. DRIVER'S AIRBAG MODULE



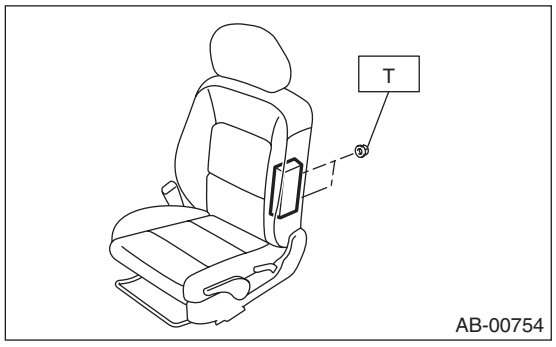
Tightening torque:
10 N·m (1.0 kgf-m, 7.2 ft-lb)

2. PASSENGER'S AIRBAG MODULE



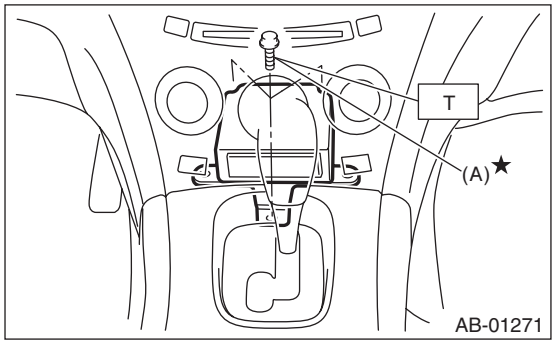
Tightening torque:
7.4 N·m (0.75 kgf-m, 5.5 ft-lb)

3. SIDE AIRBAG MODULE



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

4. AIRBAG CONTROL MODULE

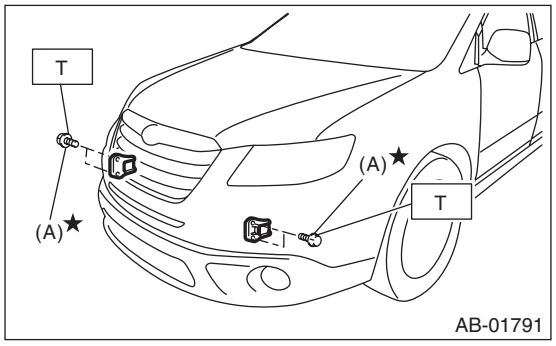


(A) Bolt

CAUTION:
Do not reuse mounting bolts and nuts.

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

5. FRONT SUB SENSOR

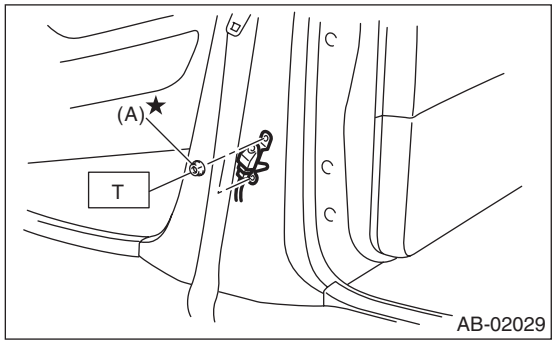


(A) Bolt

CAUTION:
Do not reuse mounting bolts and nuts.

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

6. SIDE AIRBAG SENSOR

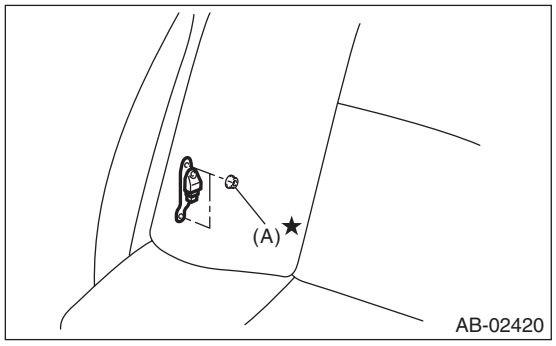


(A) Bolt

CAUTION:
Do not reuse mounting bolts and nuts.

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

7. CURTAIN AIRBAG SENSOR

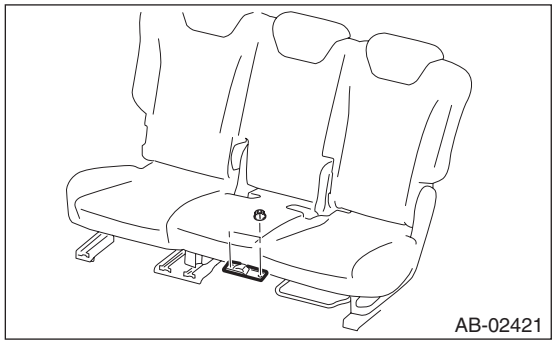


(A) Nut

CAUTION:
Do not reuse mounting bolts and nuts.

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

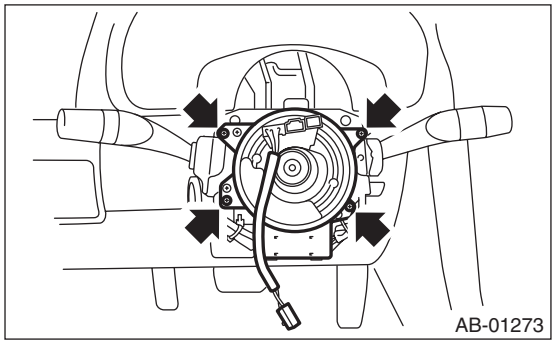
8. SATELLITE SAFING SENSOR



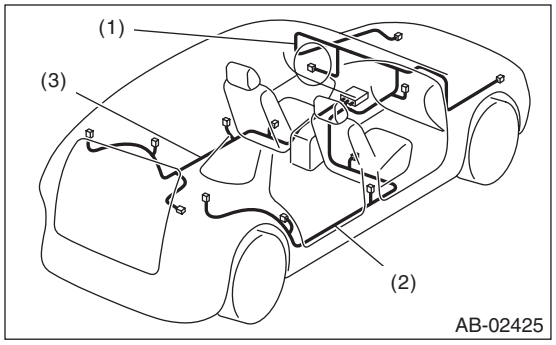
CAUTION:
Do not reuse mounting bolts and nuts.

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

9. STEERING ROLL CONNECTOR

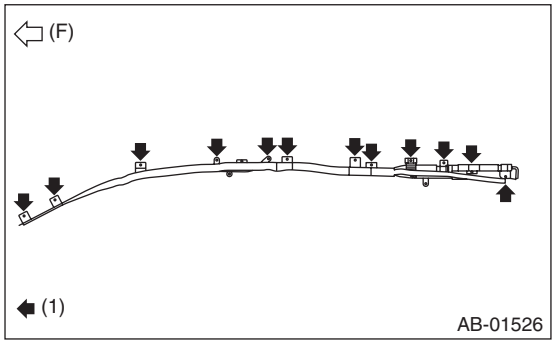


10.AIRBAG HARNESS



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

11.CURTAIN AIRBAG MODULE



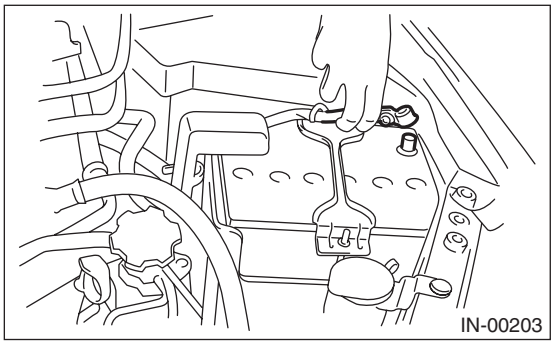
(F) Front side of vehicle

(1) Bolt

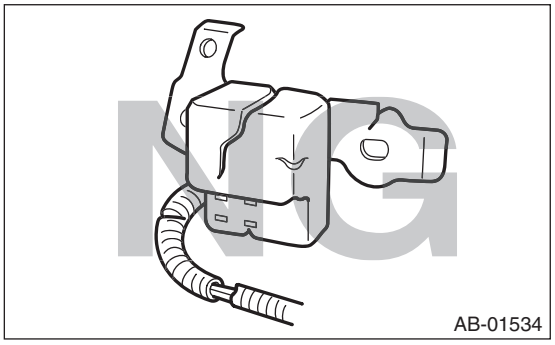
Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

B: CAUTION

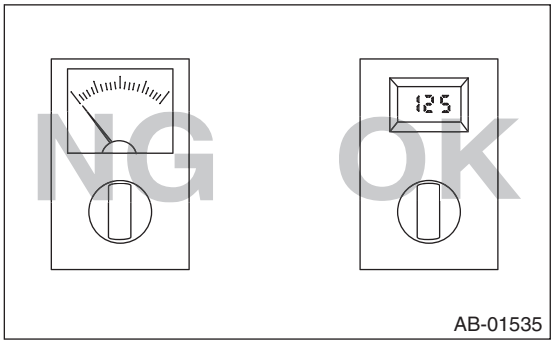
• When servicing a vehicle, be sure to turn the ignition switch to OFF, disconnect the ground cable from battery, and wait for 60 seconds or more before starting work.
• The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may deploy if you do not wait for 60 seconds or more before starting airbag system servicing.



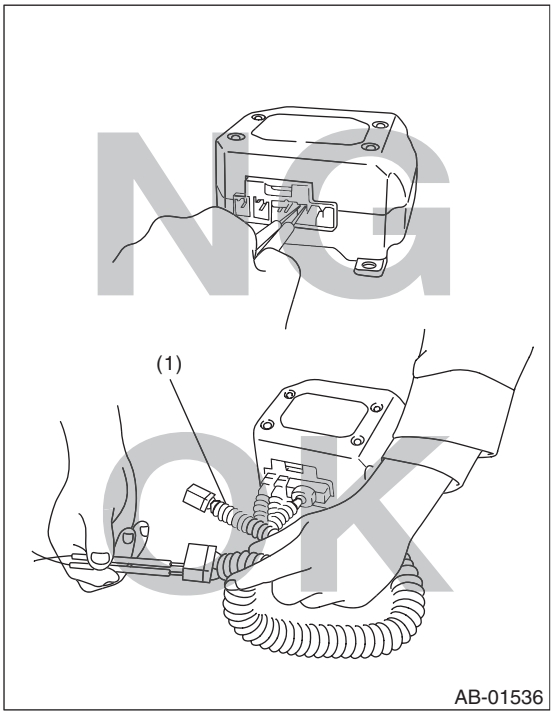
• If the airbag warning light illuminates, repair the vehicle immediately. Otherwise, the airbag or pretensioner may inflate incorrectly, or not inflate in collision.
• If sensors, sensor cover, airbag module, airbag control module, pretensioner or harness is deformed or damaged, replace with new parts.



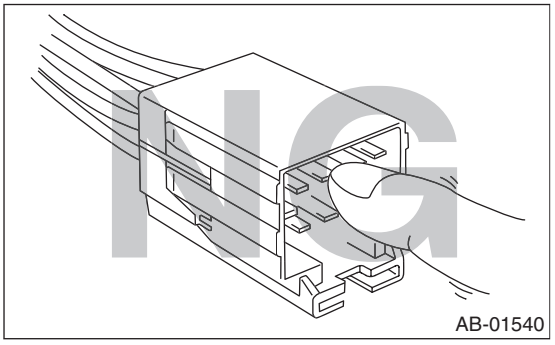
• When checking the airbag system, be sure to use a digital circuit tester. Use of an analog circuit tester may cause the airbag to activate erroneously due to a minimal current inside tester.



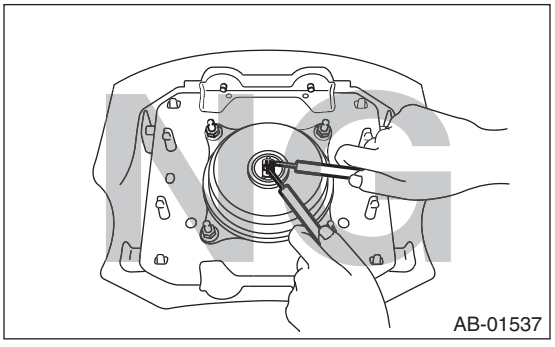
• When checking, use a test harness (1). Damage to connector terminal cause malfunction. Do not directly apply the tester probe to connector terminal of airbag.



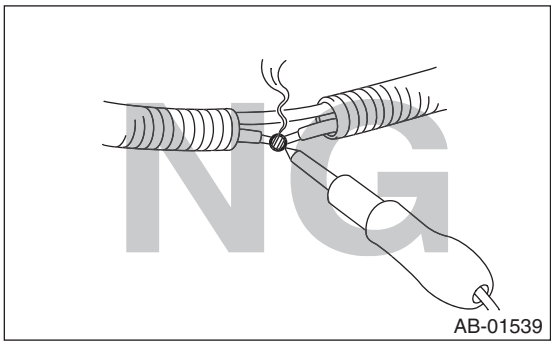
• Do not allow water or oil to come in contact with the connector terminals. Also, do not touch the connector terminals.



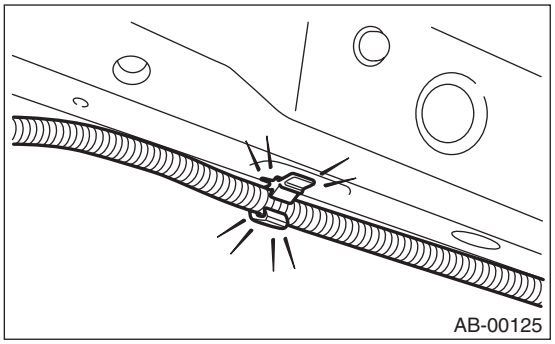
• Do not check continuity of the airbag modules for driver's side, passenger's side and curtain, or the pretensioner.



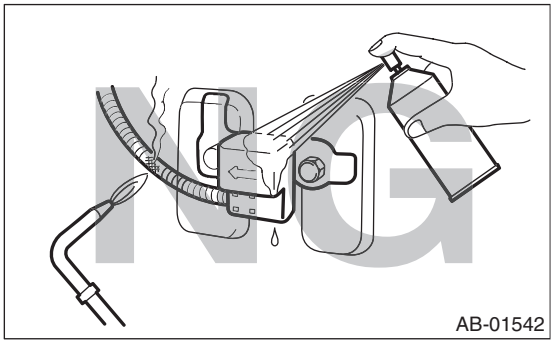
• If damage, open circuit or rust is found on airbag system wiring harness, do not use a soldering equipment to repair. Replace the faulty harness with a new genuine part.



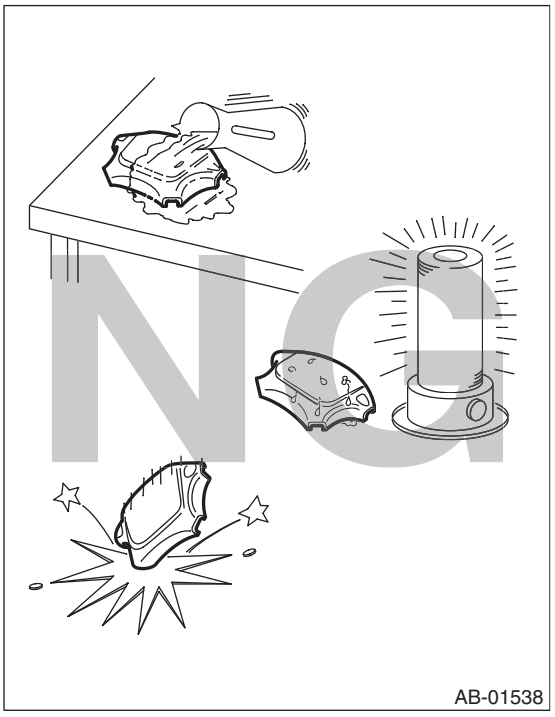
• Install the wiring harness securely with the specified clips to avoid interference or tangled with other parts.



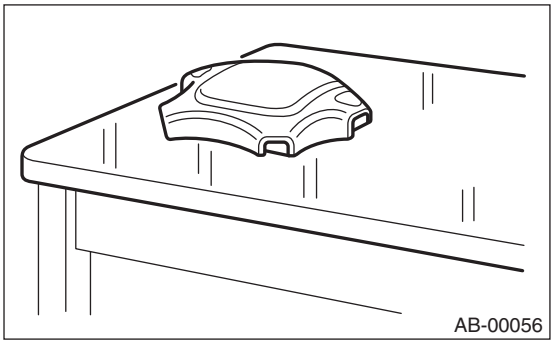
• When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender and front side frame, remove the front sub sensors and wiring harness of airbag system.
• When painting or performing sheet metal work on the side of the vehicle and around the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



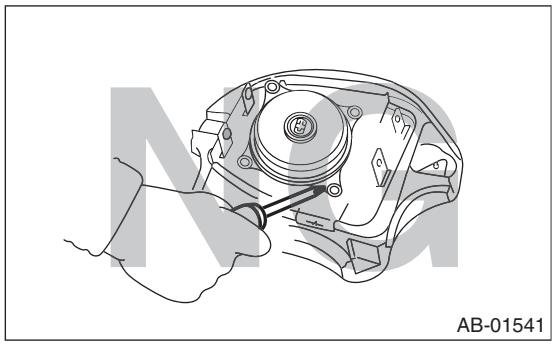
• Do not use the airbag or pretensioner parts from other vehicles. Always replace the defective parts with new parts.
• Never reuse a deployed airbag module and pretensioner.
• Do not discard undeployed airbag or pretensioner.
• When airbag control module, front sub sensor, side airbag sensor, curtain airbag sensor and satellite safing sensor are removed, do not reuse the bolts and nuts of them. Always use new bolts and nuts for them.
• Do not drop each airbag module, airbag control module and each sensor, or store these parts under high temperature of 85°C (185°F) or more, or let water, oil or grease get on them; the internal parts may be damaged or the reliability may be greatly lowered.



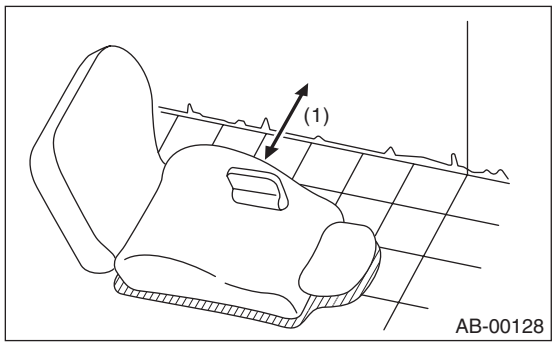
• After removal of each parts for airbag system, keep them with the pad facing upward on a dry, clean and flat surface without heat, light sources, moisture and dust.



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

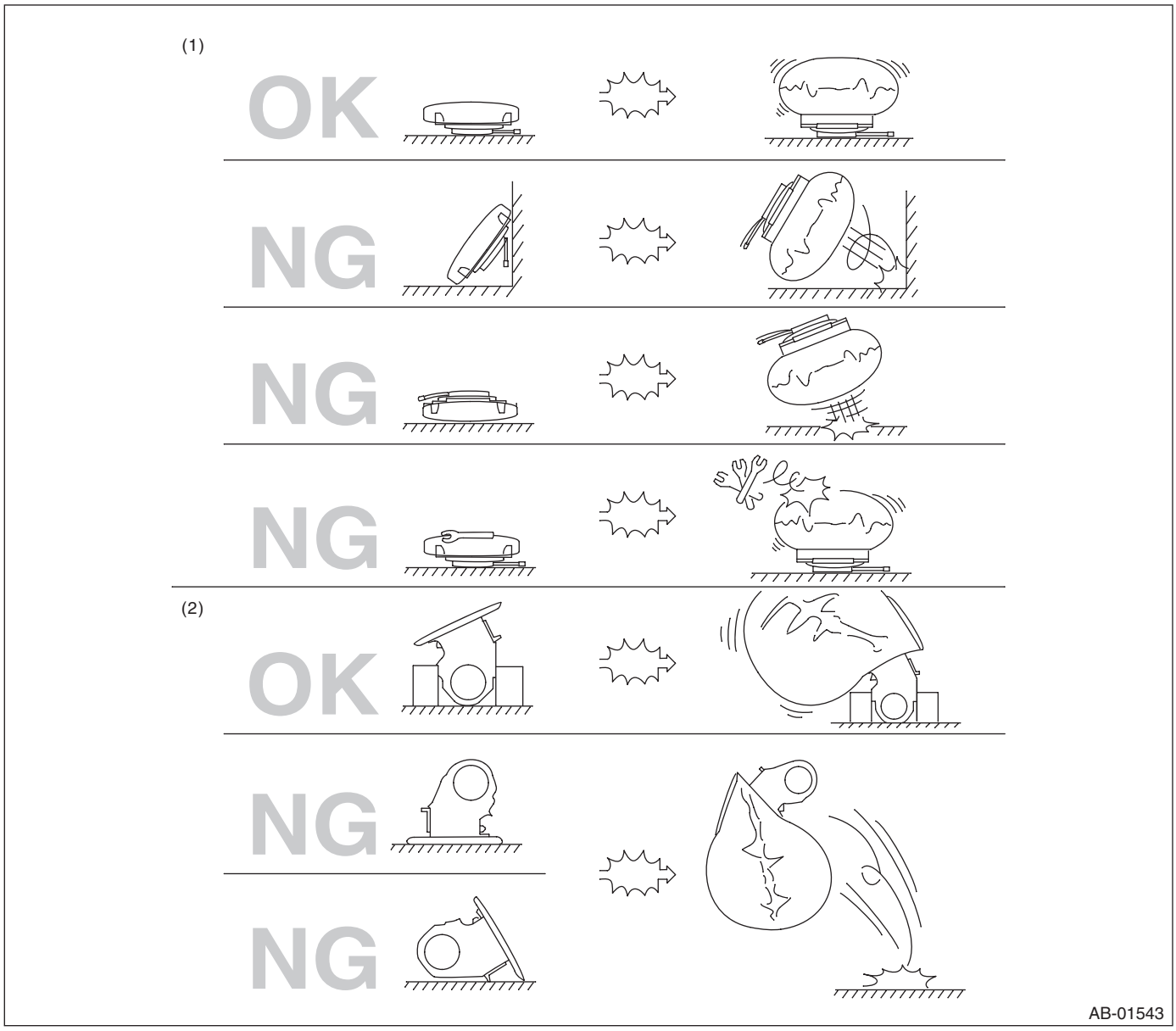


• When performing attachment of the steering wheel and steering roll connector, make sure to perform adjustment of the steering roll connector.
• The removed front seat with airbag module must be kept at least 200 mm (8 in) away from walls and other objects.



(1) 200 mm (8 in) or more

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



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

C: PREPARATION TOOL

1. GENERAL TOOL

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

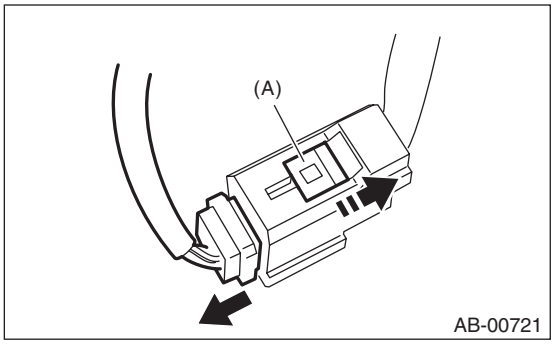
2. Airbag Connector

A: PROCEDURE

1. BUCKLE SWITCH

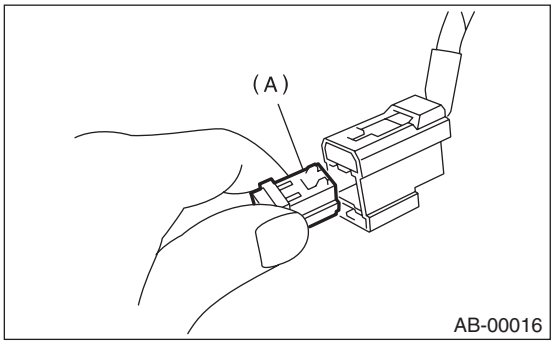
1) How to disconnect:
(1) Move the slide lock (A) in the direction of arrow.
(2) While holding the slide lock (A) in moved position, disconnect the connector.

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



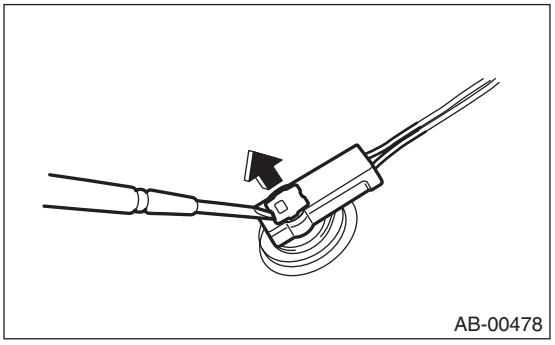
2) How to connect:
Holding the connector (A), and push it in carefully until a clicking sound is heard.

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

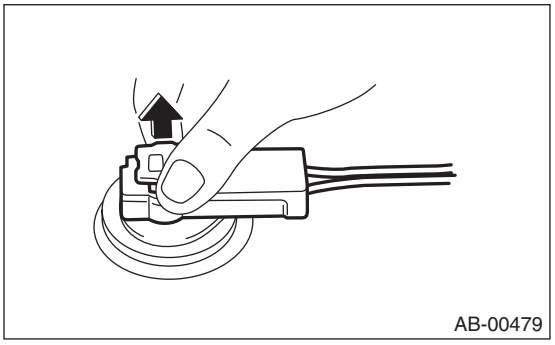


2. DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE AND PRETENSIONER

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

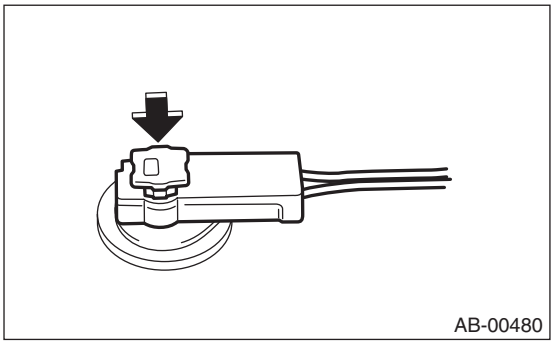


(2) Pull and disconnect the connector from the driver's airbag module assembly or retractor assembly.



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

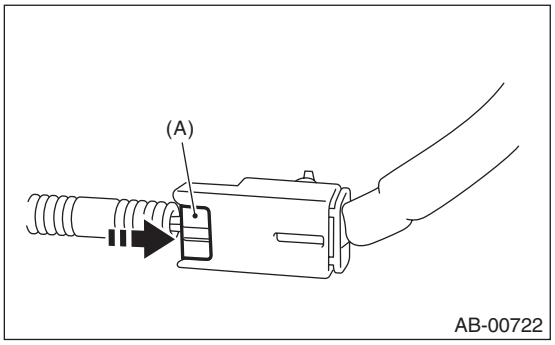
CAUTION:
- **Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.**
- **Be sure to push the push lock in securely.**



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

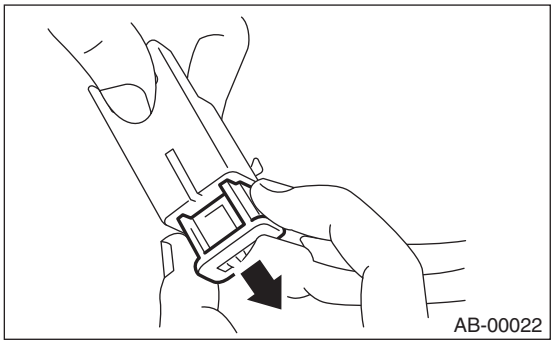
3. DRIVER'S AIRBAG (BETWEEN AIRBAG MAIN HARNESS AND ROLL CONNECTOR) AND PASSENGER'S AIRBAG

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



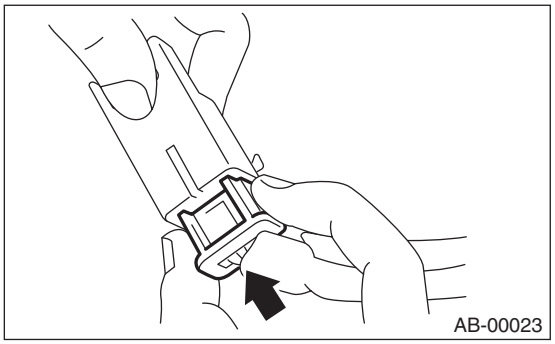
(2) With the slide lock pushed, disconnect the connector.

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



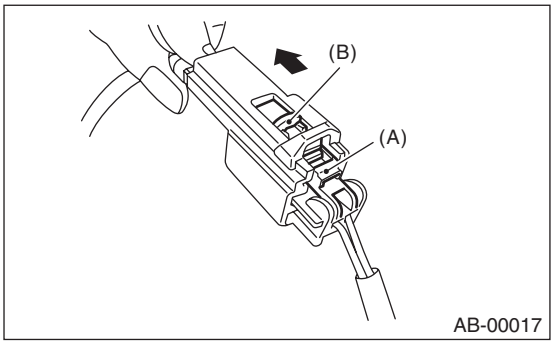
2) How to connect:
Holding the connector, push it in securely until a clicking sound is heard.

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



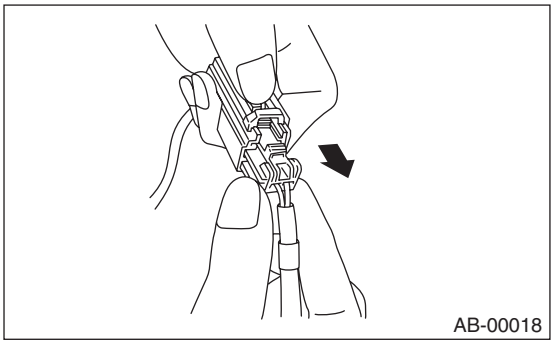
4. SIDE AIRBAG

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



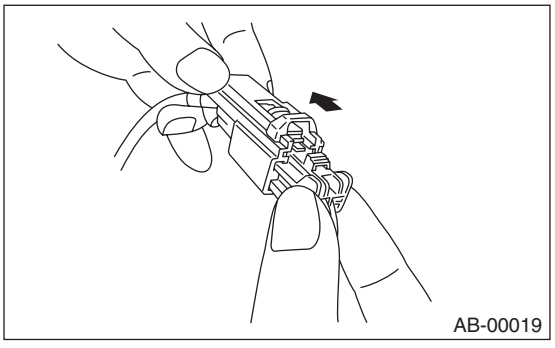
(3) While holding the slide lock in that position, release the lock arm (back to the original position), and disconnect the connector.

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



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

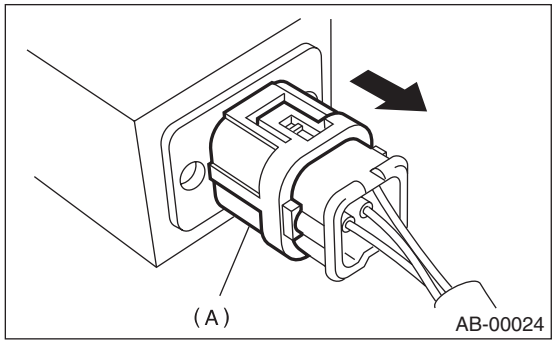
CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.



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

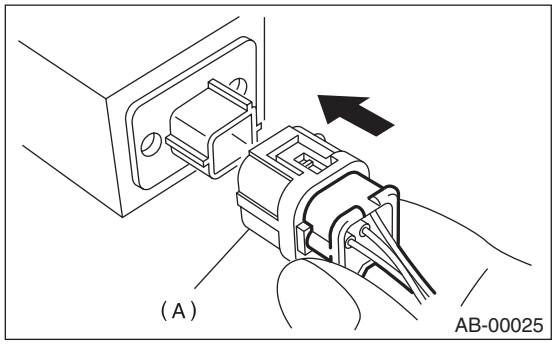
1) How to disconnect:
Holding outer part (A), pull it in the direction of arrow.

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



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

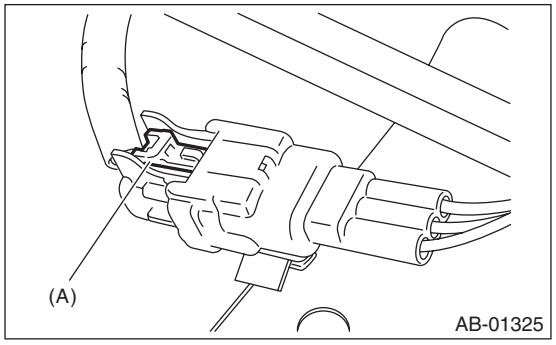
CAUTION:
• Outer side (A) move back, and so do not put your hand on the outer part.
• Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.



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

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

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

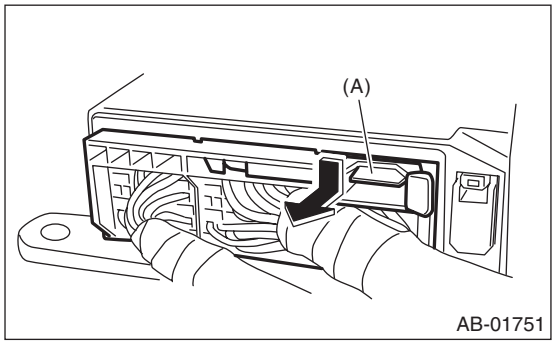


2) How to connect:
Holding the connector, push it in securely until a clicking sound is heard.

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

7. AIRBAG CONTROL MODULE

1) How to disconnect:
Press the lock lever plate (A) and pull out the lock lever.



2) How to connect:
Insert the connector and push the lock lever in securely.

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

3. Inspection Locations After a Collision

A: REPLACEMENT

Replace the following parts when the airbag is deployed.

1. FRONT COLLISION

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

2. SIDE COLLISION

1) Airbag control module
2) Side airbag module (operating side seat backrest)
3) Side airbag sensor (operating side)
4) Curtain airbag module (operating side)
5) Curtain airbag sensor (operating side)
6) Satellite safing sensor
7) Satellite safing sensor cover

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 connectors of airbag module, pretensioner, etc. for damage, and also check each harness for pinch and connector damage. Replace the harness as a unit if damage is found.
3) Check the seat cushion pad and frame assembly, backrest, seat rail and headrest for deformation, distortion, crack, and installing condition and play.
4) For passengers seat, replace the seat cushion pad and frame assembly with new part if it is deformed or cracked.
5) If there are tears or loosening in the passenger side seat cushion cover, it may interfere with the proper operation of the passenger detection system. Replace with a new cushion cover.
6) Be sure to perform the system calibration for the occupant detection system after removing or replacing the passenger seat cushion cover. Failure to do so may cause improper operation of the passenger detection system. <Ref. to OD(diag)-14, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
7) Use the Subaru Select Monitor to check whether the driver's seat position sensor and the driver's and the front left/right seat belt buckle switches are operating normally.

B: INSPECTION

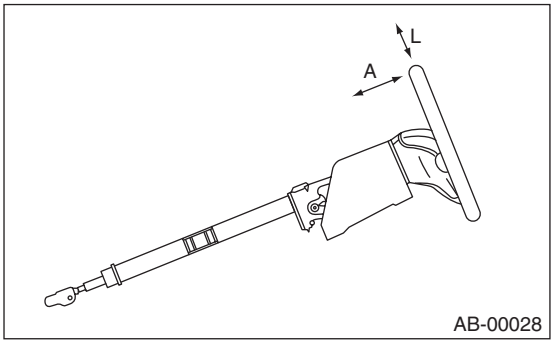
If the vehicle is involved in a collision, even if it is a slight collision, be sure to check the following systems.

1. DRIVER'S AIRBAG MODULE

1) Check for the following, and replace the damaged parts with new parts.
- Airbag module is cracked or deformed.
- Harness and/or connector is cracked, deformed or open. Harness wire is exposed.
- The module surface is fouled with grease, oil, water or cleaning solvent.

2) When installing a new driver's airbag module, check for the following, and replace the damaged parts with new parts.
- The steering wheel is in the way, making it difficult to install the airbag module.
- The clearance between the driver's airbag module and steering wheel is not constant.
- When steering wheel deformation in axial and vertical directions exceed limits.

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



2. PASSENGER'S AIRBAG MODULE

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

3. SIDE AIRBAG MODULE

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

4. CURTAIN AIRBAG MODULE

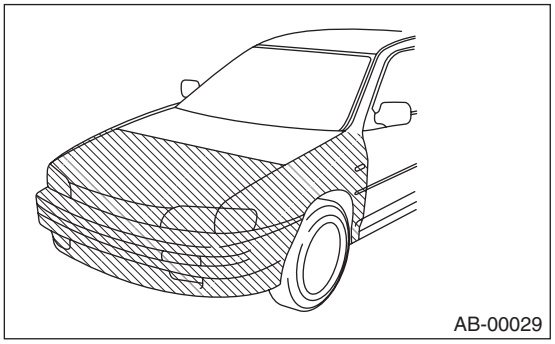
Check for the following, and replace the damaged parts with new parts.
- Airbag cover is scratched or broken.
- Harness and/or connector is cracked, deformed or open. Harness wire is exposed.
- Mounting bracket and securing clip are cracked or deformed.

5. AIRBAG CONTROL MODULE

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

6. FRONT SUB SENSOR

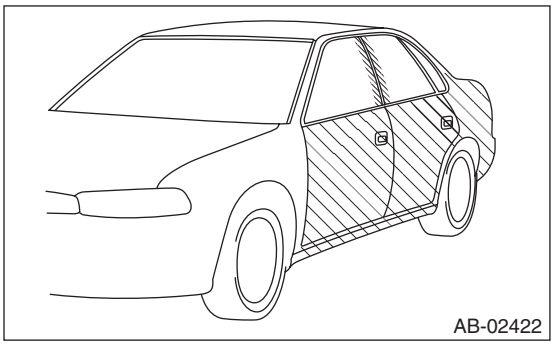
If the section of vehicle as shown in the figure is damaged, check the following items and replace the damaged parts with new parts.


AB-00029

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

7. SIDE AIRBAG SENSOR, CURTAIN AIRBAG SENSOR AND SATELLITE SAFING 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.


AB-02422

- Side aibag sensor, curtain airbag sensor, and satellite safing 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)
- Satellite safing sensor cover is cracked or deformed.

8. ROLL CONNECTOR

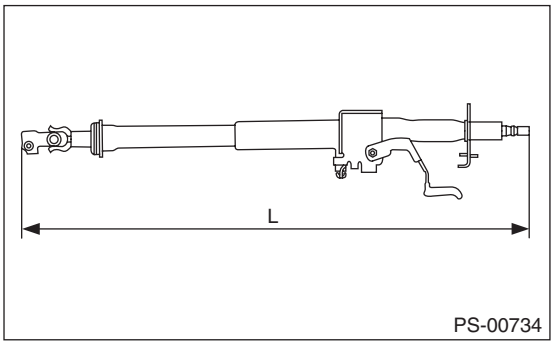
Check for the following, and replace the damaged parts with new parts.
- Combination switch or steering roll connector is cracked or deformed.

9. STEERING SHAFT

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

Specification:

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



PS-00734

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.
• Backrest frame for crack or deformation
• Headrest for deformation or play

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)-14, 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)-14, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>

12.BELT TENSION SENSOR

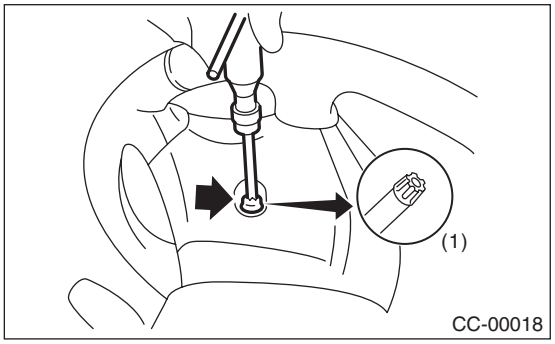
Check for the following, and replace the damaged parts with new parts.
• Belt tension sensor is scratched, cracked, or deformed.
• Harness and/or connector is cracked, deformed or open. Harness wire is exposed.

4. Driver's Airbag Module

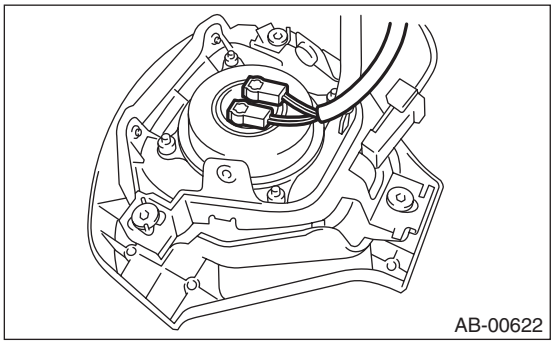
A: REMOVAL

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 60 seconds before starting work.
4) Using TORX® bit T30 (1), remove the two TORX® bolts on the side of steering wheel.



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



7) For handling of the removed airbag module, refer to "CAUTION". <Ref. to AB-4, CAUTION, General Description.>

B: INSTALLATION

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

Install in the reverse order of removal.

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

C: INSPECTION

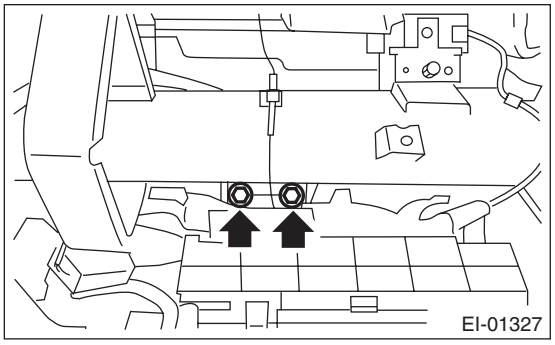
CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>

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

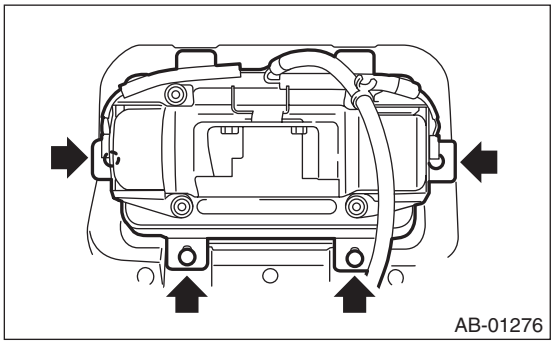
5. Passenger's Airbag Module

A: REMOVAL

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
3) Remove the glove box. <Ref. to EI-38, REMOVAL, Glove Box.>
4) Remove the mounting bolts of the passenger's side airbag module.



5) Remove the instrument panel upper. <Ref. to EI-41, INSTRUMENT PANEL UPPER, REMOVAL, Instrument Panel Assembly.>
6) Remove the screws, and remove the passenger's airbag module.



7) For handling of the removed airbag module, refer to "CAUTION". <Ref. to AB-4, CAUTION, General Description.>

B: INSTALLATION

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

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

C: INSPECTION

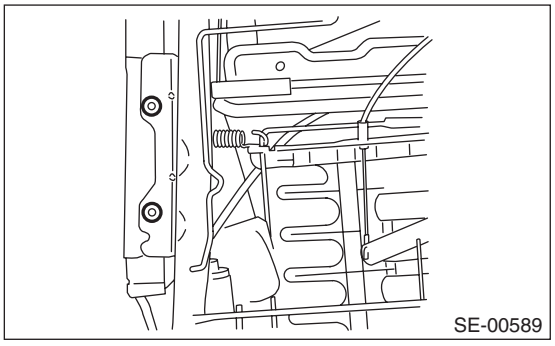
CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
Check for the following, and replace the damaged parts with new parts.
• Airbag module, harness, connector and mounting bracket are damaged. <Ref. to AB-12, PASSENGER'S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

6. Side Airbag Module

A: REMOVAL

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

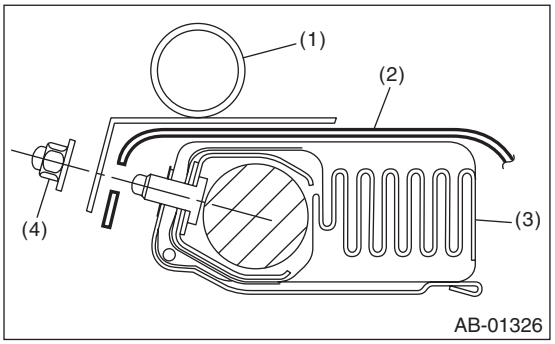
NOTE:
Remove the passenger's side by referring to driver's side.
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
3) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
4) Disconnect the connector from the back side of seat cushion assembly, then remove the side airbag harness.
5) Remove the backrest cover. <Ref. to SE-8, DISASSEMBLY, Front Seat.>
6) Remove the nuts, and remove the side airbag module assembly from the back rest frame assembly.



B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
• Be sure to perform the system calibration for occupant detection system after passenger's seat installation. <Ref. to OD(diag)-14, 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 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-10, ASSEMBLY, Front Seat.>
4) Draw the side airbag harness around the back side of seat cushion assembly.
5) Recline the seat or slide it backward and forward, and check there is no contact between the seat backrest assembly, cushion cover assembly and side airbag harness.

C: INSPECTION

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
Check for the following, and replace the damaged parts with new parts. <Ref. to AB-12, SIDE AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>
1) With side collision (when side airbag is deployed)
- Side airbag module assembly
- Backrest pad assembly
- Backrest frame assembly
- Backrest cover assembly
- Side airbag sensor
- Curtain airbag sensor
- Satellite safing sensor

2) When damage is found by visual check
- Headrest assembly
- Bushing
- Slide rail OUT
- Slide rail IN

• Seat cushion frame assembly (Passenger's side)
• Seat hinge cover
• Power seat switch
• Memory switch
• Satellite safing sensor cover
• Satellite safing sensor bracket
• Side airbag harness and connector on body side

3) With side collision (when side airbag is not deployed)
Check the seat, sensor, 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.

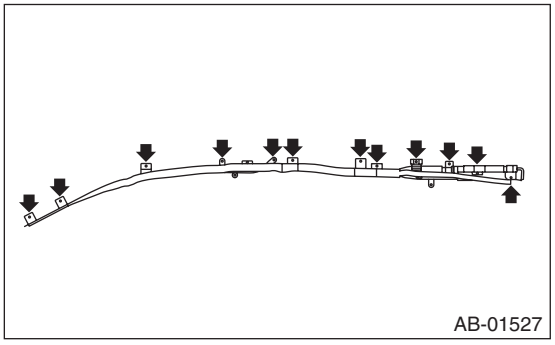
4) Without side collision (dirt and damage of cover)
Replace the corresponding part with a new part.

7. Curtain Airbag Module

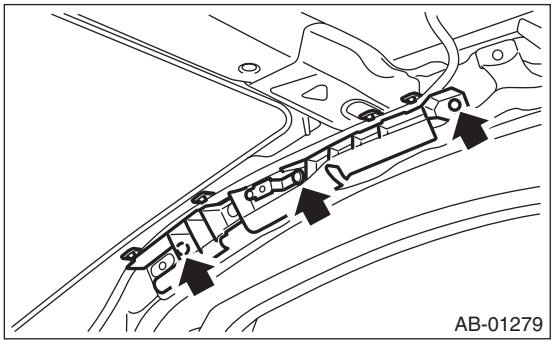
A: REMOVAL

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 60 seconds before starting work.
3) Remove the front pillar upper trim and center pillar upper trim.
• Front pillar upper trim <Ref. to EI-44, FRONT PILLAR UPPER TRIM, REMOVAL, Side Trim.>
• Center pillar upper trim <Ref. to EI-45, CENTER PILLAR UPPER TRIM, REMOVAL, Side Trim.>
4) Remove the rear quarter trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
5) Remove the roof trim. <Ref. to EI-51, REMOVAL, Roof Trim.>
6) Disconnect the connector from curtain airbag module.
7) Remove the bolt, and remove the curtain airbag module.

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


AB-01527

8) Remove the front pillar pad from the front pillar.


AB-01279

B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
• When installing the curtain airbag module, install a specified part at specified place.
• Be careful not to damage the curtain airbag module during removal.
• Never open the curtain airbag module before deploying it. Never reuse the deployed curtain airbag module.
• Make sure that there are no foreign matter on airbag module.
Install in the reverse order of removal.

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

C: INSPECTION

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
Check for the following, and replace the damaged parts with new parts. <Ref. to AB-12, CURTAIN AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>
1) With side collision (when curtain airbag is deployed)
• Curtain airbag module assembly
• Roof trim
• Front pillar upper trim
• Front pillar pad (blue)
• Center pillar upper trim
• Center pillar pad (green)
• Rear quarter upper trim
• Rear quarter pillar pad (red)
• Airbag guide
• Curtain airbag sensor
• Satellite safing sensor
2) When damage is found by visual check
• Assist grip
• Assist grip bracket
• Curtain airbag harness and connector on body side.
• Satellite safing sensor bracket
• Satellite safing sensor cover
3) With side collision (when curtain airbag is not deployed)
Check the roof trim, pillar trim, airbag module and sensor 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.

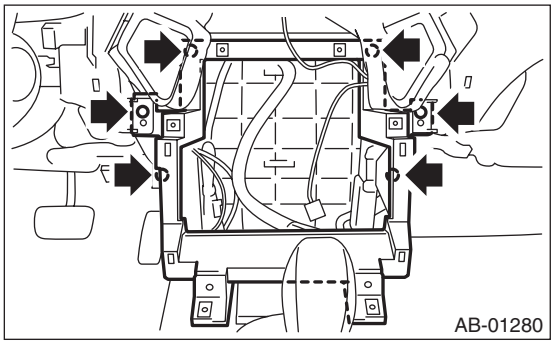
4) Without side collision (dirt and damage of cover)
Replace the corresponding part with a new part.

8. Airbag Control Module

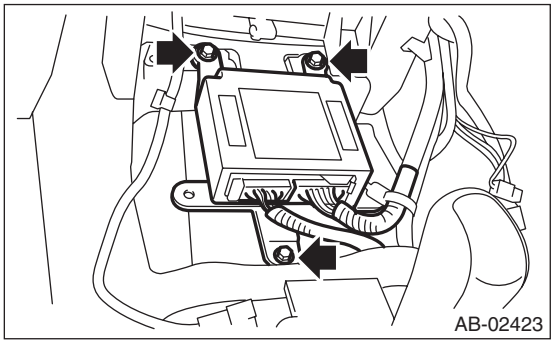
A: REMOVAL

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 60 seconds before starting work.
3) Remove the center console. <Ref. to EI-40, REMOVAL, Center Console.>
4) Remove the console box. <Ref. to EI-39, REMOVAL, Console Box.>
5) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
6) Remove the glove box. <Ref. to EI-38, REMOVAL, Glove Box.>
7) Remove the audio unit. <Ref. to ET-13, REMOVAL, Audio.>
8) Remove the screws, and remove the center console frame.


AB-01280

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


AB-02423

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)

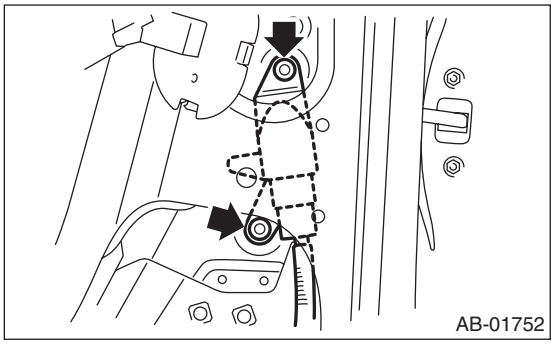
C: INSPECTION

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

CAUTION:
Do not separate the side airbag sensor and bracket. Doing so will cause the airbag system malfunction. If the sensor is removed from the bracket, be sure to replace with a new part.
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
3) Remove the center pillar lower trim. <Ref. to EI-45, CENTER PILLAR LOWER TRIM, REMOVAL, Side Trim.>
4) Remove the seat belt retractor of the front outer seat belt. <Ref. to SB-18, OUTER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
5) Remove the nut and disconnect the airbag connector to remove side airbag sensor.



B: INSTALLATION

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

Install in the reverse order of removal.

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

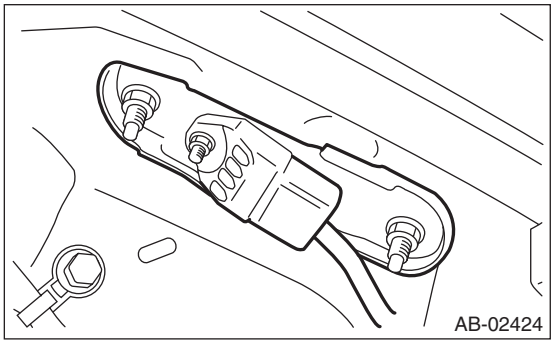
C: INSPECTION

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

10.Curtain Airbag Sensor

A: REMOVAL

CAUTION:
Do not separate the curtain airbag sensor and bracket. Doing so will cause the airbag system malfunction. If the sensor is removed from the bracket, be sure to replace with a new part.
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
3) Remove the rear quarter lower trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
4) Remove the nut and disconnect the airbag connector to remove the curtain airbag sensor.



B: INSTALLATION

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

Install in the reverse order of removal.

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

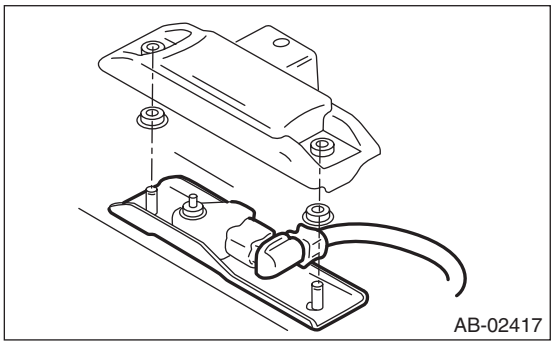
C: INSPECTION

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

11.Satellite Safing Sensor

A: REMOVAL

CAUTION:
Do not separate the satellite safing sensor and bracket. Doing so will cause the airbag system malfunction. If the sensor is removed from the bracket, be sure to replace with a new part.
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
3) Remove the second row seats. <Ref. to SE-13, REMOVAL, Second Seat.>
4) Remove the satellite safing sensor.
   (1) Remove the cover.
   (2) Disconnect the airbag connector.
   (3) Remove the nut, and remove the satellite safing sensor.


AB-02417

B: INSTALLATION

CAUTION:
- **Do not reuse the bolt and nut.**
- **Always use new bolts and nuts for them.**
- **When installing the satellite safing sensor cover, push the cover securely until it contacts the floor panel.**
- **If the satellite safing sensor cover can be removed easily because the connection part with the satellite safing sensor has become loose, replace the cover with a new part.**
- **After installing the satellite safing sensor cover, make sure that the sensor harness is not caught.**

Install in the reverse order of removal.

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

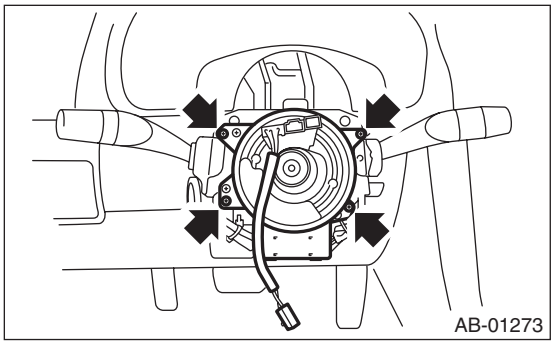
C: INSPECTION

Check for the following, and replace the damaged parts with new parts.
- Mounting bracket or connector of satellite safing sensor is damaged.
- The satellite safing sensor cover is damaged
- Side airbag or curtain airbag is deployed.

12.Roll Connector

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
3) Remove the driver's airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.>
4) Remove the steering wheel. <Ref. to PS-12, REMOVAL, Steering Wheel.>
5) Remove the steering column cover.
6) Remove the screws, and then remove the roll connector.



B: INSTALLATION

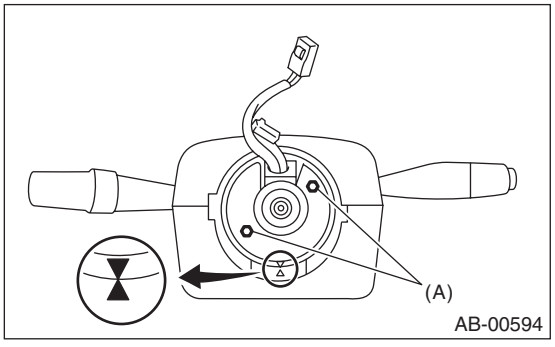
1) Install in the reverse order of removal.
2) Before installing steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-24, ADJUSTMENT, Roll Connector.>

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

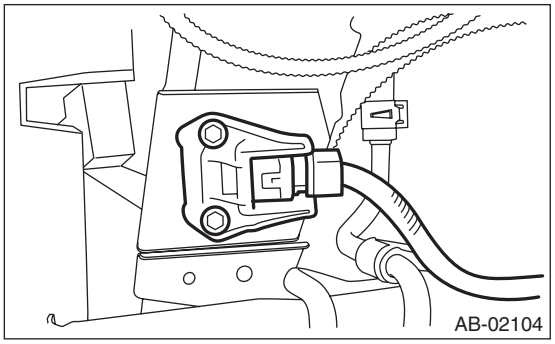
1) Check that front wheels are positioned in straight ahead direction.
2) Turn the roll connector pin (A) clockwise until it stops.
3) Turn the roll connector pins (A) approx. 3.25 turns until "▲" marks are aligned.



13.Front Sub Sensor

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
3) Remove the front bumper face. <Ref. to EI-22, FRONT BUMPER FACE, REMOVAL, Front Bumper.>
4) Remove the bolt, and then detach the front sub sensor.



5) Disconnect the connector from front sub sensor.

B: INSTALLATION

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

Install in the reverse order of removal.

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

C: INSPECTION

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

AIRBAG SYSTEM (DIAGNOSTICS)

AB(diag)

		Page
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2.	Check List for Interview	3
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10.	Clear Memory Mode	30
11.	Airbag Warning Light Illumination Pattern	31
12.	Airbag Warning Light Failure	32
13.	List of Diagnostic Trouble Code (DTC)	36
14.	Diagnostic Chart with Trouble Code	42

1. Basic Diagnostic Procedure

A: PROCEDURE

Step		Check	Yes	No
1	**CHECK WARNING LIGHT.** Check whether the airbag warning light in the combination meter is lit.	Does the airbag warning light illuminate?	Go to step **2**.	Perform the diagnosis according to phenomenon of the problem.
2	**READ DTC.** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. 3) Turn the ignition switch to ON and run the Subaru Select Monitor. 4) Read the DTC. <Ref. to AB(diag)-28, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: If the communication function of the Subaru Select Monitor cannot be executed properly, check the communication circuit. <Ref. to AB(diag)-25, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.> 5) Record all DTCs and freeze frame data.	Is DTC displayed?	Go to step **3**.	Go to “Airbag Warning Light Failure”. <Ref. to AB(diag)-32, Airbag Warning Light Failure.>
3	**PERFORM DIAGNOSIS.** 1) Determine the possible cause from “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-36, List of Diagnostic Trouble Code (DTC).> 2) Inspect the DTC using “List of Diagnostic Trouble Code (DTC)”. 3) Repair the trouble cause. 4) Perform the Clear Memory Mode. <Ref. to AB(diag)-30, Clear Memory Mode.> 5) Perform the Inspection Mode. <Ref. to AB(diag)-29, Inspection Mode.> 6) Read any other DTCs displayed.	Is DTC displayed?	Perform the procedure 1) to 5) in step 3.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Customer's name		Inspector's name	
Date vehicle brought in	/ /	Registration No.	
Odometer reading	km miles	V.I.N.	
Date problem occurred	/ /	Registration year	/ /
Weather	❑ Fine ❑ Cloudy ❑ Rainy ❑ Snowy ❑ Others:		
Temperature	°C (°F)		
Road condition	❑ Flat road ❑ Uphill ❑ Downhill ❑ Gravel road ❑ Others:		

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

Details of problem			
Airbag warning light operation	❑ Normal (After turning the ignition switch to ON, lit for approximately 6 seconds and goes off.) ❑ Remains ON ❑ Remains OFF		
DTC output	❑ OK code ❑ DTC: (Code:)		

3. General Description

A: CAUTION

Refer to “CAUTION” in “General Description” in Airbag System. <Ref. to AB-4, CAUTION, General Description.>

B: INSPECTION

Measure the battery voltage and check electrolyte.

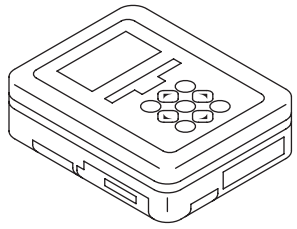
Standard voltage: 12 V

Specific gravity: 1.260 or more

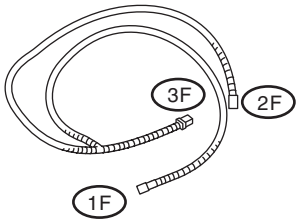
C: PREPARATION TOOL

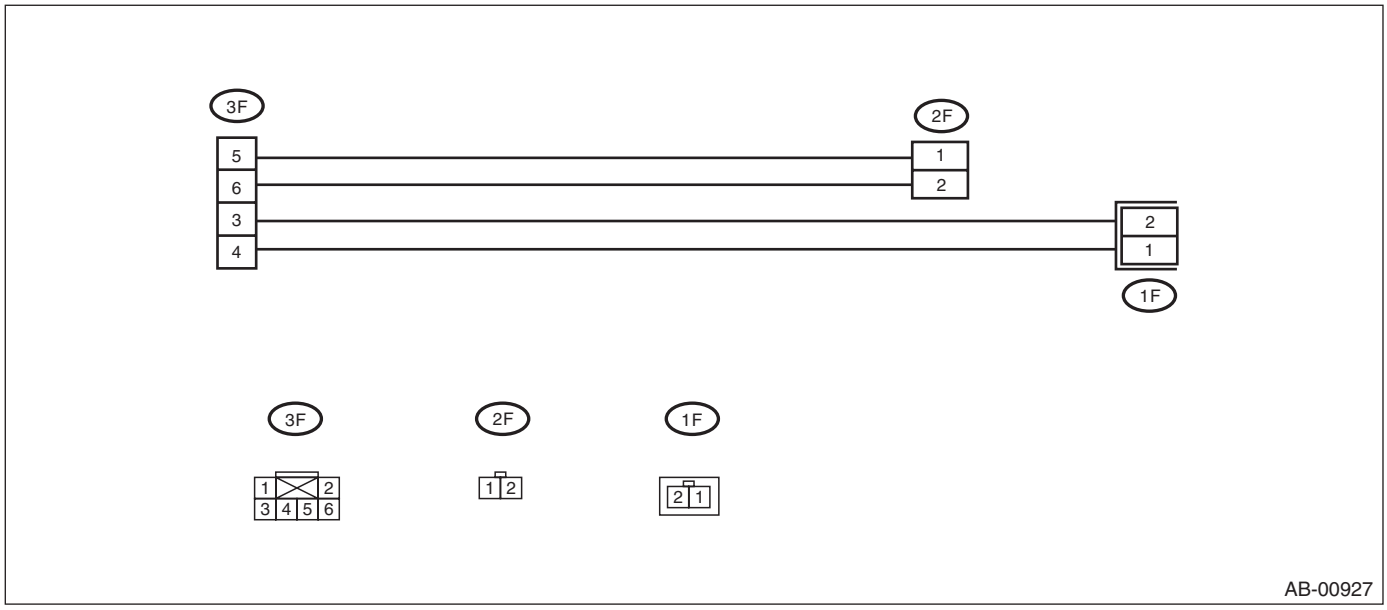
CAUTION:
To measure the voltage and resistance of airbag system component, be sure to use the specified test harness.

1. SPECIAL TOOL

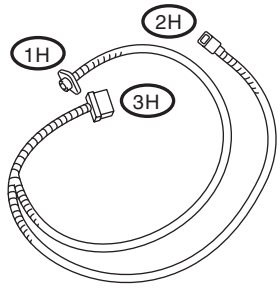
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

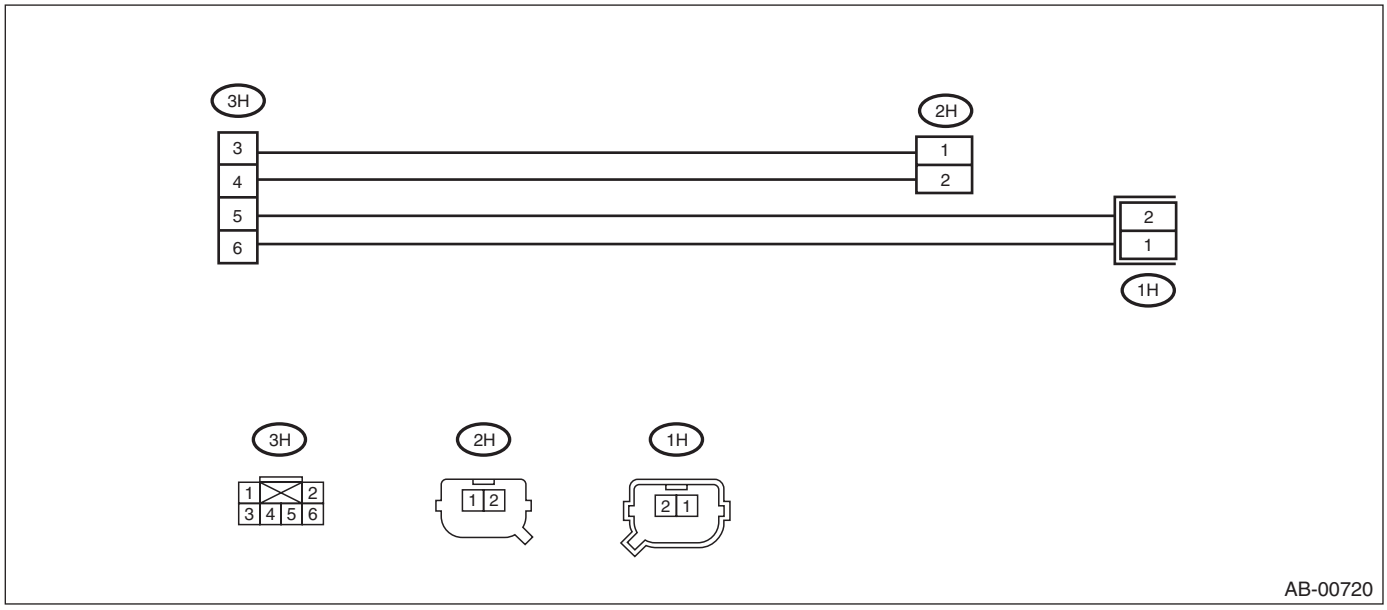
- TEST HARNESS F

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

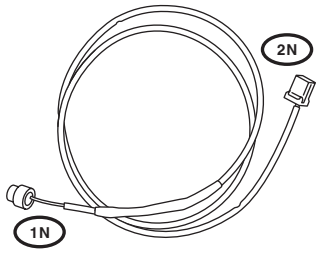


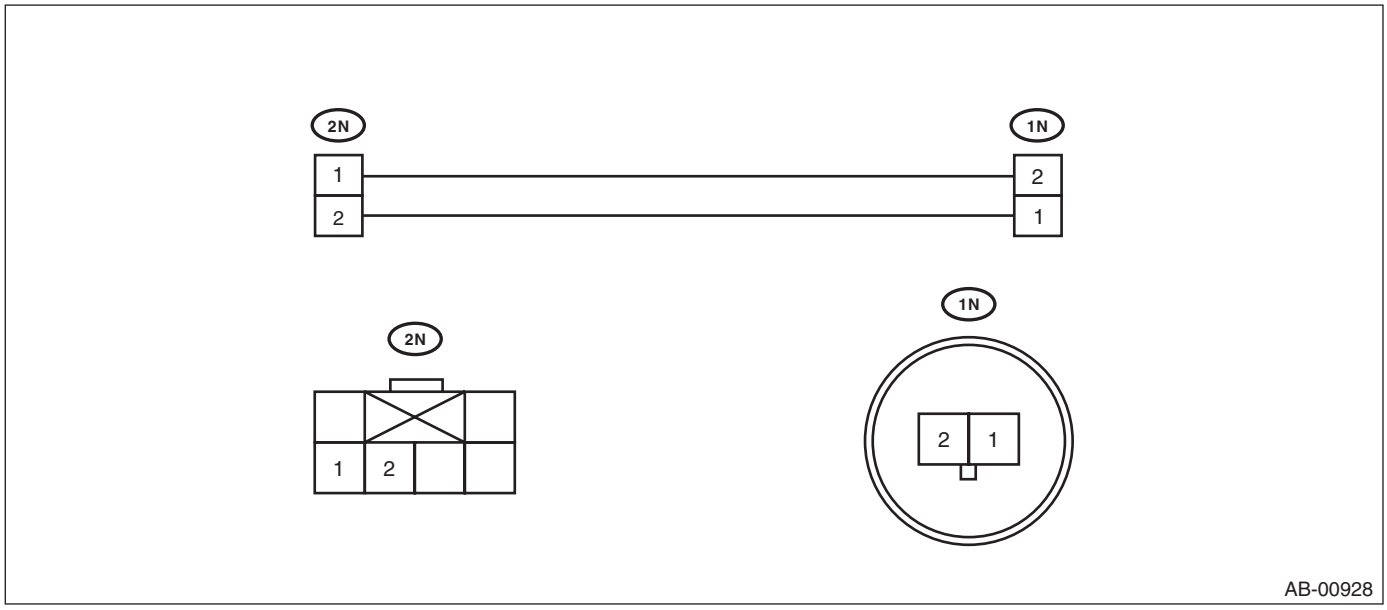
- TEST HARNESS H

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

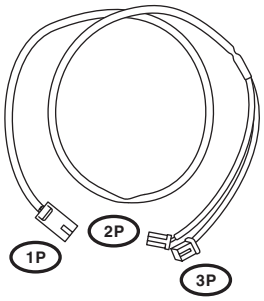


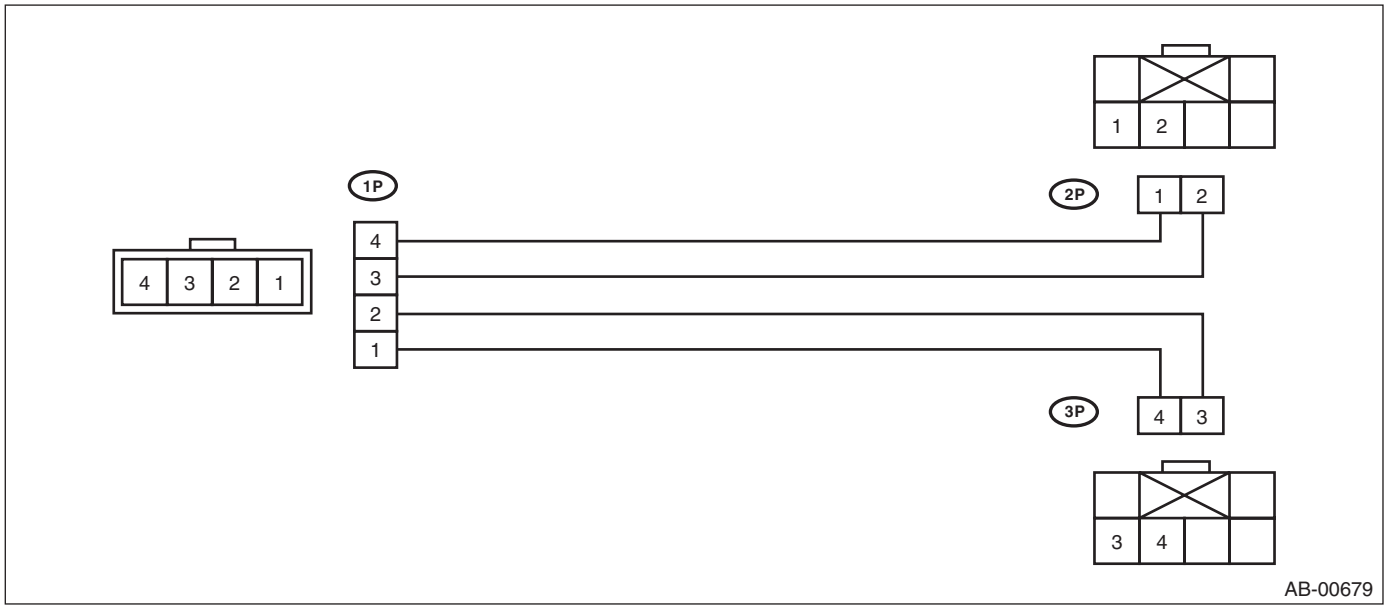
- TEST HARNESS N

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

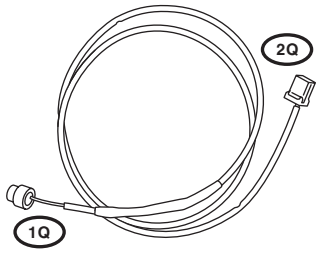


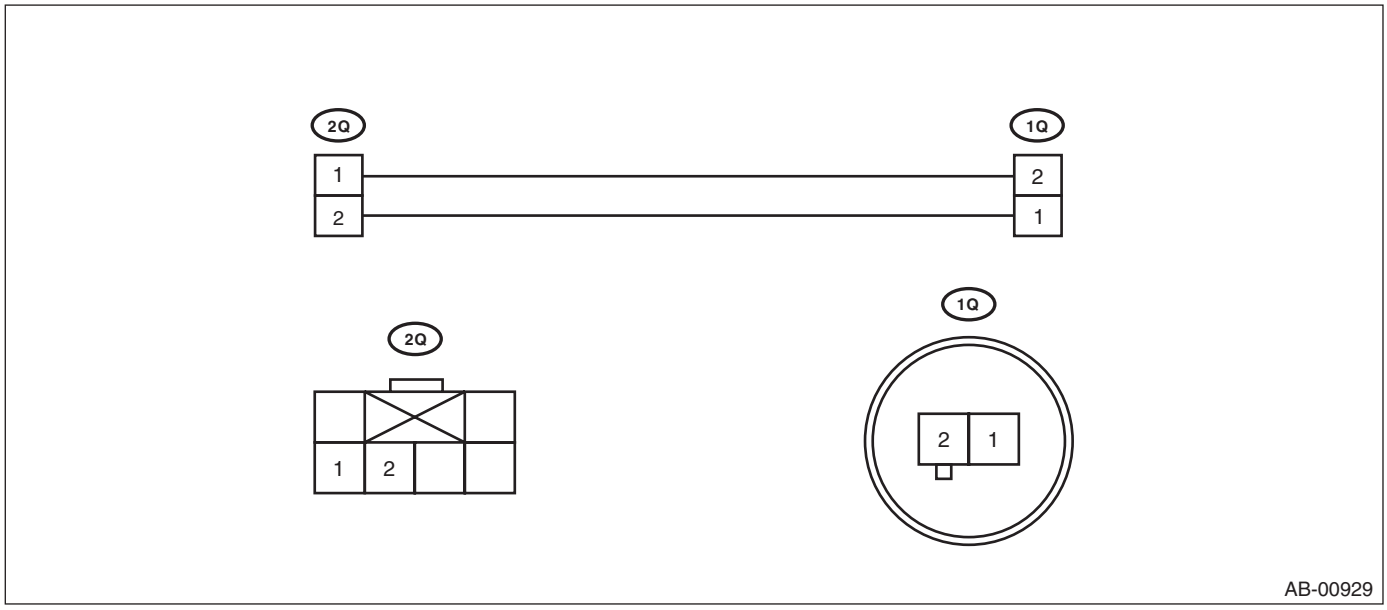
- TEST HARNESS P

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



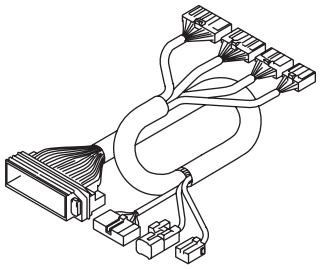
- TEST HARNESS Q

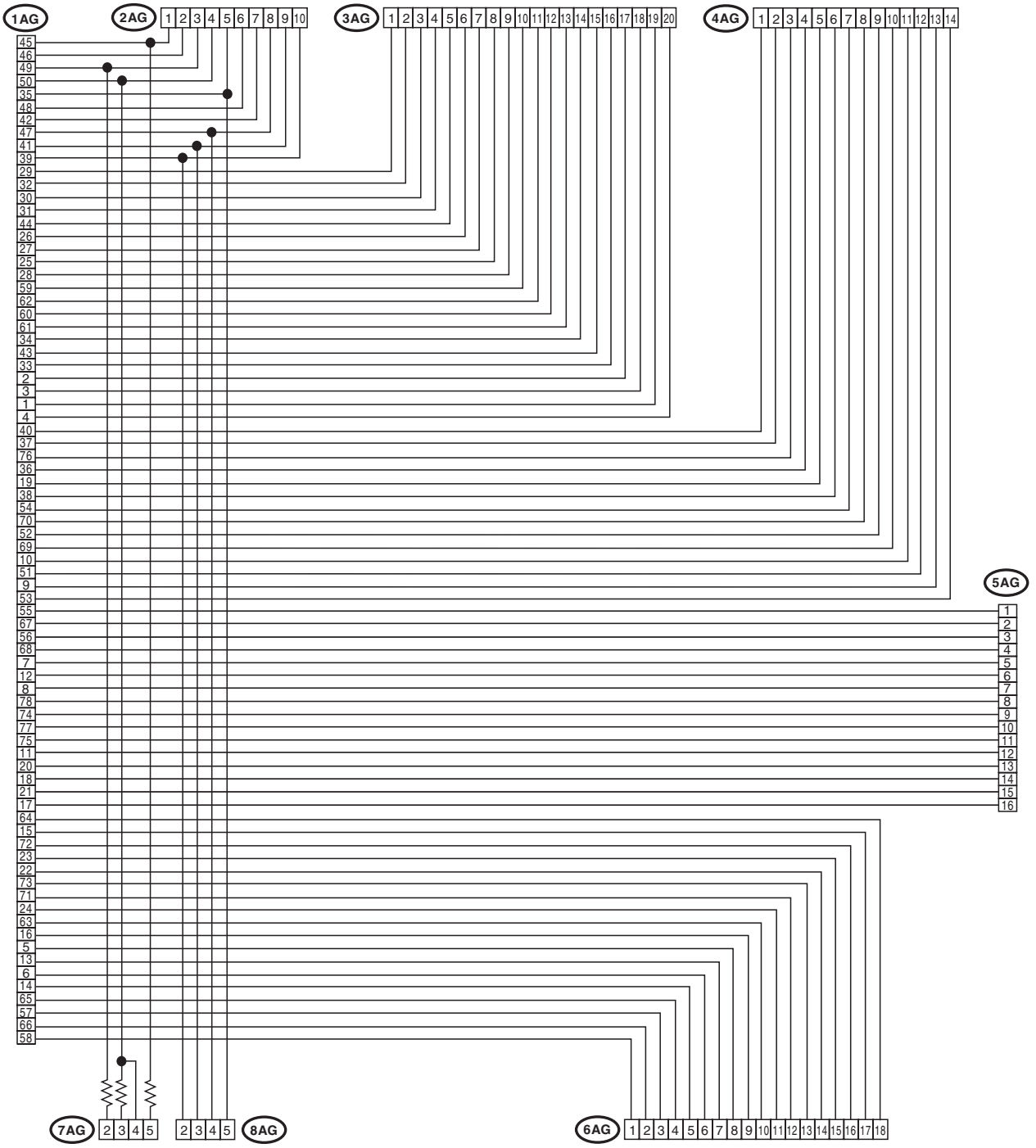
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA040	98299SA040	TEST HARNESS Q	Used when measuring voltage and resistance of driver's airbag module.



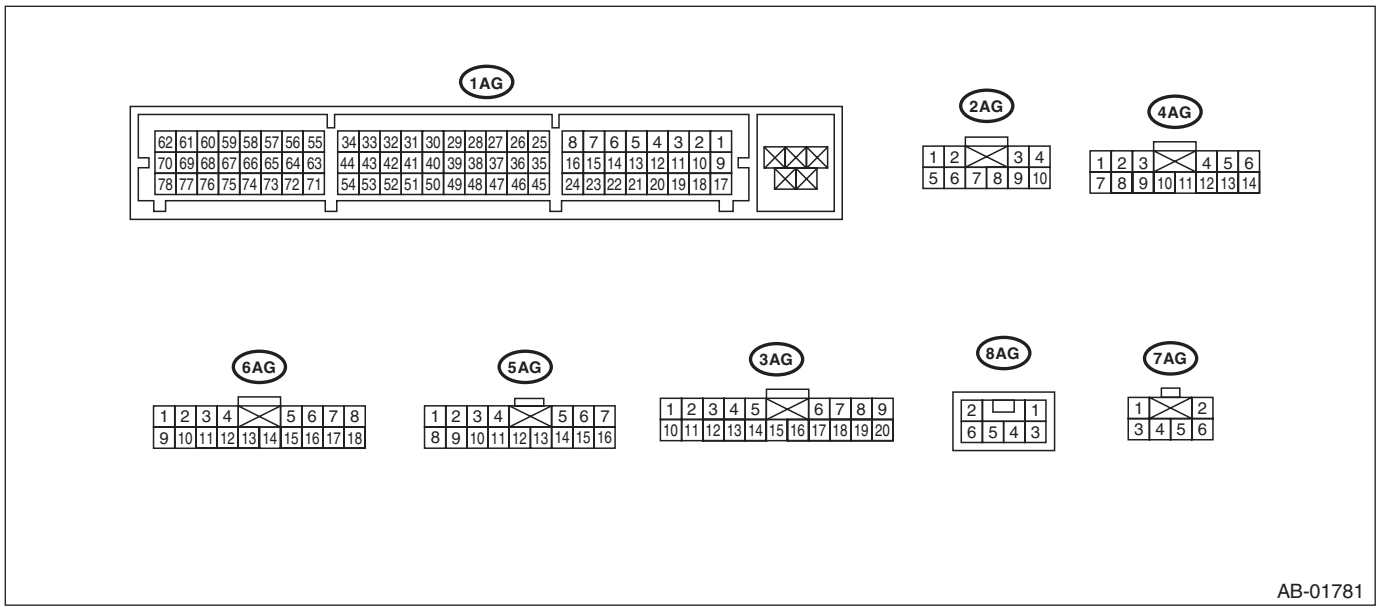
AB-00929

- TEST HARNESS AG

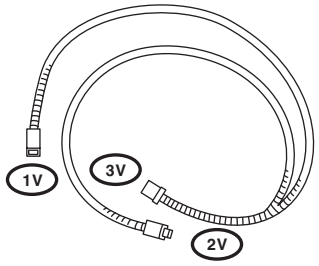
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG070	98299AG070	TEST HARNESS AG	Used when measuring voltage and resistance of airbag control module.

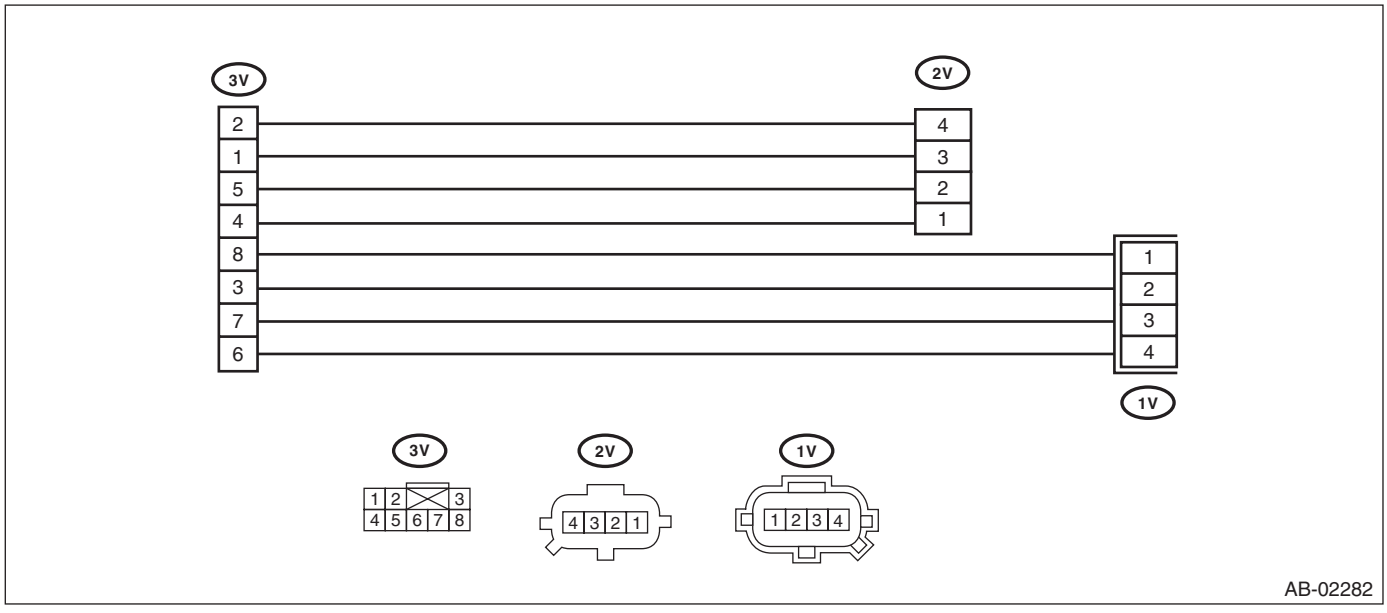

1AG
45 46 49 50 35 48 42 47 41 39 29 32 30 31 44 26 27 25 28 59 62 60 61 34 43 33 2 3 1 4 40 37 76 36 19 38 54 70 52 69 10 51 9 53 55 67 56 68 7 12 8 78 74 77 75 11 20 18 21 17 64 15 72 23 22 73 71 24 63 16 5 13 6 14 65 57 66 58
2AG
1 2 3 4 5 6 7 8 9 10
3AG
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18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

AB-01872

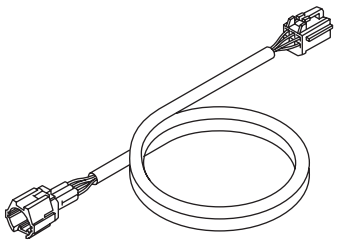


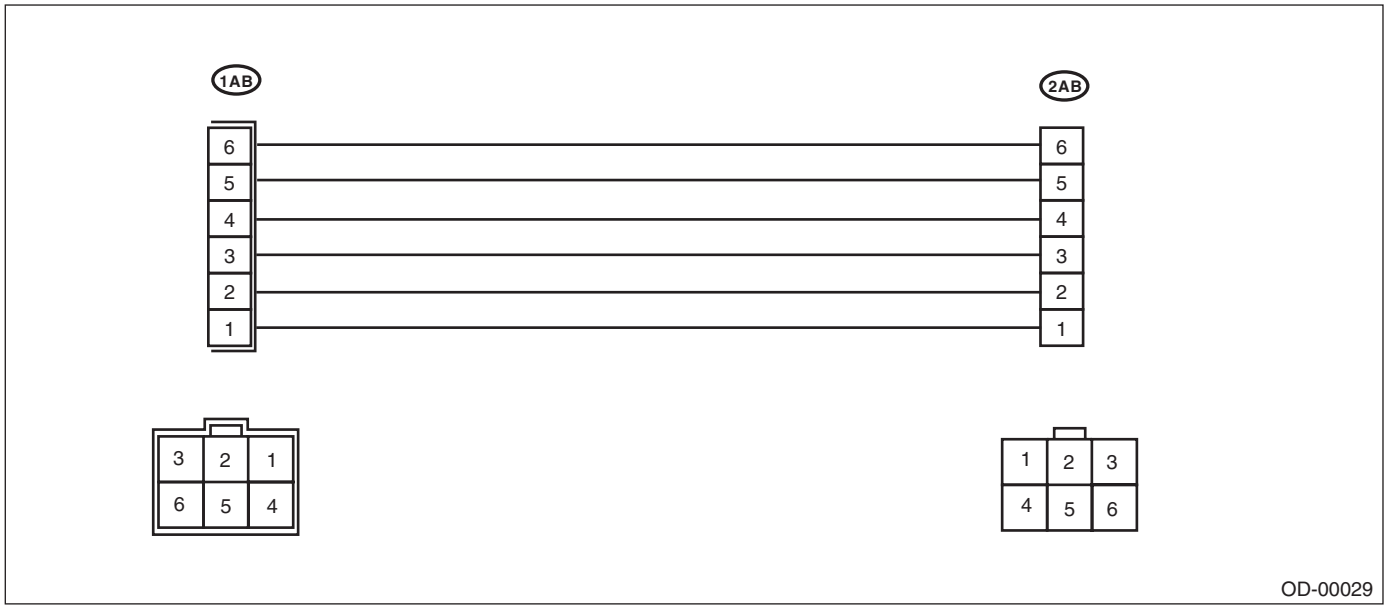
- TEST HARNESS V

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

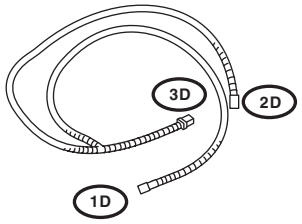


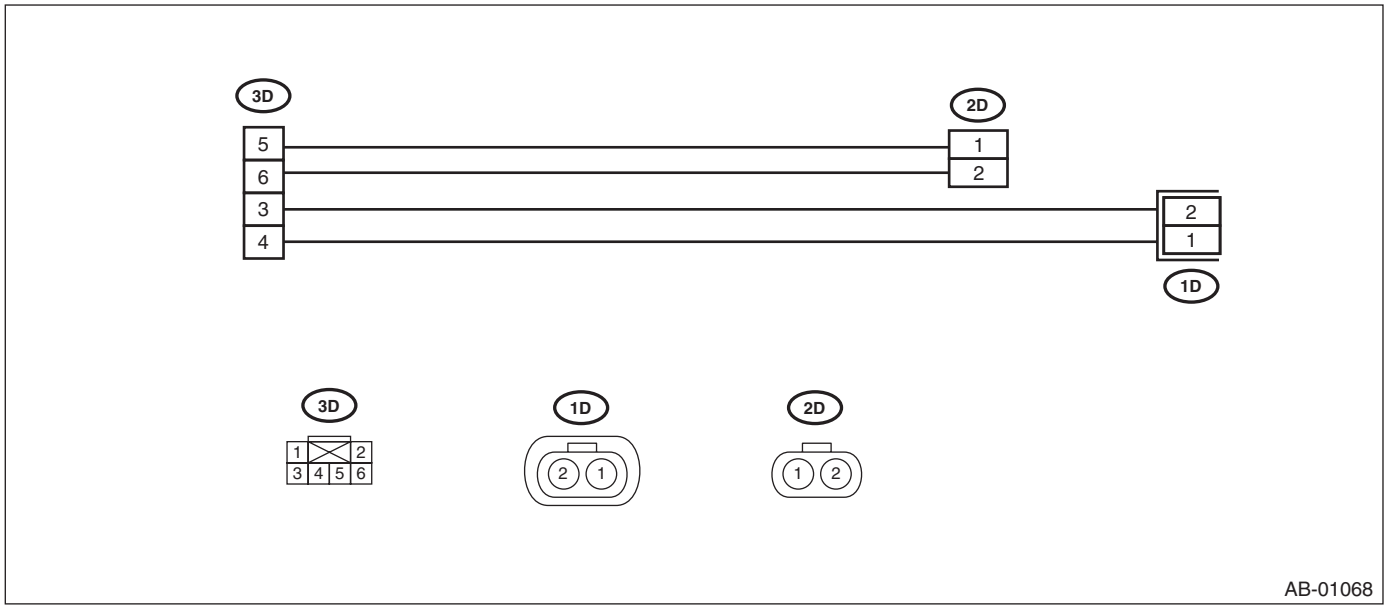
- TEST HARNESS AB

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

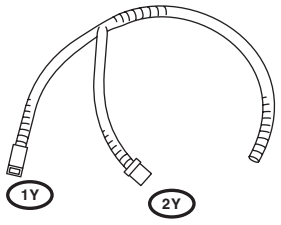


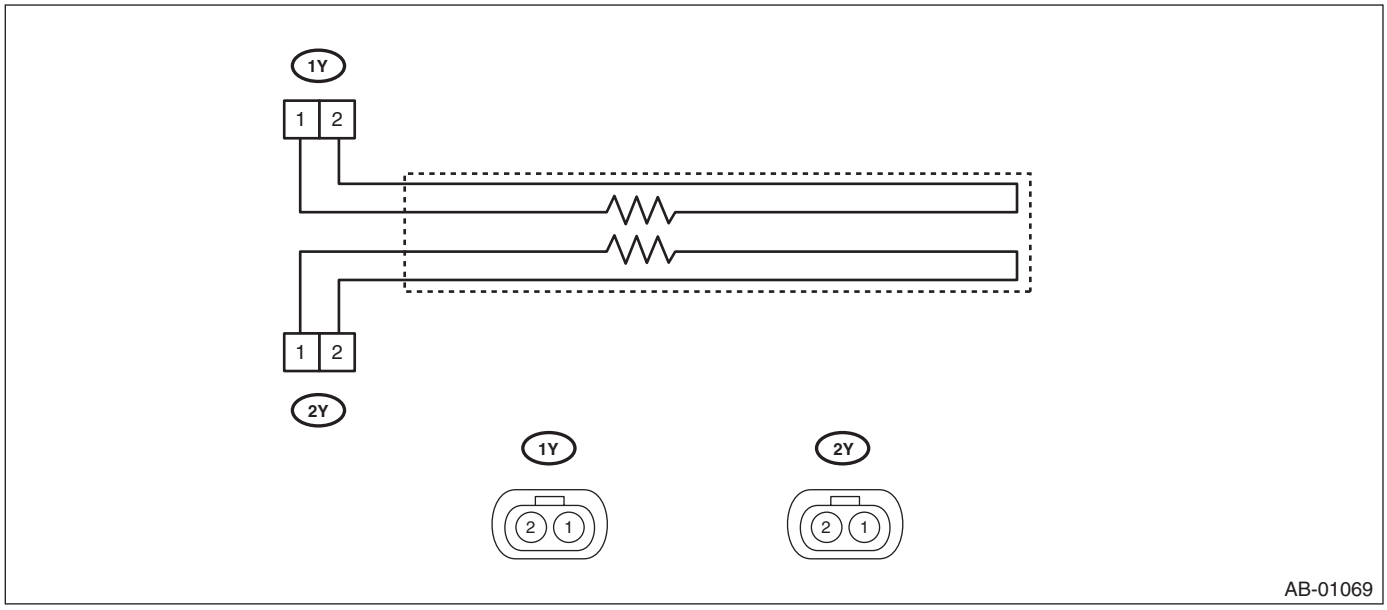
- TEST HARNESS D

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



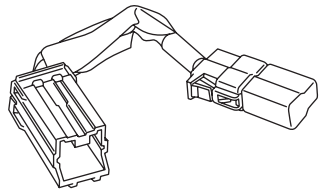
- TEST HARNESS Y

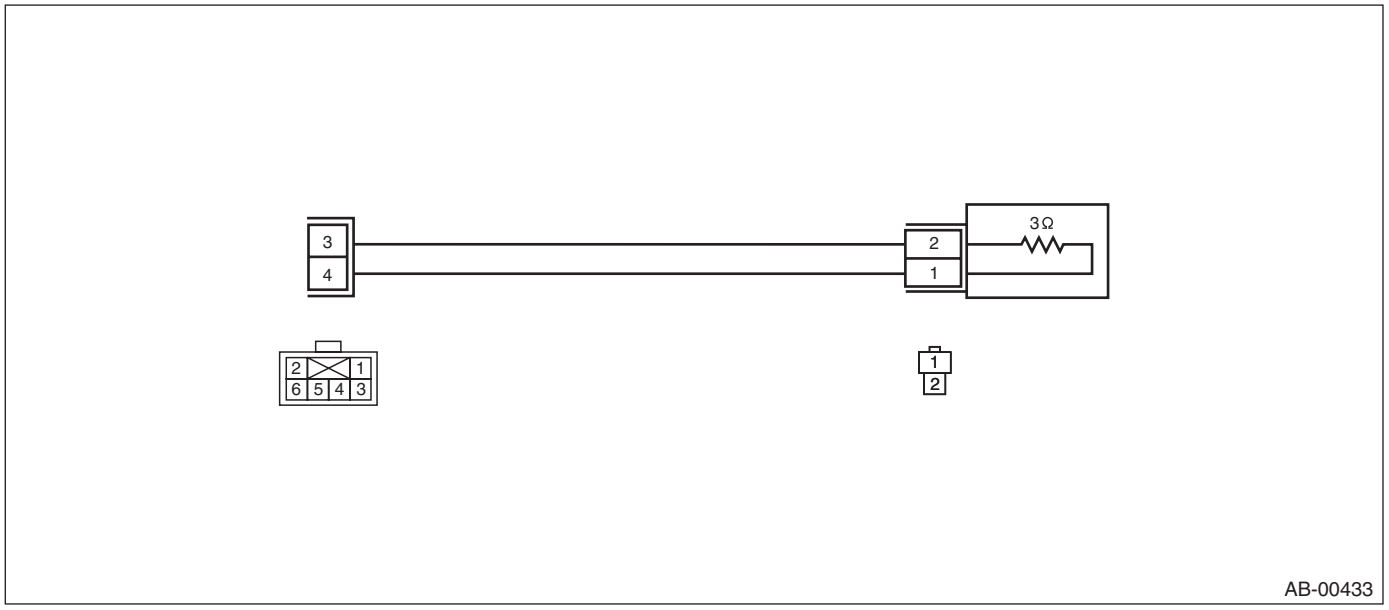
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG040	98299AG040	TEST HARNESS Y	Used for troubleshooting the seat position sensor and seat belt buckle switch.



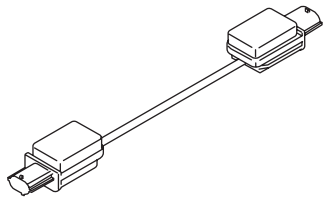
AB-01069

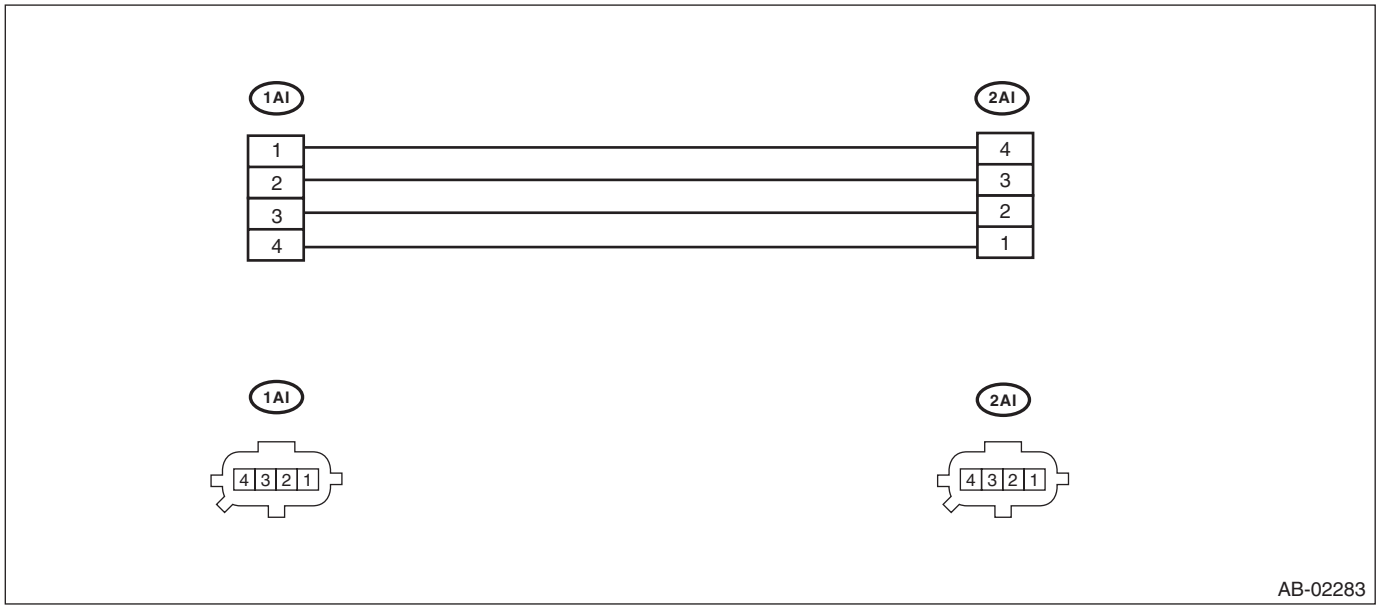
- AIRBAG RESISTOR

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



• TEST HARNESS AI

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

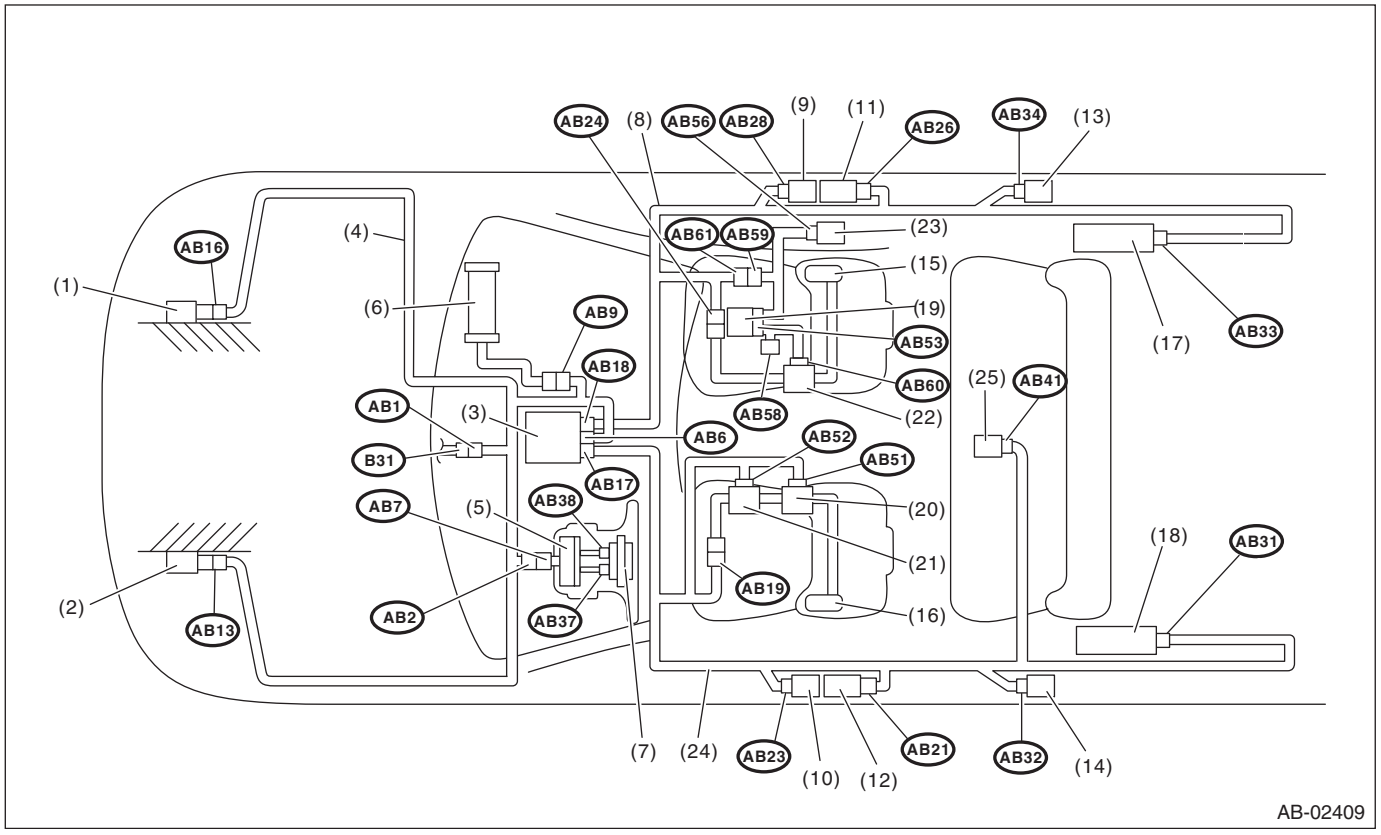


2. GENERAL TOOL

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

4. Electrical Component Location

A: LOCATION



(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 module
(7) Driver's airbag module
(8) Airbag rear harness (RH)
(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 module (RH)
(16) Side airbag module (LH)
(17) Curtain airbag module (RH)
(18) Curtain airbag module (LH)
(19) Occupant detection control module
(20) Buckle switch (LH)
(21) Seat position sensor (LH)
(22) Buckle switch (RH)
(23) Belt tension sensor
(24) Airbag rear harness (LH)
(25) Satellite safing sensor

Connector No.	(AB1)	(AB2)	(AB6)	(AB7)	(AB9)	(AB13)	(AB16)	(AB17)	(AB18)	(AB19)	(AB21)	(AB23)
Pin	10	4	30	4	4	2	2	24	24	2	2	4
Color	Gray	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Black	Yellow
Male/Female	Female	Female	Female	Male	Female	Female	Female	Female	Female	Female	Female	Female
Connector No.	(AB24)	(AB26)	(AB28)	(AB31)	(AB32)	(AB33)	(AB34)	(AB37)	(AB38)	(AB41)	(AB51)	(AB52)
Pin	2	2	4	2	4	2	4	2	2	2	2	2
Color	Yellow	Black	Yellow	Black	Yellow	Black	Yellow	Orange	Black	Yellow	Yellow	Yellow
Male/Female	Female	Female	Female	Female	Female	Female	Female	Female	Female	Female	Female	Female
Connector No.	(AB53)	(AB56)	(AB58)	(AB59)	(AB60)	(AB61)						
Pin	18	3	3	6	2	6						
Color	Yellow	Brown	Yellow	Gray	Yellow	Gray						
Male/Female	Female	Female	Female	Male	Male	Female						

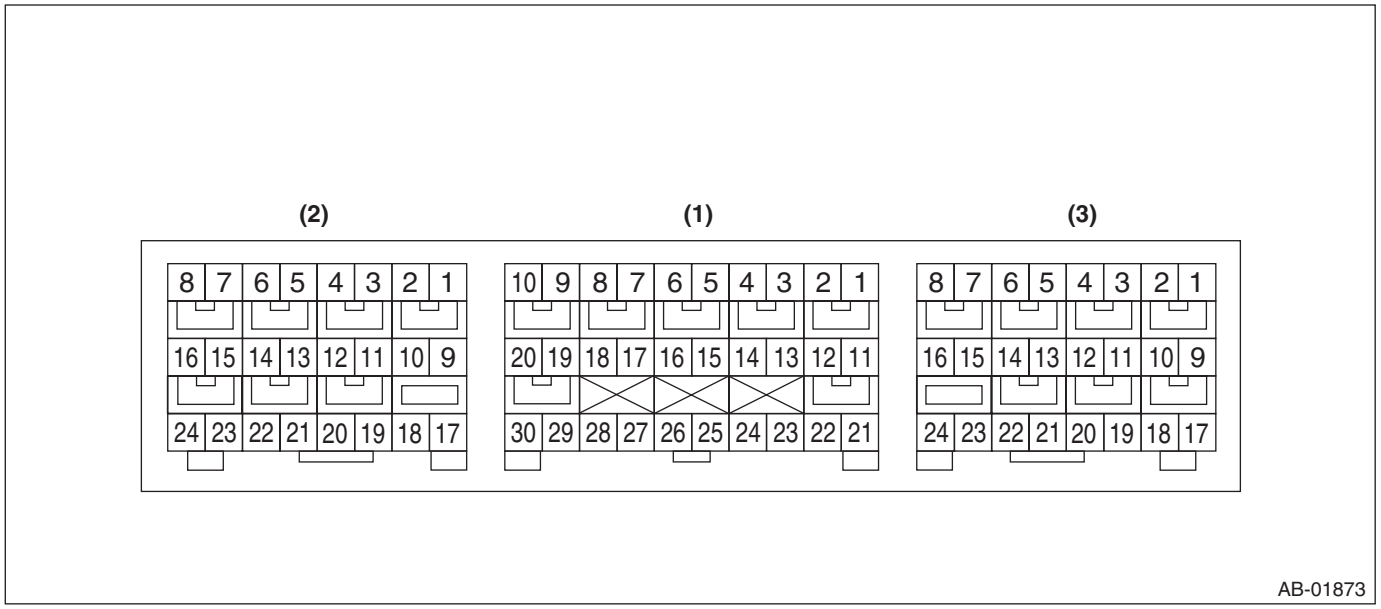
5. Airbag Connector

A: PROCEDURE

For operation procedures, refer to “Airbag Connector”. <Ref. to AB-8, PROCEDURE, Airbag Connector.>

6. Airbag Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



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

Item		Control module terminal No.
Data link connector		(1) — 16
Combination meter		(1) — 11
Ignition power supply	Dedicated fuse	(1) — 21
Passenger's airbag module level one	+	(1) — 4
	–	(1) — 3
Passenger's airbag module level two	+	(1) — 1
	–	(1) — 2
Driver's airbag module level one	+	(1) — 5
	–	(1) — 6
Driver's airbag module level two	+	(1) — 8
	–	(1) — 7
Front sub sensor LH	+	(1) — 30
	–	(1) — 28
Front sub sensor RH	+	(1) — 29
	–	(1) — 27
Ground line (GND)		(1) — 25
		(1) — 26
Passenger's airbag OFF indicator		(1) — 17
Passenger's airbag ON indicator		(1) — 23
Passenger's seat belt warning light (integrated module)		(1) — 15
Seat belt pretensioner LH	+	(2) — 5
	–	(2) — 6
Side airbag sensor LH Curtain airbag sensor LH	+	(2) — 24
	–	(2) — 23
Side airbag module LH	+	(2) — 1
	–	(2) — 2
Seat position sensor LH	+	(2) — 9
	–	(2) — 17
Seat belt buckle switch LH	+	(2) — 10
	–	(2) — 18
Curtain airbag module LH	+	(2) — 4
	–	(2) — 3
Satellite safing sensor	+	(2) — 20
	–	(2) — 21
Seat belt pretensioner RH	+	(3) — 4
	–	(3) — 3
Side airbag sensor RH Curtain airbag sensor RH	+	(3) — 17
	–	(3) — 18
Side airbag module RH	+	(3) — 8
	–	(3) — 7
Curtain airbag module RH	+	(3) — 5
	–	(3) — 6
Occupant detection control module	+	(3) — 16
	–	(3) — 24

B: WIRING DIAGRAM

Refer to the WI section wiring diagram. <Ref. to WI-68, WIRING DIAGRAM, Airbag System.>

7. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

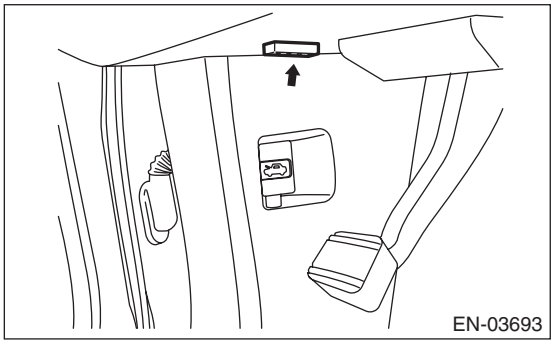
When malfunction of airbag system occurs, the DTC stored in airbag control module will be read out.

1) Prepare the Subaru Select Monitor kit. <Ref. to AB(diag)-5, SPECIAL TOOL, PREPARATION TOOL, General Description.>

2) Connect the diagnosis cable to Subaru Select Monitor.

3) Connect the Subaru Select Monitor to data link connector.

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



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

CAUTION:
Do not connect the scan tools other than the Subaru Select Monitor.

4) Turn the ignition switch to ON and run the Subaru Select Monitor.

5) On «Main Menu» display, select {Each System Check}.

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

7) After {Airbag System} is displayed, select [OK].

8) Select the {Diagnostic Code(s) Display} in «Airbag System».

NOTE:

- For details concerning the operation procedure, refer to "PC application help for Subaru Select Monitor".
- For details concerning DTCs, refer to List of Diagnostic Trouble Code (DTC). <Ref. to AB(diag)-36, 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 «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Airbag System}.
3) On «Airbag System» display, select {Status Data}.
The following table is for support data.

Item	Display Contents
Seat position sensor LH	Front position*1/Rear position*2/Other*3/Initial setting*3/—*5
Seat position sensor RH	—*5
Seat belt buckle switch LH	Equipped*6/Unequipped*7/Other*8/Initial setting*4/—*9
Seat belt buckle switch RH	Equipped*6/Unequipped*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 the operation procedure, refer to "PC application help for Subaru Select Monitor".

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 «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Airbag System}.
3) On «Airbag System» display, select {Clear Memory}.
4) When the "Clear Memory?" is shown on the screen, select [OK].
5) When "Done" is displayed, end the Subaru Select Monitor.

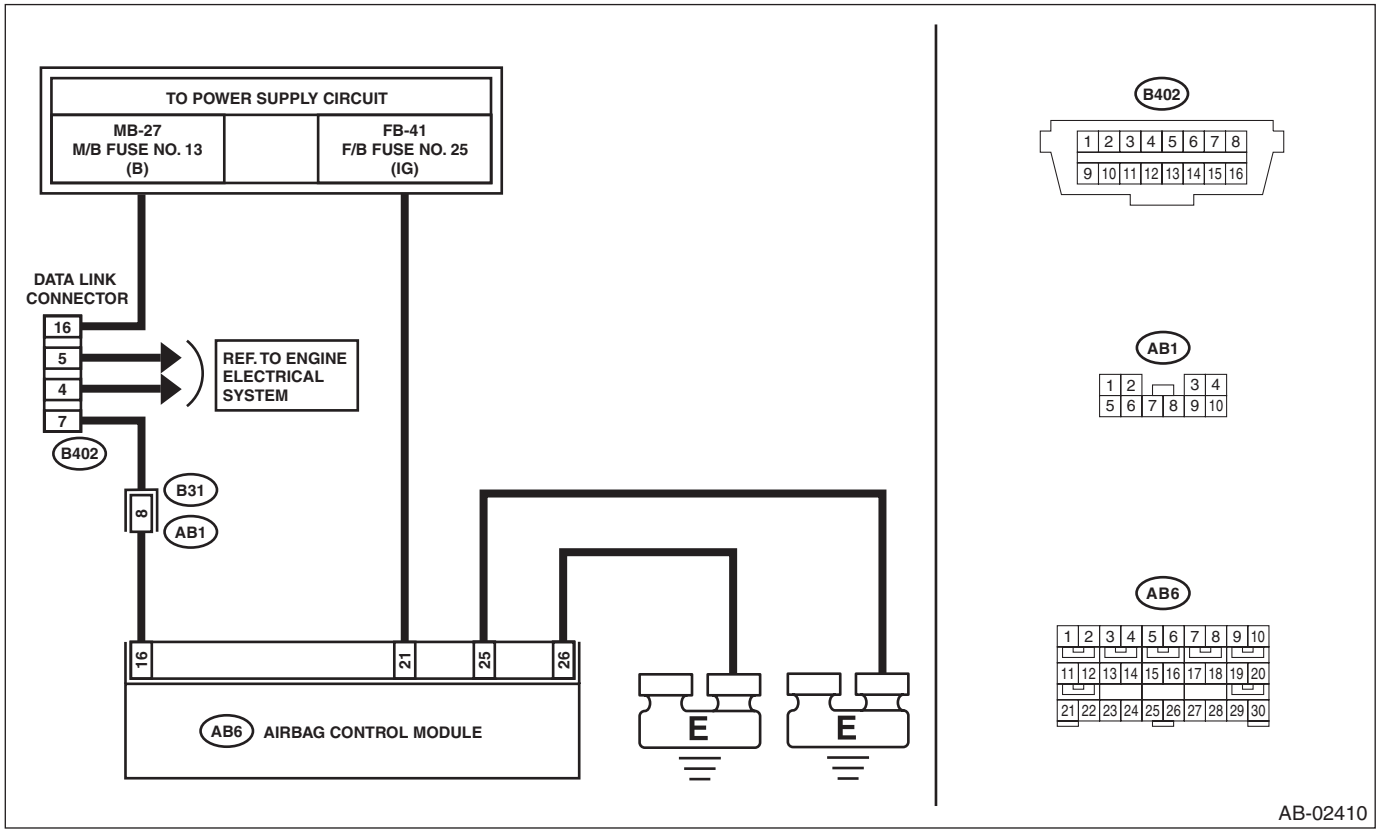
NOTE:
For details concerning the operation procedure, refer to "PC application help for Subaru Select Monitor".

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

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

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



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

	Step	Check	Yes	No
5	**CHECK SUBARU SELECT MONITOR.**	Is Subaru Select Monitor powered on?	Go to step **7**.	Go to step **6**.
6	**CHECK FUSE.** Remove fuse No. 13 from the fuse & relay box, and perform visual inspection.	Is the fuse OK?	Repair the harness between the battery and the data link connector.	Replace the fuse. If the fuse is blown out again, check the power supply circuit.
7	**CHECK AIRBAG CONTROL MODULE CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Confirm that the connectors of the airbag control modules (AB6, AB17, AB18) are securely connected.	Is the connector of the airbag control module securely connected?	Go to step **8**.	Connect the connector of the airbag control module.
8	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Disconnect the airbag control module connector. 2) Connect the battery ground terminal. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems can be executed normally.	Is the system name displayed on Subaru Select Monitor?	Replace the airbag control module. <Ref. to AB-20, Airbag Control Module.>	Go to step **9**.
9	**CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the airbag control module, VDCCM&H/U, body integrated unit, power steering CM, ECM and TCM. 3) Measure the resistance between data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 7 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **10**.	Repair the harness and connector between each control module and data link connector. (Replace the entire harness if repair is necessary for airbag harness.)
10	**CHECK OUTPUT SIGNAL TO THE AIRBAG CONTROL MODULE.** 1) Turn the ignition switch to ON in the condition of step 9. 2) Measure the voltage between data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Repair each control module.	Repair the harness and connector between each control module and data link connector. (Replace the entire harness if repair is necessary for airbag harness.)
11	**CHECK FUSE.** Remove fuse No. 25 from the fuse & relay box, and perform visual inspection.	Is the fuse OK?	Go to step **12**.	Replace the fuse. If the fuse is blown out again, check the power supply circuit.
12	**CHECK AIRBAG CONTROL MODULE CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Confirm that the connectors of airbag control module (AB6, AB17, AB18) are securely connected.	Is the connector of the airbag control module securely connected?	Go to step **13**.	Connect the connector of the airbag control module.

	Step	Check	Yes	No
13	**CHECK THE HARNESS BETWEEN THE AIRBAG CONTROL MODULE AND DATA LINK CONNECTOR.** 1) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 2) Connect the test harness AG connector (1AG) to the connectors (AB6, AB17, AB18). 3) Measure the resistance between connector (4AG) in the test harness AG and the data link connector. ***Connector & terminal*** ***(4AG) No. 1 — (B402) No. 7:***	Is the resistance less than 10 Ω?	Go to step **14**.	Repair the harness between the airbag control module and the data link connector. Or replace the airbag main harness along with the bulkhead harness.
14	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (2AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(2AG) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **15**.	Repair the harness between the airbag control module and the battery. Or replace the airbag main harness along with the bulkhead harness.
15	**CHECK BETWEEN AIRBAG CONTROL MODULE AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between connector (2AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(2AG) No. 4 — Chassis ground:*** ***(2AG) No. 3 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **16**.	Repair the harness between the airbag control module and the chassis ground. Or replace the airbag main harness along with the bulkhead harness.
16	**CHECK POOR CONTACT OF CONNECTOR.**	Is there poor contact of the control module power supply, ground circuit and data link connector?	Repair the connector. (For airbag system connectors, do not repair but replace the entire harness.)	Replace the airbag control module. <Ref. to AB-20, REMOVAL, Airbag Control Module.>

8. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For details concerning DTC reading procedure, refer to “Subaru Select Monitor”. <Ref. to AB(diag)-23, Subaru Select Monitor.>

9. Inspection Mode

A: PROCEDURE

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

10.Clear Memory Mode

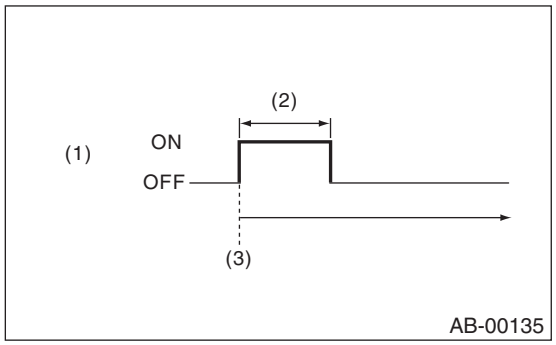
A: OPERATION

• 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)-23, Subaru Select Monitor.>

11. Airbag Warning Light Illumination Pattern

A: INSPECTION

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



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

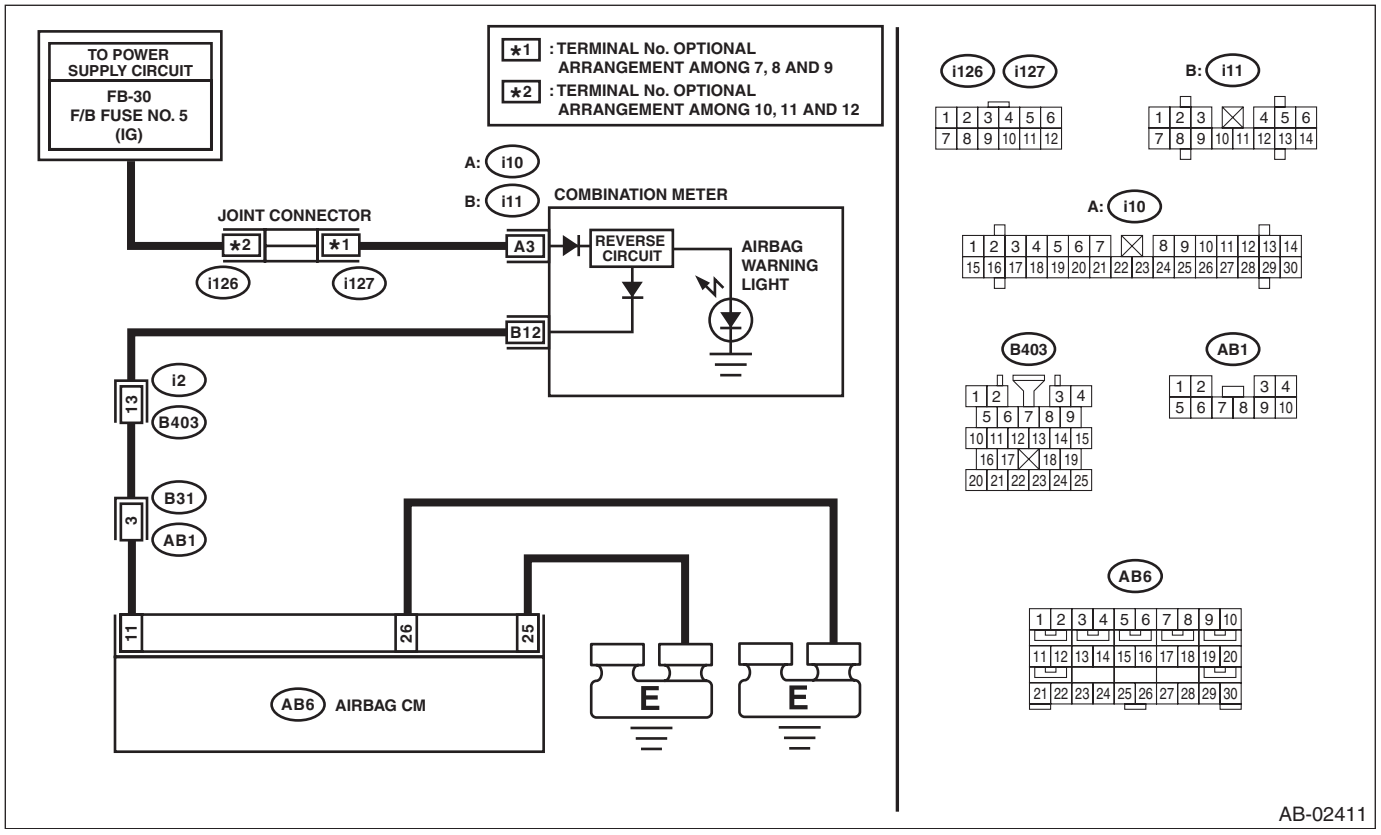
12.Airbag Warning Light Failure

A: AIRBAG WARNING LIGHT REMAINS ON

DETECTING CONDITION:

- Airbag warning light is faulty.
- Airbag control module to airbag warning light circuit is shorted or open.
- Grounding circuit is faulty.
- Airbag control module is faulty.
- Connection of (AB1) and (B31) is improper.
- Connections of (AB6, AB17, AB18) to airbag control module are improper.

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



Step		Check	Yes	No
1	**READ DTC.** Read the DTC. <Ref. to AB(diag)-23, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK FOR POOR CONTACT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Check that the airbag control module and the connectors (AB6, AB17, AB18) are securely connected.	Are there poor contact of connectors (AB6, AB17, AB18)?	If the faulty connector contact remains, replace the airbag main harness along with body harness or replace the airbag control module. <Ref. to AB-20, Airbag Control Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS.** 1) Remove the instrument panel lower cover and disconnect the connectors (AB7) and (AB2). 2) Remove the console side panel lower RH and disconnect the connector (AB9). 3) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. 4) Connect the battery ground terminal and turn the ignition switch to ON. 5) Connect the connectors (7AG) and (8AG) in the test harness AG. NOTE: After the fault has been cleared, disconnect the connectors (7AG) and (8AG).	Does the airbag warning light go off?	Go to step **4**.	Go to step **5**.
4	**CHECK GROUND CIRCUIT.** Measure the resistance between connector (2AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(2AG) No. 4 — Chassis ground:*** ***(2AG) No. 3 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the airbag control module. <Ref. to AB-20, Airbag Control Module.>	Repair the chassis ground circuit.
5	**CHECK AIRBAG MAIN HARNESS AND BULKHEAD HARNESS.** 1) Disconnect the connectors (7AG) and (8AG). 2) Remove the combination meter. 3) Measure the resistance between the combination meter connector and test harness AG connector (2AG). ***Connector & terminal*** ***(2AG) No. 5 — (i11) No. 12:***	Is the resistance less than 10 Ω?	Check the combination meter.	Go to step **6**.
6	**CHECK POOR CONTACT OF CONNECTORS (AB1) AND (B31).** 1) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait 60 seconds or more. 2) Confirm that there is a firm contact between connectors (AB1) and (B31).	Is there poor contact of connectors (AB1) and (B31)?	Repair the bulkhead harness or replace the airbag main harness along with body harness.	Go to step **7**.
7	**CHECK AIRBAG MAIN HARNESS.** Check the airbag main harness for defect.	Is there any defect in the airbag main harness?	Replace the airbag main harness along with bulkhead harness.	Repair the bulkhead harness.

B: AIRBAG WARNING LIGHT REMAINS OFF

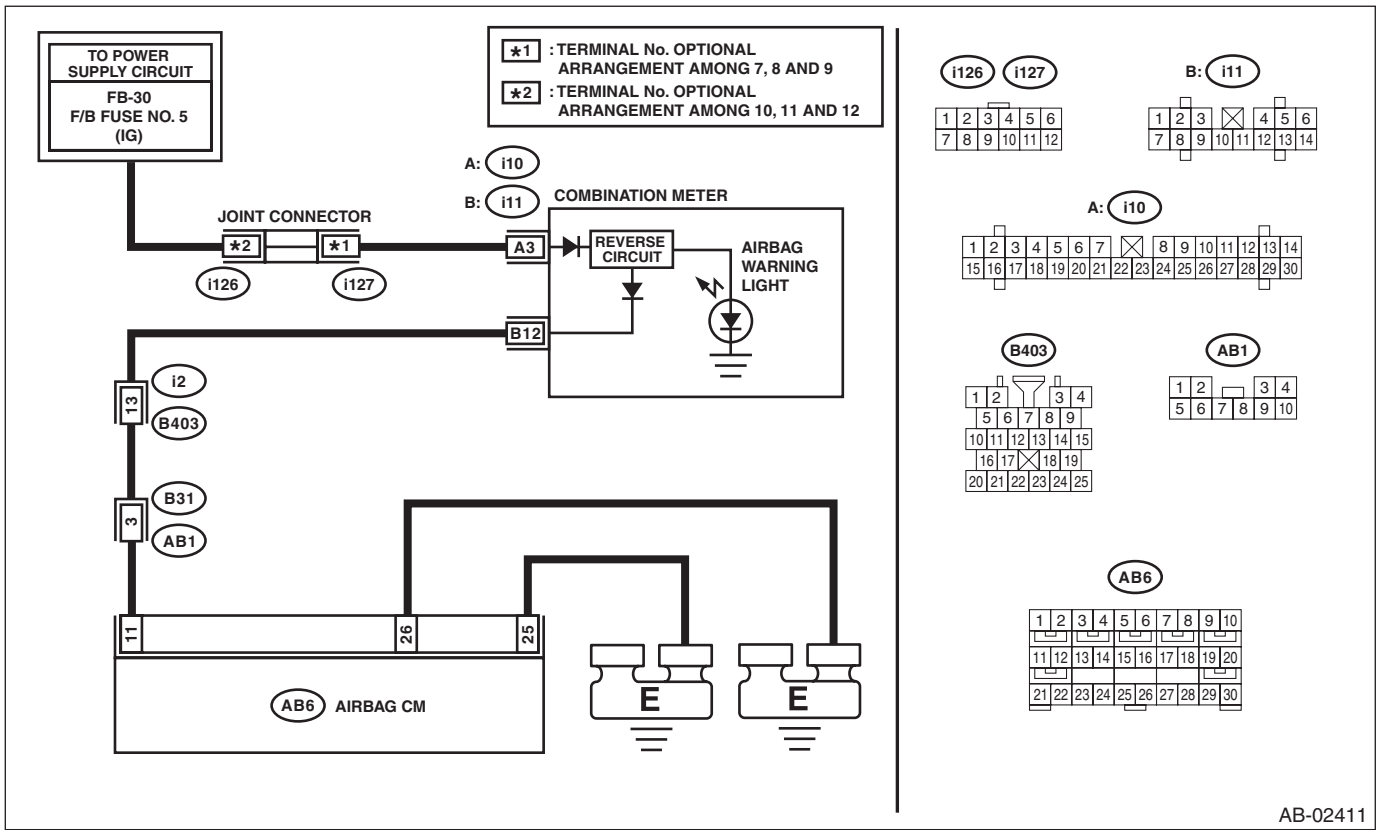
DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK COMBINATION METER.** Turn the ignition switch to ON, and confirm that warning lights of combination meter illuminate.	Do warning lights except for airbag illuminate?	Go to step **2**.	Check the combination meter.
2	**CHECK DTC.** Read the DTC. <Ref. to AB(diag)-23, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK FUSE NO. 5 (IN MAIN FUSE BOX).** Remove the fuse No. 5 and perform visual inspection.	Is the fuse No. 5 (in main fuse box) blown out?	Replace the fuse No. 5. If the fuse No. 5 is blown out again, go to step 4.	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK AIRBAG WARNING LIGHT CIRCUIT (IN COMBINATION METER).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connectors (AB1) and (B31). 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.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Connect the connector (AB1) and (B31). 3) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 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-20, Airbag Control Module.>	Replace the airbag main harness along with bulkhead harness.

13.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Display	Content of diagnosis	Reference
11	Driver's Airbag failure	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Driver's side) circuit is open, shorted or shorted to ground. • Roll connector circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-42, DTC 11 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
12	Passenger's Airbag failure	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-45, DTC 12 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
15	Driver's Airbag failure	• Airbag main harness circuit (Driver's side) is shorted to power supply. • Airbag module harness circuit (Driver's side) is shorted to power supply. • Roll connector is shorted to power supply. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-47, DTC 15 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
16	Passenger's Airbag failure	• Airbag main harness circuit (Passenger's side) is shorted to power supply. • Airbag module harness circuit (Passenger's side) is shorted to power supply. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-49, DTC 16 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
21	Airbag ECU failure	Airbag control module is faulty.	<Ref. to AB(diag)-51, 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)-51, DTC 22 FRONT AIRBAG FIRING OUTPUT, Diagnostic Chart with Trouble Code.>
26	Passenger's Airbag Indicator Failure	• Passenger's airbag indicator is faulty. • Airbag control module is faulty. • Airbag main harness circuit is open, shorted or shorted to ground. • Body harness circuit is open.	<Ref. to AB(diag)-52, DTC 26 PASSENGER'S AIRBAG INDICATOR FAILURE, Diagnostic Chart with Trouble Code.>
27	ODS Communication Error	• Occupant detection control module communication is faulty. • Airbag rear harness circuit is open, shorted, shorted to ground or shorted to power supply. • Occupant detection harness is faulty. • Airbag control module is faulty. • Occupant detection system is faulty.	<Ref. to AB(diag)-54, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>
29	ODS Failure	• Occupant detection sensor is faulty. • Occupant detection control module is faulty. • Occupant detection harness is faulty. • Fuse No. 25 (in joint box) is blown.	Refer to "Occupant Detection System" for details on DTC 29. <Ref. to OD(diag)-25, DTC 29 ODS FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Display	Content of diagnosis	Reference
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)-22, DTC 2A ODS CALIBRATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2B	ODS System Wrong Parts	• Wrong airbag control module is installed. • Wrong occupant detection system is installed. • Occupant detection system is faulty.	Refer to “Occupant Detection System” for details on DTC 2B. <Ref. to OD(diag)-22, DTC 2B ODS SYSTEM WRONG PARTS, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2C	Belt Tension Sensor Failure	• Passenger’s seat belt tension sensor is faulty. • Occupant detection system is faulty. • Airbag rear harness circuit is open, shorted, shorted to ground or shorted to power supply. • Occupant detection harness is faulty.	Refer to “Occupant Detection System” for details on DTC 2C. <Ref. to OD(diag)-23, DTC 2C BELT TENSION SENSOR FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
33	Front Sub Sensor RH failure	Front sub sensor (RH) is faulty.	<Ref. to AB(diag)-55, 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)-55, DTC 34 FRONT SUB SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
36	Seat Position Sensor LH failure	• Driver’s seat position sensor is faulty. • Airbag control module is faulty. • Airbag rear harness LH circuit is open, shorted or shorted to ground.	<Ref. to AB(diag)-56, 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. • Occupant detection system is faulty. • Occupant detection harness is faulty.	Refer to “Occupant Detection System” for details on DTC 37. <Ref. to OD(diag)-26, 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. • Airbag rear harness LH circuit is open, shorted or shorted to ground. • Airbag control module is faulty.	<Ref. to AB(diag)-58, DTC 38 BUCKLE SWITCH LH FAILURE, Diagnostic Chart with Trouble Code.>
39	Seat Belt Warning Failure	• Airbag control module is faulty. • Body integrated unit is faulty. • Harness circuits between body integrated unit and airbag control module are open, shorted or shorted to ground.	<Ref. to AB(diag)-60, DTC 39 SEAT BELT WARNING FAILURE, Diagnostic Chart with Trouble Code.>
41	Side Airbag RH failure	• Side airbag harness (RH) circuit is faulty. • Side airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-62, DTC 41 SIDE AIRBAG RH FAILURE, Diagnostic Chart with Trouble Code.>
42	Side Airbag LH failure	• Side airbag harness (LH) circuit is faulty. • Side airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-64, DTC 42 SIDE AIRBAG LH FAILURE, Diagnostic Chart with Trouble Code.>

DTC	Display	Content of diagnosis	Reference
45	Side Airbag RH failure	• Side airbag harness (RH) is shorted to power supply. • Airbag control module is faulty.	<Ref. to AB(diag)-66, DTC 45 SIDE AIRBAG RH FAILURE, Diagnostic Chart with Trouble Code.>
46	Side Airbag LH failure	• Side airbag harness (LH) is shorted to power supply. • Airbag control module is faulty.	<Ref. to AB(diag)-68, DTC 46 SIDE AIRBAG LH FAILURE, Diagnostic Chart with Trouble Code.>
53	Side Airbag Sensor RH failure	Side airbag sensor (RH) is faulty.	<Ref. to AB(diag)-70, 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)-70, 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. • Curtain airbag module is deployed.	<Ref. to AB(diag)-70, DTC 55 SIDE CURTAIN AIRBAG FIRING OUTPUT, Diagnostic Chart with Trouble Code.>
58	Curtain Airbag Sensor RH failure	Curtain airbag sensor (RH) is faulty.	<Ref. to AB(diag)-70, 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)-70, DTC 59 CURTAIN AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
61	Belt Pretensioner RH failure	• Seat belt pretensioner (RH) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Pretensioner is faulty. • Pretensioner harness is faulty.	<Ref. to AB(diag)-71, DTC 61 BELT PRETENSIONER RH FAILURE, Diagnostic Chart with Trouble Code.>
62	Belt Pretensioner LH failure	• Seat belt pretensioner (LH) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Pretensioner is faulty. • Pretensioner harness is faulty.	<Ref. to AB(diag)-73, DTC 62 BELT PRETENSIONER LH FAILURE, Diagnostic Chart with Trouble Code.>
65	Belt Pretensioner RH failure	• Seat belt pretensioner (RH) circuit is shorted to power supply. • Pretensioner is faulty. • Pretensioner harness is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-75, DTC 65 BELT PRETENSIONER RH FAILURE, Diagnostic Chart with Trouble Code.>
66	Belt Pretensioner LH failure	• Seat belt pretensioner (LH) circuit is shorted to power supply. • Pretensioner is faulty. • Pretensioner harness is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-77, DTC 66 BELT PRETENSIONER LH FAILURE, Diagnostic Chart with Trouble Code.>
71	Driver's Airbag failure	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Driver's side) circuit is open, shorted or shorted to ground. • Roll connector circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-79, DTC 71 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>

DTC	Display	Content of diagnosis	Reference
72	Passenger's Airbag failure	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-82, 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. • Airbag module harness circuit (Driver's side) is shorted to power supply. • Roll connector is shorted to power supply. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-84, DTC 75 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
76	Passenger's Airbag failure	• Airbag main harness circuit (Passenger's side) is shorted to power supply. • Airbag module harness circuit (Passenger's side) is shorted to power supply. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-86, DTC 76 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
91	Curtain Airbag Module RH Failure	• Curtain airbag harness (RH) circuit is faulty. • Curtain airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-88, DTC 91 CURTAIN AIRBAG MODULE RH FAILURE, Diagnostic Chart with Trouble Code.>
92	Curtain Airbag Module LH Failure	• Curtain airbag harness (LH) circuit is faulty. • Curtain airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-90, DTC 92 CURTAIN AIRBAG MODULE LH FAILURE, Diagnostic Chart with Trouble Code.>
95	Curtain Airbag Module RH Failure	• Curtain airbag harness (RH) is shorted to power supply. • Curtain airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-92, DTC 95 CURTAIN AIRBAG MODULE RH FAILURE, Diagnostic Chart with Trouble Code.>
96	Curtain Airbag Module LH Failure	• Curtain airbag harness (LH) is shorted to power supply. • Curtain airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-94, DTC 96 CURTAIN AIRBAG MODULE LH FAILURE, Diagnostic Chart with Trouble Code.>
BB	Roll Over: Firing Output	Curtain airbag module (LH/RH) and seat belt pretensioner (LH/RH) are deployed.	<Ref. to AB(diag)-95, DTC BB ROLL OVER:FIRING OUTPUT, Diagnostic Chart with Trouble Code.>
E2 E3 E4	Front Sensor Bus RH Communication error	• Open or short circuit in harness (RH) between airbag control module and front sub sensor. • Front sub sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-95, DTC E2 FRONT SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-95, DTC E3 FRONT SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-96, DTC E4 FRONT SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

DTC	Display	Content of diagnosis	Reference
E6 E7 E8	Front Sensor Bus LH Communication error	• Open or short circuit in harness (LH) between airbag control module and front sub sensor. • Front sub sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-97, DTC E6 FRONT SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-97, DTC E7 FRONT SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-98, DTC E8 FRONT SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>
E9 EA EB EC	Side Sensor Bus RH Communication error	• Open or short circuit in harness (RH) between airbag control module and side sensor. • Side airbag sensor (RH) or curtain airbag sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-99, DTC E9 SIDE SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-99, DTC EA SIDE SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-99, DTC EB SIDE SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-100, DTC EC SIDE SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>
ED EE	Side Sensor Bus RH Communication error	• Open or short circuit in harness (RH) between airbag control module and side sensor. • Side airbag sensor (RH) or curtain airbag sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-102, DTC ED SIDE SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-103, DTC EE SIDE SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>
F1 F2 F3 F4	Side Sensor Bus LH Communication error	• Open or short circuit in harness (LH) between airbag control module and side sensor. • Side airbag sensor (LH) or curtain airbag sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-106, DTC F1 SIDE SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-106, DTC F2 SIDE SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-106, DTC F3 SIDE SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-107, DTC F4 SIDE SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

DTC	Display	Content of diagnosis	Reference
F5 F6	Side Sensor Bus LH Communication error	• Open or short circuit in harness (LH) between airbag control module and side sensor. • Side airbag sensor (LH) or curtain airbag sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-109, DTC F5 SIDE SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-110, DTC F6 SIDE SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>
F8 F9 FA	Satellite Sensor Bus Communication error	• Open or short circuit in harness between airbag control module and satellite safing sensor. • Satellite safing sensor is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-112, DTC F8 SATELLITE SENSOR BUS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-112, DTC F9 SATELLITE SENSOR BUS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> <Ref. to AB(diag)-113, DTC FA SATELLITE SENSOR BUS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>
3A	Front Sub Sensor RH false installation	• Front sensor (RH) is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-115, DTC 3A FRONT SUB SENSOR RH FALSE INSTALLATION, Diagnostic Chart with Trouble Code.>
3B	Front Sub Sensor LH false installation	• Front sensor (LH) is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-115, DTC 3B FRONT SUB SENSOR LH FALSE INSTALLATION, Diagnostic Chart with Trouble Code.>
3C	Satellite Sensor Bus failure	Satellite safing sensor is faulty.	<Ref. to AB(diag)-115, DTC 3C SATELLITE SENSOR BUS FAILURE, Diagnostic Chart with Trouble Code.>
3D	Satellite Sensor false installation	• Satellite safing sensor is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-115, DTC 3D SATELLITE SENSOR FALSE INSTALLATION, Diagnostic Chart with Trouble Code.>
5A	Side Airbag Sensor RH false installation	• Side A/B sensor is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-116, DTC 5A SIDE AIRBAG SENSOR RH FALSE INSTALLATION, Diagnostic Chart with Trouble Code.>
5B	Side Airbag Sensor LH false installation	• Side A/B sensor is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-116, DTC 5B SIDE AIRBAG SENSOR LH FALSE INSTALLATION, Diagnostic Chart with Trouble Code.>
5C	Curtain Airbag Sensor RH false installation	• Curtain A/B sensor is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-116, DTC 5C CURTAIN AIRBAG SENSOR RH FALSE INSTALLATION, Diagnostic Chart with Trouble Code.>
5D	Curtain Airbag Sensor LH false installation	• Curtain A/B sensor is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-116, DTC 5D CURTAIN AIRBAG SENSOR LH FALSE INSTALLATION, Diagnostic Chart with Trouble Code.>

14.Diagnostic Chart with Trouble Code

A: DTC 11 DRIVER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

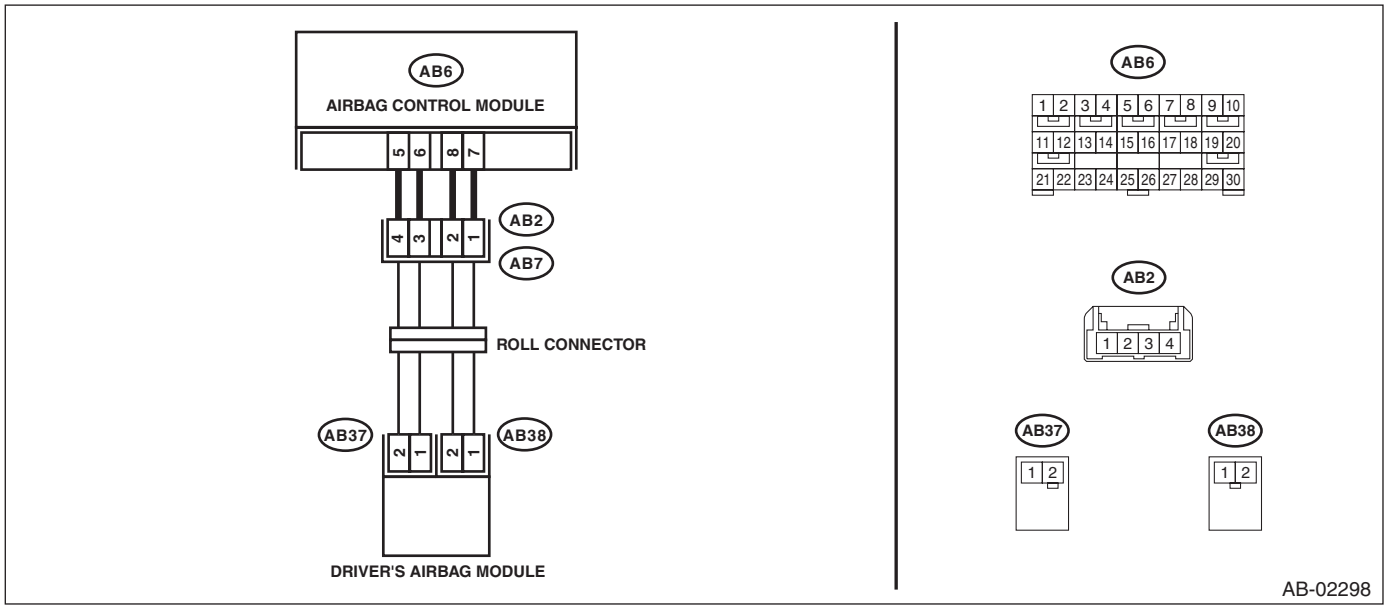
- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (Driver's side) circuit is open, shorted or shorted to ground.
- Roll connector circuit is open, shorted or shorted to ground.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-14, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six 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).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the console side panel lower RH and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. 5) Measure the resistance between connector (3AG) of test harness AG and connector (3P) of test harness P. ***Connector & terminal*** ***(3AG) No. 1 — (2P) No. 1:*** ***(3AG) No. 3 — (2P) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** Measure the resistance between connector (3AG) terminals in the test harness AG. ***Connector & terminal*** ***(3AG) No. 1 — (3AG) No. 2:*** ***(3AG) No. 1 — (3AG) No. 4:*** ***(3AG) No. 2 — (3AG) No. 3:*** ***(3AG) No. 3 — (3AG) No. 4:*** ***(3AG) No. 1 — (3AG) No. 3:*** ***(3AG) No. 3 — Chassis ground:*** ***(3AG) No. 1 — Chassis ground:*** ***(3AG) No. 2 — (3AG) No. 4:*** ***(3AG) No. 2 — Chassis ground:*** ***(3AG) No. 4 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag main harness along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, Airbag Control Module.>	Go to step **7**.

Step		Check	Yes	No
7	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

B: DTC 12 PASSENGER'S AIRBAG FAILURE

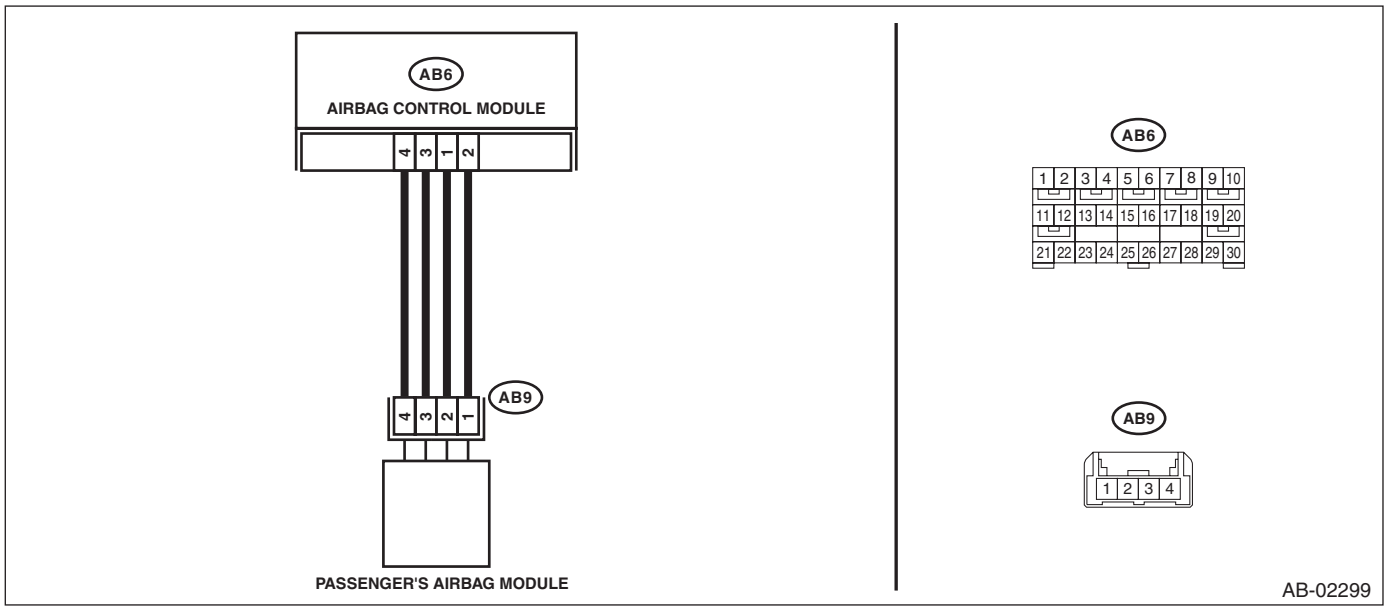
DTC DETECTING CONDITION:

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console side panel lower RH and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-15, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. 5) Measure the resistance between connector (3AG) in the test harness AG and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(3AG) No. 9 — (2P) No. 1:*** ***(3AG) No. 7 — (2P) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** Measure the resistance between connectors (3AG) in the test harness AG, and between connector (3AG) and chassis ground. ***Connector & terminal*** ***(3AG) No. 9 — (3AG) No. 7:*** ***(3AG) No. 9 — Chassis ground:*** ***(3AG) No. 7 — Chassis ground:*** ***(3AG) No. 8 — (3AG) No. 6:*** ***(3AG) No. 8 — Chassis ground:*** ***(3AG) No. 6 — Chassis ground:*** ***(3AG) No. 9 — (3AG) No. 6:*** ***(3AG) No. 9 — (3AG) No. 8:*** ***(3AG) No. 7 — (3AG) No. 8:*** ***(3AG) No. 6 — (3AG) No. 7:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, 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.

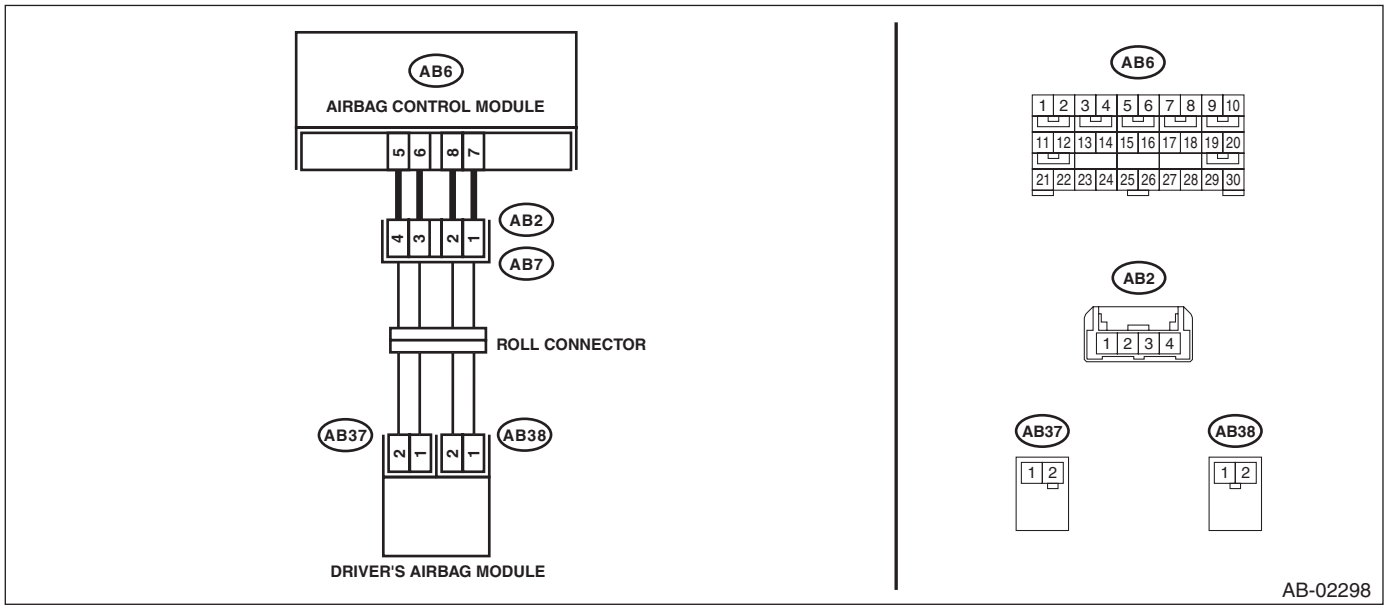
CAUTION:

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

NOTE:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (AB38) to the connector (1N) in the test harness N. 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-14, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six 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).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the console side panel lower RH and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. 5) Connect the battery ground terminal and turn the ignition switch to ON. 6) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 3 (+) — Chassis ground (–):*** ***(3AG) No. 1 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, 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.

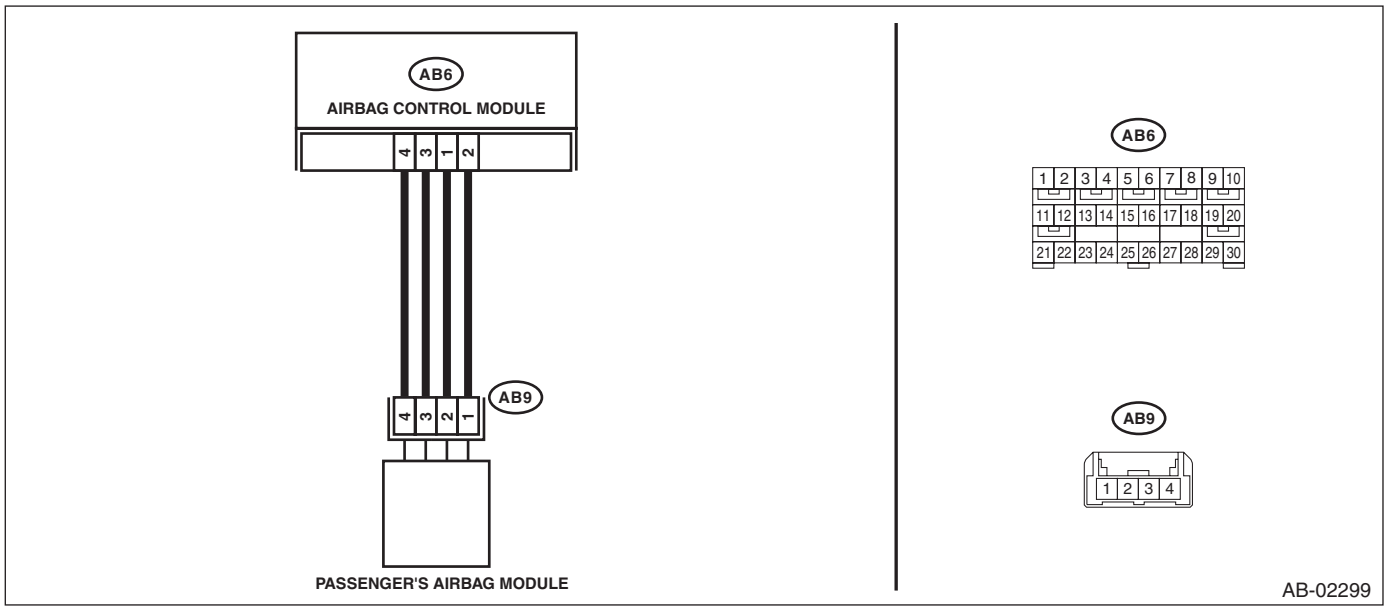
CAUTION:

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

NOTE:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness along with chassis harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console side panel lower RH and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-15, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. 5) Connect the battery ground terminal and turn the ignition switch to ON. 6) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 9 (+) — Chassis ground (–):*** ***(3AG) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, 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 performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**CHECK IF DTC 21 IS INDICATED.** Read the DTC. <Ref. to AB(diag)-23, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Does the Subaru Select Monitor display DTC21?	Replace the airbag control module. <Ref. to AB-20, Airbag Control Module.>	Perform the Clear Memory Mode. <Ref. to AB(diag)-24, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.>

F: DTC 22 FRONT AIRBAG FIRING OUTPUT

DTC DETECTING CONDITION:
This DTC is indicated when the front airbag module and the pretensioner are deployed.
Once this DTC is displayed, the memory cannot be cleared. Therefore replace the following parts.
- Airbag control module <Ref. to AB-20, Airbag Control Module.>
- Driver's airbag module <Ref. to AB-14, Driver's Airbag Module.>
- Passenger's airbag module <Ref. to AB-15, Passenger's Airbag Module.>
- Front sub sensor of both sides. <Ref. to AB-25, Front Sub Sensor.>
- Front outer seat belt with pretensioner of both sides. <Ref. to SB-18, Front Seat Belt.>
- Steering roll connector <Ref. to AB-24, Roll Connector.>
- Occupant detection system (passenger's seat cushion & frame assembly. <Ref. to SE-7, Front Seat.>
- Inner seat belt assembly of both side <Ref. to SB-18, INNER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
- Driver's seat slide rail assembly <Ref. to SE-8, DRIVER'S SEAT, DISASSEMBLY, Front Seat.>

G: DTC 26 PASSENGER'S AIRBAG INDICATOR FAILURE

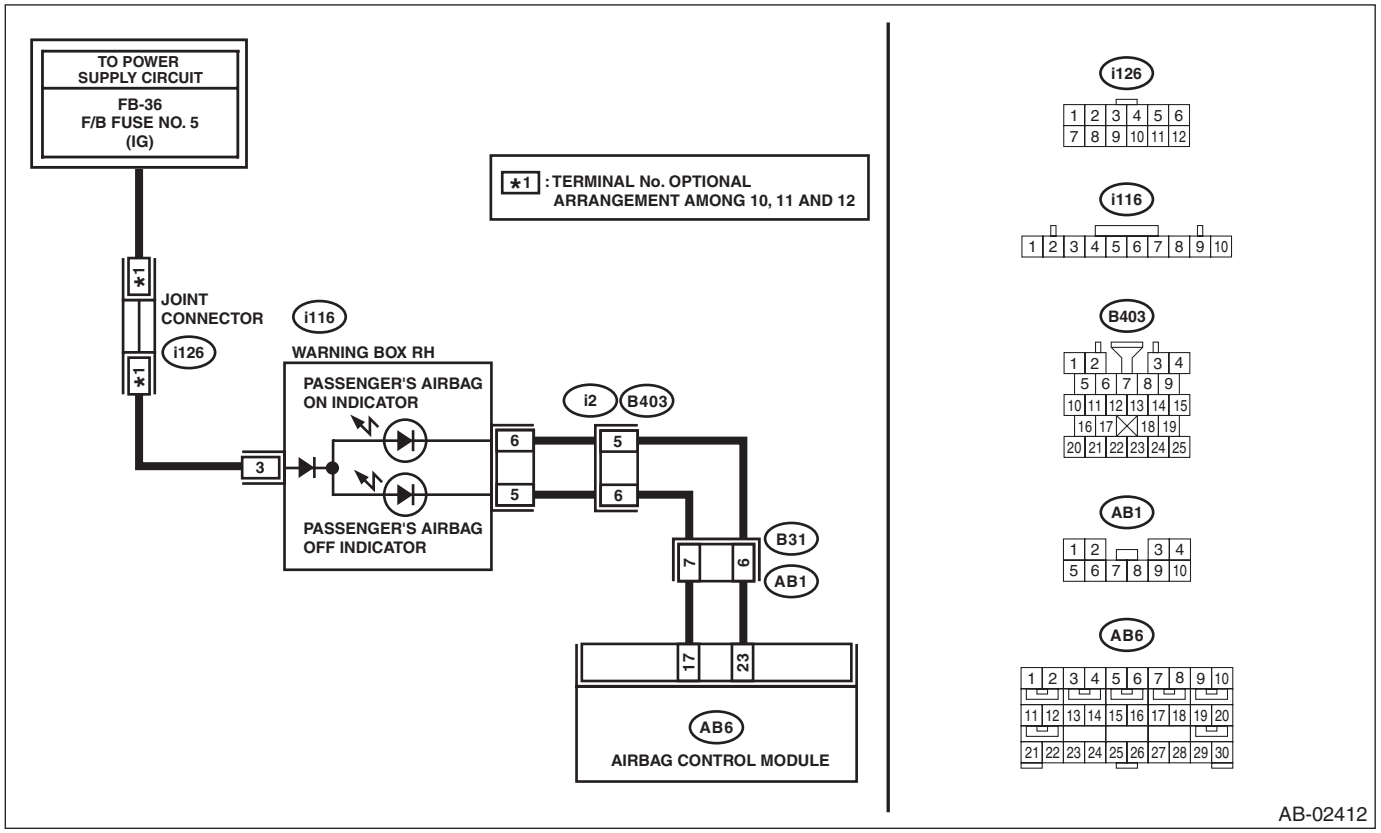
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



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

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch to OFF. 2) Remove the warning box RH and disconnect the connector (i116). 3) Connect the test harness AG connector (1AG) to the connectors (AB6, AB17, AB18). 4) Measure the resistance between connector (2AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(2AG) No. 9 — (2AG) No. 8:*** ***(2AG) No. 9 — Chassis ground:*** ***(2AG) No. 8 — Chassis ground:***	Is the resistance 1 MΩ or more?	Replace the warning box RH. <Ref. to AC-48, REMOVAL, Air Vent Grille.>	Repair the bulkhead harness. Or replace the airbag main harness along with body harness.
4	**CHECK AIRBAG HARNESS.** 1) Connect the connectors (7AG) and (8AG) in the test harness AG. 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-20, Airbag Control Module.>	Go to step **5**.
5	**CHECK AIRBAG HARNESS.** 1) Turn the ignition switch to OFF. 2) Connect the test harness AG connector (1AG) to the connectors (AB6, AB17, AB18). 3) Measure the resistance between connector (2AG) in the test harness AG and connector (i116). ***Connector & terminal*** ***(2AG) No. 9 — (i116) No. 5:*** ***(2AG) No. 8 — (i116) No. 6:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair the bulkhead harness. Or replace the airbag main harness along with body harness.
6	**CHECK BODY HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (i116) and chassis ground. ***Connector & terminal*** ***(i116) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Replace the warning box RH. <Ref. to AC-48, REMOVAL, Air Vent Grille.>	Repair the power supply line to the warning box RH.

H: 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.

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

	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the occupant detection control module.	Is there poor contact?	Reconnect the connector. If defective is not improved, replace the airbag rear harness along with the body harness or the occupant detection harness (seat harness).	Go to step **2**.
2	**CHECK AIRBAG HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 3) Disconnect the connectors (AB59) and (AB53) under the passenger's seat. 4) Connect the test harness AG connector (1AG) to the connectors (AB6, AB17, AB18). 5) Connect the connector (1AB) in the test harness AB to the connector (AB53). 6) Measure the resistance between connector (6AG) in the test harness AG and connector (2AB) in the test harness AB. ***Connector & terminal*** ***(6AG) No. 9 — (2AB) No. 1:*** ***(6AG) No. 11 — (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.** Measure the resistance between connector (6AG) in the test harness AG and chassis ground, and between connector terminals (6AG). ***Connector & terminal*** ***(6AG) No. 9 — Chassis ground:*** ***(6AG) No. 9 — (6AG) No. 11:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (2AB) in the test harness AB and chassis ground. ***Connector & terminal*** ***(2AB) No. 3 (+) — Chassis ground (–):***	Is the voltage 9 V or more?	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.	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.

I: DTC 29 ODS FAILURE

NOTE:
Refer to “Occupant Detection System” for details on DTC 29. <Ref. to OD(diag)-25, DTC 29 ODS FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

J: DTC 2A ODS CALIBRATION ERROR

NOTE:
Refer to “Occupant Detection System” for details on DTC 2A. <Ref. to OD(diag)-22, DTC 2A ODS CALIBRATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

K: DTC 2B ODS SYSTEM WRONG PARTS

NOTE:
Refer to “Occupant Detection System” for details on DTC 2B. <Ref. to OD(diag)-22, DTC 2B ODS SYSTEM WRONG PARTS, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

L: DTC 2C BELT TENSION SENSOR FAILURE

NOTE:
Refer to “Occupant Detection System” for details on DTC 2C. <Ref. to OD(diag)-23, DTC 2C BELT TENSION SENSOR FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

M: 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.>

N: DTC 34 FRONT SUB SENSOR LH FAILURE

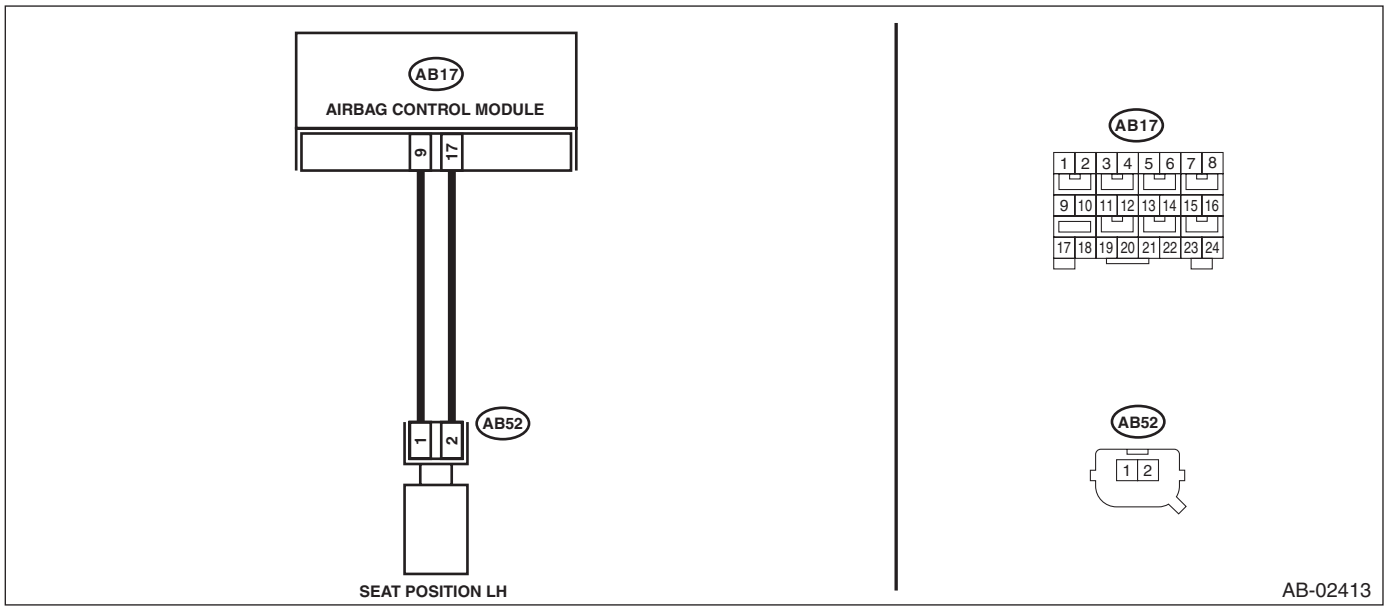
DTC DETECTING CONDITION:
Front sub sensor (LH) is faulty.
If DTC 34 is displayed, the circuit within the front sub sensor (LH) is faulty.
Replace the front sub sensor (LH). <Ref. to AB-25, Front Sub Sensor.>

O: DTC 36 SEAT POSITION SENSOR LH FAILURE

DTC DETECTING CONDITION:

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

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



Step		Check	Yes	No
1	**CHECK SEAT POSITION SENSOR (LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB52) from the connector of the seat position sensor (LH). 3) Connect the connector (2Y) in the test harness Y to connector (AB52). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the seat position sensor (LH) along with the driver's seat slide rail assembly. <Ref. to SE-7, Front Seat.>	Go to step **2**.

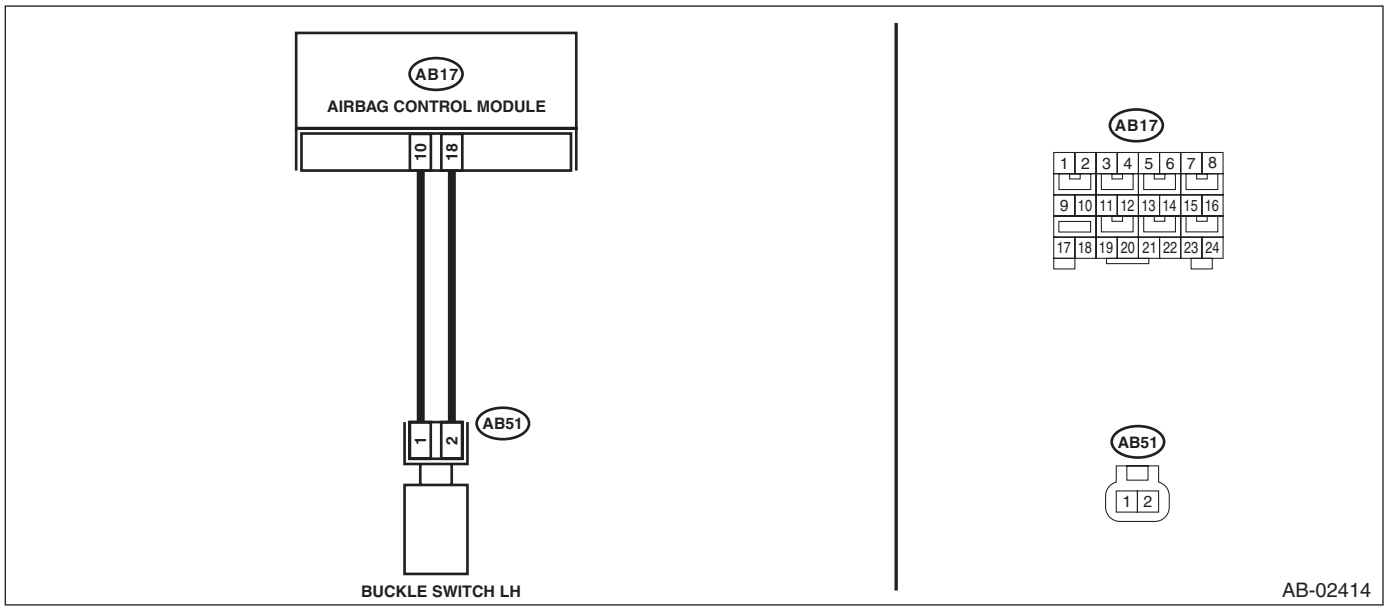
	Step	Check	Yes	No
2	**CHECK AIRBAG REAR HARNESS LH (SEAT POSITION SENSOR HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect connectors (AB19) and (AB20) from side airbag module (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the connector (AB21) from seat belt pretensioner (LH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the test harness AG connector (1AG) to the connectors (AB6, AB17, AB18). 7) Disconnect the seat position sensor (LH), and then connect the connector (1H) in the test harness H to connector (AB52). 8) Measure the resistance between connector (6AG) in the test harness AG and connector (3H) in the test harness H. ***Connector & terminal*** ***(6AG) No. 10 — (3H) No. 6:*** ***(6AG) No. 12 — (3H) No. 5:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness LH along with the body harness.
3	**CHECK AIRBAG REAR HARNESS LH.** Measure the resistance between connector (6AG) in the test harness AG and chassis ground, and between connector terminals (6AG). ***Connector & terminal*** ***(6AG) No. 10 — Chassis ground:*** ***(6AG) No. 12 — Chassis ground:*** ***(6AG) No. 10 — (6AG) No. 12:***	Is the resistance less than 10 Ω?	Replace the airbag rear harness LH along with the body harness.	Replace the airbag control module.

P: DTC 38 BUCKLE SWITCH LH FAILURE

DTC DETECTING CONDITION:

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

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the buckle switch LH.	Is there poor contact?	Replace the airbag rear harness LH along with the body harness.	Go to step **2**.
2	**CHECK SEAT BELT BUCKLE SWITCH (LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB51) from the buckle switch (LH). 3) Connect the connector (1Y) in the test harness Y to connector (AB51). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the seat belt buckle switch (LH). <Ref. to SB-18, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (BUCKLE SWITCH HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect connectors (AB19) and (AB20) from side airbag module (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the connector (AB21) from seat belt pretensioner (LH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the test harness AG connector (1AG) to the connectors (AB6, AB17, AB18). 7) Disconnect the seat belt buckle switch (LH), and then connect the connector (1D) in the test harness D to connector (AB51). 8) Measure the resistance between connector (6AG) in the test harness AG and connector (3D) in the test harness D. ***Connector & terminal*** ***(6AG) No. 16 — (3D) No. 3:*** ***(6AG) No. 18 — (3D) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness LH along with the body harness.
4	**CHECK AIRBAG REAR HARNESS.** Measure the resistance between connector (6AG) terminals in the test harness AG. ***Connector & terminal*** ***(6AG) No. 16 — (6AG) No. 18:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag control module.
5	**CHECK AIRBAG REAR HARNESS.** Measure the resistance between connector (4U) in the test harness U and chassis ground. ***Connector & terminal*** ***(6AG) No. 16 — Chassis ground:*** ***(6AG) No. 18 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness LH along with the body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

Q: DTC 37 BUCKLE SWITCH RH FAILURE

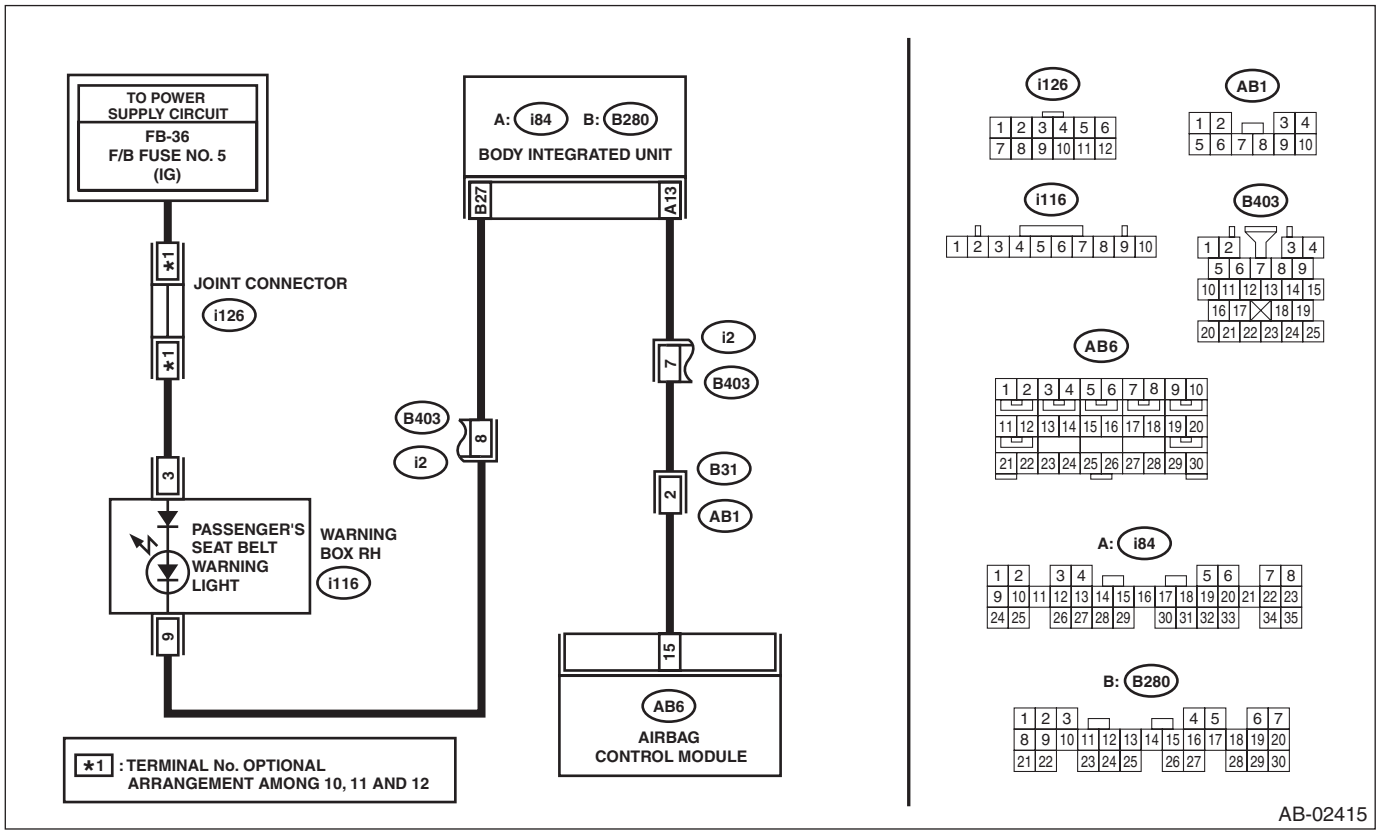
NOTE:
Refer to "Occupant Detection System" for details on DTC 37. <Ref. to OD(diag)-26, DTC 37 BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

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



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

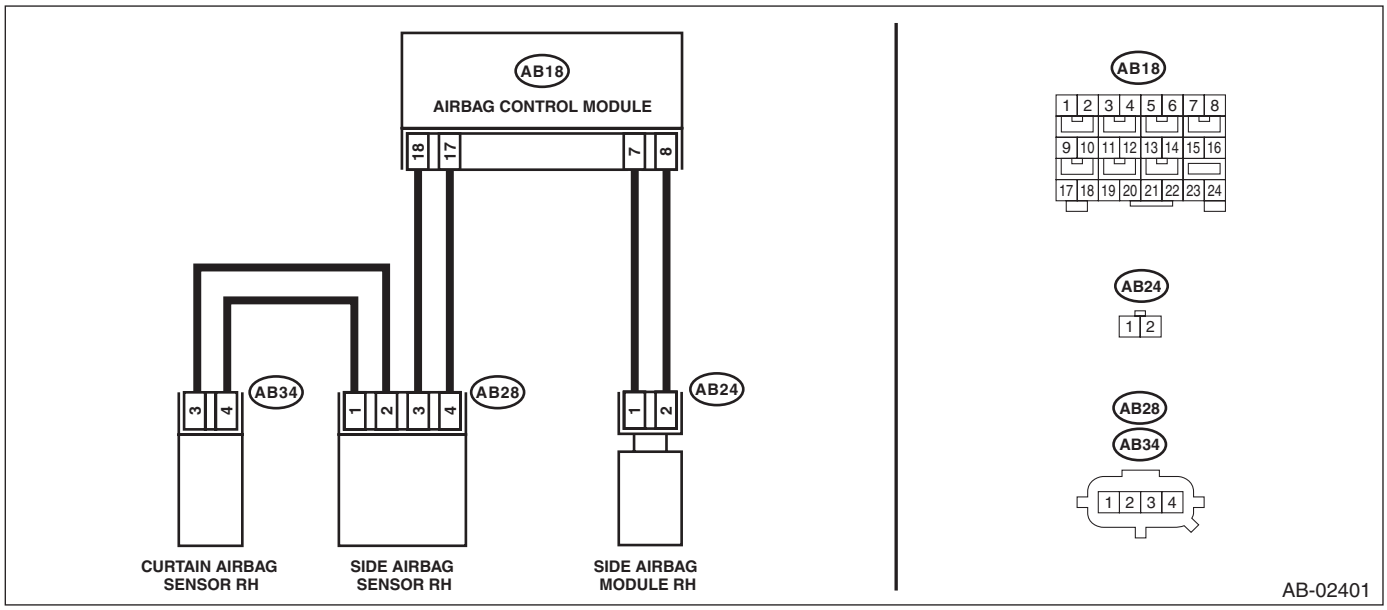
	Step	Check	Yes	No
3	**CHECK AIRBAG HARNESS.** 1) Connect the connectors (7AG) and (8AG) in the test harness AG in the condition of step 2. 2) Turn the ignition switch to ON.	Does the passenger's seat belt warning light blink for 6 seconds, then repeatedly light and go off?	Replace the airbag control module. <Ref. to AB-20, Airbag Control Module.>	Go to step **4**.
4	**CHECK AIRBAG HARNESS.** 1) Disconnect the connectors (7AG) and (8AG) in the test harness AG in the condition of step 3. 2) Measure the resistance between connector (2AG) in the test harness AG and connector (i84). ***Connector & terminal*** ***(2AG) No. 10 — (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.

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module RH and the side airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB24), and connect the connector (1F) in test harness F to connector (AB24). 3) Connect the airbag resistor to the connector (3F) of test harness F. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the side airbag module (RH). <Ref. to AB-16, REMOVAL, Side Airbag Module.>	Go to step **3**.

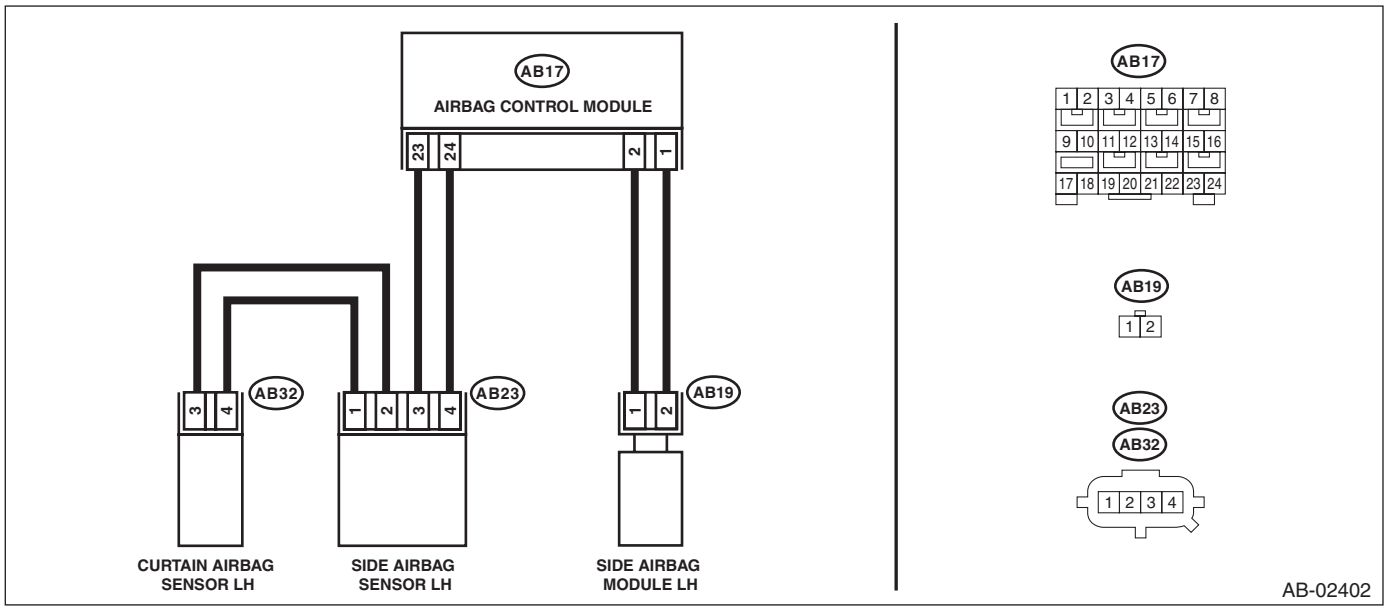
	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the airbag resistor from test harness F. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Measure the resistance between connector (5AG) in the test harness AG and connector (3F) in the test harness F. ***Connector & terminal*** ***(5AG) No. 5 — (3F) No. 4:*** ***(5AG) No. 7 — (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).** Measure the resistance between connector (5AG) terminals in the test harness AG. ***Connector & terminal*** ***(5AG) No. 5 — (5AG) No. 7:***	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).** Measure the resistance between connector (5AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(5AG) No. 5 — Chassis ground:*** ***(5AG) No. 7 — 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.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module LH and the side airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB19), and connect the connector (1F) in test harness F to connector (AB19). 3) Connect the airbag resistor to the connector (3F) of test harness F. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the side airbag module (LH). <Ref. to AB-16, REMOVAL, Side Airbag Module.>	Go to step **3**.

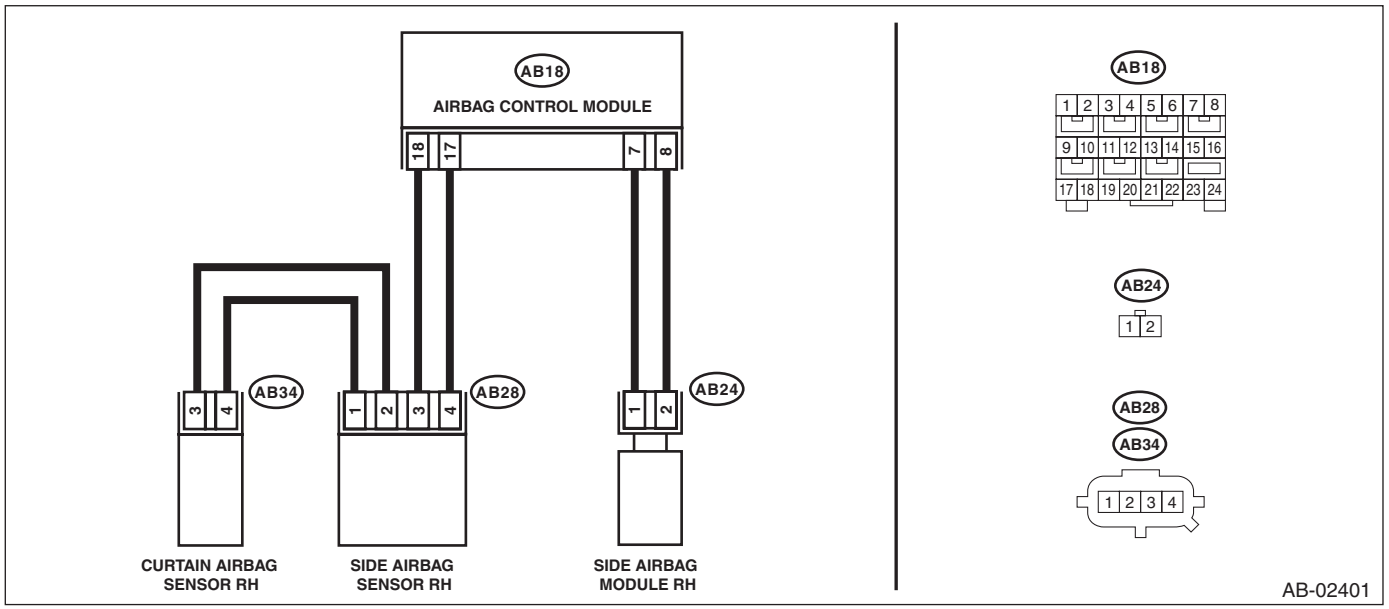
	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Measure the resistance between connector (5AG) in the test harness AG and connector (3F) in the test harness F. ***Connector & terminal*** ***(5AG) No. 1 — (3F) No. 3:*** ***(5AG) 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 (SIDE AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (5AG) terminals in the test harness AG. ***Connector & terminal*** ***(5AG) No. 1 — (5AG) 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 (SIDE AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (5AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(5AG) No. 1 — Chassis ground:*** ***(5AG) 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.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module RH and the side airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB24), and connect the connector (1F) in test harness F to connector (AB24). 3) Connect the airbag resistor to the connector (3F) of test harness F. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the side airbag module (RH). <Ref. to AB-16, REMOVAL, Side Airbag Module.>	Go to step **3**.

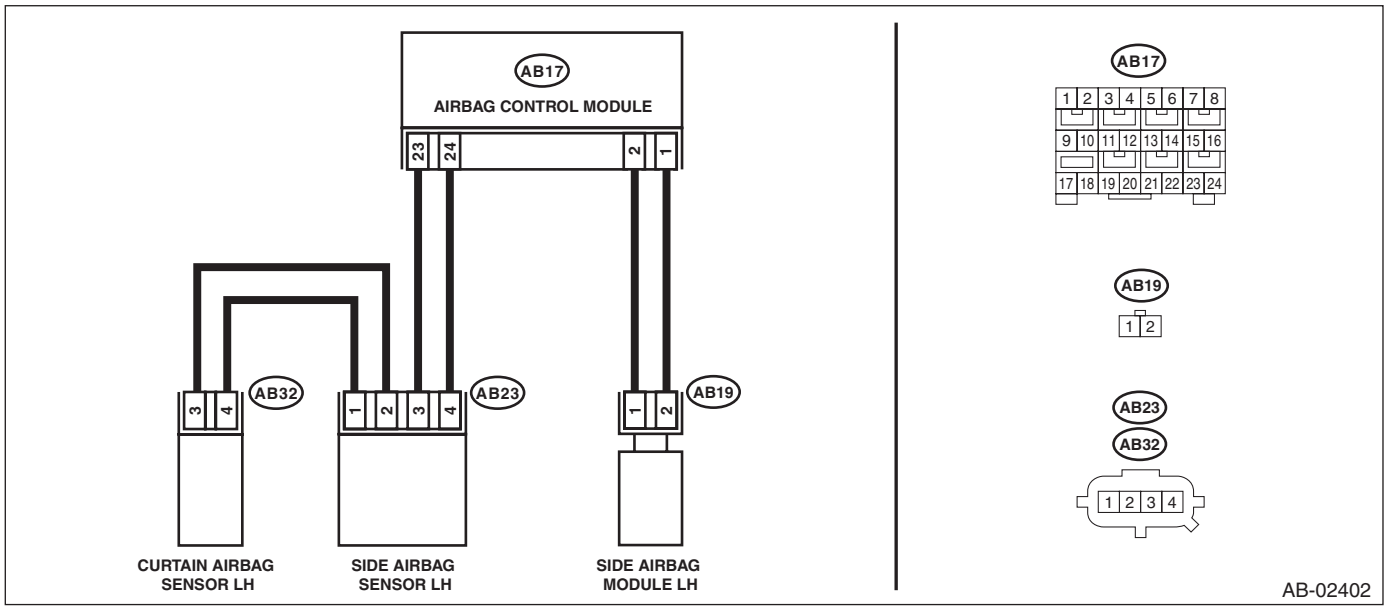
	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (5AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(5AG) No. 5 (+) — Chassis ground (–):*** ***(5AG) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module LH and the side airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB19), and connect the connector (1F) in test harness F to connector (AB19). 3) Connect the airbag resistor to the connector (3F) of test harness F. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the side airbag module (LH). <Ref. to AB-16, REMOVAL, Side Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (5AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(5AG) No. 3 (+) — Chassis ground (–):*** ***(5AG) No. 1 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

W: 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-21, Side Airbag Sensor.>

X: 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-21, Side Airbag Sensor.>

Y: 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-20, Airbag Control Module.>
- Front seat with side airbag module (Operating side) <Ref. to SE-7, Front Seat.>
- Side airbag sensor (operating side) <Ref. to AB-21, Side Airbag Sensor.>
- Curtain airbag module (operating side) <Ref. to AB-18, Curtain Airbag Module.>
- Curtain airbag sensor (operating side) <Ref. to AB-22, Curtain Airbag Sensor.>
- Satellite safing sensor

Z: 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-22, Curtain Airbag Sensor.>

AA: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-22, Curtain Airbag Sensor.>

AB:DTC 61 BELT PRETENSIONER RH FAILURE

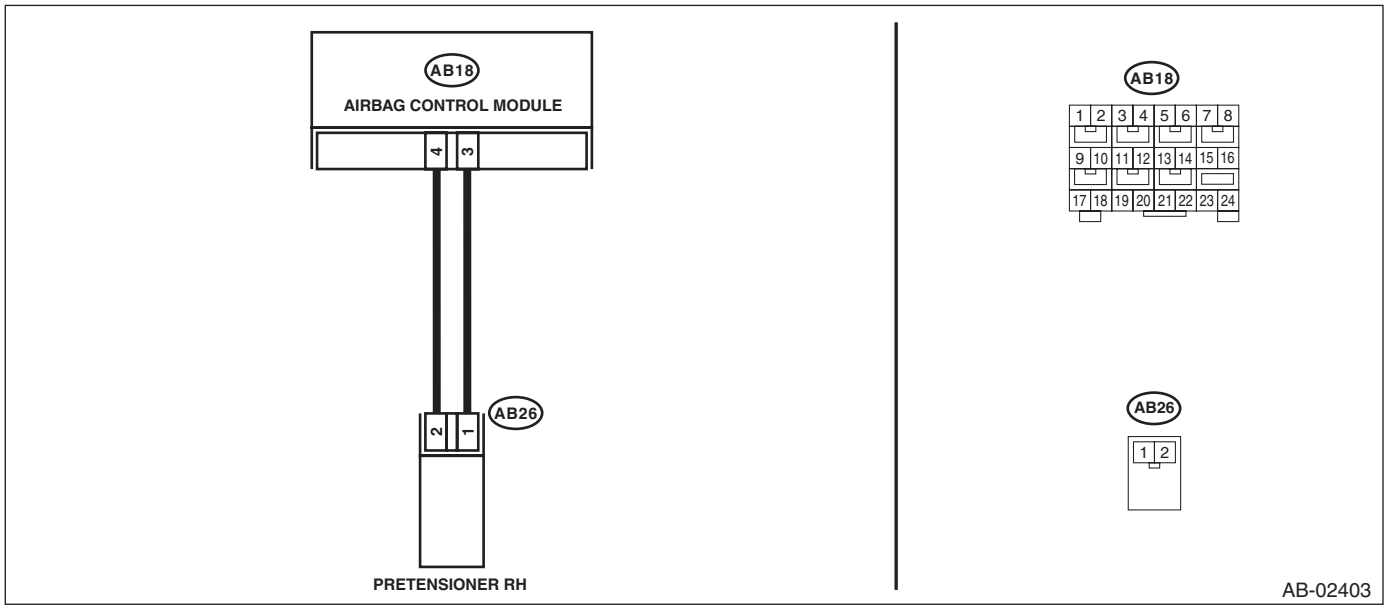
DTC DETECTING CONDITION:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the seat belt pretensioner (RH). <Ref. to SB-18, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the test harness AG connector (1AG) to connectors (AB18, AB17, AB6). 7) Measure the resistance between connector (3AG) in the test harness AG and connector (2N) in the test harness N. ***Connector & terminal*** ***(3AG) No. 18 — (2N) No. 2:*** ***(3AG) No. 20 — (2N) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** Measure the resistance between connector (3AG) terminals in the test harness AG. ***Connector & terminal*** ***(3AG) No. 18 — (3AG) No. 20:***	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).** Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 18 — Chassis ground:*** ***(3AG) No. 20 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AC:DTC 62 BELT PRETENSIONER LH FAILURE

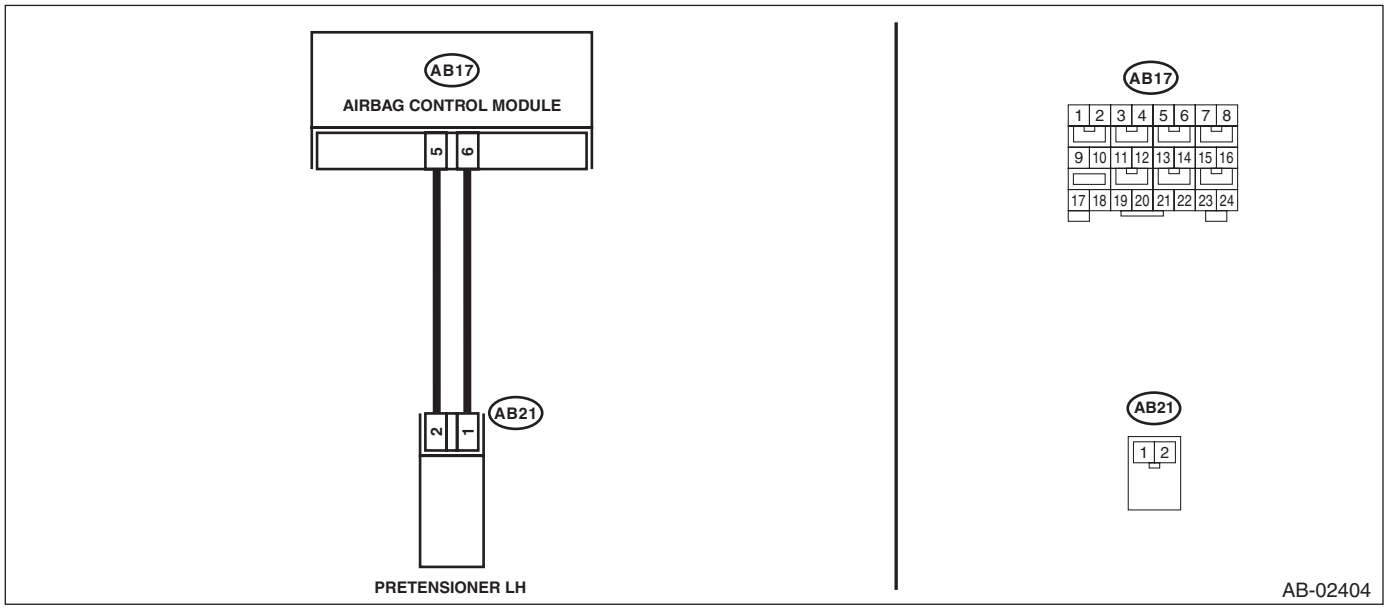
DTC DETECTING CONDITION:

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

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the seat belt pretensioner (LH). <Ref. to SB-18, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Measure the resistance between connector (3AG) in the test harness AG and connector (2N) in the test harness N. ***Connector & terminal*** ***(3AG) No. 12 — (2N) No. 2:*** ***(3AG) No. 10 — (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).** Measure the resistance between connector (3AG) terminals in the test harness AG. ***Connector & terminal*** ***(3AG) No. 10 — (3AG) No. 12:***	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).** Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 10 — Chassis ground:*** ***(3AG) No. 12 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AD:DTC 65 BELT PRETENSIONER RH FAILURE

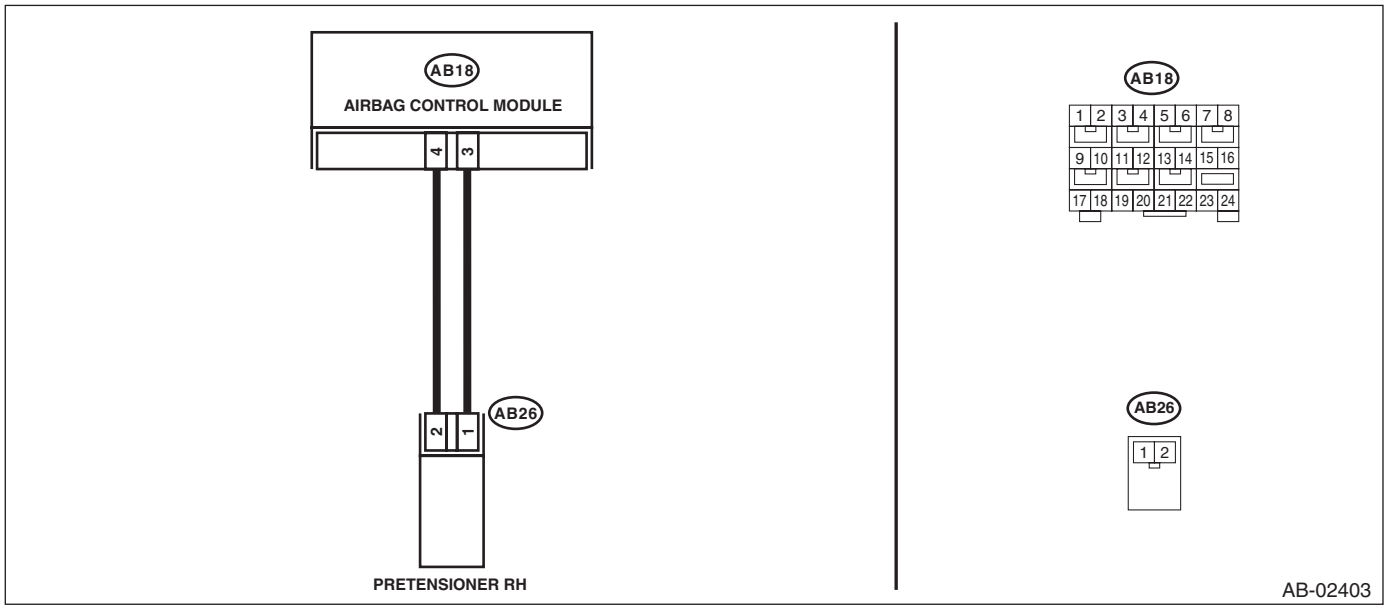
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the seat belt pretensioner (RH). <Ref. to SB-18, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 20 (+) — Chassis ground (–):*** ***(3AG) No. 18 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AE:DTC 66 BELT PRETENSIONER LH FAILURE

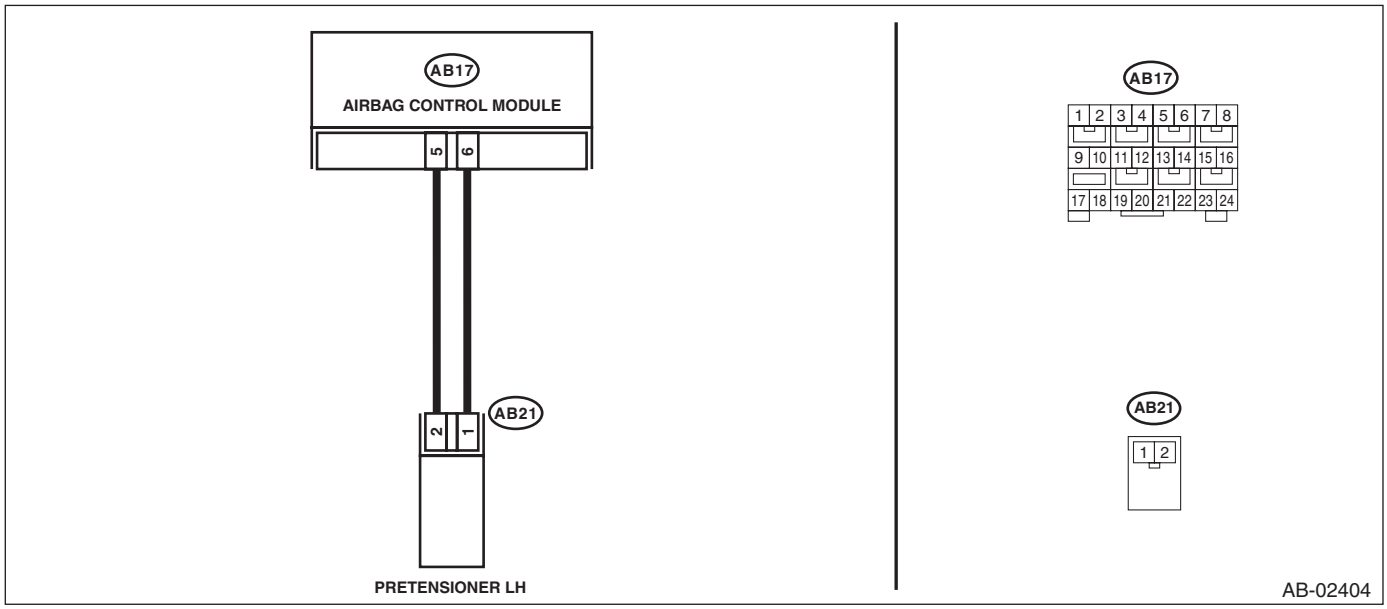
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the seat belt pretensioner (LH). <Ref. to SB-18, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 10 (+) — Chassis ground (–):*** ***(3AG) No. 12 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AF:DTC 71 DRIVER'S AIRBAG FAILURE

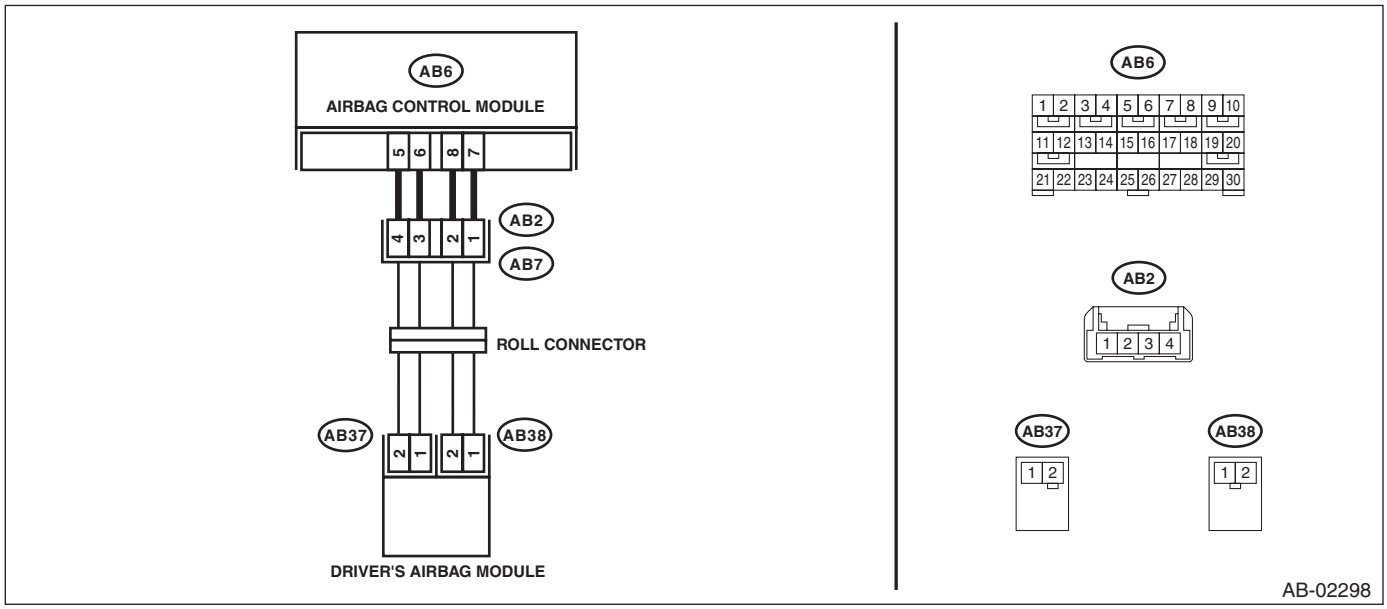
DTC DETECTING CONDITION:

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag main harness along with body harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-14, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six 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).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the console side panel lower RH and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the test harness AG connector (1AG). 5) Measure the resistance between connector (3AG) in the test harness AG and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(3AG) No. 2 — (3P) No. 3:*** ***(3AG) No. 4 — (3P) No. 4:***	Is the resistance less than 10 Ω?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** Measure the resistance between connectors (3AG) in the test harness AG, and between connector (3AG) and chassis ground. ***Connector & terminal*** ***(3AG) No. 1 — (3AG) No. 2:*** ***(3AG) No. 1 — (3AG) No. 4:*** ***(3AG) No. 2 — (3AG) No. 3:*** ***(3AG) No. 3 — (3AG) No. 4:*** ***(3AG) No. 1 — (3AG) No. 3:*** ***(3AG) No. 3 — Chassis ground:*** ***(3AG) No. 1 — Chassis ground:*** ***(3AG) No. 2 — (3AG) No. 4:*** ***(3AG) No. 2 — Chassis ground:*** ***(3AG) No. 4 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag main harness along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, Airbag Control Module.>	Go to step **7**.

