# 1. General Description S914001

## A: SPECIFICATIONS S914001E49

| | | |
|---|---|---|
| Headlight | | 12 V — 65 W/55 W (Except GT, OUTBACK)<br>12 V — 60 W/55 W (GT, OUTBACK) |
| Front turn signal light | | 12 V — 27 W (2 pieces) |
| Side marker, parking light | | 12 V — 8 W |
| Front fog light | | 12 V — 55 W (Except OUTBACK),<br>12 V — 51 W (OUTBACK) |
| Rear combination light | Tail/Stop light | 12 V — 8/27 W |
| | Turn signal light | 12 V — 21 W |
| | Back-up light | 12 V — 27 W |
| License plate light | | 12 V — 5 W |
| High-mounted stop light | Sedan | 12 V — 16 W |
| | Wagon | 12 V — 13 W (4 pieces) |
| Room light | | 12 V — 8 W |
| Spot light | | 12 V — 8 W |
| Door step light | | 12 V — 3.4 W |
| Luggage room light | | 12 V — 13 W |
| Trunk room light | | 12V — 5W |
| Glove box light | | 12V — 1.4W |

## B: PRECAUTIONS S914001E59

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

**WARNING:**
- **Air bag system wiring harness is routed near electrical parts and switches. All air bag system wiring harnesses and connectors are yellow. Do not use electric test equipment on these circuits.**
- **Be careful not to damage the air bag system wiring harness when servicing electrical parts and switches.**

## C: PREPARATION TOOL S914001A17

### 1. GENERAL TOOLS S914001A1701

| TOOL NAME | REMARKS |
|---|---|
| Circuit Tester | Used for measuring resistance and voltage. |

# 2. Headlight and Tail Light System S914415

## A: SCHEMATIC S914415A21

### 1. HEADLIGHT 2-LIGHT MODEL S914415A2101

<Ref. to WI-120, 2-LIGHT MODEL, SCHEMATIC, Headlight System.>

### 2. HEADLIGHT 4-LIGHT MODEL S914415A2102

<Ref. to WI-121, 4-LIGHT MODEL, SCHEMATIC, Headlight System.>

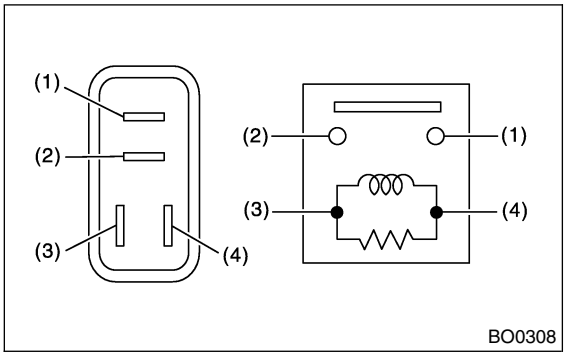
### 3. CLEARANCE LIGHT AND ILLUMINATION LIGHT S914415A2103

<Ref. to WI-114, SCHEMATIC, Clearance Light and Illumination Light System.>

## B: INSPECTION S914415A10

### 1. HEADLIGHT RELAY S914415A1001

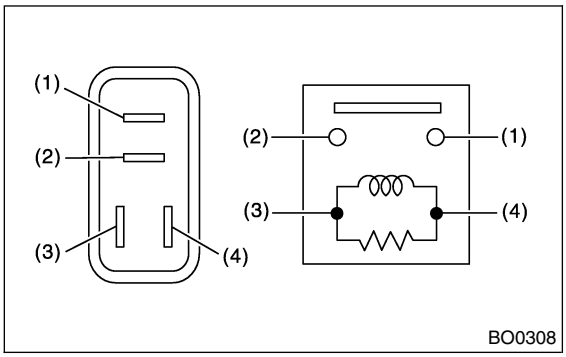
Measure headlight relay resistance between terminals while connecting terminal No. 4 to battery positive terminal No. 3 to battery ground terminal.




| Current | Terminal No. | Standard |
|---|---|---|
| Flow | 1 and 2 | Less than 1 Ω |
| No flow | | More than 1 MΩ |

### 2. TAIL AND ILLUMINATION RELAY S914415A1002

Measure tail and illumination relay resistance between terminals while connecting terminal No. 4 to battery positive terminal No. 3 to battery ground terminal.




| Current | Terminal No. | Standard |
|---|---|---|
| Flow | 1 and 2 | Less than 1 Ω |
| No flow | | More than 1 MΩ |

# 3. Front Fog Light System S914473

## A: SCHEMATIC S914473A21

### 1. FRONT FOG LIGHT 4 CYLINDER ENGINE MODEL S914473A2101

<Ref. to WI-118, 4-CYLINDER ENGINE MODEL, SCHEMATIC, Front Fog Light System.>

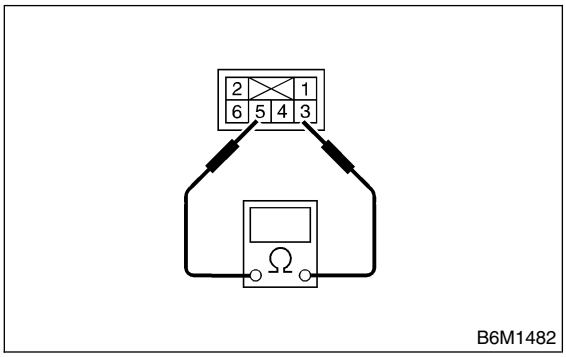
### 2. FRONT FOG LIGHT 6 CYLINDER ENGINE MODEL S914473A2102

<Ref. to WI-119, 6-CYLINDER ENGINE MODEL, SCHEMATIC, Front Fog Light System.>

## B: INSPECTION S914473A10

### 1. FRONT FOG LIGHT SWITCH S914473A1001

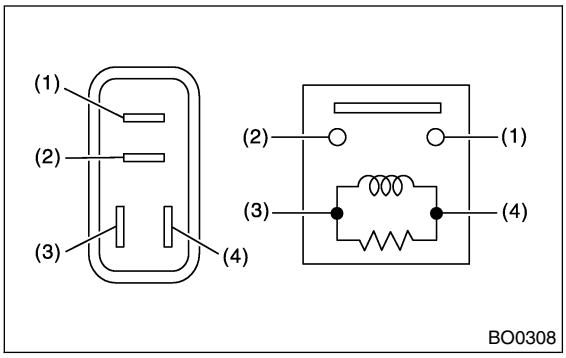
Measure front fog light switch resistance.




| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| ON | 3 and 5 | Less than 1 Ω |

### 2. FRONT FOG LIGHT RELAY S914473A1002

Measure front fog light relay resistance between terminals while connecting terminal No. 4 to battery positive terminal and terminal No. 3 to battery ground terminal.




| Current | Terminal No. | Standard |
|---|---|---|
| Flow | 1 and 2 | Less than 1 Ω |
| No flow | | More than 1 MΩ |

# 4. Turn Signal and Hazard Light System S914481

## A: SCHEMATIC S914481A21

### 1. TURN SIGNAL LIGHT AND HAZARD LIGHT S914481A2101

<Ref. to WI-128, SCHEMATIC, Turn Signal Light and Hazard Light System.>

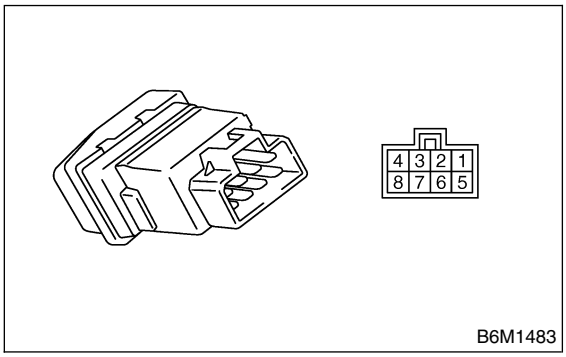
## B: INSPECTION S914481A10

### 1. TURN SIGNAL SWITCH S914481A1001

<Ref. to LI-9, INSPECTION, Combination Switch (Light).>

### 2. HAZARD SWITCH S914481A1002

Measure hazard switch resistance.

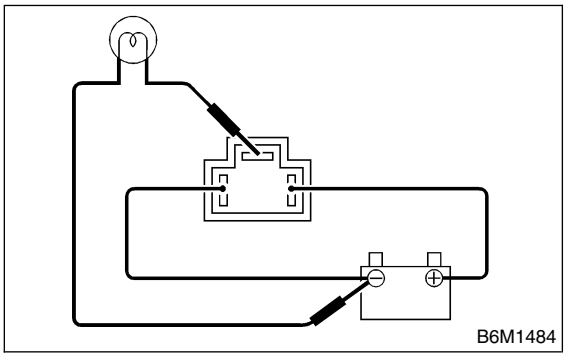



| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | 6 and 7 | Less than 1 Ω |
| ON | 1, 3 and 4 | Less than 1 Ω |
| | 7 and 8 | Less than 1 Ω |

### 3. TURN SIGNAL & HAZARD MODULE

S914481A1003

Connect battery and turn signal light bulb to the module, as shown in the figure. The module is properly functioning if it blinks when power is supplied to the circuit.



# 5. Back-up Light System S914414

## A: SCHEMATIC S914414A21

### 1. BACK-UP LIGHT S914414A2101

<Ref. to WI-113, SCHEMATIC, Back-up Light System.>

## B: INSPECTION S914414A10

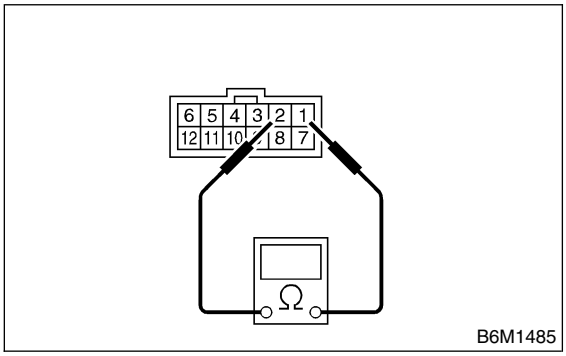
### 1. BACK-UP LIGHT SWITCH (M/T) S914414A1001

Measure back-up light switch resistance.

| Switch position | Terminal No. | Standard |
|---|---|---|
| When shift lever is set in reverse position | 1 and 2 | Less than 1 Ω |
| Other positions | | More than 1 MΩ |

### 2. INHIBITOR SWITCH (A/T) S914414A1002

Measure inhibitor switch resistance.




| Switch position | Terminal No. | Standard |
|---|---|---|
| When select lever is set in “R” position | 1 and 2 | Less than 1 Ω |
| Other positions | | More than 1 MΩ |

# 6. Stop Light System S914417

## A: SCHEMATIC S914417A21

### 1. STOP LIGHT SEDAN MODEL S914417A2101

<Ref. to WI-126, SEDAN MODEL, SCHEMATIC, Stop Light System.>

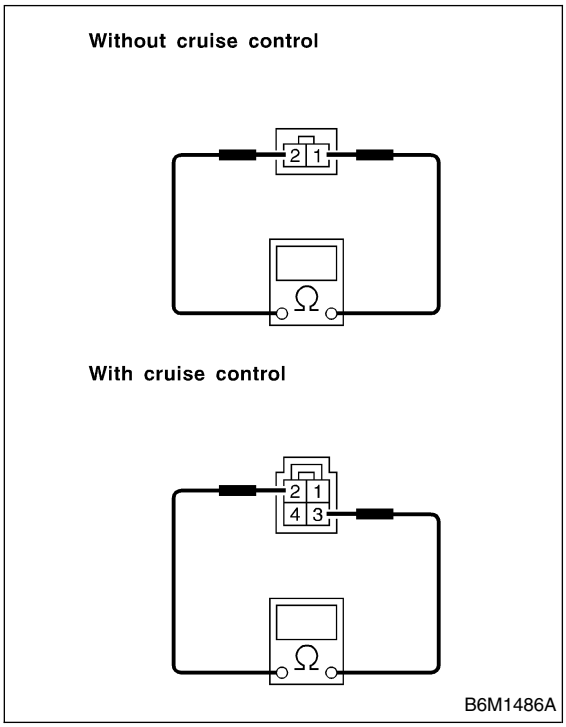
### 2. STOP LIGHT WAGON MODEL S914417A2102

<Ref. to WI-127, WAGON MODEL, SCHEMATIC, Stop Light System.>

## B: INSPECTION S914417A10

### 1. STOP LIGHT SWITCH S914417A1001

Measure stop light switch resistance




| Switch position | Terminal No. | Standard |
|---|---|---|
| When brake pedal is depressed | 1 and 2: Without cruise control<br>2 and 3: With cruise control | Less than 1 Ω |
| When brake pedal is released | | More than 1 MΩ |

# 7. Interior Light System S914418

## A: SCHEMATIC S914418A21

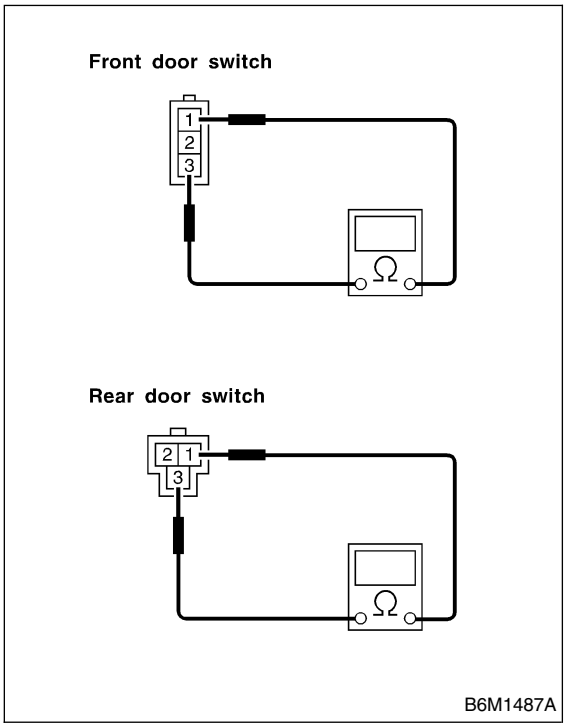
### 1. INTERIOR LIGHT S914418A2101

<Ref. to WI-122, SCHEMATIC, In Compartment Light System.>

## B: INSPECTION S914418A10

### 1. DOOR SWITCH S914418A1001

Measure door switch resistance.




| Switch position | Terminal No. | Standard |
|---|---|---|
| When door is opened | 1 and 3 | Less than 1 Ω |
| When door is closed | | More than 1 MΩ |

### 2. REAR GATE LATCH SWITCH S914418A1002

Measure rear gate latch switch.

| Switch position | Terminal No. | Standard |
|---|---|---|
| When rear gate is opened | 1 and 2 | Less than 1 Ω |
| When rear gate is closed | | More than 1 MΩ |

### 3. TRUNK ROOM LIGHT SWITCH S914418A1003

Measure trunk room light switch.

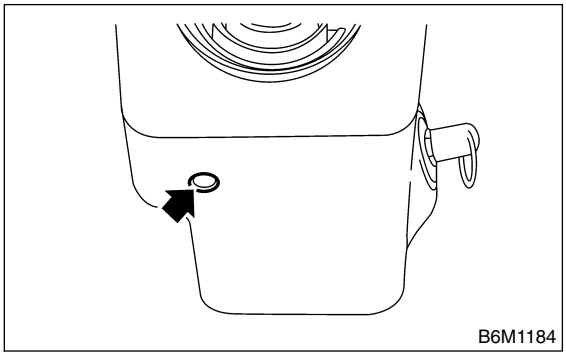
| Switch position | Terminal No. | Standard |
|---|---|---|
| When trunk lid is opened | 1 and 2 | Less than 1 Ω |
| When trunk lid is closed | | More than 1 MΩ |

# 8. Combination Switch (Light)

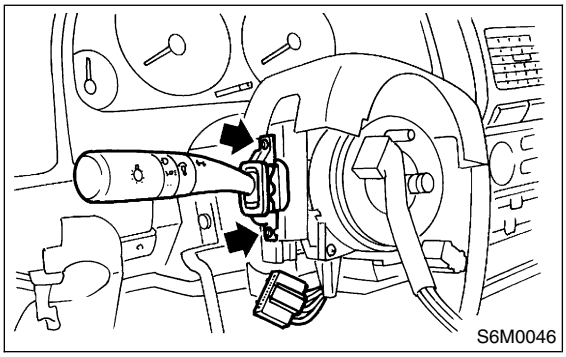
S914411

## A: REMOVAL S914411A18

1) Disconnect ground cable from battery.
2) Remove instrument panel lower cover. <Ref. to EI-37, REMOVAL, Instrument Panel Assembly.>
3) Remove screws which secure upper column cover to lower column cover.


B6M1184

4) Disconnect connector from combination switch.
5) Remove screws which secure switch and remove switch.

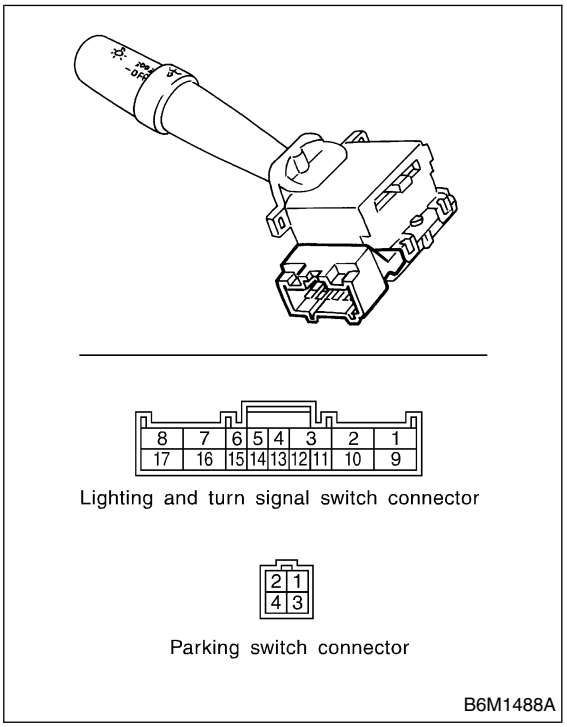

S6M0046

## B: INSTALLATION S914411A11

Install in the reverse order of removal.

## C: INSPECTION S914411A10

Measure combination switch resistance.




### 1. LIGHTING SWITCH S914411A1001

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| Tail | 14 and 16 | Less than 1 Ω |
| Head | 13, 14 and 16 | Less than 1 Ω |

### 2. DIMMER AND PASSING SWITCH S914411A1002

| Switch position | Terminal No. | Standard |
|---|---|---|
| Passing | 7, 8 and 16 | Less than 1 Ω |
| Low beam | 16 and 17 | Less than 1 Ω |
| High beam | 7 and 16 | Less than 1 Ω |

### 3. TURN SIGNAL SWITCH S914411A1003

| Switch position | Terminal No. | Standard |
|---|---|---|
| Left | 1 and 2 | Less than 1 Ω |
| Neutral | — | More than 1 MΩ |
| Right | 2 and 3 | Less than 1 Ω |

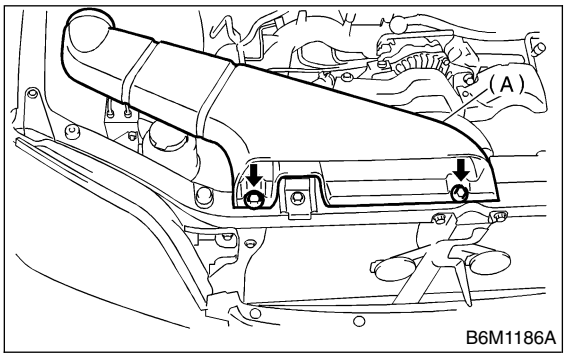
### 4. PARKING SWITCH S914411A1004

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | 2 and 4 | Less than 1 Ω |
| ON | 1 and 4 | Less than 1 Ω |

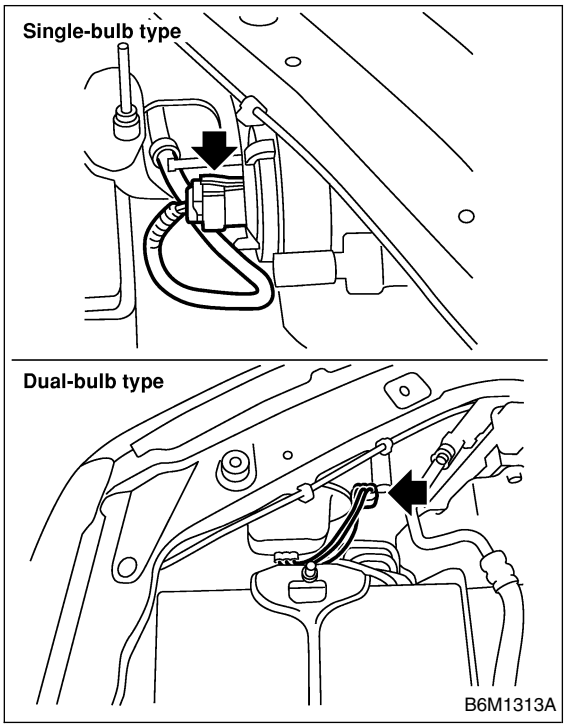
# 9. Headlight Assembly S914409

## A: REMOVAL S914409A18

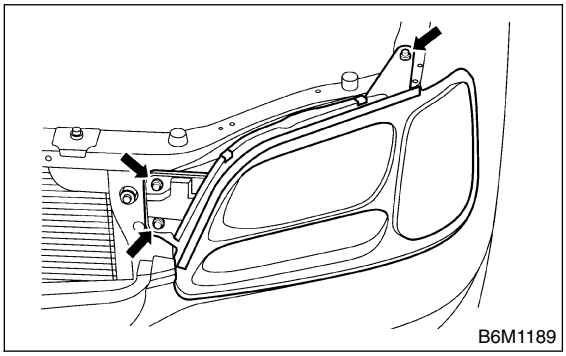
1) Disconnect ground cable from battery.
2) Remove duct (A) (when right side headlight is removed).




3) Disconnect headlight bulb connector.




4) Remove three bolts and disconnect connectors, and then detach headlight assembly.




## B: INSTALLATION S914409A11

Install in the reverse order of removal.

## C: ADJUSTMENT S914409A01

### 1. HEADLIGHT AIMING S914409A0101

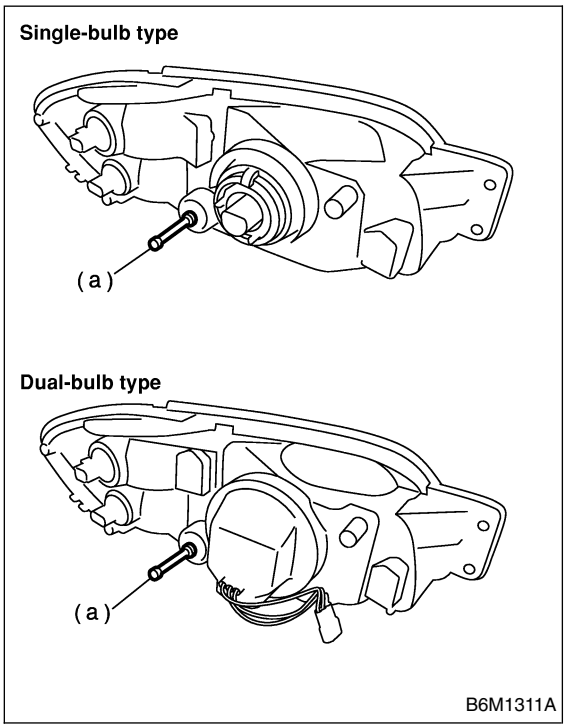
NOTE:
As this headlight is the “VISUAL AIMING TYPE”, it is possible to adjust aiming only in the vertical direction. It cannot be adjusted in the horizontal direction.

**CAUTION:**
**Turn off the light before adjusting headlight aiming. If the light is necessary to check aiming, do not turn on for more than two minutes.**

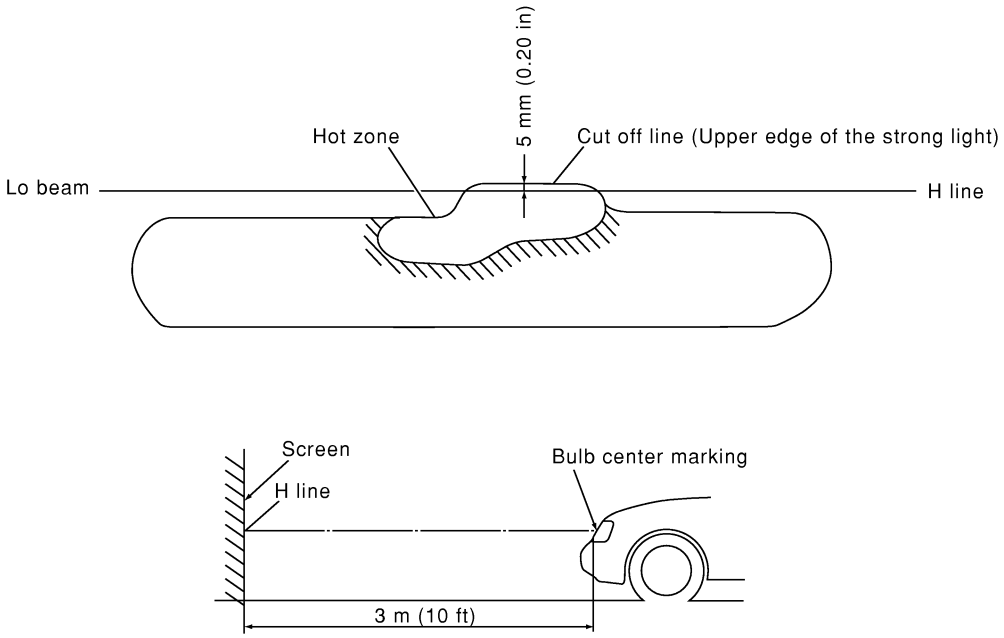
NOTE:
Before checking the headlight aiming, be sure of the following:
- The area around the headlight has not sustained any accident, damage or other type of deformation.
- Vehicle is parked on level ground.
- The inflation pressure of tires is correct.
- Vehicle’s gas tank is full.
- Bounce the vehicle several times to normalize the suspension.
- Make certain that someone is seated in the driver’s seat.