Step		Check	Yes	No
7	CHECK FOR ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AG: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.

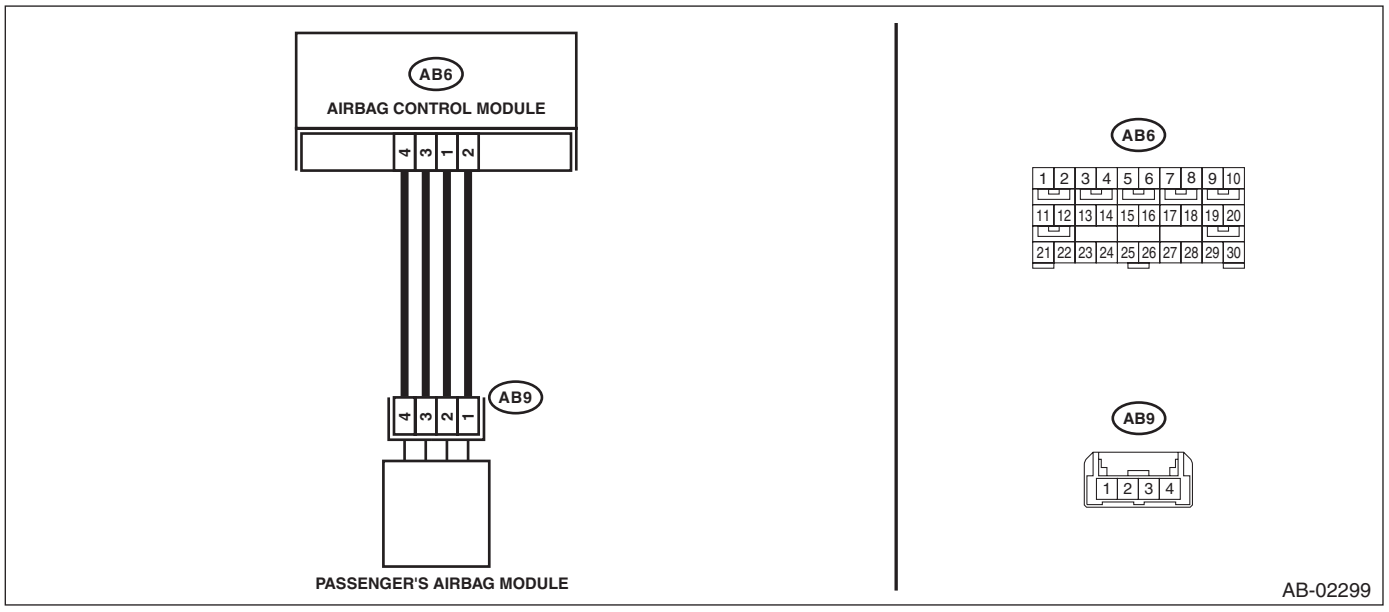
CAUTION:

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

NOTE:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag main harness along with body harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console side panel lower RH and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-15, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. 5) Measure the resistance between connector (3AG) in the test harness AG and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(3AG) No. 8 — (3P) No. 3:*** ***(3AG) No. 6 — (3P) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** Measure the resistance between connectors (3AG) in the test harness AG, and between connector (3AG) and chassis ground. ***Connector & terminal*** ***(3AG) No. 9 — (3AG) No. 7:*** ***(3AG) No. 9 — Chassis ground:*** ***(3AG) No. 7 — Chassis ground:*** ***(3AG) No. 8 — (3AG) No. 6:*** ***(3AG) No. 8 — Chassis ground:*** ***(3AG) No. 6 — Chassis ground:*** ***(3AG) No. 9 — (3AG) No. 6:*** ***(3AG) No. 9 — (3AG) No. 8:*** ***(3AG) No. 7 — (3AG) No. 8:*** ***(3AG) No. 6 — (3AG) No. 7:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AH: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.

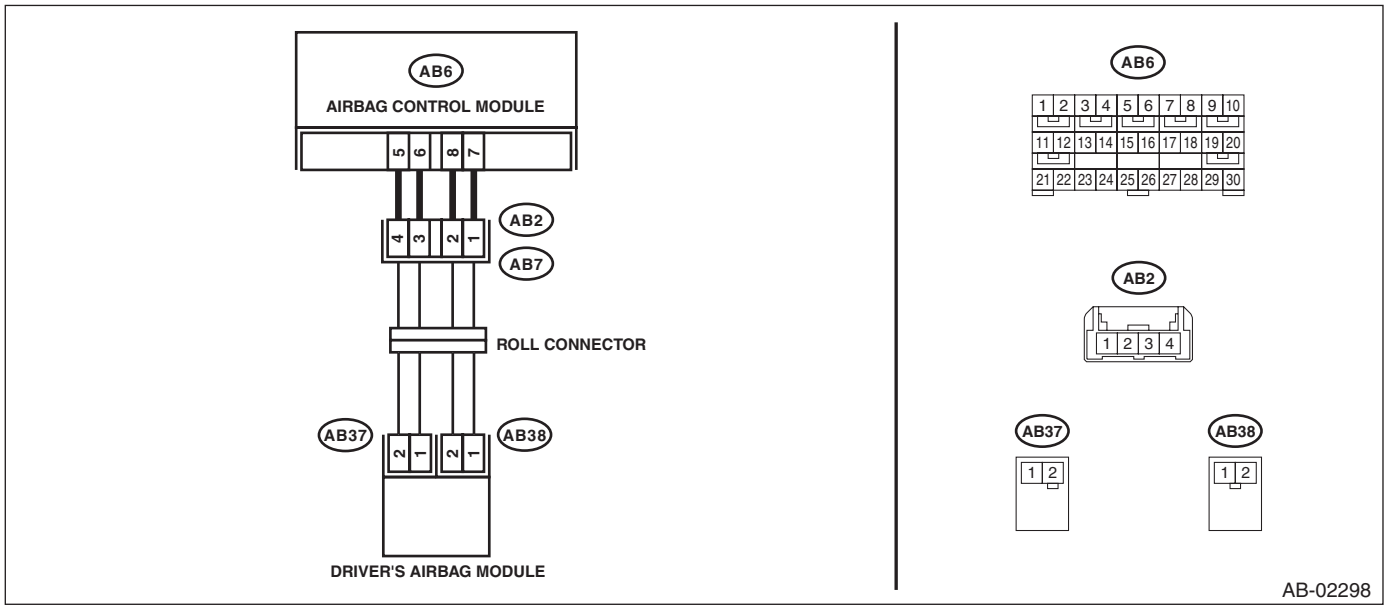
CAUTION:

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

NOTE:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag main harness along with body harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (AB38) to the connector (1N) in the test harness N. 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-14, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six 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).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the console side panel lower RH and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the test harness AG connector (1AG). 5) Connect the battery ground terminal and turn the ignition switch to ON. 6) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 2 (+) — Chassis ground (–):*** ***(3AG) No. 4 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AI: DTC 76 PASSENGER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

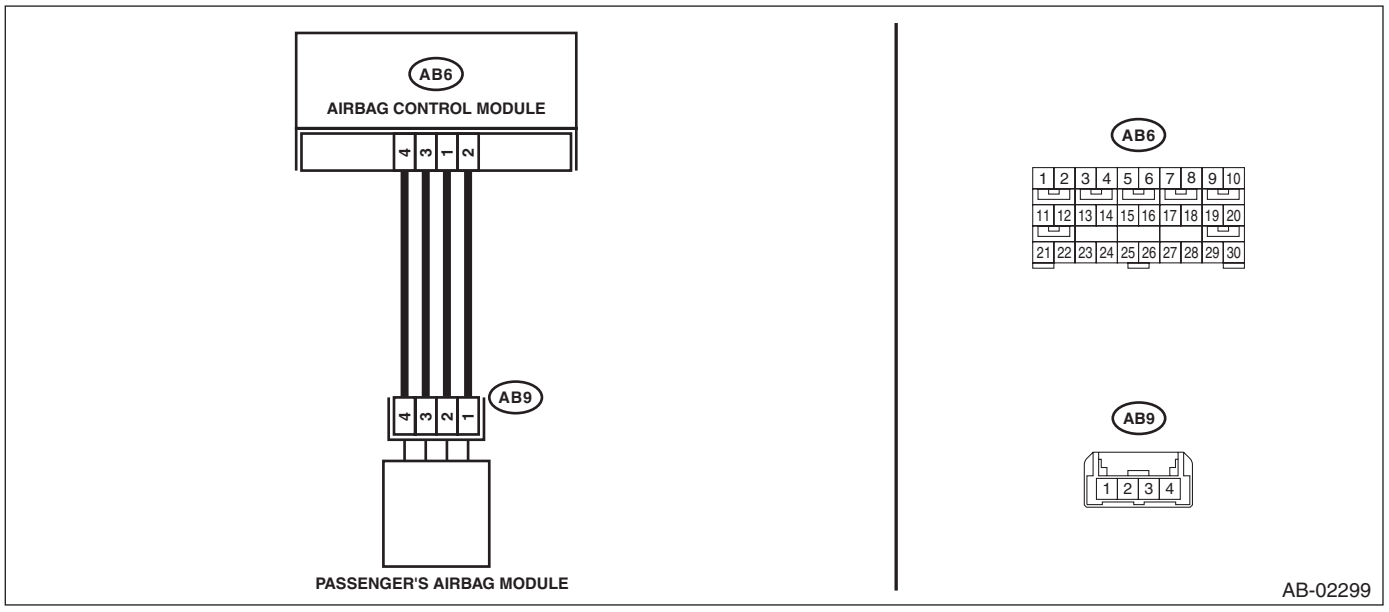
- Airbag main harness circuit (Passenger's side) is shorted to power supply.
- Airbag module harness circuit (Passenger's side) is shorted to power supply.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag main harness along with body harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console side panel lower RH and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-15, Passenger's Airbag Module.>	Go to step **3**.

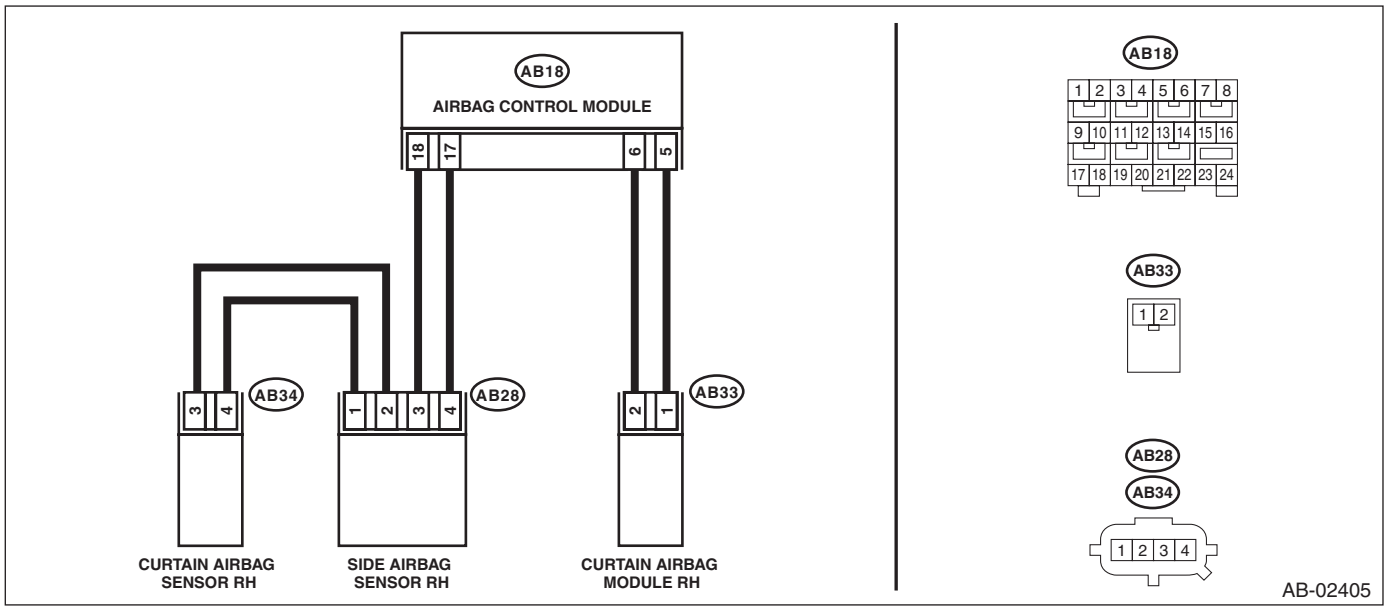
	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. 5) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 8 (+) — Chassis ground (–):*** ***(3AG) No. 6 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

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



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module RH and the curtain airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB33), and connect the connector (1N) in test harness N to connector (AB33). 3) Connect the airbag resistor to the connector (2N) of test harness N. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the curtain airbag module (RH). <Ref. to AB-18, Curtain Airbag Module.>	Go to step **3**.

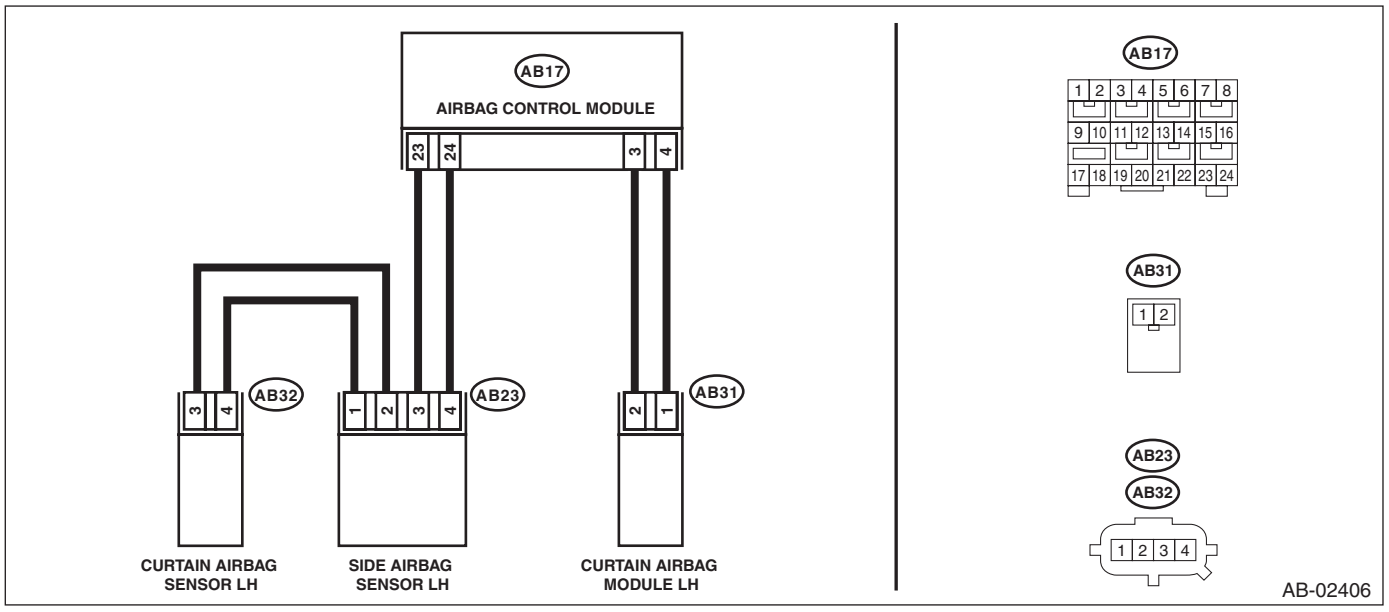
	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Measure the resistance between connector (6AG) in the test harness AG and connector (2N) in the test harness N. ***Connector & terminal*** ***(6AG) No. 6 — (2N) No. 1:*** ***(6AG) No. 8 — (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 (CURTAIN AIRBAG MODULE HARNESS RH).** Measure the resistance between connector (6AG) terminals in the test harness AG. ***Connector & terminal*** ***(6AG) No. 6 — (6AG) 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).** Measure the resistance between connector (6AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(6AG) No. 6 — Chassis ground:*** ***(6AG) 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.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module LH and the curtain airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB31), and connect the connector (1N) in test harness N to connector (AB31). 3) Connect the airbag resistor to the connector (2N) of test harness N. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the curtain airbag module (LH). <Ref. to AB-18, Curtain Airbag Module.>	Go to step **3**.

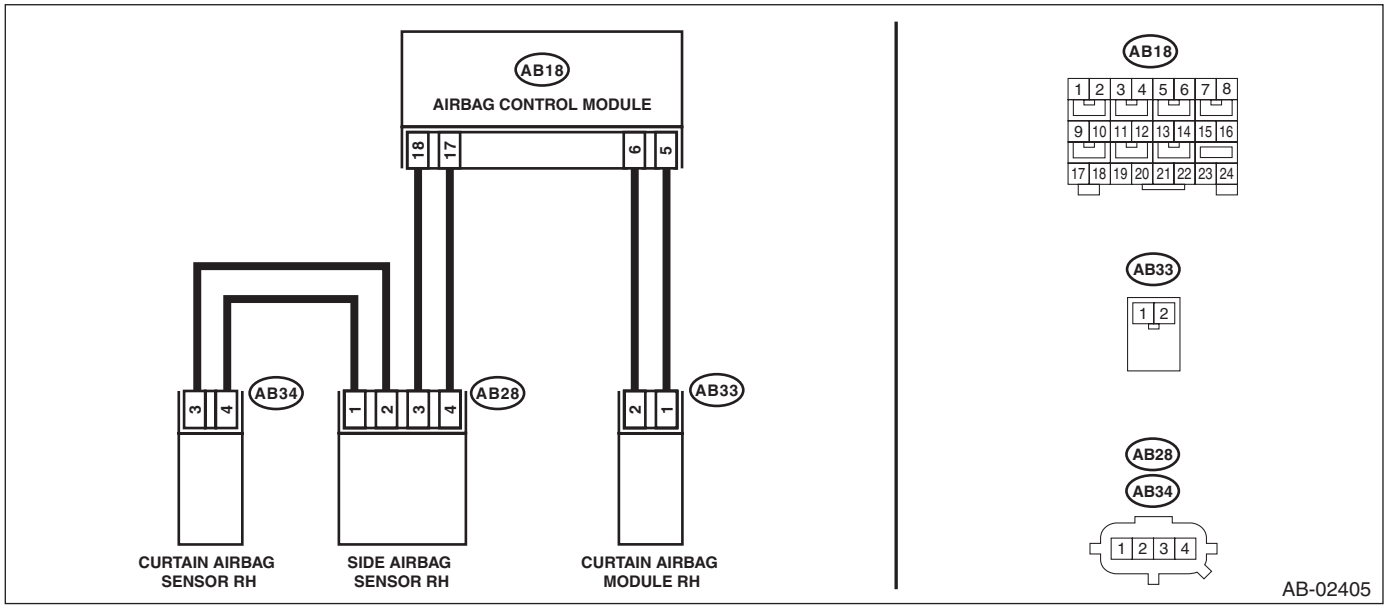
	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Measure the resistance between connector (6AG) in the test harness AG and connector (2N) in the test harness N. ***Connector & terminal*** ***(6AG) No. 1 — (2N) No. 2:*** ***(6AG) No. 3 — (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 (CURTAIN AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (6AG) terminals in the test harness AG. ***Connector & terminal*** ***(6AG) No. 1 — (6AG) 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).** Measure the resistance between connector (6AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(6AG) No. 1 — Chassis ground:*** ***(6AG) 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.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module RH and the curtain airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB33), and connect the connector (1N) in test harness N to connector (AB33). 3) Connect the airbag resistor to the connector (2N) of test harness N. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the curtain airbag module (RH). <Ref. to AB-18, Curtain Airbag Module.>	Go to step **3**.

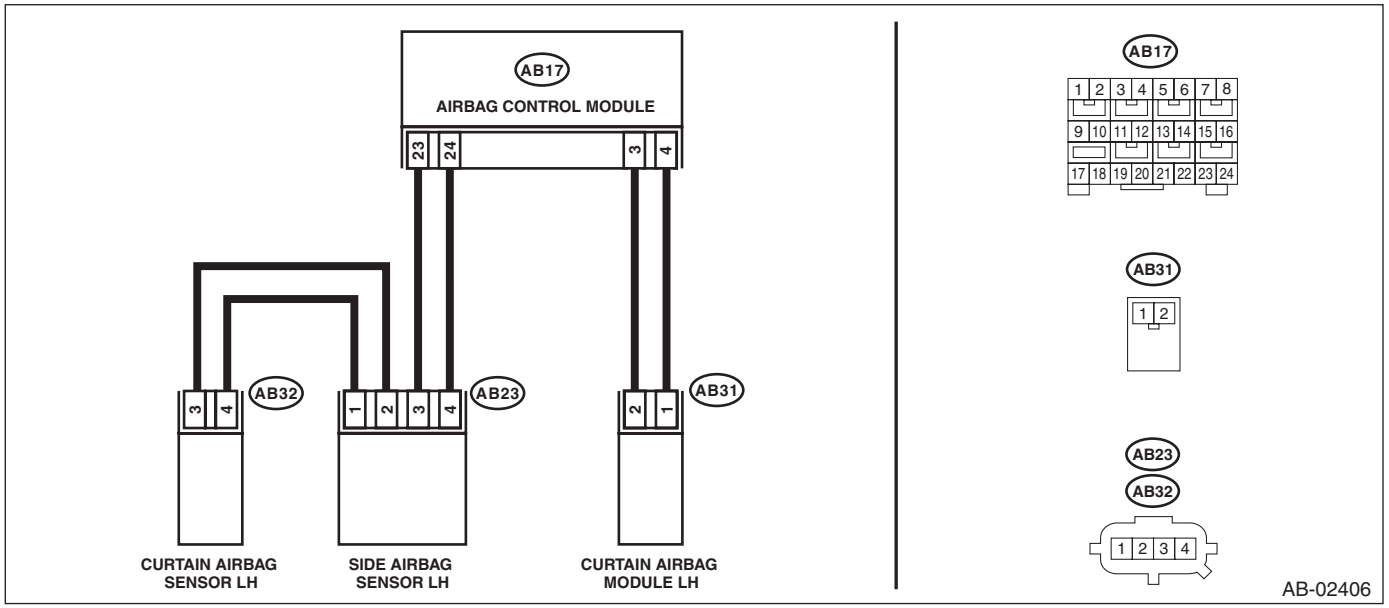
	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (6AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(6AG) No. 6 (+) — Chassis ground (–):*** ***(6AG) 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.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module LH and the curtain airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB31), and connect the connector (1N) in test harness N to connector (AB31). 3) Connect the airbag resistor to the connector (2N) of test harness N. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the curtain airbag module (LH). <Ref. to AB-18, Curtain Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (6AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(6AG) No. 1 (+) — Chassis ground (–):*** ***(6AG) 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.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-20, 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)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AN:DTC BB ROLL OVER:FIRING OUTPUT

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

- Airbag control module <Ref. to AB-20, Airbag Control Module.>
- Curtain airbag module (operating side) <Ref. to AB-18, Curtain Airbag Module.>
- Curtain airbag sensor (operating side) <Ref. to AB-22, Curtain Airbag Sensor.>
- Seat belt pretensioner (operating side) <Ref. to SB-18, Front Seat Belt.>

AO:DTC E2 FRONT SENSOR BUS RH COMMUNICATION ERROR

NOTE:
Refer to DTC E4 for details on DTC E2. <Ref. to AB(diag)-96, DTC E4 FRONT SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

AP:DTC E3 FRONT SENSOR BUS RH COMMUNICATION ERROR

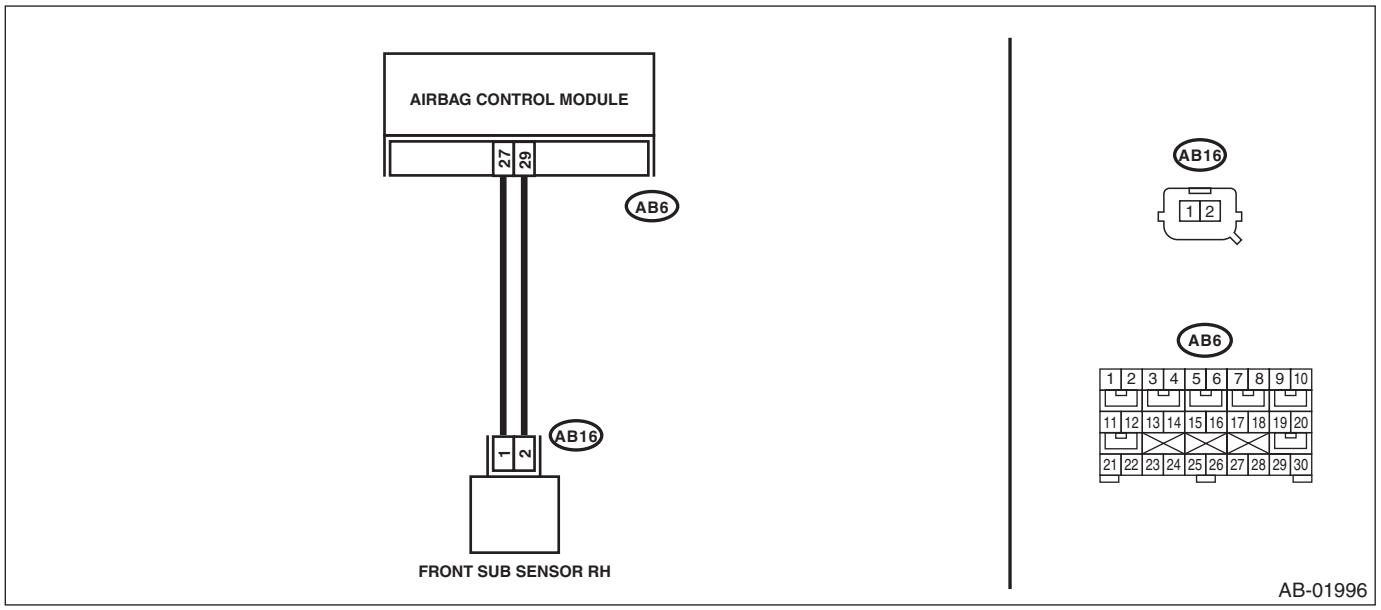
NOTE:
Refer to DTC E4 for details on DTC E3. <Ref. to AB(diag)-96, DTC E4 FRONT SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

AQ:DTC E4 FRONT SENSOR BUS RH COMMUNICATION ERROR

DTC DETECTING CONDITION:

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

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



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

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (FRONT SENSOR BUS RH).** Measure the resistance between connector (4AG) in the test harness AG and chassis ground, and the resistance between connector (4AG) terminals in the test harness AG. ***Connector & terminal*** ***(4AG) No. 14 — Chassis ground:*** ***(4AG) No. 12 — Chassis ground:*** ***(4AG) No. 14 — (4AG) No. 12:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the front sub sensor (RH). <Ref. to AB-25, REMOVAL, Front Sub Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-20, REMOVAL, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code". <Ref. to AB(diag)-36, LIST, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AR:DTC E6 FRONT SENSOR BUS LH COMMUNICATION ERROR

NOTE:
Refer to DTC E8 for details on DTC E6. <Ref. to AB(diag)-98, DTC E8 FRONT SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

AS:DTC E7 FRONT SENSOR BUS LH COMMUNICATION ERROR

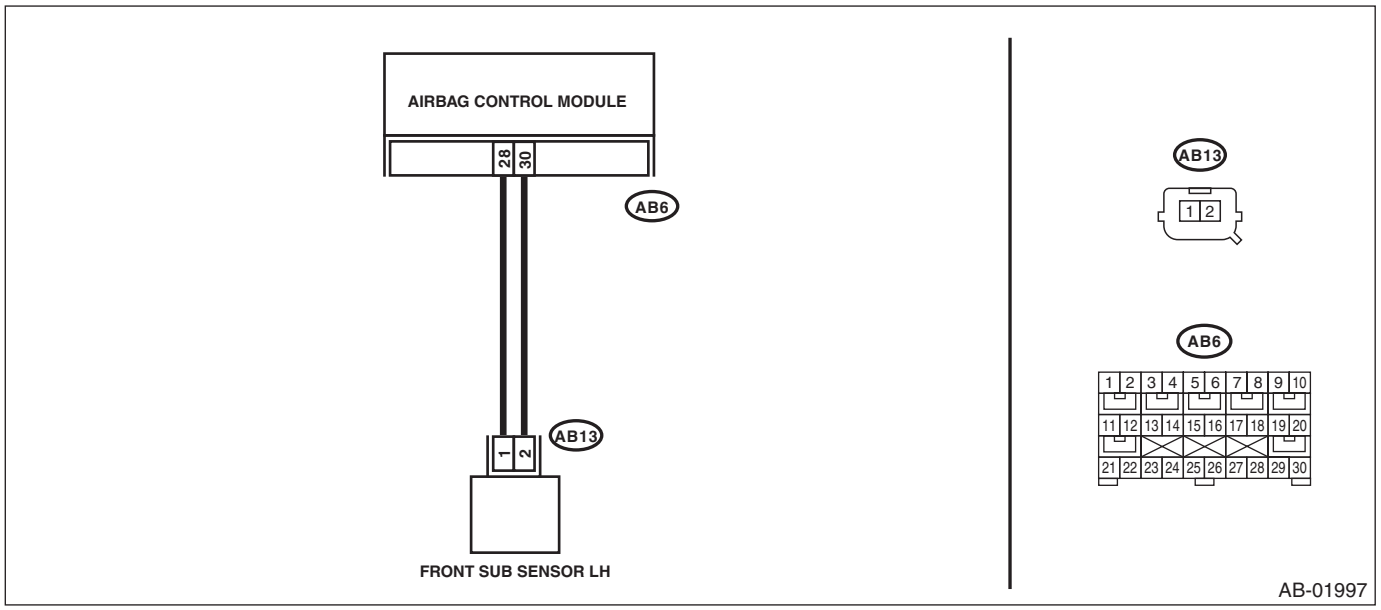
NOTE:
Refer to DTC E8 for details on DTC E7. <Ref. to AB(diag)-98, DTC E8 FRONT SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

AT:DTC E8 FRONT SENSOR BUS LH COMMUNICATION ERROR

DTC DETECTING CONDITION:

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

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



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

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (FRONT SENSOR BUS LH).** Measure the resistance between connector (4AG) in the test harness AG and chassis ground, and the resistance between connector (4AG) terminals in the test harness AG. ***Connector & terminal*** ***(4AG) No. 7 — Chassis ground:*** ***(4AG) No. 9 — Chassis ground:*** ***(4AG) No. 7 — (4AG) No. 9:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the front sub sensor (LH). <Ref. to AB-25, REMOVAL, Front Sub Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-20, REMOVAL, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code". <Ref. to AB(diag)-36, LIST, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AU:DTC E9 SIDE SENSOR BUS RH COMMUNICATION ERROR

NOTE:
Refer to DTC EC for details on DTC E9. <Ref. to AB(diag)-100, DTC EC SIDE SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

AV:DTC EA SIDE SENSOR BUS RH COMMUNICATION ERROR

NOTE:
Refer to DTC EC for details on DTC EA. <Ref. to AB(diag)-100, DTC EC SIDE SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

AW:DTC EB SIDE SENSOR BUS RH COMMUNICATION ERROR

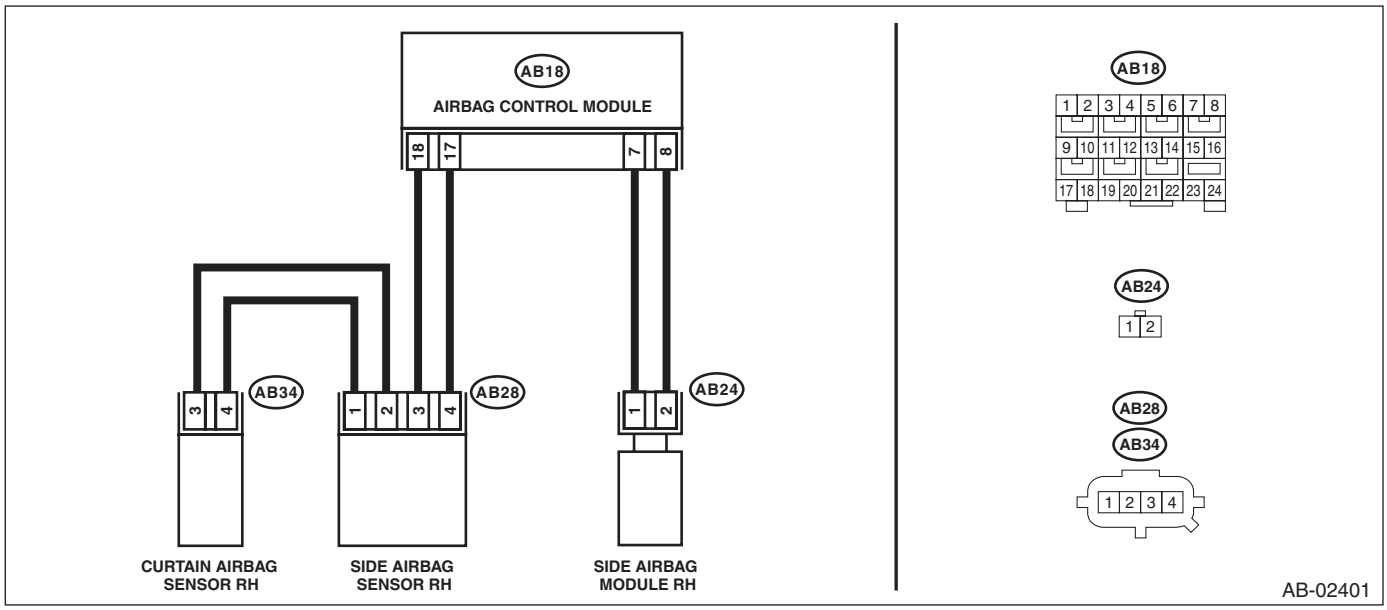
NOTE:
Refer to DTC EC for details on DTC EB. <Ref. to AB(diag)-100, DTC EC SIDE SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

AX:DTC EC SIDE SENSOR BUS RH COMMUNICATION ERROR

DTC DETECTING CONDITION:

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

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors (AB18, AB28, AB34) between the airbag control module 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 (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect connector (AB24) of the side airbag module (RH). 5) Disconnect the connectors (AB17, AB6, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB17, AB6, AB18). 7) Disconnect the connector (AB28) from side airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB28). 8) Measure the resistance between connector (5AG) in the test harness AG and connector (3V) in the test harness V. ***Connector & terminal*** ***(5AG) No. 16 — (3V) No. 2:*** ***(5AG) No. 14 — (3V) No. 1:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness along with body harness.
3	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR RH).** Measure the resistance between connector (5AG) in the test harness AG and chassis ground, and the resistance between connector (5AG) terminals in the test harness AG. ***Connector & terminal*** ***(5AG) No. 16 — Chassis ground:*** ***(5AG) No. 14 — Chassis ground:*** ***(5AG) No. 16 — (5AG) No. 14:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR RH).** 1) Disconnect the connector (2V) in the test harness V from the connector (AB28) of side airbag sensor (RH). 2) Connect the connector (AB28) of side airbag sensor (RH) and the connector (1AI) in the test harness AI. 3) Connect the connector (2AI) in the test harness AI and the connector (1V) in the test harness V. 4) Disconnect the connector (AB34) from curtain airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB34). 5) Measure the resistance between connector (3V) terminals in the test harness V. ***Connector & terminal*** ***(3V) No. 2 — (3V) No. 6:*** ***(3V) No. 1 — (3V) No. 7:***	Is the resistance less than 10 Ω?	Go to step **5**.	Replace the airbag rear harness along with body harness.

	Step	Check	Yes	No
5	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR RH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) in test harness V. ***Connector & terminal*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 2 — (3V) No. 1:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Go to step **7**.	Go to step **8**.
7	**REPLACE SIDE AIRBAG SENSOR (RH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side airbag sensor (RH). <Ref. to AB-21, REMOVAL, Side Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC.	Is the system normal?	Go to step **8**.	Replace the curtain airbag sensor (RH). <Ref. to AB-22, REMOVAL, Curtain Airbag Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-20, REMOVAL, Airbag Control Module.>
8	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AY:DTC ED SIDE SENSOR BUS RH COMMUNICATION ERROR

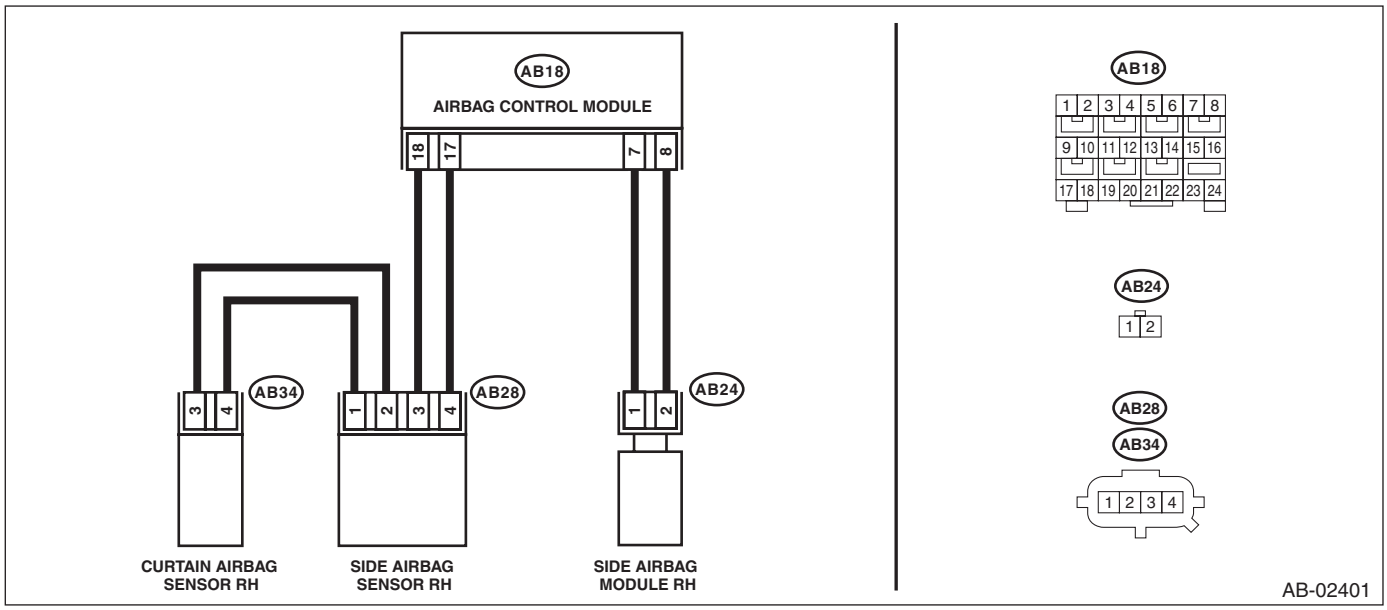
NOTE:
Refer to DTC EE for details on DTC ED. <Ref. to AB(diag)-103, DTC EE SIDE SENSOR BUS RH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

AZ:DTC EE SIDE SENSOR BUS RH COMMUNICATION ERROR

DTC DETECTING CONDITION:

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

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors (AB18, AB28, AB34) between the airbag control module 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 (BETWEEN SIDE AIRBAG SENSOR (RH) AND CURTAIN AIRBAG SENSOR (RH)).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect connector (AB24) of the side airbag module (RH). 5) Disconnect connector (AB28) from side airbag sensor (RH). 6) Connect the connector (AB28) of side airbag sensor (RH) and the connector (1AI) in the test harness AI. 7) Connect the connector (2AI) in the test harness AI and the connector (1V) in the test harness V. 8) Disconnect the connector (AB34) from curtain airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB34). 9) Measure the resistance between connector (3V) terminals in the test harness V. ***Connector & terminal*** ***(3V) No. 2 — (3V) No. 6:*** ***(3V) No. 1 — (3V) No. 7:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness along with body harness.
3	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR RH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) in test harness V. ***Connector & terminal*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 2 — (3V) No. 1:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.

	Step	Check	Yes	No
4	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR (RH)).** 1) Disconnect the connectors (AB17, AB6, AB18) from airbag control module. 2) Connect the connector (1AG) in the test harness AG to the connectors (AB17, AB6, AB18). 3) Disconnect the connector (AB28) in the side airbag sensor (RH) from the connector (1AI) in the test harness AI. 4) Disconnect the connector (2AI) in the test harness AI from the connector (1V) in the test harness V. 5) Connect the connector (AB28) of side airbag sensor (RH) and the connector (2V) in the test harness V. 6) Measure the resistance between connector (5AG) in the test harness AG and connector (3V) in the test harness V. ***Connector & terminal*** ***(5AG) No. 16 — (3V) No. 2:*** ***(5AG) No. 14 — (3V) No. 1:***	Is the resistance less than 10 Ω?	Go to step **5**.	Replace the airbag rear harness along with body harness.
5	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR RH).** Measure the resistance between connector (5AG) in the test harness AG and chassis ground, and the resistance between connector (5AG) terminals in the test harness AG. ***Connector & terminal*** ***(5AG) No. 16 — Chassis ground:*** ***(5AG) No. 14 — Chassis ground:*** ***(5AG) No. 16 — (5AG) No. 14:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Go to step **7**.	Go to step **8**.
7	**REPLACE SIDE AIRBAG SENSOR (RH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side airbag sensor (RH). <Ref. to AB-21, REMOVAL, Side Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC.	Is the system normal?	Go to step **8**.	Replace the curtain airbag sensor (RH). <Ref. to AB-22, REMOVAL, Curtain Airbag Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-20, REMOVAL, Airbag Control Module.>
8	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BA:DTC F1 SIDE SENSOR BUS LH COMMUNICATION ERROR

NOTE:
Refer to DTC F4 for details on DTC F1. <Ref. to AB(diag)-107, DTC F4 SIDE SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

BB:DTC F2 SIDE SENSOR BUS LH COMMUNICATION ERROR

NOTE:
Refer to DTC F4 for details on DTC F2. <Ref. to AB(diag)-107, DTC F4 SIDE SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

BC:DTC F3 SIDE SENSOR BUS LH COMMUNICATION ERROR

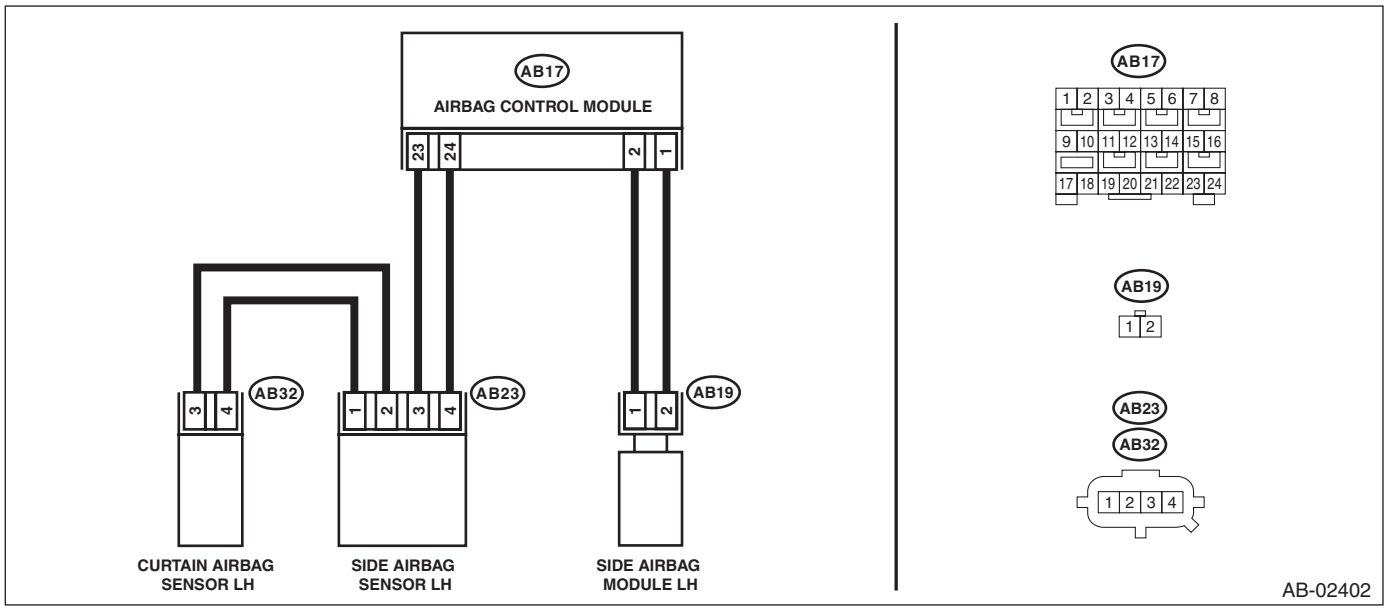
NOTE:
Refer to DTC F4 for details on DTC F3. <Ref. to AB(diag)-107, DTC F4 SIDE SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

BD:DTC F4 SIDE SENSOR BUS LH COMMUNICATION ERROR

DTC DETECTING CONDITION:

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

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors (AB17, AB23, AB32) between the airbag control module 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 (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect connector (AB19) of the side airbag module (LH). 5) Disconnect the connectors (AB17, AB6, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB17, AB6, AB18). 7) Disconnect the connector (AB23) from side airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB23). 8) Measure the resistance between connector (5AG) in the test harness AG and connector (3V) in the test harness V. ***Connector & terminal*** ***(5AG) No. 10 — (3V) No. 1:*** ***(5AG) No. 8 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness along with body harness.
3	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR LH).** Measure the resistance between connector (5AG) in the test harness AG and chassis ground, and the resistance between connector (5AG) terminals in the test harness AG. ***Connector & terminal*** ***(5AG) No. 10 — Chassis ground:*** ***(5AG) No. 8 — Chassis ground:*** ***(5AG) No. 10 — (5AG) No. 8:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR LH AND CURTAIN AIRBAG SENSOR LH).** 1) Disconnect the connector (2V) in the test harness V from the connector (AB23) of side airbag sensor (LH). 2) Connect the connector (AB23) of side airbag sensor (LH) and the connector (1AI) in the test harness AI. 3) Connect the connector (2AI) in the test harness AI and the connector (1V) in the test harness V. 4) Disconnect the connector (AB32) from curtain airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB32). 5) Measure the resistance between connector (3V) terminals in the test harness V. ***Connector & terminal*** ***(3V) No. 2 — (3V) No. 6:*** ***(3V) No. 1 — (3V) No. 7:***	Is the resistance less than 10 Ω?	Go to step **5**.	Replace the airbag rear harness along with body harness.

	Step	Check	Yes	No
5	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR LH AND CURTAIN AIRBAG SENSOR LH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) in test harness V. ***Connector & terminal*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 2 — (3V) No. 1:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Go to step **7**.	Go to step **8**.
7	**REPLACE SIDE AIRBAG SENSOR (LH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side airbag sensor (LH). <Ref. to AB-21, REMOVAL, Side Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC.	Is the system normal?	Go to step **8**.	Replace the curtain airbag sensor (LH). <Ref. to AB-22, REMOVAL, Curtain Airbag Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-20, REMOVAL, Airbag Control Module.>
8	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BE:DTC F5 SIDE SENSOR BUS LH COMMUNICATION ERROR

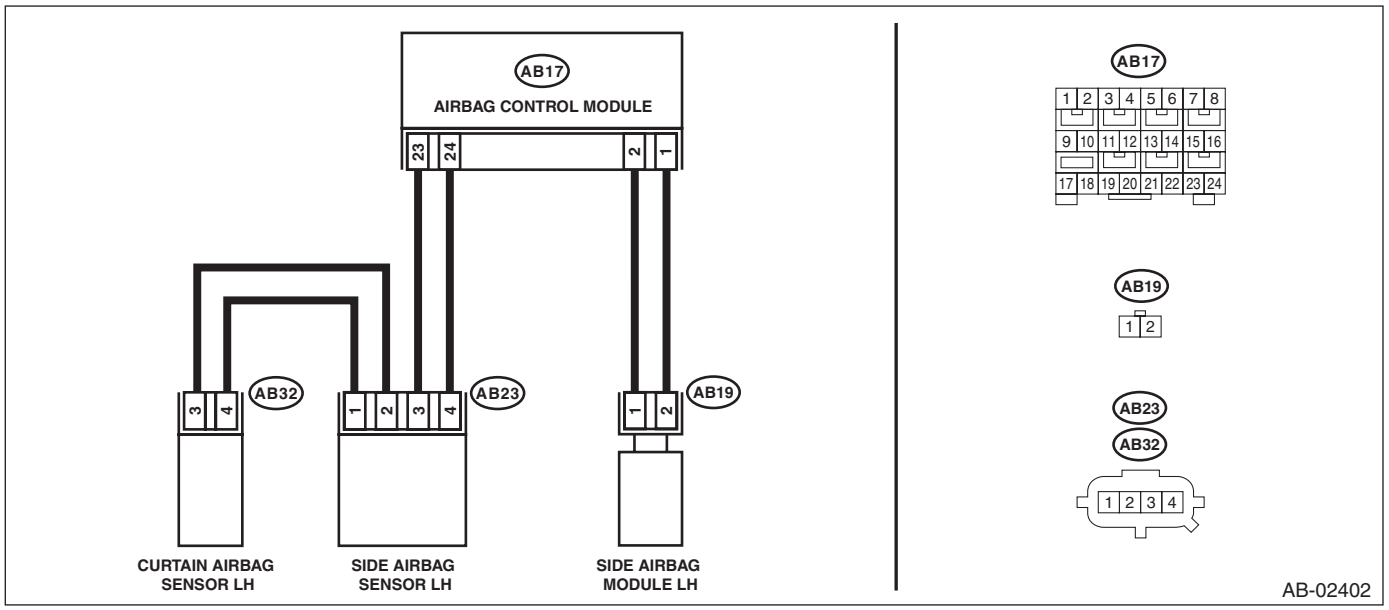
NOTE:
Refer to DTC F6 for details on DTC F5. <Ref. to AB(diag)-110, DTC F6 SIDE SENSOR BUS LH COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

BF:DTC F6 SIDE SENSOR BUS LH COMMUNICATION ERROR

DTC DETECTING CONDITION:

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

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



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors (AB17, AB23, AB32) between the airbag control module 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 (BETWEEN SIDE AIRBAG SENSOR LH AND CURTAIN AIRBAG SENSOR LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect connector (AB19) of the side airbag module (LH). 5) Disconnect the connector (AB23) in the side airbag sensor (LH). 6) Connect the connector (AB23) of side airbag sensor (LH) and the connector (1AI) in the test harness AI. 7) Connect the connector (2AI) in the test harness AI and the connector (1V) in the test harness V. 8) Disconnect the connector (AB32) from curtain airbag sensor (LH), and connect to the connector (2V) in test harness V. 9) Measure the resistance between connector (3V) terminals in the test harness V. ***Connector & terminal*** ***(3V) No. 2 — (3V) No. 6:*** ***(3V) No. 1 — (3V) No. 7:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness along with body harness.
3	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR LH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) in test harness V. ***Connector & terminal*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 2 — (3V) No. 1:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR LH).** 1) Disconnect the connectors (AB17, AB6, AB18) from airbag control module. 2) Connect the connector (1AG) in the test harness AG to the connectors (AB17, AB6, AB18). 3) Disconnect the connector (AB23) in the side airbag sensor (LH) from the connector (1AI) in the test harness AI. 4) Disconnect the connector (2AI) in the test harness AI from the connector (1V) in the test harness V. 5) Connect the connector (2V) in the test harness V to the connector (AB23). 6) Measure the resistance between connector (5AG) in the test harness AG and connector (3V) in the test harness V. ***Connector & terminal*** ***(5AG) No. 10 — (3V) No. 1:*** ***(5AG) No. 8 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Replace the airbag rear harness along with body harness.

	Step	Check	Yes	No
5	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR LH).** Measure the resistance between connector (5AG) in the test harness AG and chassis ground, and the resistance between connector (5AG) terminals in the test harness AG. ***Connector & terminal*** ***(5AG) No. 10 — Chassis ground:*** ***(5AG) No. 8 — Chassis ground:*** ***(5AG) No. 10 — (5AG) No. 8:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Go to step **7**.	Go to step **8**.
7	**REPLACE SIDE AIRBAG SENSOR (LH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side airbag sensor (LH). <Ref. to AB-21, REMOVAL, Side Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC.	Is the system normal?	Go to step **8**.	Replace the curtain airbag sensor (LH). <Ref. to AB-22, REMOVAL, Curtain Airbag Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-20, REMOVAL, Airbag Control Module.>
8	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BG:DTC F8 SATELLITE SENSOR BUS COMMUNICATION ERROR

NOTE:
Refer to DTC FA for details on DTC F8. <Ref. to AB(diag)-113, DTC FA SATELLITE SENSOR BUS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

BH:DTC F9 SATELLITE SENSOR BUS COMMUNICATION ERROR

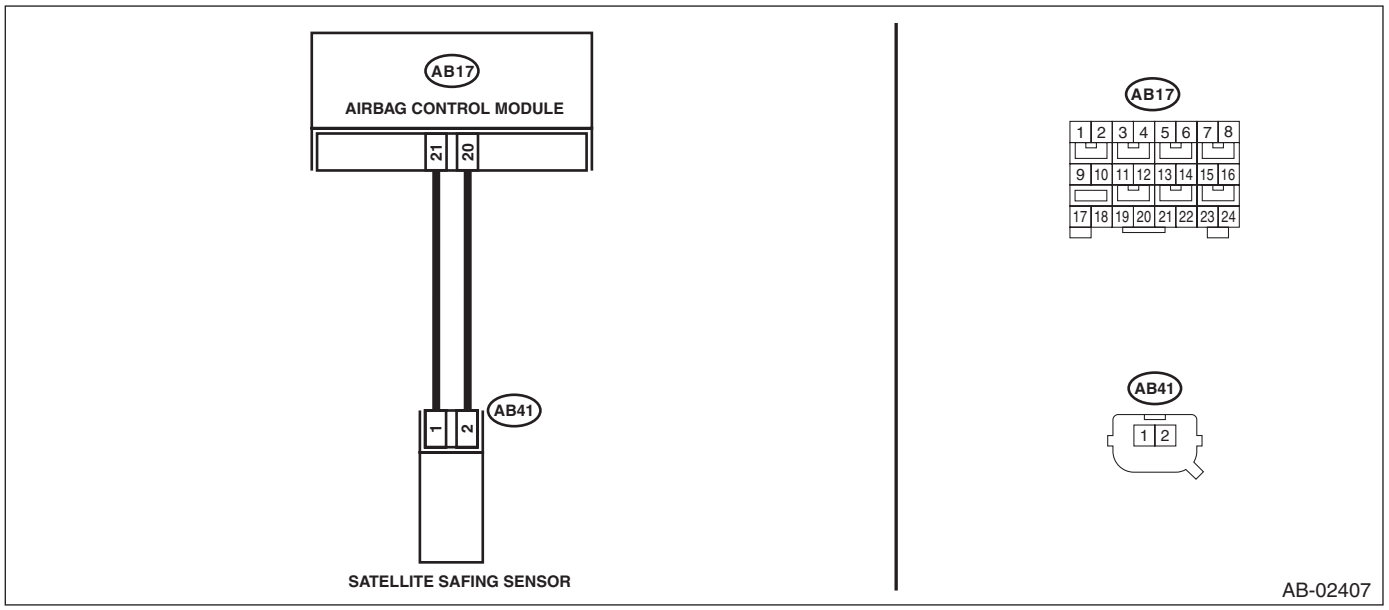
NOTE:
Refer to DTC FA for details on DTC F9. <Ref. to AB(diag)-113, DTC FA SATELLITE SENSOR BUS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

BI: DTC FA SATELLITE SENSOR BUS COMMUNICATION ERROR

DTC DETECTING CONDITION:

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

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



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors (AB17, AB41) between the airbag control module and the satellite safing sensor.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SATELLITE SAFING SENSOR).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connectors (AB21, AB26) from seat belt pretensioner. 3) Disconnect the connectors (AB31, AB33) from curtain airbag module. 4) Disconnect connectors (AB19) and (AB24) from the side airbag module. 5) Disconnect the connectors (AB17, AB6, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB17, AB6, AB18). 7) Disconnect the connector (AB41) from the satellite safing sensor and connect to the test harness H connector (1H). 8) Measure the resistance between connector (5AG) in the test harness AG and connector (3H) in the test harness H. ***Connector & terminal*** ***(5AG) No. 9 — (3H) No. 5:*** ***(5AG) No. 11 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness along with body harness.
3	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SATELLITE SAFING SENSOR).** Measure the resistance between connector (5AG) in the test harness AG and chassis ground, and the resistance between connector (5AG) terminals in the test harness AG. ***Connector & terminal*** ***(5AG) No. 9 — Chassis ground:*** ***(5AG) No. 11 — Chassis ground:*** ***(5AG) No. 9 — (5AG) No. 11:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the satellite safing sensor. Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-20, REMOVAL, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-36, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BJ:DTC 3A FRONT SUB SENSOR RH FALSE INSTALLATION

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

	Step	Check	Yes	No
1	**REPLACE FRONT SUB SENSOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the front sub sensor (RH) with a genuine sensor. <Ref. to AB-25, REMOVAL, Front Sub Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-20, REMOVAL, Airbag Control Module.>

BK:DTC 3B FRONT SUB SENSOR LH FALSE INSTALLATION

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

	Step	Check	Yes	No
1	**REPLACE FRONT SUB SENSOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the front sub sensor (LH) with a genuine sensor. <Ref. to AB-25, REMOVAL, Front Sub Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-20, REMOVAL, Airbag Control Module.>

BL:DTC 3C SATELLITE SENSOR BUS FAILURE

DTC DETECTING CONDITION:
Satellite safing sensor is faulty.

	Step	Check	Yes	No
1	**REPLACE SATELLITE SAFING SENSOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the satellite safing sensor with a genuine sensor.	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-20, REMOVAL, Airbag Control Module.>

BM:DTC 3D SATELLITE SENSOR FALSE INSTALLATION

DTC DETECTING CONDITION:
Satellite safing sensor is misinstalled.

	Step	Check	Yes	No
1	**REPLACE SATELLITE SAFING SENSOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the satellite safing sensor with a genuine sensor.	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-20, REMOVAL, Airbag Control Module.>

BN:DTC 5A SIDE AIRBAG SENSOR RH FALSE INSTALLATION

DTC DETECTING CONDITION:
Side airbag sensor RH is misinstalled.

	Step	Check	Yes	No
1	**REPLACE SIDE AIRBAG SENSOR (RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side A/B sensor (RH) with a genuine sensor. <Ref. to AB-21, REMOVAL, Side Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-20, REMOVAL, Airbag Control Module.>

BO:DTC 5B SIDE AIRBAG SENSOR LH FALSE INSTALLATION

DTC DETECTING CONDITION:
Side airbag sensor LH is misinstalled.

	Step	Check	Yes	No
1	**REPLACE SIDE AIRBAG SENSOR (LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side A/B sensor (LH) with a genuine sensor. <Ref. to AB-21, REMOVAL, Side Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-20, REMOVAL, Airbag Control Module.>

BP:DTC 5C CURTAIN AIRBAG SENSOR RH FALSE INSTALLATION

DTC DETECTING CONDITION:
Curtain airbag sensor RH is misinstalled.

	Step	Check	Yes	No
1	**REPLACE CURTAIN AIRBAG SENSOR (RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the curtain A/B sensor (RH) with a genuine sensor. <Ref. to AB-22, REMOVAL, Curtain Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-20, REMOVAL, Airbag Control Module.>

BQ:DTC 5D CURTAIN AIRBAG SENSOR LH FALSE INSTALLATION

DTC DETECTING CONDITION:
Curtain airbag sensor LH is misinstalled.

	Step	Check	Yes	No
1	**REPLACE CURTAIN AIRBAG SENSOR (LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the curtain A/B sensor (LH) with a genuine sensor. <Ref. to AB-22, REMOVAL, Curtain Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-20, REMOVAL, Airbag Control Module.>

OCCUPANT DETECTION SYSTEM (DIAGNOSTICS)

OD(diag)

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14.	Diagnostic Procedure with Diagnostic Trouble Code (DTC)	22

1. General Description

A: SPECIFICATION

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

INSTRUMENTATION/DRIVER INFO

IDI

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3. Combination Meter 11
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6. Fuel Gauge 15
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1. General Description

A: CAUTION

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

B: PREPARATION TOOL

1. GENERAL TOOL

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

2. Horn System

A: WIRING DIAGRAM

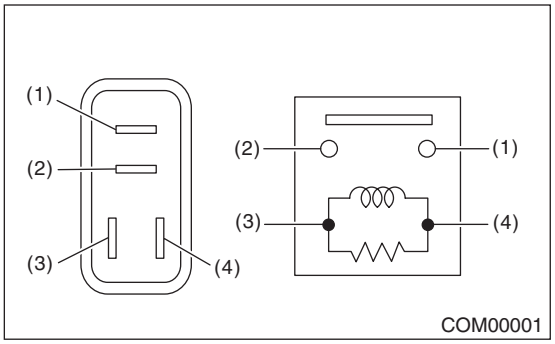
1. HORN

<Ref. to WI-140, 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.

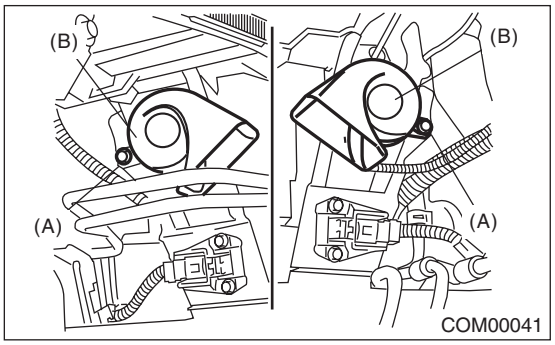


Continuity	Terminal No.	Standard
Yes	1 and 2	Less than 1 Ω
No		1 MΩ or more

3. Horn

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the left and right headlight assemblies. <Ref. to LI-15, REMOVAL, Headlight Assembly.>
3) Remove the horn bracket mounting bolt (A).
4) Disconnect the harness connector and remove the horn assembly (B).



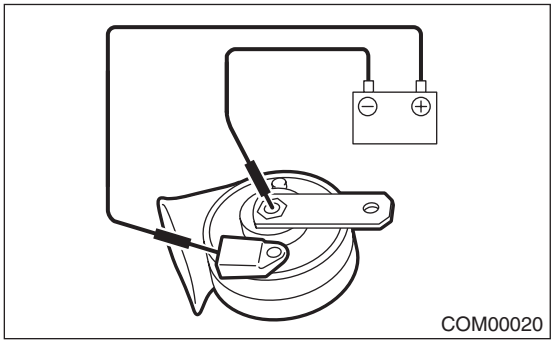
B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
18 N·m (1.8 kgf-m, 13.3 ft-lb)

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.>

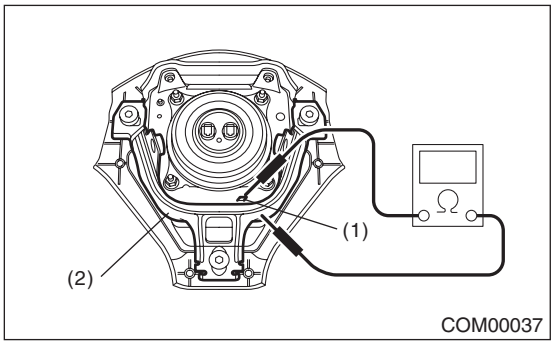
NOTE:
Horn switch is a unit with the driver's airbag module.
1) Disconnect the ground cable from battery.
2) Remove the driver's airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.>

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

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



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

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

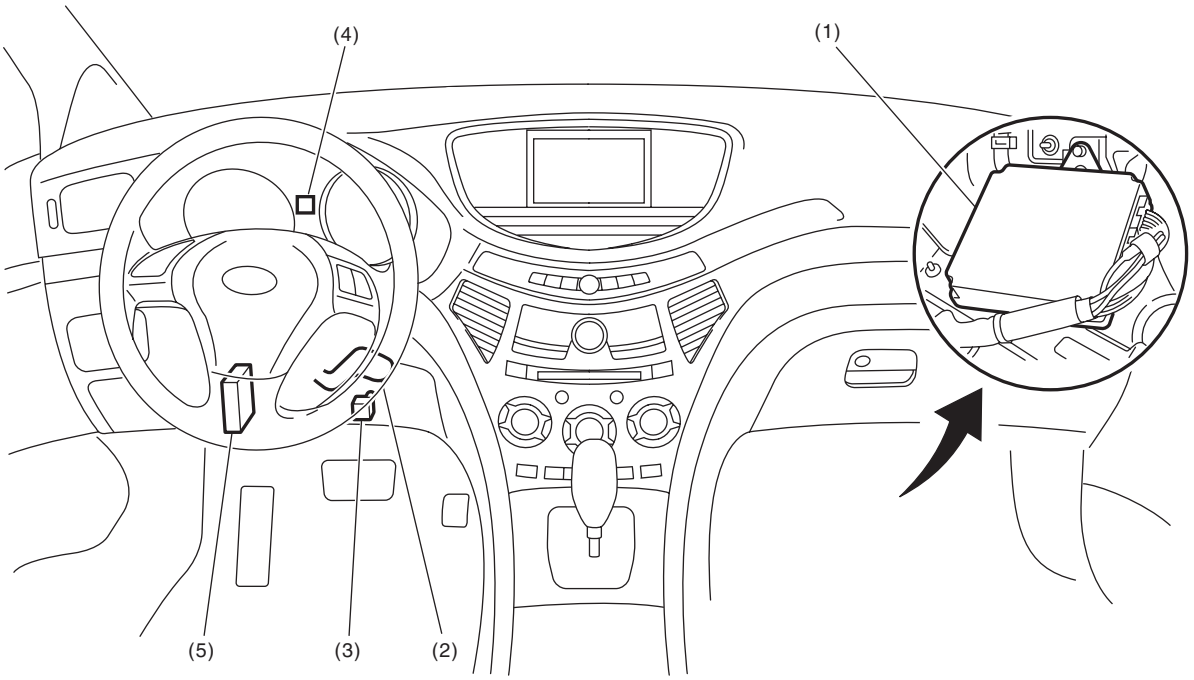
GLASS/WINDOWS/MIRRORS

GW

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3.	Power Window Control Switch	8
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1. General Description

A: COMPONENT



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

B: CAUTION

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

C: PREPARATION TOOL

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

2. Cruise Control Module

A: NOTE

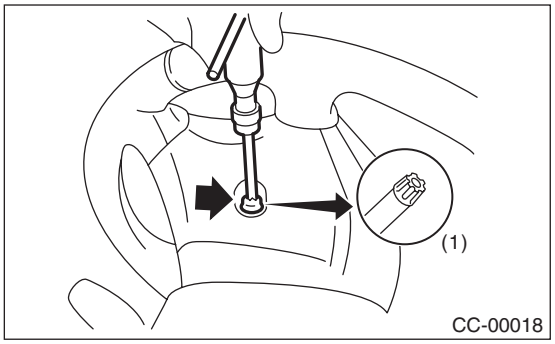
The control of cruise control system is carried out in engine control module (ECM).
Refer to engine section for removal and installation. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).>

3. Cruise Control Command Switch

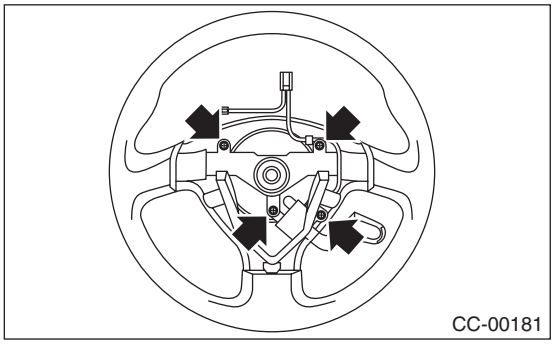
A: REMOVAL

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.>

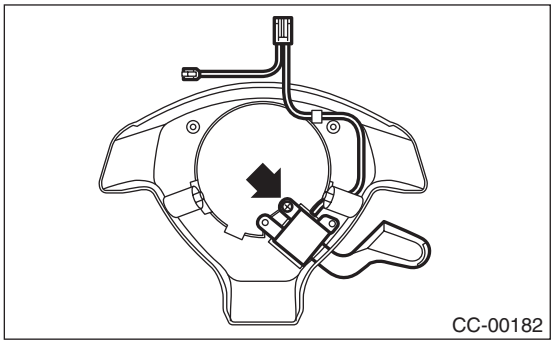
1) Set the front wheels in straight ahead position.
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
4) Using TORX® bit T30 (1), loosen two TORX® bolts which secure the driver's airbag module.



5) Disconnect the airbag module connector on back of the airbag module.
6) Remove the steering wheel. <Ref. to PS-12, REMOVAL, Steering Wheel.>
7) Remove the four screws to remove the lower cover from steering wheel.



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

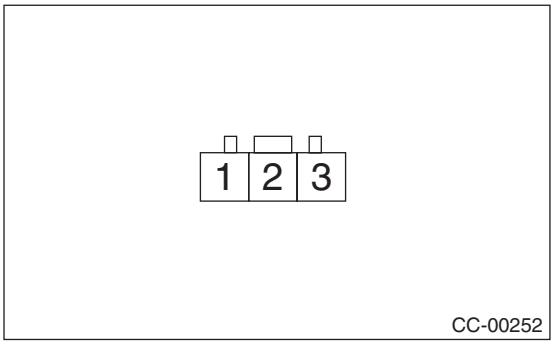


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the cruise control command switch resistance.



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

If NG, replace the cruise control command switch.

4. Combination Meter

A: NOTE

Refer to IDI section for combination meter. <Ref. to IDI-11, Combination Meter.>

5. Stop Light & Brake Switch

A: NOTE

Refer to BR section for stop light & brake switch.
<Ref. to BR-38, Stop Light Switch.>

6. Transmission Control Module (TCM)

A: NOTE

Refer to the following section for transmission control module (TCM). <Ref. to 5AT-58, Transmission Control Module (TCM).>

7. Inhibitor Switch

A: NOTE

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

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

CC(diag)

Page

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2. General Description 4
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4. Engine Control Module (ECM) I/O Signal 6
5. Subaru Select Monitor 7
6. Diagnostics with Phenomenon 9
7. List of Cancel Code 11
8. Diagnostic Procedure with Cancel Code 13

1. Basic Diagnostic Procedure

A: PROCEDURE

	Step	Check	Yes	No
1	**CHECK MALFUNCTION INDICATOR LIGHT.** Make sure the malfunction indicator light illuminates.	Does the malfunction indicator light illuminate?	Go to step **5**.	Go to step **2**.
2	**CHECK CRUISE INDICATOR LIGHT.** Make sure the cruise indicator light blinks.	Does the cruise indicator light blink?	Go to step **7**.	Go to step **3**.
3	**CHECK CRUISE CONTROL MAIN SWITCH OPERATION.** Check cruise control main switch operation. (Ensure the cruise indicator light illuminates.)	Is the cruise control main switch turned on? (Does the cruise indicator light illuminate?)	Go to step **4**.	Go to phenomenon 1. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
4	**CHECK CRUISE CONTROL SET OPERATION.** Check the cruise control setting operation.	Can the cruise control be set while driving at 40 km/h (25 MPH) or more?	Go to step **8**.	Go to step **7**.
5	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor.	Is an engine or ABS/VDC related DTC displayed?	Go to step **6**.	Go to phenomenon 2. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
6	**CHECK FREEZE FRAME DATA.** Using the Subaru Select Monitor, check the Freeze Frame Data or Information in Trouble State.	Was the Freeze Frame Data or Information in Trouble State recorded?	Record the data. Perform the diagnosis according to the engine or ABS/VDC related DTC.	Perform the diagnosis according to the engine or ABS/VDC related DTC.
7	**CHECK CANCEL CODE.** Using the Subaru Select Monitor, read the cancel codes. NOTE: • Do not turn the ignition switch to OFF after the cruise control is deactivated. • Do not operate the cruise control command switch after the cruise control is deactivated. If the above is performed, the cancel code will be cleared.	Is it possible to read the cancel codes?	Perform the diagnosis according to the cancel code. <Ref. to CC(diag)-11, LIST, List of Cancel Code.>	Go to step **8**.
8	**CHECK CRUISE SET INDICATOR LIGHT.** Make sure the cruise set indicator light illuminates.	Does the cruise set indicator light illuminate?	Go to step **9**.	Go to phenomenon 3. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
9	**CHECK VEHICLE SPEED IS HELD WITHIN SET SPEED.** Make sure the vehicle speed is held within set speed.	Is the vehicle speed kept within setting speed ±3 km/h (±2 MPH)? (Make sure that on a level road.)	Go to step **10**.	Go to phenomenon 4. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

	Step	Check	Yes	No
10	**CHECK RESUME/ACCEL OPERATION.** Check the RESUME/ACCEL switch operation.	Does the vehicle speed increase or return to set speed after RESUME/ACCEL switch has been pressed?	Go to step **11**.	Go to phenomenon 5. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
11	**CHECK SET/COAST OPERATION.** Check the SET/COAST switch operation.	Does the vehicle speed decrease after SET/COAST switch has been pressed?	Go to step **12**.	Go to phenomenon 6. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
12	**CANCEL OPERATION CHECK.** Check the CANCEL switch operation.	Is the cruise control released after CANCEL switch has been pressed?	Go to step **13**.	Go to phenomenon 7. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
13	**CHECK CRUISE CONTROL RELEASE OPERATION.** Check the cruise control release operation.	Is the cruise control released after brake pedal has been depressed?	Go to step **14**.	Go to phenomenon 8. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
14	**CHECK CRUISE CONTROL RELEASE OPERATION.** Check the cruise control release operation.	Is the cruise control released after shifting to the neutral position?	Finish the diagnosis.	Go to phenomenon 9. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

2. General Description

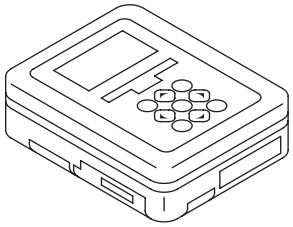
A: CAUTION

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

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

B: PREPARATION TOOL

1. SPECIAL TOOL

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

2. GENERAL TOOL

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

C: INSPECTION

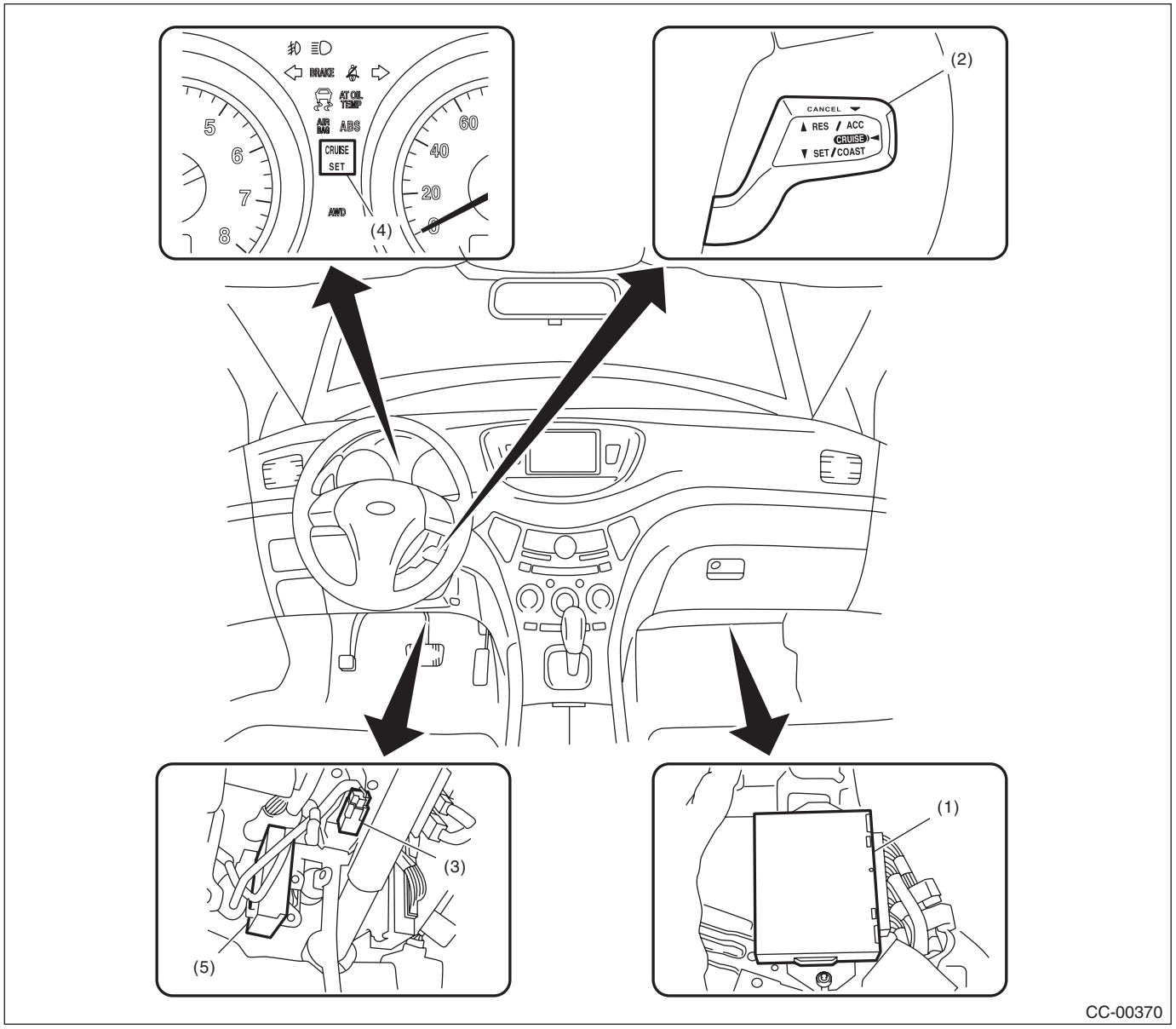
Measure the battery voltage and specific gravity of electrolyte.

Standard voltage:
12 V or more

Specific gravity:
1.260 or more

3. Electrical Component Location

A: LOCATION



(1) Engine control module (ECM)

(2) Cruise control command switch

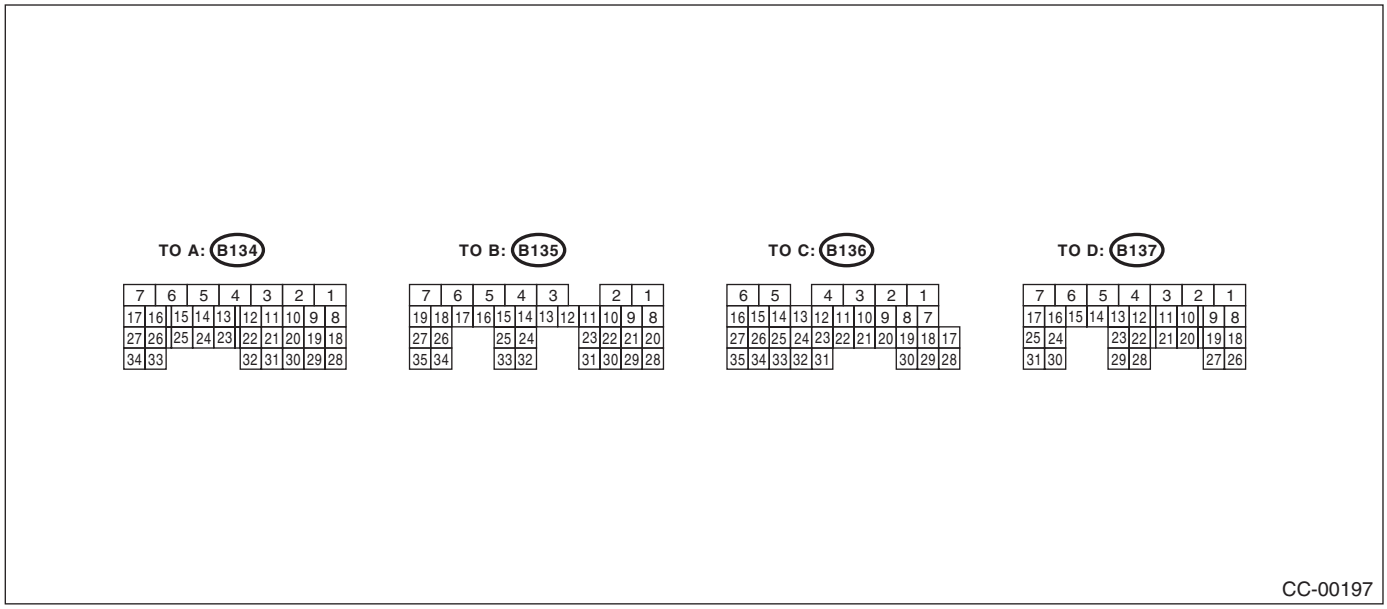
(3) Stop light and brake switch

(4) Cruise indicator light and cruise set indicator light

(5) Transmission control module (TCM)

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

A: ELECTRICAL SPECIFICATION



Content		Terminal No.	Measurement condition and I/O signal (Idling with ignition ON: except for cruise set light)
Main power supply	VB (CONTROL 1) VB (CONTROL 2)	C1 D7	• Battery voltage is detected when the main power is turned ON. • “0 V” is detected when the main power is turned OFF.
Command switch		C12	• “0 V” is detected when the command switch is in CANCEL position. • “Approx. 1 V” is detected when the command switch is in SET/COAST position. • “Approx. 3 V” is detected when the command switch is in RESUME/ACCEL position. • “Approx. 4 V” is detected when the command switch is released.
Brake switch 1 (Brake switch)		C15	• Battery voltage is detected when the brake pedal is released. • “0 V” is detected when brake pedal is depressed.
Brake switch 2 (Stop light switch)		C3	• Battery voltage is detected when brake pedal is depressed. • “0 V” is detected when the brake pedal is released.
Main switch		C13	• “0 V” is detected while the main switch is pressed or turned ON. • “5 V” is present when the main switch is OFF.
Ground	GND (CONTROL)	A6	—
Ignition switch		C30	• Battery voltage is detected when the ignition switch is turned ON. • “0 V” is detected when the ignition switch is turned OFF.
Neutral signal		C35	• Battery voltage is detected when the shift lever is in any position except for “P” or “N”. • “0 V” is detected when the shift lever is in “P” or “N” position.

B: WIRING DIAGRAM

<Ref. to WI-75, WIRING DIAGRAM, Cruise Control System.>

5. Subaru Select Monitor

A: OPERATION

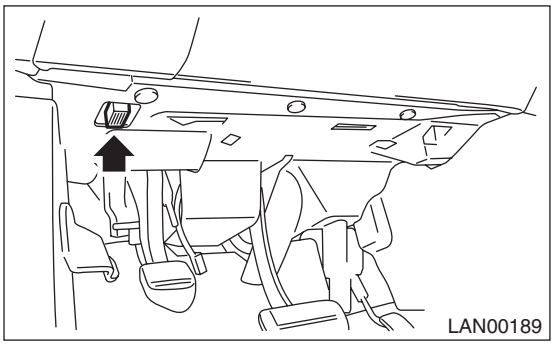
1. GENERAL DESCRIPTION

The on-board diagnosis function of the cruise control system uses Subaru Select Monitor.
The on-board diagnosis function operates in two categories, which are used depending on the type of problems;
1) Cruise Control Cancel Conditions Diagnosis:
(1) This category of diagnosis requires actual vehicle driving in order to determine the cause, as when cruise speed is cancelled during driving although cruise cancel condition is not entered.
(2) Cruise control memory in ECM stores the cancel code which occurred during driving. When there are multiple cancel code, they are shown on the Subaru Select Monitor.

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

2. CRUISE CONTROL CANCEL CONDITIONS DIAGNOSIS

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



(2) Connect the diagnosis cable to data link connector.
4) Start the engine and turn the cruise control main switch to ON.
5) Run the Subaru Select Monitor.
6) On «Main Menu» display, select {Each System Check}.
On «System Selection Menu» display, select {Engine Control System}. Select [OK] after the engine type information 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.
• The cancel code will be also appear when cruise control is cancelled by the driver's operation. Do not confuse them.
• Be sure to get an assistant to support the diagnosis while driving, and have him/her operate the select monitor.
8) When the set speed is canceled by itself (without any cancel operations) or when the cruise control cannot be set after the set operation, cancel code will be displayed on the screen after selecting the {Cancel Code(s) Display} on the engine malfunction diagnosis screen.

NOTE:
The cancel code has a {Latest Diagnostic Code(s)} and {Memorized Diagnostic Code(s)}. {Latest Diagnostic Code(s)} displays the latest code that occurred in this check drive, and {Memorized Diagnostic Code(s)} displays the code recorded in the previous driving condition. Cancel codes by the diagnosis of faulty switches relating to the system and cruise control are also displayed in the {Memorized Diagnostic Code(s)}.

9) Perform Engine DTC Clear Memory operation. <Ref. to EN(H6DO)(diag)-59, OPERATION, Clear Memory Mode.>
Cancel codes for switches relating to the system and cruise control are deleted by clearing memory on the engine side.

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

3. REAL-TIME DIAGNOSIS

1) Connect the Subaru Select Monitor.
2) Turn the ignition switch and cruise control main switch to ON.
3) Run the Subaru Select Monitor.
4) On «Main Menu» display, select {Each System Check}.
5) On «System Selection Menu» display, select {Engine Control System}.
6) Select [OK] after engine type information is displayed.
7) On «Cruise Control Diagnosis» display, select {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 to 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.
- Place the shift lever in any position other than neutral.

NOTE:
- For details concerning the operation procedure, refer to “PC application help for Subaru Select Monitor”.
- For detailed concerning cancel codes, refer to the “List of Cancel Codes”. <Ref. to CC(diag)-11, List of Cancel Code.>

6. Diagnostics with Phenomenon

A: DIAGNOSTIC PROCEDURE WITH PHENOMENON

Phenomenon		Check item	Index
1	Cruise control main switch is not turned to ON. (Cruise indicator light does not illuminate.) Or cruise control is cancelled without operating the cruise control command switch.	(1) Perform cruise cancel conditions diagnosis.	Perform the diagnosis according to displayed cancel code.
		(2) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(3) Check the cruise control command switch.	<Ref. to CC(diag)-13, 11, Diagnostic Procedure with Cancel Code.>
		(4) Check the cruise indicator light.	<Ref. to CC(diag)-10, CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.>
2	Cruise control cannot be set. Or cruise control is cancelled without releasing operation.	(1) Perform cruise cancel conditions diagnosis.	Perform the diagnosis according to displayed cancel code.
		(2) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(3) Check the cruise control command switch.	<Ref. to CC(diag)-13, 11, Diagnostic Procedure with Cancel Code.>
		(4) Check stop light switch and brake switch.	<Ref. to BR-37, Brake Pedal.> <Ref. to CC(diag)-15, 12, Diagnostic Procedure with Cancel Code.>
		(5) Check the neutral position switch.	<Ref. to CC(diag)-17, 14, Diagnostic Procedure with Cancel Code.> <Ref. to CC(diag)-21, 62, Diagnostic Procedure with Cancel Code.>
		(6) Check vehicle speed sensor.	<Ref. to CC(diag)-20, 22, Diagnostic Procedure with Cancel Code.>
3	Cruise set indicator light does not illuminate.	Check the cruise set indicator light.	<Ref. to CC(diag)-10, CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.>
4	Vehicle speed is not held within set speed ±3 km/h (±2 MPH).	Check the vehicle speed sensor.	<Ref. to CC(diag)-20, 22, Diagnostic Procedure with Cancel Code.>
5	Vehicle speed does not increase or does not return to set speed after RESUME/ ACCEL switch has been pressed.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check the RESUME/ ACCEL switch.	<Ref. to CC(diag)-13, 11, Diagnostic Procedure with Cancel Code.>
6	Vehicle speed does not decrease after SET/COAST switch has been pressed.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check the SET/COAST switch.	<Ref. to CC(diag)-13, 11, Diagnostic Procedure with Cancel Code.>
7	Cruise control is not released after CANCEL switch has been pressed.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check the CANCEL switch.	<Ref. to CC(diag)-13, 11, Diagnostic Procedure with Cancel Code.>
8	Cruise control is not released after brake pedal has been depressed.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check stop light switch and brake switch.	<Ref. to CC(diag)-15, 12, Diagnostic Procedure with Cancel Code.> <Ref. to BR-38, INSTALLATION, Stop Light Switch.>
9	Cruise control is not released after shifting to the neutral position.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check the neutral position switch.	<Ref. to CC(diag)-17, 14, Diagnostic Procedure with Cancel Code.>

B: CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT

TROUBLE SYMPTOM:

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

	Step	Check	Yes	No
1	**CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT.** 1) Perform the self-diagnosis of combination meter. <Ref. to IDI-4, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.> 2) Check the cruise indicator light and cruise set indicator light if they illuminate.	Do the cruise indicator light and cruise set indicator light illuminate?	Go to step **2**.	Replace the meter case assembly. <Ref. to IDI-11, Combination Meter.>
2	**CHECK DTC OF LAN COMMUNICATION CIRCUIT.** 1) Complete self-diagnosis, and turn the ignition switch to ON again. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC of LAN system displayed?	Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).>

7. List of Cancel Code

A: LIST

NOTE:
- The cancel code is registered even when cancel is performed intentionally by the driver.
- Cancel codes are cleared if the ignition switch is turned to OFF.
- If a different cancel code is input after a cancel code (latest code) has been input, the latest code is overwritten.
- If the cruise indicator light is flashing, a malfunction is occurring in the system or cruise control related switch. The cancel code at this time is saved even after ignition switch is OFF as a memory code of a past malfunction.
- To display a cancel code, use the Subaru Select Monitor to read the code after the cruise control is deactivated during a driving test.

Cancel code	Item	Contents of diagnosis	Index
11	Main Switch	Main switch of cruise control command switch is turned to OFF, and then the cruise control is released.	This code is displayed without operating the main switch. <Ref. to CC(diag)-13, 11, Diagnostic Procedure with Cancel Code.>
12	Stop Light & Brake Switch	Stop light switch or brake switch is turned to ON, and then the cruise control is released.	This code is displayed without depressing the brake pedal. <Ref. to CC(diag)-15, 12, Diagnostic Procedure with Cancel Code.>
14	Neutral Position Switch	Neutral position switch is turned to ON, and then the cruise control is released.	This code is displayed without shifting to neutral position. <Ref. to CC(diag)-17, 14, Diagnostic Procedure with Cancel Code.>
15	Cancel Switch	Cancel switch is turned to ON, and then the cruise control is released.	This code is displayed without operating the cancel switch. <Ref. to CC(diag)-18, 15, Diagnostic Procedure with Cancel Code.>
16	Ignition switch	Ignition switch is turned to OFF, and then the cruise control is released.	This code is displayed without operating the ignition switch. <Ref. to CC(diag)-19, 16, Diagnostic Procedure with Cancel Code.>
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 code is displayed when the ignition switch is turned to ON without operating the cruise control command switch. <Ref. to CC(diag)-20, 21, Diagnostic Procedure with Cancel Code.>
22	Abnormality of change in vehicle speed	Malfunction of vehicle speed signal variation is detected.	<Ref. to CC(diag)-20, 22, Diagnostic Procedure with Cancel Code.>
24	Abnormality of switches related to cruise control	Open circuit of the cruise control switch is detected during cruise driving. (The system is judged as model without cruise control.)	This code is displayed with normal operation. <Ref. to CC(diag)-20, 24, Diagnostic Procedure with Cancel Code.>
31	Abnormal engine speed Signal	• Abnormal increase of engine speed is detected. • Gear is placed in Neutral, 1st or Reverse position.	Cruise in 2nd shift position or more. <Ref. to CC(diag)-20, 31, Diagnostic Procedure with Cancel Code.>
32	Cruse Control out of Range	• Controlled vehicle speed decreased under the limit during cruising. • Set operation was performed at vehicle speed unavailable for setting. • RESUME operation was performed without memorized vehicle speed.	This code is displayed, though the vehicle speed is increased to the speed available for cruise set and set operation was performed again. <Ref. to CC(diag)-20, 32, Diagnostic Procedure with Cancel Code.>

List of Cancel Code

Cancel code	Item	Contents of diagnosis	Index
34	Prohibition of cruise control at continuing big Accel. angle	The vehicle has been driven at higher speed than set vehicle speed for an abnormally long time (approximately 10 minutes) during cruise driving.	This code is displayed when driving for a long period of time at higher speed than appropriate cruise set vehicle speed by operating accelerator pedal. In this case, the cruise setting is deactivated. <Ref. to CC(diag)-20, 34, Diagnostic Procedure with Cancel Code.>
35	Prohibition of cruise control at vehicle speed F/B malfunction	Set vehicle speed cannot be kept because of some reasons (steep uphill, parking brake, abnormal decrease of engine output, etc.) during cruise driving.	This code is displayed when driving condition is not suitable for cruise control. Perform cruise set operation again after clearing the possible cause. <Ref. to CC(diag)-20, 35, Diagnostic Procedure with Cancel Code.>
41	VDC/TCS Operating	Vehicle dynamics control (VDC) or TCS is operated during cruise driving or cruise setting.	This code is displayed when driving condition is not suitable for cruise control. Perform cruise set operation again after clearing the possible cause. <Ref. to CC(diag)-21, 41, Diagnostic Procedure with Cancel Code.>
43	ABS/VDC Failure	ABS or Vehicle dynamics control (VDC) system malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-21, 43, Diagnostic Procedure with Cancel Code.>
44	Body Integrated unit Failure	Body integrated unit system malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-21, 44, Diagnostic Procedure with Cancel Code.>
45	Meter Failure	Combination meter malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-21, 45, Diagnostic Procedure with Cancel Code.>
49	TCM Failure	Transmission control module (TCM) malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-21, 49, Diagnostic Procedure with Cancel Code.>
61	Brake switch abnormal	Malfunction in the stop light & brake switch is detected.	<Ref. to CC(diag)-21, 61, Diagnostic Procedure with Cancel Code.>
62	Neutral Switch Failure	Neutral position switch malfunction is detected.	<Ref. to CC(diag)-21, 62, Diagnostic Procedure with Cancel Code.>
63	Abnormality of change in vehicle speed	Malfunction of vehicle speed signal variation is detected.	<Ref. to CC(diag)-21, 63, Diagnostic Procedure with Cancel Code.>
64	Engine Sensor Failure 1	Malfunction related to engine is detected.	<Ref. to CC(diag)-21, 64, Diagnostic Procedure with Cancel Code.>
65	Abnormality 1 of switches related to cruise control	Cruise control command switch malfunction is detected. (When the switch is pressed ON for a long time (approximately two minutes), stuck ON condition is detected.)	<Ref. to CC(diag)-21, 65, Diagnostic Procedure with Cancel Code.>
66	Cruise Control Calculation Error	Cruise control calculation (microcomputer) malfunction is detected.	<Ref. to CC(diag)-21, 66, Diagnostic Procedure with Cancel Code.>

8. Diagnostic Procedure with Cancel Code

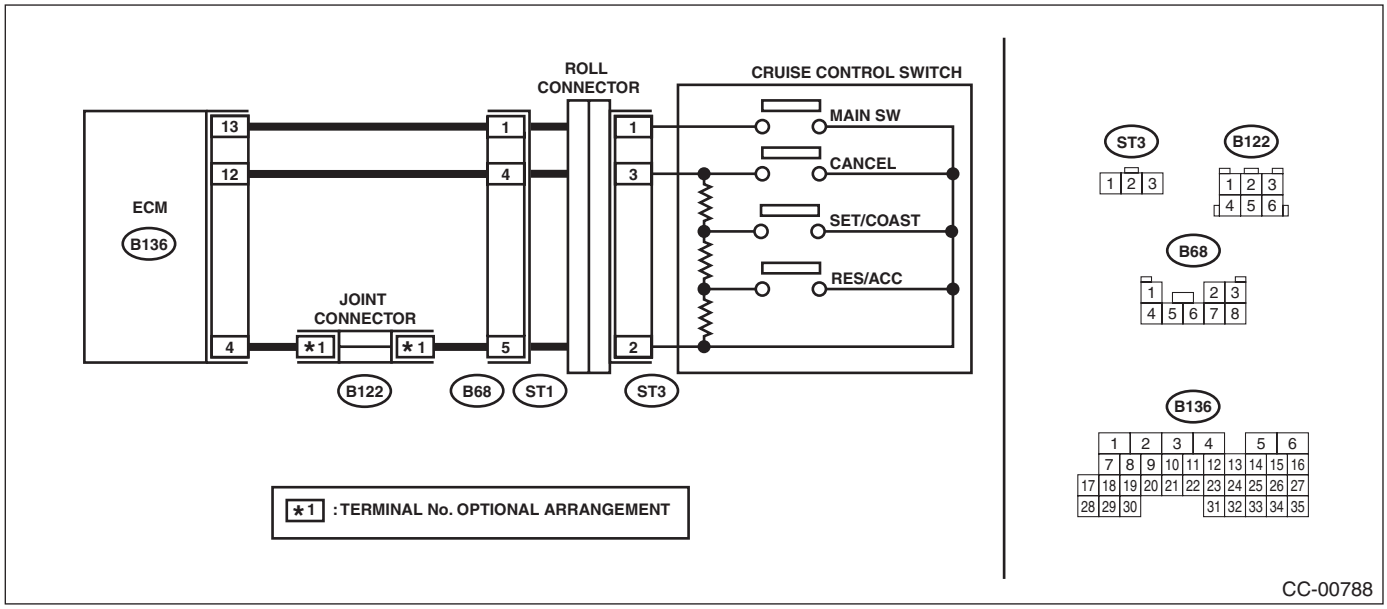
A: 11

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

	Step	Check	Yes	No
4	**CHECK CANCEL SWITCH.** 1) Turn the ignition switch to OFF. 2) Remove the cruise control command switch. <Ref. to CC-5, REMOVAL, Cruise Control Command Switch.> 3) Measure the resistance between switch terminals with the CANCEL switch pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. less than 1 Ω when the CANCEL switch is pressed?	Go to step **5**.	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>
5	**CHECK SET/COAST SWITCH.** Measure the resistance between switch terminals with the SET/COAST switch pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 250 Ω when SET/COAST switch is pressed?	Go to step **6**.	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>
6	**CHECK RESUME/ACCEL SWITCH CIRCUIT.** Measure the resistance between switch terminals with the RESUME/ACCEL switch pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 1,500 Ω when RESUME/ACCEL switch is pressed?	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).>	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>

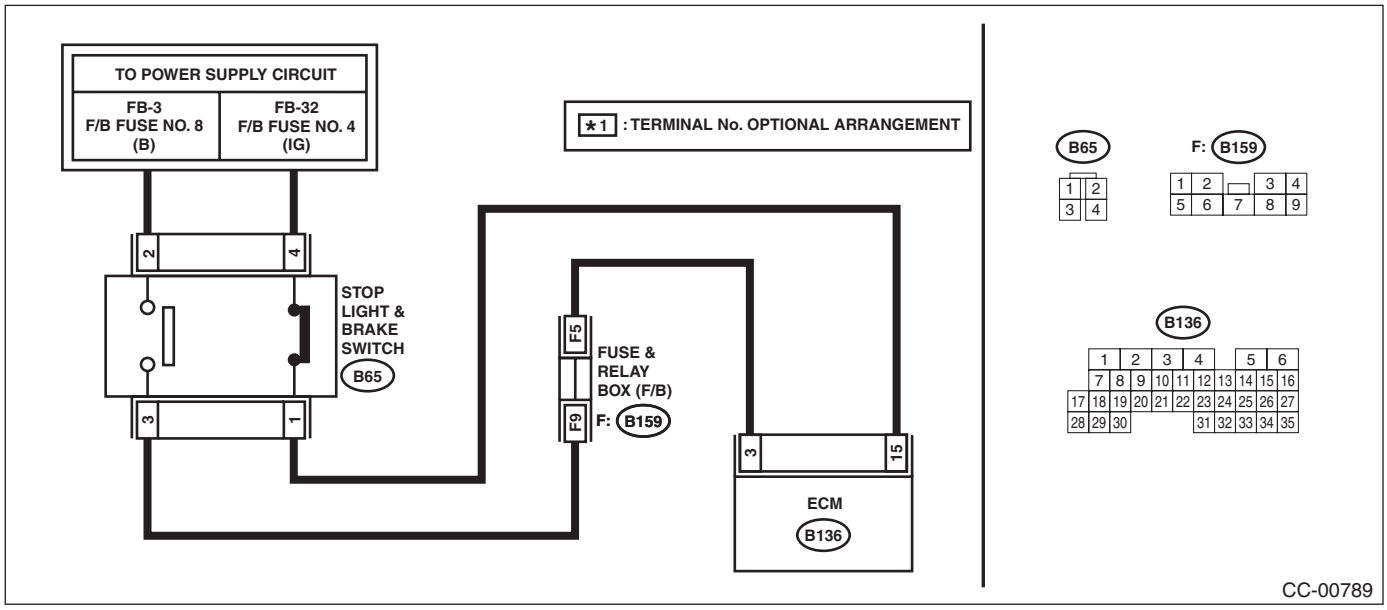
B: 12

Detected when brake pedal is depressed or malfunction related to stop light & brake switch occurs.

TROUBLE SYMPTOM:

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

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK STOP LIGHT SWITCH & BRAKE SWITCH CIRCUIT.** Check the stop light switch & brake switch. <Ref. to CC-7, Stop Light & Brake Switch.>	Is the stop light switch & brake switch unit and installation position OK?	Go to step **2**.	Replace the stop-light switch & brake switch. Or adjust the installation position.
2	**CHECK STOP LIGHT SWITCH & BRAKE SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the stop light switch & brake switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	• Check fuse No. 8 (in fuse & relay box). • Check for open or short in the harness between stop light & brake switch and fuse & relay box.
3	**CHECK STOP LIGHT SWITCH & BRAKE SWITCH CIRCUIT.** Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	• Check fuse No. 4 (in fuse & relay box). • Check for open or short in the harness between stop light & brake switch and fuse & relay box.

	Step	Check	Yes	No
4	**CHECK STOP LIGHT SWITCH & BRAKE SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of ECM. 3) Measure the resistance between ECM harness connector terminal and stop light switch & brake switch harness connector terminal. ***Connector & terminal*** ***(B136) No. 3 — (B65) No. 3:*** ***(B136) No. 15 — (B65) No. 1:***	Is the resistance less than 10 Ω?	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).>	Repair the harness.

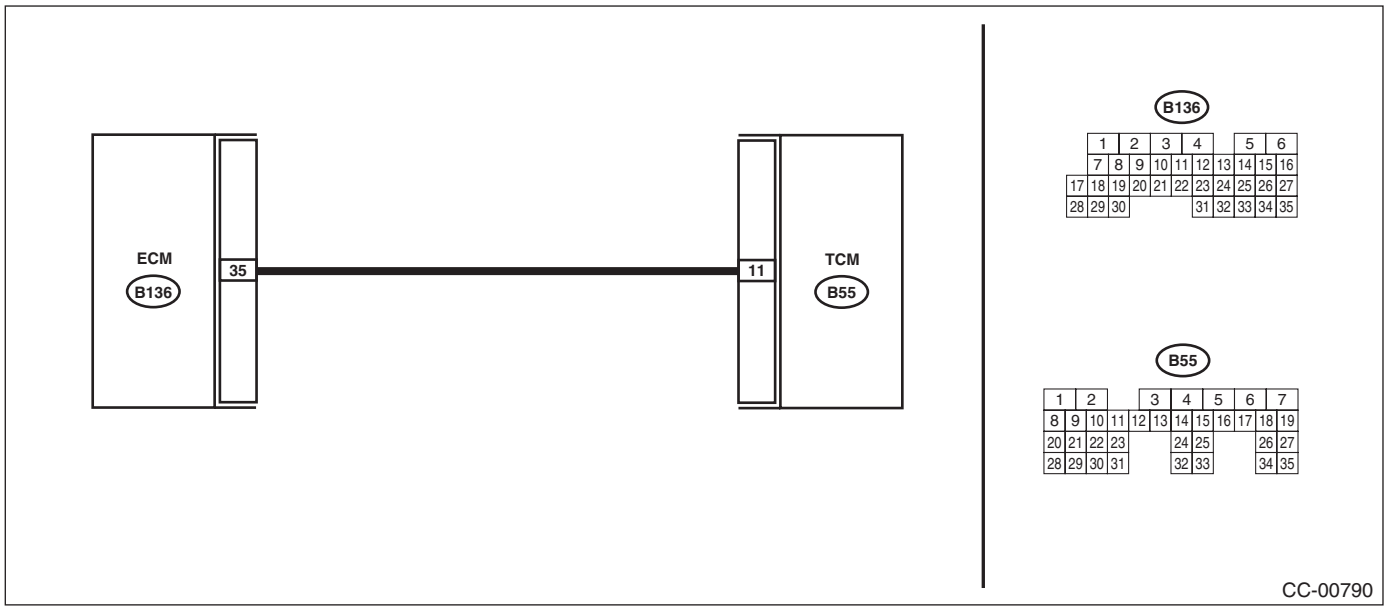
C: 14

Detected when select lever is set in the neutral position, or when malfunction related to neutral position switch occurs.

TROUBLE SYMPTOM:

Cruise control cannot be set.

WIRING DIAGRAM:



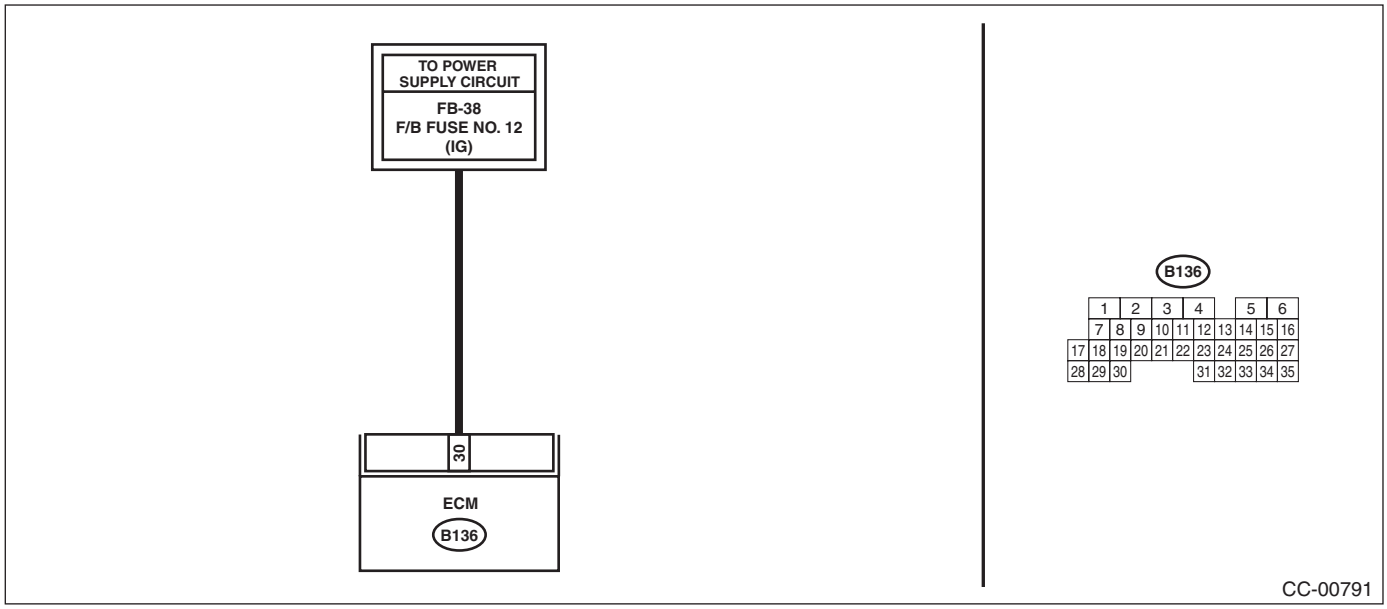
	Step	Check	Yes	No
1	**CHECK NEUTRAL POSITION SWITCH SIGNAL.** 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON and run the Subaru Select Monitor. 3) Select {Engine Control System} from the main menu. 4) Then, select the {Current Data Display & Save}. 5) Shift the select lever to "P" or "N" range, and check the signal of the neutral position switch.	If the select lever is in the "P" or the "N" range, is the Subaru Select Monitor Display ON? Or, if in a range other than "P" or "N", is the Subaru Select Monitor display OFF?	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).>	Go to step **2**.
2	**CHECK TCM OUTPUT VOLTAGE.** 1) Turn the ignition switch to ON. 2) Measure the voltage between TCM harness connector terminal and chassis ground. ***Connector & terminal*** ***(B55) No. 11 (+) — Chassis ground (–):***	If the select lever is in a range other than "P" or "N" ranges, is the voltage 10V or more? Or, if in "P" or "N", is the voltage less than 1V?	Go to step **3**.	Check the TCM. <Ref. to 5AT(diag)-2, Basic Diagnostic Procedure.>
3	**CHECK HARNESS BETWEEN TCM AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from TCM and ECM. 3) Measure the resistance between TCM harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***(B136) No. 35 — (B55) No. 11:***	Is the resistance less than 10 Ω?	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).>	Repair the wiring harness.

D: 15

This DTC is detected when the cancel switch is pressed or problem relating to the main switch occurs.
Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-13, 11, Diagnostic Procedure with Cancel Code.>

E: 16

Detected when ignition switch is turned to OFF or malfunction related to the ignition switch occurs.
TROUBLE SYMPTOM:
Cruise control cannot be set.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK IGNITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B136) No. 30 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Check for poor contact of ECM connector.	• Check fuse No. 12 (in fuse & relay box). • Check the harness for open or short circuit between ignition switch and ECM.

F: 21

Cruise control command switch malfunction is detected.
Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-13, 11, Diagnostic Procedure with Cancel Code.>

G: 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 WARNING LIGHT.** 1) Turn the ignition switch to ON. 2) After the initial operation of combination meter is completed, check if VDC warning light continues to illuminate.	Does the VDC warning light continue to illuminate?	Check the VDCCM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Go to step **2**.
2	**CHECK DTC OF LAN COMMUNICATION CIRCUIT.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC of LAN system displayed?	Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).>

H: 24

Malfunction in cruise control-related switch is detected.
Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-13, 11, Diagnostic Procedure with Cancel Code.>

I: 31

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

J: 32

This DTC is detected out of vehicle speed range.
Refer to DTC 22 for diagnostic procedure.
<Ref. to CC(diag)-20, 22, Diagnostic Procedure with Cancel Code.>

K: 34

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

L: 35

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

M: 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.>

N: 43

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

O: 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.>

P: 45

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

Q: 49

Transmission control module malfunction is detected.
Transmission control module malfunction is detected during cruise driving or cruise setting.
<Ref. to 5AT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

R: 61

Malfunction in the stop light & brake switch is detected.
Refer to DTC 12 for diagnostic procedure.
<Ref. to CC(diag)-15, 12, Diagnostic Procedure with Cancel Code.>

S: 62

Neutral position switch malfunction is detected.
Refer to DTC 14 for diagnostic procedure.
<Ref. to CC(diag)-17, 14, Diagnostic Procedure with Cancel Code.>

T: 63

Malfunction of vehicle speed signal variation is detected.
Refer to DTC 22 for diagnostic procedure.
<Ref. to CC(diag)-20, 22, Diagnostic Procedure with Cancel Code.>

U: 64

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

V: 65

Cruise control command switch malfunction is detected.
While the command switch is pressed ON for a long time (approximately two minutes), stuck ON open circuit is detected.
Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-13, 11, Diagnostic Procedure with Cancel Code.>

W: 66

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

IMMOBILIZER (DIAGNOSTICS)

IM(diag)

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1. General Description

A: CAUTION

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

B: PREPARATION TOOL

1. GENERAL TOOL

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

2. Audio System

A: WIRING DIAGRAM

<Ref. to WI-115, WIRING DIAGRAM, Audio System.>

B: INSPECTION

Symptom	Repair order
No power coming in. (No display and no sound from speakers)	1. Check the fuse and power supply for audio. 2. Check the audio ground. 3. Remove the audio and repair them.
A specific speaker does not operate.	1. Check the speaker. 2. Check the output circuit between audio and speaker.
Audio generates noise with engine is running.	1. Check the audio ground. 2. Check the generator. 3. Check the ignition coil. 4. Remove the audio and repair them.
Volume is low in AM and FM modes or interference noise occurs.	1. Check the antenna. 2. Check the rear window defogger. 3. Check the antenna amplifier. 4. Check the noise suppressor. 5. Check the audio ground. 6. Remove the audio and repair them.
Noise occurs at the rear window defogger operation.	1. Check the rear window defogger.

C: NOTE

For removal of each component of the audio system, refer to the respective section.

- Audio unit <Ref. to ET-13, Audio.>
- Control panel <Ref. to ET-9, Control Panel.>
- Front speaker <Ref. to ET-14, Front Speaker.>
- Center speaker <Ref. to ET-15, Center Speaker .>
- Tweeter <Ref. to ET-16, Tweeter.>
- Rear speaker <Ref. to ET-17, Rear Speaker.>
- Woofer <Ref. to ET-18, Woofer.>
- Antenna <Ref. to ET-20, Antenna.>

3. Navigation System

A: WIRING DIAGRAM

<Ref. to WI-127, 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 no problem is found in inspections 1 and 2 above, perform inspection using "<Ref. to WI-127, WIRING DIAGRAM, Navigation System.>" of the navigation system.

4. SWITCHING TO CONNECTION INSPECTION MODE

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

5. CHECK THE GPS ANTENNA

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

6. CHECK THE BACK SENSOR

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

7. CHECK THE ILLUMINATION

1) Turn the lighting switch to level 1.

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

8. CHECK SPEED SENSOR

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

C: NOTE

For the removal of navigation system component parts, refer to the corresponding section for each component.
• Navigation unit <Ref. to ET-27, Navigation Body.>
• GPS antenna <Ref. to ET-29, GPS Antenna.>
• Navigation switch <Ref. to ET-28, REMOVAL, Navigation Switch.>

4. Rearview Camera System

A: WIRING DIAGRAM

<Ref. to WI-131, WIRING DIAGRAM, Rearview Camera System.>

B: INSPECTION

- When the display does not come on

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

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

- When marker does not show

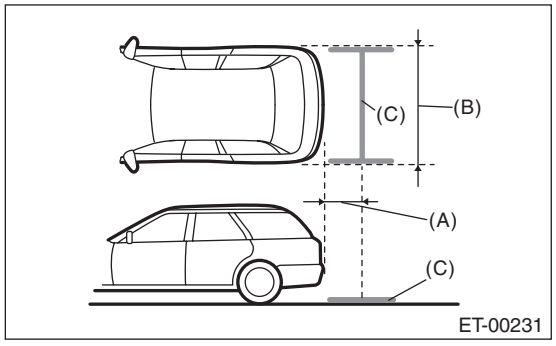
1. Check the rear view camera connection.
2. Check the rear view camera control module.

C: ADJUSTMENT

1. MARKER ADJUSTMENT MODE

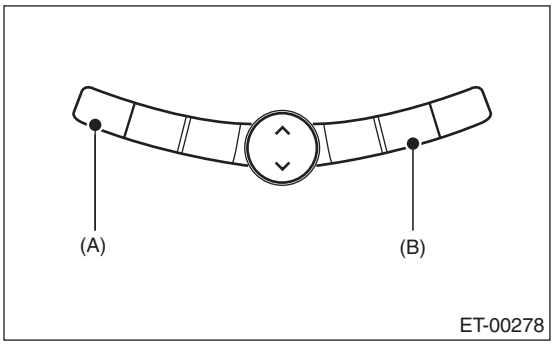
1) Park vehicle on a level surface with wide space around the vehicle rear side.
2) Adhere tapes on the floor of the vehicle rear side as shown in the figure, as the datum point of makers.

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



(A) 500 mm (19.7 in)
(B) 2,180 mm (85.8 in)
(C) Tapes as criteria

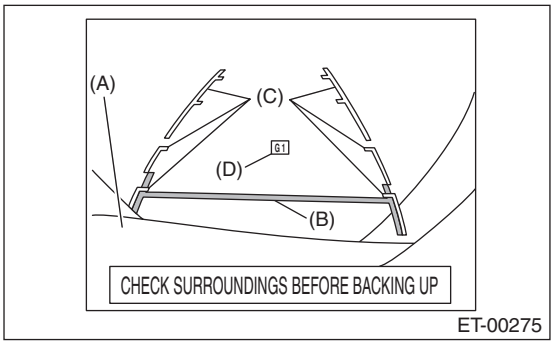
3) While pressing key (A) and key (B) of navigation switch, turn the ignition switch to ACC to enter the test mode.



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

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

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



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

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

5. Multi-function Display (MFD) System

A: WIRING DIAGRAM

<Ref. to WI-133, WIRING DIAGRAM, Multi-function Display (MFD) System.>

B: INSPECTION

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

1. MFD ERROR DISPLAY AND FAULT CONTENT

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

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

6. Rear Entertainment System

A: WIRING DIAGRAM

<Ref. to WI-135, WIRING DIAGRAM, Rear Entertainment System.>

B: INSPECTION

1. CHECK THE DVD-ROM.

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

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

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

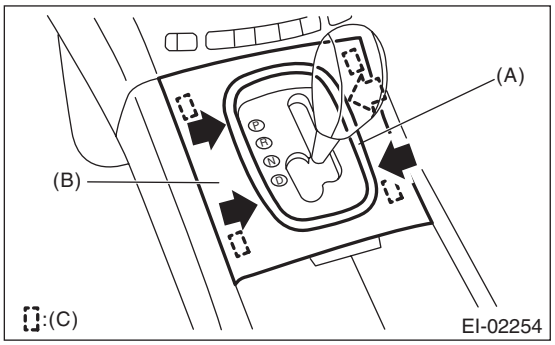
2. ERROR DISPLAY AND CONTENT

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

7. Control Panel

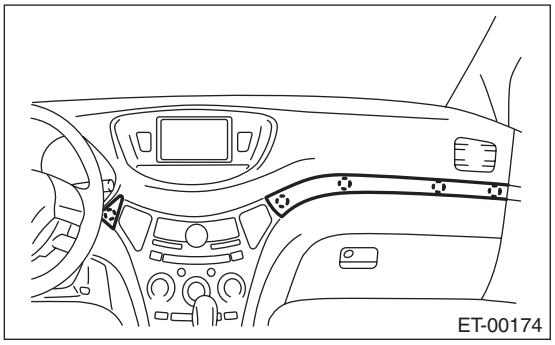
A: REMOVAL

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

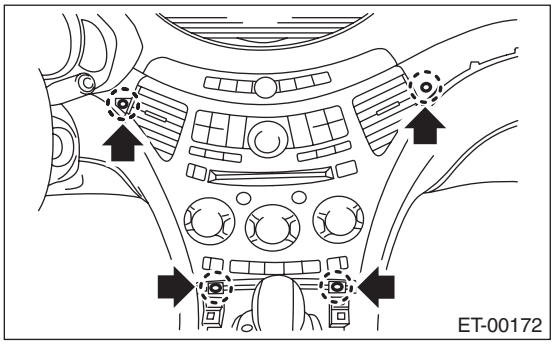


(C) Clip

NOTE:
The ring indicator can be easily removed by inserting the clip remover or equivalent into the positions indicated by arrows.
3) Remove the instrument ornament on passenger's seat and inner panels on driver's seat.



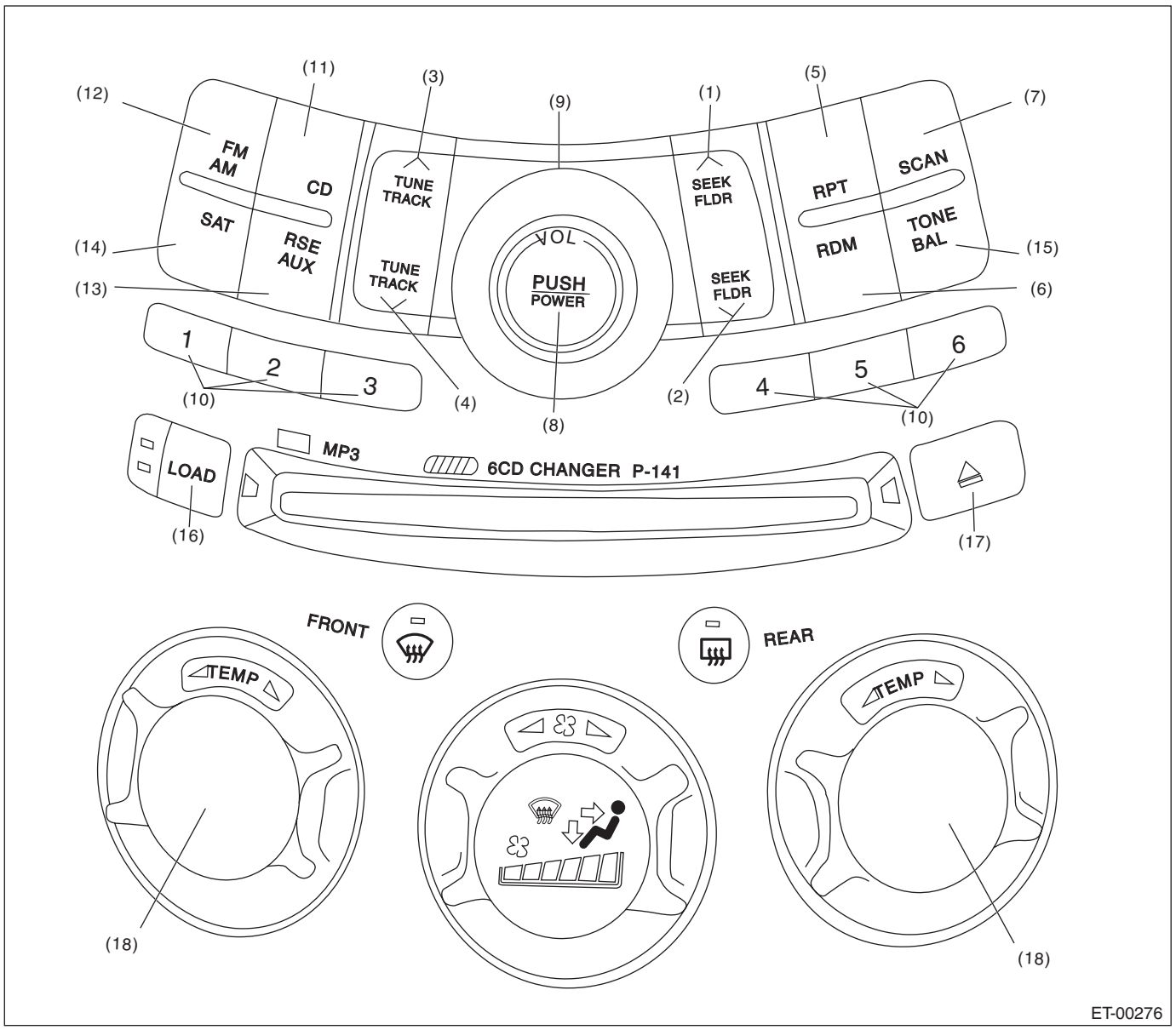
4) Remove the screws, and remove the control panel.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION



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

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

1. SELF DIAGNOSIS OF THE CONTROL PANEL AND AUDIO

	Step	Check	Yes	No
1	**SETTING THE SELF-DIAGNOSIS MODE BY OPERATING THE CONTROL PANEL.** 1) Turn the audio system OFF with the ignition switch on ACC or ON. 2) With the TUNE UP switch and the SEEK DOWN switch held down, hold the RDM switch down for 2 seconds or more. 3) A buzzer will sound, and the unit will enter the diagnosis mode.	Does the self diagnosis mode of the control panel operate?	Go to step **3**.	Go to step **2**.
2	**CHECK BUZZER.**	Did the buzzer sound when going into the diagnosis mode?	Go to step **7**.	Check the connection of harness connector, and if there are no problems found, repair or replace the audio unit and control panel. <Ref. to ET-13, REMOVAL, Audio.> <Ref. to AC-31, REMOVAL, Control Panel.>
3	**CHECK VFD DISPLAY SECTION.**	Does whole VFD display section illuminate?	Go to step **4**.	Replace the audio unit. <Ref. to ET-13, REMOVAL, Audio.>
4	**CHECK THE COMMUNICATION STATUS.** Press the preset 1 switch, and confirm the TEMP display section of the control panel.	When the switch is pressed, is «88.8» displayed at the TEMP display section?	Go to step **5**.	Go to step **6**.
5	**CHECK THE COMMUNICATION STATUS.**	Was the display in step 3 on the left side TEMP display section?	Replace the audio unit. <Ref. to ET-13, REMOVAL, Audio.>	Replace the control panel. <Ref. to AC-31, REMOVAL, Control Panel.>
6	**CHECK SWITCH.** Operate the switches in the following list, and check the display content in the left and right TEMP displays.	Does the switch check list and the operated switches match? <Ref. to ET-12, SWITCH CHECK LIST, INSPECTION, Control Panel.>	Self diagnosis on audio main body is normally operated.	Replace the control panel. <Ref. to AC-31, REMOVAL, Control Panel.>
7	**CHECK THE MALFUNCTION DISPLAY.** 1) Reconnect the connector between the control panel and the audio. 2) Operate the control panel and switch to the self diagnosis mode.	Did the control panel switch to the malfunction diagnosis mode?	Go to step **4**.	Go to step **8**.
8	**CHECK THE MALFUNCTION DISPLAY.**	Did the buzzer sound when going into the self diagnosis mode?	<Ref. to ET-13, REMOVAL, Audio.>	<Ref. to ET-13, REMOVAL, Audio.> <Ref. to AC-31, REMOVAL, Control Panel.>

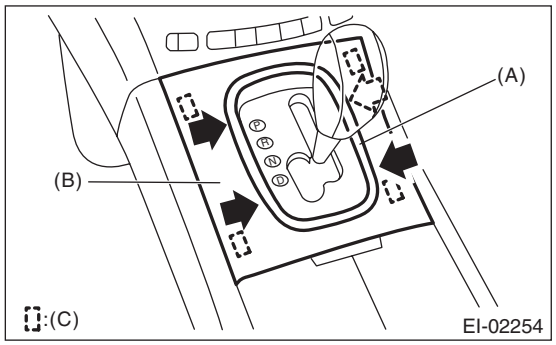
2. SWITCH CHECK LIST

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

8. Audio

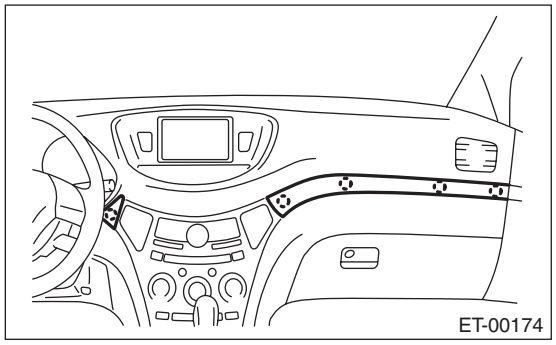
A: REMOVAL

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

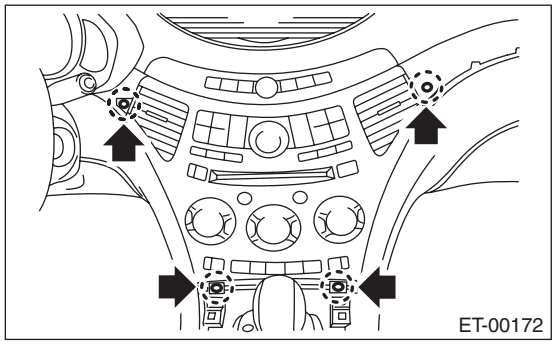


(C) Clip

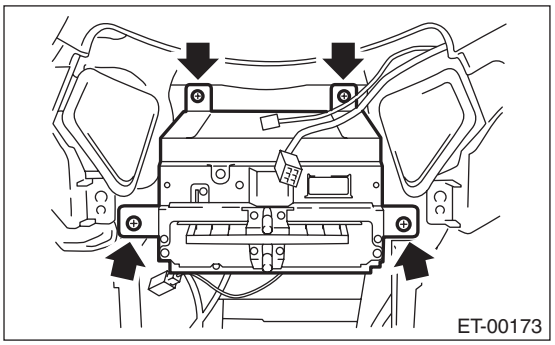
NOTE:
The ring indicator can be easily removed by inserting the clip remover or equivalent into the positions indicated by arrows.
3) Remove the instrument ornament on passenger's seat and inner panels on driver's seat.



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



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



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

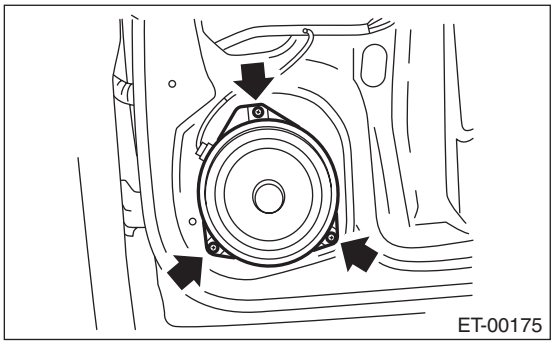
B: INSTALLATION

Install in the reverse order of removal.

9. Front Speaker

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
3) Remove the front speaker mounting screws.



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

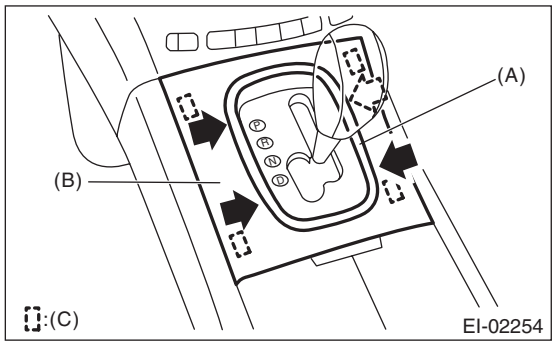
B: INSTALLATION

Install in the reverse order of removal.

10.Center Speaker

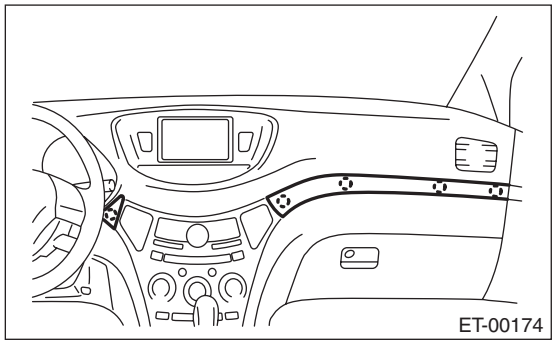
A: REMOVAL

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

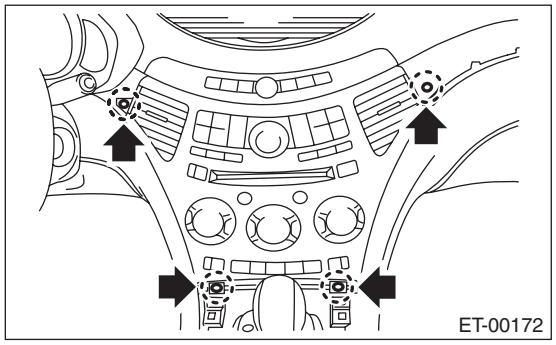


(C) Clip

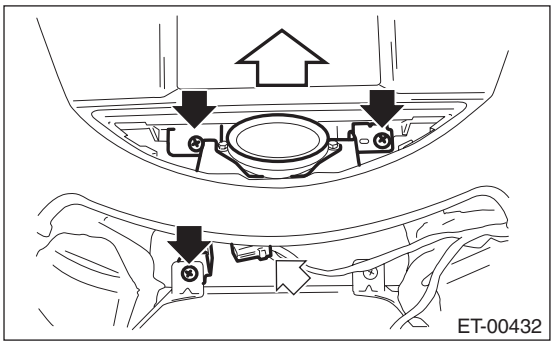
NOTE:
The ring indicator can be easily removed by inserting the clip remover or equivalent into the positions indicated by arrows.
3) Remove the instrument ornament on passenger's seat and inner panels on driver's seat.



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



5) Disconnect the harness connectors and remove the front control panel.
6) Disconnect the air vent upper grille and disconnect the hazard switch connector.
7) Remove the screws and disconnect the harness connector.



8) Remove the center speaker.

B: INSTALLATION

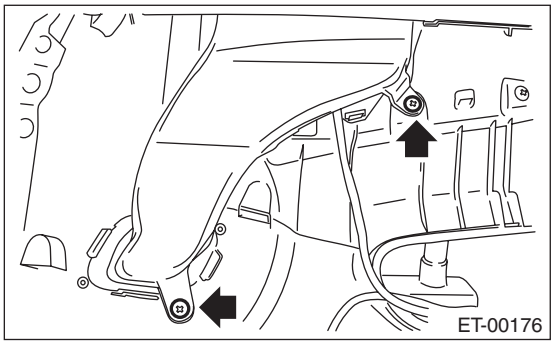
Install in the reverse order of removal.

11.Tweeter

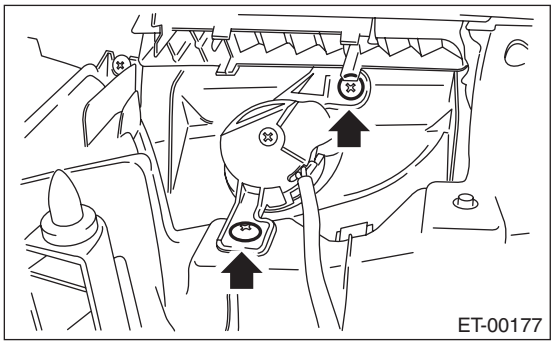
A: REMOVAL

1. FRONT

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
3) Remove the side deflector duct.



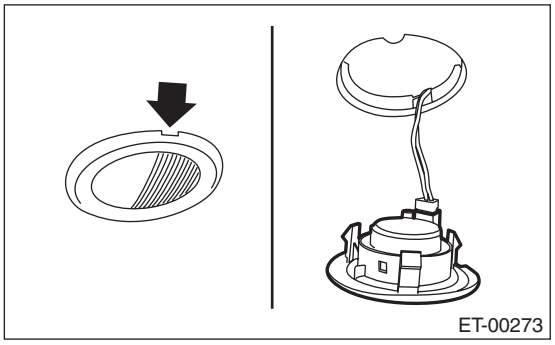
4) Remove the tweeter mounting screws.



5) Remove the tweeter.

2. REAR

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



3) Disconnect the harness connector.

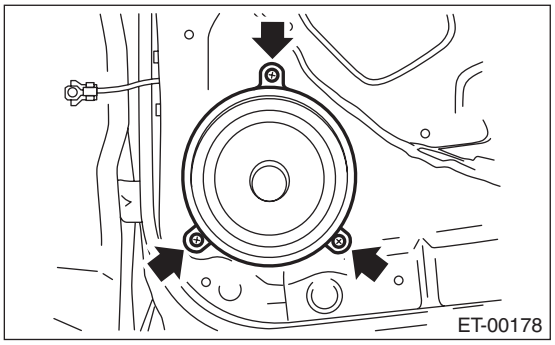
B: INSTALLATION

Install in the reverse order of removal.

12.Rear Speaker

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
3) Remove the rear speaker mounting screws.



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

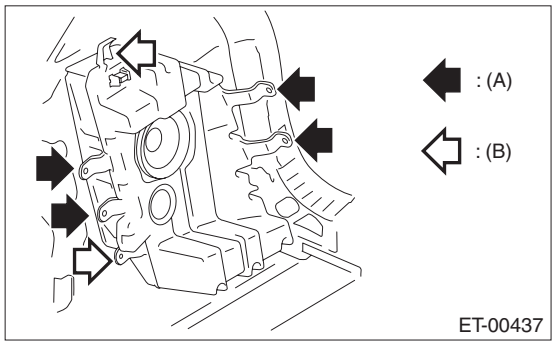
B: INSTALLATION

Install in the reverse order of removal.

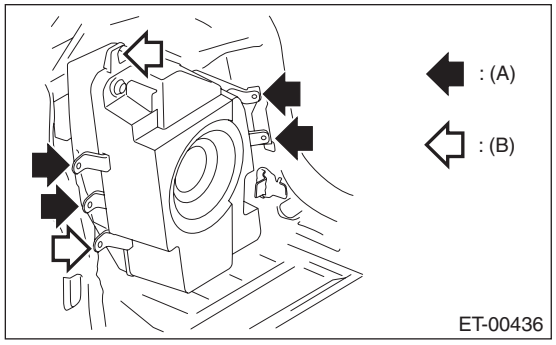
13.Woofer

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the quarter trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
3) Remove the mounting screws (A) and nuts (B) for the woofer.
For high grade speakers



For harman/kardon speakers



4) Disconnect the harness connector and detach the woofers.

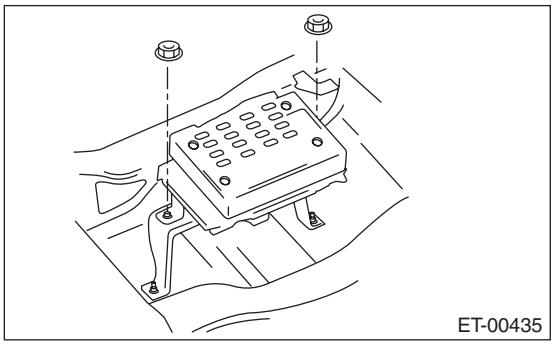
B: INSTALLATION

Install in the reverse order of removal.

14.Power Amplifier

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the second row seats. <Ref. to SE-13, REMOVAL, Second Seat.>
3) Disconnect the harness connector.
4) Remove the nut and remove the power amplifier.



B: INSTALLATION

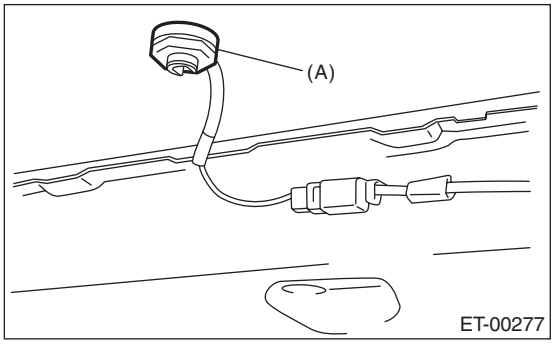
Install in the reverse order of removal.

15.Antenna

A: REMOVAL

1. ROOF ANTENNA (WITH XM SATELLITE RADIO)

1) Remove the roof trim. <Ref. to EI-51, REMOVAL, Roof Trim.>
2) Disconnect the harness connector and terminal and remove the mounting nut (A).



3) Pull the antenna off roof top.

B: INSTALLATION

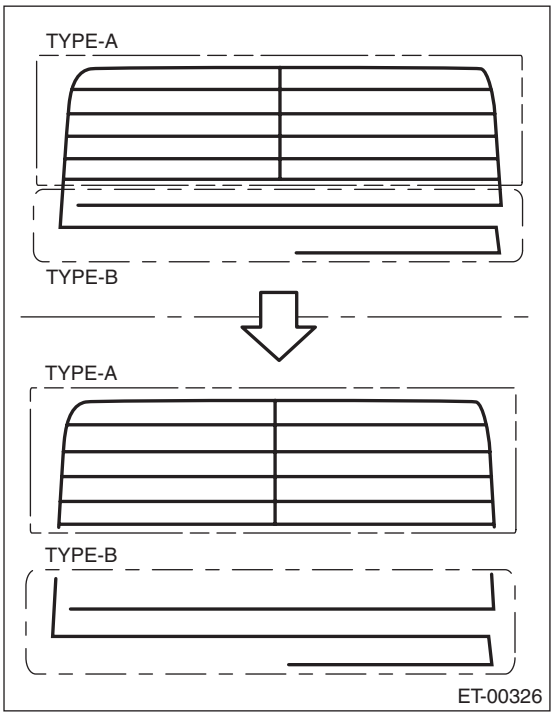
Install in the reverse order of removal.

C: INSPECTION

1. GLASS ANTENNA

CAUTION:
When wiping dirt off of the glass to avoid heat wire damage, be careful of the following.
- **Use a dry and soft cloth.**
- **Move the cloth along the heat wire.**

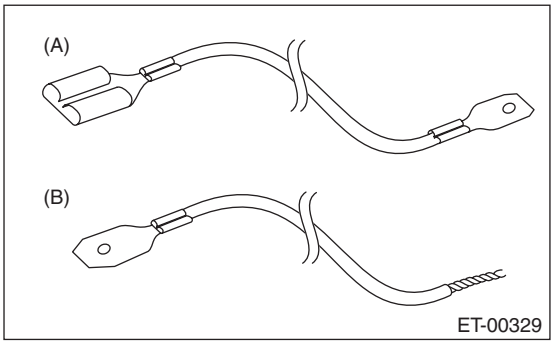
Inspection method of antenna, it is different from printing pattern of antenna.



TYPE-A Printing pattern of grid
TYPE-B Printing pattern of straight

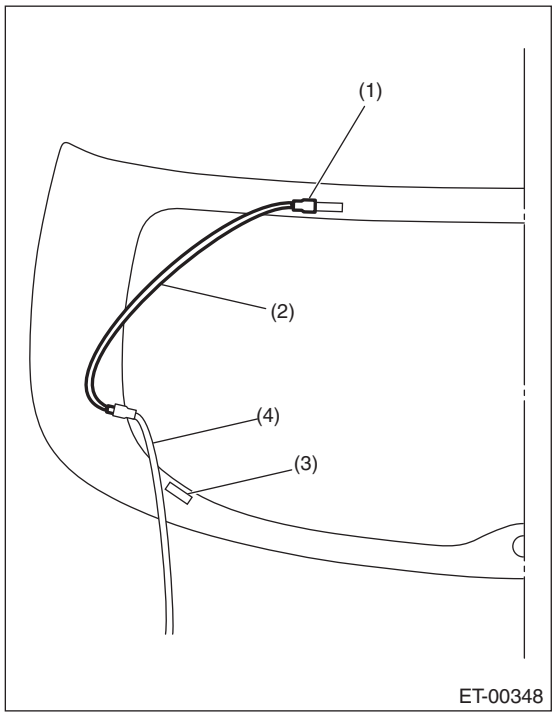
Type A

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim. <Ref. to EI-52, REMOVAL, Rear Gate Trim.>
3) Disconnect the antenna harness connector and antenna terminals.
4) Prepare the extension harness (A), (B).



(A) Attach the flat terminals (male and female) to both ends of the harness of 2,000 mm (78.7 in) length (electrical wire unit dimensions approx. 2.0 mm^2 (0.0032 sp in))
(B) Attach the flat terminal (female) to one side of the harness of 2,000 mm (78.7 in) length (electrical wire unit dimensions approx. 2.0 mm^2 (0.0032 sp in)), and twist the another side of the harness.

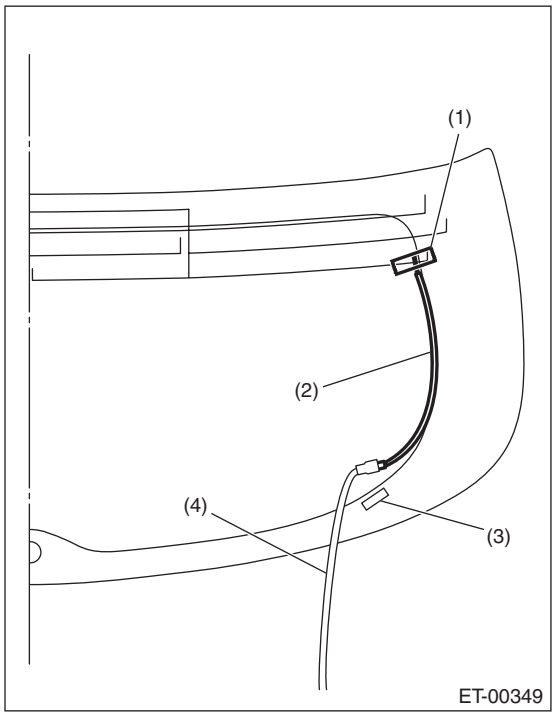
5) Connect the extension harness (A) to rear defogger harness (power supply side) terminal and antenna terminal.



(1) Antenna terminal
(2) Extension harness (A)
(3) Rear defogger terminal
(4) Rear defogger harness (power supply side - red blue)

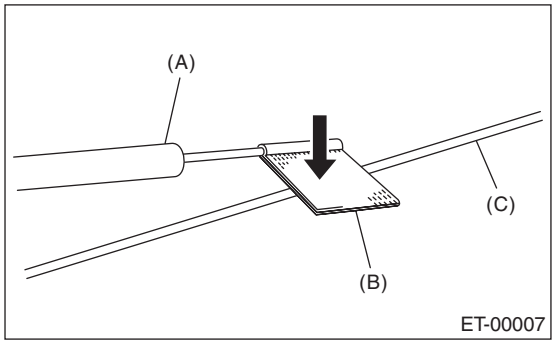
6) Connect the extension harness (B) to rear defogger harness (ground side) terminal.

7) Fasten the another side of extension harness (B) to end of antenna pattern of grid with tape.



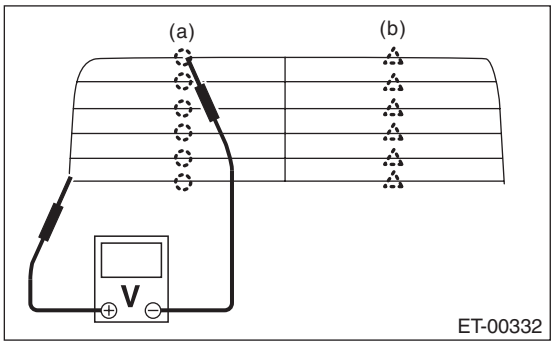
(1) Tape
(2) Extension harness (B)
(3) Rear defogger terminal
(4) Rear defogger harness (ground side - black)

8) Connect the ground cable to battery.
9) Turn the ignition switch to ON.
10) Turn the rear defogger switch to ON.
11) Wrap a piece of aluminum foil around the tip of tester probe and press foil against antenna wire with your finger.



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

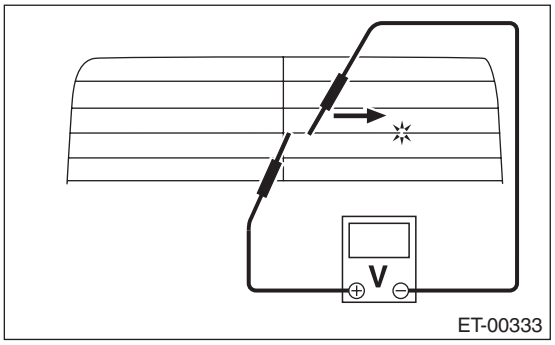
12) Measure the voltage around an antenna wire (a) and (b).



	Measured voltage value	Criteria
(a)	Approx. 3V (standard value)	Normal
	Approx. 6 V or 0 V	Open
(b)	Approx. 9V (standard value)	Normal
	Approx. 12 V or 6 V	Open

NOTE:
Measuring point (a)
• If the measured value is 6 V, heat wire is open between antenna wire center and positive (+) terminal of probe.
• If it is 0 V, the circuit is open between antenna wire center and ground.
Measuring point (b)
• If the measured value is 12 V, heat wire is open between antenna wire center and positive (+) terminal of probe.
• If it is 6 V, the circuit is open between antenna wire center and ground.

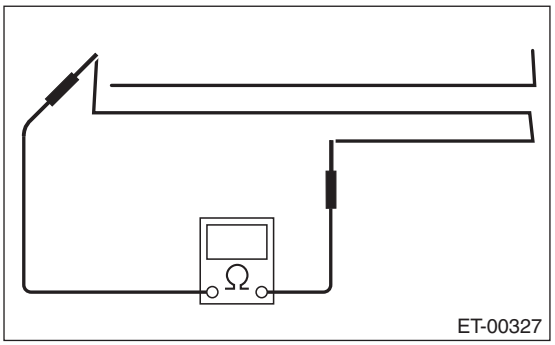
13) Fasten the voltmeter positive (+) side and negative (–) side to end of open harness positive side of step 12).
14) Search a point the voltage changes from 0 V, and move the negative (–) probe along antenna wire slowly.



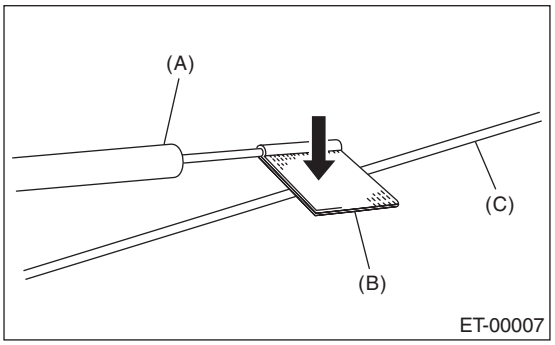
15) Repair the antenna wire if the place of the open circuit is identified. <Ref. to ET-23, REPAIR, Antenna.>

Type B

Measure the resistance between the antenna terminal and each antenna wire.

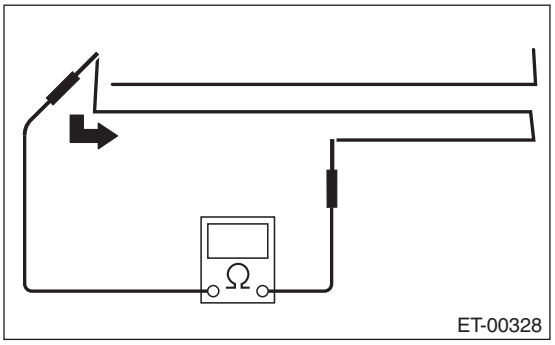


1) Disconnect the ground cable from battery.
2) Wrap a piece of aluminum foil around the tip of probe and press foil against antenna wire with your finger.



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

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



NOTE:
If an antenna wire is OK, resistance will be less than 20 Ω.
If an antenna wire is broken, resistance will be more than 1 MΩ.

4) Repair the antenna wire if the place of the open circuit is identified. <Ref. to ET-23, REPAIR, Antenna.>

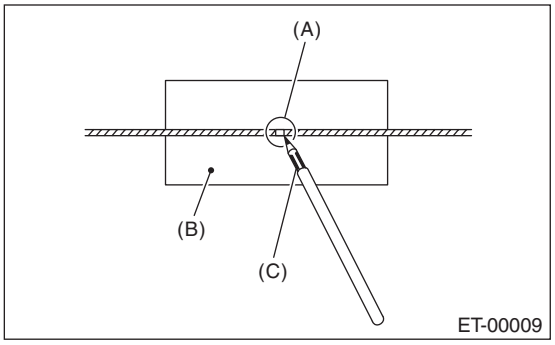
2. ROOF ANTENNA

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

D: REPAIR

1. GLASS ANTENNA

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



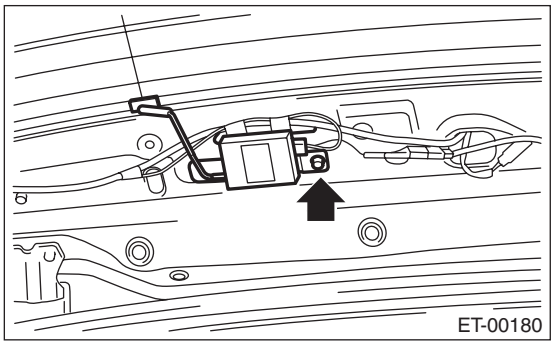
(A) Broken portion
(B) Masking film
(C) Conductive silver composition

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

16.Antenna Amplifier

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear gate trim. <Ref. to EI-52, REMOVAL, Rear Gate Trim.>
3) Disconnect the harness connectors and terminals.
4) Remove the screws and detach the antenna amplifier.

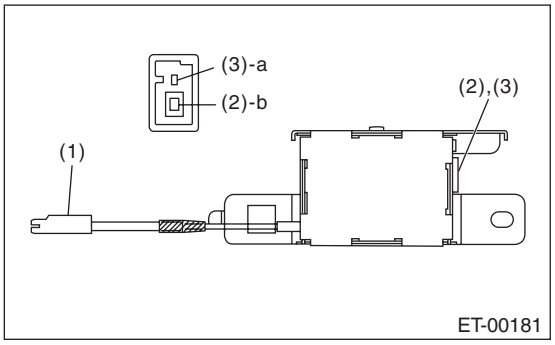


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the resistance of antenna amplifier.

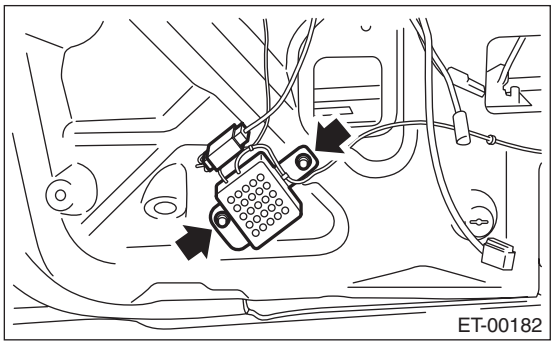


Terminal No.	Standard
(1) and amplifier body	10 kΩ or more
(2)-b and amplifier body	10 kΩ or more
(3)-a and amplifier body	10 kΩ or more

17.Noise Suppressor

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear gate trim. <Ref. to EI-52, REMOVAL, Rear Gate Trim.>
3) Disconnect harness connector from noise suppressor.
4) Remove the screws and detach the noise suppressor.



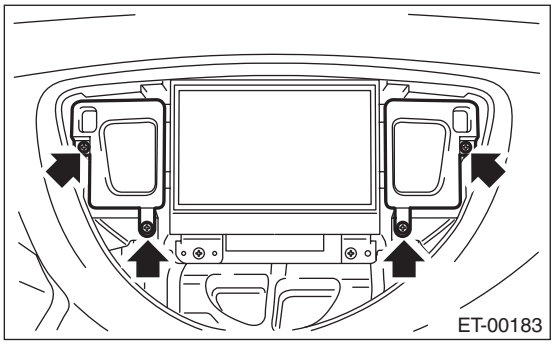
B: INSTALLATION

Install in the reverse order of removal.

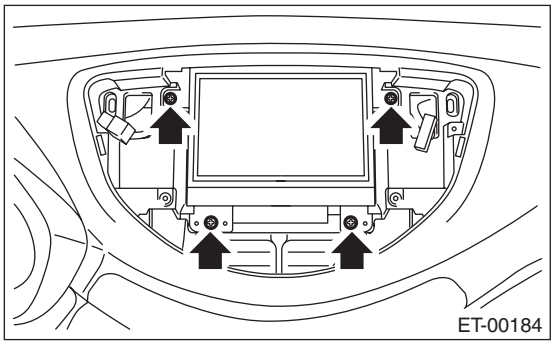
18.Navigation Display

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the upper grille. <Ref. to AC-48, UPPER GRILLE, REMOVAL, Air Vent Grille.>
3) Remove the warning box.



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



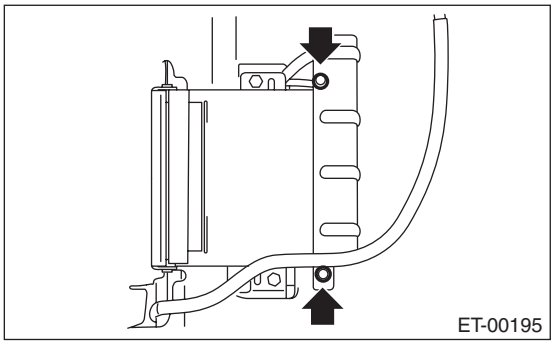
B: INSTALLATION

Install in the reverse order of removal.

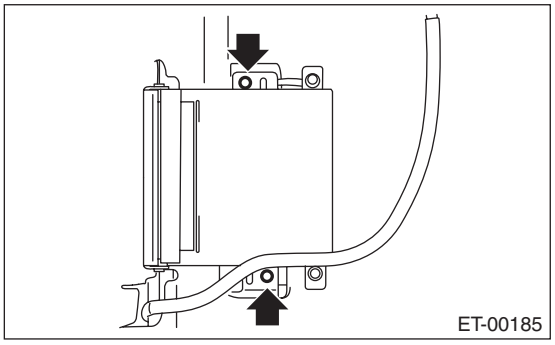
19.Navigation Body

A: REMOVAL

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



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



B: INSTALLATION

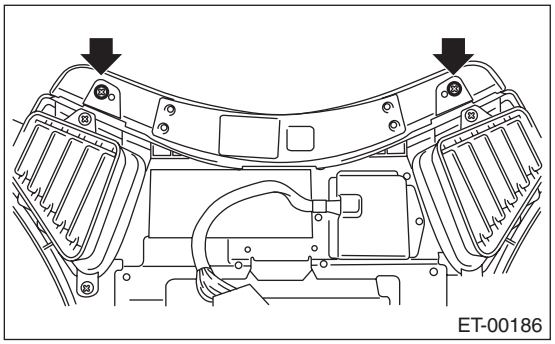
Install in the reverse order of removal.

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

20.Navigation Switch

A: REMOVAL

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



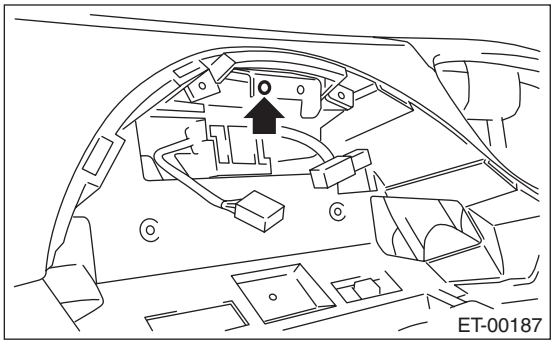
B: INSTALLATION

Install in the reverse order of removal.

21.GPS Antenna

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the combination meter. <Ref. to IDI-11, REMOVAL, Combination Meter.>
3) Remove the audio. <Ref. to ET-13, REMOVAL, Audio.>
4) Remove the navigation display. <Ref. to ET-26, REMOVAL, Navigation Display.>
5) Remove the screw to remove the GPS bracket.



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

B: INSTALLATION

Install in the reverse order of removal.

22.Rearview Mirror (RCD Model)

A: NOTE

Refer to the GLASS/WINDOWS/MIRRORS section for the removal and installation of the rearview mirror (RCD model).

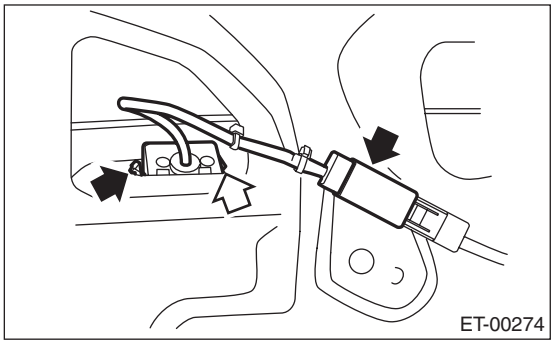
- Removal <Ref. to GW-33, REMOVAL, Rearview Mirror (RCD Model).>
- INSTALLATION <Ref. to GW-33, INSTALLATION, Rearview Mirror (RCD Model).>

23.Rearview Camera

A: REMOVAL

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

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



B: INSTALLATION

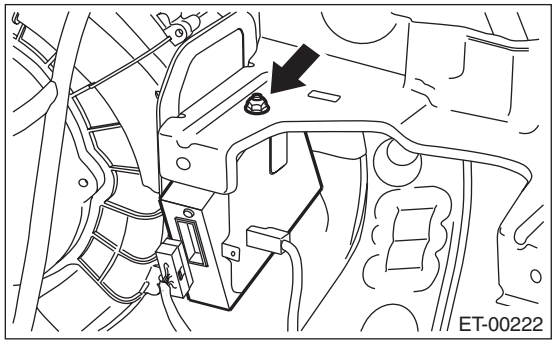
Install in the reverse order of removal.

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

24.Rearview Camera Control Unit

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the left rear quarter lower trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
3) Remove the nut, disconnect the connector and remove the control unit.



B: INSTALLATION

Install in the reverse order of removal.

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

25.Multi-function Display (MFD)

A: NOTE

For removal/installation of the multi-function display, refer to the operation procedure for the navigation display. <Ref. to ET-26, Navigation Display.>

26.Multi-function Switch

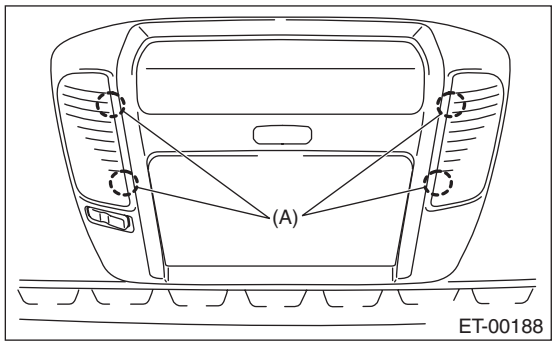
A: NOTE

For removal/installation of the multi-function switch, refer to the operation procedure for the navigation switch. <Ref. to ET-28, REMOVAL, Navigation Switch.>

27.Rear Entertainment

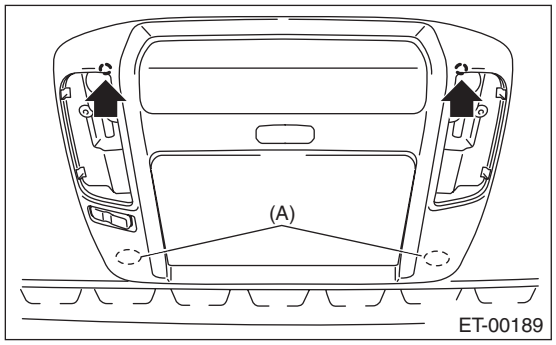
A: REMOVAL

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



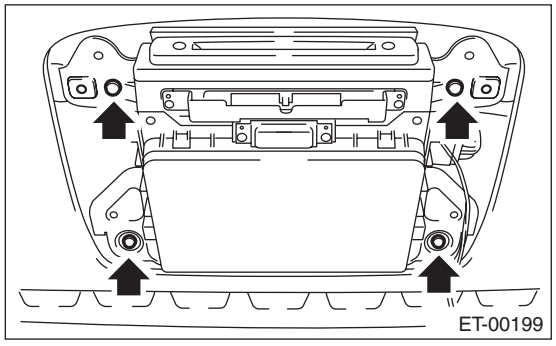
(A) Cutout

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



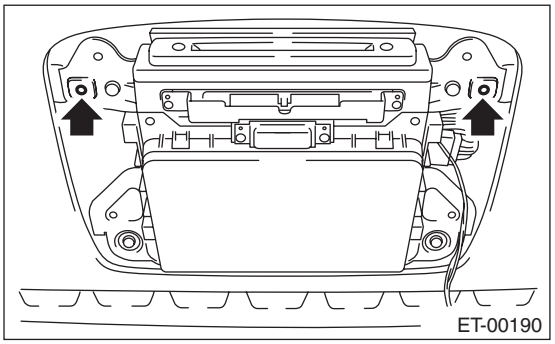
(A) Clip

4) Remove the 4 mounting bolts.



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

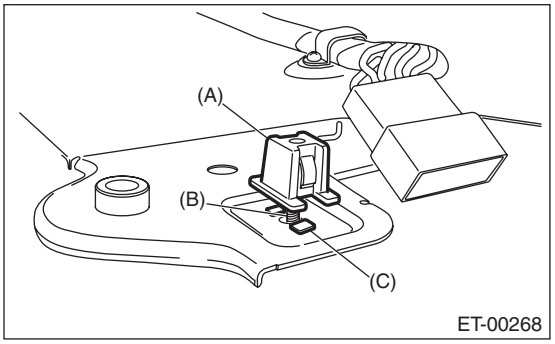
CAUTION:
Pay attention not to drop the body at removal.



6) Remove the temporary clips from the roof brace.

B: INSTALLATION

1) Align a temporary clip (A) to the protrusion (C) using a temporary screw (B), and attach to the rear entertainment system body.



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

28.AUX Input Terminal

A: REMOVAL

1. REAR ENTERTAINMENT INPUT TERMINAL

1) Disconnect the ground cable from the battery.
2) Remove the left rear quarter trim lower. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
3) Remove the AUX input terminal from the rear quarter trim.

2. AUDIO INPUT TERMINAL

1) Disconnect the ground cable from the battery.
2) Remove the console box. <Ref. to EI-39, REMOVAL, Console Box.>
3) Remove the AUX input terminal from the console box.

B: INSTALLATION

Install in the reverse order of removal.

29.Front Accessory Power Supply Socket

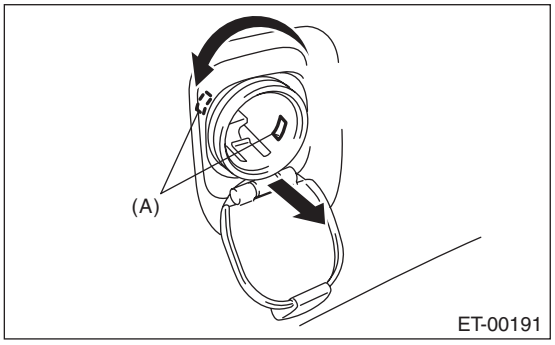
A: WIRING DIAGRAM

<Ref. to WI-138, WIRING DIAGRAM, Front Accessory Power Supply Socket System.>

B: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the console box. <Ref. to EI-39, REMOVAL, Console Box.>
3) Disconnect the harness connector, and remove the accessory power supply socket.

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



C: INSTALLATION

Install in the reverse order of removal.

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

30.Rear Accessory Power Supply Socket

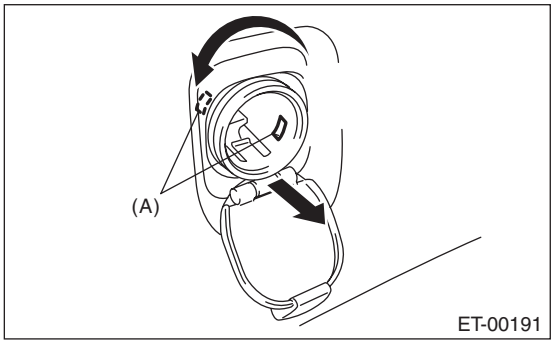
A: WIRING DIAGRAM

<Ref. to WI-139, WIRING DIAGRAM, Rear Accessory Power Supply Socket System.>

B: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the left rear quarter lower trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
3) Disconnect the harness connector, and remove the accessory power supply socket.

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



C: INSTALLATION

Install in the reverse order of removal.

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

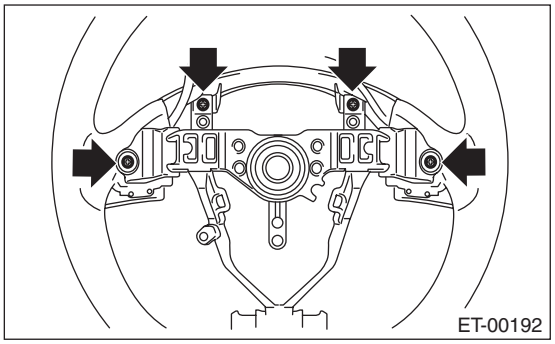
31.Steering Satellite Switch

A: REMOVAL

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

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

4) Remove the steering wheel. <Ref. to PS-12, REMOVAL, Steering Wheel.>
5) Remove the cover from steering wheel.
6) Remove 2 satellite switch mounting screws each from the left and right sides.



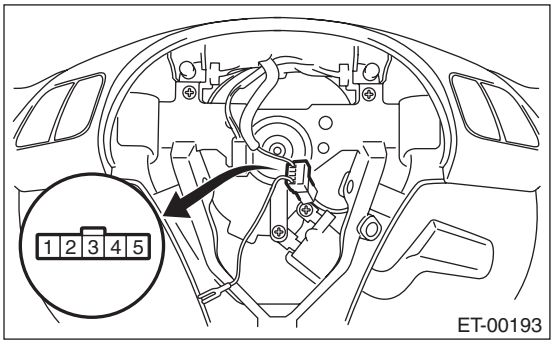
7) Remove the satellite switch.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the resistance between satellite switch connector terminals.



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

Replace the satellite switch if faulty.

COMMUNICATION SYSTEM

COM

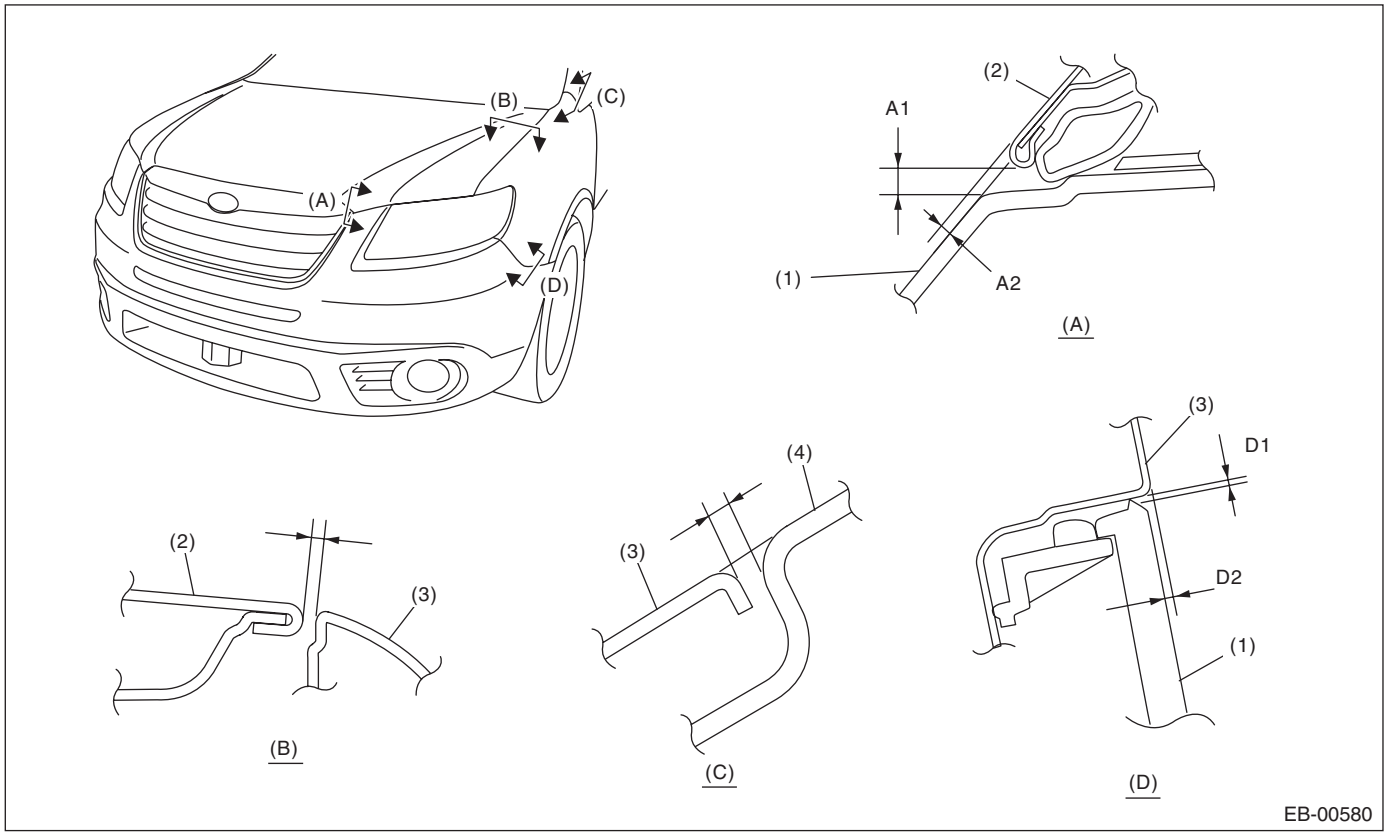
Page

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

1. General Description

A: SPECIFICATION

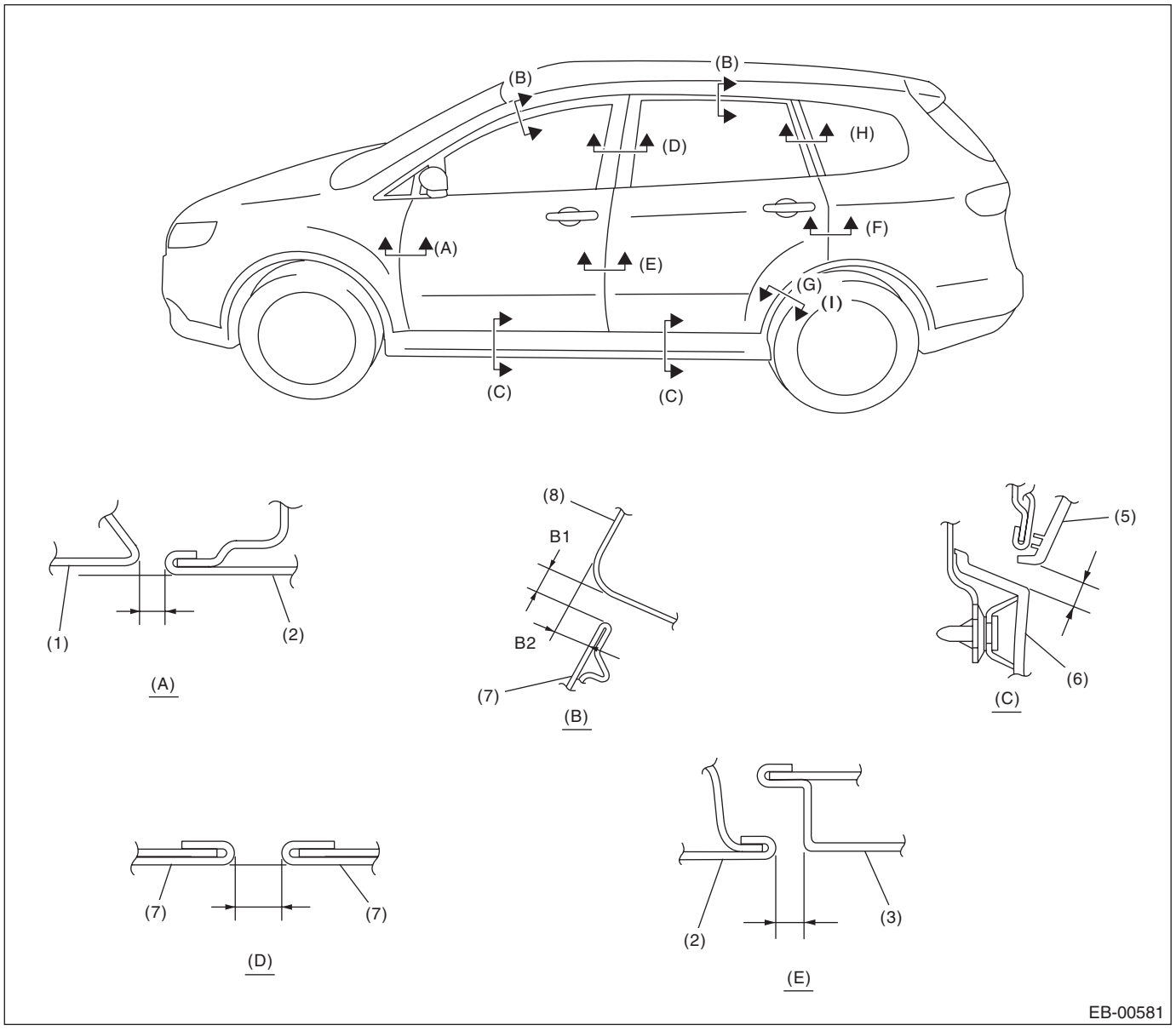
1. FRONT

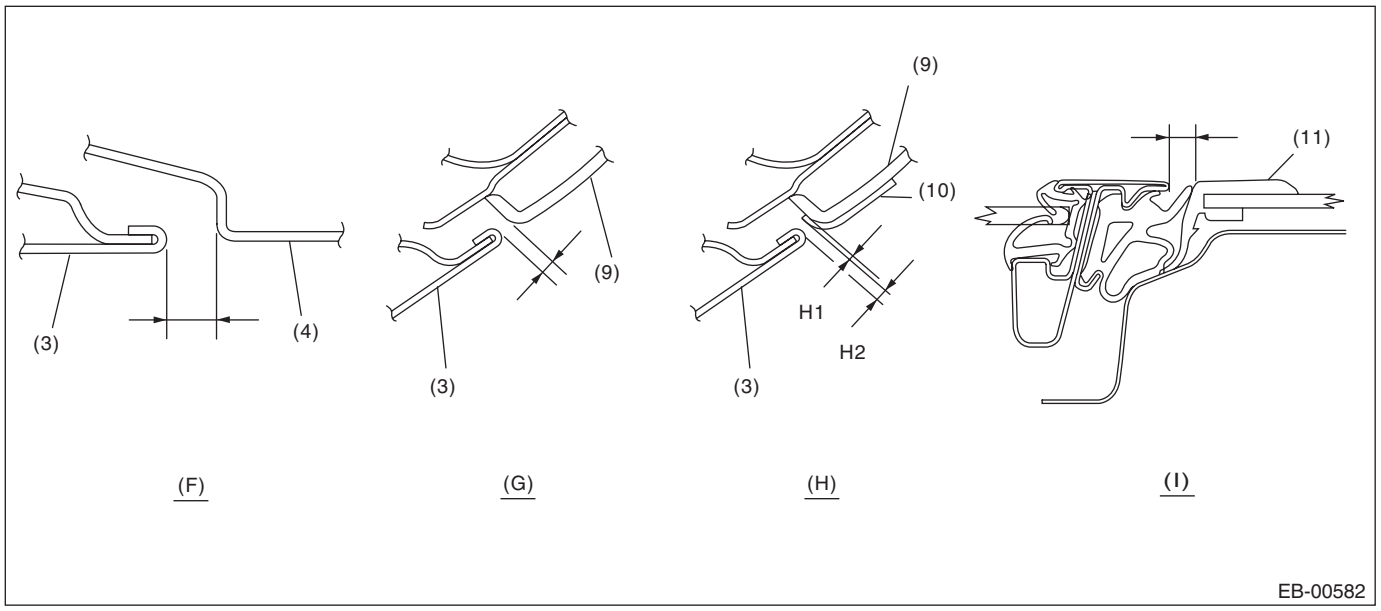


(1) Front bumper
(2) Front hood panel
(3) Front fender panel
(4) Front pillar

Section	Part	Standard
(A)	Front hood panel to front bumper	A1: 5.0±1.0 mm (0.20±0.04 in) A2: 2.0±1.0 mm (0.08±0.04 in)
(B)	Front hood panel to Front fender panel	3.5±1.0 mm (0.14±0.04 in)
(C)	Front fender panel to Front pillar	2.0±0.5 mm (0.08±0.02 in)
(D)	Front bumper to Front fender panel	D1: 0.3+0.7, –0.3 mm (0.012+0.028, –0.012 in) D2: 0.7+0.5, –0.7 mm (0.028+0.02, –0.028 in)

2. SIDE

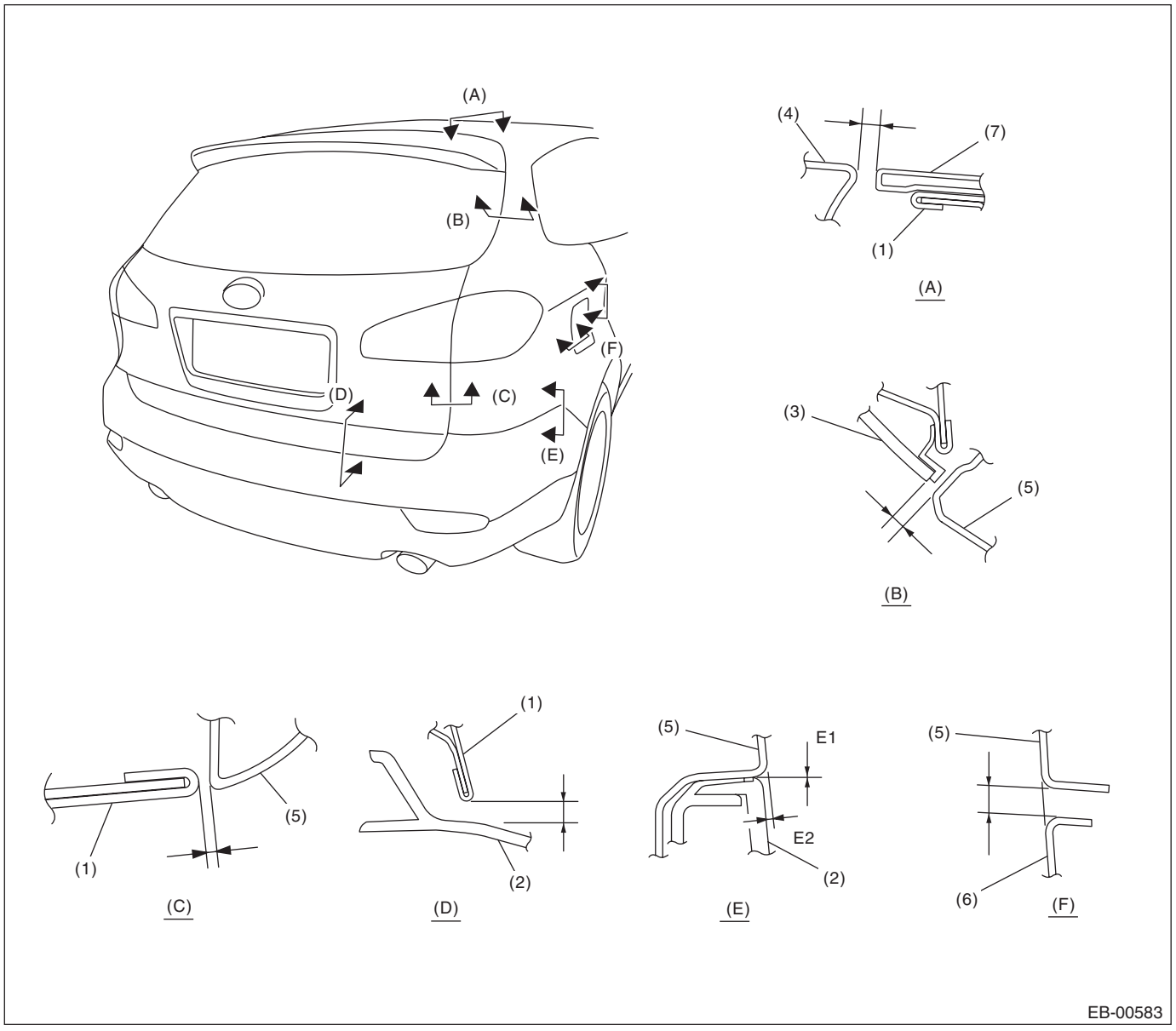




(1) Front fender panel
(2) Front door panel
(3) Rear door panel
(4) Rear quarter panel
(5) Door garnish
(6) Side sill garnish
(7) Door sash
(8) Roof panel
(9) Rear quarter garnish
(10) Protector film
(11) Rear quarter glass

Section	Part	Standard
(A)	Front fender panel to Front door panel	4.0±1.0 mm (0.16±0.04 in)
(B)	Door sash to Roof panel	B1: 5.0±1.0 mm (0.20±0.04 in) B2: 4.0±1.0 mm (0.16±0.04 in)
(C)	Door garnish to Side sill garnish	8.0±1.5 mm (0.31±0.06 in)
(D)	Front door sash to Rear door sash	5.6±1.0 mm (0.22±0.04 in)
(E)	Front door panel to Rear door panel	4.6±1.0 mm (0.18±0.04 in)
(F)	Rear door panel to Rear quarter panel	4.0±1.0 mm (0.16±0.04 in)
(G)	Rear quarter garnish to Rear door panel	4.0±1.0 mm (0.16±0.04 in)
(H)	Rear quarter garnish to Rear door panel (monotone vehicle)	H1: 0.4±1.0 mm (0.02±0.04 in) H2: 3.6±1.0 mm (0.14±0.04 in)
(I)	Between rear door sash to Rear quarter glass	5.0±1.0 mm (0.20±0.04 in)

3. REAR

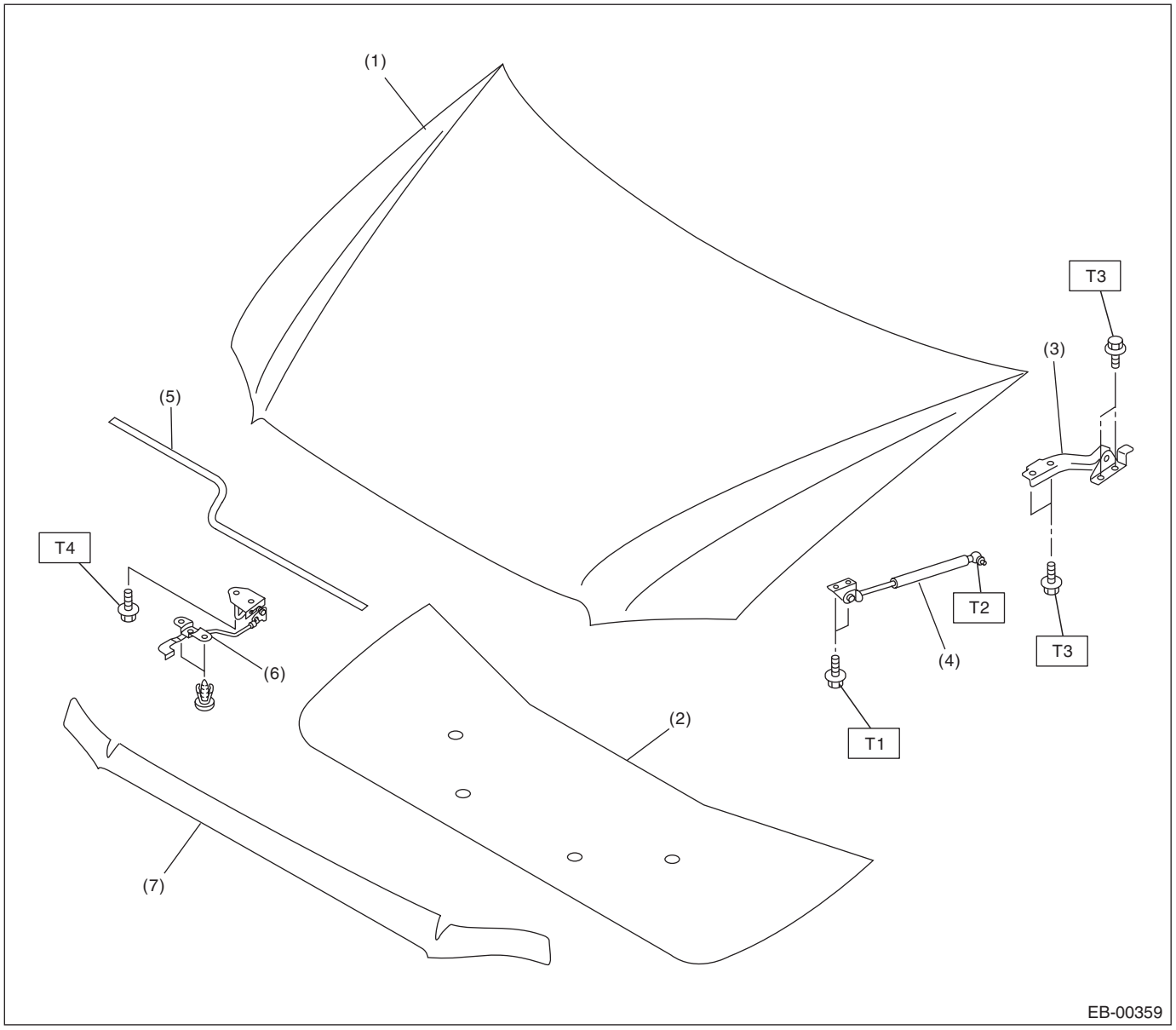


(1) Rear gate panel
(2) Rear bumper
(3) Rear gate glass
(4) Roof panel
(5) Rear quarter panel
(6) Fuel filler lid
(7) Roof spoiler

Section	Part	Standard
(A)	Roof panel to Roof spoiler	5.5±1.0 mm (0.22±0.04 in)
(B)	Rear gate glass to Rear quarter panel	5.5±1.5 mm (0.22±0.06 in)
(C)	Rear gate panel to Rear quarter panel	4.0±1.0 mm (0.16±0.04 in)
(D)	Rear gate panel to Rear bumper	7.0±1.5 mm (0.28±0.06 in)
(E)	Rear quarter panel to Rear bumper	E1: 0.3+0.7, –0.3 mm (0.012+0.028, –0.012 in) E2: 0.7+0.5, –0.7 mm (0.028+0.02, –0.028 in)
(F)	Area around the fuel filler lid to Quarter panel	3.5±0.5 mm (0.14±0.02 in)

B: COMPONENT

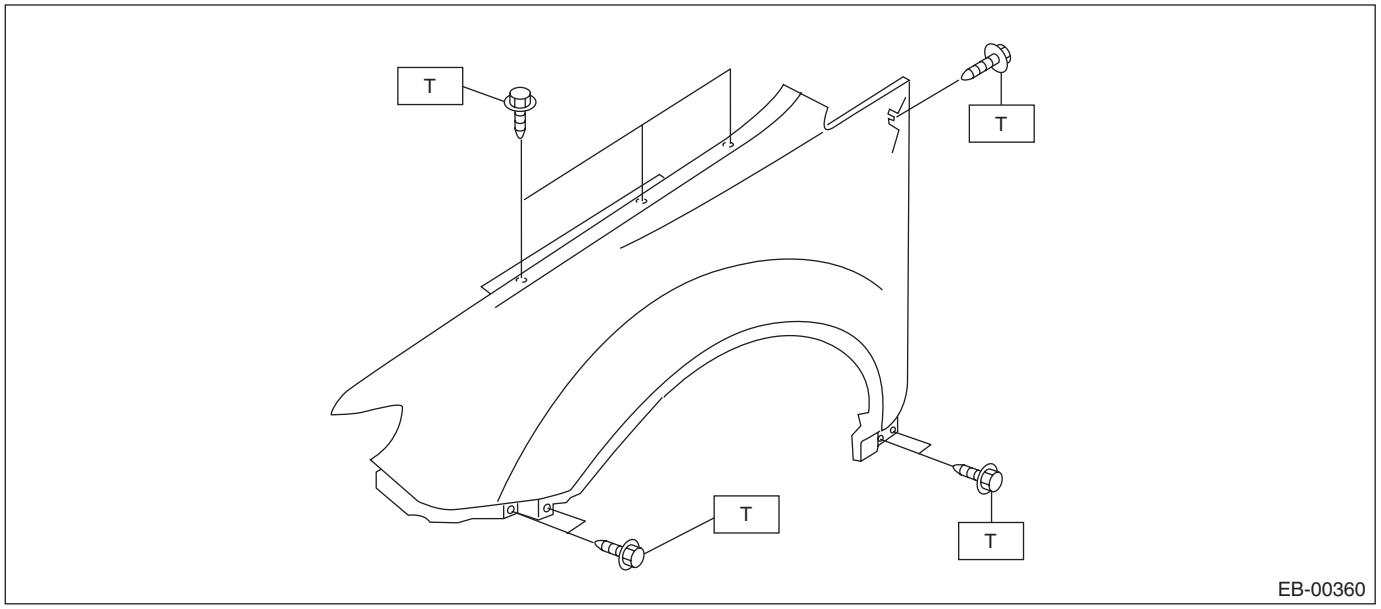
1. FRONT HOOD



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

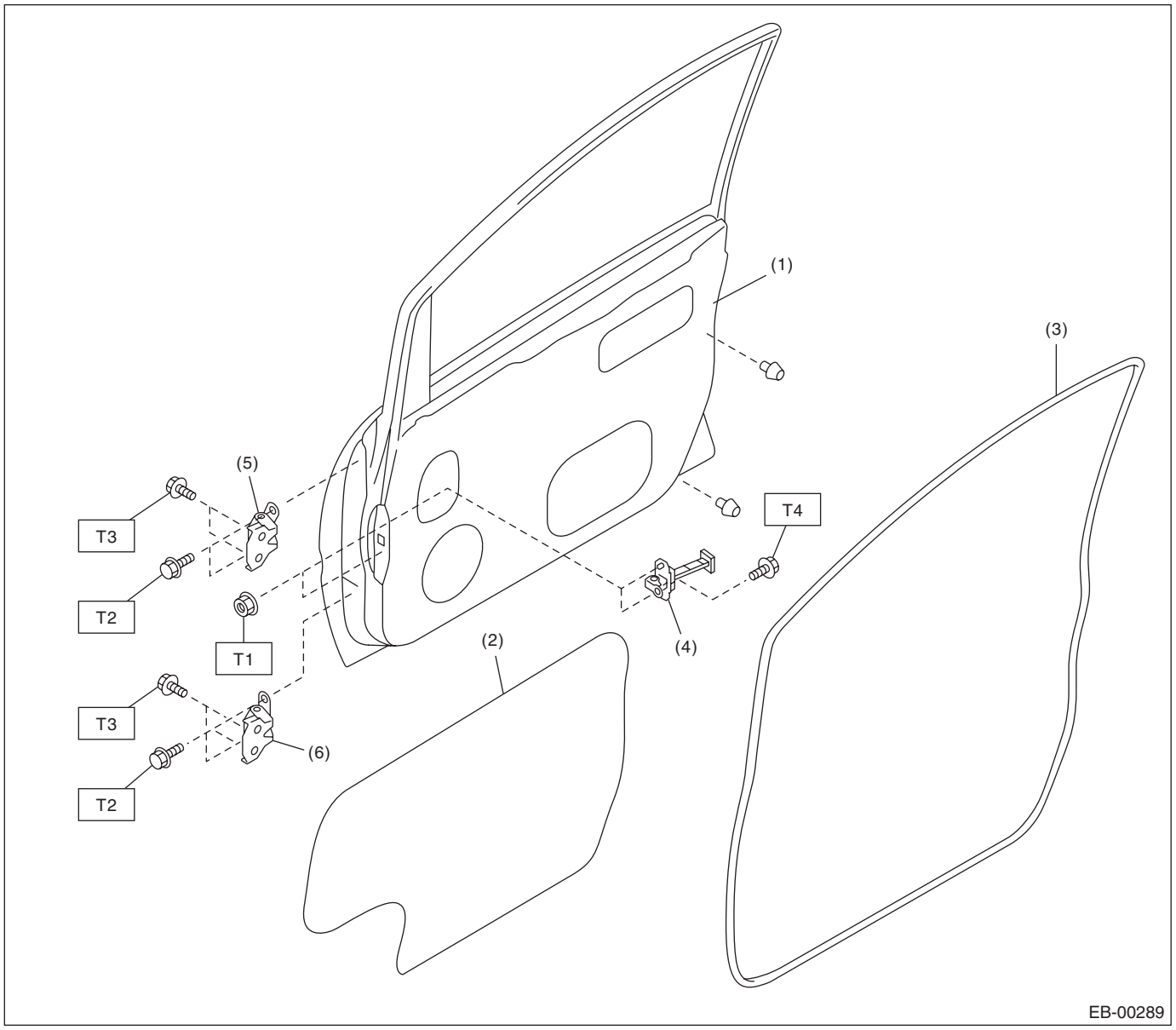
Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 20 (2.04, 14.5)
T3: 24.5 (2.5, 18.1)
T4: 33 (3.4, 24.5)

2. FRONT FENDER PANEL



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

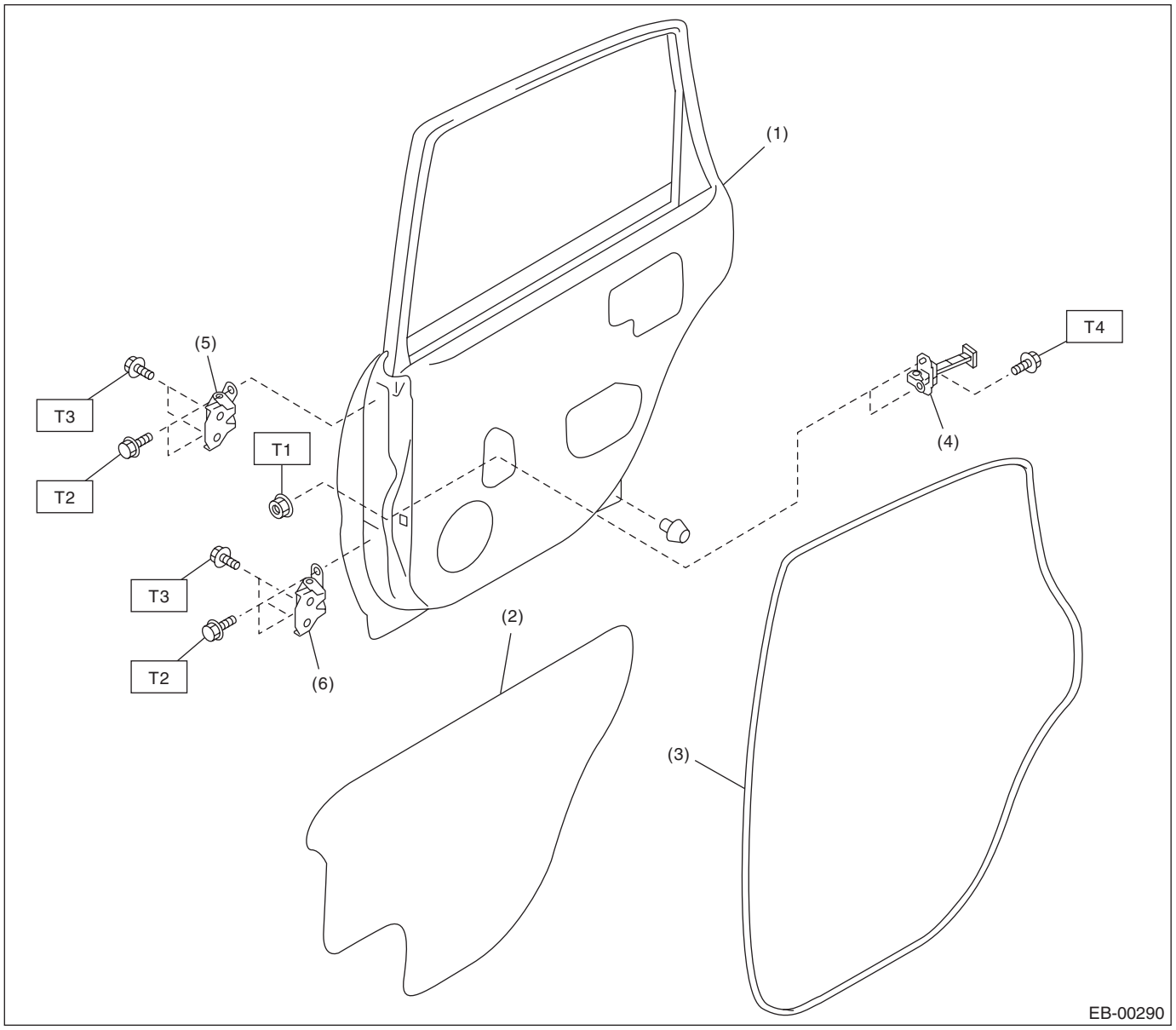
3. FRONT DOOR PANEL



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

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

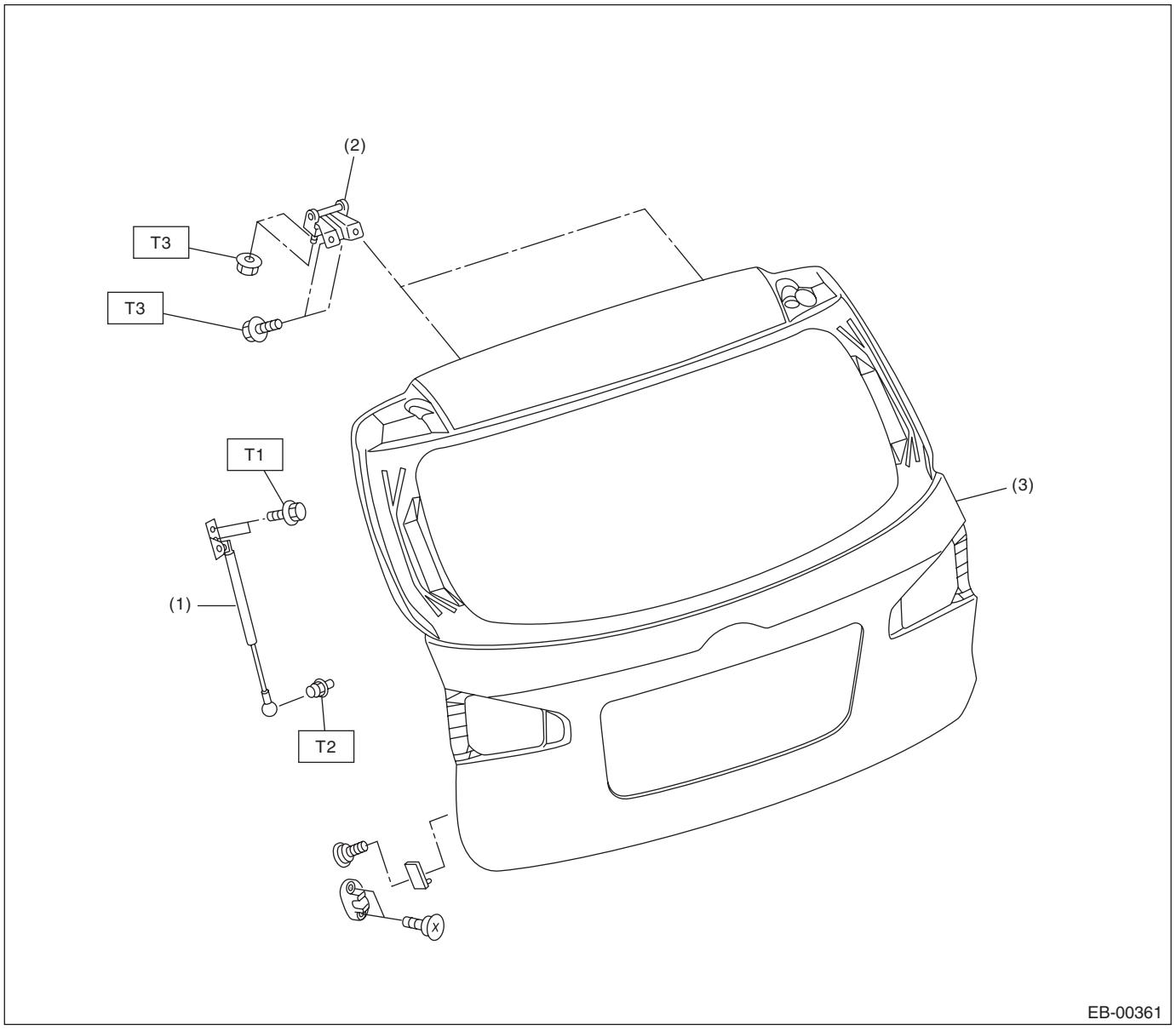
4. REAR DOOR PANEL



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

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

5. REAR GATE PANEL



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

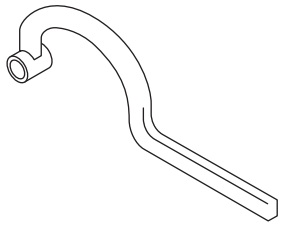
Tightening torque:N·m (kgf-m, ft-lb)
T1: 16 (1.63, 11.5)
T2: 20 (2.04, 14.5)
T3: 25 (2.6, 18.4)

C: CAUTION

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

D: PREPARATION TOOL

1. SPECIAL TOOL

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

2. GENERAL TOOL

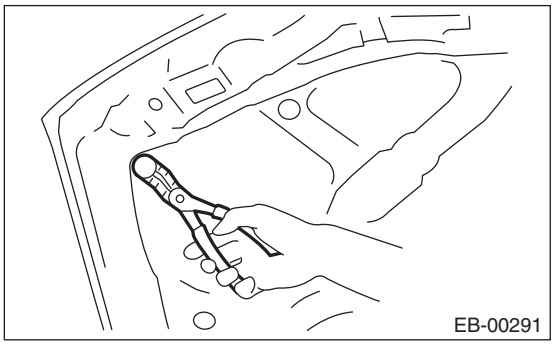
TOOL NAME	REMARKS
Support jack	Used for supporting door panel.
Clip remover	Used for removing various types of clips

2. Front Hood

A: REMOVAL

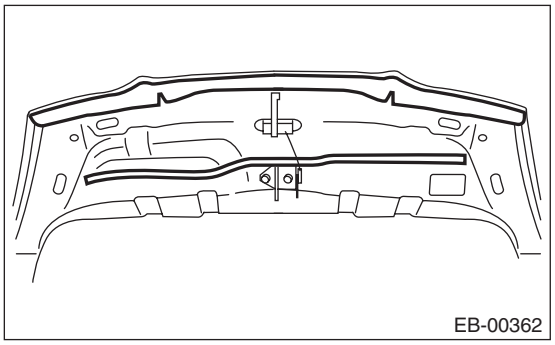
1. FRONT HOOD INSULATOR

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

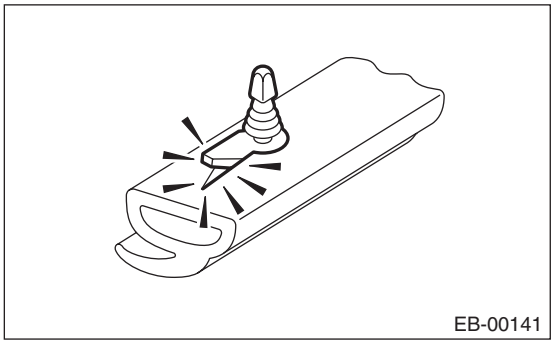


2. FRONT HOOD SEAL

1) Remove the front hood seal.

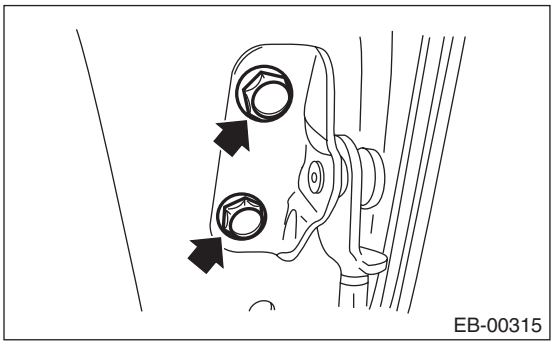


NOTE:
If the front hood clip is removed with excessive force, the seal may be damaged. Be sure to use clip remover to remove.

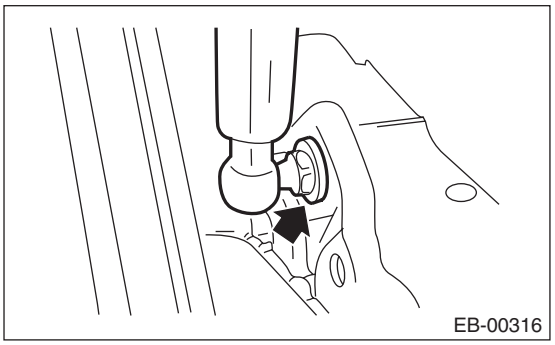


3. FRONT HOOD DAMPER

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

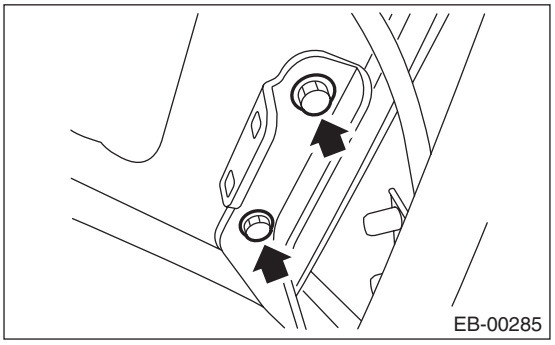


2) Remove the mounting bolt of front hood damper stay.

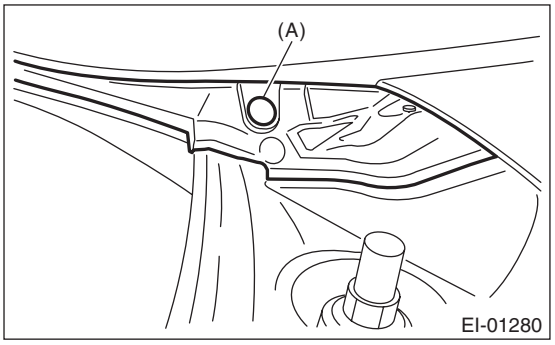


4. FRONT HOOD HINGE

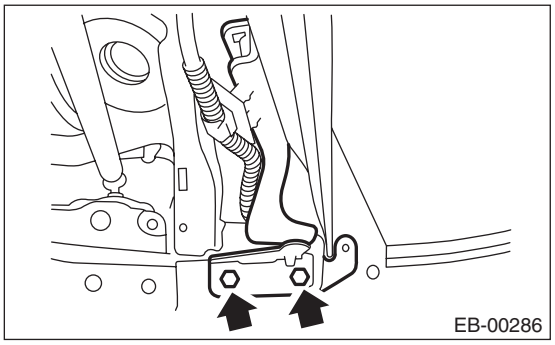
1) Remove the front hood damper.
2) Remove the bolt, and remove the front hood panel.



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



4) Remove the front fender. <Ref. to EB-14, REMOVAL, Front Fender.>
5) Remove the bolts of front hood hinge.

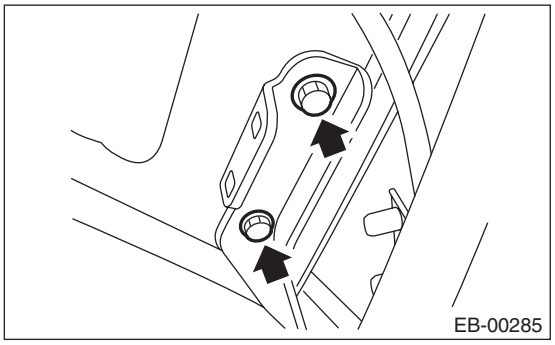


5. FRONT HOOD STRIKER

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

6. FRONT HOOD PANEL

1) Open the front hood to remove the front hood insulator.
2) Disconnect the window washer hose.
3) Remove the front hood weather strip.
4) Remove the hood lock assembly. <Ref. to SL-43, REMOVAL, Front Hood Lock Assembly.>
5) Remove the window washer hose and nozzle. <Ref. to WW-19, REMOVAL, Front Washer Nozzle.>
6) Remove the front hood damper.
7) Remove the bolt, and remove the front hood panel from the front hood hinge.



B: INSTALLATION

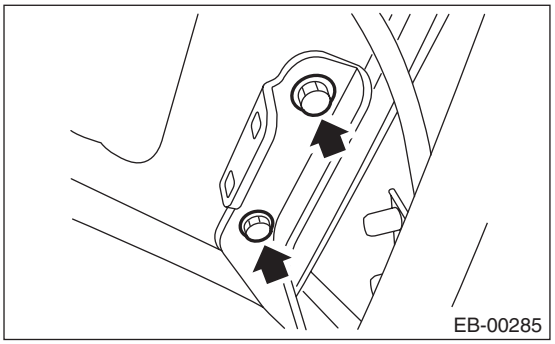
Install in the reverse order of removal.

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

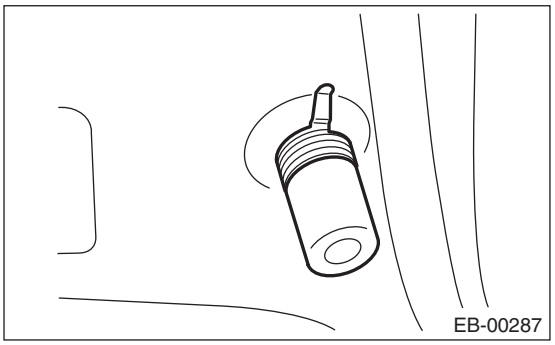
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EB-6, FRONT HOOD, COMPONENT, General Description.>

C: ADJUSTMENT

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



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



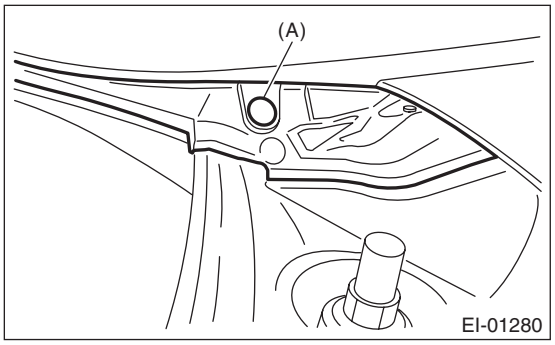
D: DISPOSAL

For the disposal procedures of front hood damper stay, refer to the disposal procedures of rear gate damper stay. <Ref. to EB-23, REAR GATE DAMPER STAY, DISPOSAL, Rear Gate.>

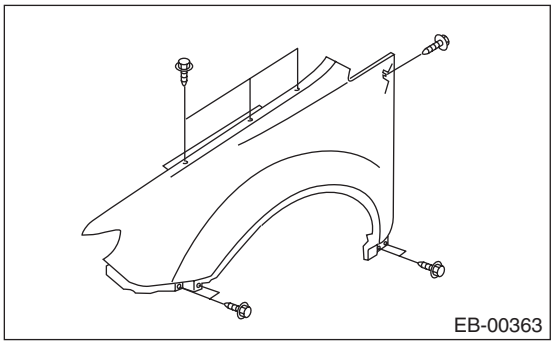
3. Front Fender

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the side sill garnish. <Ref. to EI-32, REMOVAL, Side Garnish.>
3) Remove the front bumper. <Ref. to EI-22, REMOVAL, Front Bumper.>
4) Remove the headlight assembly. <Ref. to LI-15, REMOVAL, Headlight Assembly.>
5) Remove the mud guard. <Ref. to EI-20, REMOVAL, Mud Guard.>
6) Remove the clip (A) and remove the cowl panel side.



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



B: INSTALLATION

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

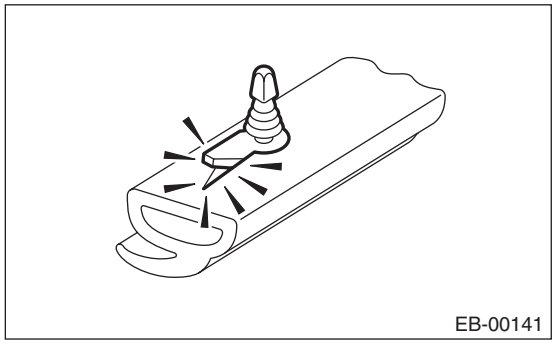
Tightening torque:
7.4 N·m (0.75 kgf-m, 5.5 ft-lb)

4. Front Door

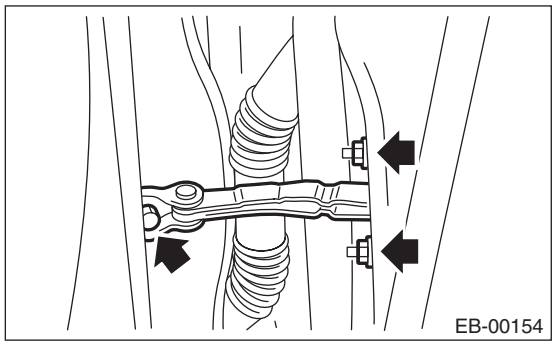
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
3) Remove the outer mirror assembly. <Ref. to GW-14, REMOVAL, Outer Mirror Assembly.>
4) Remove the front door speaker. <Ref. to ET-14, REMOVAL, Front Speaker.>
5) Remove the sealing cover. <Ref. to EB-17, REMOVAL, Front Sealing Cover.>
6) Remove the front door glass. <Ref. to GW-10, REMOVAL, Front Door Glass.>
7) Remove the door sash, and remove the front door regulator and motor assembly. <Ref. to GW-11, REMOVAL, Front Regulator and Motor Assembly.>
8) Remove the front inner remote. <Ref. to SL-33, REMOVAL, Front Inner Remote.>
9) Remove the front door latch assembly. <Ref. to SL-35, REMOVAL, Front Door Latch and Door Lock Actuator Assembly.>
10) Remove the front outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.>
11) Remove the front door weather strip.

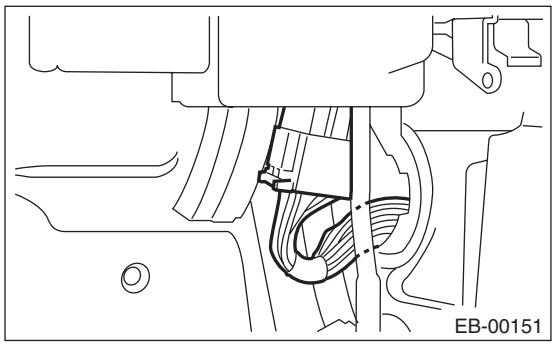
NOTE:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use clip remover to remove.


EB-00141

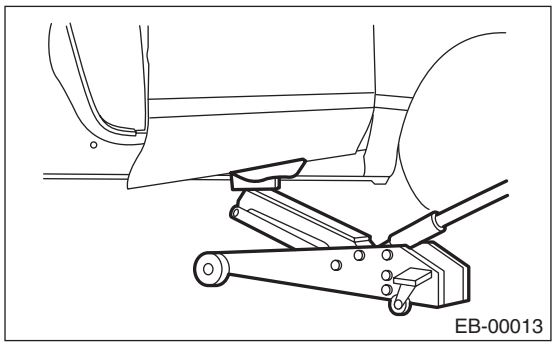
12) Remove the bolts and nuts to remove the door checker.


EB-00154

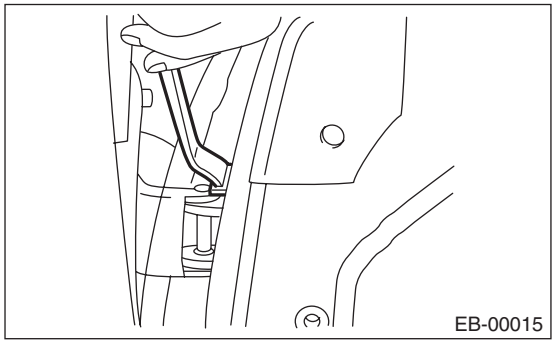
13) Remove the instrument panel lower cover or glove box lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.> or <Ref. to EI-38, REMOVAL, Glove Box.>
14) Disconnect the connector of door harness from body harness.


EB-00151

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


EB-00013

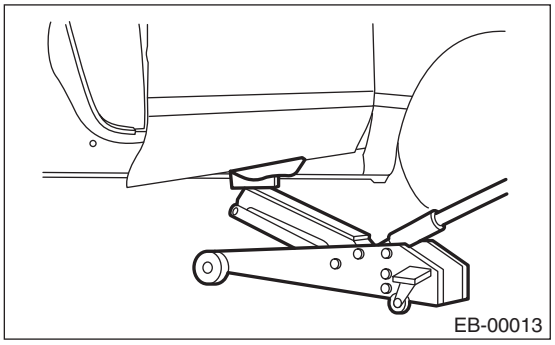
16) Remove the door-side bolts for upper and lower hinges to remove front door panel.


EB-00015

17) Remove the door hinge from vehicle.

B: INSTALLATION

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

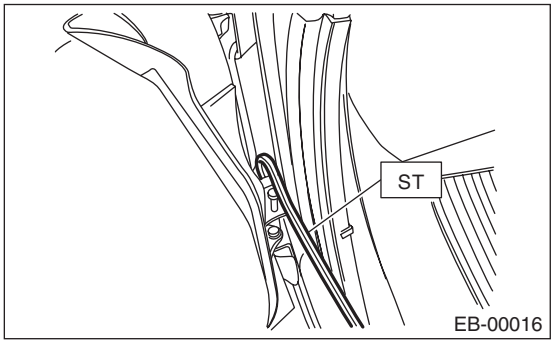


2) Apply grease to the sliding area of door hinges, and install the door hinge to vehicle.
3) Install the front door to upper hinge and lower hinge adjusting by jack.
4) Tighten bolt of door checker.
5) Connect door harness connector, and install the instrument panel lower cover.
6) Install the front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

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

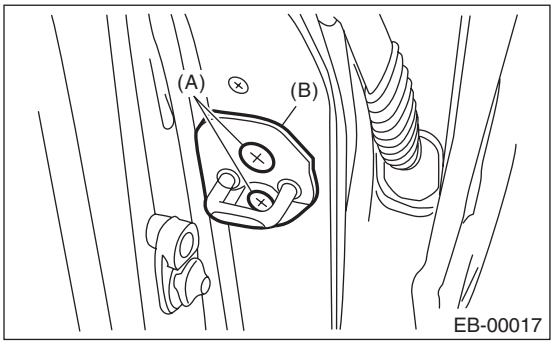
C: ADJUSTMENT

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



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

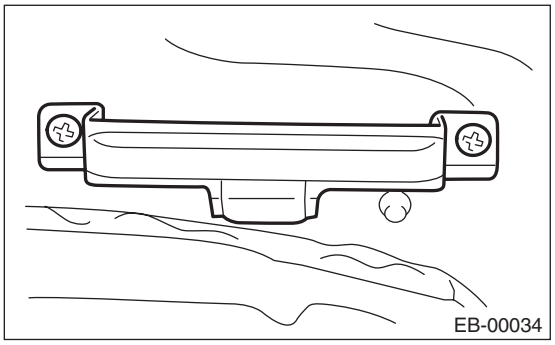
CAUTION:
Do not use an impact wrench. Welding area on the striker nut plate is easily broken.



5. Front Sealing Cover

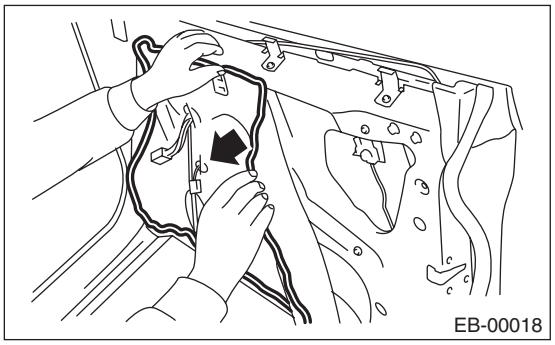
A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
3) Remove the door trim bracket.



4) Remove the sealing cover.

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



B: INSTALLATION

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

Butyl tape:
3M 8626 or equivalent

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

C: INSPECTION

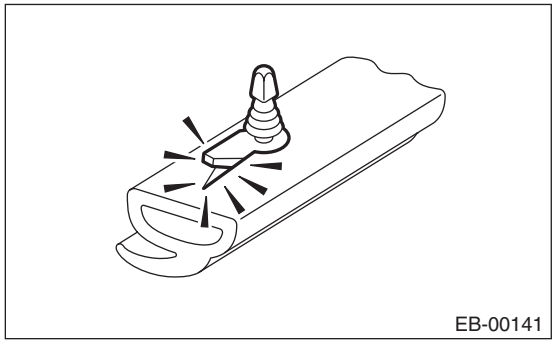
If the sealing cover gets damaged, replace it with a new part.

6. Rear Door

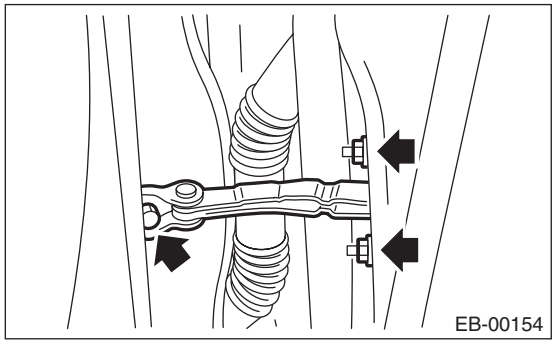
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
3) Remove the rear speaker. <Ref. to ET-17, REMOVAL, Rear Speaker.>
4) Remove the sealing cover. <Ref. to EB-20, NOTE, Rear Sealing Cover.>
5) Remove the rear door glass. <Ref. to GW-17, REMOVAL, Rear Door Glass.>
6) Remove the door sash and rear door regulator and motor assemblies. <Ref. to GW-18, REMOVAL, Rear Regulator and Motor Assembly.>
7) Remove the rear inner remote. <Ref. to SL-37, REMOVAL, Rear Inner Remote.>
8) Remove the rear door latch. <Ref. to SL-39, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
9) Remove the rear outer handle. <Ref. to SL-38, REMOVAL, Rear Outer Handle.>
10) Remove the rear door weather strip.

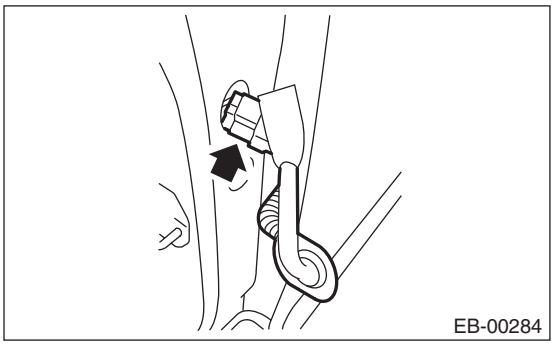
NOTE:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use clip remover to remove.


EB-00141

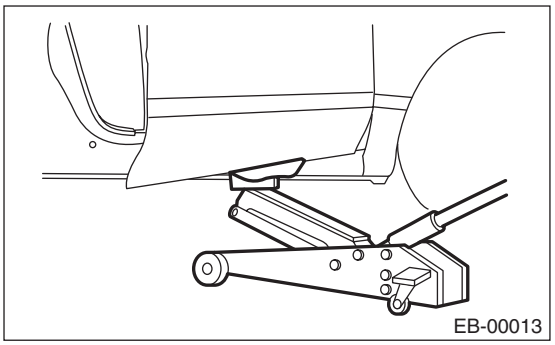
11) Remove the bolts and nuts to remove the door checker.


EB-00154

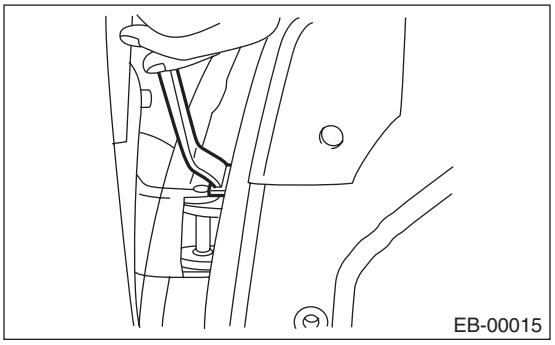
12) Pull the door harness connector inside the center pillar, then disconnect the connector.


EB-00284

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


EB-00013

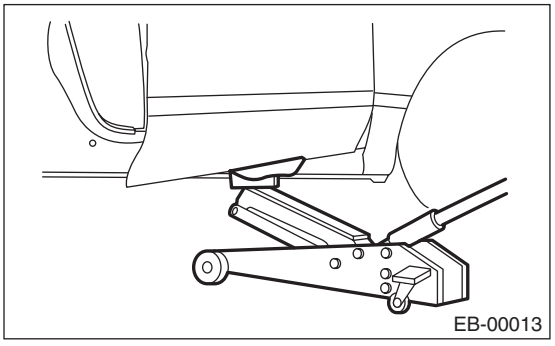
14) Remove the door-side bolts for upper and lower hinges to remove the rear door panel.


EB-00015

15) Remove the door hinge from vehicle.

B: INSTALLATION

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


EB-00013

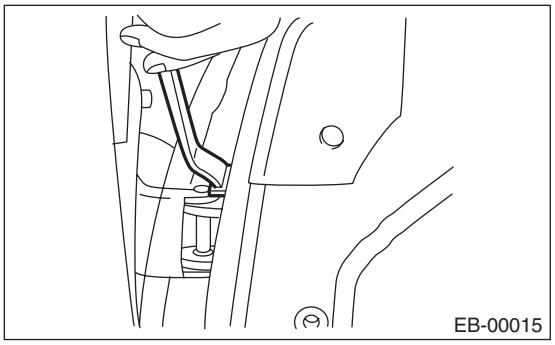
2) Apply grease to the moving part of door hinges.

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

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

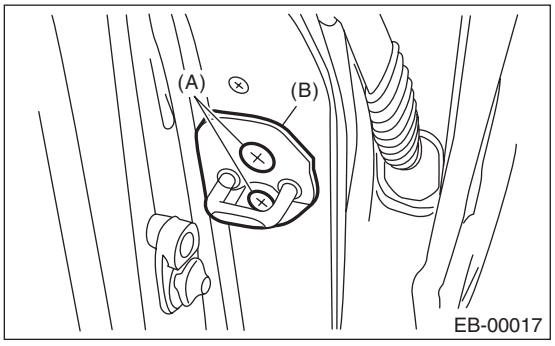
C: ADJUSTMENT

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



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

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



7. Rear Sealing Cover

A: NOTE

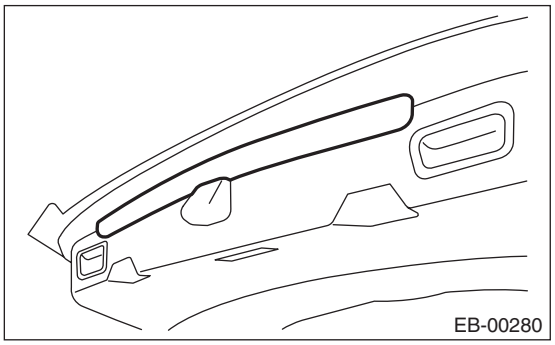
Refer to the front sealing cover for the operation procedures. <Ref. to EB-17, Front Sealing Cover.>

8. Rear Gate

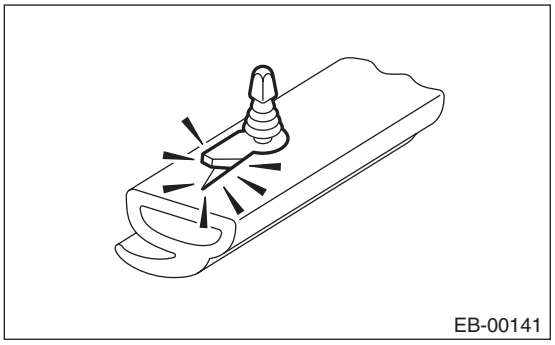
A: REMOVAL

1. REAR GATE PANEL

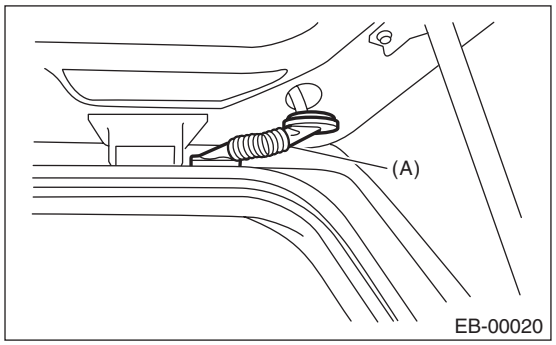
1) Remove the weather strip clip, and remove the rear gate panel weather strip.



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

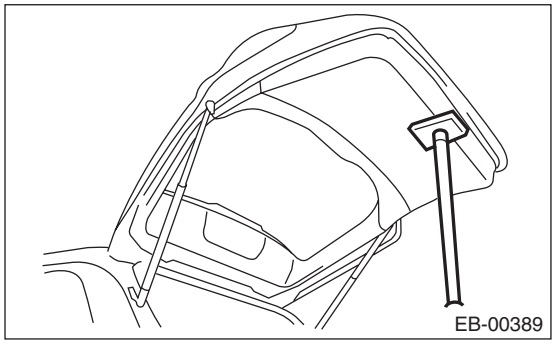


2) Remove the rear gate trim. <Ref. to EI-52, REMOVAL, Rear Gate Trim.>
3) Remove the rear wiper arm. <Ref. to WW-20, REMOVAL, Rear Wiper Arm.>
4) Remove the rear wiper motor. <Ref. to WW-21, REMOVAL, Rear Wiper Motor.>
5) Remove the rear gate latch assembly. <Ref. to SL-42, REMOVAL, Rear Gate Latch Assembly.>
6) Remove the roof spoiler. <Ref. to EI-31, REMOVAL, Roof Spoiler.>
7) Remove the roof trim, and disconnect connector from the rear gate harness connector. <Ref. to EI-51, REMOVAL, Roof Trim.>
8) Disconnect the ground cable from battery.
9) Remove harness clip of each connector from the rear gate panel.
10) Remove the rubber duct (A) connection, and pull out the harness and washer hose from the rear gate.

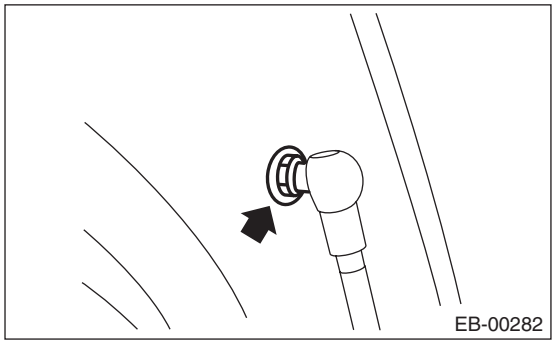


11) Before removing the rear gate damper stay, prevent the rear gate from closing using prop or the like.

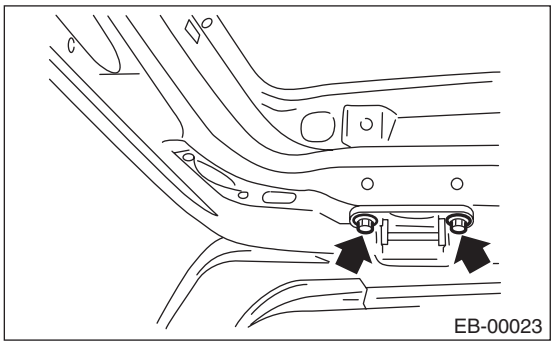
CAUTION:
If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.



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



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


EB-00023

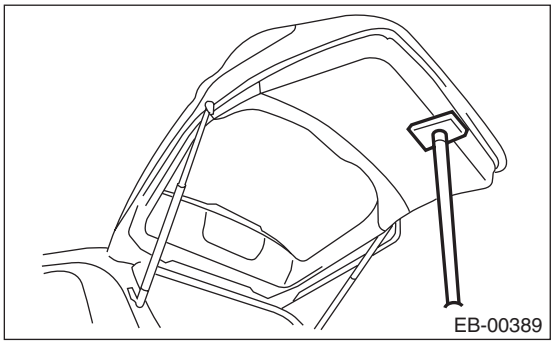
14) Remove the rear gate hinge from the vehicle.

2. REAR GATE DAMPER STAY

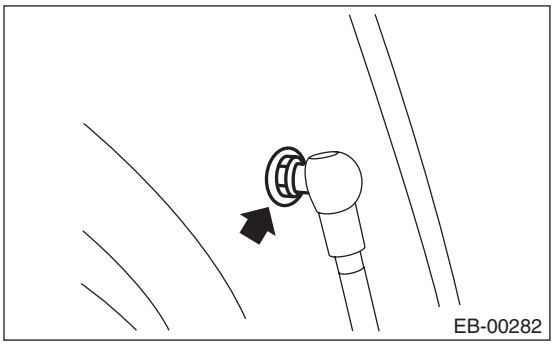
CAUTION:
• Do not damage piston rods and oil seals.
• While removing/installing, hold the cylinder part only. Do not touch the stroking portion of the rod to avoid foreign particles on. If touched with cotton work gloves etc., fiber may attach to them and cause the gas leakage.
• Do not apply pressure from lateral direction. This may break the damper.
• Never disassemble cylinders: They contain gas.
• To avoid the rear gate panel lowering, hold it while working.

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

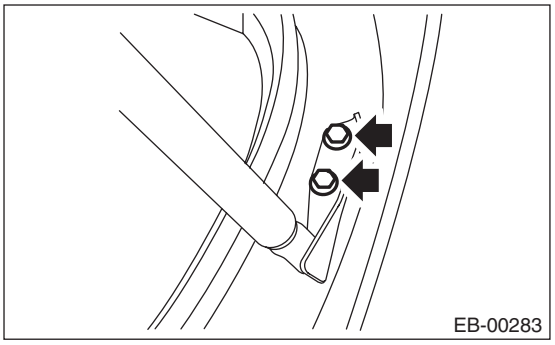
CAUTION:
If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.


EB-00389

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


EB-00282

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


EB-00283

B: INSTALLATION

1. REAR GATE PANEL

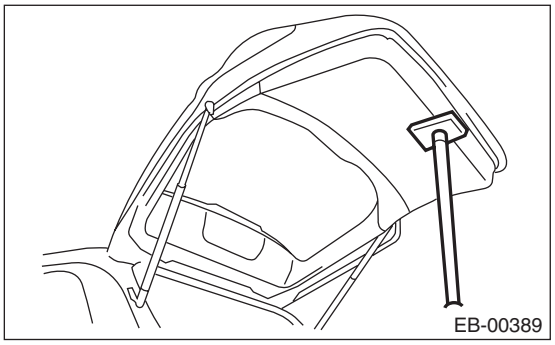
1) Install in the reverse order of removal.
2) Install with attention to make uniform clearance between rear gate panel and body. For the dimension of clearance, refer to “SPECIFICATION” in “General Description”. <Ref. to EB-2, SPECIFICATION, General Description.>

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

2. REAR GATE DAMPER STAY

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

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



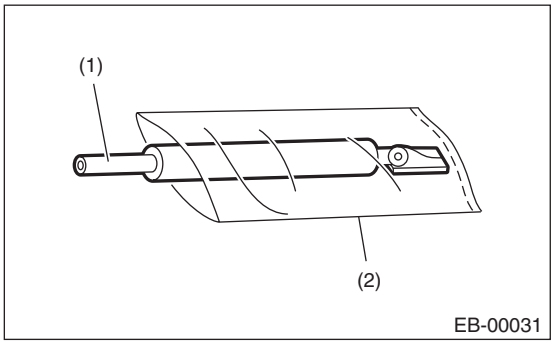
2) Install in the reverse order of removal.

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

C: DISPOSAL

1. REAR GATE DAMPER STAY

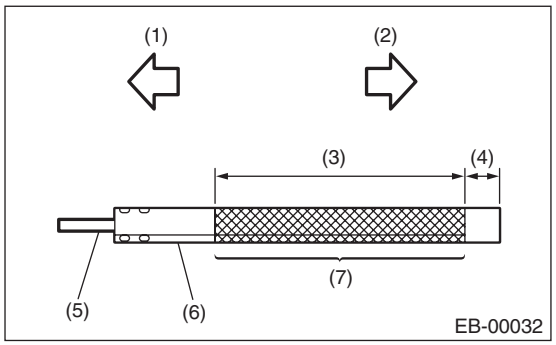
CAUTION:
Gas is colorless, odorless, and harmless. However, gas pressure may spray cutting powder or oil. Be sure to wear dust-resistant goggles.
1) Cover with a vinyl sack as shown in the figure.



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

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

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



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

CRUISE CONTROL SYSTEM

CC

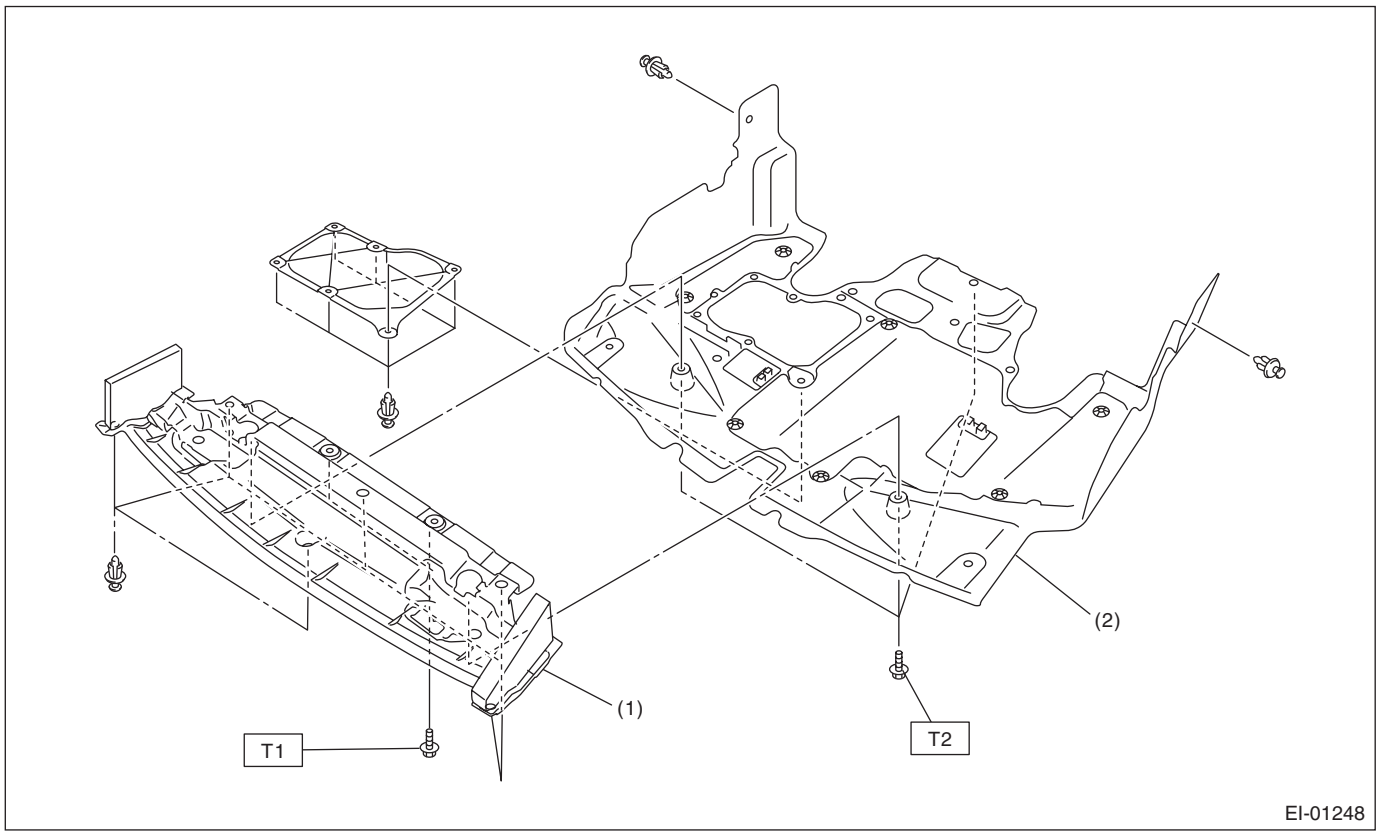
Page

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

1. General Description

A: COMPONENT

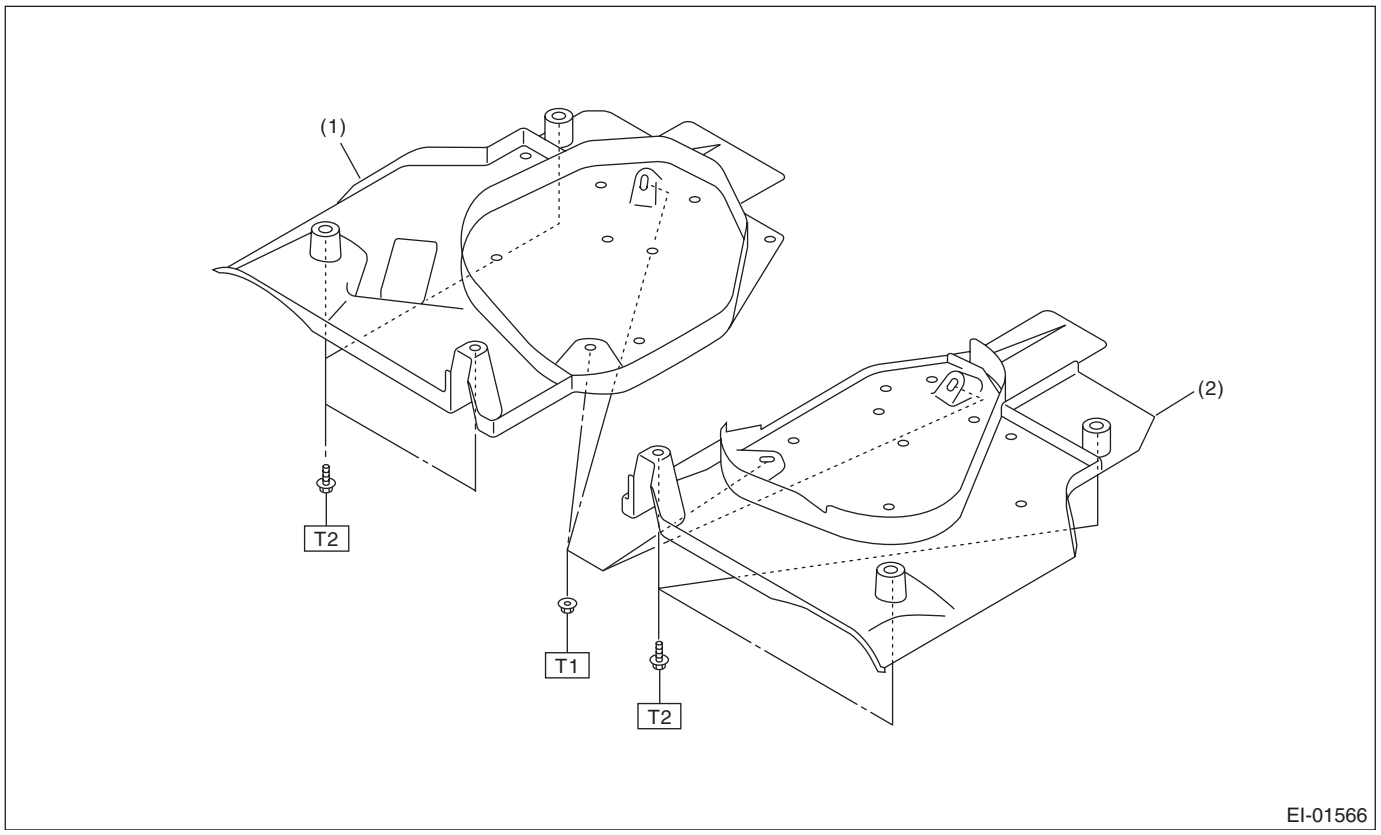
1. UNDER COVER



(1) Front lower cover
(2) Under cover

Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 17.5 (1.78, 12.7)

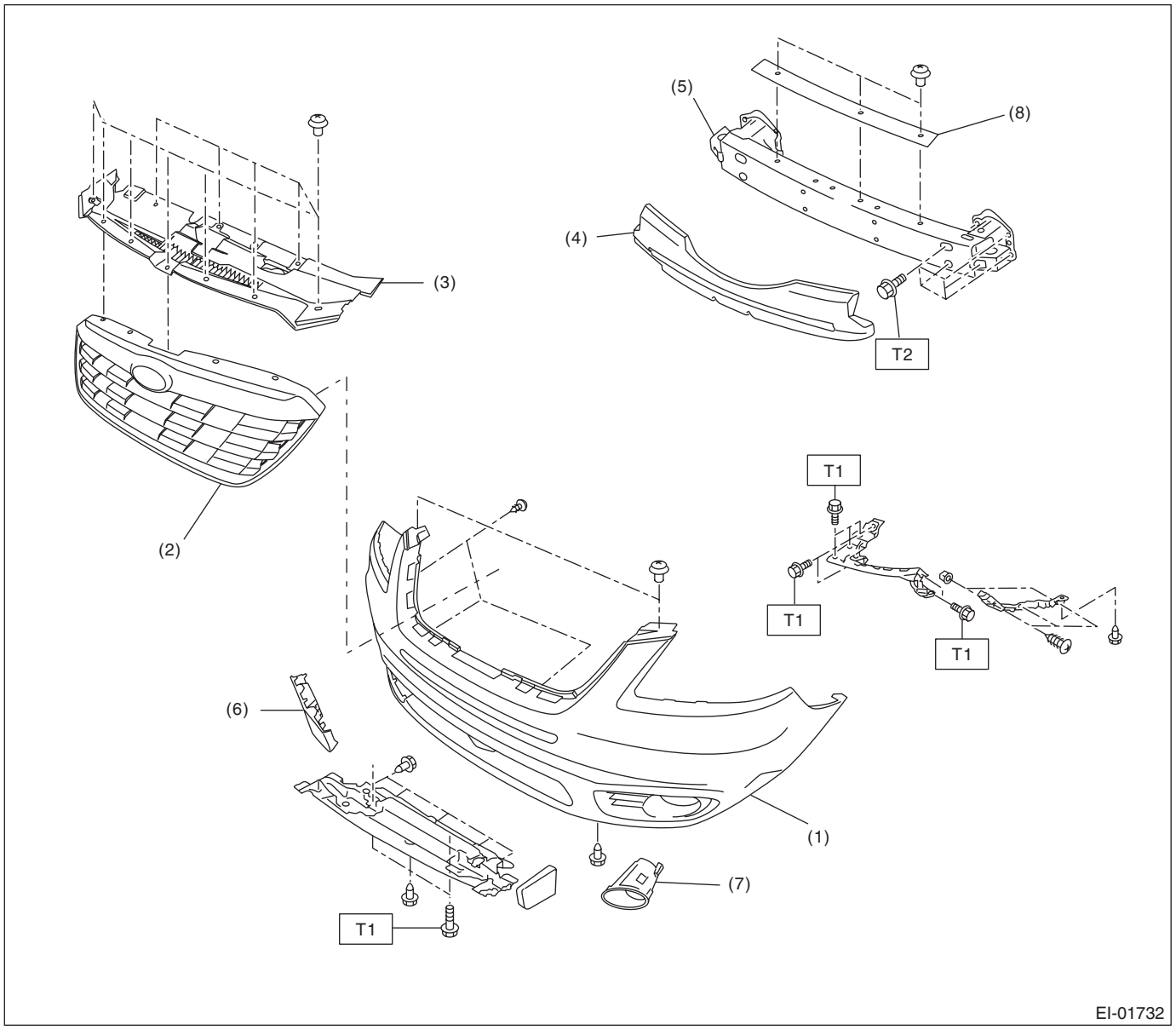
2. UNDER PROTECTOR



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

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

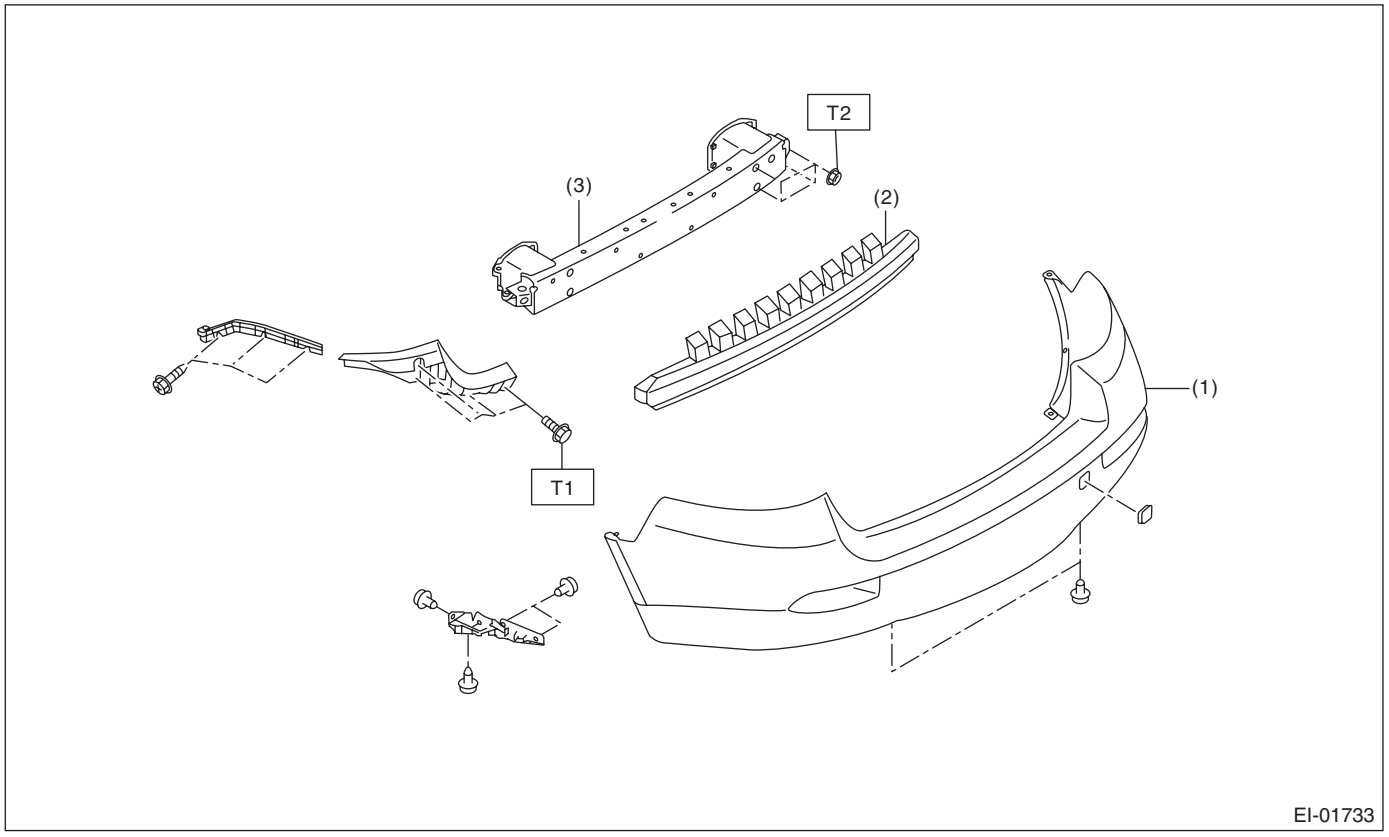
3. FRONT BUMPER



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

Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 33 (3.4, 24)

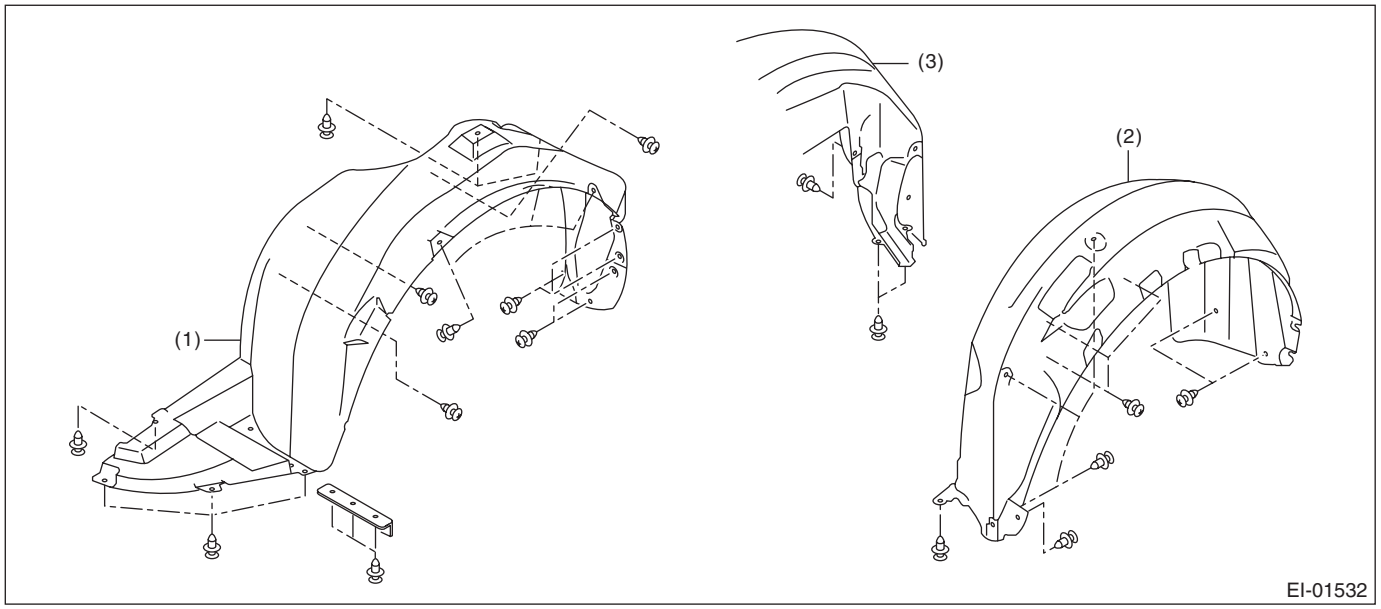
4. REAR BUMPER



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

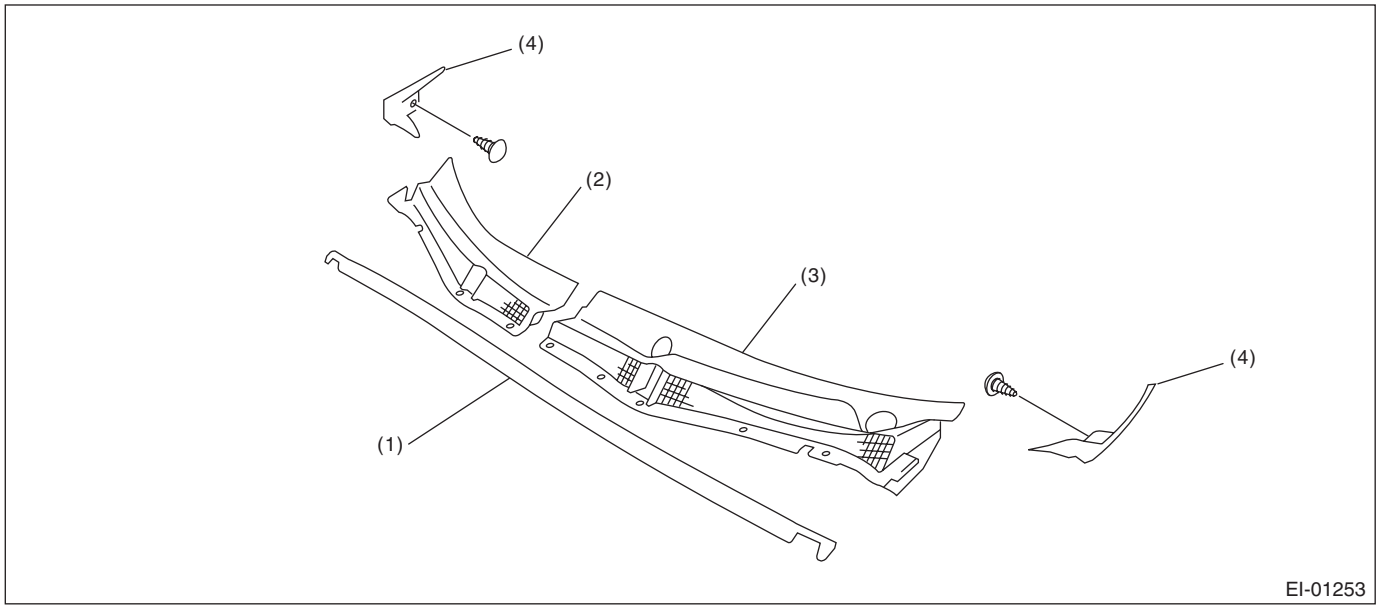
Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 53 (5.4, 38)

5. MUD GUARD



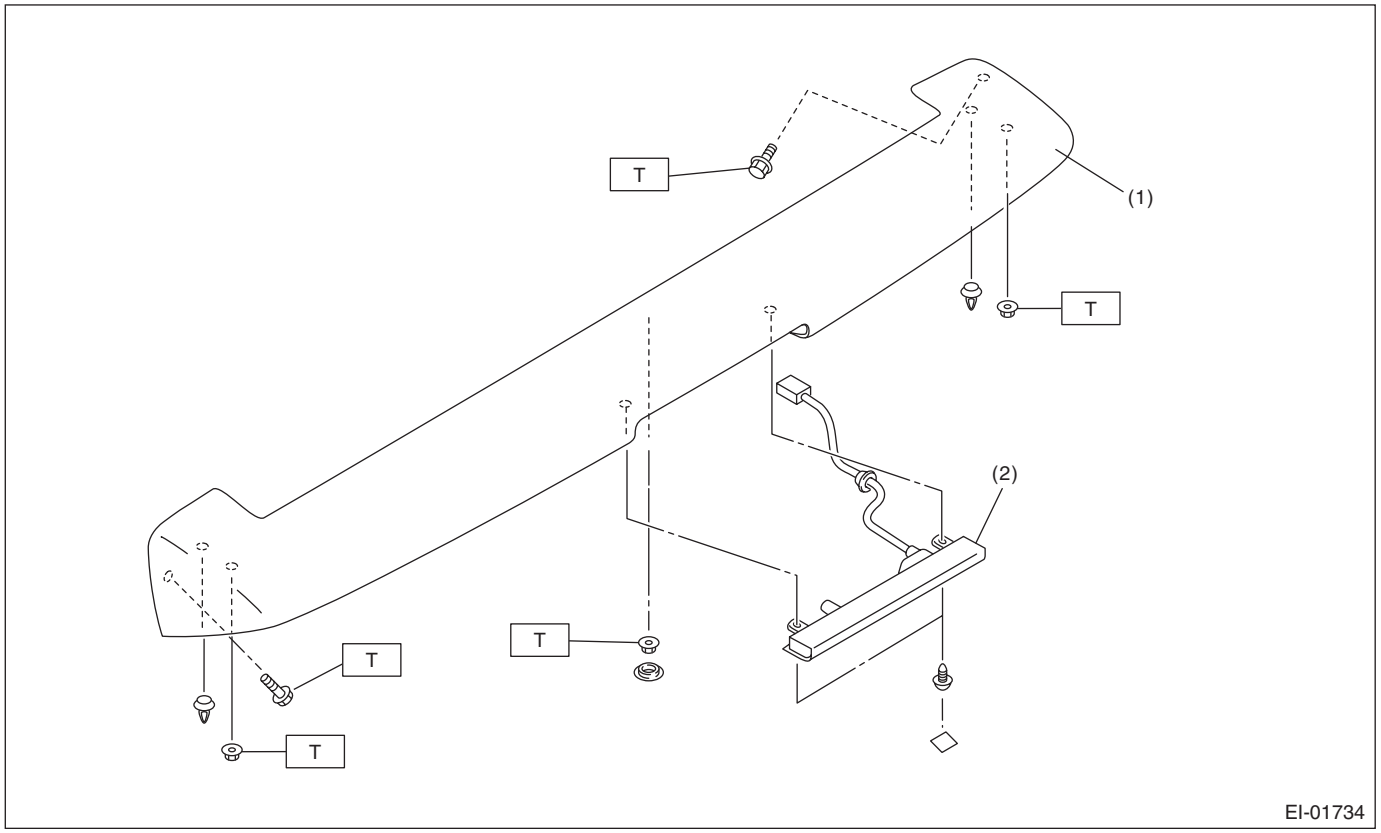
(1) Front mud guard
(2) Rear mud guard LH
(3) Rear mud guard RH

6. COWL PANEL



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

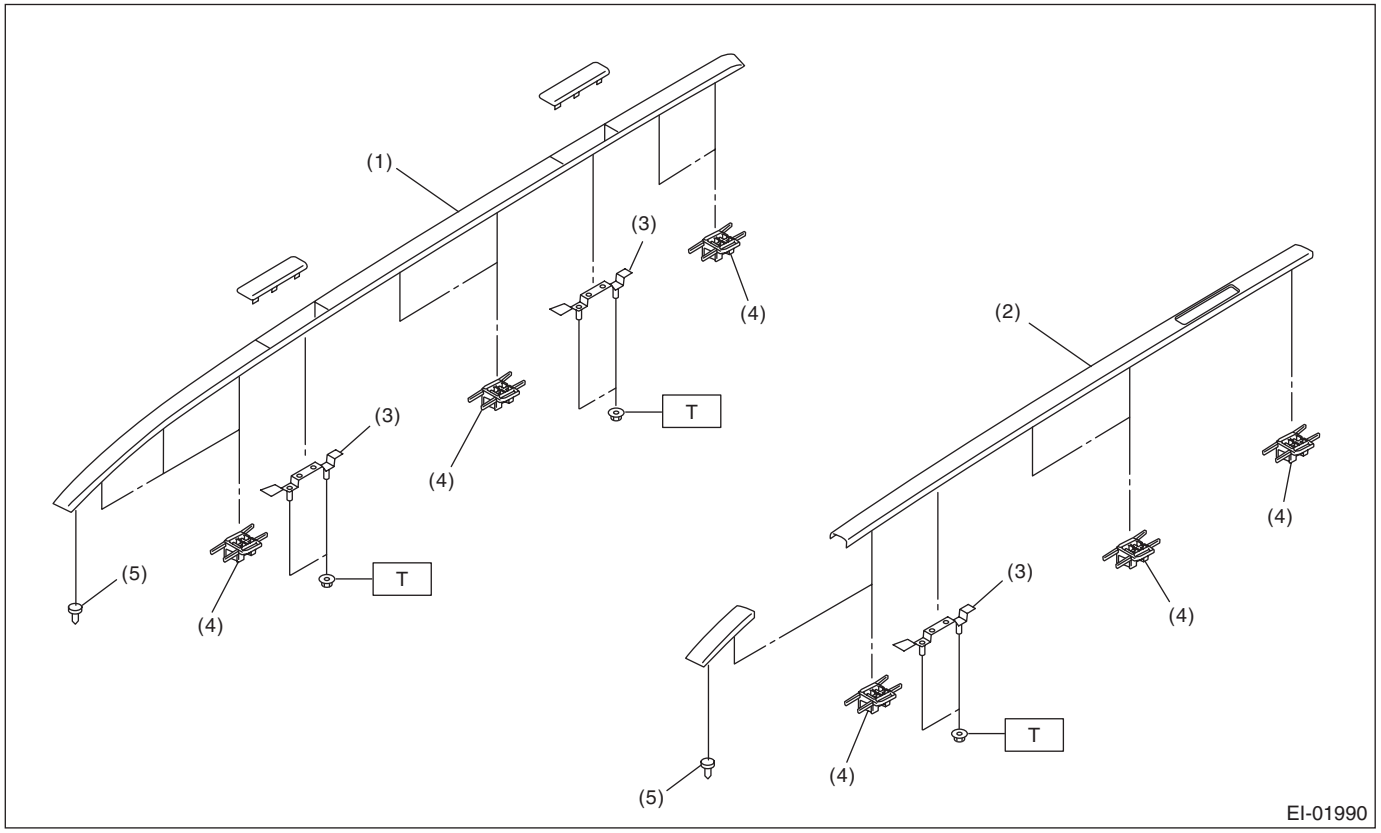
7. ROOF SPOILER



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

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

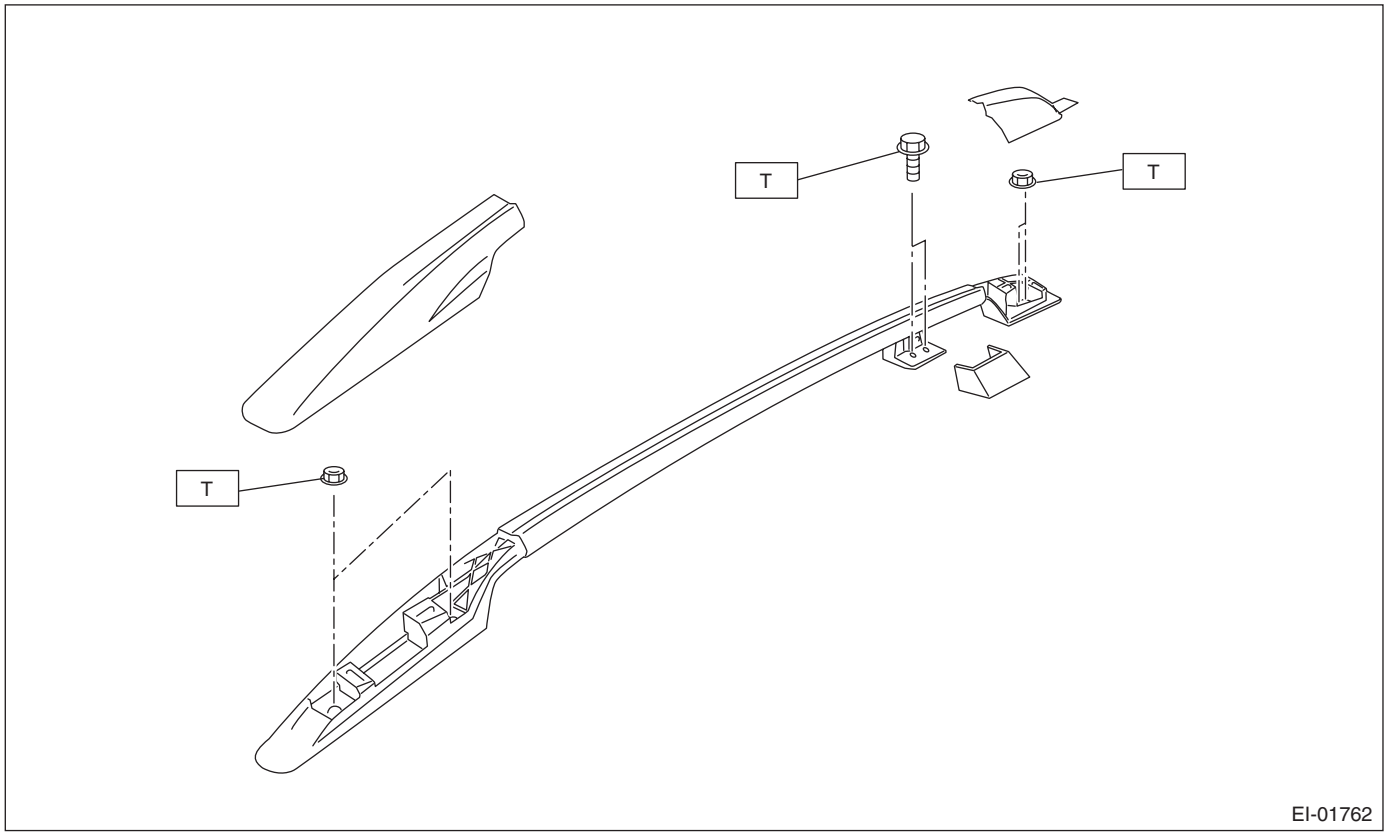
8. ROOF MOLDING



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

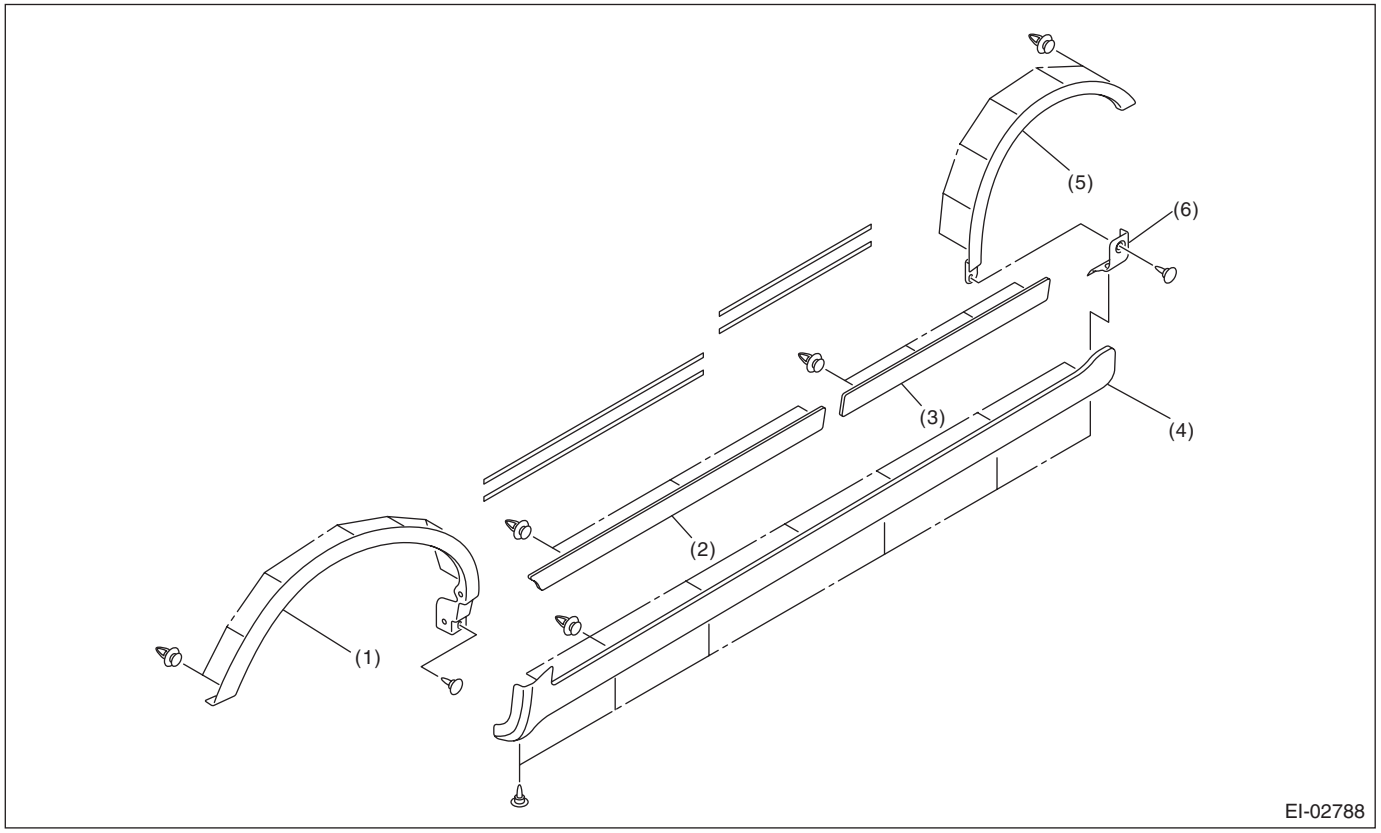
Tightening torque:N·m (kgf-m, ft-lb)
T: 10 (1.0, 7.23)

9. ROOF RAIL



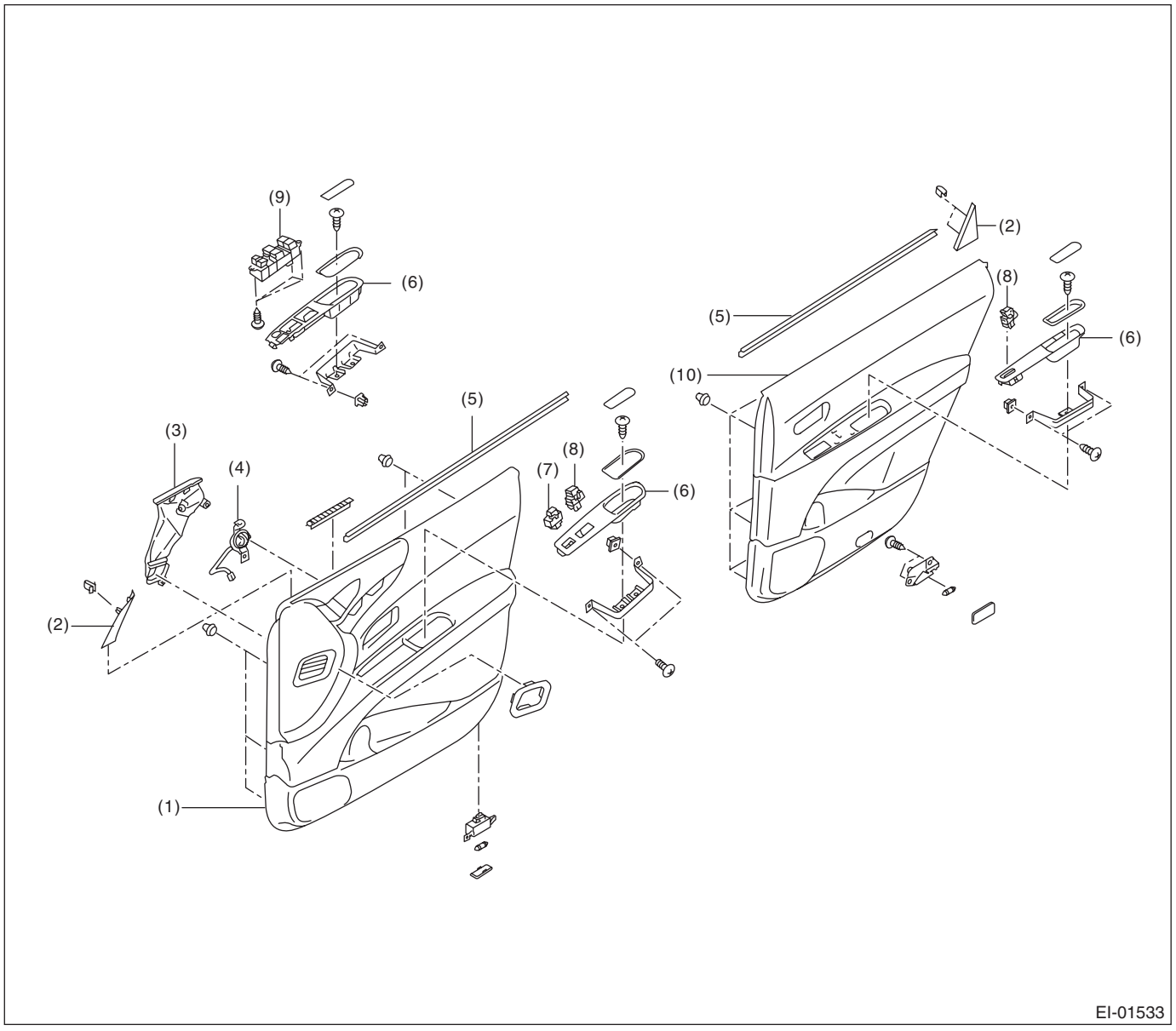
Tightening torque:N·m (kgf-m, ft-lb)	
T:	*7.5 (0.76, 5.5)*

10.SIDE GARNISH



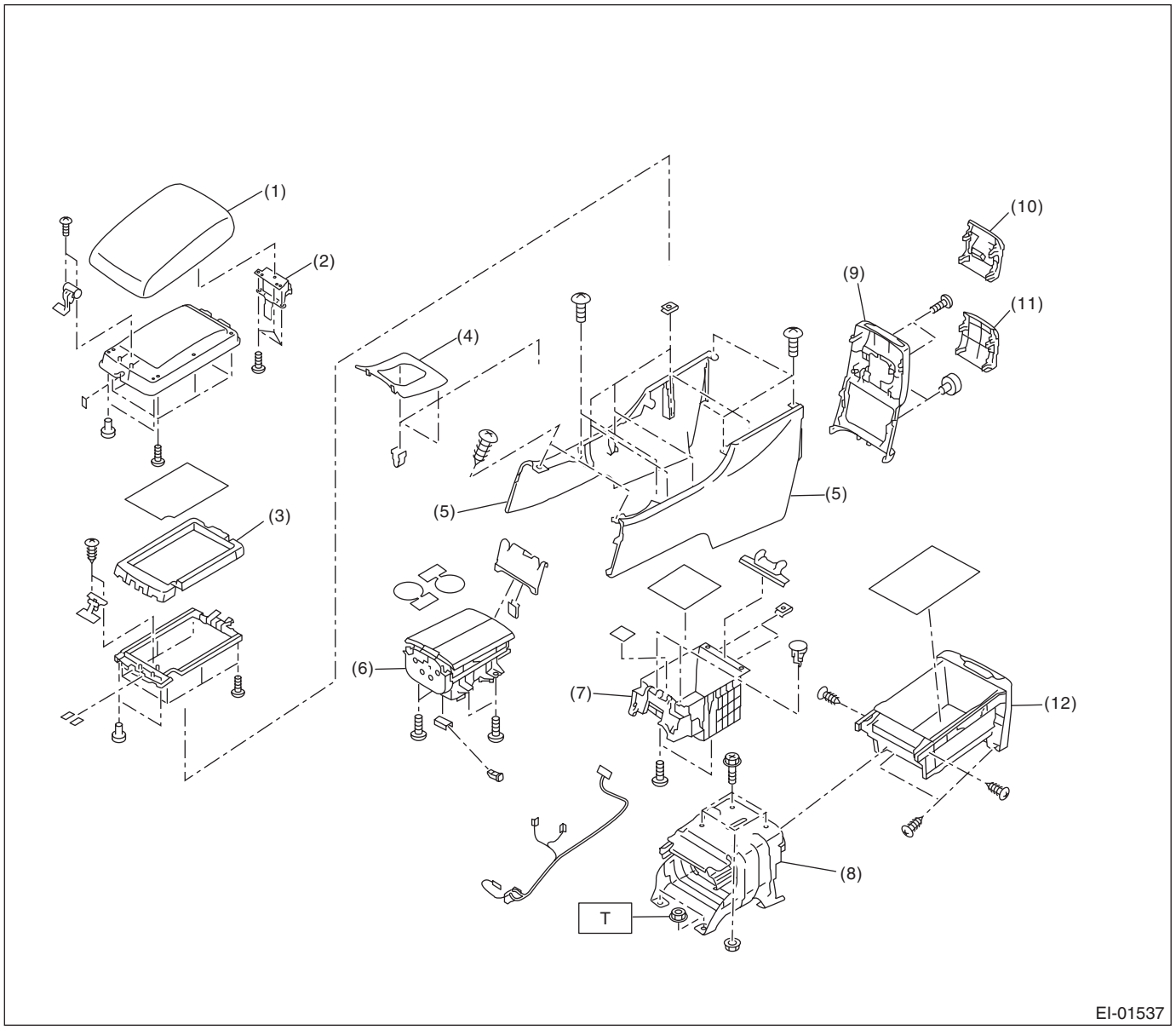
(1) Front fender garnish
(2) Front door garnish
(3) Rear door garnish
(4) Side sill garnish
(5) Rear quarter garnish
(6) Garnish end cover

11.DOOR TRIM



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

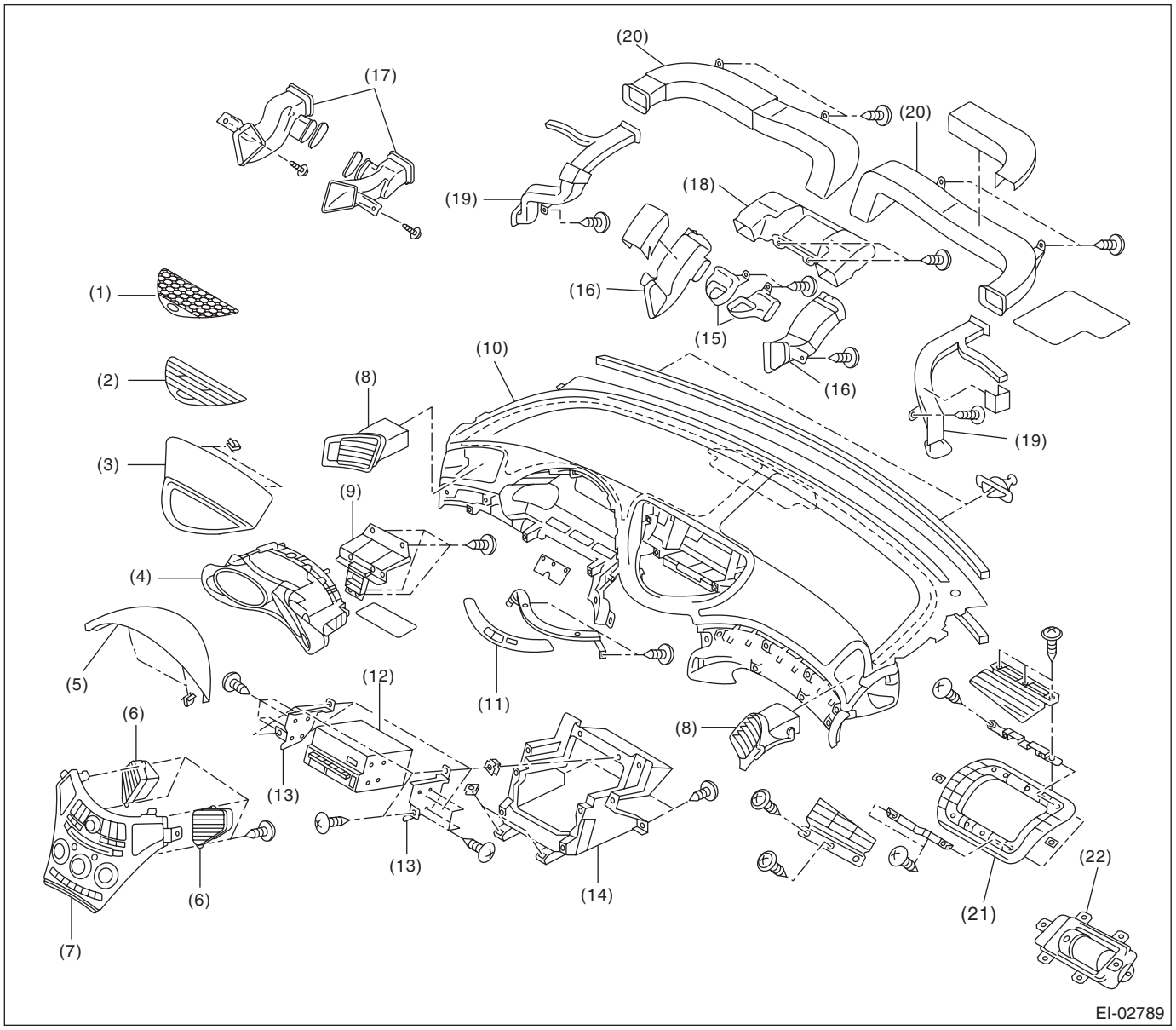
12.CONSOLE BOX



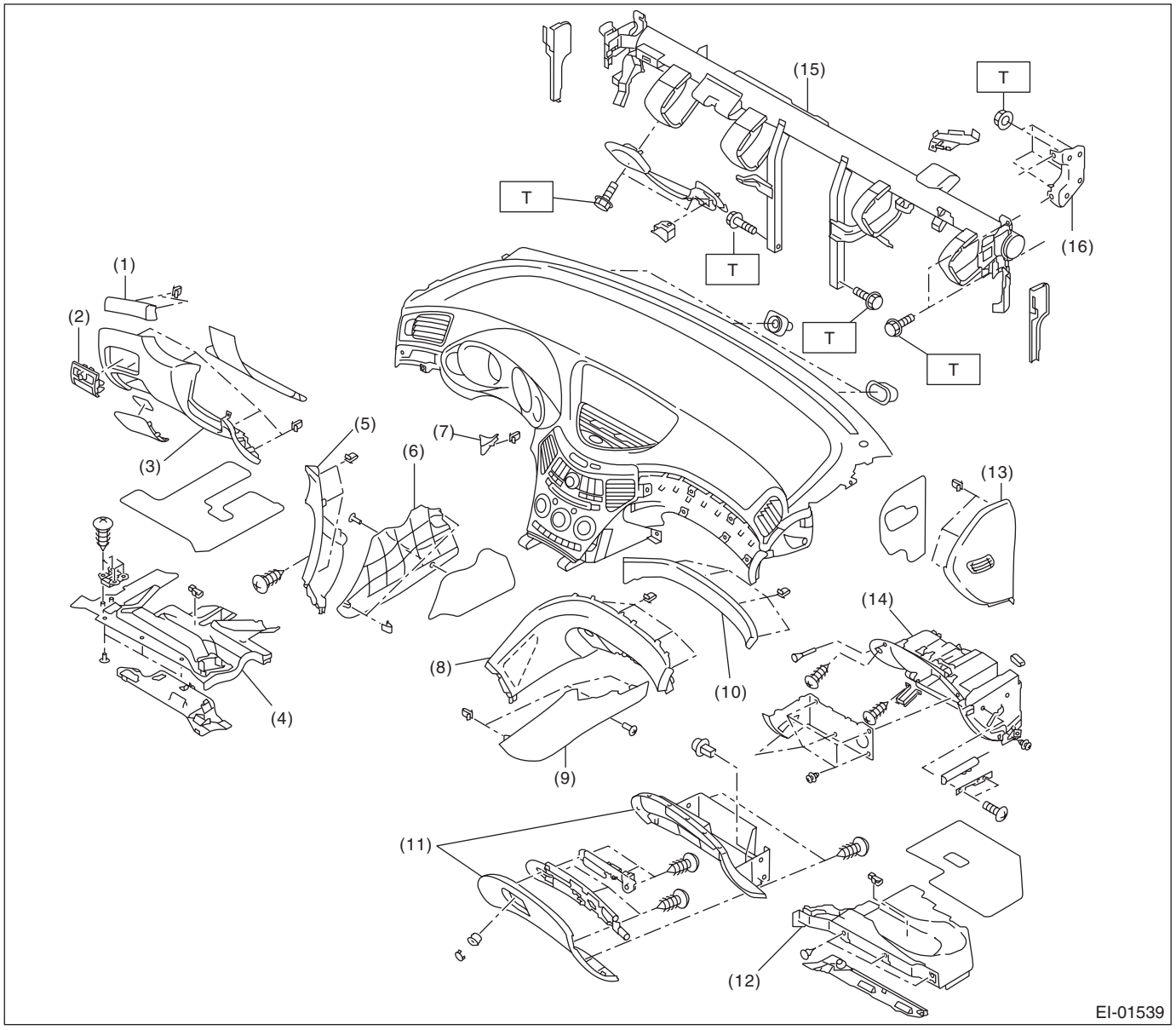
(1) Console upper lid
(2) Lid hinge
(3) Console lower lid
(4) Console front panel
(5) Console side panel
(6) Cup holder ASSY
(7) Console pocket
(8) Console frame
(9) Console rear panel
(10) Rear panel cover (with rear cooler)
(11) Rear panel cover
(12) Console lower pocket

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

13.INSTRUMENT PANEL



(1)	Speaker grille (for harman/kardon audio)	(9)	Meter stay	(17)	Center duct (for harman/kardon audio)
(2)	Air vent upper grille	(10)	Instrument panel upper ASSY	(18)	Center ventilation duct
(3)	Display cover	(11)	Upper control switch	(19)	Side defroster duct
(4)	Combination meter ASSY	(12)	Audio ASSY	(20)	Side ventilation duct
(5)	Meter visor	(13)	Audio bracket	(21)	Passenger's airbag stay
(6)	Air vent center grille	(14)	Center console frame	(22)	Passenger's airbag module ASSY
(7)	Control panel	(15)	Upper duct		
(8)	Air vent side grille	(16)	Center duct		

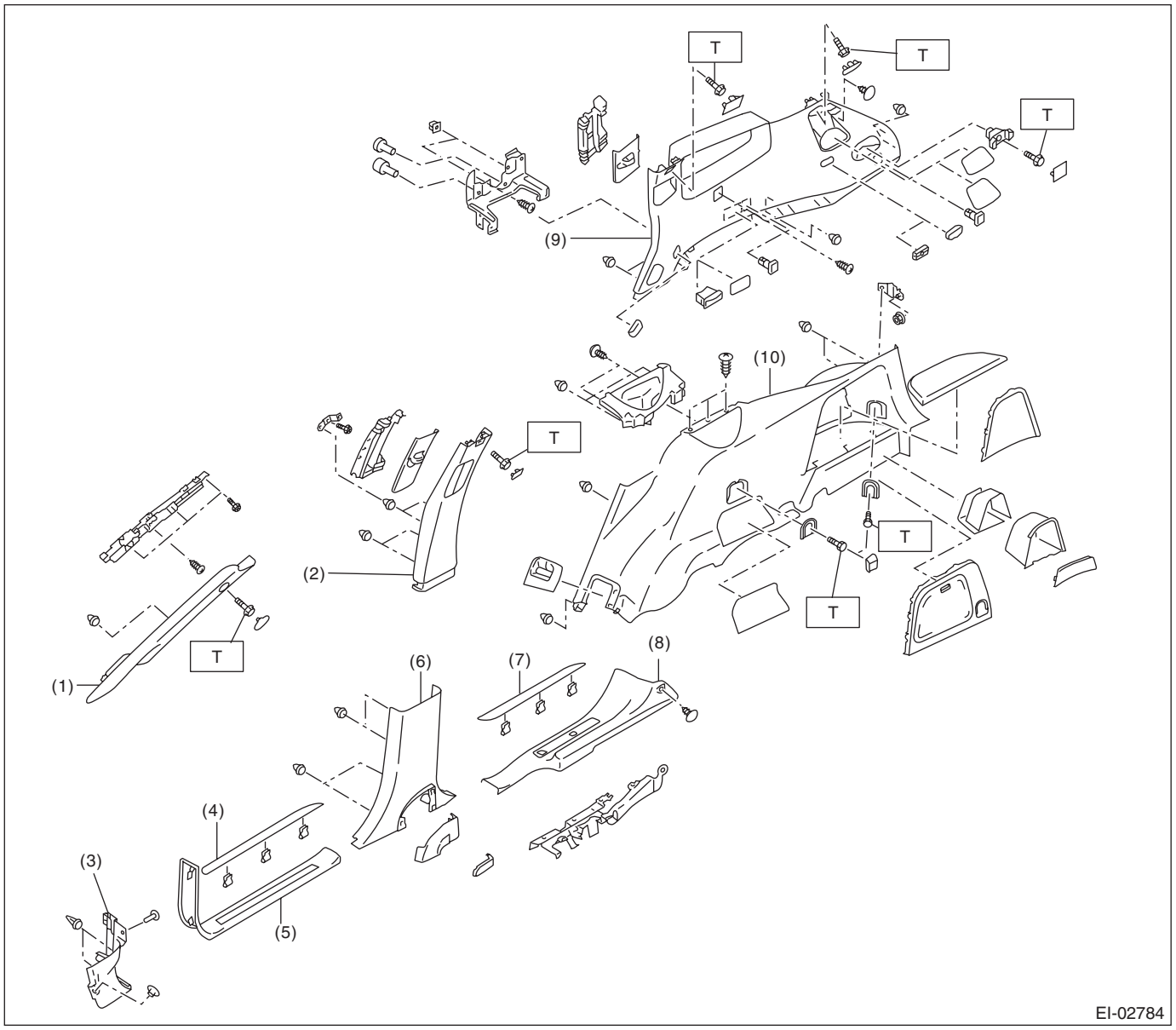


(1) Garnish LH
(2) Switch ASSY
(3) Instrument panel lower cover upper
(4) Instrument panel lower cover under
(5) Console side panel upper LH
(6) Console side panel lower LH
(7) Garnish CTR
(8) Console side panel upper RH
(9) Console side panel lower RH
(10) Garnish RH
(11) Glove box lid
(12) Glove box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

Tightening torque:N·m (kgf-m, ft-lb)

T: 25 (25.5, 18)

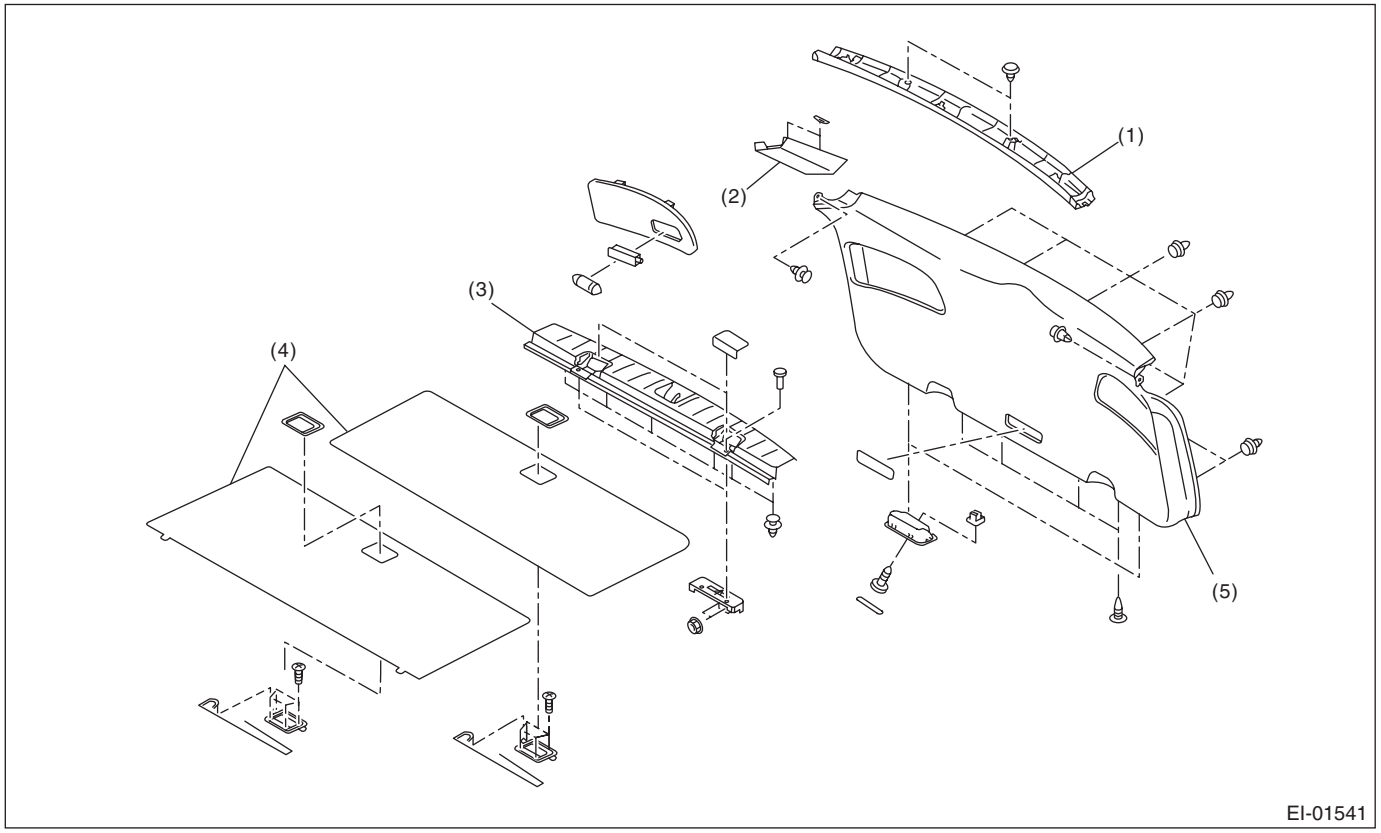
14.SIDE TRIM



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

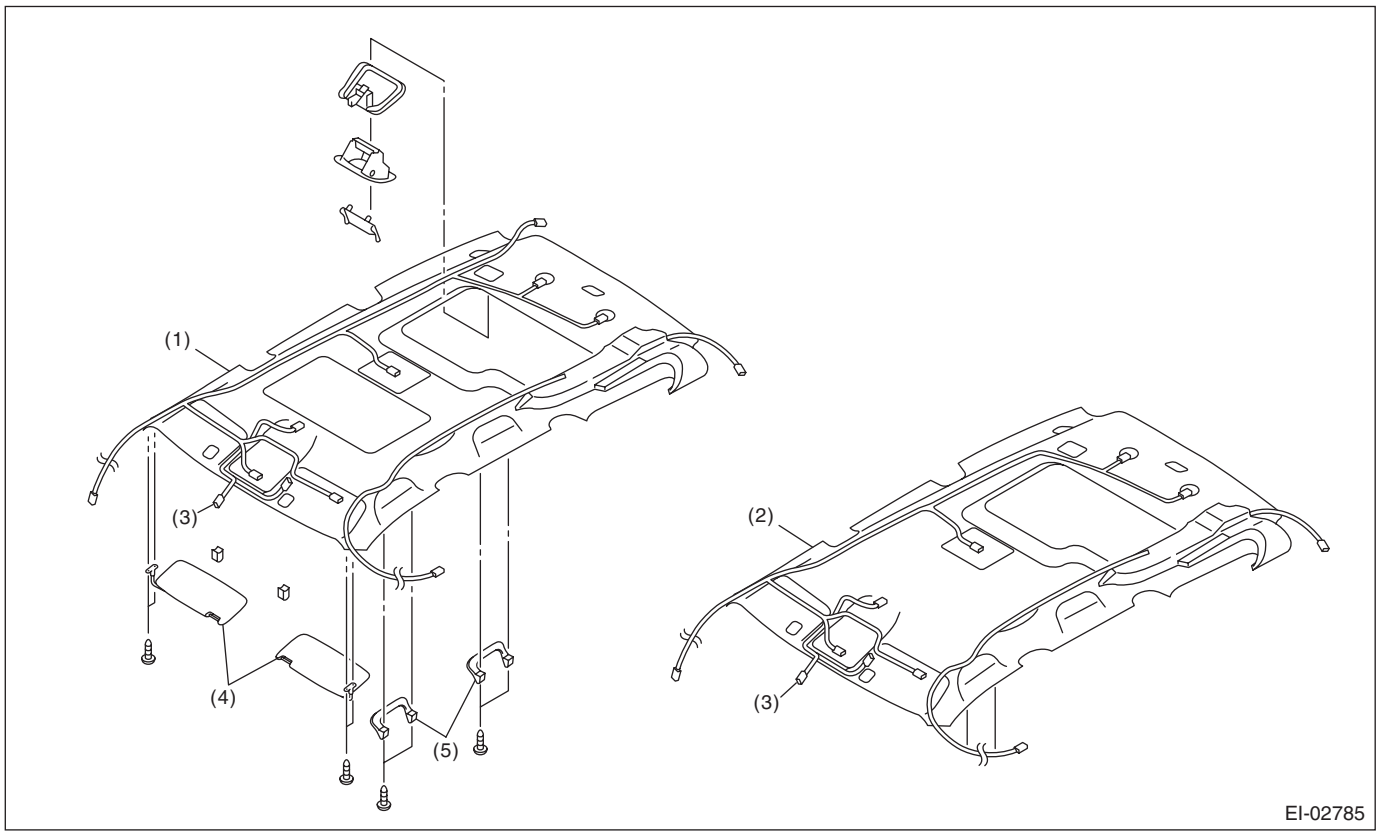
Tightening torque:N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

15.REAR GATE TRIM



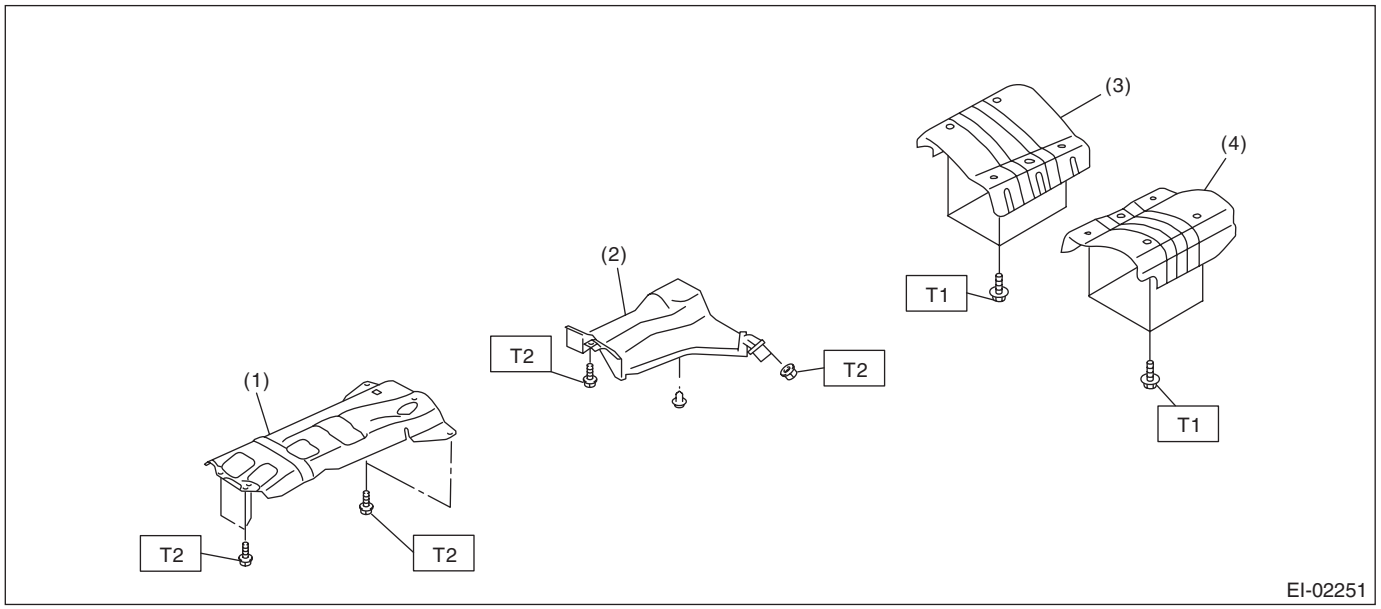
(1) Rear gate panel upper trim
(2) Rear gate panel pillar trim
(3) Luggage floor end cover
(4) Luggage floor mat
(5) Rear gate panel lower trim

16.ROOF TRIM



(1) Roof trim (model with sunroof)
(2) Roof trim
(3) RCD mirror code (model with RCD mirror)
(4) Sun visor
(5) Assist rail

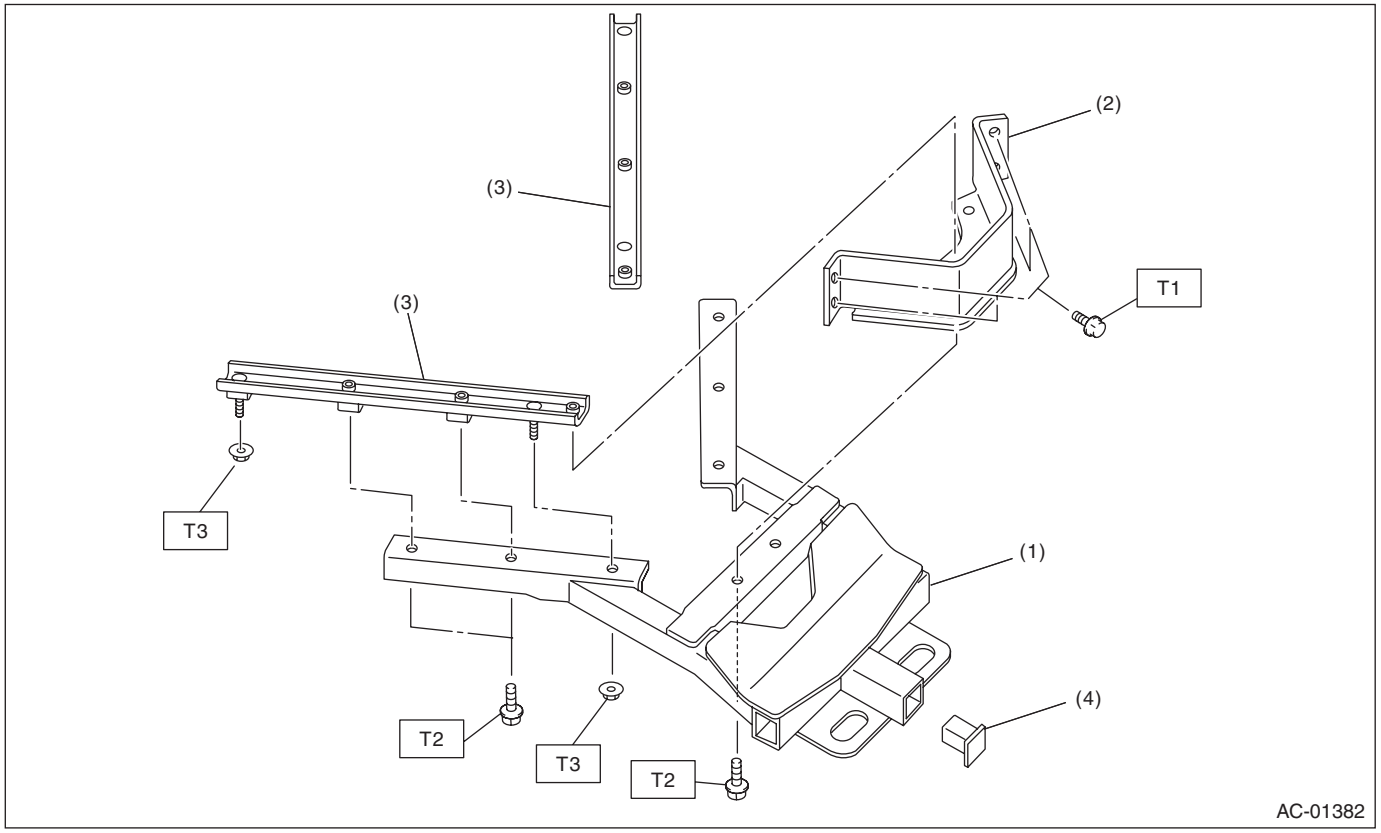
17.HEAT SHIELD COVER



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

Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 18 (1.84, 13.3)

18.TRAILER HITCH



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

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

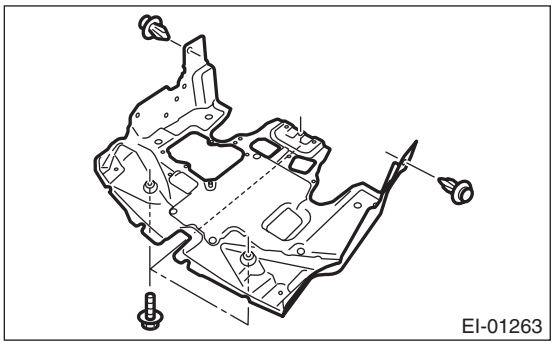
B: PREPARATION TOOL

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

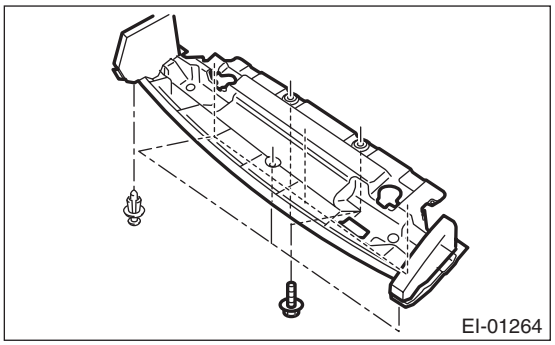
2. Front Under Cover

A: REMOVAL

1) Lift up the vehicle.
2) Remove the clips and bolts, then remove the undercover.



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



B: INSTALLATION

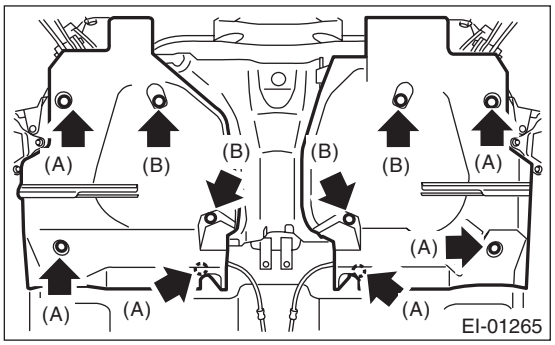
Install in the reverse order of removal.

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

3. Fuel Tank Protector

A: REMOVAL

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



B: INSTALLATION

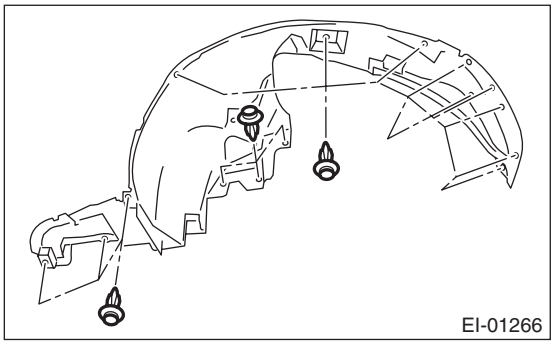
Install in the reverse order of removal.

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

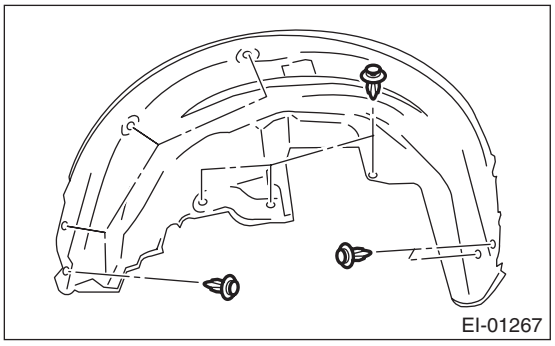
4. Mud Guard

A: REMOVAL

1) Remove the wheels.
2) Loosen the clips to remove mud guard.
- Front mud guard



- Rear mud guard



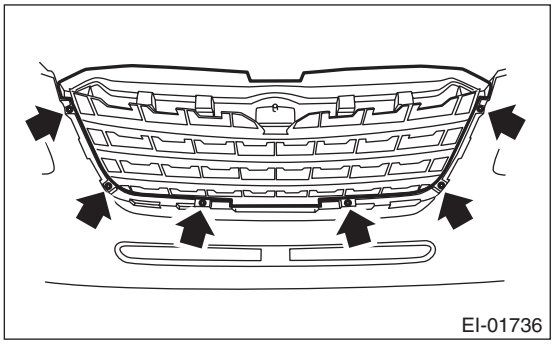
B: INSTALLATION

Install in the reverse order of removal.

5. Front Grille

A: REMOVAL

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



B: INSTALLATION

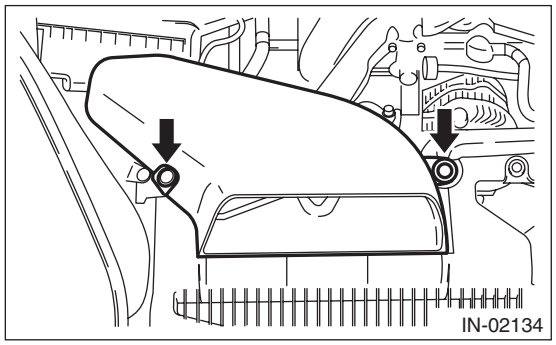
Install in the reverse order of removal.

6. Front Bumper

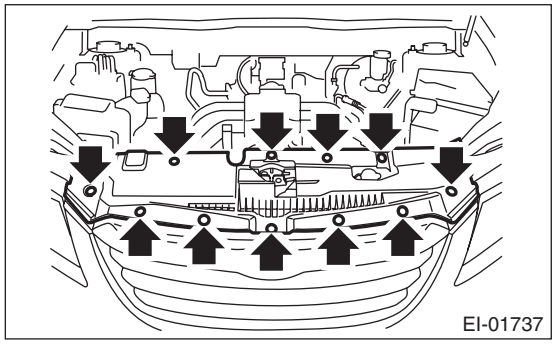
A: REMOVAL

1. FRONT BUMPER FACE

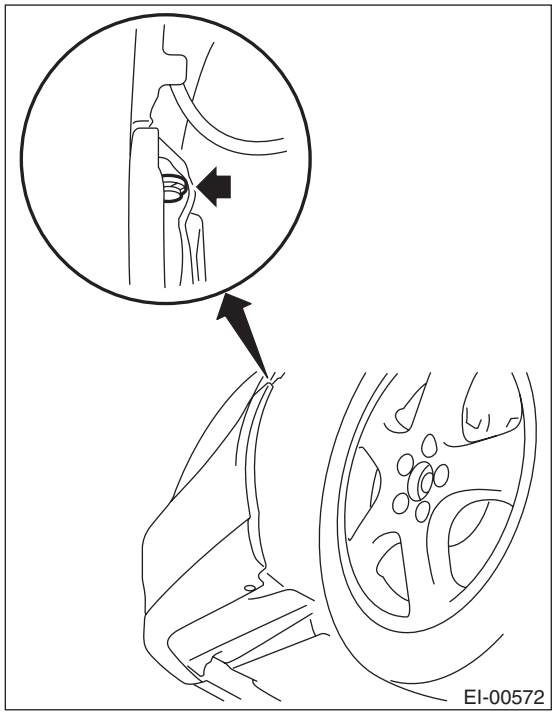
1) Remove the air intake duct.



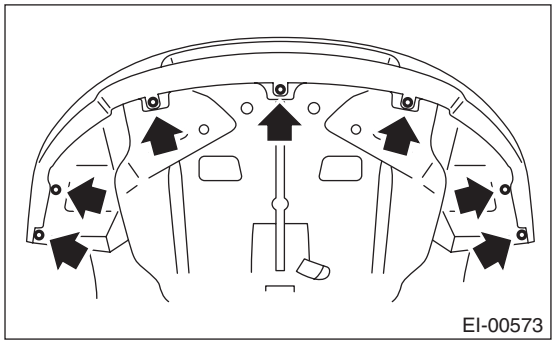
2) Remove the front upper cover.



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



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

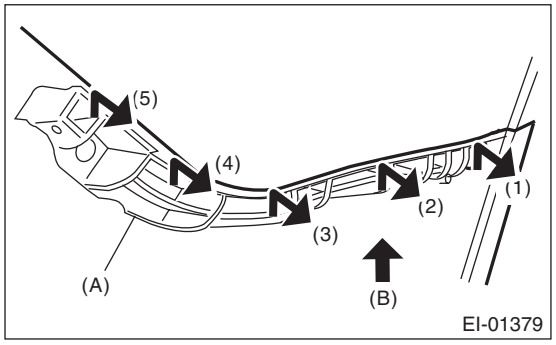


5) Disconnect the fog light connector. (Model with fog light)

6) Remove the bumper face side claws from guide bracket (A).

CAUTION:
Do not pull forcibly. The bumper face side claws can be damaged.

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

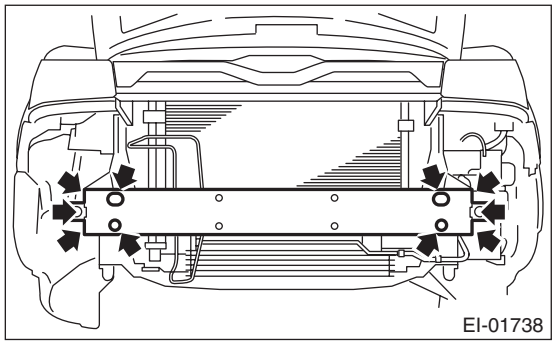


7) Remove the front grille from bumper face. <Ref. to EI-21, REMOVAL, Front Grille.>

8) Remove the fog light from bumper face. <Ref. to LI-22, REMOVAL, Front Fog Light Assembly.>

2. FRONT BUMPER BEAM ASSEMBLY

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

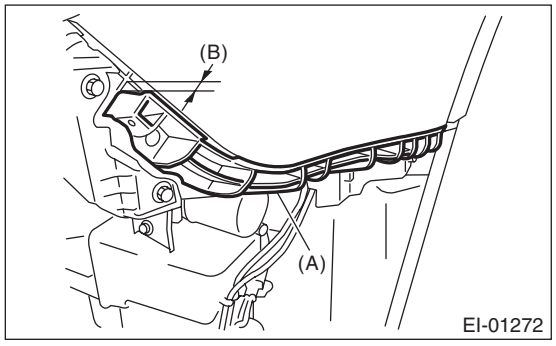


NOTE:
After all bolts are removed, lift the whole bumper beam a little to remove it from vehicle body.

B: INSTALLATION

1. FRONT BUMPER FACE

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



2) Install in the reverse order of removal.

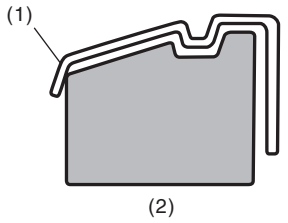
2. FRONT BUMPER BEAM ASSEMBLY

Install in the reverse order of removal.

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

C: REPAIR

1. COATING METHOD FOR PP BUMPER

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

2. REPAIR INSTRUCTIONS FOR COLORED PP BUMPER

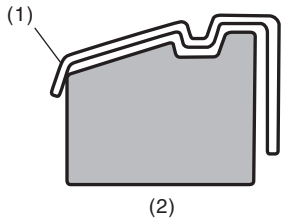
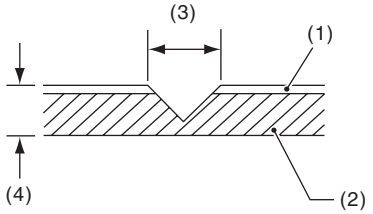
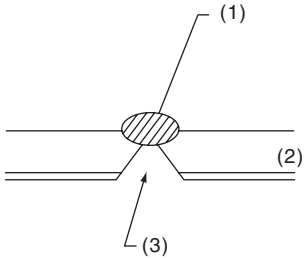
NOTE:
All PP bumpers are provided with a grained surface, and if the surface is damaged, it cannot normally be restored to its former condition. Damages limited to the shallow scratches that cause only a change in the luster of the base material or coating, can be almost fully restored. Before repairing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

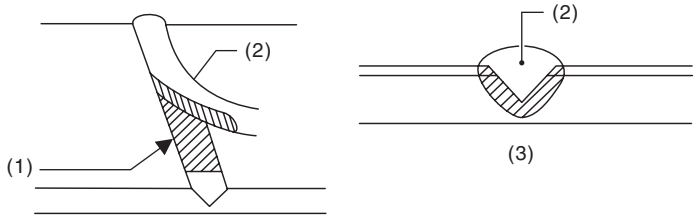
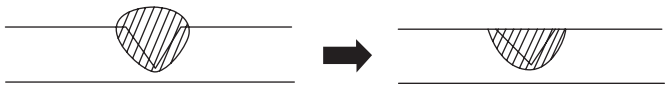
<table>
<tr><th>Process No.</th><th>Process name</th><th colspan="2">Job contents</th></tr>
<tr><td>1</td><td>Cleaning</td><td colspan="2">Clean the area to be repaired using water.</td></tr>
<tr><td>2</td><td>Sanding</td><td colspan="2">Grind the repairing area with #500 sand paper in a “feathering”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

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

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

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

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

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

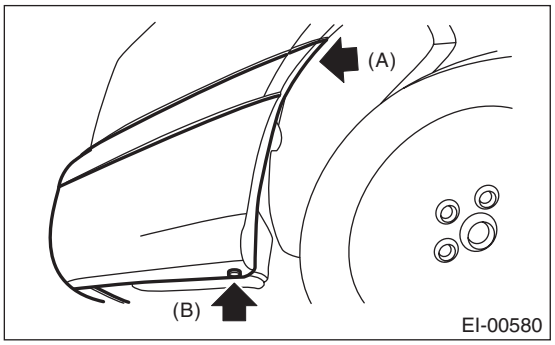
Process No.	Process name	Job contents	
17	Sanding (III)	Sand the coated surface and its surrounding areas using #400 sand paper and water.	
18	Cleaning/degreasing	Same as Process No. 12.	
19	Top coat (I)	Non-colored	Metallic paint
		Use a “block” coating method. • Recommended paint: Suncryl (SC) No.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

7. Rear Bumper

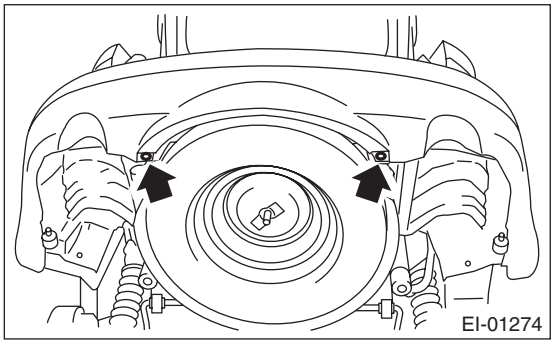
A: REMOVAL

1. REAR BUMPER FACE

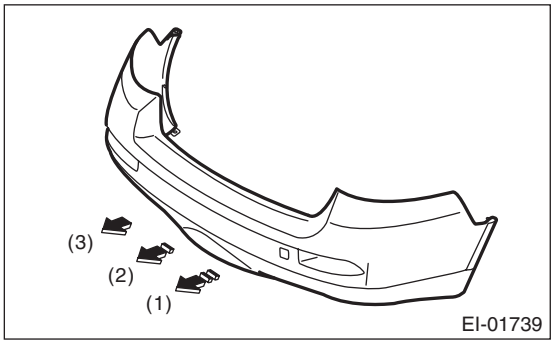
1) Turn over the mud guard, and remove the clip (A) and (B) inside wheel house and in the lower side of bumper.



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



3) Remove the rear bumper from vehicle body.



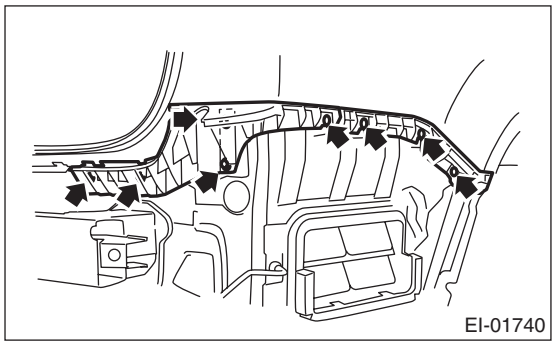
CAUTION:
Do not pull with a excessive force. Otherwise the bracket installation area may be damaged.

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

4) Remove the reflector or rear fog light.

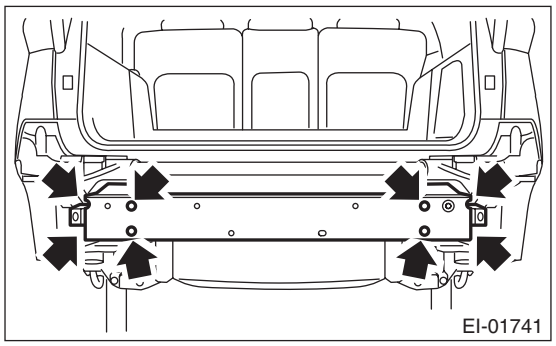
2. REAR BUMPER BRACKET

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



3. REAR BUMPER BEAM ASSEMBLY

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



B: INSTALLATION

Install in the reverse order of removal.

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

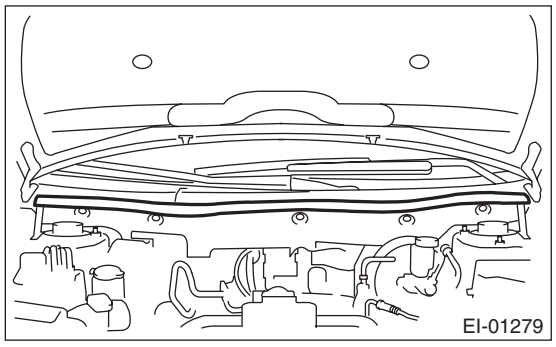
C: REPAIR

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

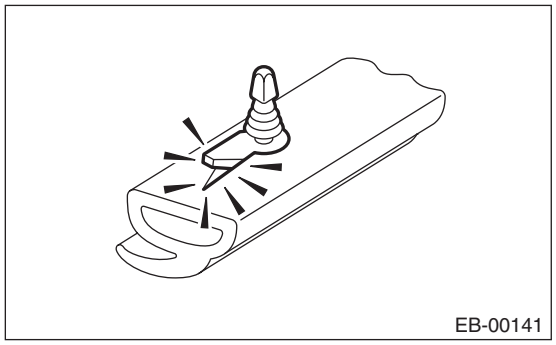
8. Cowl Panel

A: REMOVAL

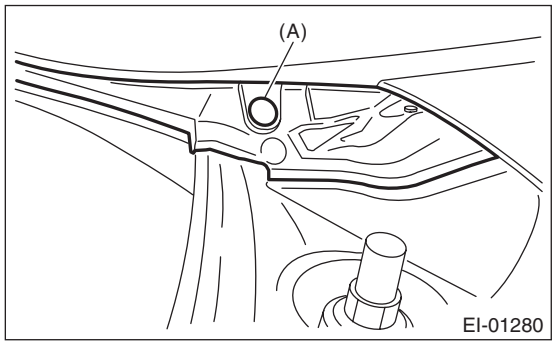
1) Remove the wiper arm. <Ref. to WW-17, REMOVAL, Front Wiper Arm.>
2) Remove the weather strip clips, and remove the weather strip.



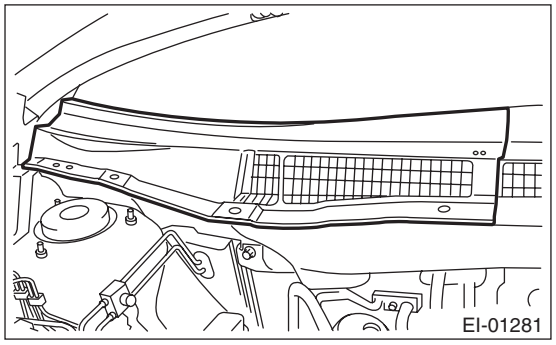
NOTE:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use a clip remover to remove.



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



4) Pull and remove the cowl panel RH.

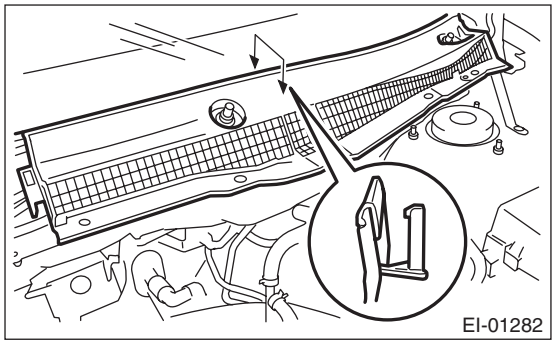


5) Remove the cowl panel LH.

B: INSTALLATION

Install in the reverse order of removal.

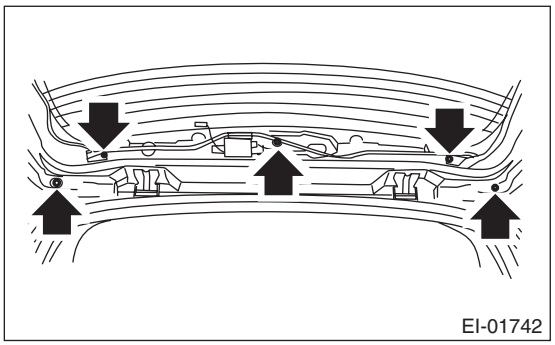
NOTE:
Hook the craw of cowl panel to the windshield.



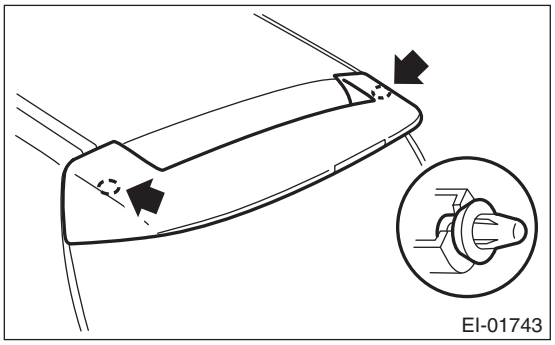
9. Roof Spoiler

A: REMOVAL

1) Remove the rear gate upper trim. <Ref. to EI-52, REMOVAL, Rear Gate Trim.>
2) Disconnect the connector of high-mounted stop light.
3) Remove the nut and bolt.



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



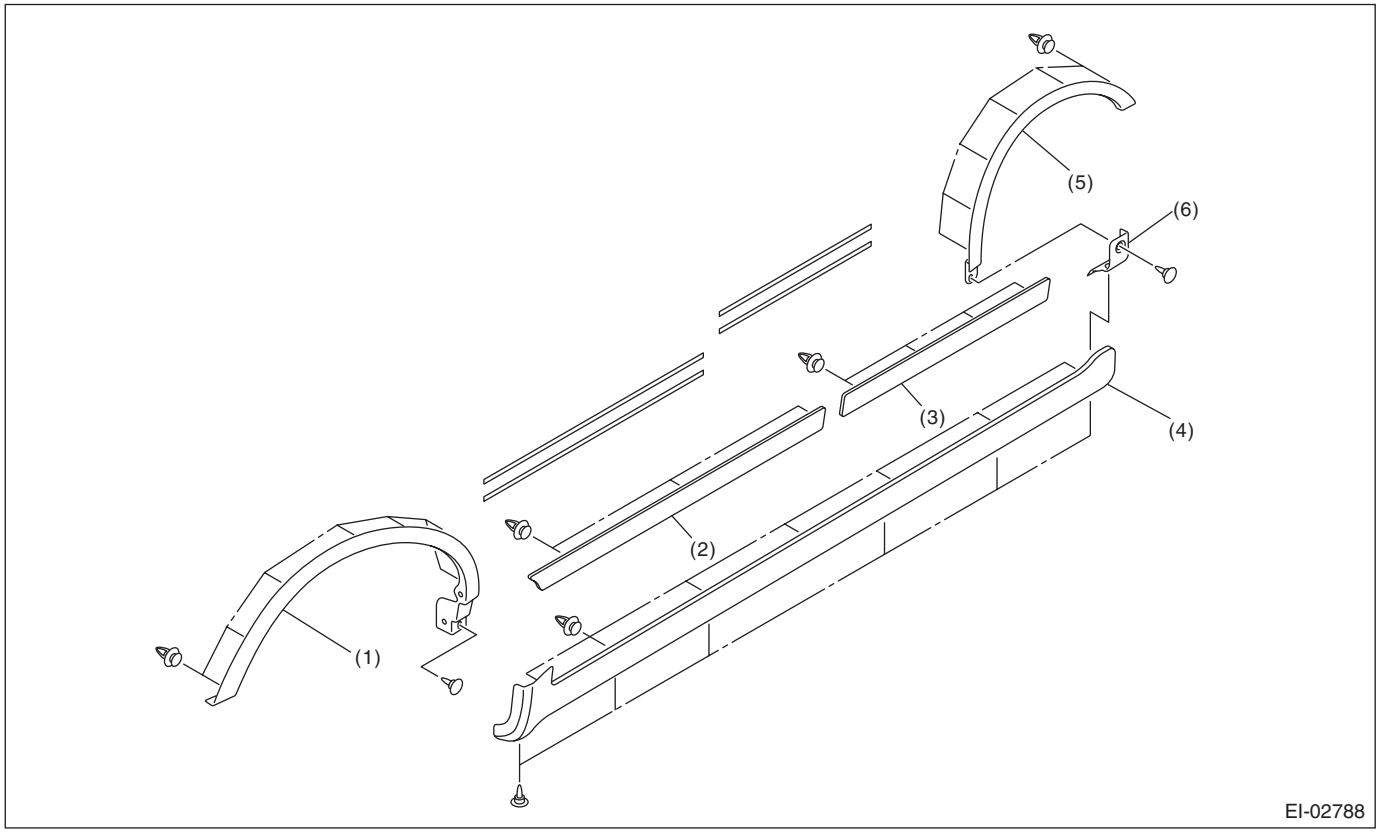
B: INSTALLATION

Install in the reverse order of removal.

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

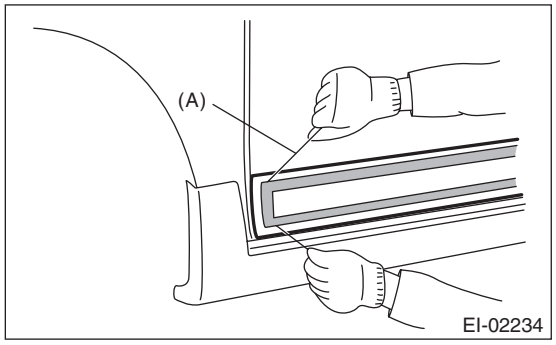
10.Side Garnish

A: REMOVAL

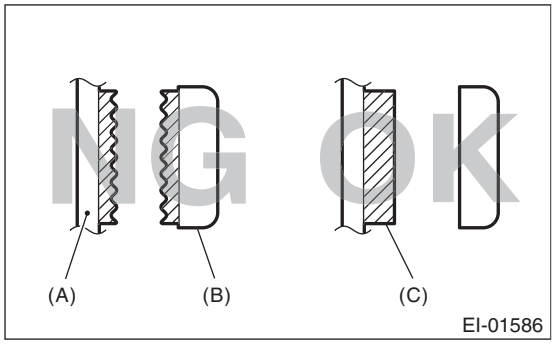


(1) Front fender garnish
(2) Front door garnish
(3) Rear door garnish
(4) Side sill garnish
(5) Rear quarter garnish
(6) Garnish end cover

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



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



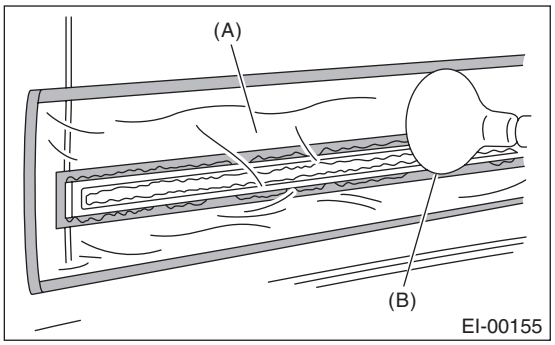
(A) Panel
(B) Door garnish
(C) Double-sided tape

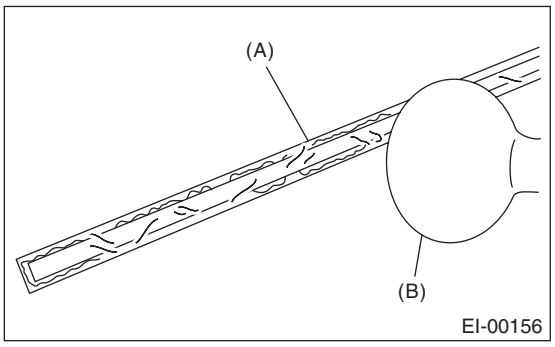
(3) Apply masking tape around the double-sided tape remaining on the surface of body or garnish.
(4) Apply solvent uniformly on the double-sided tape using a brush.

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

Solvent:
3M 8907 or equivalent

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





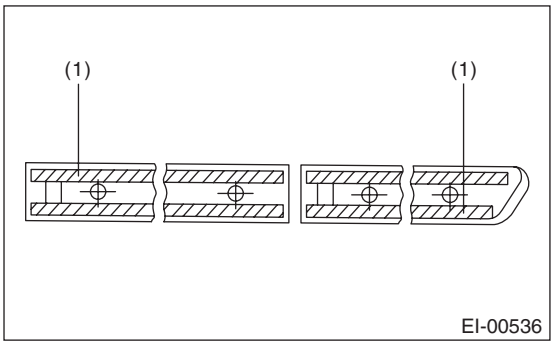
CAUTION:
Do not heat the double-sided tape until the surface becomes white and excessively dried.

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

3) Remove the front fender garnish and rear quarter garnish.
4) Remove the door garnish.

B: INSTALLATION

1) Apply primer to the door garnish surface where the double-sided tape is to be adhered, and then adhere the double-sided tape as shown in the figure.



(1) Double-sided tape:
Thickness = 1.2 mm (0.047 in)
Width 5 mm (0.197 n)

Primer:
3M K-500 or equivalent

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

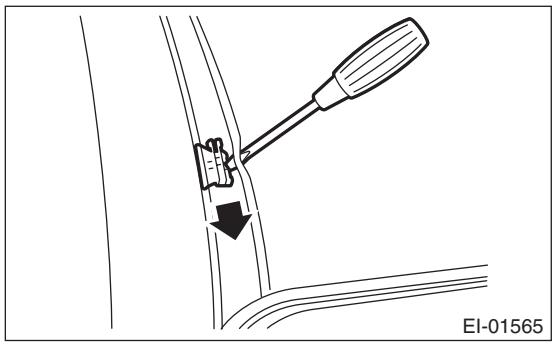
2) Heat the adhering part using a heat light.
Body side: 40 — 60°C (104 — 140°F)
Door garnish side: 20 — 30°C (68 — 86°F)
3) Peel off the backing sheet of double-sided tape, align the clip position, and then adhere the tape to the body while taking care to avoid air entering.

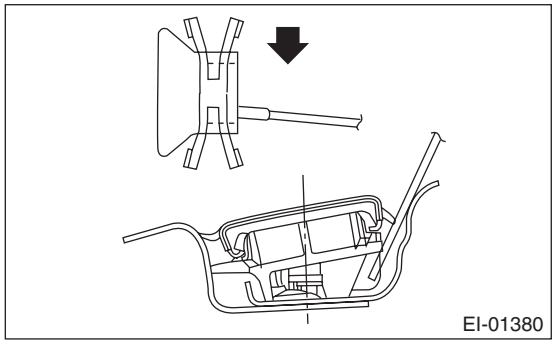
CAUTION:
To keep the adhesion, do not wash the vehicle within 24 hours from installation.

11.Roof Molding

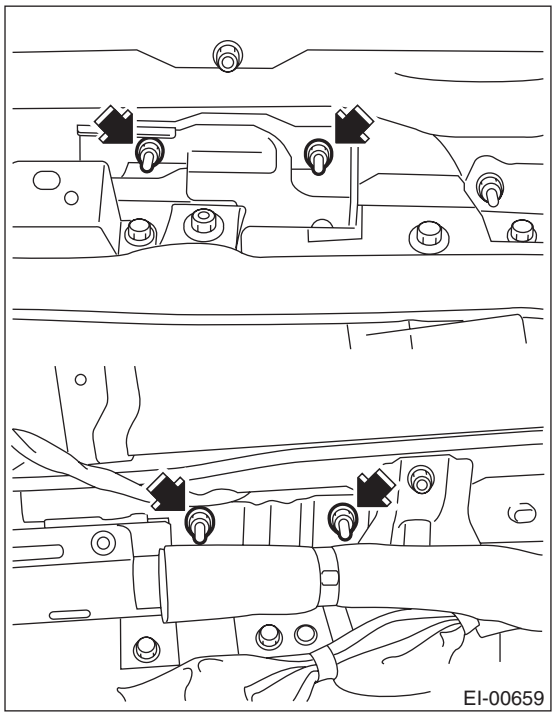
A: REMOVAL

1) Turn over the edge of the roof molding, and remove the inside clips with flat tip screwdriver by sliding as arrow indicates.
Right side: slide towards the front of the vehicle.
Left side: slide towards the rear of the vehicle.


EI-01565


EI-01380

2) Pull the roof molding upward, and remove it from vehicle body.
3) Remove the roof trim. <Ref. to EI-51, Roof Trim.>
4) Remove the nuts, and remove the roof carrier attachment.


EI-00659

B: INSTALLATION

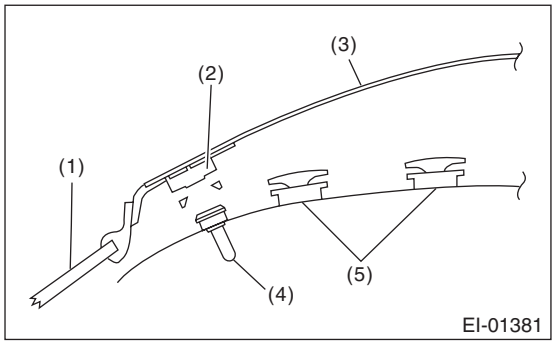
1) Install the roof carrier attachment.

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

2) Remove each clip from the roof molding, and install them to the vehicle side.

CAUTION:
Always replace clips damaged during removal of the roof moulding with new clips.

3) Push the front edge of roof molding against the front window, and install the positioning clip on the front end to the rivet on the vehicle side.



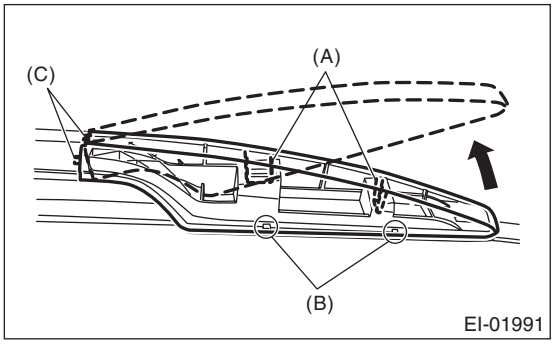
EI-01381

(1) Windshield
(2) Positioning clips
(3) Roof molding
(4) Rivet
(5) Clip

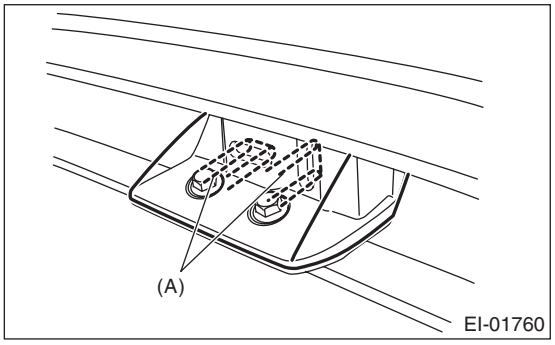
12.Roof Rail

A: REMOVAL

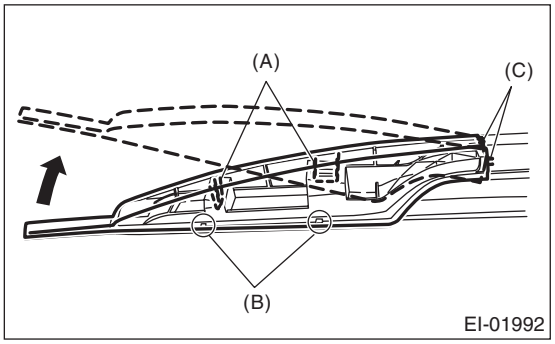
1) Remove the roof rail cover front with the pawl (C) as a support point while removing clip (A) and pawl (B).



2) Remove the clips (A), and then remove the roof rail cover center.



3) Remove the roof rail cover rear with the pawl (C) as a support point while removing clip (A) and pawl (B).



4) Remove the nuts and bolts, and remove the roof rail from the vehicle body.

B: INSTALLATION

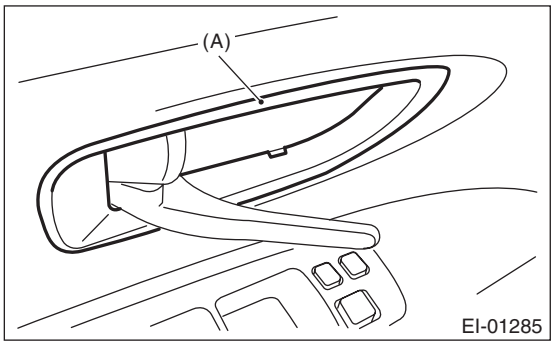
Install in the reverse order of removal.

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

13.Door Trim

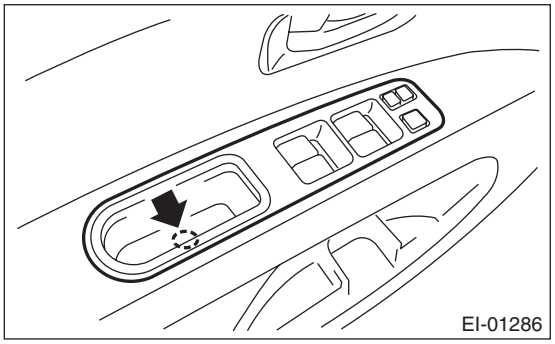
A: REMOVAL

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

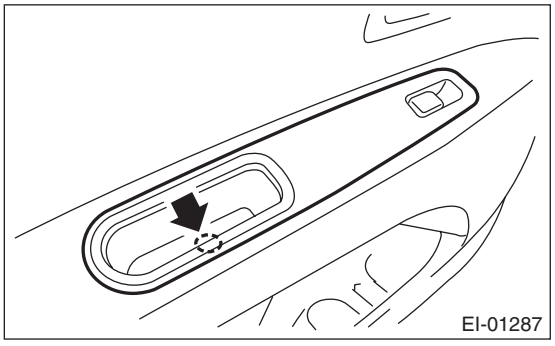


3) Remove the bottom cover at the pull handle.
4) Remove the screw to remove the power window switch assembly.

- Front door

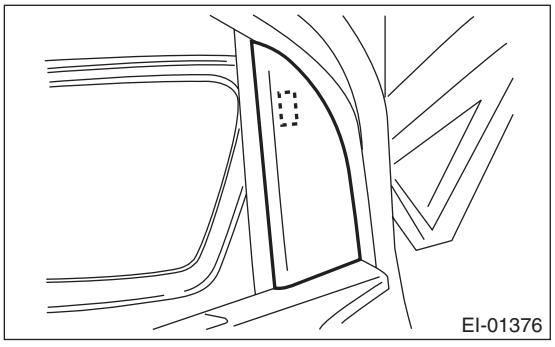


- Rear door

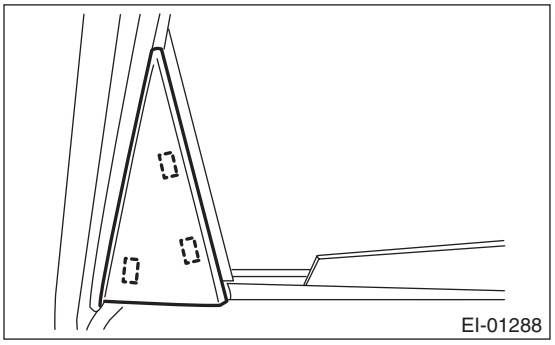


5) Remove the gusset cover.

- Front door

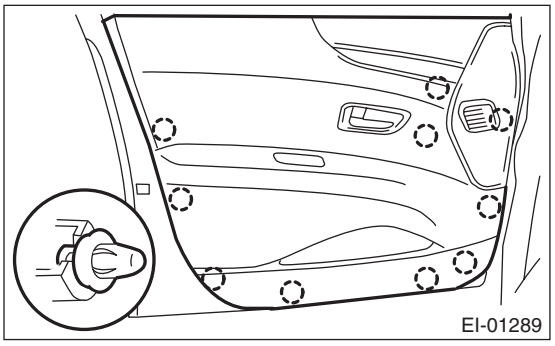


- Rear door

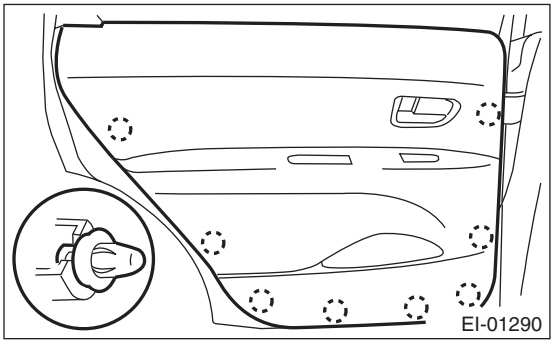


6) Remove the clip, and disconnect the each connector to remove the door trim.

- Front door trim



- Rear door trim



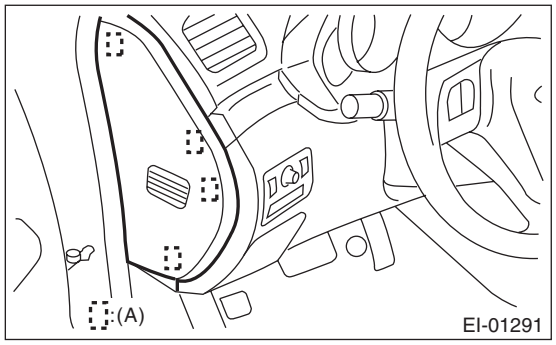
B: INSTALLATION

Install in the reverse order of removal.

14.Instrument Panel Lower Cover

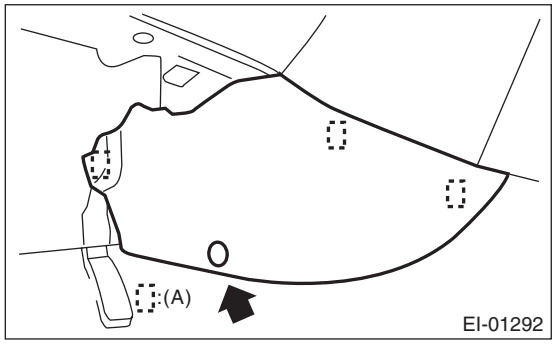
A: REMOVAL

1) Remove the front door scuff plate and front pillar lower trim. <Ref. to EI-44, REMOVAL, Side Trim.>
2) Remove the instrument panel side cover LH.



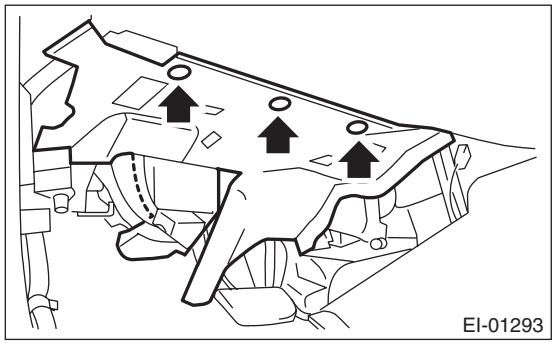
(A) Hook

3) Remove the clips, and remove the console side panel lower LH.

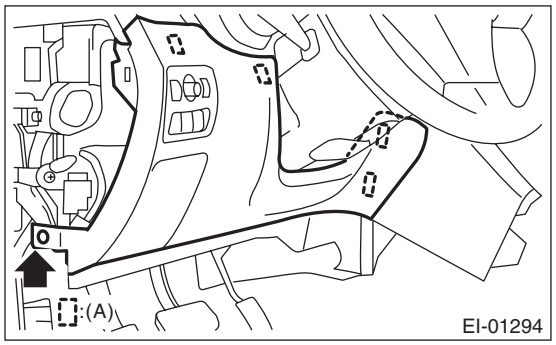


(A) Hook

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



5) Remove the clip (A) and hooks, disconnect the connectors, and then remove the instrument panel lower cover upper.



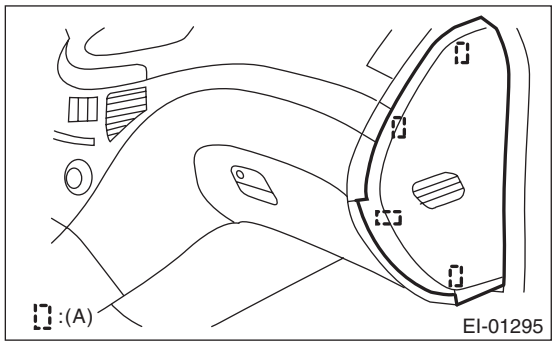
B: INSTALLATION

Install in the reverse order of removal.

15.Glove Box

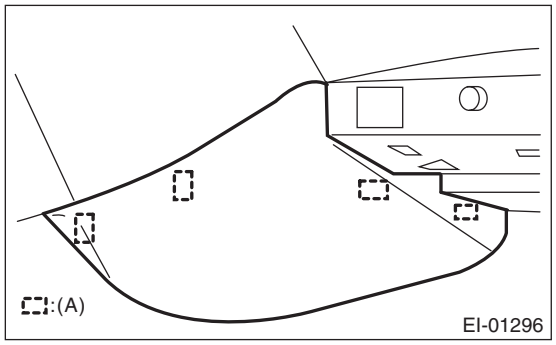
A: REMOVAL

1) Remove the front door scuff plate and front pillar lower trim. <Ref. to EI-44, REMOVAL, Side Trim.>
2) Remove the instrument panel side cover RH.



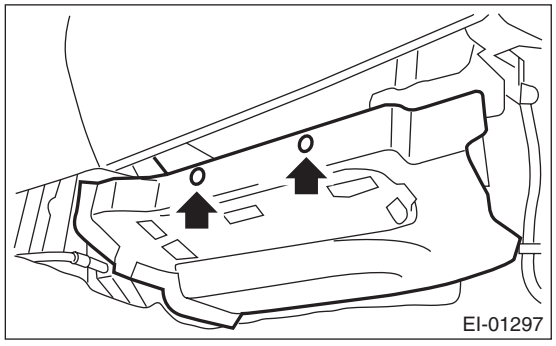
(A) Hook

3) Remove the console side panel lower RH.

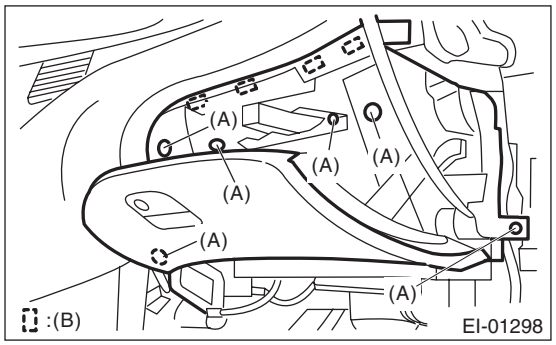


(A) Hook

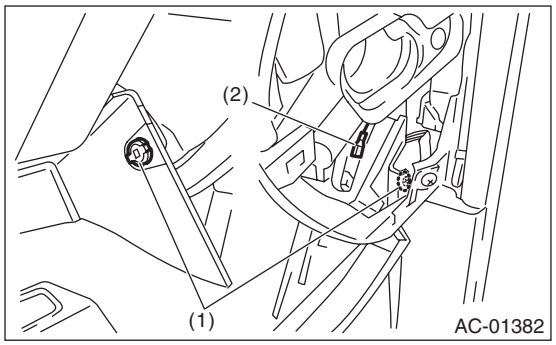
4) Remove the clips, and remove the glove box lower cover.



5) Remove the screws (A) and hooks (B), and disconnect the connector, and then remove the glove box assembly.



6) Remove the clip (1) in the glove box and damper strap (2).



7) Remove the left and right stoppers of glove box lid, and then remove the glove box lid.

NOTE:
The glove box lid can be removed without using the glove box assembly.

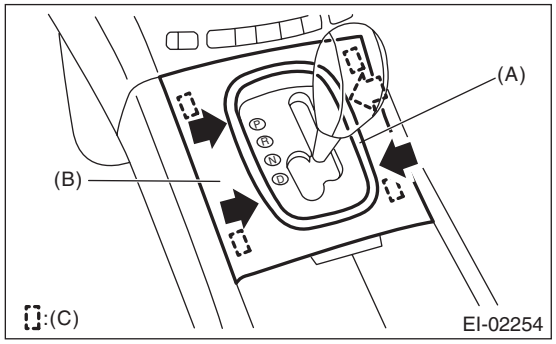
B: INSTALLATION

Install in the reverse order of removal.

16.Console Box

A: REMOVAL

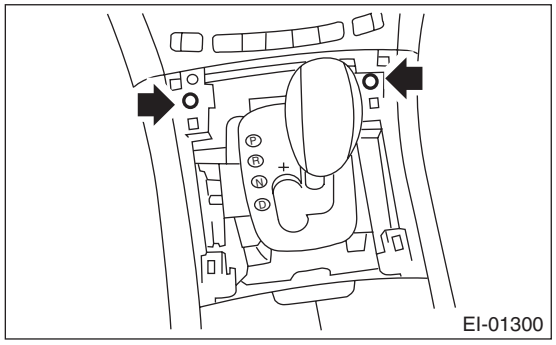
1) Remove the ring indicator (A) and console front panel (B).



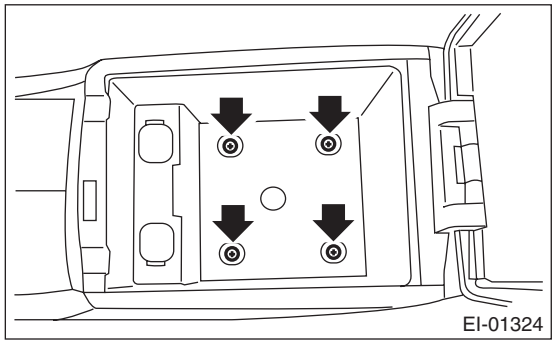
(C) Clip

NOTE:
The ring indicator can be easily removed by inserting the clip remover or equivalent into the positions indicated by arrows.

2) Remove the screws.



3) Remove the bolts inside the upper pocket.



4) Pull out the console lower pocket, and remove the console box.

B: INSTALLATION

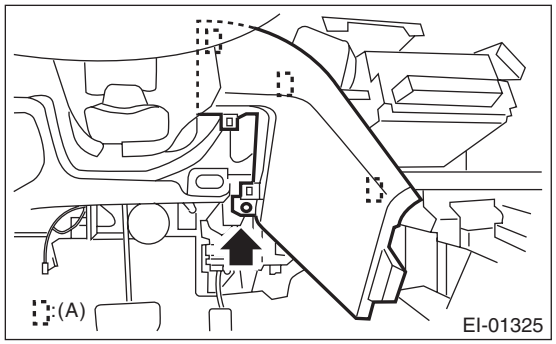
Install in the reverse order of removal.

17.Center Console

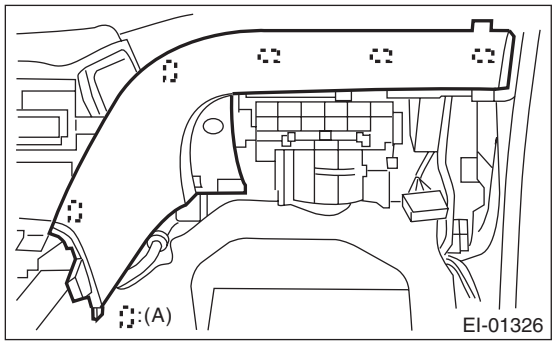
A: REMOVAL

1) Remove the control panel. <Ref. to AC-31, REMOVAL, Control Panel.>
2) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the glove box. <Ref. to EI-38, REMOVAL, Glove Box.>
4) Remove the console box. <Ref. to EI-39, REMOVAL, Console Box.>
5) Remove the screws and clips (A) to remove the console side panel upper.

- Driver's side



- Passenger's side



B: INSTALLATION

Install in the reverse order of removal.

18.Instrument Panel Assembly

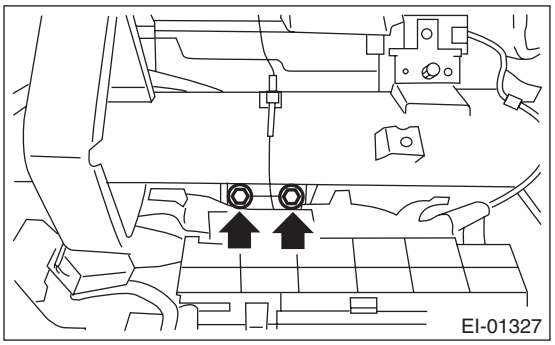
A: REMOVAL

CAUTION:
Take care of the following when removing the instrument panel from the vehicle body.
• Refer to "CAUTION" of "General Description" before starting the work. <Ref. to AB-4, CAUTION, General Description.>
• Be sure to disconnect each harness connector. Applying excessive force may damage the harness.
• Be careful to the harness of airbag system. Damage of the harness may cause the airbag system malfunction.
• Take care not to damage the interior trims when removing the instrument panel from the vehicle body.

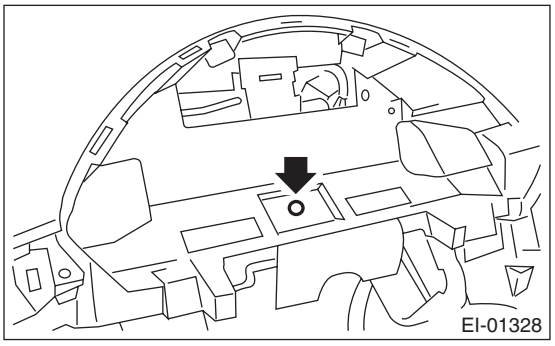
NOTE:
• Putting alignment marks to each connector as necessary facilitates the reassembly work.
• When storing the removed instrument panel, be sure to prepare a table or the like to put the instrument panel on in order to prevent damage.

1. INSTRUMENT PANEL UPPER

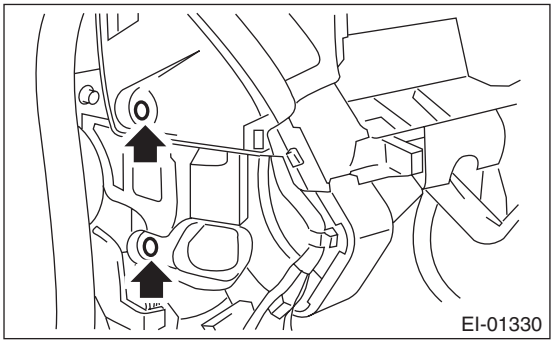
1) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
2) Remove the console box. <Ref. to EI-39, REMOVAL, Console Box.>
3) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
4) Remove the glove box. <Ref. to EI-38, REMOVAL, Glove Box.>
5) Remove the center console. <Ref. to EI-40, REMOVAL, Center Console.>
6) Remove the audio unit. <Ref. to ET-13, REMOVAL, Audio.>
7) Remove the combination meter assembly. <Ref. to IDI-11, REMOVAL, Combination Meter.>
8) Remove the upper grille. <Ref. to AC-48, UPPER GRILLE, REMOVAL, Air Vent Grille.>
9) Remove the multi function display or navigation monitor, and warning box. <Ref. to ET-26, REMOVAL, Navigation Display.>
10) Remove the front pillar upper trim. <Ref. to EI-44, REMOVAL, Side Trim.>
11) Remove the mounting bolts of the passenger's side airbag module.


EI-01327

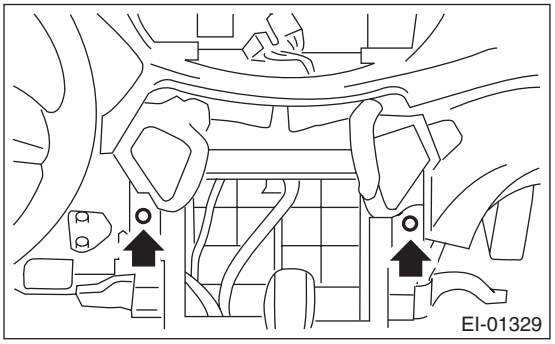
12) Remove the following screws.
• In combination meter house


EI-01328

• At the sides (left and right) of instrument panel


EI-01330

• Instrument panel center

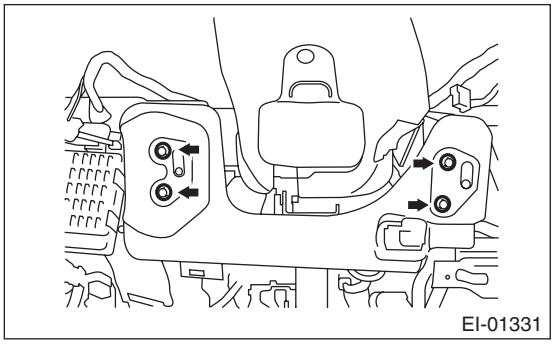

EI-01329

13) Make sure that the instrument panel upper is removed from the steering support beam
14) Disconnect the connectors, and remove the instrument panel from vehicle body.
15) Remove the heater vent duct. <Ref. to AC-50, REMOVAL, Heater Vent Duct.>

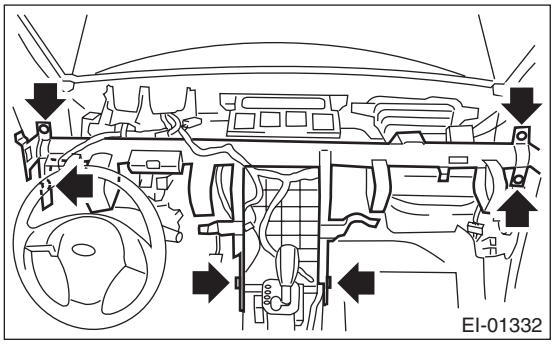
16) Remove the air vent grille. <Ref. to AC-48, REMOVAL, Air Vent Grille.>
17) Remove the passenger airbag module. <Ref. to AB-15, REMOVAL, Passenger's Airbag Module.>

2. STEERING SUPPORT BEAM

1) Remove the instrument panel upper.
2) Remove the bolts, and then remove the knee guard plate.


EI-01331

3) Remove the steering shaft from the steering support beam. <Ref. to PS-15, REMOVAL, Tilt Steering Column.>
4) Remove the bolts and remove the steering support beam.


EI-01332

3. INSTRUMENT PANEL ASSEMBLY

1) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
2) Remove the console box. <Ref. to EI-39, REMOVAL, Console Box.>
3) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
4) Remove the glove box. <Ref. to EI-38, REMOVAL, Glove Box.>
5) Remove the center console. <Ref. to EI-40, REMOVAL, Center Console.>
6) Remove the front pillar upper trim. <Ref. to EI-44, REMOVAL, Side Trim.>
7) Remove the steering shaft from the steering support beam. <Ref. to PS-15, REMOVAL, Tilt Steering Column.>
8) Disconnect the connectors, and remove the instrument panel from vehicle body.
9) Remove the bolts and remove the steering support beam.

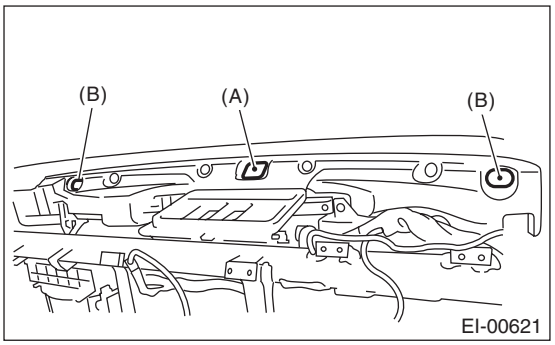
NOTE:
For positions of the mounting bolt of steering support beam, refer to the removal procedure of the steering support beam.
10) Make sure that the each harness connector is disconnected, and remove the instrument panel assembly from the vehicle body.

NOTE:
Remove the passenger's side door trim to facilitate the work.

B: INSTALLATION

1. INSTRUMENT PANEL UPPER

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



EI-00621

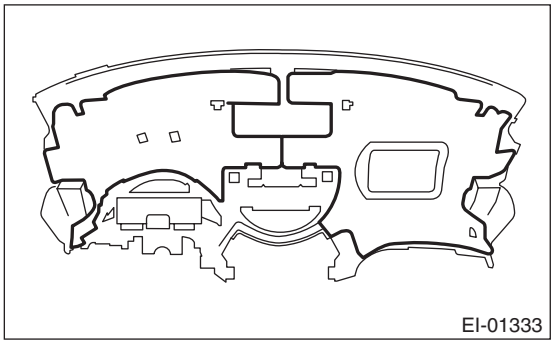
2) Check that the matching pins are inserted securely, and then route the harness.
3) Tighten the instrument panel with screws, and recheck the installation condition of instrument panel and harness routing.
4) Install in the reverse order of removal.

NOTE:
How to install insulator and pad;
- Adhesive

Use polyurethane adhesive. When assembling the instrument panel assembly, wait until the adhesive has evaporated to prevent filling of the smell in the compartment.
- Double-sided tape

Use commercial double-sided tape. (Use strong double-sided adhesive tape.)

- Install locations



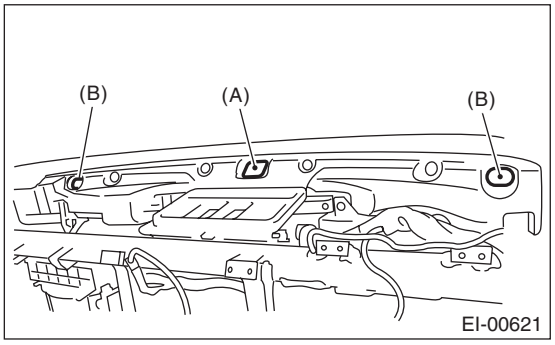
2. STEERING SUPPORT BEAM

1) Temporarily tighten the steering support beam with bolts, and then route the harness.
2) Make sure that there is no mutual interference in each pedal, and then tighten each bolt.

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

3. INSTRUMENT PANEL ASSEMBLY

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



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

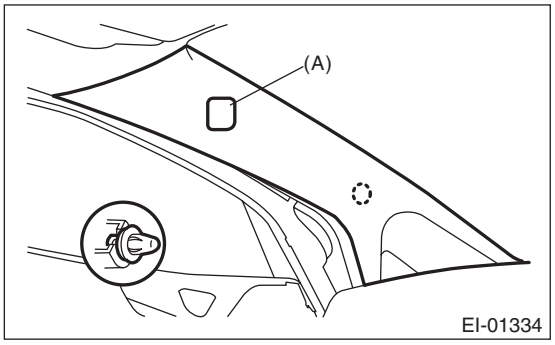
Tightening torque:
25 N·m (25.5 kgf-m, 18 ft-lb)
5) Install in the reverse order of removal.

19.Side Trim

A: REMOVAL

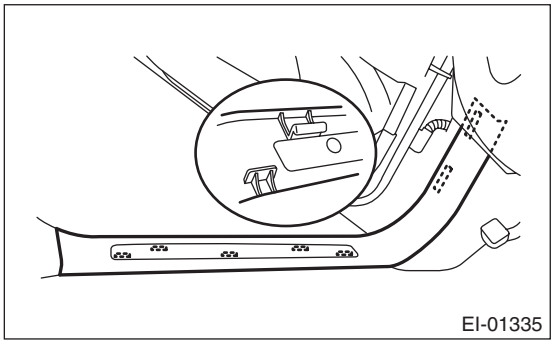
1. FRONT PILLAR UPPER TRIM

1) Remove the cap (A) on the upper side of pillar trim, and remove the bolt inside.
2) Remove the front pillar upper trim.

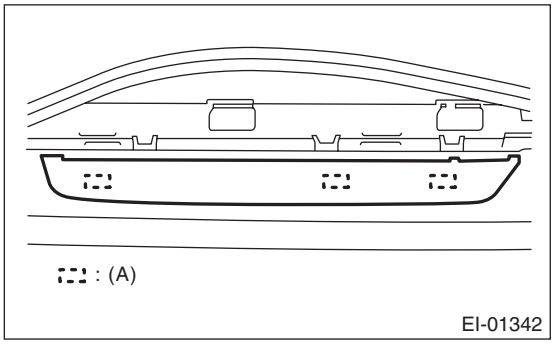


2. FRONT DOOR SCUFF PLATE

1) Remove the front door scuff plate.



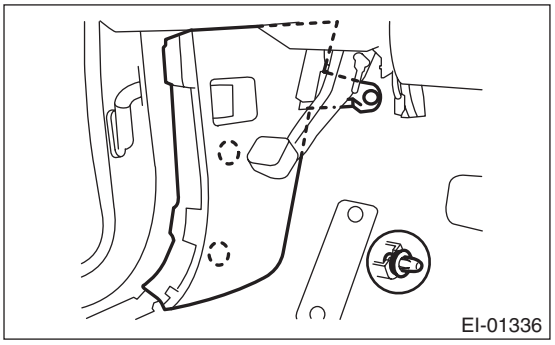
2) Remove the scuff plate outer.



(A) Claw

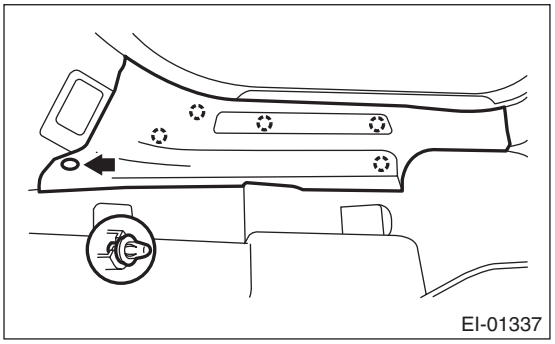
3. FRONT PILLAR LOWER TRIM

1) Remove the front door scuff plate.
2) Remove the clip, and remove the front pillar trim.

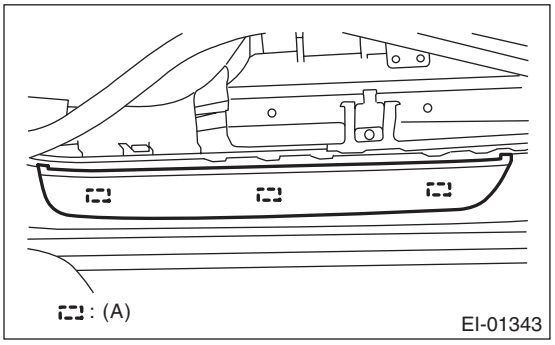


4. REAR DOOR SCUFF PLATE

1) Remove the clips and disengage the claws on the rear side of scuff plate, and then remove the rear door scuff plate.



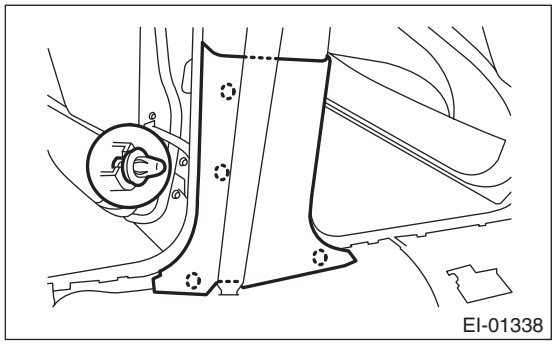
2) Remove the scuff plate outer.



(A) Claw

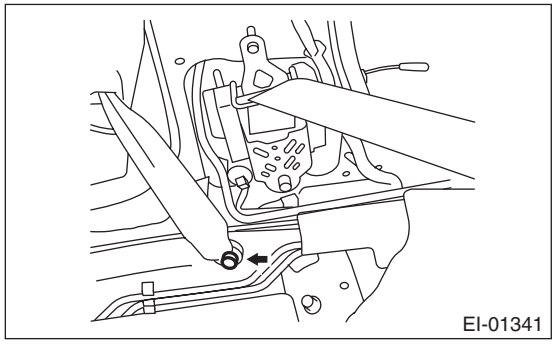
5. CENTER PILLAR LOWER TRIM

1) Remove the front door scuff plate.
2) Remove the rear door scuff plate.
3) Remove the clip, and remove the center pillar lower trim.

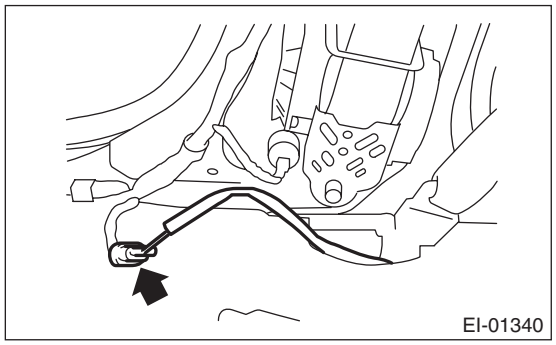


6. CENTER PILLAR UPPER TRIM

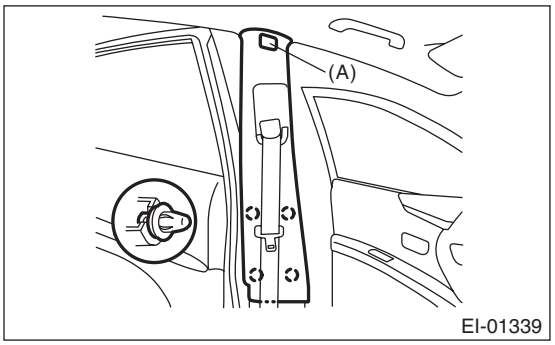
1) When removing the parts of passenger's side, disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
2) Remove the front door scuff plate.
3) Remove the rear door scuff plate.
4) Remove the center pillar lower trim.
5) Turn over the floor mat to remove the seat belt lower anchor bolt.



6) Disconnect the connector of belt tension sensor on passenger's side.



7) Remove the cap (A) on the upper side of pillar trim, and remove the bolt inside.
8) Remove the clip, and remove the center pillar upper trim.



B: INSTALLATION

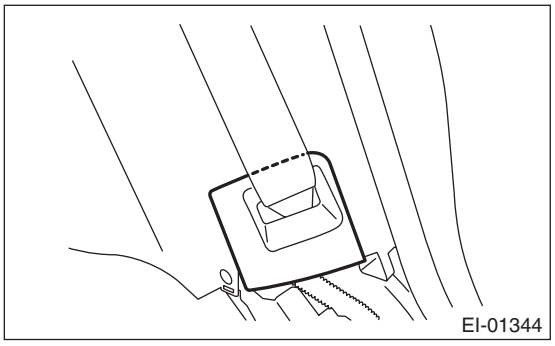
Install each side trim in the reverse order of removal.

NOTE:
When installing the side trim, make sure that the clips and hooks match the holes of vehicle body before pushing the parts.

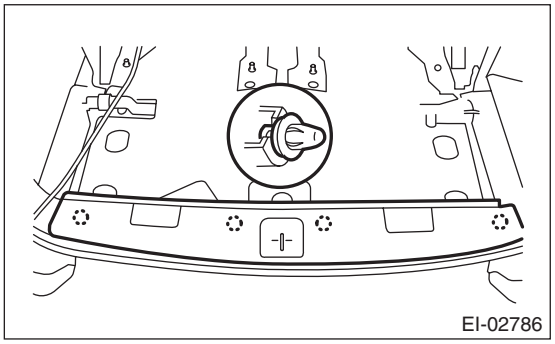
20.Rear Quarter Trim

A: REMOVAL

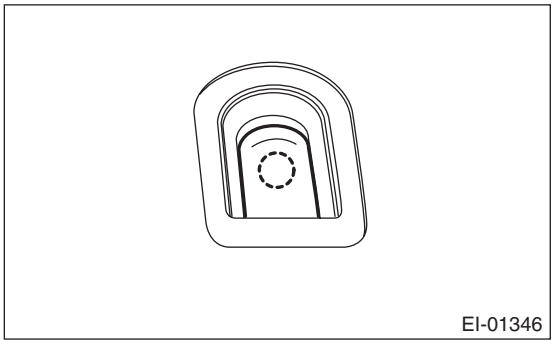
1) Remove the third-row seats. <Ref. to SE-18, REMOVAL, Third Seat.>
2) Remove the rear door scuff plate. <Ref. to EI-44, REAR DOOR SCUFF PLATE, REMOVAL, Side Trim.>
3) Remove the lower anchor cover.


EI-01344

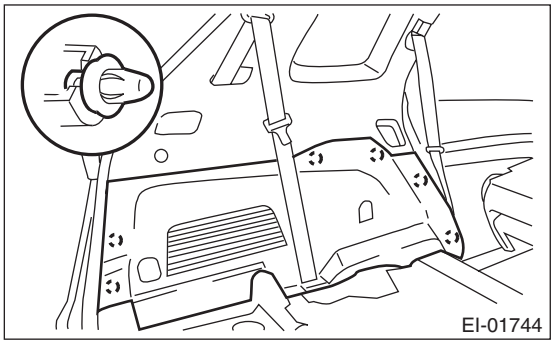
4) Remove the luggage floor mat and utility box.
5) Remove the luggage floor end cover.


EI-02786

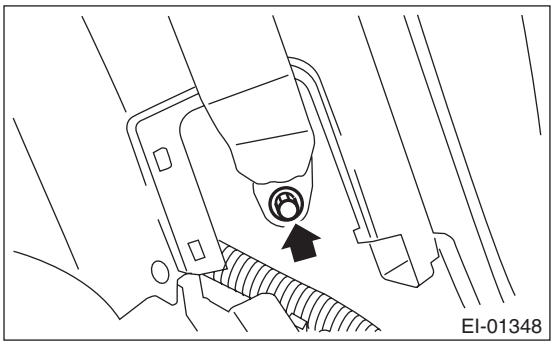
6) Remove the cover, and remove the bolts inside.


EI-01346

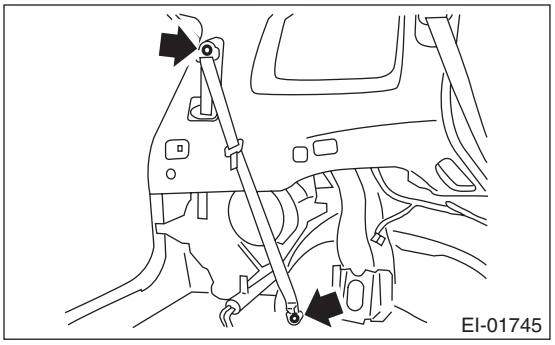
7) Remove the rear quarter lower trim.


EI-01744

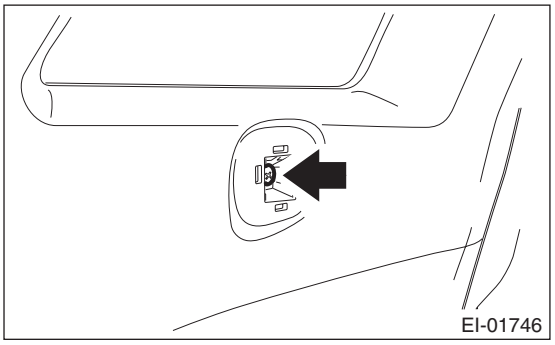
8) Remove the lower anchor bolts of second-row seat belts.


EI-01348

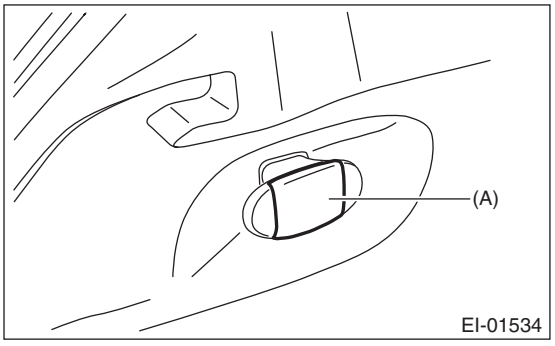
9) Remove the upper and lower anchor bolts of third-row seat belts.


EI-01745

10) Remove the screws.


EI-01746

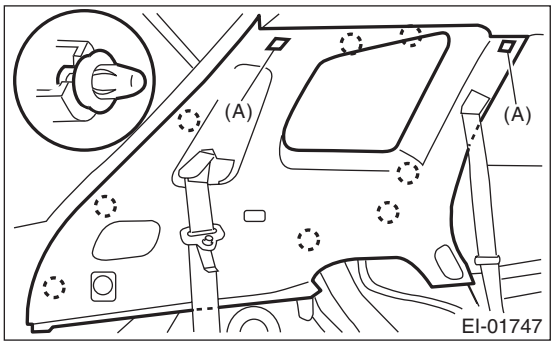
NOTE:
For models equipped with a third-row seat, there is a cap.
11) Remove the cover (A), and remove the bolts inside.



EI-01534

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

13) Disconnect each connector, and remove the rear quarter upper trim.



B: INSTALLATION

Install in the reverse order of removal.

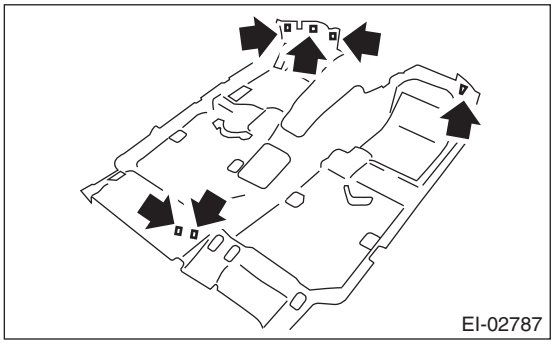
21.Floor Mat

A: REMOVAL

1. FRONT FLOOR MAT

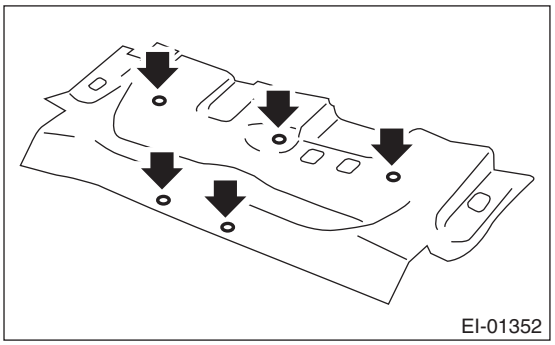
1) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove the second row seats. <Ref. to SE-13, REMOVAL, Second Seat.>
3) Remove the console box. <Ref. to EI-39, REMOVAL, Console Box.>
4) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
5) Remove the glove box. <Ref. to EI-38, REMOVAL, Glove Box.>
6) Remove the following trims. <Ref. to EI-44, REMOVAL, Side Trim.>
- Front door scuff plate
- Rear door scuff plate
- Front pillar lower trim
- Center pillar lower trim

7) Remove the remote opener cover. <Ref. to SL-44, REMOVAL, Remote Openers.>
8) Remove the navigation unit. <Ref. to ET-27, REMOVAL, Navigation Body.>
9) Remove the clips, then remove the front floor mats.


EI-02787

2. REAR FLOOR MAT

1) Remove the second row seats. <Ref. to SE-13, REMOVAL, Second Seat.>
2) Remove the third-row seats. (7 seater model) <Ref. to SE-18, REMOVAL, Third Seat.>
3) Remove the luggage box (front). (5 seater model)
4) Remove the rear quarter lower trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
5) Remove the clips, then remove the rear floor mats.


EI-01352

B: INSTALLATION

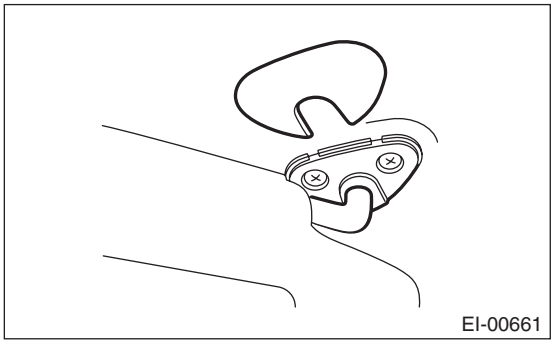
Install in the reverse order of removal.

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

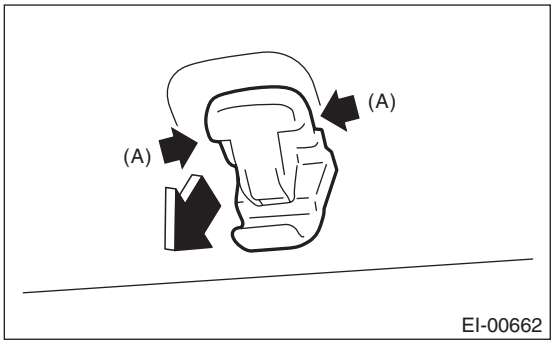
22.Sun Visor

A: REMOVAL

1) Remove the cover, loosen the mounting screws, and remove the sun visor.



2) Disconnect the connector. (Model with vanity mirror light)
3) While pressing the (A) on the both side using flat tip screwdriver, pull the sun visor hook to remove it.



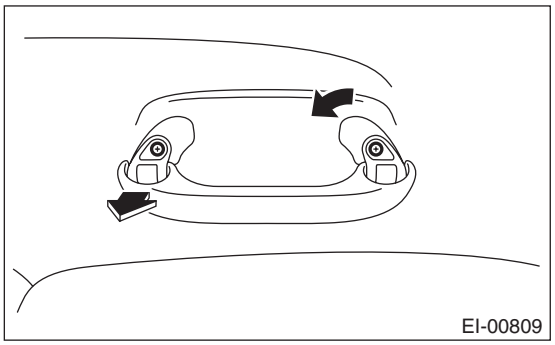
B: INSTALLATION

Install in the reverse order of removal.

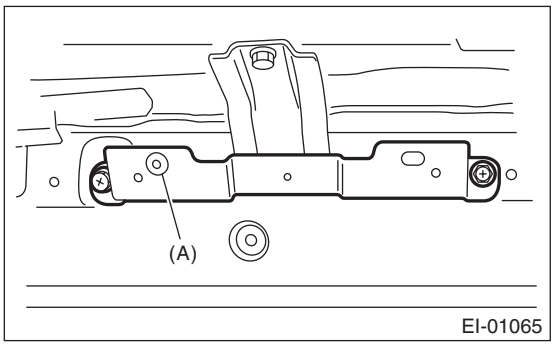
23.Assist Grip

A: REMOVAL

1) Remove the screw cover, and remove the screw inside.
2) Pull the left side of assist grip, and rotate the right side of it counterclockwise to remove.



3) Remove the roof trim. <Ref. to EI-51, REMOVAL, Roof Trim.>
4) Remove the bolts, and remove the assist grip bracket.



(A) Grommet

B: INSTALLATION

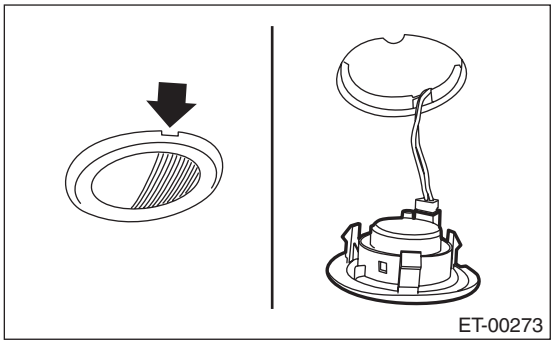
Install in the reverse order of removal.

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

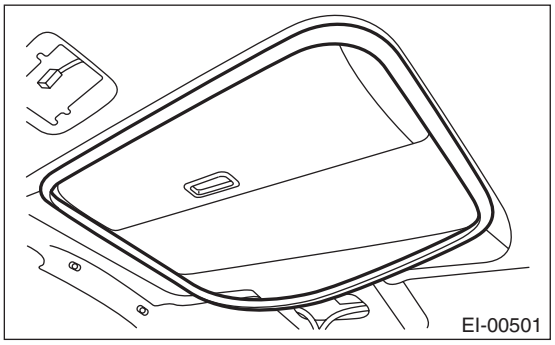
24.Roof Trim

A: REMOVAL

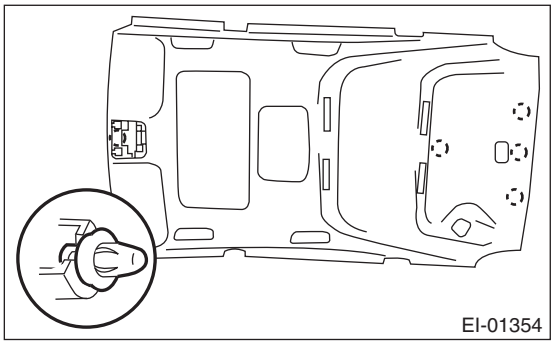
1) Disconnect the ground cable from battery.
2) Remove the spot map light. <Ref. to LI-35, REMOVAL, Spot Map Light.>
3) Remove the room light or rear entertainment (model with rear entertainment system). <Ref. to LI-36, REMOVAL, Room Light.>
4) Remove the sun visor. <Ref. to EI-49, REMOVAL, Sun Visor.>
5) Remove the assist grip. <Ref. to EI-50, REMOVAL, Assist Grip.>
6) Remove the front pillar upper trim and center pillar upper trim. <Ref. to EI-44, REMOVAL, Side Trim.>
7) Remove the rear quarter upper trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
8) Remove the tweeter from the roof trim.



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



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



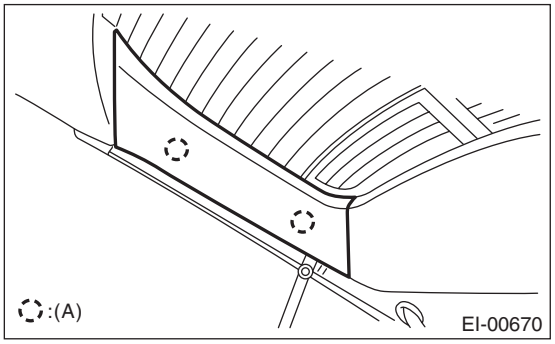
B: INSTALLATION

Install in the reverse order of removal.

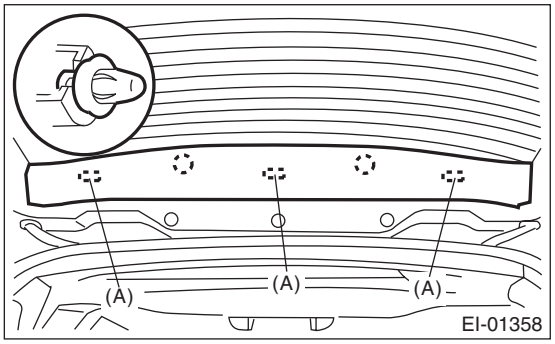
25.Rear Gate Trim

A: REMOVAL

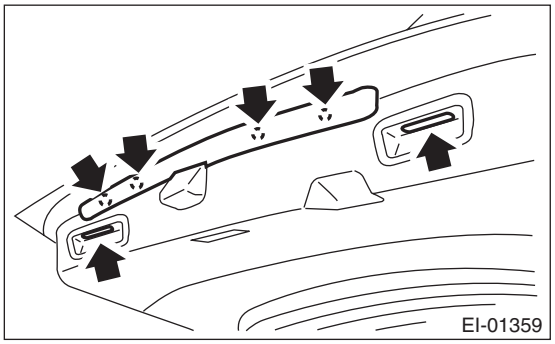
1) Remove the claws (A), and remove the rear gate pillar trim.



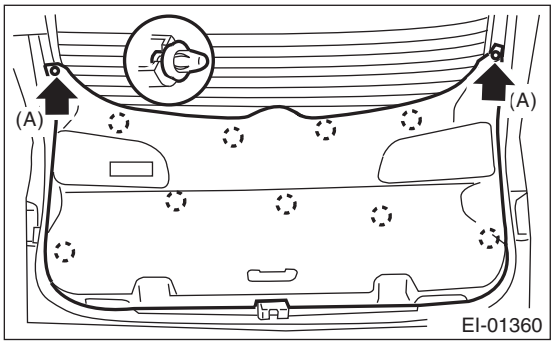
2) Remove the clips and claws (A), and remove the rear gate upper trim.



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



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



B: INSTALLATION

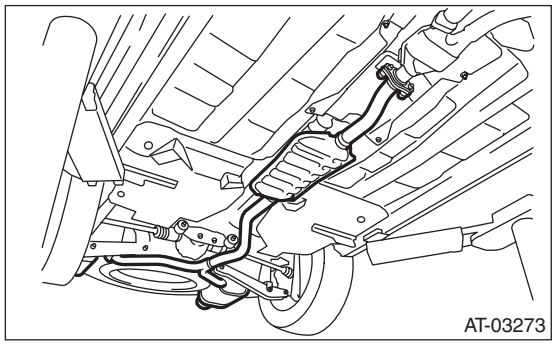
Install in the reverse order of removal.

26.Heat Shield Cover

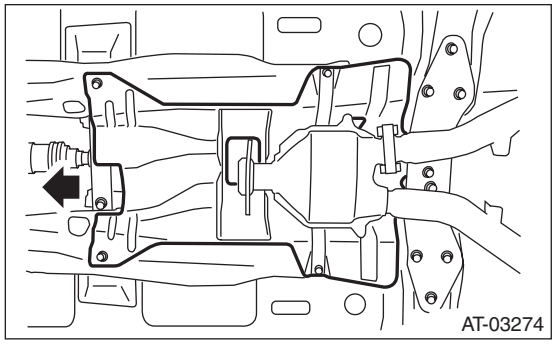
A: REMOVAL

1. FRONT HEAT SHIELD COVER

1) Remove the rear exhaust pipe.

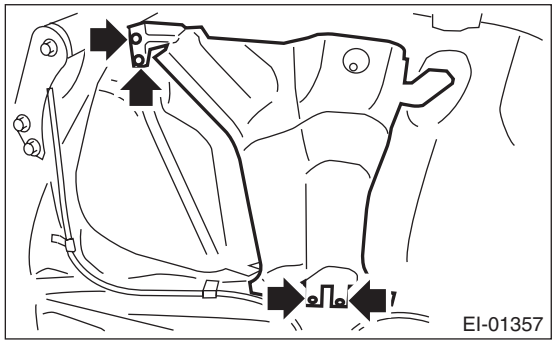


2) Remove the bolts to remove the front heat shield cover.



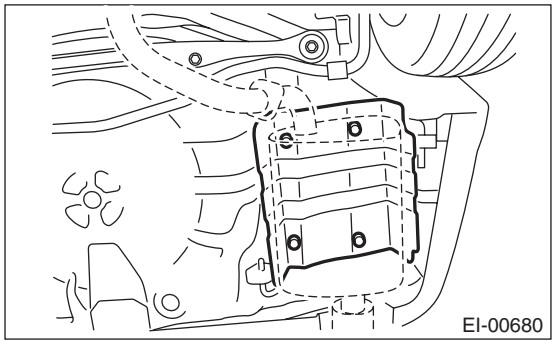
2. CENTER HEAT SHIELD COVER

1) Remove the fuel tank protector. <Ref. to EI-19, REMOVAL, Fuel Tank Protector.>
2) Remove the nut and bolt to remove center heat shield cover.



3. REAR HEAT SHIELD COVER

1) Remove the muffler. <Ref. to EX(H6DO)-7, REMOVAL, Rear Exhaust Pipe.>
2) Remove the rear heat shield cover.



B: INSTALLATION

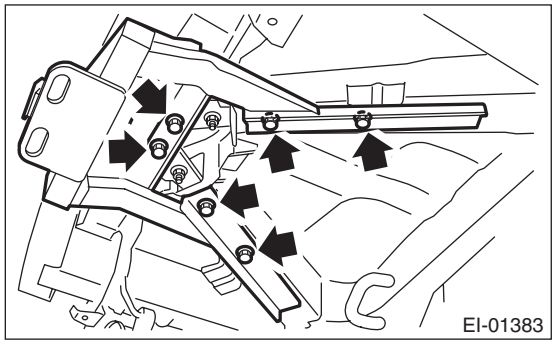
Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EI-16, HEAT SHIELD COVER, COMPONENT, General Description.>

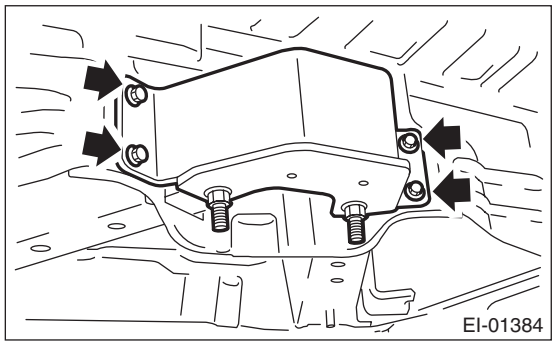
27.Trailer Hitch

A: REMOVAL

1) Remove the spare tire hoist. <Ref. to WT-13, REMOVAL, Spare Tire Hoist.>
2) Remove the bolt, and then detach the main frame.



CAUTION:
The trailer hitch main frame is heavy. Be careful when removing.
3) Remove the bolts, and then remove the center frame.



4) Remove the side frame from the vehicle.