Turn the headlight on and then adjust the low beam pattern to the following positions on the screen.

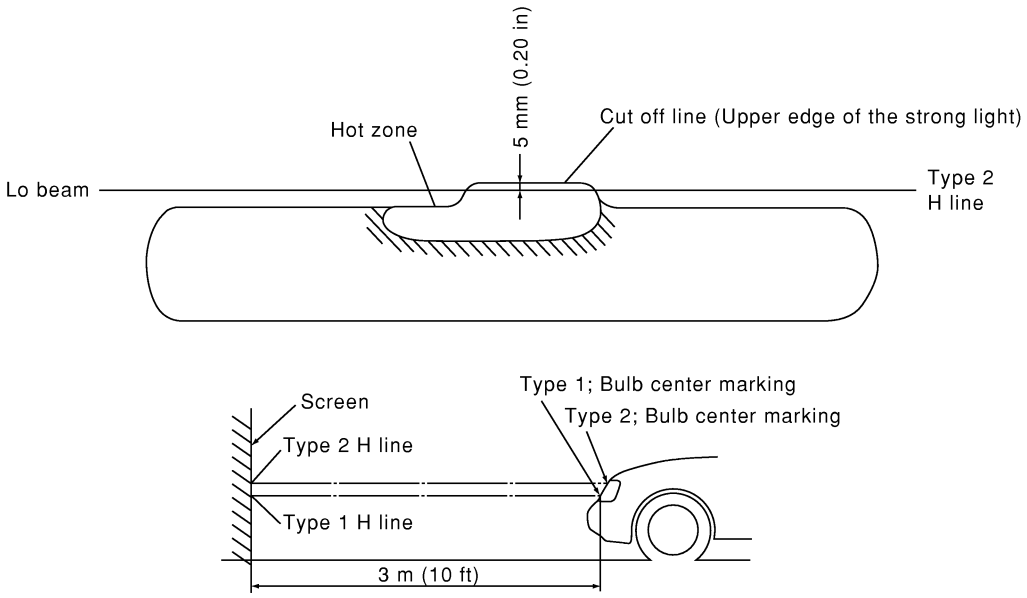
NOTE:
Adjust the headlight aiming by turning the adjusting screw (a).



**Single-bulb headlight**




**Dual-bulb headlight**




B6M1312A

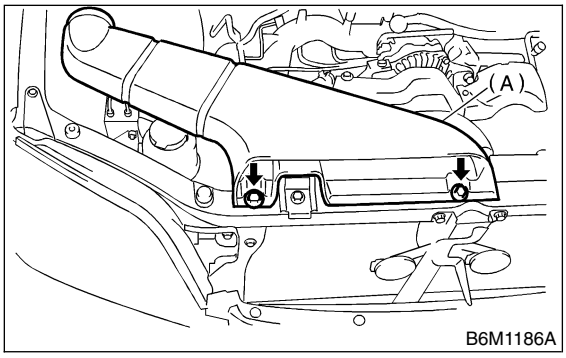
# 10. Headlight Bulb S914410

## A: REMOVAL S914410A18

**CAUTION:**
**● Because the tungsten 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 the performance.**

### 1. SINGLE-BULB TYPE S914410A1801

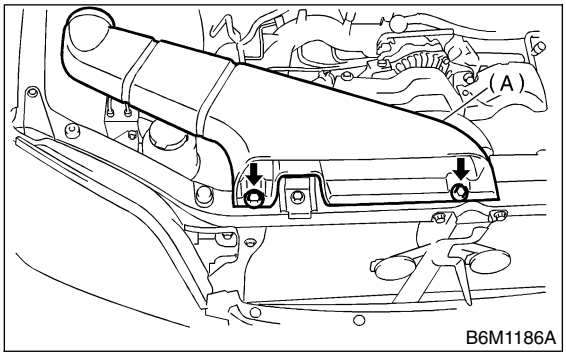
1) Disconnect ground cable from battery.
2) Remove duct (A) (when right side headlight is removed).



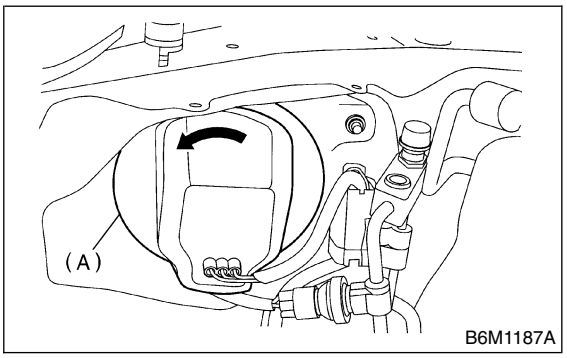

3) Disconnect harness connector.
4) Remove rubber cover.
5) Push to remove spring retainer, and then detach the headlight bulb.

### 2. DUAL-BULB TYPE S914410A1802

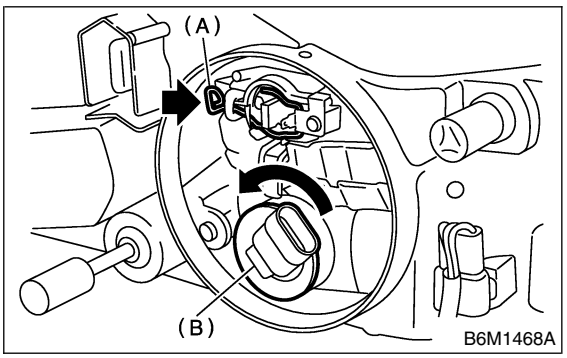
1) Disconnect ground cable from battery.
2) Remove duct (A) (when right side headlight is removed).




3) Remove back cover (A).




4) Disconnect harness connector.
5) Push to remove spring retainer (A) (low beam) or turn bulb assembly (B) counterclockwise (high beam), and then detach headlight bulb.




## B: INSTALLATION S914410A11

Install in the reverse order of removal.

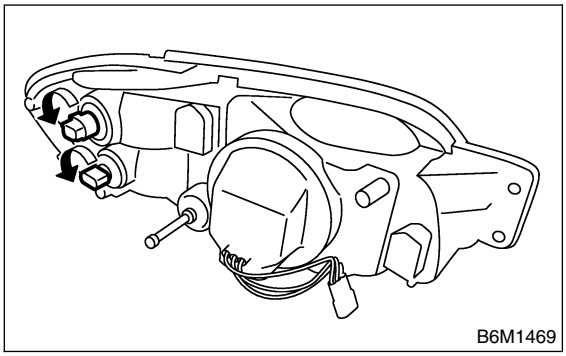
## C: INSPECTION S914410A10

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

# 11. Front Turn Signal Light Bulb S914412

## A: REMOVAL S914412A18

1) Remove headlight assembly. <Ref. to LI-10, REMOVAL, Headlight Assembly.>
2) Turn the socket and remove the bulb.




## B: INSTALLATION S914412A11

Install in the reverse order of removal.

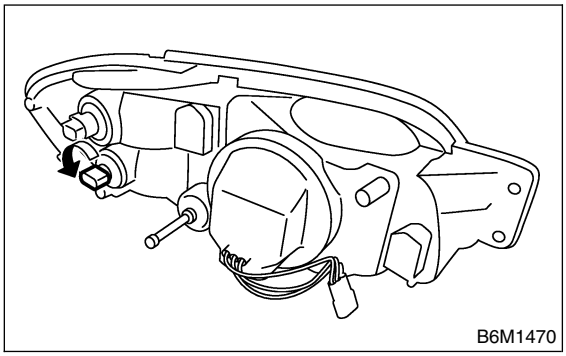
## C: INSPECTION S914412A10

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

# 12. Parking Light Bulb and Side Marker Light Bulb S914413

## A: REMOVAL S914413A18

1) Remove headlight assembly. <Ref. to LI-10, REMOVAL, Headlight Assembly.>
2) Turn the socket and remove the bulb.




## B: INSTALLATION S914413A11

Install in the reverse order of removal.

## C: INSPECTION S914413A10

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

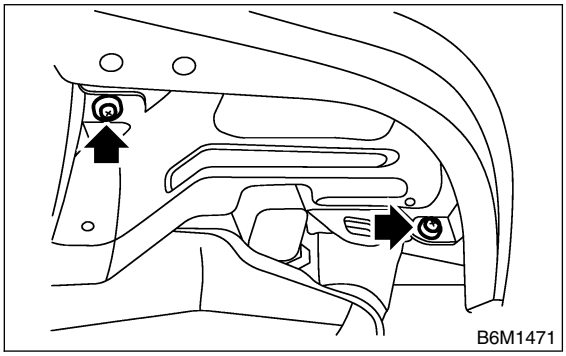
# 13. Front Fog Light Assembly

S914427

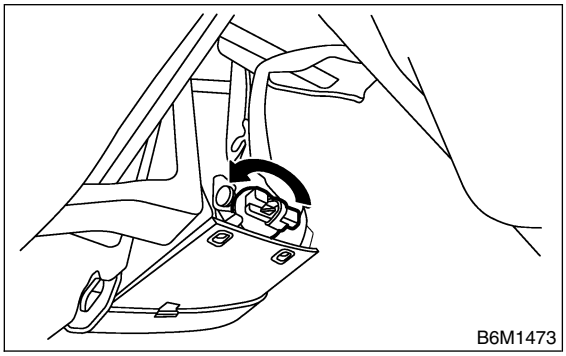
## A: REMOVAL S914427A18

### 1. EXCEPT OUTBACK S914427A1801

1) Disconnect ground cable from battery.
2) Remove two clips and lower the mudguard.

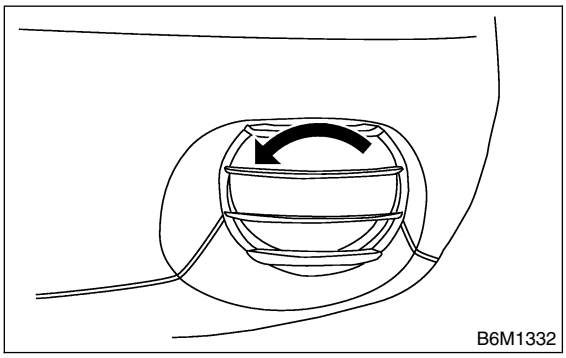



3) Disconnect harness connector.
4) Remove mounting bolts, and then detach fog light assembly.

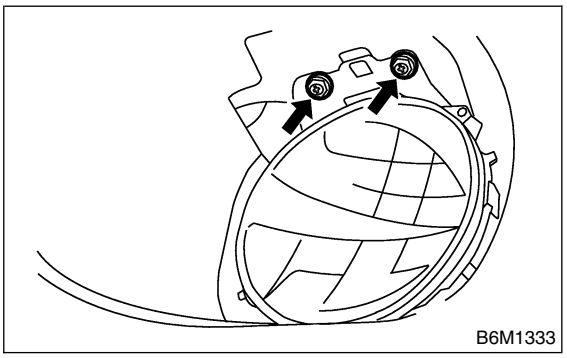



### 2. OUTBACK S914427A1802

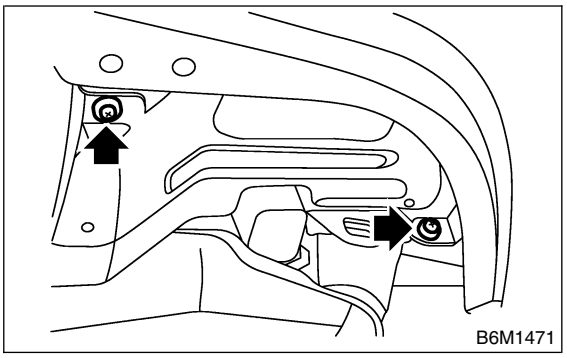
1) Disconnect ground cable from battery.
2) Turn stone guard counterclockwise, and then remove it.



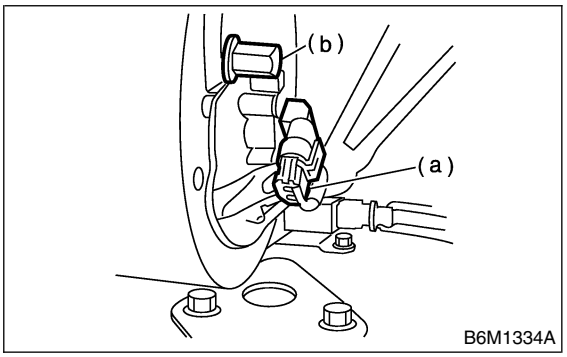

3) Remove mounting bolts.




4) Remove two clips and lower the mudguard.




5) Disconnect harness connector (a).
6) Remove nut (b) then detach fog light assembly.




## B: INSTALLATION S914427A11

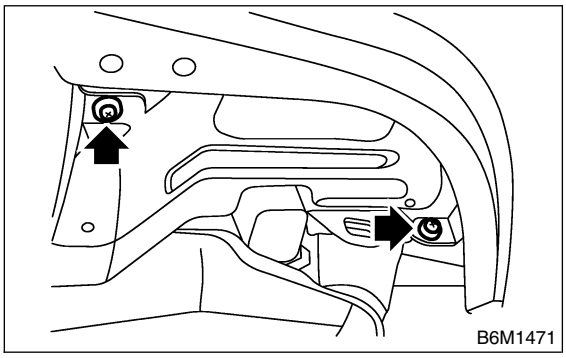
Install in the reverse order of removal.

# 14. Front Fog Light Bulb S914428

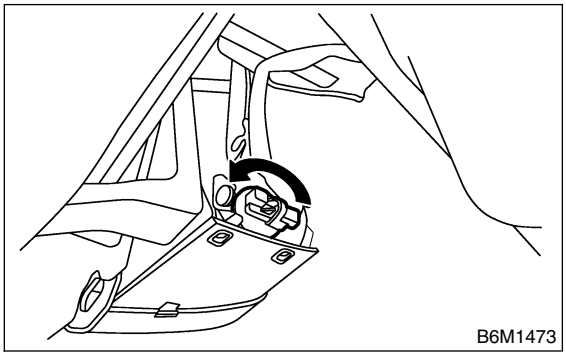
## A: REMOVAL S914428A18

### 1. EXCEPT OUTBACK S914428A1801

1) Disconnect ground cable from battery.
2) Remove the two clips and lower the mudguard.




3) Remove back cover (A).




4) Disconnect harness connector.
5) Remove spring retainer then detach fog light bulb.

### 2. OUTBACK S914428A1802

1) Remove fog light assembly. <Ref. to LI-16, OUTBACK, REMOVAL, Front Fog Light Assembly.>
2) Disconnect harness connector.
3) Loosen screws and turn the bulb assembly counterclockwise, and then detach the bulb.

## B: INSTALLATION S914428A11

Install in the reverse order of removal.

## C: INSPECTION S914428A10

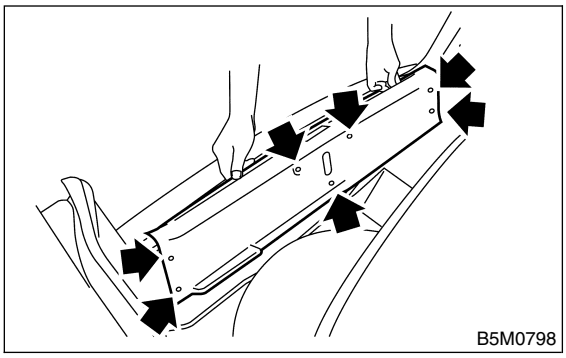
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

# 15. Rear Combination Light Assembly S914426

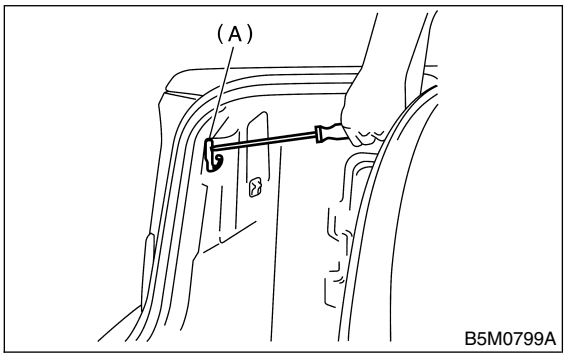
## A: REMOVAL S914426A18

### 1. SEDAN S914426A1801

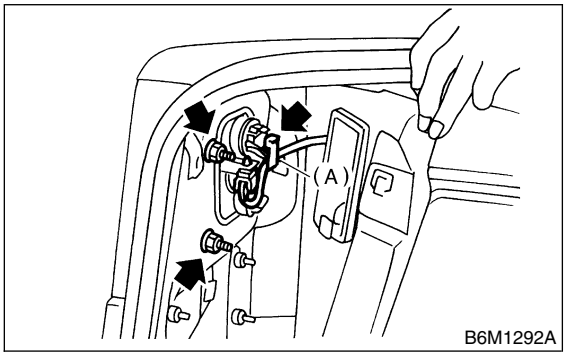
1) Disconnect ground cable from battery.
2) Remove clips and then detach trunk rear trim.




3) Remove hook (A) and then turn over rear portion of trunk side trim.



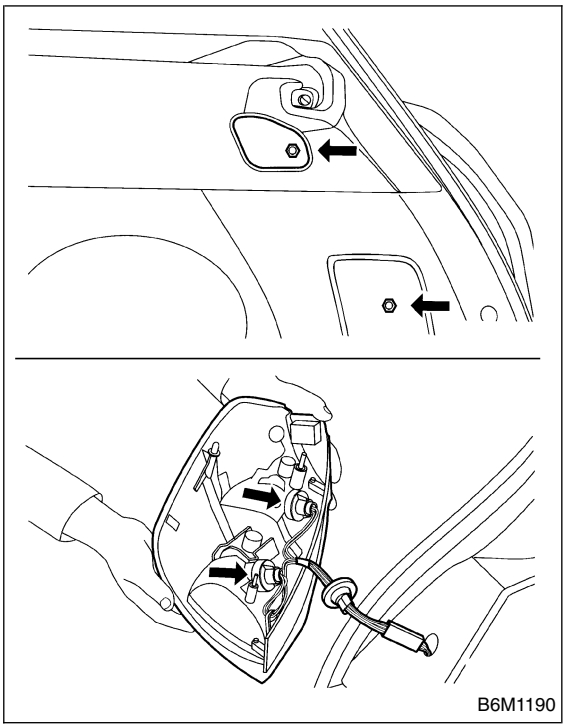

4) Remove harness clip (A).
5) Remove three nuts and then detach rear combination light while disconnecting connector.




### 2. WAGON S914426A1802

1) Disconnect ground cable from battery.
2) Remove two rear quarter trim covers.
3) Remove two nuts and then remove rear combination light while disconnecting connector.

NOTE:
Before removing the nuts, apply a few turns of butyl tape to the tip of the service tool. This prevents the nuts from falling during removal.




## B: INSTALLATION S914426A11

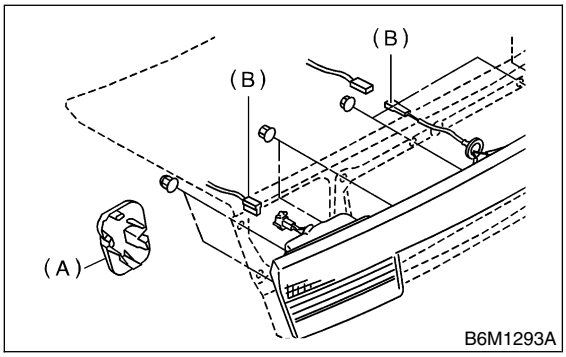
Install in the reverse order of removal.

# 16. Rear Finisher Light Assembly S914429

## A: REMOVAL S914429A18

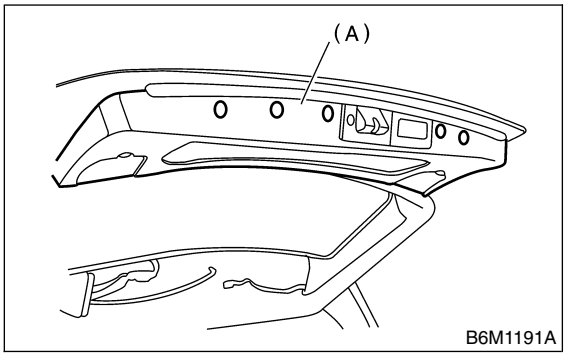
### 1. SEDAN S914429A1801

1) Disconnect ground cable from battery.
2) Open the trunk lid.
3) Remove cover (A).
4) Disconnect connector (B) from rear finisher light.
5) Remove ten nuts and then detach rear finisher light from trunk lid.

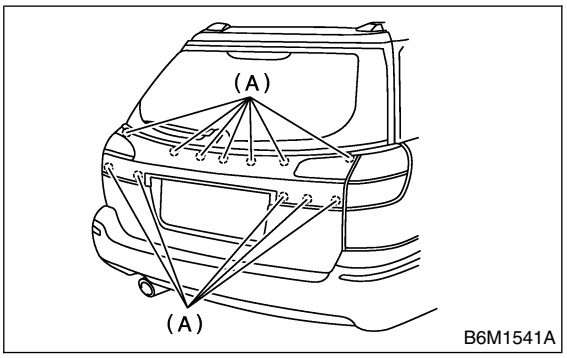



### 2. WAGON S914429A1802

1) Disconnect ground cable from battery.
2) Remove rear gate lower trim. <Ref. to EI-49, REMOVAL, Rear Gate Trim.>
3) Remove rear gate trim lower (A).




4) Disconnect connector from rear finisher light.
5) Remove nuts (A) and then remove rear finisher light from rear gate.




## B: INSTALLATION S914429A11

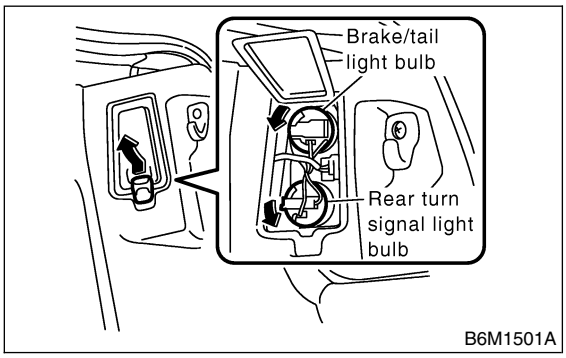
Install in the reverse order of removal.

# 17. Brake/Tail Light Bulb S914430

## A: REMOVAL S914430A18

### 1. SEDAN (COMBINATION LIGHT) S914430A1801

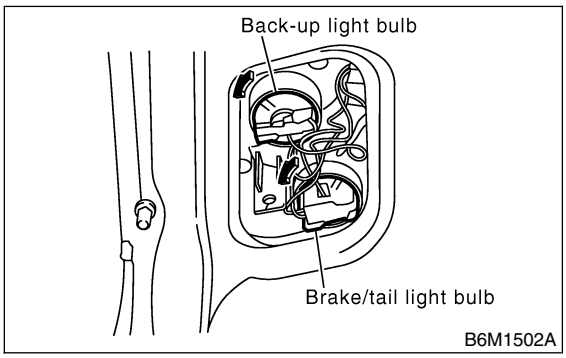
1) Open trunk lid and remove cover.




2) Turn the socket and remove the bulb.

### 2. SEDAN (FINISHER LIGHT) S914430A1802

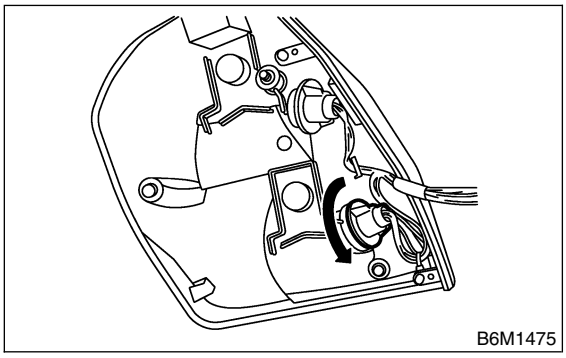
1) Open trunk lid and remove cover.




2) Turn the socket and remove the bulb.

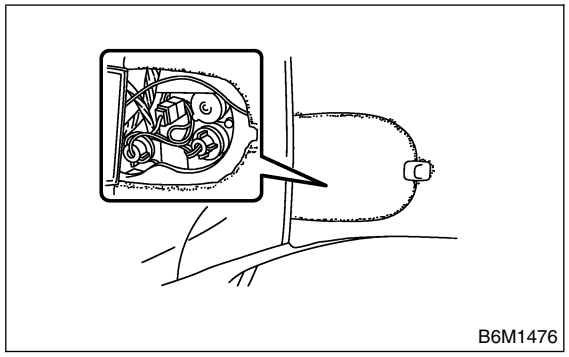
### 3. WAGON (COMBINATION LIGHT) S914430A1803

1) Remove rear combination light assembly. <Ref. to LI-18, WAGON, REMOVAL, Rear Combination Light Assembly.>
2) Turn the socket and remove the bulb.




### 4. WAGON (FINISHER LIGHT) S914430A1804

1) Open rear gate lower trim cover.




2) Turn the socket and remove the bulb.

## B: INSTALLATION S914430A11

Install in the reverse order of removal.