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to EI-17, TRAILER HITCH, COMPONENT, General Description.>

EXTERIOR BODY PANELS

EB

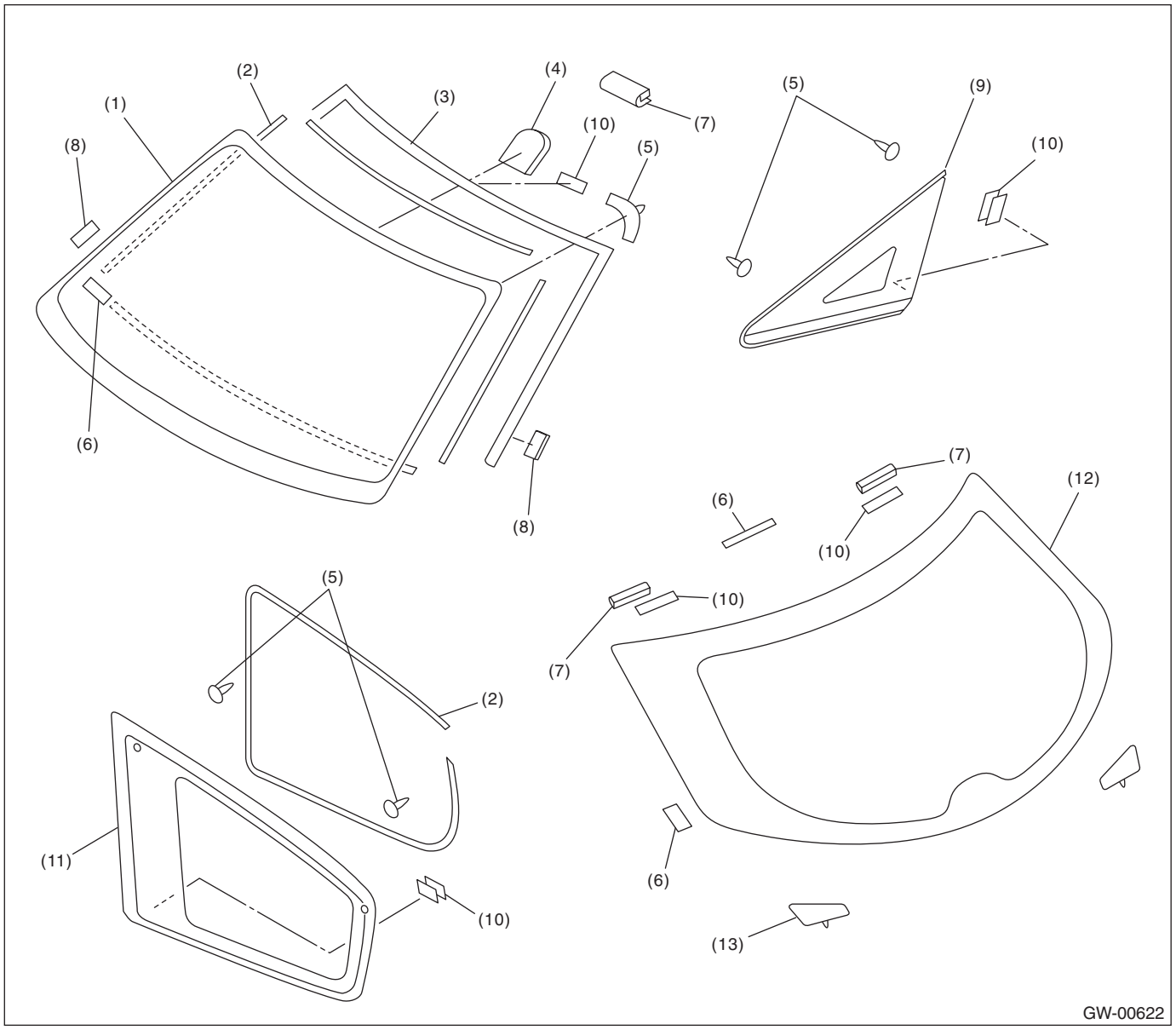
Page

1. General Description 2
2. Front Hood 12
3. Front Fender 14
4. Front Door 15
5. Front Sealing Cover 17
6. Rear Door 18
7. Rear Sealing Cover 20
8. Rear Gate 21

1. General Description

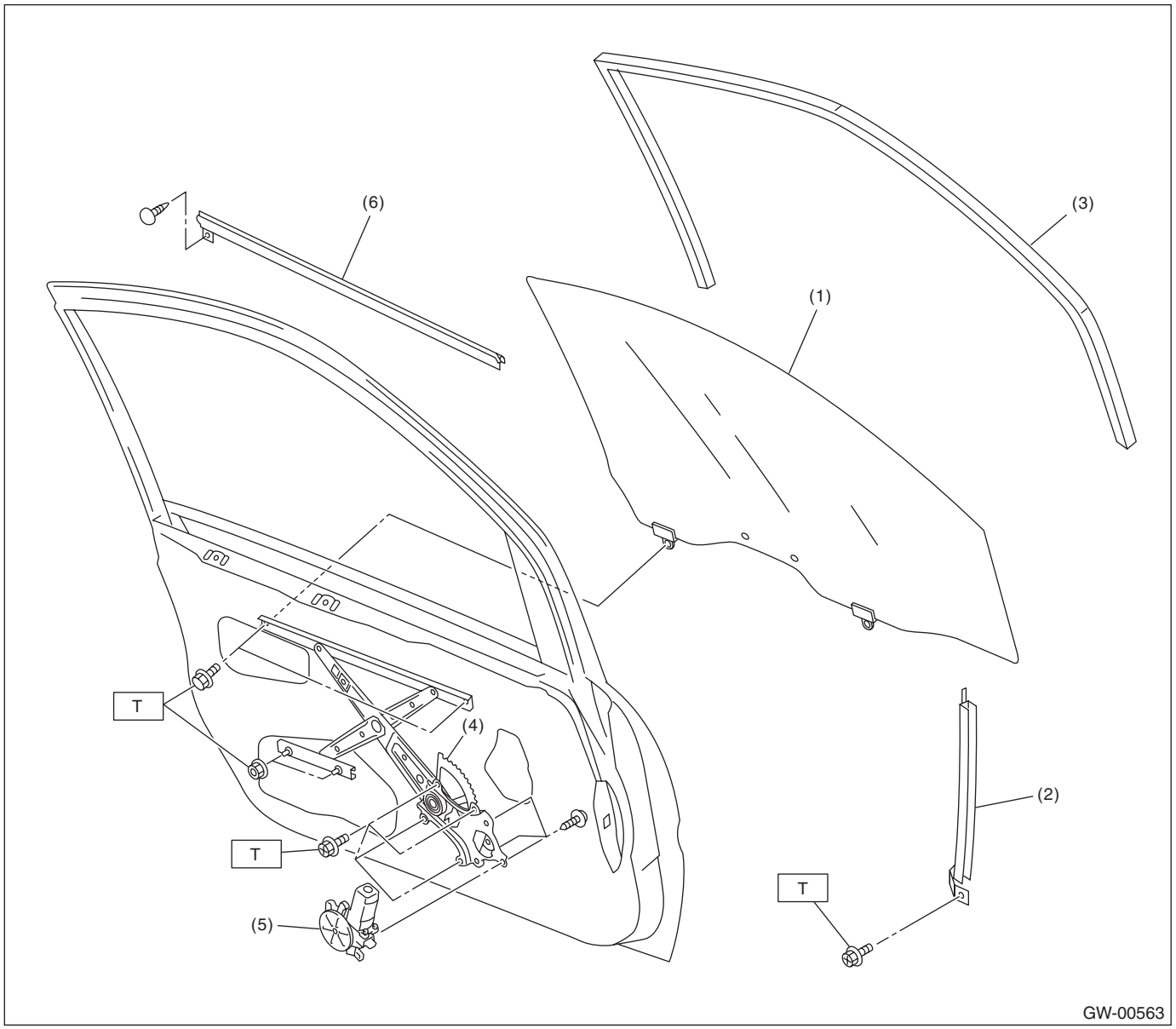
A: COMPONENT

1. FIXED GLASS



(1) Windshield glass
(2) Dam rubber
(3) Molding front
(4) Rearview mirror mount
(5) Locating pin
(6) Spacer
(7) Fastener
(8) Seal
(9) Front quarter glass
(10) Fastener
(11) Rear quarter glass
(12) Rear gate glass
(13) Glass clip pin

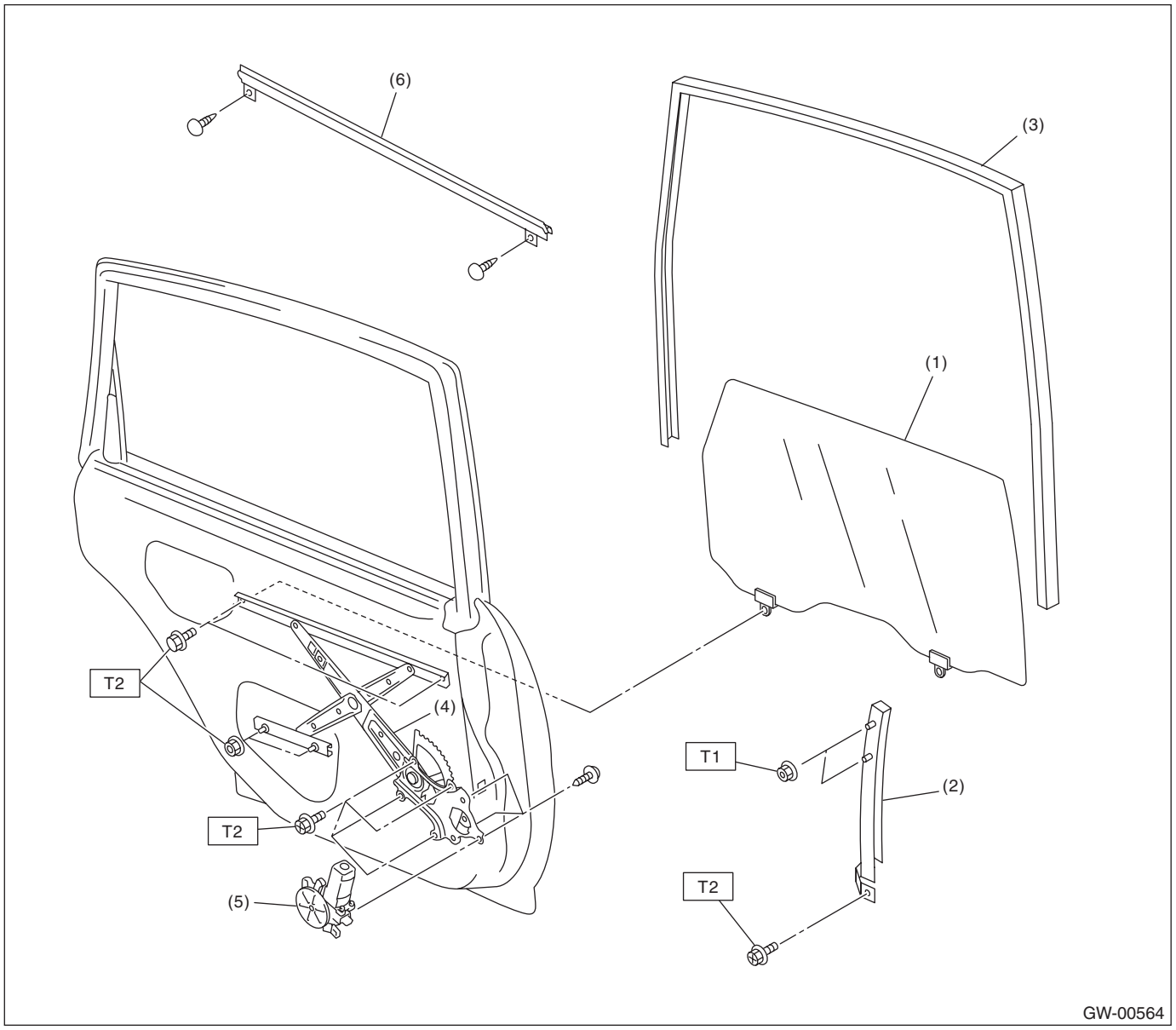
2. FRONT DOOR GLASS



(1) Glass
(2) Door sash
(3) Glass run rubber
(4) Regulator ASSY
(5) Motor ASSY
(6) Weather strip

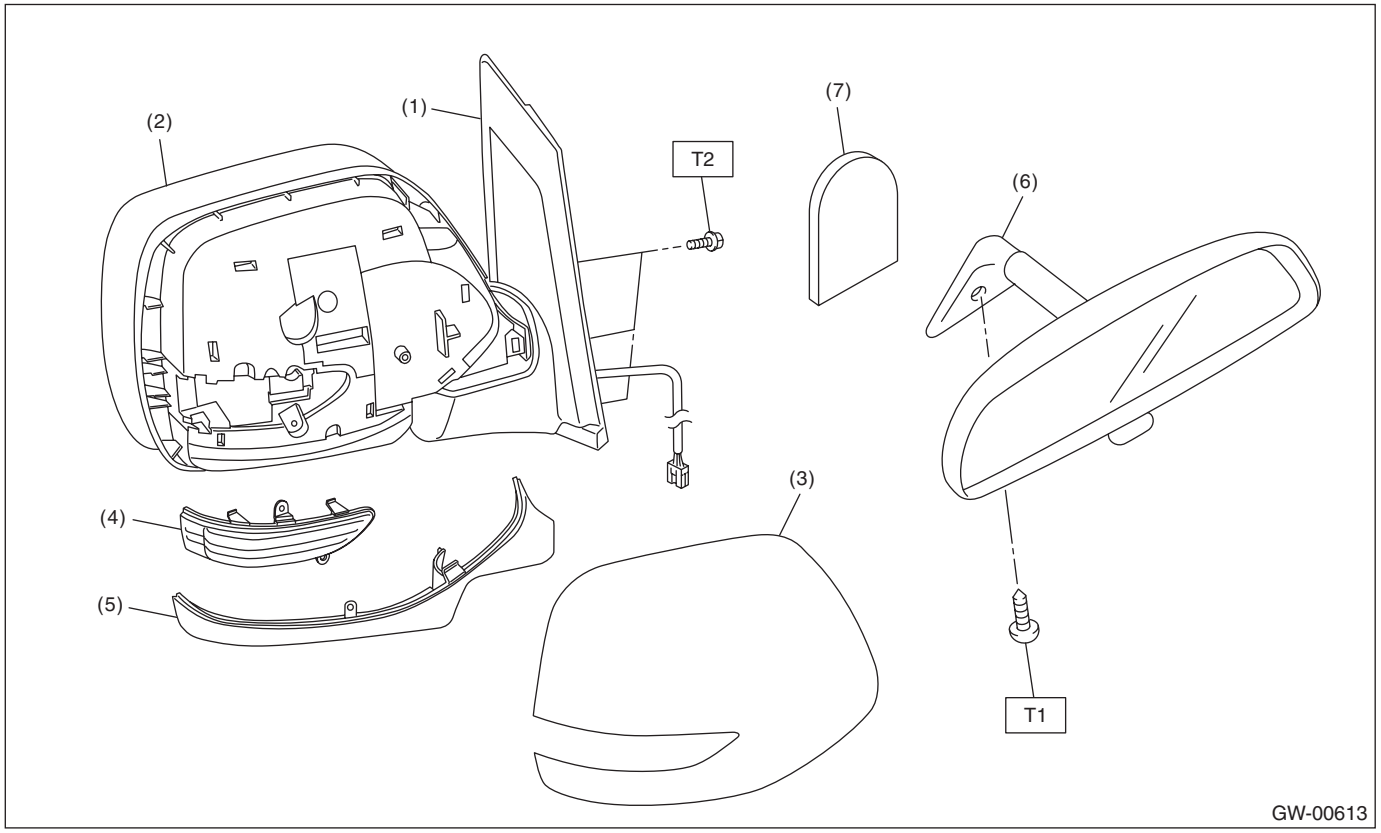
Tightening torque:N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

3. REAR DOOR GLASS



(1)	Glass	(4)	Regulator ASSY	***Tightening torque:N·m (kgf-m, ft-lb)***
(2)	Door sash	(5)	Motor ASSY	***T1: 4.4 (0.45, 3.3)***
(3)	Glass run rubber	(6)	Weather strip	***T2: 7.4 (0.75, 5.5)***

4. MIRROR



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

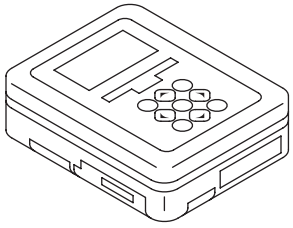
Tightening torque:N·m (kgf-m, ft-lb)
T1: 2 (0.2, 1.5)
T2: 4.5 (0.46, 3.32)

B: CAUTION

- When electrical connectors are disconnected, always conduct an operational check after connecting them again.
- Avoid impact and damage to the glass.

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for settings of each function and trouble-shooting for electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for checking voltage and continuity.
Piano wire	Used for removing the window glass.
Windshield glass knife	Used for removing the window glass.
Cutter 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-141, Power Window System.>

B: INSPECTION

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

C: NOTE

For the removal of power window system component parts, refer to the corresponding section for each component.

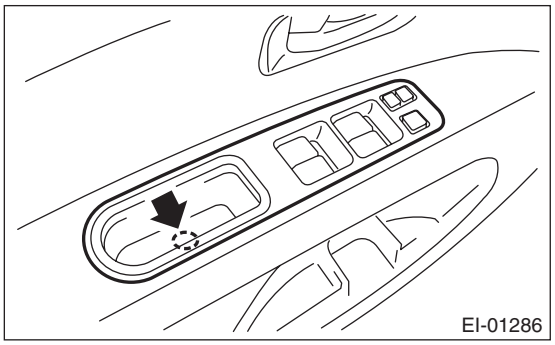
- Power window control switch <Ref. to GW-8, Power Window Control Switch.>
- Front door glass <Ref. to GW-10, Front Door Glass.>
- Front regulator and motor assembly <Ref. to GW-11, Front Regulator and Motor Assembly.>
- Rear door glass <Ref. to GW-17, Rear Door Glass.>
- Rear regulator and motor assembly <Ref. to GW-18, Rear Regulator and Motor Assembly.>

3. Power Window Control Switch

A: REMOVAL

1. MAIN SWITCH

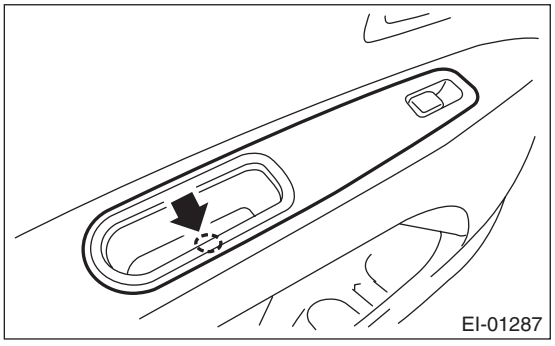
1) Disconnect the ground cable from battery.
2) Peel the cover inside the hand grip, and remove the screw.
3) Remove the power window switch cover assembly.



4) Disconnect the harness connector.
5) Detach the claw, and remove the power window main switch assembly.

2. SUB-SWITCH

1) Disconnect the ground cable from battery.
2) Peel the cover inside the hand grip, and remove the screw.
3) Remove the power window switch cover assembly.



4) Disconnect the connector.
5) Detach the claw and remove the power window sub-switch.

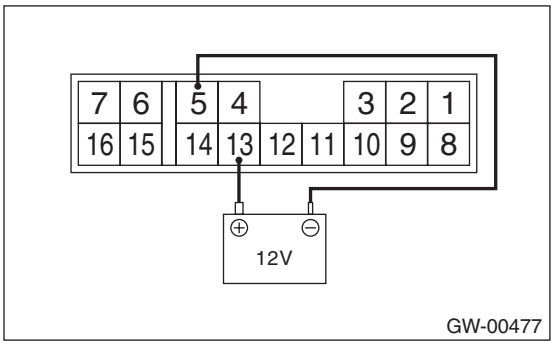
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. MAIN SWITCH

Measure the switch resistance.

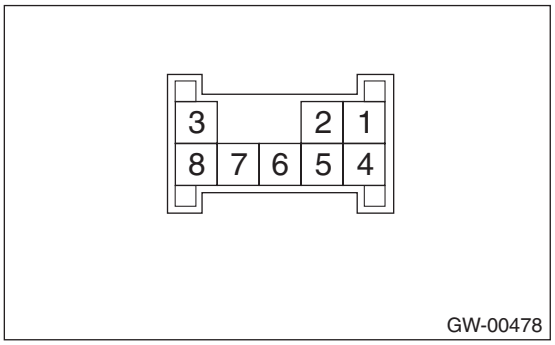


NOTE:
• Make sure the battery voltage is applied to the terminal No. 13 (+) and 5 (–) when measuring resistance, because the main switch is controlled by microcomputer.
• Make sure that the window lock switch is measured in the UNLOCK position.

	Switch position	Terminal No.	Standard
Driver's seat	UP	13 and 2 5 and 1	Less than 1 Ω
	OFF	2 and 5 1 and 5	Less than 1 Ω
	DOWN	13 and 1 5 and 2	Less than 1 Ω
	AUTO DOWN	13 and 1 5 and 2	Less than 1 Ω
Passenger's side	UP	13 and 6 5 and 7	Less than 1 Ω
	OFF	5 and 6 5 and 7	Less than 1 Ω
	DOWN	13 and 7 5 and 6	Less than 1 Ω
Rear RH seat	UP	13 and 16 5 and 15	Less than 1 Ω
	OFF	5 and 16 5 and 15	Less than 1 Ω
	DOWN	13 and 15 5 and 16	Less than 1 Ω
Rear LH seat	UP	13 and 11 5 and 10	Less than 1 Ω
	OFF	5 and 11 5 and 10	Less than 1 Ω
	DOWN	13 and 10 5 and 11	Less than 1 Ω

2. SUB-SWITCH

Measure the switch resistance.



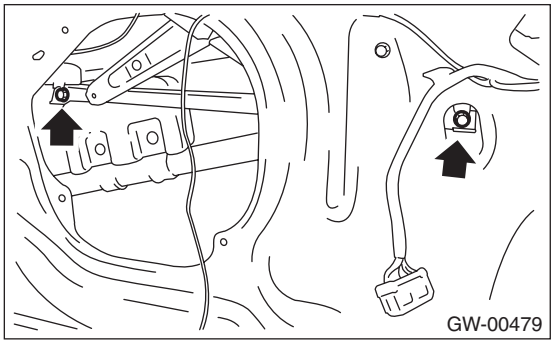
	Switch position	Terminal No.	Standard
Passenger's seat and rear seat	UP	5 and 8 7 and 4	Less than 1 Ω
	OFF	6 and 5 7 and 4	Less than 1 Ω
	DOWN	8 and 7 6 and 5	Less than 1 Ω

Replace the sub-switch if faulty.

4. Front Door Glass

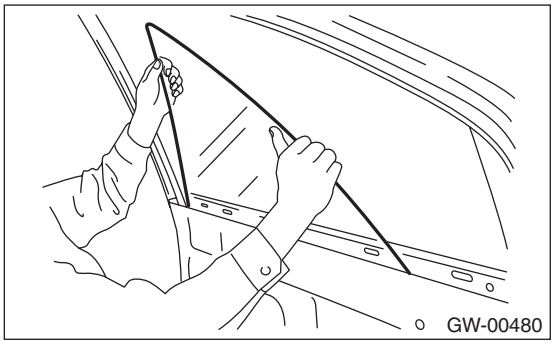
A: REMOVAL

1) Remove the front door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
2) Remove the sealing cover. <Ref. to EB-17, REMOVAL, Front Sealing Cover.>
3) Connect the battery ground cable and power window switch connector.
4) Operate the power window switch to move the glass to the position shown in the figure, and then remove the two bolts through service holes.

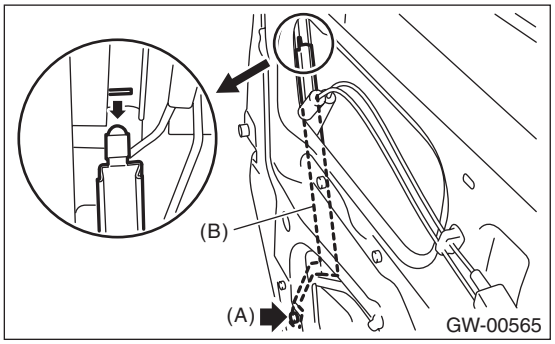


5) Tilt the door glass forward, then remove the door glass from the glass run rubber.
6) Remove the door glass.

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.



7) Remove the bolt (A), and then remove the door sash (B).



B: INSTALLATION

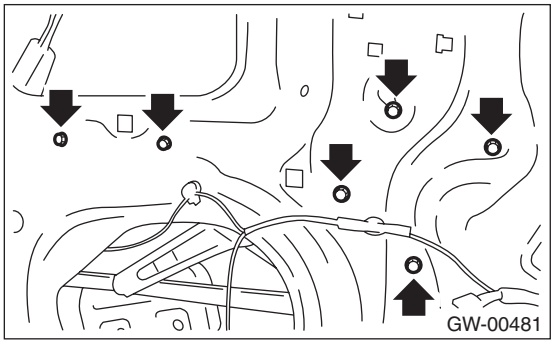
CAUTION:
Make sure that the glass run rubber is placed securely in door frame and sash.
Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-3, FRONT DOOR GLASS, COMPONENT, General Description.>

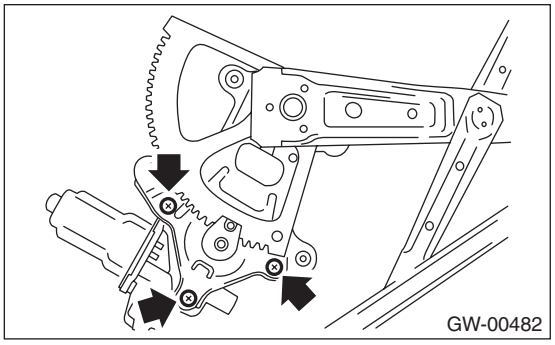
5. Front Regulator and Motor Assembly

A: REMOVAL

1) Remove the door glass. <Ref. to GW-10, REMOVAL, Front Door Glass.>
2) Disconnect the motor connector.
3) Remove the four bolts and two nuts to remove regulator assembly.



4) Remove the screws to remove motor assembly.



NOTE:
When removing the motor assembly, secure the arm correctly. Otherwise the regulator arm moves with the force of balancing spring.

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-3, FRONT DOOR GLASS, COMPONENT, General Description.>

C: INSPECTION

1) Make sure that the power window motor rotates properly when the battery voltage is applied to the terminals of motor connector.
2) Change polarity of battery connection to terminals to ensure that the motor rotates in reverse direction.

6. Remote Control Mirror System

A: WIRING DIAGRAM

<Ref. to WI-146, Remote Control Mirror System.>

B: INSPECTION

Symptom	Repair order
All function does not operate.	1. Fuse (F/B No. 6) 2. Mirror switch 3. Wiring harness
One side of the mirror motor does not operate.	1. Mirror switch 2. Mirror motor 3. Wiring harness
Mirror heater does not operate.	1. Mirror switch 2. Mirror heater 3. Wiring harness

C: NOTE

For the removal of remote control mirror system component parts, refer to the corresponding section for each component.

- Scalp cap <Ref. to GW-13, Scalp Cap.>
- Outer mirror assembly <Ref. to GW-14, Outer Mirror Assembly.>
- Outer mirror <Ref. to GW-15, Outer Mirror.>
- Remote control mirror switch <Ref. to GW-16, Remote Control Mirror Switch.>

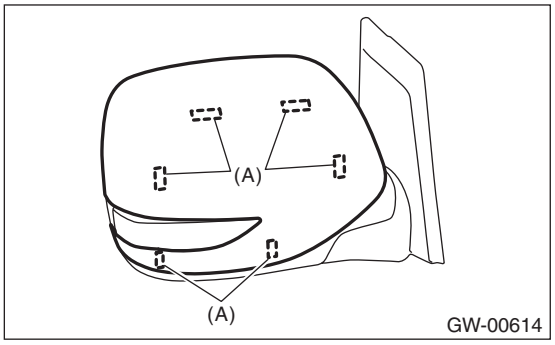
7. Scalp Cap

A: REPLACEMENT

CAUTION:
Do not remove caps such as scalp cap forcibly. The lower hooks may be damaged.

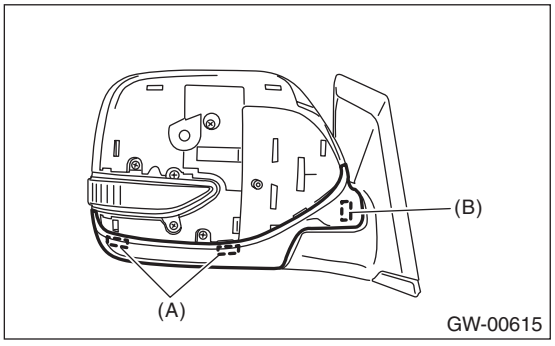
1) Remove the outer mirror. <Ref. to GW-15, REPLACEMENT, Outer Mirror.>

2) Disengage the claws (A) from inside of the outer mirror, and remove the scalp cap.



3) Disengage the claws (A) and (B) from inside of the outer mirror, and remove the mirror body cover.

CAUTION:
Claw (B) cannot be disengaged from the inside of the outer mirror. When removing, be careful not to damage the parts.

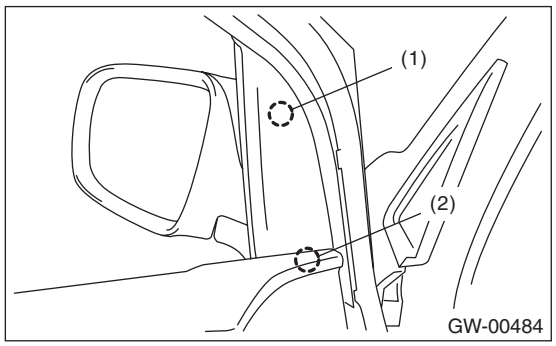


4) Install the scalp cap and mirror body cover clips (A) securely.

8. Outer Mirror Assembly

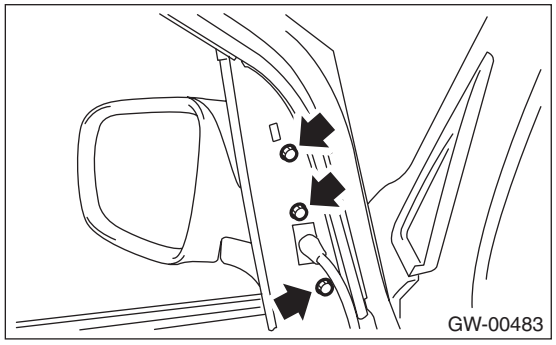
A: REMOVAL

1) Remove the mirror gusset cover.



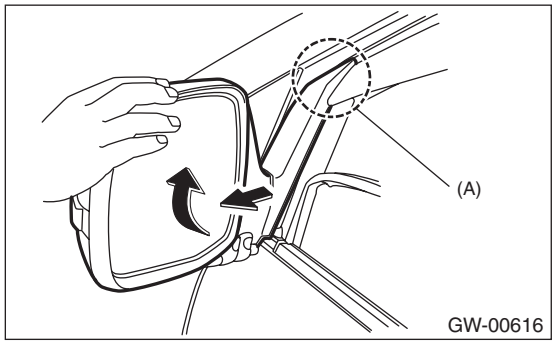
(1) Clip
(2) Hook

2) Remove the door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
3) Disconnect the mirror connector.
4) Remove the screws to remove outer mirror assembly.

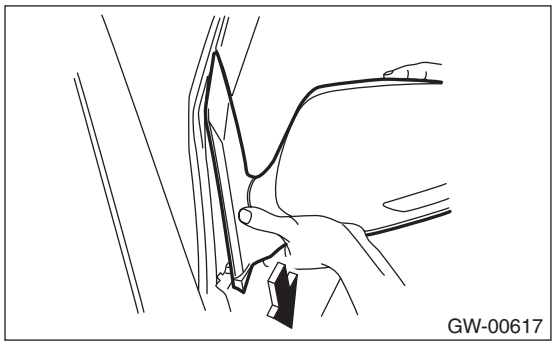


5) Remove the outer mirror assembly. (Model without door visor)
6) Using the upper part (A) of the mirror assembly as a supporting point, pull it upward while drawing the lower part. (Model with door visor)

CAUTION:
• Do not remove forcibly, otherwise door visor may be damaged.
• Apply protective tape as necessary in order to avoid scratching the door visor and mirror assembly.



7) Pull the mirror assembly downward to remove from the vehicle body. (Model with door visor)



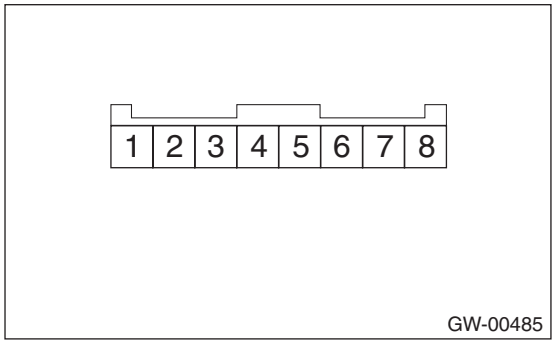
B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-5, MIRROR, COMPONENT, General Description.>

C: INSPECTION

Check that the rearview mirror moves properly when the battery voltage is applied to terminals.



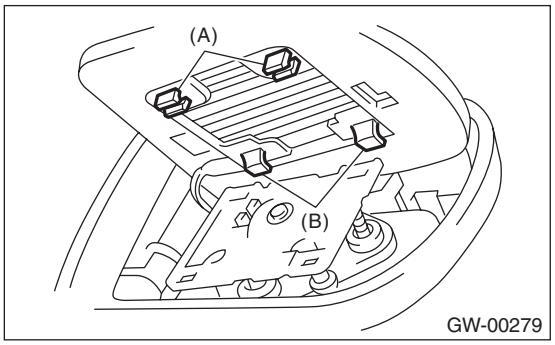
Mirror movement	Terminal No.
OFF	—
UP	5 (+) and 6 (–)
DOWN	6 (+) or 5 (–)
LEFT	8 (+) and 7 (–)
RIGHT	7 (+) or 8 (–)

Replace the outer mirror assembly if defective.

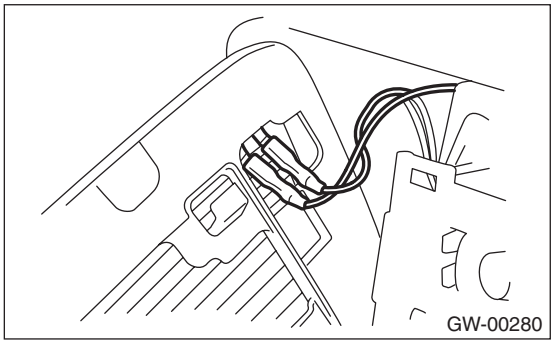
9. Outer Mirror

A: REPLACEMENT

1) Face the mirror upward.
2) Disconnect the ground cable from battery. (Model with mirror heater)
3) Use a flat tip screwdriver to remove clip (A).
4) Lift the lower mirror up to remove hooks (B).

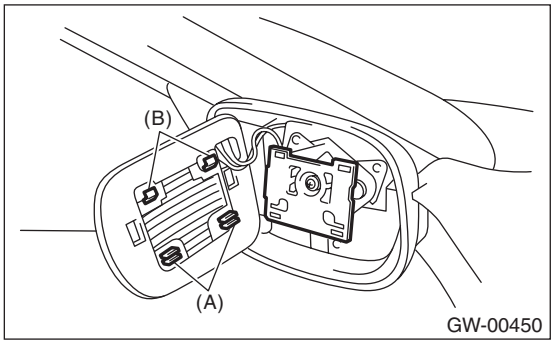


5) Disconnect the mirror heater connector from side of the mirror. (Model with mirror heater)



6) Catch the hooks (B) and install clips (A).

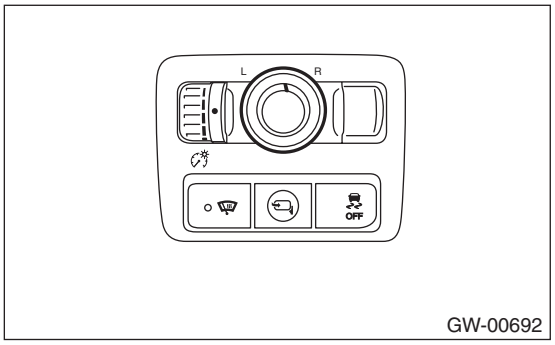
CAUTION:
• When removing the mirror, be careful not to damage the back surface of mirror with a flat tip screwdriver.
• When installing the mirror, insert the hook and clip securely.



10.Remote Control Mirror Switch

A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
2) Disconnect the connector.



3) Remove the remote control mirror switch from instrument panel lower cover.

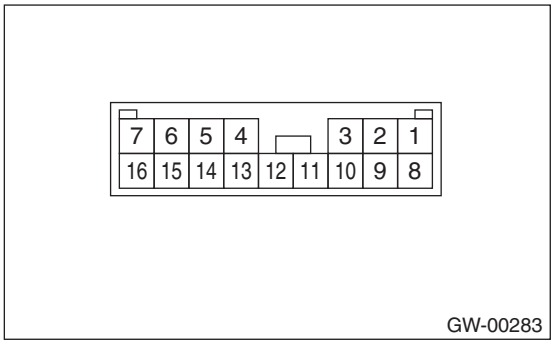
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. REMOTE CONTROL MIRROR SWITCH

Move the remote control mirror switch to each position and check continuity between terminals.



- Change over switch R

Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
UP	10 and 12 15 and 14	Less than 1 Ω
DOWN	10 and 15 12 and 14	Less than 1 Ω
LEFT	10 and 11 15 and 14	Less than 1 Ω
RIGHT	10 and 15 11 and 14	Less than 1 Ω

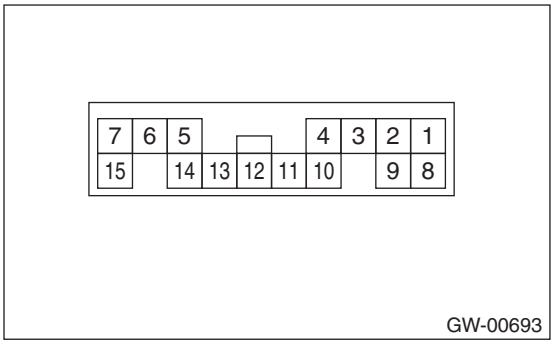
- Change over switch L

Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
UP	10 and 8 15 and 14	Less than 1 Ω
DOWN	10 and 15 8 and 14	Less than 1 Ω
LEFT	10 and 9 15 and 14	Less than 1 Ω
RIGHT	10 and 15 9 and 14	Less than 1 Ω

Replace the remote control mirror switch if defective.

2. ELECTRIC FOLDING SWITCH

Press the switch and check for continuity between the terminals.



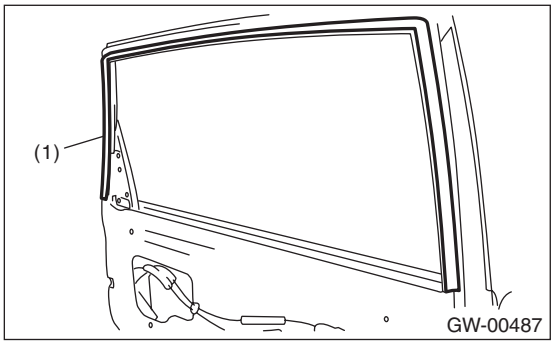
Switch position	Terminal No.	Standard
Folding	11 and 4 12 and 13	Less than 1 Ω
Unfolding	11 and 13 12 and 4	Less than 1 Ω

If NG, replace the switch.

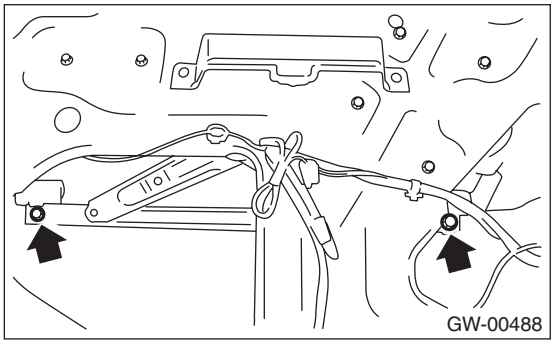
11.Rear Door Glass

A: REMOVAL

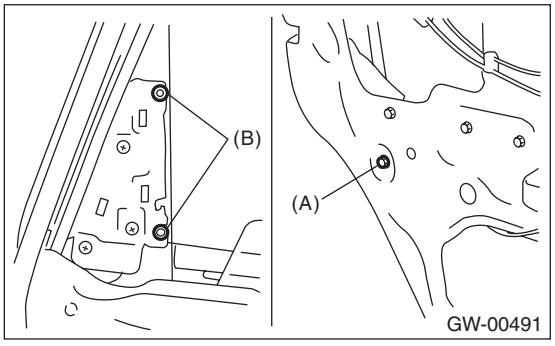
1) Remove the rear door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
2) Remove the sealing cover. <Ref. to EB-20, NOTE, Rear Sealing Cover.>
3) Apply the protective tape (1) to the areas as shown in the figure.



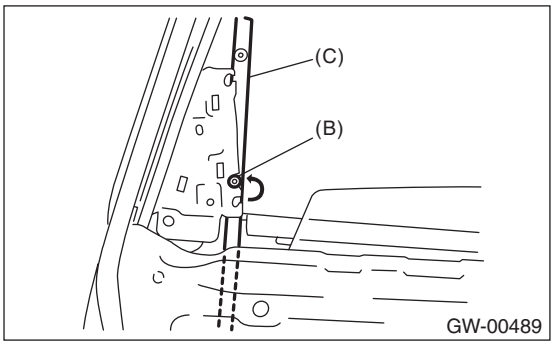
4) Connect the ground cable to battery and power window switch connector.
5) Operate the power window switch to move the glass to the position shown in the figure, and then remove the two bolts through service holes.



6) Remove the sash retaining bolt (A), and loosen the retaining nuts (B).

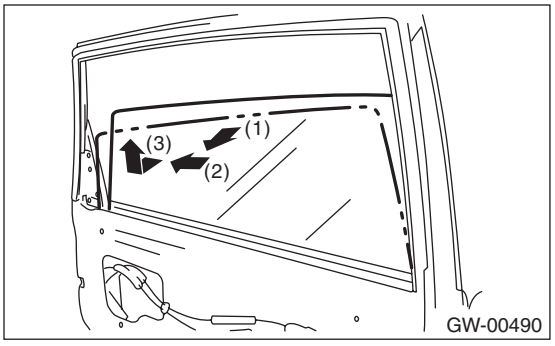


7) Move the sash (C) upward, and move the nut (B) to the position on rear door as shown in the figure.



8) Detach the rear part of door glass from sash (1), and move it backward (2). Tilt the door glass inward, and move it upward to remove (3).

CAUTION:
• Since the gear may be disengaged, do not turn regulator in the closing direction after removing glass.
• Avoid impact and damage to the glass.



9) Remove the glass run rubber.
10) Remove the door sash.

B: INSTALLATION

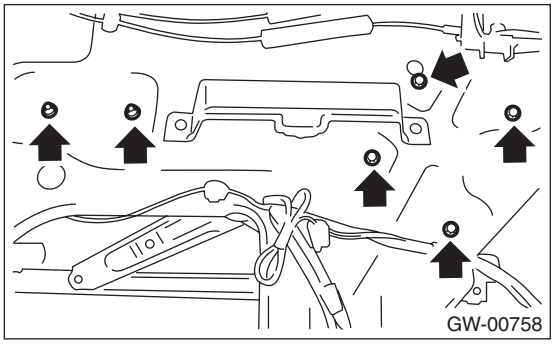
CAUTION:
Make sure that the glass run rubber is placed securely in door frame and sash.
Install in the reverse order of removal.

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

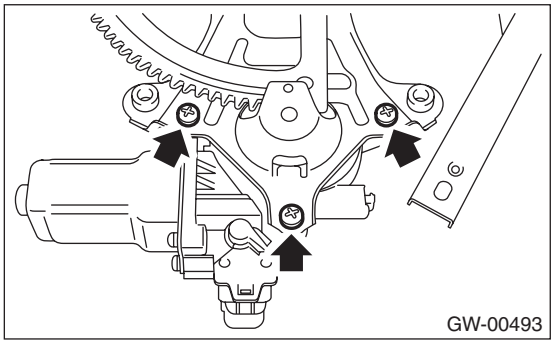
12. Rear Regulator and Motor Assembly

A: REMOVAL

1) Remove the rear door glass. <Ref. to GW-17, REMOVAL, Rear Door Glass.>
2) Disconnect the motor connector.
3) Remove the four bolts and two nuts to remove the regulator assembly.



4) Remove the screws to remove the motor assembly.



B: INSTALLATION

Install in the reverse order of removal.

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

C: INSPECTION

1) Make sure that the power window motor rotates properly when the battery voltage is applied to the terminals of motor connector.
2) Change polarity of battery connection to terminals to ensure that the motor rotates in reverse direction.

13.Windshield Glass

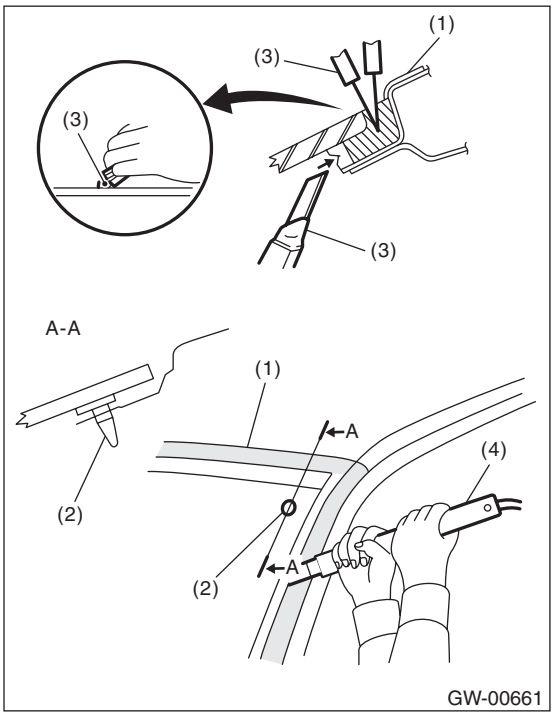
A: REMOVAL

1. WHEN USING THE WINDSHIELD GLASS KNIFE

1) Remove the front pillar trim (passenger' side) and disconnect the wiper deicer connector. (Models with wiper deicer)
2) Remove the cowl panel. <Ref. to EI-30, REMOVAL, Cowl Panel.>
3) Remove the molding front.
4) Tape the body side of the circumference of windshield glass for protection.
5) Apply sufficient amount of soapy water to the adhesive part.
6) Make a cut in the adhesive part using a cutter blade so that windshield glass knife can be inserted easily.
7) Insert the windshield glass knife into adhesive part.
8) 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.

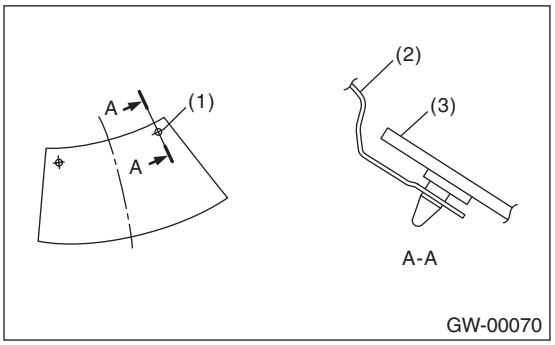
NOTE:
• Do not twist the windshield glass knife.

• Cutting of adhesive part shall be started with wider gap between windshield glass and body.



(1) Tape for protection
(2) Locating pin
(3) Cutter knife
(4) Windshield glass knife

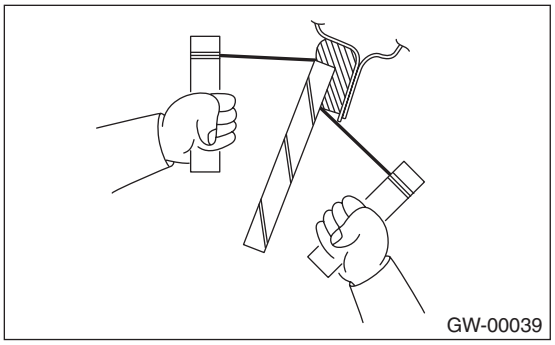
• The locating pins are bonded to the corners of glass. Use piano wire to disconnect the pins.



(1) Locating pin
(2) Body panel
(3) Windshield glass

2. USING PIANO WIRE

1) Remove the front pillar trim (passenger' side) and disconnect the wiper deicer connector. (Model with wiper deicer)
2) Remove the cowl panel. <Ref. to EI-30, REMOVAL, Cowl Panel.>
3) Remove the molding front.
4) Apply protective tape to the body panel side to enclose the windshield glass.
5) Make a hole in the adhesive part using drill or knife.
6) Pass the piano wire through the hole, and attach both the wire ends securely to pieces of wood.



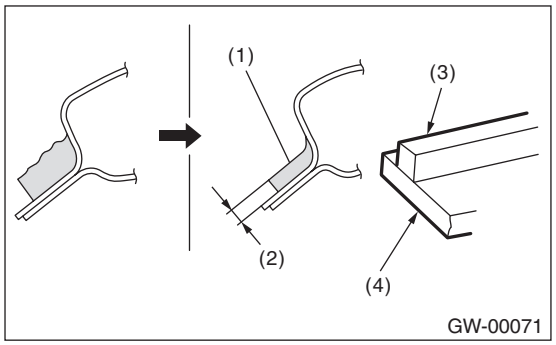
7) Pull the wire ends alternately to cut off the adhesive part.

CAUTION:
• Do not tightly pull the piano wire against the windshield glass edge.
• Be careful not to damage interior and exterior parts.
• When removal is made with area close to instrument panel, place a protection plate over it. Pay particular attention to the removal.
• Do not cross piano wires. Otherwise they may be cut.

B: INSTALLATION

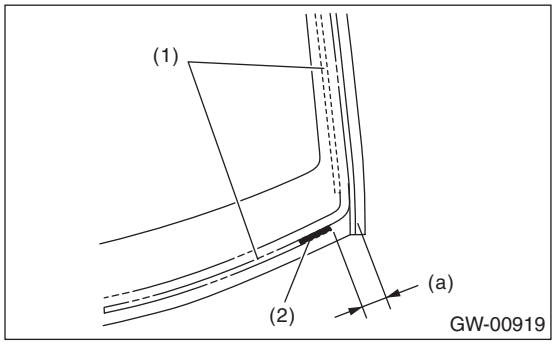
1) Clean the external circumference of windshield glass with alcohol or white gasoline.
2) Remove the adhesive layer on the body using cutter knife to obtain smooth face of 2 mm (0.08 in) thick.

CAUTION:
Be careful not to damage the body and paint surface.



(1) Adhesive
(2) 2 mm (0.08 in)
(3) Dam rubber
(4) Glass

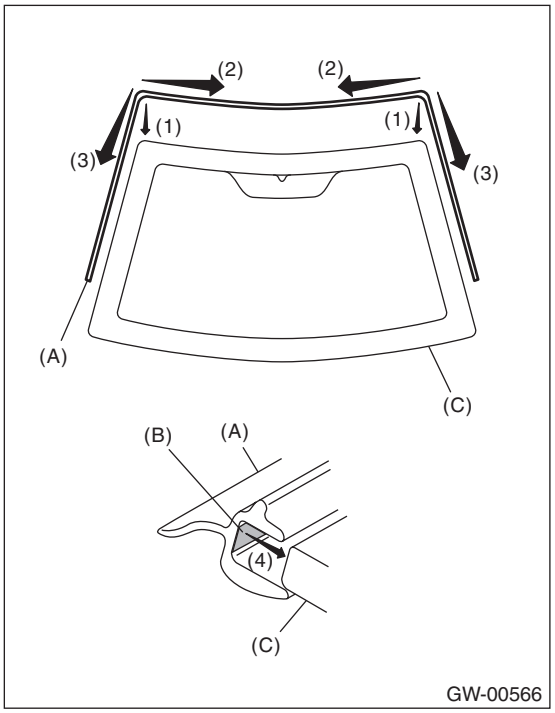
3) Clean the body with alcohol or white gasoline to eliminate cutting powder, dust and dirt completely from body.
4) Attach the dam rubber to the backside of the glass.
5) Attach the spacer to the lower end of the glass on passenger's side only.



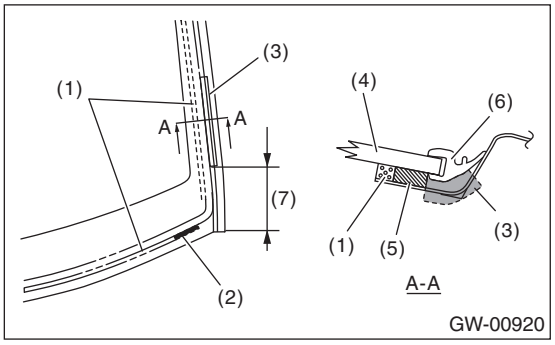
(a) 15 mm (0.59 in)

(1) Dam rubber
(2) Spacer

6) Install the molding to the glass.

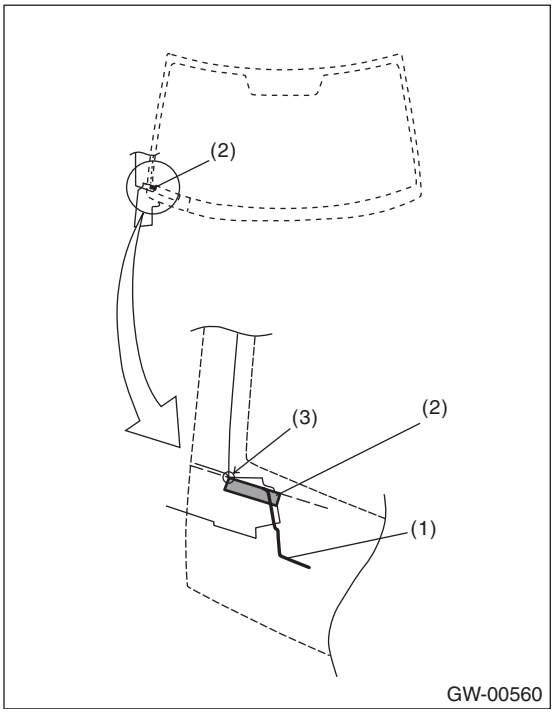


(1) Align the molding (A) with both ends of the upper edge of the windshield glass (C).
(2) Install the molding from both corners of the upper edge toward the center.
(3) Install the molding from both corners of the upper edge toward the lower side.
(4) Apply the double-sided tapes (B) uniformly on both sides of the glass.
(5) Attach the seal A (3) to the backside of the molding.



(1) Dam rubber
(2) Spacer
(3) Seal A
(4) Glass
(5) Adhesive
(6) Molding
(7) 86.4 mm (3.4 in)

7) Apply the seal B (2) to terminal section of front reinforce side panel (1) and the intersection point (3) of front reinforce side panel and front pillar out panel.



(1) Front reinforce side panel
(2) Seal B
(3) Intersection point of front reinforce side panel and front pillar out panel

8) Apply two types of primers to the adhesive layer of glass using sponge.

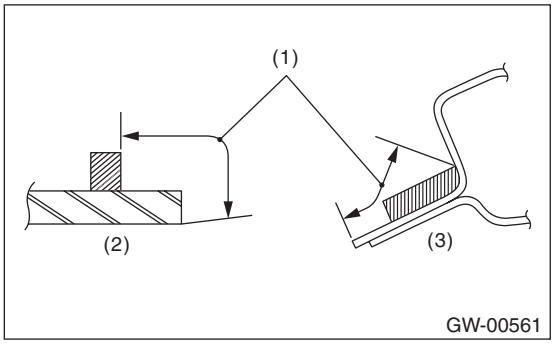
Glass primer:
Dow Automotive's
ESSEX U-401, U-402

9) Apply the primer to the adhesive layer of body.

Painted surface primer:
Dow Automotive's
ESSEX U-413

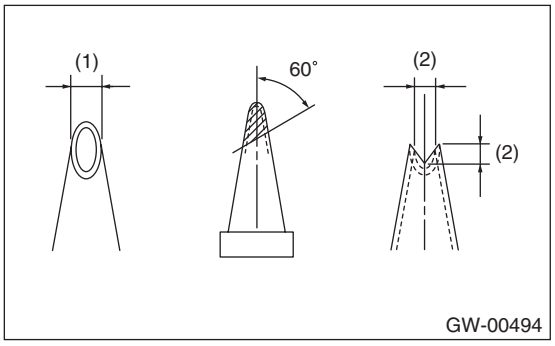
NOTE:
• Primer once attached to the painted surface of the body and internal trim is hard to wipe off. Mask the circumference of such area.
• Let primer dry for about ten minutes before installing the glass.

- Do not touch the surface coated with primer.



(1) Application of primer
(2) Glass side
(3) Body side

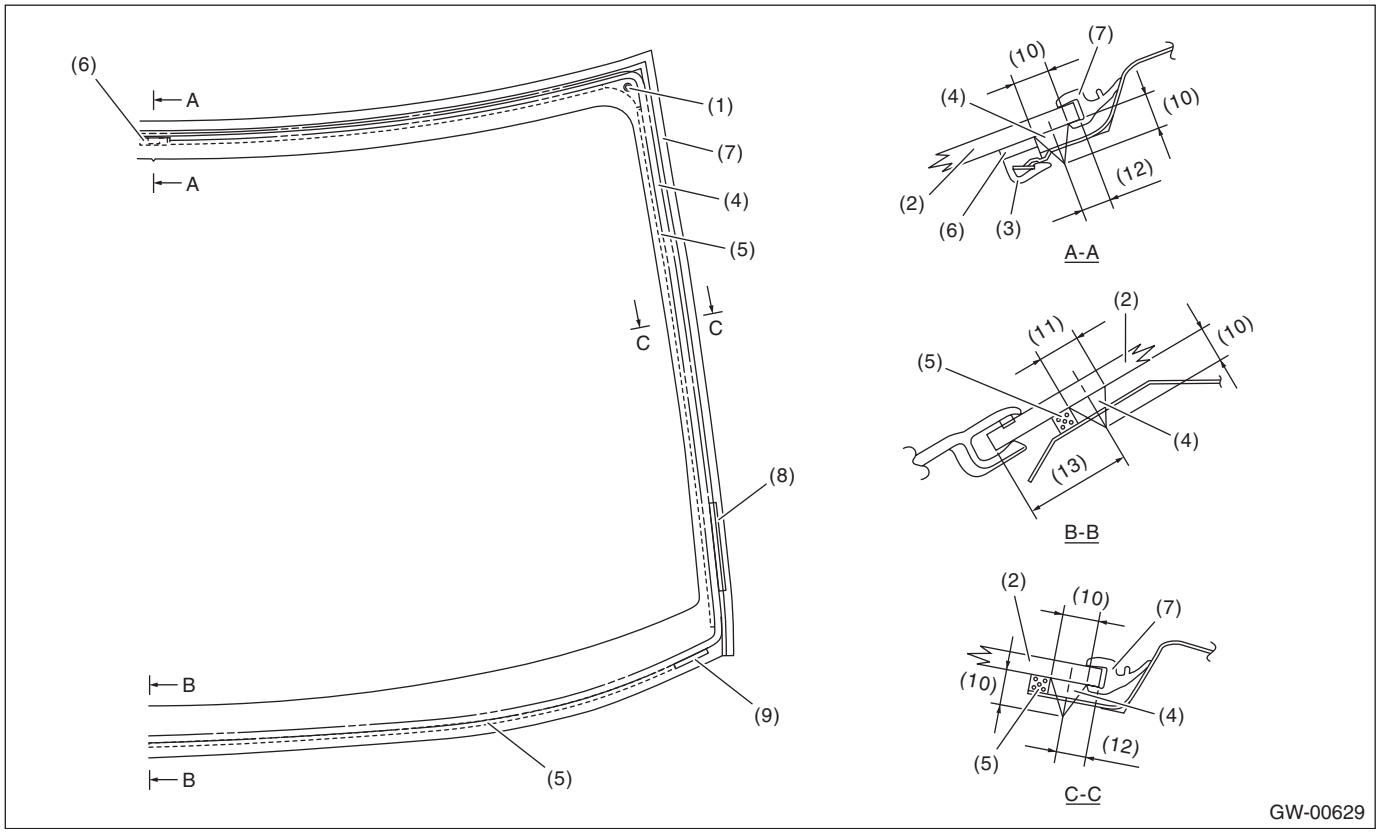
10) Cut off the cartridge nozzle tip as shown and set it in sealant gun.



(1) 10 mm (0.39 in)
(2) 9 mm (0.35 in)

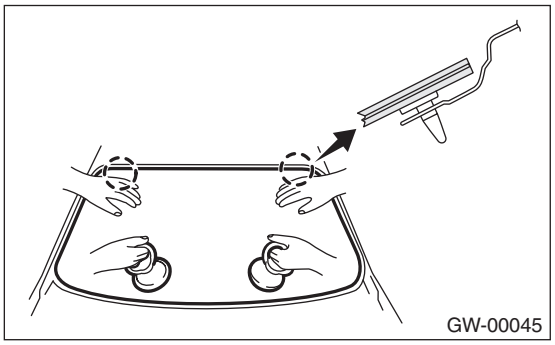
11) Apply adhesive to the glass end surface as shown.

Adhesive:
Dow Automotive's
ESSEX U-400HV or equivalent



(1)	Locating pin	(6)	Fastener	(10)	9 mm (0.35 in)
(2)	Glass	(7)	Molding front	(11)	10 mm (0.39 in)
(3)	Fastener	(8)	Seal A	(12)	7.5 mm (0.29 in)
(4)	Adhesive	(9)	Spacer	(13)	25 mm (0.98 in)
(5)	Dam rubber				

12) Fit the locating pins, and install windshield glass using suction rubber cup.



13) Lightly press the windshield glass for tight fit.
14) Make flush the adhesive surface jutted out using spatula.
15) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
- When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
- Move the vehicle slowly.
- For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

16) After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

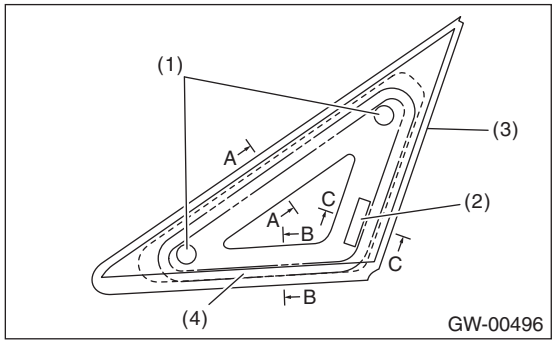
NOTE:
When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

17) Install the cowl panel. <Ref. to EI-30, INSTALLATION, Cowl Panel.>

14.Front Quarter Glass

A: REMOVAL

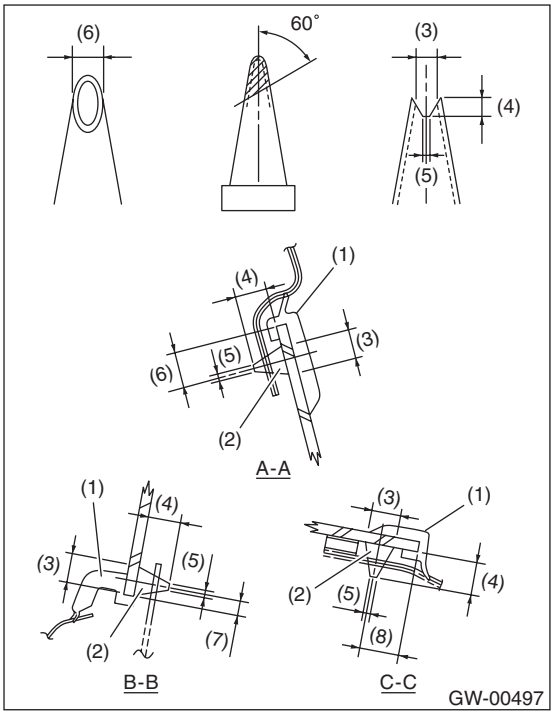
Remove the glass in the same procedure as for windshield glass. <Ref. to GW-19, REMOVAL, Windshield Glass.>



(1) Locating pin
(2) Fastener
(3) Encap molding
(4) Adhesive

B: INSTALLATION

1) Cut out the nozzle head and apply adhesive to the glass end surface as shown.



(1) Encap molding
(2) Adhesive
(3) 8 mm (0.31 in)
(4) 9 mm (0.35 in)
(5) 2 mm (0.07 in)
(6) 10 mm (0.39 in)
(7) 4.5 mm (0.17 in)
(8) 11 mm (0.43 in)

2) Install the glass in the same procedure as for windshield glass. <Ref. to GW-20, INSTALLATION, Windshield Glass.>
3) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
• Move the vehicle slowly.
• For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

4) After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

NOTE:
When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

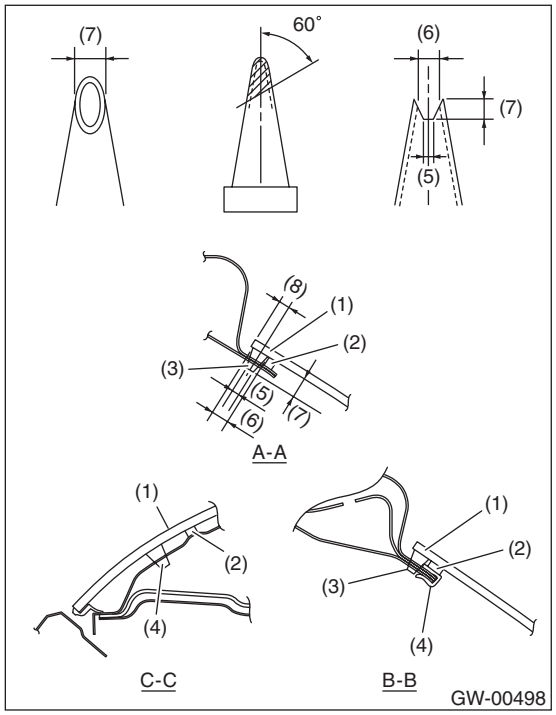
15.Rear Gate Glass

A: REMOVAL

1) Remove the rear wiper motor. <Ref. to WW-21, REMOVAL, Rear Wiper Motor.>
2) Disconnect the electrical connectors from rear defogger terminal.
3) Remove the glass in the same procedure as for windshield glass. <Ref. to GW-19, REMOVAL, Windshield Glass.>

B: INSTALLATION

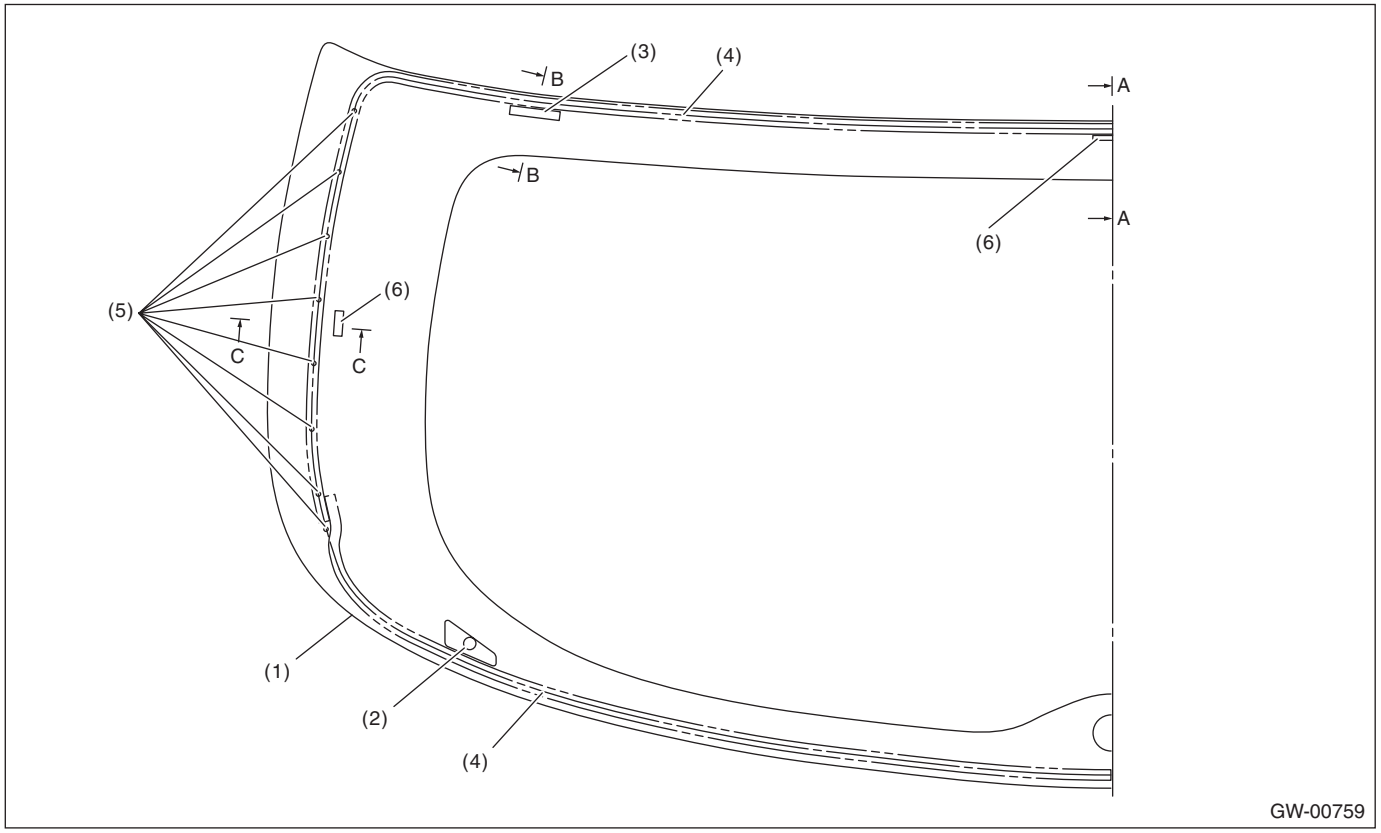
1) Mount the fastener on the vehicle body.
2) Cut off the cartridge nozzle tip as shown and set it in sealant gun.



(1) Glass
(2) Spacer
(3) Adhesive
(4) Fastener
(5) 4 mm (0.15 in)
(6) 8 mm (0.31 in)
(7) 10 mm (0.39 in)
(8) 10 mm (0.39 in)

3) Apply adhesive in the same procedure as for windshield glass. <Ref. to GW-20, INSTALLATION, Windshield Glass.>
4) Insert the glass clip pin into rear gate hole, push on the area around the clip pin to secure it, and then push lightly all around the area to seal it.

5) About one hour after installation, conduct a leak test.



(1) Glass
(2) Glass clip pin
(3) Fastener
(4) Adhesive
(5) Marks for applying the primer
(6) Spacer

6) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
• Move the vehicle slowly.
• For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.
• When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

7) Connect the rear defogger terminals.
8) Install the rear wiper. <Ref. to WW-21, INSTALLATION, Rear Wiper Motor.>

16. Rear Window Defogger System

A: WIRING DIAGRAM

Refer to “Rear Defogger System” in WI section. <Ref. to WI-145, WIRING DIAGRAM, Rear Defogger System.>

B: INSPECTION

1. SYSTEM INSPECTION

Symptoms	Repair order
Rear window defogger does not operate.	1. Fuse (M/B No. 10) 2. Rear defogger relay 3. Defogger switch 4. Heat wire 5. Wiring harness 6. 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.

2. CHECK WITH SUBARU SELECT MONITOR

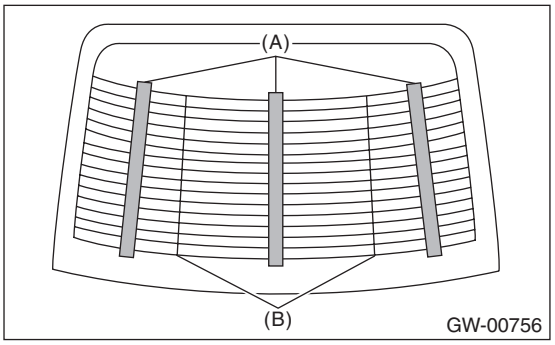
CAUTION:
Check that the rear window defogger timer is in initial setting or customize setting before performing inspection.

1) Check the input signal when the rear window defogger switch is operated using Subaru Select Monitor.
   (1) Prepare the Subaru Select Monitor. <Ref. to GW-6, PREPARATION TOOL, General Description.>
   (2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”.
   (3) On «System Selection Menu» display, select {Integ. unit mode}.
   (4) Select the {Current Data Display & Save}.
   (5) Display the data of rear window defogger switch.
2) After rear window 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.

3. HEAT WIRE INSPECTION

CAUTION:
When wiping off the stain on glass with cloth, use a dry and soft cloth and move it in the direction of the heat wire extension to avoid damage to the heat wire.

1) Prepare the following checking items.
• Liquid crystal thermograph sheet (Approximate Size: 300 × 300 mm (11.8 × 11.8 in) and thermal temperature: 35 — 40°C (95 — 104°F))
• Aluminum foil
2) Turn the ignition switch to ON.
3) Turn the defogger switch to ON.
4) Push the liquid crystal thermograph sheet from the outside of the rear glass.



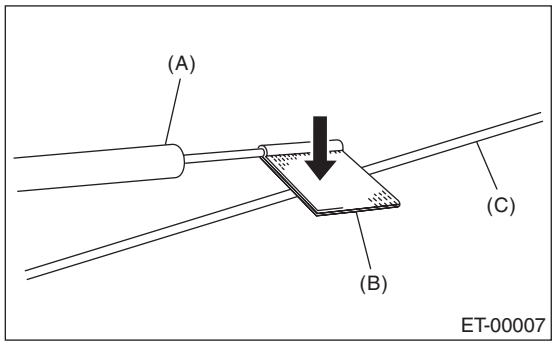
(A) Liquid crystal thermograph sheet
(B) Separate line

NOTE:
Use the liquid crystal thermograph sheet every range it is separated with the separate line.
5) Determine the faulty heat wire by checking the color of the liquid crystal thermograph sheet.

Liquid crystal thermograph sheet	Criteria
Change occurred (red → blue)	Normal
No change (black)	Open

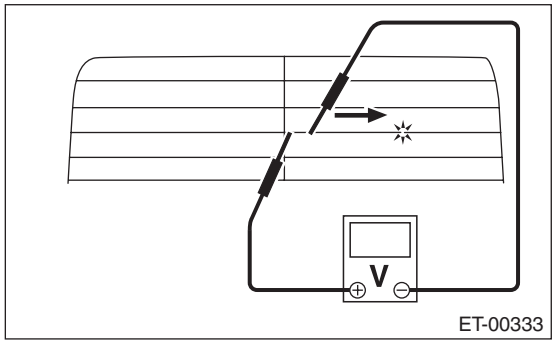
NOTE:
• Check from the inside of the glass if the liquid crystal thermograph sheet does not change.
• The time for the color change may differ depends on the surface temperature of the glass.

6) Wrap a piece of aluminum foil around the tip of tester probe and press it against the heat wire with your finger.



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

7) Fasten the tester probe on the positive (+) side and negative (–) side to end of positive side of open harness of step 5).
8) Move the tester probe on the negative (–) side slowly along the heat wire. If voltage changes from zero to several volts during movement of tester probe, heat wire is open at the voltage change point.

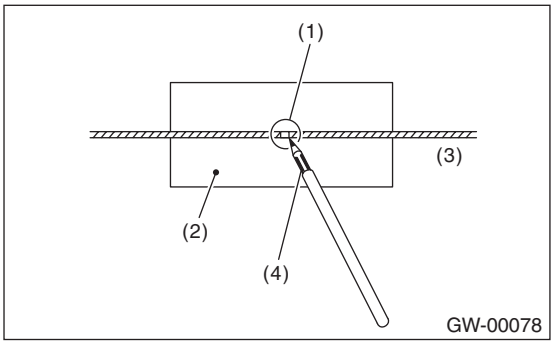


9) Repair the heat wire that determines the place of the open circuit. <Ref. to GW-28, REPAIR, Rear Window Defogger System.>

C: REPAIR

1) Clean the broken portion with alcohol or white gasoline.
2) Mask both side of wire with masking tape.
3) Apply the conductive silver composition to the broken portion.

Conductive silver composition:
by Permatex
QUICK GRID



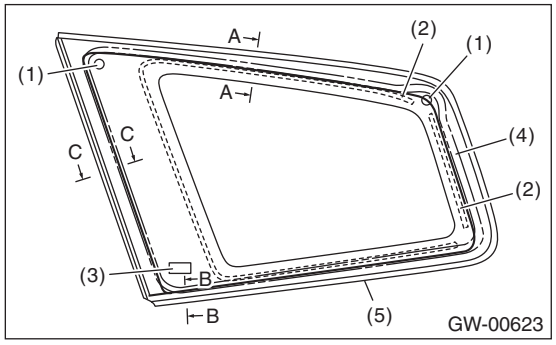
(1) Broken portion
(2) Masking tape
(3) Broken wire
(4) Conductive silver composition

4) Dry using a dryer after applying the composition.
5) After repair, check the wire.

17.Rear Quarter Glass

A: REMOVAL

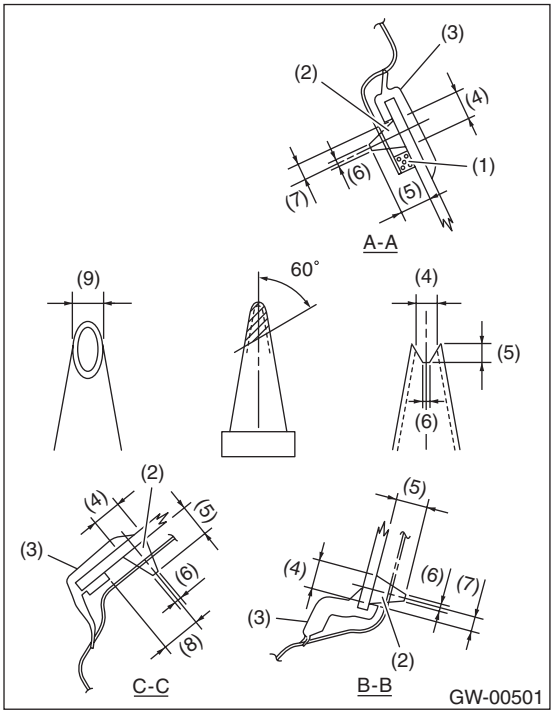
Remove the glass in the same procedure as for windshield glass. <Ref. to GW-19, REMOVAL, Windshield Glass.>



(1) Locating pin
(2) Dam rubber
(3) Fastener
(4) Adhesive
(5) Encap molding

B: INSTALLATION

1) Install the dam rubber.
2) Cut out the nozzle head and apply adhesive to the glass end surface as shown.



(1) Dam rubber
(2) Adhesive
(3) Encap molding
(4) 8 mm (0.31 in)
(5) 9 mm (0.35 in)
(6) 2 mm (0.07 in)
(7) 4 mm (0.15 in)
(8) 11 mm (0.43 in)
(9) 10 mm (0.39 in)

3) Install the glass in the same procedure as for windshield glass. <Ref. to GW-20, INSTALLATION, Windshield Glass.>

4) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
• Move the vehicle slowly.
• For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

5) After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

NOTE:
When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

18.Sunroof Glass

A: PROCEDURE

For removal, installation and adjustment of the sunroof glass, refer to the sunroof section.

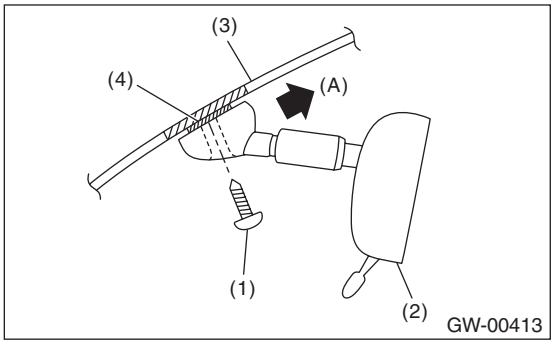
- Removal <Ref. to SR-5, REMOVAL, Glass Lid.>
- Installation <Ref. to SR-5, INSTALLATION, Glass Lid.>
- Adjustment <Ref. to SR-5, ADJUSTMENT, Glass Lid.>

19.Rearview Mirror

A: REMOVAL

1) Remove the TORX® screw (1).
2) Slide the rearview mirror (2) to the upper side (A) of windshield glass (3), and remove the mirror from mount (4).

CAUTION:
- **Be careful not to damage the mirror surface.**
- **Be careful not to damage the windshield glass.**



B: INSTALLATION

CAUTION:
When tightening the mounting TORX® screw, be sure to observe the tightening torque. Otherwise, the mount may be damaged in over-torque conditions.
Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-5, MIRROR, COMPONENT, General Description.>

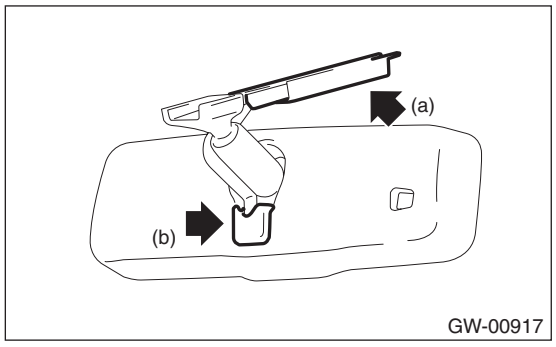
C: INSPECTION

Check that the mirror is not damaged.

20.Rearview Mirror (RCD Model)

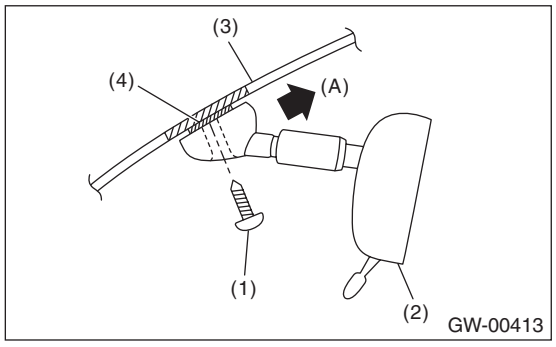
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the harness cover (a) and connector cap (b).



3) Disconnect the harness connector.
4) Remove the TORX® screw (1).
5) Slide the rearview mirror (2) to the upper side (A) of windshield glass (3), and remove the mirror from mount (4).

CAUTION:
• Be careful not to damage the mirror surface.
• Be careful not to damage the windshield glass.



B: INSTALLATION

CAUTION:
When tightening the mounting TORX® screw, be sure to observe the tightening torque. Otherwise, the mount may be damaged in over-torque conditions.
Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-5, MIRROR, COMPONENT, General Description.>

C: ADJUSTMENT

NOTE:
• When the rearview mirror (RCD model) is removed or replaced, perform calibration and zone setting by following the procedures below.
• The zone setting of the vehicle is set to zone "8" at factory setting.

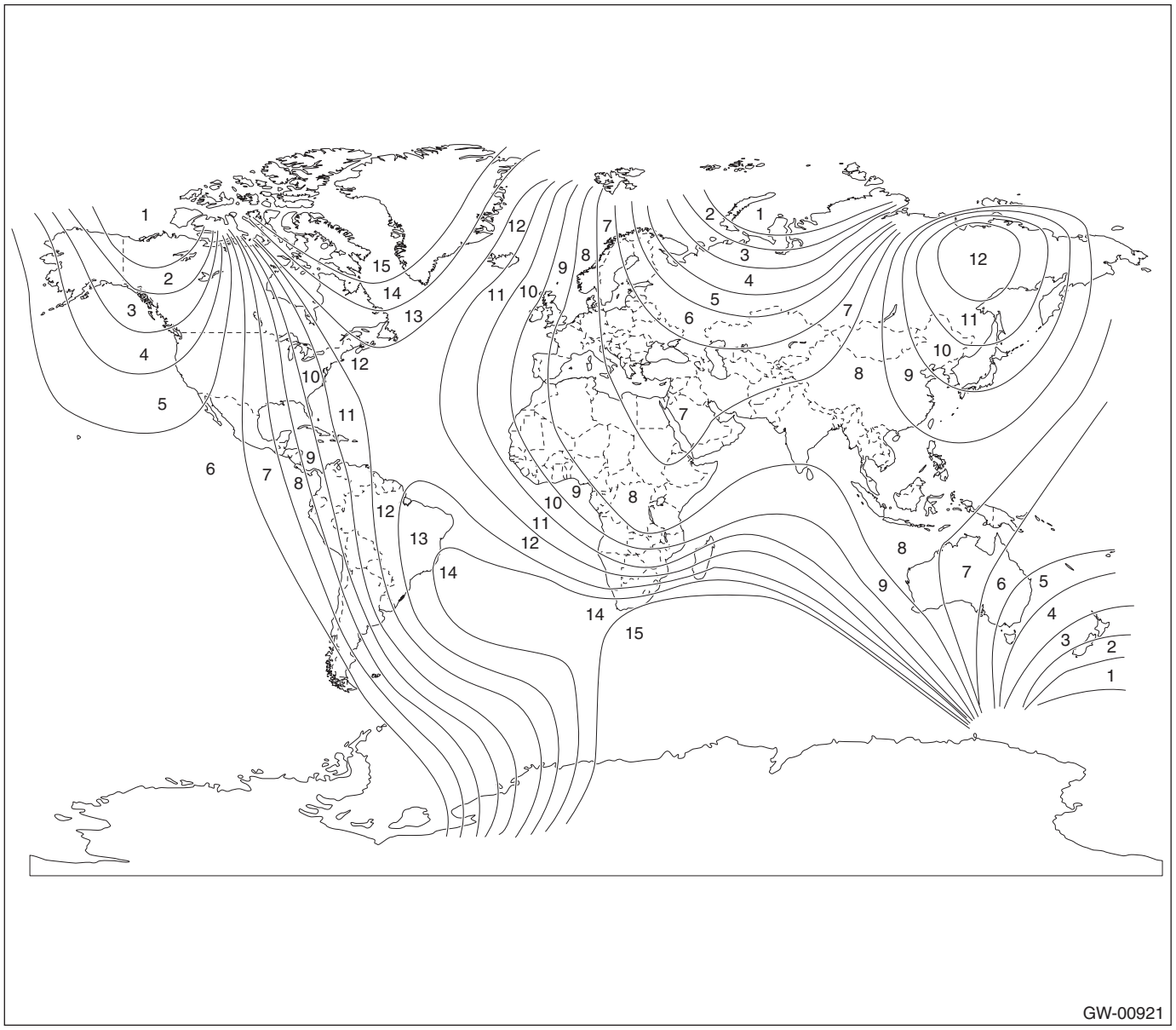
1. CALIBRATION

1) Before performing calibration, check the following items.
• There is a sufficient distance from a big metal object or a building.
• Vehicle is parked on a level surface.
• The switch of unnecessary accessories (defogger, A/C system and light) is turned off.
• All doors are closed.
2) Turn the ignition switch to "ON".
3) Hold down the multi-function button for nine to twelve seconds, and change the mode to the calibration mode. "C" is displayed on the screen.
4) Drive the vehicle in a circle until the display of "C" goes off. (Approx. two or three times)
5) Calibration is completed.
6) The mirror may not be able to perform the reading correctly. You can see this phenomenon only when the compass operates only to the specific direction. If you encountered this situation, go back to step 1) to perform adjustment again.

2. ZONE SETTING

1) Refer to the compass zone map to check the zone number of area you use the vehicle.
2) By holding down the multi-function button for six to nine seconds, the vehicle enters to the zone setting mode. A zone number that is already set is displayed on the screen.
3) Push the multi-function button repeatedly until the zone number you want to set is displayed.

4) If you leave the multi-function button for three seconds, the zone setting mode is completed.



21.Wiper Deicer System

A: WIRING DIAGRAM

<Ref. to WI-113, Wiper Deicer System.>

B: INSPECTION

1. SYSTEM INSPECTION

Symptom	Repair order
Wiper deicer does not operate.	1. Fuse (F/B No. 4, 9) 2. Wiper deicer relay 3. Wiper deicer switch 4. Wiring harness 5. Body integrated unit

NOTE:
Wiper deicer system can be customized on the Subaru Select Monitor.

System name	Initial setting	Customize setting
Wiper deicer timer	OFF after 15 min.	Continuous operation*

*: When one of the following conditions occurs, continuous operation is suspended and turned off after 15 min.

- Ambient temperature at 5°C (41°F) or more continues for 10 seconds
- Air conditioner ECO mode ON 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.

2. HEAT WIRE INSPECTION

Refer to “HEAT WIRE INSPECTION” of “Rear Window Defogger System”.
<Ref. to GW-27, INSPECTION, Rear Window Defogger System.>

NOTE:
For heat wire inspection, removing and installing the instrument panel assembly are required.

C: REPAIR

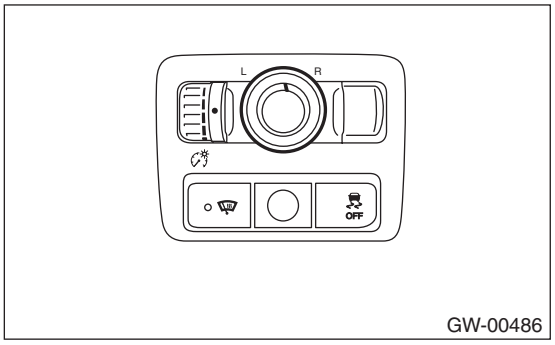
Refer to “Rear Window Defogger System”.
<Ref. to GW-28, REPAIR, Rear Window Defogger System.>

NOTE:
For heat wire repair, removing and installing the instrument panel assembly are required.

22.Wiper Deicer Switch

A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
2) Disconnect the harness connector and remove wiper deicer switch.



B: INSTALLATION

Install in the reverse order of removal.

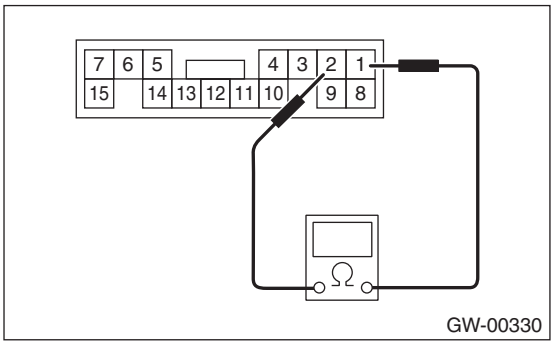
C: INSPECTION

1. CHECK WITH SUBARU SELECT MONITOR

CAUTION:
Check whether the wiper deicer timer is in initial setting or customize setting before performing inspection.
1) Check the input signal when the wiper deicer switch is operated using Subaru Select Monitor.
   (1) Prepare the Subaru Select Monitor kit. <Ref. to GW-6, PREPARATION TOOL, General Description.>
   (2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”.
   (3) On the «System Selection Menu» display screen, select {Integ. Unit mode}.
   (4) Select the {Current Data Display & Save}.
   (5) Display the data of the wiper deicer switch.
2) When wiper deicer switch is turned to ON, check whether it turns to OFF in 15 minutes, or it operates continuously.
3) If it turns to OFF in step 2) above, it is normal. When it operates continuously, replace the body integrated unit.

2. CHECK SWITCH

Remove the wiper deicer switch, and measure the switch resistance.



Switch position	Terminal No.	Standard
OFF	1 and 2	1 MΩ or more
ON		Less than 1 Ω

Replace the wiper deicer switch if faulty.

BODY STRUCTURE

BS

Page
1. General Description 2

1. Basic Diagnostic Procedure

A: PROCEDURE

	Step	Check	Yes	No
1	**START INSPECTIONS.** 1) Perform the pre-inspection. <Ref. to AC(diag)-3, INSPECTION, General Description.> 2) Perform the self-diagnosis. <Ref. to AC(diag)-10, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Does the self-diagnosis operate?	Go to step **2**.	<Ref. to AC(diag)-14, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.>
2	**IDENTIFY MALFUNCTION PART.** Identify the malfunction part with self-diagnosis.	Can the malfunction part be confirmed?	Repair the malfunctioning part in accordance with each diagnostic chart.	Go to step **3**.
3	**CHECK COMPARTMENT TEMPERATURE.** 1) Turn the A/C switch to ON. 2) Turn the temperature control dial at maximum cool position. 3) Check the compartment temperature change.	Does the compartment temperature change?	Go to step **4**.	<Ref. to AC(diag)-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.** 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 the airbag system circuits.
• Be careful not to damage the airbag system wiring harness when servicing the A/C control panel and junction box.

B: INSPECTION

Before performing the diagnosis, check the following items which might affect A/C system problems.

1. BATTERY

1) Measure the battery voltage and specific gravity of electrolyte.

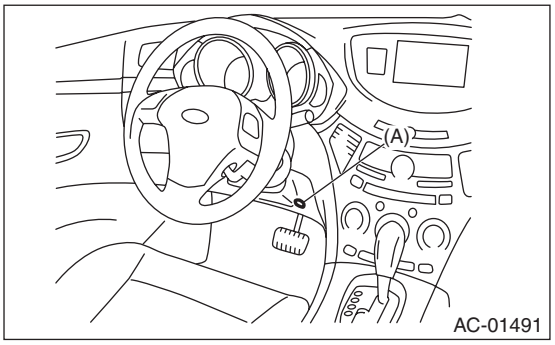
Standard voltage: 12 V

Specific gravity: Above 1.260
2) Check the condition of the fuses for A/C system power supply and other fuses.
3) Check the condition of harness and harness connector connections.

2. ASPIRATOR HOSE

1) Turn the ignition switch to ON, and press the A/C switch.
2) Turn the temperature control dial to maximum hot position.
3) Turn the air flow control dial to “DEF” position.
4) Turn the fan speed control dial to MAX (6 speed) position.
5) Put a strip of paper close to the front side of in-vehicle sensor suction port (A) located in the driver’s side console side panel, and check that air is being sucked into the port by seeing the paper moving towards the port.

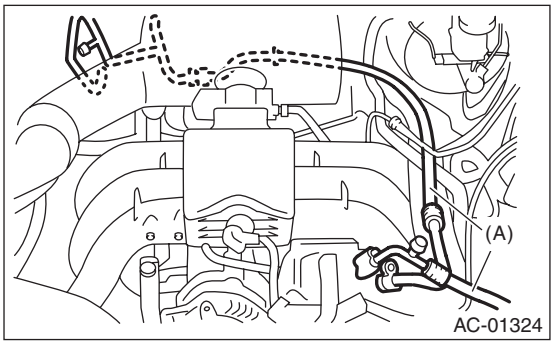
NOTE:
Be careful not to let the paper get sucked into the port.



6) If the paper does not move at all, remove the instrument lower cover <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.> and check for improper connection of the aspirator hose, in-vehicle sensor and heater unit, and repair them if necessary.

3. A/C LINE

Check the connection for A/C line (A) and lower side high-pressure pipe.



4. CONTROL SWITCHES

Start the engine and warm up completely.

1) Inspection using switches

No.	Point to check	Switch operation	Judgment standard
1	OFF switch	Press the OFF switch.	Setting temperature display goes out. • Blower fan: OFF • Inlet opening: FRESH • Compressor: OFF
2	AUTO switch, driver's side temperature control dial, and passenger's side temperature control dial	1) Press the AUTO switch. 2) Turn the temperature control dial to the left fully, and set to 18°C (65°F) (maximum cool position).	AUTO display illuminates. • Outlet air temperature: COOL • Blower fan: HI (AUTO) • Outlet opening: FACE • Inlet opening: AUTO • Compressor: AUTO
		3) Turn the temperature control dial to the right slowly, and change the setting from 18°C (65°F) (maximum cool position) to 32°C (85°F).	• Outlet air temperature: COOL → HOT • Blower fan: AUTO • Outlet opening: FACE → B/L → FOOTHEAT • Inlet opening: AUTO • Compressor: AUTO
		4) Turn the temperature control dial to the right fully, and set to 32°C (85°F) (maximum hot position).	• Outlet air temperature: HOT • Blower fan: HI (AUTO) • Outlet opening: HEAT • Inlet opening: FRESH (AUTO) • Compressor: AUTO
3	Defroster switch	Press the defroster switch.	Defroster switch indicator illuminates. • Outlet air temperature: AUTO • Blower fan: AUTO • Outlet opening: DEF • Inlet opening: FRESH • Compressor: ON
4	FRESH/RECIRC switch	Press the FRESH/RECIRC switch.	Inlet opening switches RECIRC → FRESH or FRESH → RECIRC each time pressing the switch.
5	MODE switch	Press the MODE switch.	Outlet opening switches between FACE → B/L → HEAT → D/H each time the switch is pressed.
6	FAN switch	Turn the FAN switch.	Every time the switch is turned, the blower fan switches in the order of OFF → LO → M1 → M2 → M3→ M4 → HI, and switches in reverse order when turned in the opposite direction.

2) Inspection of compressor operation

No.	Point to check	Switch operation	Judgment standard
1	Compressor	1) Turn the A/C switch to ON. 2) Set the FAN switch between LO and HI.	Compressor: ON

3) Inspection of illumination control

No.	Point to check	Switch operation	Judgment standard
1	Illumination	Turn the lighting switch to ON.	Illumination comes on.

4) Inspection of the rear cooler switch

No.	Point to check	Switch operation	Judgment standard
1	FAN switch	Turn the FAN switch.	Every time the switch is turned, the blower fan switches in the order of OFF → LO → ML → MH → HI, and switches in reverse order when turned in the opposite direction.

5) Inspection of rear cooler

No.	Point to check	Switch operation	Judgment standard
1	Roof grille	Turn the FAN switch.	Front A/C ON (compressor operates): COOL Front A/C OFF (Compressor does not operate): Blower ON

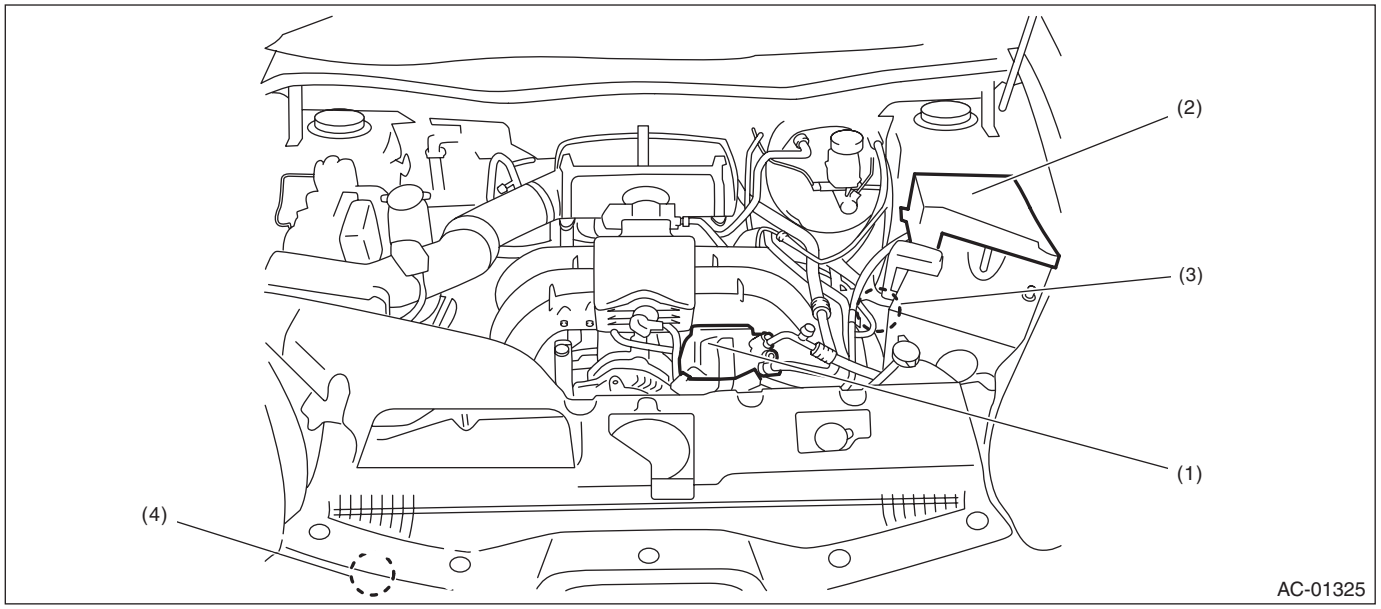
6) Inspection of illumination control

No.	Point to check	Switch operation	Judgment standard
1	Illumination	Turn the lighting switch to ON.	Illumination comes on.

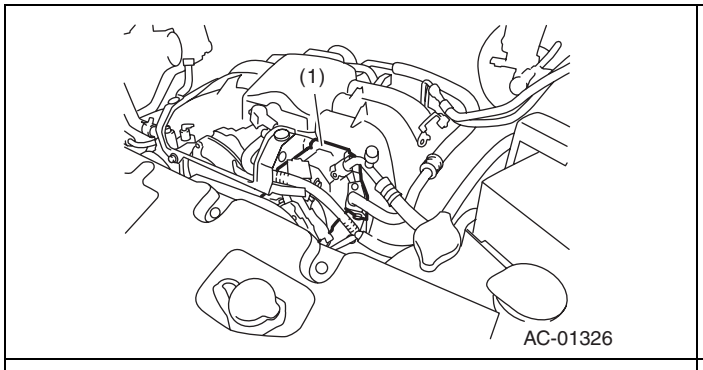
3. Electrical Component Location

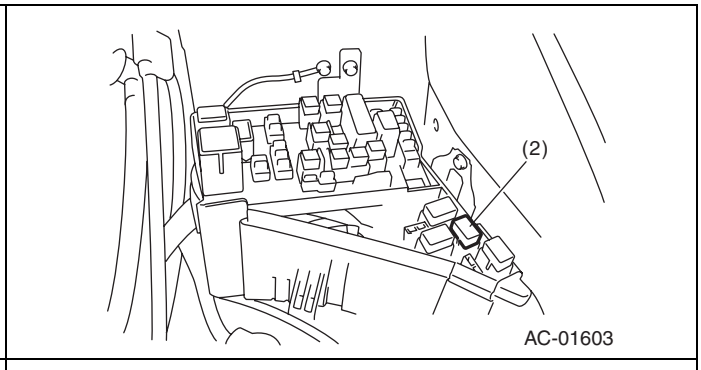
A: LOCATION

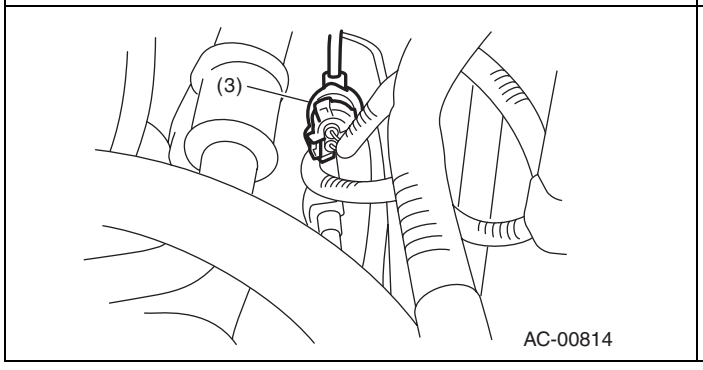
1. ENGINE COMPARTMENT

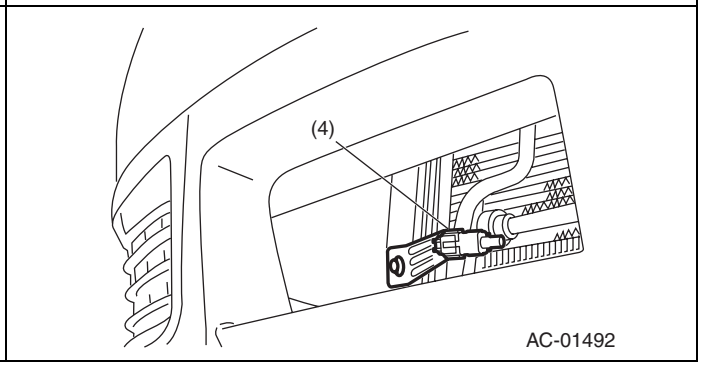


(1) A/C compressor
(2) A/C relay
(3) Pressure switch
(4) Ambient sensor

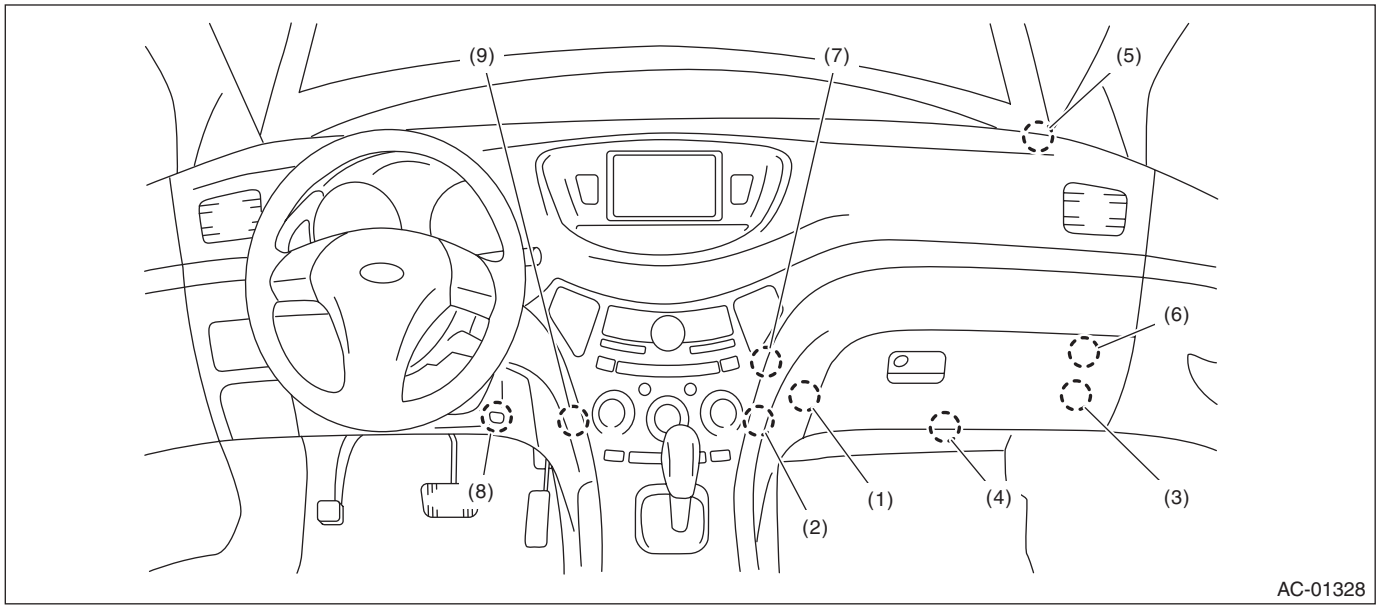




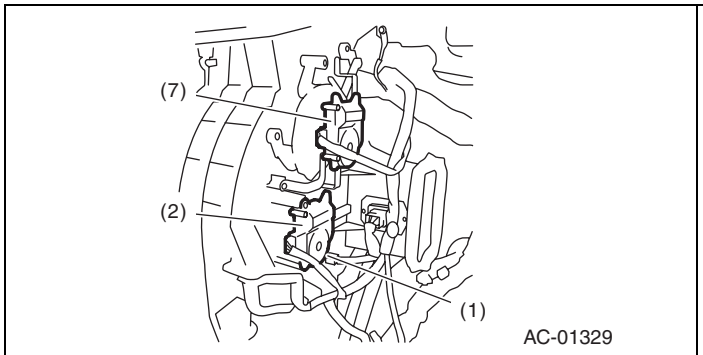


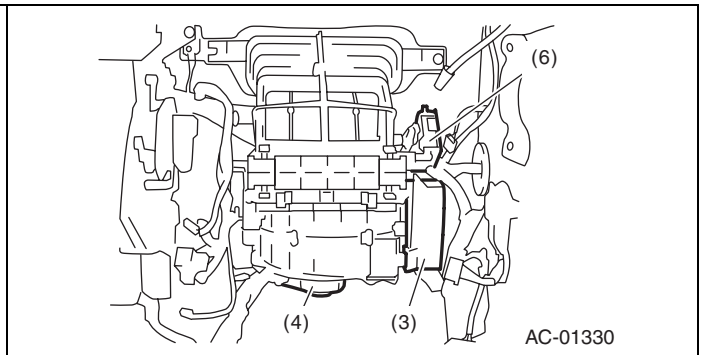


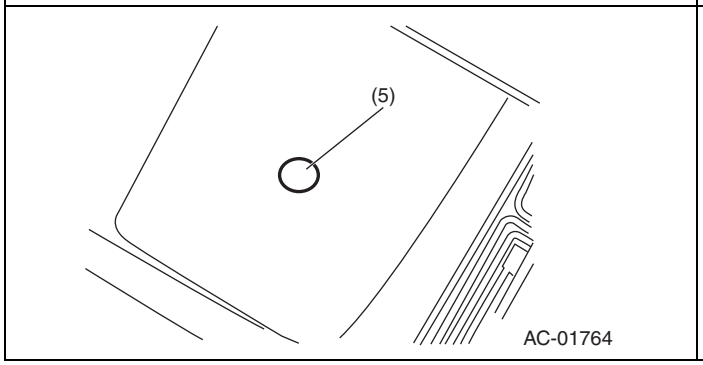
2. PASSENGER COMPARTMENT

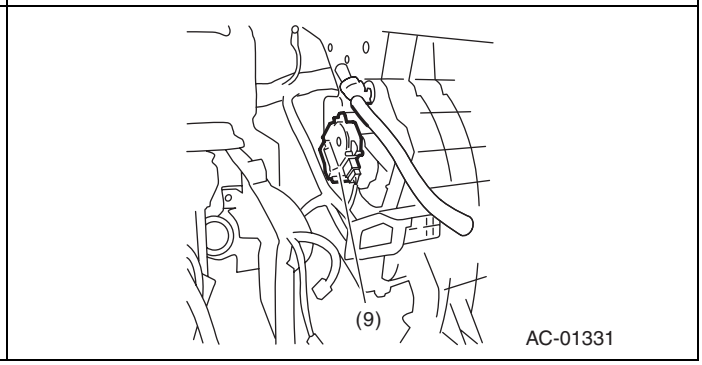


(1) Evaporator sensor
(2) Passenger's side air mix door actuator
(3) Auto A/C control module
(4) Blower motor
(5) Sunload sensor
(6) Intake door actuator
(7) Mode door actuator
(8) In-vehicle sensor
(9) Driver's side air mix door actuator



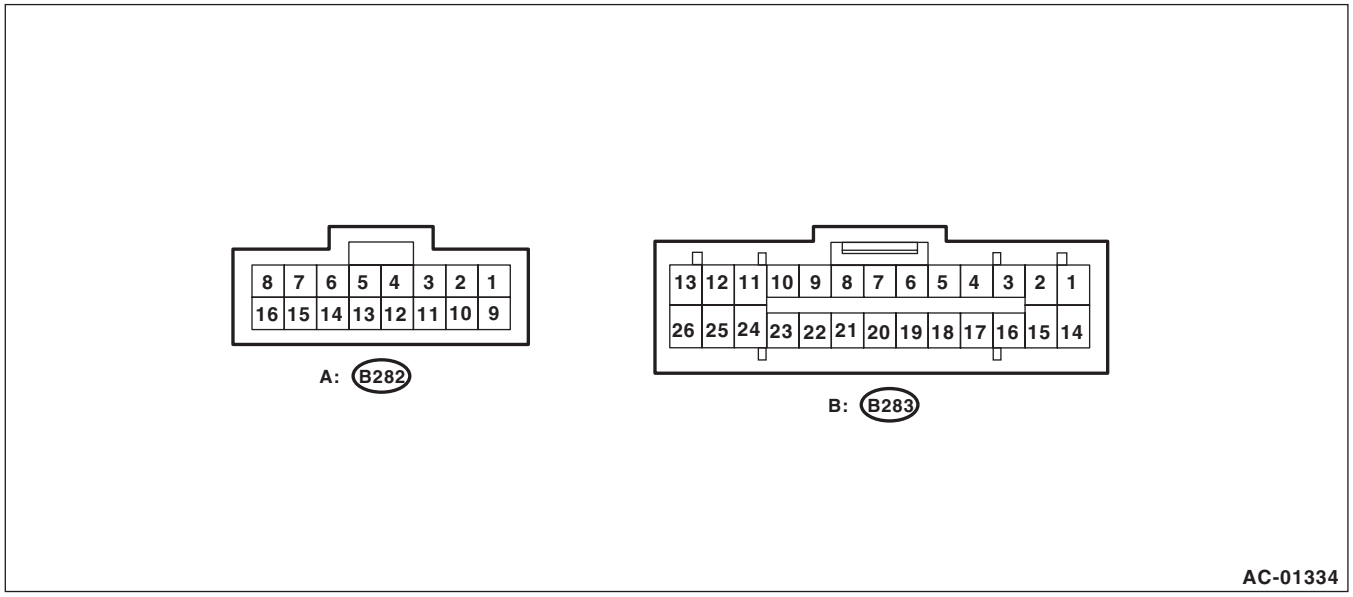






4. Auto A/C Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Terminal No.	Description	Measuring condition	Specification
A1	Battery power supply	Ignition switch: OFF	Battery voltage
A2	ACC power supply	Ignition switch: ACC	Battery voltage
A3	Mode door actuator position signal	Mode door: FACE position	4 V
		Mode door: DEF position	1 V
A4	Passenger's side air mix door actuator position signal	Air mix door: Maximum cool position	4 V
		Air mix door: Maximum hot position	1 V
A5	In-vehicle sensor	Ignition switch: ON	Less than 5 V
A6	Sunload sensor	Ignition switch: ON, With Sunload (No sunload: 0.8 V)	3 V
A7	Driver's seat heater temperature sensor	Ignition switch: ON	Less than 5 V
A8	Sensor power supply	Ignition switch: ON	5 V
A9	Ignition power supply	Ignition switch: ON	Battery voltage
A10	A/C cut signal	Ignition switch: ON	Battery voltage
		When pressure SW is operating	0 V
A12	Driver's side air mix door actuator position signal	Air mix door: Maximum cool position	4 V
		Air mix door: Maximum hot position	1 V
A13	Evaporator sensor	Ignition switch: ON	Less than 5 V
A14	Passenger's seat heater temperature sensor	Ignition switch: ON	Less than 5 V
A15	Sensor ground	Continuity to chassis ground	0 Ω
A16	Ground	Continuity to chassis ground	0 Ω
B1	CAN communication (HI side)	Ignition switch: ON	Pulse signal *1
B2	Blower motor voltage feedback signal	Blower level: Manual Lo	7.6 V
		Blower level: Manual M3	3.7 V
		Blower level: Manual Hi	Less than 1 V
B3	Blower motor power MOS gate control signal	Ignition switch : ON, Blower switch : ON	1 V — battery voltage
B6	Magnet clutch signal	Temperature setting: Maximum COOL, MODE: Manual DEF, A/C: ON	Battery voltage

Terminal No.	Description	Measuring condition	Specification
B7	Mode door actuator power supply (FACE)	When switching mode door from DEF → FACE	Battery voltage — 2.5 V or more *2
		When switching mode door from FACE → DEF	1V or less *2
B8	Passenger's side air mix door actuator power supply (COOL side)	When switching air mix door from HOT → COOL	Battery voltage — 2.5 V or more *2
		When switching air mix door from COOL → HOT	Less than 1 V *2
B9	Driver's side air mix door actuator power supply (COOL side)	When switching air mix door from HOT → COOL	Battery voltage — 2.5 V or more *2
		When switching air mix door from COOL → HOT	Less than 1 V *2
B10	Inlet opening motor (FRESH side)	FRESH	Less than 1 V
		RECIRC	Battery voltage
B11	Driver's seat heater	Driver's seat heater: ON (3 stages)	Less than 1 V *3
B13	Passenger's seat heater	Passenger's seat heater: ON (3 stages)	Less than 1 V *3
B14	CAN communication (Lo side)	Ignition switch: ON	Pulse signal *1
B16	Blower motor relay	Blower motor: When stopped	Battery voltage
		Blower motor: During operation	Less than 1 V
B18	Panel communication (transmitter side)	Ignition switch: ON	Pulse signal *1
B19	Panel communication (receiver side)	Ignition switch: ON	Pulse signal *1
B20	Mode door (DEF) side	Mode: DEF ⇒ FACE	Less than 1 V
		Mode: FACE ⇒ DEF	Battery voltage — 2.5 V or more
B21	Passenger's side air mix door	Air mix: Maximum HOT ⇒ maximum COOL	Less than 1 V
		Air mix: Maximum COOL ⇒ maximum HOT	Battery voltage — 2.5 V or more
B22	Driver's side air mix door	Air mix: Maximum HOT ⇒ maximum COOL	Less than 1 V
		Air mix: Maximum COOL ⇒ maximum HOT	Battery voltage — 2.5 V or more
B23	Inlet opening motor (RECIRC side)	RECIRC	Less than 1 V
		FRESH	Battery voltage
B24	Driver's seat heater ground	Continuity to chassis ground	0 Ω
B26	Passenger's seat heater ground	Continuity to chassis ground	0 Ω

*1: Unable to measure the voltage for digital signal.
*2: The mode door and air mix door values are values immediately after switching operation of FACE ⇔ DEF, and after switching between max cooling ⇔ max heating, respectively (value during damper door movement)
*3: The seat heater value shows the value immediately after operation. (If the target value is reached, an ON/OFF operation will occur, so the measurement should be taken just after seat heater ON.)

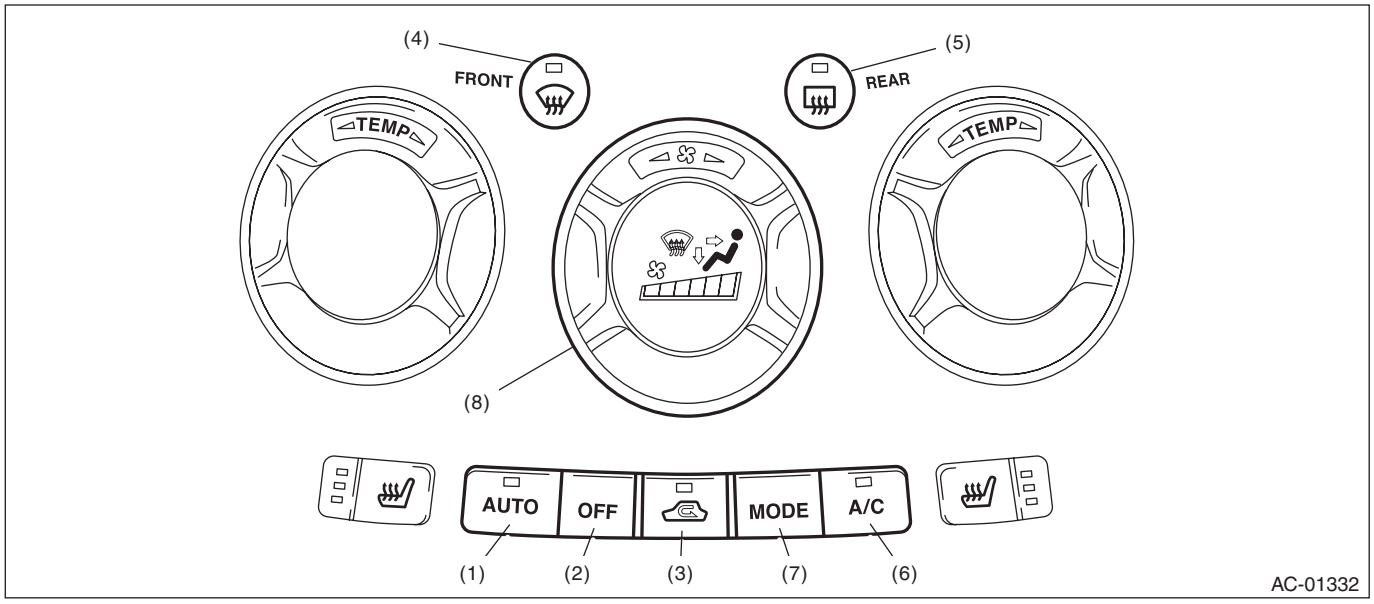
B: WIRING DIAGRAM

1. AIR CONDITIONER AUTO A/C MODEL

<Ref. to WI-63, WIRING DIAGRAM, Air Conditioning System.>

5. Diagnostic Chart for Self-Diagnosis

A: OPERATION



(1) AUTO switch
(2) OFF switch
(3) FRESH/RECIRC switch
(4) Defroster switch
(5) Rear window defogger switch
(6) A/C switch
(7) Air flow control switch
(8) FAN switch

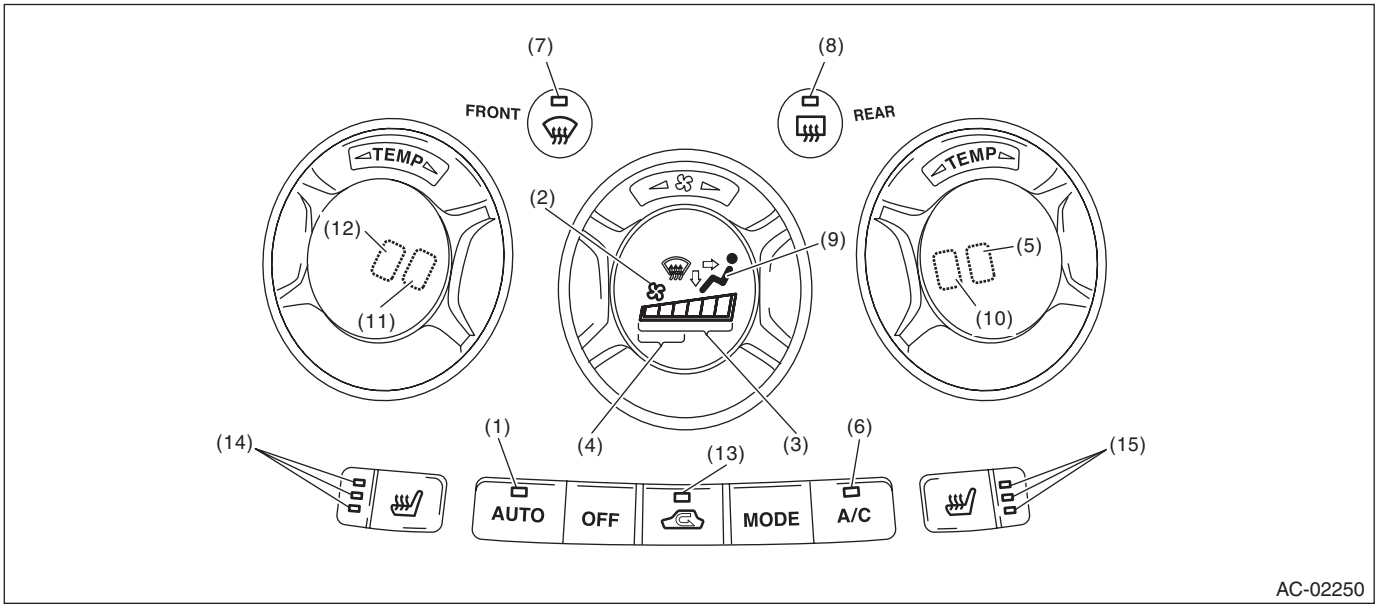
NOTE:
For A/C system self-diagnosis, there is one that checks the control panel, and the other that checks the whole control system (sensor, actuator, blower motor, etc.). Perform the self-diagnosis for control panel first, and then perform the self-diagnosis for control system.

1. A/C CONTROL PANEL SELF-DIAGNOSIS

	Step	Check	Yes	No
1	**SET SELF-DIAGNOSIS MODE BY OPERATING A/C CONTROL PANEL.** 1) Turn the ignition switch to ON with the AUTO switch and MODE switch pressed. 2) The communication status with the air conditioning ECM will be displayed in the left TEMP display area.	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.** Check if all the screen display and indicators come on and then go off. NOTE: "11" — "14" is displayed on the screen when malfunction occurs.	Do all the screen display and indicators come on then go off?	Go to step **3**.	Replace the A/C control panel.
3	**CHECK SWITCH AND TEMPERATURE CONTROL DIAL INPUT.** According to the switch check table, press each switch or turn the temperature control dial, and check the relative screen display and indicators illuminate. <Ref. to AC(diag)-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.

Step		Check	Yes	No
4	**CHECK A/C CONTROL PANEL COMMUNICATION.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto A/C control module harness connector. 3) Using a suitable lead wire, short the terminal No. 18 and No. 19 of auto A/C control module harness connector (B283). 4) Turn the ignition switch from OFF to ACC, and wait for 2 seconds. 5) Turn the ignition switch to ON with the AUTO switch and A/C switch pressed. 6) Press any switch on the control panel. 7) When no malfunction occurs in the control panel communication, “CL” (no open circuit) is displayed in the left side TEMP display area; and when a malfunction occurs, “OP” (open circuit) 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	Right rotation (3) Left rotation (4)
AUTO switch	(1)	Driver’s side temperature control dial	Right rotation (11) Left rotation (12)
Air flow control switch	(9)	Passenger’s side temperature control dial	Right rotation (5) Left rotation (10)
FRESH/RECIRC	(13)	OFF switch	(2)
Defroster switch	(7)	Driver’s seat heater switch	(14)
Rear defogger switch	(8)	Passenger’s seat heater switch	(15)

3. A/C CONTROL SYSTEM SELF-DIAGNOSIS

	Step	Check	Yes	No
1	**SET SELF-DIAGNOSIS MODE BY OPERATING A/C CONTROL PANEL.** 1) Start the engine with the AUTO switch and FRESH/RECIRC switch pressed. NOTE: Self-diagnosis can also be performed with ignition switch ON, but start the engine because observing the magnet clutch operation is difficult. 2) All the indicators blink four times.	Does the self-diagnosis function operate?	Go to step **2**.	<Ref. to AC(diag)-14, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.>
2	**CHECK EACH SENSOR AND POTENTIOMETER.** 1) After the indicators stop blinking, automatically change to the Inspection Mode of sensor and potentiometer. NOTE: Display items can be changed each time the A/C switch is pressed. (Step Operation) 2) When malfunction occurs in each sensor and potentiometer, codes are displayed on the screen. When no malfunction occurs in each sensor and potentiometer, code “20” is displayed on the screen. 3) Identify defective sensors according to the sensor check table. <Ref. to AC(diag)-13, SENSOR CHECK TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Are codes other than “20” displayed on the passenger’s side display?	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.** 1) After completing each sensor and potentiometer inspection, change to the Inspection Mode of actuator, blower fan and magnet clutch by pressing the defroster switch. 2) Each mode will change and operate automatically every four seconds. NOTE: Operation mode items can be changed each time the A/C switch is pressed. (Step Operation) 3) Check the operation of actuator, blower fan and magnet clutch in each mode according to the operating mode table. <Ref. to AC(diag)-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 defective parts 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
41/AUTO Blink	Seat heater thermistor (Driver's side)	Open
–41/AUTO Blink		Short
42/AUTO Blink	Seat heater thermistor (Passenger's side)	Open
–42/AUTO Blink		Short
20 Blink	When all conditions are normal	

*1: "AUTO" display does not blink when past malfunction occurred. Past malfunction means that abnormal signals were continuously input for a certain time in the past.
*2: Present malfunction only is displayed for sunload sensor open circuit.

5. OPERATING MODE TABLE

Display screen	FRESH/RECIRC door	Mode door	Air mix door*	Blower fan	A/C compressor (Magnet clutch)
31	FRESH	FACE	Maximum cool	LO	OFF
32	RECIRC	FACE	Maximum cool	LO	ON
33	RECIRC	FACE	Maximum cool	M1	ON
34	FRESH	B/L	50%	M1	ON
35	FRESH	HEAT	50%	M1	ON
36	FRESH	HEAT	Maximum hot	M3	ON
37	FRESH	D/H	Maximum hot	M3	ON
38	FRESH	DEF	Maximum hot	HI	ON

*Same opening angle for both driver's and passenger's side

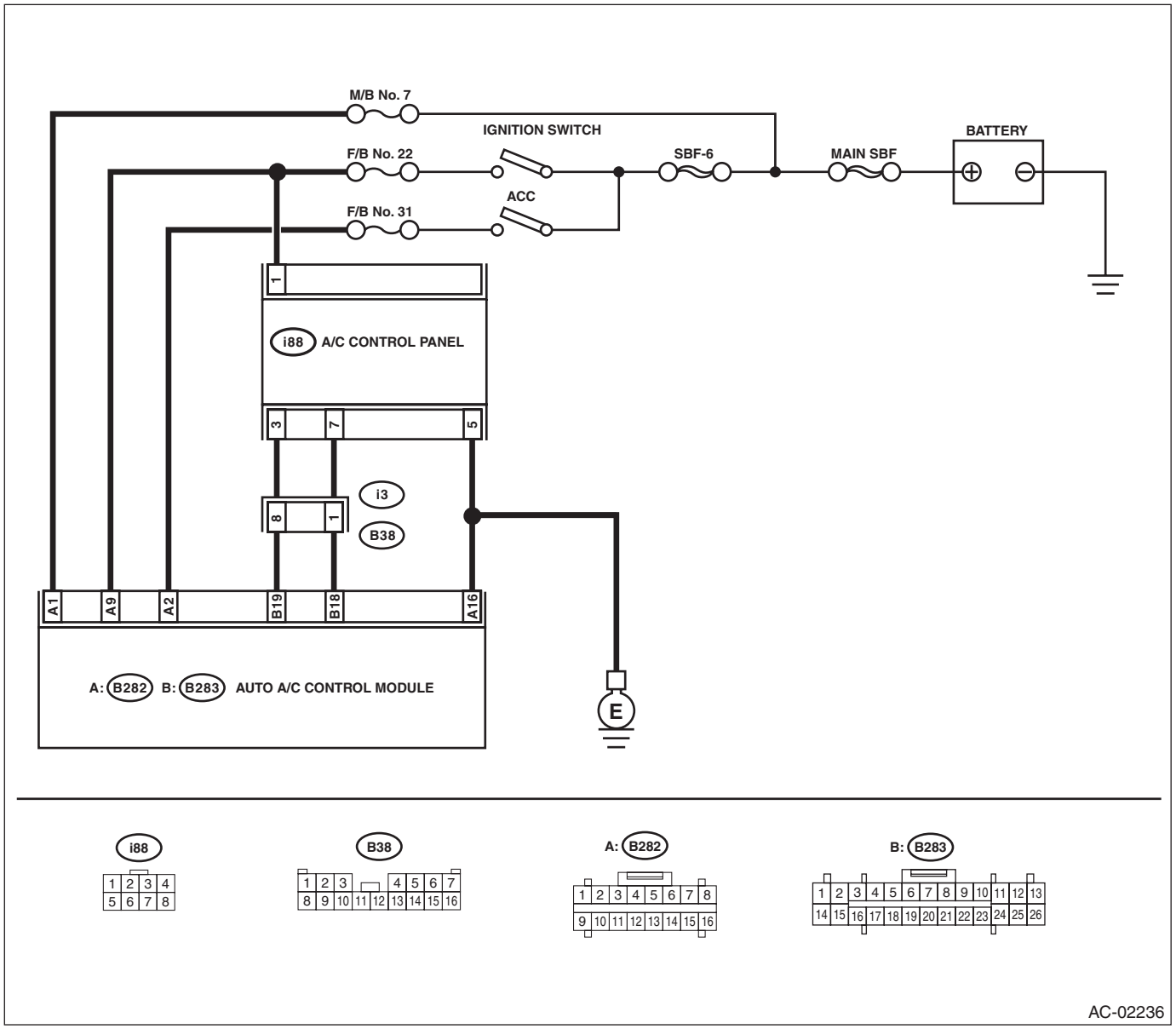
6. Diagnostics for A/C System Malfunction

A: A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE

TROUBLE SYMPTOM:

- Set temperature is not indicated on the display, switch LEDs are faulty and switches do not operate.
- Self-diagnosis system does not operate.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 7 from main fuse box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **2**.
2	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 22 and No. 31 from fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **3**.

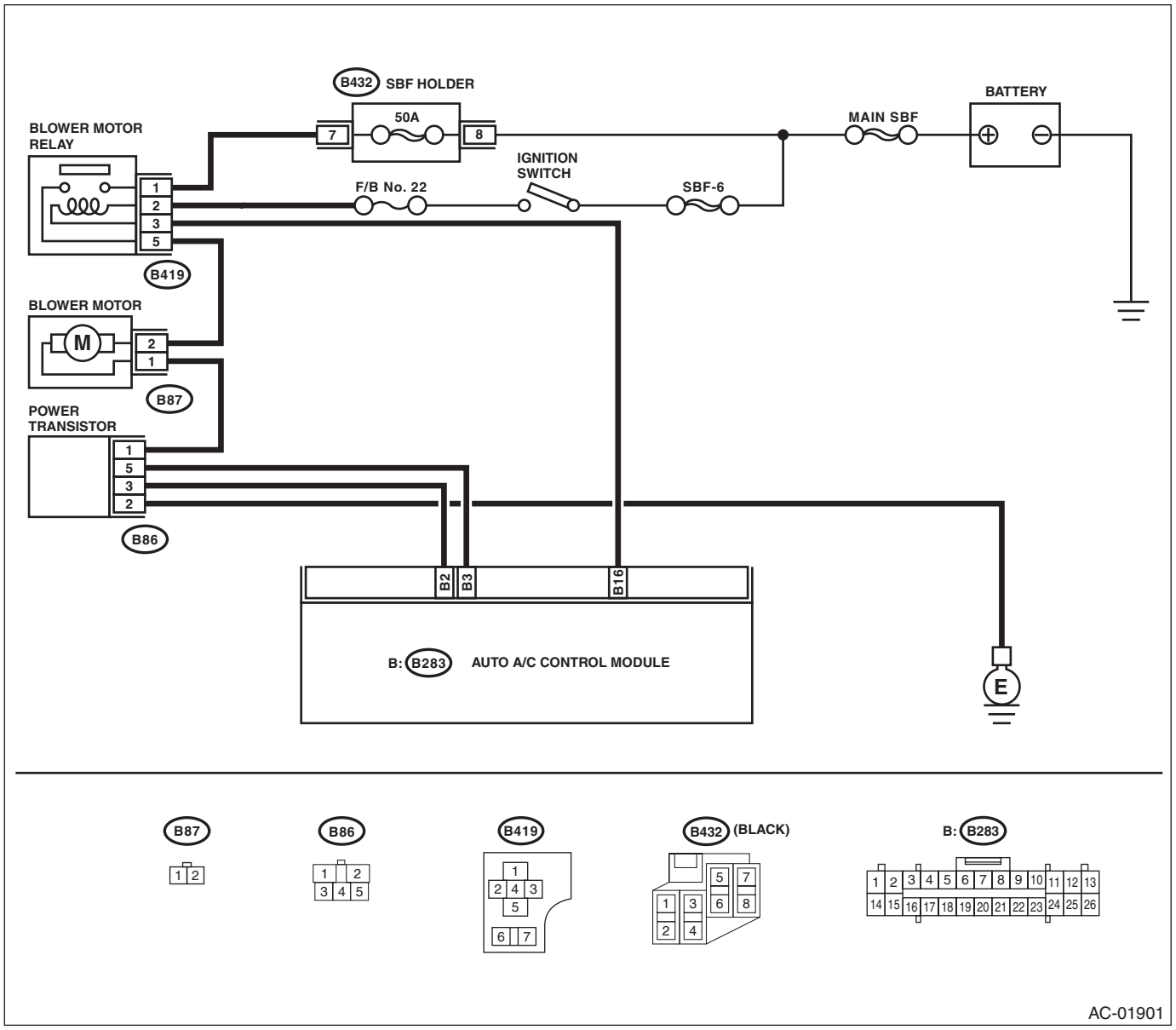
Step		Check	Yes	No
3	**CHECK A/C CONTROL PANEL POWER CIRCUIT.** Measure the voltage between A/C control panel harness connector terminal and chassis ground after turning the ignition switch to ON. ***Connector & terminal*** ***(i88) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to 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.** Measure the resistance of harness between A/C control panel and chassis ground after turning the ignition switch to OFF. ***Connector & terminal*** ***(i88) No. 5 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the harness for ground line.
5	**CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.** Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to OFF. ***Connector & terminal*** ***(B282) No. 1 (+) — Chassis ground (–):***	Is the voltage 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.** Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to ACC. ***Connector & terminal*** ***(B282) No. 2 (+) — Chassis ground (–):***	Is the voltage 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.** Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to the ON position. ***Connector & terminal*** ***(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.** Measure the resistance of harness between auto A/C control module and chassis ground. ***Connector & terminal*** ***(B282) No. 16 — Chassis ground:***	Is the resistance less than 5 Ω?	Go to step **9**.	Repair the harness for ground line.
9	**CHECK COMMUNICATION CIRCUIT.** Measure the resistance of harness between A/C control panel and auto A/C control module. ***Connector & terminal*** ***(i88) No. 3 — (B283) No. 19:*** ***(i88) No. 7 — (B283) No. 18:***	Is the resistance less than 1 Ω?	Go to step **10**.	Repair the harness.
10	**CHECK FOR POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact of connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>

B: BLOWER MOTOR DOES NOT ROTATE

TROUBLE SYMPTOM:

- Blower motor does not rotate.
- Blower motor does not rotate in “HI”.

WIRING DIAGRAM:



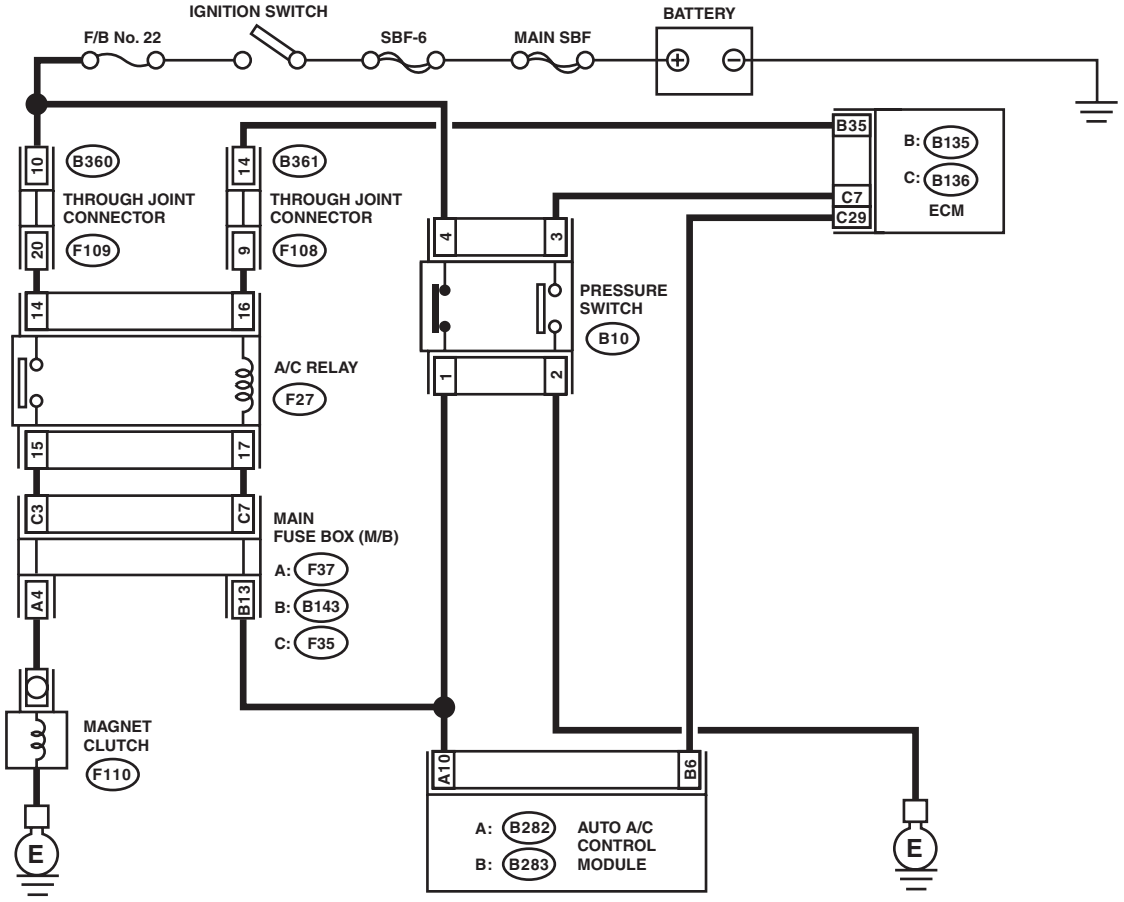
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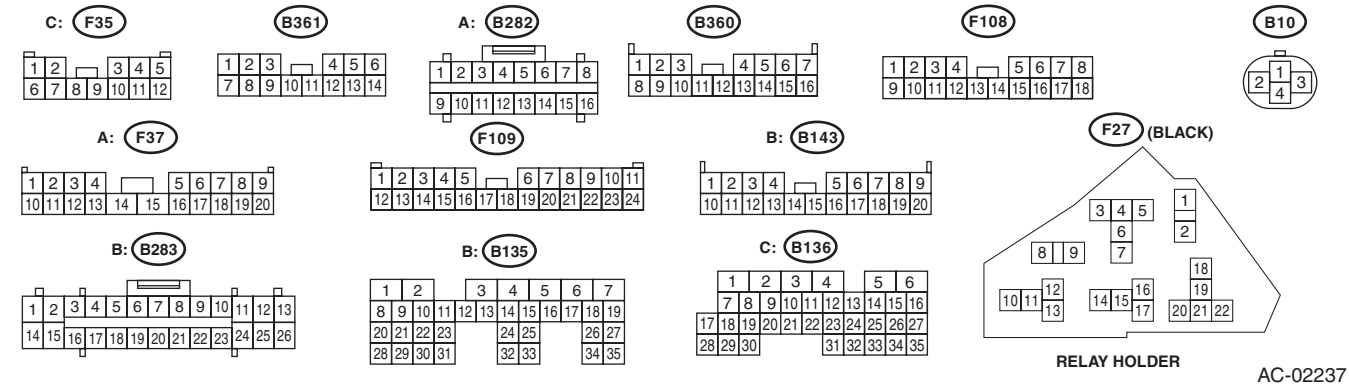
Step		Check	Yes	No
1	**CHECK FUSE.** 1) Remove the fuse No. 22 from fuse & relay box. 2) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **2**.
2	**CHECK POWER SUPPLY FOR BLOWER MOTOR.** 1) Turn the ignition switch to ON. 2) Turn the blower switch to ON. 3) Measure the voltage between blower motor and chassis ground. ***Connector & terminal*** ***(B87) No. 1 (+) — Chassis ground (–):*** ***(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.

	Step	Check	Yes	No
3	**CHECK BLOWER MOTOR RELAY.** 1) Turn the ignition switch to OFF. 2) Remove the blower motor relay. 3) Connect the battery positive (+) terminal to terminal No. 2 of blower motor relay, and negative (–) terminal to terminal No. 3. 4) Measure the resistance between terminals No. 1 and No. 5. ***Terminals*** ***(B419) No. 1 — (B419) No. 5:***	Is the resistance less than 1 Ω?	Go to step **4**.	Replace the blower motor relay.
4	**CHECK BLOWER MOTOR.** 1) Disconnect the connector from blower motor. 2) Connect the battery positive (+) terminal to terminal No. 2 of blower motor connector, and negative (–) terminal to terminal No. 1. 3) Make sure the blower motor runs.	Does the blower motor run?	Go to step **5**.	Replace the blower motor. <Ref. to AC-27, REMOVAL, Blower Motor.>
5	**CHECK FOR POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact of connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>

C: COMPARTMENT TEMPERATURE DOES NOT CHANGE, OR A/C SYSTEM DOES NOT RESPOND PROMPTLY

WIRING DIAGRAM:





	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 22 from fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **2**.
2	**CHECK SIGNAL TO A/C RELAY AND AUTO A/C CONTROL MODULE.** 1) Disconnect the A/C relay and auto A/C control module harness connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between A/C relay connector terminal and chassis ground. 4) Measure the voltage between auto A/C control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(F27) No. 17 (+) — Chassis ground (–):*** ***(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.** 1) Turn the ignition switch to OFF. 2) Disconnect the pressure switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between pressure switch harness connector terminal and chassis ground. ***Connector & terminal*** ***(B10) No. 4 (+) — 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.** 1) Turn the ignition switch to OFF. 2) Measure the resistance of harness between pressure switch connector and A/C relay connector. 3) Measure the resistance of harness between pressure switch connector and auto A/C control module connector. ***Connector & terminal*** ***(B10) No. 1 — (F27) No. 17:*** ***(B10) No. 1 — (B282) No. 10:***	Is the resistance less than 1 Ω?	Check the pressure switch. <Ref. to AC-43, INSPECTION, Pressure Switch (Triple Pressure Switch).>	Repair the harness.
5	**CHECK POWER SUPPLY FOR A/C RELAY.** Measure the voltage between A/C relay connector terminal and chassis ground. ***Connector & terminal*** ***(F27) No. 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.** Check the A/C relay. <Ref. to AC-41, INSPECTION, Relay and Fuse.>	Is there a malfunction in the A/C relay?	Replace the A/C relay.	Go to step **7**.

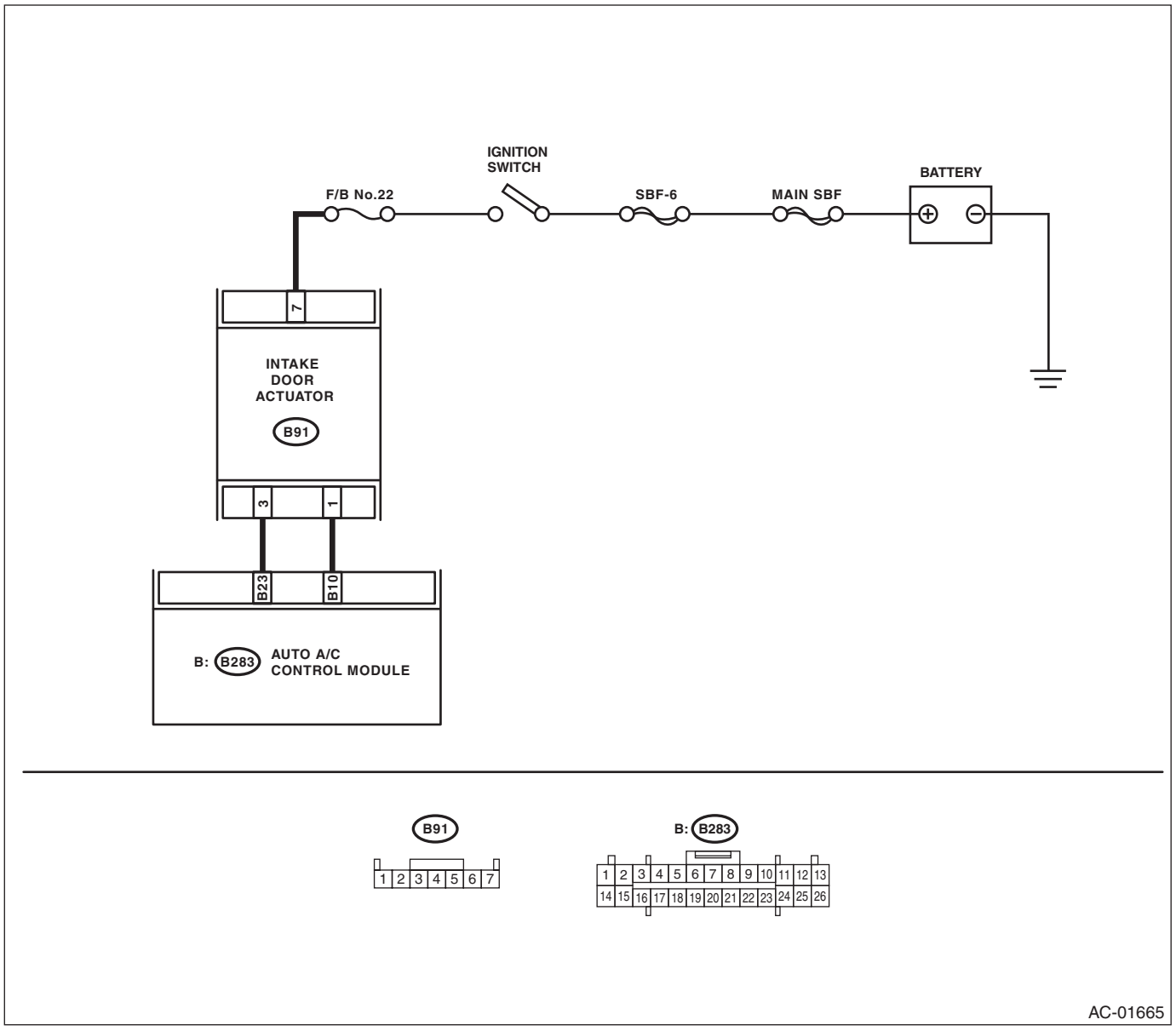
	Step	Check	Yes	No
7	**CHECK A/C ON SIGNAL.** 1) Turn the ignition switch to OFF. 2) Connect the A/C relay and all disconnected connectors. 3) Start the engine and turn the AUTO switch to ON. 4) Turn the temperature control dial at maximum cool position. 5) Measure the voltage between auto A/C control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B283) No. 6 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **9**.	Go to step **8**.
8	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of auto A/C control module and ECM. 3) Measure the resistance of harness between auto A/C control module connector and ECM connector. ***Connector & terminal*** ***(B283) No. 6 — (B136) No. 29:***	Is the resistance less than 1 Ω?	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>	Repair the harness.
9	**CHECK MAGNET CLUTCH ON SIGNAL.** 1) Stop the engine, and turn the AUTO switch to OFF. 2) Turn the ignition switch to ON. 3) Measure the voltage between ECM connector terminal and chassis ground. ***Connector & terminal*** ***(B135) No. 35 (+) — 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.** 1) Start the engine and turn the AUTO switch to ON. 2) Turn the temperature control dial at maximum cool position. 3) Measure the voltage between ECM connector terminal and chassis ground. ***Connector & terminal*** ***(B135) No. 35 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **11**.	Replace the ECM. <Ref. to FU(H6DO)-39, REMOVAL, Engine Control Module (ECM).>
11	**CHECK POWER SUPPLY FOR MAGNET CLUTCH.** 1) Stop the engine, and turn the AUTO switch to OFF. 2) Disconnect the harness connector of magnet clutch. 3) Start the engine and turn the AUTO switch to ON. 4) Turn the temperature control dial at maximum cool position. 5) Measure the voltage between magnet clutch harness connector terminal and chassis ground. ***Connector & terminal*** ***(F110) 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 MAGNET CLUTCH.** 1) Stop the engine, and turn the AUTO switch to OFF. 2) Disconnect the harness connector of magnet clutch. 3) Connect the battery positive (+) terminal to terminal No. 1 of the magnet clutch, and negative (–) terminal to the compressor body.	Does the magnet clutch operate?	The magnet clutch is functioning properly.	Replace the compressor. <Ref. to AC-33, REMOVAL, Compressor.>

7. Diagnostic Procedure for Actuators

A: INTAKE DOOR ACTUATOR

TROUBLE SYMPTOM:
FRESH/RECIRC mode is not changed.
WIRING DIAGRAM:

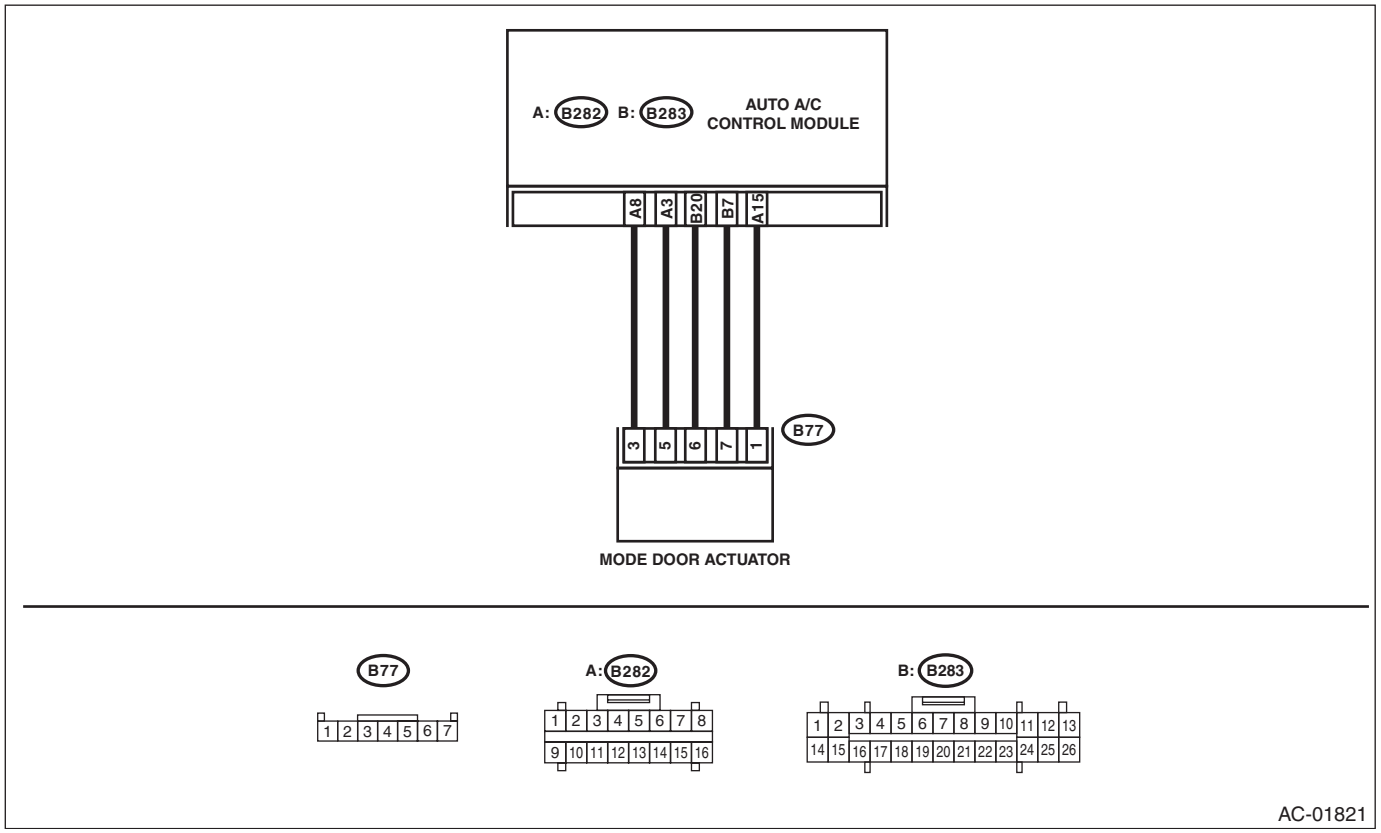


Step		Check	Yes	No
1	**CHECK POWER SUPPLY FOR INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the intake door actuator connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between intake door actuator connector and chassis ground. ***Connector & terminal*** ***(B91) No. 7 (+) — Chassis ground (–):***	Is the voltage 8 V (at normal temperature)?	Go to step **2**.	Check for open or short circuit in the harness between intake door actuator and fuse.

	Step	Check	Yes	No
2	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto A/C control module connector. 3) Measure the resistance between intake door actuator connector and auto A/C control module connector. ***Connector & terminal*** ***(B283) No. 10 — (B91) No. 1:*** ***(B283) No. 23 — (B91) No. 3:***	Is the resistance 1 Ω or less?	Go to step **3**.	Repair the harness between auto A/C control module and intake door actuator.
3	**CHECK OPERATION OF INTAKE DOOR ACTUATOR.** 1) Connect the intake door actuator connector. 2) Ground the auto A/C control module connector with a suitable wire. 3) Turn the ignition switch to ON, and check the operation of intake door actuator. ***Connector & terminal*** ***(B283) No. 10 — Chassis ground:***	Does the actuator move to the FRESH side?	Go to step **4**.	Replace the intake door actuator. <Ref. to AC-44, INTAKE DOOR ACTUATOR, REMOVAL, Actuator.>
4	**CHECK OPERATION OF INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Ground the auto A/C control module connector with a suitable wire. 3) Turn the ignition switch to ON, and check the operation of intake door actuator. ***Connector & terminal*** ***(B283) No. 23 — Chassis ground:***	Does the actuator move to the RECIRC side?	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>	Replace the intake door actuator. <Ref. to AC-44, INTAKE DOOR ACTUATOR, REMOVAL, Actuator.>

B: MODE DOOR ACTUATOR

TROUBLE SYMPTOM:
Air flow outlet is not changed.
WIRING DIAGRAM:

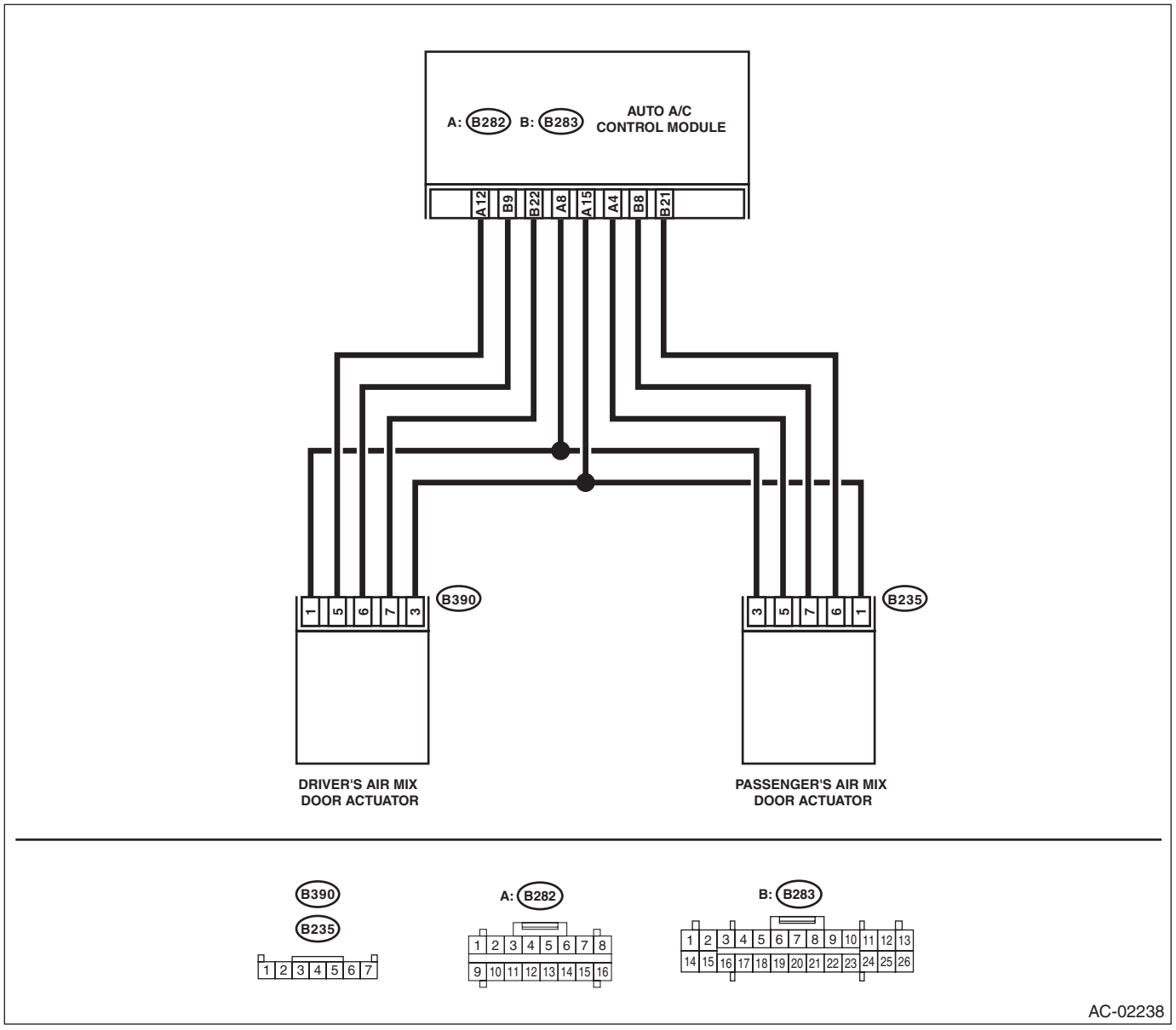


	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR POSITION SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the mode door actuator connector. 3) Turn the ignition switch and AUTO switch to ON. 4) Measure the voltage between auto A/C control module connector terminals. ***Connector & terminal*** ***(B282) No. 8 (+) — (B282) No. 15 (–):***	Is the voltage approx. 5 V?	Go to step **2**.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>
2	**CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the air flow control switch to FACE position. ***Connector & terminal*** ***(B283) No. 7 (+) — Chassis ground (–):***	Is the voltage 8 V (at normal temperature)?	Go to step **3**.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>

	Step	Check	Yes	No
3	**CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the air flow control switch to DEF position. ***Connector & terminal*** ***(B283) No. 20 (+) — Chassis ground (–):***	Is the voltage 8 V (at normal temperature)?	Go to step **4**.	Replace the auto A/C control module.
4	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND MODE DOOR ACTUATOR.** 1) Turn the A/C and ignition switch to OFF. 2) Disconnect the auto A/C control module connector. 3) Measure the resistance between auto A/C control module and mode door actuator connector. ***Connector & terminal*** ***(B77) No. 1 — (B282) No. 15:*** ***(B77) No. 3 — (B282) No. 8:*** ***(B77) No. 5 — (B282) No. 3:*** ***(B77) No. 6 — (B283) No. 20:*** ***(B77) No. 7 — (B283) No. 7:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the harness between auto A/C control module and mode door actuator.
5	**CHECK MODE DOOR ACTUATOR POSITION SWITCH SIGNAL.** 1) Connect the connector of auto A/C control module and mode door actuator. 2) Turn the ignition switch and AUTO switch to ON. 3) Check the voltage between auto A/C control module connector terminals while changing the mode between DEF and FACE. ***Connector & terminal*** ***(B282) No. 3 (+) — (B282) No. 15 (–):***	Does the voltage change between 1 V (DEF) and 4 V (FACE)?	Go to step **6**.	Replace the mode door actuator. <Ref. to AC-44, MODE DOOR ACTUATOR, REMOVAL, Actuator.>
6	**CHECK FOR POOR CONTACT.** Check poor contact of auto A/C control module and connector.	Is there poor contact of connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>

C: AIR MIX DOOR ACTUATOR

TROUBLE SYMPTOM:
Outlet air temperature does not change.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR POSITION SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the air mix door actuator connector. 3) Turn the ignition switch and AUTO switch to ON. 4) Measure the voltage between auto A/C control module connector terminals. ***Connector & terminal*** ***(B282) No. 8 (+) — (B282) No. 15 (–):***	Is the voltage approx. 5 V?	Go to step **2**.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>

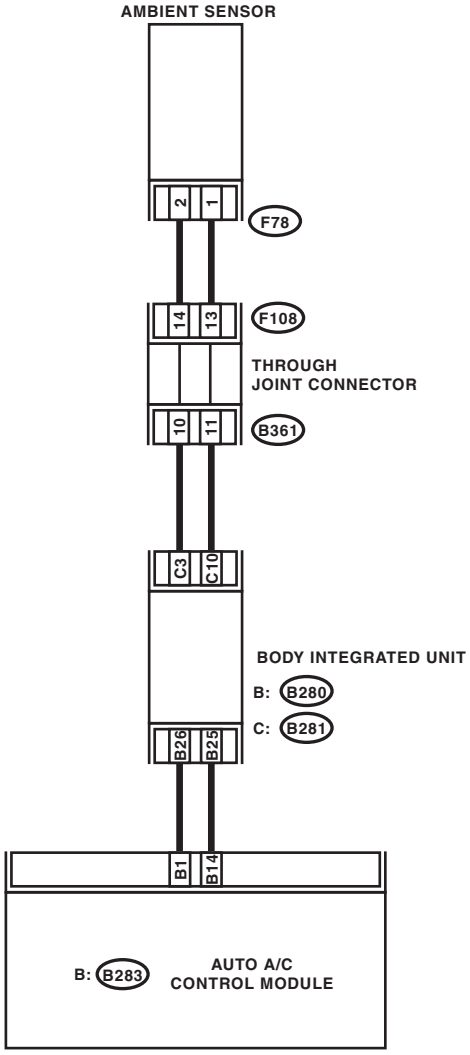
Step		Check	Yes	No
2	**CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the temperature control dial to maximum COOL position. ***Connector & terminal*** ***Driver's side*** ***(B283) No. 22 (+) — Chassis ground (–):*** ***Passenger's side*** ***(B283) No. 21 (+) — Chassis ground (–):***	Is the voltage 8 V (at normal temperature)?	Go to step **3**.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>
3	**CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the temperature control dial to maximum HOT position. ***Connector & terminal*** ***Driver's side*** ***(B283) No. 9 (+) — Chassis ground (–):*** ***Passenger's side*** ***(B282) No. 4 (+) — Chassis ground (–):***	Is the voltage 8 V (at normal temperature)?	Go to step **4**.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>
4	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND AIR MIX DOOR ACTUATOR.** 1) Turn the A/C and ignition switch to OFF. 2) Disconnect the auto A/C control module connector. 3) Measure the resistance between auto A/C control module and air mix door actuator connector. ***Connector & terminal*** ***Driver's side*** ***(B390) No. 1 — (B282) No. 8:*** ***(B390) No. 3 — (B282) No. 15:*** ***(B390) No. 5 — (B282) No. 12:*** ***(B390) No. 6 — (B283) No. 9:*** ***(B390) No. 7 — (B283) No. 22:*** ***Passenger's side*** ***(B235) No. 1 — (B282) No. 15:*** ***(B235) No. 3 — (B282) No. 8:*** ***(B235) No. 5 — (B282) No. 4:*** ***(B235) No. 7 — (B283) No. 8:*** ***(B235) No. 6 — (B283) No. 21:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the harness between auto A/C control module and air mix door actuator.
5	**CHECK AIR MIX DOOR ACTUATOR POSITION SWITCH SIGNAL.** 1) Connect the connector of auto A/C control module and air mix door actuator. 2) Turn the ignition switch and AUTO switch to ON. 3) Check the voltage between auto A/C control module connector terminals while changing the setting temperature between maximum COOL and maximum HOT. ***Connector & terminal*** ***Driver's side*** ***(B282) No. 12 (+) — (B282) No. 15 (–):*** ***Passenger's side*** ***(B282) No. 4 (+) — (B282) No. 15 (–):***	Does the voltage change between 1 V (Max. HOT) and 4 V (Max. COOL)?	Go to step **6**.	Replace the air mix door actuator. <Ref. to AC-44, AIR MIX DOOR ACTUATOR (AUTO A/C MODEL), REMOVAL, Actuator.>

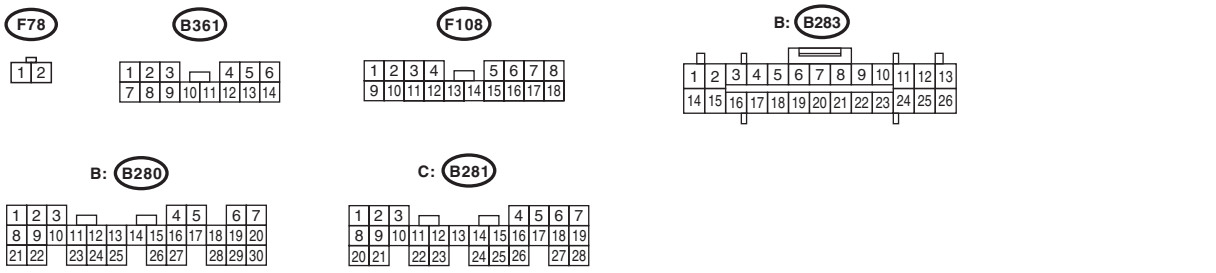
	Step	Check	Yes	No
6	**CHECK FOR POOR CONTACT.** Check poor contact of auto A/C control module and connector.	Is there poor contact of connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>

8. Diagnostic Procedure for Sensors

A: AMBIENT SENSOR

TROUBLE SYMPTOM:
Fan speed is not switched when the fan speed control dial is in AUTO position.
WIRING DIAGRAM:





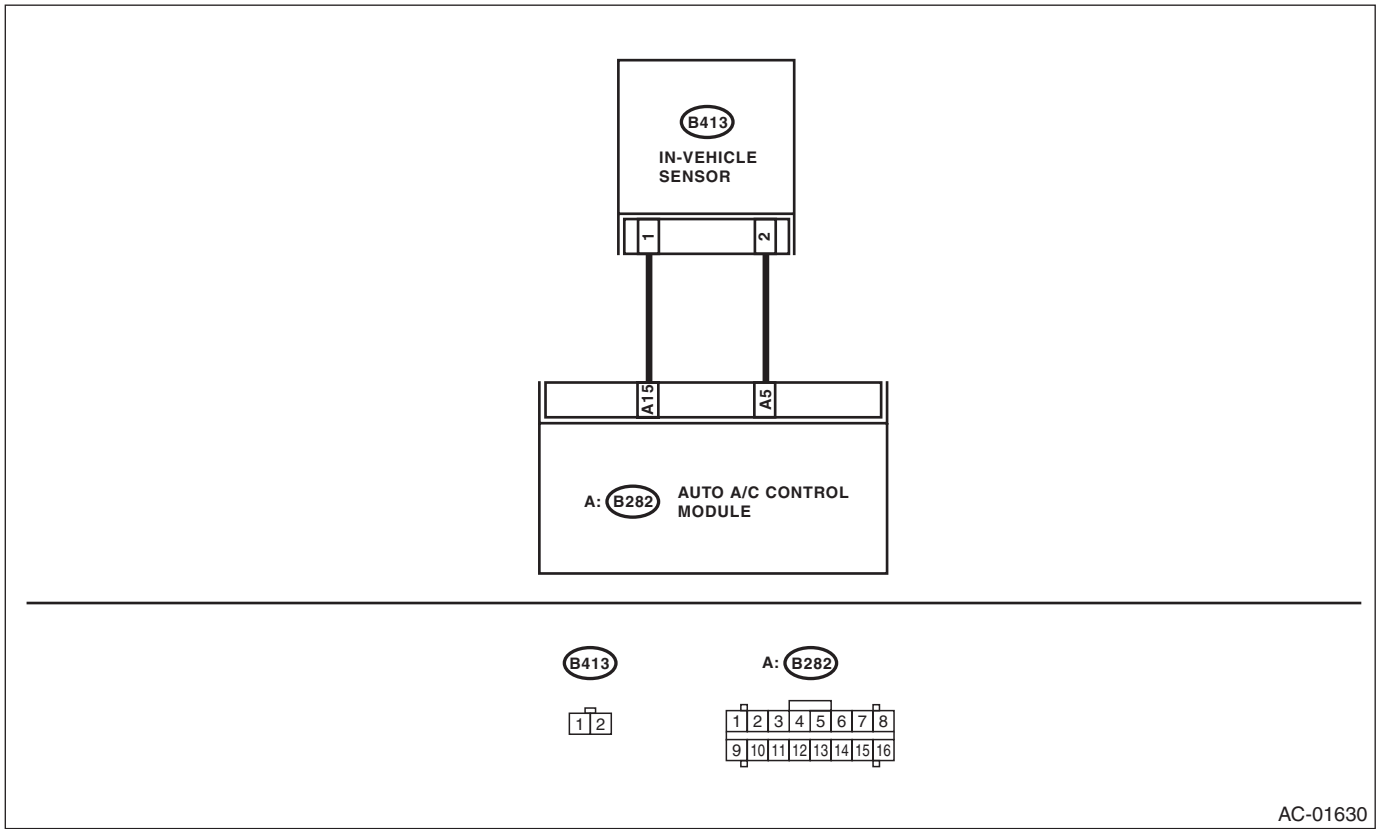
AC-01341

Diagnostic Procedure for Sensors

	Step	Check	Yes	No
1	**CHECK AMBIENT SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ambient sensor. 3) Measure the resistance between connector terminals of ambient sensor. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance approximately 1.7 kΩ at 25°C (77°F)?	Go to step **2**.	Replace the ambient sensor.
2	**CHECK INPUT SIGNAL FOR AMBIENT SENSOR.** 1) Turn the ignition to ON. 2) Measure the voltage between connector (F78) terminals. ***Connector & terminal*** ***(F78) No. 2 (+) — No. 1 (–):***	Is the voltage approx. 5 V?	Go to step **6**.	Go to step **3**.
3	**CHECK OUTPUT SIGNAL OF BODY INTEGRATED UNIT.** 1) Turn the ignition switch to OFF. 2) Draw out the body integrated unit. 3) Disconnect the connector from ambient sensor. 4) Turn the ignition switch to ON. 5) Measure the voltage between connector terminals of body integrated unit. ***Connector & terminal*** ***(B281) No. 3 (+) — No. 10 (–):***	Is the voltage approx. 5 V?	Go to step **4**.	Go to step **6**.
4	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND AMBIENT SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit. 3) Measure the resistance of harness between body integrated unit and ambient sensor. ***Connector & terminal*** ***(F78) No. 1 — (B281) No. 10:***	Is the resistance 1 Ω or less?	Go to step **5**.	Repair the open circuit of harness between body integrated unit and ambient sensor.
5	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND AMBIENT SENSOR.** Measure the resistance of harness between body integrated unit and ambient sensor. ***Connector & terminal*** ***(F78) No. 2 — (B281) No. 3:***	Is the resistance 1 Ω or less?	Go to step **6**.	Repair the open circuit of harness between body integrated unit and ambient sensor.
6	**CHECK COMMUNICATION FAILURE DISPLAY.** 1) Connect the connectors of body integrated unit and ambient sensor as originally connected. 2) Check if “Er xx” is displayed on the Odo/Trip meter in combination meter after turning the ignition switch to ON.	Is “Er xx” displayed?	Check the communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Go to step **7**.
7	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>

B: IN-VEHICLE SENSOR

TROUBLE SYMPTOM:
Blower fan speed, outlet port and inlet port do not change after turning the AUTO switch to ON.
WIRING DIAGRAM:

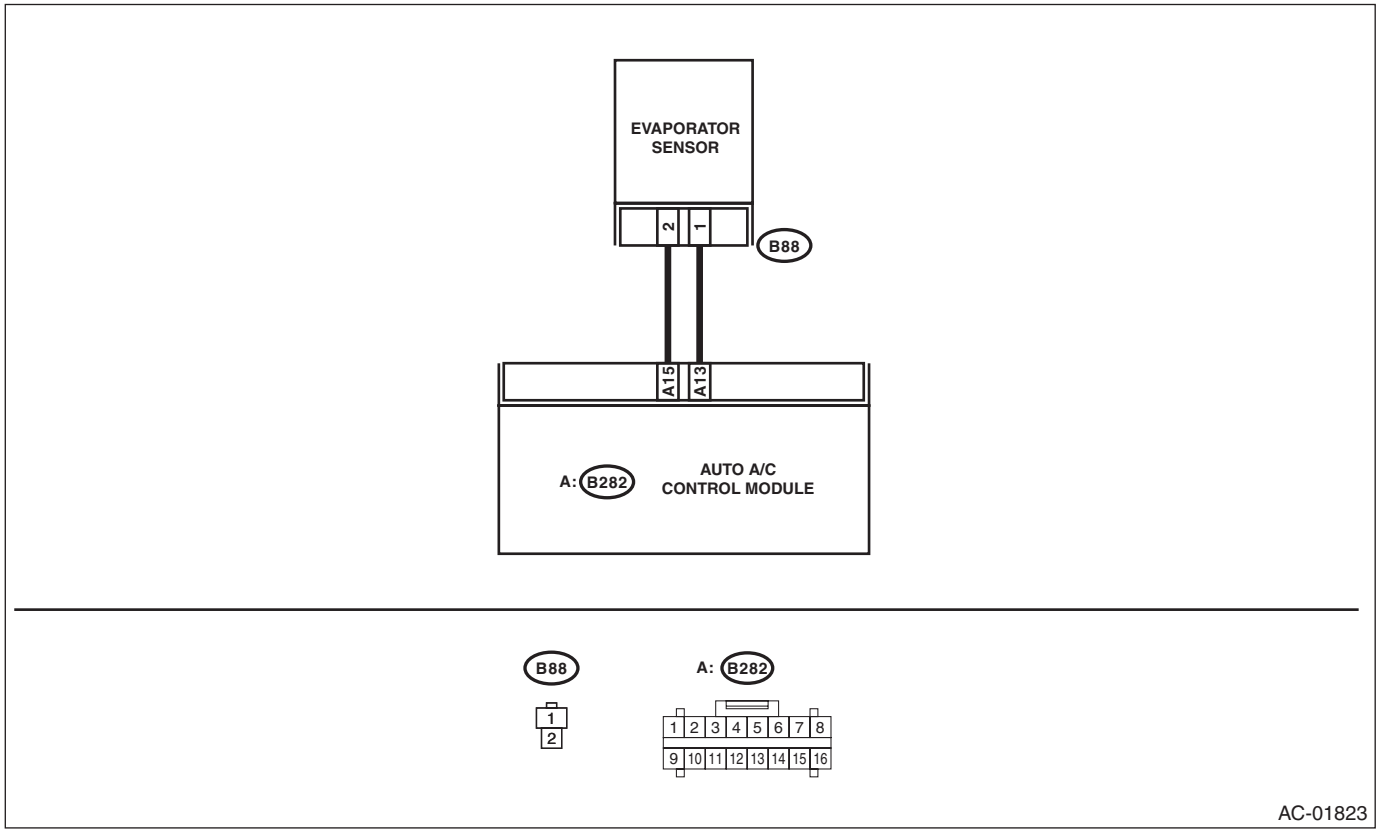


Step		Check	Yes	No
1	**CHECK IN-VEHICLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Remove the driver's side lower cover. 3) Disconnect the connector from in-vehicle sensor. 4) Measure the resistance between connector terminals of in-vehicle sensor. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance approximately 1.7 kΩ at 20°C (68°F)?	Go to step **2**.	Replace the in-vehicle sensor.
2	**CHECK INPUT SIGNAL FOR IN-VEHICLE SENSOR.** 1) Turn the ignition switch to ON. 2) Measure the voltage between in-vehicle sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(B413) No. 2 (+) — Chassis ground (–):***	Is the voltage approx. 5 V?	Go to step **6**.	Go to step **3**.
3	**CHECK AUTO A/C CONTROL MODULE OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Remove the auto A/C control module. 3) Turn the ignition switch to ON. 4) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(B282) No. 5 (+) — (B282) No. 15 (–):***	Is the voltage approx. 5 V?	Go to step **4**.	Go to step **6**.

	Step	Check	Yes	No
4	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND IN-VEHICLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the auto A/C control module. 3) Measure the resistance of harness between auto A/C control module and in-vehicle sensor. ***Connector & terminal*** ***(B413) No. 2 — (B282) No. 5:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the harness between auto A/C control module and in-vehicle sensor.
5	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND IN-VEHICLE SENSOR.** Measure the resistance of harness between auto A/C control module and in-vehicle sensor. ***Connector & terminal*** ***(B413) 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 FOR POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact of connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>

C: EVAPORATOR SENSOR

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK EVAPORATOR SENSOR.** 1) Turn the ignition switch to OFF. 2) Remove the glove box. 3) Disconnect the connector from evaporator sensor. 4) Measure the resistance between connector terminals of the evaporator sensor. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance approximately 1.9 kΩ at 20°C (68°F)?	Go to step **2**.	Replace the evaporator sensor. <Ref. to AC-36, REMOVAL, Evaporator.>
2	**CHECK INPUT SIGNAL FOR EVAPORATOR SENSOR.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (B88) terminal and chassis ground. ***Connector & terminal*** ***(B88) No. 1 (+) — Chassis ground (–):***	Is the voltage approx. 5 V?	Go to step **6**.	Go to step **3**.
3	**CHECK AUTO A/C CONTROL MODULE OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Remove the auto A/C control module. 3) Turn the ignition switch to ON. 4) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(B282) No. 13 (+) — No. 15 (–):***	Is the voltage approx. 5 V?	Go to step **4**.	Go to step **6**.

	Step	Check	Yes	No
4	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND EVAPORATOR SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the auto A/C control module. 3) Measure the resistance of harness between auto A/C control module and evaporator sensor. ***Connector & terminal*** ***(B88) No. 2 — (B282) No. 15:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the open circuit of harness between auto A/C control module and evaporator sensor.
5	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND EVAPORATOR SENSOR.** Measure the resistance of harness between auto A/C control module and evaporator sensor. ***Connector & terminal*** ***(B88) No. 1 — (B282) No. 13:***	Is the resistance less than 1 Ω?	Go to step **6**.	Repair the open circuit of harness between auto A/C control module and evaporator sensor.
6	**CHECK FOR POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact of connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>

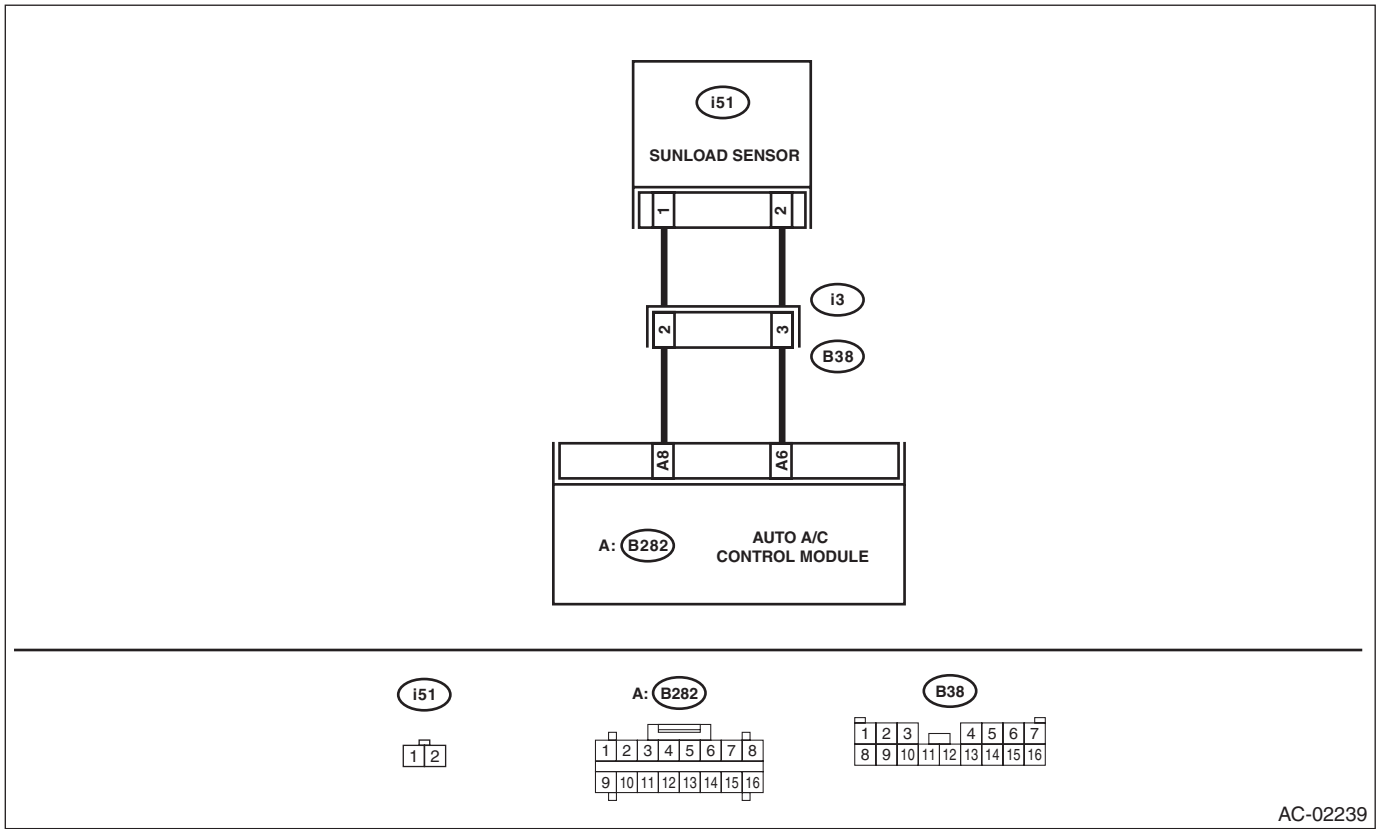
D: SUNLOAD SENSOR

TROUBLE SYMPTOM:

- Sensor identifies that sunlight is at maximum. Then, A/C system is controlled to COOL side.
- Sensor identifies that sunlight is at minimum. Then, A/C system is controlled to HOT side.

NOTE:
When the sunload sensor check is performed indoors or in the shade, it could be diagnosed as having an open circuit. Always check the sunload sensor with the sun shining on it.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POWER SUPPLY VOLTAGE FOR SUNLOAD SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from sunload sensor. 3) Turn the ignition switch to ON. 4) Measure the power supply voltage for sunload sensor. ***Connector & terminal*** ***(i51) No. 1 (+) — No. 2 (–):***	Is the voltage approx. 5 V?	Go to step **4**.	Go to step **2**.
2	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND SUNLOAD SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the auto A/C control module. 3) Measure the resistance of the harness between the auto A/C control module and sunload sensor. ***Connector & terminal*** ***(i51) No. 2 — (B282) No. 6:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair the harness between auto A/C control module and sunload sensor.

	Step	Check	Yes	No
3	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND SUNLOAD SENSOR.** Measure the resistance of the harness between the auto A/C control module and sunload sensor. ***Connector & terminal*** ***(i51) No. 1 — (B282) No. 8:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair the harness between auto A/C control module and sunload sensor.
4	**CHECK INPUT VOLTAGE FOR AUTO A/C CONTROL MODULE.** 1) Connect the connectors of sunload sensor and auto A/C control module. 2) Turn the ignition switch to ON. 3) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(B282) No. 8 (+) — (B282) No. 6 (–):***	Is the voltage approx. 3.0 V?	Go to step **5**.	Replace the sunload sensor. <Ref. to AC-46, REMOVAL, Sunload Sensor (Auto A/C Model).>
5	**CHECK FOR POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact of connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>

9. Diagnostics with Phenomenon

A: INSPECTION

Symptoms	Problem parts
A/C system fails to operate.	• Fuse (F/B No. 7, 22, 31). • Connector (Poor contact) • Ground • Auto A/C control module • Blower fan motor • Blower fan relay • A/C relay • Compressor (Magnet clutch) • Evaporator sensor
Fuse is blown out.	• Fuse (F/B No. 7, 22, 31). • Connector (Poor contact)
Illumination cannot dim.	• Fuse (F/B No. 7, 22, 31). • Connector (Poor contact) • Illumination control switch • Auto A/C control module • Body integrated unit
Blower fan does not rotate or fan speed cannot be controlled.	• Fuse (F/B No. 22, 27, 28) • Connector (Poor contact) • Ground • Auto A/C control module • Blower fan motor • Blower fan relay • Power transistor or blower resistor
Unable to switch suction vents.	• Connector (Poor contact) • Auto A/C control module • Intake door actuator
Unable to switch vents.	• Connector (Poor contact) • Auto A/C control module • Mode door actuator
Compartment temperature does not rise. (Warm air does not come out.)	• Connector (Poor contact) • Auto A/C control module • Air mix door actuator • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose • Aspirator body
Compartment temperature does not lower. (Cold air does not come out.)	• Connector (Poor contact) • Auto A/C control module • Air mix door actuator • A/C relay • Compressor (Magnet clutch) • Radiator fan motor • Radiator fan relay • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose • Aspirator body • Pressure switch
Compartment temperature is higher or lower than setting temperature.	• Auto A/C control module • Air mix door actuator • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose • Aspirator body

Symptoms	Problem parts
Compartment temperature does not quickly respond to setting temperature.	• Air mix door actuator • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose • Aspirator body
Radiator fan does not rotate during A/C operation.	• Radiator fan motor • Radiator fan relay • ECM • A/C switch • Auto A/C control module
Seat heater does not run.	• Seat thermistor • Seat heater relay • Seat heater • Auto A/C control module • Front control panel

AIRBAG SYSTEM

AB

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1. General Description

A: SPECIFICATION

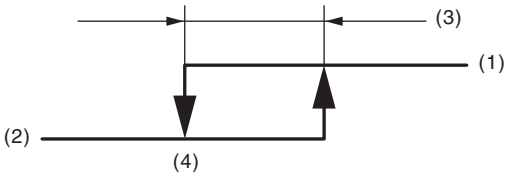
1. HEATER SYSTEM

Item		Specification	Condition
Heating capacity		5.2 kW (4,471 kcal/h, 17,743 BTU/h) or more	• Mode selector switch: HEAT • Temperature control switch: FULL HOT • Temperature difference between hot water and inlet air: 65°C (149°F) • Hot water flow rate: 360 ℓ (95.1 US gal, 79.2 Imp gal)/h
Air flow rate		340 m^3 (11,301 cu ft)/h	Heat mode (FRESH), FULL HOT at 12.5 V
Max air flow rate		550 m^3 (16,245 cu ft)/h	• Temperature control switch: FULL COLD • Blower fan speed: 6th position • Mode selector lever: RECIRC
Heater core size (height × length × width)		264 × 110 × 27 mm (10.4 × 4.33 × 1.06 in)	—
Blower motor	Type	Brush motor 260 W or less	12 V
	Fan type and size (diameter × width)	Sirocco fan type 165 × 70 mm (6.50 × 2.76 in)	—

2. A/C SYSTEM

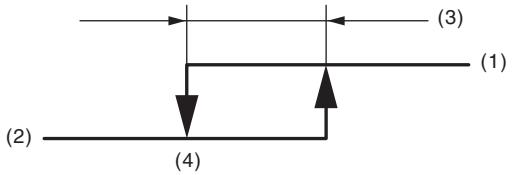
- Single A/C model (front only)

Item		Specifications
Type of air conditioner		Reheat air-mix type
Cooling capacity		6.2 kW (5,331 kcal/h, 21,154 BTU/h)
Refrigerant		HFC-134a (CH_2FCF_3) 20 — 22 oz (0.57 — 0.63 kg, 1.26 — 1.39 lb)
Compressor	Type	Inclined plate (SWASH PLATE), fixed capacity (10SR17), Temperature fuse
	Discharge	177 cc (10.80 cu in)/rev
	Max. permissible speed	6,000 rpm
Magnet clutch	Type	Dry, single-disc type
	Power consumption	35 W
	Type of belt	V-belt 6 PK
	Pulley dia. (effective dia.)	115 mm (4.53 in)
	Pulley ratio	1.24
Condenser	Type	Corrugated fin (Sub cool type)
	Core face area	0.29 m^2 (3.122 sq ft)
	Core thickness	16 mm (0.63 in)
	Radiation area	7.65 m^2 (82.35 sq ft)
Receiver drier	Effective inner capacity	280 cm^3 (17.1 cu in)
Expansion valve	Type	Box time (external pressure equalizing type)
Evaporator	Type	Single tank
	Dimensions (W × H × T)	293.1 × 211 × 38 mm (11.54 × 8.31 × 1.50 in)
Blower fan	Fan type	Sirocco fan
	Outer diameter × width	165 × 70 mm (6.50 × 2.76 in)
	Power consumption	260 W

Item			Specifications
Condenser fan (Sub fan)		Motor type	Magnet
		Power consumption	200 W
		Fan outer diameter	320 mm (12.6 in)
Radiator fan (Main fan)		Motor type	Magnet
		Power consumption	200 W
		Fan outer diameter	320 mm (12.6 in)
Idle speed		MPFI model	No load: 700±100 rpm A/C ON: 805±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 (1) ON (2) OFF (3) 1°C (33.8°F) (4) $1.5^{+8.0}$°C ($34.7^{+46.4}$°F)

- Dual A/C model (Front A/C and Rear cooler)

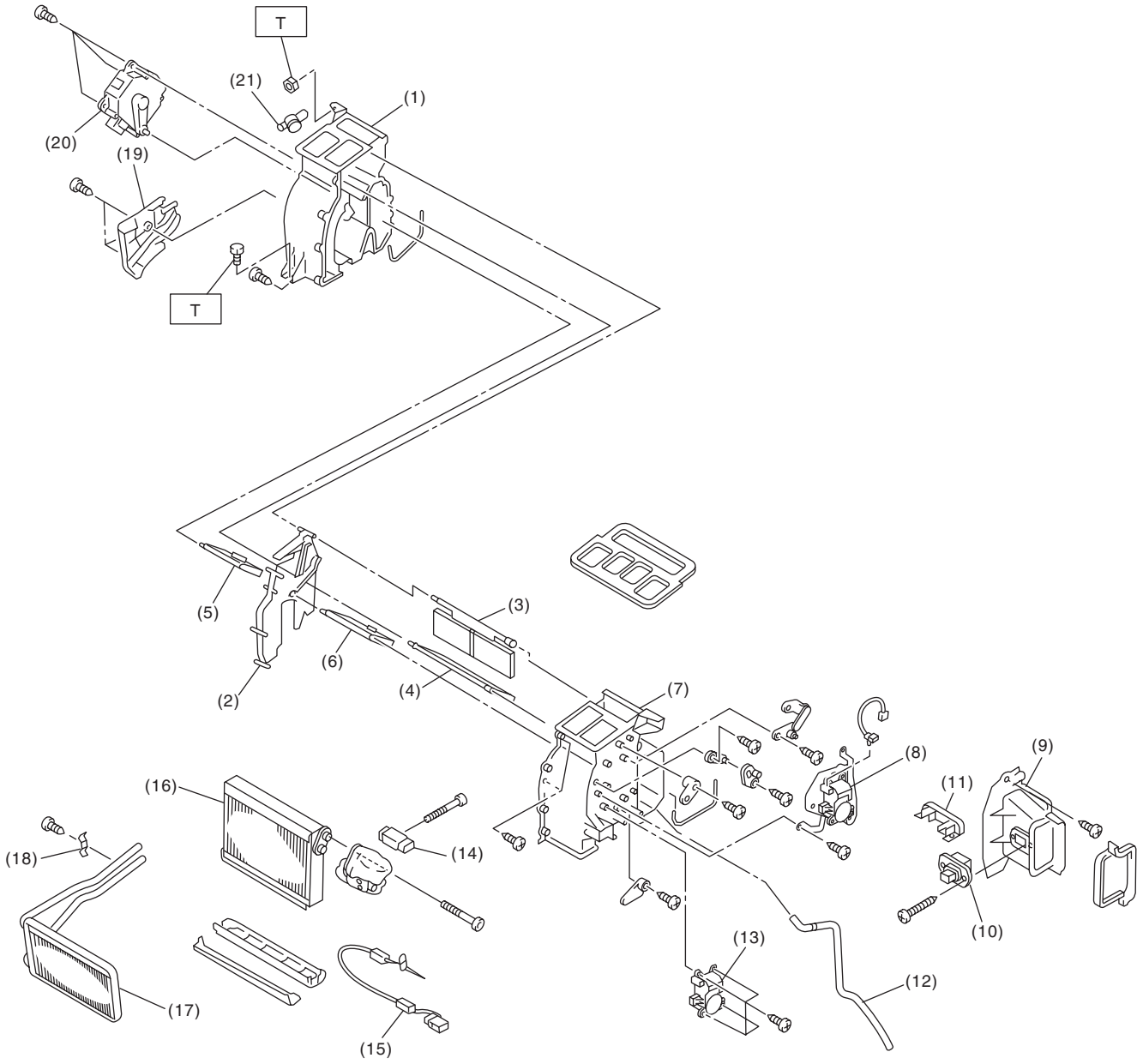
Item			Specifications
Type of air conditioner		Front	Reheat air-mix type
		Rear	Cooler
Cooling capacity			7.2 kW (6,191 kcal/h, 24,56 BTU/h)
Refrigerant			HFC-134a (CH_2FCF_3) 30 — 32 oz (0.84 — 0.90 kg, 1.85 — 1.98 lb)
Compressor		Type	Inclined plate (SWASH PLATE), fixed capacity (10SR17), Temperature fuse
		Discharge	177 cc (10.80 cu in)/rev
		Max. permissible speed	6,000 rpm
Magnet clutch		Type	Dry, single-disc type
		Power consumption	35 W
		Type of belt	V-belt 6 PK
		Pulley dia. (effective dia.)	115 mm (4.53 in)
		Pulley ratio	1.24
Condenser		Type	Corrugated fin (Sub cool type)
		Core face area	0.29 m^2 (3.122 sq ft)
		Core thickness	16 mm (0.63 in)
		Radiation area	7.65 m^2 (82.35 sq ft)
Receiver drier		Effective inner capacity	280 cc (17.1 cu in)
Expansion valve	Front	Type	Box time (external pressure equalizing type)
	Rear	Type	
Evaporator	Front	Type	Single tank
		Dimensions (W × H × T)	293.1 × 211 × 38 mm (11.54 × 8.31 × 1.50 in)
	Rear	Type	Single tank
		Dimensions (W × H × T)	132.1 × 181 × 38 mm (5.2 × 7.13 × 1.50 in)
Blower fan	Front	Fan type	Sirocco fan
		Outer diameter × width	165 × 70 mm (6.49 × 2.76 in)
		Power consumption	260 W
	Rear	Fan type	Sirocco fan
		Outer diameter × width	150 × 70 mm (5.91 × 2.76 in)
		Power consumption	150 W or less
Condenser fan (Sub fan)		Motor type	Magnet
		Power consumption	200 W
		Fan outer diameter	320 mm (12.6 in)
Radiator fan (Main fan)		Motor type	Magnet
		Power consumption	200 W
		Fan outer diameter	320 mm (12.6 in)
Idle speed		MPFI model	No load: 700±100 rpm A/C ON: 805±100 rpm

<table>
<tr><th colspan="3">Item</th><th>Specifications</th></tr>
<tr><td rowspan="6">Triple switch (Pressure switch)</td><td rowspan="2">Low-pressure switch operating pressure</td><td>ON → OFF</td><td>196±20 kPa
(2.00±0.20 kg/cm^2, 28.4±2.9 psi)</td></tr>
<tr><td>OFF → ON</td><td>225^{+25}_{-29} kPa
($2.29^{+0.25}_{-0.30}$ kg/cm^2, $32.6^{+3.6}_{-4.2}$ psi)</td></tr>
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(18.05±0.82 kg/cm^2, 256.81±11.60 psi)</td></tr>
<tr><td colspan="3">Thermo-control amplifier working temperature
(Evaporator outlet air)</td><td> 

AC-00601
(1) ON
(2) OFF
(3) 1°C (33.8°F)
(4) $1.5^{+0.8}$°C ($34.7^{+46.4}$°F)</td></tr>
</table>

B: COMPONENT

1. HEATER COOLING UNIT



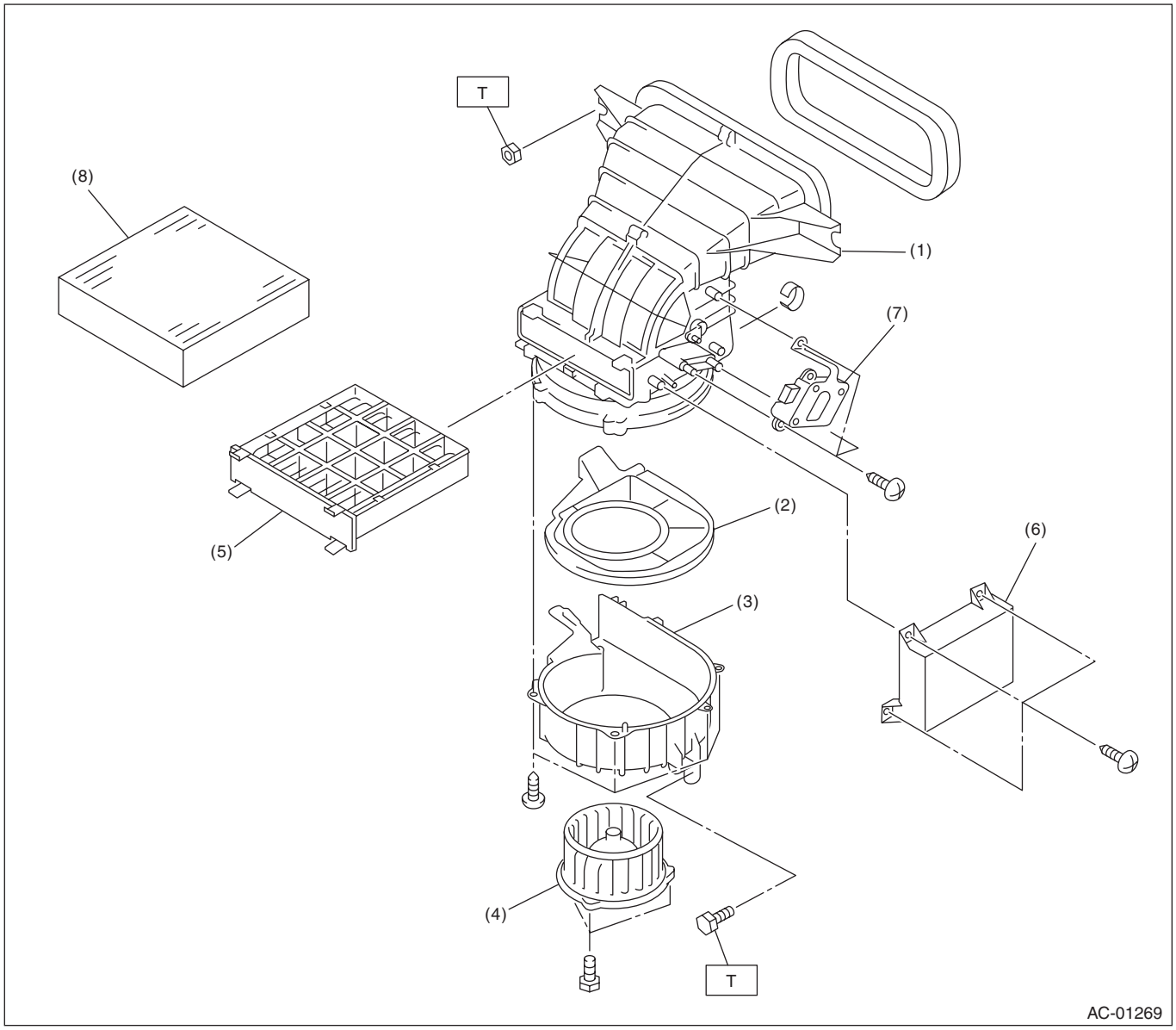
AC-01268

(1) Heater unit case LH
(2) Separator
(3) Mode door RR
(4) Mode door FR
(5) Air mix door LH
(6) Air mix door RH
(7) Heater unit case RH
(8) Mode door actuator
(9) Evaporator cover
(10) Power transistor
(11) Pipe cover
(12) Drain hose
(13) Air mix door actuator RH
(14) Expansion valve
(15) Evaporator sensor
(16) Evaporator
(17) Heater Core
(18) Heater pipe clamp
(19) Heater core cover
(20) Air mix door actuator LH
(21) Aspirator

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

2. BLOWER MOTOR UNIT

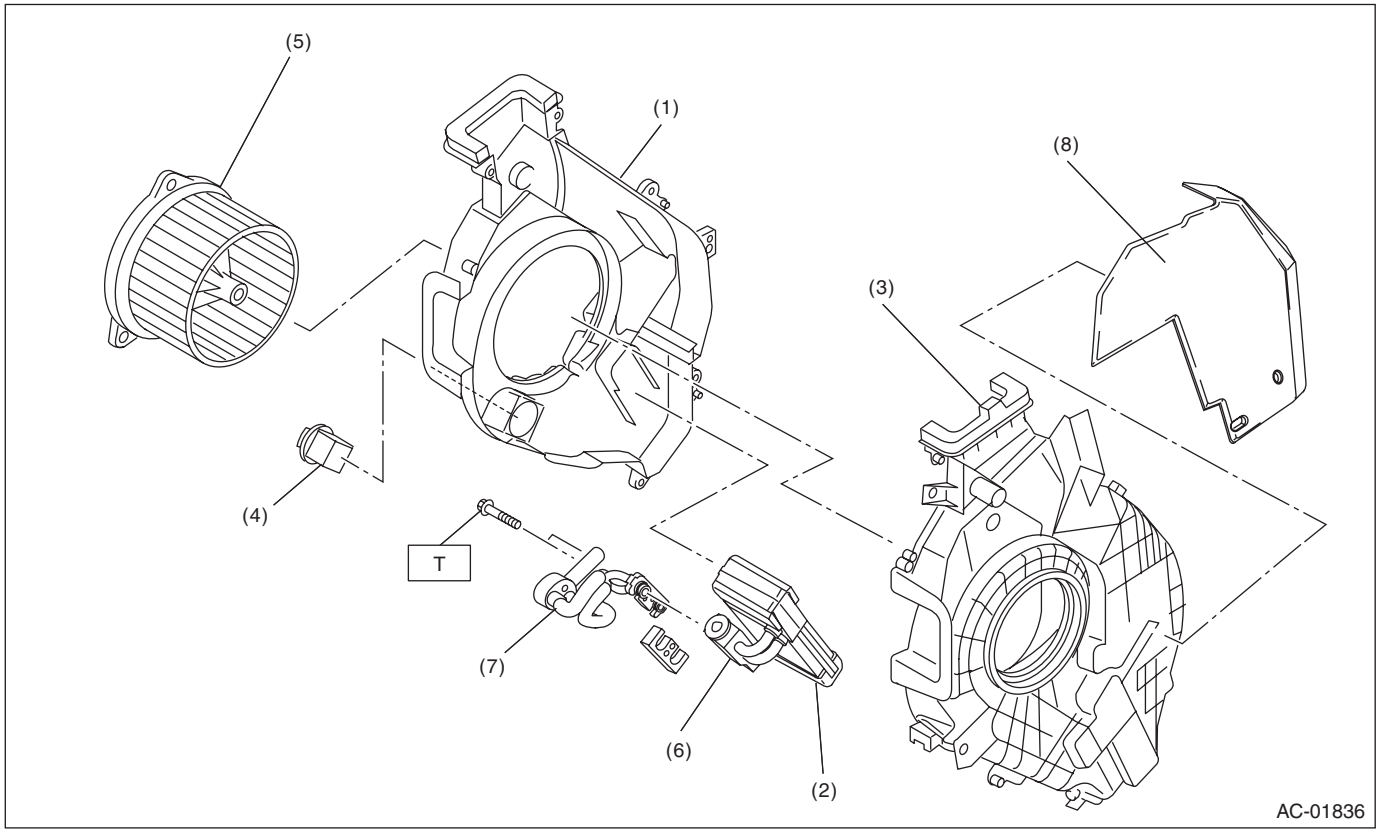
Front



(1) Upper case
(2) Blower plate
(3) Lower case
(4) Blower motor
(5) Filter cover
(6) Control unit (Auto A/C model)
(7) Intake door actuator
(8) Filter

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

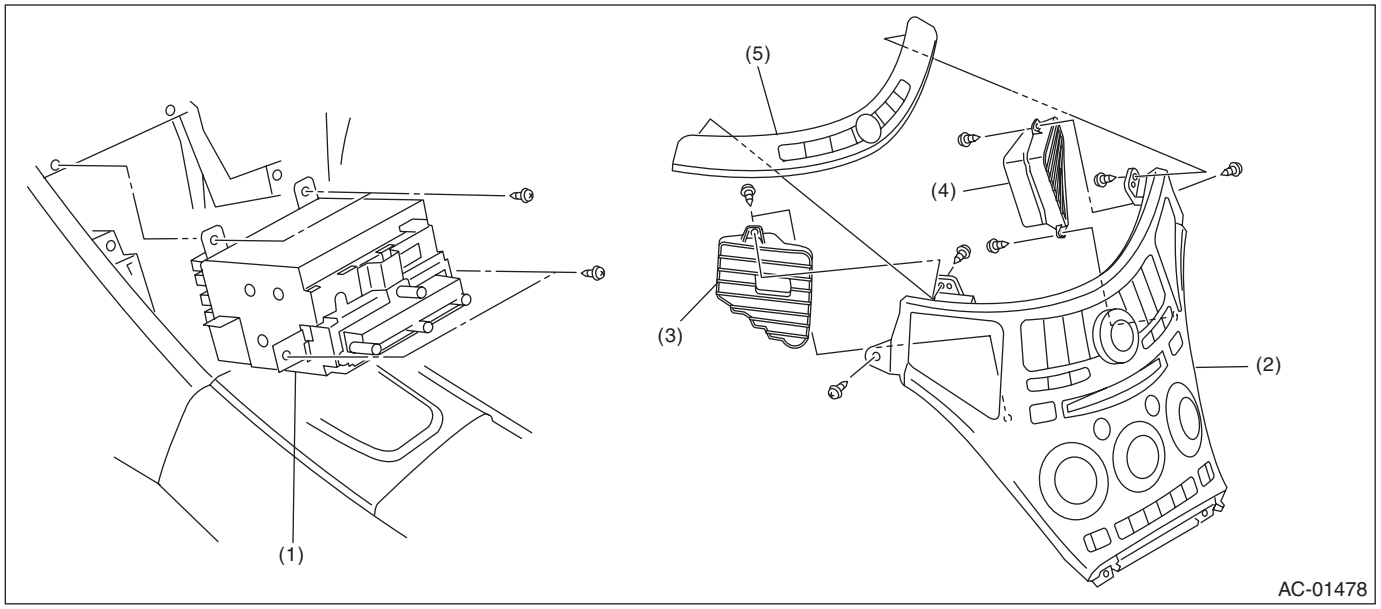
Rear



(1) Inner case
(2) Evaporator
(3) Outer case
(4) Blower resistor
(5) Blower motor
(6) Expansion valve
(7) Expansion tube
(8) Cover

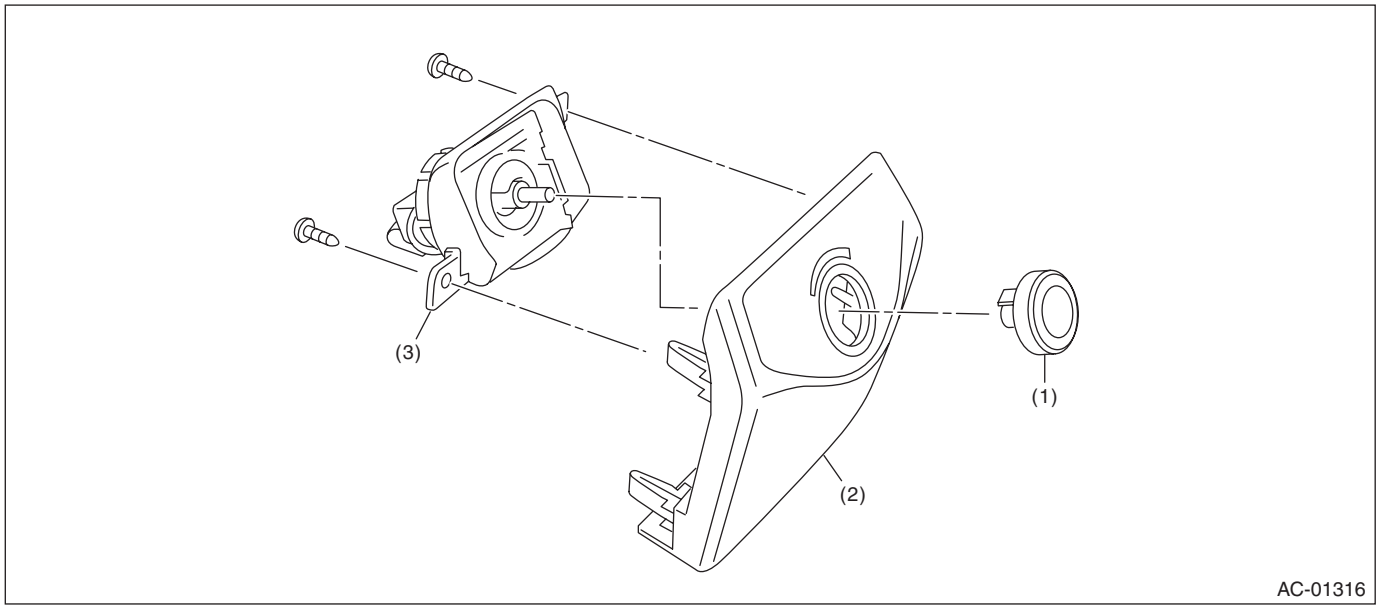
Tightening torque:N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

3. CONTROL PANEL



(1) Audio ASSY
(2) Control panel
(3) Center duct RH
(4) Center duct LH
(5) Navigation, MFD control switch

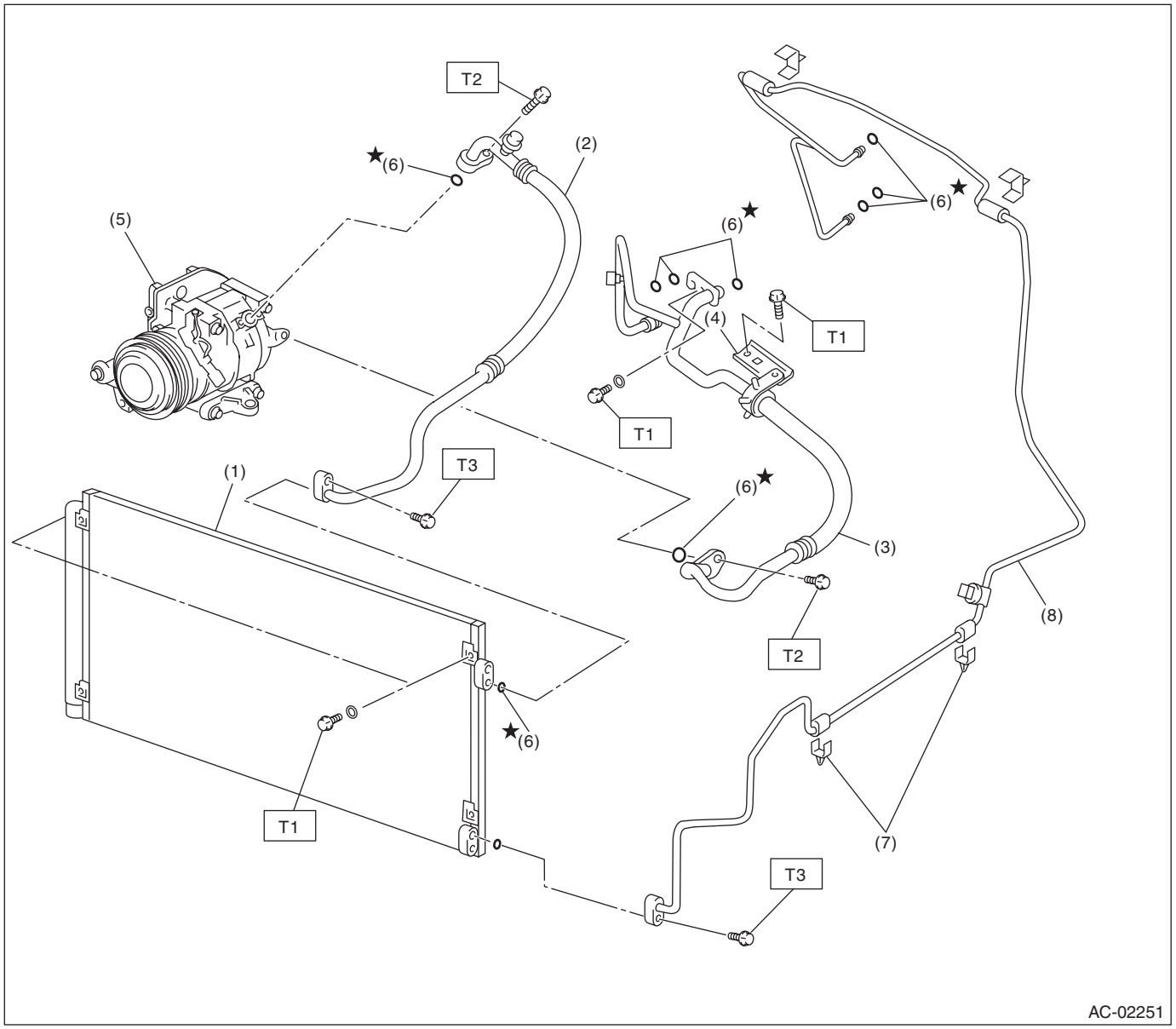
Rear cooler model



(1) Dial
(2) Control panel
(3) Blower switch

4. AIR CONDITIONING UNIT

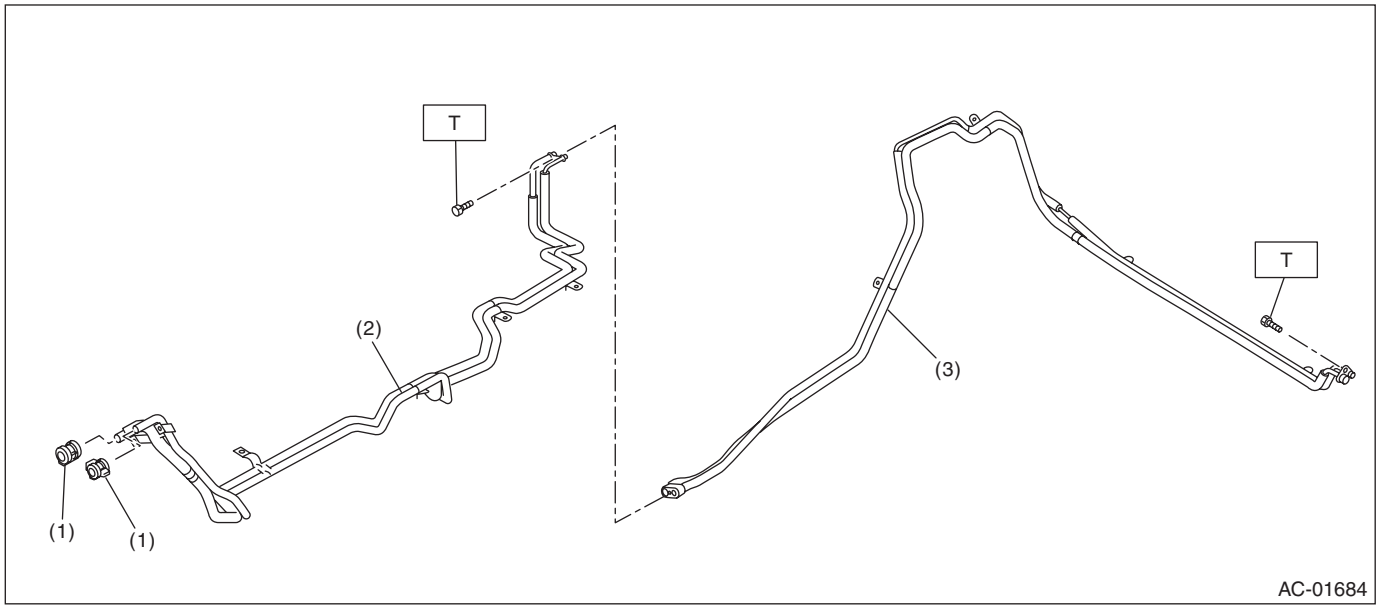
Front



(1)	Condenser	(5)	Compressor
(2)	Hose (High-pressure)	(6)	O-ring
(3)	Hose (Low-pressure)	(7)	Clamp
(4)	Bracket	(8)	Pipe

Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 10 (1.0, 7.4)
T3: 5 (0.5, 3.7)

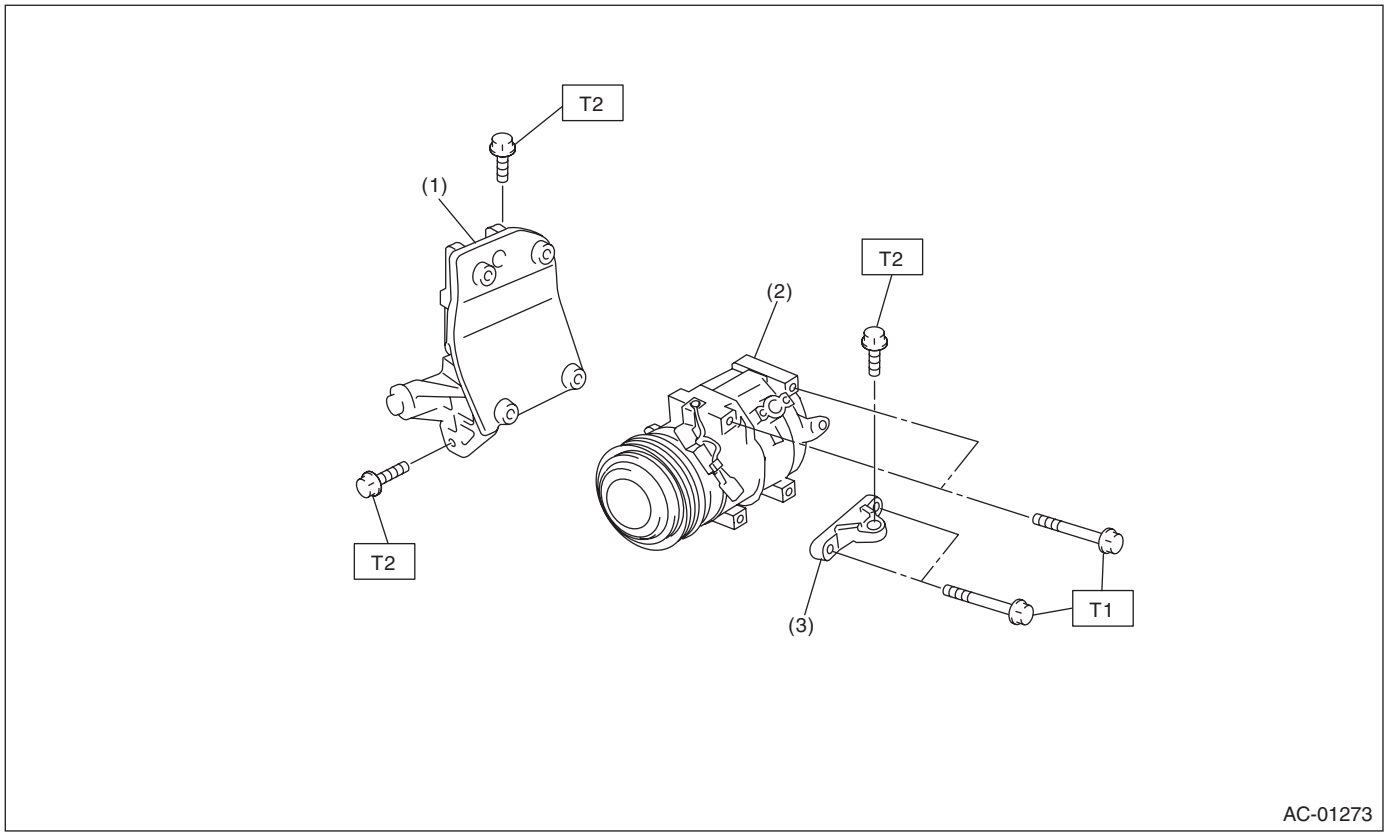
Rear



(1) Quick connector
(2) Front pipe
(3) Rear pipe

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

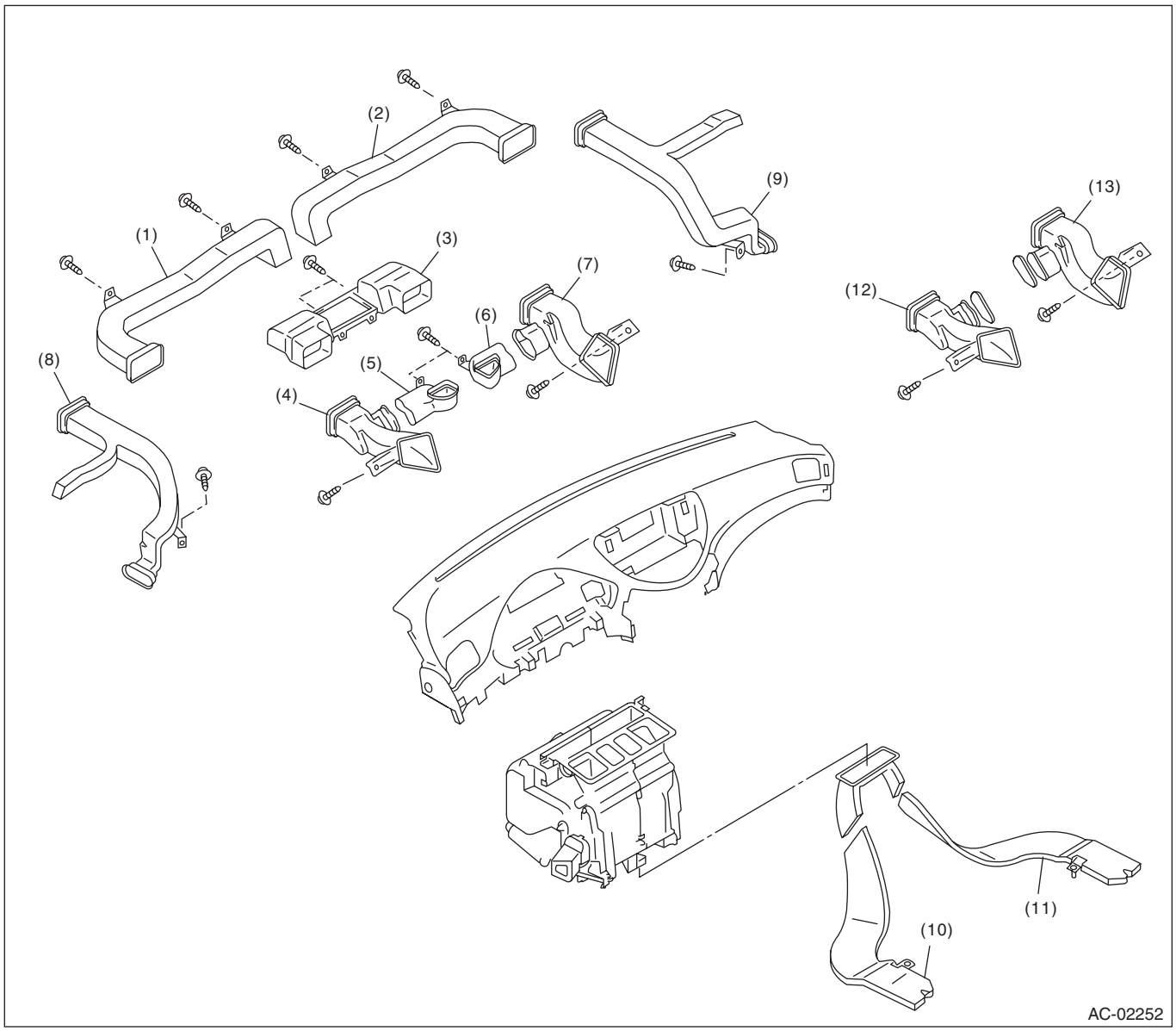
5. COMPRESSOR



(1) Compressor upper bracket
(2) Compressor
(3) Compressor lower bracket

Tightening torque:N·m (kgf-m, ft-lb)
T1: 26.5 (2.95, 21.3)
T2: 36 (3.7, 26.6)

6. HEATER DUCT

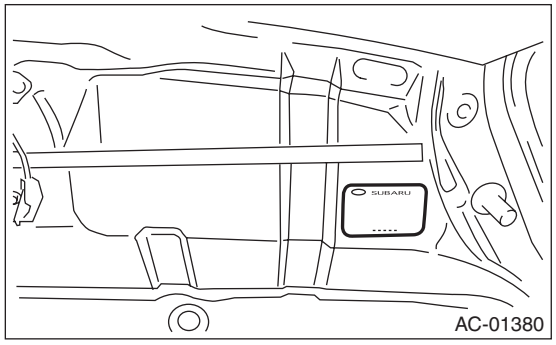


(1) Side ventilation duct LH
(2) Side ventilation duct RH
(3) Center ventilation duct
(4) Center duct LH
(5) Upper duct LH
(6) Upper duct RH
(7) Center duct RH
(8) Side defroster duct LH
(9) Side defroster duct RH
(10) Rear heater duct LH
(11) Rear heater duct RH
(12) Center duct LH (for harman/kardon audio)
(13) Center duct RH (for harman/kardon audio)

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 attached to the vehicle.
Before maintenance, check which A/C system is installed to the vehicle.



2. COMPRESSOR OIL

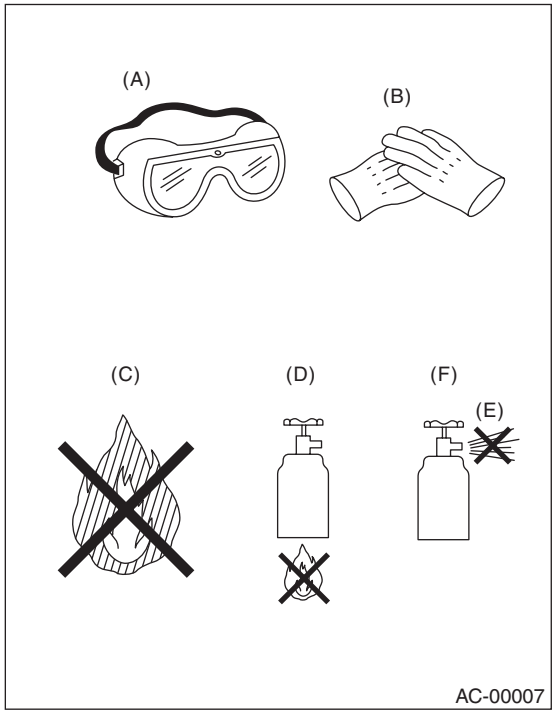
• HFC-134a compressor oil has no compatibility with that of CFC-12 system.
• Use only Denso Oil 8, the manufacturer-authorized compressor oil for the HFC-134a system.
• Do not mix multiple compressor oils.
If CFC-12 compressor oil is used in the HFC-134a A/C system, the compressor may become stuck due to poor lubrication, or the refrigerant may leak due to swelling of rubber parts.
On the other hand, if HFC-134a compressor oil is used in a CFC-12 A/C system, the durability of the A/C system will be lowered.
• HFC-134a compressor oil is very hygroscopic. When replacing or installing/removing A/C parts, immediately isolate the oil from atmosphere using a plug or tape. In order to avoid moisture, store the oil in a container with its cap tightly closed.

3. REFRIGERANT

• CFC-12 refrigerant cannot be used in a HFC-134a A/C system. HFC-134a refrigerant, also cannot be used in a CFC-12 A/C system.
• If an incorrect or no refrigerant is used, it will result in poor lubrication and the compressor itself may be damaged.

4. HANDLING OF REFRIGERANT

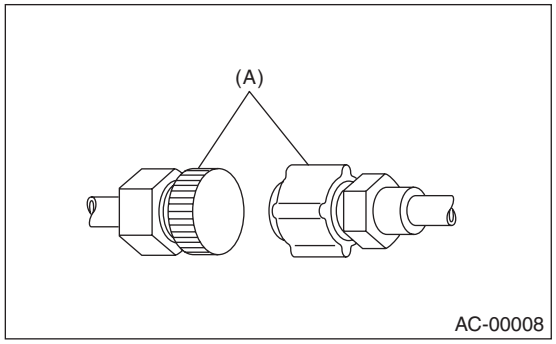
• The refrigerant boils at approx. –30°C (–22°F). When handling it, be sure to wear protective goggles and protective gloves. Direct contact of the refrigerant with skin may cause frostbite.
If the refrigerant gets into your eye, avoid rubbing your eyes with your hands. Wash your eye with plenty of water, and receive medical treatment from an eye doctor.
• Do not heat a service can. If a service can is directly heated, or put into boiling water, the inside pressure will become extremely high. This may cause the can to explode. If a service can must be warmed up, use warm water of 40°C (104°F) or less.
• Do not drop or subject a service can to impacts. (Observe the precautions and operation procedure described on the refrigerant can.)
• When the engine is running, do not open the high-pressure valve of the manifold gauge. High-pressure gas can back-flow resulting in an explosion of the can.
• Provide good ventilation and do not work in a closed area.
• In order to prevent global warming, avoid releasing HFC-134a into the atmosphere. Using a refrigerant recovery system, discharge and recycle the gas.



(A) Goggles
(B) Gloves
(C) Avoid open flame
(D) No direct heat on container
(E) Do not discharge
(F) Loosen

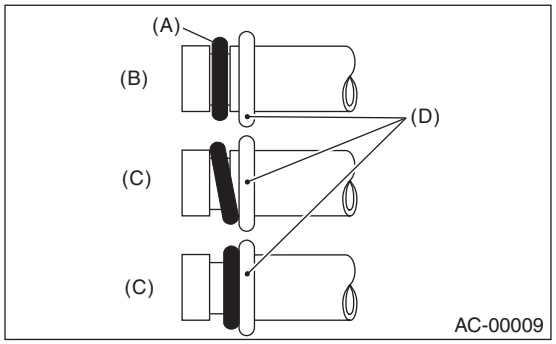
5. O-RING CONNECTIONS

- Always use a new O-ring.
- In order to keep the O-rings free of lint which will cause a refrigerant gas leak, perform work without using gloves or waste cloths.
- Apply compressor oil to O-rings to avoid sticking, before installation.
- Use a torque wrench to tighten the O-ring fittings. Over-tightening will result in damage of the O-ring and deformation of the pipe end.
- If the work is interrupted before completing pipe connections, recap the pipes, components and fittings with a plug or tape to prevent foreign matter from entering.



(A) Seal

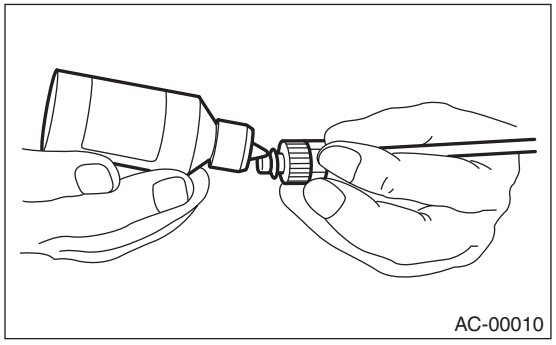
- Visually check the surfaces and mating surfaces of O-rings, threads and connecting points. If a failure is found, replace the applicable parts.
- Install the O-rings straight against the groove of the pipe.



(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 pipe.



- 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.

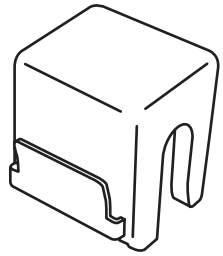
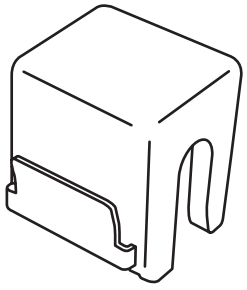
D: PREPARATION TOOL

CAUTION:
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, be careful of the following:
- **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.**
- **The gas leak detectors for the HFC-134a and CFC-12 systems must also not be interchanged.**

In order to prevent the mixing HFC-134a and CFC-12 parts and fluids, the type of tools, screw types, and replacement valves are different.

	HFC-134a	CFC-12
Tool & screw type	Millimeter size	Inch size
Valve type	Quick joint type	Screw-in type

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST73499XA00A	73499XA00A	S/T REMOVER PD	Used to disconnect the connector for a quick joint type air conditioner piping (high pressure side).
 ST73499XA01A	73499XA01A	S/T REMOVER PS	Used to disconnect the connector for a quick joint type air conditioner piping (high pressure side).

2. GENERAL TOOL

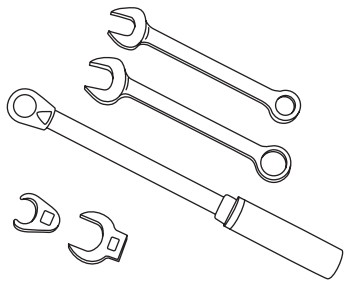
ILLUSTRATION	Name and Function
 AC-00213	Wrench Various **WRENCHES** will be required to service any A/C system. 7 — 40 N·m (0.7 to 4.1 kg-m, 5 to 30 ft-lb) torque wrench and various crow-foot wrenches will be needed. Open end or flare nut wrenches will be needed to affix the pipe and hose fittings.

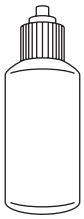
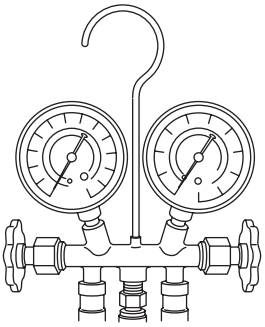
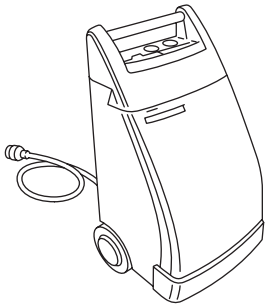
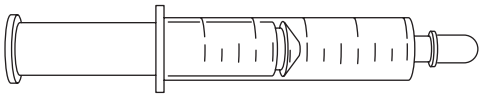
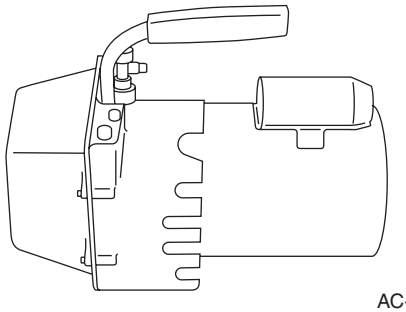
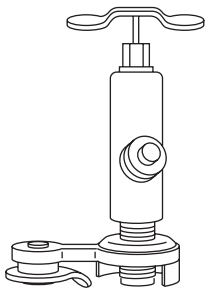
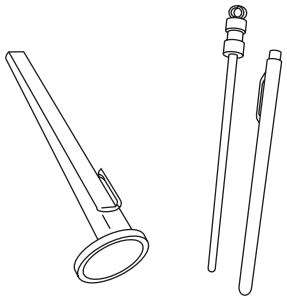
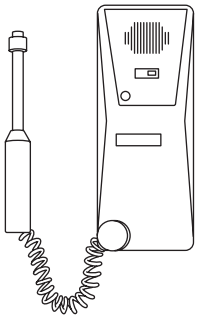
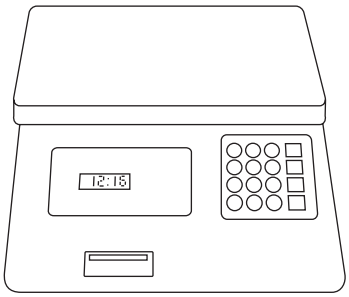
ILLUSTRATION	Name and Function
 AC-00012	Applicator bottle A small **APPLICATOR BOTTLE** is recommended to apply compressor oil to the various parts. It can be available at a hardware or drug store.
 AC-00013	Manifold gauge set A **MANIFOLD GAUGE SET** (with hoses) is available at either a refrigerant supplier or an automotive equipment supplier.
 AC-00014	Refrigerant recovery system A **REFRIGERANT RECOVERY SYSTEM** is used for the recovery and recycling of A/C system refrigerant after contaminants and moisture have been removed from the refrigerant.
 AC-00015	Syringe A graduated plastic **SYRINGE** will be needed to add oil into the system again. A syringe can be available at a pharmacy or drug store.
 AC-00016	Vacuum pump A **VACUUM PUMP** is necessary (for a good working condition), and may be available at either a refrigerant supplier or an automotive equipment supplier.

ILLUSTRATION	Name and Function
 AC-00017	Can tap A **CAN TAP** for the 397 g (14 oz.) can is available at an automotive equipment supplier.
 AC-00018	Thermometer A pocket **THERMOMETER** is available either at a industrial hardware store or a refrigerant supplier.
 AC-00019	Electronic leak detector An **ELECTRONIC LEAK DETECTOR** can be available at either a specialty tool supplier or an A/C equipment supplier.
 AC-00020	Weight scale A **WEIGHT SCALE** such as an electronic charging scale or a bathroom scale with digital display will be needed, if a 13.6 kg (30 lb) refrigerant container is used.

2. Refrigerant Pressure with Manifold Gauge Set

A: PROCEDURE

1) Place the vehicle in the shade and windless condition.
2) Connect the manifold gauge set.
3) Open all windows and close all doors.
4) Increase the engine to 1,500 rpm.
5) Turn on the A/C switch.
6) Turn the temperature control switch to MAX COOL.
7) Put in RECIRC position.
8) Turn the blower control switch to HI.
9) Read the gauge.

Standard:
Low pressure: 127 — 196 kPa (1.3 — 2.0 kg/cm^2, 18 — 28 psi)
High pressure: 1,471 — 1,667 kPa (15 — 17 kg/cm^2, 213 — 242 psi)
Ambient temperature: 30 — 35°C (86 — 95°F)

B: INSPECTION

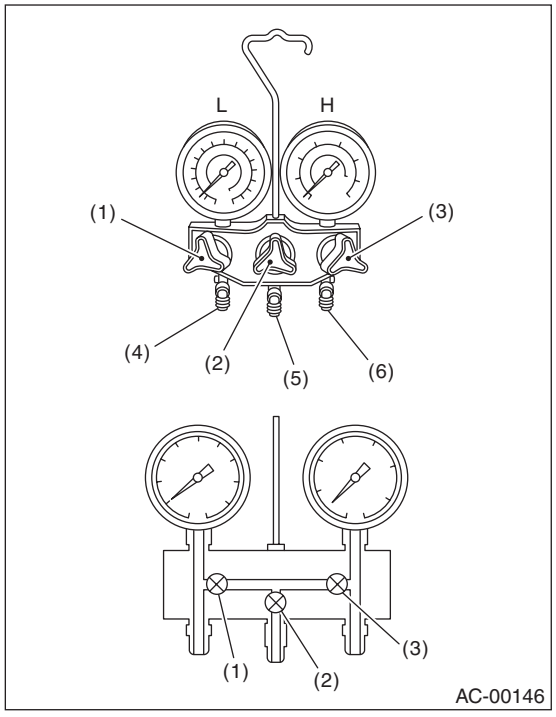
Symptom	Probable cause	Repair order
High-pressure side is unusually high.	• Defective condenser fan motor • Clogged condenser fin • Too much refrigerant • Air inside the system • Defective receiver dryer	• Replace the fan motor. • Clean the condenser fin. • Discharge refrigerant. • Replace the receiver dryer. • After evacuating again, charge an appropriate amount of refrigerant.
High-pressure side is unusually low.	• Defective compressor • Not enough refrigerant • Clogged expansion valve • Expansion valve frozen temporarily by moisture.	• Replace the compressor. • Check for leaks. • Replace the expansion valve. • Fully evacuate the expansion valve.
Low-pressure side is unusually high.	• Defective compressor • Defective expansion valve • Too much refrigerant	• Replace the compressor. • Replace the expansion valve. • Discharge refrigerant.
Low-pressure side is unusually low.	• Not enough refrigerant • Clogged expansion valve • Expansion valve frozen temporarily by moisture. • Saturated receiver dryer	• Check for leaks. • Replace the expansion valve. • Replace the receiver dryer.

3. Refrigerant Recovery Procedure

A: PROCEDURE

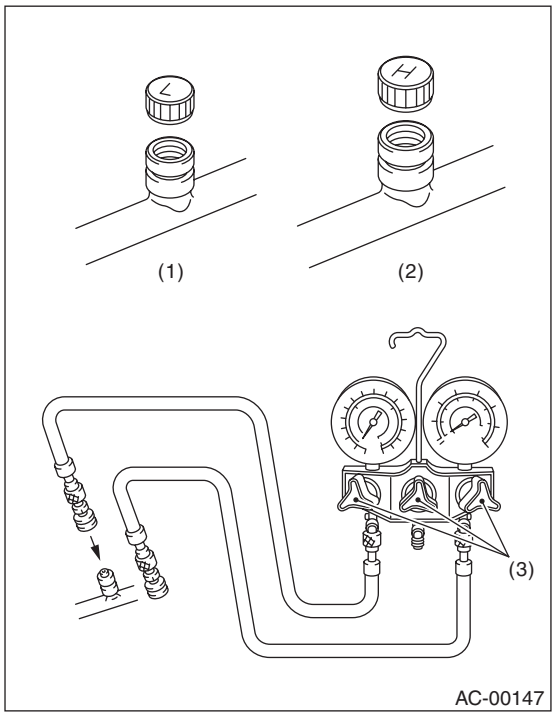
CAUTION:
• During operation, be sure to wear protective goggles and protective gloves.
• Connect the refrigerant recovery system with the manifold gauge set to discharge the refrigerant from the A/C system and recycle the gas.
• When recycling the discharged refrigerant, keep service cans on hand. Because the recovery rate with the recovery system is approx. 90%, service cans are necessary to charge the refrigerant.
• Follow the detailed operation procedure described in the operation manual attached to the refrigerant recovery system.

1) Perform the compressor oil return operation. <Ref. to AC-25, PROCEDURE, Compressor Oil.>
2) Stop the engine.
3) Make sure the valves on low-/high-pressure sides of manifold gauge set are fully closed.



L: Low pressure gauge
H: High-pressure gauge
(1) Low pressure valve
(2) Vacuum pump valve
(3) High pressure valve
(4) For low pressure
(5) For vacuum pump
(6) For high pressure

4) Install the low-/high-pressure hoses to the service ports on the low-/high-pressure sides of the vehicle respectively.



(1) Low-pressure side service port
(2) High-pressure side service port
(3) Close

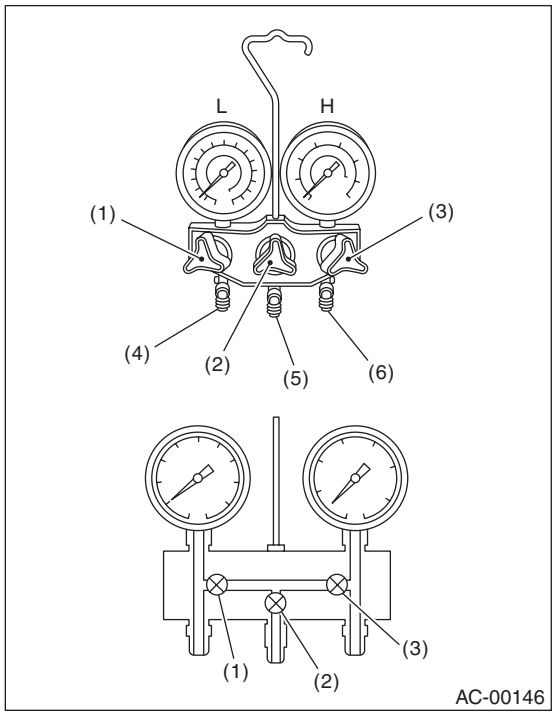
5) Connect the center hose to the refrigerant recovery system.
6) Follow the operation manual to activate the refrigerant recovery system.

4. Refrigerant Charging Procedure

A: PROCEDURE

CAUTION:
• While working, make sure to wear protective goggles and gloves.
• Air in the cycle can cause insufficient air conditioning, and water in the cycle can cause clogging in the cycle (icing) and rust. To eliminate such air and moisture, vacuum using the vacuum pump before refilling refrigerant. By vacuuming the inside of the cycle, it is possible to boil away and evaporate moisture even at room temperature.

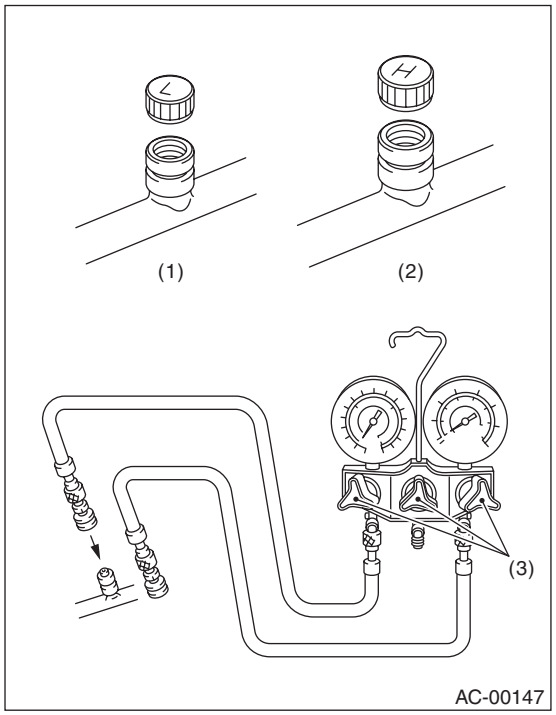
1) Close all valves of the manifold gauge.



L: Low pressure gauge
H: High-pressure gauge
(1) Low pressure valve
(2) Vacuum pump valve
(3) High pressure valve
(4) For low pressure
(5) For vacuum pump
(6) For high pressure

2) Attach the low pressure side and high pressure side hoses to the service port of the vehicle.

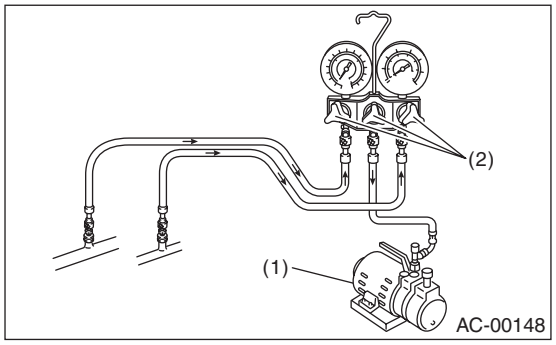
CAUTION:
Confirm that the connection is secure.



(1) Low-pressure side service port
(2) High-pressure side service port
(3) Close

3) Connect the center manifold hose of the manifold gauge to the vacuum pump.
4) Operate the vacuum pump, then open the valve on the low-/high-pressure sides. Next, open the center manifold hose valve to begin vacuuming.

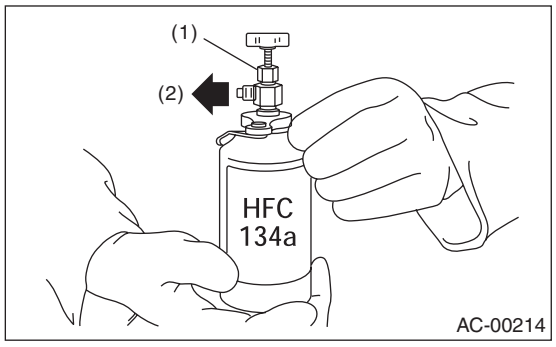
CAUTION:
Always use a vacuum pump to vacuum.



(1) Vacuum pump
(2) Open

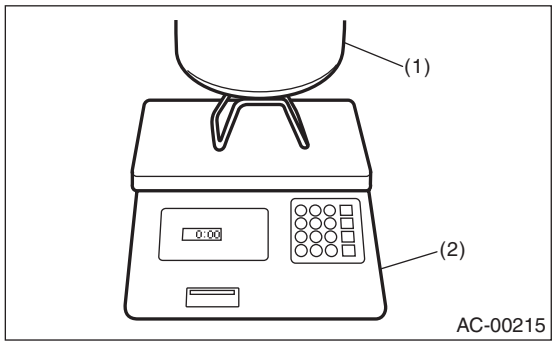
5) After performing evacuation for over 5 minutes, when the low pressure gauge needle reaches above –100.0 kPa (–750 mmHg, –29.5 inHg), close the center manifold hose valve, and stop the vacuum pump.

6) Keep the status for 5 to 10 minutes after closing both the low pressure side and high pressure side valves, then check if there is any change in the low pressure gauge indicator. When the gauge indicator changes, it is a sign of leakage. Check the connections of pipes and hoses, and repair the problem locations. In this case, repeat from step 1).
7) If there is no leak, continue vacuuming for another 20 to 30 minutes.
8) Close all the valves and stop the vacuum pump.
9) Following the can tap operation manual, install it to the refrigerant can.



(1) Tap valve
(2) To center manifold hose

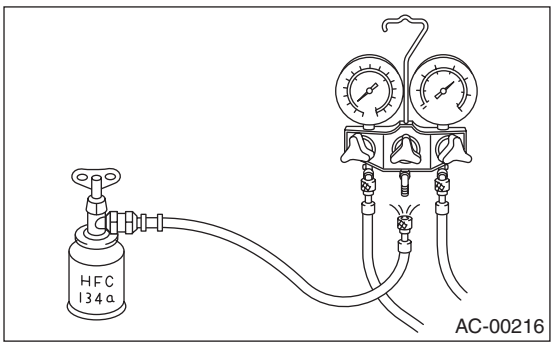
10) Disconnect the center manifold hose from the vacuum pump, and connect the hose to the tap valve.
11) When a 13.6 kg (30 lb) refrigerant container is used, measure the weight of the refrigerant first on a scale, then connect to the center manifold hose.



(1) Refrigerant container (HFC-134a)
(2) Weight scale

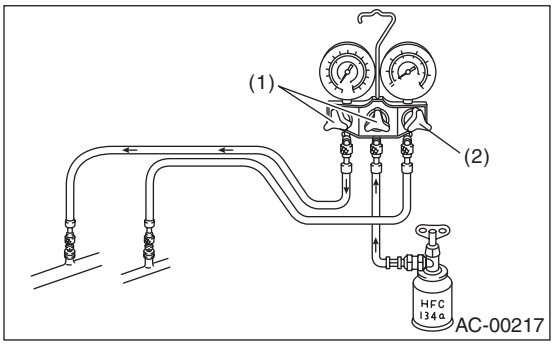
12) Open the valve on the HFC-134a source.

13) Loosen the center manifold hose connection on the manifold gauge set (if applicable, press a purge valve on the manifold gauge) only for a couple of seconds to allow the air in the center manifold hose to be bled by the refrigerant pressure.



14) Open the high pressure side valve and the low pressure side valve on the manifold gauge and fill the refrigerant.

CAUTION:
When filling while running the engine, do not open the high pressure side valve. Always make sure to fill from the lower pressure side.



(1) Open
(2) Open

15) When the gauge needle reaches approximately 200 kPa (1,500 mmHg, 59.1 inHg), close all valves.
16) Using a leak tester, check the system for refrigerant leaks.
17) After checking for refrigerant leaks, fill the refrigerant to the prescribed level.
18) If the HFC-134a source is empty, close all the valves, close the valve on the can tap, and replace the empty source with a new part. After replacing HFC-134a source with a new part, and purging the air, restart the work.

19) When the filling efficiency of the refrigerant drops, close all the valves.
20) Check that the valves on low-/high-pressure sides are closed. Start the engine with the A/C switch OFF.
21) To prevent damaging the compressor, turn the A/C switch to ON and OFF several times quickly.
22) Set up the vehicle to the following status:

CAUTION:
When starting the engine and filling, do not open the high pressure side valve.
Always fill from the low pressure side valve.

- 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

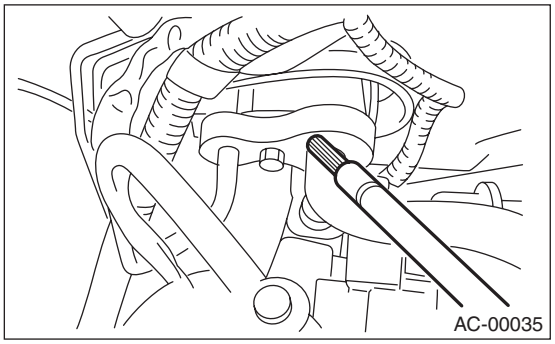
23) Open the low pressure side valve and fill with refrigerant up to the specified amount.
24) After filling with refrigerant, close all valves and disconnect the hose from the service port.
25) Mount the cap to the service port.

5. Refrigerant Leak Check

A: INSPECTION

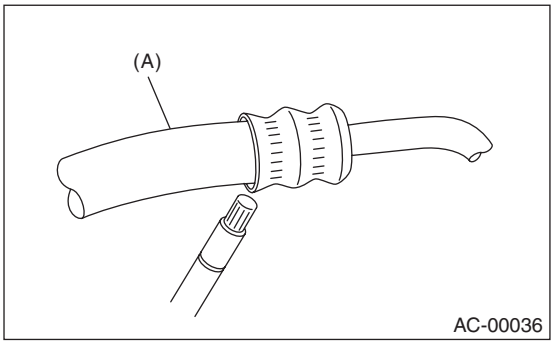
1) At engine speed below 1500 rpm, operate the A/C system for approx. 10 minutes, and confirm that the high-side pressure shows at least 690 kPa (7.03 kg/cm^2, 100 psi). Then stop the engine to start the leak test.
2) Starting from the connection between high-pressure pipe and evaporator, check the system for leaks along the high-pressure side through the compressor. The following items must be checked thoroughly.
3) Check the joint and seam between pressure switch (triple pressure switch) and high-pressure pipe.
4) Check the connections between condenser and pipes, and welded joints on the condenser.
The leak tester may detect the oil on the condenser fins as a leak.
5) Check the joint between compressor and hoses.
6) Check the machined area of the compressor and other joints on the compressor.
7) Check the compressor shaft seal at the area near the center of compressor clutch pulley.
Some shaft seals will show a slight amount of leakage, about 3 g (0.1 oz) per year. This is not a problem.
8) Starting from the connection between low-pressure pipe and evaporator, check the system for leakage along the low-pressure side through the compressor. The following items must be checked thoroughly.

- Connection between 2 parts
- Connection between pipe and plate
- Connection between pipes



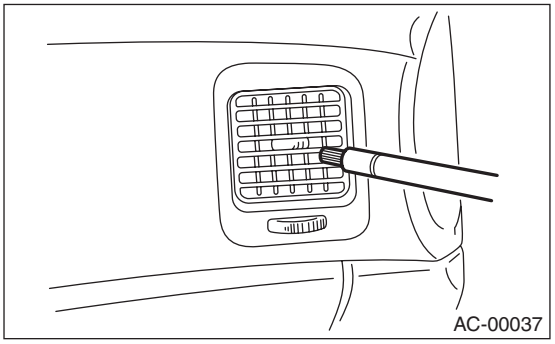
9) Visually check the rubber area of the flexible hose for cracks.
Check the entire length of the flexible hose, especially the connection with the metal hose end.

CAUTION:
Carefully check the external surface of hoses and pipes at approx. 25 mm (0.98 in) per second.

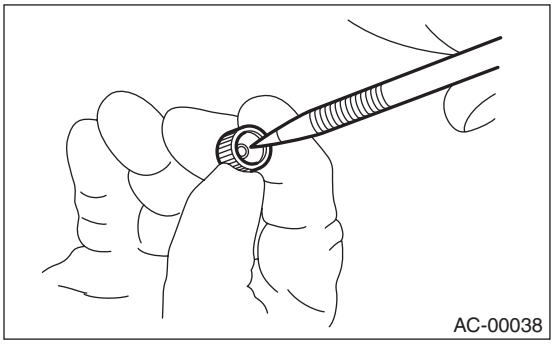


(A) Flexible hose

10) Disconnect the drain hose from the heater case, and check the hose end for at least 10 seconds.
After the test is finished, reconnect the drain hose.
11) Turn the ignition key to the ON position, and run the blower at high speed for approx. 1 minute. Stop the blower to check the ventilation grille on the instrument panel. While moving the tester closer to the grille, run the blower for 1 or 2 seconds, then stop it. Check the grille at that position for at least 10 seconds.



12) Check the valve in the service port.
13) Visually check the rubber seal in the service port cap.



6. Compressor Oil

A: PROCEDURE

NOTE:
Before making repairs, perform the oil return operation to return the compressor oil in circulation with the refrigerant to the compressor.
1) Increase the engine to 1,500 rpm.
2) Turn on the A/C switch.
3) Turn the temperature control switch to MAX COOL.
4) Put in RECIRC position.
5) Turn the blower control switch to HI. (For models with rear coolers, also turn the rear cooler fan switch to HI)
6) Leave in this condition for 10 minutes.

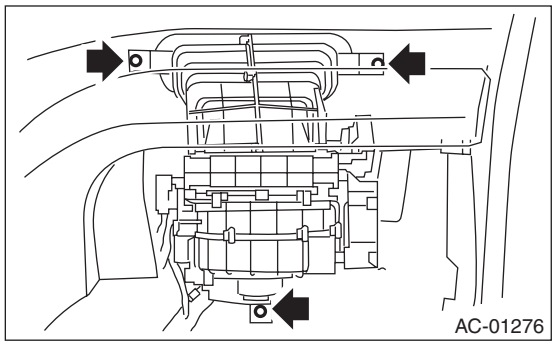
B: REPLACEMENT

NOTE:
• If a component has been replaced, add an appropriate amount of compressor oil (same as the amount of remaining oil in removed component).
• When replacing the compressor, the new compressor will already have the specified amount of oil in it. Install the new compressor after removing the same amount of oil that is remaining in the compressor removed.

7. Blower Motor Unit Assembly

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the glove box. <Ref. to EI-38, REMOVAL, Glove Box.>
3) Disconnect the connectors of the A/C control module, intake door actuator, blower motor, power transistor and blower resistor.
4) Lift the floor mat.
5) Loosen the bolt and nut to remove blower motor unit assembly.



B: INSTALLATION

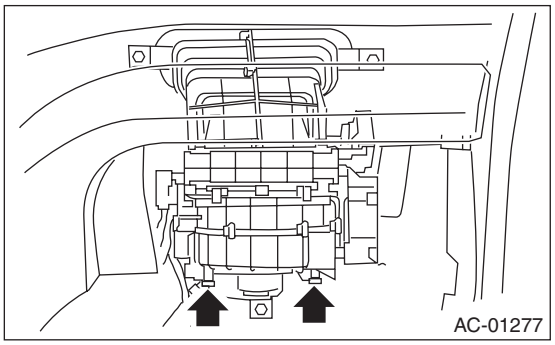
Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-6, 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 the battery.
2) Remove the glove box lower cover. <Ref. to EI-38, REMOVAL, Glove Box.>
3) Disconnect the connector of the blower motor.
4) Loosen the screw to remove the blower motor.

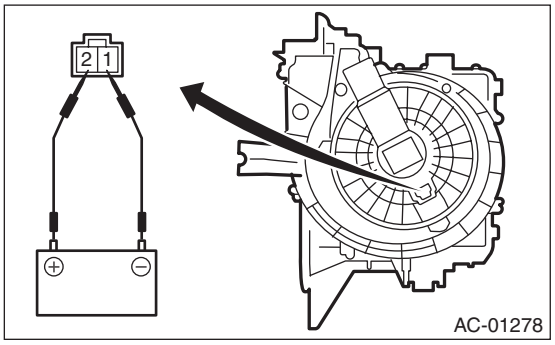


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

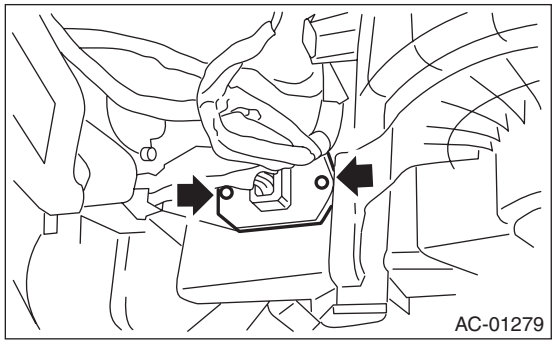
Connect the battery positive (+) terminal to terminal No. 2 of blower motor connector, and negative (–) terminal to terminal No. 1. Check the blower motor for smooth rotation.



9. Power Transistor (Auto A/C Model)

A: REMOVAL

1) Remove the glove box lower cover on the passenger's side. <Ref. to EI-38, REMOVAL, Glove Box.>
2) Disconnect the power transistor connector.
3) Remove the two screws and remove the power transistor.



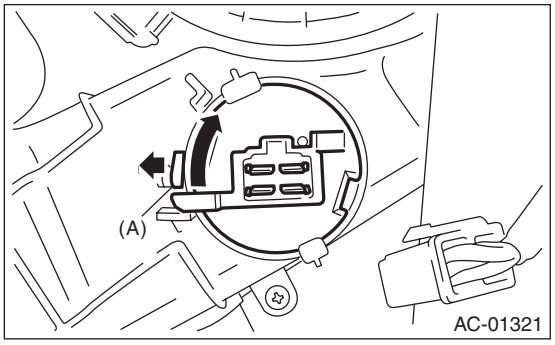
B: INSTALLATION

Install in the reverse order of removal.

10. Blower Resistor (Dual A/C Model)

A: REMOVAL

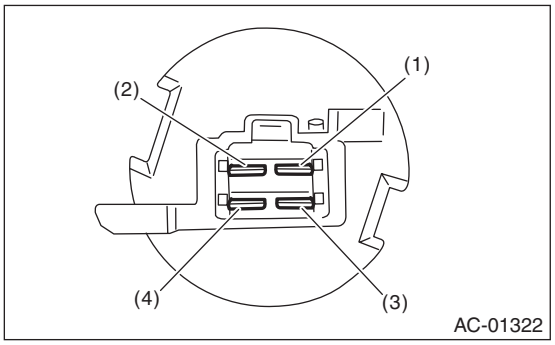
1) Remove the left rear quarter trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
2) Disconnect the blower resistor connector.
3) Remove the lock (A) and rotate it to the right to remove the blower resistor.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION



Measure the blower resistor resistance.

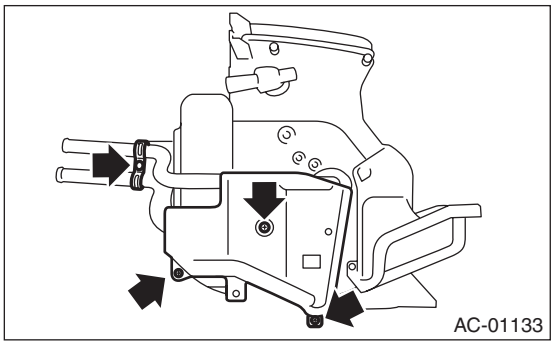
Terminal No.	Standard
1 and 3	Approximately 0.42 Ω
1 and 2	Approximately 1.42 Ω
4 and 1	Approximately 3.4 Ω

If NG, replace the blower resistor.

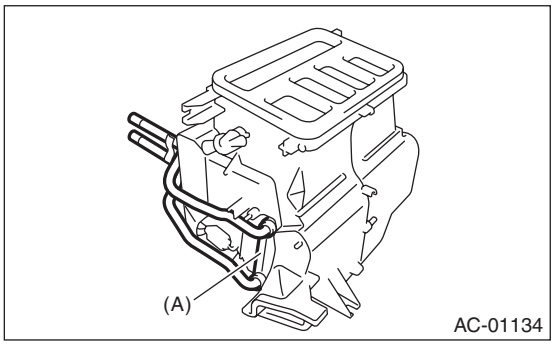
11.Heater Core

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Draw out the refrigerant with the refrigerant recovery unit. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the heater and cooling unit. <Ref. to AC-35, REMOVAL, Heater and Cooling Unit.>
4) Remove the screws and remove the heater core cover and pipe clamp.



5) Remove the heater core (A).



B: INSTALLATION

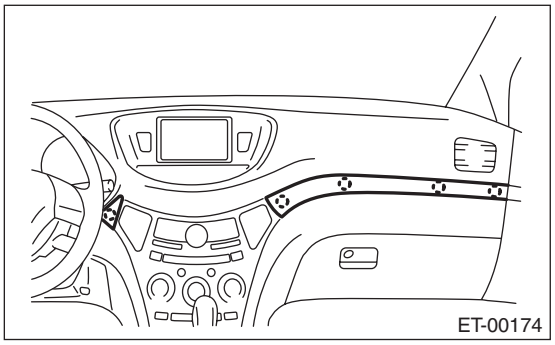
Install in the reverse order of removal.

12.Control Panel

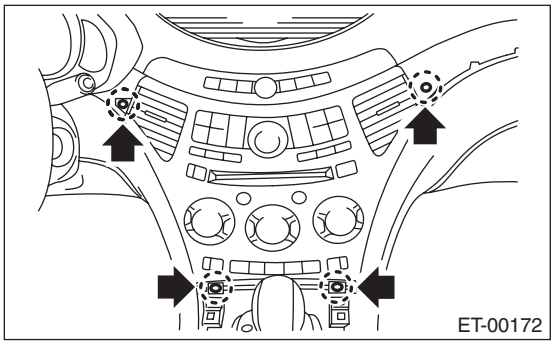
A: REMOVAL

1. FRONT

1) Disconnect the ground cable from the battery.
2) Remove the front console panel. <Ref. to ET-13, REMOVAL, Audio.>
3) Remove the instrument panel ornament and the driver's side and passenger's side inner panels.



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



5) Disconnect the harness connectors and remove the front control panel.

2. REAR

1) Disconnect the ground cable from the battery.
2) Pull out the storage box from underneath the rear control panel.
3) Push out the panel from the back side.
4) Detach the connectors and remove the rear control panel.

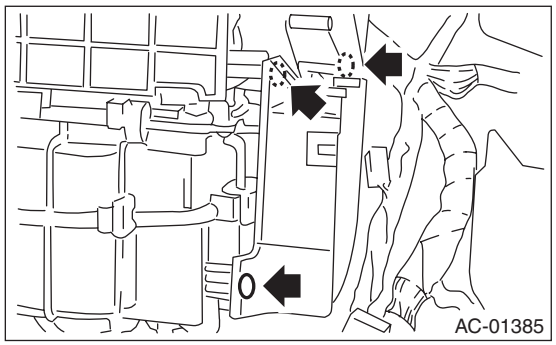
B: INSTALLATION

Install in the reverse order of removal.

13.Control Unit (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the glove box. <Ref. to EI-38, REMOVAL, Glove Box.>
3) Remove the screw, disconnect the connector and remove the control unit.



B: INSTALLATION

Install in the reverse order of removal.

14.Compressor

A: INSPECTION

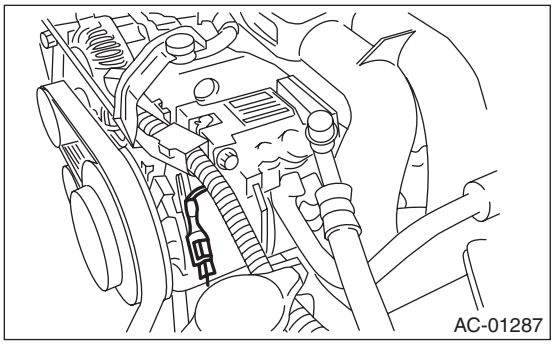
1. MAGNETIC CLUTCH CLEARANCE

Check the clearance of the entire circumference around the drive plate and pulley.

Standard:
0.45±0.15 mm (0.0177 ±0.0059 in)

2. MAGNETIC CLUTCH OPERATION

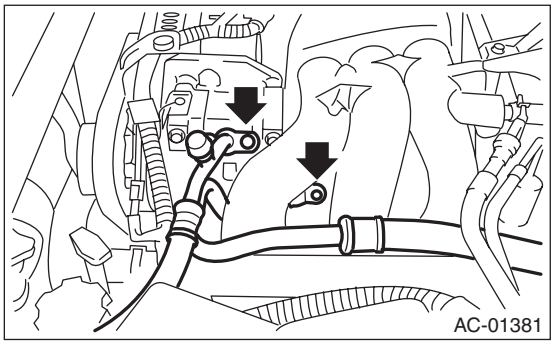
1) Disconnect the compressor connector.
2) Connect the battery positive (+) terminal to the compressor connector terminal, and the negative (–) terminal to the compressor body.


AC-01287

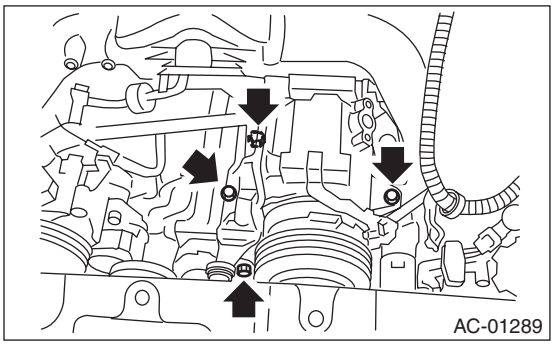
3) Check the magnet clutch engagement.
If there is a problem, replace the compressor.

B: REMOVAL

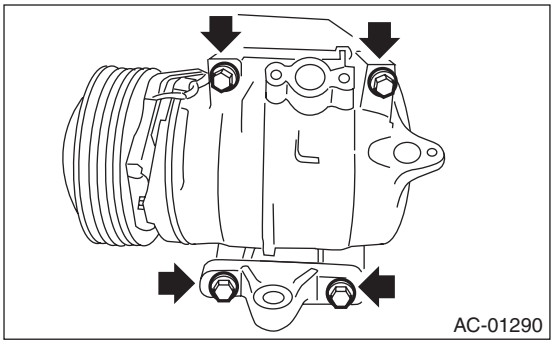
1) Perform the compressor oil return operation. <Ref. to AC-25, PROCEDURE, Compressor Oil.>
2) Turn the A/C switch to OFF and stop the engine.
3) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
4) Disconnect the ground cable from the battery.
5) Remove the V-belts. <Ref. to ME(H6DO)-43, REMOVAL, V-belt.>
6) Remove the generator. <Ref. to SC(H6DO)-14, REMOVAL, Generator.>
7) Remove the bolt and remove the low-pressure hose and high-pressure hose.


AC-01381

8) Disconnect the compressor harness from the body harness.
9) Remove the bolts and remove the compressor bracket.


AC-01289

10) Remove the bolts, then remove the bracket from the compressor.


AC-01290

C: INSTALLATION

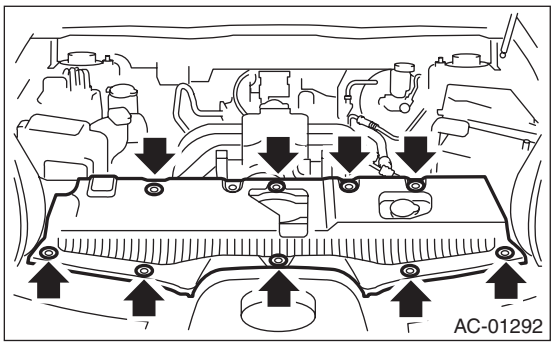
1) Install in the reverse order of removal.
2) Replace the O-rings on low-/high-pressure hoses with new parts, then apply compressor oil.
3) After replacing the compressor, adjust the amount of compressor oil. <Ref. to AC-25, PROCEDURE, Compressor Oil.>
4) Charge refrigerant. <Ref. to AC-21, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-11, AIR CONDITIONING UNIT, COMPONENT, General Description.> <Ref. to AC-12, COMPRESSOR, COMPONENT, General Description.>

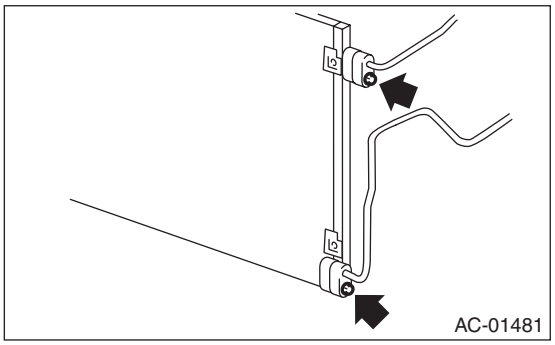
15.Condenser

A: REMOVAL

1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
2) Disconnect the ground cable from battery.
3) Remove the bumper upper cover.

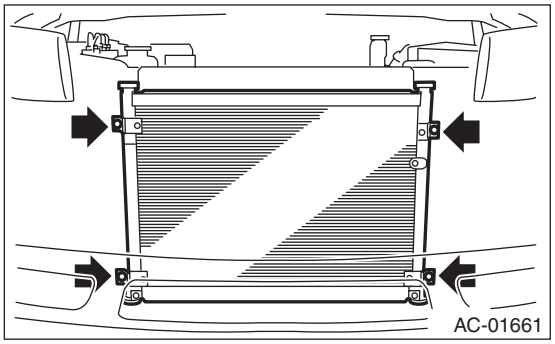


4) Remove the front bumper. <Ref. to EI-22, REMOVAL, Front Bumper.>
5) Disconnect the pressure hose and pipe from the condenser.



6) Remove the 4 bolts, lift the condenser and pull out from the space between the radiator and bumper.

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-25, REPLACEMENT, Compressor Oil.>



B: INSTALLATION

1) Install in the reverse order of removal.

CAUTION:
Replace the O-rings on hoses or pipes with new parts, and then apply compressor oil.
2) Charge refrigerant. <Ref. to AC-21, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-11, AIR CONDITIONING UNIT, COMPONENT, General Description.>

C: INSPECTION

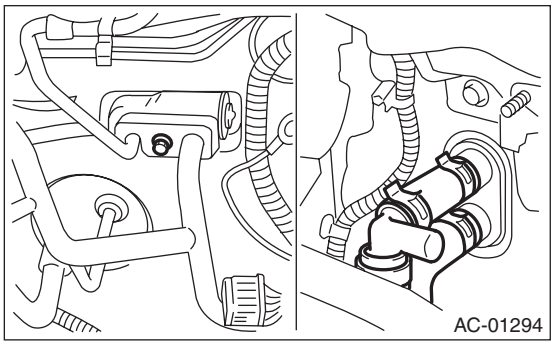
1) Check to see that the condenser fins are not clogged with debris or insects. Blow with compressed air or flush fins with water as needed.
2) Inspect for oil leakage from the condenser. If a failure is found, replace the condenser with a new part.

16.Heater and Cooling Unit

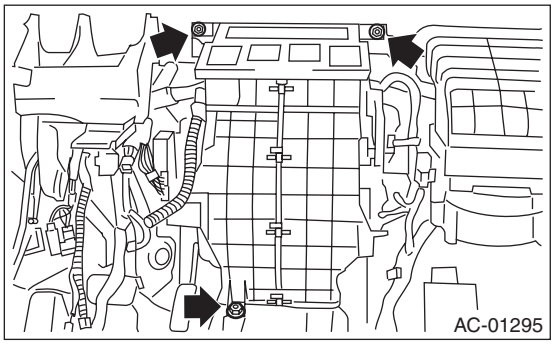
A: REMOVAL

1. FRONT

1) Disconnect the ground cable from the battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, 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-41, REMOVAL, Instrument Panel Assembly.>
6) Remove the support beam.
7) Remove the blower motor unit assembly. <Ref. to AC-26, REMOVAL, Blower Motor Unit Assembly.>
8) Disconnect the actuator connector.
9) Remove the bolt and nuts and remove the heater and cooling unit.



2. REAR

1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the left rear quarter trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
4) Remove the bolts, then disconnect the rear pipe.
5) Disconnect the harness connector.
6) Remove the nuts, then remove the cooler unit.

B: INSTALLATION

1) Install in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-21, PROCEDURE, Refrigerant Charging Procedure.>

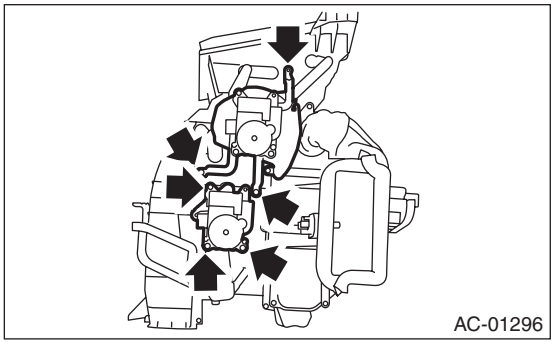
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-6, HEATER COOLING UNIT, COMPONENT, General Description.>

17.Evaporator

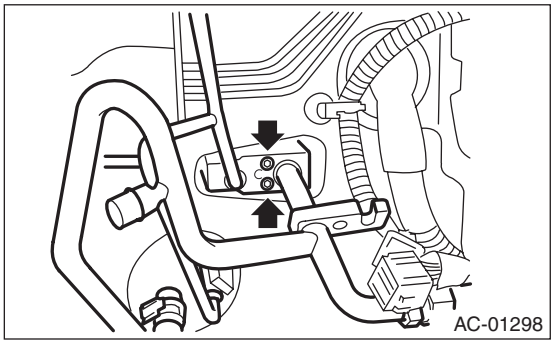
A: REMOVAL

1. FRONT

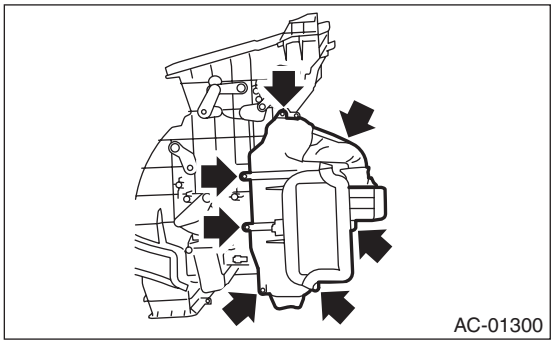
1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
2) Disconnect the ground cable from battery.
3) Remove the blower motor unit assembly. <Ref. to AC-26, REMOVAL, Blower Motor Unit Assembly.>
4) Disconnect the connector, remove the screw and then remove the air-mix door actuator and mode door actuator.


AC-01296

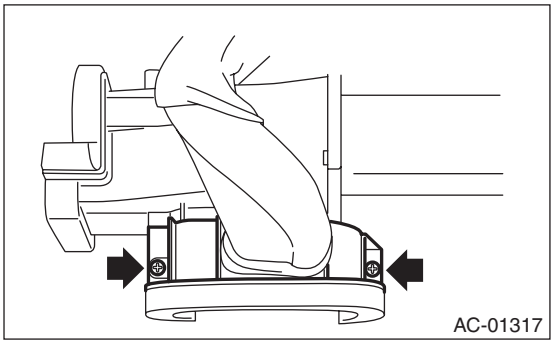
5) Remove the bolts holding the expansion valve, and remove the expansion valve.


AC-01298

6) Remove the screws and pull out the evaporator.

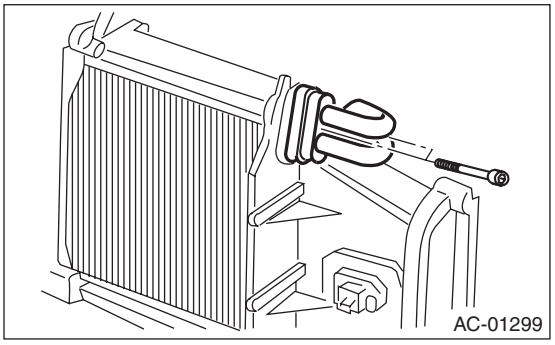

AC-01300

7) Remove the pipe cover from the evaporator.


AC-01317

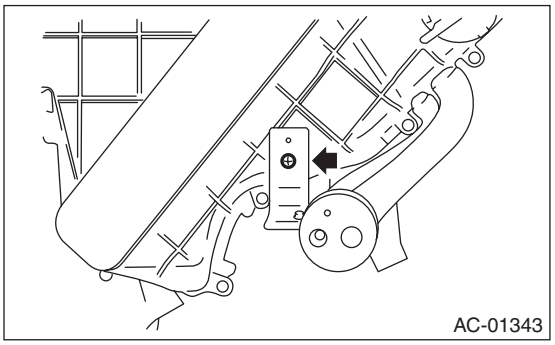
8) Remove the bolt which holds the pipe to evaporator, and remove the evaporator.

CAUTION:
When replacing the evaporator, add an appropriate amount of compressor oil to the evaporator. <Ref. to AC-25, REMOVAL, Compressor Oil.>

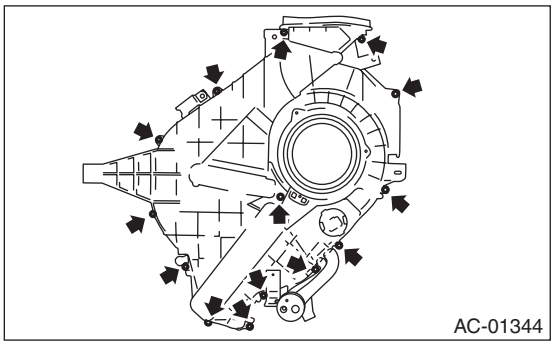

AC-01299

2. REAR

1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
2) Disconnect the ground cable from battery.
3) Remove the rear cooler unit. <Ref. to AC-35, REAR, REMOVAL, Heater and Cooling Unit.>
4) Remove the pipe bracket bolts and remove the bracket.


AC-01343

5) Remove the screws, and then remove the cooler unit.

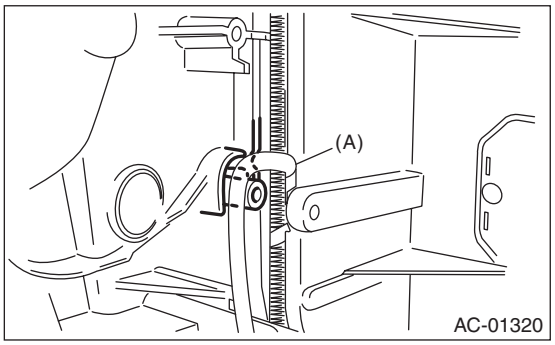


6) Remove from the cooler unit and disconnect the pipe from the evaporator.

CAUTION:
When replacing the evaporator, add an appropriate amount of compressor oil to the evaporator. <Ref. to AC-25, REPLACEMENT, Compressor Oil.>

B: INSTALLATION

CAUTION:
Route the cord (A) of the evaporator through the location shown on the illustration.



(A) Code

Install in the reverse order of removal.

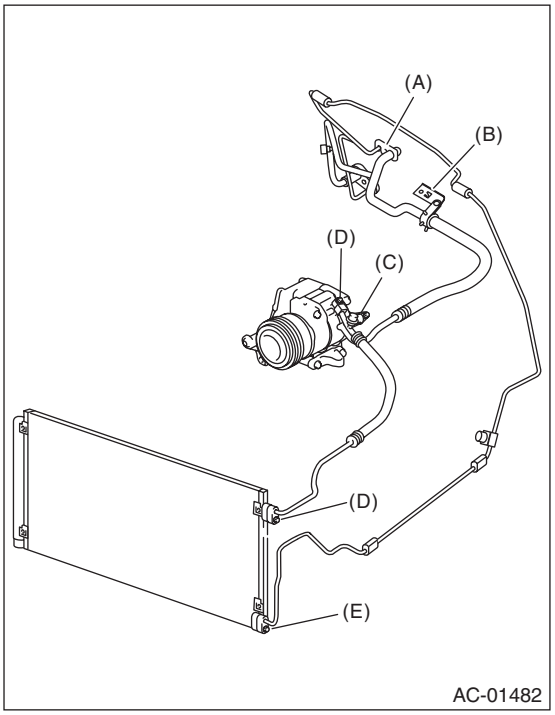
18.Hose and Pipe

A: REMOVAL

CAUTION:
• When disconnecting/connecting hoses, do not apply an excessive force to them. After installing, check that no torsion or excessive tension applied to the hoses.
• Seal the disconnected hose with a plug or vinyl tape to prevent foreign matter from entering.

1. FRONT

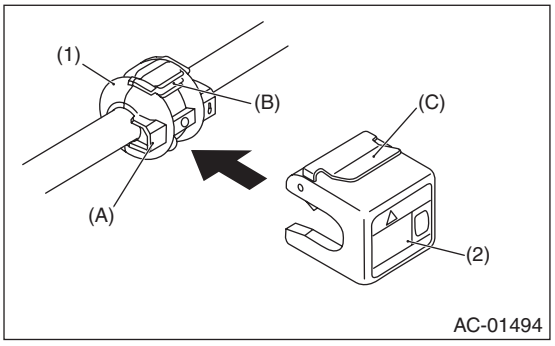
1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the evaporator unit mounting bolt (A) and low-pressure hose bracket bolt (B).
4) Remove the low-pressure hose attaching bolts (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 pipe attaching bolt (E).
13) Remove the high-pressure tube from vehicle.



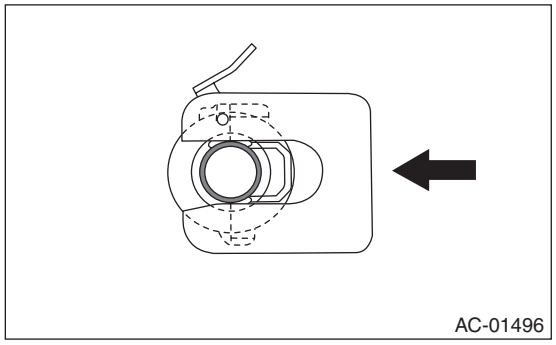
2. REAR

1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the sheet and floor mat. <Ref. to EI-48, REMOVAL, Floor Mat.>
4) Remove the ECM bracket. <Ref. to FU(H6DO)-39, REMOVAL, Engine Control Module (ECM).>
5) Remove the quick connectors (A and B).
ST REMOVER PS 73499XA01A
ST REMOVER PD 73499XA00A

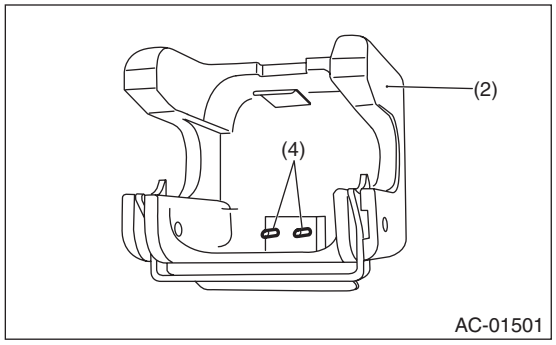
NOTE:
Description for handling the special tool
1. Face collar side (A) of the quick connector (1) to the remover (2), and set lock part (B) on the stopper side (C) of the remover.



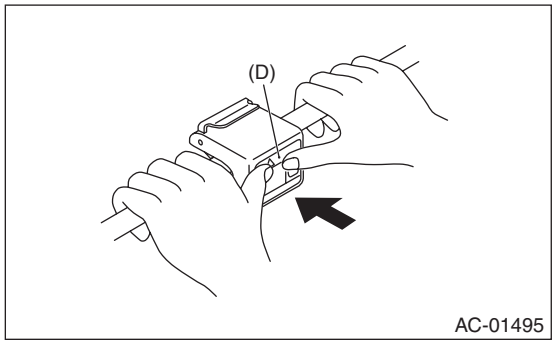
2. Insert the remover.

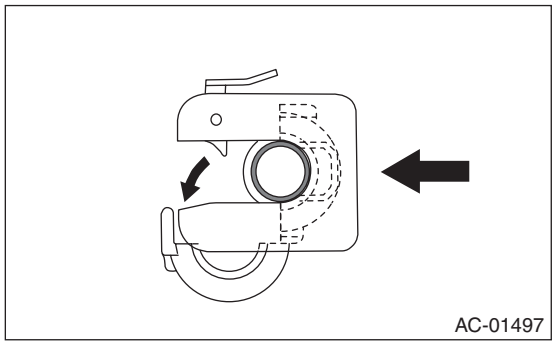


Do not bend the needle (4) in the remover.

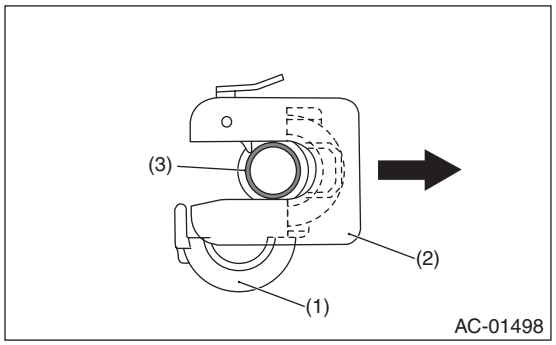


3. With the pipe secured, press the label part (D) of the remover with a thumb. Connector is unlocked and the quick connector opens.

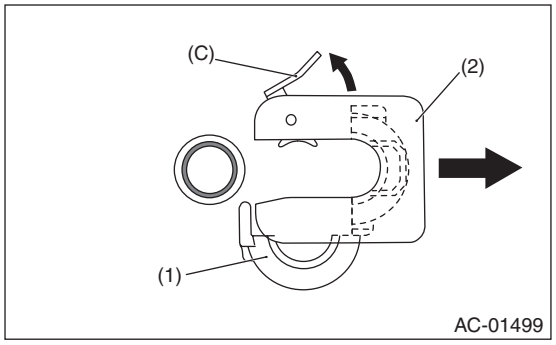




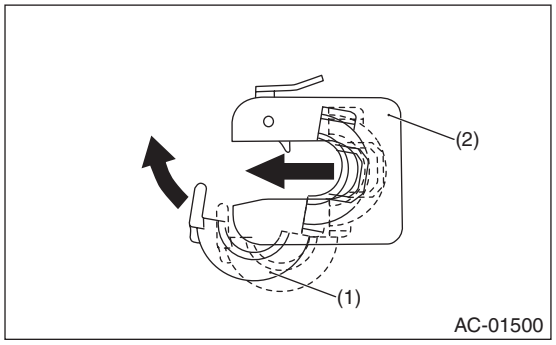
4. Pull the remover (2) and separate the pipe (3) from the quick connector (1).



5. Pull up the stopper (C) and remove the remover (2) and quick connector (1) from the pipe.

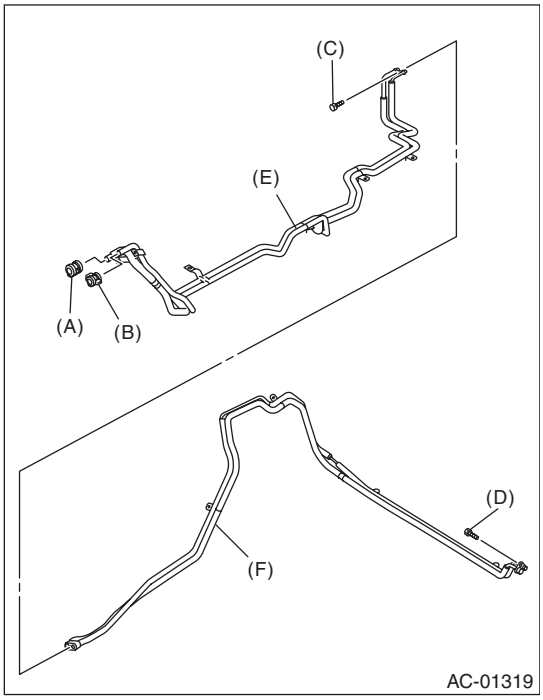


6. Disconnect the quick connector (1) from the remover (2).



6) Remove the pipe bracket.
7) Remove the front pipe and rear pipe connecting bolts (C)
8) Remove the connecting bolts (D) of the rear cooler unit.

9) Remove the front pipe (E) and rear pipe (F).



B: INSTALLATION

CAUTION:
• When disconnecting or connecting the hoses, do not apply excessive force. After installing, check that no torsion or excessive tension applied to the hoses.
• Seal the disconnected hose with a plug or vinyl tape to prevent foreign matter from entering.

1) Install in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-21, PROCEDURE, Refrigerant Charging Procedure.>

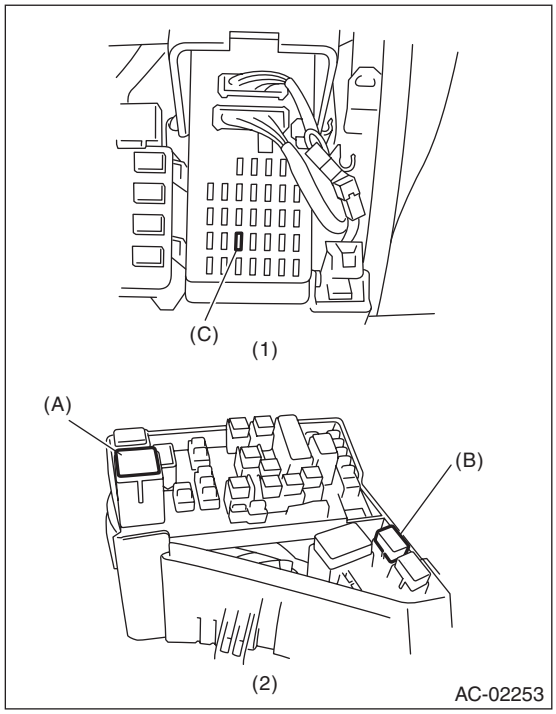
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-11, AIR CONDITIONING UNIT, COMPONENT, General Description.>

C: INSPECTION

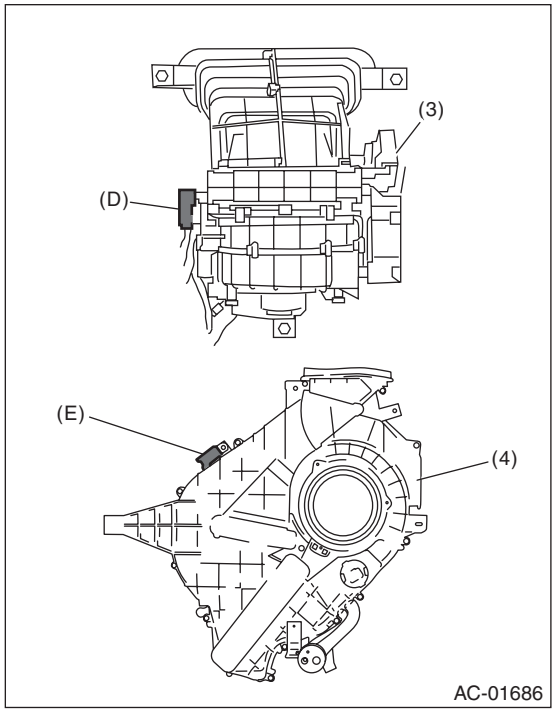
Check the hoses for cracks, damage and expansion. If any fault is found, replace with new parts.

19.Relay and Fuse

A: LOCATION



(1) Joint box
(2) Main fuse box

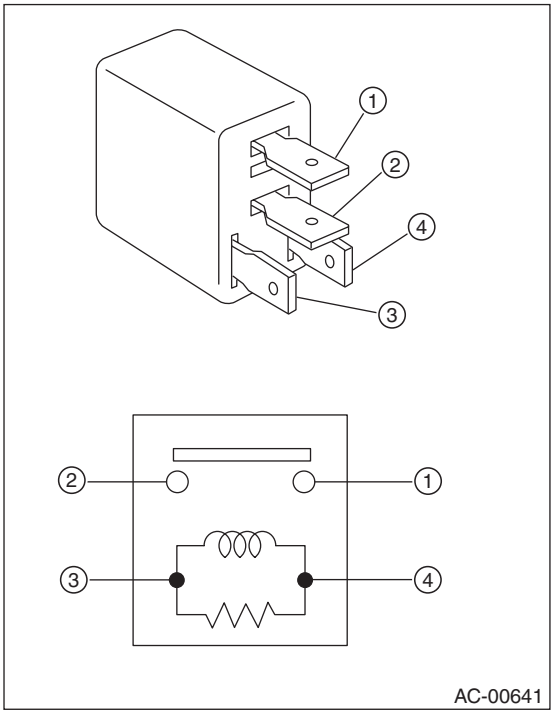


(3) Blower motor unit
(4) Rear cooler unit

Main fan relay 1	(A)
A/C relay	(B)
A/C fuse	(C)
Front blower relay	(D)
Rear blower relay	(E)

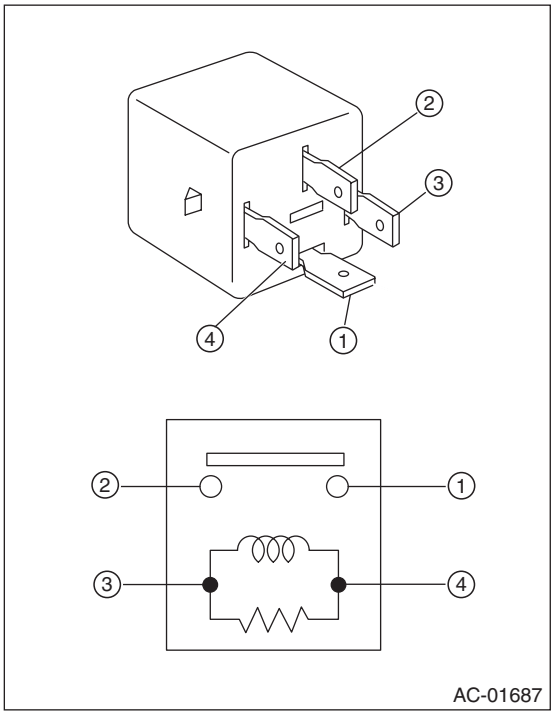
B: INSPECTION

- A/C relay



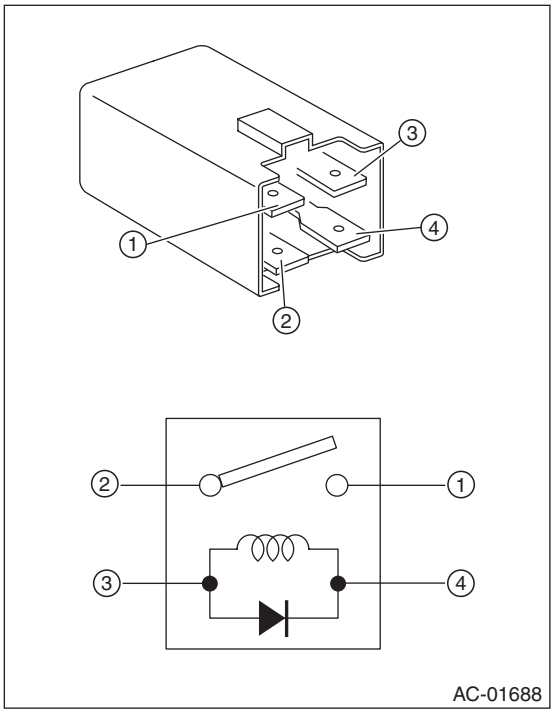
(3) — (4): Continuity exists
(1) — (2): Continuity does not exist

- Main fan relay 1, Front blower relay



(3) — (4): Continuity exists
(1) — (2): Continuity does not exist

- Rear blower relay



(3) — (4): Continuity exists
(1) — (2): Continuity does not exist

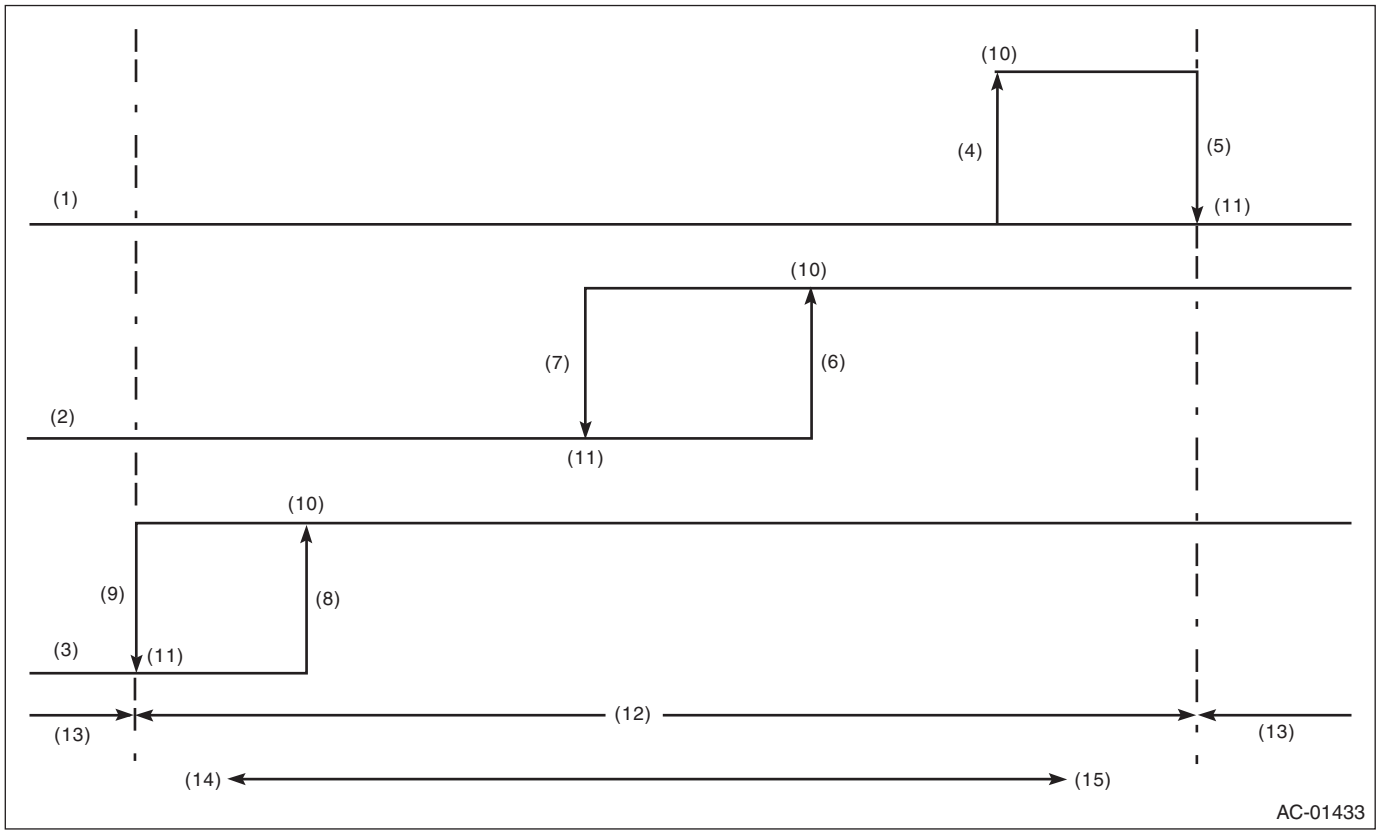
While applying battery voltage to the terminal between (3) and (4), check continuity between (1) and (2).

If no continuity exists, replace the relay with a new part.

20.Pressure Switch (Triple Pressure Switch)

A: INSPECTION

1) Connect the manifold gauge to the service valve on the high-pressure side.
2) 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	(6)	1,770±80 kPa (18±1 kg/cm^2, 256±14 psi)	(11)	OFF
(2)	Middle pressure switch	(7)	1,370±120 kPa (14±1 kg/cm^2, 199±14 psi)	(12)	Operative range of compressor
(3)	Low pressure switch	(8)	225^{+25}_{-29} kPa ($2.29^{+0.25}_{-0.30}$ kg/cm^2, $32.6^{+3.6}_{-4.2}$ psi)	(13)	Range that compressor does not operate
(4)	2,550±200 kPa (26.00±2.04 kg/cm^2, 369.8±29.0 psi)	(9)	196±20 kPa (2.00±0.20 kg/cm^2, 28.4±2.9 psi)	(14)	Low pressure
(5)	$3,140^{+50}_{-200}$ kPa ($32.02^{+0.51}_{-2.04}$ kg/cm^2, $455.4^{+7.25}_{-29.0}$ psi)	(10)	ON	(15)	High pressure

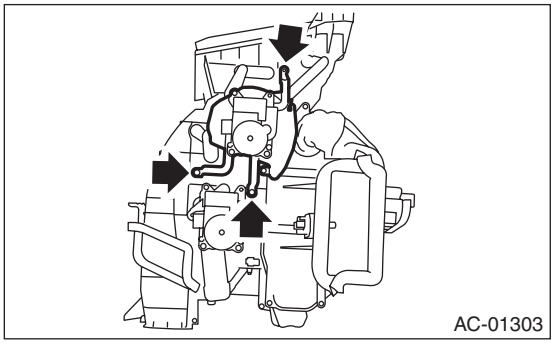
NOTE:
• High pressure switch turns the compressor (magnet clutch) to OFF when the refrigerant pressure becomes extremely high to prevent the evaporator, air conditioner piping and expansion valve from getting damaged or frozen.
• Middle pressure switch effectively controls the radiator fan output by judging high load/low load in normal pressure range.
• If the refrigerant pressure is abnormally low, the low pressure switch determines that there is insufficient refrigerant, and turns the compressor (magnetic clutch) OFF since there is a possibility that the compressor will seize if it is continued to run.

21.Actuator

A: REMOVAL

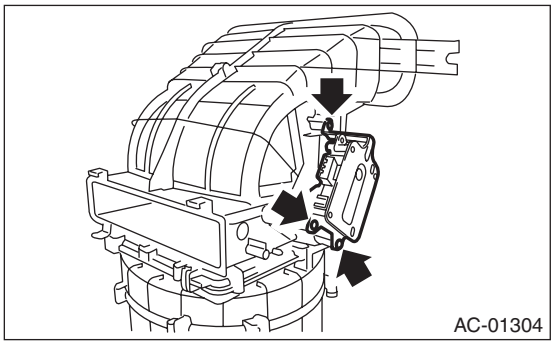
1. MODE DOOR ACTUATOR

Disconnect the connector, remove the screw, and then remove the mode door actuator from the heater and cooling unit.



2. INTAKE DOOR ACTUATOR

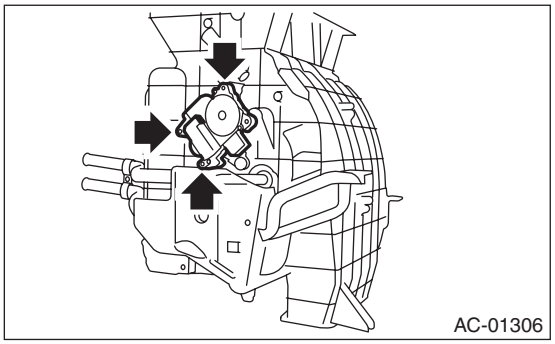
Disconnect the connector, remove the screw, and then remove the intake door actuator from the blower motor unit.



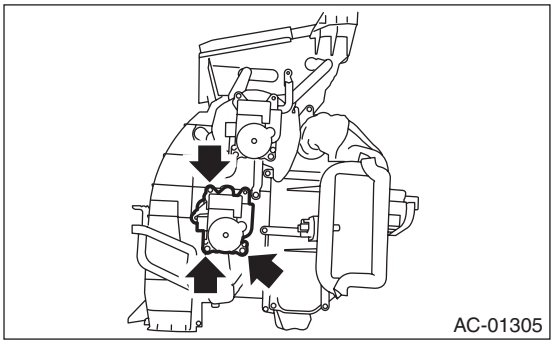
3. AIR MIX DOOR ACTUATOR (AUTO A/C MODEL)

Disconnect the connector, remove the screw, and then remove the air mix door actuator from the heater and cooling unit.

- Driver's side



- Passenger's side



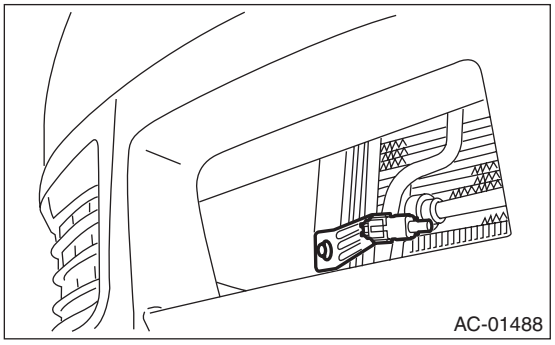
B: INSTALLATION

Install in the reverse order of removal.

22. Ambient Sensor (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Disconnect the ambient sensor connector.
3) Remove the ambient sensor from the radiator lower panel.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

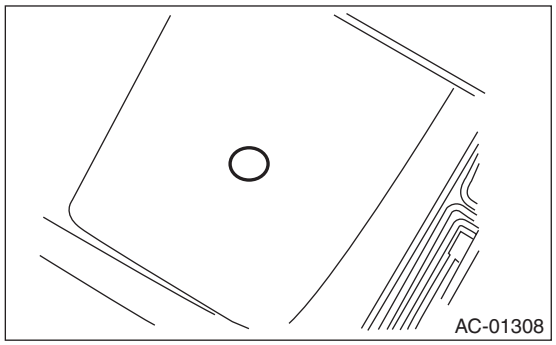
<Ref. to AC(diag)-29, AMBIENT SENSOR, Diagnostic Procedure for Sensors.>

23.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.>

24.In-Vehicle Sensor (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the instrument panel lower panel on driver's side. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
3) Disconnect the connector and aspirator hose, remove the catch hook and remove the interior temperature sensor from the knee guard plate.

CAUTION:
Be careful not to damage the sensors and interior trim when removing.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

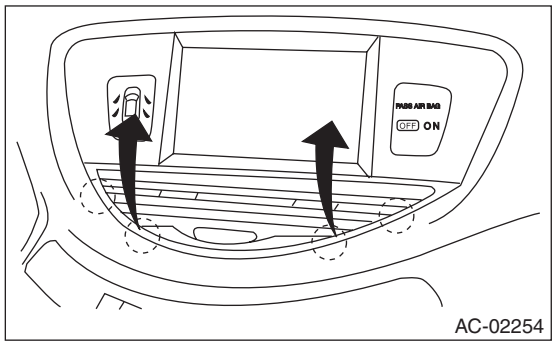
<Ref. to AC(diag)-31, IN-VEHICLE SENSOR, Diagnostic Procedure for Sensors.>

25.Air Vent Grille

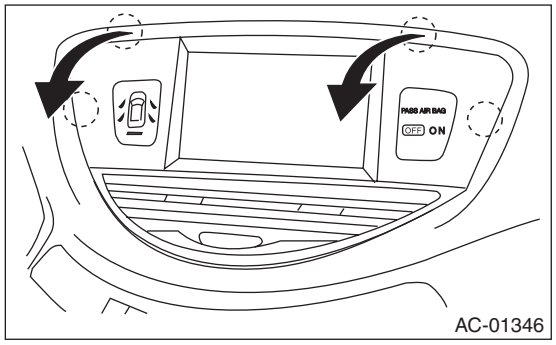
A: REMOVAL

1. UPPER GRILLE

1) Disconnect the ground cable from battery.
2) Lift the upper grille (speaker grille for harman/ kardon audio spec), and remove the catch on the hazard switch side.



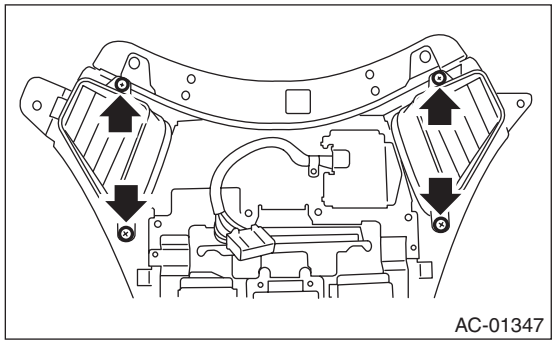
3) Hold the side of the monitor and remove the catch on the upper, right and left sides.



4) Detach the connectors and remove the panel.

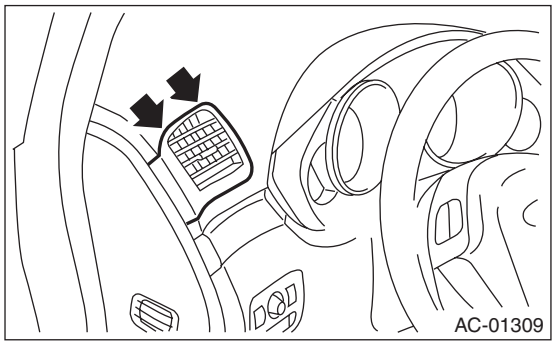
2. CENTER GRILLE

1) Disconnect the ground cable from battery.
2) Remove the front control panel. <Ref. to AC-31, FRONT, REMOVAL, Control Panel.>
3) Remove the screw, and remove the center grille



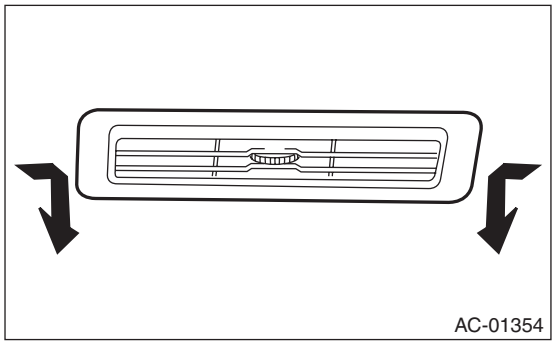
3. SIDE GRILLE

Remove the catch in 2 locations to remove the side air vent grille.



4. ROOF GRILLE

Remove the catch, and remove the roof air vent grille.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

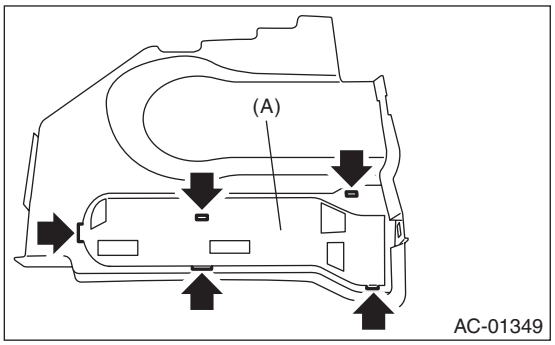
1) Check that the direction and amount of air can be adjusted smoothly.
2) Check that the adjustment can be maintained in each position.

26.Heater Duct

A: REMOVAL

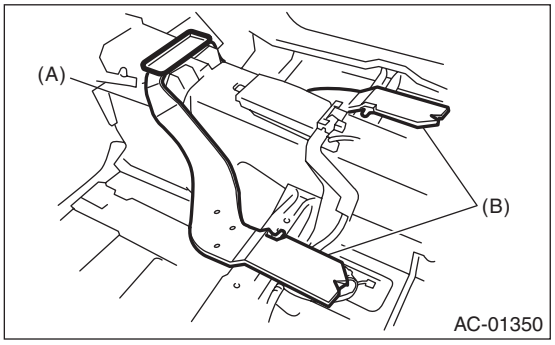
1. FRONT HEATER DUCT

1) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the catch and detach the front heater duct (A).



2. REAR HEATER DUCT

1) Remove the heater cooling unit. <Ref. to AC-35, REMOVAL, Heater and Cooling Unit.>
2) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
3) Remove the front side sill cover.
4) Pull off the floor mat to remove the rear center heater duct (A) and rear heater duct LH, RH (B).



B: INSTALLATION

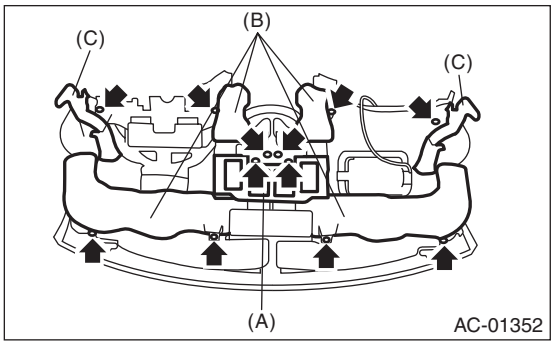
Install in the reverse order of removal.

27.Heater Vent Duct

A: REMOVAL

1. INSTRUMENT

1) Remove the instrument panel. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the screws and detach the center vent duct (A).
3) Remove the screws and detach the side vent duct (B).
4) Remove the screws and detach the side defroster duct (C).



2. ROOF DUCT

Remove the roof trim. <Ref. to EI-51, REMOVAL, Roof Trim.>

NOTE:
The roof duct is one piece with the roof trim. If it requires replacement, replace the roof trim.

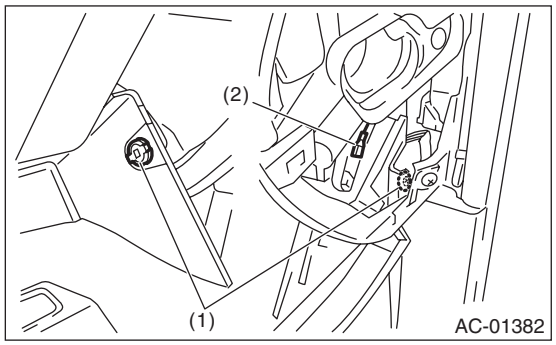
B: INSTALLATION

Install in the reverse order of removal.

28. A/C Filter

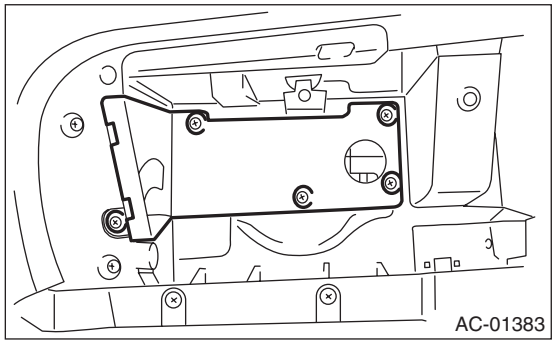
A: REPLACEMENT

1) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Glove Box.>
2) Remove the 2 clips and the damper (string).

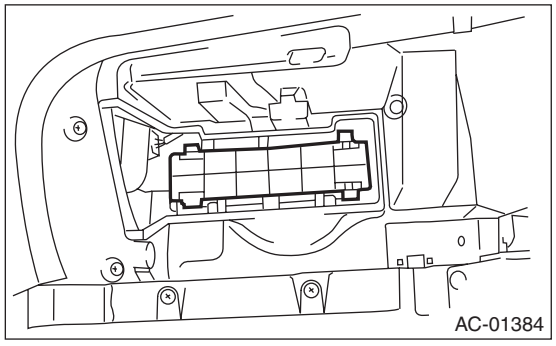


(1) Clip
(2) Damper (String)

3) Remove the glove box.
4) Remove the service hole cover.



5) Remove the A/C filter.



6) Install in the reverse order of removal.

29.General Diagnostic Table

A: INSPECTION

Symptom		Repair order
Blower motor	Does not operate.	Fuse
		Blower motor relay
		Blower motor
		Blower motor resistor
		Blower switch
		Wiring harness
	Strange noise	Blower motor
		Air conditioner filter
Compressor	Does not operate.	Refrigerant
		Fuse
		Air conditioning relay
		Magnet clutch
		Compressor
		Pressure switch
		A/C switch
		Blower switch
		Wiring harness
	Strange noise	V-belt
		Magnet clutch
		Compressor
		Belt tensioner
Cold air is not emitted.		Refrigerant
		V-belt
		Magnet clutch
		Compressor
		Pressure switch
		Expansion valve
		A/C switch
		Blower switch
		Wiring harness
		Heater duct
		Heater Vent Duct
		Temperature control door actuator
Warm air is not emitted.		Engine coolant
		Blower switch
		Heater Core
		Temperature control door actuator
Temperature of air from vents does not change.		Engine coolant
		Air mix door actuator (Auto A/C)
		Wiring harness (Auto A/C)
Unable to switch blow vents.		Mode door actuator
		Air flow switch
		Wiring harness
Unable to switch suction vents.		Air inlet select switch
		Intake door actuator
		Wiring harness

Symptom	Repair order
Air is not emitted from the rear A/C.	Rear cooler blower
	Rear cooler blower resistor
	Rear A/C switch
	Wiring harness
Cold air is not emitted from the rear A/C.	A/C switch
	Compressor
	Rear A/C switch
	Rear cooler expansion valve

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

AC(diag)

Page

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2. General Description 3
3. Electrical Component Location 6
4. Auto A/C Control Module I/O Signal 8
5. Diagnostic Chart for Self-Diagnosis 10
6. Diagnostics for A/C System Malfunction 14
7. Diagnostic Procedure for Actuators 22
8. Diagnostic Procedure for Sensors 29
9. Diagnostics with Phenomenon 37

1. Basic Diagnostic Procedure

A: PROCEDURE

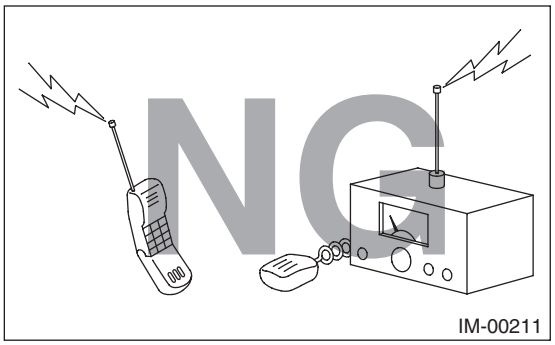
	Step	Check	Yes	No
1	**CHECK SECURITY INDICATOR LIGHT.** 1) Turn the ignition switch to “OFF” or “ACC”. 2) Wait at least 60 seconds.	Does the security indicator light blink?	Go to step **2**.	Check the security indicator light circuit. <Ref. to IM(diag)-11, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Diagnostics Chart for Security Indicator Light.>
2	**CHECK KEY SWITCH.** Remove the key from ignition switch.	Does the security indicator light begin to blink within 1 second after the key is removed?	Go to step **3**.	Check the key switch circuit. <Ref. to IM(diag)-13, CHECK KEY SWITCH CIRCUIT, INSPECTION, Diagnostics Chart for Security Indicator Light.>
3	**CHECK SECURITY INDICATOR LIGHT.** Turn the ignition switch to ON.	Does the security indicator light go off?	Go to step **5**.	Go to step **4**.
4	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the starter operate?	Check the LAN communication system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Go to step **7**.
5	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the starter operate?	Go to step **6**.	Check the LAN communication system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
6	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the engine start?	Immobilizer system is normal.	Go to step **8**.
7	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to IM(diag)-8, Subaru Select Monitor.>	Is the DTC displayed on screen?	Go to step **10**.	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the “PC application help for Subaru Select Monitor”.
8	**CHECK DTC.** Read the DTC relating the ECM using the Subaru Select Monitor. <Ref. to IM(diag)-8, Subaru Select Monitor.>	Is the DTC displayed on screen?	Go to step **9**.	Perform the diagnosis for engine system. <Ref. to EN(H6DO)(diag)-74, PROCEDURE, Diagnostics for Engine Starting Failure.>

	Step	Check	Yes	No
9	**CHECK FREEZE FRAME DATA.** Using the Subaru Select Monitor, check the Freeze Frame Data.	Was the Freeze Frame Data recorded?	Record the data. Go to step **10**.	Go to step **10**.
10	**PERFORM DIAGNOSIS.** 1) Inspect using the “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to IM(diag)-16, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> 2) Repair the trouble cause. 3) Perform the Clear Memory Mode. 4) Read 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.

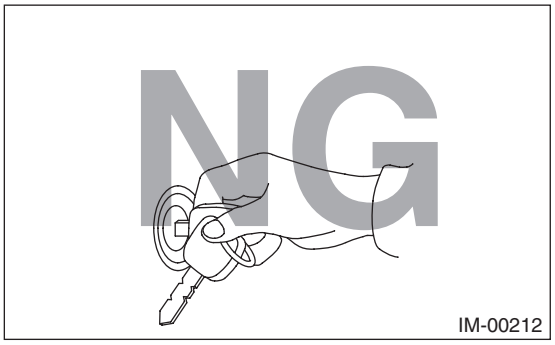
2. General Description

A: CAUTION

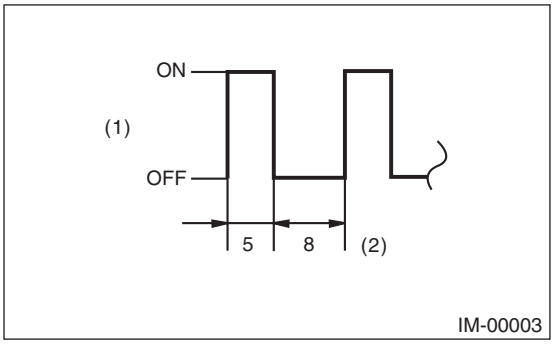
CAUTION:
• Do not use the electrical test equipment on the airbag system wiring harnesses and connector circuits.
• Be careful not to damage the airbag system wiring harness.
• While diagnostic items are being checked, do not operate radios, portable telephones, etc. which emit electromagnetic waves near or inside the vehicle.



• When turning the ignition switch to ON or OFF while diagnostic items are being checked, do not allow keys with different ID codes close to the ignition switch. If the ignition key is on a key holder, remove it from the key holder before performing diagnoses.



• When repeatedly turning the ignition switch to ON or OFF while diagnostic items are being checked, it should be switched in cycles of "ON" for at least 5 seconds → "OFF" for at least 8 seconds.

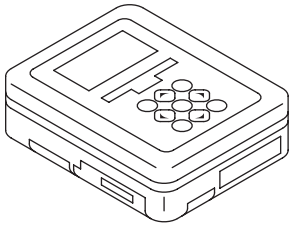


(1) Ignition switch position
(2) Sec.

• If the engine fails to start with a registered ignition key, detach the ignition key from ignition switch and wait for approx. 1 second until security indicator light begins to flash. And then start the engine again.
• Before performing the diagnostics, obtain all keys for the vehicle from the owner.
• Do not install or register the body integrated unit which is already registered to another vehicle, just for diagnosing failures or inspecting functions.

B: PREPARATION TOOL

1. SPECIAL TOOL

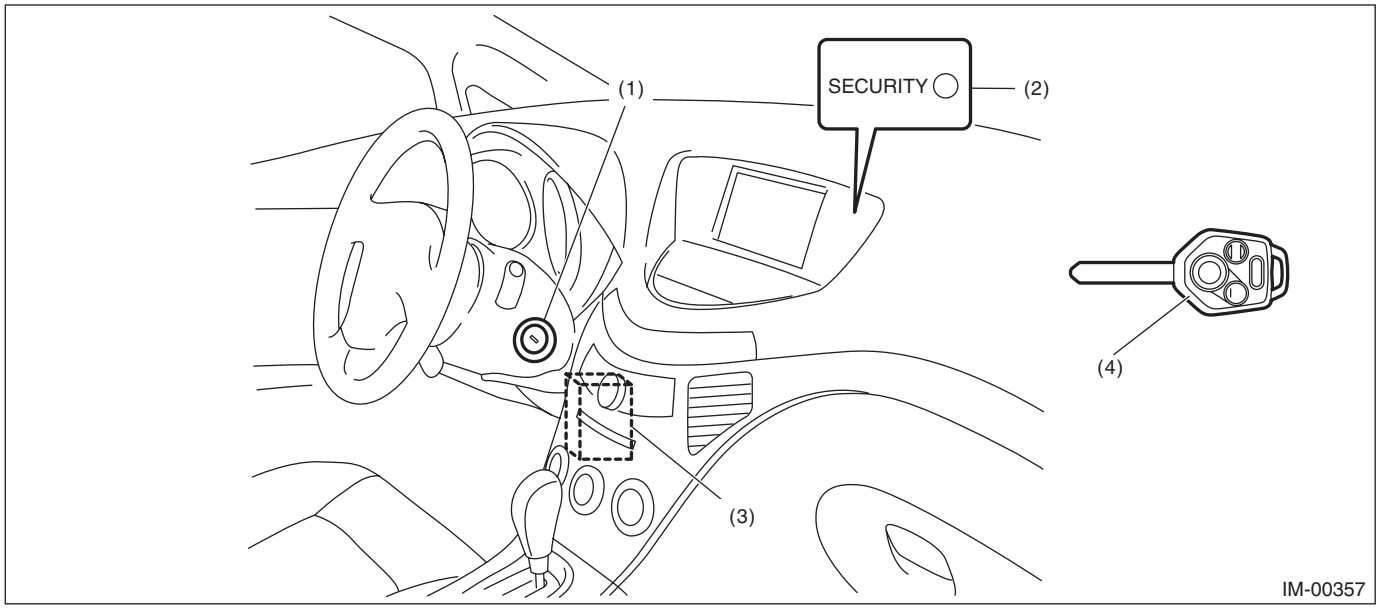
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Troubleshooting for the electrical system.

2. GENERAL TOOL

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

3. Electrical Component Location

A: LOCATION



(1) Antenna
(2) Security indicator light (LED bulb)
(3) Body integrated unit
(4) Transponder

4. Immobilizer Control Module I/O Signal

A: WIRING DIAGRAM

1. IMMOBILIZER

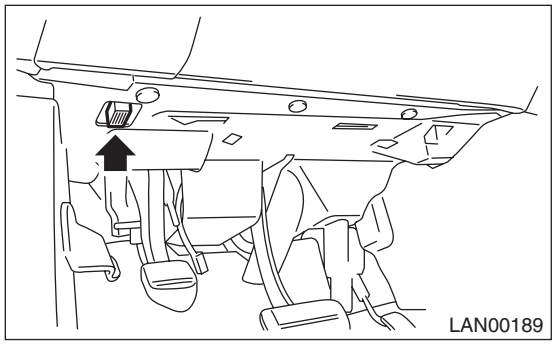
<Ref. to WI-74, WIRING DIAGRAM, Immobilizer System.>

5. Subaru Select Monitor

A: OPERATION

1. HOW TO USE SUBARU SELECT MONITOR

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



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

CAUTION:
Do not connect the scan tools other than the Subaru Select Monitor.
4) Turn the ignition switch to ON 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)-9, Read Diagnostic Trouble Code (DTC).>

3. COMMUNICATION LINE CHECK

NOTE:
The communication line between ECM and body integrated unit can be checked in "System Operation Check Mode". This is referred to as "Communication line check".
1) Connect the Subaru Select Monitor.
2) On the «Main Menu» display, select {Each System Check}.
3) On the «System Selection Menu», select {Engine Control System}.
4) After engine type information is displayed, select [OK].
5) On the «Engine Diagnosis» display, select {System Operation Check Mode}.
6) On the «System Operation Check Mode» display, select the {Immobilizer 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) On the «Main Menu» display, select {Each System Check}.
2) On the «System Selection Menu», select {Engine Control System}.
3) After engine type information is displayed, select [OK].
4) On the «Engine Diagnosis», select {Diagnostic Code(s) Display}.
5) On the «Diagnostic Code(s) Display», select {Current DTC} or {Past DTC}.

NOTE:
• For detailed operation procedure, refer to the “PC application help for Subaru Select Monitor”.
• For detailed concerning DTC, refer to the List of Diagnostic Trouble Codes (DTC). <Ref. to IM(diag)-14, LIST, List of Diagnostic Trouble Code (DTC).>

2. BODY INTEGRATED UNIT

1) On the «Main Menu» display, select {Each System Check}.
2) On the «System Selection Menu», select {Integ. Unit Mode}.
3) After {Integ. Unit Mode} is displayed, select [OK].
4) On the «Integ. unit mode failure diag», select {Diagnostic Code(s) Display}.

NOTE:
• For detailed operation procedure, refer to the “PC application help for Subaru Select Monitor”.
• For detailed concerning DTC, refer to the List of Diagnostic Trouble Codes (DTC). <Ref. to IM(diag)-14, LIST, List of Diagnostic Trouble Code (DTC).>

7. Clear Memory Mode

A: OPERATION

1. ECM

1) On the «Main Menu» display, select {Each System Check}.
2) On the «System Selection Menu», select {Engine Control System}.
3) After engine type information is displayed, select [OK].
4) On the «Engine Diagnosis», select {Clearing Memory}.
5) When “Done” is displayed on the display screen, end the Subaru Select Monitor and turn the ignition switch to OFF.

NOTE:
• Initial diagnosis of electronic throttle control is performed after memory clearance. Wait for 10 seconds or more after turning the ignition switch to ON, and then start the engine.
• For detailed operation procedure, refer to the “PC application help for Subaru Select Monitor”.

2. BODY INTEGRATED UNIT

1) On the «Main Menu» display, select {Each System Check}.
2) On the «System Selection Menu», select {Integ. Unit Mode}.
3) After {Integ. Unit Mode} is displayed, select [OK].
4) On the «Integ. unit mode», select {Clearing Memory}.
5) When “Done” is displayed on the display screen, end the Subaru Select Monitor and turn the ignition switch to OFF.

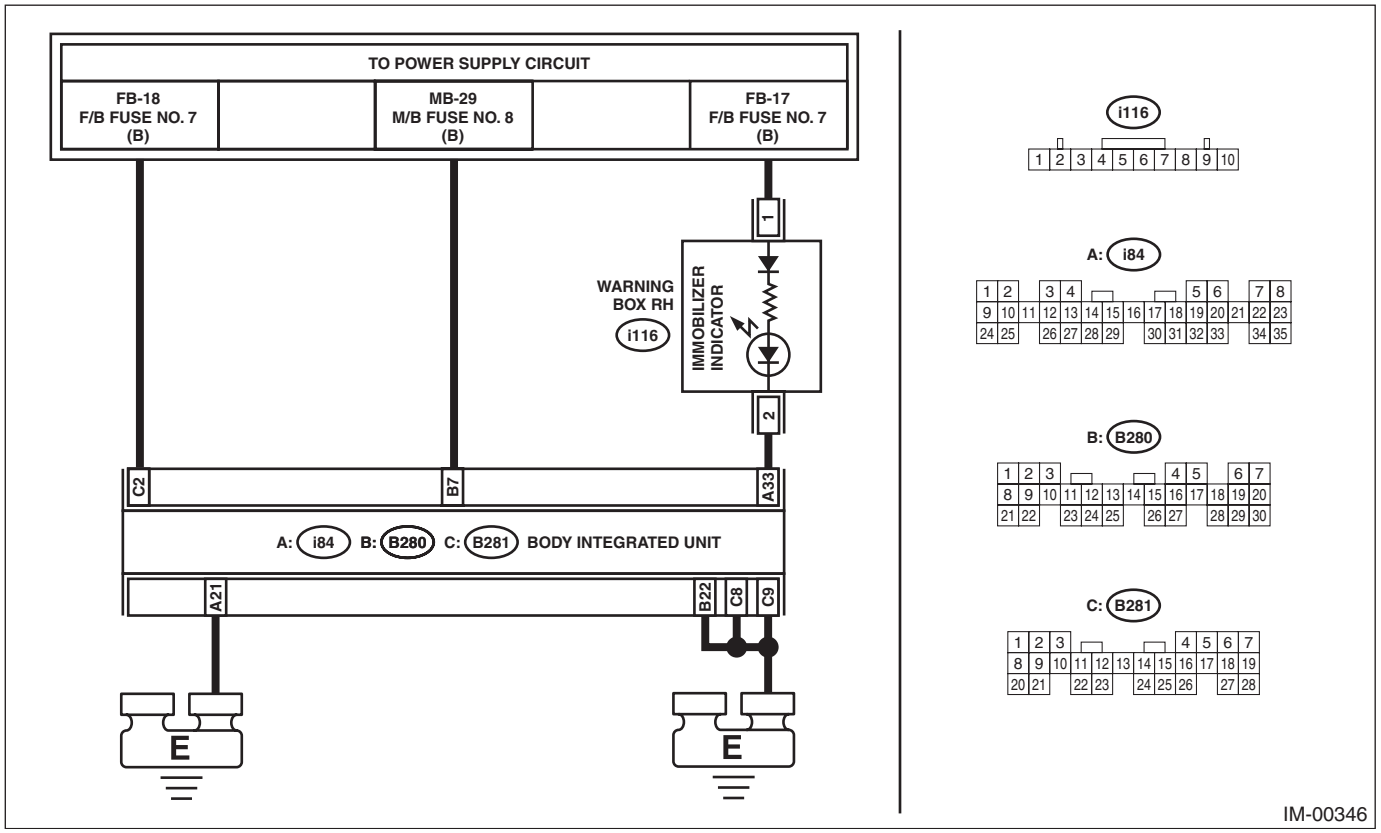
NOTE:
For detailed operation procedure, refer to the “PC application help for Subaru Select Monitor”.

8. Diagnostics Chart for Security Indicator Light

A: INSPECTION

1. CHECK SECURITY INDICATOR LIGHT CIRCUIT

WIRING DIAGRAM:

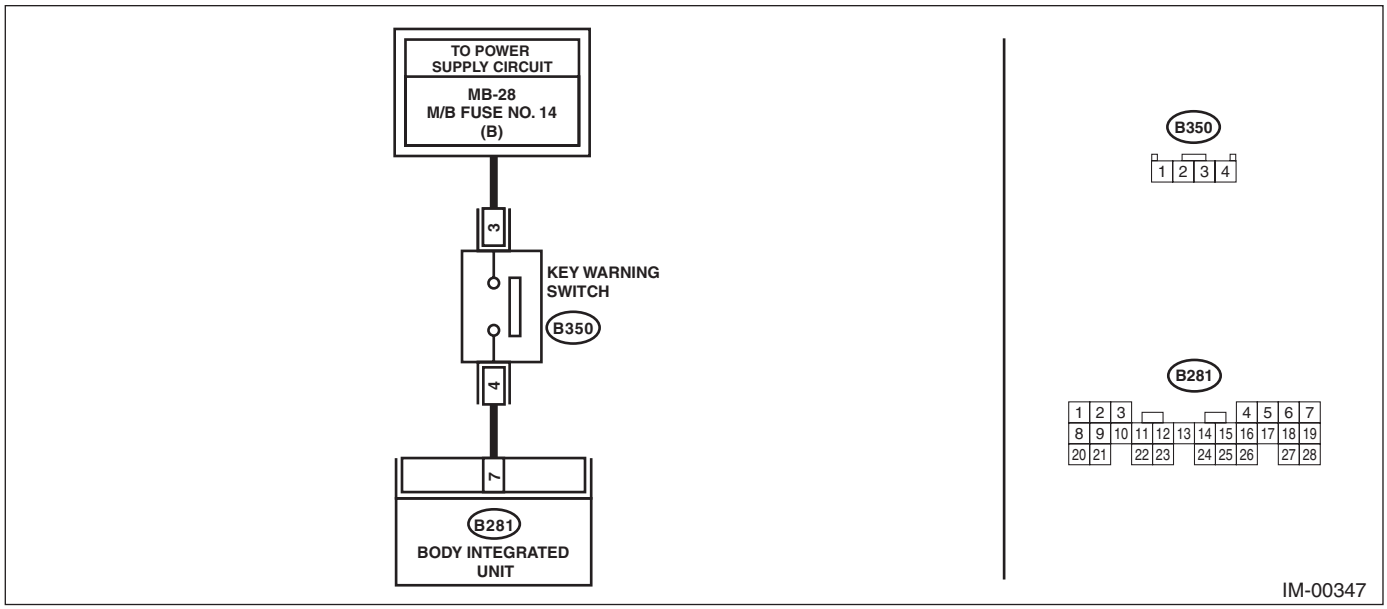


Step		Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF, and remove the ignition key from the ignition switch. 2) Check the fuse M/B No. 8.	Is the fuse OK?	Go to step **2**.	Replace the fuse. If the replaced fuse blows out easily, repair the short circuit in the harness between the fuse and body integrated unit.
2	**CHECK SECURITY INDICATOR LIGHT.** 1) Disconnect the harness connector from body integrated unit. 2) 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 **3**.	Go to step **5**.
3	**CHECK BODY INTEGRATED UNIT GROUND CIRCUIT.** Measure the resistance between body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8 — Chassis ground:*** ***(B281) No. 9 — Chassis ground:*** ***(i84) No. 21 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the open circuit of the body integrated unit ground circuit.

	Step	Check	Yes	No
4	**CHECK BODY INTEGRATED UNIT POWER SUPPLY CIRCUIT.** Measure the voltage between the body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 7 (+) — Chassis ground (–):*** ***(B281) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> Replace all the ignition keys (transponders). Execute the registration procedure next. Refer to the "PC application help for Subaru Select Monitor".	Check the harness for open or short circuit between body integrated unit and fuse.
5	**CHECK WARNING BOX CIRCUIT.** 1) Remove the warning box. <Ref. to IDI-17, REMOVAL, Warning box.> 2) Measure the voltage between the warning box harness connector terminal and chassis ground. ***Connector & terminal*** ***(i116) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **6**.	Check the harness for open or short circuits between warning box and fuse.
6	**CHECK WARNING BOX CIRCUIT.** Measure the resistance between body integrated unit harness connector terminal and warning box harness connector terminal. ***Connector & terminal*** ***(i84) No. 33 — (i116) No. 2:***	Is the resistance less than 10 Ω?	LED bulb is defective. Replace the warning box. <Ref. to IDI-17, REMOVAL, Warning box.>	Repair the harness or connector.

2. CHECK KEY SWITCH CIRCUIT

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the harness connector from key warning switch. 2) Measure the voltage between key warning switch harness connector terminal and chassis ground. ***Connector & terminal*** ***(B350) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for an open or short between the key warning switch and fuse.
2	**CHECK KEY WARNING SWITCH.** 1) Insert the ignition key in the ignition switch. (OFF or ACC) 2) Measure the resistance between key warning switch connector terminals. ***Connector & terminal*** ***No. 3 — No. 4:***	Is the resistance less than 1 Ω?	Go to step **3**.	Replace the key warning switch.
3	**CHECK KEY WARNING SWITCH.** 1) Remove the ignition key from ignition switch. 2) Measure the resistance between key warning switch connector terminals. ***Connector & terminal*** ***No. 3 — No. 4:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the key warning switch.
4	**CHECK HARNESS BETWEEN KEY WARNING SWITCH AND BODY INTEGRATED UNIT.** 1) Disconnect the harness connector from key warning switch. 2) Disconnect the harness connector from body integrated unit. 3) Measure the resistance between key warning switch harness connector terminal and body integrated unit harness connector terminal. ***Connector & terminal*** ***(B350) No. 4 — (B281) No. 7:***	Is the resistance less than 10 Ω?	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> Replace all the ignition keys (transponders). Execute the registration procedure next. Refer to the "PC application help for Subaru Select Monitor".	Repair the harness between key warning switch and body integrated unit.

9. List of Diagnostic Trouble Code (DTC)

A: LIST

1. ECM

DTC	Item	Contents of diagnosis	Index No.
P0513	Incorrect Immobilizer Key	Incorrect immobilizer key (Use of unregistered key in body integrated unit)	<Ref. to IM(diag)-16, DTC P0513 INCORRECT IMMOBILIZER KEY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1570	Antenna	Faulty antenna	<Ref. to IM(diag)-17, DTC P1570 ANTENNA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1571	Reference Code Incompatibility	Reference code incompatibility between body integrated unit and ECM	<Ref. to IM(diag)-19, DTC P1571 REFERENCE CODE INCOMPATIBILITY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1572	IMM Circuit Failure (Except Antenna Circuit)	Communication failure between body integrated unit and ECM	<Ref. to IM(diag)-20, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1574	Key Communication Failure	Communication failure between key and 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)-22, DTC P1576 EGI CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1577	IMM Control Module EEPROM	Body integrated unit malfunctioning	<Ref. to IM(diag)-23, DTC P1577 IMM CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1578	Meter Failure	• Reference code incompatibility between combination meter and body integrated unit • Communication failure between body integrated unit and ECM	<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(H6DO)(diag)-89, List of Diagnostic Trouble Code (DTC).>

2. BODY INTEGRATED UNIT

DTC	Item	Contents of diagnosis	Index No.	Relation between ECM and DTC
B1401	M Collation NG	Reference code incompatibility between combination meter and body integrated unit	<Ref. to IM(diag)-24, DTC B1401 M COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	P1578
B1402	Immobilizer Key Collation NG	• Incorrect immobilizer key (Use of unregistered key in body integrated unit) • Faulty antenna	<Ref. to IM(diag)-24, DTC B1402 IMMOBILIZER KEY COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	• P0513 • P1570 • P1574
B1403	E/G request NG	Communication failure between body integrated unit and ECM	<Ref. to IM(diag)-24, DTC B1403 E/G REQUEST NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	P1572

NOTE:
The starter relay control is performed in immobilizer system. When the body integrated unit detects a nonconformity of reference code, it immediately outputs a starter relay cut signal to ECM, and then ECM stops the starter relay operation. In this case, engine does not start, and DTC is not recorded in ECM. Check that the engine does not start on the DTC of body integrated unit.

10.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC P0513 INCORRECT IMMOBILIZER KEY

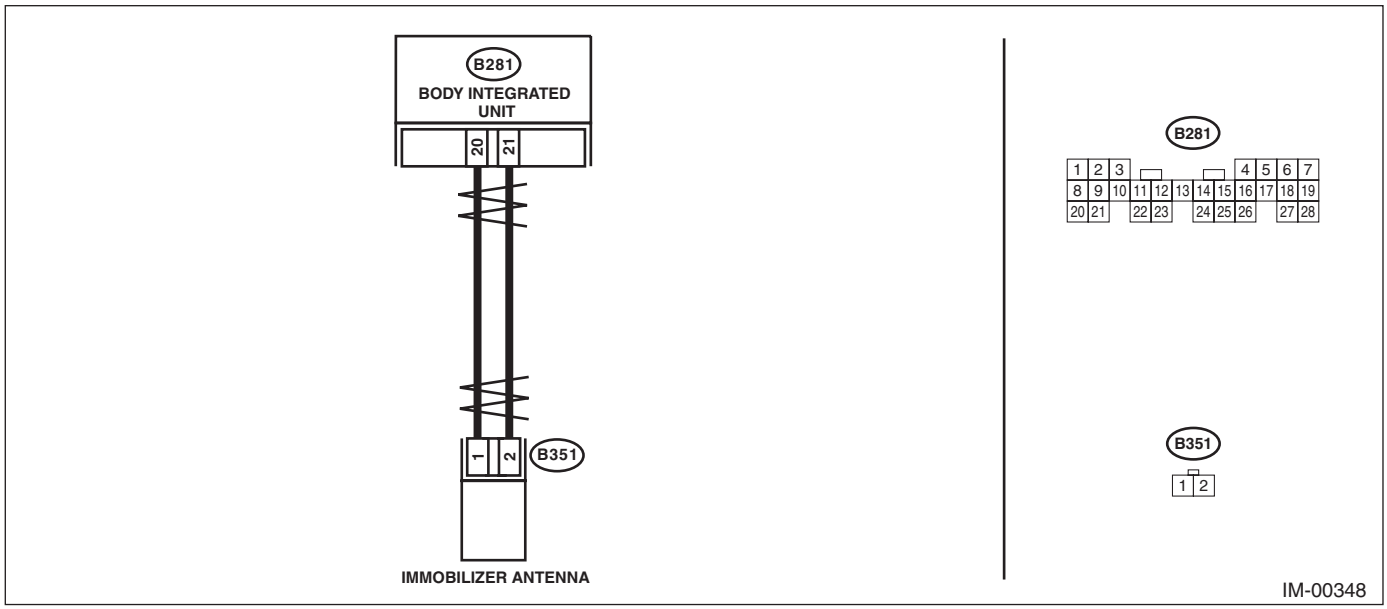
DTC DETECTING CONDITION:

Incorrect immobilizer key (Use of unregistered key in body integrated unit)

	Step	Check	Yes	No
1	**PERFORM REGISTRATION ON IGNITION KEY.** Perform registration on all keys of the vehicle. Refer to the “PC application help for Subaru Select Monitor”.	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.** Perform registration on all keys of the vehicle. Refer to the “PC application help for Subaru Select Monitor”.	Is registration for all keys complete?	End.	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> Replace all the ignition keys (transponders). Execute the registration procedure next. Refer to the “PC application help for Subaru Select Monitor”.

B: DTC P1570 ANTENNA

DTC DETECTING CONDITION:
Faulty antenna
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK ANTENNA CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from the antenna. <Ref. to SL-56, Immobilizer Antenna.> 3) Measure the resistance of antenna circuit. ***Connector & terminal*** ***(B351) No. 1 — No. 2:***	Is the resistance less than 10 Ω?	Go to step **2**.	Replace the antenna. <Ref. to SL-56, Immobilizer Antenna.>
2	**CHECK ANTENNA CIRCUIT.** 1) Disconnect the harness connector from body integrated unit. 2) Measure the resistance between harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 21 — Chassis ground:*** ***(B281) No. 20 — Chassis ground:***	Is the resistance less than 10 Ω?	Repair the harness.	Go to step **3**.
3	**CHECK ANTENNA CIRCUIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 21 (+) — Chassis ground (–):*** ***(B281) No. 20 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **4**.	Repair the harness between body integrated unit and antenna.

	Step	Check	Yes	No
4	**CHECK BODY INTEGRATED UNIT FUNCTION.** 1) Turn the ignition switch to OFF. 2) Connect the harness connector to body integrated unit. 3) Insert the key into the ignition switch, then measure changes in voltage between the antenna harness connectors. ***Connector & terminal*** ***(B281) No. 20 (+) — Chassis ground (–):***	Is the maximum voltage more than 40 V? (Approx. 0.1 second after inserting the key) Is the voltage 0 V? (Approx. 1 second after inserting the key)	Go to step **5**.	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> Replace all the ignition keys (transponders). Execute the registration procedure next. Refer to the “PC application help for Subaru Select Monitor”.
5	**CHECK IGNITION KEY (TRANSPONDER).** 1) Remove the key from ignition switch. 2) Start the engine using other key which is already registered.	Does the engine start?	Replace the ignition key (transponder). Execute the registration procedure next. Refer to the “PC application help for Subaru Select Monitor”.	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> Replace all the ignition keys (transponders). Execute the registration procedure next. Refer to the “PC application help for Subaru Select Monitor”.

C: DTC P1571 REFERENCE CODE INCOMPATIBILITY

DTC DETECTING CONDITION:

Reference code incompatibility between body integrated unit and ECM

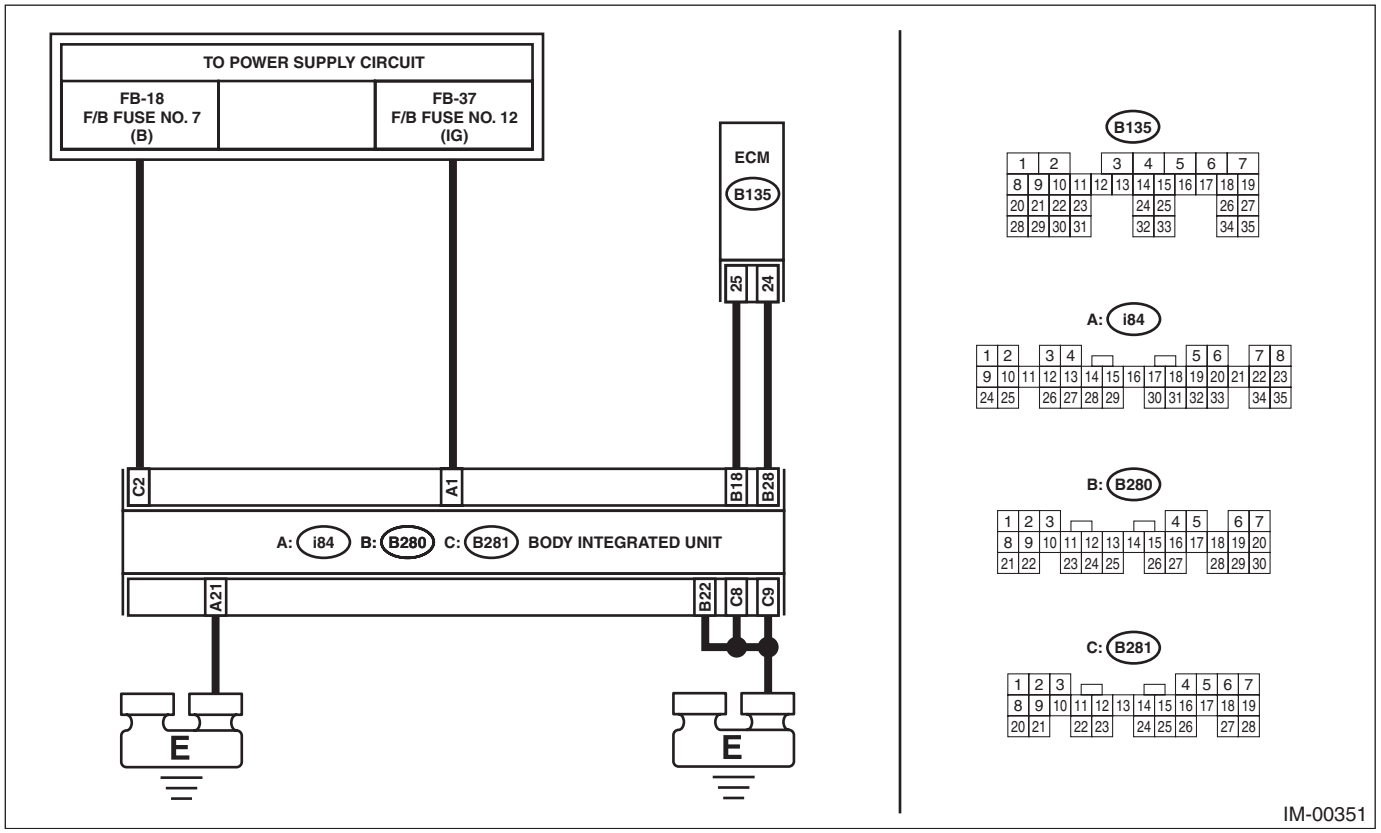
	Step	Check	Yes	No
1	**PERFORM REGISTRATION ON IGNITION KEY.** Perform registration on all keys of the vehicle. Refer to the “PC application help for Subaru Select Monitor”.	Is registration for all keys complete?	End.	Go to step **2**.
2	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other immobilizer 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 “PC application help for Subaru Select Monitor”.	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).> Body integrated unit <Ref. to SL-52, Body Integrated Unit.>, and replace all the ignition keys (transponders). Execute the registration procedure next. Refer to the “PC application help for Subaru Select Monitor”.

D: DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)

DTC DETECTING CONDITION:

Communication failure between body integrated unit and ECM

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from body integrated unit. 3) Measure the voltage between the body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(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 BODY INTEGRATED UNIT POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between the body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open or short circuit between the body integrated unit and ignition switch.

	Step	Check	Yes	No
3	**CHECK BODY INTEGRATED UNIT GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8 — Chassis ground:*** ***(B281) No. 9 — Chassis ground:*** ***(i84) No. 21 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the open circuit of the body integrated unit ground circuit.
4	**CHECK GROUND CIRCUIT FOR ECM.** Measure the resistance between the ECM ground terminal and engine ground.	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the ECM ground circuit.
5	**CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND ECM.** 1) Disconnect the harness connector from the ECM and body integrated unit. 2) Measure the resistance between body integrated unit harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***(B280) No. 18 — (B135) No. 25:*** ***(B280) No. 28 — (B135) No. 24:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair the open circuit of the harness between the body integrated unit and ECM.
6	**CHECK COMMUNICATION CIRCUIT HARNESS.** 1) Connect the disconnected connectors. 2) Turn the ignition switch to ON. 3) Measure the voltage between the body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 18 (+) — Chassis ground (–):*** ***(B280) No. 28 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **7**.	Repair the harness between body integrated unit and ECM.
7	**CHECK COMMUNICATION CIRCUIT HARNESS.** Measure the voltage between ECM harness connector terminal and engine ground. ***Connector & terminal*** ***(B135) No. 25 (+) — Engine ground (–):*** ***(B135) No. 24 (+) — Engine ground (–):***	Is the voltage 0 V?	Go to step **8**.	Repair the harness between body integrated unit and ECM.
8	**CHECK ECM BY COMMUNICATION LINE CHECK.** 1) Connect the harness connector to ECM. 2) Disconnect the harness connector from body integrated unit. 3) Start the communication line short check. <Ref. to IM(diag)-8, COMMUNICATION LINE CHECK, OPERATION, Subaru Select Monitor.>	Is the communication line check OK?	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> Replace all the ignition keys (transponders). Execute the registration procedure next. Refer to the “PC application help for Subaru Select Monitor”.	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).> Perform the registration procedure next. Refer to the “PC application help for Subaru Select Monitor”.

NOTE:
Refer to the following inspection when DTC is detected after inspection above. <Ref. to IM(diag)-24, DTC P1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

E: DTC P1574 KEY COMMUNICATION FAILURE

DTC DETECTING CONDITION:

Failure of body integrated unit to verify key (transponder) ID code or transponder key failure

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT FUNCTION.** Insert the key into the ignition switch (LOCK position), then measure changes in voltage between the antenna connectors. ***Connector & terminal*** ***(B351) No. 1 (+) — Chassis ground (–):***	Is the maximum voltage more than 40 V? (Approx. 0.1 second after inserting the key) Is the voltage 0 V? (Approx. 1 second after inserting the key)	Go to step **2**.	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> Replace all the ignition keys (transponders). Execute the registration procedure next. Refer to the "PC application help for Subaru Select Monitor".
2	**CHECK IGNITION KEY (TRANSPONDER).** 1) Remove the key from ignition switch. 2) Start the engine using other key which is already registered.	Does the engine start?	Replace the ignition key (transponder). Execute the registration procedure next. Refer to the "PC application help for Subaru Select Monitor".	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> Replace all the ignition keys (transponders). Execute the registration procedure next. Refer to the "PC application help for Subaru Select Monitor".

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.** Perform registration on all keys of the vehicle. Refer to the "PC application help for Subaru Select Monitor".	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.** Perform registration on all keys of the vehicle. Refer to the "PC application help for Subaru Select Monitor".	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.** Perform registration on all keys of the vehicle. Refer to the "PC application help for Subaru Select Monitor".	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(H6DO)-39, Engine Control Module (ECM).>

G: DTC P1577 IMM CONTROL MODULE EEPROM

DTC DETECTING CONDITION:

- Body integrated unit malfunctioning
- Failed to access ROM inside the body integrated unit.

	Step	Check	Yes	No
1	**PERFORM REGISTRATION ON IGNITION KEY.** Perform registration on all keys of the vehicle. Refer to the “PC application help for Subaru Select Monitor”.	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.** Perform registration on all keys of the vehicle. Refer to the “PC application help for Subaru Select Monitor”.	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.** Perform registration on all keys of the vehicle. Refer to the “PC application help for Subaru Select Monitor”.	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-52, Body Integrated Unit.> Replace all the ignition keys (transponders). Execute the registration procedure next. Refer to the “PC application help for Subaru Select Monitor”.

H: DTC P1578 METER FAILURE

DTC DETECTING CONDITION:

- Reference code incompatibility between combination meter and body integrated unit
- Communication failure between body integrated unit and ECM

	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC B1401 detected?	Go to step **2**.	<Ref. to IM(diag)-20, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2	**CHECK LAN COMMUNICATION SYSTEM.** Inspect LAN communication system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Is DTC U1300, U1301, U1302, B1100 or B1101 of the body integrated unit displayed?	Perform the diagnosis according to the DTC. <Ref. to LAN(diag)-31, List of Diagnostic Trouble Code (DTC).>	Go to step **3**.
3	**CHECK COMBINATION METER.** 1) Perform the registration of immobilizer. Refer to the “PC application help for Subaru Select Monitor”. 2) Start the engine.	Does the engine start?	System is normal.	Replace the combination meter. <Ref. to IDI-11, REMOVAL, Combination Meter.>

NOTE:

- When the combination meter has been replaced, be sure to perform the registration procedure of immobilizer.
- When the combination meter and body integrated unit are replaced at a time, the registration can not be completed. In this case, it is necessary to rewrite the security ID into the body integrated unit.

I: DTC B1401 M COLLATION NG

NOTE:

Refer to DTC P1578 “METER FAILURE” for diagnostic procedure. <Ref. to IM(diag)-24, DTC P1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

J: DTC B1402 IMMOBILIZER KEY COLLATION NG

NOTE:

For diagnostic procedures, refer to the following items.

- DTC P0513 “INCORRECT IMMOBILIZER KEY”<Ref. to IM(diag)-16, DTC P0513 INCORRECT IMMOBILIZER KEY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
- DTC P1570 “ANTENNA”<Ref. to IM(diag)-17, DTC P1570 ANTENNA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
- DTC P1574 “KEY COMMUNICATION FAILURE”<Ref. to IM(diag)-22, DTC P1574 KEY COMMUNICATION FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

K: DTC B1403 E/G REQUEST NG

NOTE:

For diagnostic procedures, refer to DTC P1572 “IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)”. <Ref. to IM(diag)-20, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

LAN SYSTEM (DIAGNOSTICS)

LAN(diag)

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1. General Description

A: SPECIFICATION

Combination meter	Speedometer	Stepping motor type
	Tachometer	
	Malfunction indicator light	LED
	Oil pressure warning light	
	ABS warning light	
	Airbag warning light	
	Seat belt warning light	
	Brake fluid and parking brake warning light	
	Fuel level warning light	
	Charge warning light	
	AT OIL TEMP warning light	
	AWD warning light	
	Tire pressure warning light	
	Low washer fluid warning light	
	Rear differential oil temperature warning light	
	Vehicle dynamics control (VDC) warning light / TCS OFF light	
	Vehicle dynamics control (VDC) indicator light	
	Turn signal indicator light	
	HI-beam indicator light	
	Cruise indicator light	
	Cruise set indicator light	
	Front fog light indicator light	
	SPORT indicator light	
	Light illumination indicator light	
	Meter illumination light	
	LCD back light	
	Engine coolant temperature gauge	LCD
	Fuel gauge	
	AT Select lever position indicator, SPORT shift indicator	
	Odo/trip meter	
Warning box	Door open warning light	LED
	Security indicator	
	Passenger's seat airbag indicator	
	Passenger' seat belt warning light	

B: CAUTION

- Be careful not to damage the meters and instrument panel.
- Be careful not to damage the meter glass.
- Make sure the electrical connector is connected securely.
- After installation, make sure that each meter operates normally.
- Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.
- Do not apply an excessive force on the printed circuit.
- Do not drop or otherwise apply impact.
- When the combination meter of model with immobilizer has been replaced, be sure to perform the registration of immobilizer.

C: PREPARATION TOOL

1. GENERAL TOOL

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

2. Combination Meter System

A: WIRING DIAGRAM

1. COMBINATION METER

<Ref. to WI-148, WIRING DIAGRAM, Combination Meter System.>

B: INSPECTION

1. SELF-DIAGNOSIS

The self-diagnosis (checking of each meter, warning light, indicator, illumination, LCD, buzzer sound) of combination meter can be performed in the following procedure.
1) Turn the ignition switch to ON while turning the small light to OFF.
2) Turn the small light switch to ON within 3 seconds after step 1), then press the odo/trip meter knob three times.
3) Turn the small light switch to OFF, and press the odo/trip knob three times.
4) Turn the small light switch to ON, and press the odo/trip knob three times.

NOTE:
- Perform the steps described in 2) and 4) within 10 seconds after the ignition switch is turned to ON.
- When pressing the odo/trip meter knob four times, the display changes to DTC display mode (ECM, TCM).

<Ref. to IDI-10, 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-4, LIST OF SELF-DIAGNOSIS MODE OPERATION, INSPECTION, Combination Meter System.>
Turn the ignition switch to OFF to cancel the self-diagnosis function.
- When the engine starts during diagnosis, the self-diagnosis function is not cancelled, however, once the vehicle starts driving, the self-diagnosis function is cancelled automatically for safety.

2. LIST OF SELF-DIAGNOSIS MODE OPERATION

Speedometer, tachometer, fuel gauge, engine coolant temperature gauge	Microcomputer running type warning light, indicator light	AT select lever position indicator light	Odo/trip meter	SPORT shift indicator	Illumination (indicator needle, plate, ring, LCD)	Buzzer (SPORT shift buzzer)
Step 0. Processing to self-diagnosis function						
Operating initial operation	Initial illuminating	Normal	Normal	Initial illuminating	Initial illuminating	Not beep.
Step 1-1. Check each indication after initial operation						
Repeat the sweep operation (After holding on lowest position for one second, reaches to highest position within 5 seconds, and after holding on highest position for one second, reaches to lowest position within 5 seconds).	Light ON	With the highest brightness, illuminate the position sequentially at a cycle of 1.5 seconds. For the illumination order, refer to the illumination order table.	Perform the segment check. For the illumination order, refer to the illumination order table.	Perform the segment check. For the illumination order, refer to the illumination order table.	Light 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						

Speedometer, tachometer, fuel gauge, engine coolant temperature gauge	Microcomputer running type warning light, indicator light	AT select lever position indicator light	Odo/trip meter	SPORT shift indicator	Illumination (indicator needle, plate, ring, LCD)	Buzzer (SPORT shift buzzer)
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.	Light 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. Speedometer/ Tachometer: Approx. 5 degrees at every movement. Water temperature /Fuel gauge: Moves 1 segment at a time.	Light OFF	Keep the position indicated that set in step 1-2.	Display the current meter directing angle on odometer. Ex.) Displays 135017 when Speedometer/ Tachometer: 135 degrees, Engine coolant temperature gauge/Fuel gauge: 17 segments.	"▼ 2" is displayed.	Light 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.	Light 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	Varying from the highest brightness (ILL6) to the lowest luminescence (ILL1) every second. After reaching at ILL1, repeat it from ILL6.	Illumination brightness is displayed in the trip meter. (From ILL6 to ILL1)	"▼ 3" is displayed.	Varying from the highest brightness (ILL6) to the lowest luminescence (ILL1) every second. After reaching at ILL1, repeat it from ILL6.	Not beep.
Step 3-2. Release the trip knob: Specifying the illumination brightness						
Keep the position that specified at step 2-2.	Light OFF	Keep the brightness at the time when the trip knob is released.	Illumination brightness is displayed in the trip meter.	"3" is displayed.	Keep the brightness at the time when the trip knob is released.	Not beep.
Step 4-1. Press the trip knob: Check the beeping of SPORT shift buzzer (For AT model)						
All meter indicator needle returns to lowest position.	Light OFF	Light at the highest brightness. Keep the position indicated that set in step 1-2.	Illumination brightness is displayed in the trip meter.	"▲ ▼ 8" is displayed. Blinks with buzzer.	Light at the highest brightness.	SPORT shift buzzer beeps.
Step 5. Press the trip knob: Complete the self-diagnosis 1 cycle						
All meter indicator needle returns to lowest position, and go back to step 1 after completion.						

- Illuminating order table

Illuminating order	1	2	3	4	5	6	7	8	9	10	11	
Trip meter A/B	AB	A	B	A	B	A	B	A	B	A	B	
Odo/trip meter	8888.8 888888	0000.0 000000	1111.1 111111	2222.2 222222	3333.3 333333	4444.4 444444	5555.5 555555	6666.6 666666	7777.7 777777	8888.8 888888	9999.9 999999	
SPORT shift indicator	All lights ON	1	2	3	4	5	E	P	R	N	D	Go back to 1 and repeat
▲ ▼	▲ ▼	▲	▼	▲	▼	▲	▼	▲	▼	▲	▼	
Display time (sec.)	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	

3. SYMPTOM CHART

Symptom	Repair order	Note
Combination meter assembly does not operate.	1. Power supply 2. Ground circuit 3. Combination meter	<Ref. to IDI-7, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Combination Meter System.>
Speedometer does not operate.	1. VDCCM 2. Harness 3. Combination meter	<Ref. to IDI-7, CHECK VDCCM, INSPECTION, Combination Meter System.>
Tachometer does not operate.	1. ECM 2. Harness 3. Combination meter	<Ref. to IDI-8, CHECK ENGINE CONTROL MODULE (ECM), INSPECTION, Combination Meter System.>
Fuel gauge does not operate.	1. Communication circuit 2. Fuel level sensor 3. Harness 4. Combination meter	<Ref. to IDI-8, CHECK FUEL LEVEL SENSOR, INSPECTION, Combination Meter System.>
Engine coolant temperature gauge does not operate.	1. Communication circuit 2. Engine coolant temperature sensor 3. Harness 4. Combination meter	<Ref. to IDI-9, CHECK ENGINE COOLANT TEMPERATURE SENSOR, INSPECTION, Combination Meter System.>
Error display is shown on the odo/trip meter.	Communication circuit	<Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>

CAUTION:
When measuring the voltage and resistance of each control module or sensor, use a tapered pin with a diameter of less than 0.64 mm (0.025 in) in order to avoid poor contact. Do not insert the pin more than 2 mm (0.08 in).

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR COMBINATION METER.** 1) Remove the combination meter. <Ref. to IDI-11, REMOVAL, Combination Meter.> 2) Disconnect the combination meter harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for open or short between the ignition switch and combination meter.
2	**CHECK POWER SUPPLY FOR COMBINATION METER.** Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open or short between the fuse and combination meter.
3	**CHECK GROUND CIRCUIT OF COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Measure the resistance of harness between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 15 — Chassis ground:*** ***(i10) No. 16 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair the wiring harness.

5. CHECK VDCCM

	Step	Check	Yes	No
1	**CHECK VEHICLE SPEED SIGNAL.** 1) Lift up the vehicle and support it with rigid racks. 2) Drive the vehicle faster than 10 km/h (6 MPH). **WARNING:** **Be careful not to be dragged in by the rotating wheel.** 3) Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 27 (+) — Chassis ground (–):***	Is the voltage less than 1 V ←→ 5 V or more?	Replace the meter case assembly.	Go to step **2**.
2	**CHECK HARNESS BETWEEN VDCCM AND COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM and combination meter. 3) Measure the resistance between VDCCM harness connector and combination meter harness connector. ***Connector & terminal*** ***(B310) No. 10 — (i10) No. 27:***	Is the resistance less than 10 Ω?	Check the VDCCM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Repair the wiring harness.

6. CHECK ENGINE CONTROL MODULE (ECM)

	Step	Check	Yes	No
1	**CHECK ECM SIGNAL.** 1) Start the engine. 2) Measure the voltage between ECM connector and chassis ground. ***Connector & terminal*** ***(B136) No. 22 (+) — Chassis ground (–):***	Is the voltage 0 ←→ 14 V or more?	Go to step **2**.	Inspect the ECM. <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.>
2	**CHECK HARNESS BETWEEN COMBINATION METER AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and combination meter. 3) Measure the resistance between ECM harness connector and combination meter harness connector. ***Connector & terminal*** ***(B136) No. 22 — (i10) No. 28:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair the wiring harness.

7. CHECK FUEL LEVEL SENSOR

	Step	Check	Yes	No
1	**CHECK COMMUNICATION ERROR DISPLAY.** 1) Turn the ignition switch to ON. 2) Check that the error code is displayed in odo/trip meter.	Is the error code “Er xx” displayed on odo/trip meter?	Check the communication circuit. <Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>	Go to step **2**.
2	**CHECK FUEL LEVEL SENSOR.** 1) Remove the fuel level sensor. <Ref. to FU(H6DO)-53, REMOVAL, Fuel Level Sensor.> 2) Measure the resistance between fuel level sensor terminals when the float is in FULL and EMPTY position. ***Terminals*** ***No. 1 — No. 4:***	Is the resistance 1.0 to 3.0 Ω (FULL) and 31 to 33 Ω (EMPTY)?	Go to step **3**.	Replace the fuel level sensor.
3	**CHECK FUEL SUB LEVEL SENSOR.** 1) Remove the fuel sub level sensor. <Ref. to FU(H6DO)-54, REMOVAL, Fuel Sub Level Sensor.> 2) Measure the resistance between fuel sub level sensor terminals when the float is in FULL and EMPTY position. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance 1.0 to 3.0 Ω (FULL) and 61 to 63 Ω (EMPTY)?	Go to step **4**.	Replace the fuel sub level sensor.
4	**CHECK HARNESS BETWEEN FUEL SUB LEVEL SENSOR AND BODY INTEGRATED UNIT.** 1) Disconnect the connector from body integrated unit. 2) Measure the resistance between the fuel sub level sensor harness connector terminal and body integrated unit harness connector terminal. ***Connector & terminal*** ***(R59) No. 1 — (B281) No. 19:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the wiring harness.

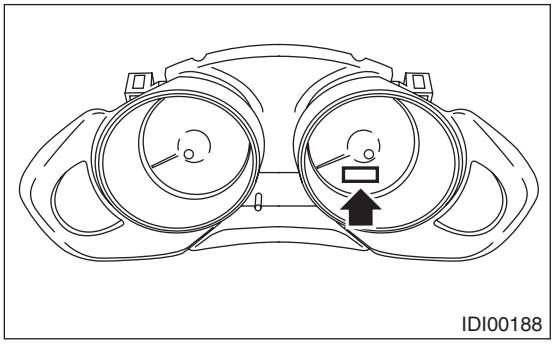
	Step	Check	Yes	No
5	**CHECK HARNESS BETWEEN FUEL LEVEL SENSOR AND FUEL SUB LEVEL SENSOR.** Measure the resistance between fuel level sensor harness connector terminal and fuel sub level sensor harness connector terminal. ***Connector & terminal*** ***(R58) No. 1 — (R59) No. 2:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair the wiring harness.
6	**CHECK FUEL LEVEL SENSOR GROUND CIRCUIT.** Measure the resistance between fuel level sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(R58) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair the wiring harness.

8. CHECK ENGINE COOLANT TEMPERATURE SENSOR

	Step	Check	Yes	No
1	**CHECK COMMUNICATION ERROR DISPLAY.** 1) Turn the ignition switch to ON. 2) Check that the error code is displayed in odo/trip meter.	Is the error code “Er xx” displayed on odo/trip meter?	Check the communication circuit. <Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>	Go to step **2**.
2	**CHECK ENGINE COOLANT TEMPERATURE SENSOR.** Check the engine coolant temperature sensor. <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.>	Is the engine coolant temperature sensor OK?	Replace the meter case assembly.	Replace the engine coolant temperature sensor.

9. COMMUNICATION ERROR DISPLAY

When the following error code is displayed in the odo/trip meter, inspect the communication circuit since the communication failure is generated between each control module. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>



Error code	Remarks
Er IU	Malfunction in integrated unit
Er —	Simultaneous malfunction of high/low speed CAN communication
Er HC	High speed CAN communication failure
Er LC	Malfunction of low-speed CAN communication
Er EG	EGI communication failure
Er tC	TCM communication failure
Er Ab	VDCCM communication failure
Er SP	VDCCM DTC information and vehicle speed pulse malfunction
Er SS	Wheel speed data malfunction
Er bb	Vacuum pump system malfunction

10.DTC DISPLAY MODE

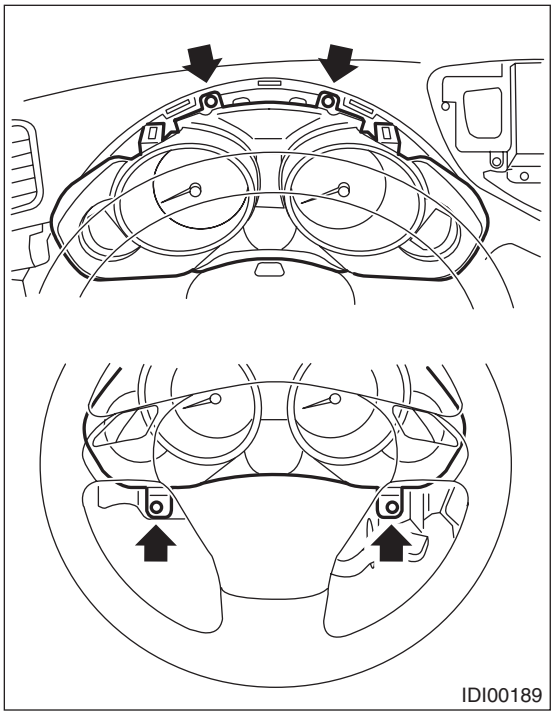
When DTC display mode is operated, {ECM}, {TCM}, {ABS/VDC} is displayed repeatedly in this order by pressing the trip knob. DTC is displayed in the following table according to type of control module, receiving DTC, DTC detected, No DTC. If CAN communication has some trouble, "-----" is displayed.

Control module	Condition	Display
ECM	Receiving DTC	Trip "A" + "P (Blink)"
	DTC detected	Trip "A" + "P xxxx"
	No DTC	Trip "A" + "P ----"
TCM	Receiving DTC	Trip "B" + "P (Blink)"
	DTC detected	Trip "B" + "P xxxx"
	No DTC	Trip "B" + "P ----"
ABS/VDCCM	Receiving DTC	Trip "A" + "C (Blink)"
	DTC detected	Trip "A" + "C xxxx"
	No DTC	Trip "A" + "C ----"
When CAN communication error is occurred	—	"-----"

3. Combination Meter

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Set the tilt steering at the lowest position.
3) Remove the console box. <Ref. to EI-39, REMOVAL, Console Box.>
4) Remove the control panel. <Ref. to AC-31, REMOVAL, Control Panel.>
5) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
6) Remove the console side panel. <Ref. to EI-40, REMOVAL, Center Console.>
7) Remove the meter visor.
8) Remove the screws of combination meter (two for upper side, two for lower side) and pull the combination meter.



9) Disconnect the connector in the rear side of combination meter to remove meter.

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

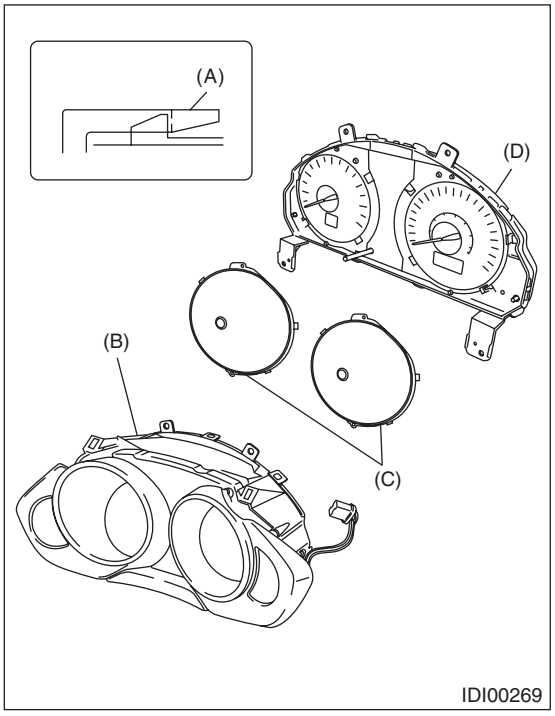
B: INSTALLATION

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.
Install in the reverse order of removal.

C: DISASSEMBLY

CAUTION:
• Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.
• Be careful not to apply excessive force to the trip knob.
• Be sure not to touch the meter indicator needle.

Disengage the claw (A), and remove the visor assembly and meter case cover (B), and cover glass (C) from the meter case assembly (D).



1. BULB REPLACEMENT

LEDs are used for all of warning lights and indicator lights of combination meters, replace the meter case assembly if faulty.

D: ASSEMBLY

Assemble in the reverse order of disassembly.

4. Speedometer

A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the speedometer alone. (Do not remove the cover on the back surface.)

5. Tachometer

A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the tachometer alone. (Do not remove the cover on the back surface.)

6. Fuel Gauge

A: SPECIFICATION

Since the visor assembly cannot be disassembled, do not remove or inspect the fuel gauge as alone. (Do not remove the cover on the back surface.)

7. Engine Coolant Temperature Gauge

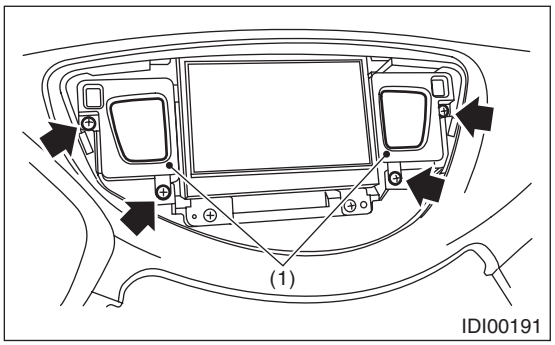
A: SPECIFICATION

Since the visor assembly cannot be disassembled, do not remove or inspect the temperature gauge alone. (Do not remove the cover on the back surface.)

8. Warning box

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the upper grille. <Ref. to AC-48, UPPER GRILLE, REMOVAL, Air Vent Grille.>
3) Remove the screws of warning box (1) and pull out the warning box.



4) Disconnect the connector in the rear side of warning box to remove the warning box.

B: INSTALLATION

CAUTION:
• Make sure the electrical connector is connected securely.
• Make sure that each indicator operates normally.
Install in the reverse order of removal.

SEATS

SE

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2. Front Seat 7
3. Second Seat 13
4. Third Seat 18
5. Seat Heater System 20
6. Power Seat System 21

1. Basic Diagnostic Procedure

A: PROCEDURE

CAUTION:
• Subaru Select Monitor is required for reading DTC, performing diagnosis and reading current data.
• Remove foreign matter (dust, water, oil, etc.) from the body integrated unit connector during removal and installation.
• For model with immobilizer, registration of immobilizer may be needed after the replacement of controller etc. For details, refer to the "PC application help for Subaru Select Monitor".

NOTE:
• To check harness for open or short circuits, shake the suspected trouble spot or connector.
• Check List for Interview <Ref. to LAN(diag)-3, Check List for Interview.>

	Step	Check	Yes	No
1	**CHECK PRE-INSPECTION.** Ask the customer when and how the trouble occurred using the interview check list. <Ref. to LAN(diag)-3, Check List for Interview.>	Did you interview the customer?	Go to step **2**.	Interview the customer.
2	**BASIC INSPECTION.** Check components which might affect body control. <Ref. to LAN(diag)-5, INSPECTION, General Description.>	Is the component that might influence the body control problem normal?	Go to step **3**.	Repair or replace each component.
3	**CHECK INDICATION OF DTC.** 1) Read DTC of all systems. <Ref. to LAN(diag)-12, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> NOTE: • The LAN system is for the overall vehicle, so read the DTC of all systems. • If the communication function of the Subaru Select Monitor cannot be executed properly, check the communication circuit. <Ref. to LAN(diag)-24, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.> 2) Record all DTC.	Is DTC displayed on Subaru Select Monitor?	Refer to the DTC related table. <Ref. to LAN(diag)-33, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).> Go to step **5**.	Go to step **4**.
4	**PERFORM GENERAL DIAGNOSTICS.** Inspect using the "General Diagnostics Table". <Ref. to LAN(diag)-79, General Diagnostic Table.>	Is result of inspection OK?	LAN system is normal.	Go to step **5**.
5	**PERFORM DIAGNOSIS.** 1) Correct the cause of trouble. 2) Perform the Clear Memory Mode. <Ref. to LAN(diag)-20, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.> 3) Read the DTC. <Ref. to LAN(diag)-12, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Repeat step 5 until DTC is not shown.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Inspect the following item about the vehicle's state.

1. DISPLAY OF COMMUNICATION ERROR

Communication error is displayed in odo/trip meter.	When and how often are they displayed? ❑ Always ❑ Sometimes ❑ Only once
	Which communication error is displayed? (Record them all) ❑ Er IU (Fail in the body integrated unit) ❑ Er HC (Fail of high-speed CAN) ❑ Er LC (Fail of low-speed CAN) ❑ Er — (Fails of both high-speed and low-speed CAN) ❑ Er EG (Fail of EGI communication data) ❑ Er TC (Fail of TCM communication data) ❑ Er Ab (Fail of vehicle dynamics control (VDC)/ABS communication data) ❑ Er bb (Fail of brake vacuum system)
Ignition key position	❑ OFF ❑ ACC ❑ ON (before starting engine) ❑ START ❑ ON (after starting engine, while engine is running) ❑ ON (after starting engine, engine is stopped)
Timing	❑ Immediately after turning the ignition ON. ❑ Immediately after turning the ignition to START.

2. DISPLAY STATUS OF THE INDICATOR

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	Key cannot be removed from key cylinder.	❑ Yes / ❑ No
	Key can be removed from any other than parking range.	❑ Yes / ❑ No
	Shift lever can not be operated.	❑ Yes / ❑ No
	Shift lock does not operate.	❑ Yes / ❑ No
	Driver's seat belt warning light does not illuminate.	❑ Yes / ❑ No
	Passenger's seat belt warning light does not illuminate.	❑ Yes / ❑ No
	Seat belt warning alarm does not sound.	❑ Yes / ❑ No
	Illumination volume control is not available.	❑ Yes / ❑ No
	Key illumination does not illuminate	❑ Yes / ❑ No
	Key illumination is blinking	❑ Yes / ❑ No
	Room light does not interlock with doors.	❑ Yes / ❑ No
	Room light blinks.	❑ Yes / ❑ No
	Map light does not interlock with doors	❑ Yes / ❑ No
	Map light blinks.	❑ Yes / ❑ No
	Luggage light blinks.	❑ Yes / ❑ No
	Wiper deicer does not operate.	❑ Yes / ❑ No
	Rear defogger does not operate.	❑ Yes / ❑ No
	Meter does not dim when headlights are ON.	❑ Yes / ❑ No
	Rear wiper does not operate.	❑ Yes / ❑ No
	Can not be locked/unlocked with central door lock switch.	❑ Yes / ❑ No
	Can not be locked/unlocked with keyless entry system.	❑ Yes / ❑ No
	Rear gate does not open with rear gate release switch.	❑ Yes / ❑ No
	Hazard answer-back does not operate.	❑ Yes / ❑ No
	Engine does not start.	❑ Yes / ❑ No

4. CONDITIONS UNDER WHICH TROUBLE OCCURS

Driving condition	❑ At standstill (While idling)			
	❑ When the vehicle is running	Vehicle speed	km/h (MPH)	
	❑ While accelerating	Acceleration	km/h (MPH) to	km/h (MPH)
	❑ While decelerating (With braking)	Deceleration	km/h (MPH) to	km/h (MPH)
	❑ While decelerating (Without braking)	Deceleration	km/h (MPH) to	km/h (MPH)
	❑ Flat road ❑ Uphill ❑ Downhill ❑ Gravel road ❑ Bumpy road ❑ Snowy road			
	Does it occur when operating any part? Operated part: Trouble symptom			
	Are there any other troubles occurred? From where: Trouble symptom			

3. General Description

A: CAUTION

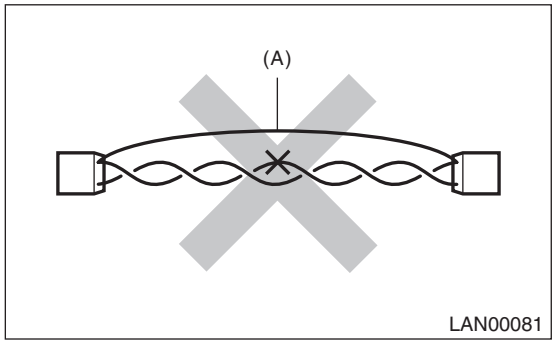
1. SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG"

Airbag system wiring harness is routed near the body integrated unit and twisted pair line.

CAUTION:
• Do not use electrical test equipment on any airbag system wiring harnesses.
• Be careful not to damage the airbag system wiring harness when servicing the body integrated unit and LAN system.
• When disconnecting the airbag system connectors, refer to the cautions regarding the airbag system. <Ref. to AB-4, CAUTION, General Description.>

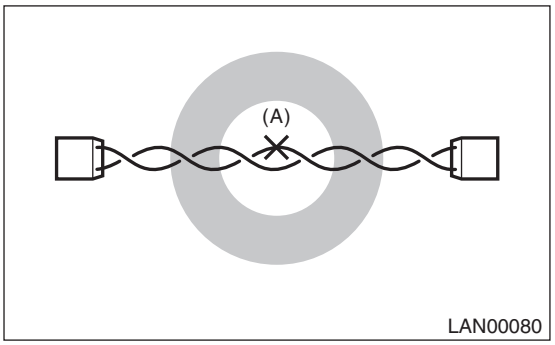
2. LAN SYSTEM

• Bus line of LAN system is twisted pair line. Be careful not to bypass or partly unbind the twisted pair line.
• Do not make clearance between bus lines (CAN High, CAN Low).
• Difference of bus line length should be within 10 cm (3.94 in).
• Fray near the connector should be within 8 cm (3.14 in).



(A) Bypass wire connection

• If the characteristics of the twisted pair line are changed, it may extremely weaken against noise.
• When repairing the harness, connect the wires using soldering and protect it with insulating tape etc.



(A) Soldering and protection with insulating tape

B: INSPECTION

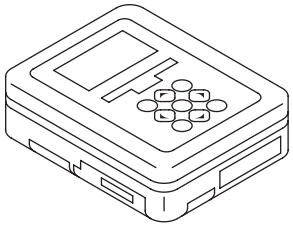
Before performing diagnostics, check the following item which might affect body integrated unit malfunctions.
1) Measure the battery voltage and check electrolyte.

Standard voltage: 12 V or more

Specific gravity: Above 1.260
2) Check the fuse condition. (Includes the backup fuse.)
Make sure that ampere of the fuse is setting value, and it is not blown out.
3) Check the connecting condition of harness and harness connector.
4) Confirm that a setting that does not match the vehicle equipment, is not set in the body integrated unit. <Ref. to LAN(diag)-19, REGISTRATION BODY INTEGRATED UNIT (EQUIPMENT SETTING), OPERATION, Subaru Select Monitor.>
5) Make sure that a setting that does not match the vehicle equipment, is not set in the function setting (ECM customizing) of the body integrated unit. <Ref. to LAN(diag)-21, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>
6) Confirm "Factory or Market setting" of body integrated unit registrations is "Market".
7) Confirm key illumination does not blink with ignition switch turned to ON.

C: PREPARATION TOOL

1. SPECIAL TOOL

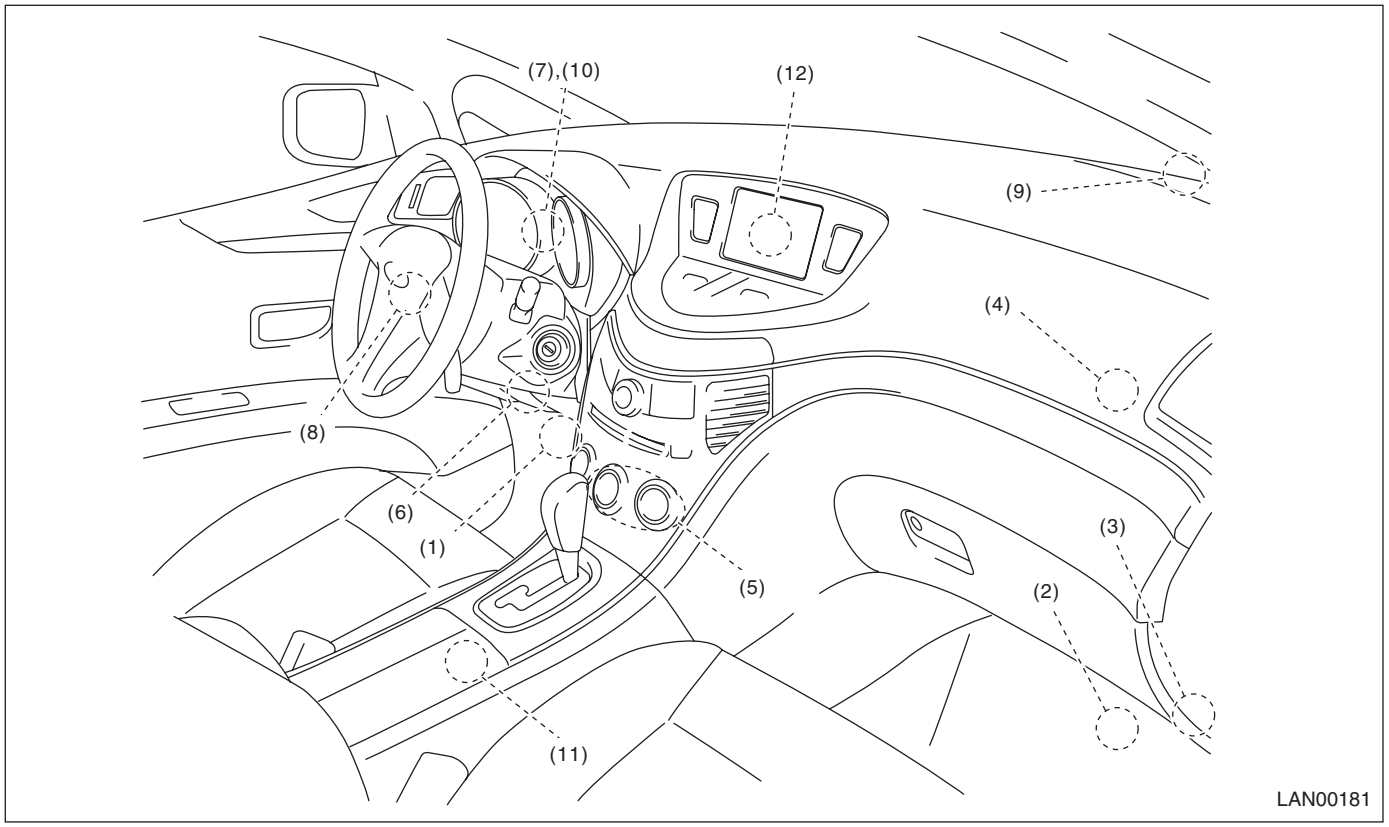
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

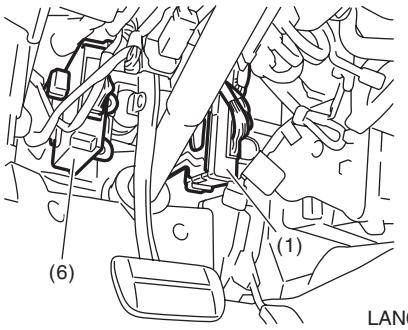
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

4. Electrical Component Location

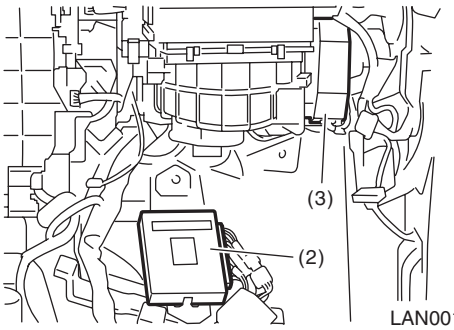
A: LOCATION



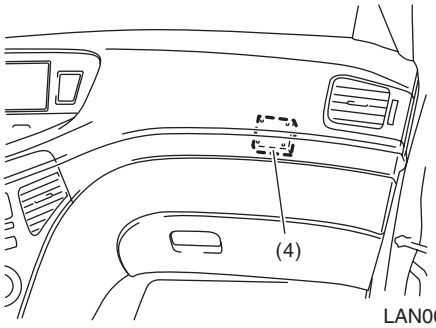
(1)	Body integrated unit	(5)	A/C control panel	(9)	VDCCM&H/U (In engine compartment)
(2)	Engine control module (ECM)	(6)	Transmission control module (TCM)	(10)	Odo/trip meter
(3)	Auto A/C control module	(7)	Combination meter	(11)	Yaw rate & G sensor
(4)	Keyless entry control module (Antenna)	(8)	Steering angle sensor	(12)	Display (navigation monitor or MFD)



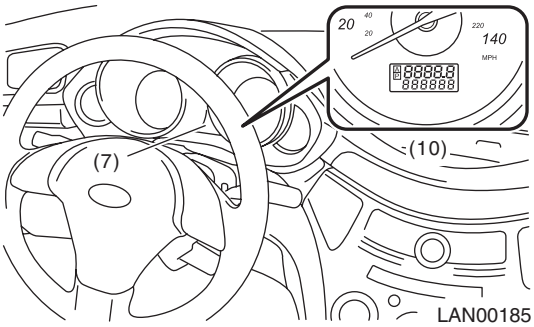
LAN00182



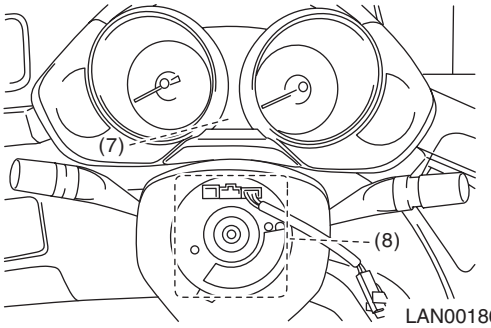
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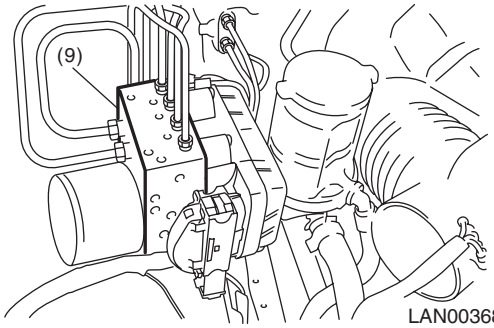
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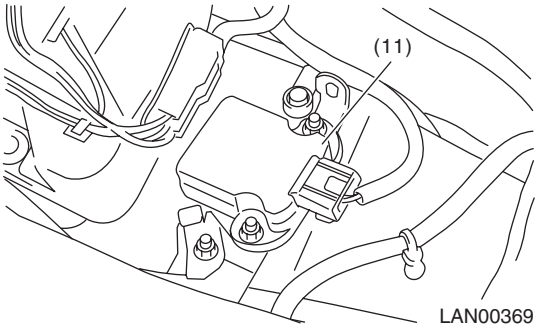
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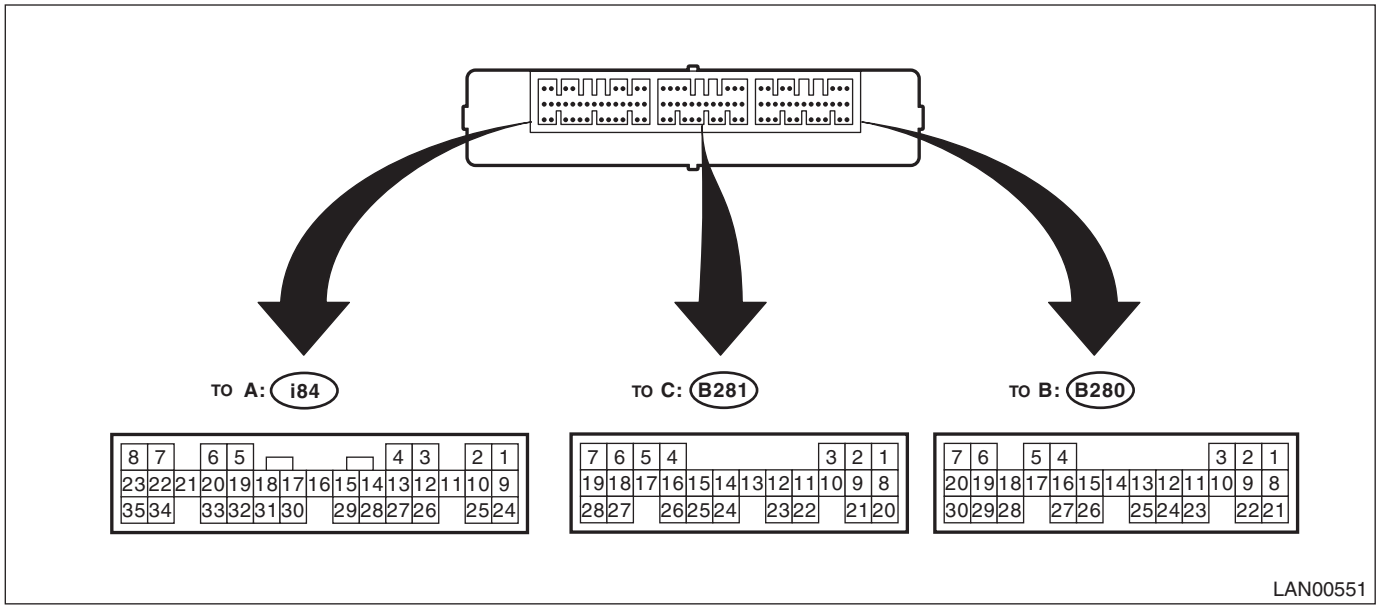
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LAN00369

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Description	Connector No.	Terminal No.	Signal (V)	Index
			Ignition switch ON	
System control power supply	B281	2	10 — 13 V	Always
Backup power supply	B280	7	10 — 13 V	Always
Ignition power supply	i84	1	10 — 13 V	Ignition ON
ACC power supply	i84	24	10 — 13 V	ACC ON
Ground	i84	21	0 V	Always
	B281	9		
	B281	8		
	B280	22		
Key warning switch	B281	7	10 — 13 V	When ignition key inserted
Stop light switch	B281	23	10 — 13 V	When brake pedal is depressed
Illumination control switch	i84	30	10 — 13 V (at dimmer ON)	Dim the clock and audio illumination
Illumination volume (Vi1)	i84	10	4.5 — 5.5 V	Small light ON
Illumination volume (Vi2)	i84	2	0.5 — 4.5 V	—
Illumination volume (Vi3)	i84	25	0 V	Ground circuit
Illumination output	i84	5	10 — 13 V	Small light ON
Front fog light input	B281	17	10 — 13 V	Front fog light ON
Door switch input Driver's seat	i84	19	Less than 1 V (10 — 13 V at OFF)	Driver's door open (ON)
Door switch input Passenger's seat	i84	32	Less than 1 V (10 — 13 V at OFF)	Passenger's door open (ON)
Door switch input Rear RH seat	i84	18	Less than 1 V (10 — 13 V at OFF)	Rear RH door open (ON)
Door switch input Rear LH seat	i84	31	Less than 1 V (10 — 13 V at OFF)	Rear LH door open (ON)

Description	Connector No.	Terminal No.	Signal (V)	Index
			Ignition switch ON	
Door switch Rear gate	i84	17	Less than 1 V (10 — 13 V at OFF)	Rear gate open (ON)
Manual switch (LOCK)	i84	15	Less than 1 Ω	Door lock switch ON
Manual switch (UNLOCK)	i84	29	Less than 1 Ω	Door unlock switch ON
Door lock power supply	i84	34	10 — 13 V	Always
All door lock output	i84	7	10 — 13 V	Manual lock switch, door key switch ON
Driver's door UNLOCK output	i84	23	10 — 13 V	Driver's seat unlock signal ON
All door UNLOCK output	i84	8	10 — 13 V	ALL door unlock signals ON
Rear gate UNLOCK output	i84	22	10 — 13 V	When the rear gate release switch is ON with all seats unlocked
Rear gate release switch	B281	22	0 V	Rear gate release switch ON
Key/shift lock power supply	B281	1	10 — 13 V	Always
Shift lock output	B280	6	10 — 13 V	Key warning switch ON, ignition ON, shift position "P" range, foot brake ON (AT only)
Key locking output	B280	5	10 — 13 V	Other than "P" range, ignition switch ON
Wiper deicer switch	i84	14	0 V	Wiper deicer switch ON
Wiper deicer relay output	B280	14	0 V	Wiper deicer relay ON
Rear defogger switch	i84	28	0 V	Rear defogger switch ON
Rear defogger relay output	B280	16	0 V	Rear defogger relay ON
Shift switch (ON)	B281	26	0 V	At Manual mode
Shift switch (UP)	B281	15	0 V	At Manual mode UP
Shift switch (DOWN)	B281	25	0 V	At Manual mode DOWN
Shift button switch	B281	14	0 V	When operating the shift lever release button
P range switch	B281	13	0 V	Shift range P position
Impact sensor	B281	5	8 V or more	Impact sensor ON (Model with impact sensor)
Fuel level sensor	B281	19	0 — 102.3 Ω	Resistance differs according to the fuel level (displays resistance combining level gauge main and sub)
Ambient sensor	B281	3	0.5 — 4.5 V	SIG
	B281	10	0 V	GND
Seat belt switch (driver's seat)	i84	4	0 V	When driver's seat belt is worn
Seat belt switch (Passenger's seat)	i84	13	0 V	When passenger's seat belt is worn
Seat belt warning light (driver's seat)	i84	20	0 V	When driver's seat belt is worn
Seat belt warning light (Passenger's seat)	B280	27	0 V	When passenger's seat belt is worn
Rear wiper switch (ON)	B281	6	0 V	Rear wiper switch ON

Description	Connector No.	Terminal No.	Signal (V)	Index
			Ignition switch ON	
Rear wiper switch (INT)	B281	18	0 V	Rear wiper switch ON
Rear washer switch	B281	27	0 V	Rear washer switch ON
Rear wiper power supply	B280	21	10 — 13 V	ACC switch ON
Rear wiper ON output	B280	1	10 — 13 V	Rear wiper switch ON
Rear wiper return	B280	8	0 V	At wiper reversing
		1 — 8	0 V	
Room light output	B280	3	0 V	When LOCK, UNLOCK with keyless entry
Map light output	B280	2	0 V	During map light linked operation
		9	0 V	During map light linked operation
Key ring illumination output	B280	4	0 V	Ignition key removed, driver's door open
Turn hazard output	B280	12	0 V	When operating keyless entry answer back
Keyless Buzzer Output	i84	6	10 — 13 V	When operating keyless entry answer back
Security horn output	B280	11	0 V	When operating security horn
Immobilizer indicator light	i84	33	0 V	At ignition key removed, immobilizer operating
TPMS registration check signal input	B281	4	0 V	When inputting registration check signal
Keyless communication	i84	9	Serial communication	At keyless entry signal received
High speed CAN circuit (Hi)	B280	20	Between B20 — B30 Serial communication	At communicating (sending and receiving)
High speed CAN circuit (Lo)	B280	30		
Low-speed CAN circuit 1 (Hi)	i84	27	Between A26 — A27 Serial communication	At communicating (sending and receiving)
Low-speed CAN circuit 1 (Lo)	i84	26		
Low-speed CAN circuit 2 (Hi)	B280	26	Between B25 — B26 Serial communication	At communicating (sending and receiving) (Model with auto A/C)
Low-speed CAN circuit 2 (Lo)	B280	25		
Immobilizer antenna	B281	20 — 21	Between B20 — B21 Serial communication	
Immobilizer communication (main)	B280	18 (Back-up 28)	Serial communication	
Subaru Select Monitor communication	B280	19	Serial communication	

B: WIRING DIAGRAM

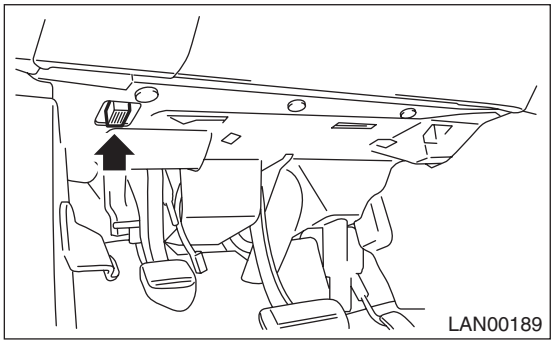
Refer to the electrical wiring diagram. <Ref. to WI-78, WIRING DIAGRAM, CAN Communication System.>

6. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

NOTE:
• DTC is displayed in the sequence of inputting. (When entering two DTCs or more simultaneously, they are displayed in the sequence of priority.)
• When more than one DTC is displayed, perform the diagnosis of top one.
1) Prepare the Subaru Select Monitor kit.
2) Connect the diagnosis cable to Subaru Select Monitor.
3) Connect the Subaru Select Monitor to data link connector.
Data link connector is located in the lower portion of instrument panel (on the driver's side).