## C: INSPECTION S914430A10

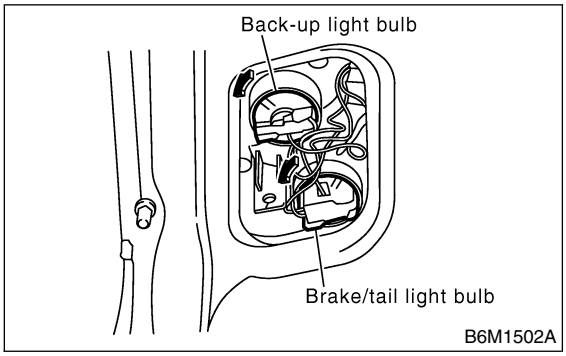
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

# 18. Back-up Light Bulb S914424

## A: REMOVAL S914424A18

### 1. SEDAN S914424A1801

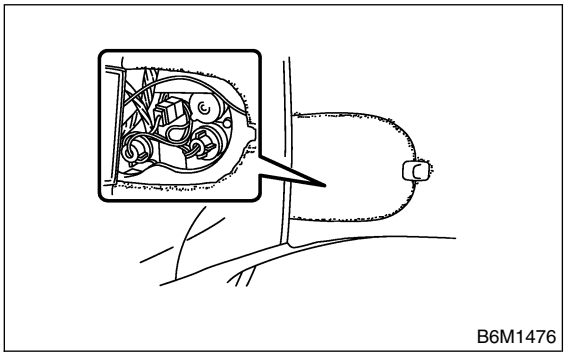
1) Open trunk lid and remove cover.




2) Turn the socket and remove the bulb.

### 2. WAGON S914424A1802

1) Open rear gate lower trim cover.




2) Turn the socket and remove the bulb.

## B: INSTALLATION S914424A11

Install in the reverse order of removal.

## C: INSPECTION S914424A10

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

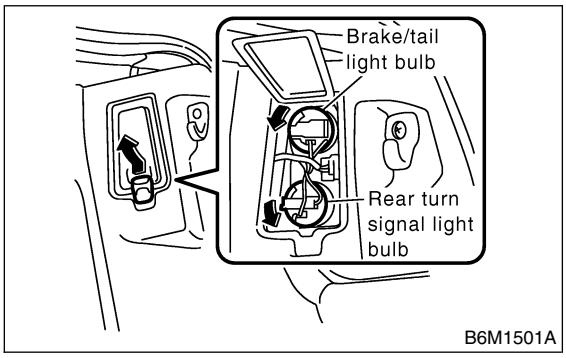
# 19. Rear Turn Signal Light Bulb

S914421

## A: REMOVAL S914421A18

### 1. SEDAN S914421A1801

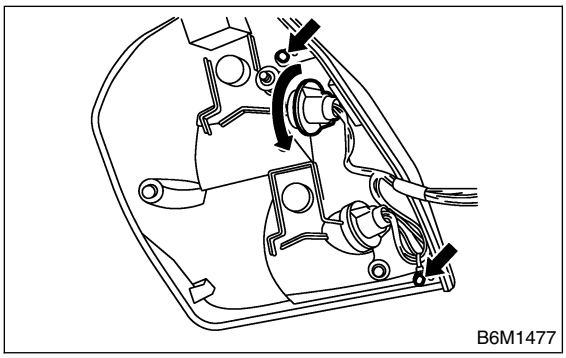
1) Open trunk lid and remove cover.




2) Turn the socket and remove the bulb.

### 2. WAGON S914421A1802

1) Remove rear combination light assembly. <Ref. to LI-18, WAGON, REMOVAL, Rear Combination Light Assembly.>
2) Remove the light cover mounting screws then detach the cover.
3) Turn the socket and remove the bulb.




## B: INSTALLATION S914421A11

Install in the reverse order of removal.

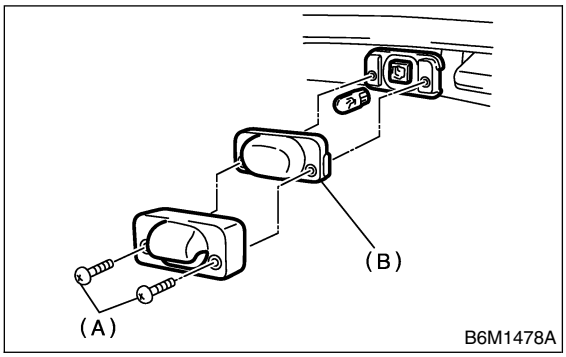
## C: INSPECTION S914421A10

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

# 20. License Plate Light S914420

## A: REMOVAL S914420A18

1) Remove license plate light mounting screw (A) and then remove the lens (B)




2) Remove the bulb.

## B: INSTALLATION S914420A11

Install in the reverse order of removal.

## C: INSPECTION S914420A10

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

# 21. High-mounted Stop Light

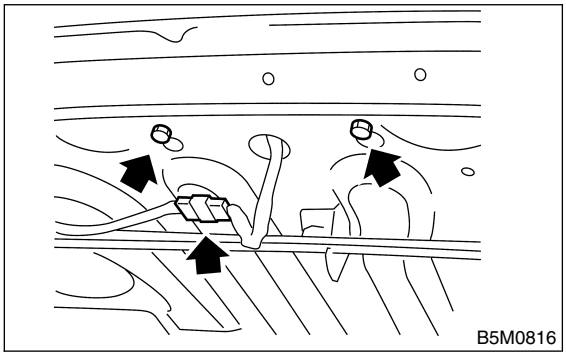
S914425

## A: REMOVAL S914425A18

### 1. SEDAN WITHOUT REAR SPOILER

S914425A1801

1) Disconnect ground cable from battery.
2) Disconnect connector of high-mounted stop light from body harness.
3) Remove bolts, then detach high-mounted stop light assembly.

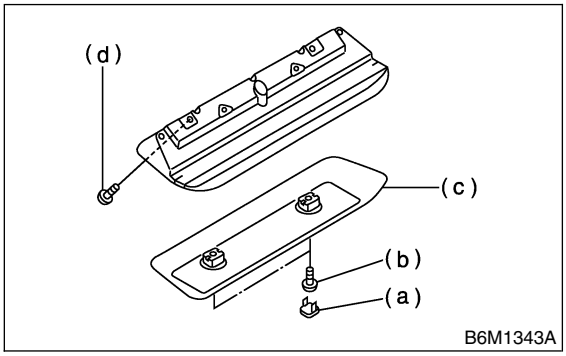



### 2. SEDAN WITH REAR SPOILER S914425A1802

1) Disconnect ground cable from battery.
2) Remove two screws and then detach high-mounted stop light assembly while disconnecting connector.

### 3. WAGON S914425A1803

1) Disconnect ground cable from battery.
2) Remove cap (a) by prying on the edge with a screwdriver.
3) Remove screws (b) and then detach cover (c).
4) Remove screws (d) and then detach high-mounted stop light while disconnecting connector.




## B: INSTALLATION S914425A11

Install in the reverse order of removal.

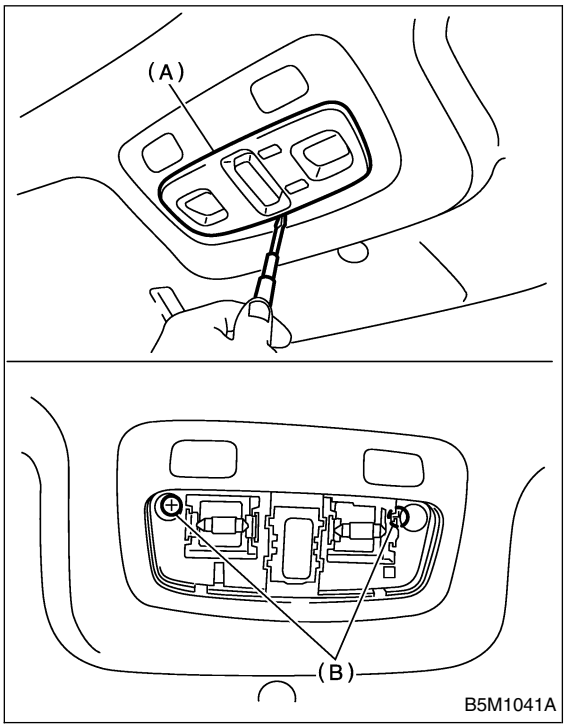
## C: INSPECTION S914425A10

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

# 22. Spot Light S914398

## A: REMOVAL S914398A18

1) Disconnect ground cable from battery.
2) Remove lens (A) and spot light mounting screw (B).




3) Disconnect harness connectors and remove spot light.

## B: INSTALLATION S914398A11

Install in the reverse order of removal.

## C: INSPECTION S914398A10

### 1. SPOT LIGHT BULB S914398A1001

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

### 2. SPOT LIGHT SWITCH S914398A1002

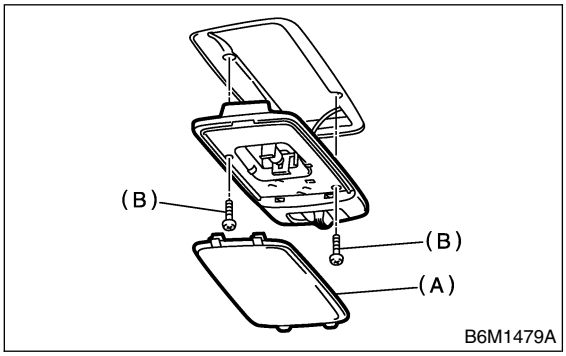
Measure spot light resistance.

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| ON | 1 and 2 | 1.5±0.5 Ω |

# 23. Room Light S914397

## A: REMOVAL S914397A18

1) Disconnect ground cable from battery.
2) Remove lens (A) and room light mounting screws (B).




3) Disconnect harness connectors and remove the light.

## B: INSTALLATION S914397A11

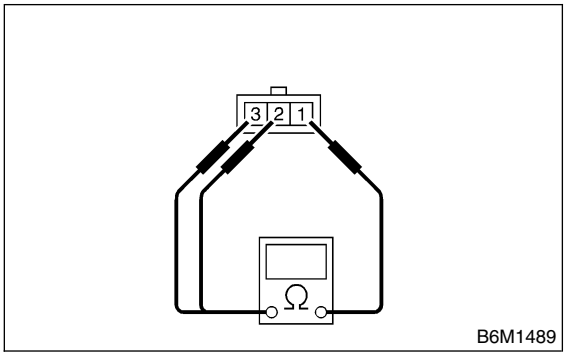
Install in the reverse order of removal.

## C: INSPECTION S914397A10

### 1. ROOM LIGHT BULB S914397A1001

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

### 2. ROOM LIGHT SWITCH S914397A1002



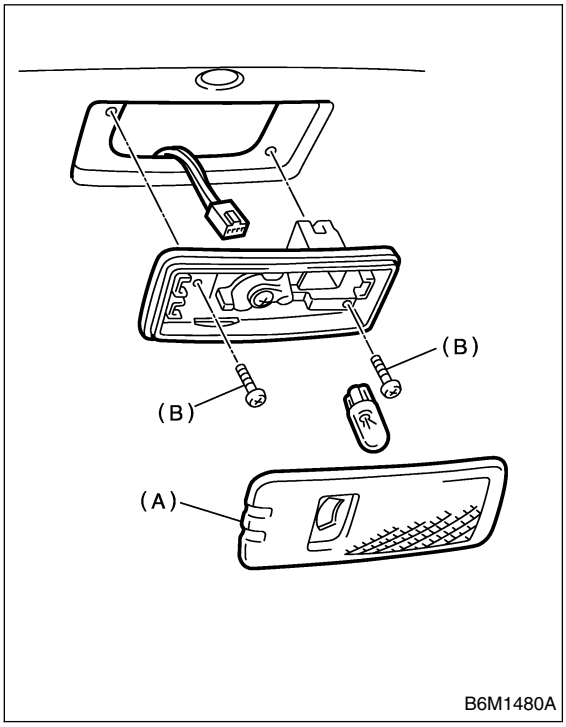

Measure room light switch resistance.

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| ON | 1 and 3 | 1.5±0.5 Ω |
| DOOR | 1 and 2 | 1.5±0.5 Ω |

# 24. Luggage Room Light S914399

## A: REMOVAL S914399A18

1) Disconnect ground cable from battery.
2) Remove lens (A) and luggage room light mounting screws (B).




3) Disconnect harness connectors and remove luggage room light.

## B: INSTALLATION S914399A11

Install in the reverse order of removal.

## C: INSPECTION S914399A10

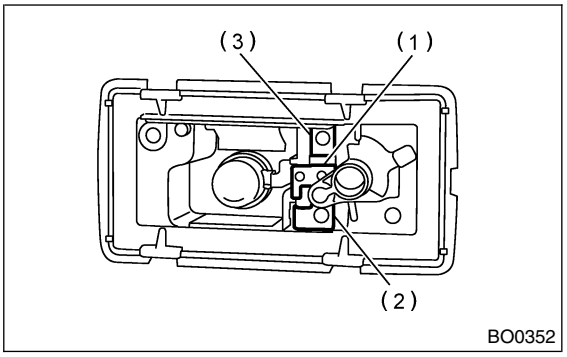
### 1. LUGGAGE ROOM LIGHT BULB S914399A1001

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

### 2. LUGGAGE ROOM LIGHT SWITCH

S914399A1002

Measure luggage room light resistance.

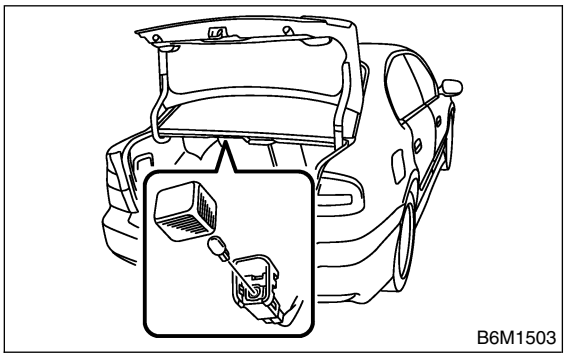



| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| ON | 1 and 3 | 1.5±0.5 Ω |
| DOOR | 1 and 2 | 1.5±0.5 Ω |

# 25. Trunk Room Light S914393

## A: REMOVAL S914393A18

1) Disconnect ground cable from battery.
2) Disconnect harness connectors and remove trunk room light.




## B: INSTALLATION S914393A11

Install in the reverse order of removal.

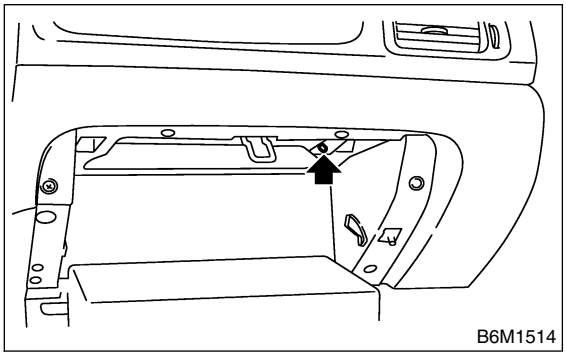
## C: INSPECTION S914393A10

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

# 26. Glove Box Light S914396

## A: REMOVAL S914396A18

1) Disconnect ground cable from battery.
2) Remove glove box. <Ref. to EI-34, REMOVAL, Glove Box.>
3) Disconnect harness connector.
4) Remove glove box light.




## B: INSTALLATION S914396A11

Install in the reverse order of removal.

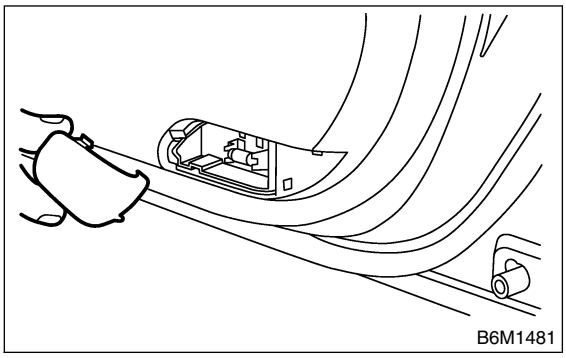
## C: INSPECTION S914396A10

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

# 27. Door Step Light S914390

## A: REMOVAL S914390A18

Remove the lens then detach the bulb.




## B: INSTALLATION S914390A11

Install in the reverse order of removal.

## C: INSPECTION S914390A10

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATIONS, General Description.>
3) If NG, replace the bulb with a new one.

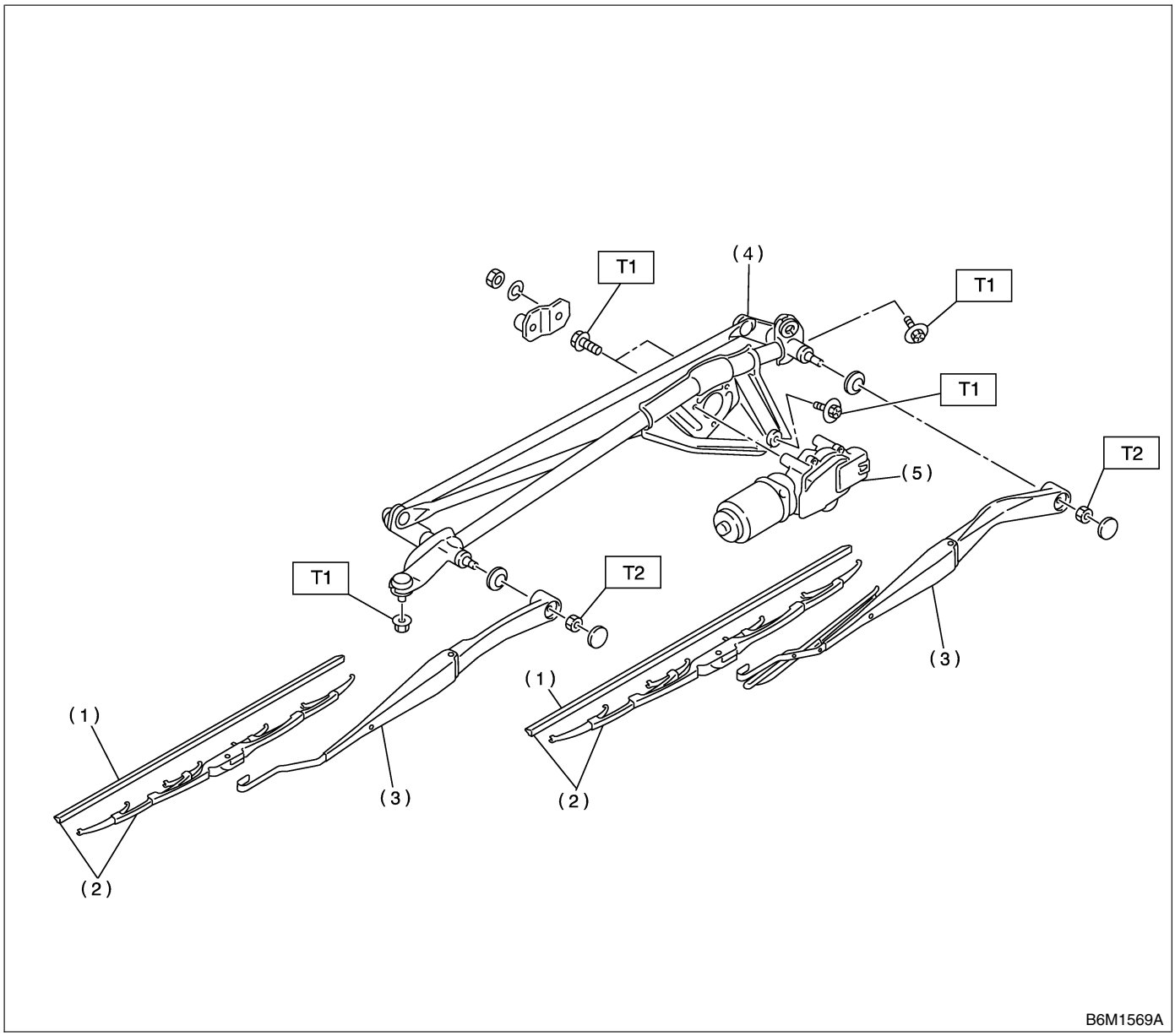
# 1. General Description S902001

## A: SPECIFICATIONS S902001E49

| | | |
|---|---|---|
| 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 S902001A05

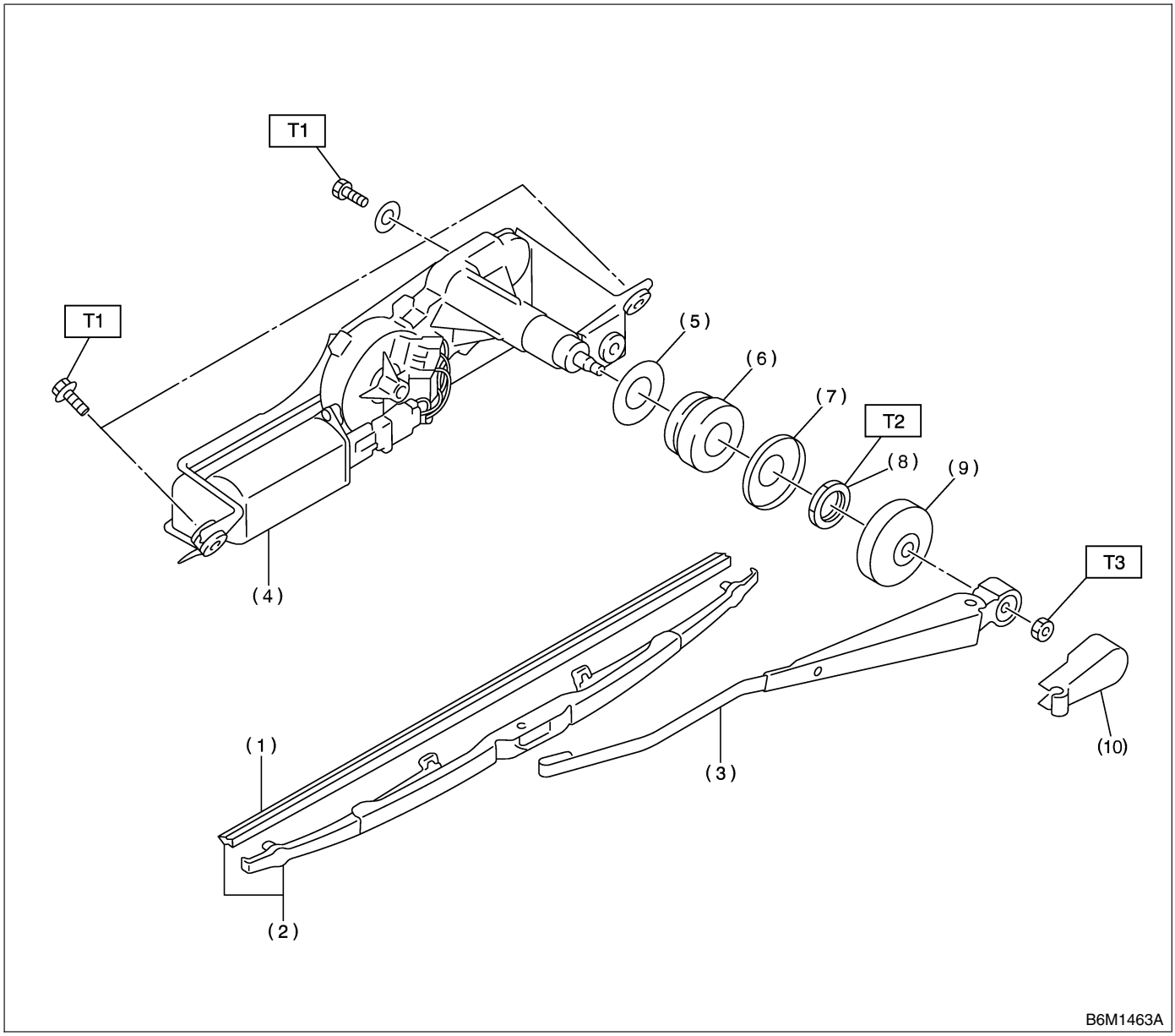
### 1. FRONT WIPER S902001A0501




(1) Wiper rubber
(2) Wiper blade ASSY
(3) Wiper arm
(4) Wiper link
(5) Wiper motor

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 5.9 (0.6, 4.3)***
***T2: 20 (2.0, 14.5)***

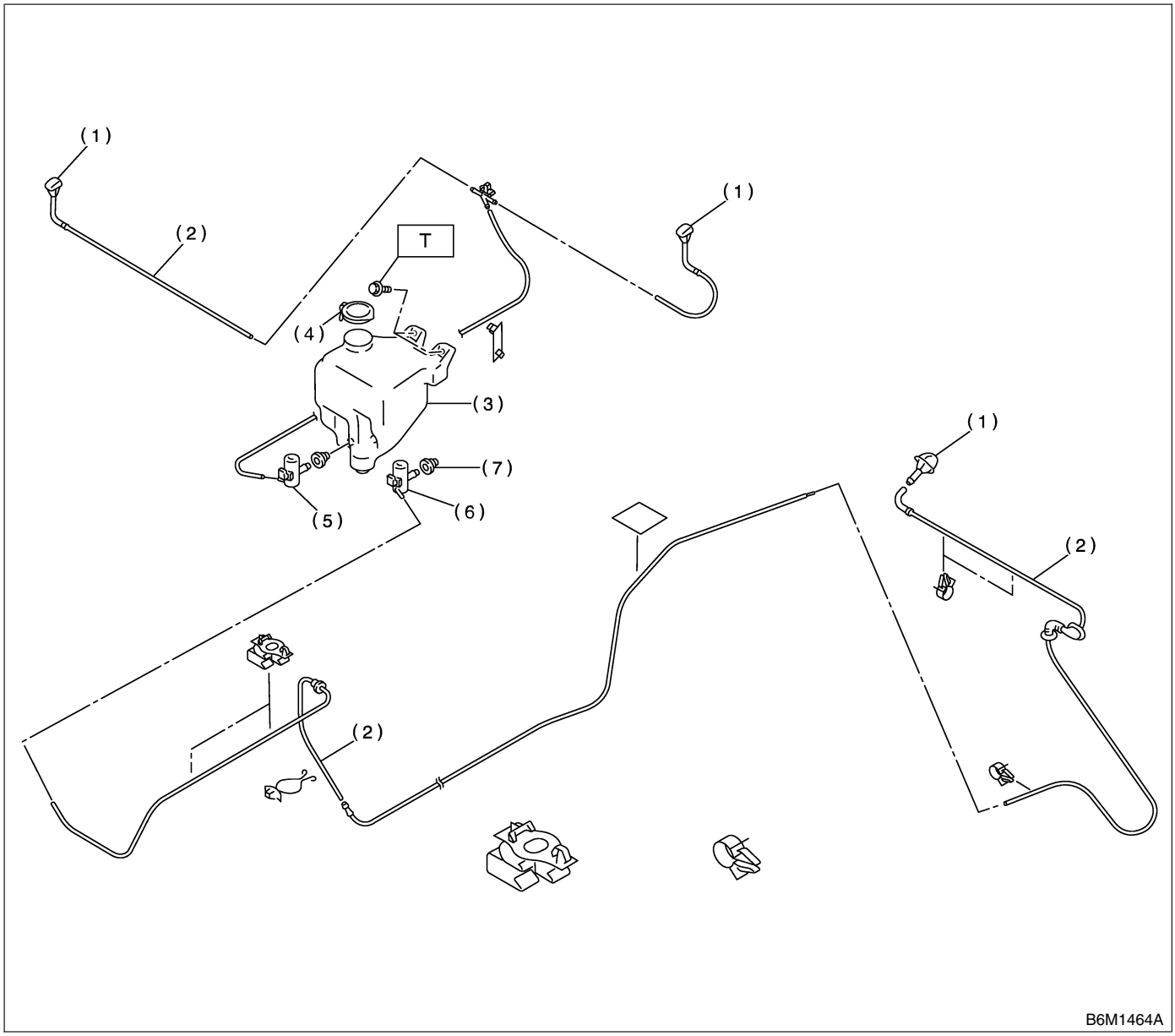
## 2. REAR WIPER S902001A0502




(1) Wiper rubber
(2) Wiper blade ASSY
(3) Wiper arm
(4) Wiper motor
(5) Spacer A
(6) Cushion
(7) Spacer B
(8) Nut
(9) Cap
(10) Wiper arm cover

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 5.9 (0.6, 4.3)***
***T2: 7.4 (0.75, 5.4)***
***T3: 7.8 (0.8, 5.8)***

## 3. WASHER TANK S902001A0503




(1) Washer nozzle
(2) Washer hose
(3) Washer tank
(4) Washer tank cap
(5) Front washer motor
(6) Rear washer motor
(7) Grommet

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 5.9 (0.6, 4.3)***

## C: CAUTION S902001A03

- Reconnect connectors and hoses securely.