CAUTION:
Do not connect scan tools other than the Subaru Select Monitor.
4) Turn the ignition switch to ON and run the Subaru Select Monitor.
5) On «Main Menu» display, select {Each System Check}.
6) On «System Selection Menu» display, select {Integ. unit mode}.
7) On «Integ. unit mode» display, select {Diagnostic Code(s) Display}.

NOTE:
It is possible to read the DTC at the {Check all diagnosis codes} on the «Main Menu», and then find the contents to check from the DTC table. <Ref. to LAN(diag)-33, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).>

NOTE:
• For details concerning the operation procedure, refer to "PC application help for Subaru Select Monitor".
• For details concerning DTCs, refer to the List of Diagnostic Trouble Code (DTC). <Ref. to LAN(diag)-31, List of Diagnostic Trouble Code (DTC).>

2. READ CURRENT DATA

1) Select {Each System Check} in «Main Menu» display screen.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) On the «Integ. unit mode failure diag.» display screen, select the {Current Data Display & Save}.
4) Using the scroll key, scroll the display screen up or down until the desired data is shown.
• A support list contains both of analog and digital data, and they are shown in the following table.

3. DISPLAY OF CURRENT DATA

Items to be displayed	Unit of measure	Remarks	Index
BATT voltage (control)	10 — 15 V	Body integrated unit input value	Always
BATT voltage (BACKUP)	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 Illumination volume is other than bright.
ambient temp sensor V	0 — 5 V	Body integrated unit input value	Ignition switch ON
Ambient Temperature	–40 — 87.5°C	Body integrated unit output value	Ignition switch ON
Fuel level voltage	0 — 8 V	Body integrated unit input value	Ignition switch ON
Fuel level resistance	0 — 102.3 Ω	Body integrated unit input value	Ignition switch ON
key-lock solenoid V	6 — 12 V	Body integrated unit output value	Key warning switch ON, other than parking range Ignition ON
number of regist.	0 — 4	Number of keyless key registered	
Front Wheel Speed	km/h	CAN data input value	Reception from VDC module
VDC/ABS latest f-code	DTC display (Temporarily)	CAN data input value	It is normal when DTC is not been input even if this code is displayed. Reception from VDC
Blower Fan Steps	0 — 2 levels	CAN data input value	0: OFF, 1: Low, 2: 2 levels or more Reception from air conditioner CM
Fuel level resistance 2	0 — 102.3 Ω	CAN data output value	Reception from body integrated unit
Fuel consumption	cc/s	CAN data input value	Reception from ECM
Coolant Temp.	–40 — 130°C	CAN data input value	Reception from ECM
Vehicle longitudinal G	m/s^2	CAN data input value	Reception from VDC module
SPORT Shift Stages	0 — 7 levels	CAN data input value	Manual mode operation information (0: Light OFF; 1 — 5: Gear display; 6: Fail; 7: ATF temperature High/Low) Reception from TCM
Shift Position	0 — 7 levels	CAN data input value	0: 1, 1: 2, 2: 3, 3: 4, 4: D, 5: N, 6: R, 7: P shift position (8 indicates no input) 8 is displayed in manual mode Reception from TCM
VDC/ABS condition	0 — 4	CAN data input value	Reception from VDC/ABS and transmission to combination meter
Destination	0 — 16	CAN data input value	Reception from combination meter
Touch SW	0 — 64	CAN data input value	Number is displayed when navigation monitor touch switch is operated. Reception from monitor (except MFD)
key-lock warning SW	ON/OFF	Body integrated unit input value	ON when ignition key inserted
Stop Light Switch	ON/OFF	Body integrated unit input value	ON when brake pedal is depressed

Items to be displayed	Unit of measure	Remarks	Index
Front fog lamp SW input	ON/OFF	Body integrated unit input value	When front fog light switch is ON
TPMS input	ON/OFF	Body integrated unit input value	ON when TPMS registration completed
Door unlock SW input	ON/OFF	Body integrated unit input value	ON when door key cylinder turned to 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 rear gate opened
Manual lock SW input	ON/OFF	Body integrated unit input value	Manual lock switch ON
Manual unlock SW input	ON/OFF	Body integrated unit input value	Manual unlock switch ON
Bright SW input	ON/OFF	Body integrated unit input value	ON when bright switch is ON Auto A/C excluded
Shift Button SW Input	ON/OFF	Body integrated unit input value	ON when shift lever lock button operated
Tiptronic Mode Switch	ON/OFF	Body integrated unit input value	SPORT shift mode ON
TIP UPSW input	ON/OFF	Body integrated unit input value	ON when SPORT shift ON and UP operation
TIP DOWN SW input	ON/OFF	Body integrated unit input value	ON when SPORT shift ON and DOWN operation
P SW	ON/OFF	Body integrated unit input value	ON when shift range is in parking Shift lever P switch signal
R wiper ON SW input	ON/OFF	Body integrated unit input value	Rear wiper switch ON
R wiper INT SW input	ON/OFF	Body integrated unit input value	Rear wiper switch (INT ON)
R washer SW input	ON/OFF	Body integrated unit input value	Rear washer switch ON
wiper deicer SW input	ON/OFF	Body integrated unit input value	Wiper deicer switch ON
Rear Defogger SW	ON/OFF	Body integrated unit input value	Rear defogger switch ON
Driver's Seat SW input	ON/OFF	Body integrated unit input value	Driver's seat buckle switch ON
P seatbelt SW input	ON/OFF	Body integrated unit input value	Passenger's seat occupied and buckle switch ON
Fr wiper input	ON/OFF	Body integrated unit input value	ON when front wiper is operating
Rr defogger output	ON/OFF	Body integrated unit output value	ON when rear defogger relay is operating
lock actuat. LOCK output	ON/OFF	Body integrated unit output value	ON when LOCK signal is output
All seat UNLOCK output	ON/OFF	Body integrated unit output value	ON when unlock signal is output

Items to be displayed	Unit of measure	Remarks	Index
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 unlock signal output
R wiper output	ON/OFF	Body integrated unit output value	ON when rear wiper motor is operating
Shift Lock Solenoid	ON/OFF	Body integrated unit output value	ON when shift lock solenoid is operating
Key locking output	ON/OFF	Body integrated unit output value	N/A
wiper deicer output	ON/OFF	Body integrated unit output value	ON when wiper deicer relay is operating
Starter cutting output	ON/OFF	Body integrated unit output value	ON when immobilizer is operating
Hazard Output	ON/OFF	Body integrated unit output value	ON when keyless answer-back signal is received or when hazard is operating
Keyless Buzzer Output	ON/OFF	Body integrated unit output value	ON when keyless lock/unlock signal is received
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 equipped, customize setting enable, and security warning in operation
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 (KA model only)
Illumination lamp O/P	ON/OFF	Body integrated unit output value	ON when illumination is illuminated
Room lamp output	ON/OFF	Body integrated unit output value	ON when keyless lock/unlock signal is received (when key in switch connector is removed)
key illumi. lamp o/p	ON/OFF	Body integrated unit output value	ON when key illumination light is illuminated
Immobilizer lamp output	ON/OFF	Body integrated unit output value	ON when immobilizer pilot light blinks
Keyless operation 1	Regist./Normal	Body integrated unit input value	When keyless ID registration: Registration
Keyless operation 2	Deletion/Normal	Body integrated unit input value	N/A
CC Main Lamp	ON/OFF	CAN data input value	Cruise control switch ON Reception from ECM and transmission to combination meter
CC Set Lamp	ON/OFF	CAN data input value	ON when cruise control vehicle speed is set Reception from ECM and transmission to combination meter
SPORT Lamp	ON/OFF	CAN data input value	SPORT mode switch ON Reception from TCM and transmission to combination meter
SPORT Blink	Blink/OFF	CAN data input value	TCM malfunction signal reception ON Reception from TCM and transmission to combination meter
ATF Temperature Lamp	ON/OFF	CAN data input value	N/A

Items to be displayed	Unit of measure	Remarks	Index
ATF Blink	Blink/OFF	CAN data input value	Blinks when there is an AT failure Reception from TCM and transmission to combination meter
Tire diameter abnormal 1	ON/OFF	CAN data input value	N/A
Tire diameter abnormal 2	Blink/OFF	CAN data input value	Blinks when the difference in rotation between front and rear wheels is 4% or more Reception from TCM and transmission to combination meter
Shift Up Indication	UP/OFF	Body integrated unit input value	ON when shift lever up-operation is possible
Shift Down Indication	DOWN/OFF	Body integrated unit input value	ON when shift lever down-operation is possible
SPORT Shift (buzzer 1)	ON/OFF	CAN data input value	ON while the shift change prohibited warning buzzer is operating Reception from TCM and transmission to combination meter
SPORT Shift (buzzer 2)	ON/OFF	CAN data input value	ON when the ATF high temperature warning buzzer is operating Reception from TCM and transmission to combination meter
ABS/VDC Judging	ABS/VDC	CAN data input value	Transmission from vehicle dynamics control (VDC) to high speed control module
Small Light SW	ON/OFF	Body integrated unit input value	ON when small light is illuminated
DRL	ON/OFF	Body integrated unit input value	ON when DRL illuminates
Rr Defogger SW	ON/OFF	Body integrated unit output value	Rear defogger switch ON
Australia Judging Flag	Australia/Others	Body integrated unit output value	For U.S. models, set to Others.
Large diameter tire	large Tire/Others	Body integrated unit output value	Large tire when the standard tire is 18 in Reception from combination meter
Number of cylinders	4 Cylinder/6 Cylinder	CAN data input value	6 Cylinder
Cam shaft specification	SOHC/DOHC	CAN data input value	DOHC
Turbo	Turbo/Non-turbo	CAN data input value	OFF
E/G displacement (2.5L)	2.5 L/ OFF	CAN data input value	OFF
E/G displacement (3.0L)	3.0 L/ OFF	CAN data input value	OFF
AT Vehicle ID Signal	ON/OFF	CAN data input value	AT
Blower fan information	ON/OFF	CAN data input value	ON when blower fan is operating Reception from ECM
Keyless buzzer	ON/OFF	Body integrated unit output value	ON when keyless answer-back buzzer is operating (when key in switch connector is removed)
Bright Request	ON/OFF	CAN data input value	ON when small light is ON and illumination switch or BRIGHT switch is operating
Center display failure	OK/NG	CAN data input value	NG when there is a center display failure Reception from center display (NAVI monitor and MFD)
NAVI Failure	OK/NG	CAN data input value	NG when there is a navigation system failure Reception from center display
IE Bus failure	Can not use	CAN data input value	Reception from center display
Auto A/C failure	OK/NG	CAN data input value	NG when there is a failure in auto air conditioning system Reception from auto A/C module

Items to be displayed	Unit of measure	Remarks	Index
EBD Warning Light	ON/OFF	CAN data input value	ON when EBD warning light is illuminated Reception from VDC/ABS and transmission to combination meter
ABS Warning Light	ON/OFF	CAN data input value	ON when ABS warning light is illuminated Reception from VDC/ABS and transmission to combination meter
VDC OFF flag	ON/OFF	CAN data input value	Vehicle dynamics control OFF SW is ON Reception from VDC/ABS and transmission to combination meter
VDC/ABS OK B	OK/NG	CAN data input value	NG when there is an error in VDC/ABS system Reception from VDC/ABS
Off delay time	OFF, Short, Normal, Long	Body integrated unit setting items	Customize setting
Auto lock time	OFF, 20, 30, 40, 50, 60 seconds	Body integrated unit setting items	Customize setting
Outside Temp. Offset	0 — 8	Body integrated unit setting items	Customize setting
Rr defogger op. mode	Continuous/Normal	Body integrated unit setting items	Customize setting
Wiper deicer op. mode	Continuous/Normal	Body integrated unit setting items	Customize setting
Security Alarm Setup	ON/OFF	Body integrated unit setting items	Customize setting
Impact Sensor Setup	ON/OFF	Body integrated unit setting items	Customize setting
Alarm delay setup	ON/OFF	Body integrated unit setting items	Customize setting
Lockout prevention	ON/OFF	Body integrated unit setting items	Customize setting
Impact sensor	ON/OFF	Body integrated unit setting items	Customize setting
Answer-back buzzer setup	ON/OFF	Body integrated unit setting items	Customize setting
Hazard answer-back setup	ON/OFF	Body integrated unit setting items	Customize setting
Automatic locking setup	ON/OFF	Body integrated unit setting items	Customize setting
Ans.-back Buzzer	ON/OFF	Body integrated unit setting items	Customize setting
Auto locking	ON/OFF	Body integrated unit setting items	Customize setting
Select unlock switch	Selection/ALL	Body integrated unit setting items	Customize setting
Door open warning	ON/OFF	Body integrated unit setting items	Customize setting
Map Light Setting	ON/OFF	Body integrated unit setting items	Customize setting
Belt Warning Switch	ON/OFF	Body integrated unit setting items	Customize setting
Monitoring History Clear	ON/OFF	Body integrated unit setting items	Customize setting
A/C ECM setting	ON/OFF	Body integrated unit setting items	Customize setting

Items to be displayed	Unit of measure	Remarks	Index
wiperdeicer	ON/OFF	Body integrated unit setting items	Customize setting
Rear fog light setting	ON/OFF	Body integrated unit setting items	Customize setting
Factory or Market setting	Market/Factory	Body integrated unit setting items	Customize setting

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

4. CONFIRMATION OF CURRENT SETTING

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Integ. unit mode}.
3) On «Integ. unit mode failure diag» display, select {Current Data Display & Save}.
4) On the «Current Data Display & Save» display screen, select the {Data Display}.
5) Using the scroll key, scroll the display screen up or down until the desired data is shown.
6) Display the following item and record the settings.

Required items for new registration (Except for system not equipped)

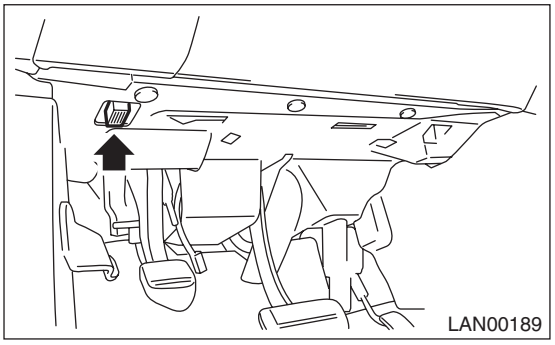
Item	Item to confirm				Remarks
# of reg key	1	2	3	4	Registered ID type
Off delay time	OFF	Long	Normal	Short	Setting for lighting off time
Auto lock time	60, 50, 40, 30, 20		OFF		Not applicable for U.S. models (Unit: second)
Rr defogger op. mode	Normal		Continuous		Normal: OFF after 15-minute operation Continuous: From switch ON to OFF
Wiper deicer op. mode	Normal		Continuous		Normal: OFF after 15-minute operation Continuous: Repeat ON (for 15 minutes) and OFF (for 2 minutes) from switch ON to OFF.
Security Alarm Setup	ON		OFF		ON: Security alarm operable OFF: Security alarm not in operation
Impact Sensor Setup	ON		OFF		ON: Impact sensor operable OFF: Impact sensor not in operation For vehicles without impact sensor, set to OFF.
Alarm delay setup	ON		OFF		ON: Observation mode starts after a certain period of time from keyless lock signal reception. OFF: Observation mode starts right after keyless lock signal reception.
Lockout prevention	ON		OFF		Not applicable for U.S. models
Impact sensor	support		no support		Support: Impact sensor equipped No support: Impact sensor not equipped For vehicles without sensor, set to No support.
Siren setting	support		no support		Not applicable for U.S. models
Answer-back buzzer setup	ON		OFF		ON: Answer-back buzzer operable OFF: Answer-back buzzer not in operation
Hazard answer-back setup	ON		OFF		ON: Hazard answer-back buzzer operable OFF: Hazard answer-back buzzer not in operation
Automatic locking setup	ON		OFF		Not applicable for U.S. models
Ans.-back Buzzer	support		no support		Support: Vehicles with answer-back buzzer No support: Vehicles without answer-back buzzer
Auto locking	support		no support		Not applicable for U.S. models (set to No support)
Passive Alarm	ON		OFF		
Door open warning (battery run-out prevention)	support		no support		Support: If detecting door open for 10 minutes, door interlocked room light is turned to off. No support: Room light continues to illuminate until the door is shut properly.

Item	Item to confirm		Remarks
Dome Light Alarm Setting	support	no support	Support: Room light continues to illuminate according to alarm operation. No support: Room light illuminates then goes off regardless of alarm operation.
Map Light Setting	support	no support	Support: Map light illuminates in accordance with the door interlocked room light. No support: Not illuminate in accordance with the door interlocked room light.
Belt Warning Switch	ON	OFF	ON: Normal use status OFF: Stops the belt warning buzzer beep and warning light illumination.
A/C ECM setting	support	no support	Models with auto A/C (set to Support.)
wiperdeicer	support	no support	Support: Vehicles with wiper deicer No support: Vehicles without wiper deicer
Rear fog light setting	support	no support	Not applicable for U.S. models (set to No support)
Factory or Market setting	Factory	Market	Do not change to factory mode. For normal use, set to Market.

5. 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 or Market setting" of body integrated unit registrations is "Market". If "Factory initial setting" is set to "Factory," key illumination blinks when ignition key is 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 "PC application help for Subaru Select Monitor".
• Do not install or register an immobilizer related module of other registered vehicles in order to diagnose failures or inspect functions.

1) Turn the ignition switch to OFF.
2) Connect the Subaru Select Monitor to data link connector.



3) Turn the ignition switch to ON and run the Subaru Select Monitor.
4) On «Main Menu» display, select {Each System Check}.
5) On «Each System Check» display, select {Integ. unit mode} and then select the «ECM customizing».

6) Change the setting with UP/DOWN key and select the [OK].
Also, it is possible to set by changing to factory mode and pressing the wiper deicer switch, rear defogger switch, rear fog light switch and door lock switch.
- List of body integrated unit registration item

NOTE:
Setting is different depending on the grade and equipment of the 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.
wiperdeicer	OFF	ON	ON signal does not output with operation of wiper deicer switch if wiper deicer is set to “OFF” in models with a wiper deicer.
		OFF	
Rear fog light setting	OFF	ON	Set to “OFF”.
		OFF	
Factory or Market setting (Reset of body integrated unit)	Factory	Factory (Reset)	If Factory or Market setting is set to “Factory”, registrations of items above is changed to “OFF”. After changing settings, be sure to set to “Market”.
		Market (Confirmed)	

CAUTION:
- **To perform normal operation of vehicle and diagnosis, above settings must match the actual vehicle equipment.**
- **When body integrated unit is a new part or “Factory” mode, key illumination blinks to show equipment settings have not been completed.**
- **Be sure not to change Factory or Market setting except when installing a new body integrated unit.**

NOTE:
“Factory” mode:
- Body integrated unit has not been set yet. It can be recognized by key illumination blinking with ignition switch turned to ON.
- All replacement body integrated units are set to “Factory” mode. When replacing a body integrated unit, be sure to perform the registration operation.

“Market” mode:
Each settings have been set. It can be recognized by key illumination coming on in concocting with room light and going off with ignition switch turned to ON.
7) Perform the Factory or Market setting. On the «ECM customizing» display screen of Subaru Select Monitor, select the {Factory or Market setting}.
8) Change the mode from Factory to Market.
9) Register the immobilizer key.
10) Perform procedures according to the “PC application help for Subaru Select Monitor”.
11) After registering the key, perform feature settings (unit customization). <Ref. to LAN(diag)-21, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>

6. CLEAR MEMORY MODE

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Integ. unit mode}.
3) Select the [OK] after the information of body integrated unit type is displayed.
4) On «Integ. unit mode failure diag» display, select {Clearing Memory}.

Display	Contents to be displayed
Clear Memory ?	Clear function of DTC and freeze frame data

5) When “Done” is shown on the display screen, turn the ignition switch to OFF.

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

7. FUNCTION SETTING (ECM CUSTOMIZING)

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Integ. unit mode}.
3) On «Integ. unit mode failure diag» display, select {Unit Customizing}.
4) Change the setting.

- List of function setting item (ECM customizing)

NOTE:
Even if items that are not equipped are changed, contents of the change will not be confirmed, and will not operate.

Data	Initial setting value	Customize setting	Remarks		Destination Specifications
Off delay time	Normal		Delay time below can be selected by setting.		
			After door closed	After keyless unlock	
		OFF	0 seconds	0 seconds	
		Short	12 seconds	35 seconds	
		Normal	22 seconds		
		Long	32 seconds		
Auto lock time	30 seconds	0 — 60 sec.	Workable when Auto locking is set to “ON” and Automatic locking setup is “ON”. Time can be changed by 10 seconds: 0 (OFF) — 60 (maximum).		Not applicable for U.S. models
Rr defogger op. mode	15 min	15 min	Automatically stops in 15 minutes after switch is turned to ON.		
		Continuous	Repeats active condition for 15 minutes and inactive condition for 2 minutes until switch is turned to OFF.		
Wiper deicer op. mode	15 min	15 min	Automatically stops in 15 minutes after switch is turned to ON.		
		Continuous	Repeats active condition for 15 minutes and inactive condition for 2 minutes until switch is turned to OFF.		
Security Alarm Setup	ON	ON	Security alarm (hazard, horn or siren) in active condition		
		OFF	Security alarm in inactive condition		
Impact Sensor Setup	OFF	ON	Workable when impact sensor setup is set to “ON”Impact sensor function becomes activated.		
		OFF	Impact sensor in inactive condition (Set to “OFF” in models without sensors.)		
Alarm delay setup	ON		After the keyless lock operation, the alarm monitor starts after the following delay time has passed.		
		ON	Delay time is 30 seconds.		
		OFF	Delay time is 0 seconds.		
Lockout prevention	ON	ON	Lockout prevention in active 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 “ON”, hazard, horn or siren become activated by keyless lock (alarm monitor start).		When optional impact sensor is installed, set to “ON”.
		OFF	Vehicle is controlled in no impact sensor mode.		
Siren setting	OFF	ON	When security alarm is in operation, siren is operating. (Make sure to set to “OFF” for models without siren. If set to “ON”, horn does not operate when security alarm in operation.)		Not applicable for U.S. models
		OFF	When security alarm is in operation, horn is operating.		

Data	Initial setting value	Customize setting	Remarks	Destination Specifications
Answer-back buzzer setup	ON	ON	Workable when answer-back buzzer setup is set to “ON”. When lock/unlock is selected by keyless entry system operation, buzzer operates.	
		OFF	When lock/unlock is selected by keyless entry system operation, buzzer does not operate.	
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 operation, buzzer operates.	
		OFF	When lock/unlock is selected by keyless entry system operation, buzzer does not operate.	
Automatic locking setup	ON	ON	Workable when automatic locking is set to “ON”. Automatic locking operates.	Not applicable for U.S. models
		OFF	Automatic locking does not operate.	
Ans.-back Buzzer	ON	ON	Vehicle is controlled in answer-back buzzer equipped mode.	Not applicable for U.S. models
		OFF	Vehicle is controlled in answer-back buzzer non-equipped mode. (Make sure to set to “OFF” for models without answer-back buzzer.)	
Auto locking	ON	ON	Vehicle is controlled in auto locking equipped mode.	Not applicable for U.S. models
		OFF	Vehicle is controlled in auto locking non-equipped mode. (Make sure to set to “OFF” for models without auto locking.)	
Initial keyless setting	—	—	—	
		Execution	Settings of keyless entry system are initialized. (Time of auto locking: 30 sec, answer-back buzzer setting: ON, hazard answer-back setting: ON, auto locking setting: ON, answer-back buzzer setting: ON)	
Initial button setting	—	—	—	(Off delay time: Normal, rear defogger operation mode: 15 min, wiper deicer operation mode: 15 min, lockout prevention: ON)
		Execution	Settings of each function are initialized.	
Passive Alarm	OFF	ON	Enable when passive alarm is set to “ON”.	
		OFF		
Door open warning (battery run-out prevention)	OFF	ON	If detecting door open for 10 minutes, room light, key ring illumination and door warning light that are related to doors are turned off to prevent battery run-out.	
		OFF	Room light, key illumination and door warning light are not turned off.	
Dome Light Alarm Setting	OFF	ON	The room light lights by being interlocked with the activation of the alarm.	
		OFF	Room light does not illuminate regardless of alarm operation.	

5) After setting, make sure that vehicle equipment is same as the setting changed in the {Current Data Display & Save}.

CAUTION:
- **The above settings must match the actual vehicle equipment for proper operation.**
- **Do not change settings except for setting above while setting the functions.**
- **Be sure not to change Factory or Market setting except when installing a new body integrated unit.**

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

8. FUNCTION CHECK

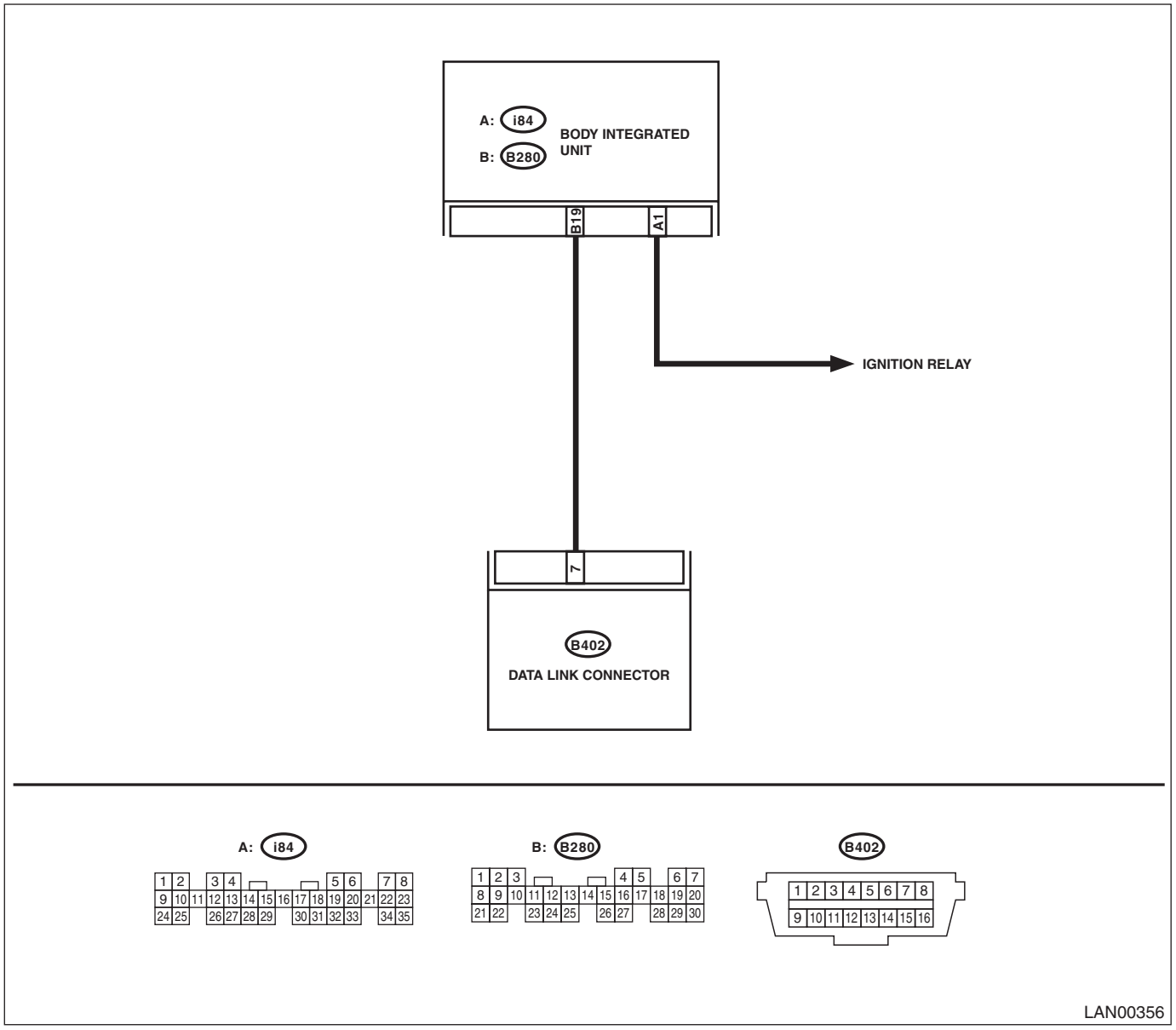
In order to check the body integrated unit function, inspect the body integrated unit and actuator using Subaru Select Monitor without operating switches.
1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Integ. unit mode}.
3) On «Integ. unit mode failure diag» display, select {Function check}.
4) Select the item to be operated on the «Function check» display screen and select the [OK].
5) Pressing [OK] starts, [NO] cancels the operation and [OK] returns to the System Operation Check Mode display screen.

NOTE:
If not equipped (based on area or condition), process will not go on.

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

DETECTING CONDITION:
Defective harness connector
TROUBLE SYMPTOM:
Not communicable with Subaru Select Monitor.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK IGNITION SWITCH.**	Is the ignition switch ON?	Go to step **2**.	Turn the ignition switch to ON, and select Integ. unit mode using Subaru Select Monitor.
2	**CHECK BATTERY.** 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage 11 V or more?	Go to step **3**.	Charge or replace the battery.

	Step	Check	Yes	No
3	**CHECK BATTERY TERMINAL.**	Is there poor contact at battery terminal?	Repair or tighten the battery terminal.	Go to step **4**.
4	**CHECK COMMUNICATION OF SUBARU SELECT MONITOR.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other systems can be executed normally.	Is the system name displayed?	Go to step **7**.	Go to step **5**.
5	**CHECK COMMUNICATION OF SUBARU SELECT MONITOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems can be executed normally.	Is the system name displayed?	Go to step **7**.	Go to step **6**.
6	**CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND SUBARU SELECT MONITOR.** 1) Turn the ignition switch to ON. 2) Disconnect the body integrated unit connector. 3) Measure the resistance between data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 7 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **7**.	Repair the harness and connector between each control unit and Subaru Select Monitor.
7	**CHECK OUTPUT SIGNAL TO BODY INTEGRATED UNIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between body integrated unit and chassis ground. ***Connector & terminal*** ***(B402) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **8**.	Repair the harness and connector between each control unit and Subaru Select Monitor.
8	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND DATA LINK CONNECTOR.** Measure the resistance between body integrated unit and data link connector. ***Connector & terminal*** ***(B402) No. 7 — (B280) No. 19:***	Is the resistance less than 1 Ω?	Go to step **9**.	Repair the harness and connector between body integrated unit and Subaru Select Monitor.
9	**CHECK INSTALLATION OF BODY INTEGRATED UNIT CONNECTOR.** Turn the ignition switch to OFF.	Is the body integrated unit connector inserted into body integrated unit until the clamp locks onto it?	Go to step **10**.	Insert the body integrated unit connector into body integrated unit.
10	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Measure the ignition voltage between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **11**.	Repair the open circuit of harness between body integrated unit and battery.

	Step	Check	Yes	No
11	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit. 3) Measure the resistance of harness between the body integrated unit and chassis ground. ***Connector & terminal*** ***(B280) No. 19 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **12**.	Repair the poor contact of harness between body integrated unit and ground.
12	**CHECK POOR CONTACT OF CONNECTORS.**	Is there poor contact at control unit ground and Subaru Select Monitor?	Repair the poor contact of connector.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>

CAUTION:
When replacing body integrated unit on the model with immobilizer system, refer to the "PC application help for Subaru Select Monitor"

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For details concerning DTC reading procedure, refer to “Subaru Select Monitor”. <Ref. to LAN(diag)-12, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>

8. Clear Memory Mode

A: OPERATION

For details concerning DTC clear operation, refer to “Subaru Select Monitor”. <Ref. to LAN(diag)-20, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.>

9. Read Current Data

A: OPERATION

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Integ. unit mode}.
3) On «Integ. unit mode failure diag» display, select {Current Data Display & Save}.
4) On «Data Display Menu» display, select {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 CURRENT DATA, OPERATION, Subaru Select Monitor.>
<Ref. to LAN(diag)-18, CONFIRMATION OF CURRENT SETTING, OPERATION, Subaru Select Monitor.>

10.Function Setting (Customize)

A: OPERATION

For detailed procedures of function setting (ECM customizing), refer to “Subaru Select Monitor”. <Ref. to LAN(diag)-21, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>

11.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content of diagnosis	Index
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 • Voltage malfunction caused by poor contact	<Ref. to LAN(diag)-36, DTC B1101 BATT P/SUPPLY MALFUNCTION CONT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1102	BATT p/supply malfunction backup	Voltage malfunction caused by poor contact of battery power supply backup circuits	<Ref. to LAN(diag)-37, DTC B1102 BATT P/SUPPLY MALFUNCTION BACKUP, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1103	Ignition power failure	Voltage malfunction caused by poor contact of IGN power supply circuits	<Ref. to LAN(diag)-38, DTC B1103 IGNITION POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1104	ACC power failure	Voltage malfunction caused by poor contact of ACC power supply circuits	<Ref. to LAN(diag)-39, DTC B1104 ACC POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1105	Key interlock circuit abnormal	Ground short of key interlock circuit	<Ref. to LAN(diag)-40, DTC B1105 KEY INTERLOCK CIRCUIT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1106	shift lock circuit Failure	Open or short in shift lock circuit	<Ref. to LAN(diag)-42, DTC B1106 SHIFT LOCK CIRCUIT FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1201	CAN-HS counter abnormal	Communication is unstable because of high speed CAN communication error.	<Ref. to LAN(diag)-44, DTC U1201 CAN-HS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1202	CAN-HS bus off	Integrated unit communication is shut down because of high speed CAN communication error.	<Ref. to LAN(diag)-48, 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)-51, 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)-53, DTC U1212 CAN-HS TCM DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1213	CAN-HS VDC/ABS data abnormal	Received error data from VDC/ABS module.	<Ref. to LAN(diag)-55, DTC U1213 CAN-HS VDC/ABS DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1221	CAN-HS ECM no-receive data	Not received data from ECM.	<Ref. to LAN(diag)-57, DTC U1221 CAN-HS ECM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1222	CAN-HS TCM No-Receive Data	Not received data from TCM.	<Ref. to LAN(diag)-60, 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 data from VDC/ABS CM.	<Ref. to LAN(diag)-62, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1300	CAN-LS malfunction	Open or short in low speed CAN circuit	<Ref. to LAN(diag)-64, DTC U1300 CAN-LS MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Content of diagnosis	Index
U1301	CAN-LS counter abnormal	Communication is unstable because of low speed CAN communication error.	<Ref. to LAN(diag)-67, DTC U1301 CAN-LS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1302	CAN-LS bus off	Integrated unit communication is shut down because of low speed CAN communication error.	<Ref. to LAN(diag)-70, 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)-73, DTC U1311 CAN-LS METER UNIT DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1321	CAN-LS meter no-receive data	Not received data from meter.	<Ref. to LAN(diag)-75, 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)-77, DTC B1500 KEYLESS UART COM. MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

1. DTC TABLE

NOTE:
When more than two DTC codes are recorded, referring to their combination will make it easy to identify the possible cause. Refer to the list for typical examples.

DTC to Check	Diagnostic Code that was displayed.					Probable cause
	Body integrated unit	ECM	TCM	VDC/ABS CM	Combination meter display	
B1100 <Ref. to LAN(diag)-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.
B1101 <Ref. to LAN(diag)-36, DTC B1101 BATT P/SUPPLY MALFUNCTION CONT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1101	—	—	—	Er IU	There is a possible drop in power supply voltage (battery or generator failure).
B1102 <Ref. to LAN(diag)-37, DTC B1102 BATT P/SUPPLY MALFUNCTION BACKUP, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1102	—	—	—	Er IU	
B1103 <Ref. to LAN(diag)-38, DTC B1103 IGNITION POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1103	—	—	—	Er IU	
B1104 <Ref. to LAN(diag)-39, DTC B1104 ACC POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1104	—	—	—	Er IU	
U1221 <Ref. to LAN(diag)-57, DTC U1221 CAN-HS ECM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1221	—	P1718	C0047	Er HC	It is possible that the ECM is faulty.

DTC to Check	Diagnostic Code that was displayed.					Probable cause
	Body integrated unit	ECM	TCM	VDC/ABS CM	Combination meter display	
U1222 <Ref. to LAN(diag)-60, DTC U1222 CAN-HS TCM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1222	U0101	—	C0047	Er HC	It's possible that there is an internal problem in the TCM, and a open circuit in the harness.
U1223 <Ref. to LAN(diag)-62, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1223	U0122	P1718	—	Er HC	It is possible that the VDC/ABS CM is faulty.
U1321 <Ref. to LAN(diag)-75, 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.
B1500 <Ref. to LAN(diag)-77, 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: DTC B1100 INTEG. UNIT SYSTEM ERROR

DTC DETECTING CONDITION:
System error in body integrated unit
TROUBLE SYMPTOM:
LAN communication or immobilizer function may not be executed normally.

Step		Check	Yes	No
1	**CHECK DTC.** Check DTC indicated by body integrated unit. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is the DTC B1100 displayed current malfunction?	Go to step **2**.	Temporary EEPROM access error occurred.
2	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is the DTC B1100 displayed current malfunction?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Temporary EEPROM access error occurred.

B: DTC B1101 BATT P/SUPPLY MALFUNCTION CONT

DTC DETECTING CONDITION:

- Battery power supply circuit is open or shorted.
- Battery voltage is too high or too low.

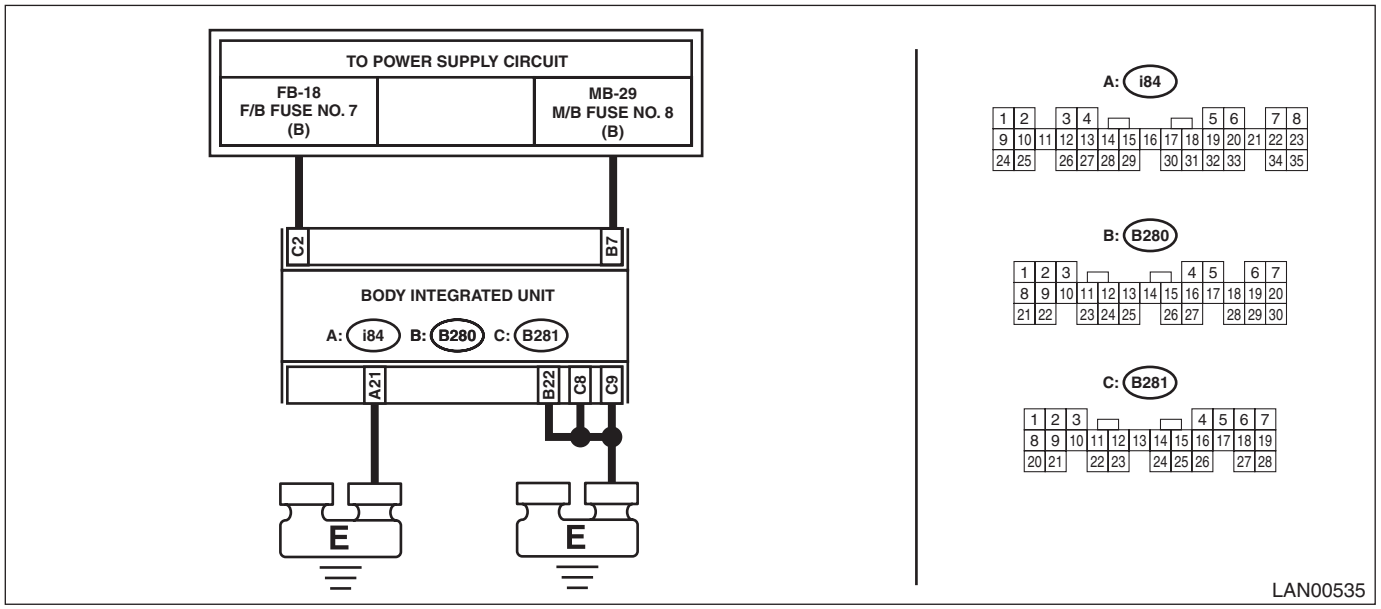
TROUBLE SYMPTOM:

Each function stops operation.

NOTE:

When B1102 BATT p/supply (backup) malfunction is output at the same time, all the function of body integrated unit may not operate.

WIRING DIAGRAM:

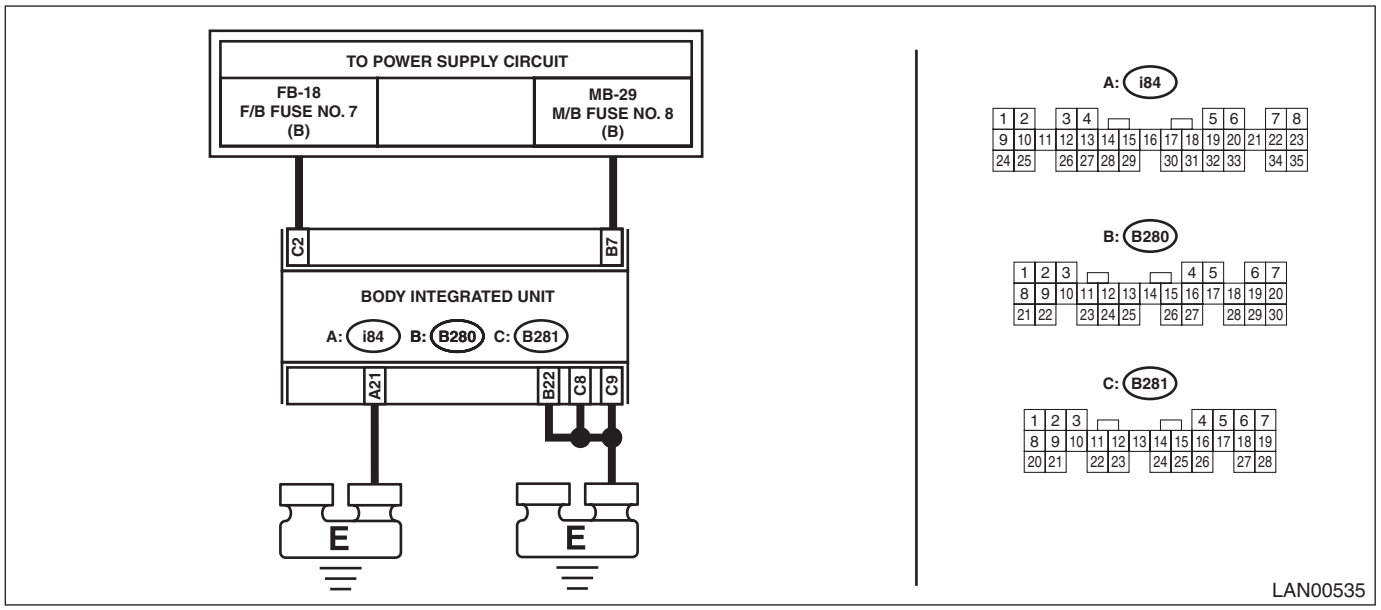


Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is B1101 a current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Wait approx. 2 minutes. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1101 a current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B281). 2) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(B281) No. 2 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B281).	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

C: DTC B1102 BATT P/SUPPLY MALFUNCTION BACKUP

DTC DETECTING CONDITION:
Back-up power supply circuit input voltage is too high or too low.
TROUBLE SYMPTOM:
No influence.

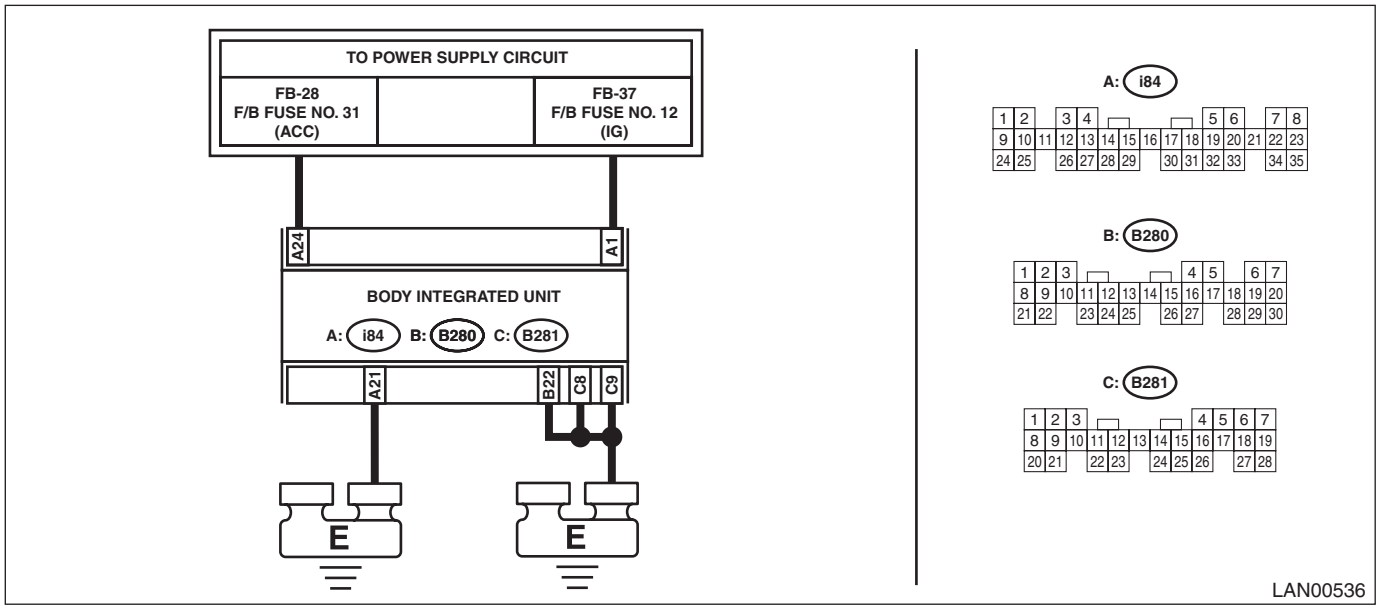
NOTE:
When B1101 BATT p/supply (cont.) malfunction are output at the same time, all function of body integrated unit may not operate.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is B1102 a current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Wait approx. 2 minutes. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1102 a current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280). 2) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal (B280) No. 7 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280).	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

D: DTC B1103 IGNITION POWER FAILURE

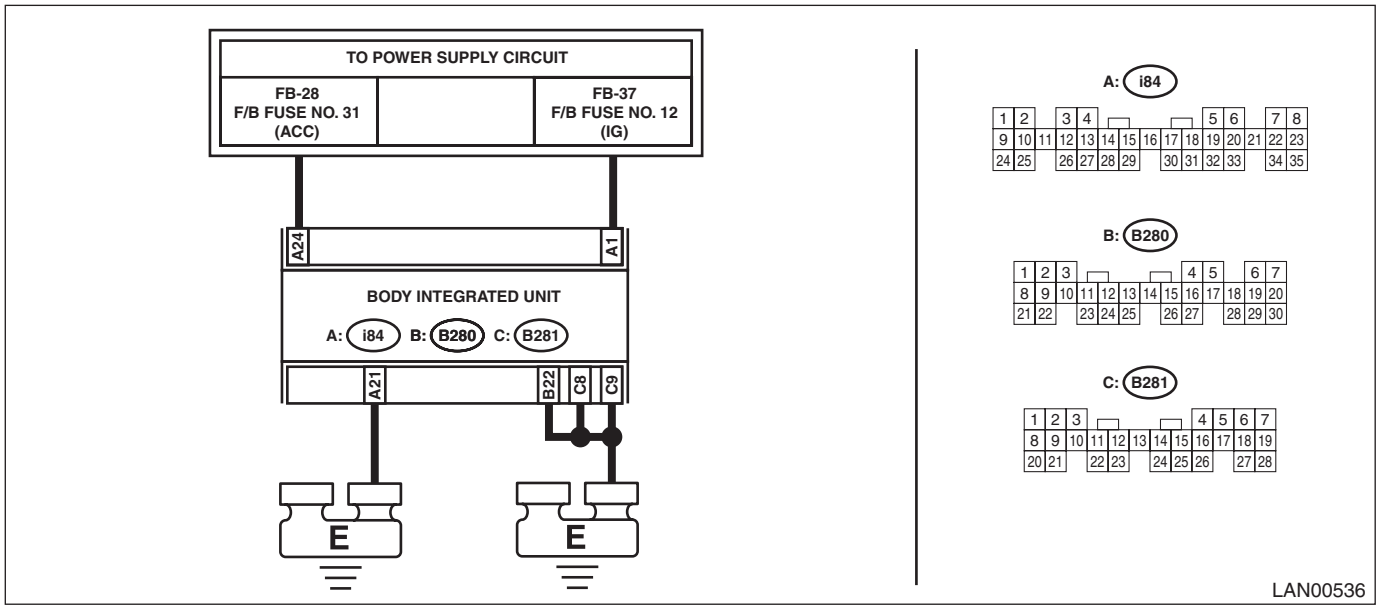
DTC DETECTING CONDITION:
IGN power supply circuit input voltage is too high or too low.
TROUBLE SYMPTOM:
Error related to LAN system will not be detected.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is B1103 a current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Turn the ignition switch to ON. 4) Wait approx. 2 minutes. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1103 a current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (i84). 2) Turn the ignition switch to ON. 3) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (i84).	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

E: DTC B1104 ACC POWER FAILURE

DTC DETECTING CONDITION:
ACC power supply circuit input voltage is too high or too low.
TROUBLE SYMPTOM:
Rear wiper may not operate at ACC position.
WIRING DIAGRAM:

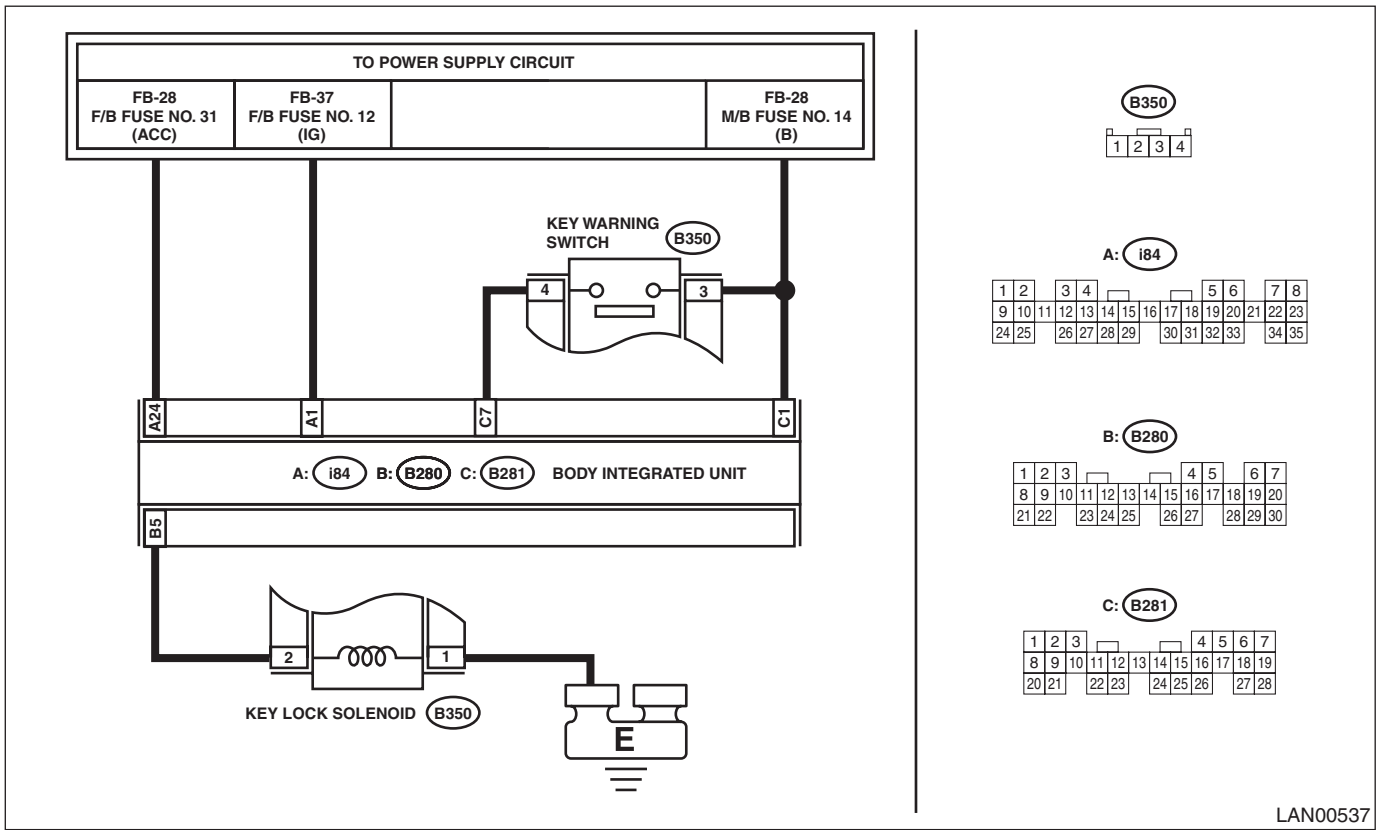


Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is B1104 a current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Turn the ignition switch to ACC. 4) Wait approx. 2 minutes. 5) Turn the ignition switch to ON. 6) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1104 a current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (i84). 2) Turn the ignition switch to ACC. 3) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(i84) No. 24 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (i84).	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

F: DTC B1105 KEY INTERLOCK CIRCUIT ABNORMAL

DTC DETECTING CONDITION:
Key interlock circuit is shorted to ground.
TROUBLE SYMPTOM:
- There is no key interlock power supply.
- Key interlock does not release or does not keep lock condition.

WIRING DIAGRAM:

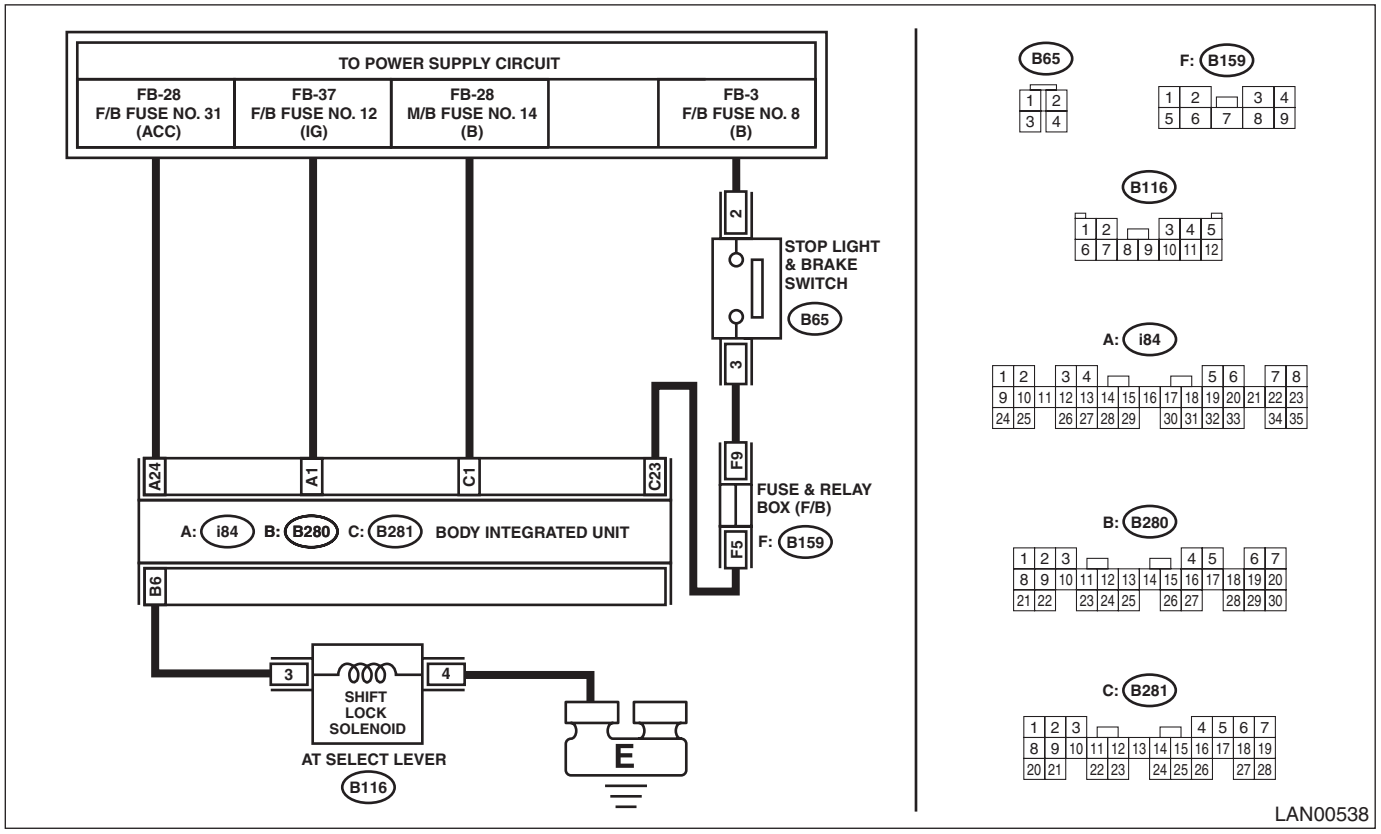


Step		Check	Yes	No
1	**CHECK DTC.** 1) Insert the ignition key. 2) Shift to the Neutral range. 3) Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is B1105 a current malfunction?	Go to step **2**.	Go to step **8**.
2	**CHECK DTC.** 1) Remove the ignition key. 2) Disconnect the key lock solenoid connector (B350) and body integrated unit connector (B280). 3) Connect the disconnected connectors. 4) Insert the key and shift into Neutral. 5) Turn the ignition switch to ON. 6) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1105 a current malfunction?	Go to step **3**.	Go to step **8**.
3	**CHECK KEY LOCK SOLENOID.** 1) Disconnect the key lock solenoid connector (B350). 2) Measure the resistance between the key lock solenoid connector. ***Connector & terminal (B350) No. 1 — No. 2:***	Is the resistance 12 — 14.5 Ω?	Go to step **4**.	Replace the key lock solenoid.

	Step	Check	Yes	No
4	**CHECK KEY LOCK SOLENOID.** 1) Turn the ignition switch to OFF. 2) Disconnect the key lock solenoid connector. 3) Connect the battery terminal to key lock solenoid. ***Terminals*** ***(B350) No. 2 — positive terminal:*** ***(B350) No. 1 — ground terminal:***	Is the solenoid activated and then key locked?	Go to step **5**.	Replace the key lock solenoid.
5	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280). 2) Measure the resistance between body integrated unit and key lock solenoid using tester. ***Connector & terminal*** ***(B350) No. 2 — (B280) No. 5:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK HARNESS.** Measure the resistance between body integrated unit and chassis ground using tester. ***Connector & terminal*** ***(B280) No. 5 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **7**.	Repair or replace the short circuit of the harness.
7	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between body integrated unit and chassis ground using tester. ***Connector & terminal*** ***(B280) No. 5 (+) — Chassis ground (−):***	Is the voltage 1.5 V or more?	Repair or replace the short circuit of the harness.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280) and key lock solenoid connector (B350).	Is there poor contact at disconnected connector terminal?	Repair the terminal where poor contact exists, or replace harness.	It is possible that temporary poor contact occurs.

G: DTC B1106 SHIFT LOCK CIRCUIT FAILURE

DTC DETECTING CONDITION:
Shift lock circuit is shorted to ground.
TROUBLE SYMPTOM:
Shift lock does not be released or remain locked.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Keep the Parking range for approx. 5 seconds. 3) Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is B1106 a current malfunction?	Go to step **2**.	Go to step **7**.
2	**CHECK DTC.** 1) Disconnect the body integrated unit connector (B280) and shift lock solenoid connector (B116). 2) Connect the disconnected connectors. 3) Turn the ignition switch to ON, then keep the Parking range for approx. 5 seconds. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 a current malfunction?	Go to step **3**.	Repair or replace the open or short circuit of harness.
3	**CHECK HARNESS.** 1) Disconnect the shift lock solenoid connector (B116). 2) Measure the resistance between shift lock solenoid and chassis ground using tester. ***Connector & terminal*** ***(B116) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the open circuit of harness or replace harness.

	Step	Check	Yes	No
4	**CHECK SHIFT LOCK SOLENOID.** 1) Disconnect the shift lock solenoid connector. 2) Measure the resistance between the shift lock solenoid connector. ***Connector & terminal*** ***(B116) No. 4 — No. 3:***	Is the resistance 19 — 25 Ω?	Go to step **5**.	Replace the shift lock solenoid.
5	**CHECK SHIFT LOCK SOLENOID.** 1) Turn the ignition switch to OFF. 2) Disconnect the shift lock solenoid connector. 3) Connect the battery terminal to shift lock solenoid. ***Terminals*** ***(B116) No. 3 — positive terminal:*** ***(B116) No. 4 — ground terminal:***	Is the solenoid activated, and then the shift lock released?	Go to step **6**.	Replace the shift lock solenoid.
6	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280). 2) Measure the resistance between body integrated unit connector (B280) and chassis ground. ***Connector & terminal*** ***(B280) No. 6 — Chassis ground:***	Is the resistance 1 MΩ or more?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair the short circuit of harness or replace harness.
7	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) With Parking range, depress the brake pedal and keep it at depressed condition. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 a current malfunction?	Go to step **8**.	Go to step **9**.
8	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280) and shift lock solenoid connector (B116). 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Shift into Parking range, then depress the brake pedal. 6) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 a current malfunction?	Go to step **4**.	Go to step **9**.
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280) and shift lock solenoid connector (B116).	Is there poor contact of connector terminal?	Repair the poor contact of the terminal or replace the harness.	It is possible that temporary poor contact occurs.

H: DTC U1201 CAN-HS COUNTER ABNORMAL

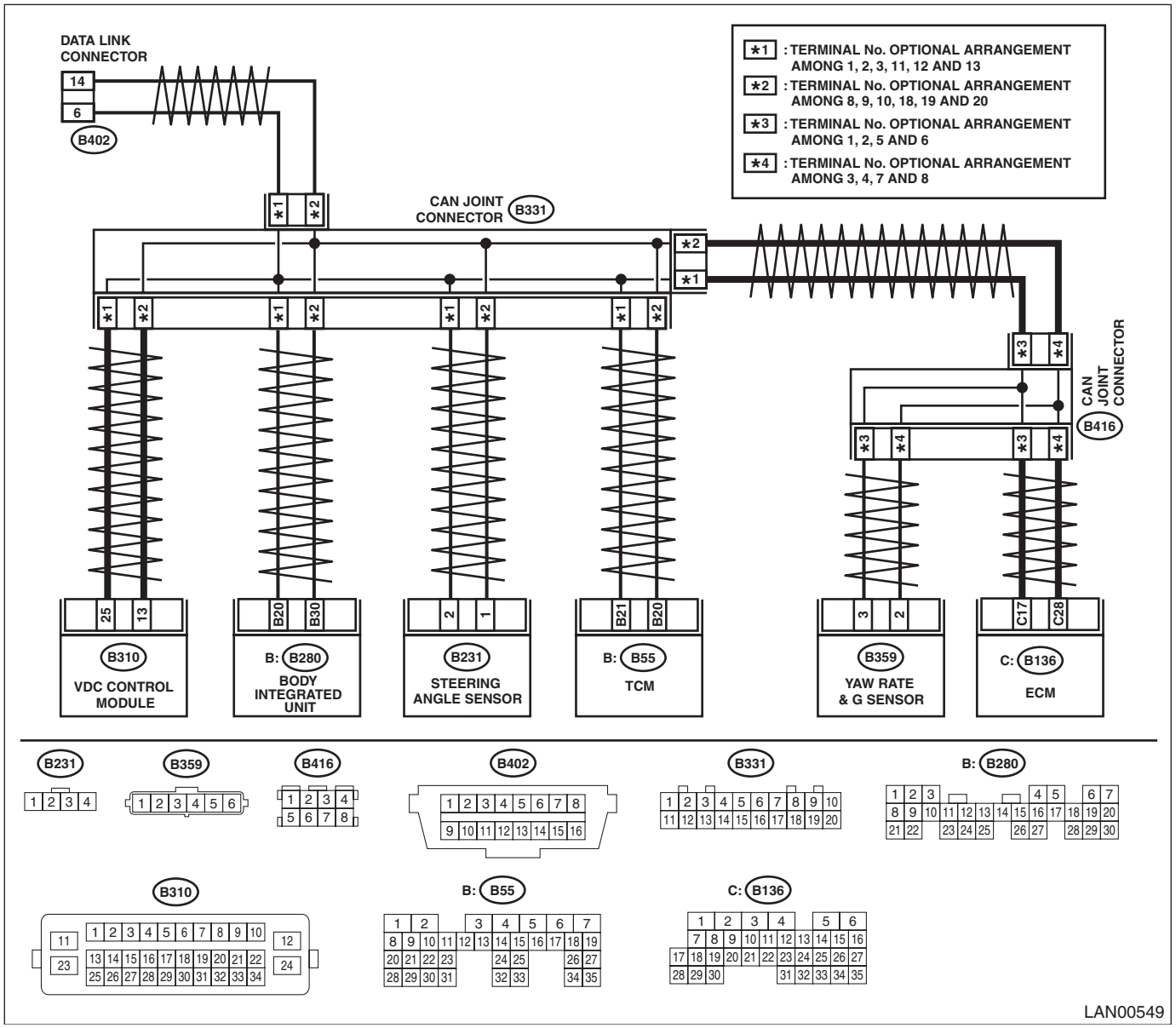
DTC DETECTING CONDITION:

High speed CAN communication becomes unstable.

TROUBLE SYMPTOM:

- CAN communication can not be executed normally.
- Malfunction indicator light illuminates.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is there DTC U1202?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1201 a current malfunction?	Go to step **3**.	Go to step **14**.

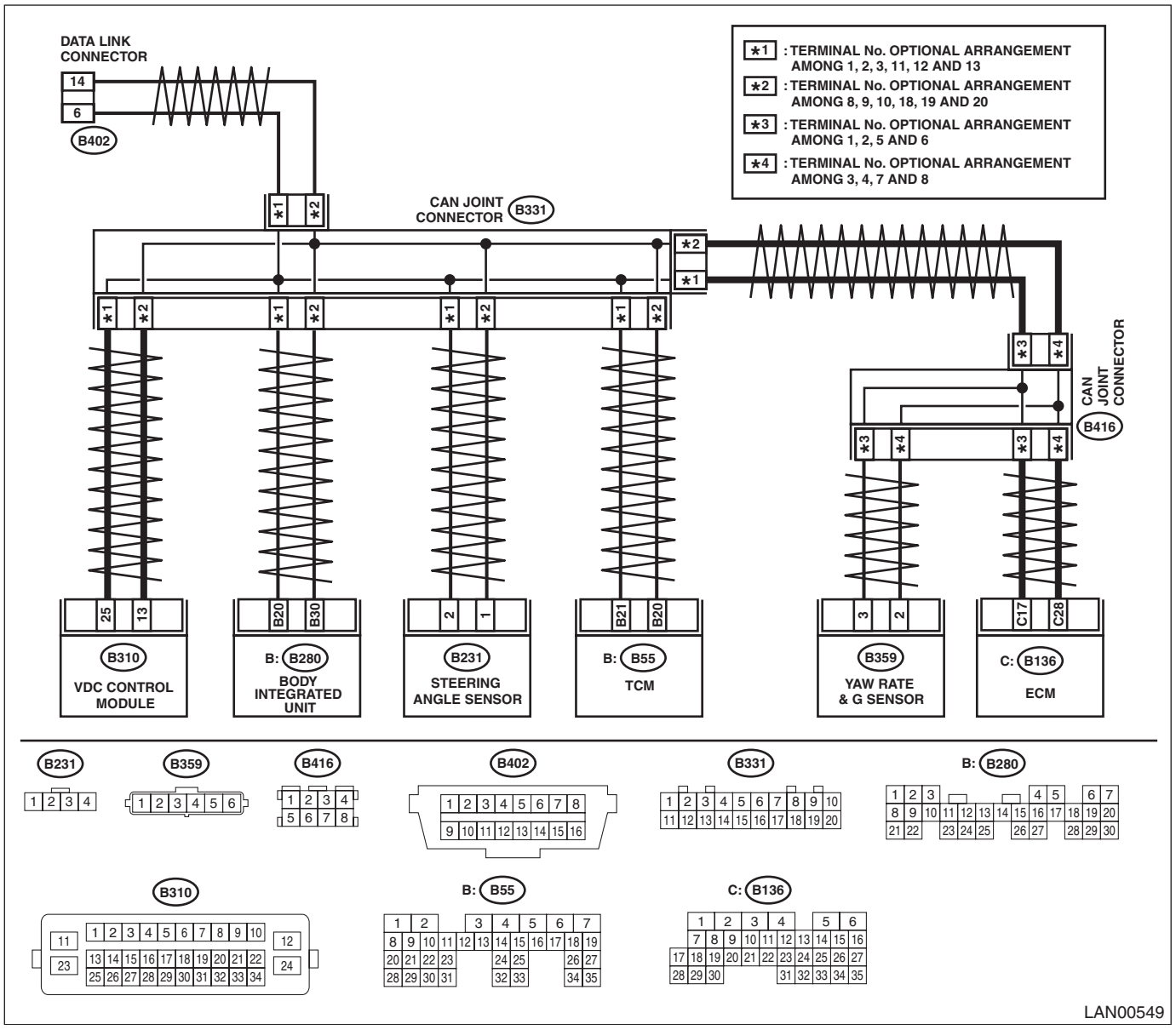
	Step	Check	Yes	No
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect all the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **4**.	Go to step **14**.
4	**CHECK TCM.** 1) Turn the ignition switch to OFF. 2) Disconnect the TCM connector (B55). 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **5**.	Go to step **16**.
5	**CHECK STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect the TCM connector. 3) Disconnect the steering angle sensor connector (B231). 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **6**.	Go to step **17**.
6	**CHECK YAW RATE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect the steering angle sensor connector. 3) Disconnect the yaw rate sensor connector (B359). 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **7**.	Go to step **18**.
7	**CHECK VDC CM.** 1) Turn the ignition switch to OFF. 2) Connect the yaw rate sensor connector. 3) Disconnect the VDC CM connector (B310). 4) Install the 120 Ω resistance to VDC CM connector terminals. ***Terminals*** ***(B310) No. 13 — No. 25:*** 5) Using the tester, measure the resistance between terminals of data link connector. ***Terminals*** ***(B402) No. 6 — No. 14:***	Is the resistance 60 Ω?	Go to step **8**.	Go to step **10**.
8	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **9**.	Go to step **10**.
9	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Replace the VDC CM. <Ref. to VDC-7, REMOVAL, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **10**.

	Step	Check	Yes	No
10	**CHECK ECM.** 1) Turn the ignition switch to OFF. 2) Replace the VDCCM. 3) Disconnect the ECM connector (B136). 4) Install the 120 Ω resistance to ECM connector. ***Terminals*** ***(B136) No. 17 — No. 28:*** 5) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B402) No. 6 — No. 14:***	Is the resistance 60 Ω?	Go to step **11**.	Repair or replace the open circuit of harness.
11	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **12**.	Go to step **13**.
12	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).>	Go to step **13**.
13	**CHECK DTC.** 1) Reconnect all the disconnected connectors. 2) Turn the ignition switch to ON. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Go to step **14**.
14	**CHECK HARNESS.** 1) Shake the instrument harness and bulkhead harness, rear harness. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Repair or replace the harness.	Go to step **15**.
15	**CHECK CONNECTOR.** 1) Disconnect the connector used for CAN circuit. 2) Check the connector terminal.	Is there poor contact of connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.
16	**CHECK HARNESS.** Using the tester, check for open or short (power supply-output short, GND-output short) in the harness between terminals of data link connector and TCM. ***Connector & terminal*** ***(B402) No. 14 — (B55) No. 20:*** ***(B402) No. 6 — (B55) No. 21:***	Is harness normal?	Replace the TCM. <Ref. to 5AT-58, REMOVAL, Transmission Control Module (TCM).>	Repair or replace the harness.
17	**CHECK HARNESS.** Using the tester, check for open or short (power supply-output short, GND-output short) in the harness between terminals of data link connector and steering angle sensor. ***Connector & terminal*** ***(B402) No. 14 — (B231) No. 1:*** ***(B402) No. 6 — (B231) No. 2:***	Is harness normal?	Replace the steering angle sensor. <Ref. to VDC-19, REPLACEMENT, Steering Angle Sensor.>	Repair or replace the harness.

Step		Check	Yes	No
18	**CHECK HARNESS.** Using the tester, check for open or short (power supply-output short, GND-output short) in the harness between terminals of data link connector and yaw rate sensor. ***Connector & terminal*** ***(B402) No. 14 — (B359) No. 2:*** ***(B402) No. 6 — (B359) No. 3:***	Is harness normal?	Replace the yaw rate sensor. <Ref. to VDC-18, REMOVAL, Yaw Rate and G Sensor.>	Repair or replace the harness.

I: DTC U1202 CAN-HS BUS OFF

DTC DETECTING CONDITION:
Integrated unit communication is shut down because of high speed CAN error.
TROUBLE SYMPTOM:
CAN communication is not normal.
WIRING DIAGRAM:



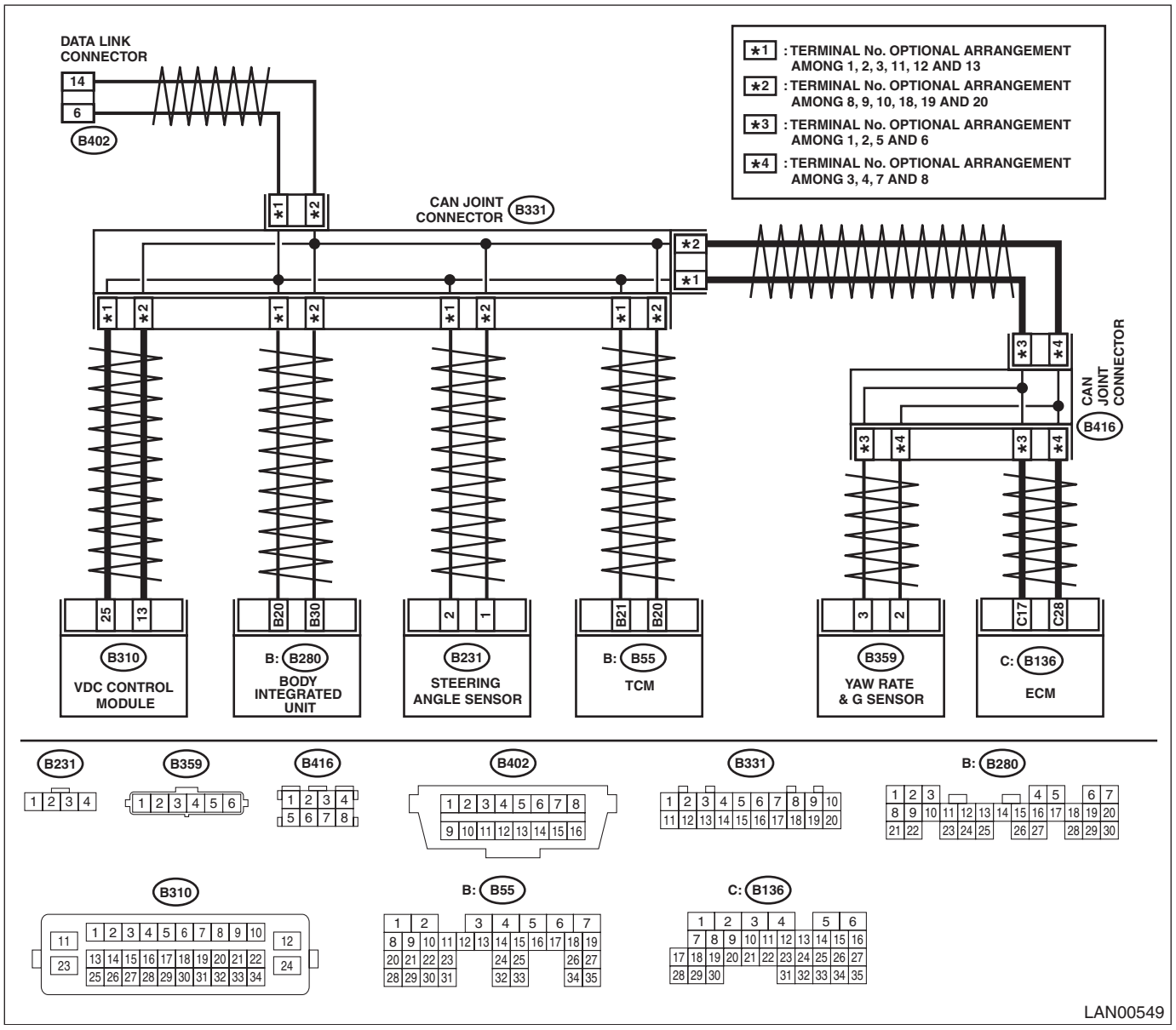
Step		Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, confirm all DTCs. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is any DTC other than for the body integrated unit displayed?	Perform the diagnosis according to displayed DTC.	Go to step **2**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Go to step **3**.	Go to step **10**.

	Step	Check	Yes	No
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Go to step **4**.	Go to step **10**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 2) Using the tester, check for open, short (power supply-output short, GND-output short) in the harness. ***Connector & terminal*** ***(B402) No. 6 — (B136) No. 17:*** ***(B402) No. 6 — (B310) No. 25:*** ***(B402) No. 6 — (B359) No. 3:*** ***(B402) No. 6 — (B231) No. 2:*** ***(B402) No. 6 — (B55) No. 21:*** ***(B402) No. 6 — (B280) No. 20:***	Is harness normal?	Go to step **5**.	Repair or replace the harness.
5	**CHECK HARNESS.** Using the tester, check for open, short (power supply-output short, GND-output short) in the harness. ***Connector & terminal*** ***(B402) No. 14 — (B136) No. 28:*** ***(B402) No. 14 — (B310) No. 13:*** ***(B402) No. 14 — (B359) No. 2:*** ***(B402) No. 14 — (B231) No. 1:*** ***(B402) No. 14 — (B55) No. 20:*** ***(B402) No. 14 — (B280) No. 30:***	Is harness normal?	Go to step **6**.	Repair or replace the harness.
6	**CHECK ECM.** 1) Connect the ECM. 2) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B402) No. 6 — No. 14:***	Is the resistance 120±5 Ω?	Go to step **7**.	Inspect the ECM. <Ref. to EN(H6DO)(diag)-37, HOW TO USE THE SUBARU SELECT MONITOR, OPERATION, Subaru Select Monitor.>
7	**CHECK VDC/ABS CM.** 1) Disconnect the ECM connector (B136). 2) Connect the VDC/ABS CM. 3) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B402) No. 6 — No. 14:***	Is the resistance 120±5 Ω?	Go to step **8**.	Replace the VDC/ABS CM. <Ref. to VDC-7, REMOVAL, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
8	**CHECK HARNESS.** 1) Connect the disconnected connectors. 2) Using the tester, measure the resistance between terminals of data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 6 — Chassis ground:*** ***(B402) No. 14 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **9**.	Go to step **12**.

	Step	Check	Yes	No
9	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals of data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 6 (+) — Chassis ground (–):*** ***(B402) No. 14 (+) — Chassis ground (–):***	Is the voltage less than 6 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Go to step **13**.
10	**CHECK HARNESS.** 1) Shake the harness. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Repair or replace the harness.	Go to step **11**.
11	**CHECK CONNECTOR.** Disconnect the connector used for high speed CAN circuit.	Is there poor contact of connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary poor communication occurs.
12	**CHECK CONTROL MODULE.** With the tester connected, disconnect each control module connector.	Is there any control module whose resistance has changed?	Replace the control module whose resistance has changed.	Repair or replace the open or short circuit of the harness.
13	**CHECK ECM.** With the tester connected, disconnect each control module connector.	Is there any control module whose voltage has changed?	Replace the control module whose voltage has changed.	Repair or replace the short circuit of the harness.

J: DTC U1211 CAN-HS ECM DATA ABNORMAL

DTC DETECTING CONDITION:
Received error data from ECM.
TROUBLE SYMPTOM:
"Er EG" is displayed in odo/trip meter.
WIRING DIAGRAM:



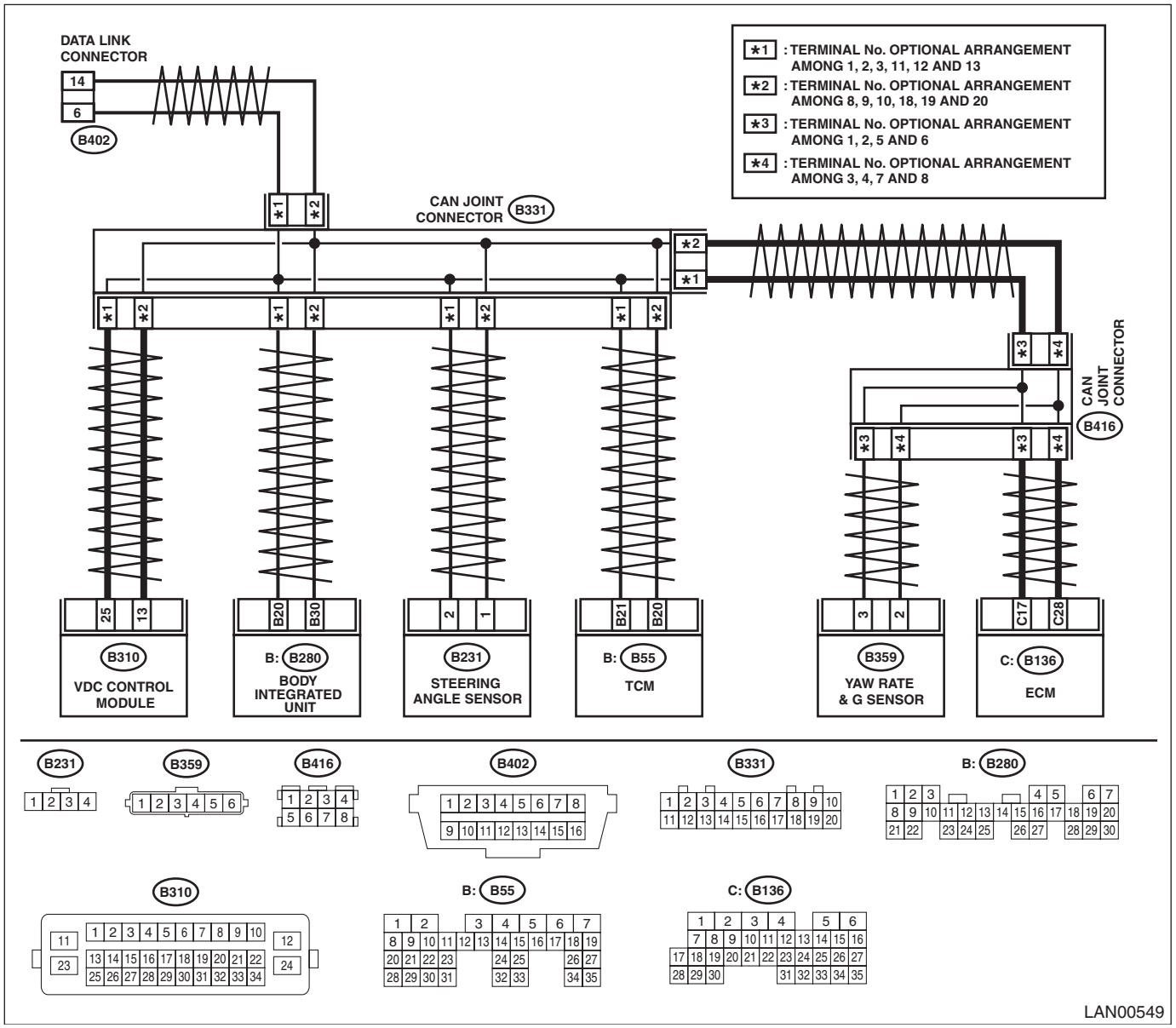
Step		Check	Yes	No
1	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is there U1202, or any DTC other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1211 a current malfunction?	Go to step **3**.	Go to step **4**.

	Step	Check	Yes	No
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1211 a current malfunction?	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1211 a current malfunction?	Repair the poor contact or temporary open circuit of harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact of connector?	Repair the connector terminal where poor contact exists, or replace harness.	It is possible that temporary poor communication occurs.

K: DTC U1212 CAN-HS TCM DATA ABNORMAL

DTC DETECTING CONDITION:
Received error data from TCM.
TROUBLE SYMPTOM:
- SPORT indicator light blinks.
- "Er tC" is displayed in odo/trip meter.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is there U1202, or any DTC other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Go to step **3**.	Go to step **4**.

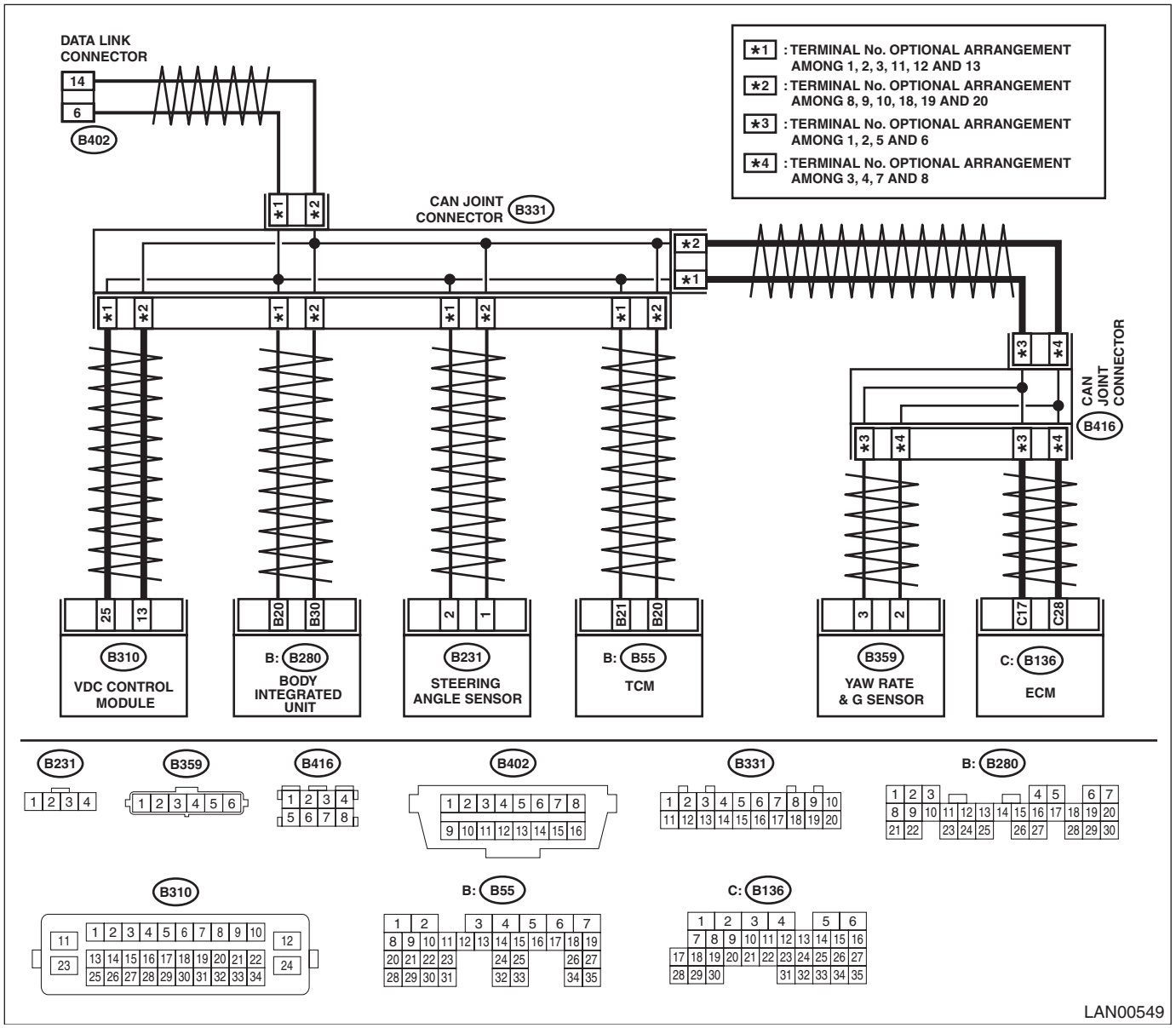
	Step	Check	Yes	No
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the TCM connector. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Replace the TCM. <Ref. to 5AT-58, Transmission Control Module (TCM).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact of connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

L: DTC U1213 CAN-HS VDC/ABS DATA ABNORMAL

DTC DETECTING CONDITION:
Received error data from VDC module.

TROUBLE SYMPTOM:
- ABS warning light and VDC warning light illuminate.
- “Er Ab” is displayed in odo/trip meter.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is there U1202, or any DTC other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1213 a current malfunction?	Go to step **3**.	Go to step **4**.

	Step	Check	Yes	No
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDC/ABS CM connector. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1213 a current malfunction?	Replace the VDC CM. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1213 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact of connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary poor communication occurs.

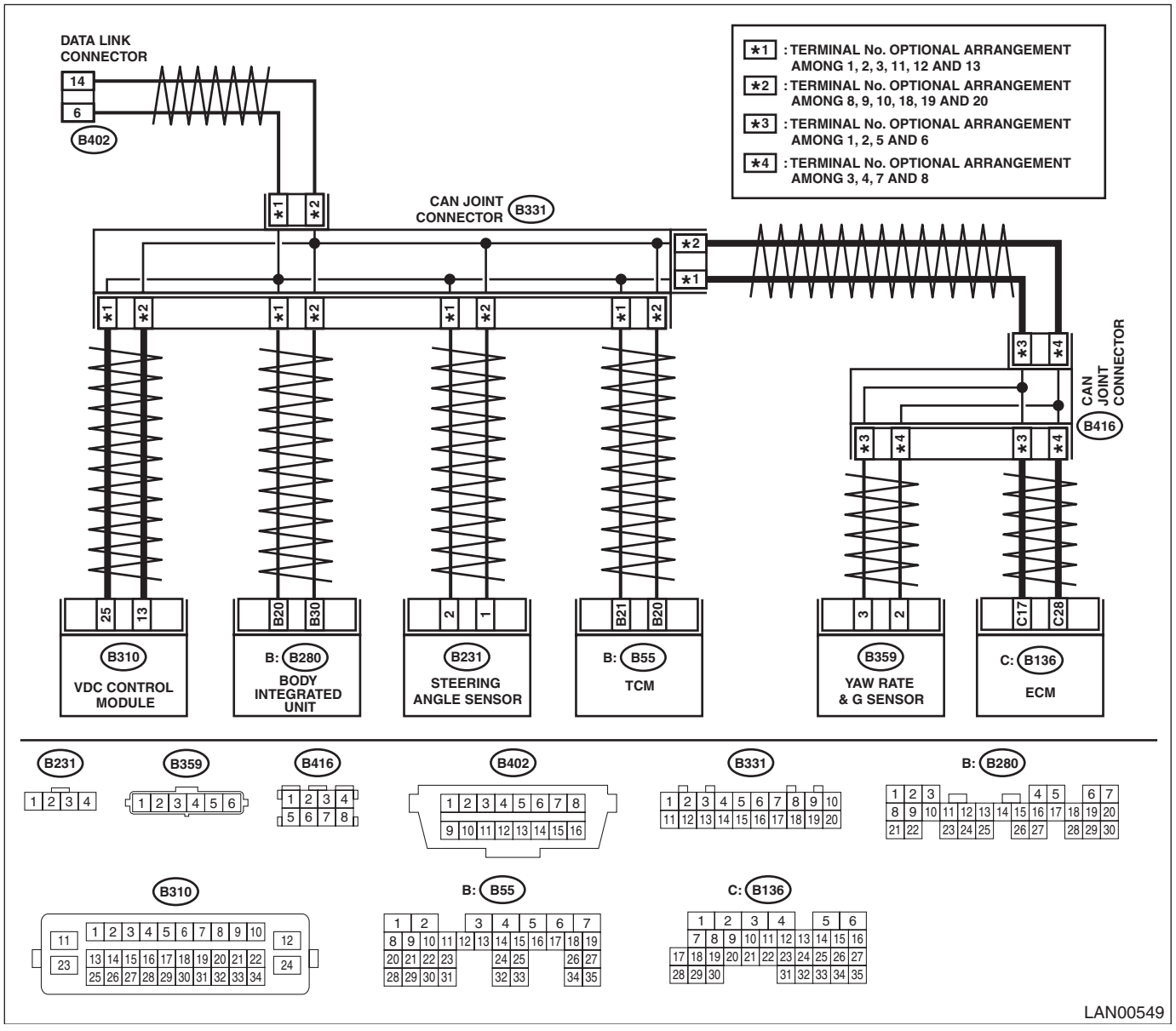
M: DTC U1221 CAN-HS ECM NO-RECEIVE DATA

DTC DETECTING CONDITION:
Not received data from ECM.

NOTE:
When multiple DTC codes have occurred, <Ref. to LAN(diag)-33, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).>

TROUBLE SYMPTOM:
- Malfunction indicator light illuminates.
- "Er HC" is displayed in odo/trip meter.
- P1718 (TCM) and C0047 (VDCCM) is output.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is there U1202, or any DTC other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1221 a current malfunction?	Go to step **3**.	Go to step **8**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Using the tester, check for open, short (power supply-output short, GND-output short) in the harness. ***Connector & terminal*** ***(B402) No. 6 — (B136) No. 17:*** ***(B402) No. 6 — (B310) No. 25:*** ***(B402) No. 6 — (B359) No. 3:*** ***(B402) No. 6 — (B231) No. 2:*** ***(B402) No. 6 — (B55) No. 21:*** ***(B402) No. 6 — (B280) No. 20:***	Is harness normal?	Go to step **5**.	Repair or replace the harness.
5	**CHECK HARNESS.** Using the tester, check for open, short (power supply-output short, GND-output short) in the harness. ***Connector & terminal*** ***VDC model:*** ***(B402) No. 14 — (B136) No. 28:*** ***(B402) No. 14 — (B310) No. 13:*** ***(B402) No. 14 — (B359) No. 2:*** ***(B402) No. 14 — (B231) No. 1:*** ***(B402) No. 14 — (B55) No. 20:*** ***(B402) No. 14 — (B280) No. 30:***	Is harness normal?	Go to step **6**.	Repair or replace the harness.
6	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Start the engine and stop. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Go to step **7**.	Go to step **8**.
7	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor.	Are DTCs P1718 or C0047 detected?	Replace the ECM. <Ref. to FU(H6DO)-39, Engine Control Module (ECM).>	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
8	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Repair or replace the harness.	Go to step **9**.

	Step	Check	Yes	No
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all the connector that is connected to high speed CAN circuit.	Is there poor contact of connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

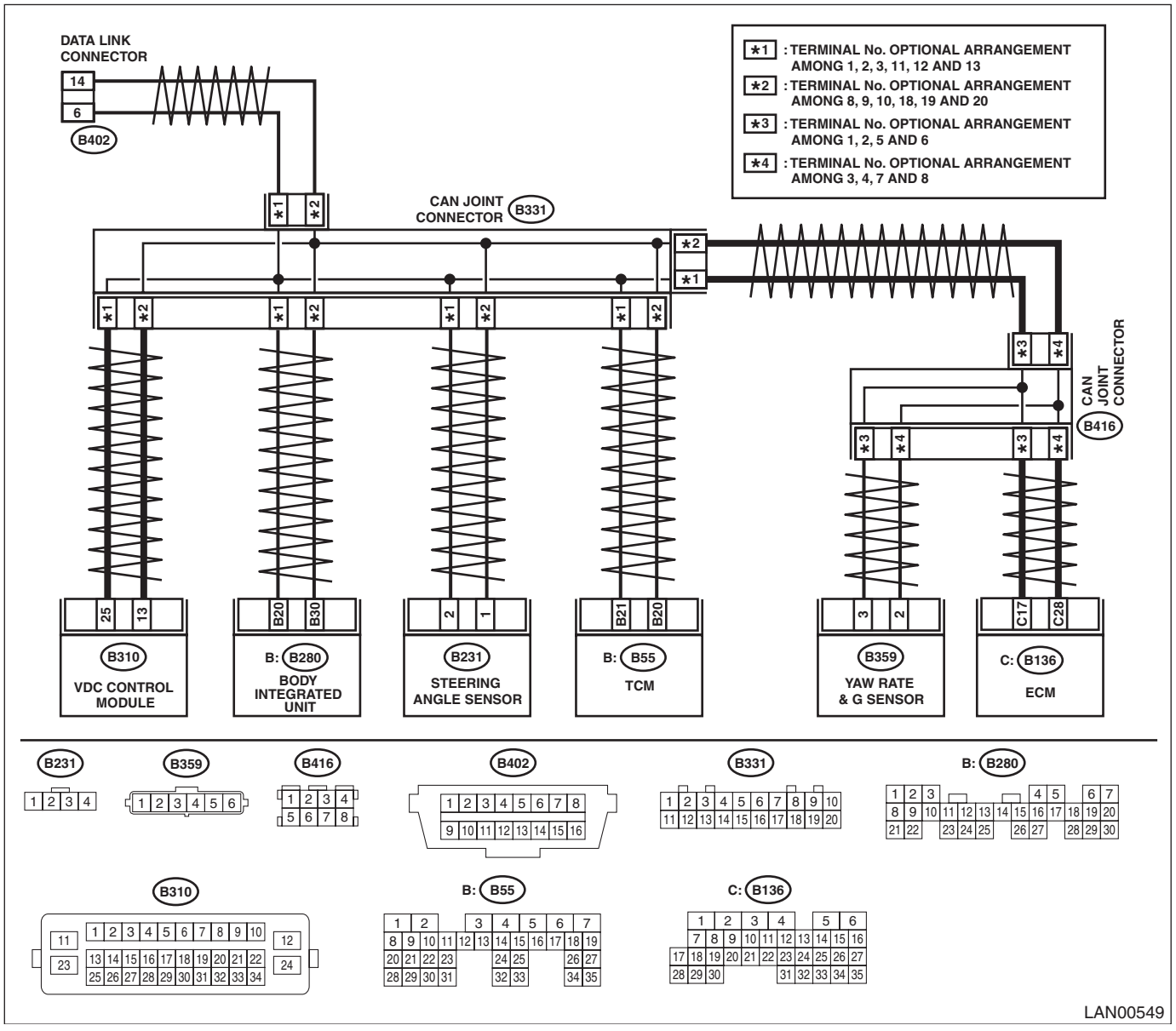
N: DTC U1222 CAN-HS TCM NO-RECEIVE DATA

DTC DETECTING CONDITION:
Not received data from TCM.

NOTE:
When multiple DTC codes have occurred, <Ref. to LAN(diag)-33, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).>

TROUBLE SYMPTOM:
- Malfunction indicator light illuminates.
- "Er HC" is displayed in odo/trip meter.
- U0101 (ECM) and C0047 (VDCCM) is output.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is there U1202, or any DTC other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 2) Using the tester, check for open, short (power supply-output short, GND-output short) in the harness. ***Connector & terminal*** ***(B55) No. 20 — (B402) No. 14:*** ***(B55) No. 21 — (B402) No. 6:***	Is harness normal?	Go to step **5**.	Repair or replace the harness.
5	**CHECK DTC.** 1) Connect the disconnected connectors. 2) Start the engine and stop. 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **6**.	Go to step **7**.
6	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is U0101 or C0047 displayed?	Replace the TCM. <Ref. to 5AT-58, Transmission Control Module (TCM).>	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
7	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Repair or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all the connector that is connected to high speed CAN circuit.	Is there poor contact of connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

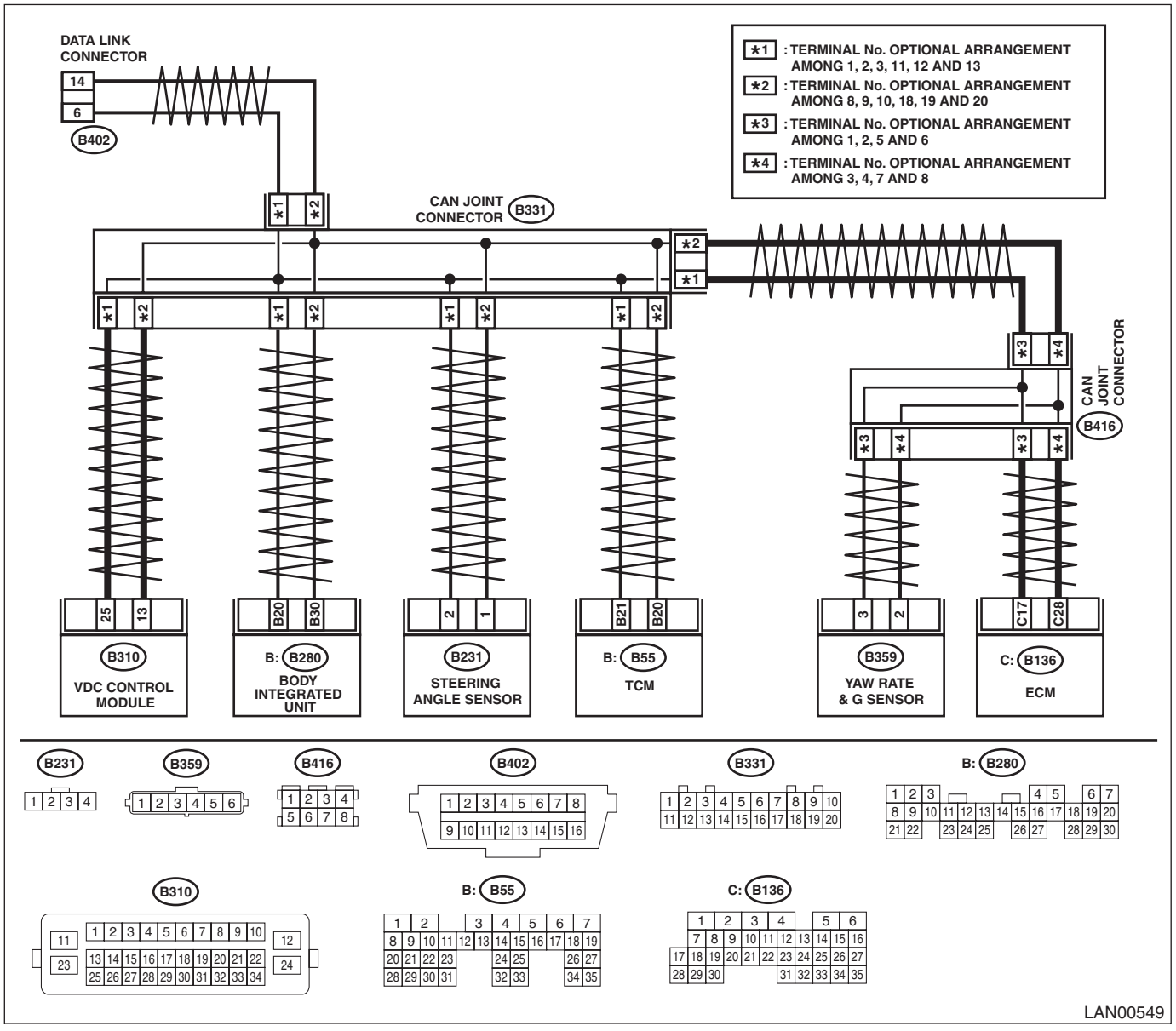
O: DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA

DTC DETECTING CONDITION:
Not received data from VDCCM.

NOTE:
When multiple DTCs have occurred, <Ref. to LAN(diag)-33, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).>

TROUBLE SYMPTOM:
- ABS warning light and VDC warning light illuminate.
- “Er HC” is displayed in odo/trip meter.
- U0122 (ECM) and P1718 (TCM) is output.

WIRING DIAGRAM:

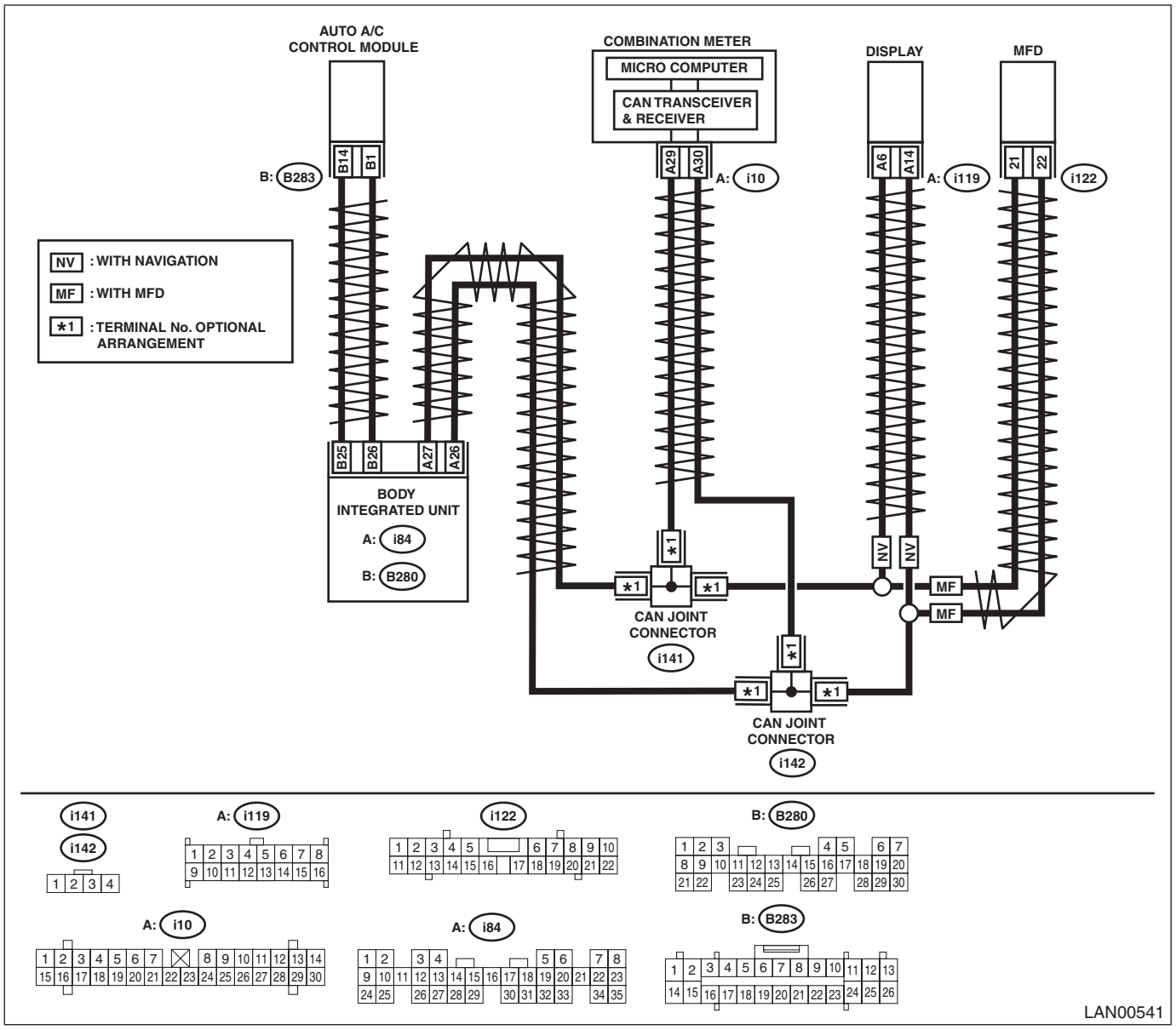


Step		Check	Yes	No
1	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is there U1202, or any DTC other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1223 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B55, B136, B230, B231) that are connected to high speed CAN communication line. 2) Using the tester, check for open, short (power supply-output short, GND-output short) in the harness. ***Connector & terminal*** ***(B402) No. 6 — (B310) No. 25:*** ***(B402) No. 14 — (B310) No. 13:***	Is harness normal?	Go to step **5**.	Repair or replace the harness.
5	**CHECK DTC.** 1) Connect the disconnected connectors. 2) Start the engine and stop. 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Go to step **6**.	Go to step **7**.
6	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor.	Is P1718 or U0122 displayed?	Replace the VDC/ABS CM. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
7	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Repair or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line.	Is there connector terminal where poor contact exists?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

P: DTC U1300 CAN-LS MALFUNCTION

DTC DETECTING CONDITION:
Open or short in low speed CAN circuit
TROUBLE SYMPTOM:
“Er LC” is displayed in odo/trip meter, but communicating function is OK.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is U1300 a current malfunction?	Go to step **2**.	Go to step **7**.

	Step	Check	Yes	No
2	**CHECK DTC.** 1) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 2) Connect the disconnected connectors. 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (ii84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Using the tester, inspect the open circuit of harness and short (power supply-output short, GND-output short). ***Connector & terminal*** ***(i84) No. 27 — (i10) No. 29 (combination meter):*** ***(i84) No. 26 — (i10) No. 30 (combination meter):*** ***(B280) No. 25 — (B283) No. 14 (auto A/C):*** ***(B280) No. 26 — (B283) No. 1 (auto A/C):*** ***(i84) No. 27 — (i122) No. 21 (MFD):*** ***(i84) No. 26 — (i122) No. 22 (MFD):*** ***(i84) No. 27 — (i119) No. 6 (navigation):*** ***(i84) No. 26 — (i119) No. 14 (navigation):***	Is harness normal?	Go to step **4**.	Repair or replace the harness.
4	**CHECK MFD OR NAVIGATION.** 1) Connect the disconnected connectors. 2) Disconnect the connector of navigation (i119) or MFD (i122). 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Go to step **5**.	Replace the navigation or MFD. <Ref. to ET-27, REMOVAL, Navigation Body.>
5	**CHECK AUTO A/C CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Connect the MFD or navigation connectors. 3) Disconnect the auto A/C control module connector (B283). 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Go to step **6**.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>
6	**CHECK BODY INTEGRATED UNIT.** 1) Turn the ignition switch to OFF. 2) Connect the auto A/C control module. 3) Replace the body integrated unit of your vehicle with the body integrated unit from other vehicle, which is working normally. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Replace the combination meter. <Ref. to IDI-11, REMOVAL, Combination Meter.>	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
7	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Repair or replace the harness.	Go to step **8**.

	Step	Check	Yes	No
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to low speed CAN circuit.	Is there poor contact at disconnected connector?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

Q: DTC U1301 CAN-LS COUNTER ABNORMAL

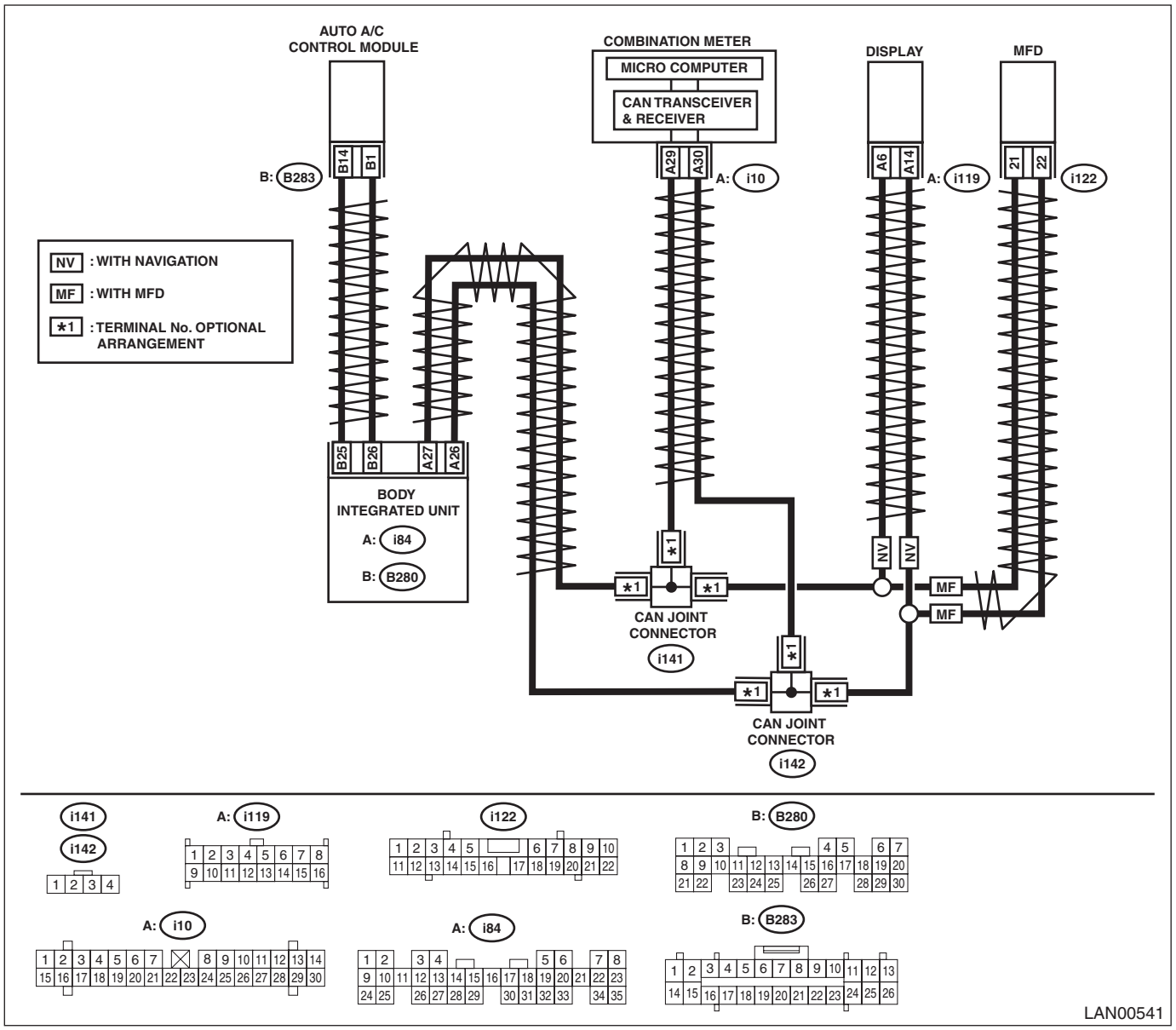
DTC DETECTING CONDITION:

High speed CAN communication becomes unstable because of low speed CAN communication error.

TROUBLE SYMPTOM:

Display error may occur in fuel gauge because the CAN communication is not transmitted (sending/receiving) normally.

WIRING DIAGRAM:



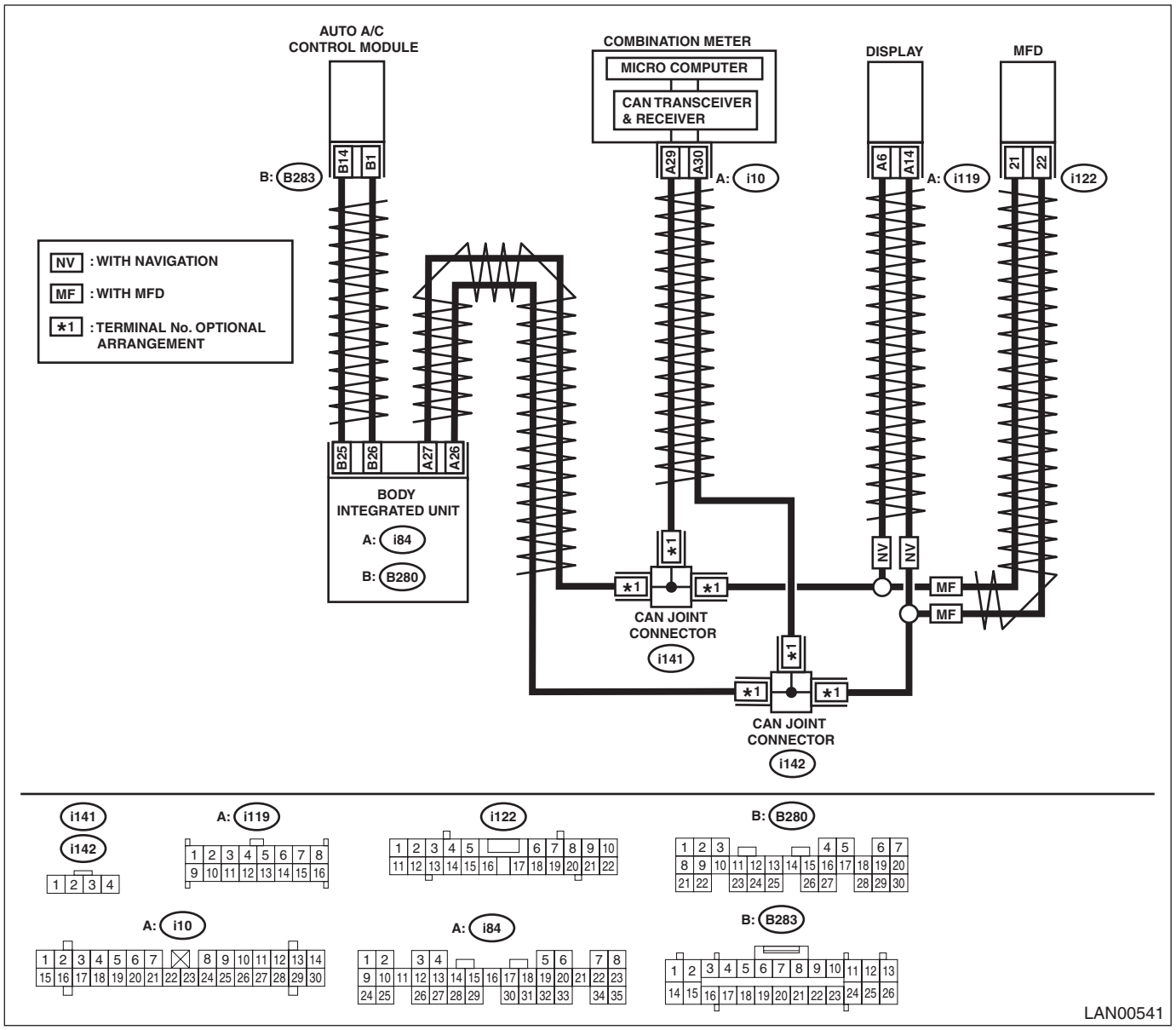
Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Are there DTC U1300 or U1302?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Go to step **3**.	Go to step **9**.

	Step	Check	Yes	No
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Go to step **4**.	Go to step **9**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Using the tester, check for open, short (power supply-output short, GND-output short) in the harness. ***Connector & terminal*** ***(i84) No. 27 — (i10) No. 29 (combination meter):*** ***(i84) No. 26 — (i10) No. 30 (combination meter):*** ***(B280) No. 25 — (B283) No. 14 (auto A/C):*** ***(B280) No. 26 — (B283) No. 1 (auto A/C):*** ***(i84) No. 27 — (i122) No. 21 (MFD):*** ***(i84) No. 26 — (i122) No. 22 (MFD):*** ***(i84) No. 27 — (i119) No. 6 (navigation):*** ***(i84) No. 26 — (i119) No. 14 (navigation):***	Is harness normal?	Go to step **5**.	Repair or replace the harness.
5	**CHECK MFD OR NAVIGATION.** 1) Connect the disconnected connectors. 2) Disconnect the connector of navigation (i119) or MFD (i122). 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Go to step **6**.	Replace the MFD or navigation. <Ref. to ET-26, REMOVAL, Navigation Display.>
6	**CHECK AUTO A/C CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Connect the audio or navigation module. 3) Disconnect the auto A/C control module connector (B283). 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Go to step **7**.	Replace the auto A/C control module. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).>
7	**CHECK COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Perform the self-diagnosis of combination meter.	Is the self-diagnosis of combination meter OK?	Go to step **8**.	Replace the combination meter.
8	**CHECK BODY INTEGRATED UNIT.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Go to step **9**.

	Step	Check	Yes	No
9	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for low speed CAN communication circuit. 3) Turn the ignition switch to ON. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Repair or replace the harness.	Go to step **10**.
10	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line.	Is there poor contact of connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

R: DTC U1302 CAN-LS BUS OFF

DTC DETECTING CONDITION:
Integrated unit communication is shut down because of low speed CAN communication error.
TROUBLE SYMPTOM:
Display error may occur in fuel system because the CAN communication is not transmitted (sending/receiving) normally.
WIRING DIAGRAM:



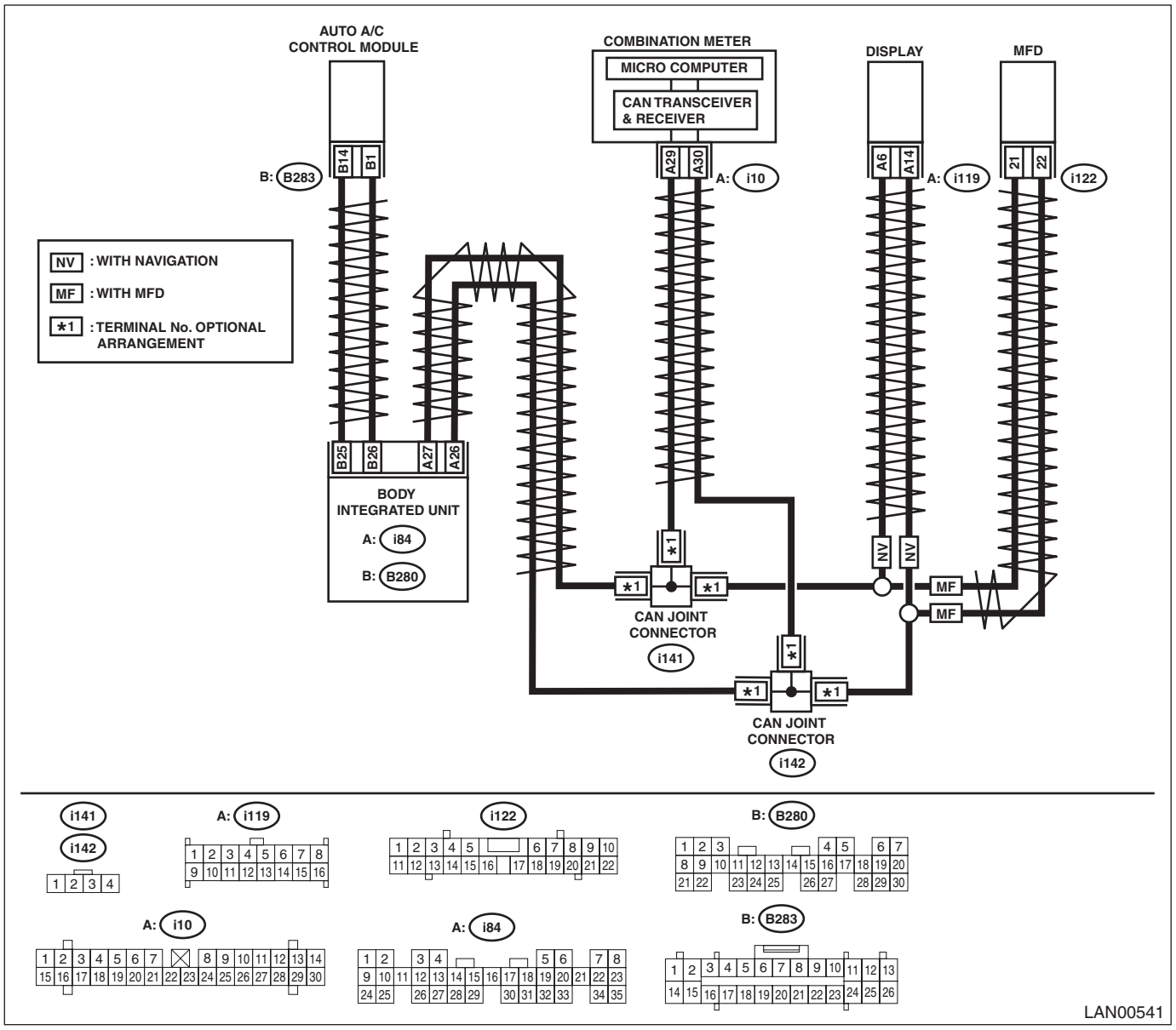
Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is U1302 a current malfunction?	Go to step **2**.	Go to step **8**.

	Step	Check	Yes	No
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1302 a current malfunction?	Go to step **3**.	Go to step **8**.
3	**CHECK HARNESS.** 1) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 2) Using the tester, check for open, short (power supply-output short, GND-output short) in the harness. ***Connector & terminal*** ***(i84) No. 26 — (i10) No. 30 (combination meter):*** ***(i84) No. 27 — (i10) No. 29 (combination meter):*** ***(B280) No. 25 — (B283) No. 14 (auto A/C):*** ***(B280) No. 26 — (B283) No. 1 (auto A/C):*** ***(i84) No. 26 — (i85) No. 22 (MFD):*** ***(i84) No. 27 — (i85) No. 21 (MFD):*** ***(i84) No. 26 — (i50) No. 14 (navigation):*** ***(i84) No. 27 — (i50) No. 6 (navigation):***	Is harness normal?	Go to step **4**.	Repair or replace the harness.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Using the tester, measure the resistance between harness connector and chassis ground. ***Connector & terminal*** ***(i84) No. 26 — Chassis ground:*** ***(i84) No. 27 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Go to step **7**.
5	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(i84) No. 26 (+) — Chassis ground (–):*** ***(i84) No. 27 (+) — Chassis ground (–):***	Is the voltage less than 6 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Go to step **6**.
6	**CHECK HARNESS.** With the tester connected, disconnect control module.	Is there any control module whose voltage has changed?	Replace the control module whose voltage has changed.	Repair or replace the short circuit of the harness.
7	**CHECK HARNESS.** With the tester connected, disconnect control module.	Is there any control module whose resistance has changed?	Replace the control module whose resistance has changed.	Repair or replace the short circuit of the harness.
8	**CHECK HARNESS.** 1) Shake the harness used for low speed CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1302 a current malfunction?	Repair or replace the open, short circuit of the harness.	Go to step **9**.

	Step	Check	Yes	No
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line.	Is there poor contact of connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

S: DTC U1311 CAN-LS METER UNIT DATA ABNORMAL

DTC DETECTING CONDITION:
Error data is received from combination meter.
TROUBLE SYMPTOM:
Defective data from combination meter occurs.
WIRING DIAGRAM:



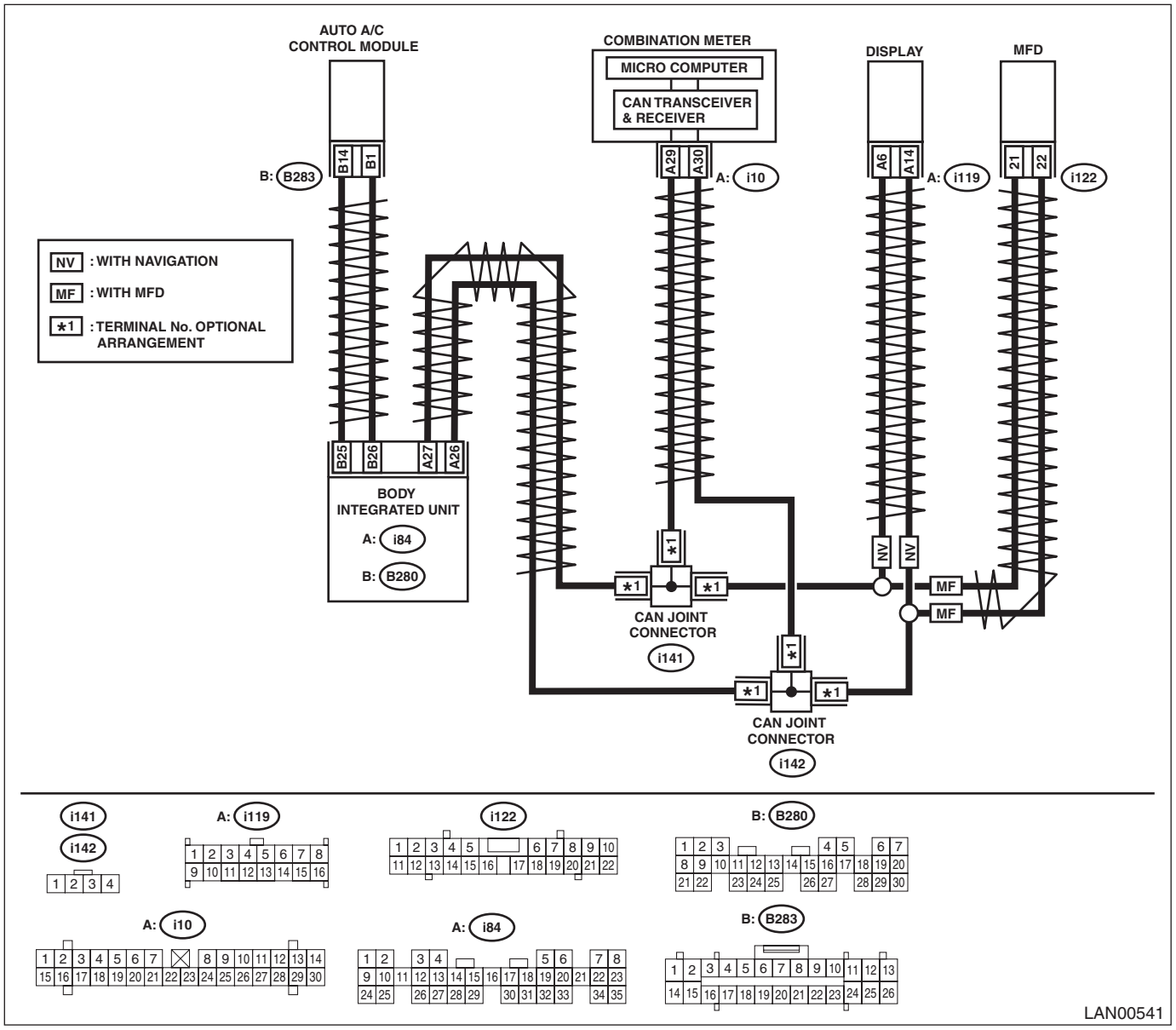
Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is DTC U1300 or U1302 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1311 a current malfunction?	Go to step **3**.	Go to step **4**.

	Step	Check	Yes	No
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the combination meter connector (i10). 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1311 a current malfunction?	Replace the combination meter. <Ref. to IDI-11, REMOVAL, Combination Meter.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness used for low speed CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1311 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line.	Is there poor contact of connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

T: DTC U1321 CAN-LS METER NO-RECEIVE DATA

DTC DETECTING CONDITION:
Not received data from combination meter.
TROUBLE SYMPTOM:
- Engine may not be started.
- “Er LC” is displayed in odo/trip meter.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK ALL DTCS.** Read all DTCs using the Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is U1300 or U1301 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Go to step **3**.	Go to step **7**.

	Step	Check	Yes	No
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Using the tester, check for open, short (power supply-output short, GND-output short) in the harness. ***Connector & terminal*** ***(i84) No. 26 — (i10) No. 30 (combination meter):*** ***(i84) No. 27 — (i10) No. 29 (combination meter):*** ***(B280) No. 25 — (B283) No. 14 (auto A/C):*** ***(B280) No. 26 — (B283) No. 1 (auto A/C):*** ***(i84) No. 26 — (i85) No. 22 (MFD):*** ***(i84) No. 27 — (i85) No. 21 (MFD):*** ***(i84) No. 26 — (i50) No. 14 (navigation):*** ***(i84) No. 27 — (i50) No. 6 (navigation):***	Is harness normal?	Go to step **5**.	Repair or replace the harness.
5	**CHECK COMBINATION METER.** 1) Connect the disconnected connectors. 2) Perform the self-diagnosis of combination meter.	Is the self-diagnosis OK?	Go to step **6**.	Replace the combination meter.
6	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Go to step **7**.
7	**CHECK HARNESS.** 1) Shake the harness used for low speed CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Repair the poor contact, open circuit of harness or replace harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all control module connectors (i84, or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line.	Is there poor contact of connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary poor communication occurs.

U: DTC B1500 KEYLESS UART COM. MALFUNCTION

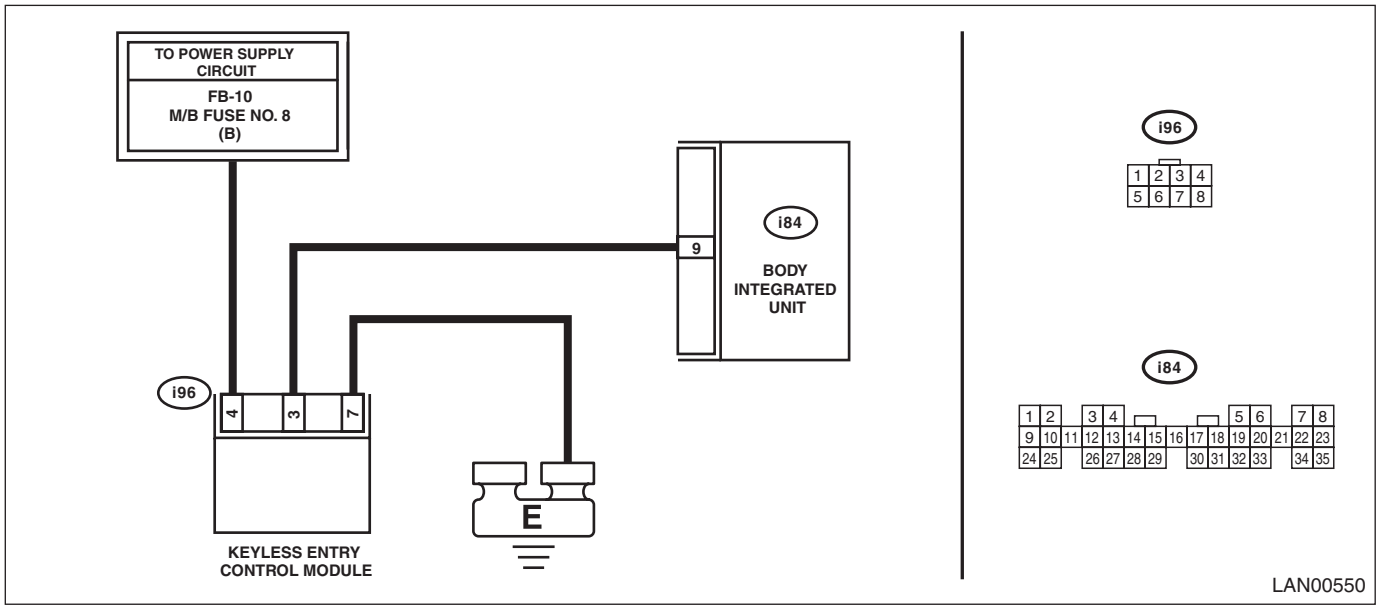
DTC DETECTING CONDITION:

UART (communication line) between keyless entry control module and body integrated unit is open or shorted, the connector is not connected properly, or the terminal is crimped improperly, keyless entry control module internal error.

TROUBLE SYMPTOM:

Door lock does not operate with keyless.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** 1) Insert the ignition key and remove. 2) Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to LAN(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is B1500 a current malfunction?	Go to step **2**.	Go to step **7**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from body integrated unit and keyless entry control module. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1500 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from body integrated unit and keyless entry control module. 3) Using the tester, check for open, short (power supply-output short, GND-output short) in the harness. ***Connector & terminal*** ***(i84) No. 9 — (i96) No. 3:***	Is harness normal?	Go to step **4**.	Repair or replace the harness.
4	**CHECK HARNESS.** Using the tester, measure the voltage between keyless entry control module and chassis ground. ***Connector & terminal*** ***(i96) No. 4 (+) — Chassis ground (–):***	Is the voltage battery voltage?	Go to step **5**.	Check the power supply circuit for keyless entry control module.

	Step	Check	Yes	No
5	**CHECK HARNESS.** Using the tester, measure the resistance between keyless entry control module and chassis ground. ***Connector & terminal*** ***(i96) No. 7 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK OPERATION.** 1) Install the keyless entry control module from other vehicle, which is working normally. 2) Register the keyless key which is working normally. 3) Operate the keyless key.	Is the door locking operate?	Replace the keyless entry control module. <Ref. to SL-50, REMOVAL, Keyless Entry Control Module.>	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
7	**CHECK CONNECTOR.** Disconnect the connectors from body integrated unit and keyless entry control module.	Is there poor contact of connector?	Repair the connector, or replace harness.	Temporary poor contact occurs.

13.General Diagnostic Table

A: INSPECTION

Item	Operation	Specifications		Index
		YES	NO	
Diagnostic code	DTC is not displayed when inspecting all DTCs.	System is normal.	Perform the diagnosis according to DTC.	—
Engine coolant temperature	Engine coolant temperature gauge displays correctly without engine coolant temperature warning light illuminating/blinking.	System is normal.	Refer to the following to check. • Engine cooling system • LAN system	Check the current data display of ECM, TCM and body integrated unit, and if three data values differ, it is possible that the driving system CAN is malfunctioning.
Remaining fuel level	Fuel gauge displays correctly without low fuel warning light remaining illuminated.	System is normal.	Refer to the following to check. • Combination meter system • LAN system	Display the current data of body integrated unit, and if the values of “Fuel level resistance” and “Fuel level resistance 2” differ, it is possible that the body integrated unit is malfunctioning.
Ambient air temperature	Ambient air temperature is displayed correctly.	System is normal.	Refer to the following to check. • HVAC system • LAN system	—
Rear window defogger	Rear window defogger operates by operating the switch. Indicator in the switch illuminates when rear window defogger is operating.	System is normal.	Refer to the following to check. • Rear window defogger • HVAC system	—
Wiper deicer	Wiper deicer operates by operating the switch.	System is normal.	Refer to the following to check. • Wiper deicer system • HVAC system	Operates only when the customization of the body integrated unit “wiperdeicer” is set to “ON”.
Rear wiper	Rear wiper operates normally by operating the switch.	System is normal.	Refer to the following to check. • Wiper and washer system	—
Key interlock	Key cannot be removed in other than the parking range. Key can be removed in the parking range.	System is normal.	Refer to the following to check. • Shift lock control system • LAN system	—
Shift Lock	Shift operation is normal.	System is normal.	Refer to the following to check. • Shift lock control system • Combination meter system • LAN system	—

Item	Operation	Specifications		Index
		YES	NO	
Seat belt warning system	Indicator in the meter illuminate when driver's seat belt is not worn. Alarm sounds when vehicle speed is approx. 15 km/h (9.4 MPH) without seat belt fastened. Indicator in the center display illuminates when passenger's seat is occupied and the passenger's seat belt is not fastened. Alarm sounds when vehicle speed is approx. 15 km/h (9.4 MPH) without seat belt fastened.	System is normal.	Refer to the following to check. • Seat belt warning system • Combination meter system • LAN system	—
Door lock	Lock/unlock operates by operating the central door lock switch. Rear gate opens by operating the rear gate release switch.	System is normal.	Refer to the following to check. • Security and locks • LAN system	—
Keyless Entry	Lock/unlock operates by operating the keyless transmitter. Rear gate unlocks by operating the rear gate unlock button.	System is normal.	Refer to the following to check. • Security and locks • LAN system	—
Answer back	Answer back operates by operating lock/unlock with the keyless entry.	System is normal.	Refer to the following to check. • Security and locks • LAN system	—
Room light	Turns ON/OFF according to the door open/close operation, the lock/unlock operation with the keyless entry, and the ignition operation.	System is normal.	Refer to the following to check. • Room light system • Security and locks • LAN system	—
Map light	Turns ON/OFF according to the door open/close operation, the lock/unlock operation with the keyless entry, and the ignition operation.	System is normal.	Refer to the following to check. • Spot map light • Security and locks • LAN system	—
Luggage light	Turns ON/OFF according to the door open/close operation, the lock/unlock operation with the keyless entry, and the ignition operation.	System is normal.	Refer to the following to check. • Luggage light • Security and locks • LAN system	—
Key illumination	Turns ON/OFF according to the driver's side door open/close and the ignition operation.	System is normal.	Refer to the following to check. • Ignition switch illumination • Security and locks • LAN system	Key illumination blinks when customization of the body integrated unit "Factory initial setting" is set to "Factory".

Item	Operation	Specifications		Index
		YES	NO	
Illumination control	Illumination volume control is available.	System is normal.	Refer to the following to check. • Illumination control • Combination meter system • LAN system	—
Engine start	Engine starts normally.	System is normal.	Refer to the following to check. • Engine (diagnostics) • Immobilizer • LAN system	—
Vehicle security	When locked by the keyless entry, security monitor condition starts. When unlocked by the keyless entry, security is released.	System is normal.	Refer to the following to check. • Security and locks • LAN 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

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1. General Description

A: SPECIFICATION

Headlight	Halogen type low beam	12 V — 55 W
	HID type low beam	12 V — 35 W
	Halogen type high beam	12 V — 60 W
Front turn signal, parking		12 V — 28/8 W
Front side marker light		12 V — 5 W
Front fog light		12 V — 55 W
Side turn signal light		12 V — 1.4 W (LED)
Rear combination light	Stop/Tail light/Rear side marker light	12 V — 27/8 W
	Turn signal light	12 V — 27 W
Rear finisher light		12 V — 5 W
Back-up light		12 V — 16 W
License plate light		12 V — 5 W
High-mounted stop light		12 V — 1.2 W (LED)
Room light		12 V — 8 W (Model without rear entertainment system)
		12 V — 5 W (Model with rear entertainment system)
Spot map light		12 V — 8 W
Luggage room light		12 V — 13 W
Rear gate light		12 V — 5 W
Glove box light		12 V — 1.4 W
Door step light		12 V — 3 W
Vanity mirror light		12 V — 3 W

B: CAUTION

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

WARNING:

- **The airbag system wiring harness is routed near electrical parts and switches. The airbag system wiring harnesses and connectors are colored yellow. Do not use the electrical test equipment on these circuits.**
- **Be careful not to damage the airbag system wiring harness when servicing electrical parts and switches.**

C: PREPARATION TOOL

1. GENERAL TOOL

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

2. Headlight and Tail Light System

A: WIRING DIAGRAM

1. HALOGEN TYPE HEADLIGHT

<Ref. to WI-91, WIRING DIAGRAM, Headlight System.>

2. HID TYPE HEADLIGHT

<Ref. to WI-91, WIRING DIAGRAM, Headlight System.>

3. CLEARANCE LIGHT AND ILLUMINATION LIGHT

<Ref. to WI-98, WIRING DIAGRAM, Clearance Light and Illumination Light System.>

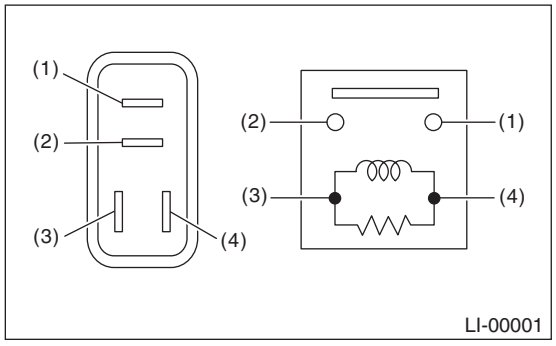
B: INSPECTION

1. HEADLIGHT SWITCH

Measure the resistance between headlight switch terminals. <Ref. to LI-12, INSPECTION, Combination Switch (Light).>

2. HEADLIGHT RELAY

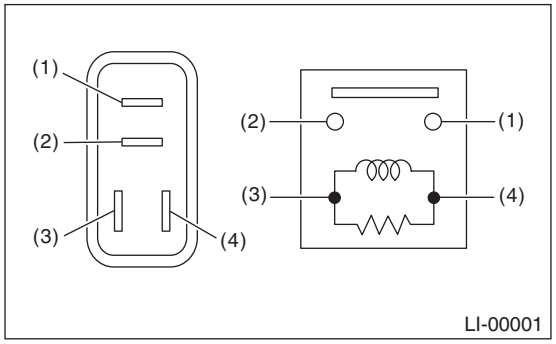
Connect terminal No. 4 to the battery positive terminal and terminal No. 3 to the battery ground terminal, and measure the headlight relay resistance between terminals.



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

3. TAIL AND ILLUMINATION RELAY

Connect terminal No. 4 to the battery positive terminal and terminal No. 3 to the battery ground terminal, and measure the resistance between tail and illumination relay terminals.



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

3. Day Time Running Light System

A: WIRING DIAGRAM

<Ref. to WI-91, WIRING DIAGRAM, Headlight System.>

B: INSPECTION

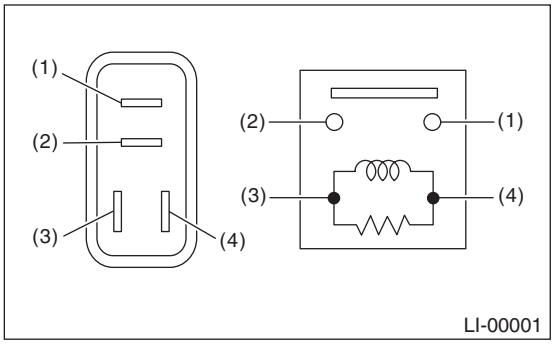
1. DAYTIME RUNNING LIGHT MODULE CHECK

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between the daytime running light module terminal and chassis ground. ***Connector & terminal*** ***(B96) No. 2 (+) — Chassis ground (–):*** ***(B242) No. 6 (+) — Chassis ground (–):***	Is the voltage battery voltage?	Go to step **2**.	Check the fuse and the power supply circuit.
2	**CHECK GROUND CIRCUIT.** 1) Disconnect the daytime running light module connector. 2) Measure the resistance between the daytime running light module connector and chassis ground. ***Connector & terminal*** ***(B242) No. 10 (+) — Chassis ground (–):***	Is the resistance less than 1 Ω?	Go to step **3**.	Check the ground circuit.
3	**CHECK THE PARKING SIGNAL.** 1) Connect the daytime running light module connector. 2) Measure the resistance between the terminal and chassis ground when pulling parking brake lever and releasing. ***Connector & terminal*** ***(B96) No. 4 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	Go to step **4**.	Check the parking brake switch circuit.
4	**CHECK THE STARTER SIGNAL.** Turn the ignition switch to ON ⇔ Starter and measure the voltage of terminal. ***Connector & terminal*** ***(B96) No. 7 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	Go to step **5**.	Check the starter switch circuit.
5	**CHECK THE HEADLIGHT SWITCH SIGNAL.** Turn the headlight switch to LO ⇔ OFF and measure the voltage of terminal. ***Connector & terminal*** ***(B242) No. 2 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	Go to step **6**.	Check the combination switch and the headlight LO circuit.
6	**CHECK THE HEADLIGHT SWITCH SIGNAL.** Turn the headlight switch to HI ⇔ OFF and measure the voltage of terminal. ***Connector & terminal*** ***(B96) No. 1 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	Go to step **7**.	Check the combination switch and the headlight HI circuit.
7	**CHECK THE HEADLIGHT SIGNAL.** 1) Turn the ignition switch to ON. 2) Turn the headlight from HI to ON/OFF and measure the voltage of terminal. ***Connector & terminal*** ***(B242) No. 5 (+) — Chassis ground (–):*** ***(B96) No. 3 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	Go to step **8**.	Check the headlight HI circuit.

Step		Check	Yes	No
8	**CHECK THE HEADLIGHT SIGNAL.** 1) Turn the ignition switch to ON. 2) Measure the voltage of terminal on passing of headlight. ***Connector & terminal*** ***(B242) No. 4 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	If the above test is OK, replace the daytime running light module.	Check the headlight HI circuit.

2. LOW BEAM RELAY

Measure the resistance between the daytime running relay terminals when connecting terminal No. 4 to the battery positive terminal and terminal No. 3 to the battery ground terminal.



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

4. Front Fog Light System

A: WIRING DIAGRAM

1. FRONT FOG LIGHT

<Ref. to WI-95, WIRING DIAGRAM, Front Fog Light System.>

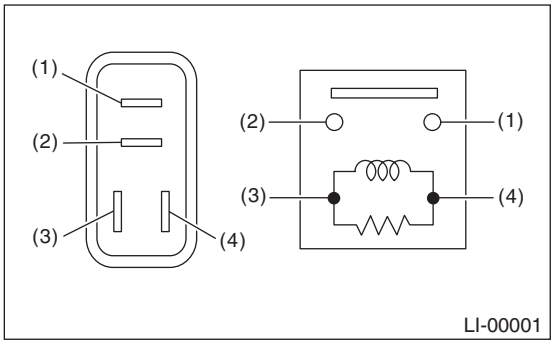
B: INSPECTION

1. FRONT FOG LIGHT SWITCH

Measure the resistance between front fog light switch terminals. <Ref. to LI-12, 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-103, WIRING DIAGRAM, Turn Signal Light and Hazard Light System.>

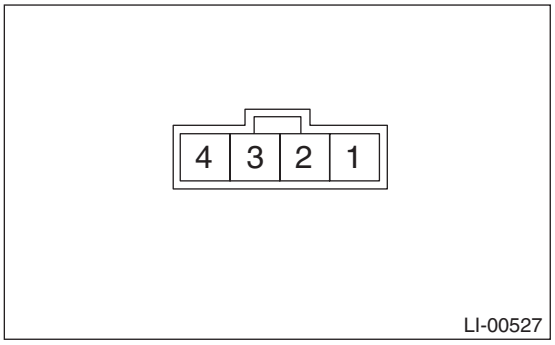
B: INSPECTION

1. TURN SIGNAL SWITCH

Measure the resistance between turn signal switch terminals. <Ref. to LI-12, INSPECTION, Combination Switch (Light).>

2. HAZARD SWITCH

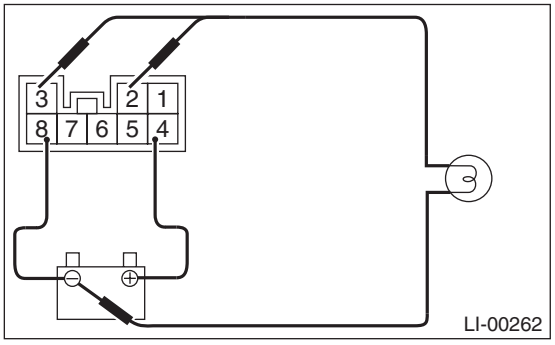
Measure the resistance between hazard switch terminals.



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

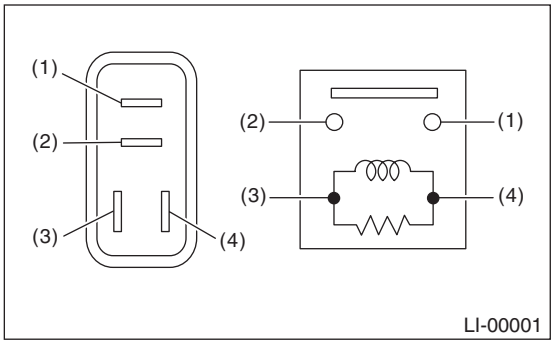
1. BACK-UP LIGHT

<Ref. to WI-96, WIRING DIAGRAM, Back-up Light System.>

B: INSPECTION

1. BACK-UP LIGHT RELAY

Measure the resistance between headlight relay terminals when connecting terminal No. 4 to the battery positive terminal and terminal No. 3 to the battery ground terminal.



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

7. Stop Light System

A: WIRING DIAGRAM

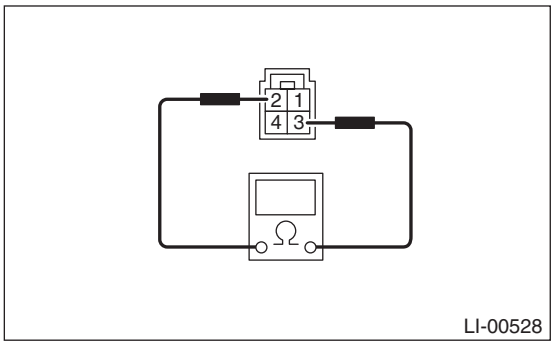
1. STOP LIGHT

<Ref. to WI-97, WIRING DIAGRAM, Stop Light System.>

B: INSPECTION

1. STOP LIGHT SWITCH

Measure the resistance between stop light switch terminals.



Switch position	Terminal No.	Standard
When brake pedal is depressed	2 and 3	Less than 1 Ω
When brake pedal is released		1 MΩ or more

8. Room Light System

A: WIRING DIAGRAM

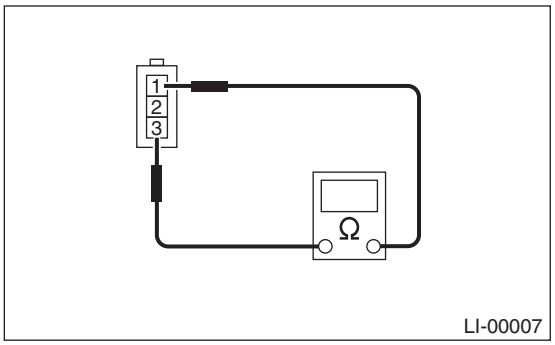
1. ROOM LIGHT

<Ref. to WI-105, WIRING DIAGRAM, Interior Light System.>

B: INSPECTION

1. DOOR SWITCH

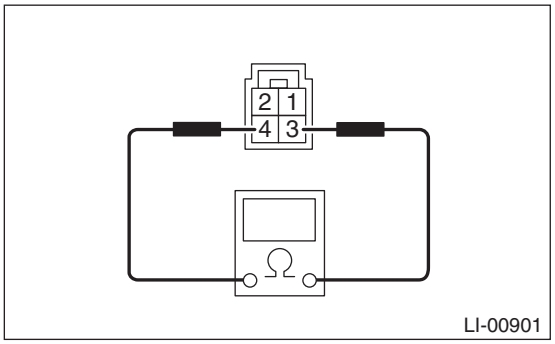
Measure the resistance between door switch terminals.



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.

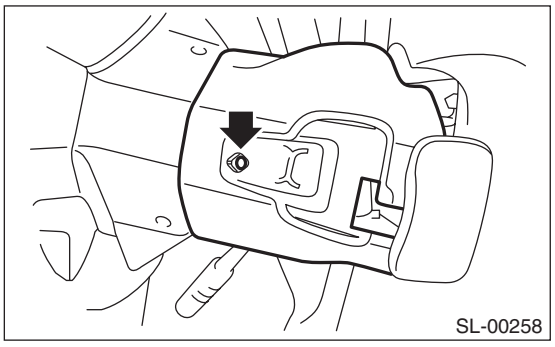


Switch position	Terminal No.	Standard
When rear gate is opened	3 and 4	Less than 1 Ω
When rear gate is closed		1 MΩ or more

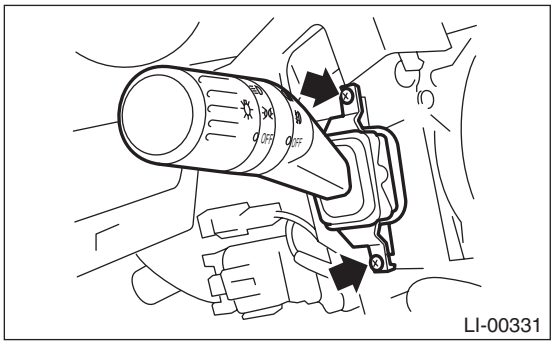
9. Combination Switch (Light)

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the screws and remove the steering column covers (upper and lower).



3) Disconnect the connector from the combination switch.
4) Remove the screws which secure the switch, then remove the combination switch.

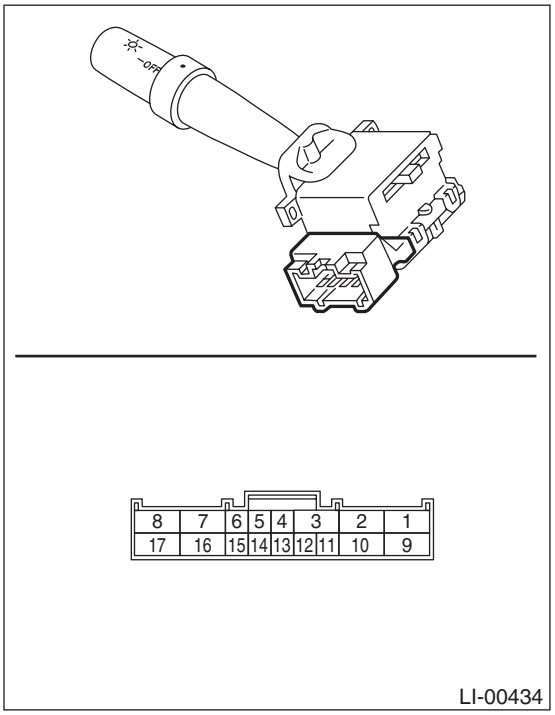


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the resistance between combination switch terminals.



1. LIGHTING SWITCH

Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
Tail	14 and 16	Less than 1 Ω
Head	13, 14 and 16	Less than 1 Ω

2. DIMMER & PASSING SWITCH

Switch position	Terminal No.	Standard
Passing	7, 8 and 16	Less than 1 Ω
Low beam	17 and 16	Less than 1 Ω
High beam	7 and 16	Less than 1 Ω

3. TURN SIGNAL SWITCH

Switch position	Terminal No.	Standard
Left	1 and 2	Less than 1 Ω
Neutral	—	1 MΩ or more
Right	2 and 3	Less than 1 Ω

4. FRONT FOG LIGHT SWITCH

Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
ON	10 and 11	Less than 1 Ω

10.Headlight Beam Leveler System

A: WIRING DIAGRAM

1. HEADLIGHT BEAM ADJUSTMENT EQUIPMENT

<Ref. to WI-94, WIRING DIAGRAM, Headlight Beam Leveler System.>

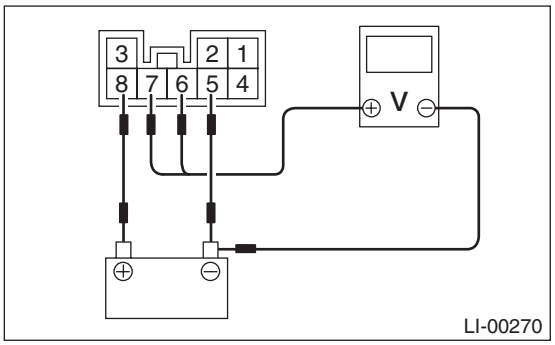
B: INSPECTION

1. HEADLIGHT BEAM LEVELER ACTUATOR

1) Turn on the headlight beam.
2) Change the switch position in the order of 0 → 1 → 2 → 3 → 4 → 5, and check that the headlight beam position is lowered.

2. HEADLIGHT BEAM LEVELER SWITCH

Connect the circuit tester to the battery and headlight beam leveler switch connector. Measure the voltage at each switch position.

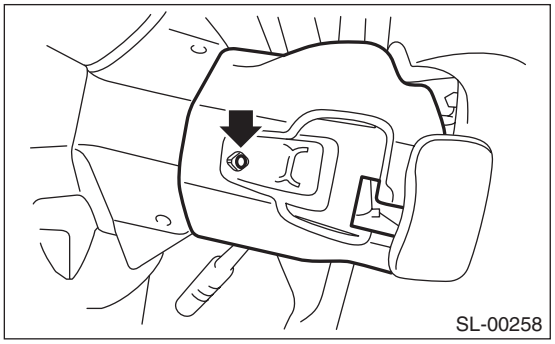


Switch position	Terminal No.	Standard
0	6, 7 (+) and battery (–)	77 — 83% of battery voltage
1		65 — 71% of battery voltage
2		53 — 59% of battery voltage
3		41 — 47% of battery voltage
4		29 — 35% of battery voltage
5		17 — 23% of battery voltage

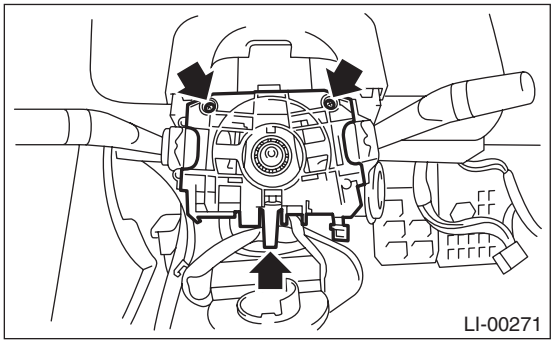
11.Combination Base Switch Assembly

A: REMOVAL

1) Remove the driver's airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.>
2) Remove the steering wheel. <Ref. to PS-12, REMOVAL, Steering Wheel.>
3) Remove the screws and remove the steering column lower cover.


SL-00258

4) Remove the combination switch. <Ref. to LI-12, REMOVAL, Combination Switch (Light).> <Ref. to WW-7, REMOVAL, Combination Switch (Wiper).>
5) Remove the four screws and remove the roll connector.
6) Remove the three screws.


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 the roll connector to match the steering. <Ref. to AB-24, ADJUSTMENT, Roll Connector.>

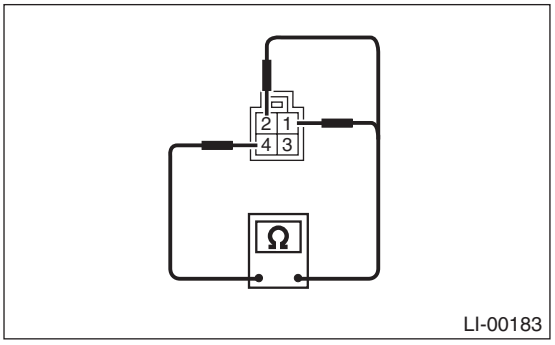
C: INSPECTION

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.



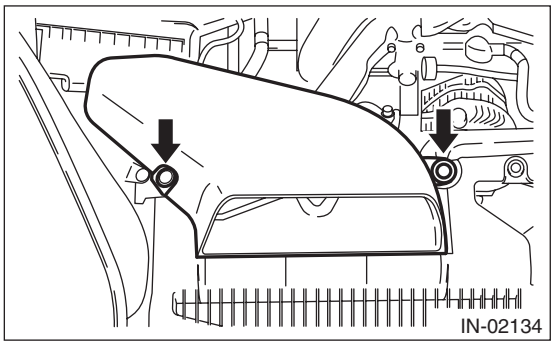
LI-00183

Switch position	Terminal No.	Standard
OFF	2 and 4	Less than 1 Ω
ON	1 and 4	Less than 1 Ω

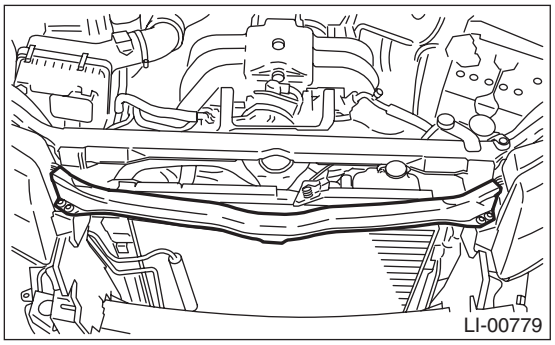
12.Headlight Assembly

A: REMOVAL

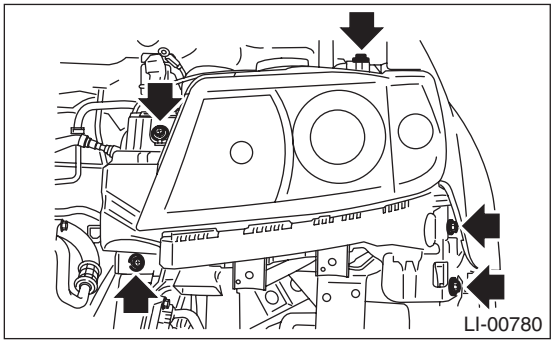
1) Disconnect the ground cable from battery.
2) Remove the air intake duct.



3) Remove the front bumper. <Ref. to EI-22, REMOVAL, Front Bumper.>
4) Remove the support plate.



5) Remove the five bolts, then remove the headlight assembly.



6) Disconnect the connector and then detach the rear headlight assembly.

B: INSTALLATION

Install in the reverse order of removal.

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

C: ADJUSTMENT

1. HEADLIGHT AIMING

NOTE:
Aiming of this headlight can be adjusted only in the vertical direction. It cannot be adjusted in the horizontal direction.

CAUTION:
Turn off the light before adjusting the headlight beam level. If it is necessary to inspect the beam level, do not keep the light on for two minutes or more.

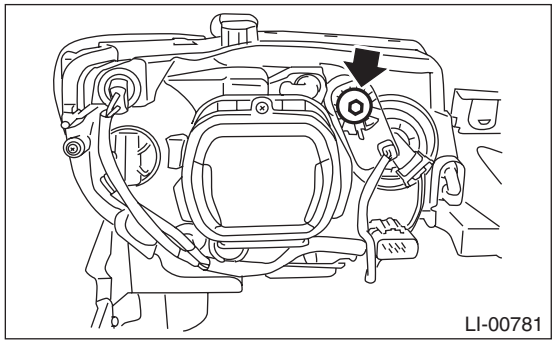
NOTE:
Before checking the headlight beam level, be sure of the following:

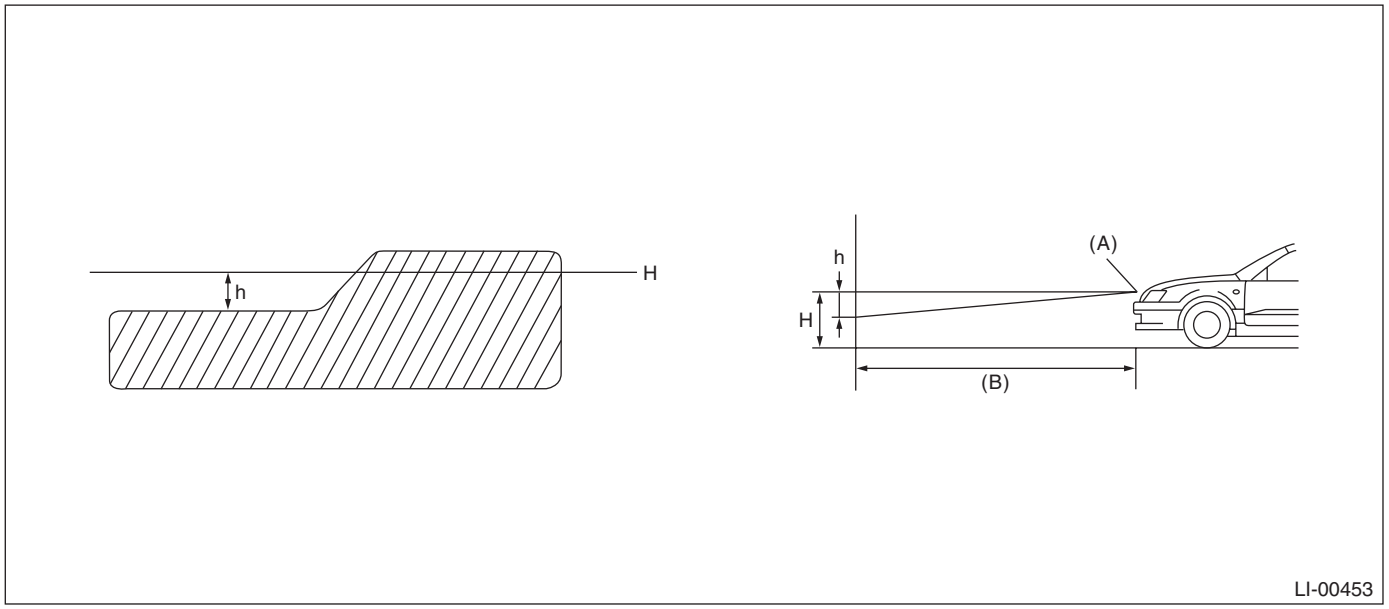
- the area around the headlight has not sustained any scratches, damage or other type of deformation.
- Vehicle is parked on a level surface.
- The inflation pressure of tires is correct.
- Vehicle's fuel tank is fully filled.

1) Bounce the vehicle several times to normalize the suspension.
2) Make certain that someone is seated in the driver's seat.
3) Measure the heights of headlights and the distance between the centers of left and right LO beam bulbs.

4) Turn the headlights on and then adjust the low beam pattern.

NOTE:
Adjust the headlight beam level by turning the adjusting screw. The adjusting screw can be accessed from a direction described in the figure.

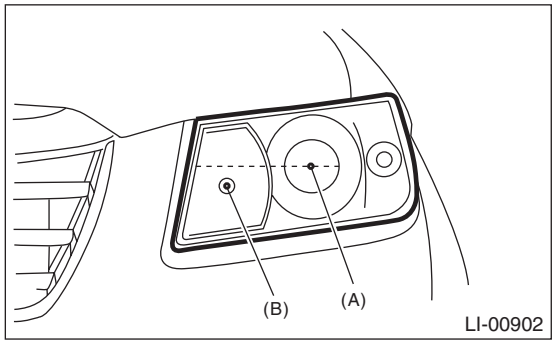




(A) Bulb center marking (B) 3 m (10 ft)

h mm (in) at 3 m (10 ft)	21 (0.83)

NOTE:
Check the bulb center mark on the inner side of the lens.



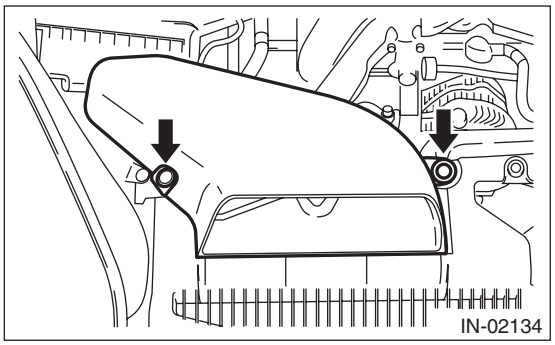
(A) Low beam
(B) High beam

13.Headlight Bulb

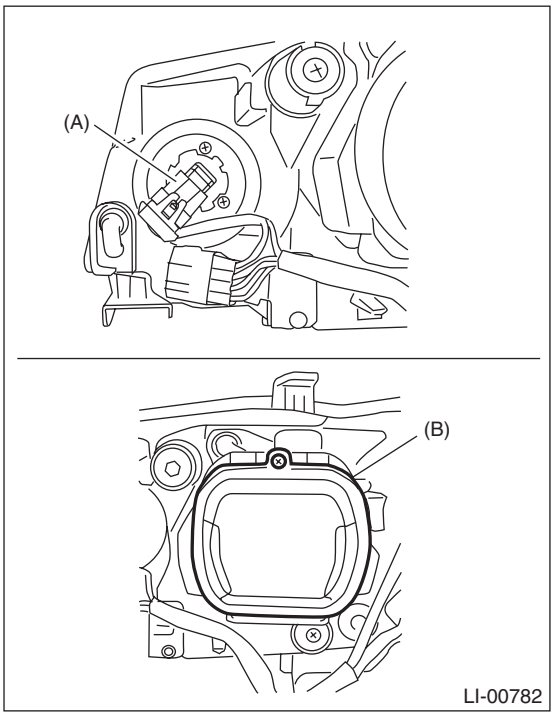
A: REMOVAL

1. HIGH BEAM AND HALOGEN TYPE LOW BEAM

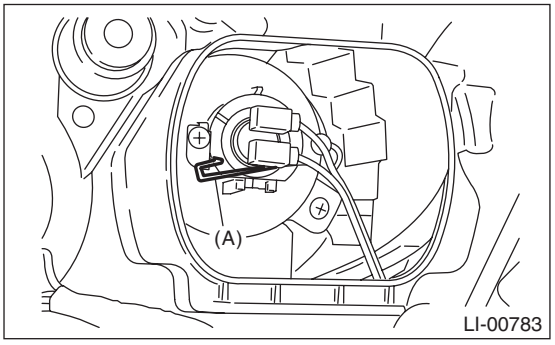
CAUTION:
• Because the halogen bulb operates at a high temperature, dirt and oil on the bulb surface reduces the bulb's service life. Hold the flange portion when replacing the bulb. Never touch the glass portion.
• Do not leave the headlight without a bulb for a long time. Dust, moisture, etc. entering the headlight may affect its performance.
1) Disconnect the ground cable from the battery.
2) Remove the air intake duct. (When removing the headlight bulb RH).



3) Remove the battery. (When removing the headlight bulb LH)
4) Disconnect the harness connector.
5) Remove the bulb assembly (A) then remove the high beam. To remove the low beam, remove the back cover (B), and then go to Step 6).



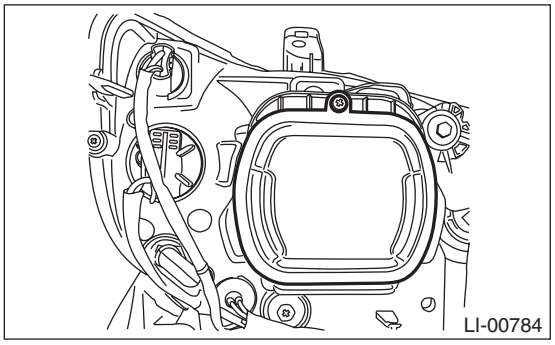
6) Remove the light bulb retaining spring (A) to remove bulb.



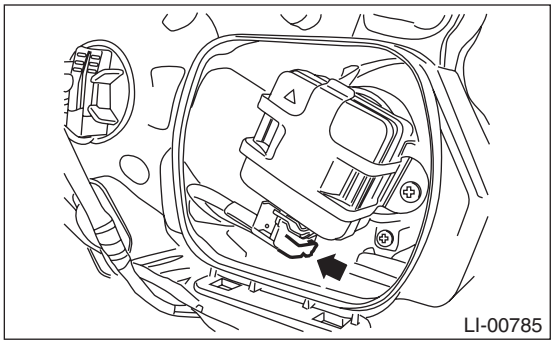
2. HID TYPE LOW BEAM

CAUTION:
• Do not operate with wet hands.
• As the lightening circuit uses high voltage, be sure to confirm that the power supply is turned off before operation.
• When replacing the bulb, hold the flange portion and never touch the glass portion.
• Do not leave the headlight without a bulb for a long time. Dust, moisture, etc. entering the headlight may affect its performance.
1) Disconnect the ground cable from battery.
2) Remove the headlight assembly. <Ref. to LI-15, REMOVAL, Headlight Assembly.>

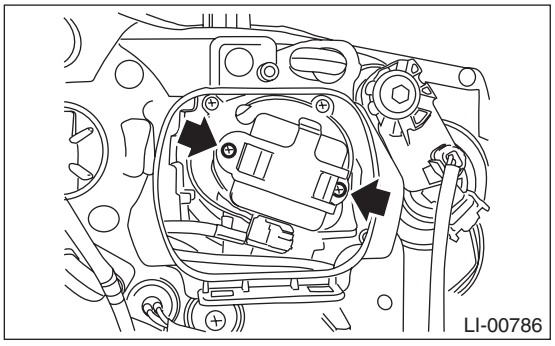
3) Remove the back cover.



4) Remove the lock, and disconnect the harness connector.



5) Remove the screws, and then remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. HALOGEN TYPE

1) Visually check the bulb for blow out.
2) Check the bulb specification.
<Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

2. HID TYPE

CAUTION:
- **Do not operate with wet hands.**
- **Do not touch the harness, inner headlight, or any metallic portion of the headlight when the light is illuminated (when the lighting switch is turned on).**
- **When performing a lighting test, make sure that the headlight is mounted on the vehicle, and the power supply is connected to the connector on the vehicle's side.**

1) Check the bulb specification.
<Ref. to LI-2, SPECIFICATION, General Description.>
2) Install a specified HID bulb for headlight lighting test.
3) If the headlight does not illuminate, replace the bulb with a new part.
4) Check the HID ballast.
Check the ballast in the following methods and judge if it can be reused or not.

(1) Perform the cold start (turning on the lights after the headlights is gone off for more than 10 minutes) and hot start (turning on the headlights for more than 15 minutes → turning off the lights for one minute → turning on the lights again) several times and check if the headlights are lit surely.

(2) Check the lighting condition from immediately after the cold start until the stable condition (approx. 5 min.), to make sure that the unstable condition (flicker etc.) does not occur.

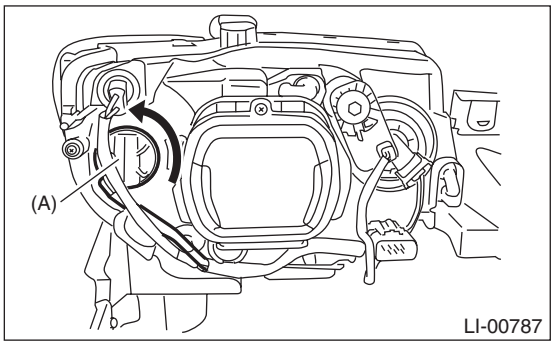
(3) Attach the two bulbs having been used for the same period of time to the right and left headlights and keep the headlights for approx. 30 minutes lit. Check the difference of brightness between right and left headlights.

5) If NG, replace the ballast with a new part.

14.Front Turn Signal Light Bulb

A: REMOVAL

1) Open the front hood.
2) Turn the socket (A) and remove the front turn signal light bulb.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification.
<Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

15.Parking Light Bulb

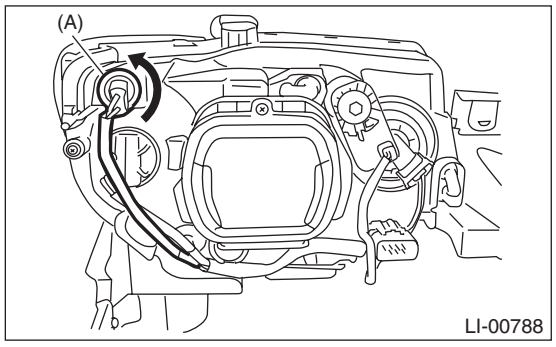
A: SPECIFICATION

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-19, REMOVAL, Front Turn Signal Light Bulb.>

16.Front Side Marker Light Bulb

A: REMOVAL

1) Open the front hood.
2) Turn the socket (A) and remove the front turn signal light bulb.



B: INSTALLATION

Install in the reverse order of removal.

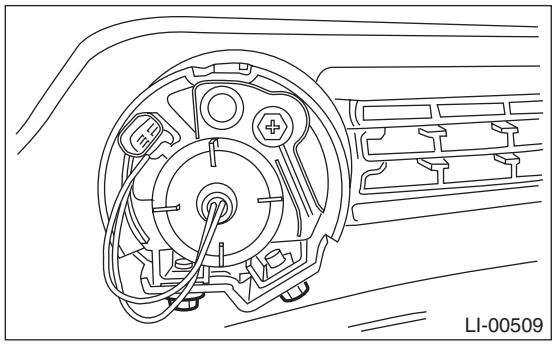
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification.
<Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

17.Front Fog Light Assembly

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Disengage the three clips, and then turn over the lower mud guard.
3) Disconnect the harness connector.
4) Remove the two mounting bolts, and pull and detach the fog light assembly.



B: INSTALLATION

Install in the reverse order of removal.

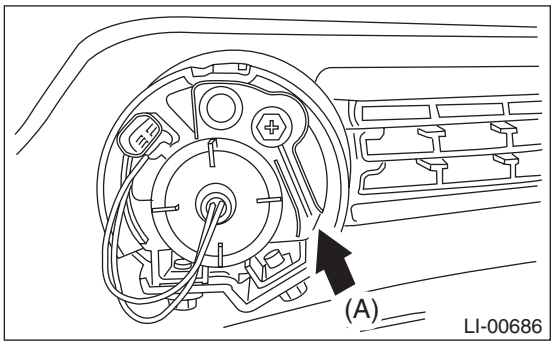
Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

C: ADJUSTMENT

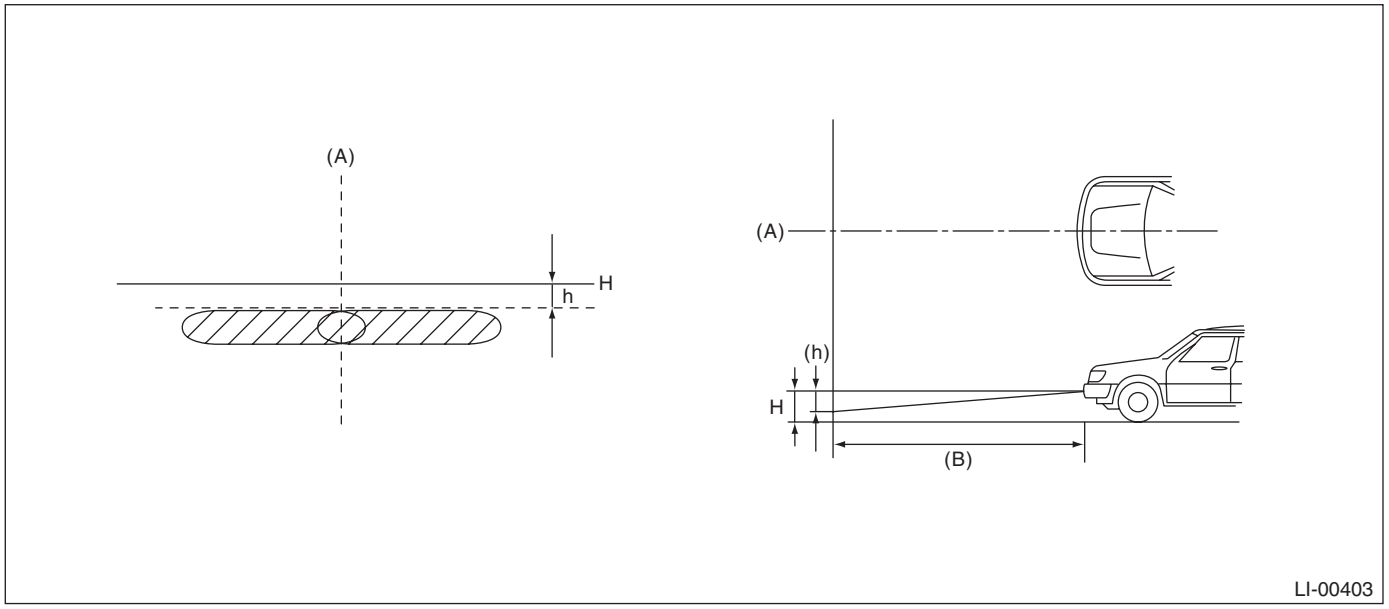
Fog light aiming

NOTE:
Before checking the fog light beam level, be sure of the following:
• Check the area around the fog light for any scratches, damage or other type of deformation.
• 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) Measure the height of fog light center.
4) Disengage the three clips, and then turn over the mud guard.

5) Adjust the front fog light pattern by inserting a Phillips screwdriver to the adjusting hole.



(A) Adjusting hole



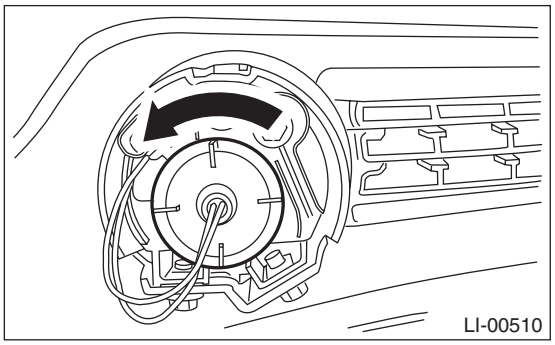
(A) Vehicle center (B) 3 m (10 ft) (H) Height of the center of fog light (mm)

h Dimension mm (in)	40 (1.57)

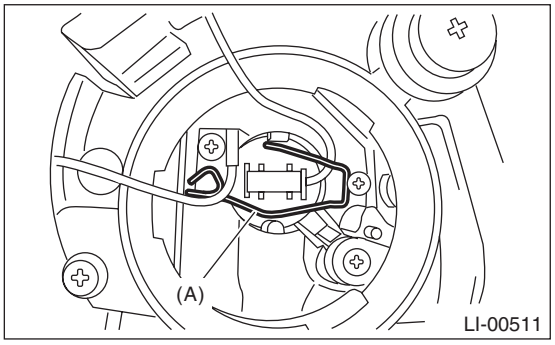
18.Front Fog Light Bulb

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Disengage the three clips, and then turn over the lower mud guard.
3) Disconnect the harness connector.
4) Remove the back cover.



5) Remove the spring retainer (A), then detach the fog light bulb.



B: INSTALLATION

Install in the reverse order of removal.

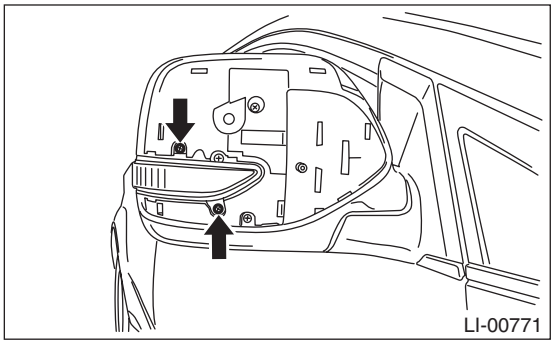
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

19.Side Turn Signal Light Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the mirror. <Ref. to GW-15, REPLACEMENT, Outer Mirror.>
3) Remove the scalp cap. <Ref. to GW-13, REPLACEMENT, Scalp Cap.>
4) Remove the 2 mounting screws, disconnect the harness connector and then remove the side turn signal light assembly.



B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
0.8 N·m (0.08 kgf-m, 0.59 ft-lb)

C: INSPECTION

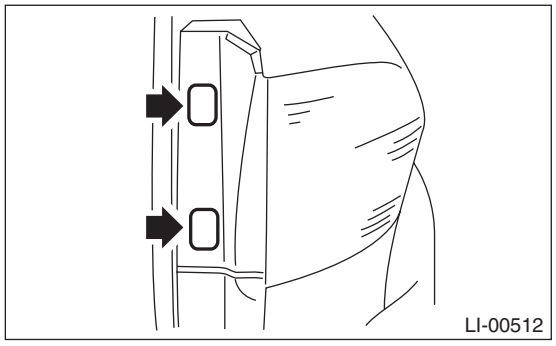
1) Install the side turn signal light assembly and check that it blinks normally.
2) If it does not blink normally, replace the side turn signal light assembly with a new part.

NOTE:
Because a LED (Light Emitting Diode) is used for the side turn signal light, replace the side turn signal light as an assembly if the LED went out.

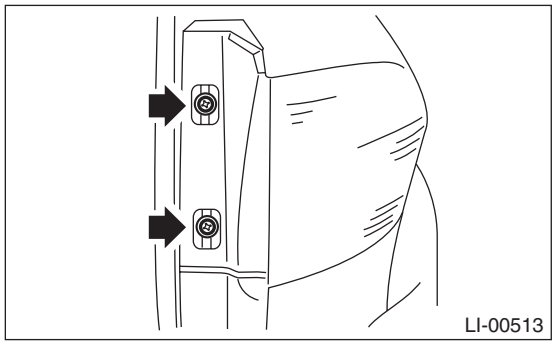
20. Rear Combination Light Assembly

A: REMOVAL

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



3) Remove the two bolts, and then detach the rear combination light by pulling it to the rear side of vehicle.



4) After turning the sockets of the tail/stop light bulbs and rear turn signal light bulbs, remove the rear combination light.

B: INSTALLATION

Install in the reverse order of removal.

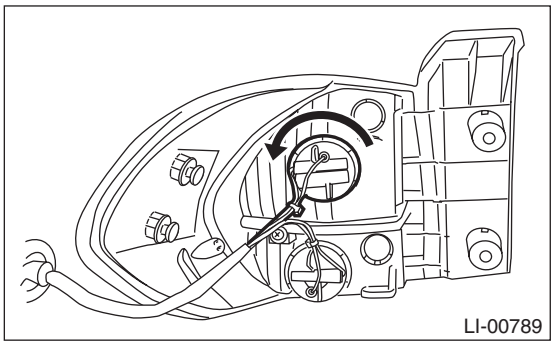
Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

21.Tail/Stop Light Bulb

A: REMOVAL

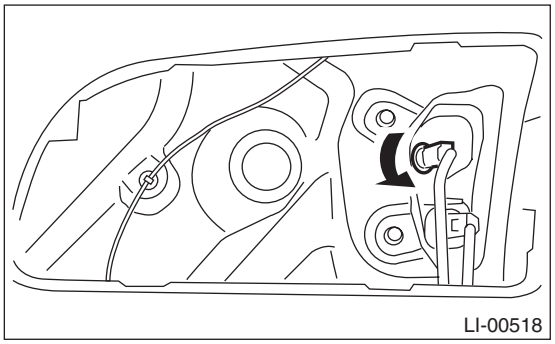
1. COMBINATION LIGHT

1) Remove the rear combination light assembly. <Ref. to LI-26, REMOVAL, Rear Combination Light Assembly.>
2) Turn the socket and remove the bulb.



2. FINISHER LIGHT

1) Remove the bulb inspection cover of the rear gate trim.
2) Turn the socket and remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

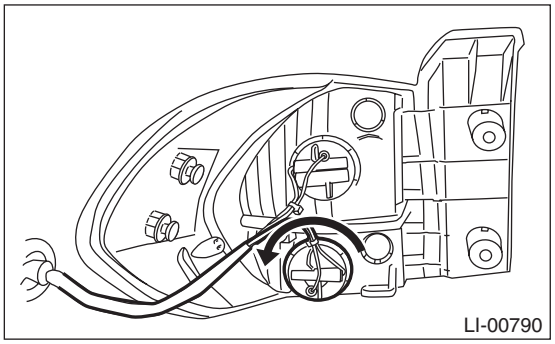
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

22.Rear Turn Signal Light Bulb

A: REMOVAL

1) Remove the rear combination light assembly. <Ref. to LI-26, 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.Rear Side Marker Light Bulb

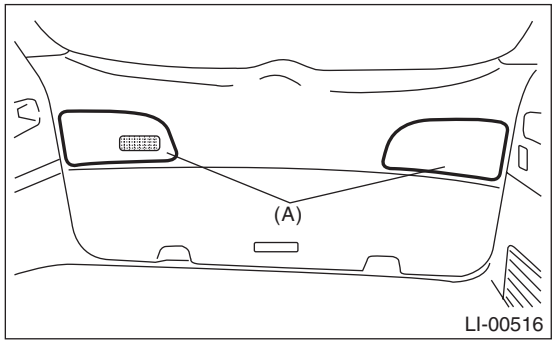
A: SPECIFICATION

The rear side marker light bulb is integrated into the tail/stop light as a single unit; therefore, refer to the section on tail/stop light bulbs for the removal procedures. <Ref. to LI-27, REMOVAL, Tail/Stop Light Bulb.>

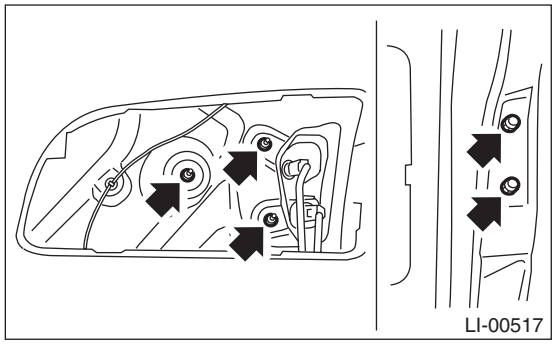
24.Rear Finisher Light Assembly

A: REMOVAL

1) Remove the bulb inspection cover (A) of the rear gate trim.



2) Disconnect the harness connector.
3) Remove the mounting nuts and detach the rear finisher assembly.



B: INSTALLATION

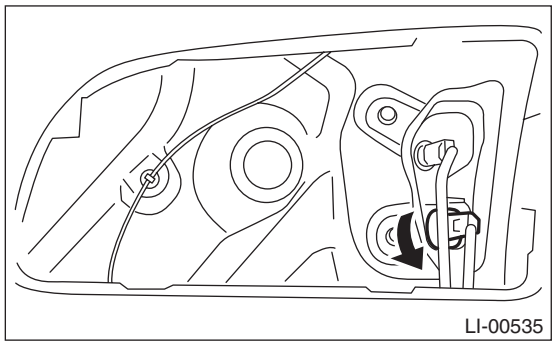
Install in the reverse order of removal.

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

25.Back-up Light Bulb

A: REMOVAL

1) Remove the bulb inspection cover of the rear gate trim.
2) Turn the socket and remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

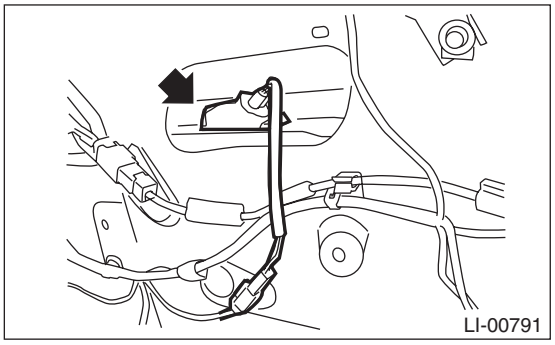
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

26.License Plate Light Assembly

A: REMOVAL

1) Remove the rear gate trim. <Ref. to EI-52, REMOVAL, Rear Gate Trim.>
2) Disengage the claws, and disconnect the connectors, and then detach the license plate light assembly.



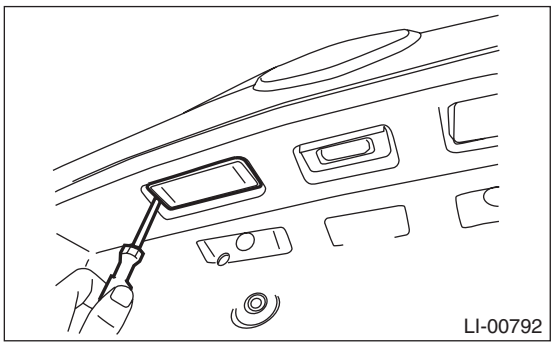
B: INSTALLATION

Install in the reverse order of removal.

27.License Plate Light

A: REMOVAL

1) Remove the license plate light body.



2) Remove the bulb.

B: INSTALLATION

Install in the reverse order of removal.

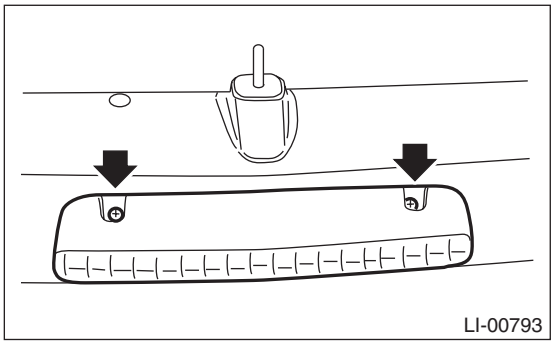
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

28.High-mounted Stop Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the roof spoiler. <Ref. to EI-31, REMOVAL, Roof Spoiler.>
3) Remove the cap and screws, then detach the high-mounted stop light.



B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
1.5 N·m (0.15 kgf-m, 1.1 ft-lb)

C: INSPECTION

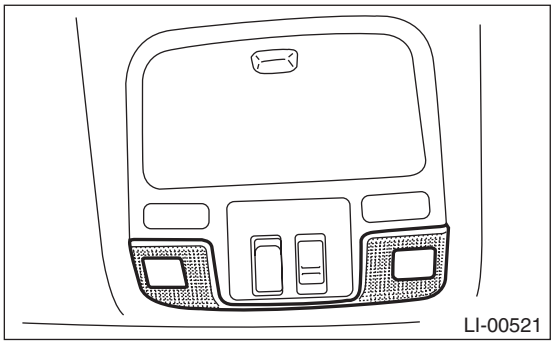
1) Install the high-mounted stop light to test if it illuminates normally.
2) If the high-mounted stop light does not illuminate, replace it with a new one.

NOTE:
Because LEDs (Light Emitting Diodes) are used for the high-mounted stop light, replace the high-mounted stop light as an assembly if the LEDs went out.

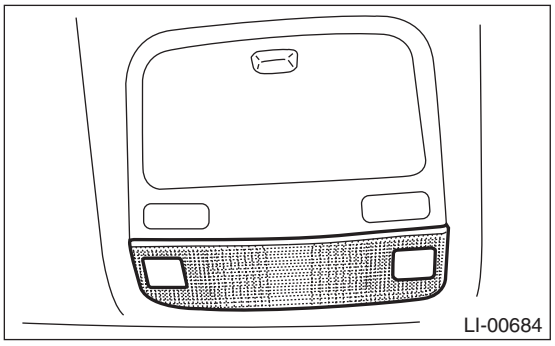
29.Spot Map Light

A: REMOVAL

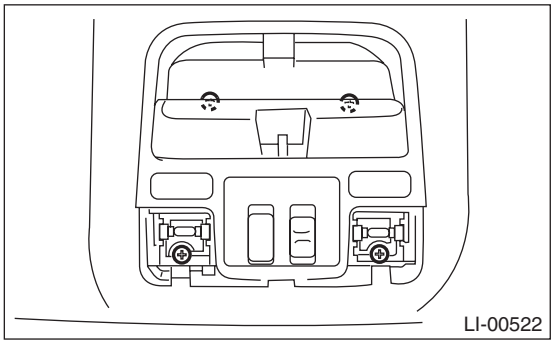
1) Disconnect the ground cable from battery.
2) Remove the lens.
- Model with sunroof



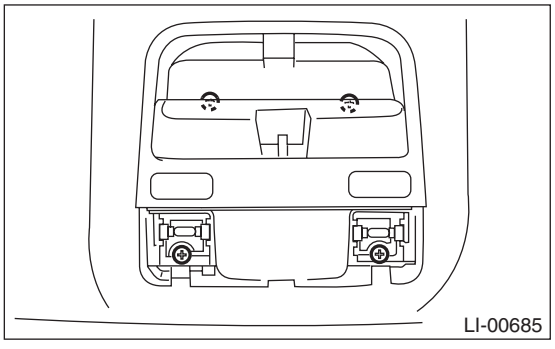
- Model with standard roof



3) Remove the four bolts used for mounting the spot map light.
- Model with sunroof



- Model with standard roof



4) Disconnect the harness connectors and remove the spot map light.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. SPOT MAP LIGHT BULB

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

2. SPOT MAP LIGHT SWITCH

Measure the resistance between spot map light switch terminals.

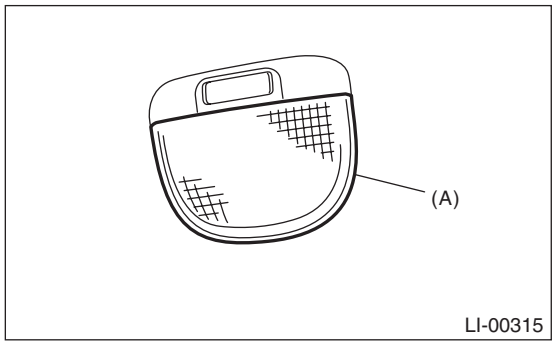
Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
ON	1 and 2	18±5.4 Ω

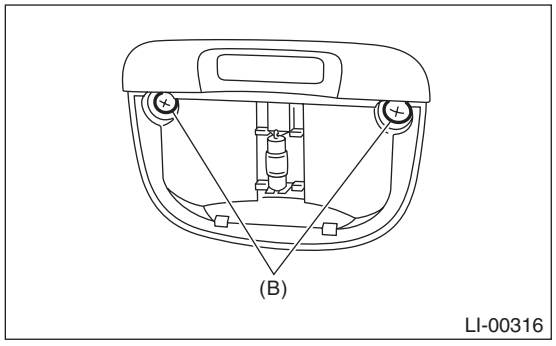
30.Room Light

A: REMOVAL

1. MODEL WITHOUT REAR ENTERTAINMENT SYSTEM

1) Disconnect the ground cable from the battery.
2) Remove the lens (A) and mounting screws (B).





3) Disconnect the harness connector and remove the room light.

2. MODEL WITH REAR ENTERTAINMENT SYSTEM

The room light bulb is integrated into the rear entertainment system as a single unit; therefore, refer to Rear Entertainment System for the removal procedure. <Ref. to ET-35, REMOVAL, Rear Entertainment.>

B: INSTALLATION

Install in the reverse order of removal.

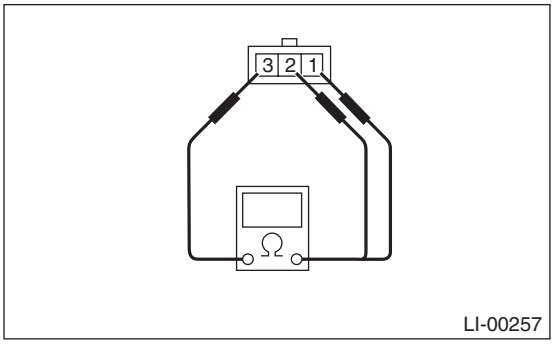
C: INSPECTION

1. ROOM LIGHT BULB

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

2. ROOM LIGHT SWITCH

Measure the resistance between room light switch terminals.

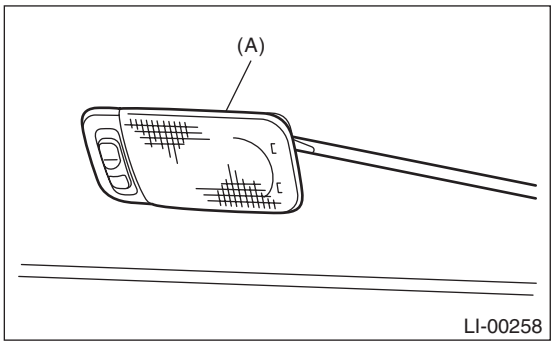


Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
ON	1 and 3	1.5±0.5 Ω
DOOR	2 and 3	1.5±0.5 Ω

31.Luggage Room Light

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the luggage room light body (A).



3) Disconnect the harness connector and remove the lens.

B: INSTALLATION

Install in the reverse order of removal.

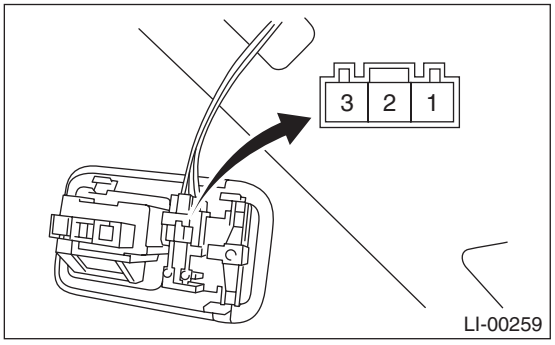
C: INSPECTION

1. LUGGAGE ROOM LIGHT BULB

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

2. LUGGAGE ROOM LIGHT SWITCH

Measure the resistance between luggage room light switch terminals.