After reconnecting, confirm that each function operates normally.

- Be careful that wire harnesses of airbag system pass near electrical parts and switches.
- The harness and connector of all airbag systems are colored with yellow. Do not use a tester on these circuits.
- Care must be taken when installing the piping hose so that no bending, jamming, etc. are caused.
- If even a little oil or grease such as silicon oil gets in the tank and washer passages, an oil film easily forms on the glass, causing the wiper to chatter and judder. Therefore, be careful not to let this happen.

# 2. Wiper and Washer System

S902394

## A: SCHEMATIC S902394A21

### 1. WIPER AND WASHER (FRONT) S902394A2101

<Ref. to WI-160, Wiper and Washer System (Front).>

### 2. WIPER AND WASHER (REAR) S902394A2102

<Ref. to WI-161, Wiper and Washer System (Rear).>

## B: INSPECTION S902394A10

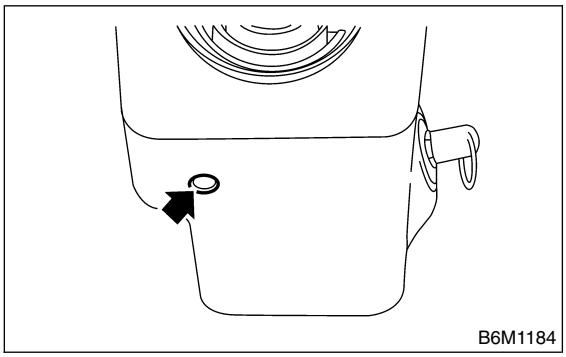
| Symptom | Repair order |
|---|---|
| Wiper and washers do not operate. | (1) Wiper fuse (F/B No. 14, 15)<br>(2) Combination switch<br>(3) Wiper motor<br>(4) Wire harness |
| Wipers do not operate in LO or HI. | (1) Combination switch<br>(2) Wiper motor<br>(3) Wire harness |
| Wipers do not operate in INT. | (1) Combination switch<br>(2) Wiper motor<br>(3) Wire harness |
| Washer motor does not operate. | (1) Washer switch<br>(2) Washer motor<br>(3) Wire harness |
| Wipers do not operate when washer switch is ON. | (1) Washer motor<br>(2) Wire harness |
| Washer fluid spray does not operate. | (1) Washer hose and nozzle |

# 3. Combination Switch (Wiper)

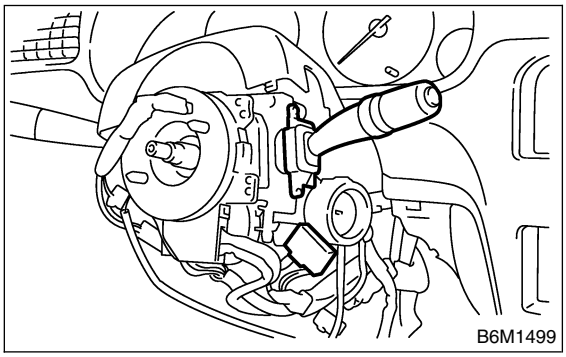
S902395

## A: REMOVAL S902395A18

1) Loosen screw to remove a steering column cover.




2) Disconnect connectors from combination switch.
3) Loosen screw to remove combination switch.

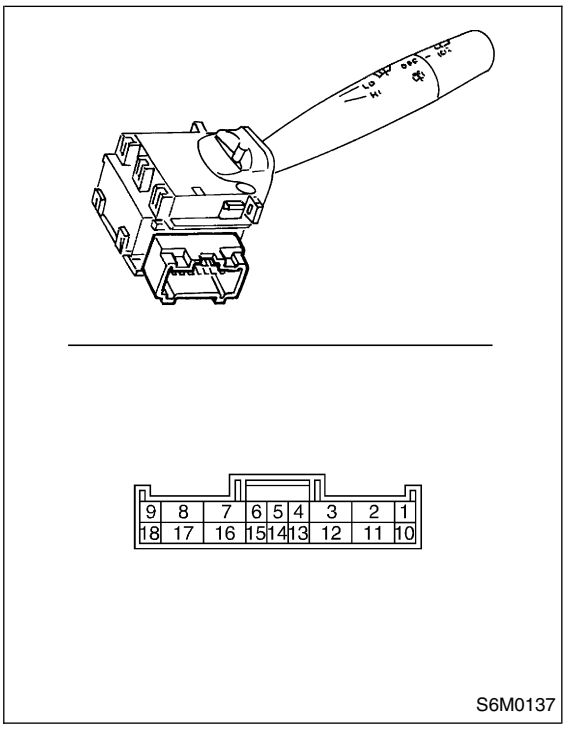



## B: INSTALLATION S902395A11

Install in the reverse order of removal.

## C: INSPECTION S902395A10

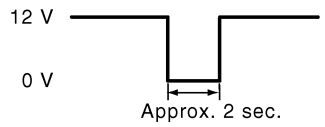
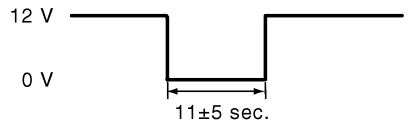
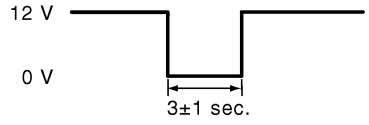
● Inspect the continuity between each connector terminal.




| | Switch position | Terminal No. | Standard |
|---|---|---|---|
| FRONT | OFF | 7 and 16<br>7 and 17<br>8 and 17<br>2 and 11 | More than 1 MΩ |
| | INT | 7 and 16 | Less than 1 Ω |
| | LO | 7 and 17 | Less than 1 Ω |
| | HI | 8 and 17 | Less than 1 Ω |
| | Washer ON | 2 and 11 | Less than 1 Ω |
| REAR | Washer ON | 2 and 10<br>10 and 12<br>2 and 12 | Less than 1 Ω |
| | OFF | 2 and 10<br>10 and 12<br>2 and 12 | More than 1 MΩ |
| | ON | 2 and 10 | Less than 1 Ω |
| | Washer ON | 2 and 10<br>10 and 12<br>2 and 12 | Less than 1 Ω |

If continuity is not as specified, replace the switch.

● Intermittent operation inspection
1) Turn the wiper switch to INT.
2) Adjust the intermittent control switch to MAX.
3) Apply battery voltage to switch terminals 17 and 2, and inspect the voltage of terminals 7 and 2. (Measure the voltage from after the second time the wiper stops.)

| Switch position | Voltage |
|---|---|
| MIN. |   |
| MAX. |   |
| Non-variable type |   |

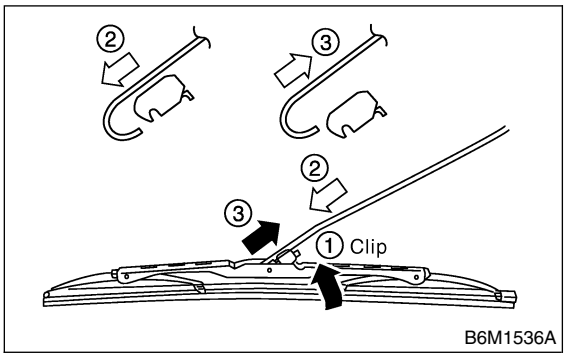
B6M1465A

If operation is not as specified, replace the switch.

# 4. Wiper Blade S902392

## A: REMOVAL S902392A18

While pushing locking clip up, pull out blade from arm to arrow direction.

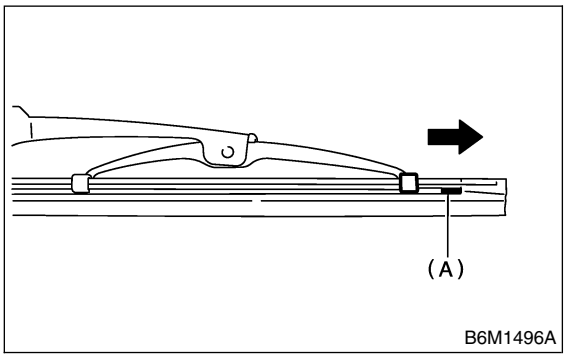



## B: INSTALLATION S902392A11

1) Install in the reverse order of removal.
2) Confirm that clip was locked securely.

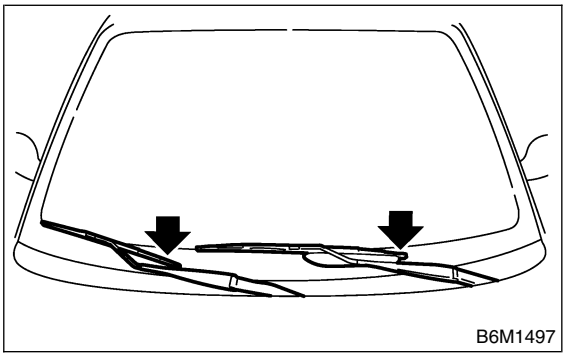
## C: DISASSEMBLY S902392A06

Pull on side (A) of the wiper rubber stopper and remove the rubber from the blade assembly.

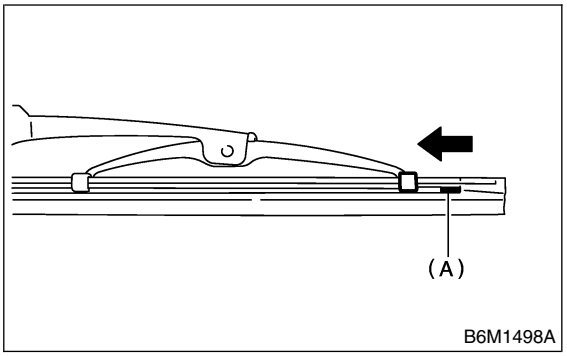



## D: ASSEMBLY S902392A02

1) Insert the wiper rubber onto the blade so that the stopper is in the position shown (at the bottom of the wiper arm).




2) Make sure the wiper rubber is securely fastened to the pull stopper (A).




## E: INSPECTION S902392A10

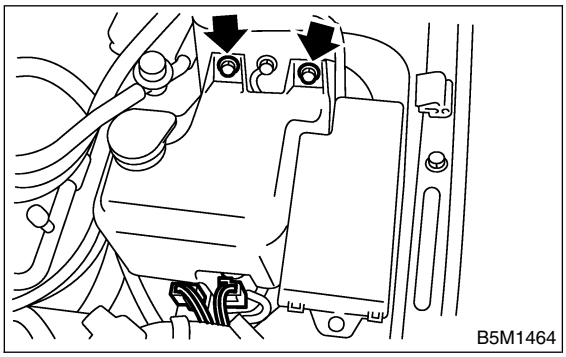
1) When the wiper does not perform well, inspect the following:
- Make sure the movable part of the blade assembly moves smoothly.
- Make sure the wiper rubber is not deformed or damaged.

2) Replace with a new part if damage is found.

# 5. Washer Tank and Motor S902405

## A: REMOVAL S902405A18

1) Open hood.
2) Remove the 2 bolts, hose and connector and then remove the tank.


B5M1464

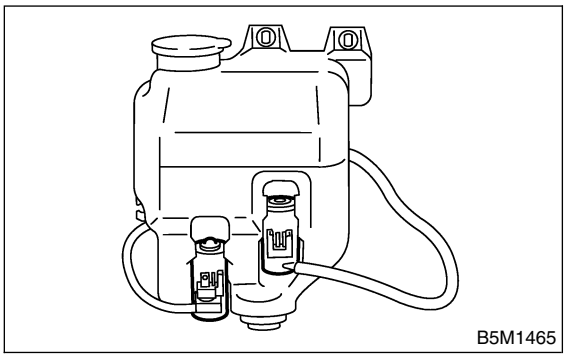
## B: INSTALLATION S902405A11

Install in the reverse order of removal.

***Tightening torque:***
***5.9 N·m (0.6 kgf-m, 4.3 ft-lb)***

## C: DISASSEMBLY S902405A06

Remove washer motor from tank.

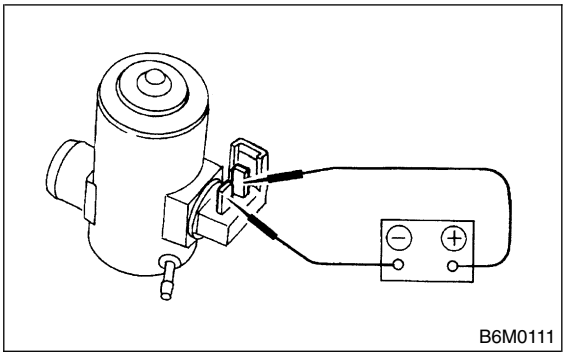

B5M1465

## D: ASSEMBLY S902405A02

1) Assemble in the reverse order of disassembly.
2) Confirm that water does not leak from installation area of motor.

## E: INSPECTION S902405A10

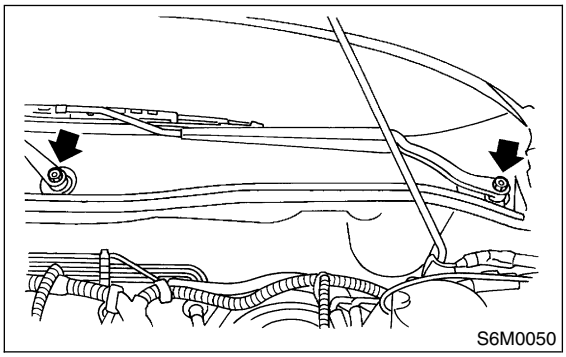
Apply battery voltage to the connector terminal of the washer motor and make sure the motor operates.


B6M0111

# 6. Front Wiper Arm S902404

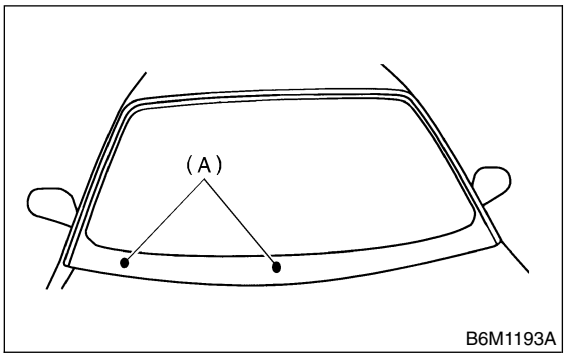
## A: REMOVAL S902404A18

1) Open hood.
2) Remove cap.
3) Loosen nut to remove arm.




## B: INSTALLATION S902404A11

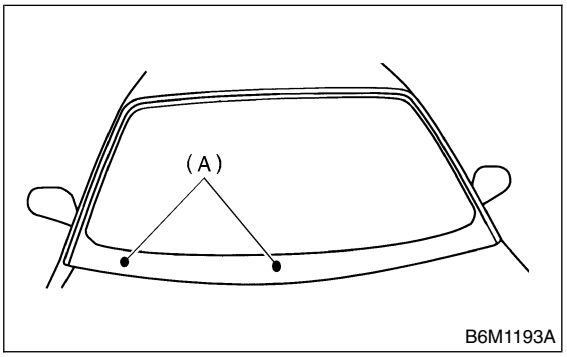
1) Install in the reverse order of removal.
2) Operate wiper once.
3) Align wiper blade to ceramic print point mark (A) of front window pane.




***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to WW-2, FRONT WIPER, COMPONENT, General Description.>***

## C: ADJUSTMENT S902404A01

Operate wiper once. Align wiper blade to ceramic print point mark (A) of front window pane.

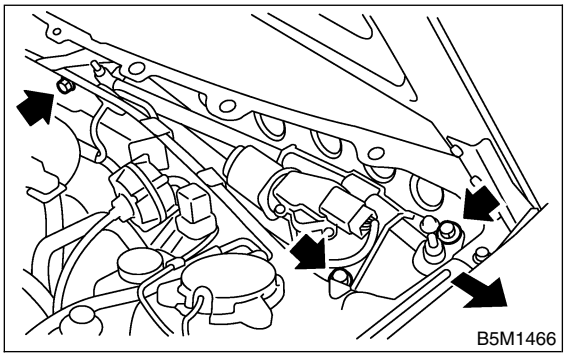


# 7. Front Wiper Motor and Link

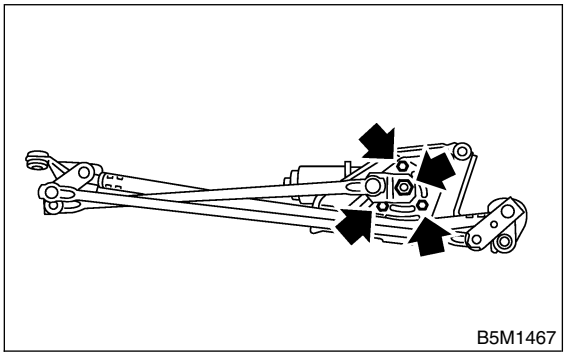
S902406

## A: REMOVAL S902406A18

1) Disconnect ground cable from battery.
2) Remove cowl panel. <Ref. to EI-27, REMOVAL, Cowl Panel.>
3) Disconnect wiper motor connector.
4) Loosen bolts and nuts to remove wiper link.


B5M1466

5) Loosen bolts and nut to remove motor.


B5M1467

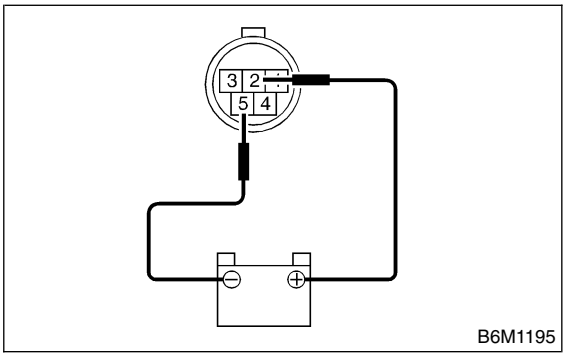
## B: INSTALLATION S902406A11

Install in the reverse order of removal.

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to WW-2, FRONT WIPER, COMPONENT, General Description.>***

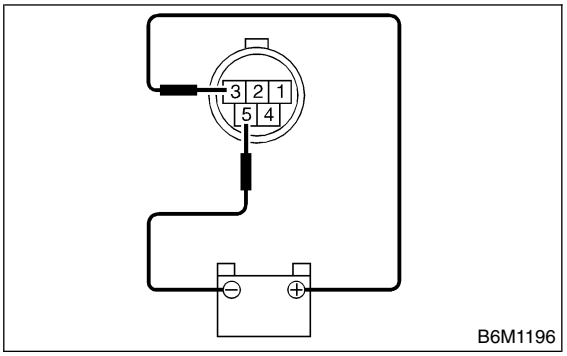
## C: INSPECTION S902406A10

1) When battery is connected to terminal of connectors, confirm that motor operates at low speed.



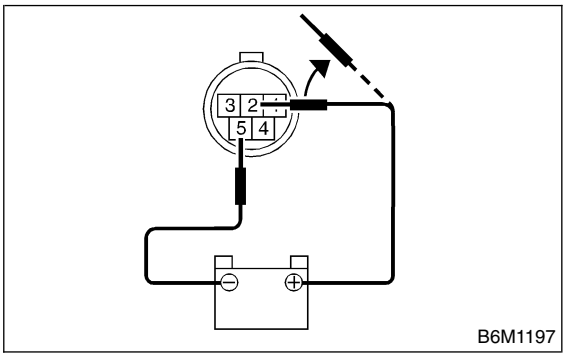
B6M1195

2) When battery is connected to terminal of connectors, confirm that motor operates at high speed.



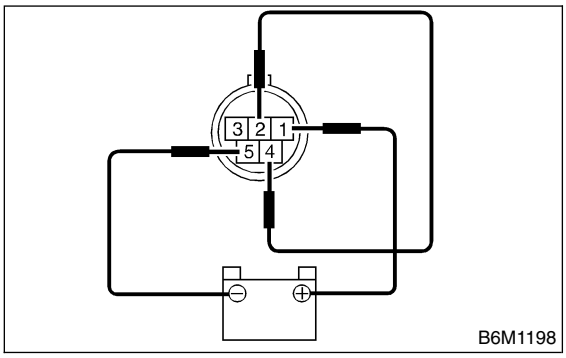
B6M1196

3) Connect battery to terminals of connector, and remove terminal connection with motor rotated at low speed, and stop wiper motor through operation.



B6M1197

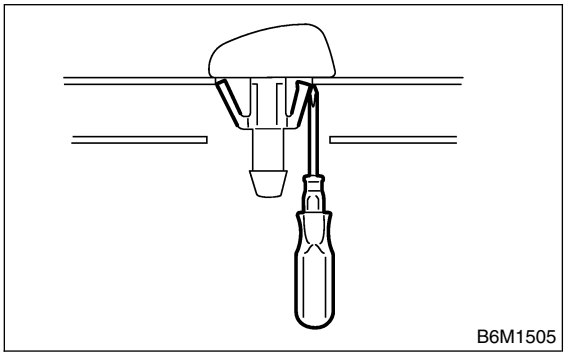
4) Connect battery and confirm that motor stops at automatic stop position after motor operates at low speed again.



# 8. Front Washer Nozzle S902788

## A: REMOVAL S902788A18

1) Remove the washer hose from the washer nozzle.
2) Open the clips on the underside of the hood with a slot-type screwdriver or other tool, and remove the washer nozzle.




## B: INSTALLATION S902788A11

1) Install in the reverse order of removal.
2) Adjust the position of the washer liquid sprayer. <Ref. to WW-14, ADJUSTMENT, Front Washer Nozzle.>

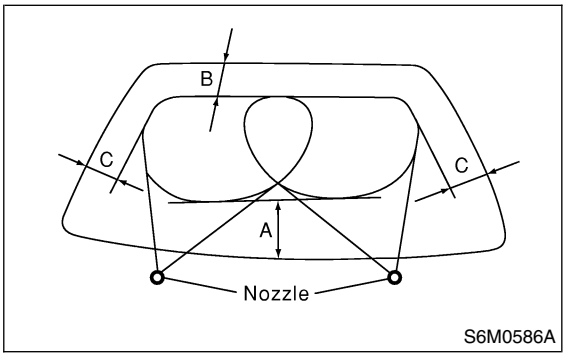
## C: INSPECTION S902788A10

- Make sure the nozzle and hose are not clogged.
- Make sure the hose is not bent.

## D: ADJUSTMENT S902788A01

1) Turn wiper switch to OFF position.
2) When vehicle stops, adjust washer injection position as shown in the figure.

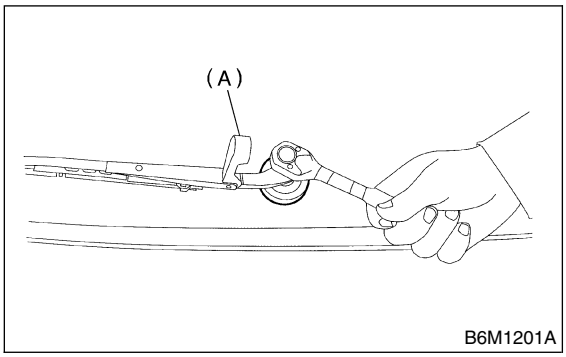
***Injection position:***
***A: 300 mm (11.81 in)***
***B: 100 mm (3.94 in)***
***C: 200 mm (7.87 in)***



# 9. Rear Wiper Arm S902402

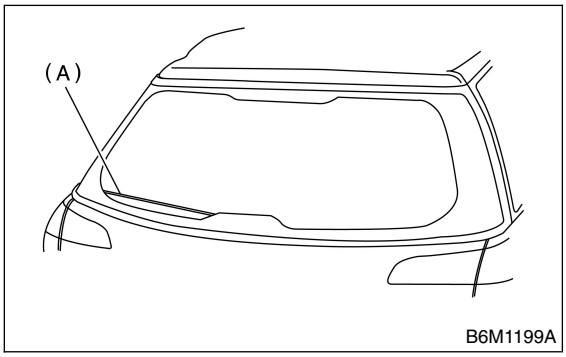
## A: REMOVAL S902402A18

1) Raise wiper arm cover (A).
2) Loosen nut to remove wiper arm.




## B: INSTALLATION S902402A11

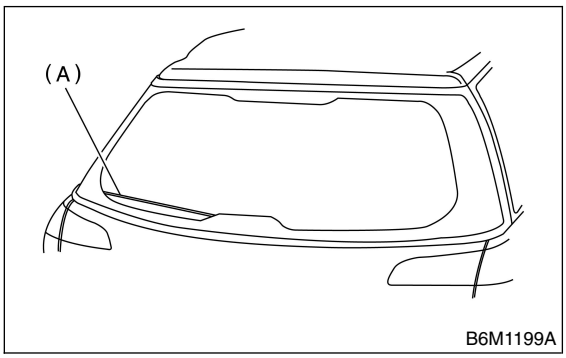
1) Install in the reverse order of removal.
2) Operate rear wiper once.
3) Align blade to rear defogger heat wire (A).




***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to WW-3, REAR WIPER, COMPONENT, General Description.>***

## C: ADJUSTMENT S902402A01

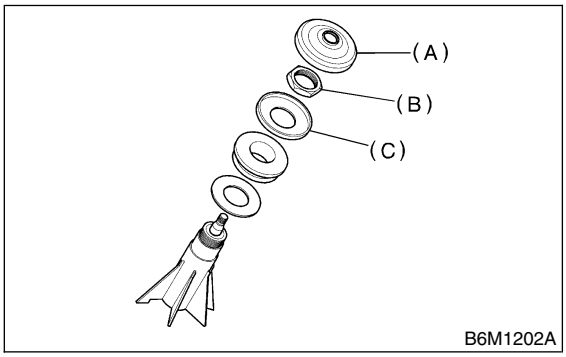
1) Operate rear wiper once.
2) Align blade to rear defogger heat wire (A).



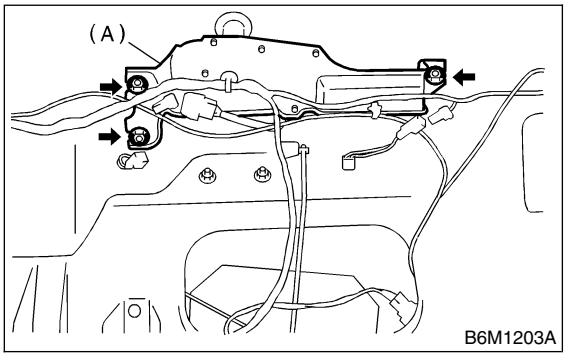
# 10. Rear Wiper Motor S902532

## A: REMOVAL S902532A18

1) Remove rear wiper arm.
2) Remove cap (A), nut (B), and spacer (C) from rear wiper shaft.

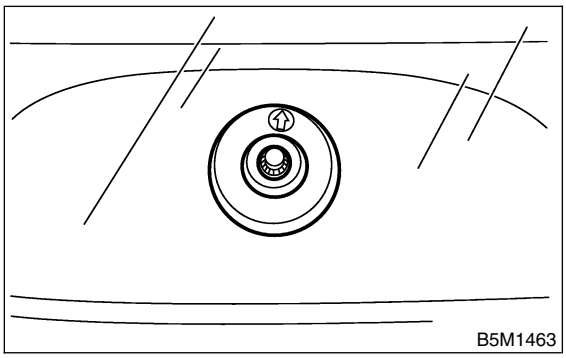



3) Remove rear gate lower trim. <Ref. to EI-49, REMOVAL, Rear Gate Trim.>
4) Remove harness clip and disconnect wiper motor connector.
5) Loosen bolts to remove wiper motor assembly (A).




## B: INSTALLATION S902532A11

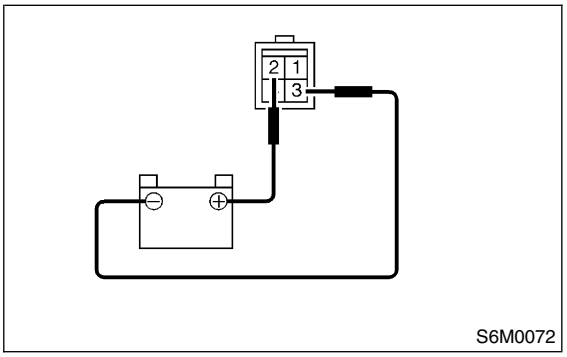
1) Install in the reverse order of removal.
2) Install rear wiper cushion with the arrow mark facing up, as shown in the figure.



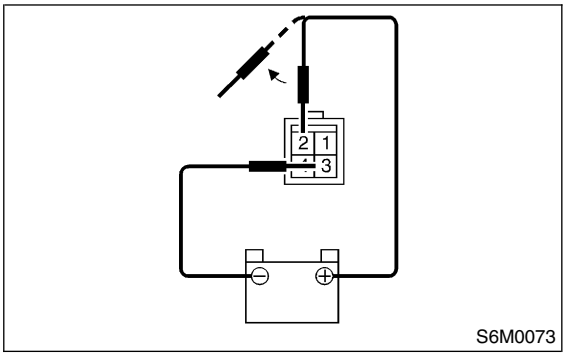

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to WW-3, REAR WIPER, COMPONENT, General Description.>***

## C: INSPECTION S902532A10

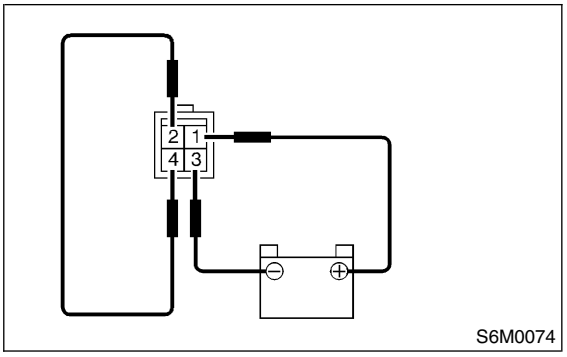
1) Connect battery to wiper motor connector and confirm that wiper motor operates.




2) Connect battery to terminal of connector and remove terminal connections with motor rotated, and stop wiper motor through operation.



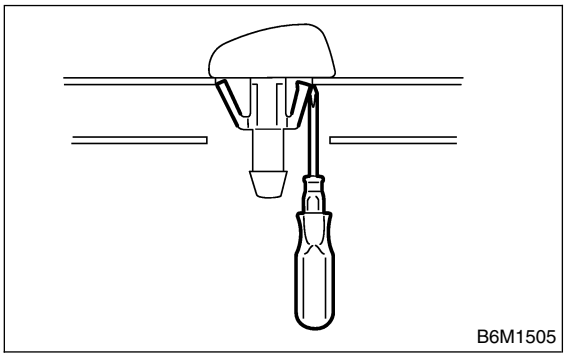

3) Connect battery and confirm that motor stops at automatic stop position after motor operates at low speed again.



# 11. Rear Washer Nozzle S902789

## A: REMOVAL S902789A18

1) Remove the high-mounted stop light. <Ref. to LI-24, REMOVAL, High-mounted Stop Light.>
2) Remove the washer hose from the washer nozzle.
3) Open the clips on the underside of the hood with a slot-type screwdriver or other tool, and remove the washer nozzle.




## B: INSTALLATION S902789A11

1) Install in the reverse order of removal.
2) Adjust the position of the washer liquid sprayer. <Ref. to WW-17, ADJUSTMENT, Rear Washer Nozzle.>

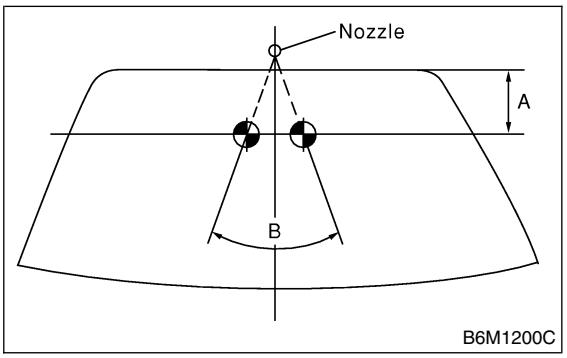
## C: INSPECTION S902789A10

- Make sure the nozzle and hose are not clogged.
- Make sure the hose is not bent.

## D: ADJUSTMENT S902789A01

1) Turn wiper switch to OFF position.
2) When vehicle stops, adjust washer injection position as shown in the figure.

***Injection position:***
***A: 60 mm (2.36 in)***
***B: 42°***

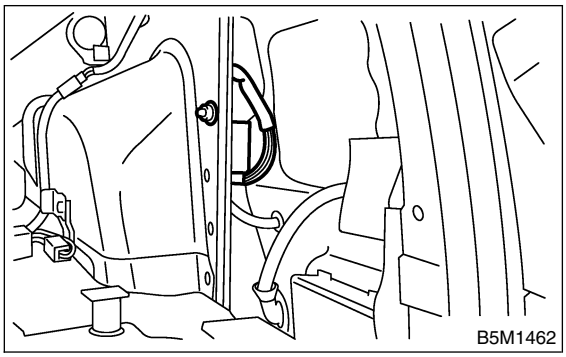


# 12. Wiper Control Relay S902403

## A: REMOVAL S902403A18

### 1. WAGON S902403A1801

1) Remove right quarter lower trim. <Ref. to EI-44, REMOVAL, Rear Quarter Trim.>
2) Remove quarter pocket.
3) Loosen nut to remove control unit.




## B: INSTALLATION S902403A11

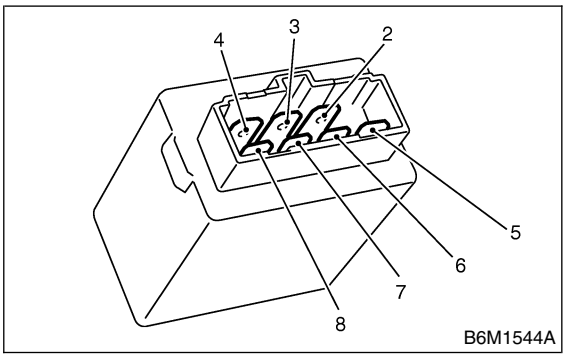
### 1. WAGON S902403A1101

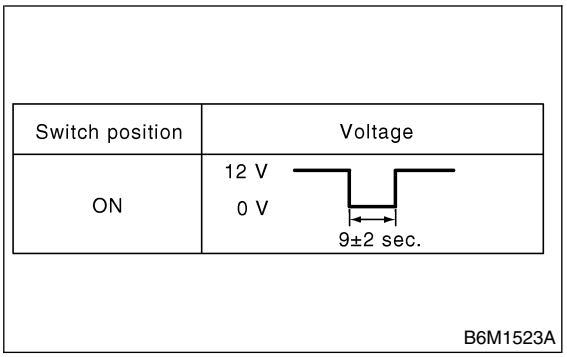
Install in the reverse order of removal.

## C: INSPECTION S902403A10

### 1. WAGON S902403A1001

Apply battery voltage to the rear terminals 8 and 2, and then inspect the voltage of 6 and 2. (Measure the voltage from after the second time the wiper stops.)




If operation is not as specified, replace the switch.

# 1. General Description S901001

## A: CAUTION S901001A03

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

## B: PREPARATION TOOL S901001A17

### 1. GENERAL TOOLS S901001A1701

| 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. Radio System S901467

## A: SCHEMATIC S901467A21

### 1. AUDIO EXCEPT MCINTOSH SYSTEM

S901467A2101

<Ref. to WI-64, EXCEPT MCINTOSH AUDIO MODEL, SCHEMATIC, Audio System.>

### 2. AUDIO MCINTOSH SYSTEM S901467A2102

<Ref. to WI-66, MCINTOSH AUDIO MODEL, SCHEMATIC, Audio System.>

## B: INSPECTION S901467A10

| Symptom | Repair order |
|---|---|
| No power coming in (No display and no sound from speakers) | (1) Check fuse and power supply for radio.<br>(2) Check radio ground.<br>(3) Remove radio for repair. |
| A specific speaker does not operate. | (1) Check speaker.<br>(2) Check output circuit to speaker<br>● between radio and speaker (except McIntosh system).<br>● between speaker amplifier and speaker (McIntosh system). |
| Radio controls are operational, but sound is not heard from speakers. (McIntosh system) | (1) Check fuse and power supply for speaker amplifier.<br>(2) Check speaker amplifier ground. |
| Woofer does not operate (McIntosh system). | Check output circuit to woofer from speaker amplifier. |
| Radio generates noise with engine running. | (1) Check radio ground.<br>(2) Check generator.<br>(3) Check ignition coil.<br>(4) Remove radio for repair. |
| AM and FM modes are weak or noisy. | (1) Check antenna.<br>(2) Check antenna amplifier.<br>(3) Check radio ground.<br>(4) Remove radio for repair. |

# 3. Cigarette Lighter System S901494

## A: SCHEMATIC S901494A21

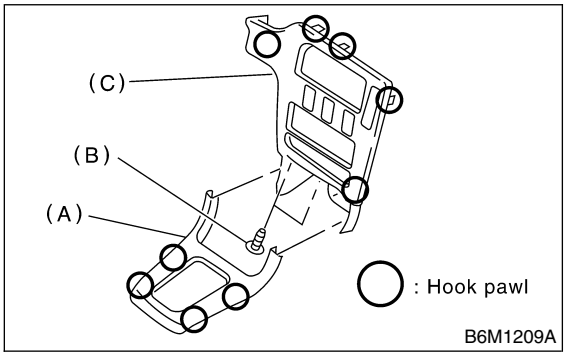
### 1. CIGARETTE LIGHTER S901494A2101

<Ref. to WI-108, SCHEMATIC, Front Accessory Power Supply System.>

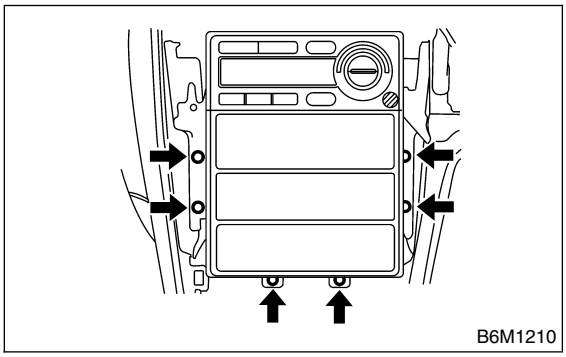
# 4. Radio Body S901469

## A: REMOVAL S901469A18

1) Disconnect ground cable from battery.
2) Remove front cover (A).
3) Remove two screws (B) and then remove center panel (C) while disconnecting connector.




4) Remove fitting screws, and slightly pull radio out from center console.




5) Disconnect electric connectors and antenna feeder cord and then disconnect heater control unit.

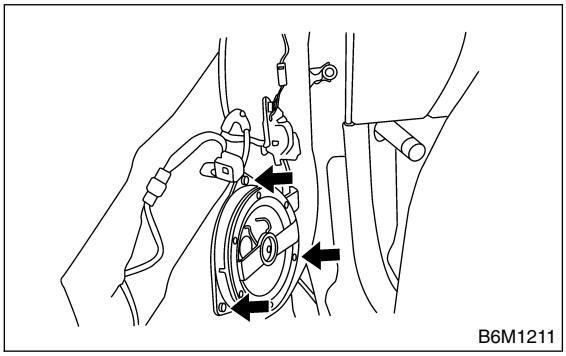
## B: INSTALLATION S901469A11

Install in the reverse order of removal.

# 5. Front Speaker S901466

## A: REMOVAL S901466A18

1) Disconnect ground cable from battery.
2) Remove front door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
3) Remove front speaker mounting screws.




4) Disconnect harness connector and remove front speaker.

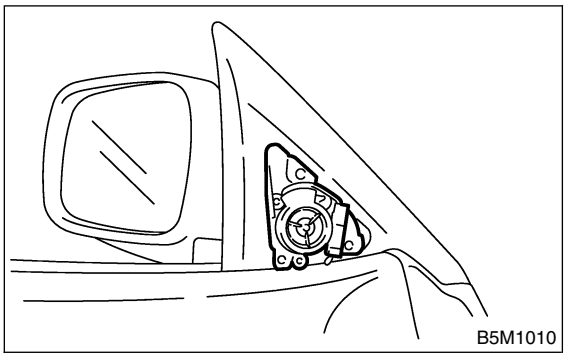
## B: INSTALLATION S901466A11

Install in the reverse order of removal.

# 6. Front Tweeter S901801

## A: REMOVAL S901801A18

1) Disconnect ground cable from battery.
2) Remove gusset cover.




3) Disconnect harness connector and remove tweeter.

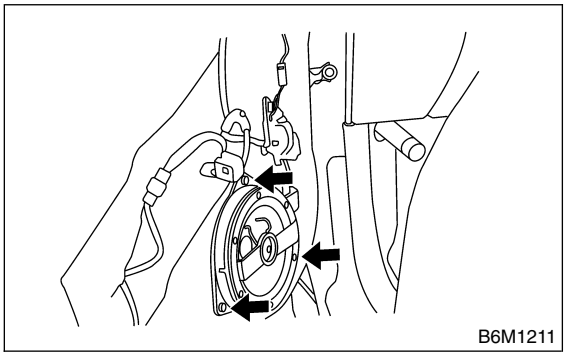
## B: INSTALLATION S901801A11

Install in the reverse order of removal.

# 7. Rear Speaker S901470

## A: REMOVAL S901470A18

1) Disconnect ground cable from battery.
2) Remove rear door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
3) Remove rear speaker mounting screws.




4) Disconnect harness connector and remove rear speaker.

## B: INSTALLATION S901470A11

Install in the reverse order of removal.

# 8. Rear Tweeter S901802

## A: REMOVAL S901802A18

1) Disconnect ground cable from battery.
2) Remove rear door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
3) Remove tweeter mounting screws.
4) Disconnect harness connector and remove tweeter.

## B: INSTALLATION S901802A11

Install in the reverse order of removal.

# 9. Woofer S901612

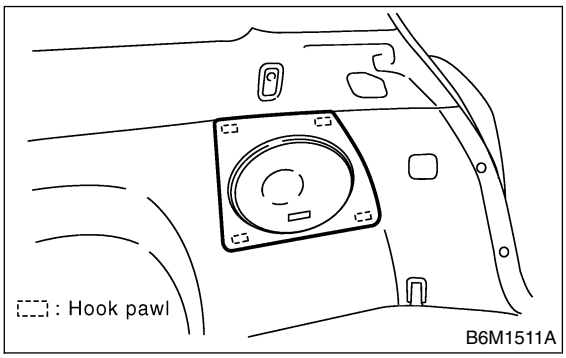
## A: REMOVAL S901612A18

### 1. SEDAN S901612A1801

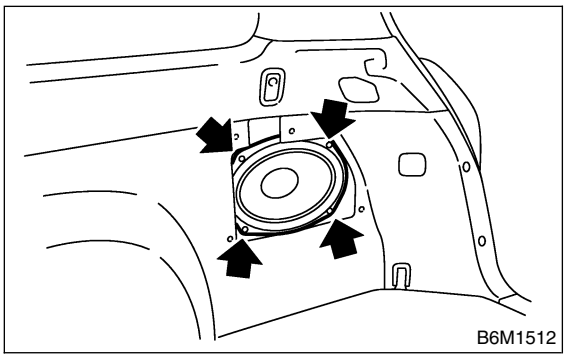
1) Disconnect ground cable from battery.
2) Remove rear shelf trim. <Ref. to EI-50, REMOVAL, Rear Shelf Trim.>
3) Remove woofer mounting screws.
4) Disconnect harness connector, and then remove woofer.

### 2. WAGON S901612A1802

1) Disconnect ground cable from battery.
2) Remove trim of woofer.




3) Remove woofer mounting screws.




4) Disconnect harness connector, and then remove woofer.

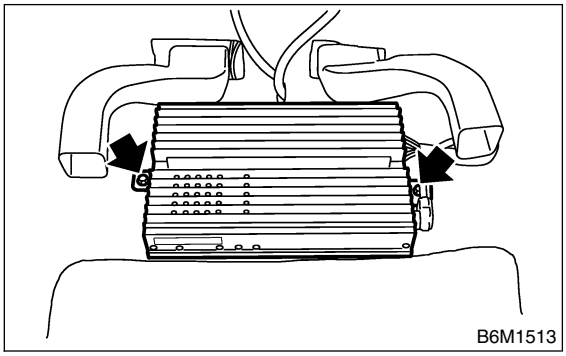
## B: INSTALLATION S901612A11

Install in the reverse order of removal.

# 10. Speaker Amplifier S901613

## A: REMOVAL S901613A18

1) Disconnect ground cable from battery.
2) Remove passenger's seat. <Ref. to SE-7, REMOVAL, Front Seat.>
3) Disconnect harness connector.
4) Remove mounting nuts, and then detach speaker amplifier.




## B: INSTALLATION S901613A11

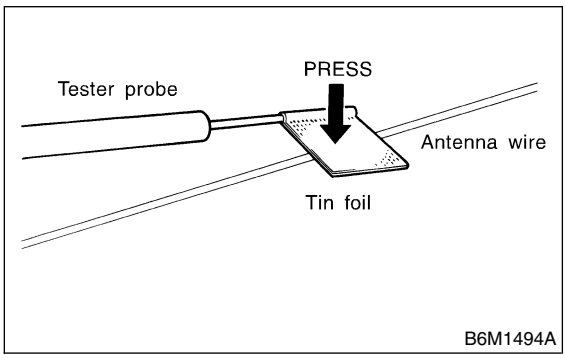
Install in the reverse order of removal.

# 11. Antenna S901463

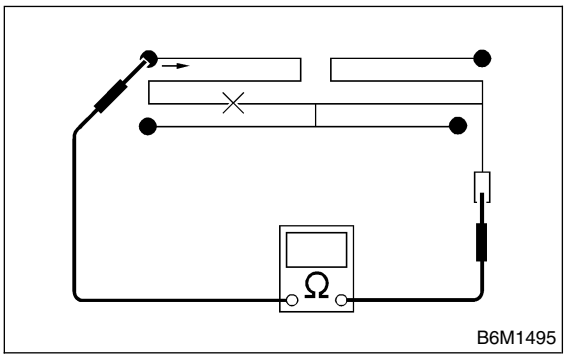
## A: INSPECTION S901463A10

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

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

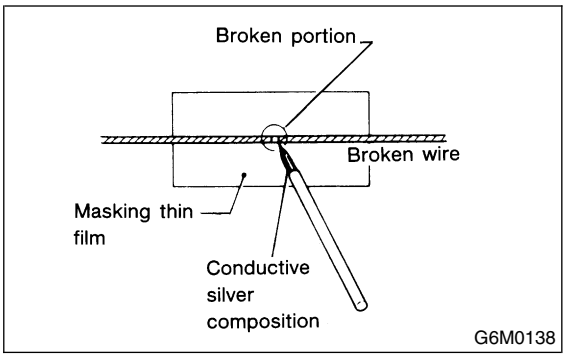



To locate the broken point, move the probe along the antenna wire.




## B: REPAIR S901463A19

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



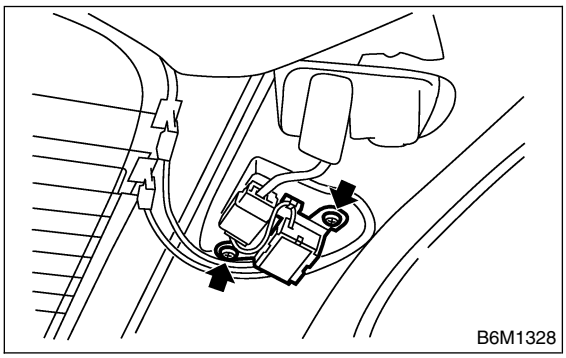

4) Dry out the deposited portion.
5) After repair has been completed, measure resistance in the repaired wire.

# 12. Antenna Amplifier S901460

## A: REMOVAL S901460A18

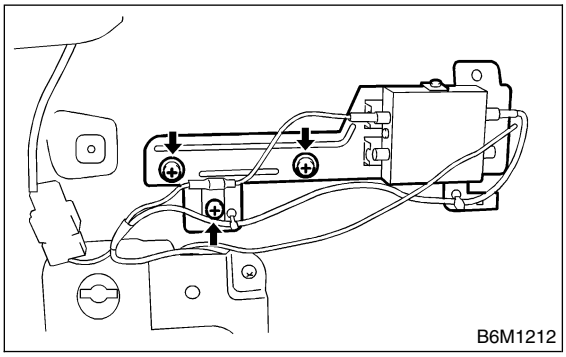
### 1. SEDAN S901460A1801

1) Disconnect ground cable from battery.
2) Remove rear pillar upper trim (left side). <Ref. to EI-44, REMOVAL, Rear Quarter Trim.>
3) Disconnect harness connector and terminal.
4) Remove mounting screw and detach antenna amplifier.


B6M1328

### 2. WAGON S901460A1802

1) Disconnect ground cable from battery.
2) Remove rear quarter lower trim (left side). <Ref. to EI-44, REMOVAL, Rear Quarter Trim.>
3) Disconnect harness connector and terminal.
4) Remove mounting screw and detach antenna amplifier.