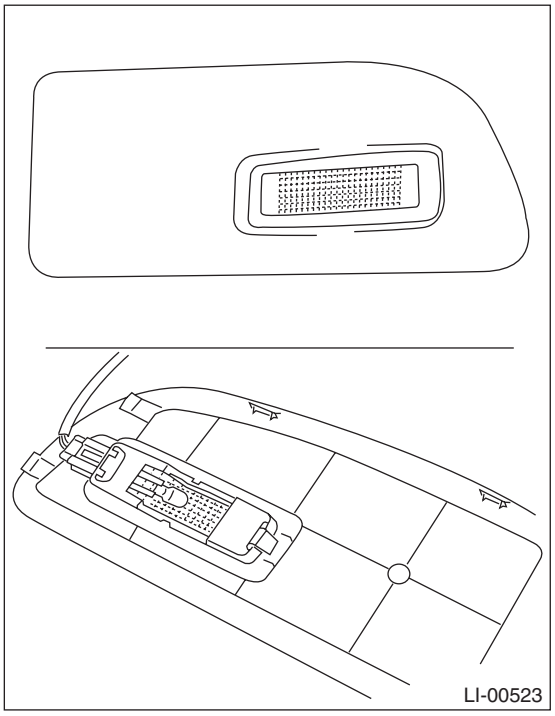


Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
ON	1 and 2	1.5±0.5 Ω
DOOR	2 and 3	1.5±0.5 Ω

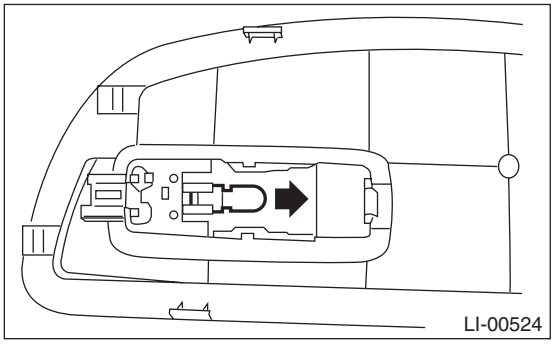
32.Rear Gate Light

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the bulb inspection cover of rear gate trim, then disconnect the harness connectors.



3) Remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

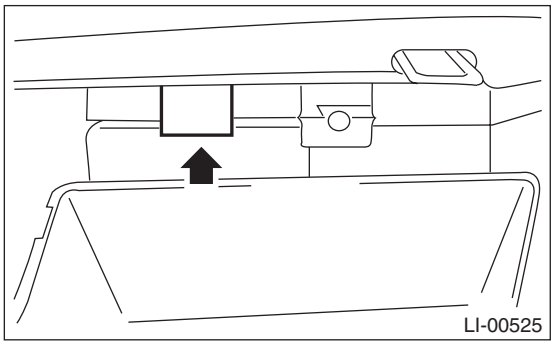
C: INSPECTION

1) 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.Glove Box Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-38, REMOVAL, Glove Box.>
3) Disconnect the harness connector.
4) Remove the glove box light.



B: INSTALLATION

Install in the reverse order of removal.

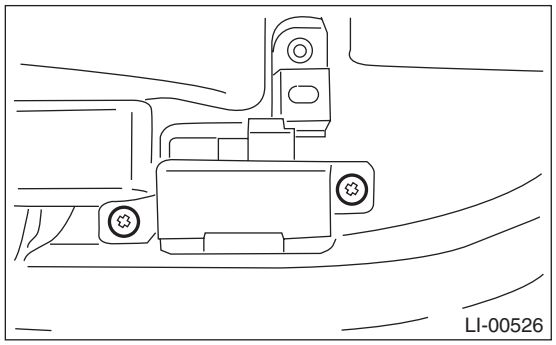
C: INSPECTION

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.

34.Door Step Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the front door trim or rear door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
3) Disconnect the harness connector.
4) Remove the mounting screw from the rear side of trim and remove the door step light.



B: INSTALLATION

Install in the reverse order of removal.

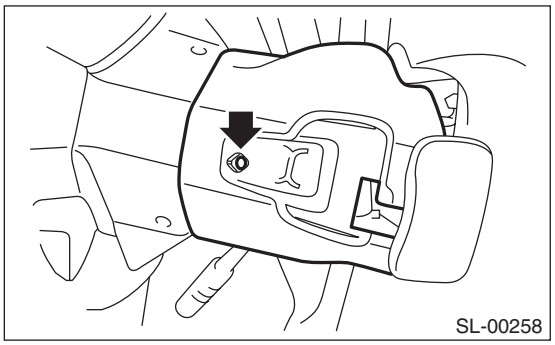
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification.
<Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

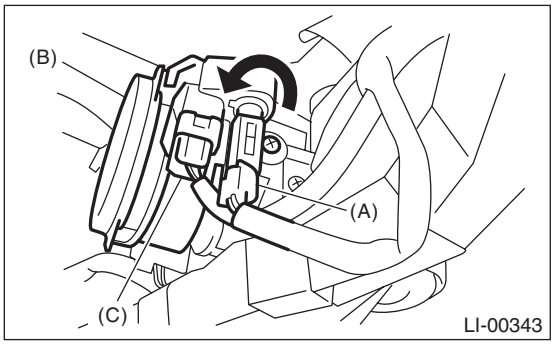
35.Ignition Switch Illumination

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the screws, and detach the upper column cover and lower column cover.



3) Disconnect the ignition switch illumination connector (A).
4) Turn the ignition switch illumination connector to the left and disconnect it.



(A) Ignition switch illumination connector
(B) Ignition switch illumination
(C) Immobilizer antenna connector

B: INSTALLATION

Install in the reverse order of removal.

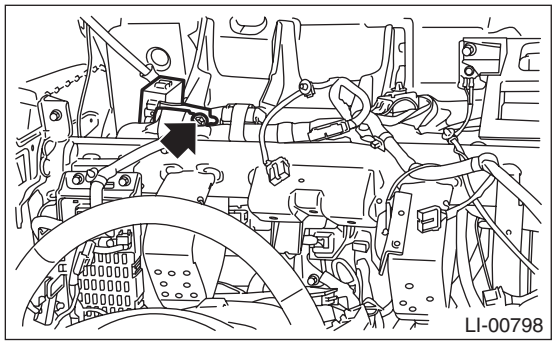
C: INSPECTION

	Step	Check	Yes	No
1	**CHECK THE IGNITION SWITCH ILLUMINATION.** Make sure the ignition switch illumination illuminates when driver's side door is open.	Does the ignition switch illumination illuminate?	Ignition switch illumination is normal.	Go to step **2**.
2	**CHECK THE IGNITION SWITCH ILLUMINATION.** Make sure the ignition switch illumination blinks when the ignition switch is turned to ON.	Does the ignition switch illumination blink?	Check the function setting of the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Check the ignition switch illumination circuit. <Ref. to SL-23, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.>

36.Day Time Running Light Unit

A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the fuse box and disconnect the connector.
3) Remove the mounting nuts, and detach the daytime running light module.



B: INSTALLATION

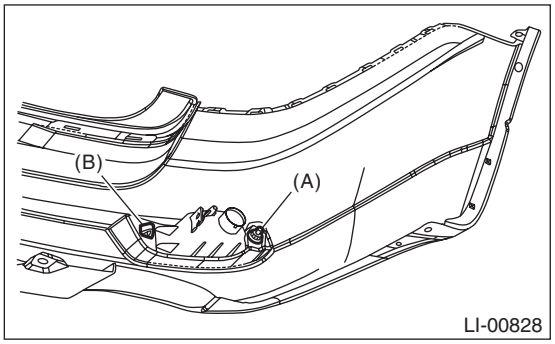
Install in the reverse order of removal.

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

37.Reflex Reflector

A: REMOVAL

1) Remove the nut (A) from the back of the rear bumper.
2) Remove the reflex reflector by pressing the claw (B) of the reflex reflector.



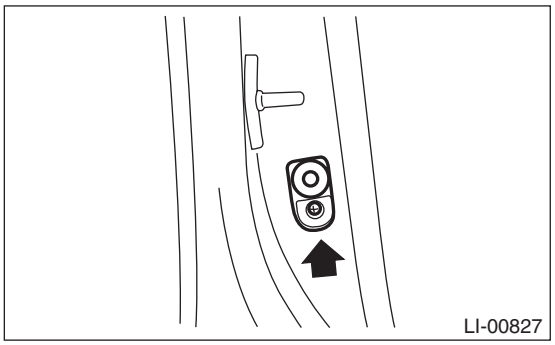
B: INSTALLATION

Install in the reverse order of removal.

38. Door Switch

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the screw, and pull out the door switch.



3) Disconnect the harness connector.

B: INSTALLATION

Install in the reverse order of removal.

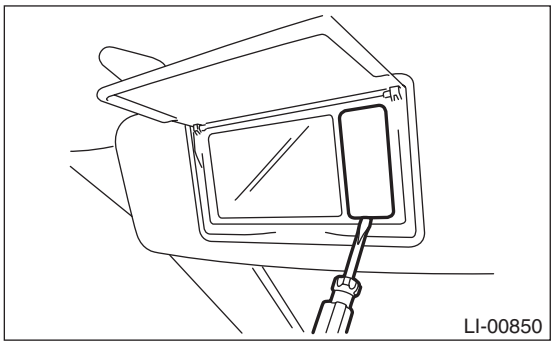
C: INSPECTION

Refer to the door switch check under the room light system. <Ref. to LI-11, DOOR SWITCH, INSPECTION, Room Light System.>

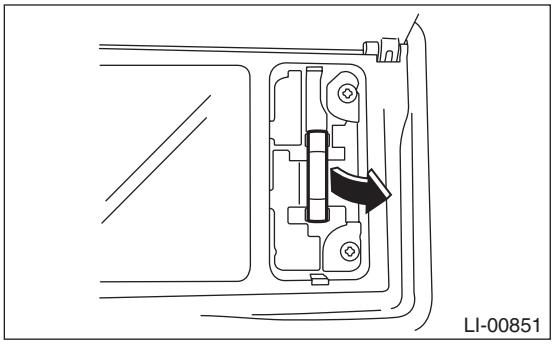
39.Vanity Mirror Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Insert a screwdriver at the edge of the lens, and remove the lens.



3) 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.

WIPER AND WASHER SYSTEMS

WW

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6.	Wiper Relay Unit	16
7.	Front Wiper Arm	17
8.	Front Wiper Motor and Link	18
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11.	Rear Wiper Motor	21
12.	Rear Washer	22

1. Basic Diagnostic Procedure

A: PROCEDURE

Step		Check	Yes	No
1	**CHECK WARNING LIGHT.** Check whether the airbag warning light in the combination meter is lit.	Does the airbag warning light illuminate?	Go to step **2**.	Perform the diagnosis according to phenomenon of the problem.
2	**READ DTC.** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. 3) Turn the ignition switch to ON and run the Subaru Select Monitor. 4) Read the DTC. <Ref. to OD(diag)-16, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: If the communication function of the Subaru Select Monitor cannot be executed normally, check the communication circuit. <Ref. to OD(diag)-15, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.> 5) Record all DTCs and freeze frame data.	Is DTC displayed?	Go to step **3**.	Go to “Airbag warning light failure”<Ref. to AB(diag)-32, Airbag Warning Light Failure.>.
3	**PERFORM DIAGNOSIS.** 1) Determine the possible cause “List of Diagnostic Trouble Code (DTC)”<Ref. to OD(diag)-21, List of Diagnostic Trouble Code (DTC).>. 2) Inspect the DTC using “List of Diagnostic Trouble Code (DTC)”. 3) Repair the trouble cause. 4) Perform the Clear Memory Mode. <Ref. to OD(diag)-18, Clear Memory Mode.> 5) Perform the Inspection Mode. <Ref. to OD(diag)-17, Inspection Mode.> 6) Read any other DTCs displayed.	Is DTC displayed?	Perform the procedure 1) to 5) in step 3.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Customer's name		Inspector's name	
Date vehicle brought in	/ /	Registration No.	
Odometer reading	km miles	V.I.N.	
Date problem occurred	/ /	Registration year	/ /
Weather	❑ Fine ❑ Cloudy ❑ Rainy ❑ Snowy ❑ Others:		
Temperature	°C (°F)		
Road condition	❑ Flat road ❑ Uphill ❑ Downhill ❑ Gravel road ❑ Others:		
Vehicle operation	❑ Starting ❑ Idling ❑ Driving ❑ Constant speed ❑ Accelerating ❑ Decelerating ❑ Turning ❑ Others:		
Details of problem			
Airbag warning light operation	❑ Normal (After turning the ignition switch to ON, illuminates for 6 seconds then goes off.) ❑ Remains ON ❑ Remains OFF		
Passenger's airbag ON/OFF indicator operation	❑ Normal (After turning the ignition switch to ON, illuminates for 6 seconds then goes off for 2 seconds; Lights ON (adult) or OFF (children/unoccupied).) ❑ Both remain ON ❑ Both remain OFF		
DTC output	❑ OK code ❑ DTC: (Code:)		

3. General Description

A: CAUTION

1) Never remove the occupant detection control module, occupant detection sensor and seat cushion from seat frame because the occupant detection system is integrated into seat frame as one unit.
2) Always perform “system calibration (Rezeroing)” when removing or removing and disassembling the passenger’s seat. <Ref. to OD(diag)-14, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
3) Never connect the battery in reverse polarity.
Occupant detection system may be destroyed instantly.
4) Do not disconnect the battery terminals while the engine is running.
A large counter electromotive force will be generated in the generator, and this voltage may damage electronic parts such as occupant detection control module.
5) Before disconnecting the connectors of each sensor and control module, be sure to turn the ignition switch to OFF and wait for 60 seconds or more.
Occupant detection control module may be damaged.
6) Every occupant detection system-related part is a precision part. Do not drop them.
7) Airbag system wiring harness is routed near the occupant detection system.

CAUTION:
• Do not use the electrical test equipment on airbag system circuits.
• Be careful not to damage the airbag system wiring harness when servicing the occupant detection system.
• Refer to CAUTION in Airbag System when repairing the occupant detection system. <Ref. to AB(diag)-4, CAUTION, General Description.>

B: INSPECTION

Measure the battery voltage and check electrolyte.

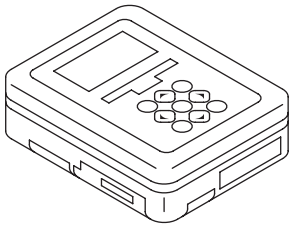
Standard voltage: 12 V

Specific gravity: 1.260 or more

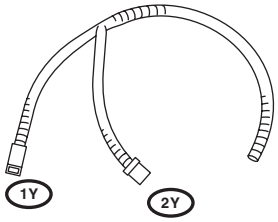
C: PREPARATION TOOL

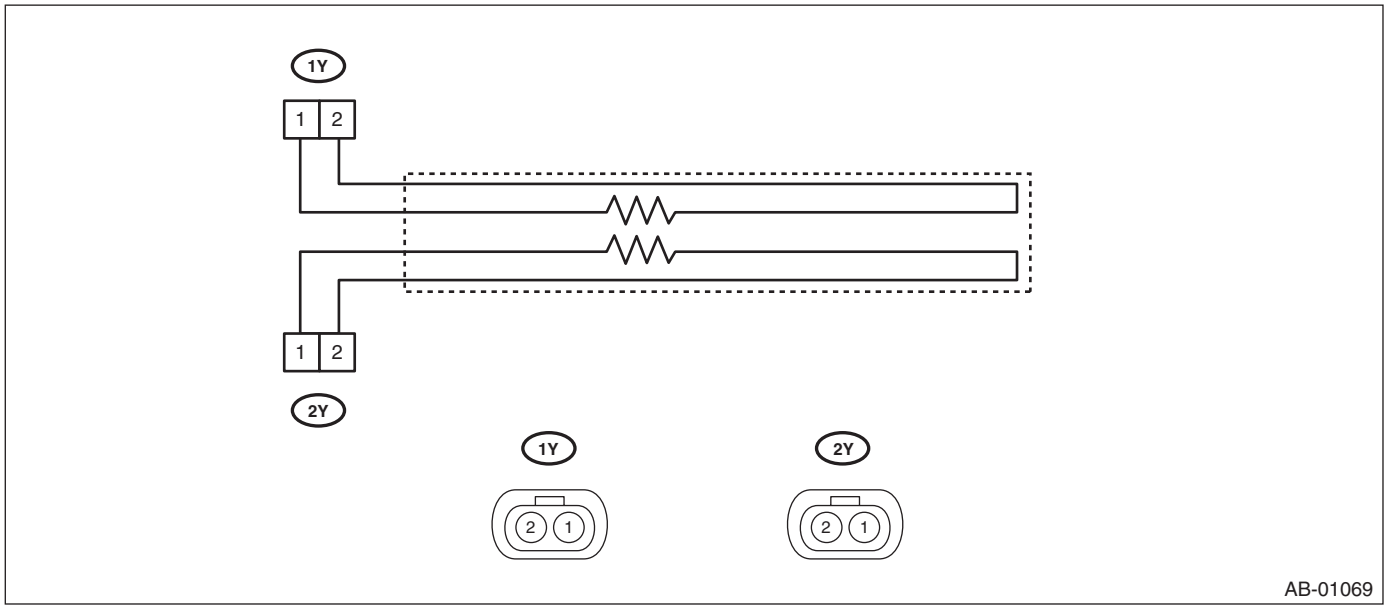
CAUTION:
To measure the voltage and resistance of airbag system and occupant detection system components, be sure to use the specified test harness.

1. SPECIAL TOOL

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

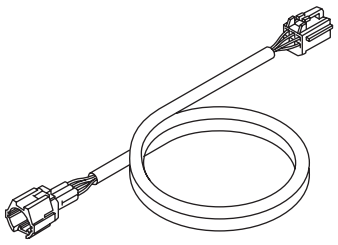
- TEST HARNESS Y

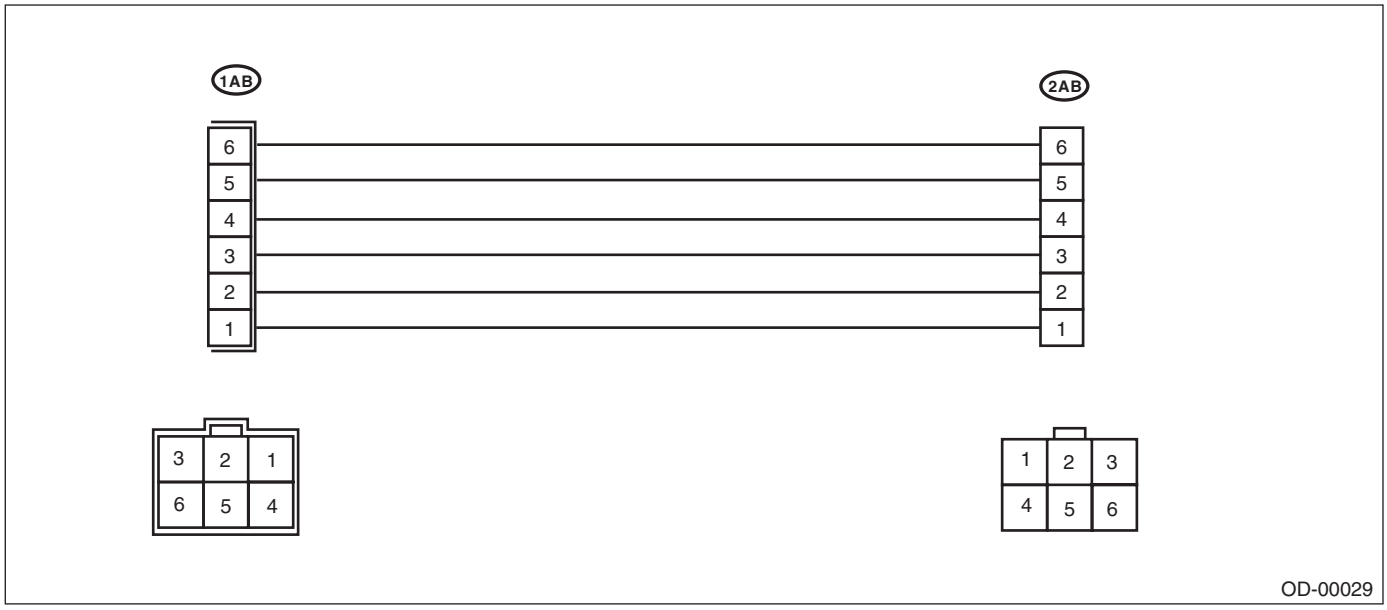
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG040	98299AG040	TEST HARNESS Y	Used for troubleshooting seat belt buckle switch.



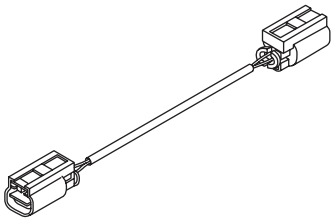
AB-01069

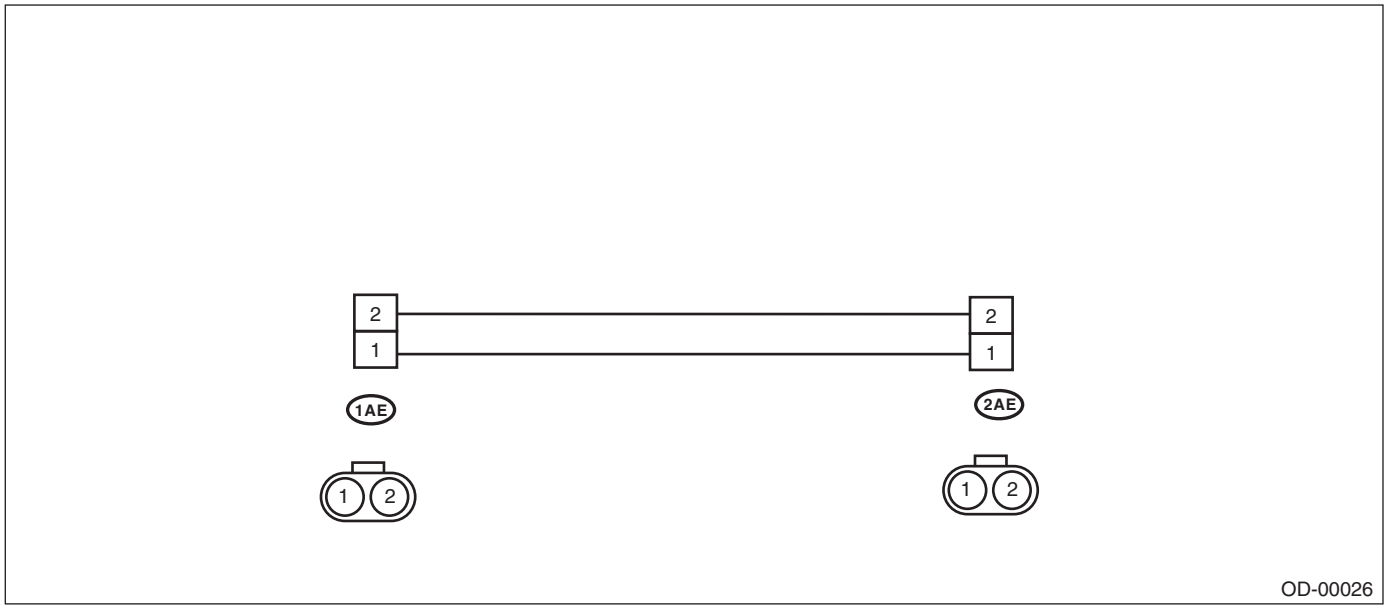
- TEST HARNESS AB

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

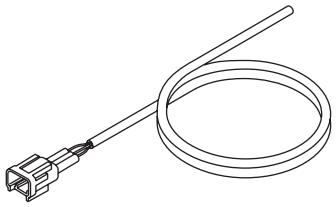


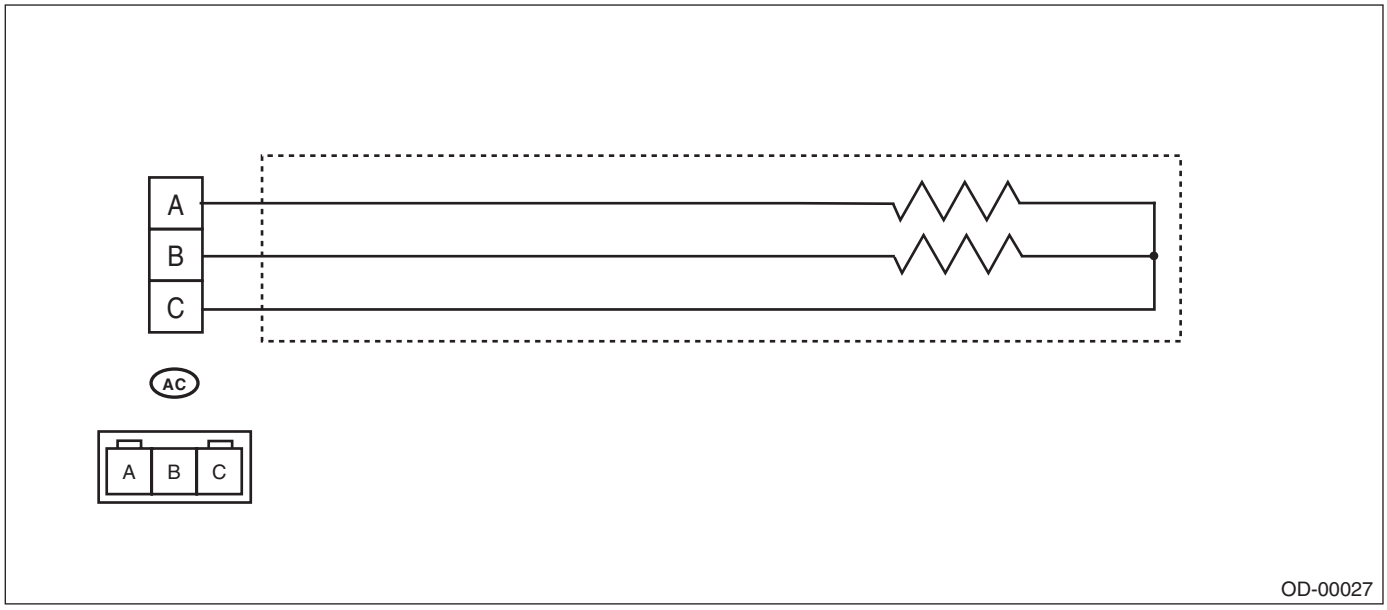
- TEST HARNESS AE

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA030	98299XA030	TEST HARNESS AE	TEST HARNESS Y adapter harness Used for troubleshooting seat belt buckle switch.

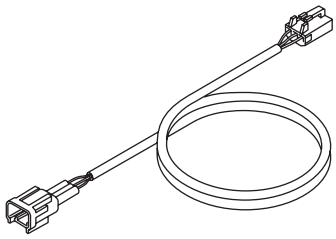


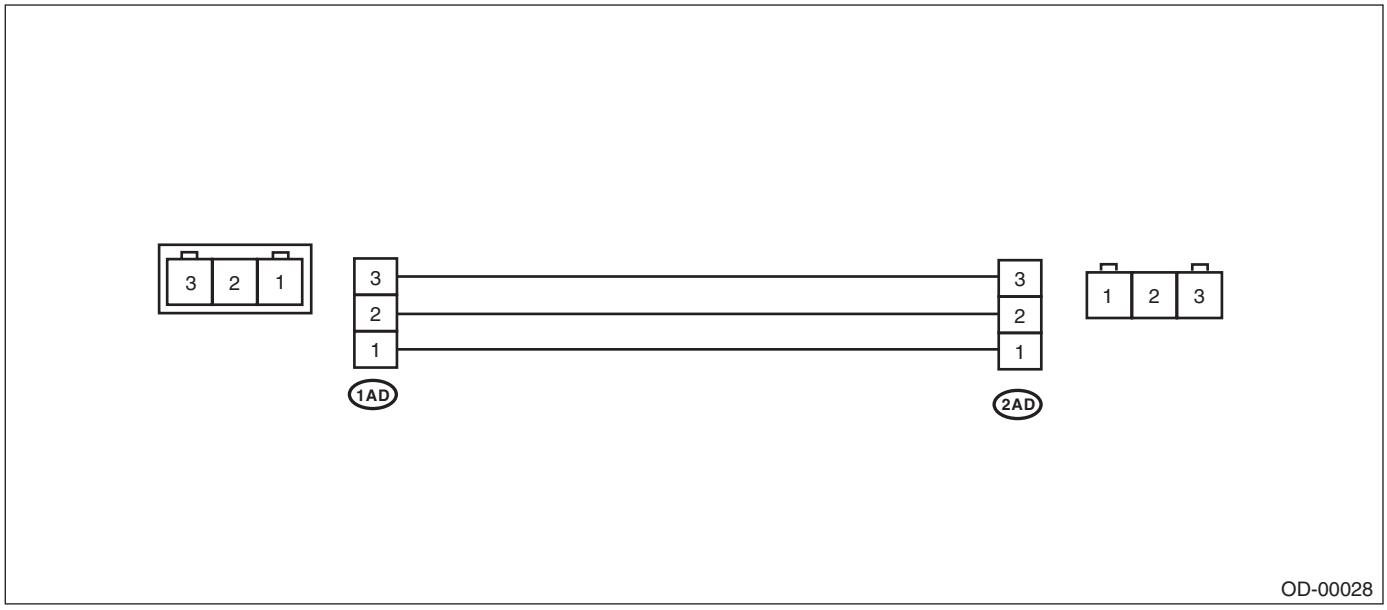
- TEST HARNESS AC

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA010	98299XA010	TEST HARNESS AC	Used for troubleshooting 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.

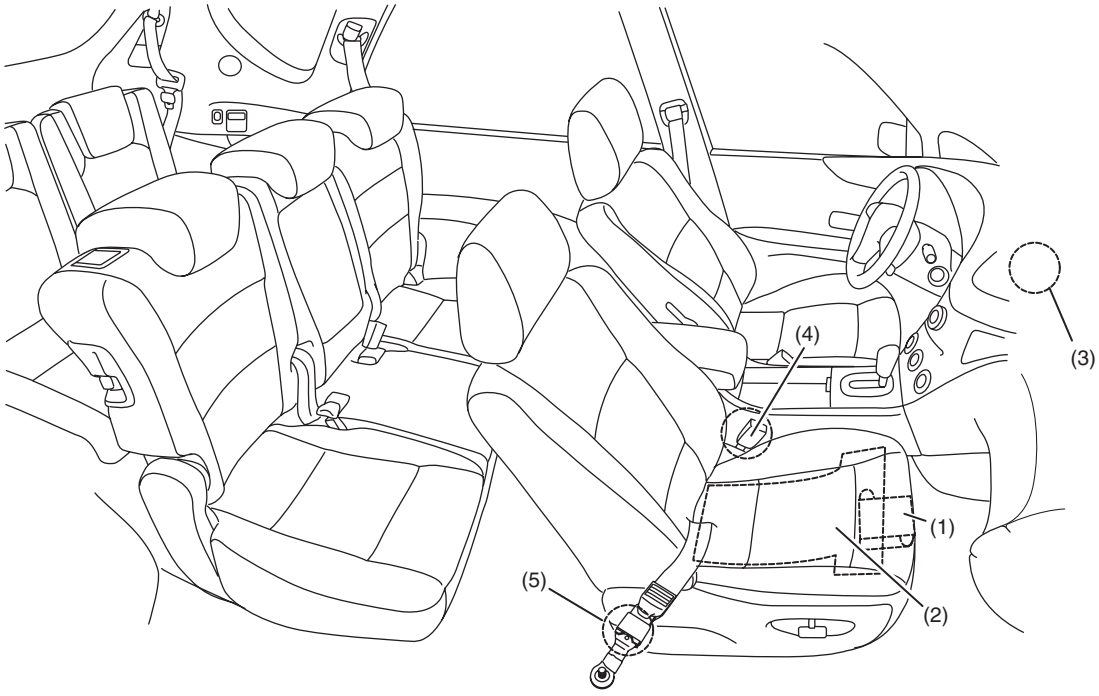


2. GENERAL TOOL

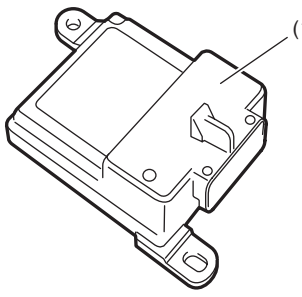
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

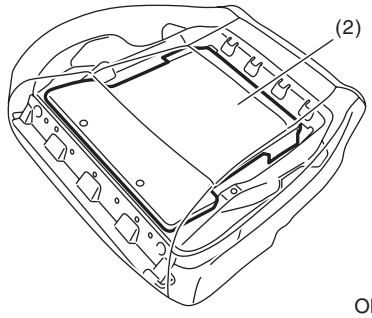
4. Electrical Component Location

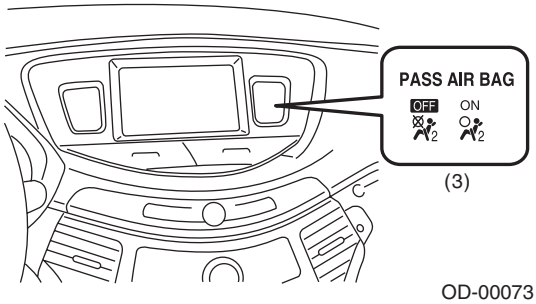
A: LOCATION

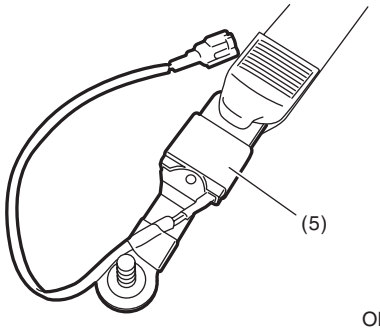


(1) Occupant detection control module
(2) Occupant detection sensor
(3) Airbag ON/OFF indicator light (Warning box)
(4) Buckle switch (Passenger's seat)
(5) Seat belt tension sensor









5. Airbag Connector

A: PROCEDURE

For detailed operation procedure, refer to the AB section “Airbag connector”. <Ref. to AB-8, Airbag Connector.>

6. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

CAUTION:
Never remove the occupant detection control module, occupant detection sensor or seat frame because they are integrated into one unit.

Terminal Name		Terminal No.	Input/Output value	Remarks
IG – power supply		9	9 — 16 V	When ignition switch ON
Airbag control module communication	(COM)	10	Open collector terminal	Communication line
Airbag control module communication	(GND)	5	0 V	Ground
Belt tensioner sensor	(Vcc)	4	0 — 5 V	Belt tension sensor power supply
	(Vout)	16	0.5 — 4.5 V	Sensor output voltage
	(GND)	14	0 V	Sensor ground
Occupant detection sensor	(Vcc)	6	0 — 5 V	Pressure sensor power supply
	(Vout)	7	0.5 — 4.5 V	Sensor output voltage
	(GND)	15	0 V	Sensor ground
Buckle switch		1	0 — IG voltage	Ignition voltage when switch ON
Buckle switch	(GND)	2	0 V	Switch ground

B: WIRING DIAGRAM

Refer to the electrical wiring diagram. <Ref. to WI-73, Occupant Detection System.>

7. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

When malfunction of the airbag system and the occupant detection system occur, the DTC stored in airbag control module will be read out.
Refer to DTC readout of airbag system (diagnosis). <Ref. to AB(diag)-23, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>

NOTE:
- For details concerning operation procedure, refer to the “PC application help for Subaru Select Monitor”.
- For details concerning DTCs, refer to the List of Diagnostic Trouble Code (Airbag system, Occupant detection system). <Ref. to AB(diag)-36, List of Diagnostic Trouble Code (DTC).> <Ref. to OD(diag)-21, 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 «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Airbag System}.
3) On «Airbag System» display, select {Status Data}.
The following table is for support data.

Item	Display Contents
Seat position sensor LH	Front position*1/Rear position*2/Other*3/Initial setting*3/—*5
Seat position sensor RH	—*5
Seat belt buckle switch LH	Equipped*6/Unequipped*7/Other*8/Initial setting*4/—*9
Seat belt buckle switch RH	Equipped*6/Unequipped*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 the operation procedure, refer to “PC application help for Subaru Select Monitor”.

3. CLEAR MEMORY MODE

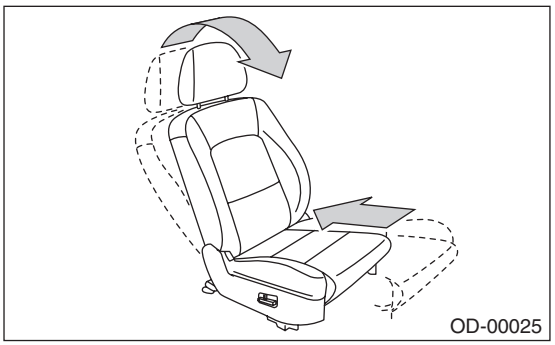
Clear the DTC stored in the airbag control module after repairing the airbag system and occupant detection system. (After the breakdown is recovered, the breakdown code for completed recoveries are read out when the next breakdown occurs if the memory clear work is not performed.)
1) On «Main Menu» display,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

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

4. SYSTEM CALIBRATION (REZEROING)

NOTE:
When replacing the occupant detection system, or removing and disassembling the passenger’s seat, always perform the system calibration after installing a seat in the vehicle.

CAUTION:
When the trouble occurs in the system during calibration process, “Occupant detection calibration failure” is detected in the DTC 2A of the airbag system and the airbag warning light lights. In this case, after turning the ignition switch to OFF once, redo the system calibration (Rezeroing), or after clearing the cause of the failure, perform the system calibration again.
1) Park empty vehicle on a level surface.
2) On «Main Menu» display, select {Each System Check}.
3) On «System Selection Menu» display, select {Occupant Detection System}.
4) On the {Occupant Detection System} display, select {Rezeroing}.
5) «See service manual. And check vehicle condition for successfully completing the rezeroing» is displayed. Check the following to adjust the condition of the vehicle.
• Adjust the seat backrest to be vertical. (Press the power seat switch to put the seat in a position where it will not move.)
• Adjust the seat sliding position to all the way back. (Press the power seat switch to put the seat in a position where it will not move.)
• Do not place anything on the top of the seat cushion.
• Sit on the seat cushion to smooth the seat surface.
• Check that the passenger’s seat belt is not inserted into the buckle, not tense or not stuck.
• Check that ambient temperature is in a range from 0 to 40°C.
6) When the «Re-zeroing Adjust the passenger seat to the condition shown in service manual» is displayed, slide the passenger seat all the way to the back, check that the backrest is adjusted to all the way up, and select the [OK].



7) When the «Re-zeroing Unbelt the Passenger seatbelt Continue: OK, Quit: NO» is displayed, make sure the passengers 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 passengers seat is empty, airbag OFF indicator illuminates and airbag ON indicator does not illuminate, and select the [OK].

NOTE:
• After selecting the [OK], «In process... Please wait for a while without touching vehicle» is displayed. Do not touch or rock the vehicle while the message is displayed.
• During the system calibration process, if the «Re-zeroing is unsuccessful See service manual Press OK to END» is displayed, go to step 10).
9) When the re-zeroing is ended normally, the «Rezeroing is successfully completed Press OK to END» is displayed. Select the [OK] and turn the ignition switch to OFF to finish the diagnosis.

10) During the system calibration process, if «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)-23, 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)-14, 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 (DTC). <Ref. to AB(diag)-23, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> <Ref. to AB(diag)-36, 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)-25, 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 diagnostic Code Present” will be displayed on the Subaru Select Monitor.

For detailed operation procedures, refer to “Airbag Warning Light Failure”. <Ref. to AB(diag)-32, Airbag Warning Light Failure.>

NOTE:
When the airbag warning light is OFF and “No diagnostic Code Present” 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)-23, Subaru Select Monitor.>

9. Inspection Mode

A: PROCEDURE

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

10.Clear Memory Mode

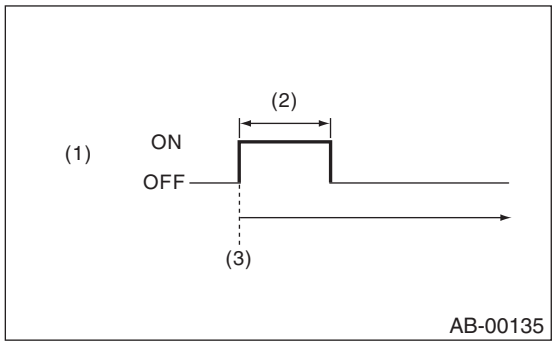
A: OPERATION

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)-23, Subaru Select Monitor.>

11.Airbag Warning Light Illumination Pattern

A: INSPECTION

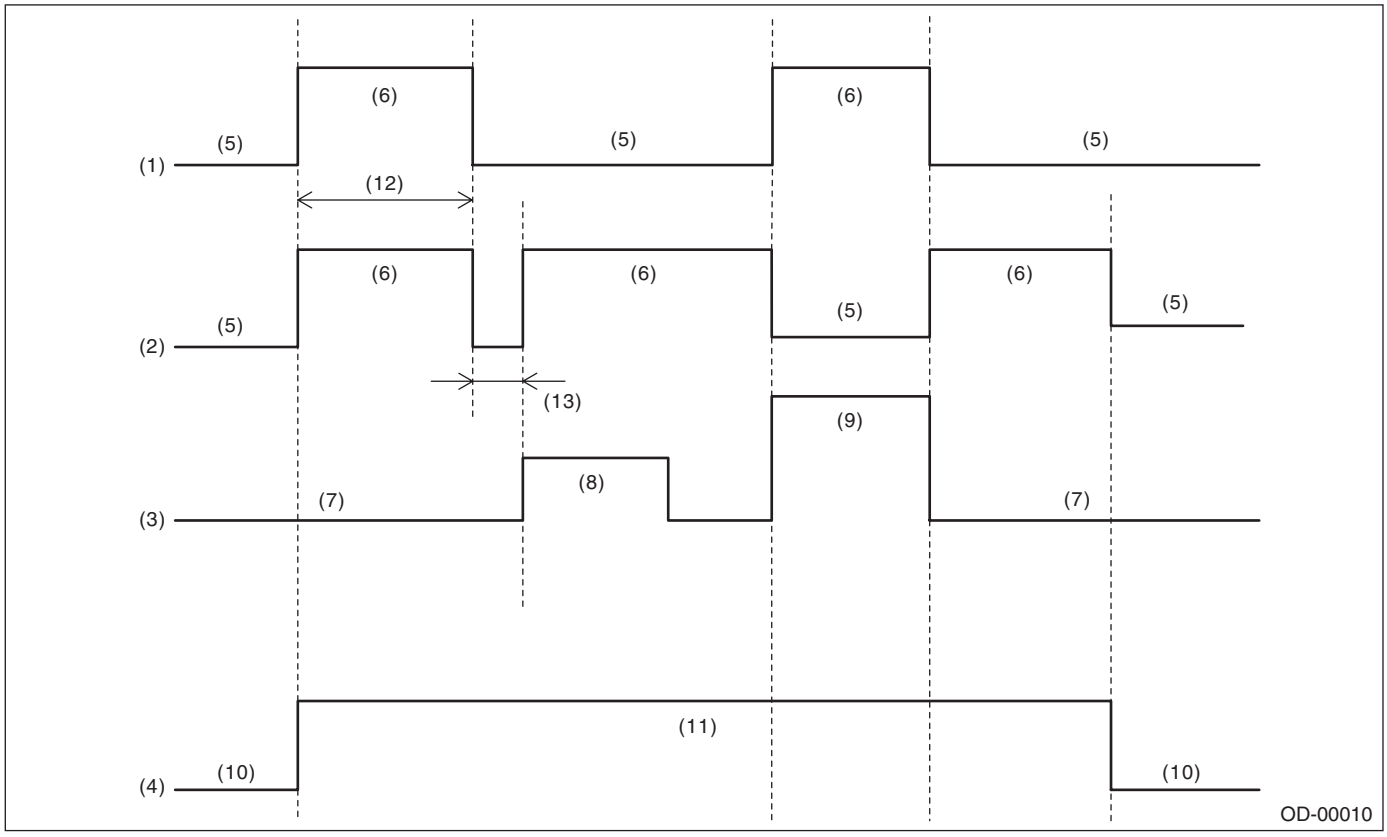
Turn the ignition switch to ON, and confirm that the airbag warning light remains on for approx. 6 seconds then go off afterwards.



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

12.Passenger's Airbag ON/OFF Indicator Light Illumination Pattern

A: INSPECTION



(1)	Passenger's airbag ON indicator light	(6)	Light ON	(10)	OFF
(2)	Passenger's airbag OFF indicator light	(7)	Empty	(11)	ON
(3)	Occupant seating	(8)	Child	(12)	Approx. 6 sec.
(4)	Ignition switch	(9)	Adult	(13)	Approx. 2 sec.
(5)	Light OFF				

13.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Display	Content of diagnosis	Reference
2A	ODS Calibration Error	System calibration (Rezeroing) was not completed normally.	<Ref. to OD(diag)-22, DTC 2A ODS CALIBRATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2B	ODS System Wrong Parts	• Wrong airbag control module is installed. • Wrong occupant detection system is installed. • Occupant detection system is faulty.	<Ref. to OD(diag)-22, DTC 2B ODS SYSTEM WRONG PARTS, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2C	Belt Tension Sensor Failure	• Passenger's seat belt tension sensor is faulty. • Airbag rear harness circuit is open or shorted. • Occupant detection system is faulty. • Occupant detection harness is faulty.	<Ref. to OD(diag)-23, DTC 2C BELT TENSION SENSOR FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
27	ODS Communication Error	• Occupant detection control module and airbag control module communication is faulty. • Airbag rear harness circuit is open, shorted, shorted to ground or shorted to power supply. • Occupant detection harness is faulty. • Occupant detection system is faulty. • Airbag control module is faulty.	<Ref. to OD(diag)-24, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
29	ODS Failure	• Occupant detection sensor is faulty. • Occupant detection control module is faulty. • Occupant detection harness is faulty. • Fuse No. 25 (in joint box) is blown.	<Ref. to OD(diag)-25, 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. • Occupant detection system is faulty. • Occupant detection harness is faulty.	<Ref. to OD(diag)-26, DTC 37 BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

14.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC 2A ODS CALIBRATION ERROR

DTC DETECTING CONDITION:

System calibration (Rezeroing) was not completed normally.

Step		Check	Yes	No
1	**PERFORM RE-ZEROING.** Perform the system calibration using Subaru Select Monitor. <Ref. to OD(diag)-14, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>	Is the system calibration completed normally?	Finish the diagnosis.	Follow the system calibration procedures. <Ref. to OD(diag)-14, 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.

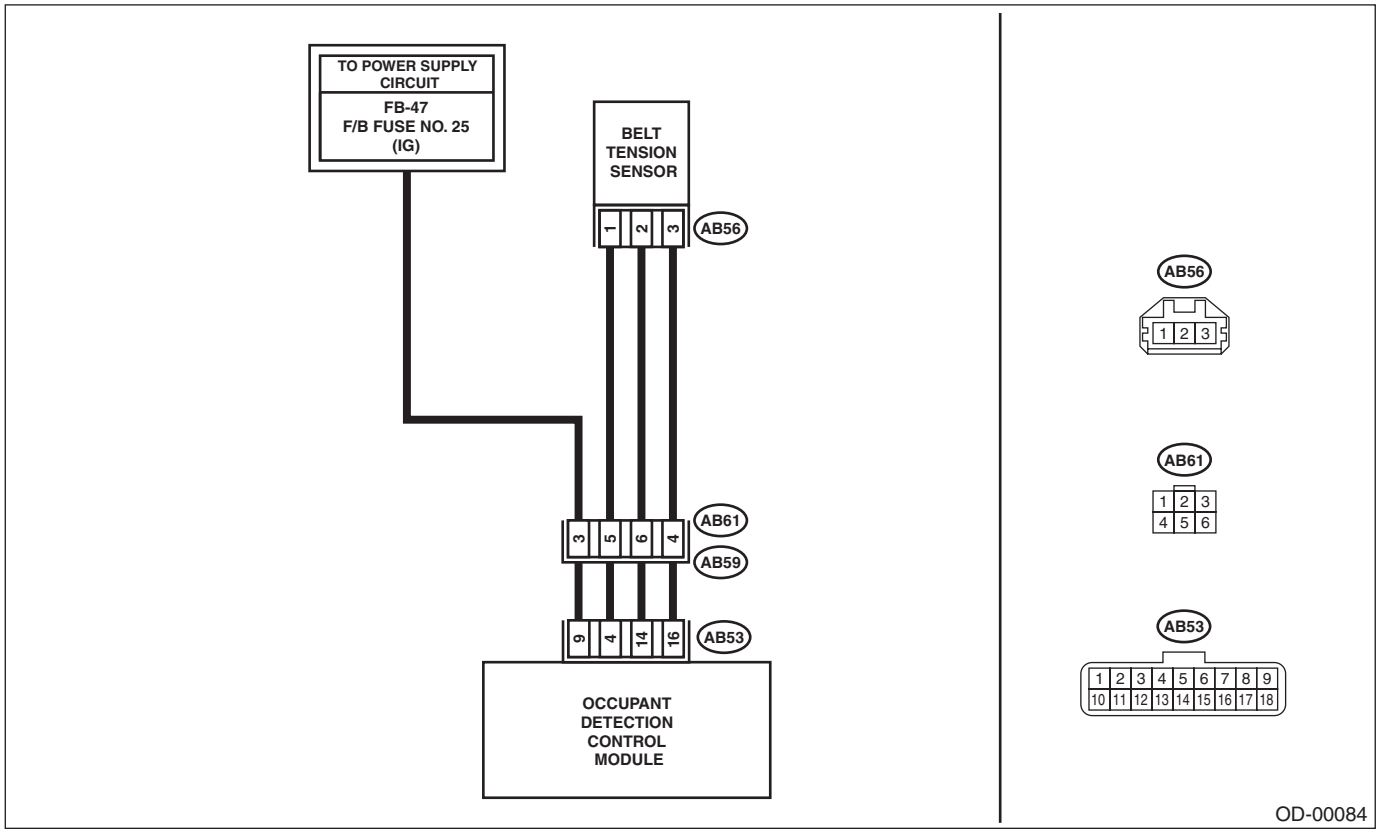
Step		Check	Yes	No
1	**CHECK OCCUPANT DETECTION SYSTEM.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the passenger's seat frame assembly. <Ref. to SE-7, REMOVAL, Front Seat.> <Ref. to SE-10, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.> 3) Connect the ground cable to battery. 4) Connect Subaru Select Monitor to the vehicle and perform the system calibration. <Ref. to OD(diag)-14, 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.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the airbag control module. <Ref. to AB-20, REMOVAL, Airbag Control Module.> 3) Connect the ground cable to battery. 4) Connect Subaru Select Monitor to the vehicle and perform the system calibration. <Ref. to OD(diag)-14, 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 BELT TENSION SENSOR FAILURE

DTC DETECTING CONDITION:

- Passenger's seat belt tension sensor is faulty.
- Airbag main harness circuit is open or shorted.
- Occupant detection control module is faulty.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the occupant detection control module and belt tension sensor.	Is there poor contact?	Reconnect the connector. If the fault is not fixed, replace the airbag harness.	Go to step **2**.
2	**CHECK BELT TENSION SENSOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the belt tension sensor connector (AB56) from the airbag harness. 3) Connect the test harness AC to the connector (AB56). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for approximately 6 seconds and go off?	Replace the seat belt outer. <Ref. to SB-18, OUTER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the test harness AC from the belt tension sensor connector (AB56). 3) Connect the test harness AD (1AD) to the connector (AB56). 4) Disconnect the airbag harness connector (AB61), and connect the connector (1AB) in test harness AB. 5) Measure the resistance between test harness terminals. ***Connector & terminal*** ***(2AB) No. 5 — (2AD) No. 1:*** ***(2AB) No. 4 — (2AD) No. 3:*** ***(2AB) No. 6 — (2AD) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag harness along with chassis harness.
4	**CHECK AIRBAG HARNESS.** Measure the resistance between test harness terminals, and between test harness terminal and chassis ground. ***Connector & terminal*** ***(2AB) No. 4 — (2AD) No. 1:*** ***(2AB) No. 4 — (2AD) No. 2:*** ***(2AB) No. 4 — chassis ground:*** ***(2AB) No. 5 — (2AD) No. 2:*** ***(2AB) No. 5 — chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag harness along with chassis harness.
5	**CHECK AIRBAG HARNESS.** 1) Connect the battery ground terminal and turn the ignition switch to ON. 2) Measure the voltage between test harness and chassis ground. ***Connector & terminal*** ***(2AD) No. 1 (+) — Chassis ground (–):*** ***(2AD) No. 3 (+) — Chassis ground (–):***	Is the voltage 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-10, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>

D: DTC 27 ODS COMMUNICATION ERROR

Perform the diagnosis following diagnostic procedure for airbag system. <Ref. to AB(diag)-54, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

E: DTC 29 ODS FAILURE

DTC DETECTING CONDITION:

- Occupant detection sensor is faulty.
- Occupant detection control module is faulty.
- Occupant detection harness is faulty.
- Rear airbag harness is faulty.
- Fuse No. 25 (in joint box) is blown.

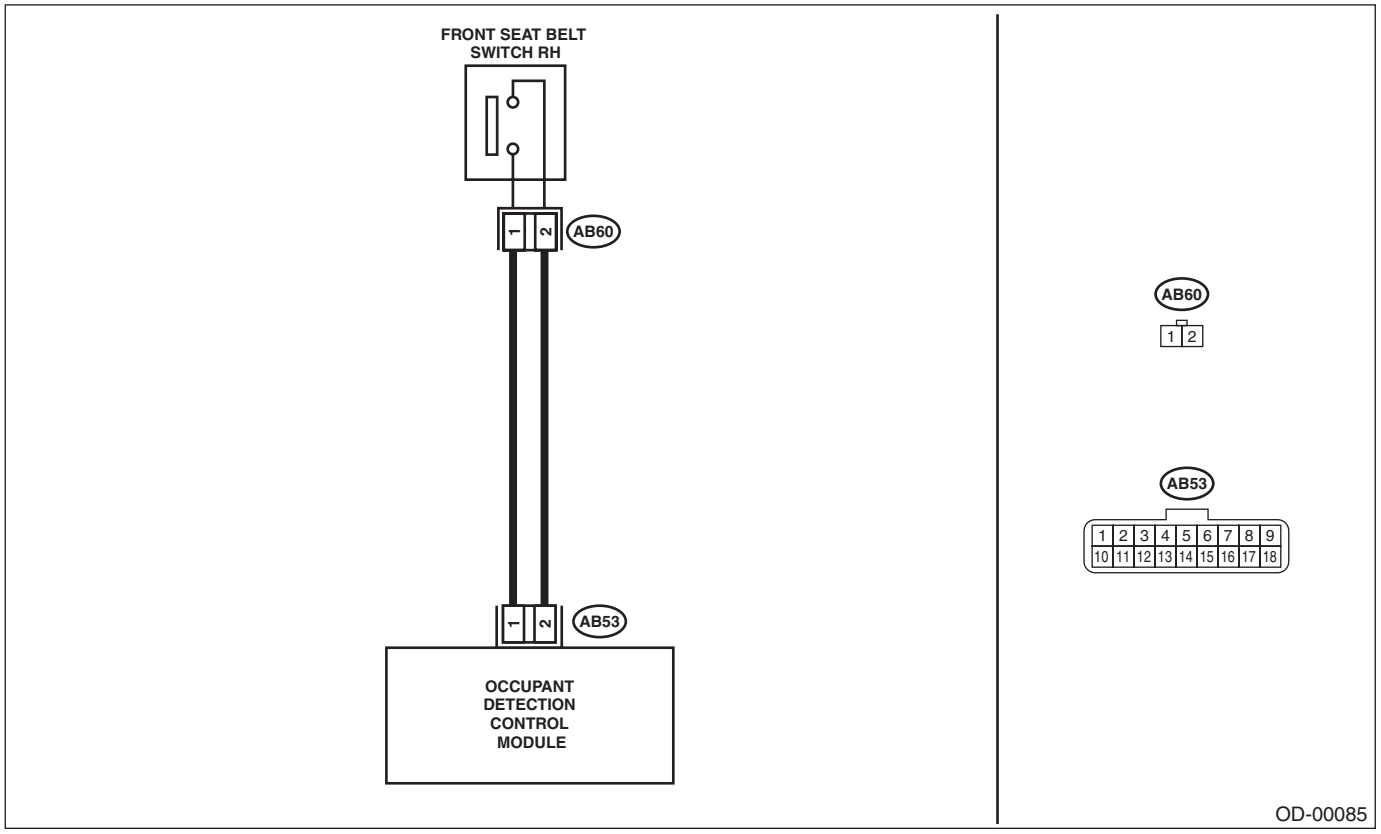
	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the occupant detection control module and airbag control module.	Is there poor contact?	Reconnect the connector. If the fault is not fixed, replace the airbag harness.	Go to step **2**.
2	**CHECK DTC.** Read diagnostic trouble code (DTC) for the airbag system.	Is "2C Belt Tension Sensor failure" or "37 Buckle Switch failure" displayed in the diagnostics code?	Perform the diagnosis according to each DTC.	Check the seat harness, and if any fault is found, replace the seat harness. If the fault is not fixed, replace the occupant detection system. <Ref. to SE-10, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>

F: DTC 37 BUCKLE SWITCH RH FAILURE

DTC DETECTING CONDITION:

- Passenger's buckle switch circuit is open, shorted or shorted to ground.
- Seat harness circuit is open, shorted or shorted to ground.
- Occupant detection control module is faulty.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the occupant detection control module and buckle switch.	Is there poor contact?	Reconnect the connector. If the fault is not fixed, replace the airbag harness.	Go to step **2**.
2	**CHECK BUCKLE SWITCH.** 1) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait for 60 seconds. 2) Disconnect the buckle switch connector (AB60). 3) Connect the test harness AE and test harness Y to buckle switch connector (AB60). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the buckle switch. <Ref. to SB-18, 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

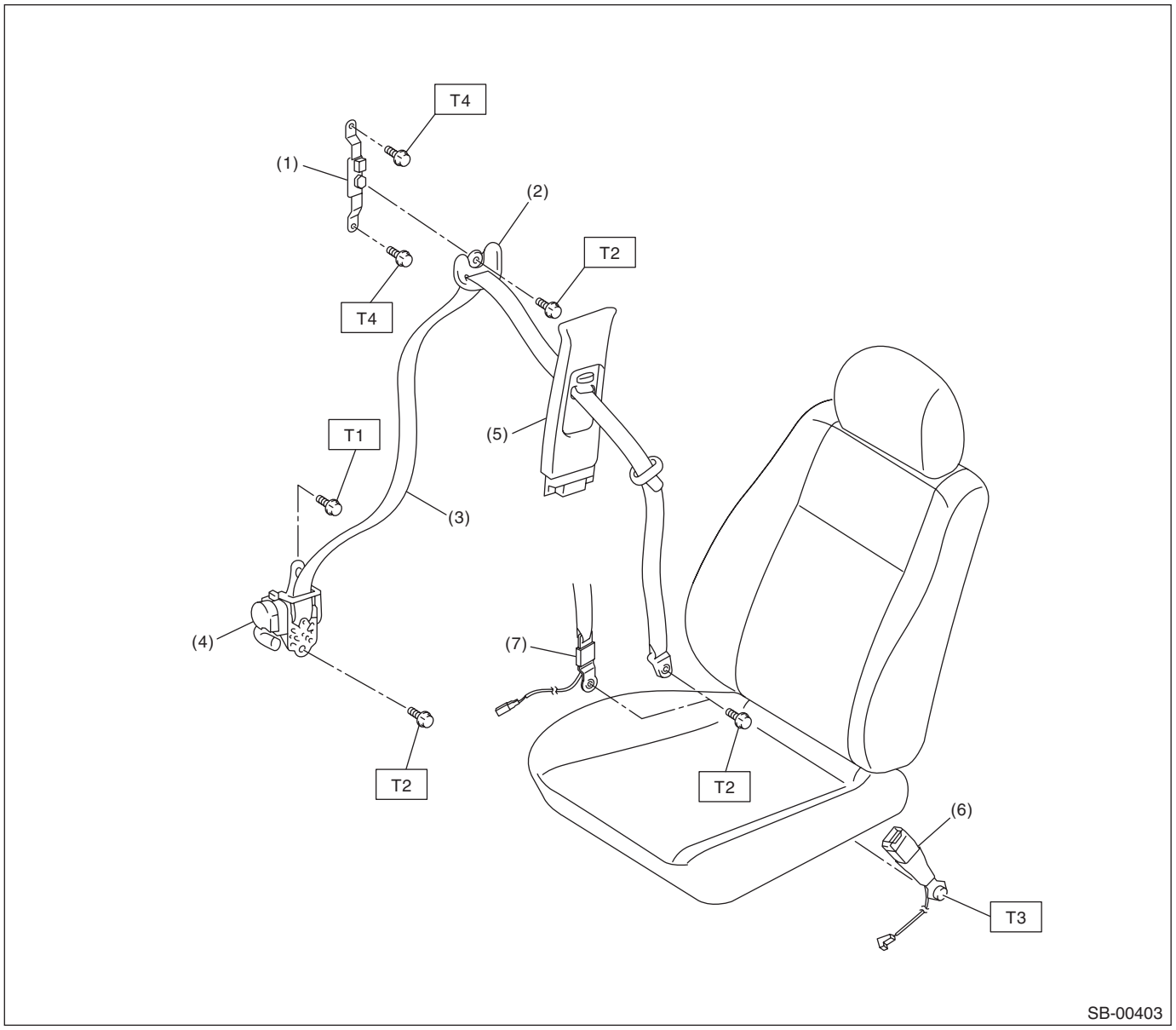
Page

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2. Pretensioner Connector 12
3. Inspection Locations After a Collision 13
4. Seat Belt Warning System 14
5. Front Seat Belt 18
6. Second Seat Belt 20
7. Third Seat Belt 22

1. General Description

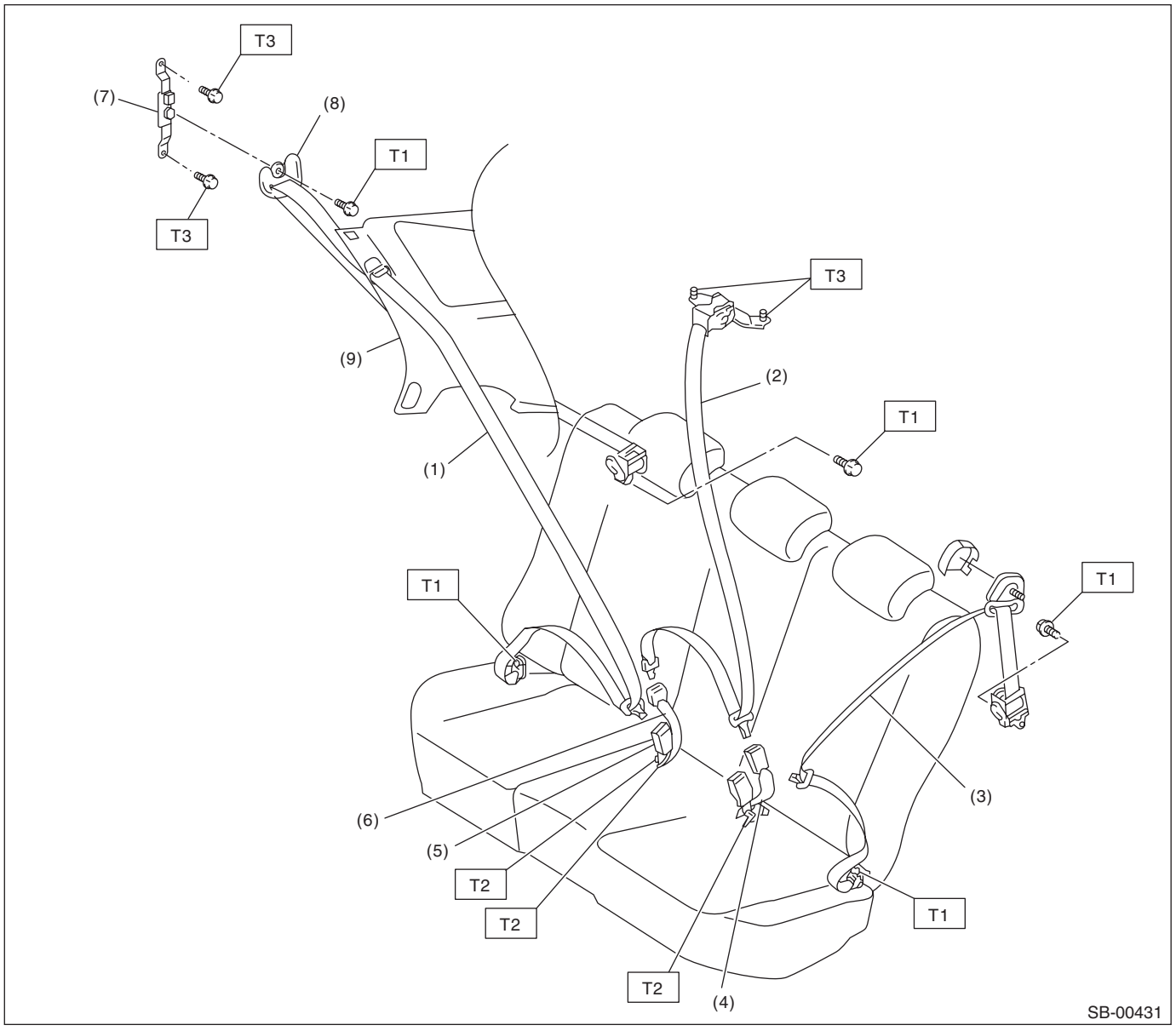
A: COMPONENT

1. FRONT SEAT BELT



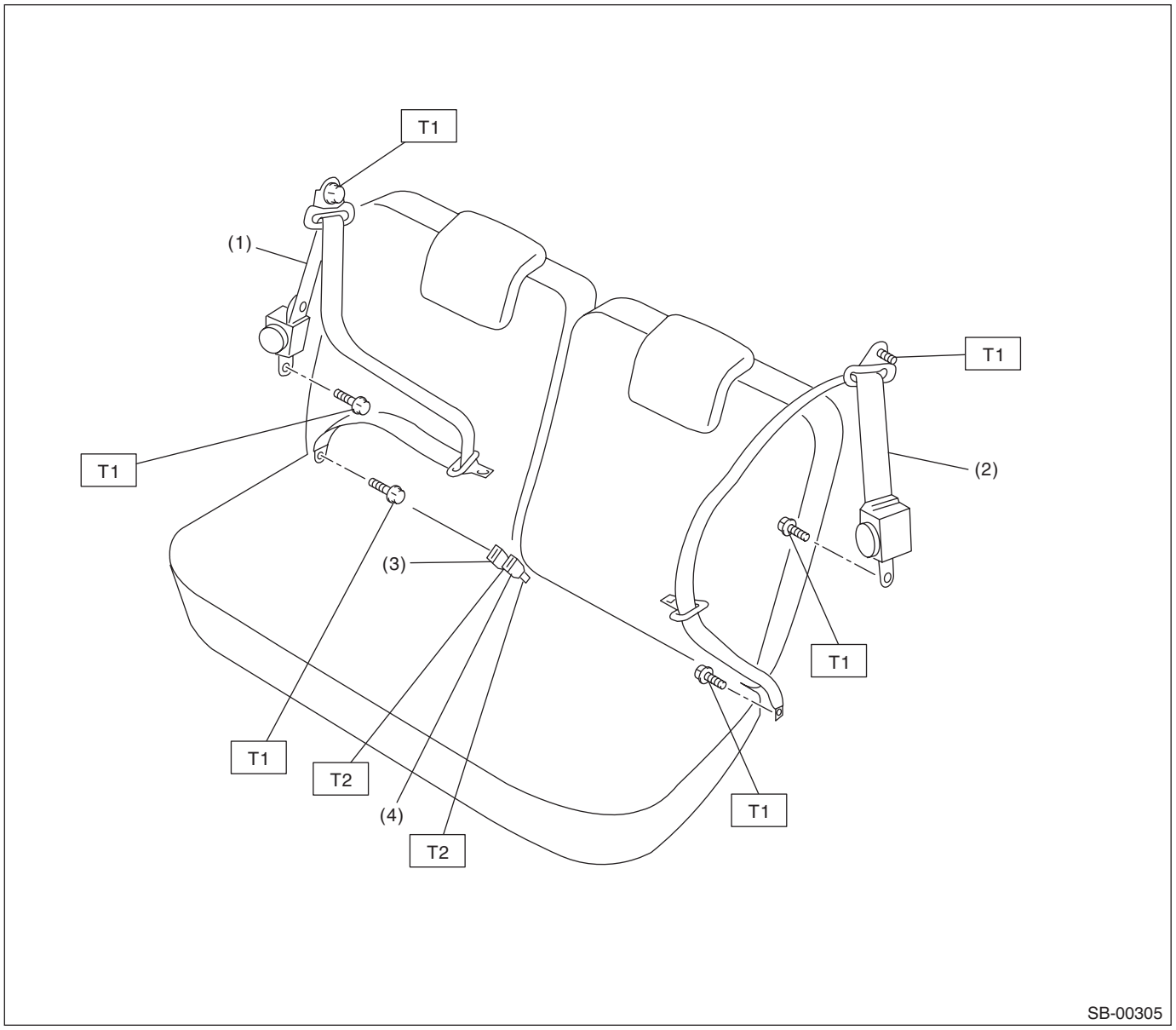
(1)	Adjustable anchor ASSY	(5)	Center pillar upper trim	***Tightening torque:N·m (kgf-m, ft-lb)***
(2)	Shoulder anchor	(6)	Inner seat belt ASSY	***T1: 7.5 (0.76, 5.5)***
(3)	Outer seat belt ASSY	(7)	Belt tension sensor (passenger's side only)	***T2: 30 (3.1, 22)***
(4)	Seat belt retractor			***T3: 38 (3.9, 28)***
				T4: 53 (5.4, 39)

2. SECOND SEAT BELT



(1)	Outer seat belt RH ASSY	(6)	Shoulder seat belt center buckle ASSY	***Tightening torque:N·m (kgf-m, ft-lb)***
(2)	Shoulder seat belt center ASSY	(7)	Adjustable anchor ASSY	***T1: 30 (3.1, 22)***
(3)	Outer seat belt LH ASSY	(8)	Shoulder anchor	***T2: 38 (3.9, 28)***
(4)	Inner seat belt LH ASSY	(9)	Rear quarter upper trim	***T3: 53 (5.4, 39)***
(5)	Inner seat belt RH ASSY			

3. THIRD SEAT BELT



(1) Outer seat belt RH ASSY
(2) Outer seat belt LH ASSY
(3) Inner seat belt RH ASSY
(4) Inner seat belt LH ASSY

Tightening torque:N·m (kgf-m, ft-lb)
T1: 30 (3.1, 22)
T2: 38 (3.9, 28)

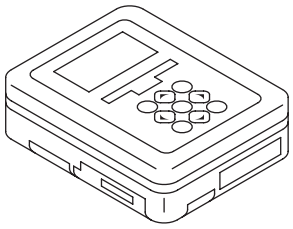
B: CAUTION

• Before starting the work, turn the ignition switch to OFF, disconnect the battery ground cable and wait for 60 seconds or more.
• The pretensioner system has a back-up power supply. The pretensioner might deploy if you do not wait for 60 seconds or more before starting work.
• Do not drop or apply any impact to the pretensioner.
• If oil, grease or water gets on the pretensioner, wipe it off immediately with a dry cloth.
• Do not expose the pretensioner to high temperature or flame.
• Do not allow current to flow through or voltage to reach the pretensioner. Do not use a circuit tester to check resistance of the pretensioner.
• Do not disassemble or attempt to repair the pretensioner. If it is dented, cracked or deformed, replace it with a new part.
• Do not use the airbag or pretensioner parts from other vehicles. Always replace parts with new parts.
• When handling a seat belt with deployed pretensioner, wear gloves and goggles. Wash your hands afterwards.
• Do not reuse a seat belt with deployed pretensioner.
• If material from the airbag enters the eyes or contacts skin during deployment, wash it away with clean water, and then consult a doctor.

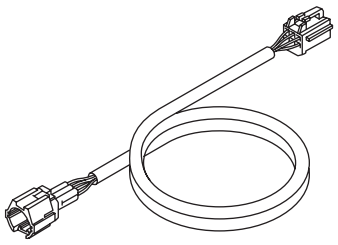
C: PREPARATION TOOL

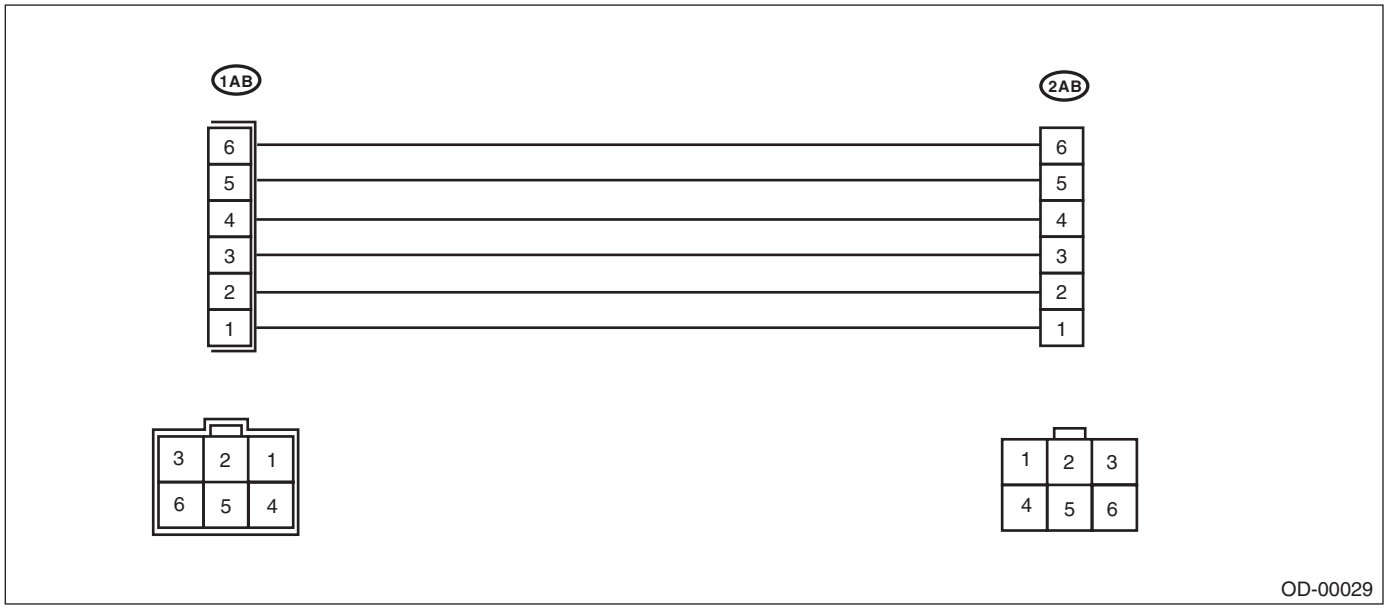
1. SPECIAL TOOL

• SUBARU SELECT MONITOR

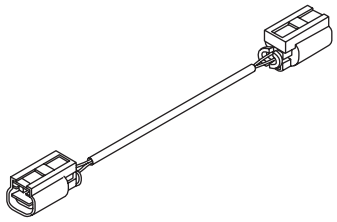
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for settings of each function and troubleshooting for electrical system.

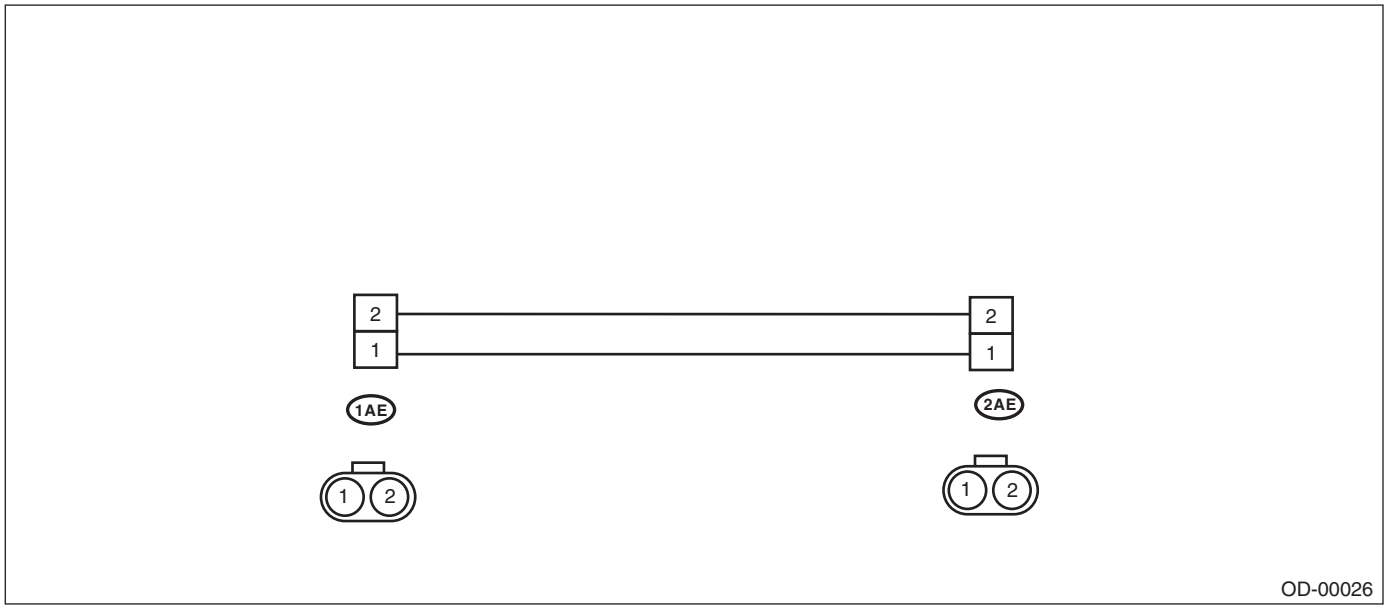
- TEST HARNESS AB

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

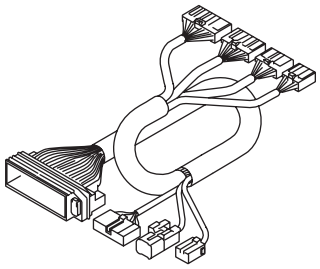


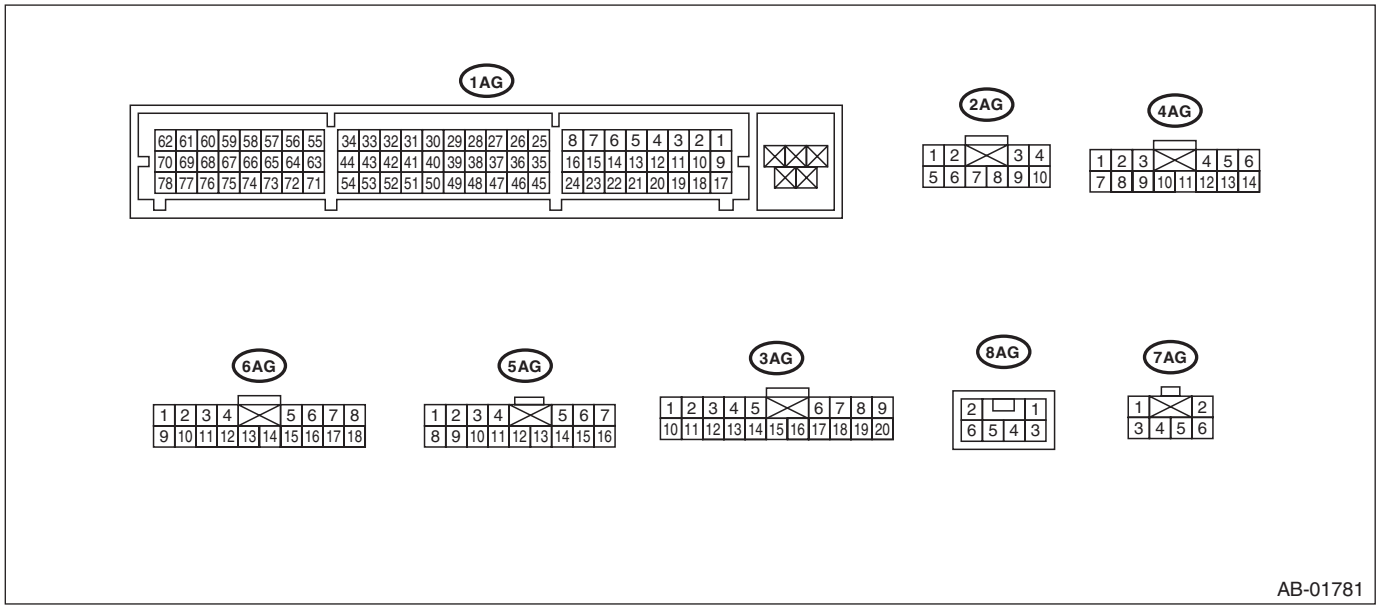
- TEST HARNESS AE

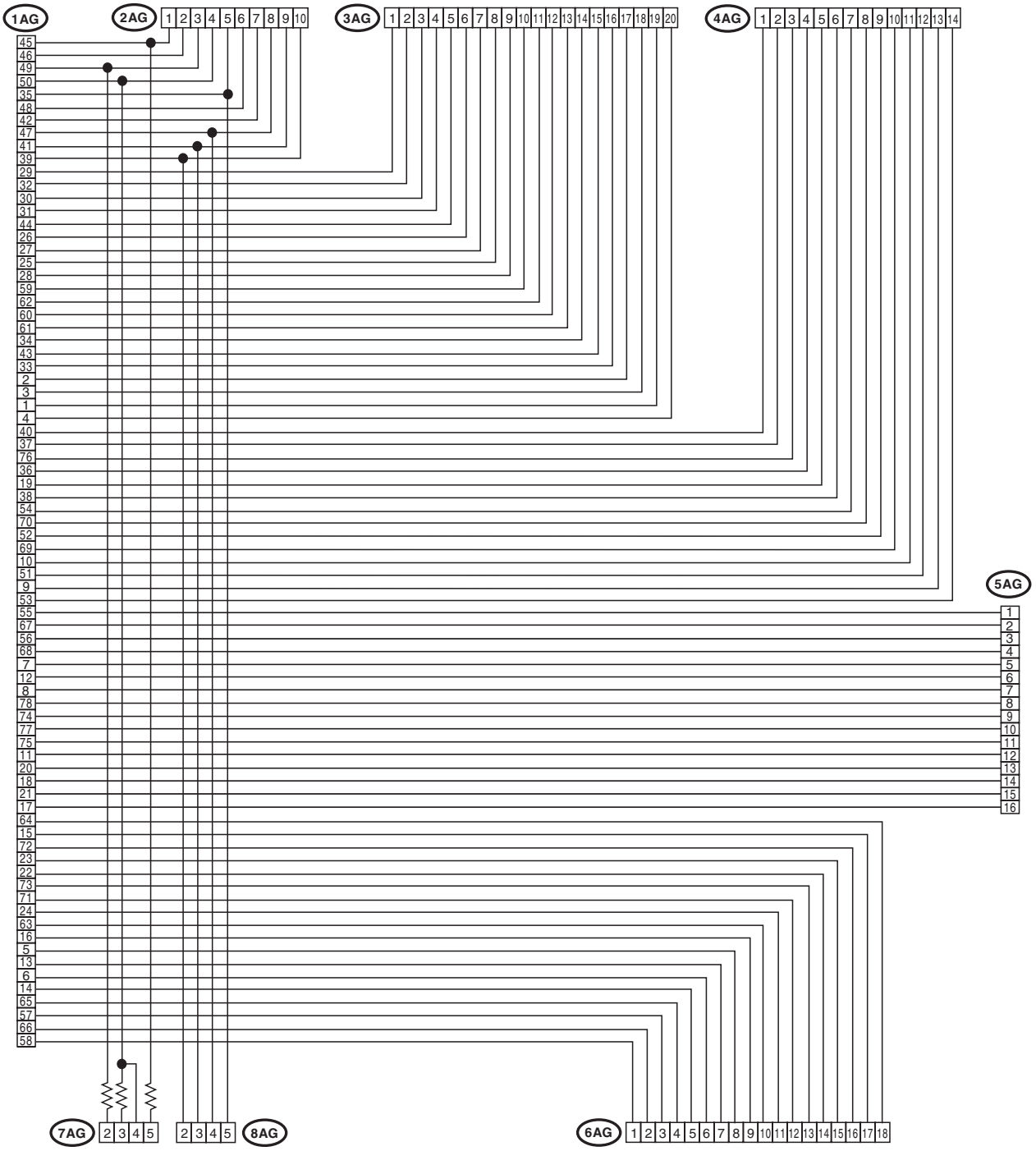
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA030	98299XA030	TEST HARNESS AE	• Used for diagnosing seat belt tension sensor. • Used together with test harness Y.



- TEST HARNESS AG

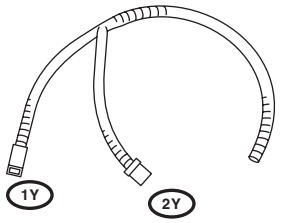
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG070	98299AG070	TEST HARNESS AG	Used when measuring voltage and resistance of airbag control module.

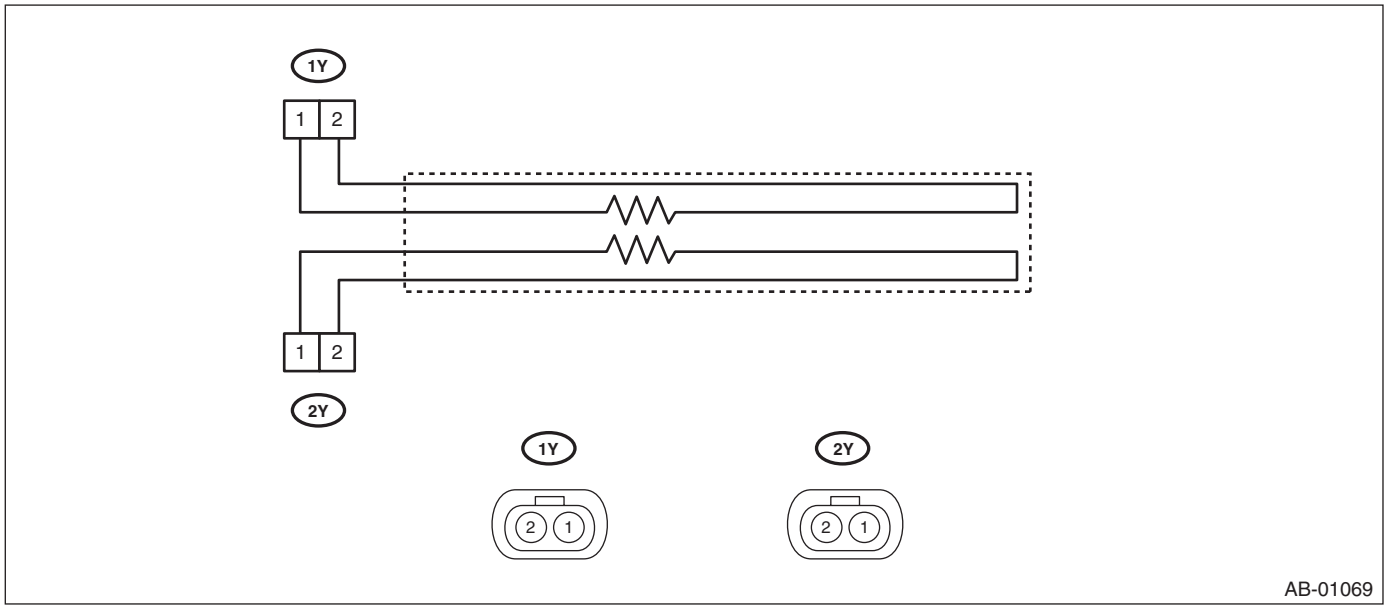




AB-01902

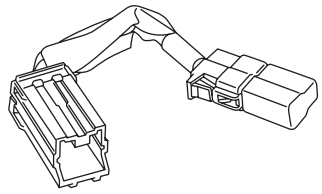
- TEST HARNESS Y

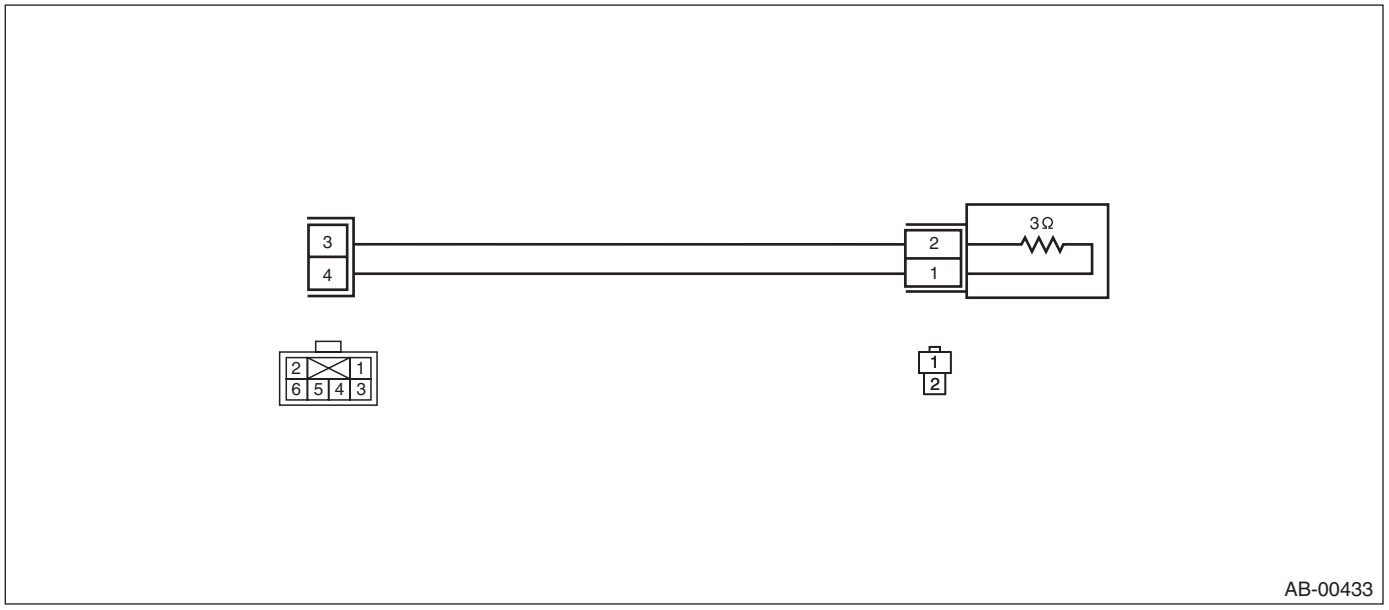
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG040	98299AG040	TEST HARNESS Y	Used for troubleshooting seat belt buckle switch.



AB-01069

- AIRBAG RESISTOR

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



2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for inspecting the seat belt warning system.
TORX® T50	Used for removing and installing the inner seat belt assembly.

2. Pretensioner Connector

A: PROCEDURE

Refer to “Airbag Connector” of Airbag section for the connectors of the seat belt pretensioners and buckle switch RH. <Ref. to AB-8, PROCEDURE, Airbag Connector.>

3. Inspection Locations After a Collision

A: INSPECTION

Check for the following, and replace with new parts if necessary.

- Center pillar lower trim is discolored or cracked.
- Wiring harness and connector are damaged.

4. Seat Belt Warning System

A: WIRING DIAGRAM

<Ref. to WI-89, WIRING DIAGRAM, Seat Belt Warning System.>

B: INSPECTION

CAUTION:
• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground cable from battery, and wait 60 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.
TROUBLE SYMPTOM:
- Driver's side seat belt warning light does not illuminate or it remains illuminating.
- Warning buzzer does not beep.

	Step	Check	Yes	No
1	**CHECK CURRENT SETTINGS.** 1) Prepare the Subaru Select Monitor. 2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor". 3) Select the "current data display" and read the data of the "belt warning switch".	Is the belt warning display ON?	Go to step **2**.	Turn the belt warning ON with unit customization.
2	**CHECK CURRENT DATA.** 1) Select the "current data display" and read the data of the "IG power supply voltage". 2) Turn the ignition switch ON ←→ OFF.	Does the voltage change between 10 V or higher ←→ less than 1.5 V, matching the ignition switch ON ←→ OFF operation?	Go to step **3**.	Check the ignition switch circuit.
3	**CHECK FUNCTION.** 1) Sit on the driver's seat and passenger's seat and disconnect the seat belts of the both. 2) Turn the ignition switch to ON (engine OFF). 3) Check the illumination of the driver's seat belt warning light in the combination meter, and the passenger's seat belt warning light in the map light, and the sounding of the buzzer.	Do the driver's warning light and passenger's warning light blink and the buzzer sound while blinking?	Go to step **4**.	• Malfunction of the driver's seat belt warning light → Go to step **10**. • Malfunction of the passenger's seat belt warning light → Go to step **16**. • The buzzer does not sound → Go to step **6**.
4	**CHECK FUNCTION.** 1) Wait until the buzzer stops sounding in step 3. (for approximately six seconds after starting sounding) 2) Connect and disconnect the seat belts of the driver's and passenger's. 3) Check the illumination of the driver's seat belt warning light in the combination meter, and the passenger's seat belt warning light in the map light, and the sounding of the buzzer.	Do the seat belts warning light illuminate ←→ go off according to the operation?	Go to step **5**.	• Malfunction of the driver's seat belt warning light → Go to step **6**. • Malfunction of the passenger's seat belt warning light → Go to step **12**.

	Step	Check	Yes	No
5	**CHECK FUNCTION.** 1) Wait until the buzzer stops sounding in step 3. (for approximately six seconds after starting sounding) 2) Start the engine, and set the vehicle speed at 15 km/h (9 MPH) or more. 3) Check the seat belt warning lights of the driver's and the passenger's, and if the warning buzzer sounds.	Do the driver's warning light and passenger's warning light blink and the buzzer sound while blinking?	Seat belt warning system is normal.	Go to step **19**.
6	**CHECK CURRENT DATA.** 1) Select the "current data display" and read the data of the seat belt switch of the driver's. 2) Connect and disconnect the seat belt buckle.	Does the seat belt SW display turn ON ←→ OFF according to the operation?	Go to step **10**.	Go to step **7**.
7	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for 60 seconds or more. 2) Disconnect the connector of body integrated unit and the seat belt buckle switch. 3) Check for short circuit to battery, open circuit and short circuit to ground between the body integrated unit and the seat belt buckle switch LH. ***Connector & terminal*** ***(i84) No. 4 — (R8) No. 3:***	Is the harness normal?	Go to step **8**.	Repair or replace the harness.
8	**CHECK HARNESS.** Measure the resistance between the seat belt buckle switch LH and chassis ground. ***Connector & terminal*** ***(R8) No. 1 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **9**.	Repair or replace the harness.
9	**CHECK SEAT BELT BUCKLE SWITCH LH.** Measure the resistance between the connector terminals of the driver's seat belt switch when the driver's seat belt is fastened and detached. ***Connector & terminal*** ***(R8) No. 1 — (R8) No. 3:***	Is the resistance when the belt is fastened 1 MΩ or more, and less than 10 Ω when the belt is detached?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Replace the inner belt assembly LH. <Ref. to SB-18, INNER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
10	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for 60 seconds or more. 2) Disconnect the connector of the combination meter and the connector of the body integrated unit. 3) Check the harness between the combination meter and body integrated unit. ***Connector & terminal*** ***(i84) No. 20 — (i11) No. 5:***	Is the resistance less than 10 Ω?	Go to step **11**.	Repair or replace the harness.
11	**CHECK COMBINATION METER.** 1) Install the connector of the combination meter and the connector of the body integrated unit. 2) Connect the battery. 3) Connect the harness between the combination meter and body integrated unit. ***Connector & terminal*** ***(i11) No. 5 — Chassis ground:*** ***or*** ***(i84) No. 20 — Chassis ground:***	Does the driver's seat belt warning light turn on?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Replace the combination meter. <Ref. to IDI-11, REMOVAL, Combination Meter.>

	Step	Check	Yes	No
12	**CHECK CURRENT DATA.** 1) Sit in the passenger's seat. 2) Select "Current Data Display" and display the data of "P seatbelt SW input ". 3) Fasten and detach the passenger's side seat belt buckle, and read the data of the seat belt switch. <Ref. to LAN(diag)-29, OPERATION, Read Current Data.>	Does the seat belt switch display turn ON ←→ OFF according to the operation of the seat belt buckle?	Go to step **16**.	Go to step **13**.
13	**CHECK AIRBAG SYSTEM AND OCCUPANT DETECTION SYSTEM.** Perform the check in accordance with the diagnostic procedure DTC 27 of the airbag system. <Ref. to AB(diag)-54, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>	Is there any problem on the inspection result?	Go to step **14**.	Repair or replace the harness.
14	**CHECK BUCKLE SWITCH RH.** Perform the check in accordance with the diagnostic procedure DTC 37 of the occupant detection system. <Ref. to OD(diag)-26, DTC 37 BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Is there any problem on the inspection result?	Go to step **15**.	Repair or replace the harness.
15	**CHECK AIRBAG CONTROL MODULE AND BODY INTEGRATED UNIT.** Check the airbag control module, occupant detection sensor and seat belt buckle switch RH. Perform the check in accordance with the diagnostic procedure DTC 39 of the airbag system. <Ref. to AB(diag)-60, DTC 39 SEAT BELT WARNING FAILURE, Diagnostic Chart with Trouble Code.>	Is there any problem on the inspection result?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Repair or replace the harness.
16	**CHECK HARNESS.** 1) Disconnect the warning light box RH connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between body integrated unit and warning light box RH. ***Connector & terminal*** ***(i116) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **17**.	Repair or replace the harness.
17	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Disconnect the connector of body integrated unit. 3) Check for short circuit to battery, open circuit and short circuit to ground between the body integrated unit and the warning light box RH. ***Connector & terminal*** ***(B280) No. 27 — (i116) No. 9:***	Is the harness normal?	Go to step **19**.	Repair or replace the harness.
18	**CHECK WARNING LIGHT BOX RH.** 1) Connect the warning light box RH connector. 2) Turn the ignition switch to ON. 3) Use an appropriate wiring harness to create a short between the body integrated unit and the warning box light RH. ***Connector & terminal*** ***(i116) No. 9 — Chassis ground:***	Does passenger's seat belt warning light in the warning box light illuminate?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Replace the warning light box RH. <Ref. to IDI-17, REMOVAL, Warning box.>

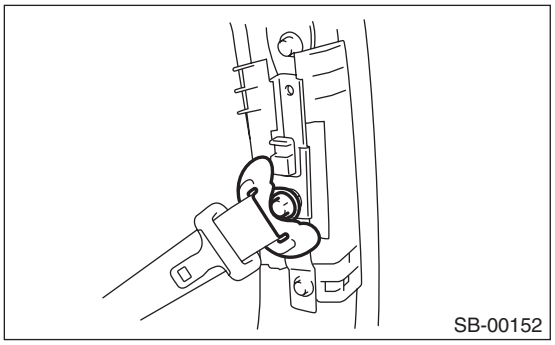
Step		Check	Yes	No
19	**CHECK DTC.** Read the DTCs for all systems using the Subaru Select Monitor.	Is a DTC detected?	Perform a check according to the DTC.	Go to step **20**.
20	**CHECK CURRENT DATA.** Select “Current Data Display” and read the data of the “Front Wheel Speed”. <Ref. to LAN(diag)-29, OPERATION, Read Current Data.>	Does the data display the wheel speed data correctly?	Go to step **11**.	Check the following items. • LAN system <Ref. to LAN(diag)-62, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> • Check VDC or ABS. VDC <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>

5. Front Seat Belt

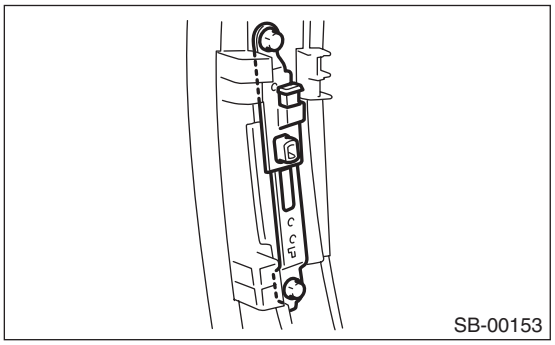
A: REMOVAL

1. OUTER SEAT BELT ASSEMBLY

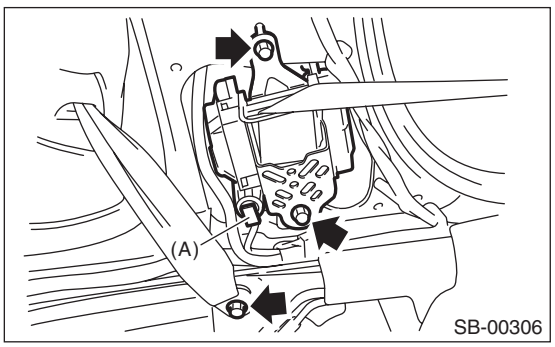
1) Fold the backrest all the way forward, and then move the front seat all the way forward.
2) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more.
3) Remove the center pillar lower trim and center pillar upper trim.
• Center pillar lower trim <Ref. to EI-45, CENTER PILLAR LOWER TRIM, REMOVAL, Side Trim.>
• Center pillar upper trim <Ref. to EI-45, CENTER PILLAR UPPER TRIM, REMOVAL, Side Trim.>
4) Remove the bolt, and then remove the shoulder anchor.


SB-00152

5) Remove the bolts and then remove adjustable anchor assembly.


SB-00153

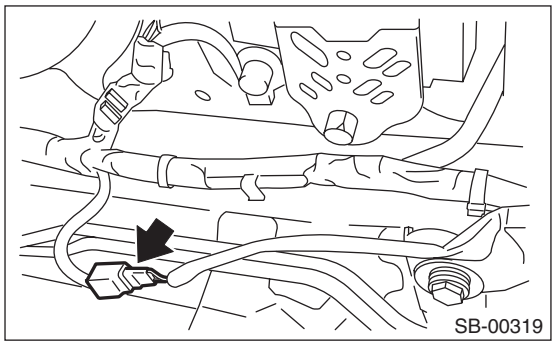
6) Disconnect connector (A) of the pretensioner, and remove the lower anchor bolt and seat belt retractor.



SB-00306

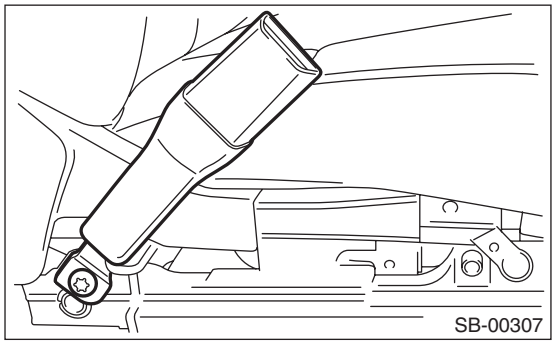
7) On passenger's side, disconnect the connector of the seat belt tension sensor.

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.


SB-00319

2. INNER SEAT BELT ASSEMBLY

1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more.
2) Remove the four bolts in the slide rail LH and RH.
3) Disconnect the seat belt warning light connector under the seat.
4) Remove the harness clips from the back of the seat.
5) Remove the TORX® bolt, and then remove the inner seat belt assembly.


SB-00307

B: INSTALLATION

1. OUTER SEAT BELT ASSEMBLY

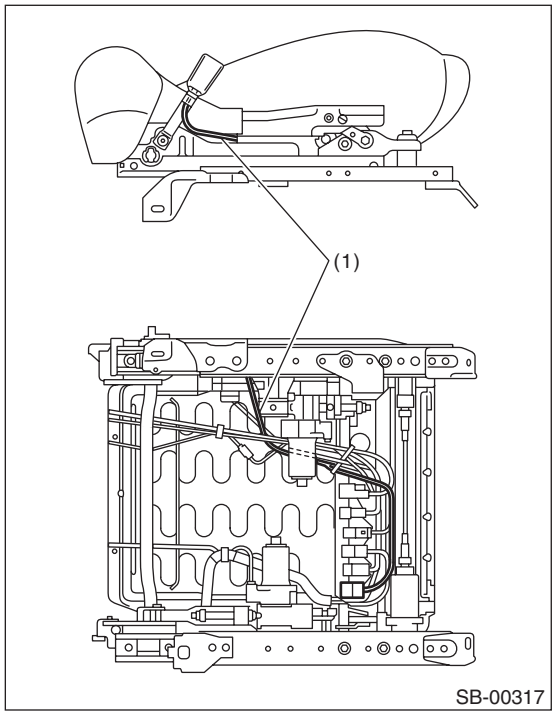
CAUTION:
• The parts of driver and passenger sides are not the same. Before installation, make sure that the correct part is used.
• Be careful not to twist the seat belts during installation.
Install in the reverse order of removal.

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

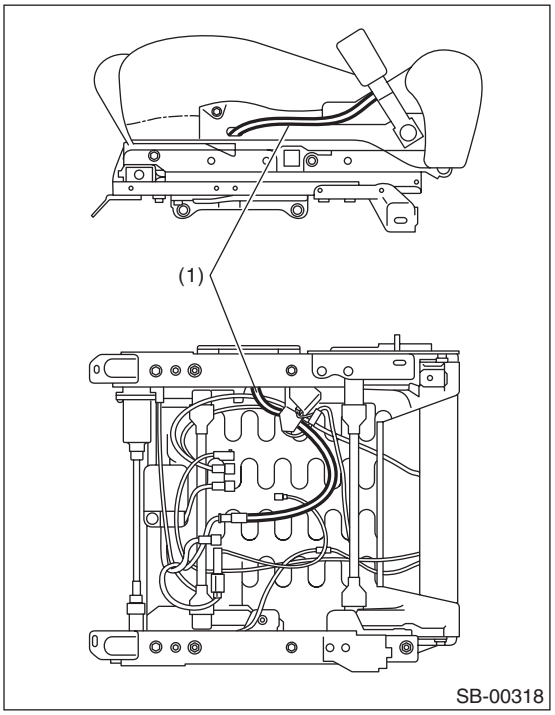
2. INNER SEAT BELT ASSEMBLY

CAUTION:
• After the driver's and passenger's inner seat belt assembly installation, check that the seat belt buckle switch operates normally using the Subaru Select Monitor III in {Status Data} of "Airbag System". <Ref. to AB(diag)-24, 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



Install in the reverse order of removal.

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

C: INSPECTION

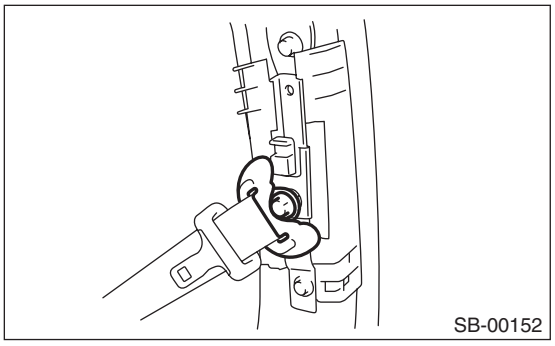
Check for the following, and replace with new parts if necessary.
• Pretensioner is cracked or deformed.
• Belt tension sensor is cracked or deformed.
• Seat belt is slackened, bent or worn. Seat belt is abnormally wound or extended.
• Inner seat belt assembly is deformed or damaged.
• Seat belt buckle cannot be engaged properly.

6. Second Seat Belt

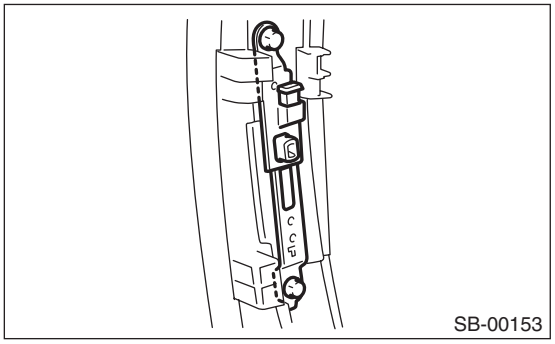
A: REMOVAL

1. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY

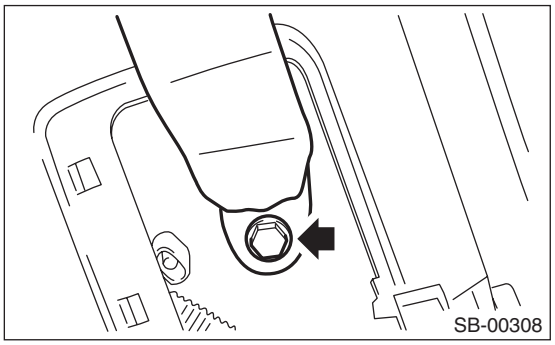
1) Remove the second row seats. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the third-row seats. <Ref. to SE-18, REMOVAL, Third Seat.>
3) Remove the rear quarter trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
4) Remove the bolt, and then remove the shoulder anchor.


SB-00152

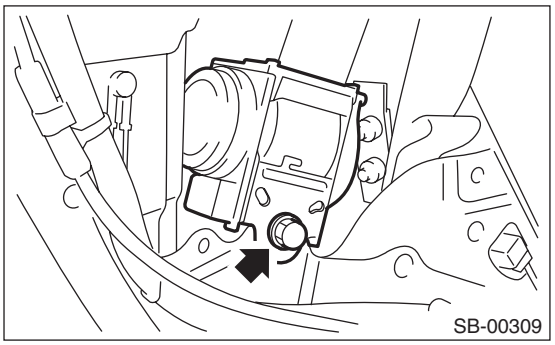
5) Remove the bolts and then remove adjustable anchor assembly.


SB-00153

6) Remove the lower anchor bolt.

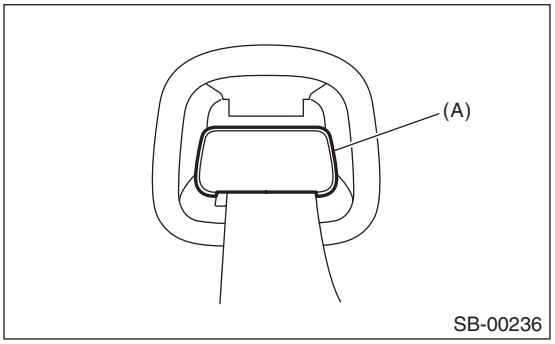

SB-00308

7) Remove the bolt to remove outer seat belt retractor.


SB-00309

2. SHOULDER SEAT BELT CENTER ASSEMBLY

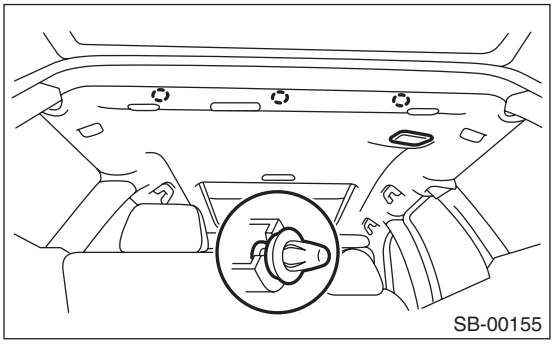
1) Remove the rear quarter trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
2) Remove the cover (A) from roof trim, and then insert it to the inside of roof trim.



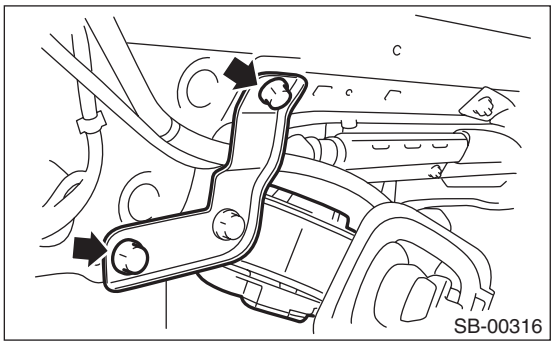
SB-00236

3) Remove the clips, and then lower the roof trim end.

CAUTION:
Do not pull the roof trim end backward with excessive force. There is the possibility of the roof trim being damaged.

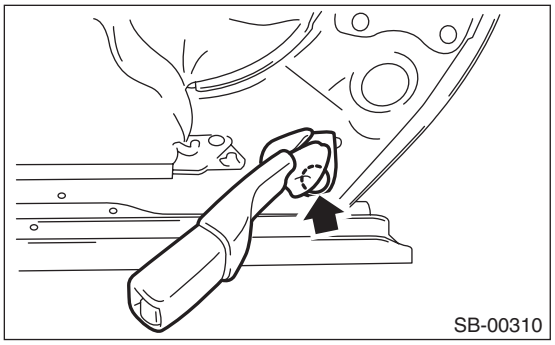

SB-00155

4) Remove the bolt to remove the seat belt retractor.


SB-00316

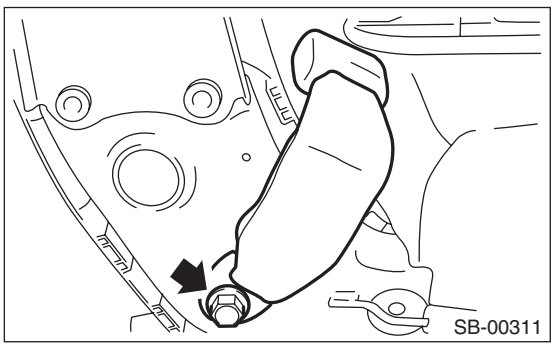
3. INNER SEAT BELT RH ASSEMBLY

1) Remove the RH second-row seat assembly. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the LH hinge outer cover.
3) Remove the bolt, and then detach the inner belt assembly.


SB-00310

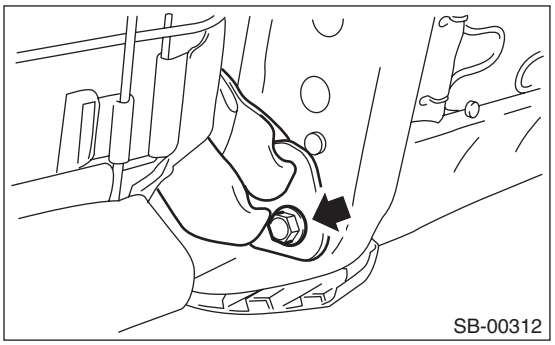
4. SHOULDER SEAT BELT CENTER BUCKLE

1) Remove the LH second-row seat assembly. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the RH hinge outer cover.
3) Remove the bolt, and then remove the shoulder seat belt center buckle.


SB-00311

5. INNER SEAT BELT LH ASSEMBLY

1) Remove the LH second-row seat assembly. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the bolt from the back of the seat cushion, and then detach the inner belt assembly.


SB-00312

B: INSTALLATION

CAUTION:
When installing, be careful of the routing of the seat belt, and make sure that the belt is not twisted.
Install in the reverse order of removal.

C: INSPECTION

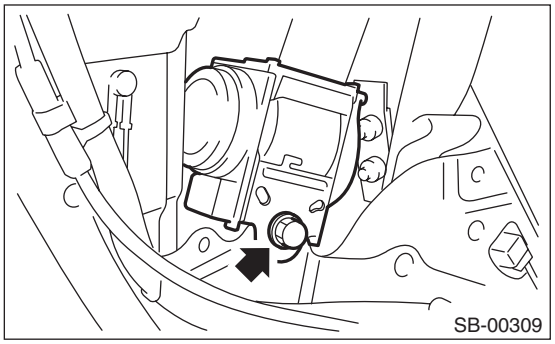
Check for the following, and replace with new parts if necessary.
- Seat belt is slackened, bent or worn. Seat belt is abnormally wound or extended.
- Inner belt is deformed or damaged.
- Seat belt buckle cannot be engaged properly.

7. Third Seat Belt

A: REMOVAL

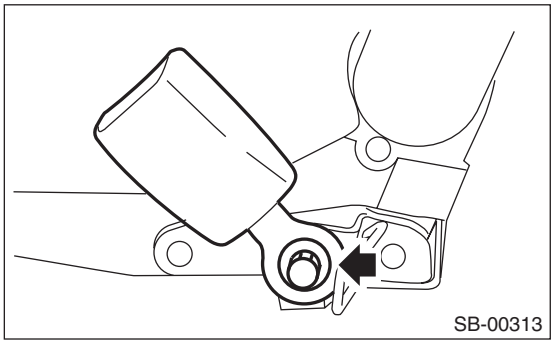
1. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY

1) Remove the third-row seats. <Ref. to SE-18, REMOVAL, Third Seat.>
2) Remove the rear quarter trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
3) Remove the bolts, and then detach the outer seat belt assembly.



2. INNER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY

1) Remove the third-row seats. <Ref. to SE-18, REMOVAL, Third Seat.>
2) Remove the bolt, and then detach the inner seat belt assembly.



B: INSTALLATION

CAUTION:
When installing, be careful of the routing of the seat belt, and make sure that the belt is not twisted.
Install in the reverse order of removal.

C: INSPECTION

Check for the following, and replace with new parts if necessary.
• Seat belt is slackened, bent or worn. Seat belt is abnormally wound or extended.
• Inner seat belt assembly is deformed or damaged.
• Seat belt buckle cannot be engaged properly.

LIGHTING SYSTEM

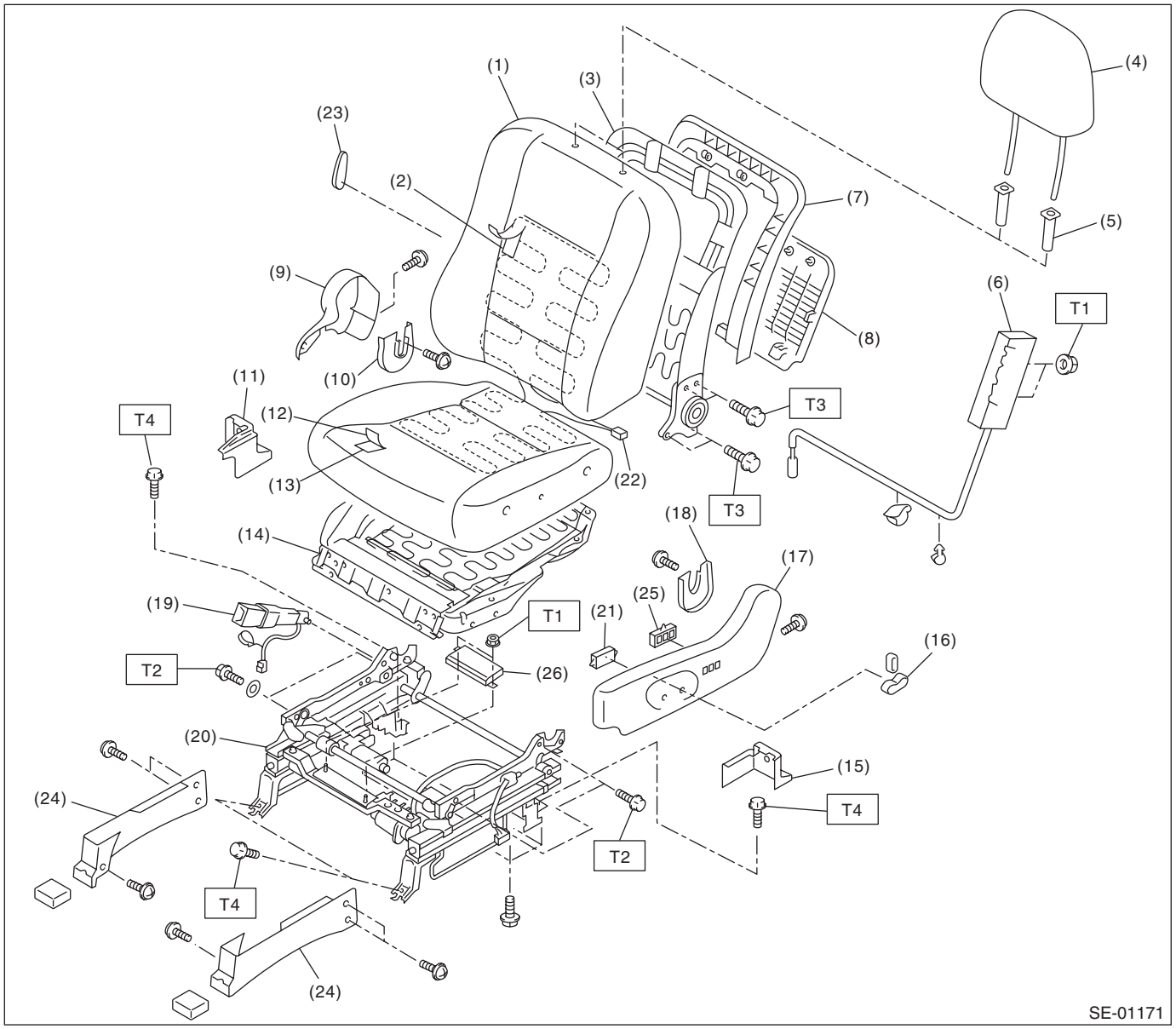
LI

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1. General Description

A: COMPONENT

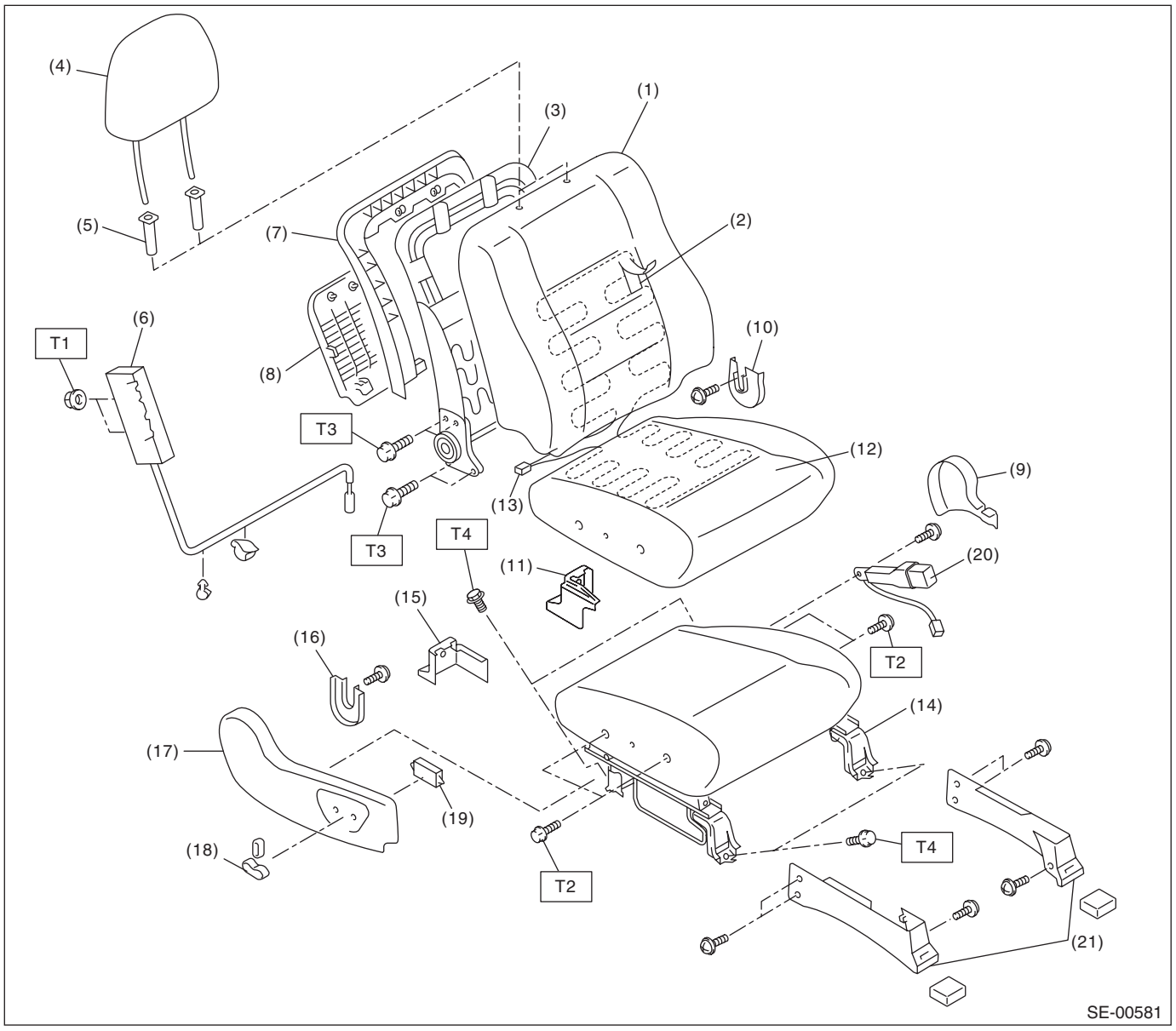
1. FRONT SEAT (DRIVER'S SEAT)



(1) Backrest cover
(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 leg cover inside
(12) Seat cushion cover
(13) Seat cushion pad
(14) Seat cushion frame ASSY
(15) Rear leg 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
(24) Slide rail cover
(25) Memory switch (with memory function)
(26) Memory unit (with memory function)

Tightening torque:N·m (kgf-m, ft-lb)
T1: 6 (0.61, 4.43)
T2: 17.6 (1.79, 12.7)
T3: 52 (5.30, 37.6)
T4: 53 (5.40, 38.3)

2. FRONT SEAT (PASSENGER'S SEAT)

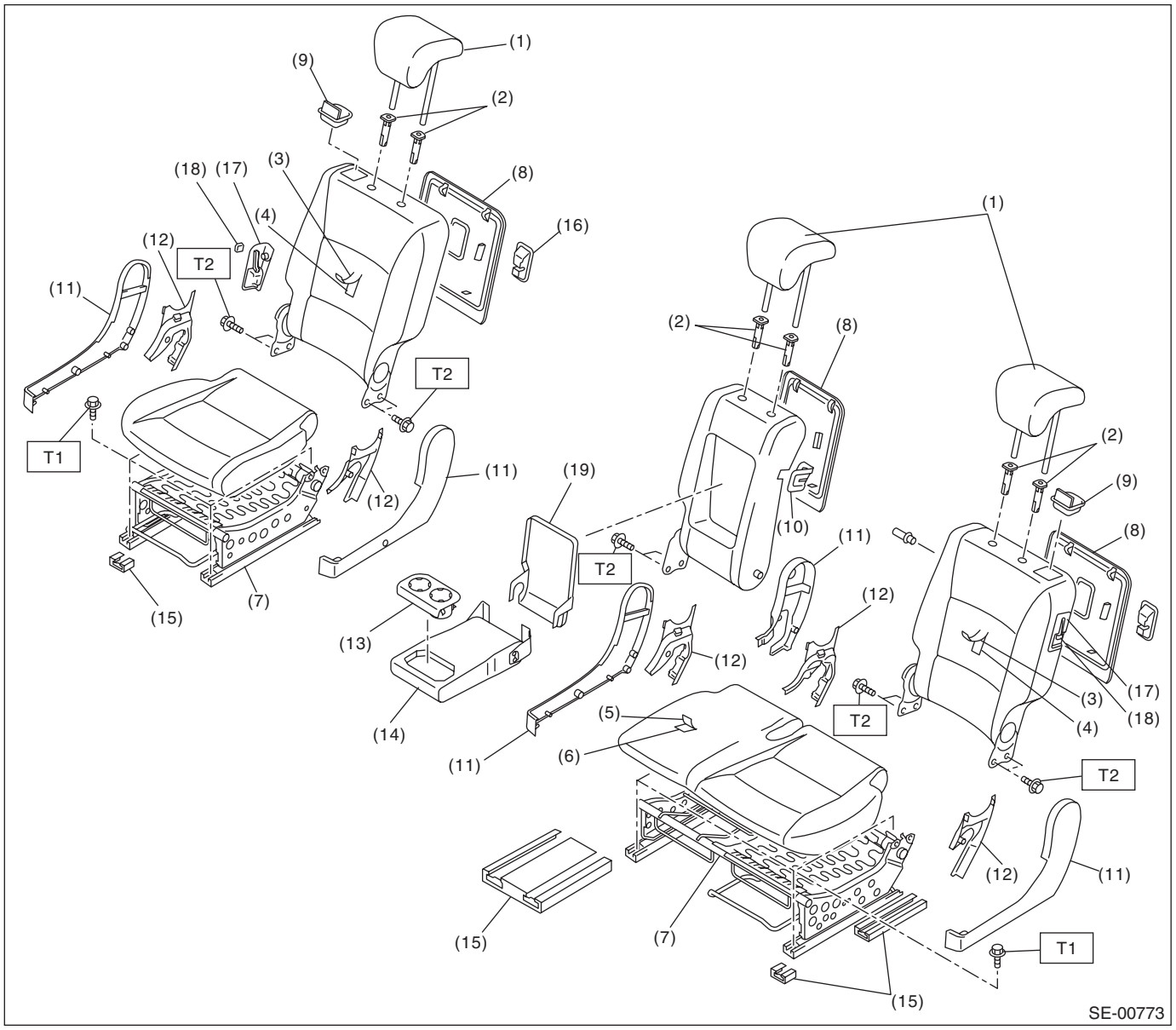


(1) Backrest cover
(2) Backrest pad
(3) Backrest frame ASSY
(4) Headrest ASSY
(5) Headrest lock bushing
(6) Side airbag module
(7) Cover frame
(8) Backrest back cover
(9) Seat side cover inside
(10) Hinge inner cover LH
(11) Rear leg cover inside
(12) Seat cushion cover
(13) Seat heater unit
(14) Seat cushion pad and frame ASSY
(15) Rear leg 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) Slide rail cover

Tightening torque:N·m (kgf-m, ft-lb)

T1: 6 (0.61, 4.43)
T2: 17.6 (1.79, 12.7)
T3: 52 (5.30, 37.6)
T4: 53 (5.40, 38.3)

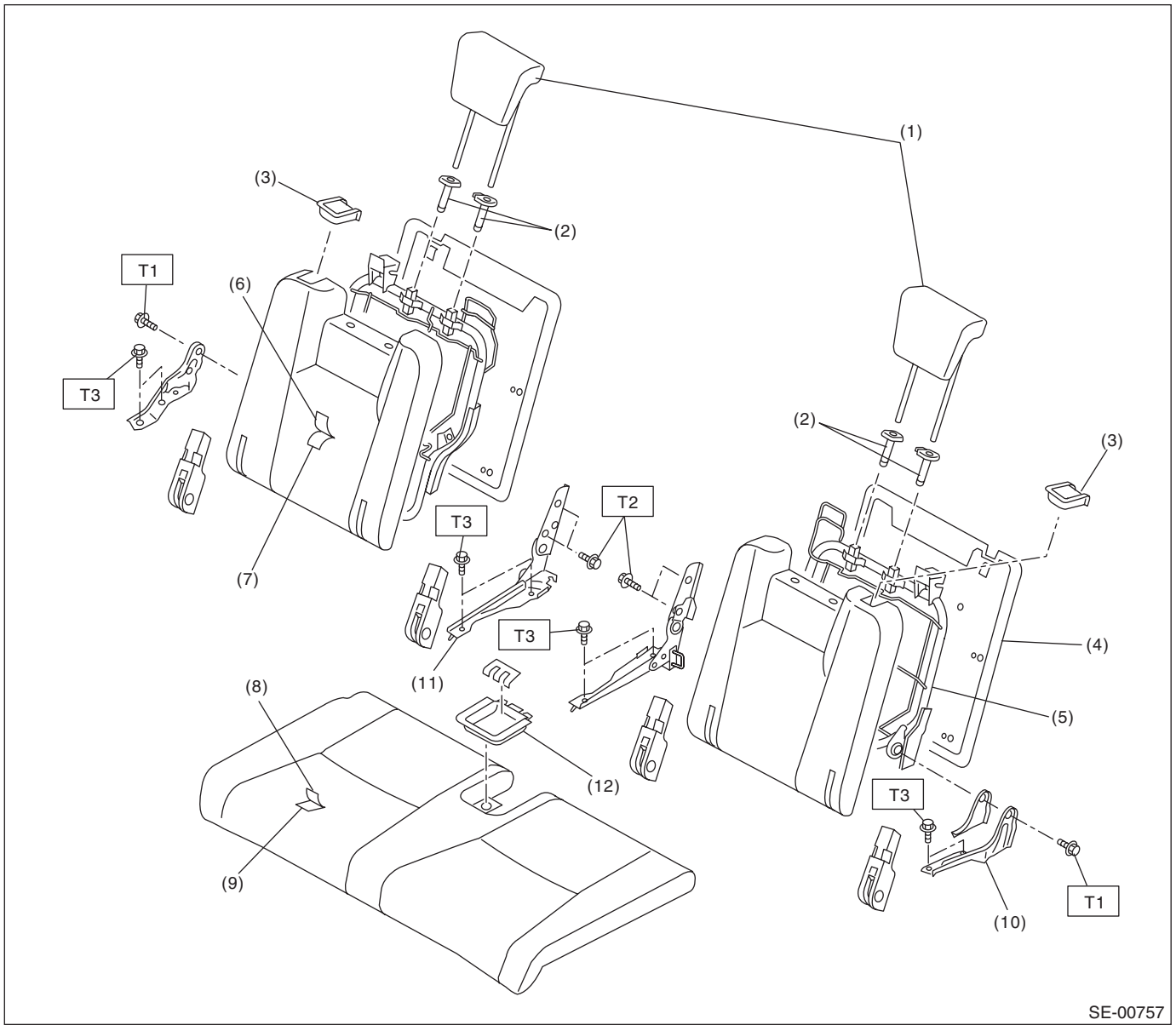
3. SECOND-ROW SEATS



(1) Headrest
(2) Headrest lock bushing
(3) Backrest cover
(4) Backrest pad
(5) Seat cushion cover
(6) Seat cushion pad
(7) Slide rail ASSY
(8) Backrest back cover
(9) Holder
(10) Seat backrest latch cover
(11) Hinge outer cover
(12) Hinge inner cover
(13) Cup holder
(14) Armrest
(15) Slide rail cover
(16) Tether anchor cover
(17) Walk-in lever cover
(18) Walk-in knob
(19) Arm rest board

Tightening torque:N·m (kgf-m, ft-lb)
T1: 40 (4.08, 28.9)
T2: 52 (5.30, 37.6)

4. THIRD-ROW SEATS



(1) Headrest
(2) Headrest lock bushing
(3) Hinge lever ASSY
(4) Backrest back cover
(5) Backrest frame
(6) Backrest cover
(7) Backrest pad
(8) Seat cushion cover
(9) Seat cushion pad
(10) Hinge plate
(11) Inner hinge ASSY
(12) Buckle holder

Tightening torque:N·m (kgf-m, ft-lb)
T1: 10 (1.01, 7.23)
T2: 52 (5.30, 37.6)
T3: 53 (5.40 38.3)

B: CAUTION

• If the seat cushion cover is removed or replaced, make sure to perform passenger detection system adjustment after installing the seat to the vehicle. <Ref. to OD(diag)-14, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
If system adjustment is not performed, the occupant detection system may not function properly.
• 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 wire on the seat cushion side with a new wire.
• When removing the front seat and second-row seat, follow cautions given in the airbag section. <Ref. to AB-4, CAUTION, General Description.>

C: NOTE

When removing the front seat of memory-equipped power seats, always perform the initialize operation on the memory function after installing the seat to the vehicle. <Ref. to SE-36, ADJUSTMENT, Power Seat System.>
Failure to do so may cause the abnormal operation of the memory function.

D: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Long nose pliers	Used for removing the hog ring.
Hog ring pliers	Used for installing the hog ring.
Circuit tester	Used for checking power seat and seat heater.
TORX® T50	Used for removing/installing inner seat belt assembly and removing/installing/disassembling second-row seats.

2. Front Seat

A: REMOVAL

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

NOTE:
If a front seat is power seat with memory function, the memory function must be initialized after installing seat to the vehicle. <Ref. to SE-36, ADJUSTMENT, Power Seat System.>
If it is not initialized, the memory function may not operate properly.

1. DRIVER'S SEAT

1) Remove the headrest.
2) Tilt the backrest forward, and move the seat forward.
3) Remove the rear leg cover, and remove the two bolts at the rear side of slide rail.
4) Move the seat backward, remove the front leg cover, and then remove the 2 bolts at the front side of the slide rail.
5) Disconnect the ground cable from battery, and wait for 60 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
- Power seat connector

7) Remove the seat from vehicle.

2. PASSENGER'S SEAT

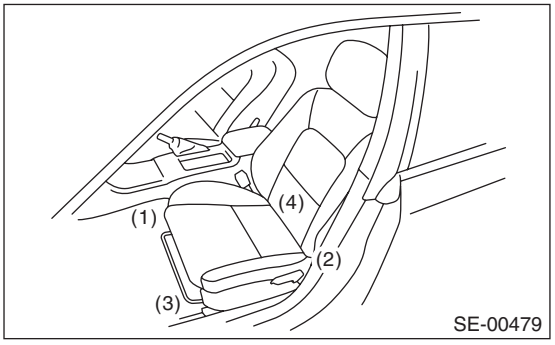
CAUTION:
Refer to "CAUTION" of "General Description" before starting the work. <Ref. to SE-6, CAUTION, General Description.>
1) Remove the headrest.
2) Tilt the backrest forward, and move the seat forward.
3) Remove the rear leg cover, and remove the bolt at the rear side of the slide rail.
4) Move the seat backward, remove the front leg cover, and then remove the bolt at the front side of the slide rail.
5) Disconnect the ground cable from battery, and wait for 60 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
- Seat heater connector

7) Remove the seat from vehicle.

B: INSTALLATION

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)-24, DISPLAY OF STATUS INFORMATION, OPERATION, Subaru Select Monitor.>
• If a front seat is power seat with memory function, the memory function must be initialized after installing seat to the vehicle. <Ref. to SE-36, ADJUSTMENT, Power Seat System.>
If it is not initialized, the memory function may not operate properly.
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.

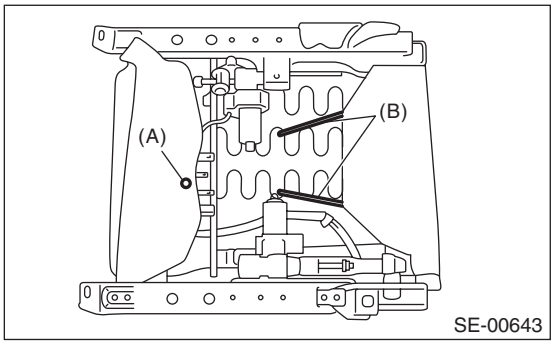


Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-2, COMPONENT, General Description.>

C: DISASSEMBLY

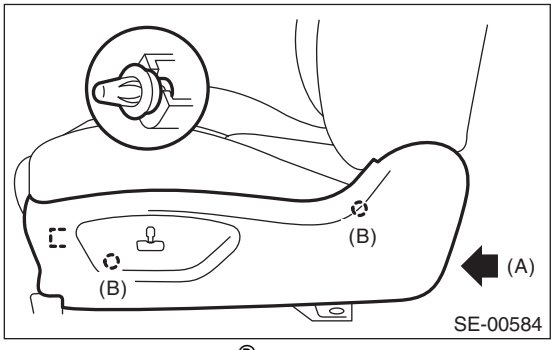
1. DRIVER'S SEAT

1) Remove the seat from vehicle. <Ref. to SE-7, DRIVER'S SEAT, REMOVAL, Front Seat.>
2) Remove the clip (A) and straps (B) on the back of seat cushion.

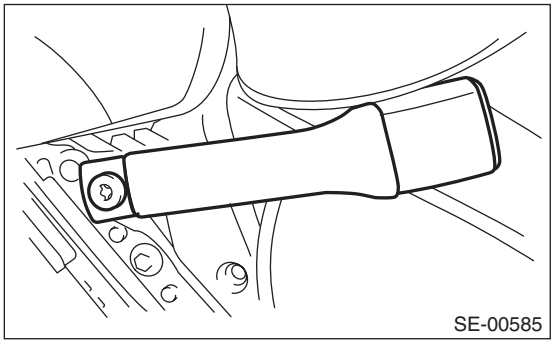


3) Disconnect the following connectors from the backside of seat cushion.
- Side airbag
- Seat position sensor
- Seat heater
- Power seat
- Seat belt

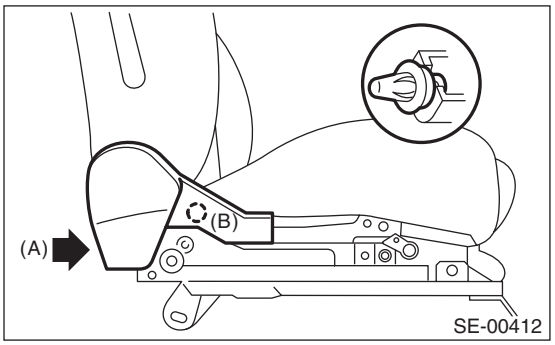
4) Remove the screw (A) and clips (B), and then disconnect the seat switch connector to remove seat side cover outside.



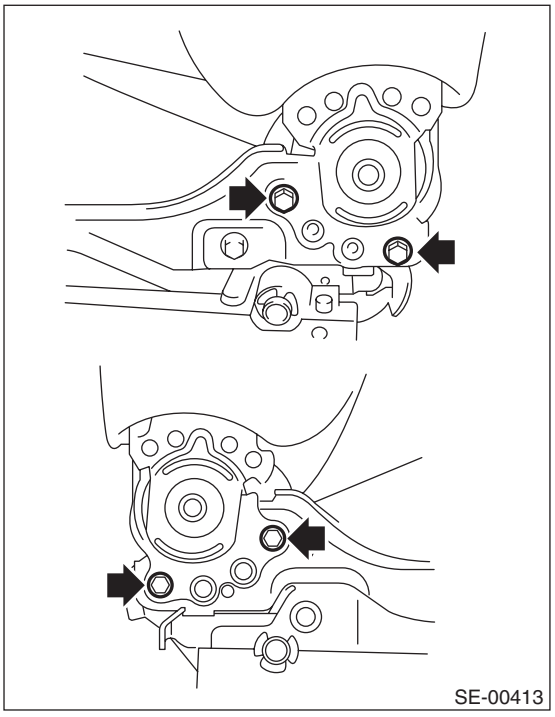
5) Remove the TORX® bolt, and then remove the inner seat belt assembly.



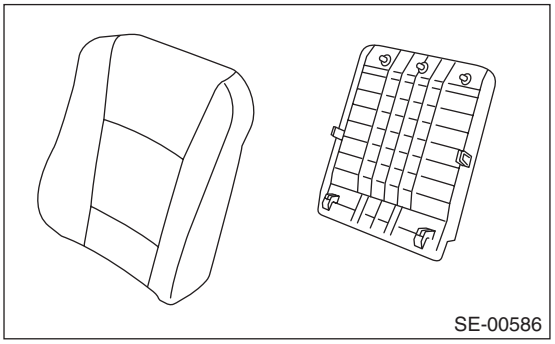
6) Remove the screw (A) and clip (B), and then remove the seat side cover inside.



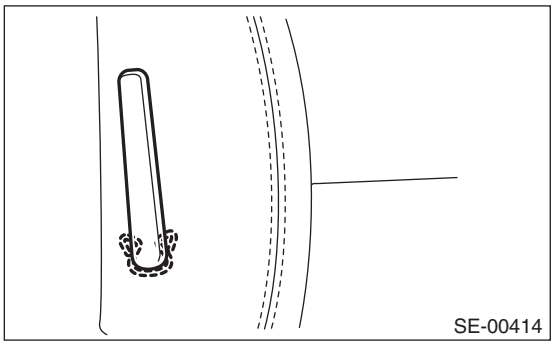
7) Remove the two bolts from the reclining hinge on each left and right side.



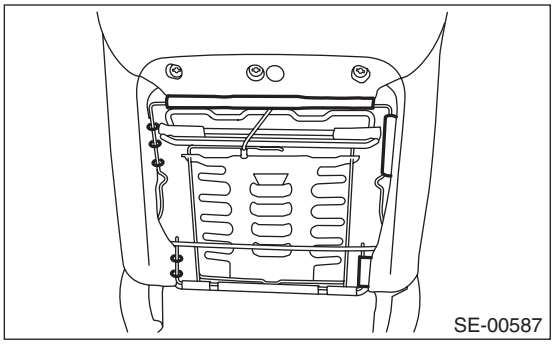
8) Remove the clips and hooks, and then detach the backrest back cover.



9) Remove the lock clip, and then remove the lumber support lever.

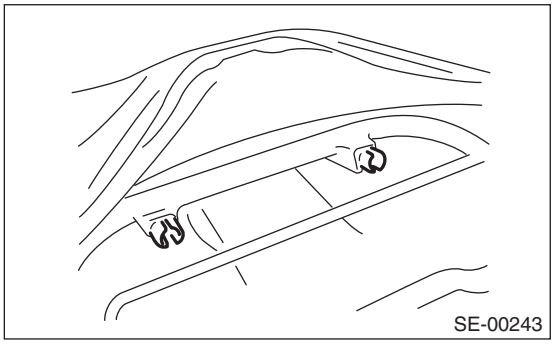


10) Remove the hooks and hog rings at the rear side of backrest.

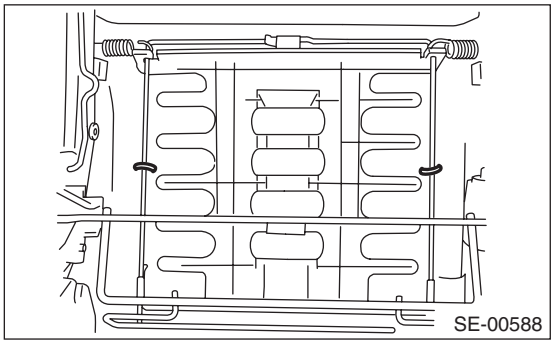


11) Remove the headrest lock bushing.

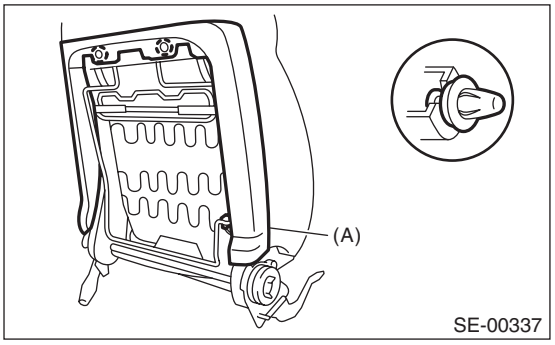
NOTE:
Push outside to remove it from the inside of seat.



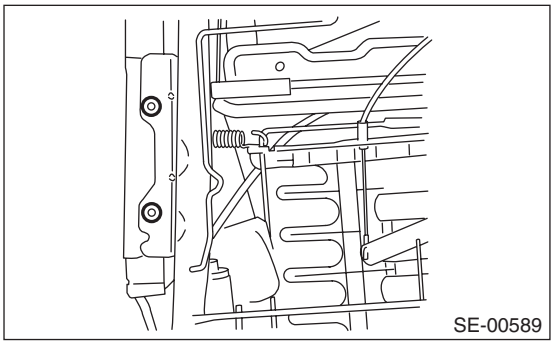
12) Remove the hog ring.



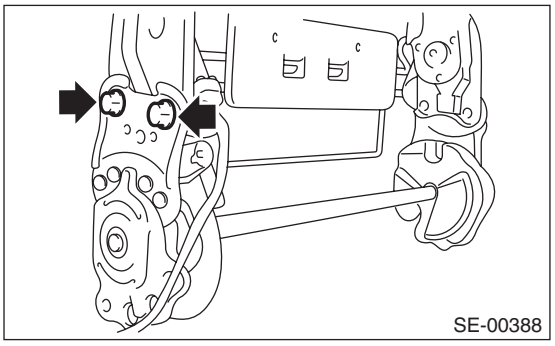
13) Remove the cover frame (A).



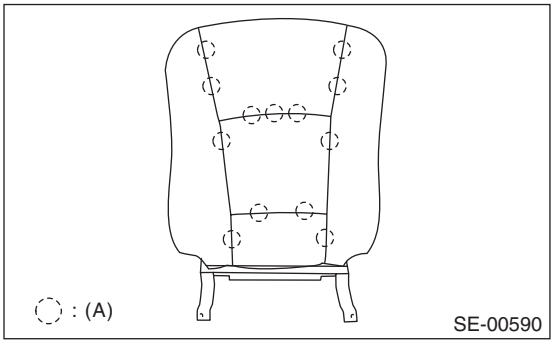
14) Pull out the backrest frame assembly.
15) Remove the side airbag module.



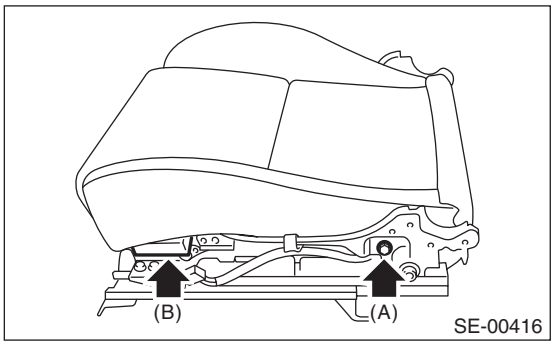
16) Remove the two bolts on each left and right side, and then remove the reclining motor assembly.



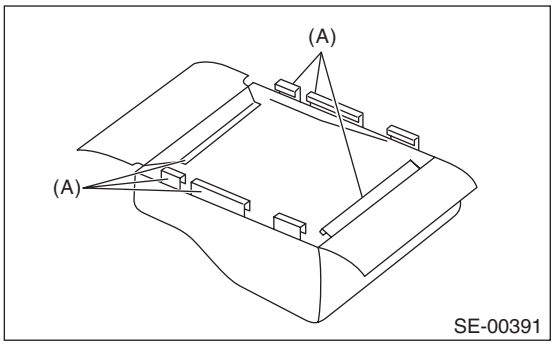
17) Remove the hog rings (A) on the surface side of backrest, and then remove the backrest cover from backrest.



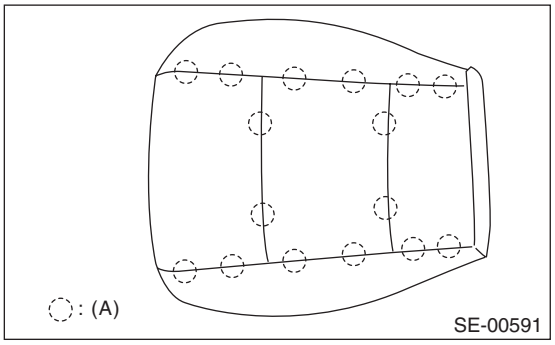
18) Remove the bolt (A) and hook (B) on the left and right side, and then remove the seat cushion frame from seat rail assembly.



19) Remove the hooks (A), and then remove the seat cushion from seat cushion frame.



20) Remove the hog rings (A), and then remove the seat cushion cover from seat cushion pad.



2. PASSENGER'S SEAT

CAUTION:

• If the seat cushion cover is removed or replaced, make sure to perform occupant detection system adjustment after installing the seat. <Ref. to OD(diag)-14, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>

Failure to do so may prevent the passenger's airbag from operating properly.

• 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.

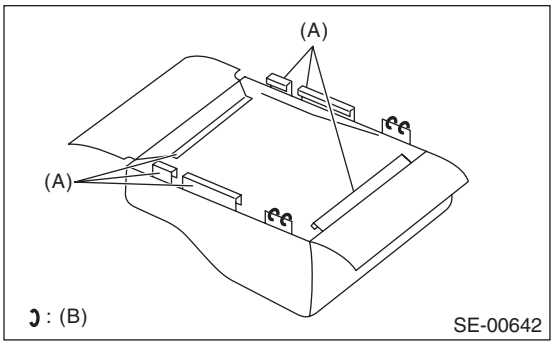
• If the seat cushion cover is removed, make sure to replace the wire on the seat cushion side with a new wire.

1) Remove the seat from vehicle. <Ref. to SE-7, PASSENGER'S SEAT, REMOVAL, Front Seat.>

2) Refer to the disassembly procedures for the driver's seat.

NOTE:

The back side of the seat cushion is affixed by a hook (A) and hog ring (B).



D: ASSEMBLY

CAUTION:

When the backrest cover is not installed securely, the side airbag module may not be deployed properly, therefore keep strictly to the following procedure.

• Be careful not to stain or damage the backrest cover during assembly.

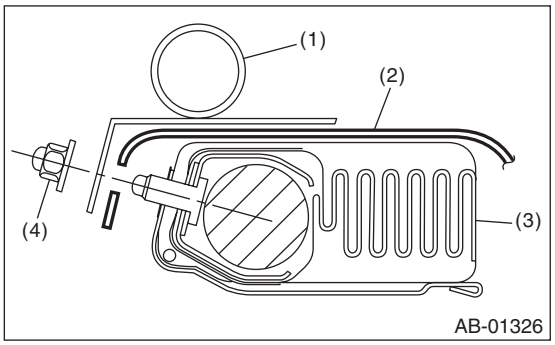
• The backrest cover of the side airbag module are to be tightened and fixed together with the attachment nuts for the side airbag module assembly.

• 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.

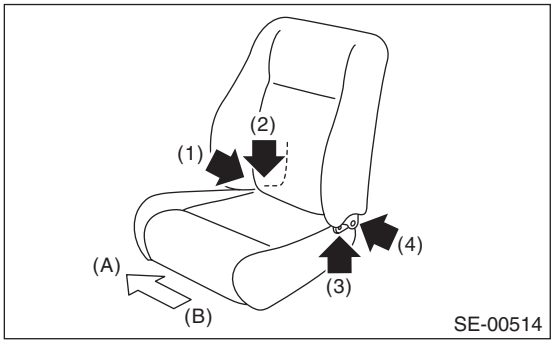
• When attaching the side airbag module assembly, make sure to sandwich the backrest cover between the seat backrest side bracket and side airbag module.



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

1. DRIVER'S SEAT

NOTE:
• When installing the inner seat belt assembly, follow the procedures described in the seat belt section. <Ref. to SB-19, 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 (1) through (4) in order, in two or three steps by gradually increasing the torque until they reach the specified torque.

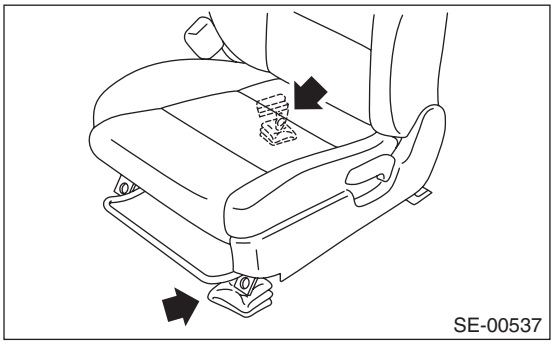


(A) Vehicle inside
(B) Vehicle outside

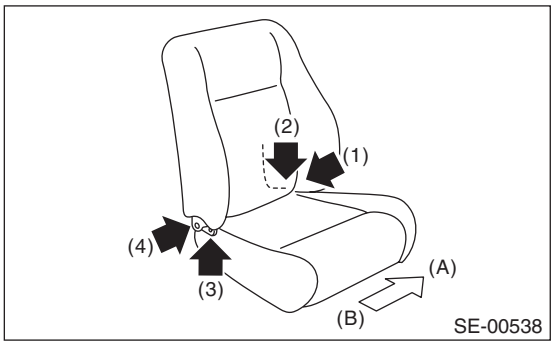
4) Assemble in the reverse order of disassembly.

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 occupant detection system adjustment after installing the seat. <Ref. to OD(diag)-14, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
Failure to do so may prevent the passenger's airbag from operating properly.
• 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 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.
1) Assemble the seat cushion in the reverse order of disassembly.
2) Assemble the backrest in the reverse order of disassembly.
3) When assembling the backrest assembly to the seat cushion assembly, fill up the gap in the front side of slide rail LH and in the rear side of slide rail RH using cloth etc.



4) Temporarily tighten the reclining hinge bolts in the order of (1) through (4) to an extent that the seat backrest assembly is not held securely.



(A) Vehicle inside
(B) Vehicle outside

5) Hold the seat cushion assembly securely, and tighten the reclining hinge bolts in the order described above until they reach the specified torque.

CAUTION:
Do not touch the backrest assembly when tightening the reclining hinge bolts.

6) Assemble each harness, inner belt assembly and each cover in the reverse order of removal.

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

E: INSPECTION

CAUTION:
If there are tears or looseness in the back rest cover or seat cushion covers, do not attempt to repair. Replace with a new cover. Repairing the cover may cause improper operation of the side airbag or the occupant detection system.

Check that there is no tear or fray on the backrest cover and seat cushion cover.

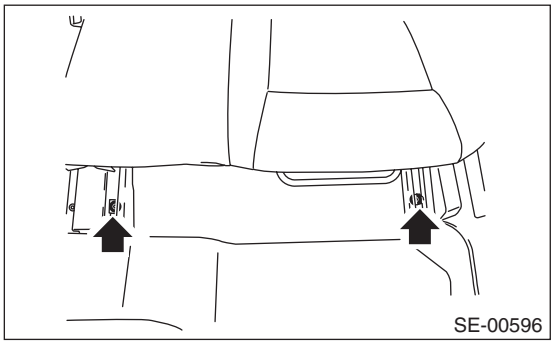
3. Second Seat

A: REMOVAL

CAUTION:
• Airbag system satellite safing sensor is located in the lower of the second-row seat center. Read the cautions and warnings indicated in the AB section before removing the second-row seat. <Ref. to AB-4, CAUTION, General Description.>
• The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may deploy if you do not wait for 60 seconds before starting the service of airbag system.

1. LH&CTR SEAT

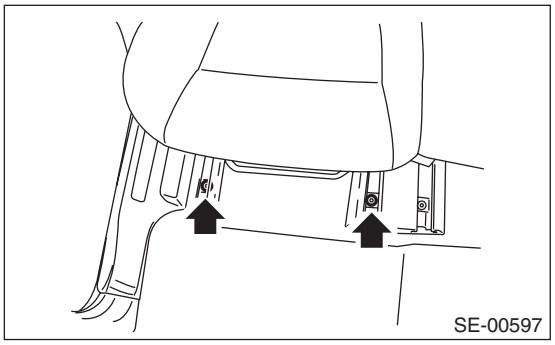
1) Tilt the backrest forward, and move the seat forward.
2) Remove the slide rail cover at the seat rear side, and remove the two bolts.
3) Move the seat to the rear end.
4) Remove the slide rail cover at the seat front side, and remove the two bolts.



5) Remove the seat from vehicle.

2. RH SEAT

1) Tilt the backrest forward, and move the seat forward.
2) Remove the slide rail cover at the seat rear side, and remove the two bolts.
3) Move the seat to the rear end.
4) Remove the slide rail cover at the seat front side, and remove the two bolts.



5) Remove the seat from vehicle.

B: INSTALLATION

Install in the reverse order of removal.

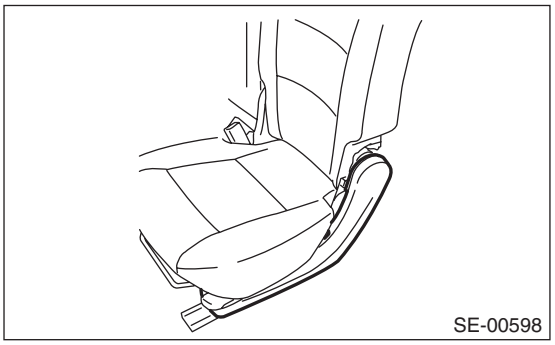
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-2, COMPONENT, General Description.>

NOTE:
Tighten the slide rail bolts diagonally in two or three steps by gradually increasing the torque, until they reach the specified torque.

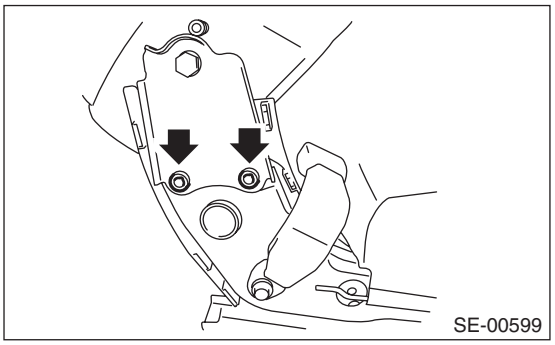
C: DISASSEMBLY

1. LH SEAT

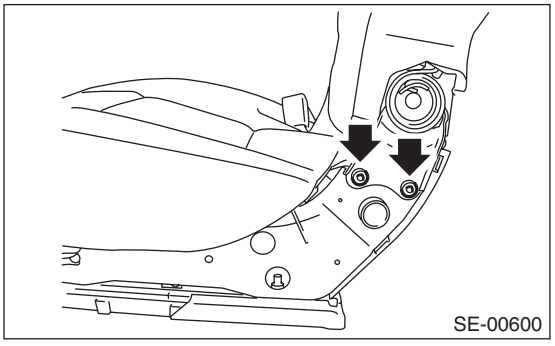
1) Remove the seat from vehicle. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the headrest.
3) Remove the hinge outer cover.



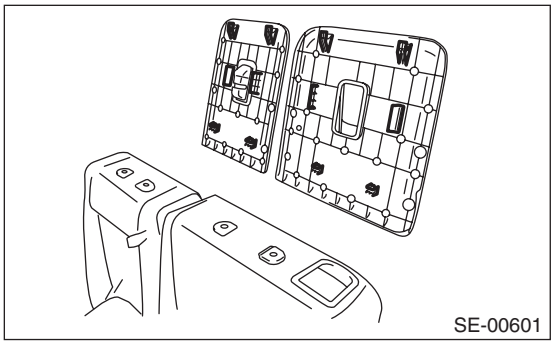
4) Remove the two reclining hinge bolts of 2nd seat CTR, then remove the seat backrest.



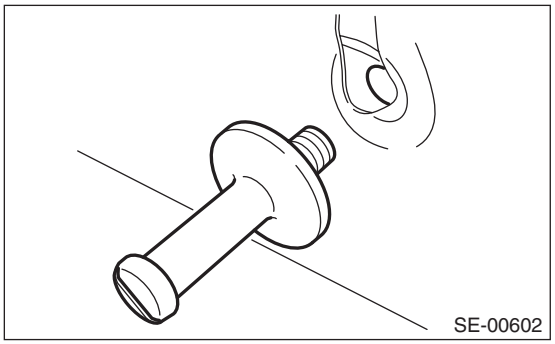
5) Remove the two reclining hinge bolts of 2nd seat LH on each of the left and right sides, then remove the seat backrest.



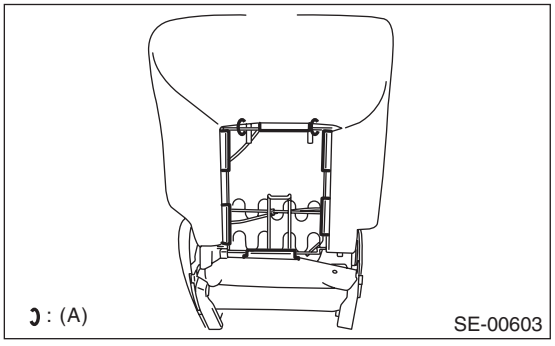
6) Remove the backrest back cover.



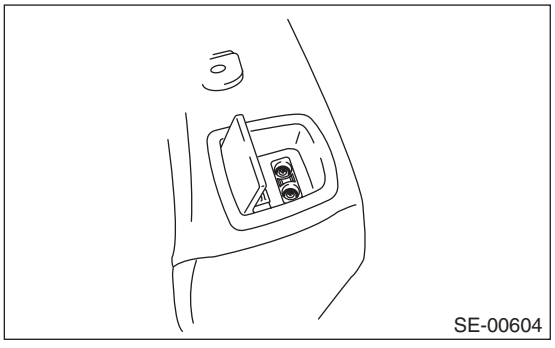
7) Remove the stopper.



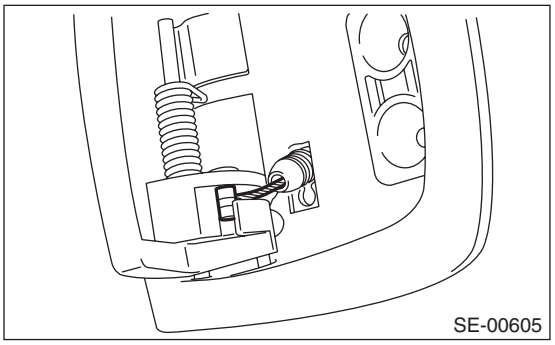
8) Remove the hog rings (A) and hooks at the rear face of the backrest.



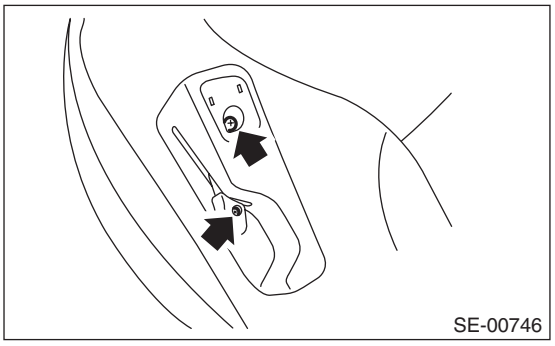
9) Remove the two screws securing the reclining lever.



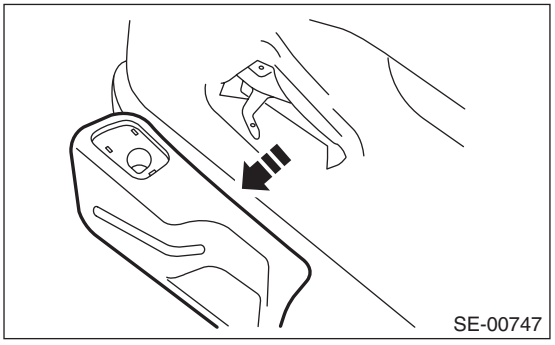
10) Disconnect the wire connected to the reclining lever, then remove the reclining lever.



11) Remove the screws securing the walk-in knob and walk-in lever cover.



12) Remove the walk-in knob and walk-in lever cover.

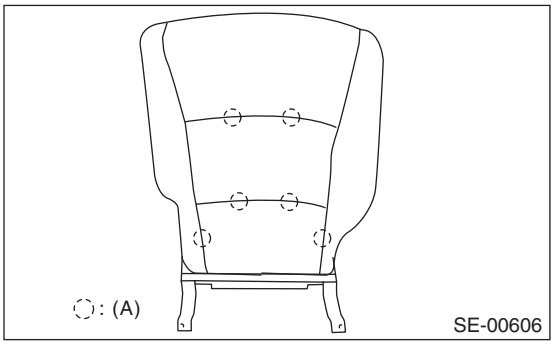


13) Remove the headrest lock bushing.

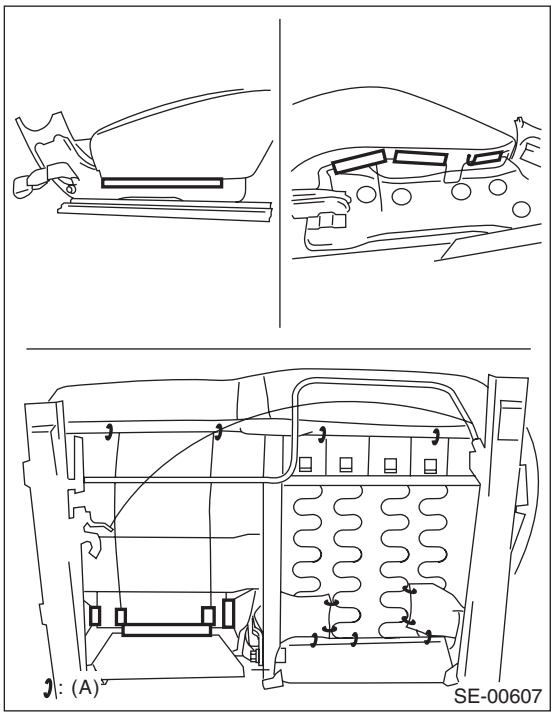
NOTE:
Push outside to remove it from the inside of seat.

14) Pull out the frame from the backrest.

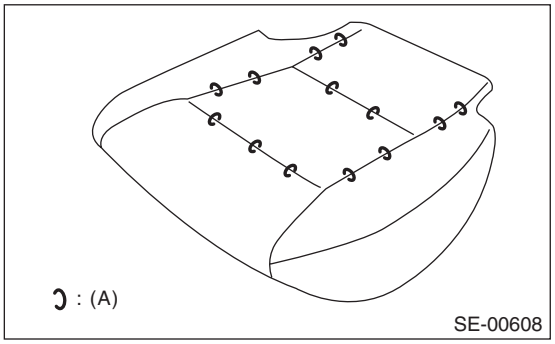
15) Remove the hog rings (A) of backrest, and then remove the backrest cover from backrest.



16) Remove the hooks and hog rings (A) from the rear side of seat cushion.

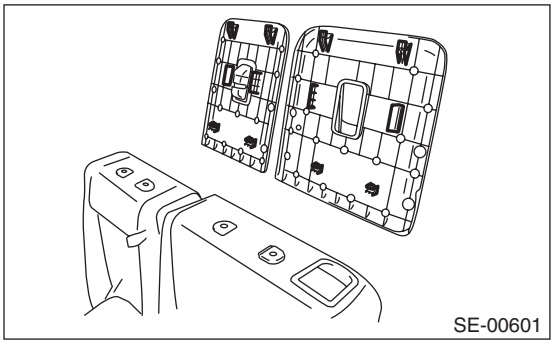


17) Remove the seat cushion from the slide rail assembly.
18) Remove the seat cushion hog rings (A), and then remove the seat cushion cover from seat cushion.

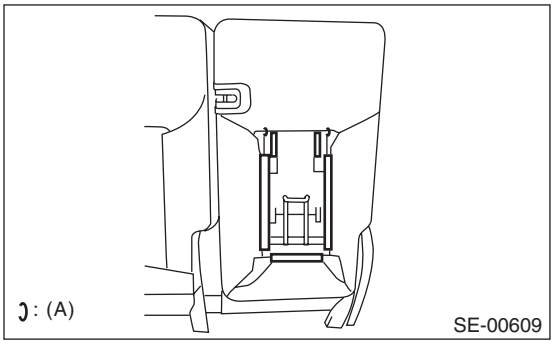


2. CTR SEAT

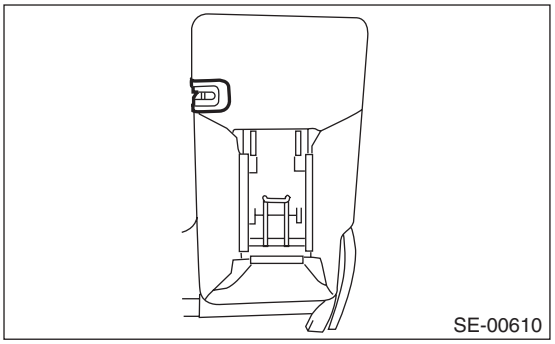
1) Remove the seat from vehicle. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the hinge outer cover.
3) Remove the two reclining hinge bolts of 2nd seat CTR, then remove the seat backrest.
4) Remove the backrest back cover.



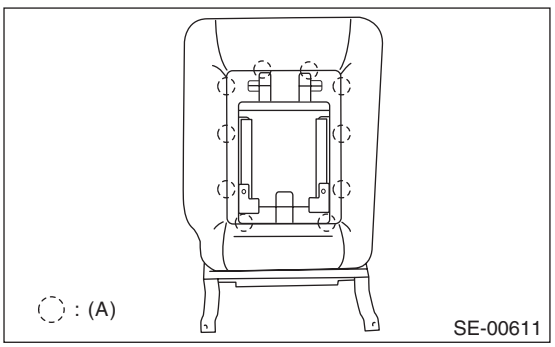
5) Remove the hooks and hog rings (A) at the rear side of backrest.



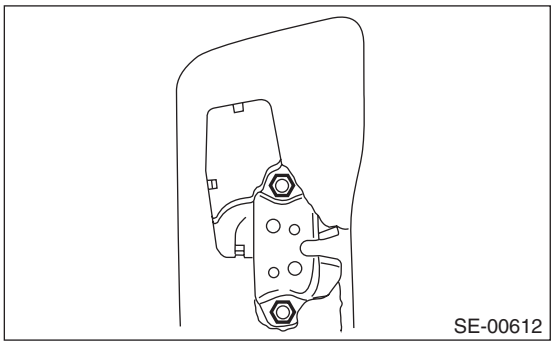
6) Remove the nut, then remove the armrest and arm rest rear board.
7) Remove the four screws securing the arm rest.
8) Remove the nut, then remove the armrest rear board and arm rest.
9) Remove the seat back latch cover.



10) Remove the hog rings (A) on the front face of the backrest, and then remove the backrest cover from the backrest.

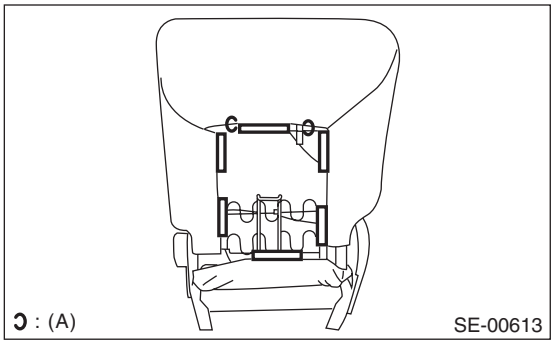


11) Remove the two bolts securing the seat backrest latch, then remove the seat backrest latch.

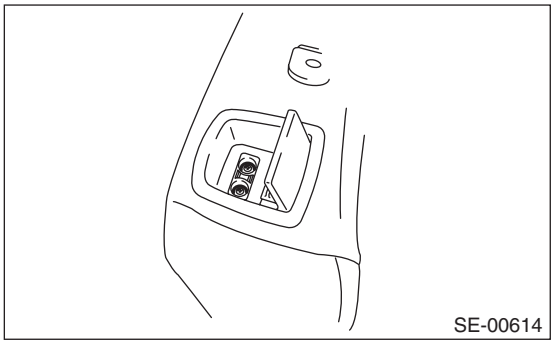


3. RH SEAT

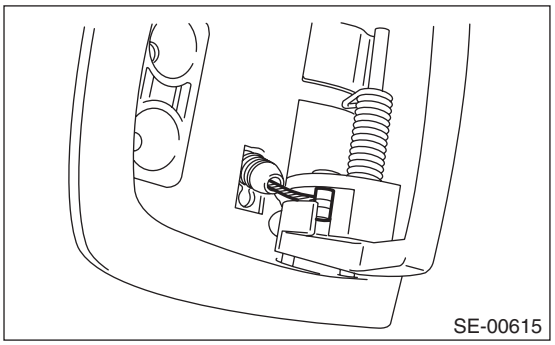
1) Remove the seat from vehicle. <Ref. to SE-13, RH SEAT, REMOVAL, Second Seat.>
2) Remove the headrest.
3) Remove the hinge outer cover.
4) Remove the backrest back cover.
5) Remove the hog rings (A) and hooks at the rear face of the backrest.



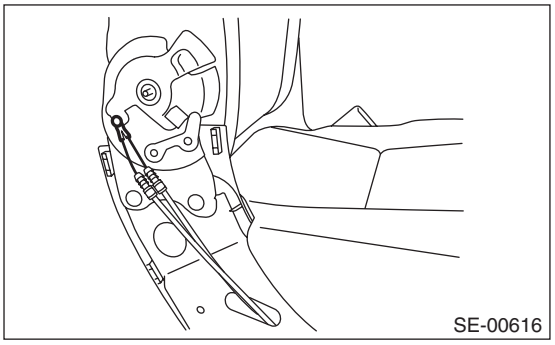
6) Remove the two screws securing the reclining lever.



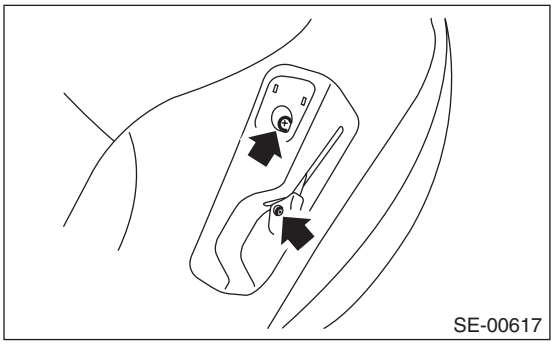
7) Disconnect the wire connected to the reclining lever, then remove the reclining lever.



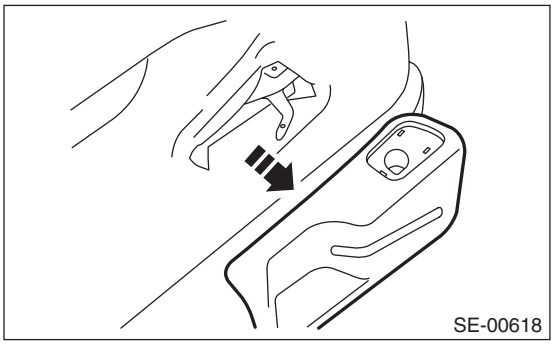
8) Disconnect the wire connected to the reclining hinge.



9) Remove the four reclining hinge bolts of 2nd seat RH, then remove the seat backrest.
10) Remove the two screws securing the walk-in knob and walk-in lever cover.

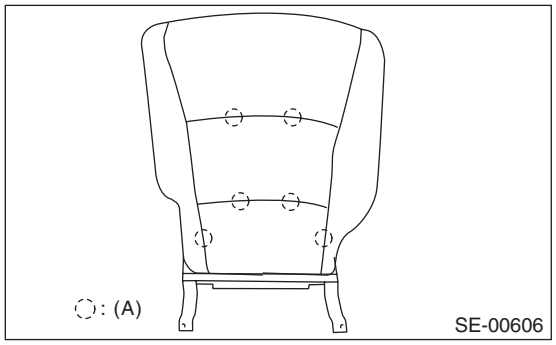


11) Remove the walk-in knob and walk-in lever cover.

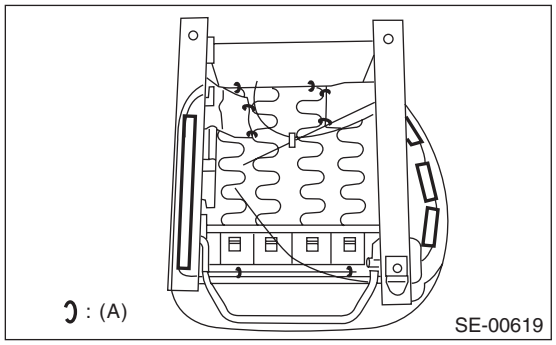


12) Remove the headrest lock bushing.

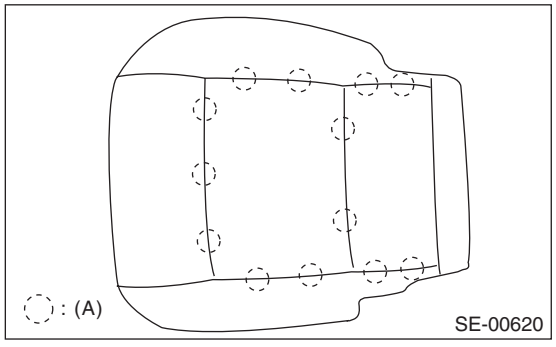
NOTE:
Push outside to remove it from the inside of seat.
13) Pull out the frame from the backrest.
14) Remove the hog rings (A) of backrest, and then remove the backrest cover from backrest.



15) Remove the hooks and hog rings (A) from the rear side of seat cushion.

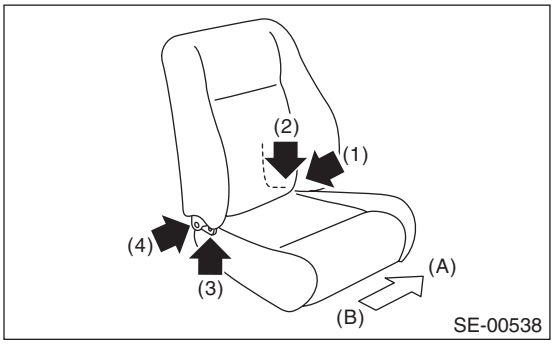


16) Remove the seat cushion from the slide rail assembly.
17) Remove the seat cushion hog rings (A), and then remove the seat cushion cover from seat cushion.



D: ASSEMBLY

CAUTION:
• Be careful not to stain or damage the backrest cover during assembly.
• Always use new hog rings.
• Secure the hog ring using hog ring pliers.
• Install the hog rings to the specified points securely and make sure that no wrinkle or twisting on backrest cover.
1) Assemble the seat cushion in the reverse order of disassembly.
2) Assemble the backrest in the reverse order of disassembly.
3) Temporarily tighten the reclining hinge bolts in the order of (1) through (4) to an extent that the seat backrest assembly is not held securely.



(A) Vehicle inside
(B) Vehicle outside

4) Use the reclining lever to place the backrest in the most upright position, and check the first lock position of recliner.
5) Hold the seat cushion assembly securely, and tighten the reclining hinge bolts in the order described above until they reach the specified torque.

CAUTION:
Do not touch the backrest assembly when tightening the reclining hinge bolts.
6) Assemble each harness, inner belt assembly and each cover in the reverse order of removal.

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

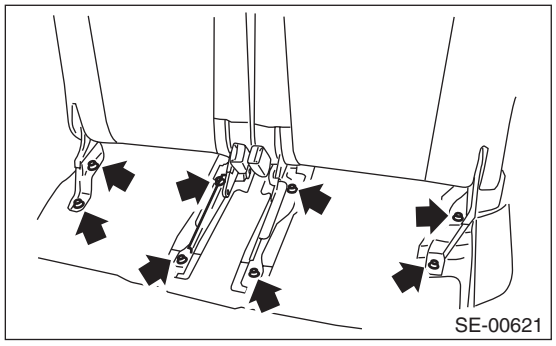
E: INSPECTION

Check that there is no tear or fray on the seat cover.

4. Third Seat

A: REMOVAL

1) Lift up the front side of the 3rd seat cushion and then remove the hooks.
2) Lift up the 3rd seat cushion and remove the seat cushion by pushing it backward to detach the hook.
3) Remove the eight bolts securing the 3rd seat backrest.



4) Remove the 3rd seat.

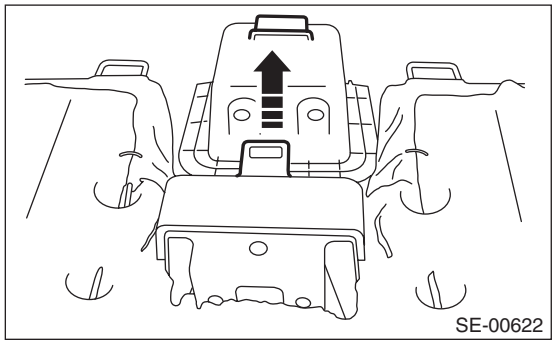
B: INSTALLATION

Install in the reverse order of removal.

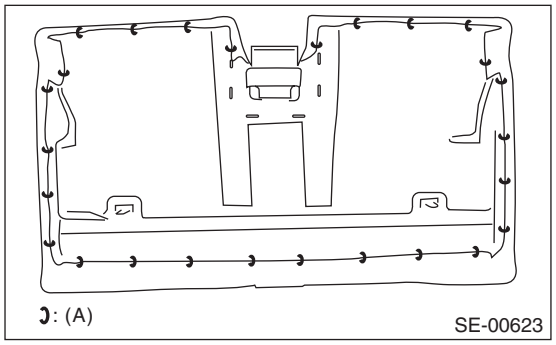
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-2, COMPONENT, General Description.>

C: DISASSEMBLY

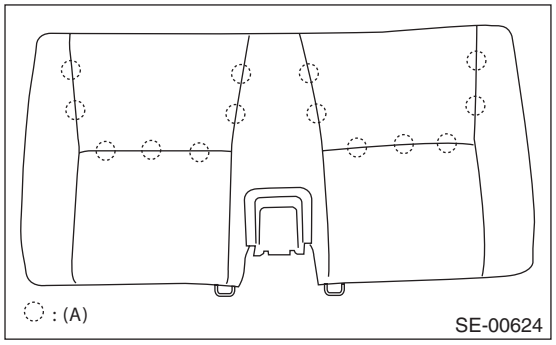
1) Remove the 3rd seat. <Ref. to SE-18, REMOVAL, Third Seat.>
2) Remove the headrest.
3) Pull out the seat belt tray.



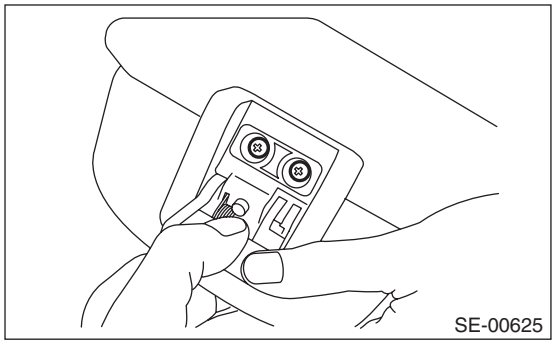
4) Remove the hog rings (A) on the rear side of seat cushion.



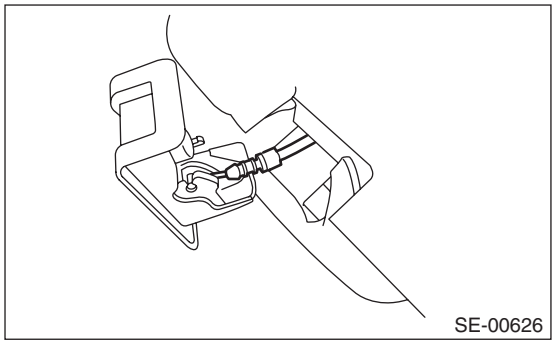
5) Remove the hog rings (A) on the front side of seat cushion.



6) Remove the two screws securing the hinge lever assembly.

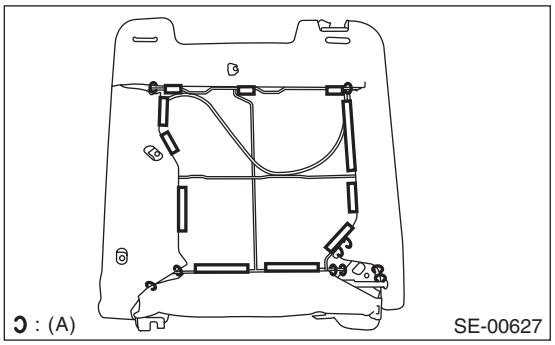


7) Disconnect the wire connected to the hinge lever assembly.

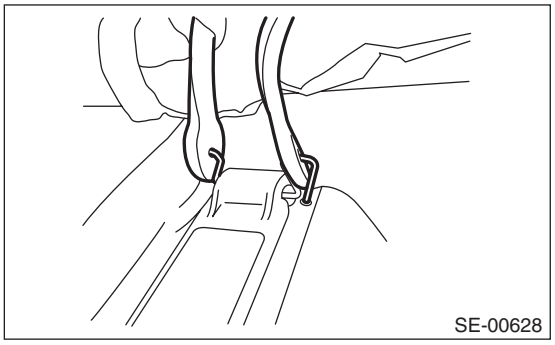


8) Remove the seat backrest cover.

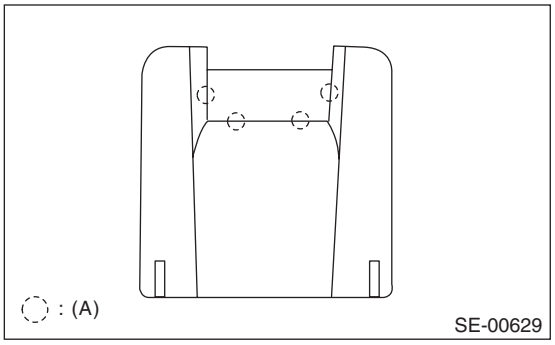
9) Remove the hog rings (A) and hooks at the rear face of the backrest.



10) Remove the hooks which secure the seat backrest to the frame.



11) Remove the hog rings (A) on the front side of seat backrest.



12) Remove the seat backrest cover.
13) Pull out the frame from the seat backrest cushion.

D: ASSEMBLY

CAUTION:
• Be careful not to stain or damage the backrest cover during assembly.
• Always use new hog rings.
• Secure the hog ring using hog ring pliers.
• Install the hog rings to the specified points securely and make sure that no wrinkle or twisting on backrest cover.

1) Assemble the seat cushion in the reverse order of disassembly.
2) Assemble the backrest in the reverse order of disassembly.
3) Assemble each inner belt assembly and each cover in the reverse order of removal.

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

E: INSPECTION

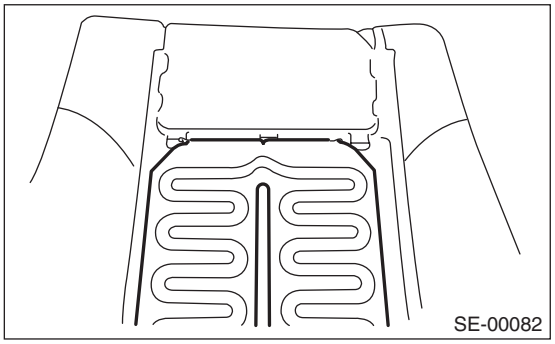
Check that there is no tear or fray on the seat cover.

5. Seat Heater System

A: REMOVAL

1. SEAT HEATER UNIT

1) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove the backrest cover of front seat and seat cushion cover. <Ref. to SE-8, DISASSEMBLY, Front Seat.>
3) Remove the hog rings, and then remove the seat heater unit.



2. SEAT HEATER SWITCH

The seat heater switch is built into the control panel. <Ref. to AC-31, REMOVAL, Control Panel.>

B: INSTALLATION

CAUTION:
If the seat cushion cover is removed or replaced, make sure to perform occupant detection system adjustment after installing the seat. <Ref. to OD(diag)-14, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
Failure to do so may prevent the passenger's airbag from operating properly.
Install in the reverse order of removal.

C: INSPECTION

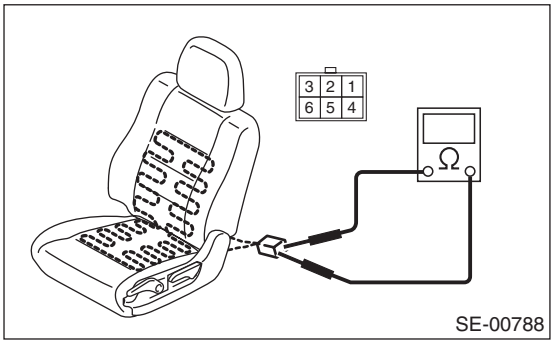
1. WIRING DIAGRAM

<Ref. to WI-86, WIRING DIAGRAM, Power Seat System.>

2. SEAT HEATER MODULE

Disconnect the connector of the seat heater module, and check for continuity between terminals in connector.

Connector & terminal
No. 1 — No. 3:
No. 1 — No. 4:
No. 3 — No. 4:



If there is no continuity, replace the seat heater module.

3. SEAT HEATER SWITCH

1) Perform the self-diagnosis of control panel. <Ref. to AC(diag)-10, Diagnostic Chart for Self-Diagnosis.>
2) Repair the harness between the seat heater module and the auto air conditioner control module.
3) Check the auto air conditioner control module. <Ref. to AC(diag)-8, Auto A/C Control Module I/O Signal.>

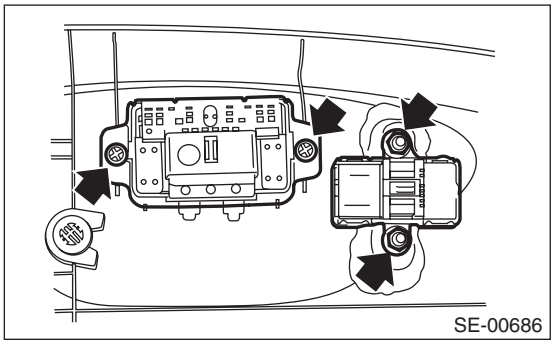
6. Power Seat System

A: REMOVAL

CAUTION:
When it is necessary to remove the front seat, disconnect the ground cable from battery and wait for 20 seconds before disconnecting the side airbag module harness connector.

1. POWER SEAT SWITCH

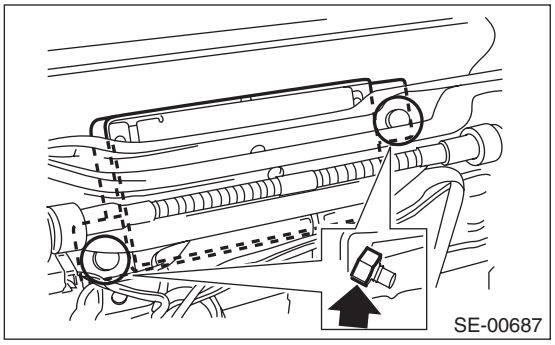
1) Detach the connectors and remove the seat side cover outside. <Ref. to SE-8, DISASSEMBLY, Front Seat.>
2) Remove the screws to remove the power seat switch assembly.


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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.


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B: INSTALLATION

Install in the reverse order of removal.

NOTE:
• For the memory-equipped seat, always perform the initialize operation after the installation. <Ref. to SE-36, ADJUSTMENT, Power Seat System.>
• Check the following items after replacing the memory-equipped seat or the memory module.
1. Memory feature is restored after turning the ignition switch to ON and shifting to P range.
2. Memory feature is not restored after turning the ignition switch to ON and shifting to other than P range.

C: INSPECTION

1. WIRING DIAGRAM

• Driver's side (without memory) <Ref. to WI-87, DRIVER'S SEAT (WITH MEMORY), WIRING DIAGRAM, Power Seat System.>
• Driver's side (memory-equipped) <Ref. to WI-86, DRIVER'S SEAT (WITHOUT MEMORY), WIRING DIAGRAM, Power Seat System.>
• Passenger's side <Ref. to WI-88, PASSENGER'S SEAT, WIRING DIAGRAM, Power Seat System.>

2. TROUBLE SYMPTOM

• Driver's seat (without memory)

Symptom	Criteria
All function fails to operate. <Ref. to SE-24, ALL FUNCTION FAILS TO OPERATE (DRIVER'S SEAT, WITHOUT MEMORY), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Body harness
A part of function does not operate. <Ref. to SE-24, SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITHOUT MEMORY), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Relevant motor

- Driver's seat (memory-equipped)

Symptom	Criteria
Does not operate by manual operation. <Ref. to SE-27, DOES NOT OPERATE IN MANUAL OPERATION (DRIVER'S SEAT, MEMORY-EQUIPPED), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Body harness • Relevant motor and encoder
A part of function does not operate. <Ref. to SE-28, SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Relevant motor and encoder • Memory module
Fails to store the location to the memory <Ref. to SE-32, FAILS TO STORE THE LOCATION TO THE MEMORY (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.>	• Memory switch • Power seat harness • Memory module
Restoring operation is impossible <Ref. to SE-32, FAILS TO PERFORM THE REPLAY OPERATION (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.>	• Memory switch • Memory module • Motor and encoder • Battery voltage (operation voltage)
Initial setting is impossible <Ref. to SE-34, INITIALIZATION IS IMPOSSIBLE, INSPECTION, Power Seat System.>	• Power seat harness • Memory module

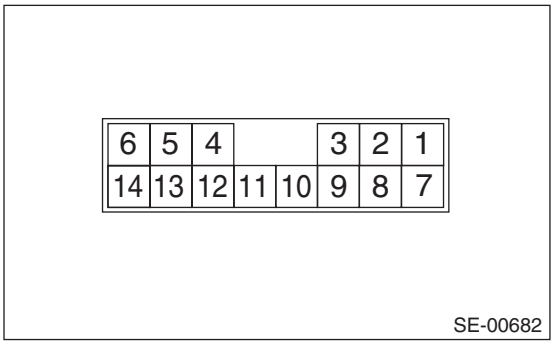
- Passenger's seat

Symptom	Criteria
All function fails to operate. <Ref. to SE-34, ALL FUNCTION FAILS TO OPERATE (PASSENGER'S SEAT), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Body harness
A part of function does not operate. <Ref. to SE-35, SOME MOTORS DO NOT OPERATE (PASSENGER'S SEAT), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Relevant motor

3. CHECK POWER SEAT SWITCH

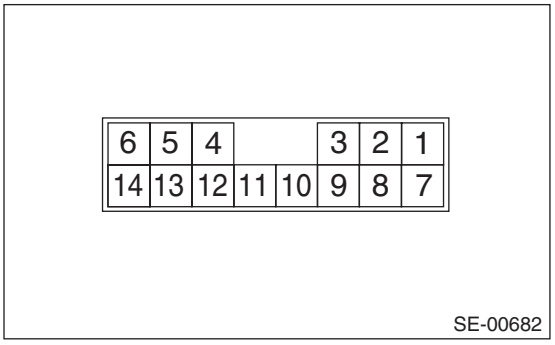
Move each switch and measure the resistance between connector terminals.

- Driver's seat (without memory)



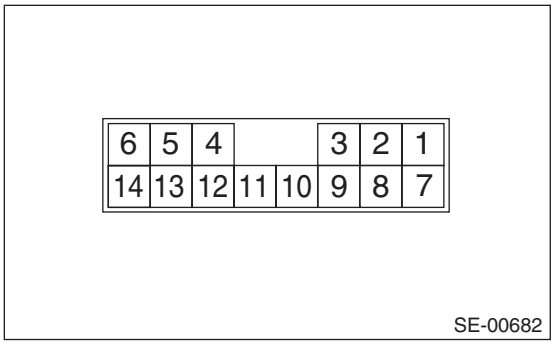
Switch position	Terminal No.	Standard
Slide forward	7 and 14 8 and 13	Less than 10 Ω
Slide backward	7 and 13 8 and 14	Less than 10 Ω
Tilt up	7 and 2 8 and 1	Less than 10 Ω
Tilt down	7 and 1 8 and 2	Less than 10 Ω
Lifter up	7 and 5 8 and 6	Less than 10 Ω
Lifter down	7 and 6 8 and 5	Less than 10 Ω
Reclining forward	7 and 3 8 and 4	Less than 10 Ω
Reclining backward	7 and 4 8 and 3	Less than 10 Ω

- Driver's seat (memory-equipped)



Switch position	Terminal No.	Standard
Slide forward	13 and 7	Less than 10 Ω
Slide backward	14 and 7	Less than 10 Ω
Tilt up	5 and 7	Less than 10 Ω
Tilt down	6 and 7	Less than 10 Ω
Lifter up	2 and 7	Less than 10 Ω
Lifter down	1 and 7	Less than 10 Ω
Reclining forward	4 and 7	Less than 10 Ω
Reclining backward	3 and 7	Less than 10 Ω

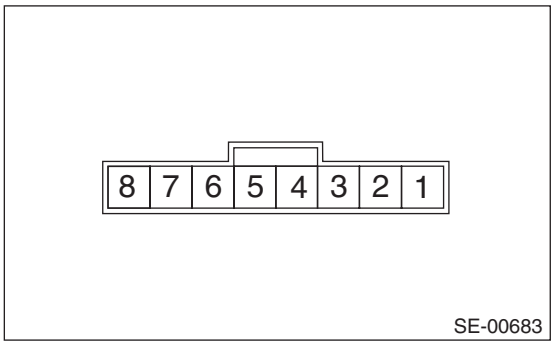
- Passenger's seat



Switch position	Terminal No.	Standard
Slide forward	7 and 13 8 and 14	Less than 10 Ω
Slide backward	7 and 14 8 and 13	Less than 10 Ω
Reclining forward	7 and 4 8 and 3	Less than 10 Ω
Reclining backward	7 and 3 8 and 4	Less than 10 Ω

4. CHECK MEMORY SWITCH (MEMORY-EQUIPPED)

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 FUNCTIONS.** Operate each power seat switch and check that each power seat function operates normally.	Does all function fails to operate?	Go to step **2**.	Check the motor which does not operate. <Ref. to SE-24, SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITHOUT MEMORY), INSPECTION, Power Seat System.>
2	**CHECK FUSE.** Check the power seat fuse inside the fuse box.	Is the fuse blown out?	Replace the appropriate fuse.	Go to step **3**.
3	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(R190) No. 7 — Chassis ground:***	Is the voltage 10 V or more?	Go to step **4**.	Check body harness.
4	**CHECK POWER SUPPLY CIRCUIT.** Measure the resistance between power seat switch harness connector and chassis ground. ***Connector & terminal*** ***(R190) No. 8 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the power seat switch assembly.	Check body harness.

6. SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITHOUT MEMORY)

- Slide operation failure

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and slide motor connector. 2) Measure the resistance between power seat switch connector and slide motor connector. ***Connector & terminal*** ***(R192) No. 1 — (R190) No. 14:*** ***(R192) No. 2 — (R190) No. 13:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK SLIDE MOTOR.** 1) Connect the power seat switch connector and slide motor connector. 2) Apply 12 V to the slide motor and check the motor rotation. ***Connector & terminal*** ***(R190) No. 14 (+) — (R190) No. 13 (–):*** ***(R190) No. 13 (+) — (R190) No. 14 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in slide rail.	Slide motor problem. Replace the slide rail assembly.

• Malfunction of tilt operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to tilt up and tilt down. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and tilt motor connector. 2) Measure the resistance between power seat switch connector and tilt motor connector. ***Connector & terminal*** ***(R193) No. 2 — (R190) No. 2:*** ***(R193) No. 3 — (R190) No. 1:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK TILT MOTOR.** 1) Connect the power seat switch connector and tilt motor connector. 2) Apply 12 V to the tilt motor and check the motor rotation. ***Connector & terminal*** ***(R190) No. 2 (+) — (R190) No. 1 (–):*** ***(R190) No. 1 (+) — (R190) No. 2 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in tilt mechanism.	Tilt motor problem. Replace the slide rail assembly.

• Malfunction of lifter operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to lifter up and lifter down. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and lifter motor connector. 2) Measure the resistance between power seat switch connector and lifter motor connector. ***Connector & terminal*** ***(R194) No. 4 — (R190) No. 5:*** ***(R194) No. 3 — (R190) No. 6:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK LIFTER MOTOR.** 1) Connect the power seat switch connector and lifter motor connector. 2) Apply 12 V to the lifter motor and check the motor rotation. ***Connector & terminal*** ***(R190) No. 5 (+) — (R190) No. 6 (–):*** ***(R190) No. 6 (+) — (R190) No. 5 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in lifter mechanism.	Lifter motor problem. Replace the slide rail assembly.

- Malfunction of reclining operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and reclining motor connector. 2) Measure the resistance between power seat switch connector and reclining motor connector. ***Connector & terminal*** ***(R191) No. 2 — (R190) No. 3:*** ***(R191) No. 1 — (R190) No. 4:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK RECLINING MOTOR.** 1) Connect the power seat switch connector and reclining motor connector. 2) Apply 12 V to the reclining motor and check the motor rotation. ***Connector & terminal*** ***(R190) No. 3 (+) — (R190) No. 4 (–):*** ***(R190) No. 4 (+) — (R190) No. 3 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in reclining hinge.	Reclining motor problem. Replace the backrest hinge and motor assembly.

7. DOES NOT OPERATE IN MANUAL OPERATION (DRIVER'S SEAT, MEMORY-EQUIPPED)

	Step	Check	Yes	No
1	**CHECK SEAT FUNCTIONS.** Operate each power seat switch and check that each power seat function operates normally.	Does all function fails to operate?	Go to step **2**.	Check the motor which does not operate. <Ref. to SE-28, SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.>
2	**CHECK FUSE.** Check the power seat fuse inside the fuse box.	Is the fuse blown out?	Replace the appropriate fuse.	Go to step **3**.
3	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the memory module connector. 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(R195) No. 10 (+) — Chassis ground (–):*** ***(R196) No. 8 (+) — Chassis ground (–):*** ***(R196) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check body harness.
4	**CHECK POWER SUPPLY CIRCUIT.** Measure the resistance between memory module harness connector and chassis ground. ***Connector & terminal*** ***(R196) No. 14 — Chassis ground:*** ***(R196) No. 12 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check body harness.
5	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Replace the memory module.	Replace the power seat switch assembly.

8. SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITH MEMORY)

- Slide operation failure

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the slide motor rotation while moving the switch to slide forward and slide backward.	Does the motor operate at least 1 second when the switch is operated?	Go to step **2**.	Encoder defection. Replace the slide rail assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and slide motor connector. 2) Measure the resistance between the memory module connector and power seat switch connector. ***Connector & terminal*** ***(R195) No. 7 — (R190) No. 13:*** ***(R195) No. 6 — (R190) No. 14:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the slide motor connector. 2) Measure the resistance between the memory module connector and slide motor connector. ***Connector & terminal*** ***(R196) No. 16 — (R206) No. 1:*** ***(R196) No. 15 — (R206) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK SLIDE MOTOR.** Apply battery voltage to the memory module connector and check the motor rotation. ***Connector & terminal*** ***(R196) No. 16 (+) — (R196) No. 15 (–):*** ***(R196) No. 15 (+) — (R196) No. 16 (–):***	Does the motor rotate normally?	Replace the memory module.	Slide motor problem. Replace the slide rail assembly.

- Malfunction of tilt operation

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the tilt motor rotation while moving the switch to tilt up and tilt down.	Does the motor rotate for one second or more when operating the switch?	Go to step **2**.	Encoder defection. Replace the slide rail assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to tilt up and tilt down. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and tilt motor connector. 2) Measure the resistance between the memory module connector and power seat switch connector. ***Connector & terminal*** ***(R195) No. 3 — (R190) No. 5:*** ***(R195) No. 2 — (R190) No. 6:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the tilt motor connector. 2) Measure the resistance between the memory module connector and tilt motor connector. ***Connector & terminal*** ***(R196) No. 4 — (R193) No. 3:*** ***(R196) No. 5 — (R193) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK TILT MOTOR.** Apply battery voltage to the memory module connector and check the motor rotation. ***Connector & terminal*** ***(R196) No. 4 (+) — (R196) No. 5 (–):*** ***(R196) No. 5 (+) — (R196) No. 4 (–):***	Does the motor rotate normally?	Replace the memory module.	Tilt motor problem. Replace the slide rail assembly.

- Malfunction of lifter operation

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the lifter motor rotation while turning the switch to lifter up and lifter down.	Does the motor rotate for one second or more when operating the switch?	Go to step **2**.	Encoder defection. Replace the slide rail assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to lifter up and lifter down. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and lifter motor connector. 2) Measure the resistance between the memory module connector and power seat switch connector. ***Connector & terminal*** ***(R195) No. 5 — (R190) No. 2:*** ***(R195) No. 4 — (R190) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the lifter motor connector. 2) Measure the resistance between the memory module connector and lifter motor connector. ***Connector & terminal*** ***(R196) No. 1 — (R194) No. 4:*** ***(R196) No. 2 — (R194) No. 3:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK LIFTER MOTOR.** Apply battery voltage to the memory module connector and check the motor rotation. ***Connector & terminal*** ***(R196) No. 1 (+) — (R196) No. 2 (–):*** ***(R196) No. 2 (+) — (R196) No. 1 (–):***	Does the motor rotate normally?	Replace the memory module.	Lifter motor problem. Replace the slide rail assembly.

- Malfunction of reclining operation

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the reclining motor rotation while moving the switch to reclining forward and reclining backward.	Does the motor rotate for one second or more when operating the switch?	Go to step **2**.	Encoder defection. Replace the backrest hinge and motor assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and reclining motor connector. 2) Measure the resistance between the memory module connector and power seat switch connector. ***Connector & terminal*** ***(R195) No. 9 — (R190) No. 4:*** ***(R195) No. 8 — (R190) No. 3:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the slide motor connector. 2) Measure the resistance between the memory module connector and reclining motor connector. ***Connector & terminal*** ***(R196) No. 6 — (R191) No. 1:*** ***(R196) No. 7 — (R191) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK RECLINING MOTOR.** Apply battery voltage to the memory module connector and check the motor rotation. ***Connector & terminal*** ***(R196) No. 6 (+) — (R196) No. 7 (–):*** ***(R196) No. 7 (+) — (R196) No. 6 (–):***	Does the motor rotate normally?	Replace the memory module.	Reclining motor problem. Replace the backrest hinge and motor assembly.

9. FAILS TO STORE THE LOCATION TO THE MEMORY (DRIVER'S SEAT, WITH MEMORY)

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the harness connector of memory switch assembly. 2) Check memory switch. <Ref. to SE-23, CHECK MEMORY SWITCH (MEMORY-EQUIPPED), INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the memory switch assembly.
2	**CHECK HARNESS.** Measure the resistance between the memory switch connector and memory module connector. ***Connector & terminal*** ***(R195) No. 13 — (R198) No. 3:*** ***(R195) No. 14 — (R198) No. 2:*** ***(R195) No. 15 — (R198) No. 8:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**SYSTEM INITIALIZATION.** Initialize memory seat system. <Ref. to SE-36, ADJUSTMENT, Power Seat System.>	Is the initialization completed successfully?	Replace the memory module.	<Ref. to SE-34, 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 FUNCTIONS.** Perform the memory operation of the seat position, and check the memory replay operation.	Does the seat position memory replay correctly?	Memory function is normal. Memory seems to be cleared since voltage was less from the operation-ensured voltage temporary at the time of memory restoring and manual operation. It operates normally by registering a memory.	Go to step **2**.
2	**CHECK MEMORY FUNCTIONS.** At the step 1 memory operation, check the beep sound (once).	Check the beep sound?	Go to step **3**.	<Ref. to SE-32, FAILS TO STORE THE LOCATION TO THE MEMORY (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.>
3	**CHECK SWITCH.** 1) Disconnect the harness connector of memory switch assembly. 2) Check memory switch. <Ref. to SE-23, CHECK MEMORY SWITCH (MEMORY-EQUIPPED), INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **4**.	Replace the memory switch assembly.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Measure the resistance between the memory switch connector and memory module connector. ***Connector & terminal*** ***(R195) No. 13 — (R198) No. 3:*** ***(R195) No. 14 — (R198) No. 2:*** ***(R195) No. 15 — (R198) No. 8:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK IGNITION CIRCUIT.** Measure the voltage between harness connector and chassis ground while turning the ignition switch to ON. ***Connector & terminal*** ***(R195) No. 11 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **6**.	Check body harness.
6	**CHECK TRANSMISSION CIRCUITS.** Measure the resistance between harness connector and chassis ground while shifting the select lever to P position. ***Connector & terminal*** ***(R195) No. 12 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **7**.	Check body harness.
7	**CHECK VEHICLE SPEED SIGNAL.** 1) Lift up the vehicle and support it with rigid racks. 2) Drive the vehicle faster than 10 km/h (6 MPH). **WARNING:** **Be careful not to be dragged in by the rotating wheel.** 3) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(R195) No. 9 (+) — Chassis ground (–):***	Is the voltage less than 1 V ←→ 5 V or more?	Go to step **9**.	Go to step **8**.
8	**CHECK HARNESS BETWEEN VDCCM AND MEMORY UNIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM and memory unit. 3) Measure the resistance between VDCCM harness connector and combination meter harness connector. ***Connector & terminal*** ***(B310) No. 10 — (R195) No. 9:***	Is the resistance less than 10 Ω?	Check the VDCCM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Check body harness.
9	**CHECK OPERATION.** Operate all power seat switches to check operation of each motor.	Does each motor rotate for one second or more when operating each switch?	Replace the memory module.	Encoder defection. Replace the motor(s) found to be faulty.

11.INITIALIZATION IS IMPOSSIBLE

	Step	Check	Yes	No
1	**CHECK OPERATION.** Operate all power seat switches to check operation of each motor.	Does each motor rotate for one second or more when operating each switch?	Go to step **2**.	Encoder defection. Replace the motor(s) found to be faulty.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure resistance between all terminals of power seat switch assembly. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Replace the memory module.	Replace the power seat switch assembly.

12.ALL FUNCTION FAILS TO OPERATE (PASSENGER'S SEAT)

	Step	Check	Yes	No
1	**CHECK SEAT FUNCTIONS.** Operate each power seat switch and check that each power seat function operates normally.	Does all function fails to operate?	Go to step **2**.	Check the motor which does not operate. <Ref. to SE-35, SOME MOTORS DO NOT OPERATE (PASSENGER'S SEAT), INSPECTION, Power Seat System.>
2	**CHECK FUSE.** Check the power seat fuse inside the fuse box.	Is the fuse blown out?	Replace the appropriate fuse.	Go to step **3**.
3	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(R200) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check body harness.
4	**CHECK POWER SUPPLY CIRCUIT.** Measure the resistance between power seat switch harness connector and chassis ground. ***Connector & terminal*** ***(R200) No. 8 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the power seat switch assembly.	Check body harness.

13.SOME MOTORS DO NOT OPERATE (PASSENGER'S SEAT)

• Slide operation failure

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and slide motor connector. 2) Measure the resistance between power seat switch connector and slide motor connector. ***Connector & terminal*** ***(R202) No. 1 — (R200) No. 13:*** ***(R202) No. 2 — (R200) No. 14:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK SLIDE MOTOR.** 1) Connect the power seat switch connector and slide motor connector. 2) Apply 12 V to the slide motor and check the motor rotation. ***Connector & terminal*** ***(R200) No. 14 (+) — (R200) No. 13 (–):*** ***(R200) No. 13 (+) — (R200) No. 14 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in slide rail.	Slide motor problem. Replace the slide rail assembly.

• Malfunction of reclining operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-22, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and reclining motor connector. 2) Measure the resistance between power seat switch connector and reclining motor connector. ***Connector & terminal*** ***(R201) No. 2 — (R200) No. 4:*** ***(R201) No. 1 — (R200) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK RECLINING MOTOR.** 1) Connect the power seat switch connector and reclining motor connector. 2) Apply 12 V to the reclining motor and check the motor rotation. ***Connector & terminal*** ***(R200) No. 3 (+) — (R200) No. 4 (–):*** ***(R200) No. 4 (+) — (R200) No. 3 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in reclining hinge.	Reclining motor problem. Replace the backrest hinge and motor assembly.

D: ADJUSTMENT

NOTE:
The calibration procedures apply only to the memory-equipped seat on the driver's side.

1. INITIALIZATING CONDITIONS

Perform the initializing operation to the memory module when the following conditions are met.
- When the seat was removed from vehicle.
- When the memory module was replaced.
- When the slide rail assembly or backrest hinge and motor assembly was removed or replaced.
- When the pulse generated while the seat is moving differs from the actual distance. (When memory replay operation is not normally carried out)

2. INITIALIZATION PROCEDURE

NOTE:
- Initialize the records inside the module by performing all the following steps regardless the item order.
- Buzzer sounds once when keeping the switch operation for three seconds with each seat in lock* status.
- After the completion of all items for initialization process, the buzzer sounds three times when finishing the final operation and turning the switch from ON to OFF.

1) Move the seat backward using slide switch, and keep the seat lock* status for three seconds or more.
2) Move the seat downward using tilt switch, and keep the seat lock* status for three seconds or more.
3) Move the seat downward using lifter switch, and keep the seat lock* status for three seconds or more.
4) Tilt the seat backrest forward using reclining switch, and keep the seat lock* status for three seconds or more.

*: Seat lock is the status that the switch is being operated although the seat has reached the movable terminal point, and that there is no pulse output from the encoder within the specified period of time.

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 seconds.
- 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

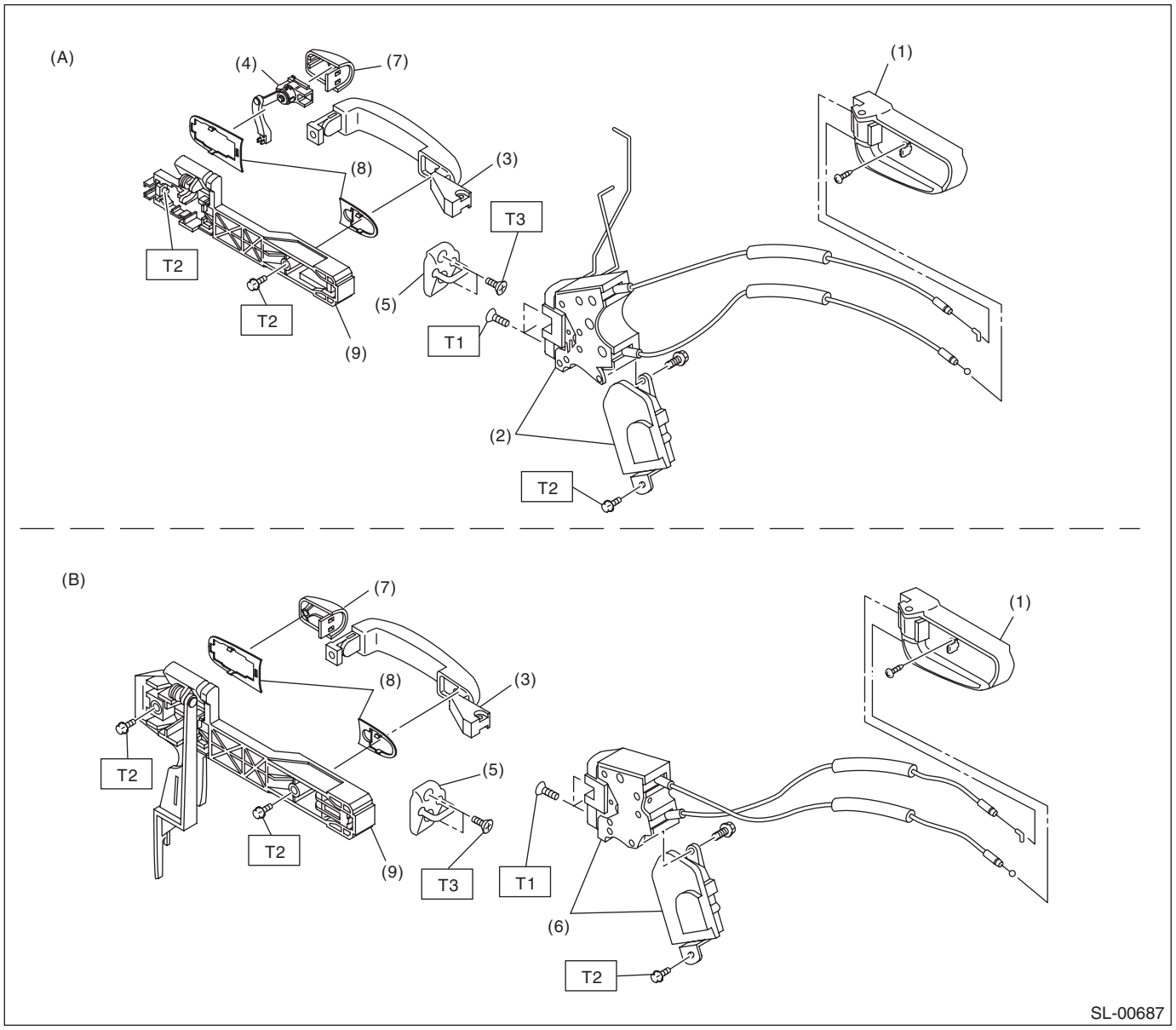
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1. General Description

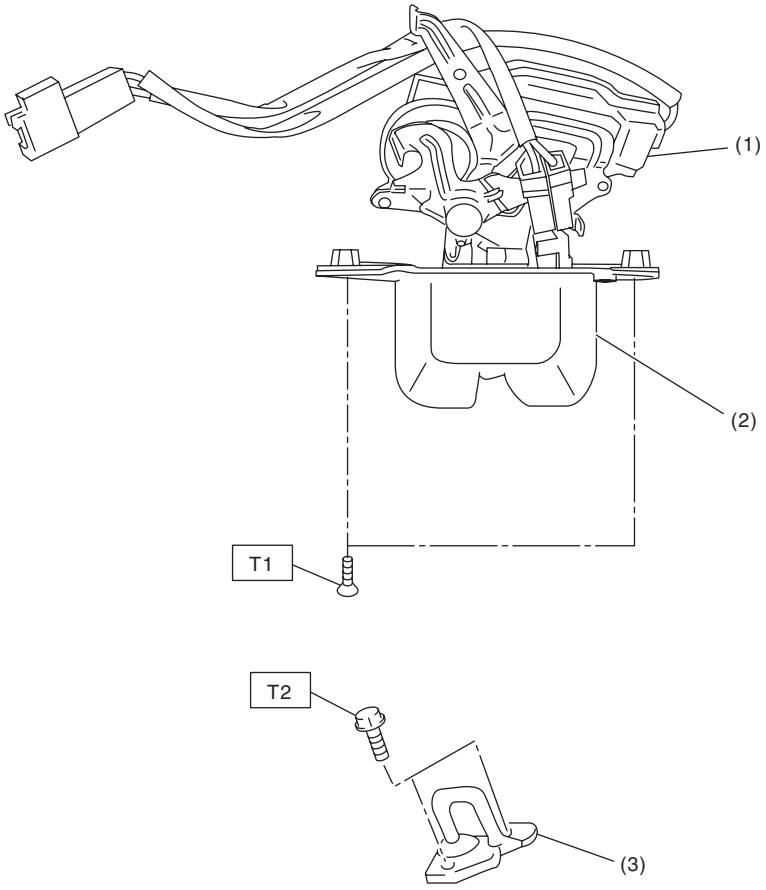
A: COMPONENT

1. DOOR LOCK ASSEMBLY



(A)	Front	(B)	Rear	
(1)	Inner remote ASSY	(6)	Rear door latch and door lock actuator ASSY	***Tightening torque:N·m (kgf-m, ft-lb)***
(2)	Front door latch and door lock actuator ASSY	(7)	Door outer handle cover	***T1: 6.5 (0.66, 4.8)***
(3)	Door outer handle	(8)	Door outer handle spacer	***T2: 7.5 (0.76, 5.5)***
(4)	Key cylinder	(9)	Door outer handle frame ASSY	***T3: 18 (1.8, 13.3)***
(5)	Striker			

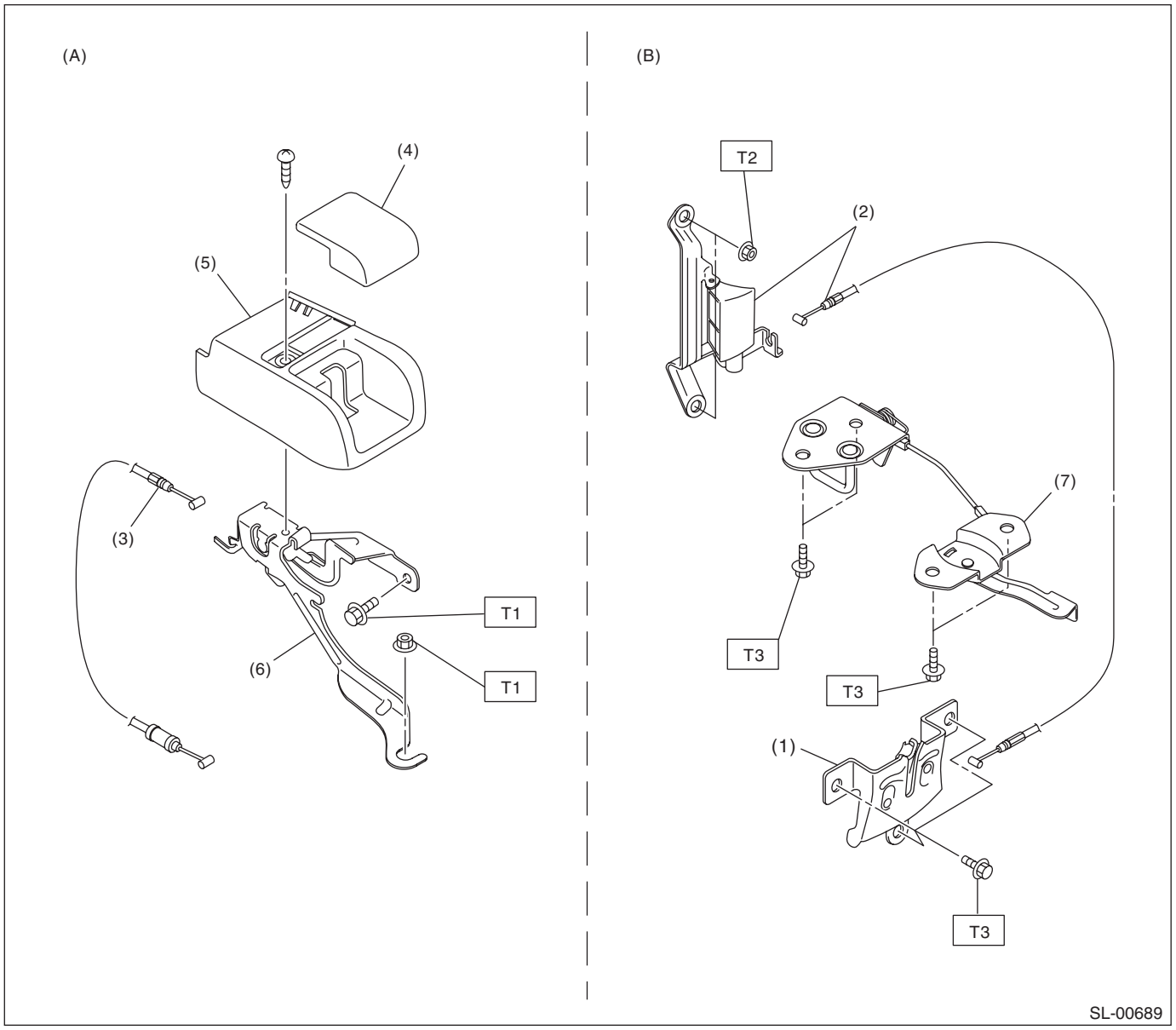
2. REAR GATE LOCK



(1) Rear gate actuator
(2) Rear gate latch
(3) Striker

Tightening torque:N·m (kgf-m, ft-lb)
T1: 18 (1.8, 13.3)
T2: 25 (2.5, 18.4)

3. FRONT HOOD LOCK AND REMOTE OPENERS

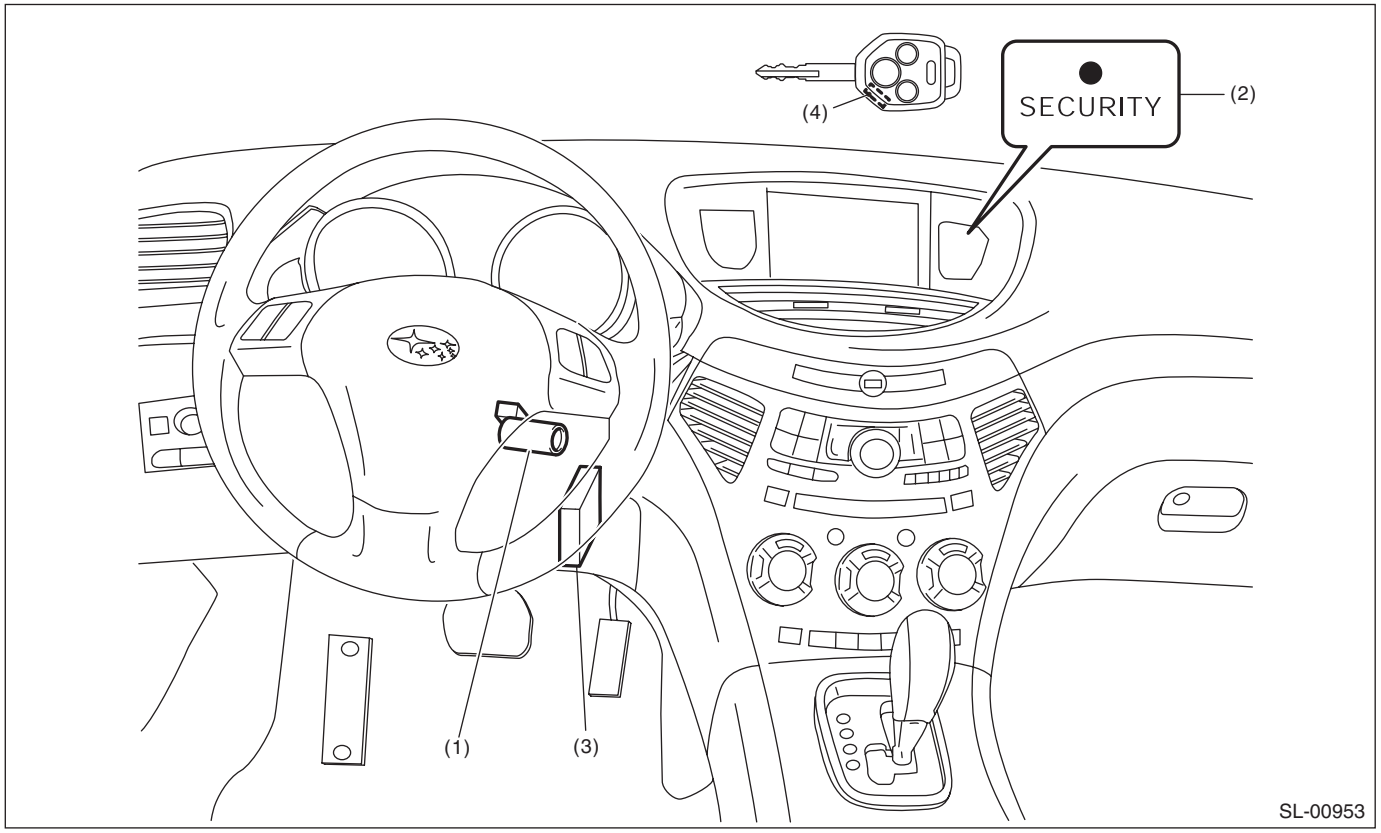


(A) Fuel lid
(B) Hood

(1) Front hood lock ASSY
(2) Cable ASSY, front hood
(3) Cable ASSY, fuel
(4) Pull lever
(5) Cover
(6) Pull handle ASSY
(7) Hood operation lever

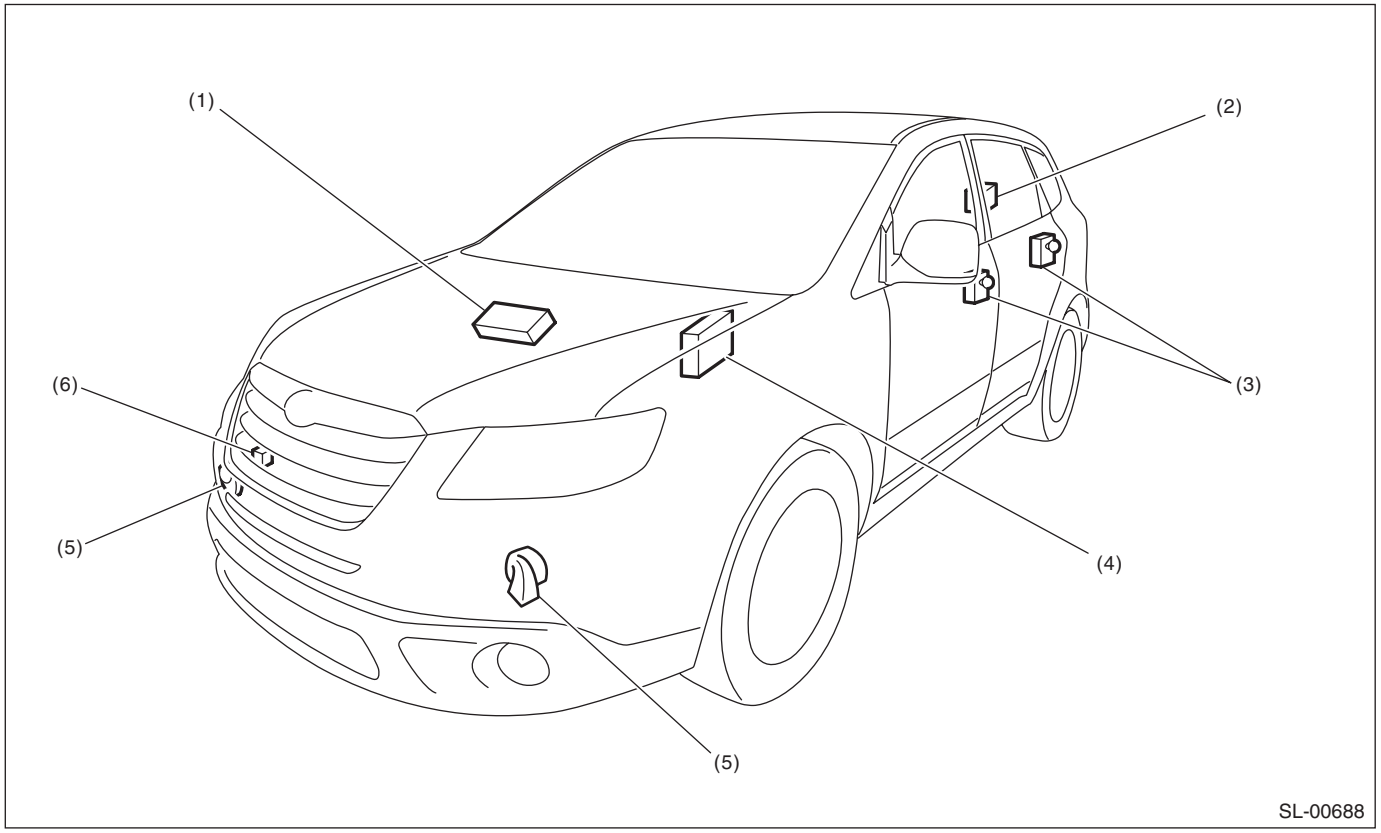
Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 25 (2.55, 18.4)
T3: 33.0 (3.36, 24.3)

4. IMMOBILIZER SYSTEM



(1) Antenna
(2) Security indicator light (LED bulb)
(3) Body integrated unit
(4) Transponder

5. KEYLESS ENTRY SYSTEM



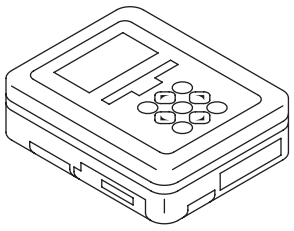
(1) Keyless entry control module
(2) Rear gate latch switch
(3) Door switch
(4) Body integrated unit
(5) Horn
(6) Keyless buzzer

B: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When repairing the audio, control module, etc. which are provided with memory functions, record the memory contents before disconnecting the ground cable from battery. Otherwise, these contents are erased upon disconnection.
• Reassemble the parts in the reverse order of disassembly unless otherwise indicated.
• Adjust the parts to the specifications described in this manual if so designated.
• Connect the connectors securely during reassembly.
• After reassembly, ensure the functional parts operate smoothly.
• The airbag system wiring harness is routed near electrical parts and switches.
• The airbag system wiring harnesses and connectors are colored yellow. Do not use the electrical test equipment on these circuits.
• Be careful not to damage the airbag system wiring harness when servicing the ignition key cylinder.

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Drill	Used for replacing ignition key lock.
Clip remover	Used for removing trim.
Clip clamp pliers	Used for removal of various clips and clamps.
TORX® T20	Used for removing and installing the door outer handle.

2. Door Lock Control System

A: WIRING DIAGRAM

1. DOOR LOCK CONTROL

<Ref. to WI-158, WIRING DIAGRAM, Keyless Entry System.>

B: ELECTRICAL SPECIFICATION

1. BODY INTEGRATED UNIT

Refer to Control Module I/O Signal in the LAN SYSTEM (DIAGNOSTICS). <Ref. to LAN(diag)-9, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: INSPECTION

1. SYMPTOM CHART

Symptoms	Repair order	Reference
The door lock control system does not operate.	1. Remove and visually check fuse No. 3 (in the fuse & relay box), No. 7 (in the fuse & relay box) and No. 8 (in the main fuse box).	If the fuse is blown out, replace the fuse with a new part. When there is no defective with the fuse, check the power supply and ground circuit. <Ref. to SL-9, CHECK POWER SUPPLY & GROUND CIRCUIT, INSPECTION, Door Lock Control System.>
	2. Check the power supply and ground circuit for body integrated unit.	<Ref. to SL-9, CHECK POWER SUPPLY & GROUND CIRCUIT, INSPECTION, Door Lock Control System.>
	3. Check the door lock switch and the circuit.	<Ref. to SL-9, CHECK DOOR LOCK SWITCH, INSPECTION, Door Lock Control System.>
	4. Check the rear gate release switch and the circuit.	<Ref. to SL-10, CHECK REAR GATE RELEASE SWITCH CIRCUIT, INSPECTION, Door Lock Control System.>
	5. Check the door lock actuator and the circuit.	<Ref. to SL-11, CHECK DOOR LOCK ACTUATOR & CIRCUIT, INSPECTION, Door Lock Control System.>
A specific door lock actuator does not operate.	Check the door lock actuator and circuit.	<Ref. to SL-11, CHECK DOOR LOCK ACTUATOR & CIRCUIT, INSPECTION, Door Lock Control System.>

2. CHECK POWER SUPPLY & GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect the harness connector of body integrated unit. 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 34 (+) — Chassis ground (–):*** ***(B281) No. 2 (+) — Chassis ground (–):*** ***(B280) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for open or short circuit between body integrated unit and fuse.
2	**CHECK GROUND CIRCUIT.** Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 21 — Chassis ground:*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8 — Chassis ground:*** ***(B281) No. 9 — Chassis ground:***	Is the resistance less than 10 Ω?	The power supply and ground circuit are OK.	Repair the harness.

3. CHECK DOOR LOCK SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check the input from door lock switch to body integrated unit using Subaru Select Monitor. 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) On «System Selection Menu» display, select {Integ. unit mode}. Select the {Current Data Display & Save}. 5) On «System Selection Menu» display, select {Integ. unit mode}. Select the {Current Data Display & Save}. Operate the door lock switches (driver’s seat and passenger’s seat) in the LOCK direction, and check the input of {Manual lock SW input}.	Does the display switch between OFF ⇔ ON when each door lock switch is moved to LOCK?	Go to step **2**.	Go to step **3**.
2	**CHECK DOOR LOCK SWITCH.** From the condition in step 1), check the {Manual unlock SW input} input by operating each door lock switch (driver’s and passenger’s) in the UNLOCK direction.	Does the display switch between OFF ⇔ ON when each door lock switch is moved to UNLOCK direction?	The door lock switch is OK.	Go to step **4**.
3	**CHECK DOOR LOCK SWITCH.** 1) Disconnect the door lock switch harness connector. 2) Use a tester and check the continuity when the door lock switch is operated to the LOCK side. ***Connector & terminal*** ***Driver’s side:*** ***(D7) No. 9 — (D7) No. 5:*** ***Passenger’s side:*** ***(D125) No. 4 — (D125) No. 5:***	Did the indicator change from “No continuity” (1 MΩ or more) to “Continuity exists” (less than 10 Ω)?	Go to step **4**.	Replace the power window main switch or door lock switch.

	Step	Check	Yes	No
4	**CHECK DOOR LOCK SWITCH.** Use a tester and check the continuity when the door lock switch is operated to the UNLOCK side. ***Connector & terminal*** ***Driver's side:*** ***(D7) No. 8 — (D7) No. 5:*** ***Passenger's side:*** ***(D125) No. 2 — (D125) No. 5:***	Did the indicator change from "No continuity" (1 MΩ or more) to "Continuity exists" (less than 10 Ω)?	Go to step **5**.	Replace the power window main switch or door lock switch.
5	**CHECK HARNESS.** Use a tester to measure the resistance between the door lock switch harness connector and chassis ground. ***Connector & terminal*** ***Driver's side:*** ***(D7) No. 5 — Chassis ground:*** ***Passenger's side:*** ***(D125) No. 5 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the harness.
6	**CHECK HARNESS.** 1) Disconnect the harness connector of body integrated unit. 2) Measure the resistance between the body integrated unit and door lock switch. ***Connector & terminal*** ***Driver's side:*** ***(D7) No. 9 — (i84) No. 15:*** ***(D7) No. 8 — (i84) No. 29:*** ***Passenger's side:*** ***(D125) No. 4 — (i84) No. 15:*** ***(D125) No. 2 — (i84) No. 29:***	Is the resistance less than 10 Ω?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair or replace the harness.

4. CHECK REAR GATE RELEASE SWITCH CIRCUIT

	Step	Check	Yes	No
1	**CHECK REAR GATE RELEASE SWITCH.** Check the input from rear gate release switch to body integrated unit using Subaru Select Monitor. 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor". 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) On «System Selection Menu» display, select {Integ. unit mode}. Select the {Current Data Display & Save}. 5) On «System Selection Menu» display, select {Integ. unit mode}. Select the {Current Data Display & Save}. Check the {R Gate Release SW input} input by operating the rear gate release switch.	Is the display change to OFF ⇔ ON, when the rear gate release switch is operated?	Rear gate release switch is normal.	Go to step **2**.
2	**CHECK HARNESS.** Measure the resistance between the body integrated unit and rear gate release switch. ***Connector & terminal*** ***(B281) No. 22 — (D135) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair or replace the harness.

	Step	Check	Yes	No
3	**CHECK HARNESS.** Measure the resistance between the rear gate release switch and chassis ground. ***Connector & terminal*** ***(D135) No. 1 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK REAR GATE RELEASE SWITCH.** Measure the resistance between connector terminals when the rear gate release switch is pressed, and when it is released. ***Connector & terminal*** ***(D135) No. 2 — (135) No. 1:***	Is the resistance when the switch is pressed less than 10 Ω, and 1 MΩ or more when released?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Replace the rear gate release switch. <Ref. to SL-41, Rear Gate Release Switch.>

5. CHECK DOOR LOCK ACTUATOR & CIRCUIT

	Step	Check	Yes	No
1	**CHECK HARNESS (DOOR LOCK).** Measure the resistance between body integrated unit and each door lock actuator. ***Connector & terminal*** ***(i84) No. 7 — (D72) No. 2: (front door LH)*** ***(i84) No. 7 — (D18) No. 2: (front door RH)*** ***(i84) No. 7 — (D26) No. 2: (rear door LH)*** ***(i84) No. 7 — (D32) No. 2: (rear door RH)***	Is the resistance less than 10 Ω?	Go to step **2**.	Repair or replace the harness.
2	**CHECK HARNESS (DOOR UNLOCK).** Measure the resistance between body integrated unit and each door lock actuator. ***Connector & terminal*** ***(i84) No. 23 — (D72) No. 4: (front door LH)*** ***(i84) No. 8 — (D18) No. 4: (front door RH)*** ***(i84) No. 8 — (D26) No. 4: (rear door LH)*** ***(i84) No. 8 — (D32) No. 4: (rear door RH)***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair or replace the harness.
3	**CHECK HARNESS (REAR GATE UNLOCK).** Measure the resistance between the body integrated unit and rear gate lock actuator. ***Connector & terminal*** ***(i84) No. 22 — (D140) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK HARNESS (REAR GATE UNLOCK).** Measure the resistance between the rear gate lock actuator and chassis ground. ***Connector & terminal*** ***(D140) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK BODY INTEGRATED UNIT.** Measure the voltage between the connector terminals of the body integrated unit when moving the door lock switch to LOCK. ***Connector & terminal*** ***Except for front door LH*** ***(i84) No. 7 (+) — (i84) No. 8 (–):*** ***Front door LH*** ***(i84) No. 7 (+) — (i84) No. 23 (–):***	Does the voltage change from less than 1.0 V → 9 V or more? (During lock output)	Go to step **6**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
6	**CHECK BODY INTEGRATED UNIT.** Measure the voltage between the connector terminals of the body integrated unit when moving the door lock switch to UNLOCK. ***Connector & terminal*** ***Except for front door LH*** ***(i84) No. 8 (+) — (i84) No. 7 (–):*** ***Front door LH*** ***(i84) No. 23 (+) — (i84) No. 7 (–):***	Does the voltage change from less than 1.0 V → 9 V or more? (During unlock output)	Go to step **7**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>

	Step	Check	Yes	No
7	**CHECK BODY INTEGRATED UNIT.** Measure the voltage between body integrated unit and chassis ground when moving the rear gate opener button. ***Connector & terminal*** ***(i84) No. 22 (+) — Chassis ground (–):***	Does the voltage change from less than 1.0 V → 9 V or more? (During unlock output)	Go to step **8**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
8	**CHECK DOOR LOCK ACTUATOR.** Check the door lock actuator. • Front door lock actuator <Ref. to SL-35, INSPECTION, Front Door Latch and Door Lock Actuator Assembly.> • Rear door lock actuator <Ref. to SL-39, INSPECTION, Rear Door Latch and Door Lock Actuator Assembly.>	Is the door lock actuator OK?	Go to step **9**.	Replace the door latch and door lock actuator assembly.
9	**CHECK REAR GATE LOCK ACTUATOR.** Check the rear gate lock actuator. <Ref. to SL-42, Rear Gate Latch Assembly.>	Is the rear gate lock actuator normal?	Check the harness for open or short circuits between the body integrated unit and rear gate lock actuator.	Replace the rear gate latch assembly.

3. Keyless Entry System

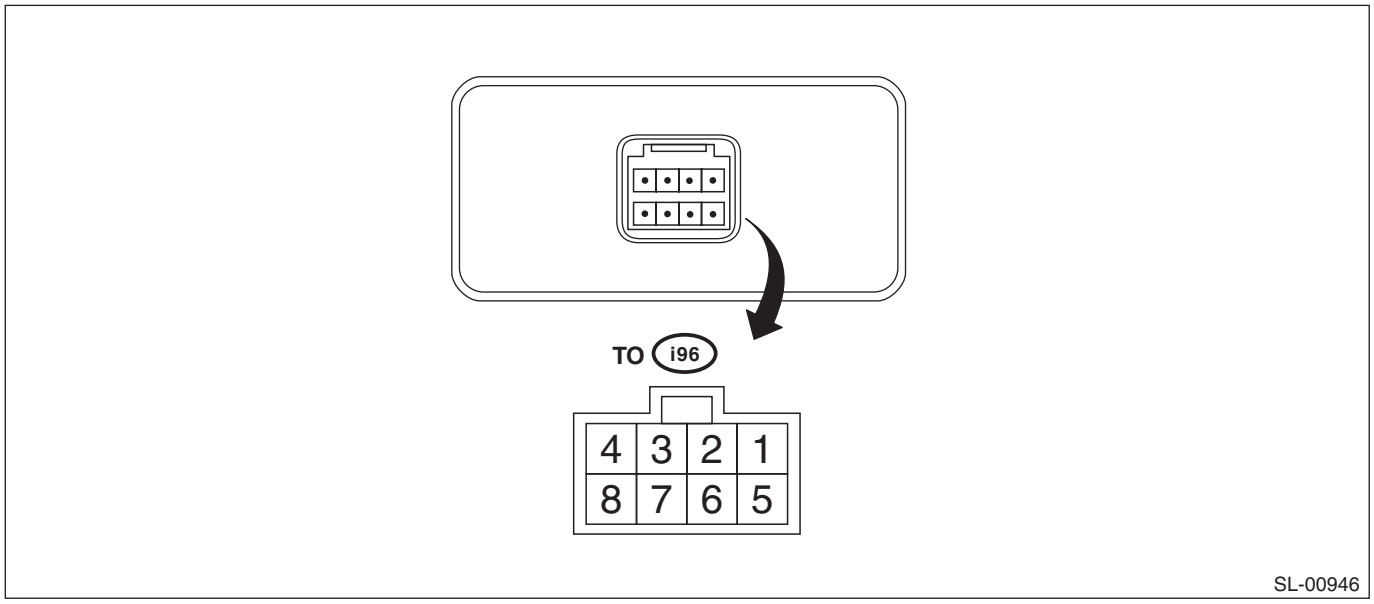
A: WIRING DIAGRAM

1. KEYLESS ENTRY

<Ref. to WI-158, WIRING DIAGRAM, Keyless Entry System.>

B: ELECTRICAL SPECIFICATION

1. KEYLESS ENTRY CONTROL MODULE



Description	Terminal No.	Measuring condition
—	1	—
—	2	—
Body integrated unit	3 (OUTPUT)	Battery voltage cannot be measured because of digital signal.
Power supply (Backup)	4	Battery voltage is constantly present.
—	5	—
—	6	—
Ground	7	0 V is constantly present.

2. BODY INTEGRATED UNIT

Refer to Control Module I/O Signal in the LAN SYSTEM (DIAGNOSTICS). <Ref. to LAN(diag)-9, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: INSPECTION

1. SYMPTOM CHART

Symptoms	Repair order	Reference
None of the functions of the keyless entry system operate.	1. Check the transmitter battery.	<Ref. to SL-16, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Remove and visually check fuse No. 3 (in the fuse & relay box), No. 7 (in the fuse & relay box) and No. 8 (in the main fuse box).	<Ref. to SL-17, CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry System.>
	3. Check the keyless entry control module.	<Ref. to SL-17, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.>
	4. Check the power supply and ground circuit for body integrated unit.	<Ref. to SL-17, CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry System.>
	5. Check the key warning switch.	<Ref. to SL-19, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	6. Check the door switch.	<Ref. to SL-18, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	7. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
The transmitter cannot be registered.	1. Check the key warning switch.	<Ref. to SL-19, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	2. Check the door lock switch signal.	<Ref. to SL-22, CHECK DOOR LOCK SWITCH, INSPECTION, Keyless Entry System.>
	3. Check the ignition switch.	<Ref. to SL-25, CHECK IGNITION SWITCH, INSPECTION, Keyless Entry System.>
	4. Check the door switch.	<Ref. to SL-18, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	5. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
Door lock or unlock does not operate. NOTE: If the door lock control system does not operate when using the door lock switch, check the door lock control system. <Ref. to SL-8, INSPECTION, Door Lock Control System.>	1. Check the transmitter battery.	<Ref. to SL-16, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Check the keyless entry control module.	<Ref. to SL-17, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.>
	3. Check the key warning switch.	<Ref. to SL-19, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	4. Check the door switch.	<Ref. to SL-18, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	5. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>

Symptoms	Repair order	Reference
The panic alarm does not operate.	1. Check the keyless transmitter battery and function.	<Ref. to SL-16, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Check the horn operation.	<Ref. to SL-23, CHECK HORN OPERATION, INSPECTION, Keyless Entry System.>
	3. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
The keyless buzzer and hazard light do not operate.	1. Check the keyless buzzer operation.	<Ref. to SL-24, CHECK KEYLESS BUZZER, INSPECTION, Keyless Entry System.>
	2. Check the hazard light operation.	<Ref. to SL-20, 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-19, 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-23, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.>
	2. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>

2. CHECK TRANSMITTER BATTERY AND FUNCTION

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.)

	Step	Check	Yes	No
1	**CHECK TRANSMITTER BATTERY.** 1) Remove the battery from the transmitter. <Ref. to SL-53, REMOVAL, Transmitter.> 2) Check the battery voltage. <Ref. to SL-53, INSPECTION, Transmitter.>	Is the voltage 2.5 V or more?	Go to step **2**.	Replace the transmitter battery. <Ref. to SL-53, Transmitter.>
2	**CHECK KEYLESS TRANSMITTER BATTERY.** Register the keyless transmitter which operates normally on other vehicles to the inspection target vehicle. <Ref. to SL-53, REGISTRATION OF KEYLESS TRANSMITTER WITH SUBARU SELECT MONITOR, REPLACEMENT, Transmitter.> 1) Close all the doors and rear gate of inspection target vehicle. 2) Remove the key from ignition switch. 3) Using the keyless transmitter, lock and unlock the doors and rear gate of vehicle.	Is the inspection target vehicle operates lock and unlock normally?	Go to step **3**.	Due to vehicle malfunction, continue the keyless entry system diagnosis.
3	**CHECK KEYLESS TRANSMITTER BATTERY.** Register the keyless transmitter of inspection target vehicle to the another vehicle which the keyless system operates normally. <Ref. to SL-53, REGISTRATION OF KEYLESS TRANSMITTER WITH SUBARU SELECT MONITOR, REPLACEMENT, Transmitter.>	Is the keyless transmitter registered correctly?	Go to step **4**.	Replace the transmitter. <Ref. to SL-53, REGISTRATION OF KEYLESS TRANSMITTER WITH SUBARU SELECT MONITOR, REPLACEMENT, Transmitter.>
4	**CHECK KEYLESS TRANSMITTER BATTERY.** Check the registered keyless transmitter battery. 1) Close all the doors and rear gate of the vehicle which keyless system operates normally. 2) Remove the key from ignition switch. 3) Using the keyless transmitter, lock and unlock the doors and rear gate of vehicle.	Does the vehicle operate lock and unlock normally?	The transmitter is OK.	Replace the transmitter. <Ref. to SL-53, REGISTRATION OF KEYLESS TRANSMITTER WITH SUBARU SELECT MONITOR, REPLACEMENT, Transmitter.>

3. CHECK KEYLESS ENTRY CONTROL MODULE

	Step	Check	Yes	No
1	**CHECK DIAGNOSTIC TROUBLE CODE (DTC).** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor III". 3) On the System Selection Menu, select the {Integ. Unit mode}. 4) Select the {Diagnostic Code(s) Display}. 5) Check that the DTC is displayed.	Is DTC B1500 "Keyless UART com. Malfunction" displayed?	Go to step **2**.	Keyless entry control module is normal.
2	**CHECK POWER SUPPLY.** 1) Disconnect the keyless entry control module harness connector (i96). 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i96) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open circuits and shorts between the keyless entry control module and fuse.
3	**CHECK GROUND CIRCUIT.** Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i96) No. 7 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the harness.
4	**CHECK KEYLESS ENTRY CONTROL MODULE CIRCUIT.** 1) Disconnect the harness connector of body integrated unit (i84). 2) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(i84) No. 9 — (i96) No. 3:***	Is the resistance less than 10 Ω?	Replace the keyless entry control module. <Ref. to SL-50, Keyless Entry Control Module.>	Repair the harness.

4. CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY OF BODY INTEGRATED UNIT.** 1) Disconnect the harness connector of body integrated unit (B280, B281). 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 7 (+) — Chassis ground (–):*** ***(B280) No. 34 (+) — Chassis ground (–):*** ***(B281) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness between the body integrated unit and fuse for open or short circuits.
2	**CHECK BODY INTEGRATED UNIT GROUND CIRCUIT.** 1) Disconnect the harness connector of body integrated unit (B280, B281). 2) Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 21 — Chassis ground:*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8 — Chassis ground:*** ***(B281) No. 9 — Chassis ground:***	Is the resistance less than 10 Ω?	Check body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Repair the harness.

5. CHECK DOOR SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR SWITCH CIRCUIT.** Measure the voltage between the body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***Front door RH:*** ***(i84) No. 32 (+) — Chassis ground (–):*** ***Front door LH:*** ***(i84) No. 19 (+) — Chassis ground (–):*** ***Rear door RH:*** ***(i84) No. 18 (+) — Chassis ground (–):*** ***Rear door LH:*** ***(i84) No. 31 (+) — Chassis ground (–):*** ***Rear gate:*** ***(i84) No. 17 (+) — Chassis ground (–):***	Is the voltage 0 V when each door or rear gate is opened?	Go to step **2**.	Go to step **3**.
2	**CHECK DOOR SWITCH CIRCUIT.** Measure the voltage between the body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***Front door RH:*** ***(i84) No. 32 (+) — Chassis ground (–):*** ***Front door LH:*** ***(i84) No. 19 (+) — Chassis ground (–):*** ***Rear door RH:*** ***(i84) No. 18 (+) — Chassis ground (–):*** ***Rear door LH:*** ***(i84) No. 31 (+) — Chassis ground (–):*** ***Rear gate:*** ***(i84) No. 17 (+) — Chassis ground (–):***	Is the voltage 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.** 1) Disconnect the door switch harness connector (R9, R12, R16, R22). 2) Measure the resistance between door switch terminals. ***Connector & terminal*** ***(R12) Front RH door switch:*** ***(R9) Front LH door switch:*** ***(R16) Rear RH door switch:*** ***(R22) Rear LH door switch:*** ***No. 1 — No. 3:*** ***Rear gate latch switch:*** ***(D140) No. 3 — No. 4:***	Is the resistance 1 MΩ or more when door switch is pushed?	Go to step **4**.	Replace the door switch.
4	**CHECK DOOR SWITCH.** Measure the resistance between door switch terminals. ***Connector & terminal*** ***(R12) Front RH door switch:*** ***(R9) Front LH door switch:*** ***(R16) Rear RH door switch:*** ***(R22) Rear LH door switch:*** ***No. 1 — No. 3:*** ***Rear gate latch switch:*** ***(D140) No. 3 — No. 4:***	Is the resistance less than 1 Ω when door switch is released?	Check the harness for open or short between body integrated unit and door switch.	Replace the door switch.

6. CHECK KEY WARNING SWITCH

	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check the fuse No. 14 (in the main fuse box).	Is the fuse blown out?	Replace the fuse with a new part.	Go to step **2**.
2	**CHECK KEY WARNING SWITCH CIRCUIT.** 1) Disconnect the harness connector of body integrated unit (B281). 2) Insert the key into ignition switch. (LOCK position) 3) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B281) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Go to step **4**.
3	**CHECK KEY WARNING SWITCH CIRCUIT.** 1) Remove the key from ignition switch. 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B281) No. 7 (+) — Chassis ground (–):***	Is the voltage 0 V?	The key warning switch is OK.	Go to step **4**.
4	**CHECK KEY WARNING SWITCH.** 1) Disconnect the key warning switch harness connector (B350). 2) Insert the key into ignition switch. (LOCK position) 3) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***(B350) No. 3 — No. 4:***	Is the resistance less than 1 Ω?	Go to step **5**.	Replace the key warning switch.
5	**CHECK KEY WARNING SWITCH.** 1) Remove the key from ignition switch. 2) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***(B350) No. 3 — No. 4:***	Is the resistance 1 MΩ or more?	Check the following: • Harness for open circuits and shorts between the key warning switch and fuse • Harness for open or short between the body integrated unit and key warning switch	Replace the key warning switch.

7. CHECK ROOM LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK ROOM LIGHT OPERATION.** Make sure the room light illuminates when the room light switch is turned ON.	Does the room light illuminate?	Go to step **2**.	Check the room light circuit.
2	**CHECK HARNESS BETWEEN ROOM LIGHT AND BODY INTEGRATED UNIT.** 1) Disconnect the body integrated unit harness connector (B280) and room light harness connector (R52). 2) Measure the resistance between the body integrated unit harness connector terminal and room light harness connector terminal. ***Connector & terminal*** ***(B280) No. 3 — (R52) No. 2:***	Is the resistance less than 10 Ω?	The room light operation circuit is OK.	Check the harness for open or short between body integrated unit and room light.

8. CHECK HAZARD LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK HAZARD LIGHT OPERATION.** Make sure the hazard light blinks when hazard switch is turned to ON.	Does the hazard light blink?	Go to step **2**.	Check the hazard light circuit.
2	**CHECK OUTPUT TO HAZARD LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the key warning switch harness connector. 3) Prepare the Subaru Select Monitor kit. 4) Turn the ignition switch to ON (engine OFF), and run the “Application for Subaru Select Monitor III”. 5) On the System Selection Menu, select the {Integ. unit mode}. 6) Select {ECM customizing}. 7) Check {Hazard answer-back setup}, and then switch to ON setting if necessary. 8) Select the {Current Data Display & Save}. 9) Remove the key from ignition switch. 10) When operate the LOCK/UNLOCK button of transmitter, check the hazard output signal of body integrated unit.	Is output signal is present when operating the transmitter LOCK/UNLOCK button?	Go to step **3**.	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
3	**CHECK CIRCUIT OF HAZARD LIGHT.** 1) Disconnect the harness connector of body integrated unit (B280). 2) Disconnect the turn signal and hazard unit harness connector (R32). 3) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(B280) No. 12 — (B32) No. 8:***	Is the resistance less than 10 Ω?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Repair the harness.

9. CHECK REAR GATE RELEASE ACTUATOR OPERATION

	Step	Check	Yes	No
1	**CHECK REAR GATE RELEASE ACTUATOR OPERATION.** 1) Turn the ignition switch to OFF. 2) Disconnect the key warning switch harness connector. 3) Prepare the Subaru Select Monitor kit. 4) Turn the ignition switch to ON (engine OFF), and run the “Application for Subaru Select Monitor III”. 5) On the System Selection Menu, select the {Integ. Unit mode}. 6) Select the {Current Data Display & Save}. 7) Check the rear gate release output signal of body integrated unit when operating the LOCK/UNLOCK button of keyless transmitter.	Is output signal is present when operating the transmitter LOCK/UNLOCK button?	Go to step **2**.	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
2	**CHECK CIRCUIT OF REAR GATE RELEASE ACTUATOR.** 1) Disconnect the harness connector of body integrated unit (i84). 2) Disconnect the rear gate release actuator harness connector (D140). 3) Measure the resistance between harness connectors. ***Connector & terminal*** ***(i84) No. 22 — (D140) No. 1:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the harness.
3	**CHECK CIRCUIT OF HAZARD LIGHT.** 1) Check the ground circuit of rear gate release actuator 2) Disconnect the rear gate release actuator harness connector (D140). 3) Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(D140) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Check the rear gate lock actuator. <Ref. to SL-42, INSPECTION, Rear Gate Latch Assembly.>	Repair the harness.

10.CHECK DOOR LOCK SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check the input signal from door lock switch to body integrated unit using Subaru Select Monitor. 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the "Application for Subaru Select Monitor III". 3) On the System Selection Menu, select the {Integ. unit mode}. 4) Select the {Current Data Display & Save}. 5) Check the input signal to body integrated unit by operating the door lock switch.	Is the normal input signal displayed when the door lock switch is moved to LOCK/UNLOCK?	The door lock switch is OK.	Go to step **2**.
2	**CHECK DOOR LOCK SWITCH CIRCUIT.** 1) Disconnect the harness connector of body integrated unit (i84). 2) Measure the resistance between the harness connector terminal and chassis ground when moving the door lock switch to LOCK. ***Connector & terminal*** ***(i84) No. 15 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Go to step **4**.
3	**CHECK DOOR LOCK SWITCH CIRCUIT.** Measure the resistance between the harness connector terminal and chassis ground when the door lock switch is moved to UNLOCK. ***Connector & terminal*** ***(i84) No. 29 — Chassis ground:***	Is the resistance less than 10 Ω?	The door lock switch is OK.	Go to step **4**.
4	**CHECK DOOR LOCK SWITCH.** 1) Disconnect the door lock switch harness connector (D7 or D125). 2) Measure the resistance between the door lock switch terminals when moving the door lock switch to LOCK. ***Connector & terminal*** ***Driver's side:*** ***(D7) No. 5 — No. 9:*** ***Passenger's side:*** ***(D125) No. 2 — No. 5:***	Is the resistance less than 1 Ω?	Go to step **5**.	Replace the door lock switch.
5	**CHECK DOOR LOCK SWITCH.** Measure the resistance between the door lock switch terminals when moving the door lock switch to UNLOCK. ***Connector & terminal*** ***Driver's side:*** ***(D7) No. 5 — No. 8:*** ***Passenger's side:*** ***(D125) No. 4 — No. 5:***	Is the resistance less than 1 Ω?	Check the harness for open circuits or shorts between the body integrated unit and the door lock switch.	Replace the door lock switch.

11.CHECK IGNITION SWITCH ILLUMINATION

	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check the fuse No. 14 (in the main fuse box).	Is the fuse blown out?	Replace the fuse with a new part.	Go to step **2**.
2	**CHECK POWER SUPPLY.** 1) Disconnect the ignition switch illumination harness connector (B414). 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B414) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open circuits and shorts between the ignition switch illumination and fuse.
3	**CHECK IGNITION SWITCH ILLUMINATION CIRCUIT.** 1) Disconnect the body integrated unit harness connector (B280) and ignition switch light harness connector (B414). 2) Measure the resistance between body integrated unit harness connector terminal and ignition switch illumination harness connector terminal. ***Connector & terminal*** ***(B280) No. 4 — (B414) No. 1:***	Is the resistance less than 10 Ω?	Replace the ignition switch illumination bulb with a new part. <Ref. to LI-41, REMOVAL, Ignition Switch Illumination.>	Check the harness for open circuits and shorts between the body integrated unit and ignition switch illumination.

12.CHECK HORN OPERATION

	Step	Check	Yes	No
1	**CHECK HORN OPERATION.** Make sure the horn sounds when the horn switch is pushed.	Does the horn sound?	Go to step **2**.	Check the horn circuit.
2	**CHECK HORN OPERATION.** 1) Disconnect the harness connector of body integrated unit (B280). 2) Connect the harness connector terminal to ground using a suitable lead wire. ***Connector & terminal*** ***(B280) No. 11 (+) — Chassis ground (–):***	Does the horn sound?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Check the harness for open circuits and/or shorts between the body integrated unit and horn relay.

13.CHECK KEYLESS BUZZER

	Step	Check	Yes	No
1	**CHECK KEYLESS BUZZER OPERATION.** Check that the keyless buzzer sounds when LOCK or OPEN button of keyless remote control key is pressed.	Does the keyless buzzer sound?	Keyless buzzer is normal.	Go to step **2**.
2	**CHECK KEYLESS BUZZER ON/OFF SWITCH.** NOTE: If operations 1-5 are performed with the keyless buzzer OFF, the keyless buzzer will turn ON. 1) Close the driver's side door and remove the key from the ignition key cylinder. 2) Push the door lock switch to the UNLOCK side, and insert the key into the ignition key cylinder. 3) From step 2, pull out ⇔ insert the key 5 times from/to the ignition key cylinder within 10 seconds. 4) From step 3, open → close the driver's side door within 10 seconds. 5) The keyless buzzer sound ON/OFF will switch, and the hazard light will blink 3 times. (If the driver's side door is not open → close within 10 seconds in step 4, the hazard light will blink once and the setting will not be changed.) 6) Check that the keyless buzzer sounds when LOCK or OPEN button of keyless remote control key is pressed.	Does the keyless buzzer sound?	Keyless buzzer is normal.	Go to step **3**.
3	**CHECK FOR POWER SUPPLY OF KEYLESS BUZZER.** 1) Turn the ignition switch to OFF. 2) Disconnect the keyless buzzer harness connector (F102). 3) Press the LOCK/UNLOCK button of the keyless transmitter. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(F102) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check the harness for open circuits and shorts between the keyless buzzer and fuse.
4	**CHECK FOR GROUND CIRCUIT OF KEYLESS BUZZER.** 1) Disconnect the harness connector of body integrated unit (i84). 2) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(i84) No. 6 — (F102) No. 1:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the harness.
5	**CHECK KEYLESS BUZZER.** 1) Remove the keyless buzzer. 2) Install the keyless buzzer to another vehicle which operates keyless buzzer normally, check the buzzer sounds.	Does the keyless buzzer sound?	Check the body integrated unit or door lock switch. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> <Ref. to GW-8, Power Window Control Switch.>	Replace the keyless buzzer.

14.CHECK IGNITION SWITCH

CAUTION:
When the ignition key lock is replaced, all ignition keys also must be registered. (Refer to the "IMMOBILIZER TEACHING OPERATION MANUAL".)

	Step	Check	Yes	No
1	**CHECK FUSIBLE LINK.** Remove the fusible link main SBF and SBF-6 (in main fuse box), and visually check.	Is the fusible link blown out?	Replace the fusible link main SBF or SBF-6. If the replaced fusible link has blown out easily, repair the short circuit between the fusible link and the ignition switch.	Go to step **2**.
2	**CHECK FOR POWER SUPPLY OF IGNITION SWITCH.** 1) Disconnect the ignition switch harness connector (B72). 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B72) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open circuits and shorts between the ignition switch and fusible link.
3	**CHECK IGNITION SWITCH.** 1) Insert the ignition key into ignition switch, and turn the each position. 2) Measure the resistance between ignition switch terminals. ***Connector & terminal*** ***No. 3 — No. 4 (ACC position):*** ***No. 3 — No. 4 — No. 6 — No. 1 (ON position):*** ***No. 3 — No. 6 — No. 1 — No. 2 (ST position):***	Is the resistance less than 1 Ω when turning the ignition key to each position?	Ignition switch is normal.	Replace the ignition switch with a new one. <Ref. to SL-45, REPLACEMENT, Ignition Key Lock.>

4. Security System

A: WIRING DIAGRAM

<Ref. to WI-162, WIRING DIAGRAM, Security System.>

B: ELECTRICAL SPECIFICATION

1. BODY INTEGRATED UNIT

Refer to Control Module I/O Signal in the LAN SYSTEM (DIAGNOSTICS). <Ref. to LAN(diag)-9, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: INSPECTION

1. BASIC DIAGNOSTIC PROCEDURE

	Step	Check	Yes	No
1	**INITIAL CHECK.** Check keyless entry system.	Does the keyless entry system operate normally?	Go to step **2**.	Check keyless entry system. <Ref. to SL-14, INSPECTION, Keyless Entry System.>
2	**CHECK SECURITY ON/OFF SETTING.** 1) Remove the key from ignition switch, and then close all doors. 2) Press the UNLOCK button of the keyless transmitter. 3) Check the security indicator light blinking patterns.	Does the security indicator light blink at 3 second intervals?	Go to step **3**.	Check the security indicator light circuit. <Ref. to SL-31, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Security System.>
3	**CHECK SECURITY ON/OFF SETTING.** 1) Press the LOCK button of the transmitter. 2) Check the security indicator light blinking patterns.	Is the security indicator light blinking patterns as follows? •When monitoring lag is set to 0 seconds: Blinks twice within 0.5 seconds at 2 second intervals. •When monitoring lag is set to 30 seconds: repeats the turning on for 0.2 seconds and turning off for 0.2 seconds for 30 seconds.	Go to step **6**.	Go to step **4**.
4	**CHANGE SETTING OF SECURITY SYSTEM.** Change the setting of security system to ON. <Ref. to SL-28, SECURITY SYSTEM ON/OFF SETTING, INSPECTION, Security System.>	Is setting change completed correctly?	Go to step **5**.	• Check the ignition switch circuit. <Ref. to SL-32, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Security System.> • Check the door lock switch circuit. <Ref. to SL-22, CHECK DOOR LOCK SWITCH, INSPECTION, Keyless Entry System.>

	Step	Check	Yes	No
5	**CHECK SETTING CHANGE OF SECURITY SYSTEM.** 1) Remove the key from ignition switch, and then close all doors. 2) Press the LOCK button of the transmitter. 3) Check the security indicator light blinking patterns.	Is the security indicator light blinking patterns as follows? •When monitoring lag is set to 0 seconds: Blinks twice within 0.5 seconds at 2 second intervals. •When monitoring lag is set to 30 seconds: repeats the turning on for 0.2 seconds and turning off for 0.2 seconds for 30 seconds.	Go to step **6**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
6	**CHECK SECURITY SYSTEM OPERATION.** Press the LOCK button of keyless transmitter, and wait for 30 seconds.	Is the blinking pattern of security indicator light blink twice within 0.5 seconds in 2 second cycles?	Go to step **7**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
7	**CHECK SECURITY ALARM OPERATION.** 1) Unlock all doors using the door lock switch on driver's door. 2) Open any door or rear gate.	Does the security alarm operate when opening any door or rear gate?	Go to step **8**.	• Check the door switch. <Ref. to SL-29, CHECK DOOR SWITCH, INSPECTION, Security System.> • Check the rear gate latch switch. <Ref. to SL-30, CHECK REAR GATE LATCH SWITCH, INSPECTION, Security System.>
8	**CHECK SECURITY ALARM OPERATION.** Check the security alarm operation.	Does all of the following security alarm operate? •Horn sounds •Hazard light blinks •Security indicator light illuminates	Go to step **9**.	• Check the horn. <Ref. to SL-31, CHECK HORN, INSPECTION, Security System.> • Check the hazard light. <Ref. to SL-32, CHECK HAZARD LIGHT OPERATION, INSPECTION, Security System.>
9	**CHECK SECURITY ALARM CANCEL OPERATION.** Press any button of transmitter while operating security alarm. Or turn the ignition switch to OFF → ON once.	Does all of the following security alarm stop? •Horn stops •Hazard light stops	Go to step **10**.	Check the ignition switch circuit. <Ref. to SL-32, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Security System.>
10	**CHECK SECURITY SYSTEM CONDITION MEMORY.** Check that the system functions properly even when the battery is not connected temporarily. <Ref. to SL-28, CHECK SECURITY SYSTEM CONDITION MEMORY, INSPECTION, Security System.>	Does the system function properly when the battery is not connected temporarily?	Go to step **11**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>

Step		Check	Yes	No
11	**CHECK IMPACT SENSOR.** Check the sensibility of impact sensor. <Ref. to SL-48, CHECK IMPACT SENSOR, ADJUSTMENT, Impact Sensor.>	Is the sensibility set properly?	Press the UNLOCK button of keyless transmitter, and finish the diagnosis.	Adjust the sensitivity. <Ref. to SL-49, IMPACT SENSITIVITY ADJUSTMENT, ADJUSTMENT, Impact Sensor.>

NOTE:
Check the function settings of the body integrated unit if any of the following symptoms appear. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
- The horn does not sound even when the security system operates.
- The horn sounds when setting the security to ON using the keyless transmitter.

2. CHECK SECURITY SYSTEM CONDITION MEMORY

1) Remove the key from ignition switch.
2) Close all doors and the rear gate.
3) Open the front hood.
4) Press the LOCK button of transmitter, and then wait until the security indicator light flashes twice for 0.5 seconds at intervals of 2 seconds.
5) Disconnect the ground cable from the battery.
6) Connect the battery ground cable to the battery.
7) Check that the security indicator light blinks twice within 0.5 seconds at 2 second intervals. When it does not blink, replace the body integrated unit.

3. SECURITY SYSTEM ON/OFF SETTING

1) Close all doors and the rear gate, and sit down on the driver's seat. Press the UNLOCK button of the keyless transmitter.
2) Turn the ignition switch to ON.
3) Push the centralized door lock switch down and open the driver's side door at the same time, and hold in this condition for 10 seconds
4) If the security system is ON, it will turn OFF. If OFF, it will turn ON.

4. CHECK DOOR SWITCH

	Step	Check	Yes	No
1	**CHECK INPUT FROM EACH DOOR SWITCH.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the "Application for Subaru Select Monitor III". 3) On the System Selection Menu, select the {Integ. unit mode}. 4) Select the {Current Data Display & Save}. 5) Check the door switch input to the body integrated unit when opening the each door (front RH and LH, rear RH and LH).	Is the input signal detected when opening the each door (front RH and LH, rear RH and LH)?	The door switch circuit is OK.	When the input signal cannot be detected in some door switch, Go to step **2**.
2	**CHECK DOOR SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (i84). 3) Disconnect the defective door switch harness connector (any of R9, R12, R16, R22). 4) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(i84) No. 19 — (R12) No. 1: (front door LH)*** ***(i84) No. 32 — (R9) No. 1: (front door RH)*** ***(i84) No. 31 — (R22) No. 1: (rear door LH)*** ***(i84) No. 18 — (R16) No. 1: (rear door RH)***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the harness.
3	**CHECK GROUND CIRCUIT OF DOOR SWITCH.** 1) Disconnect the defective door switch harness connector (any of R9, R12, R16, R22). 2) Measure the resistance of harness connector and chassis ground. ***Connector & terminal*** ***(R9) No. 3 — Chassis ground: (front door LH)*** ***(R12) No. 3 — Chassis ground: (front door RH)*** ***(R22) No. 3 — Chassis ground: (rear door LH)*** ***(R16) No. 3 — Chassis ground: (rear door RH)***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the harness.
4	**CHECK DOOR SWITCH.** 1) Disconnect the defective door switch harness connector (any of R9, R12, R16, R22). 2) Measure the resistance between door switch terminals. ***Terminals*** ***No. 1 — No. 3:***	Is the resistance 1 MΩ or more when door switch is pushed?	Go to step **5**.	Replace the door switch.
5	**CHECK DOOR SWITCH.** Measure the resistance between door switch terminals. ***Terminals*** ***No. 1 — No. 3:***	Is the resistance less than 1 Ω when door switch is released?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the door switch.

5. CHECK REAR GATE LATCH SWITCH

	Step	Check	Yes	No
1	**CHECK INPUT FROM REAR GATE LATCH SWITCH.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the “Application for Subaru Select Monitor III”. 3) On the System Selection Menu, select the {Integ. unit mode}. 4) Select the {Current Data Display & Save}. 5) Check the input signal to the body integrated unit when opening the rear gate.	Is the input signal detected when opening the rear gate?	Rear gate latch switch circuit is OK.	Go to step **2**.
2	**CHECK REAR GATE LATCH SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (i84). 3) Disconnect the rear gate latch switch harness connector (D140). 4) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(i84) No. 17 — (D140) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the harness.
3	**CHECK REAR GATE LATCH SWITCH GROUND CIRCUIT.** 1) Disconnect the rear gate latch switch harness connector (D140). 2) Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(D140) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the harness.
4	**CHECK REAR GATE LATCH SWITCH.** 1) Disconnect the rear gate latch switch harness connector. 2) Measure the resistance between switch terminals. ***Terminals*** ***No. 3 — No. 4:***	Is the resistance 1 MΩ or more when switch is pushed?	Go to step **5**.	Replace the rear gate latch switch.
5	**CHECK REAR GATE LATCH SWITCH.** Measure the resistance between switch terminals. ***Terminals*** ***No. 3 — No. 4:***	Is the resistance less than 1 Ω when switch is released?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the rear gate latch switch.

6. CHECK SECURITY INDICATOR LIGHT CIRCUIT

	Step	Check	Yes	No
1	**CHECK SECURITY INDICATOR LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (i84). 3) Connect the resistor (100 Ω) between body integrated unit harness connector terminal (i84) No. 33 and chassis ground. ***Connector & terminal*** ***(i84) No. 33 — Chassis ground:***	Does the security indicator light illuminate?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Go to step **2**.
2	**CHECK POWER SUPPLY FOR SECURITY INDICATOR LIGHT.** 1) Disconnect the connector (i116) from the warning box. 2) Measure the voltage between warning box harness connector terminal and chassis ground. ***Connector & terminal*** ***(i116) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open or short circuits between warning box and fuse.
3	**CHECK SECURITY INDICATOR LIGHT CIRCUIT.** Measure the resistance between the warning box harness connector terminal and security control unit harness connector terminal. ***Connector & terminal*** ***(i116) No. 2 — (i84) No. 33:***	Is the resistance less than 10 Ω?	Replace the warning box. <Ref. to IDI-17, Warning box.>	Check the harness for open or short circuits between warning box and body integrated unit.

7. CHECK HORN

	Step	Check	Yes	No
1	**CHECK HORN OPERATION.** Check the horn sounds when the horn switch is pushed.	Does the horn sound?	Go to step **2**.	Check the horn circuit.
2	**CHECK OUTPUT TO HORN RELAY.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the “Application for Subaru Select Monitor III”. 3) On the System Selection Menu, select the {Integ. unit mode}. 4) Select {Function check}. 5) Select {Horn Output} and execute.	Does the horn sound?	Horn circuit is OK.	Go to step **3**.
3	**CHECK HORN RELAY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (B280). 3) Disconnect the main fuse box harness connector (B186). 4) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(B280) No. 11 — (B186) No. 1:***	Is the resistance less than 10 Ω?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Repair the harness.

8. CHECK HAZARD LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK HAZARD LIGHT OPERATION.** Make sure the hazard light blinks when hazard switch is turned to ON.	Does the hazard light blink?	Go to step **2**.	Check the hazard light circuit.
2	**CHECK OUTPUT TO HAZARD LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the key warning switch harness connector. 3) Prepare the Subaru Select Monitor kit. 4) Turn the ignition switch to ON (engine OFF), and run the "Application for Subaru Select Monitor III". 5) On the System Selection Menu, select the {Integ. unit mode}. 6) Select {ECM customizing}. 7) Check the {Hazard answer-back setup}, and then switch to ON setting. 8) Select the {Current Data Display & Save}. 9) Remove the key from ignition switch. 10) Check the hazard output signal of body integrated unit when operating the LOCK/UNLOCK button of transmitter.	Is output signal is present when operating the transmitter LOCK/UNLOCK button?	Go to step **3**.	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
3	**CHECK CIRCUIT OF HAZARD LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (B280). 3) Disconnect the turn signal and hazard unit harness connector (B32). 4) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(B280) No. 12 — (B32) No. 8:***	Is the resistance less than 10 Ω?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Repair the harness.

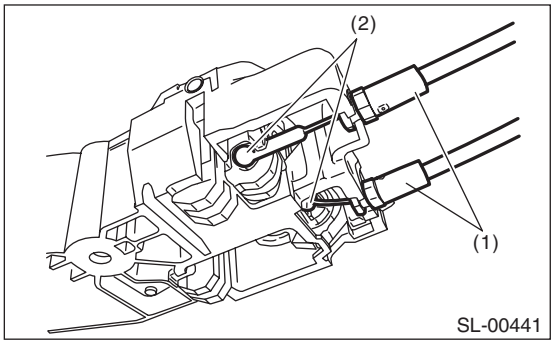
9. CHECK IGNITION SWITCH CIRCUIT

	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH VOLTAGE.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the "Application for Subaru Select Monitor III". 3) On the System Selection Menu, select the {Integ. unit mode}. 4) Select the {Current Data Display & Save}. 5) Check the {BATT voltage} and {IG power supply voltage}.	Is the {IG power supply voltage} within ±1 V against {BATT voltage}?	The ignition switch input circuit is OK.	Go to step **2**.
2	**CHECK IGNITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (i84). 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Check the harness for open or short circuit between body integrated unit and fuse.

5. Front Inner Remote

A: REMOVAL

1) Remove the door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
2) Remove the cable from the cable holder.
3) Remove the screw, move the inner remote to the rear, and remove from the panel.
4) Remove the cable (1).
5) Remove the cable end (2), and remove the inner remote.



B: INSTALLATION

Install in the reverse order of removal.

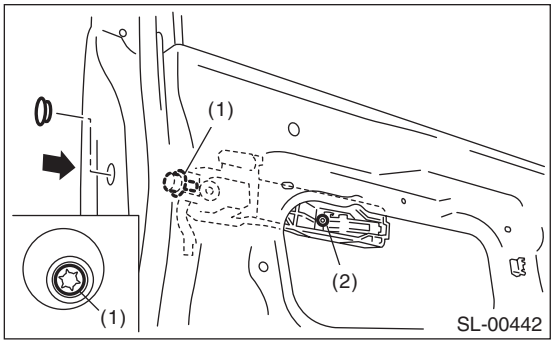
C: INSPECTION

1) Check the cables of the remote handle and lock knob for deformation. If any deformation is found, correct the deformation, as this may cause the improper operation. Replace the front door latch & door lock actuator assembly, if the deformation can not be corrected.
2) Check the remote handle and lock knob 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-36, REMOVAL, Door Trim.>
3) Remove the cable from the front inner remote. <Ref. to SL-33, REMOVAL, Front Inner Remote.>
4) Remove the sealing cover. <Ref. to EB-17, REMOVAL, Front Sealing Cover.>
5) Remove the plug at the rear end of the door panel.
6) Remove the rod clamp.
7) Loosen the bolt (1) and turn bolt (2) five times.



8) Remove the outer handle cover.
9) Move the front outer handle forward, and detach the front outer handle.

CAUTION:
Do not apply excessive force to remove the handle from door panel, not to deform the door panel.
10) Remove the outer side spacer, and slide the frame assembly forward from the inner side, then remove.

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
<Ref. to SL-2, DOOR LOCK ASSEMBLY, COMPONENT, General Description.>

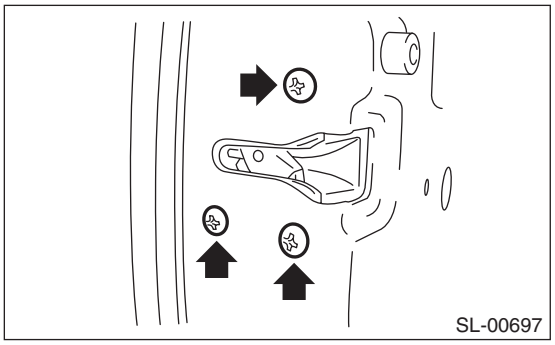
C: INSPECTION

1) Check the key cylinder and latch contacting securely.
2) Check rod for deformation.
3) Check the lever and rod for smooth operation.

7. Front Door Latch and Door Lock Actuator Assembly

A: REMOVAL

1) Raise the front door glass to the top position.
2) Disconnect the ground cable from battery.
3) Remove the front door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
4) Remove the cable from the front inner remote. <Ref. to SL-33, REMOVAL, Front Inner Remote.>
5) Remove the sealing cover. <Ref. to EB-17, REMOVAL, Front Sealing Cover.>
6) Remove the door sash. <Ref. to GW-10, REMOVAL, Front Door Glass.>
7) Remove the connection rod of the key cylinder lever. (Driver's side only)
8) Remove the three screws.



9) Remove the front door latch and actuator assembly, and disconnect the connector.

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
<Ref. to SL-2, DOOR LOCK ASSEMBLY, COMPONENT, General Description.>

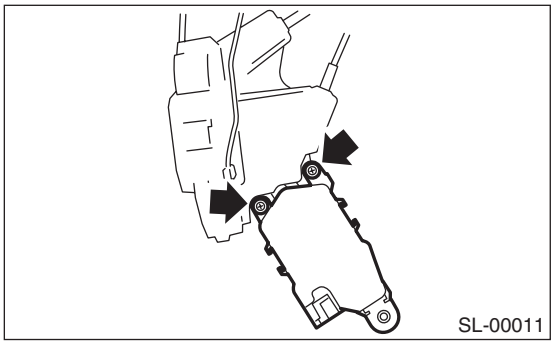
C: INSPECTION

1) Check rod and cable for deformation. If any deformation is found, correct the deformation, as this may cause the improper operation. Replace the front door latch and actuator assembly, if the deformation can not be corrected.
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-35, REMOVAL, Front Door Latch and Door Lock Actuator Assembly.>
2) Remove the pawl of front door latch security cover, and then remove the cover.
3) Remove the screw from front door latch and door lock actuator, and then remove the door lock actuator.

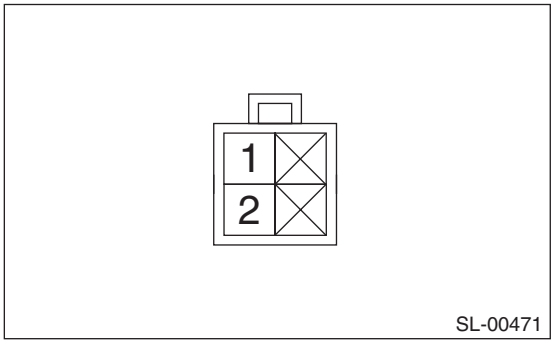


B: INSTALLATION

Install in the reverse order of removal.

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.

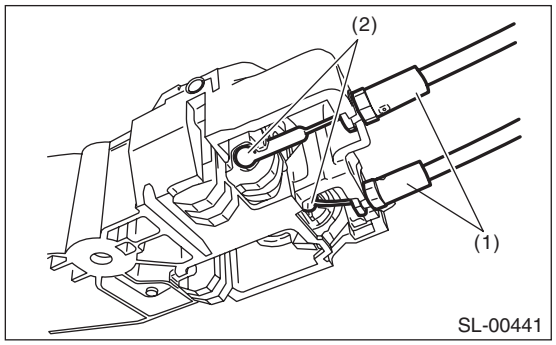


Terminal No.	Actuator operation
No. 1 (+) and No. 2 (–)	Unlock → Lock
No. 2 (+) and No. 1 (–)	Lock → Unlock

9. Rear Inner Remote

A: REMOVAL

1) Remove the rear door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
2) Remove the screw, slide the inner remote to the rear, and remove from the panel.
3) Remove the cable (1).
4) Remove the cable end (2), and detach the inner remote handle.



B: INSTALLATION

Install in the reverse order of removal.

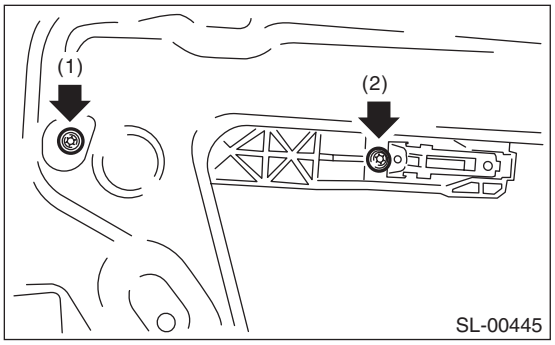
C: INSPECTION

1) Check the cables of the remote handle and lock knob for deformation. If any deformation is found, correct the deformation, as this may cause the improper operation. Replace the rear door latch and door lock actuator assembly, if the deformation can not be corrected.
2) Check the remote handle and lock knob 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) Disconnect the ground cable from battery.
3) Remove the rear door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
4) Remove the cable from rear inner remote. <Ref. to SL-37, REMOVAL, Rear Inner Remote.>
5) Remove the sealing cover. <Ref. to EB-20, NOTE, Rear Sealing Cover.>
6) Loosen the bolt (1) and turn bolt (2) twice.



7) Detach the outer handle cover.
8) Move the rear outer handle towards the rear, and remove the rear outer handle.

CAUTION:
Do not apply excessive force to remove the handle from door panel, not to deform the door panel.
9) Remove the outer side spacer, and slide the frame assembly forward from the inner side, then remove.

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
<Ref. to SL-2, DOOR LOCK ASSEMBLY, COMPONENT, General Description.>

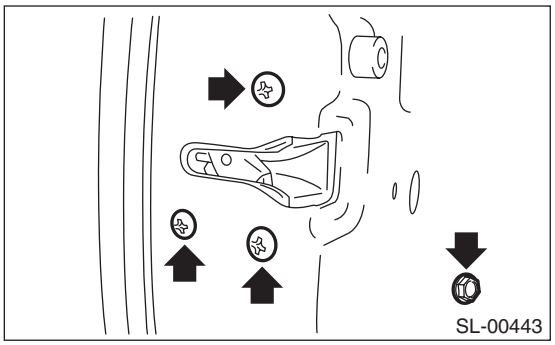
C: INSPECTION

1) Inspect to make sure that the latch is in secure contact.
2) Check the handle and cable for smooth operation.

11.Rear Door Latch and Door Lock Actuator Assembly

A: REMOVAL

1) Raise the door glass to the top position.
2) Disconnect the ground cable from battery.
3) Remove the rear door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
4) Remove the cable from rear inner remote. <Ref. to SL-37, REMOVAL, Rear Inner Remote.>
5) Remove the sealing cover. <Ref. to EB-20, NOTE, Rear Sealing Cover.>
6) Remove the rear sash. <Ref. to GW-18, REMOVAL, Rear Regulator and Motor Assembly.>
7) Remove the three screws and one bolt.



8) Disconnect the connectors, and then remove the rear door latch and door lock actuator assembly.

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
<Ref. to SL-2, DOOR LOCK ASSEMBLY, COMPONENT, General Description.>

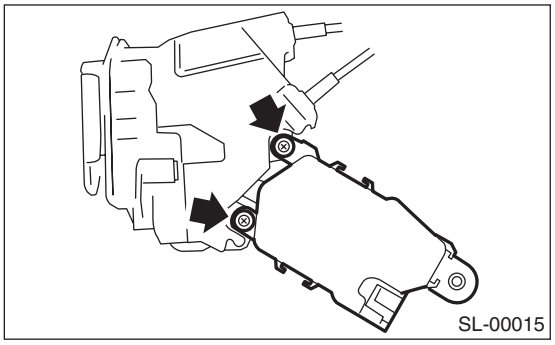
C: INSPECTION

1) Check cable for deformation. If any deformation is found, correct the deformation, as this may cause the improper operation. Replace the rear door latch and door lock actuator assembly, if the deformation can not be corrected.
2) Check the lever and cable for smooth operation.

12.Rear Door Lock Actuator

A: REMOVAL

1) Remove the rear door latch and door lock actuator assembly. <Ref. to SL-39, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
2) Remove the screw from the rear door latch and door lock actuator, and then remove the door lock actuator.

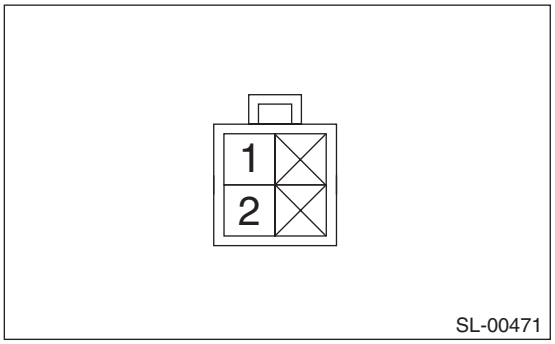


B: INSTALLATION

Install in the reverse order of removal.

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.

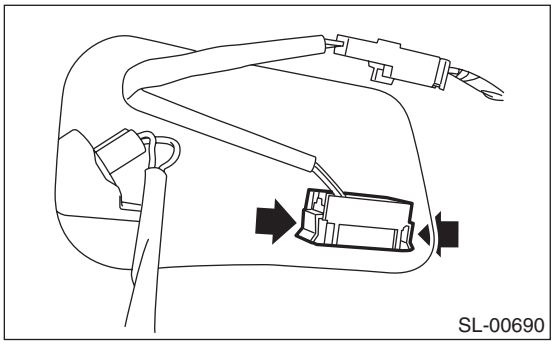


Terminal No.	Actuator operation
No. 1 (+) and No. 2 (–)	Unlock → Lock
No. 2 (+) and No. 1 (–)	Lock → Unlock

13.Rear Gate Release Switch

A: REMOVAL

1) Remove the rear gate trim. <Ref. to EI-52, REMOVAL, Rear Gate Trim.>
2) Disconnect the harness connector of the rear gate release switch.
3) Hold the rear gate release switch hook, and remove the rear gate release switch.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1) Disconnect the harness connector of the rear gate release switch.
2) Inspect the continuity between the rear gate release switch connector terminals.

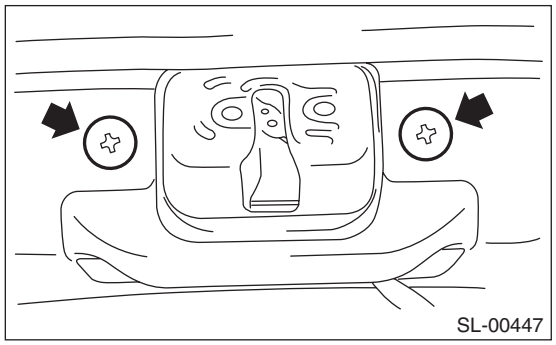
Switch	Terminals	Standard
Open	No. 1 and No. 2	Less than 1 Ω
Close		1 MΩ or more

If NG, replace the rear gate release switch.

14.Rear Gate Latch Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim. <Ref. to EI-52, REMOVAL, Rear Gate Trim.>
3) Disconnect the harness connector of rear gate latch assembly.
4) Remove the two screws.



5) Remove the rear gate latch assembly.

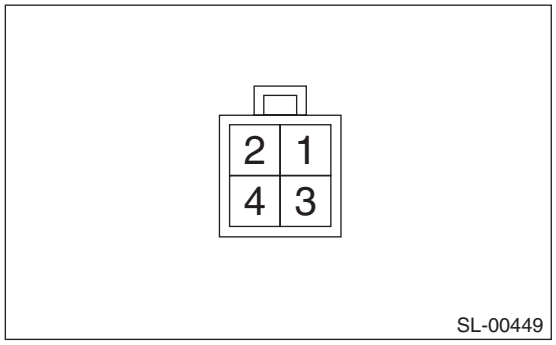
B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
<Ref. to SL-3, REAR GATE LOCK, COMPONENT, General Description.>

C: INSPECTION

1) Disconnect the rear gate lock actuator harness connector.
2) Connect the battery to rear gate lock actuator terminals.



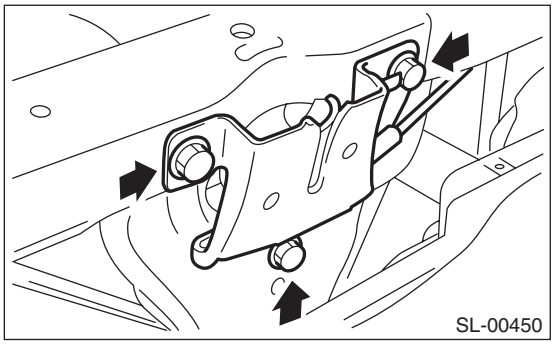
Terminal No.	Actuator operation
No. 1 (+) and No. 2 (–)	Lock → Unlock

Replace the rear gate latch assembly if faulty.

15.Front Hood Lock Assembly

A: REMOVAL

1) Open the front hood.
2) Remove the engine front cover.
3) Remove the bolts, and then detach the front hood lock assembly.



4) Remove the cable from lock assembly.

B: INSTALLATION

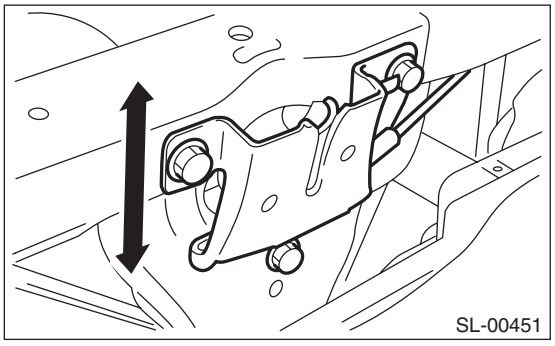
Install in the reverse order of removal.

Tightening torque:
<Ref. to SL-4, FRONT HOOD LOCK AND REMOTE OPENERS, COMPONENT, General Description.>

NOTE:
Apply grease to the movable part.

C: ADJUSTMENT

Loosen the bolt, and adjust the lock assembly while moving it up and down.



D: INSPECTION

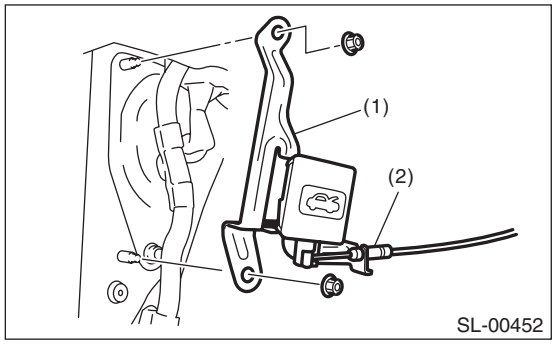
1) Check the striker for deformation or abnormal wear.
2) Check the safety lever for improper movement.
3) Check other levers and springs for rust formation or unsmooth movement.

16.Remote Openers

A: REMOVAL

1. FRONT HOOD OPENER

1) Remove the nuts, and remove the front hood opener lever.
2) Remove the cable from the front hood opener.

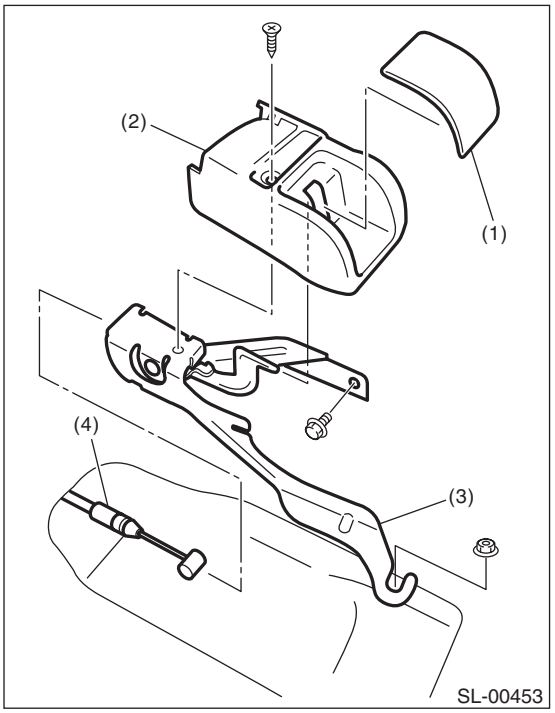


(1) Front hood opener
(2) Cable

2. FUEL FILLER FLAP LID OPENER

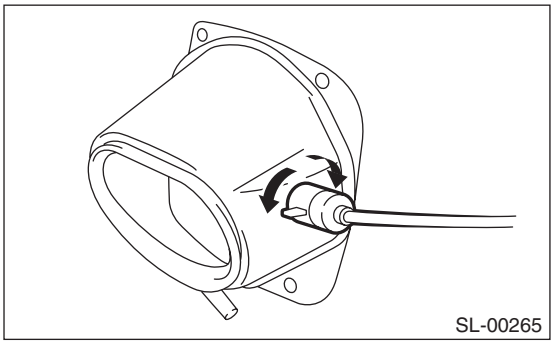
1) Remove the second row seats. <Ref. to SE-13, REMOVAL, Second Seat.>
2) Remove the third-row seats. <Ref. to SE-18, REMOVAL, Third Seat.>
3) Remove the following side trims. <Ref. to EI-44, REMOVAL, Side Trim.>
- Front door scuff plate LH
- Rear door scuff plate LH
- Center pillar lower trim

4) Remove the right rear quarter trim. <Ref. to EI-46, REMOVAL, Rear Quarter Trim.>
5) Turn over the floor mat to remove the clips securing the cable.
6) Remove the cover.
7) Remove the bolt and nut, and then detach the pull handle assembly.



(1) Pull lever
(2) Cover
(3) Pull handle ASSY
(4) Cable

8) Remove the cable from pull handle assembly.
9) Rotate the fuel lock inside the quarter panel to 90° and remove. (Either right or left turn)



B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
<Ref. to SL-4, FRONT HOOD LOCK AND REMOTE OPENERS, COMPONENT, General Description.>

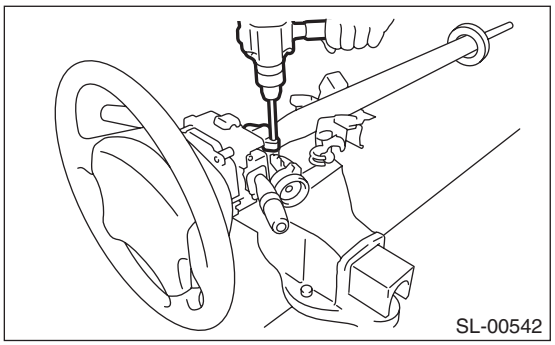
C: INSPECTION

Make sure the front hood and fuel filler lid open and close smoothly.

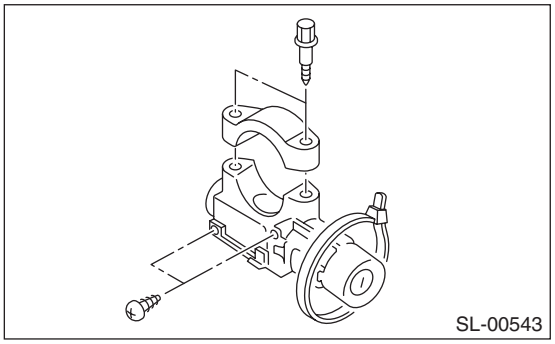
17.Ignition Key Lock

A: REPLACEMENT

1) Disconnect the ground cable from battery.
2) Remove the steering column. <Ref. to PS-15, REMOVAL, Tilt Steering Column.>
3) Secure the steering column in a vise. Remove the bolt with a drill.

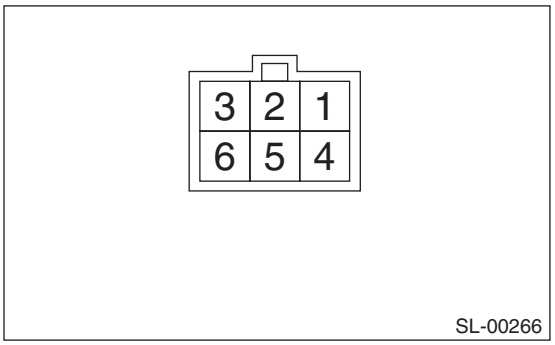

SL-00542

4) Remove the ignition key lock.
5) Using a new bolt, tighten the bolts (until the bolt head is wrenched off).


SL-00543

B: INSPECTION

1) Remove the instrument panel lower cover.
2) Remove the lower column cover.
3) Unfasten the fixing clip which secures harness, and then disconnect the connector of the ignition switch from body harness.
4) Turn the ignition key plate to each position and check the continuity between terminals of ignition connector.



SL-00266

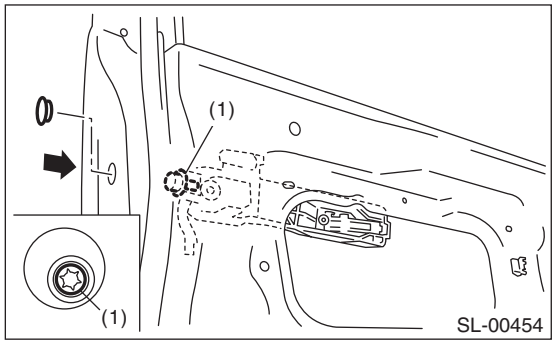
Switch position	Terminal No.	Standard
LOCK	—	—
ACC	No. 3 and No. 4	Less than 1 Ω
ON	No. 3, No. 1 and No. 4 No. 3 and No. 6	Less than 1 Ω
ST	No. 3 and No. 1 No. 3, No. 2 and No. 6	Less than 1 Ω

If NG, replace the ignition switch.

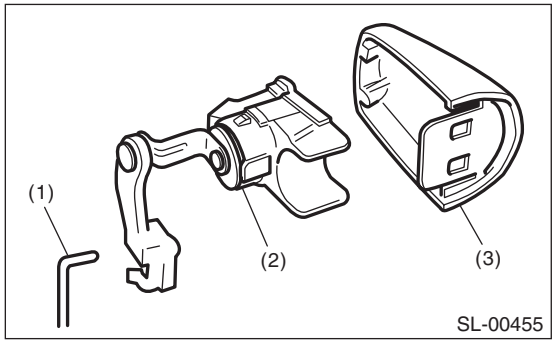
18.Key Lock Cylinders

A: REPLACEMENT

1) Raise the front door glass to the top position.
2) Remove the door trim. <Ref. to EI-36, REMOVAL, Door Trim.>
3) Remove the sealing cover.
4) Remove the plug at the rear end of the panel.
5) Loosen the bolt (1) and remove the rod clamp.



6) Remove the key cylinder all together with the handle cover.
7) Remove the key cylinder from cover, and replace the key cylinder.



(1) Latch connection rod
(2) Key cylinder
(3) Door outer handle cover

19.Security Control Module

A: NOTE

The control of security system is carried out in body integrated unit. Refer to the section of body integrated unit for work.

- Removal <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
- Installation <Ref. to SL-52, INSTALLATION, Body Integrated Unit.>

20.Impact Sensor

A: REMOVAL

1) Remove the key from ignition switch.
2) Close all doors and the rear gate.
3) Press the UNLOCK button of the keyless transmitter.
4) Change the setting of impact sensor using Subaru Select Monitor.
5) Disconnect the ground cable from the battery.
6) Remove the impact sensor.

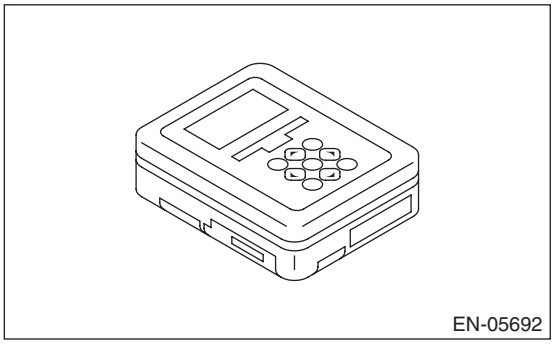
B: INSTALLATION

1) Remove the key from ignition switch.
2) Close all doors and the rear gate.
3) Press the UNLOCK button of the keyless transmitter.
4) Disconnect the ground cable from the battery.
5) Install the impact sensor.
6) Connect the battery ground cable to the battery.
7) Change the setting of impact sensor using Subaru Select Monitor.

C: OPERATION

1. IMPACT SENSOR SETTING USING SUBARU SELECT MONITOR

1) Prepare the Subaru Select Monitor kit. <Ref. to EN(H6DO)(diag)-8, PREPARATION TOOL, General Description.>

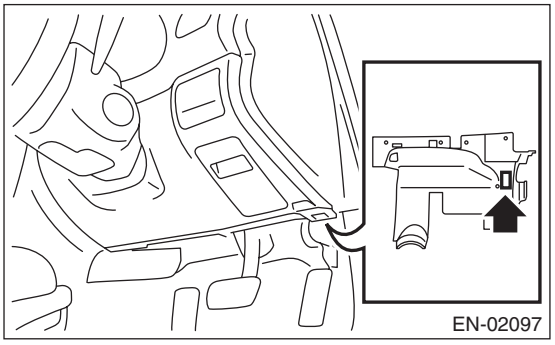


2) Prepare PC with Subaru Select Monitor installed.
3) Connect USB cable to SDI (Subaru Diagnostic Interface) and PC USB port (Subaru Select Monitor dedicated port).

NOTE:
The dedicated port for the Subaru Select Monitor means the USB port which was used to install the Subaru Select Monitor.

4) Connect the diagnosis cable to SDI.
5) Connect SDI to data link connector located in the lower portion of the instrument panel (on the driver's side).

CAUTION:
Do not connect scan tools other than the Subaru Select Monitor.



6) Start the PC.
7) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor III".
8) On the System Selection Menu, select the {Integ. Unit mode}.
9) Select {ECM customizing}.
10) Make a impact monitor setting.
- When installing: ON
- When removing: OFF

11) Make a impact monitor ON/OFF setting.
- When installing: ON
- When removing: OFF

12) Turn the ignition switch to OFF, and then remove the Subaru Select Monitor.

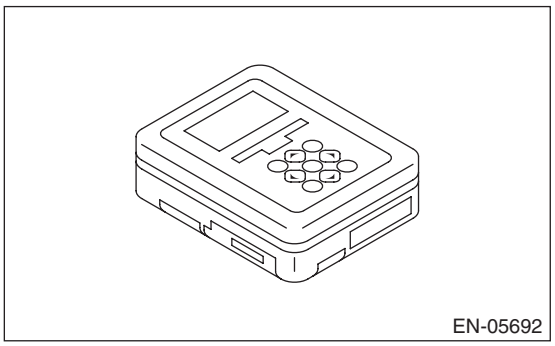
D: ADJUSTMENT

1. CHECK IMPACT SENSOR

1) Remove the key from ignition switch.
2) Close all windows.
3) Close all doors and the rear gate. Leave open the front hood.
4) Press the LOCK button of the keyless transmitter from outside of vehicle.
5) Check that the security indicator light blinks twice within 0.5 seconds in 2 second cycles after 30 seconds.
6) Hit the windshield with your palm continuously and check the security alarm operates. Lift up the front hood approx. 12 cm (4.7 in) or more, and then drop it off to check the operation of security alarm.
7) If NG, adjust the impact sensitivity.

2. IMPACT SENSITIVITY ADJUSTMENT

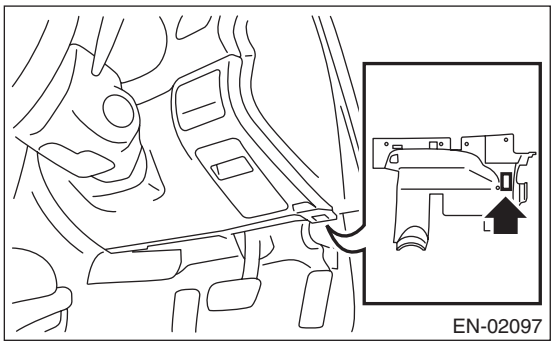
1) Prepare the Subaru Select Monitor kit. <Ref. to EN(H6DO)(diag)-8, PREPARATION TOOL, General Description.>



2) Prepare PC with Subaru Select Monitor installed.
3) Connect USB cable to SDI (Subaru Diagnostic Interface) and PC USB port (Subaru Select Monitor dedicated port).

NOTE:
The dedicated port for the Subaru Select Monitor means the USB port which was used to install the Subaru Select Monitor.
4) Connect the diagnosis cable to SDI.
5) Connect SDI to data link connector located in the lower portion of the instrument panel (on the driver's side).

CAUTION:
Do not connect scan tools other than the Subaru Select Monitor.



6) Start the PC.
7) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor III".
8) On the System Selection Menu, select the {Impact Sensor}.
9) Make a {Sensitivity Adjustment Mode}.
- Sensitivity can be adjusted in 11 levels (0 to 10).
- Initial setting is 5.
- Smaller number means more sensitive.
- Larger number means less sensitive.

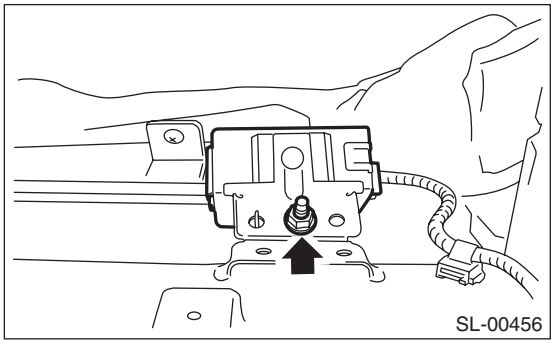
10) Turn the ignition switch to OFF, and then remove the Subaru Select Monitor.

NOTE:
- Set the sensor so as not to let the alarm on normal vibration (reclining to the door, hit the ball and etc.).
- Set the sensor to operate the alarm with hitting the door or window glass, etc. continuously like a mayhem by robbery.
- Ask the customer about parking situation for setting, because the alarm operate when the vibration not only the burglar but also the construction etc.

21.Keyless Entry Control Module

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-38, REMOVAL, Glove Box.>
3) Remove the nut, disconnect the connector and remove the keyless entry control module.



B: INSTALLATION

Install in the reverse order of removal.

22.Keyless Buzzer

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the keyless buzzer installed to the backside of radiator bracket.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

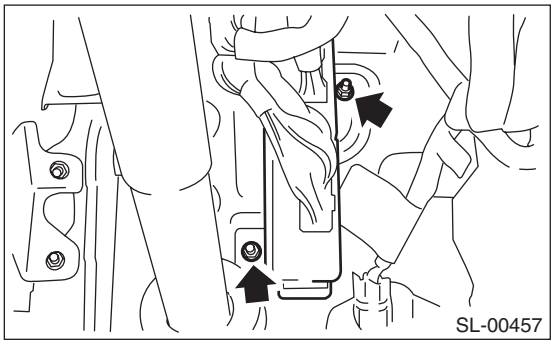
Install the keyless buzzer to another vehicle which operates keyless buzzer normally, check the buzzer sounds. If NG, replace the keyless buzzer.

23.Body Integrated Unit

A: REMOVAL

NOTE:
• When replacing the body integrated unit, check the current setting and note it. <Ref. to LAN(diag)-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. Prepare the new immobilizer key and security ID plate.
1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Lower Cover.>
3) Disconnect the connector of body integrated unit.

CAUTION:
• Be careful to keep water and other foreign materials away from body integrated unit.
• Do not install or register an immobilizer related module of other registered vehicles in order to diagnose failures or inspect functions.
4) Remove two mounting nuts for body integrated unit bracket, and remove the bracket.



B: INSTALLATION

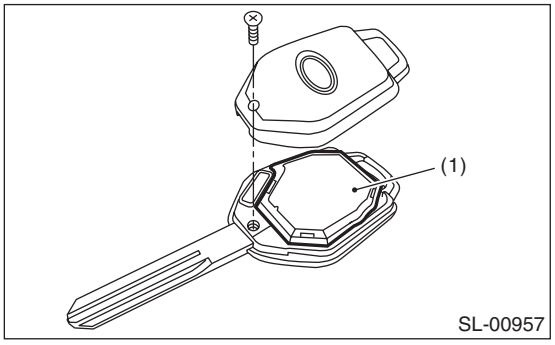
Install in the reverse order of removal.

NOTE:
• When the same body integrated unit is reinstalled in the same vehicle, it is not necessary to register the immobilizer again.
• Make sure that there are no differences from the contents of the current settings after installation. <Ref. to LAN(diag)-18, CONFIRMATION OF CURRENT SETTING, OPERATION, Subaru Select Monitor.>

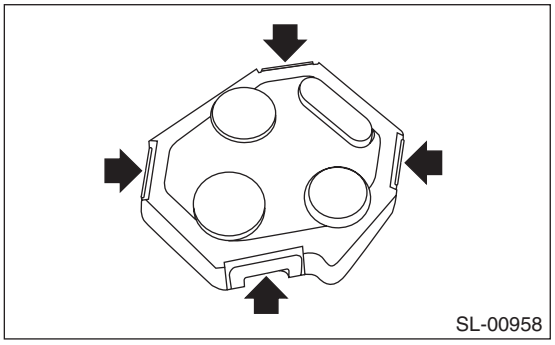
24.Transmitter

A: REMOVAL

1) Disassemble the keyless transmitter, and take out the transmitter case (1).

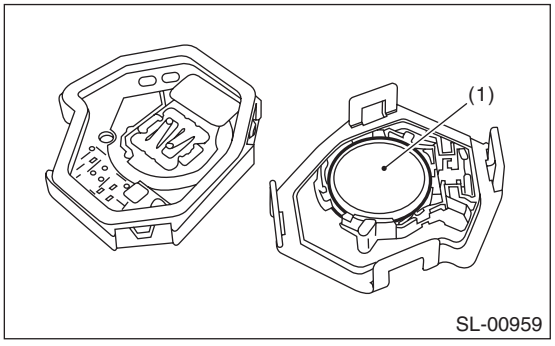


2) Remove the claw, and open the transmitter case.



3) Remove the battery (1) from the transmitter.

NOTE:
To prevent static electricity damage to the transmitter printed circuit board, touch the steel area of building with hand to discharge static electricity carried on body or clothes before disassembling the transmitter.



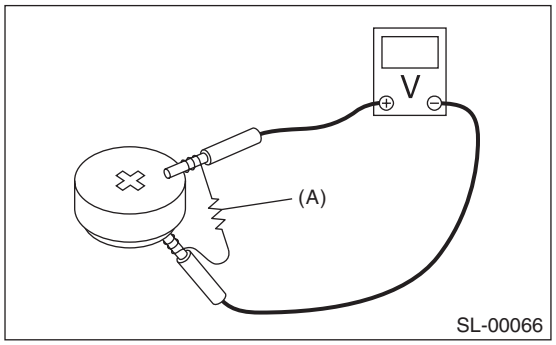
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the voltage between the keyless transmitter battery (+) terminal and (–) terminal.

NOTE:
Battery discharge occurs during the measurement. Complete the measurement within 5 seconds.



(A) Resistance (47 Ω)

Tester connection		Standard
(+)	(–)	
Battery Positive terminal	Battery Ground terminal	2.5 — 3.0 V

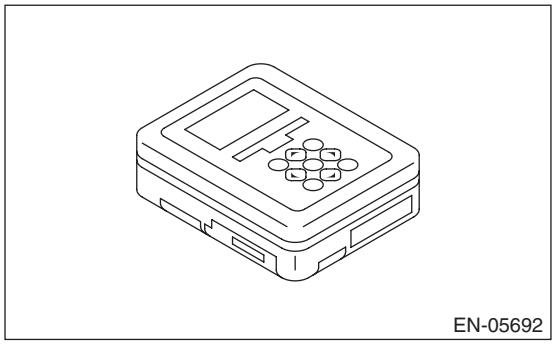
If NG, replace the battery. (Use CR1620 or equivalent.)

D: REPLACEMENT

1. REGISTRATION OF KEYLESS TRANSMITTER WITH SUBARU SELECT MONITOR

NOTE:
• A maximum of four keyless transmitter can be registered for each individual vehicle.
• When replacing or adding the keyless transmitter, new registration of transmitter is necessary.

1) Prepare the Subaru Select Monitor kit. <Ref. to EN(H6DO)(diag)-8, PREPARATION TOOL, General Description.>



2) Prepare PC with Subaru Select Monitor installed.

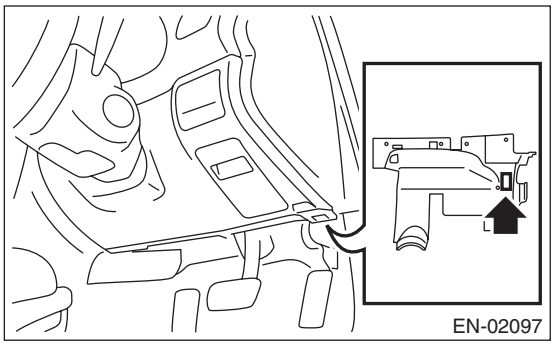
3) Connect the USB cable to SDI (Subaru Diagnosis Interface) and USB port on the personal computer (dedicated port for the Subaru Select Monitor).

NOTE:
The dedicated port for the Subaru Select Monitor means the USB port which was used to install the Subaru Select Monitor.

4) Connect the diagnosis cable to SDI.

5) Connect SDI to data link connector located in the lower portion of the instrument panel (on the driver's side).

CAUTION:
Do not connect scan tools other than the Subaru Select Monitor.



6) Start the PC.

7) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor".

8) On the «System Selection Menu» of the Subaru Select Monitor, select the {Each System Check} → {Integ. unit mode} → {Keyless transmitter ID registration}.

9) Input the 8-digit ID number attached to the tag plate of the transmitter or inside the transmitter, from left to right. Press the [Enter] key.

10) The ID number you have entered will be shown. Make sure that the ID number shown is the same as that of the tag plate.

11) Press the [OK] key if the ID number is correct. Press the [NO] key if incorrect, to return to the step 3) and try again.

12) «ID is being registered···» is displayed and registration starts.

13) «ID registration completed» will be displayed when the registration process is done.

14) To exit, select «END:NO», and press the [NO] key to return to {Transmitter ID registration}. If there are additional keyless transmitters to be registered, select «The following are registered: OK» to return to the step 3).

NOTE:
• If the registration fails, «ID cannot register. Try again.» will be shown. Select the [OK] key to return to the {Keyless ID registration}. Retry starting from the step 2).
• «END: NO» is shown on the Subaru Select Monitor when fourth keyless transmitter has been registered. Select the [NO] key to return to {Keyless ID registration}.

25.Immobilizer Control Module

A: NOTE

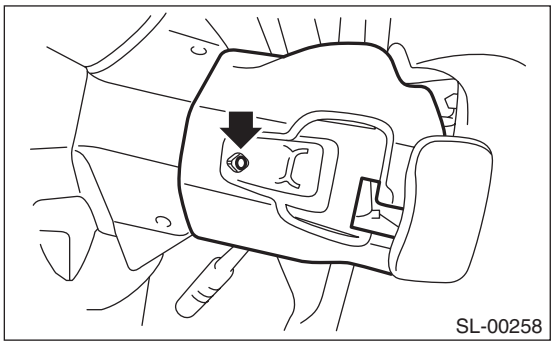
The control of immobilizer system is carried out in body integrated unit. Refer to the section of body integrated unit for work.

- Removal <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
- Installation <Ref. to SL-52, INSTALLATION, Body Integrated Unit.>

26.Immobilizer Antenna

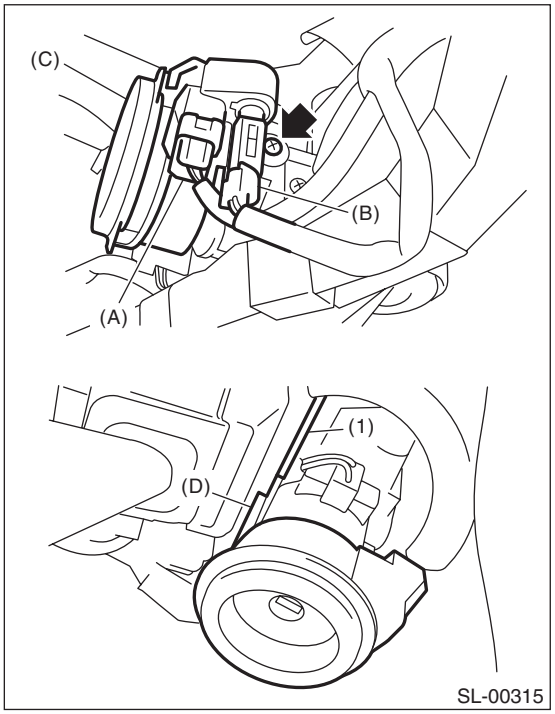
A: REMOVAL

1) Disconnect the ground cable from 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-37, 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.

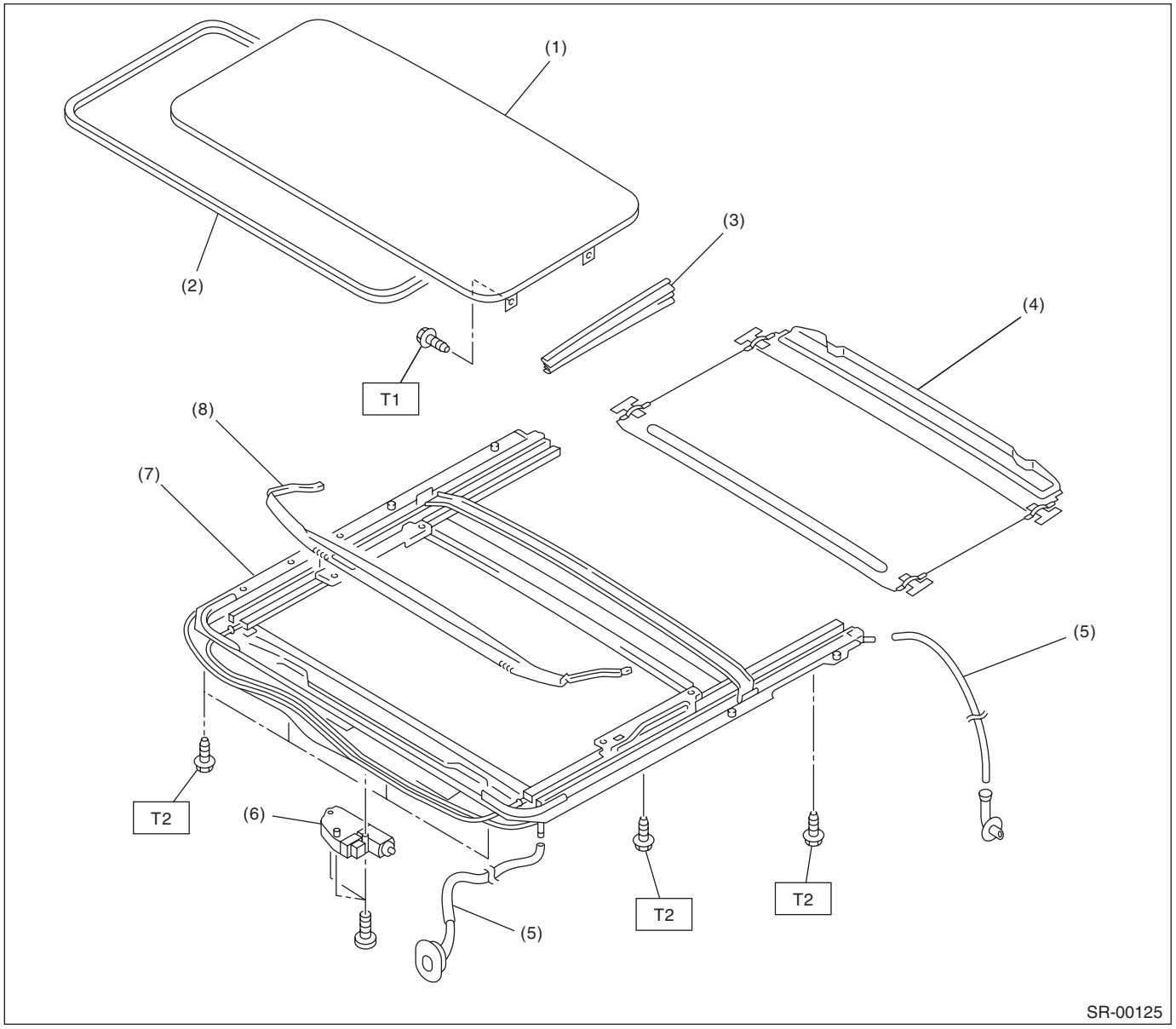
SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

SR

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3.	Glass Lid	5
4.	Sunroof Assembly	6
5.	Sunroof Motor	7
6.	Sunroof Switch	9
7.	Sunshade	10

1. General Description

A: COMPONENT



(1) Glass lid
(2) Weather strip
(3) Cover
(4) Sunshade
(5) Drain tube
(6) Motor ASSY
(7) Frame ASSY
(8) Deflector

Tightening torque:N·m (kgf-m, ft-lb)
T1: 4.5 (0.46, 3.3)
T2: 6.0 (0.61, 4.4)

B: CAUTION

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

C: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
TORX® T20	Used for the removal of the sun roof lid and sunshade.

2. Sunroof Control System

A: WIRING DIAGRAM

1. SUNROOF

<Ref. to WI-157, WIRING DIAGRAM, Sunroof Control System.>

B: INSPECTION

Symptom	Inspection order
Water leakage	1. Check roof panel and glass lid for improper or poor sealing. 2. Check drain tube for clogging. 3. Check sunroof frame seal and body for improper fit.
Booming noise, wind noise and other noise	1. Check glass lid and roof panel for improper clearance. 2. Check sunshade and roof trim for improper clearance.
Abnormal motor noise	1. Check installing part of motor for looseness. 2. Check gears and bearings for wear. 3. Check cable for wear. 4. Check cable pipe for deformities.
Failure of sunroof (Motor operates properly.)	1. Check guide rail for foreign particles. 2. Check guide rail for improper installation. 3. Check parts for mutual interference. 4. Check cable slider for improper clinching. 5. Check cable for improper installation.
Motor does not rotate or rotate improperly.	1. Check fuse for blown out. 2. Check switch for improper function. 3. Check motor for incorrect terminal voltage. 4. Check the relay for improper operation. 5. Check poor grounding system. 6. Check harness for open or short and terminals for poor connections.
Failure turn of glass lid	Check guide rail for foreign particles.

- Failure turn of glass lid while driving rough road.

Glass lid has auto-reverse function. When applied above specified force to the glass lid, the lid turns back and stops. When operating the glass lid (open or close) while driving the rough road, the lid judges vibration as a force and may causes failure turns. When the failure turn is occurred, need to perform the initialize operation with following procedure.

1. INITIALIZE OPERATION

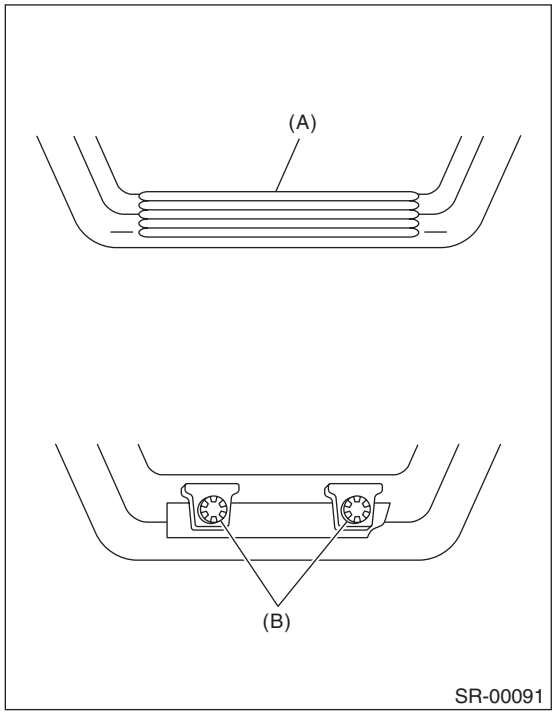
1) Tilt up the glass lid.
2) Release the switch once, and press the tilt up switch again for 15 seconds.
3) When the glass lid is raised a little and returned to tilt up position, release the switch for the moment. (Initialization of position detecting function)
4) Holding down the tilt up switch again within 5 seconds from releasing the switch will automatically perform tilt down/slide open/slide close. (When 5 seconds pass, the position detecting function is cancelled.)
5) Initialize operation is completed.

3. Glass Lid

A: REMOVAL

1) Completely close the glass lid, and then open the sunshade.
2) Remove the cover (A), and then remove the TORX® bolts (B).

CAUTION:
The thread locker is applied to the TORX® bolts, so use the new parts once they are removed.



3) Remove the glass lid carefully.

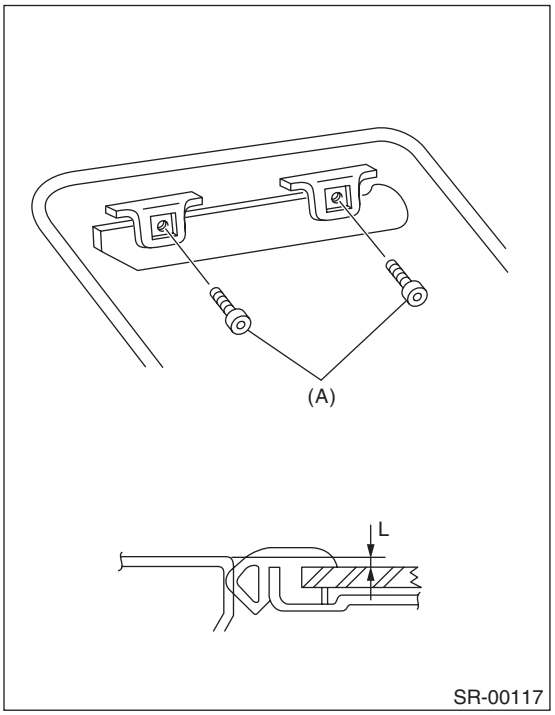
B: INSTALLATION

Install in the reverse order of removal.

C: ADJUSTMENT

Loosen the glass lid mounting TORX® bolts (A), and then adjust the height with moving the lid.

Difference in height between glass lid and roof panel L:
2.0±1.0 mm (0.079±0.039 in)

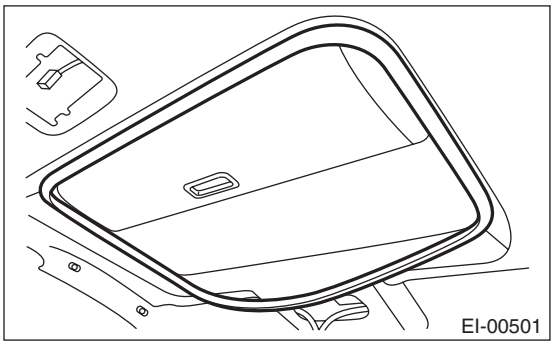


D: FORCED DRIVE

If glass lid dose not operate or is not supplied with power, move the glass lid using the hexagon wrench *.

: L shape universal purpose hexagon wrench width across flat 4 mm (0.16 in)

1) Remove the spot map light. <Ref. to LI-35, REMOVAL, Spot Map Light.>
2) Remove the sunroof opening trim.



3) Remove the sun visor clip.
4) Insert the hexagon wrench securely until it touches the motor shaft edge.

CAUTION:
Make sure not to bend or wrinkle the roof trim during work.

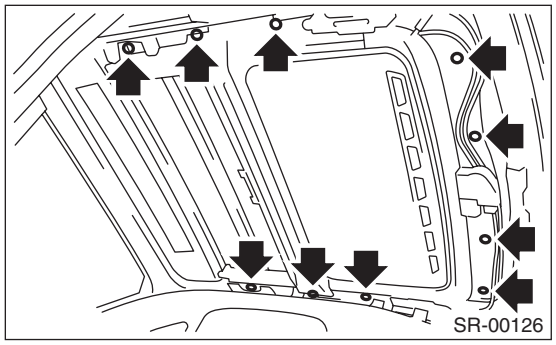
5) Turn the hexagon wrench, and move the glass lid.

- Turning right, the glass lid open.
- Turning left, the glass lid close.

4. Sunroof Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the roof trim. <Ref. to EI-51, REMOVAL, Roof Trim.>
3) Disconnect the harness connector of sunroof motor.
4) Remove the glass lid. <Ref. to SR-5, REMOVAL, Glass Lid.>
5) Remove the drain tube from frame assembly.
6) Remove the bolts, and then detach the frame assembly.

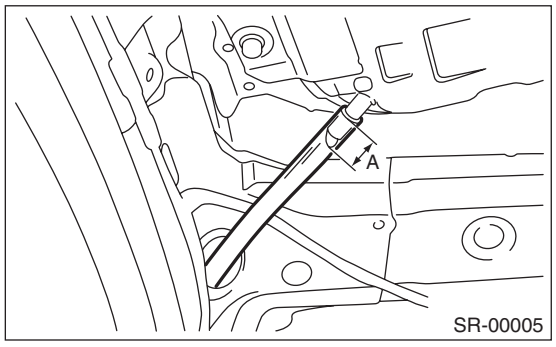


B: INSTALLATION

CAUTION:
Be careful not to snag the harness.
Install in the reverse order of removal.

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-7, REMOVAL, Sunroof Motor.>
2) Remove the sunshade. <Ref. to SR-10, REMOVAL, Sunshade.>

D: ASSEMBLY

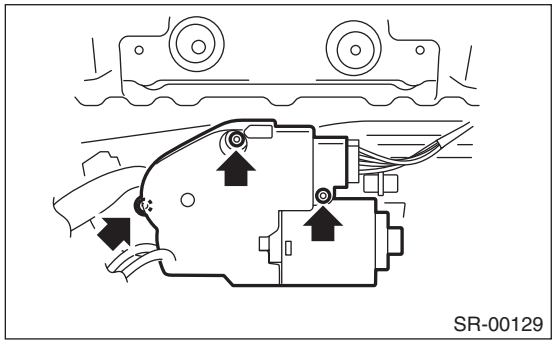
Assemble in the reverse order of disassembly.

5. Sunroof Motor

A: REMOVAL

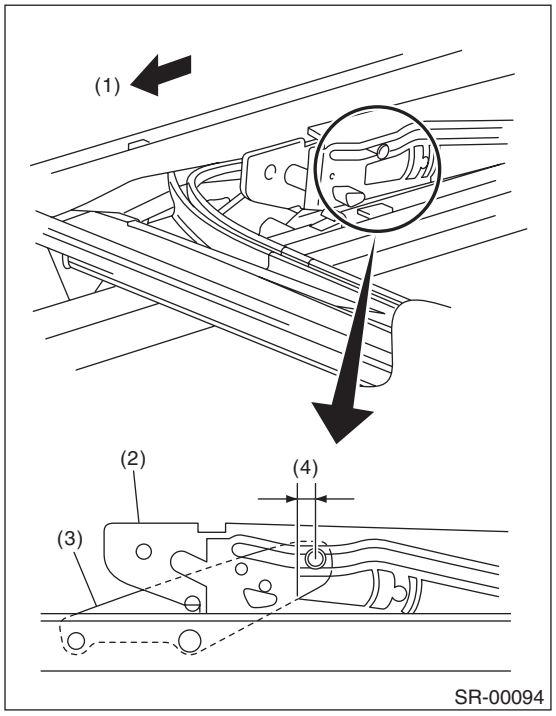
CAUTION:
• When removing the clip, use great care not to damage the roof trim.
• Never rotate the motor assembly after removing it.
1) Completely close the glass lid.
2) Disconnect the ground cable from battery.
3) Remove the roof trim. <Ref. to EI-51, REMOVAL, Roof Trim.>
4) Disconnect the harness connector, and then remove the motor assembly mounting screw.

CAUTION:
When removing the motor assembly, secure the cable wires to prevent moves.



B: INSTALLATION

CAUTION:
When installing the motor assembly, be careful not to move the sunroof cable.
1) Align the coulisse assembly and link assembly in the same position.



(1) Front
(2) Coulisse ASSY
(3) Link ASSY
(4) 4.7 mm (0.185 in)

2) Install the motor assembly.
3) Connect the harness connector of motor assembly, and then connect the battery ground cable to battery.
4) Perform the initialize operation of motor.
(1) Tilt up the glass lid.
(2) Release the switch once, and press the tilt up switch again for 15 seconds.
(3) When the glass lid is raised a little and on tilt up position, release the switch for the moment.
(4) Keep pressing the tilt up switch within 5 seconds from releasing the switch, glass lid automatically performs the tilts down → slides open → slides close operation, then the initialize operation is completed.

5) Check the operation of sunroof with following table.

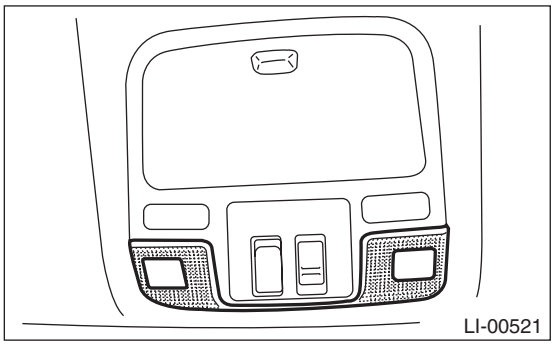
Operation	Switch position
(1) Glass lid closes completely.	Close
(2) Glass lid tilt up to the top position.	Tilt up
(3) Glass lid lowers completely.	Tilt down
(4) Glass lid opens completely.	Open
(5) Glass lid closes 150 mm (5.91 in) away from the completely closed position.	Close
(6) Glass lid closes completely.	Close

6) Install the trim in the reverse order of removal.

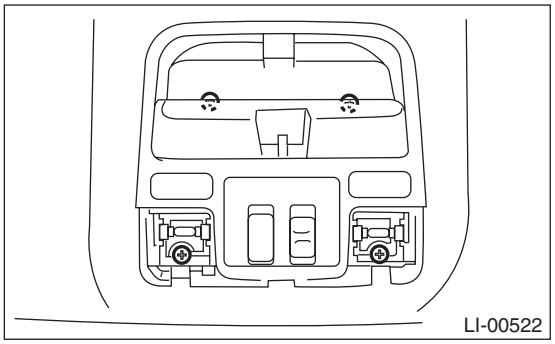
6. Sunroof Switch

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the spot map light lens.



3) Remove the screws, and then remove the overhead console.



4) Disconnect the harness connector, and then remove the sunroof switch.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

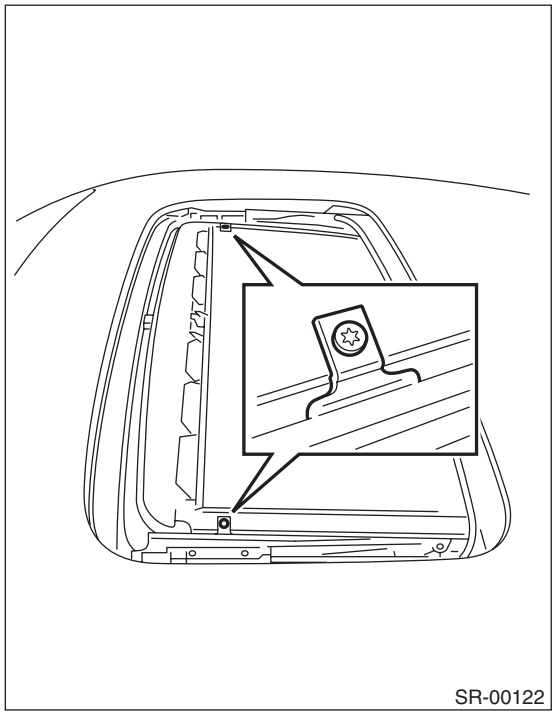
Measure the sunroof switch resistance.

Switch position	Terminal No.	Standard	Connector No.
Open	1 and 3	Less than 1 Ω	R128
Close	3 and 4	Less than 1 Ω	
Tilt up	1 and 3	Less than 1 Ω	R187
Tilt down	3 and 4	Less than 1 Ω	

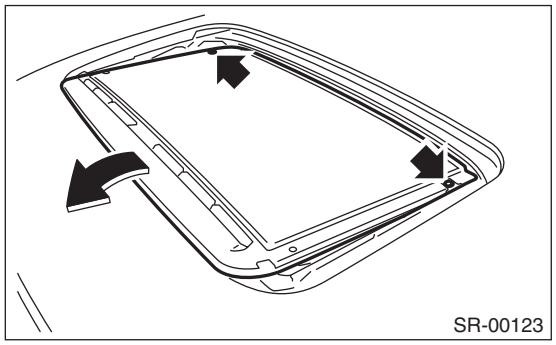
7. Sunshade

A: REMOVAL

1) Remove the glass lid. <Ref. to SR-5, REMOVAL, Glass Lid.>
2) Loosen the TORX® bolt to remove the front sunshade bracket.


SR-00122

3) Pull the sunshade until the rear sunshade bracket comes into the sight, then loosen the TORX® bolts to remove the sunshade.


SR-00123

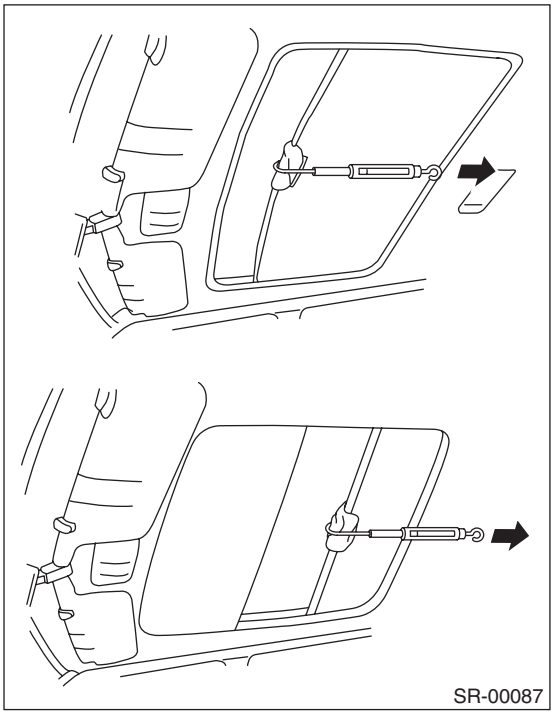
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. CHECK FOR MOVING LOAD OF SUNSHADE

1) Attach a spring scale to sunshade edge using a cloth.


SR-00087

2) Pull the spring scale to measure moving load of the sunshade.

Moving load of sunshade:
Specification
18.0±5.0 N (1.8±0.5 kgf, 13±3.7 lbf)

NOTE:
Moving load is larger at the beginning of pulling a spring scale, so take a spring scale reading while sunshade sliding smoothly.
3) If moving load exceeds specifications, check the glass lid, sunshade and frame assembly for improper installation.

EXTERIOR/INTERIOR TRIM

EI

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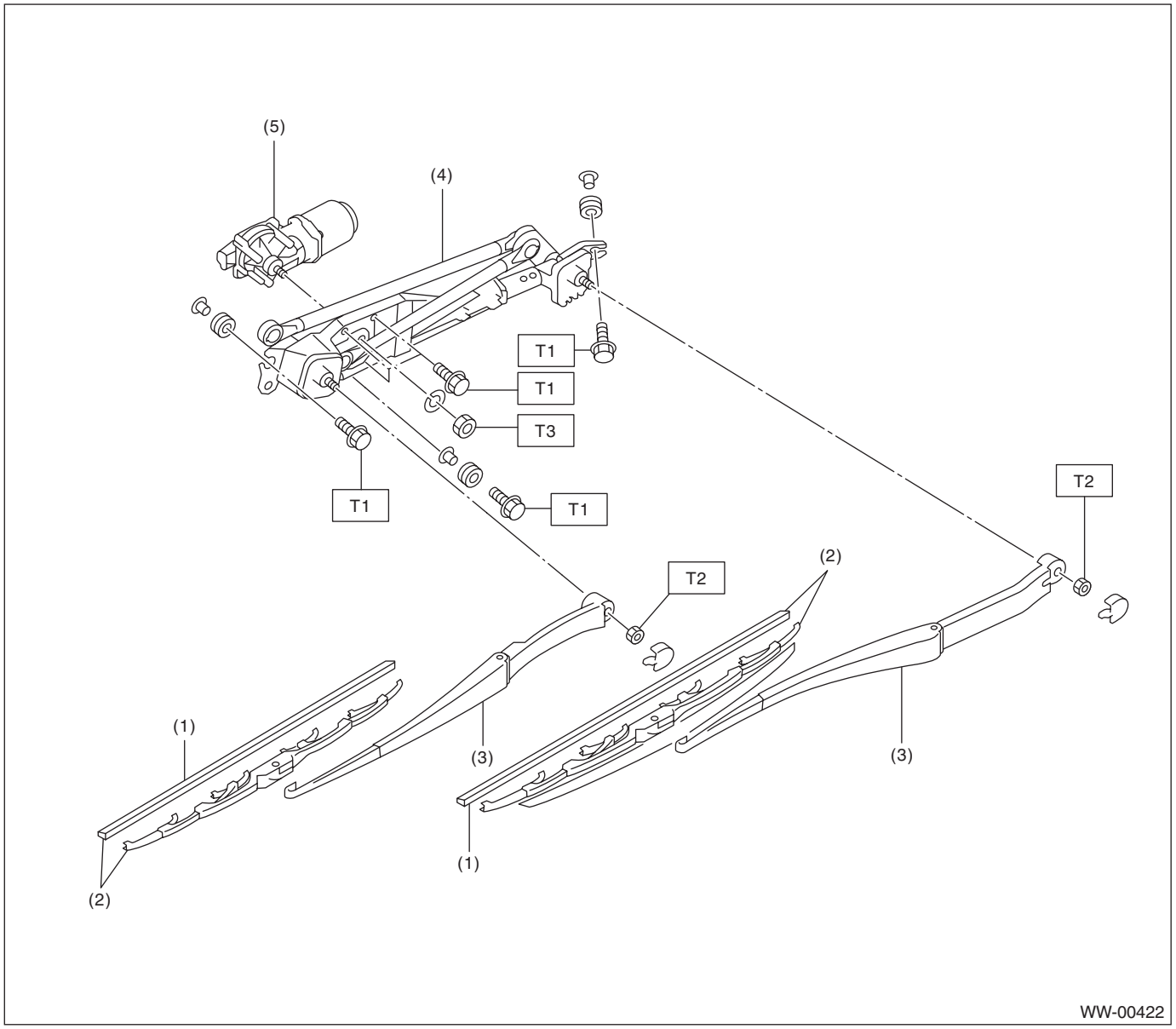
1. General Description

A: SPECIFICATION

Front wiper motor	Input	12 V — 72 W or less
Rear wiper motor	Input	12 V — 42 W or less
Front washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less
Rear washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less

B: COMPONENT

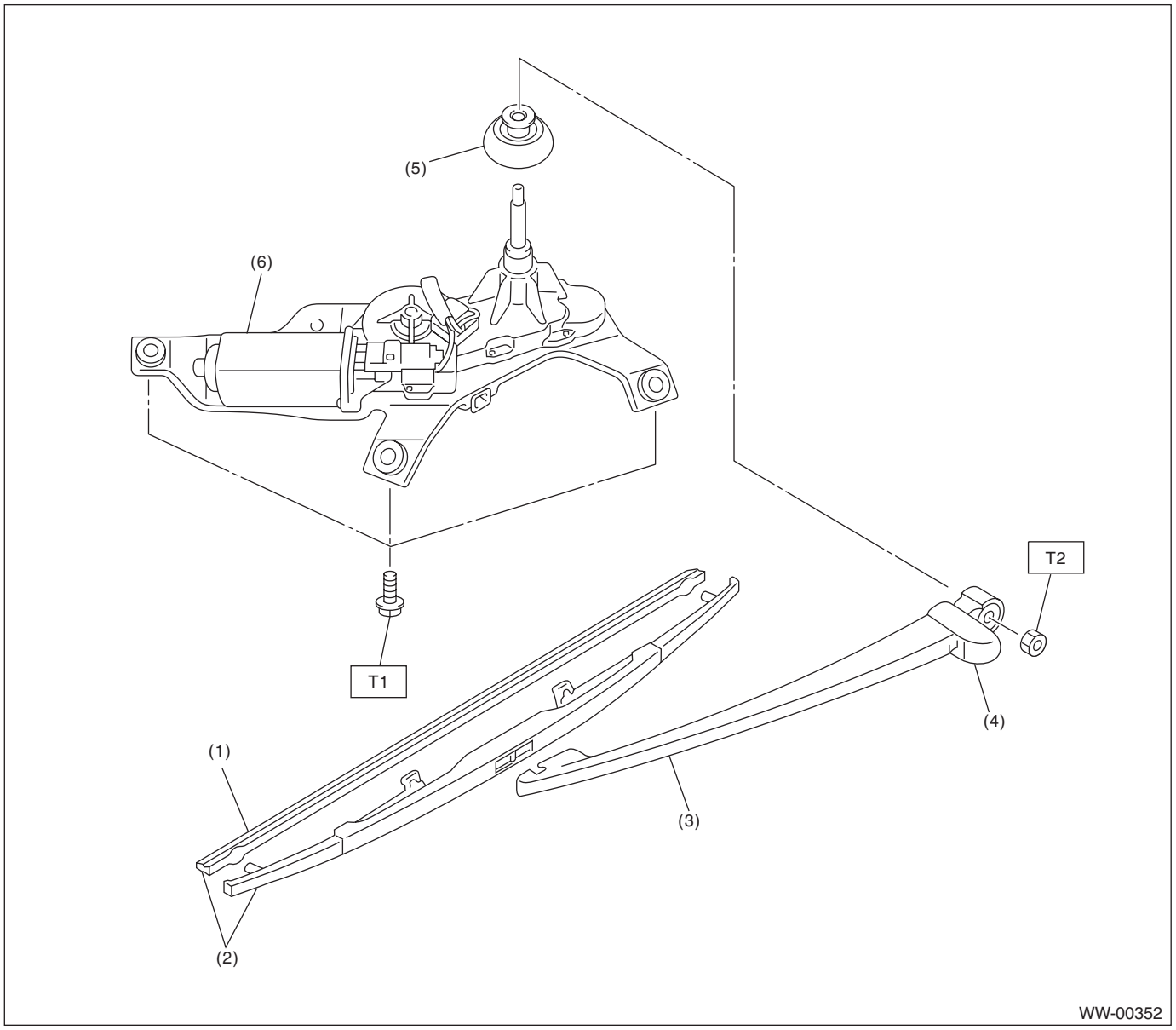
1. FRONT WIPER



(1) Wiper rubber
(2) Wiper blade ASSY
(3) Wiper arm
(4) Wiper link ASSY
(5) Wiper motor assembly

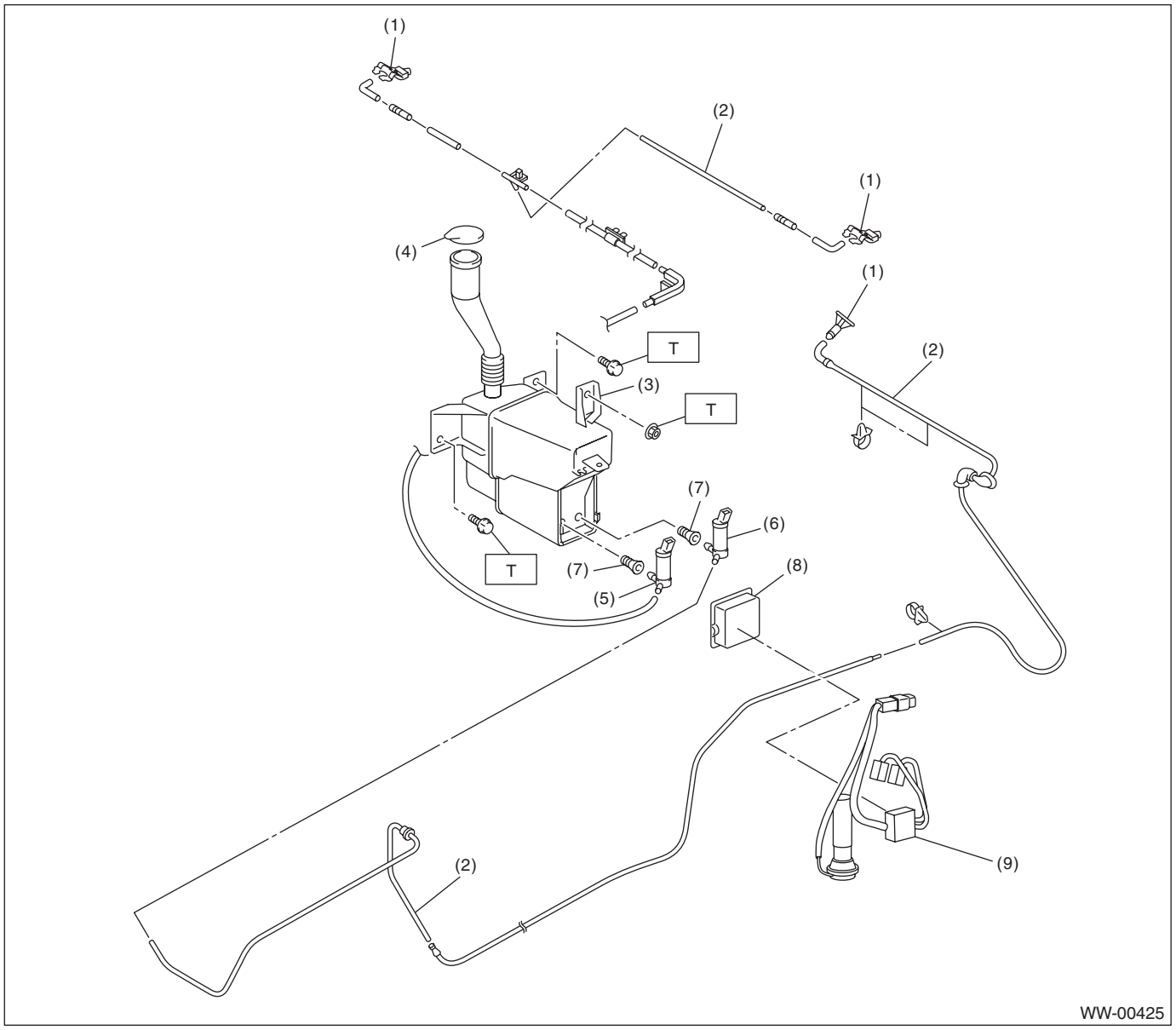
Tightening torque:N·m (kgf-m, ft-lb)
T1: 6.0 (0.61, 4.4)
T2: 22 (2.2, 16.2)
T3: 31 (3.2, 22.9)

2. REAR WIPER



(1)	Wiper rubber	(4)	Wiper arm cover	***Tightening torque:N·m (kgf-m, ft-lb)***
(2)	Wiper blade ASSY	(5)	Cap	***T1: 7.0 (0.71, 5.2)***
(3)	Wiper arm	(6)	Wiper motor ASSY	***T2: 8.0 (0.82, 5.9)***

3. WASHER TANK



(1) Washer nozzle
(2) Washer hose
(3) Washer tank
(4) Washer tank cap
(5) Front washer motor
(6) Rear washer motor
(7) Grommet
(8) Washer motor cover
(9) Washer fluid level indicator sensor ASSY

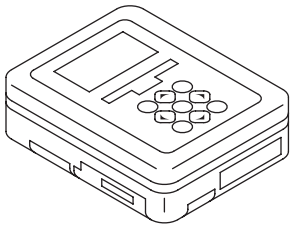
Tightening torque:N·m (kgf-m, ft-lb)
T: 6.0 (0.61, 4.4)

C: CAUTION

- Connect the connectors and hoses securely during reassembly.
- After reassembly, make sure functional parts operate smoothly.
- Be careful with the airbag system wiring harness which passes near electrical parts and switches.
- All airbag system wiring harness and connectors are colored yellow. Do not use a tester equipment on these circuits.
- Care must be taken when connecting the hoses to pipes so that there are no bends or blockage.
- If even a small amount of silicon oil or grease enters tank and washer fluid passages, an oil film will be formed on the glass and will cause the wiper to chatter and judder. Make sure that no oil comes into contact with the system.

D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for settings of each function and trouble-shooting for electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for checking voltage and continuity.

2. Wiper and Washer System

A: WIRING DIAGRAM

1. WIPER AND WASHER (FRONT)

<Ref. to WI-111, WIRING DIAGRAM, Front Wiper and Washer System.>

2. WIPER AND WASHER (REAR)

<Ref. to WI-112, WIRING DIAGRAM, Rear Wiper and Washer System.>

B: INSPECTION

Symptoms	Repair order
Wiper and washers do not operate.	1. Wiper fuse (front: F/B No. 30, rear: F/B No. 23) 2. Combination switch 3. Wiper motor assembly 4. Wiring harness 5. Wiper relay unit 6. Body integrated unit (rear wiper only)
Wipers do not operate in LO or HI.	1. Combination switch 2. Wiper motor assembly 3. Wiring harness 4. Wiper relay unit
Wipers do not operate in INT.	1. Combination switch 2. Wiper motor assembly 3. Wiring harness 4. Body integrated unit (rear wiper only)
Washer motor does not operate.	1. Combination switch (Washer switch) 2. Washer motor 3. Wiring harness
Wipers do not operate when washer switch is ON.	1. Wiper motor assembly 2. Wiring harness
Washer fluid spray does not operate properly.	1. Washer motor 2. Washer hose and nozzle

C: NOTE

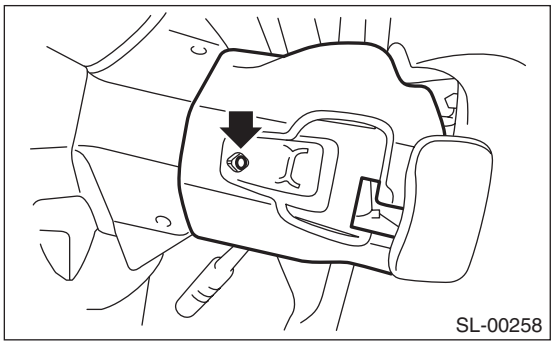
For the wiper and washer system component parts, refer to the corresponding section for each component.

- Combination Switch (Wiper) <Ref. to WW-7, Combination Switch (Wiper).>
- Wiper blade <Ref. to WW-12, Wiper Blade.>
- Front wiper arm <Ref. to WW-17, Front Wiper Arm.>
- Front wiper motor and link <Ref. to WW-18, Front Wiper Motor and Link.>
- Rear wiper arm <Ref. to WW-20, Rear Wiper Arm.>
- Rear wiper motor <Ref. to WW-21, Rear Wiper Motor.>
- Washer tank and motor <Ref. to WW-14, Washer Tank and Motor.>
- Front washer nozzle <Ref. to WW-19, Front Washer Nozzle.>
- Rear washer nozzle <Ref. to WW-22, Rear Washer.>

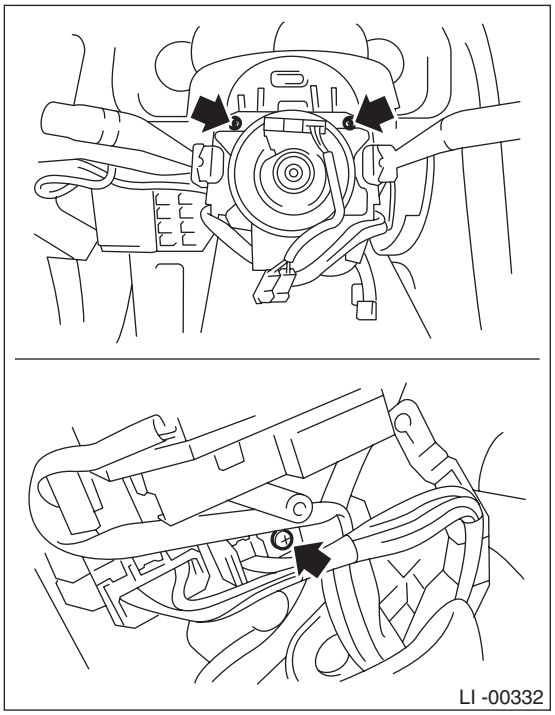
3. Combination Switch (Wiper)

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the driver's airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.>
3) Remove the steering wheel. <Ref. to PS-12, REMOVAL, Steering Wheel.>
4) Remove the screws and remove the steering column covers (upper & lower).



5) Disconnect the connector from the combination switch.
6) Remove three screws and pull out the combination base switch assembly.



7) Remove the screws which secure the switch, then remove the combination switch.

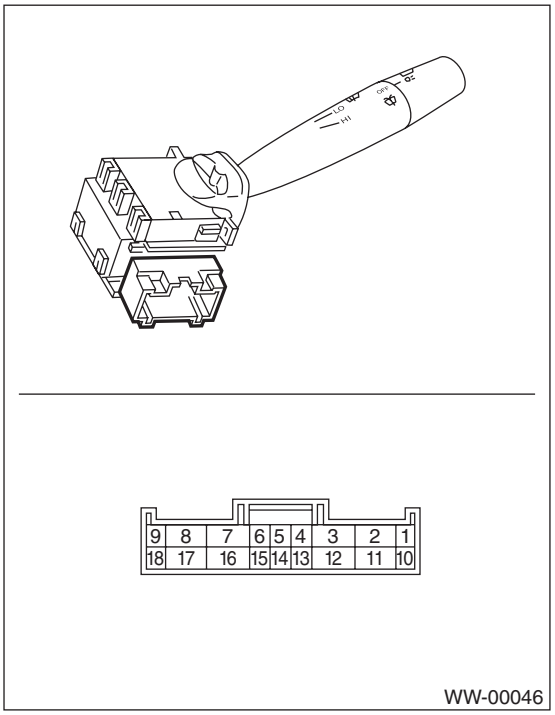
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. COMBINATION SWITCH

1) Inspect the continuity between each connector terminal.



	Switch position	Terminal No.	Standard
Front	LO	7 and 17	Less than 1 Ω
	HI	8 and 17	Less than 1 Ω
	Washer ON	2 and 11	Less than 1 Ω
Rear	Washer ON	2 and 12	Less than 1 Ω
	OFF	2 and 10 2 and 12 2 and 13 10 and 12 10 and 13 12 and 13	1 MΩ or more
	INT	2 and 13	Less than 1 Ω
	ON	2 and 10	Less than 1 Ω
	Washer ON	2 and 12 12 and 10 2 and 10	Less than 1 Ω

2) If continuity is not as specified, replace the switch.

2. FRONT WIPER

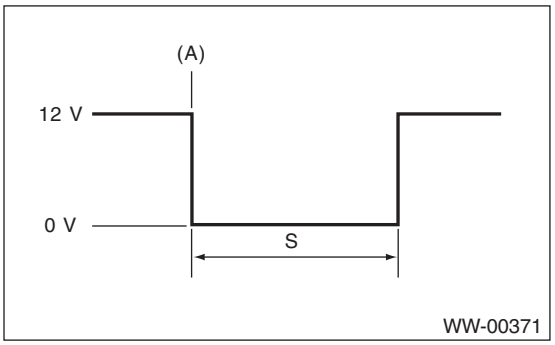
1) Check with Subaru Select Monitor
When the front wiper switch is operated, check the input signal using the Subaru Select Monitor.

(1) Prepare the Subaru Select Monitor kit. <Ref. to GW-6, PREPARATION TOOL, General Description.>
(2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor".
(3) On the «System Selection Menu» display screen, select the {Integ. Unit mode}.
(4) Select the {Current Data Display & Save}.
(5) Check the input signal when the front wiper switch is set to LO or HI.

Check	Yes	No
Is the input signal normal?	Finish the diagnosis.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>

2) Check the intermittent operation (inspection of the wiper switch alone)

(1) Set the voltage meter between connector terminal No. 7 (+) and No. 2 (–).
(2) Connect the battery between connector terminal No. 7 (+) and No. 2 (–).
(3) Turn the wiper switch to INT.
(4) Connect the battery ground terminal to the connector terminal No. 16 for five seconds.
(5) After connecting the battery ground terminal for five seconds in step (4), connect the battery positive terminal to the connector terminal No. 16 for five seconds.
(6) After connecting the battery ground terminal and the battery positive terminal to the connector terminal No. 16 for five seconds each in step (4) and (5), connect the ground terminal to the connector terminal No. 16 again.
(7) Perform the step (1) to (6) above at MIN and MAX position of the intermittent control switch. If operation is not as specification, replace the wiper switch assembly.



S: Intermittent downtime (sec.)
(A): Connect battery terminal to No. 16 in Step (4).
Intermittent stationary time specification
MIN: Approx. 4 seconds
MAX: Approx. 21 seconds

3) Inspect the vehicle speed response (With the wiper switch installed on the vehicle)

(1) Operational check
Position the front wiper switch to INT, then measure the intermittent stationary time at each vehicle speed.

Switch position	Vehicle speed (km/h (MPH))	Intermittent stationary time (sec.)
MIN.	0 (0)	Approx. 4
	30 (19)	Approx. 1.5
	60 (37)	Approx. 1
MAX.	0 (0)	Approx. 21
	30 (19)	Approx. 19.5
	60 (37)	Approx. 18

If operation is not as specified, replace the switch.
(2) Check vehicle speed signal
Raise the vehicle speed to 10 km/h (6 MPH) or more, then measure the voltage between the wiper switch connector and the chassis ground.

Terminals
No. 15 (+) — Chassis ground (–):

Check	Yes	No
Does the voltage repeat 12 V and 0 V?	Vehicle speed signal is normal.	Replace the wiper switch.

(3) Check the vehicle speed signal harness
Measure the resistance between the wiper switch connector and the VDC control module.

Terminals
Wiper switch connector No. 15 — VDC control module No. 10:

Check	Yes	No
Is the resistance 0 Ω?	Replace the wiper switch.	Repair the harness.

3. REAR WIPER

Step		Check	Yes	No
1	**CHECK INPUT OF BODY INTEGRATED UNIT.** Check the input signal when the rear wiper switch is operated using Subaru Select Monitor. 1) Turn the ignition switch to ACC. 2) Operate the rear wiper switch to each position of ON, INT and Washer ON.	Does the input signal change corresponding to the switch operation?	Go to step **4**.	Go to step **2**.
2	**CHECK HARNESS.** 1) Turn the ignition switch to OFF and disconnect the ground cable from the battery. 2) Disconnect the connector of body integrated unit and wiper switch. 3) Measure the resistance between body integrated unit and wiper switch. ***Connector & terminal*** ***(B281) No. 6 — (B70) No. 10:*** ***(B281) No. 18 — (B70) No. 13:*** ***(B281) No. 27 — (B70) No. 12:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the harness between the body integrated unit and wiper switch.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF and disconnect the ground cable from the battery. 2) Disconnect the connector from wiper switch. 3) Measure the resistance between the wiper switch and chassis ground. ***Connector & terminal*** ***(B70) No. 2 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	Check the combination switch (wiper). <Ref. to WW-7, INSPECTION, Combination Switch (Wiper).> If there is no problem, replace the body integrated unit.	Repair the harness between the body integrated unit and wiper switch.
4	**CHECK INPUT VOLTAGE OF BODY INTEGRATED UNIT.** 1) Connect the ground cable to battery. 2) Turn the ignition switch to ACC and check the input voltage of the body integrated unit. ***Connector & terminal*** ***(B280) No. 21 (+) — Chassis ground (–):*** ***(i84) No. 21 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **5**.	Check the harness and fuse.
5	**CHECK OUTPUT OF BODY INTEGRATED UNIT 1.** When the rear wiper switch is operated, check the output using the Subaru Select Monitor. 1) Turn the ignition switch to ON. 2) Operate the rear wiper switch to ON and Washer ON. 3) Check the output signal of the body integrated unit when the operation in step 2) is performed.	When the rear wiper switch is set to ON, is ON output continuous? Also, when the washer is set to ON, is ON output?	Go to step **6**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>

	Step	Check	Yes	No
6	**CHECK OUTPUT OF BODY INTEGRATED UNIT 2.** When the rear wiper switch is operated, check the output using the Subaru Select Monitor. 1) Turn the ignition switch to ON. 2) Operate the rear wiper switch to INT and check the output of the body integrated unit.	When the rear wiper switch is set to INT, is ON/OFF output repeated? (INT OFF time (when vehicle parked): 12 seconds)	Go to step **7**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
7	**CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND REAR WIPER MOTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit. 3) Disconnect the harness connector of the rear wiper motor. 4) Measure the resistance between the harness connector terminals of the body integrated unit and rear wiper motor. ***Connector & terminal*** ***(B280) No. 1 — (D43) No. 2:***	Is the resistance less than 10 Ω?	Go to step **8**.	Repair the open circuit of the harness between body integrated unit and rear wiper motor.
8	**CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND REAR WIPER MOTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit. 3) Disconnect the harness connector of the rear wiper motor. 4) Measure the resistance between the harness connector terminals of the body integrated unit and rear wiper motor. ***Connector & terminal*** ***(B280) No. 8 — (D43) No. 4:***	Is the resistance less than 10 Ω?	Go to step **9**.	Repair the open circuit of the harness between body integrated unit and rear wiper motor.
9	**CHECK POWER SUPPLY CIRCUIT OF THE REAR WIPER MOTOR.** 1) Disconnect the harness connector of the rear wiper motor. 2) Turn the ignition switch to ON. 3) Measure the voltage between the rear wiper motor harness connector terminal and chassis ground. ***Connector & terminal*** ***(D43) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **10**.	Check the fuse (No. 23 in main fuse box).
10	**CHECK GROUND CIRCUIT OF REAR WIPER MOTOR.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between the rear wiper motor harness connector terminal and chassis ground. ***Connector & terminal*** ***(D43) No. 3 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	Go to step **11**.	Repair the open circuit of the rear wiper motor ground circuit.
11	**CHECK STOP POSITION CIRCUIT OF THE REAR WIPER MOTOR.** 1) Disconnect the harness connector of the rear wiper motor. 2) Check the continuity of the circuit of rear wiper motor stop position. ***Connector & terminal*** ***(D43) No. 1 (+) — (D43) No. 4 (–):***	Is there continuity?	Go to step **12**.	Replace the rear wiper motor.

	Step	Check	Yes	No
12	**CHECK OUTPUT OF BODY INTEGRATED UNIT.** 1) Connect the harness connector of body integrated unit. 2) Disconnect the connector of the rear wiper motor. 3) Turn the ignition switch to ACC. 4) Measure the voltage between rear wiper motor connector and chassis ground. ***Connector & terminal*** ***(D43) No. 2 (+) — Chassis ground (–):***	Is the voltage less than 1.0 V when rear wiper switch is OFF, and is the voltage 9 V or more when rear wiper switch is ON?	Go to step **13**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
13	**CHECK OPERATION OF REAR WIPER MOTOR.** 1) Remove the rear wiper motor. 2) Check the rear wiper motor. <Ref. to WW-21, INSPECTION, Rear Wiper Motor.>	Does the rear wiper motor rotate normally?	System is normal.	Replace the rear wiper motor.

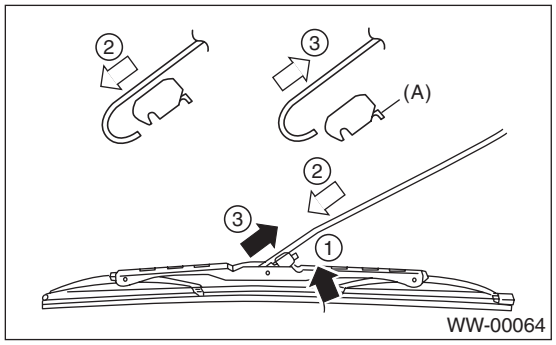
4. Wiper Blade

A: REMOVAL

CAUTION:
When replacing the wiper blade, if standing up the wiper arm, be sure to stand up the driver's side wiper arm first, and then passenger's side wiper arm next. Also, when putting the wiper arms back, be sure to start with passenger's side first, then driver's side next. Doing this in the reverse order may result in the driver's side wiper blade hitting the passenger's side wiper arm and causing damage.

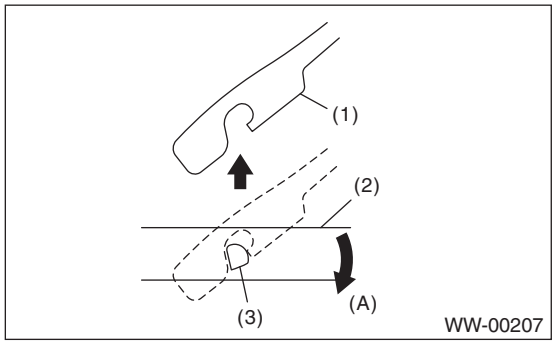
1. FRONT

While pushing the locking clip upward to the direction of the arrow, remove the blade from the arm by pulling to the direction of the arrow.



2. REAR

Turn the blade in the direction of arrow (A) and remove it from arm.



(A) Turn the wiper blade.
(1) Wiper arm
(2) Wiper blade
(3) Wiper blade attachment section

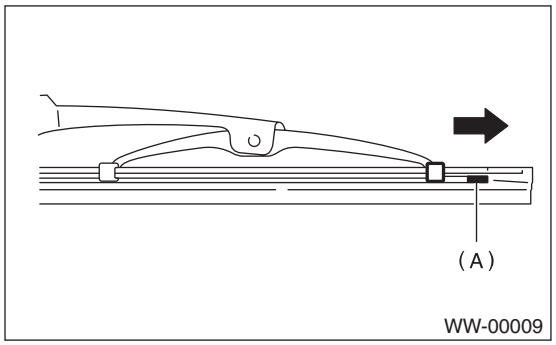
B: INSTALLATION

1) Install in the reverse order of removal.
2) Confirm that the clip is locked securely.

C: DISASSEMBLY

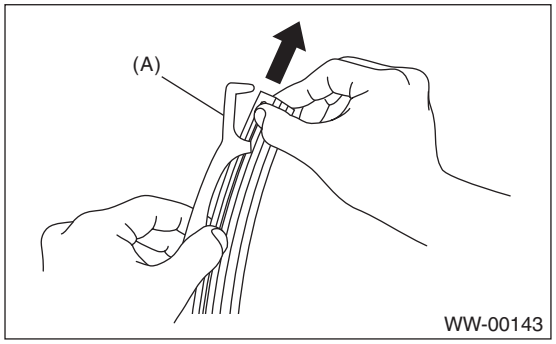
1. FRONT

Pull side (A) of the wiper rubber stopper and remove the rubber from the blade assembly.



2. REAR

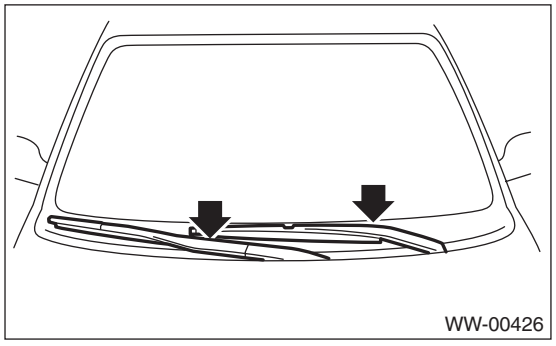
Pull the wiper rubber top slightly from stopper (A) and pull out completely.



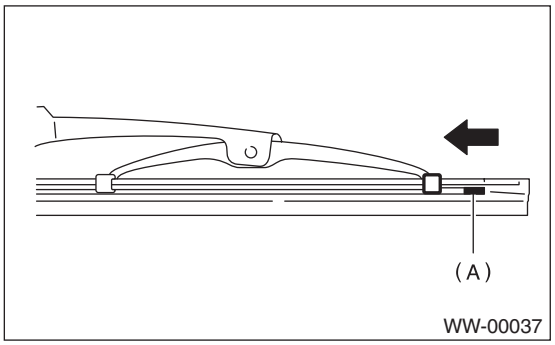
D: ASSEMBLY

1. FRONT

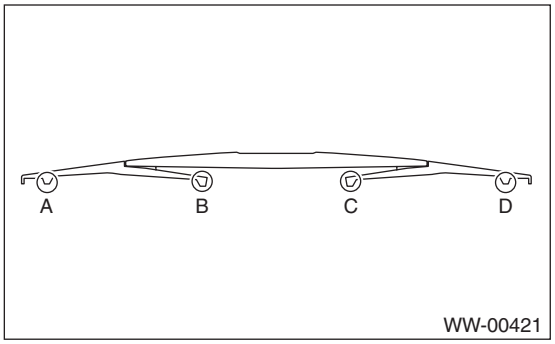
1) Insert the wiper rubber onto the blade so that the stopper is in the position shown in the figure.



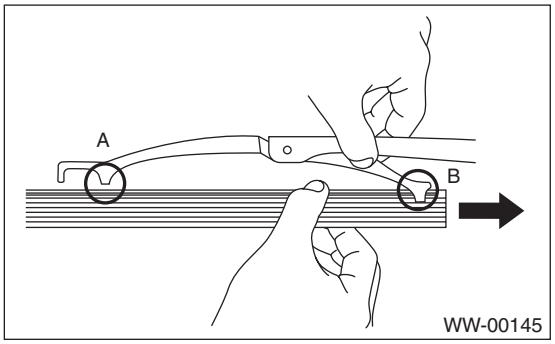
2) Make sure the wiper rubber is securely fastened to pull stopper (A).



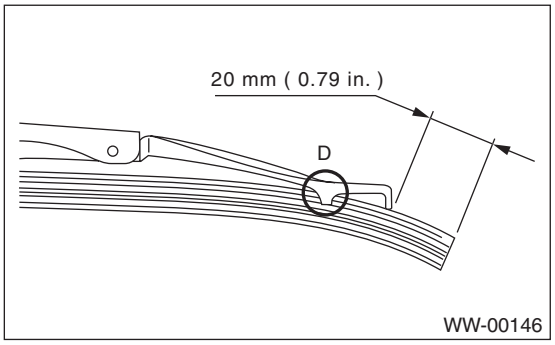
2. REAR



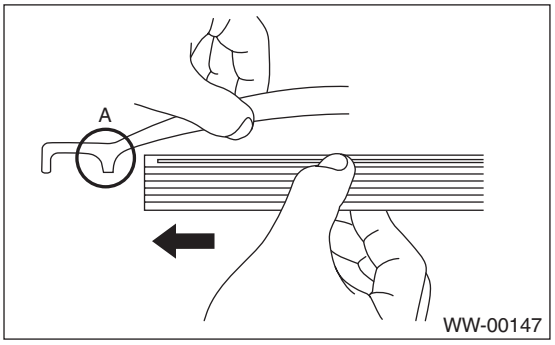
1) Insert the wiper rubber into claw B.



2) Insert the wiper rubber until its top end protrudes approx. 20 mm (0.79 in) from stopper D.



3) Insert the wiper rubber into claw A.



E: INSPECTION

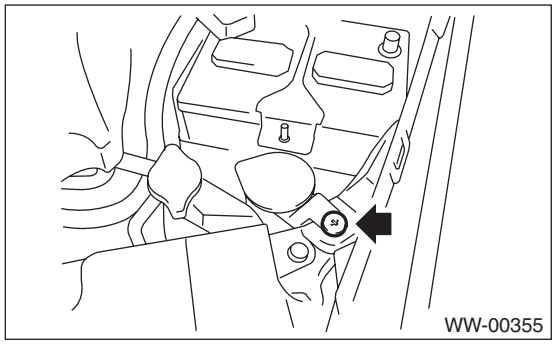
1) When the wiper does not operate properly, inspect the following item.
- Make sure the movable part of wiper blade assembly moves smoothly.
- Make sure the wiper rubber is not deformed or damaged.

2) If damaged, replace with a new part.

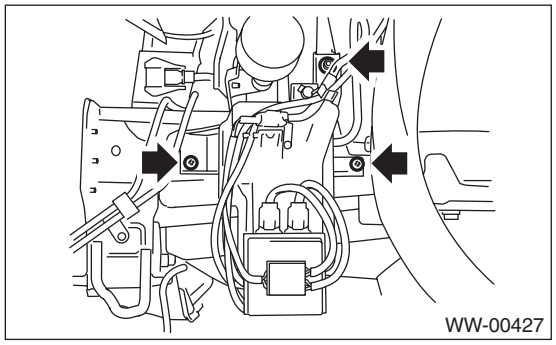
5. Washer Tank and Motor

A: REMOVAL

1) Open the front hood.
2) Disconnect the ground cable from battery.
3) Remove the front bumper. <Ref. to EI-22, REMOVAL, Front Bumper.>
4) Remove the clip holding washer water supply tap.



5) Remove the two bolts and one nut, hose, connector and washer motor cover, and then remove the washer tank.



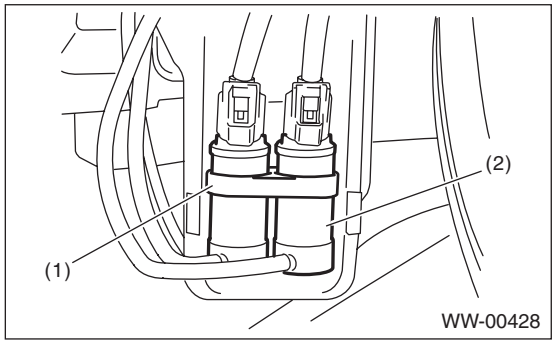
B: INSTALLATION

Install in the reverse order of removal.

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

C: DISASSEMBLY

1) Slide the washer motor holder upward to remove it.
2) Slide the washer motor holder (1) upward to remove it.
3) Pull out the washer motor (2) from the tank.



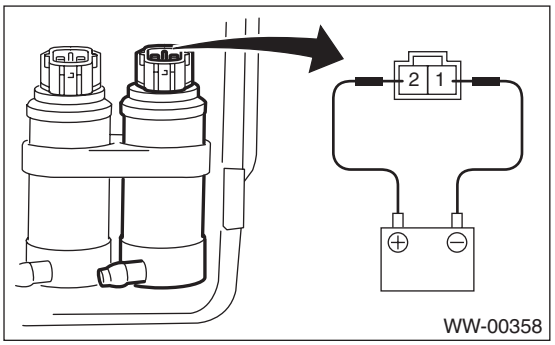
D: ASSEMBLY

1) Assemble in the reverse order of disassembly.
2) Confirm that water does not leak from installation area of motor.

E: INSPECTION

1. WASHER MOTOR

Apply battery voltage to the connector terminal of the washer motor and make sure the motor operates.



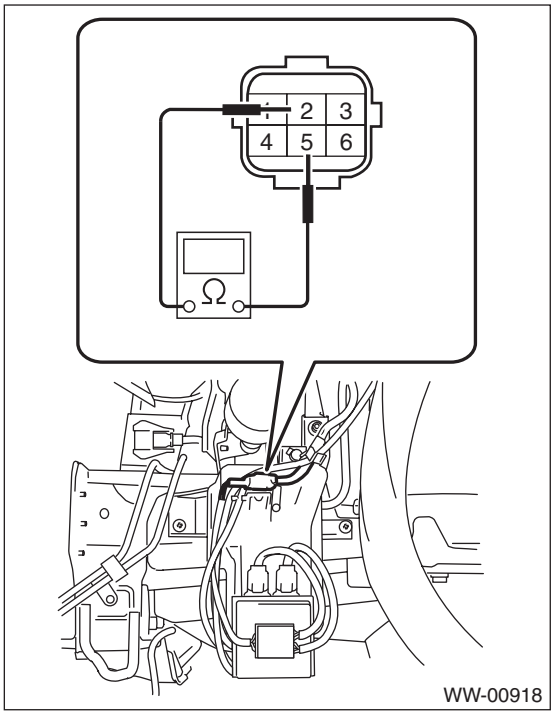
2. WASHER FLUID LEVEL SENSOR

1) Check the connection status of washer fluid level sensor connector.
2) Does the low washer fluid warning light illuminate after draining the washer fluid? And does the low washer fluid warning light go off after refilling the washer fluid?
- **Yes → Normal operation.**
- **No → Perform step 3.**

3) Using a tester, measure the voltage of the washer fluid level sensor connector.
   (1) Is the voltage approx. 8.5 V or more?
   - **Yes → Perform step 4.**
   - **No → Check harness, meter and integrated unit, and replace if necessary.**

4) Does the meter indicator illuminate if you short the washer fluid level sensor connector?
- **Yes → Perform step 5.**
- **No → Check meter and integrated unit, and replace if necessary.**

5) Using a tester, measure the resistance of the washer fluid level sensor.
(1) Turn over the mud guard.
(2) Measure the resistance of the washer fluid level sensor.



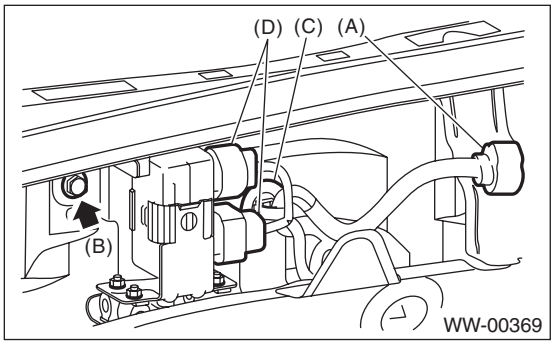
Terminal No.	Amount of washer fluid in the tank	Standard
2 and 5	No remaining quantity (ON)	Less than 10 Ω
	There is remaining quantity (OFF)	1 MΩ or more

6) When measurement value is different from the specification, replace the washer fluid level sensor along with the washer tank.

6. Wiper Relay Unit

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the wiper arm. <Ref. to WW-17, REMOVAL, Front Wiper Arm.>
3) Remove the cowl panel. <Ref. to EI-30, REMOVAL, Cowl Panel.>
4) Disconnect connector (A) of the wiper motor assembly.
5) Remove bolt (B) and clip (C).
6) Disconnect connector (D) of the wiper relay unit.

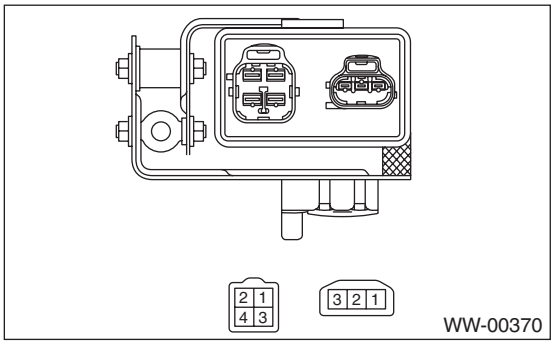


NOTE:
Unit body, bracket, and rubber mount is an assembly component and cannot be disassembled.

B: INSTALLATION

CAUTION:
• Do not reuse the clips. Always replace them with new parts.
• Make sure the connector connection and clip insertion is secure, and confirm the contact.
Install in the reverse order of removal.

C: INSPECTION



1) Inspect the continuity of 4 pole connector.

Terminal No.	Specification
1 and 2	Less than 1 Ω

2) Connect the battery to the 3 pole connector and measure the continuity of 4 pole connector.

Terminal No.		Specification
3 pole connector	4 pole connector	
2 and 3	1 and 4	Less than 1 Ω
1 and 2	3 and 4	Less than 1 Ω

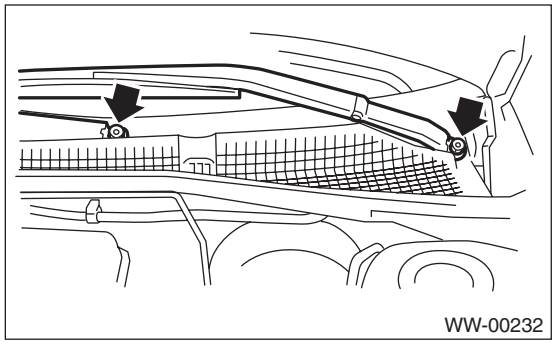
3) When measurement value is different from the specification, replace the wiper relay unit.

7. Front Wiper Arm

A: REMOVAL

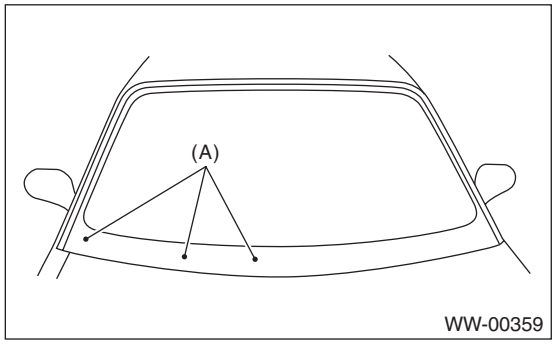
CAUTION:
When standing up the wiper arm, be sure to stand up the driver's side wiper arm first, and then passenger's side wiper arm next. Also, when putting the wiper arms back, be sure to start with passenger's side first, then driver's side next. Doing this in the reverse order may cause the driver's side wiper blade to hit the passenger's side wiper arm and cause damage.

1) Remove the cap.
2) Remove the nut and remove the wiper arm.



B: INSTALLATION

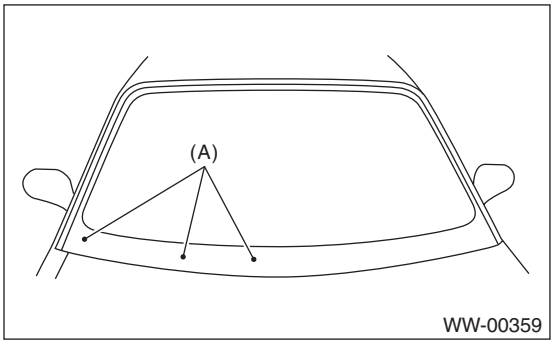
1) Install in the reverse order of removal.
2) Operate the wiper once.
3) Align the wiper blade to ceramic print point mark (A) of front window panel.



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

C: ADJUSTMENT

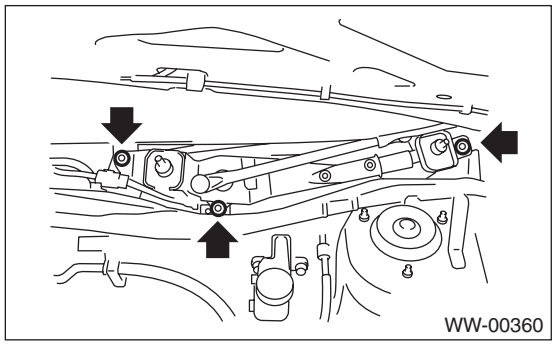
Operate the wiper once. Align the wiper blade to ceramic print point mark (A) of front window panel.



8. Front Wiper Motor and Link

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the cowl panel. <Ref. to EI-30, REMOVAL, Cowl Panel.>
3) Remove the bolt, and then remove the wiper assembly.
4) Disconnect the connector of wiper motor assembly.


WW-00360

NOTE:
The wiper motor and wiper link is an assembly part and is not to be disassembled.

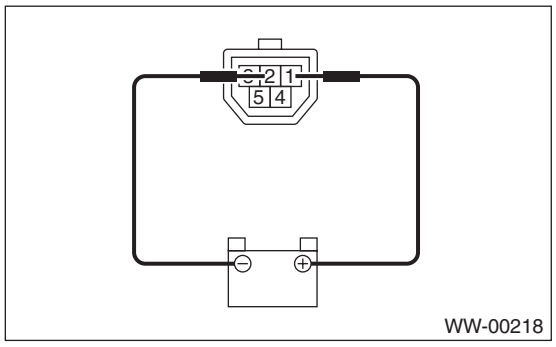
B: INSTALLATION

Install in the reverse order of removal.

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

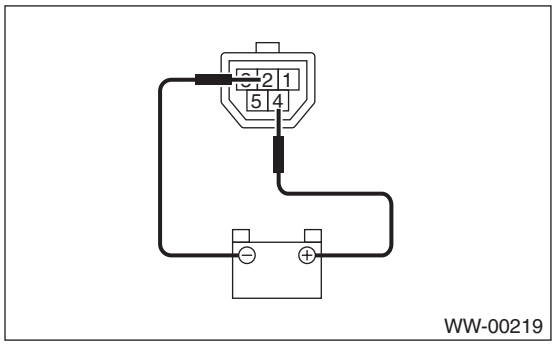
C: INSPECTION

1) When the battery is connected to the terminal of connectors, confirm that the wiper motor operates at low speed.



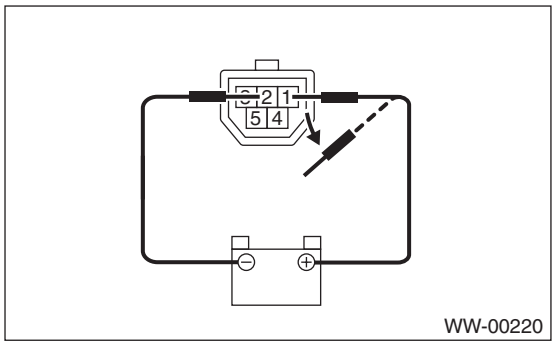
WW-00218

2) When the battery is connected to the terminal of connectors, confirm that the wiper motor operates at high speed.



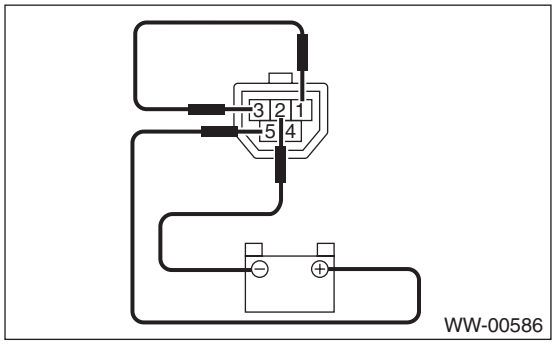
WW-00219

3) Connect the battery to terminals of the connector, and remove the terminal connection with wiper motor rotating at low speed, and stop the wiper motor in mid-operation.



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.

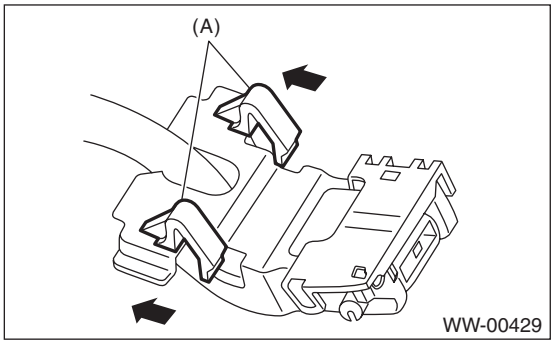


WW-00586

9. Front Washer Nozzle

A: REMOVAL

1) Remove the front hood insulator. <Ref. to EB-12, FRONT HOOD INSULATOR, REMOVAL, Front Hood.>
2) Hold the claw (A) of the washer nozzle towards the direction of the arrow, and remove the washer nozzle.



3) Remove the washer hose from the washer nozzle.

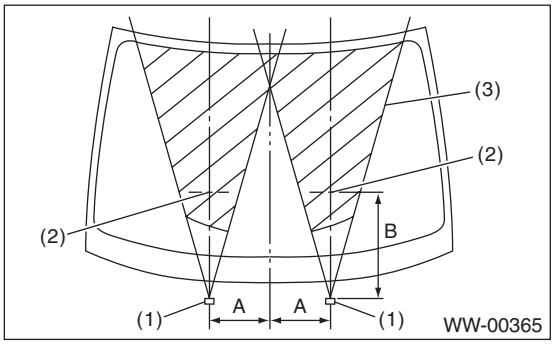
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

- Make sure the nozzle and hose are not clogged.
- Make sure the hose is not bent.
- While the vehicle is at a standstill and the wiper switch is turned OFF, make sure that the washer injection position is as shown in the figure.

Spray position:
A: 250 mm (9.84 in)
B: 433 mm (17.05 in)

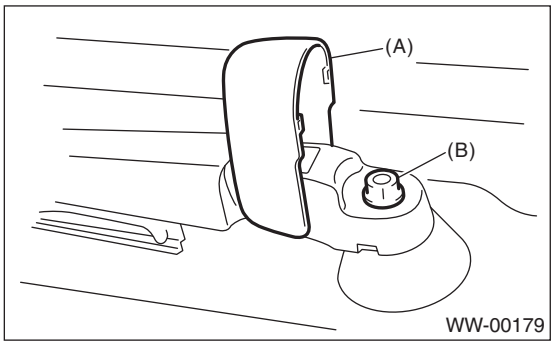


(1) Nozzle
(2) Spray center aiming position
(3) Spray area (shaded area)

10.Rear Wiper Arm

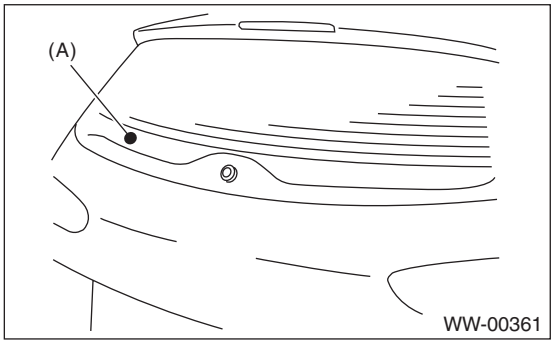
A: REMOVAL

1) Detach the wiper arm cover (A).
2) Remove the nut (B) to remove the wiper arm.



B: INSTALLATION

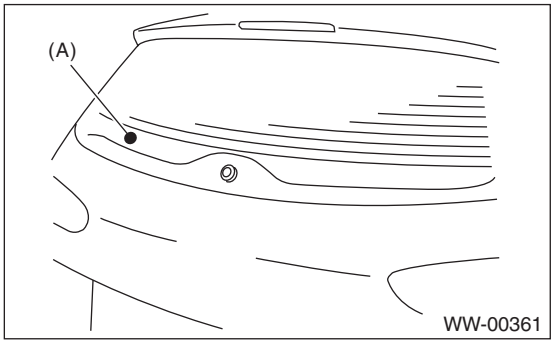
1) Install in the reverse order of removal.
2) Operate the rear wiper once.
3) Align the blade with the marking (A) of the glass.



Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to WW-3, REAR WIPER, COMPONENT, General Description.>

C: ADJUSTMENT

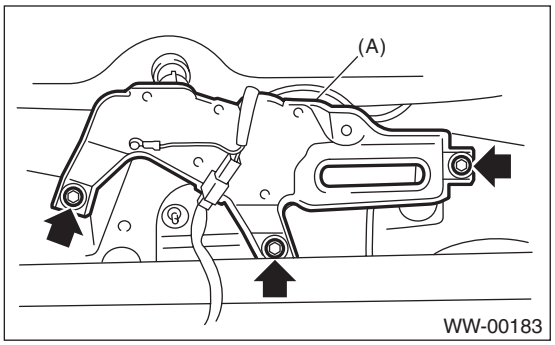
1) Operate the rear wiper once.
2) Align the blade with the marking (A) of the glass.



11.Rear Wiper Motor

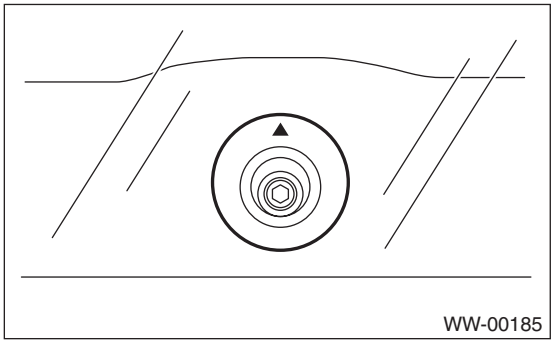
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear wiper arm. <Ref. to WW-20, REMOVAL, Rear Wiper Arm.>
3) Remove the rear gate lower trim. <Ref. to EI-52, REMOVAL, Rear Gate Trim.>
4) Disconnect the harness connector of wiper motor assembly.
5) Remove the bolts to remove wiper motor assembly (A).



B: INSTALLATION

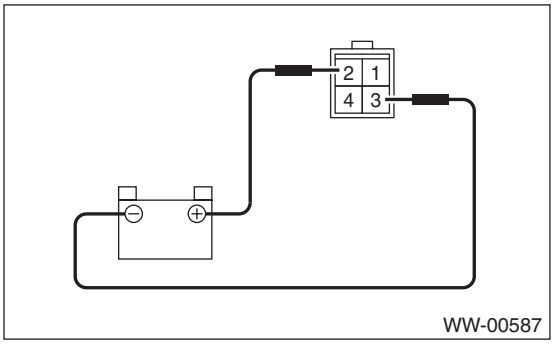
1) Install in the reverse order of removal.
2) Be sure that the pivot cap with the arrow mark facing up, as shown in the figure.



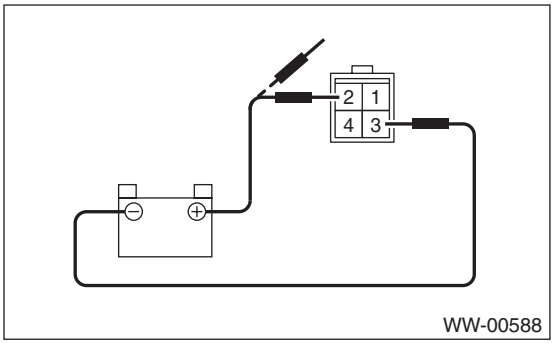
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to WW-3, REAR WIPER, COMPONENT, General Description.>

C: INSPECTION

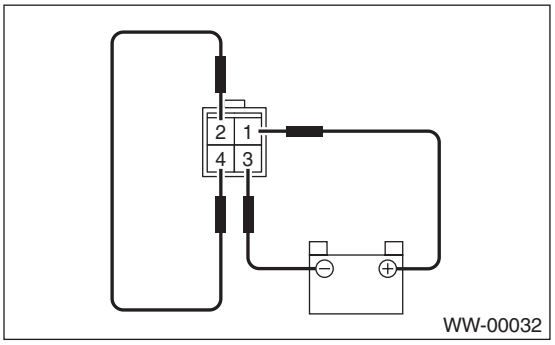
1) Connect the battery to the wiper motor connector and confirm that wiper motor operates.



2) Connect the battery to terminals of the connector, and remove the terminal connection with wiper motor rotating, and stop the wiper motor in mid-operation.



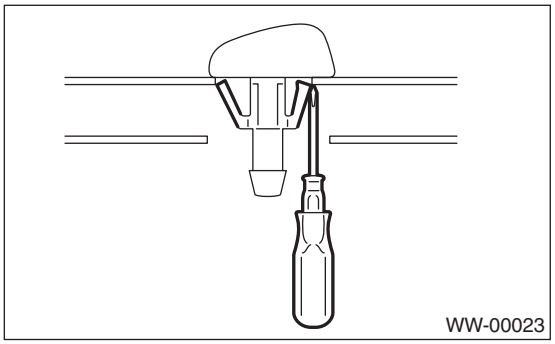
3) Connect the battery and confirm that the wiper motor stops at the automatic stop position after the wiper motor operates at low speed again.



12.Rear Washer

A: REMOVAL

1) Remove the rear gate upper trim. <Ref. to EI-52, REMOVAL, Rear Gate Trim.>
2) Remove the washer hose from washer nozzle.
3) Push the claw of the nozzle from the backside of rear gate panel with a flat tip screwdriver or equivalent, and remove the washer nozzle.



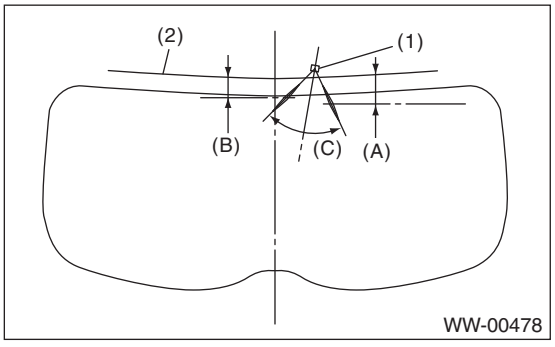
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

- Make sure the nozzle and hose are not clogged.
- Make sure the hose is not bent.
- While the vehicle is at a standstill, make sure that the washer injection position is as shown in the figure.

NOTE:
Washer injection position can not be adjusted.



(1) Nozzle
(2) Upper edge of the rear gate glass
(A) From rear gate glass upper end to center of washer fluid spraying: 71 mm (2.8 in)
(B) From rear gate glass upper end to center of washer fluid spraying: 56 mm (2.2 in)
(C) 72°

ENTERTAINMENT

ET

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