B6M1212

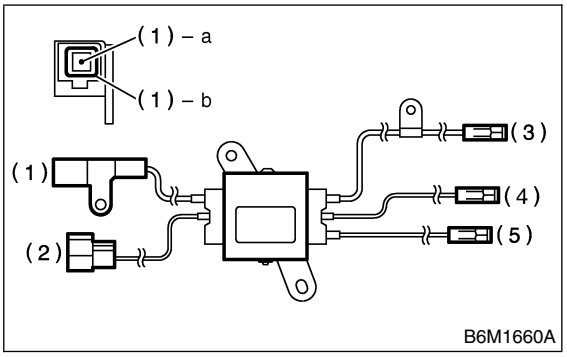
## B: INSTALLATION S901460A11

Install in the reverse order of removal.

## C: INSPECTION S901460A10

### 1. SEDAN S901460A1001

Measure antenna amplifier resistance.

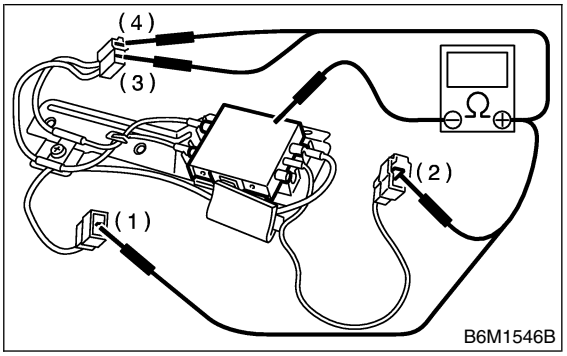


B6M1660A

| Terminal No. | Standard |
|---|---|
| 1–a and Amplifier body | More than 100 kΩ |
| 1–b and Amplifier body | Less than 1 Ω |
| 2 and Amplifier body | More than 100 kΩ |
| 3 and Amplifier body | More than 100 kΩ |
| 4 and Amplifier body | More than 100 kΩ |
| 5 and Amplifier body | More than 100 kΩ |
| 1 and 3 | Less than 1 Ω |

### 2. WAGON S901460A1002

Measure antenna amplifier resistance.



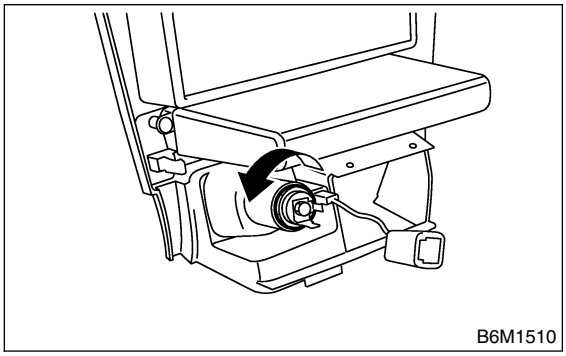
B6M1546B

| Terminal No. | Standard |
|---|---|
| 1 and Amplifier body | More than 100 kΩ |
| 2 and Amplifier body | More than 100 kΩ |
| 3 and Amplifier body | More than 100 kΩ |
| 4 and Amplifier body | More than 100 kΩ |

# 13. Cigarette Lighter S901461

## A: REMOVAL S901461A18

1) Disconnect ground cable from battery.
2) Remove center panel. <Ref. to ET-5, REMOVAL, Radio Body.>
3) Disconnect harness connectors and remove cigarette lighter.




## B: INSTALLATION S901461A11

Install in the reverse order of removal.

# 1. General Description S904001

## A: PREPARATION TOOL S904001A17

### 1. GENERAL TOOLS S904001A1701

| TOOL NAME | REMARKS |
|---|---|
| Circuit Tester | Used for measuring resistance and voltage. |

# 2. Horn System S904436

## A: SCHEMATIC S904436A21

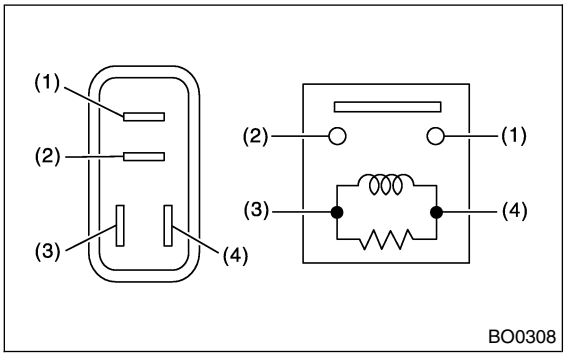
### 1. HORN S904436A2101

<Ref. to WI-109, SCHEMATIC, Horn System.>

## B: INSPECTION S904436A10

### 1. HORN RELAY S904436A1001

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

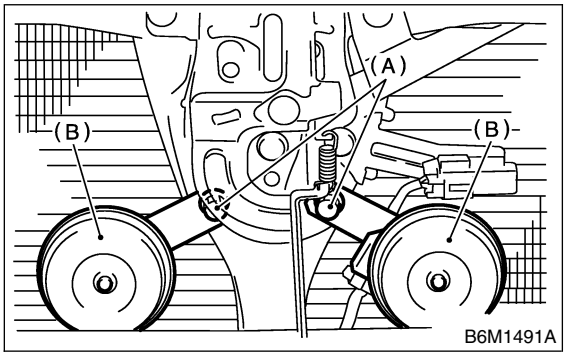



| Current | Terminal No. | Standard |
|---|---|---|
| Flow | 1 and 2 | Less than 1 Ω |
| No flow | | More than 1 MΩ |

# 3. Horn S904437

## A: REMOVAL S904437A18

1) Disconnect ground cable from battery.
2) Remove horn bracket mounting bolt (A).
3) Disconnect harness connector and remove horn assembly (B).

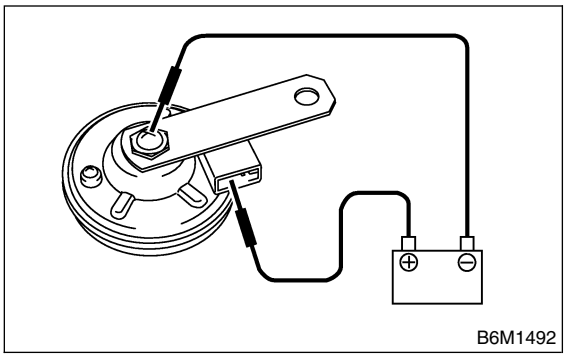



## B: INSTALLATION S904437A11

Install in the reverse order of removal.

## C: INSPECTION S904437A10

With 12 V direct current supply between horn terminal and case ground, check that the horn sounds properly.

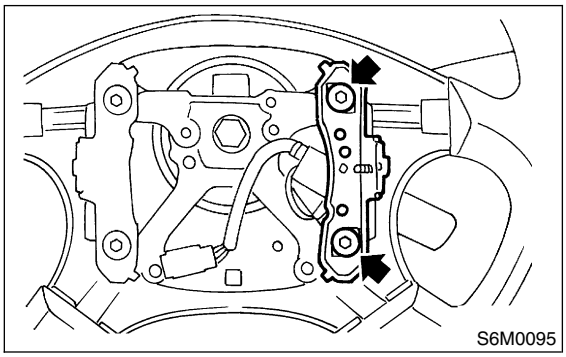


# 4. Horn Switch S904434

## A: REMOVAL S904434A18

**WARNING:**
**Before servicing, be sure to read the notes in the AB section for proper handling of the driver airbag module. <Ref. to AB-3, CAUTION, General Description.>**

1) Disconnect ground cable from battery.
2) Remove the driver's airbag module. <Ref. to AB-13, Driver's Airbag Module.>
3) Remove horn switch from steering wheel as shown.

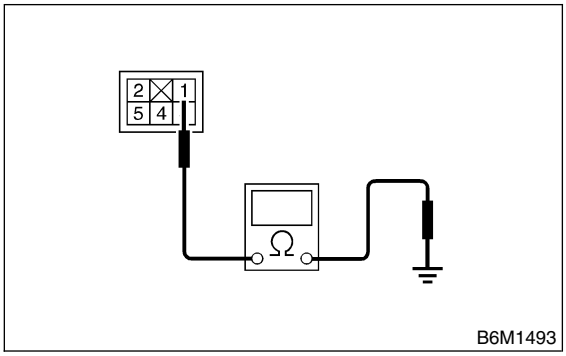



## B: INSTALLATION S904434A11

Install in the reverse order of removal.

## C: INSPECTION S904434A10

Measure horn switch resistance.

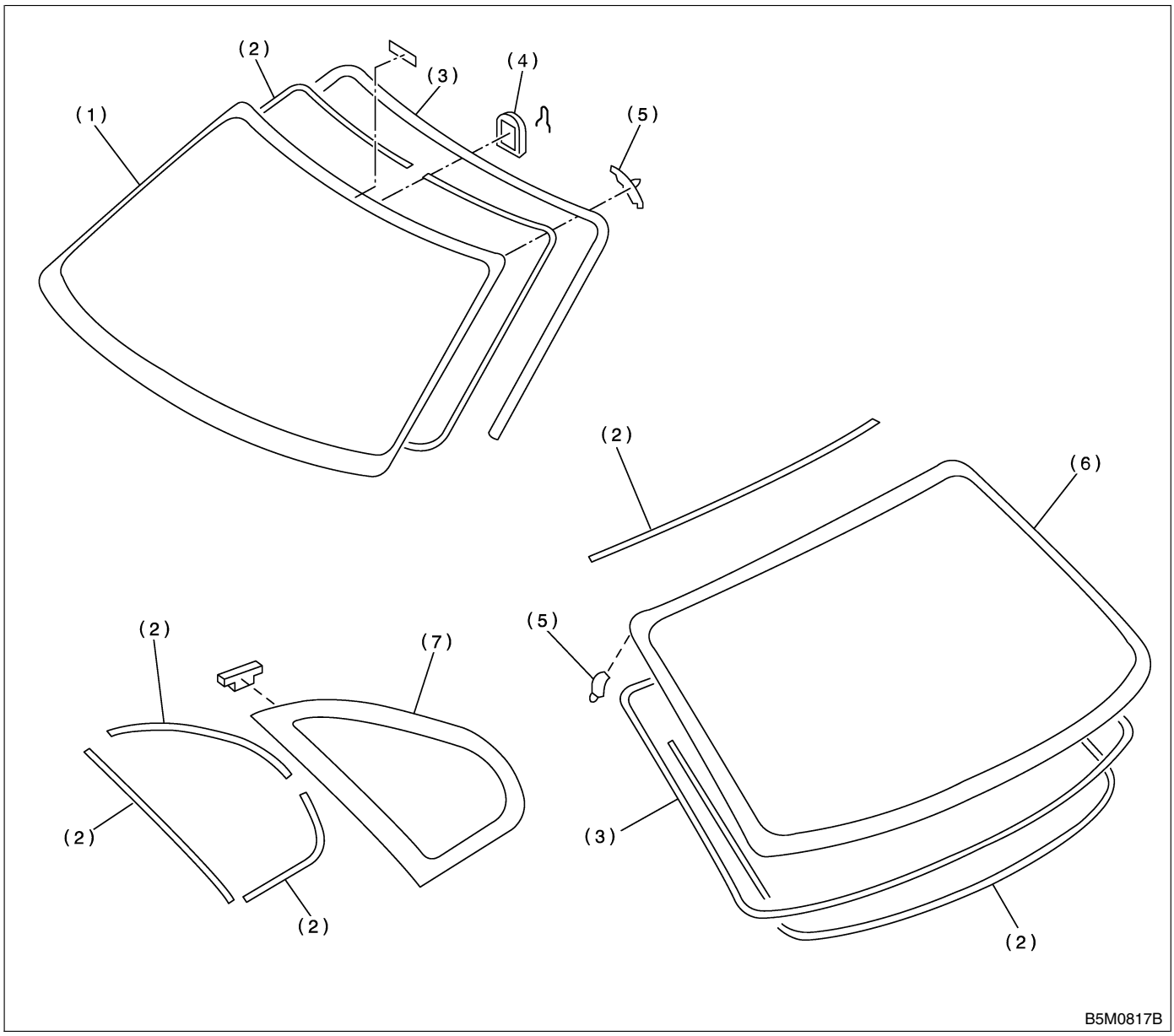



| Switch position | Terminal No. | Standard |
|---|---|---|
| When horn switch is pushed. | 1—Body ground | Less than 1 Ω |
| When horn switch is not pushed. | | More than 1 MΩ |

# 1. General Description S905001

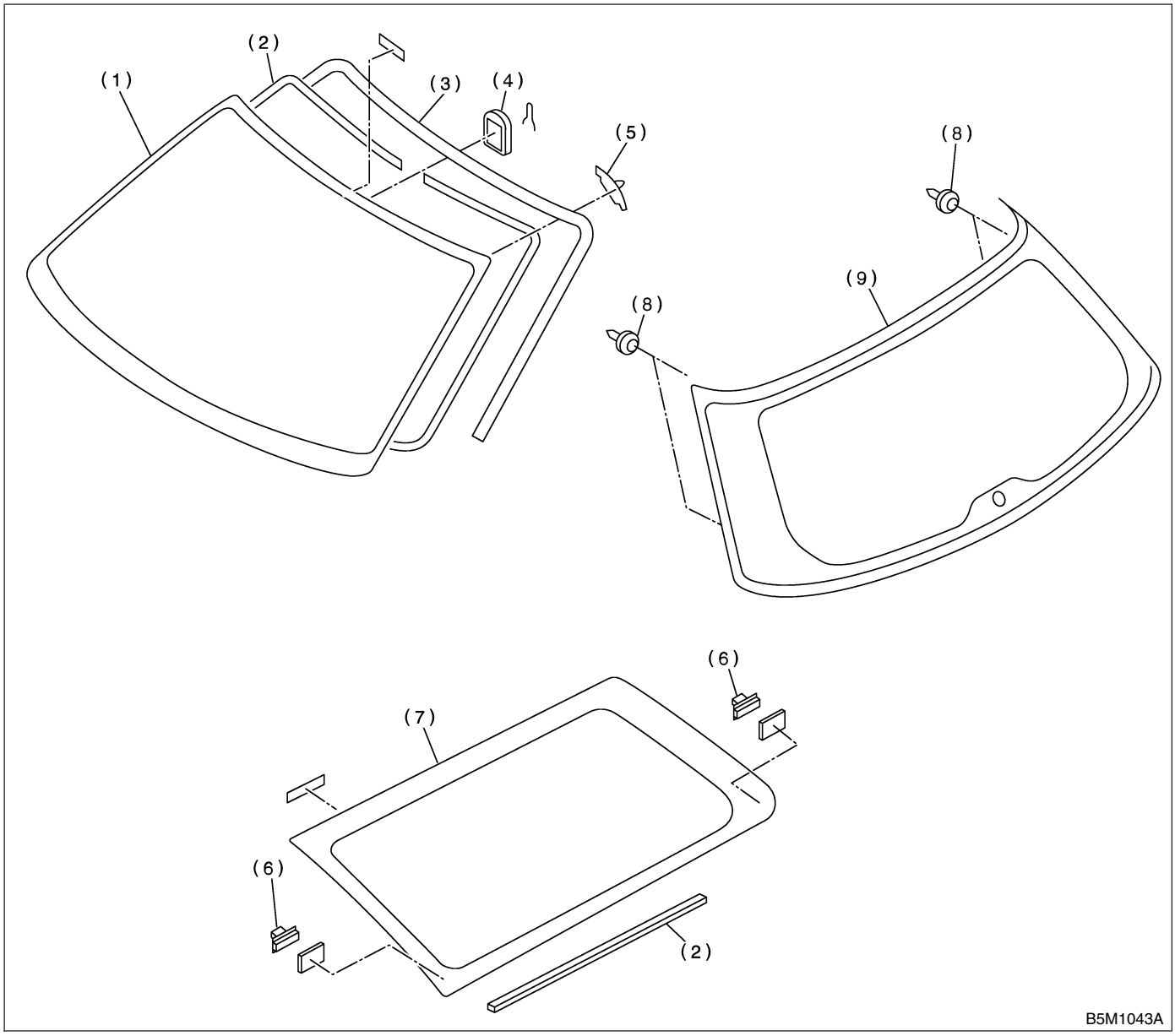
## A: COMPONENT S905001A05

### 1. FIXED GLASS (SEDAN) S905001A0501



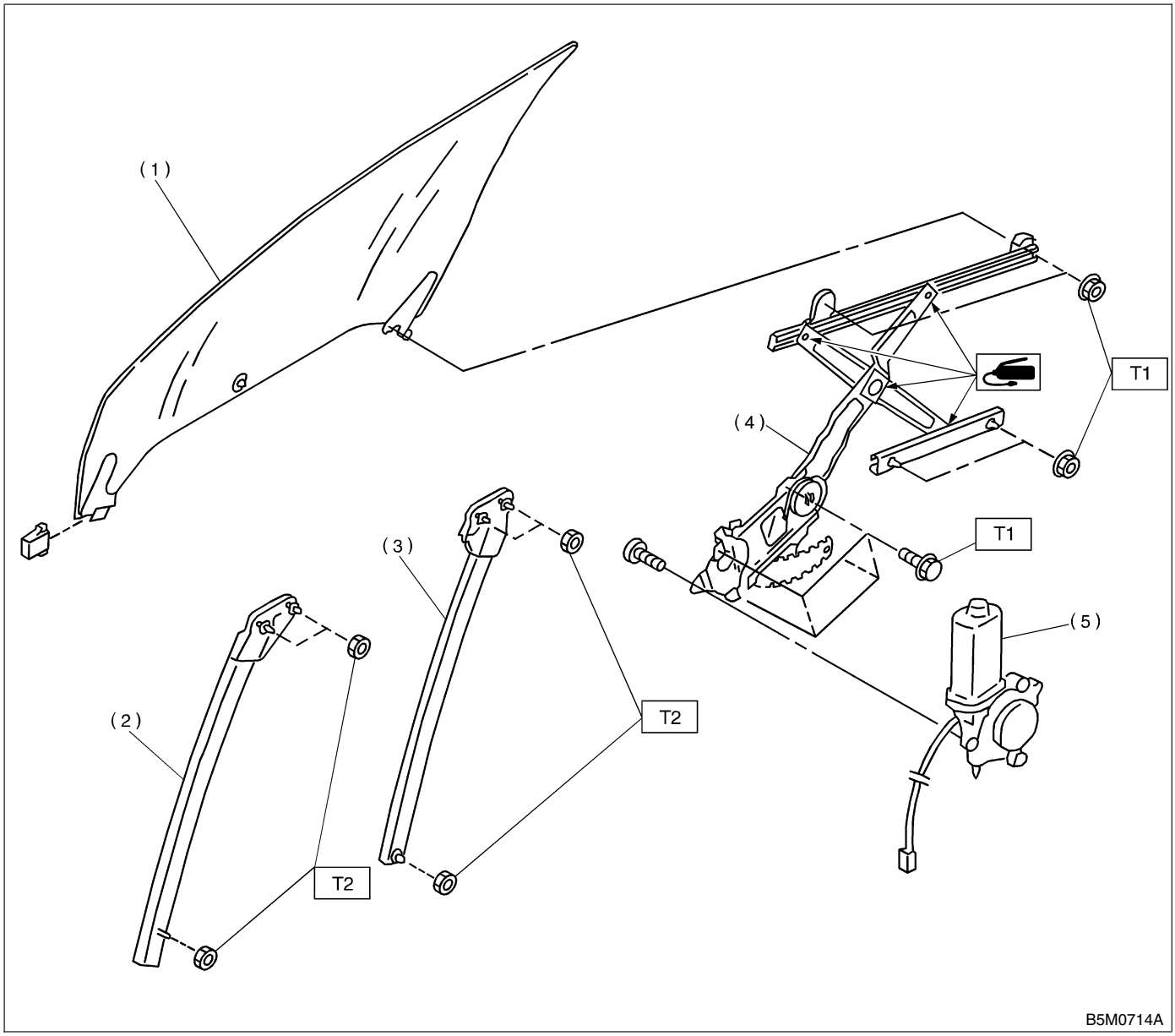

(1) Windshield glass
(2) Dam rubber
(3) Molding
(4) Rearview mirror mount
(5) Locate pin
(6) Rear window glass
(7) 6 light glass

## 2. FIXED GLASS (WAGON) S905001A0502




(1) Windshield glass
(2) Dam rubber
(3) Molding
(4) Rearview mirror mount
(5) Locate pin
(6) Fastener
(7) Rear quarter glass
(8) Locate pin
(9) Glass

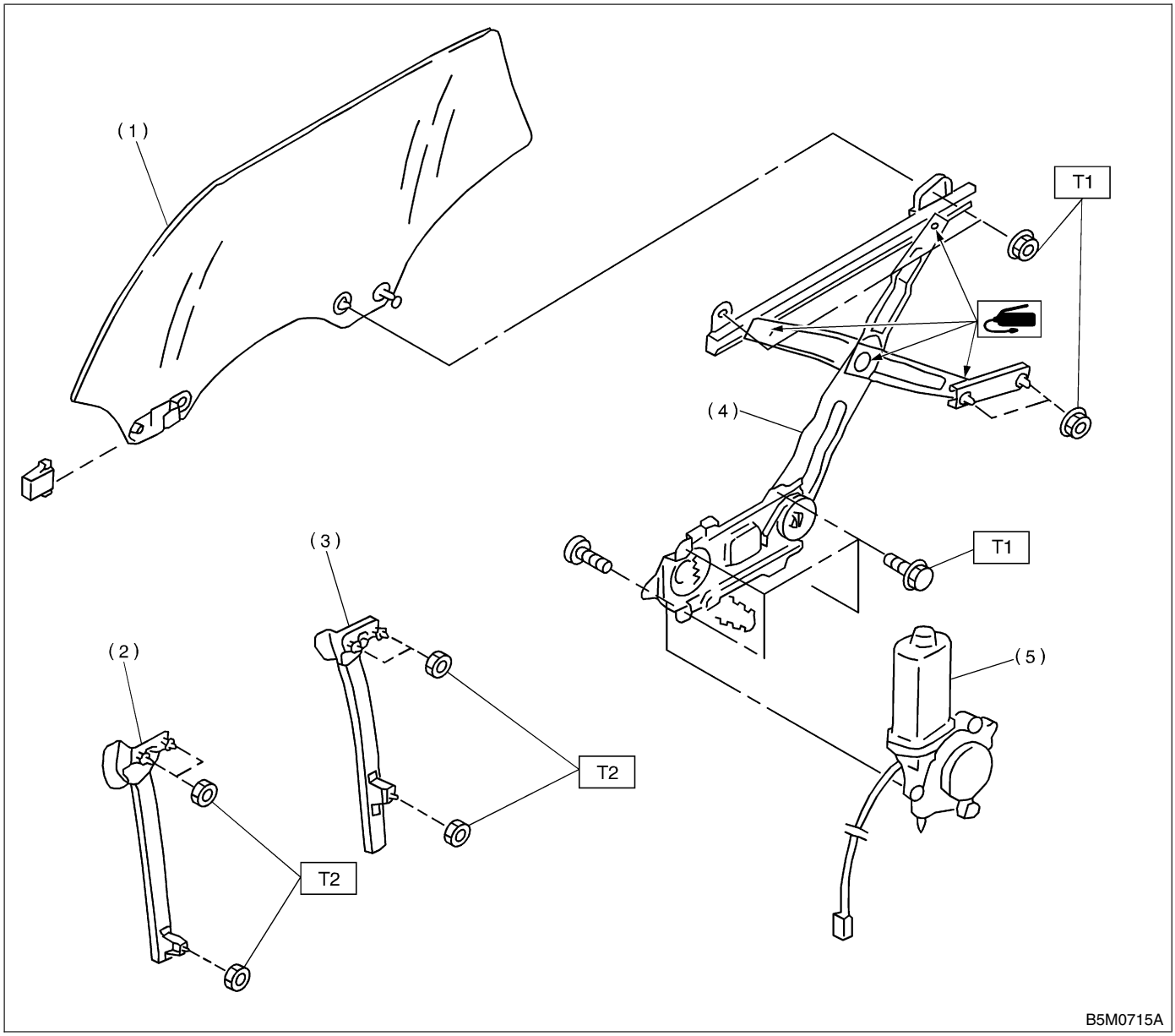
## 3. FRONT DOOR GLASS S905001A0503




(1) Glass
(2) Door sash (Front)
(3) Door sash (Rear)
(4) Regulator ASSY
(5) Motor ASSY

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 7.35 (0.75, 5.4)***
***T2: 14 (1.4, 10.1)***

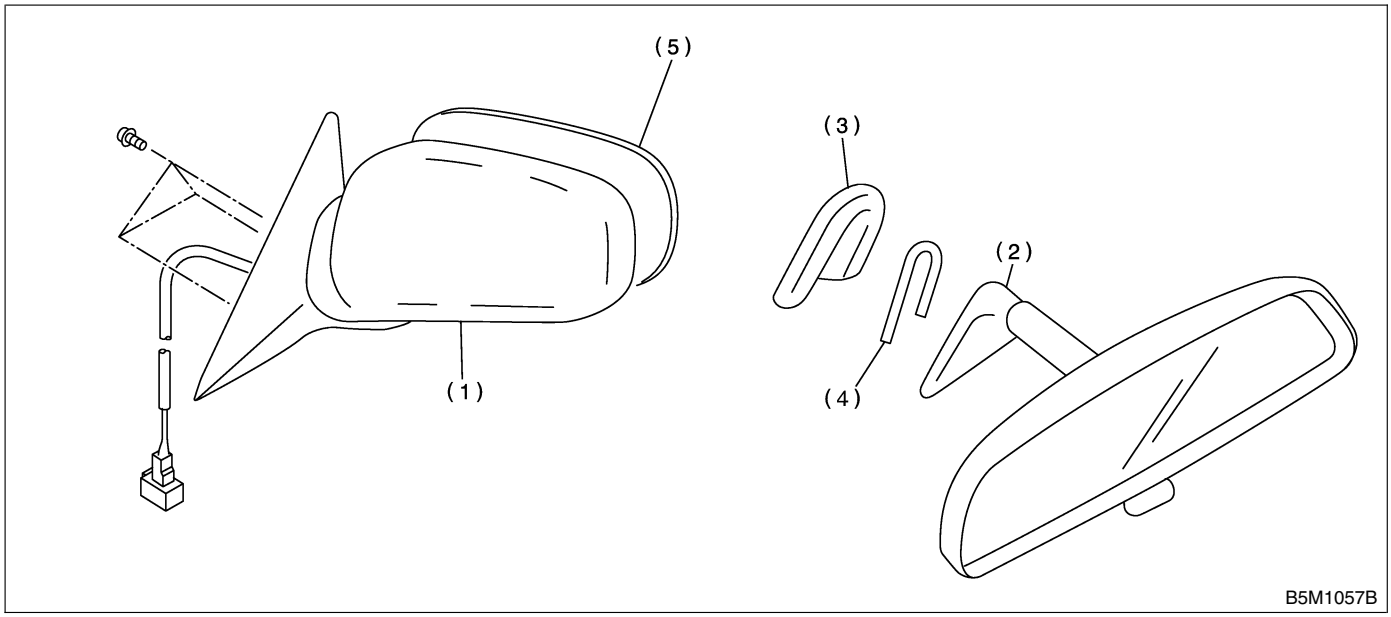
## 4. REAR DOOR GLASS S905001A0504




(1) Glass
(2) Door sash (Front)
(3) Door sash (Rear)
(4) Regulator ASSY
(5) Motor ASSY

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 7.35 (0.75, 5.4)***
***T2: 14 (1.4, 10.1)***

## 5. MIRRORS S905001A0505




(1) Outer mirror
(2) Inner rearview mirror
(3) Mount
(4) Spring
(5) Mirror

## B: CAUTION S905001A03

- When electrical connectors are disconnected, always conduct an operational check after connecting them again.
- Avoid impact and damage to the glass.

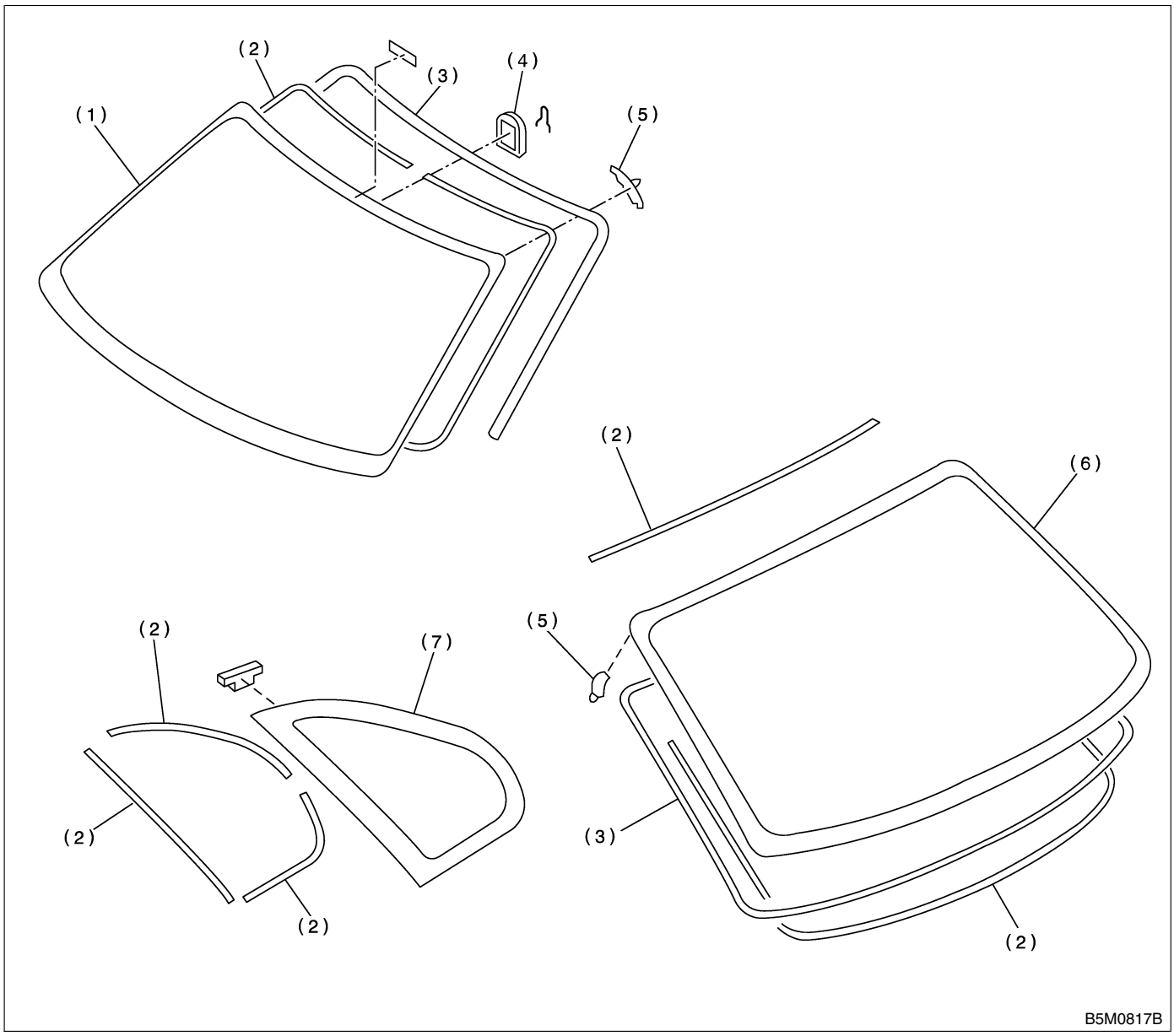
## C: PREPARATION TOOL S905001A17

| TOOL NAME | REMARKS |
|---|---|
| Circuit tester | Used for checking voltage and continuity. |
| Piano wire | Used for window glass removal. |
| Windshield knife | Used for window glass removal. |

# 1. General Description S905001

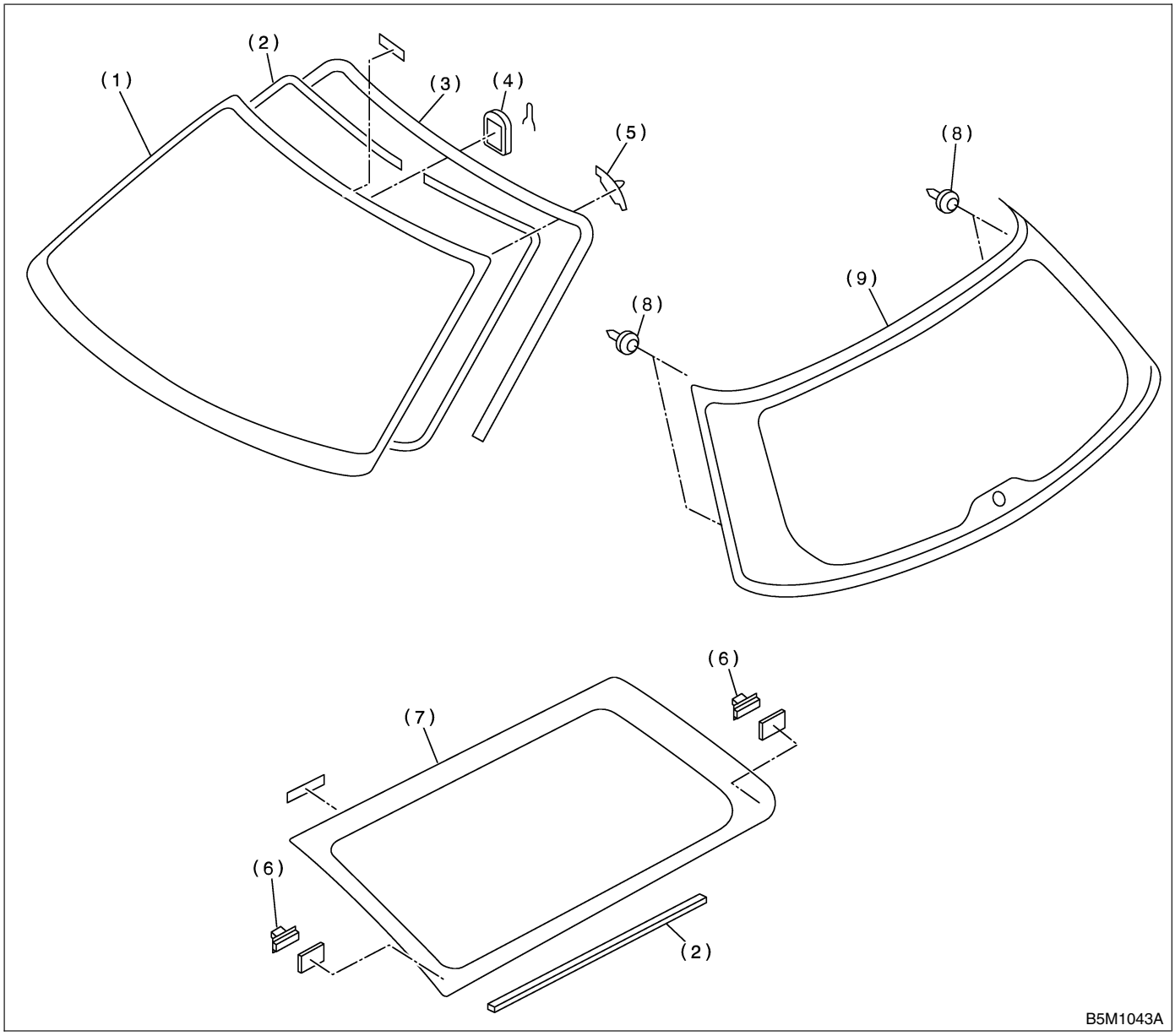
## A: COMPONENT S905001A05

### 1. FIXED GLASS (SEDAN) S905001A0501



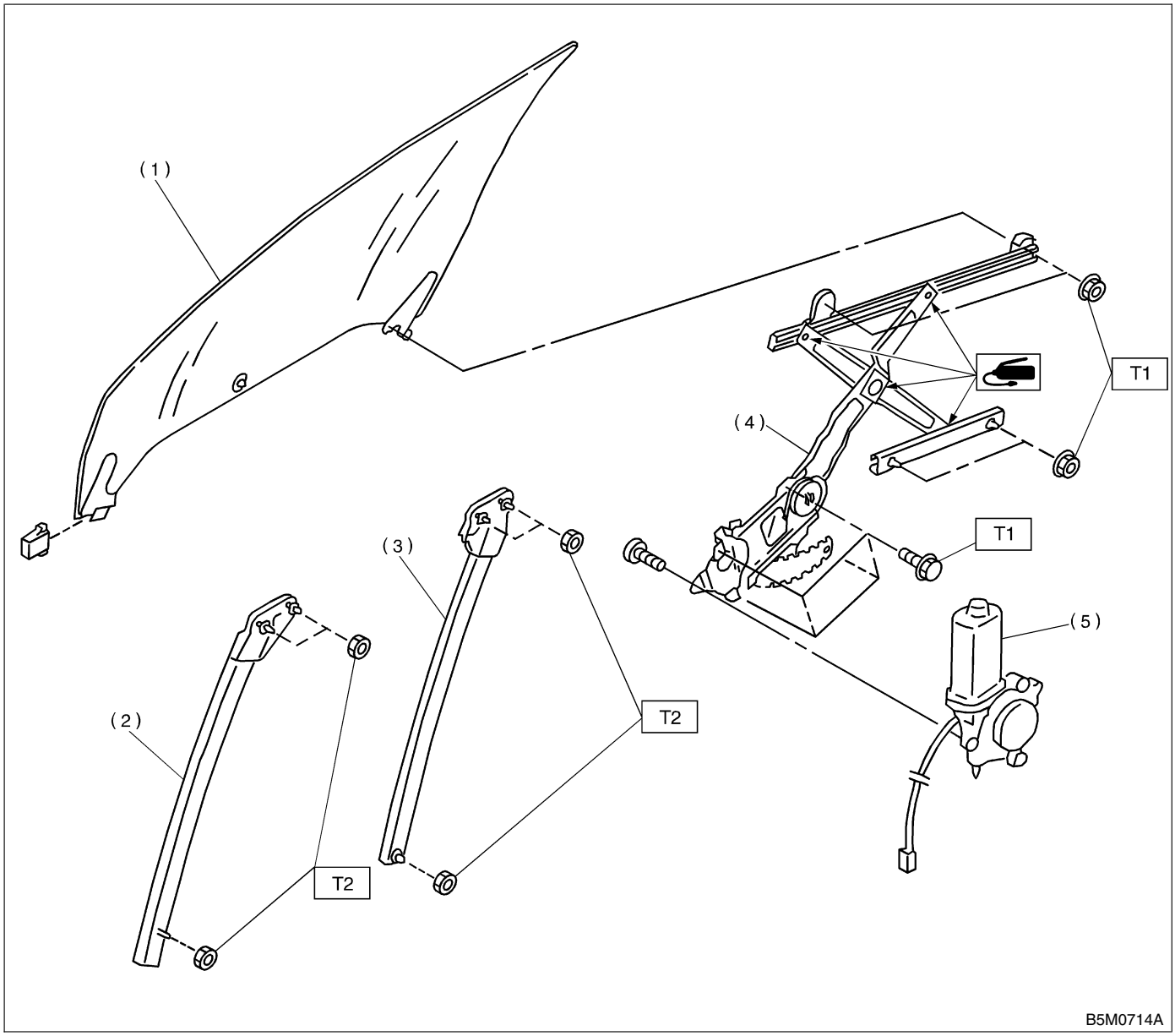

(1) Windshield glass
(2) Dam rubber
(3) Molding
(4) Rearview mirror mount
(5) Locate pin
(6) Rear window glass
(7) 6 light glass

## 2. FIXED GLASS (WAGON) S905001A0502




(1) Windshield glass
(2) Dam rubber
(3) Molding
(4) Rearview mirror mount
(5) Locate pin
(6) Fastener
(7) Rear quarter glass
(8) Locate pin
(9) Glass

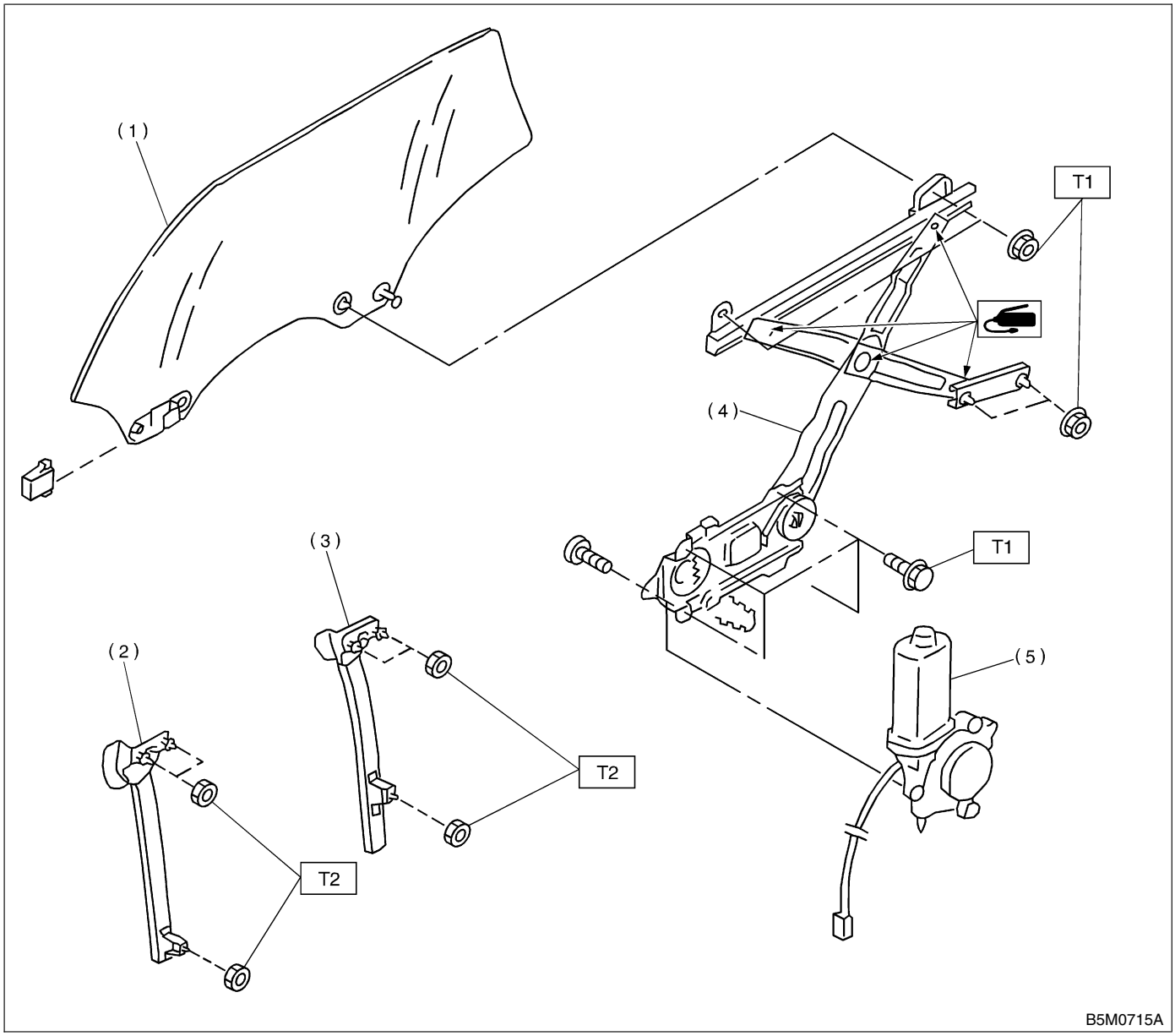
## 3. FRONT DOOR GLASS S905001A0503




(1) Glass
(2) Door sash (Front)
(3) Door sash (Rear)
(4) Regulator ASSY
(5) Motor ASSY

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 7.35 (0.75, 5.4)***
***T2: 14 (1.4, 10.1)***

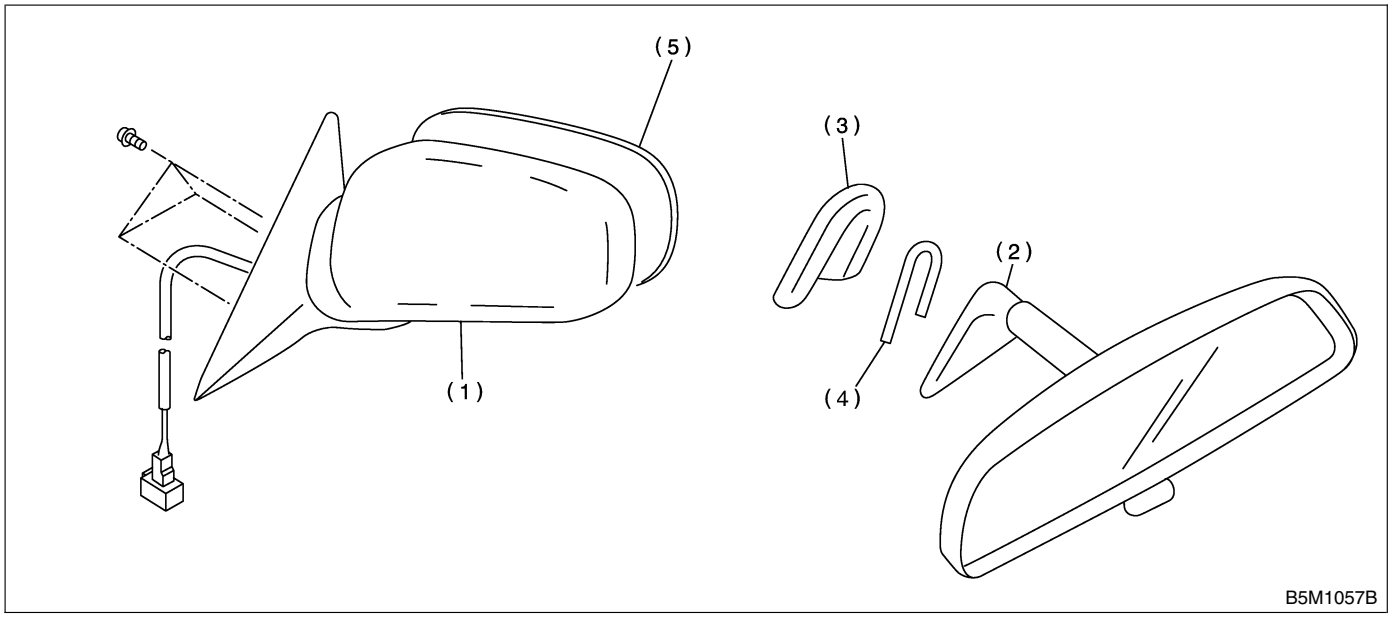
## 4. REAR DOOR GLASS S905001A0504




(1) Glass
(2) Door sash (Front)
(3) Door sash (Rear)
(4) Regulator ASSY
(5) Motor ASSY

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 7.35 (0.75, 5.4)***
***T2: 14 (1.4, 10.1)***

## 5. MIRRORS S905001A0505




(1) Outer mirror
(2) Inner rearview mirror
(3) Mount
(4) Spring
(5) Mirror

## B: CAUTION S905001A03

- When electrical connectors are disconnected, always conduct an operational check after connecting them again.
- Avoid impact and damage to the glass.

## C: PREPARATION TOOL S905001A17

| TOOL NAME | REMARKS |
|---|---|
| Circuit tester | Used for checking voltage and continuity. |
| Piano wire | Used for window glass removal. |
| Windshield knife | Used for window glass removal. |

# 2. Power Window System S905456

## A: SCHEMATIC S905456A21

<Ref. to WI-136, Power Window System.>

## B: INSPECTION S905456A10

| Symptom | Repair order |
|---|---|
| All power windows do not operate. | (1) Fuse (SBF-6) (F/B No. 18)<br>(2) Power window circuit breaker<br>(3) Power window relay<br>(4) Wire harness |
| One window does not operate. | (1) Power window main switch<br>(2) Power window sub switch<br>(3) Power window motor<br>(4) Wire harness |
| “Window Lock” does not operate. | (1) Power window main switch |

# 2. Power Window System S905456

## A: SCHEMATIC S905456A21

<Ref. to WI-136, Power Window System.>

## B: INSPECTION S905456A10

| Symptom | Repair order |
|---|---|
| All power windows do not operate. | (1) Fuse (SBF-6) (F/B No. 18)<br>(2) Power window circuit breaker<br>(3) Power window relay<br>(4) Wire harness |
| One window does not operate. | (1) Power window main switch<br>(2) Power window sub switch<br>(3) Power window motor<br>(4) Wire harness |
| “Window Lock” does not operate. | (1) Power window main switch |

# 3. Rear Window Defogger System S905455

## A: SCHEMATIC S905455A21

<Ref. to WI-143, Rear Window Defogger System.>

## B: INSPECTION S905455A10

| Symptom | Repair order |
|---|---|
| Rear window defogger does not operate. | (1) Fuse (M/B No. 1)<br>(2) Rear defogger relay<br>(3) Defogger switch<br>(4) Rear defogger condenser<br>(5) Deffogger wire<br>(6) Wire harness |

# 3. Rear Window Defogger System S905455

## A: SCHEMATIC S905455A21

<Ref. to WI-143, Rear Window Defogger System.>

## B: INSPECTION S905455A10

| Symptom | Repair order |
|---|---|
| Rear window defogger does not operate. | (1) Fuse (M/B No. 1)<br>(2) Rear defogger relay<br>(3) Defogger switch<br>(4) Rear defogger condenser<br>(5) Deffogger wire<br>(6) Wire harness |

# 4. Windshield Wiper Deicer System S905457

## A: SCHEMATIC S905457A21

<Ref. to WI-162, Wiper Deicer System.>

## B: INSPECTION S905457A10

| Symptom | Repair order |
|---|---|
| Wiper deicer does not operate. | (1) Fuse (F/B No. 18, 19)<br>(2) Wiper deicer relay<br>(3) Wiper deicer switch<br>(4) Wire harness |

# 4. Windshield Wiper Deicer System S905457

## A: SCHEMATIC S905457A21

<Ref. to WI-162, Wiper Deicer System.>

## B: INSPECTION S905457A10

| Symptom | Repair order |
|---|---|
| Wiper deicer does not operate. | (1) Fuse (F/B No. 18, 19)<br>(2) Wiper deicer relay<br>(3) Wiper deicer switch<br>(4) Wire harness |

# 5. Remote Control Mirror System S905458

## A: SCHEMATIC S905458A21

<Ref. to WI-144, Remote Controlled Rearview Mirror System.>

## B: INSPECTION S905458A10

| Symptom | Repair order |
|---|---|
| All functions do not operate. | (1) Fuse (F/B No. 4)<br>(2) Mirror switch<br>(3) Wire harness |
| One side of the mirror motor does not operate. | (1) Mirror switch<br>(2) Mirror motor<br>(3) Wire harness |
| Mirror heater does not operate. | (1) Mirror switch<br>(2) Mirror heater<br>(3) Wire harness |

# 5. Remote Control Mirror System S905458

## A: SCHEMATIC S905458A21

<Ref. to WI-144, Remote Controlled Rearview Mirror System.>

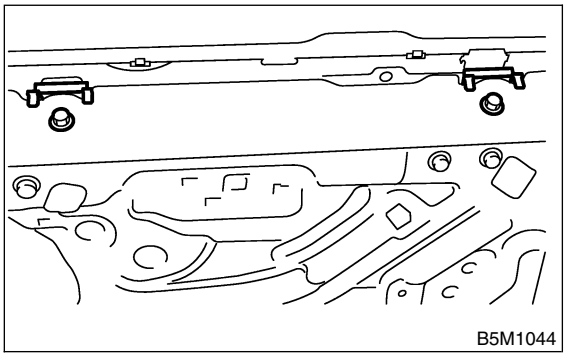
## B: INSPECTION S905458A10

| Symptom | Repair order |
|---|---|
| All functions do not operate. | (1) Fuse (F/B No. 4)<br>(2) Mirror switch<br>(3) Wire harness |
| One side of the mirror motor does not operate. | (1) Mirror switch<br>(2) Mirror motor<br>(3) Wire harness |
| Mirror heater does not operate. | (1) Mirror switch<br>(2) Mirror heater<br>(3) Wire harness |

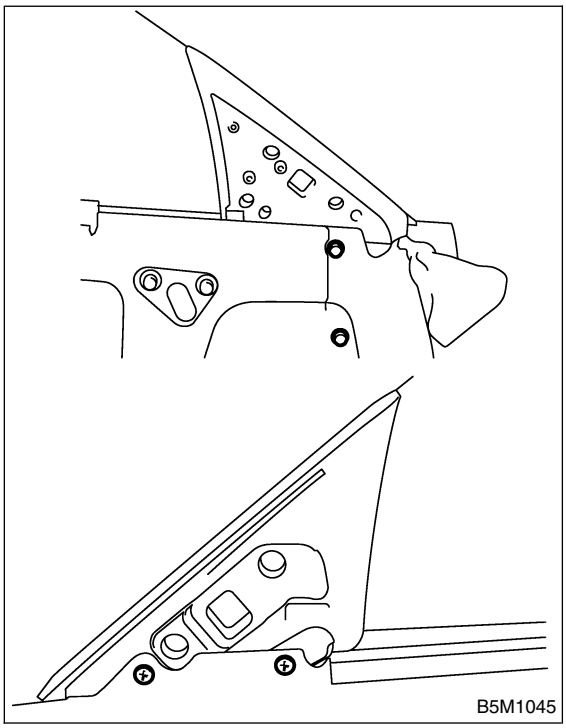
# 6. Front Door Glass S905452

## A: REMOVAL S905452A18

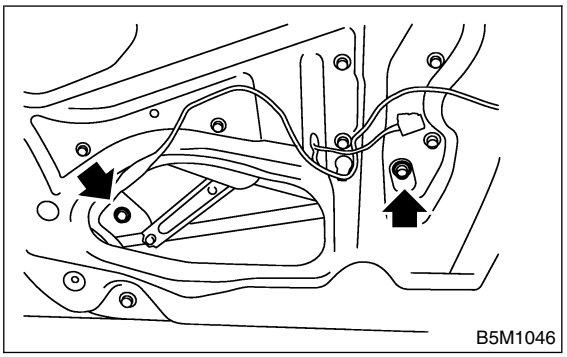
1) Remove door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
2) Remove sealing cover. <Ref. to EB-13, REMOVAL, Front Sealing Cover.>
3) Remove outer weatherstrip.
4) Remove inner stabilizer.


B5M1044

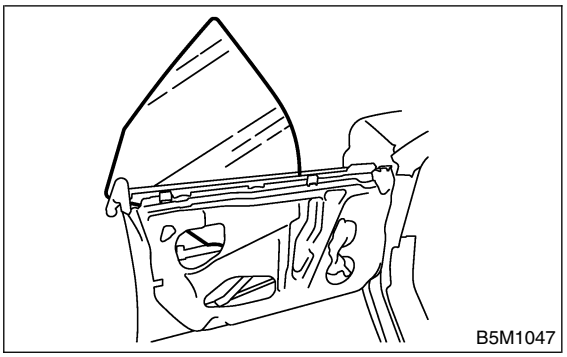
5) Remove outer mirror. <Ref. to GW-36, REMOVAL, Outer Mirror Assembly.>
6) Remove gusset.


B5M1045

7) Operate the power window switch to move glass to the position shown in the figure, and then remove the two nuts from service holes.


B5M1046

8) Take out glass door panel upward.


B5M1047

**CAUTION:**
- **Do not turn regulator in the closing direction after removal of the glass. Otherwise gear may be disengaged.**
- **Avoid impact and damage to the glass.**

## B: INSTALLATION S905452A11

1) Install in the reverse order of removal.

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

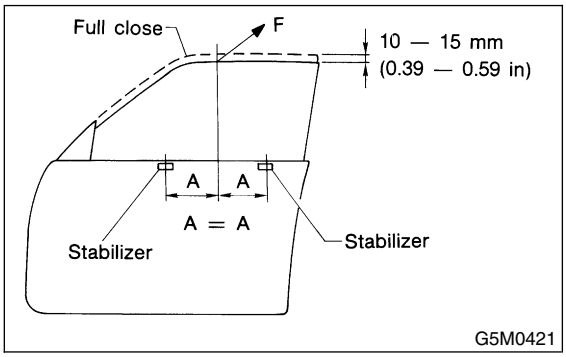
2) Adjust front door glass. <Ref. to GW-17, ADJUSTMENT, Front Door Glass.>

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EB-4, FRONT DOOR PANEL, COMPONENT, General Description.> and <Ref. to GW-4, FRONT DOOR GLASS, COMPONENT, General Description.>***

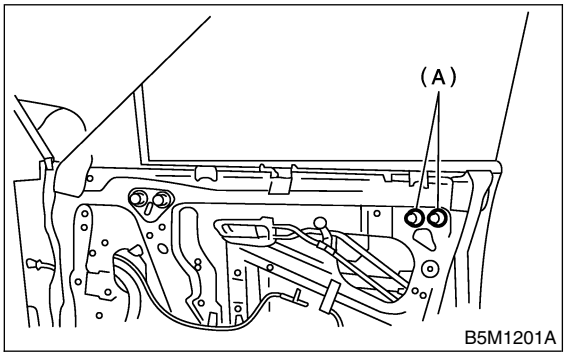
## C: ADJUSTMENT S905452A01

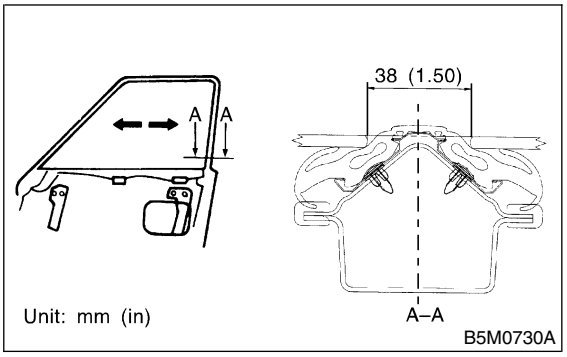
NOTE:
Before adjustment, ensure that all adjusting bolts of stabilizer, upper stopper, and sash are loose and door glass is raised so that it is in contact with weatherstrip.

1) Temporarily tighten one adjusting bolt on one side of rear sash at the midpoint of slotted hole in the inner panel.
2) Temporarily tighten regulator B-channel in a position slightly lower than midpoint of slotted hole.
3) Lower door glass 10 to 15 mm (0.39 to 0.59 in) from fully closed position. While applying outward pressure of 45±5 N (4.59±0.51 kgf, 10.1±1.1 lb) (F) to upper edge of glass above midpoint of two outer stabilizers, press inner stabilizer at 10±5 N (1.02±0.51 kgf, 2.2±1.1 lb) until it just touches the glass, then secure it.

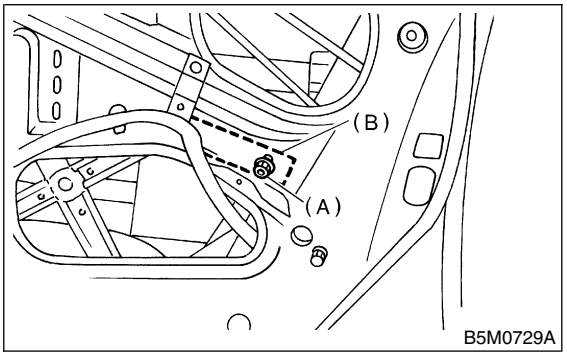



4) For adjustment of clearance between front and rear glasses, loosen nuts (A), and move glass sash back and forth until clearance becomes the value shown.

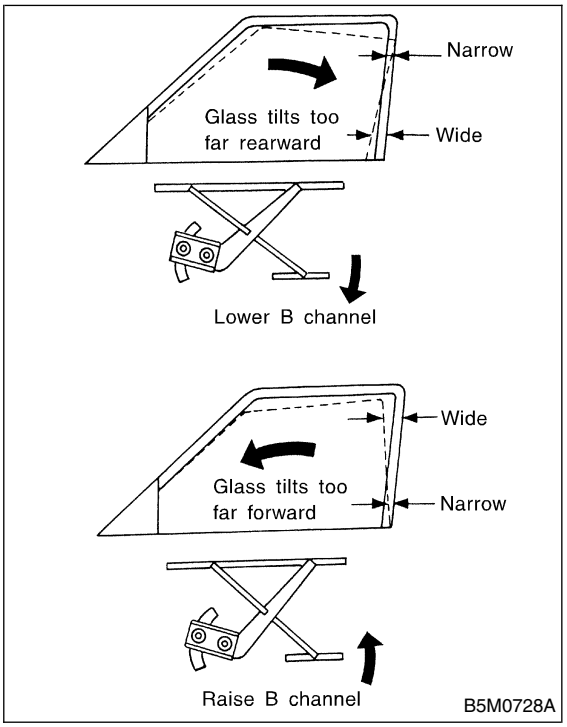


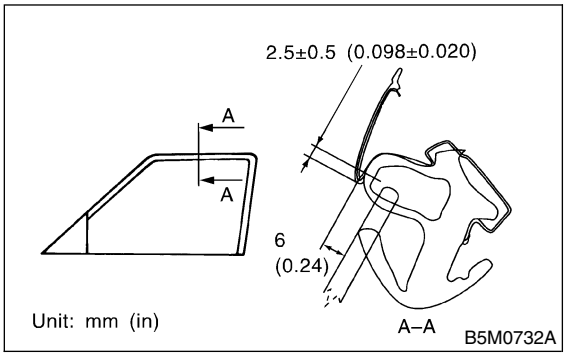

5) For adjustment of upper and lower ends of center pillar, loosen adjusting nut (A) of B-channel (B).




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



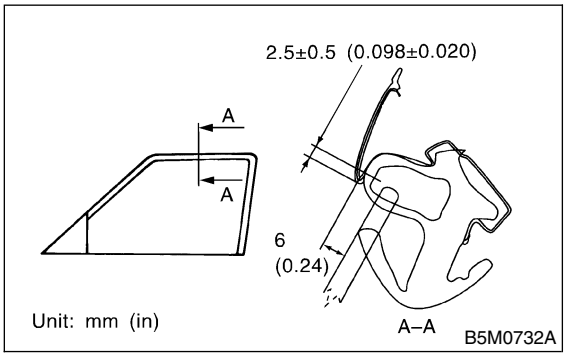

7) For glass stroke adjustment, close door, raise glass until positional relationship between glass and weatherstrip becomes as shown. And secure the glass so that upper stopper lightly touches the glass holder.



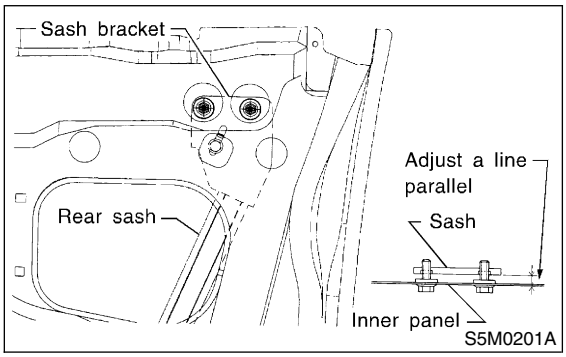

8) After stabilizer adjustment, carry out glass crimp adjustment. First, visually ensure positional relationship between retainer & molding and glass of the roof side, and then begin with rear sash adjustment. Adjust two adjusting bolts alternately step by step to obtain dimensions shown below (cross-section A).

NOTE:
If two nuts are loosened at the same time, sash moves back and forth. Therefore, when one nut is adjusted, secure the other.

9) Make the same adjustment of two adjusting bolts of rear sash.



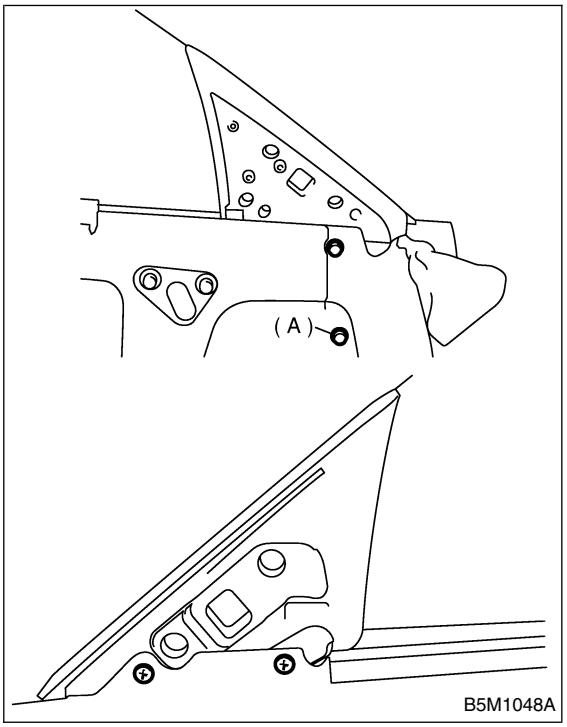

**CAUTION:**
**Do not tilt sash bracket to inner panel during adjustment. Otherwise smooth regulator operation cannot be achieved.**




10) Make adjustment of front sash in the same manner as that of rear sash.

**CAUTION:**
**Although front and rear sashes must, as a rule, be adjusted in the same manner, in some door installation, the adjustment in a different manner may be required. However, adjustment of one sash to the maximum amount and the other to the minimum amount is not permitted. Such adjustment may result in application of excessive load to regulator.**

11) After adjustments, tighten nuts.
12) After adjustment of glass, if there is a gap between outer lip of gusset and glass surface, adjust the gap with adjusting bolt (A) in lower fitting part of gusset to prevent generation of wind noise.
13) During adjustments, loosen other three clamping bolts.

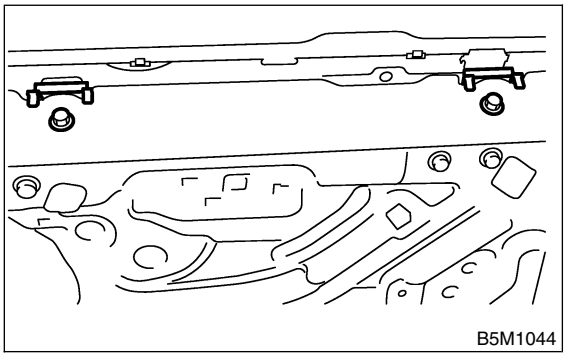



14) After adjustment, tighten bolts and nuts.

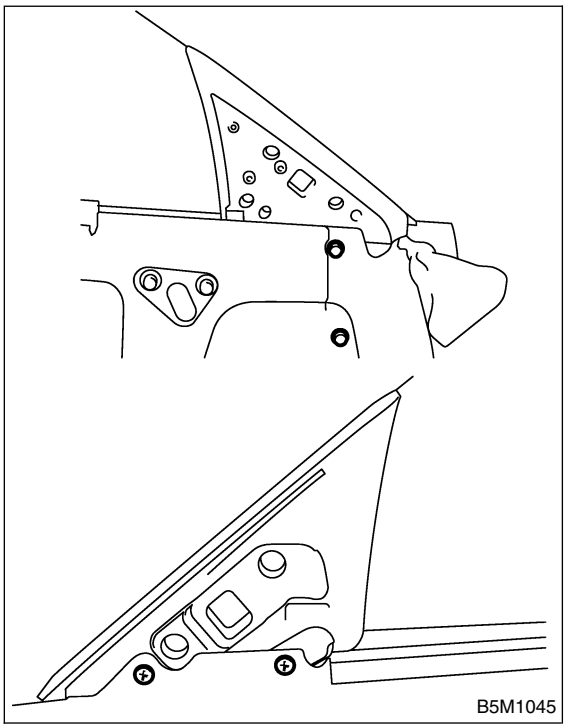
# 6. Front Door Glass S905452

## A: REMOVAL S905452A18

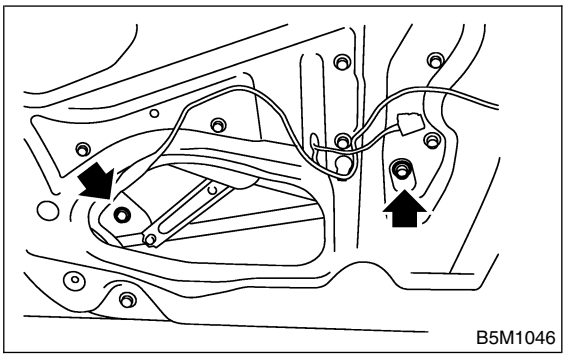
1) Remove door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
2) Remove sealing cover. <Ref. to EB-13, REMOVAL, Front Sealing Cover.>
3) Remove outer weatherstrip.
4) Remove inner stabilizer.


B5M1044

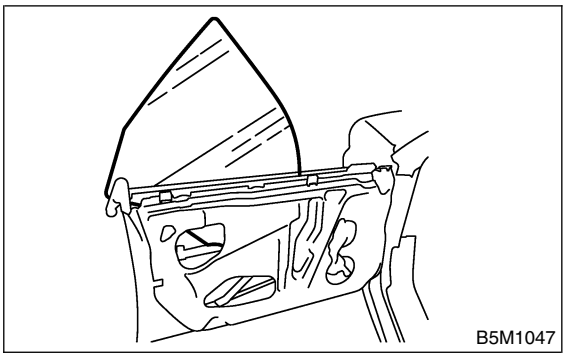
5) Remove outer mirror. <Ref. to GW-36, REMOVAL, Outer Mirror Assembly.>
6) Remove gusset.


B5M1045

7) Operate the power window switch to move glass to the position shown in the figure, and then remove the two nuts from service holes.


B5M1046

8) Take out glass door panel upward.


B5M1047

**CAUTION:**
- **Do not turn regulator in the closing direction after removal of the glass. Otherwise gear may be disengaged.**
- **Avoid impact and damage to the glass.**

## B: INSTALLATION S905452A11

1) Install in the reverse order of removal.

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

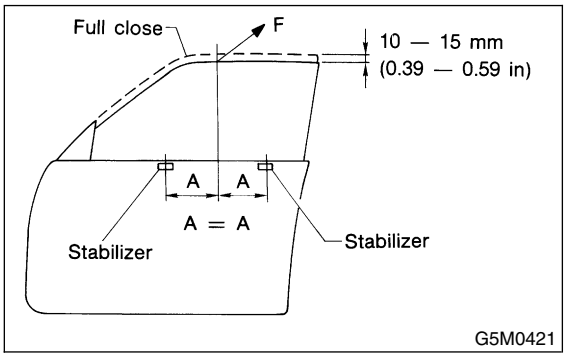
2) Adjust front door glass. <Ref. to GW-17, ADJUSTMENT, Front Door Glass.>

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EB-4, FRONT DOOR PANEL, COMPONENT, General Description.> and <Ref. to GW-4, FRONT DOOR GLASS, COMPONENT, General Description.>***

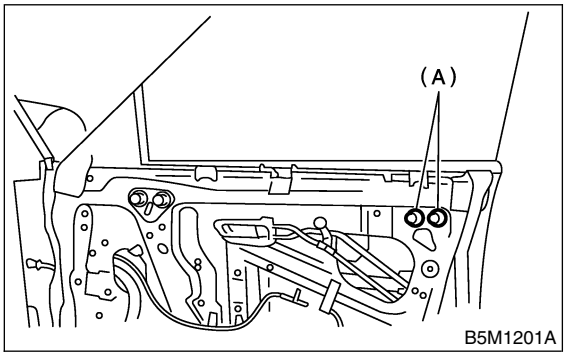
## C: ADJUSTMENT S905452A01

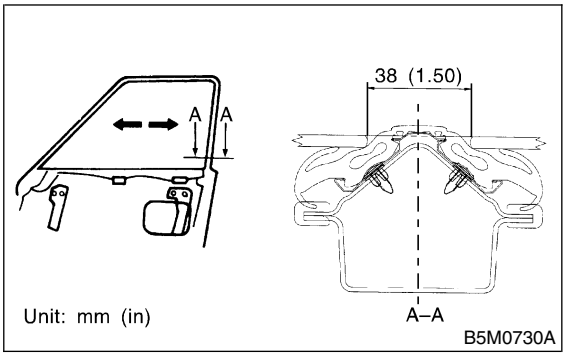
NOTE:
Before adjustment, ensure that all adjusting bolts of stabilizer, upper stopper, and sash are loose and door glass is raised so that it is in contact with weatherstrip.

1) Temporarily tighten one adjusting bolt on one side of rear sash at the midpoint of slotted hole in the inner panel.
2) Temporarily tighten regulator B-channel in a position slightly lower than midpoint of slotted hole.
3) Lower door glass 10 to 15 mm (0.39 to 0.59 in) from fully closed position. While applying outward pressure of 45±5 N (4.59±0.51 kgf, 10.1±1.1 lb) (F) to upper edge of glass above midpoint of two outer stabilizers, press inner stabilizer at 10±5 N (1.02±0.51 kgf, 2.2±1.1 lb) until it just touches the glass, then secure it.

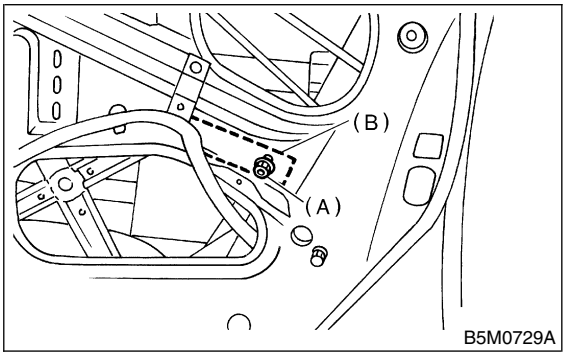



4) For adjustment of clearance between front and rear glasses, loosen nuts (A), and move glass sash back and forth until clearance becomes the value shown.

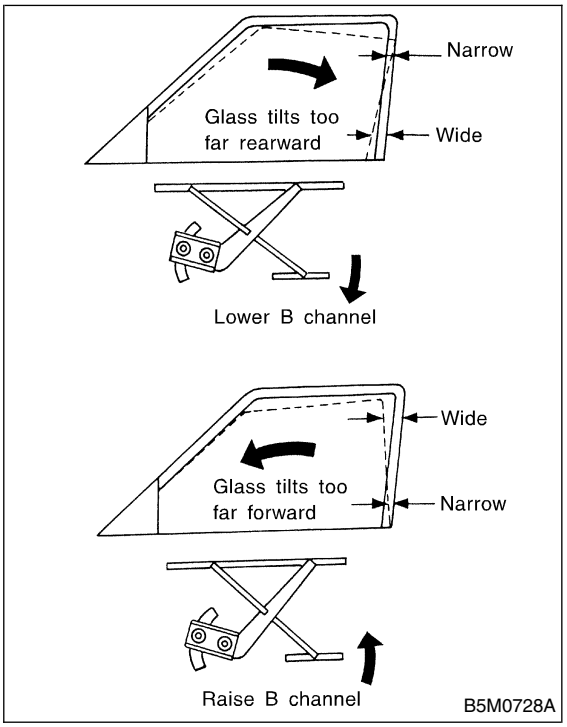


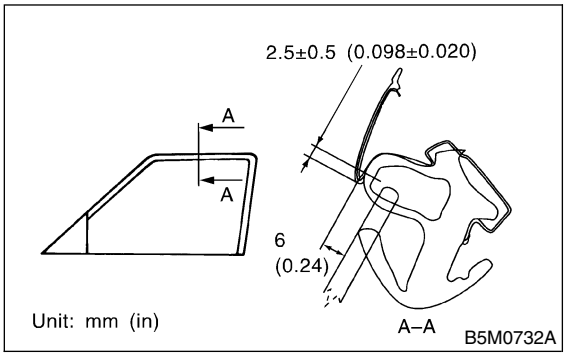

5) For adjustment of upper and lower ends of center pillar, loosen adjusting nut (A) of B-channel (B).




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



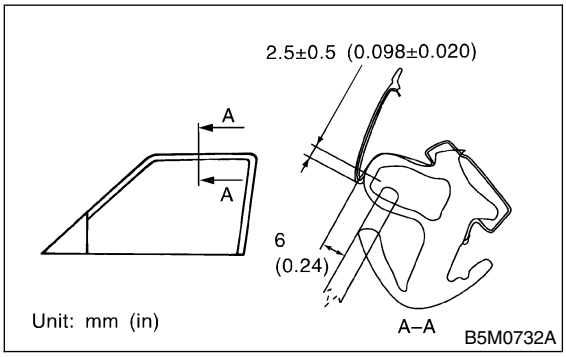

7) For glass stroke adjustment, close door, raise glass until positional relationship between glass and weatherstrip becomes as shown. And secure the glass so that upper stopper lightly touches the glass holder.



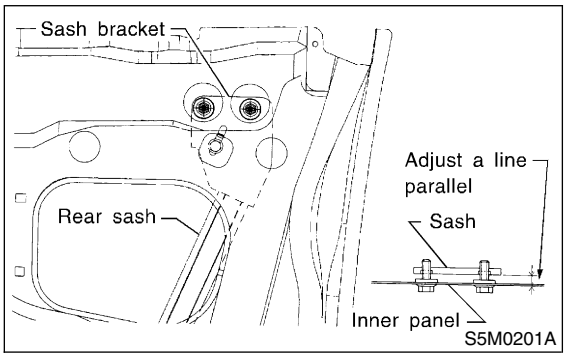

8) After stabilizer adjustment, carry out glass crimp adjustment. First, visually ensure positional relationship between retainer & molding and glass of the roof side, and then begin with rear sash adjustment. Adjust two adjusting bolts alternately step by step to obtain dimensions shown below (cross-section A).

NOTE:
If two nuts are loosened at the same time, sash moves back and forth. Therefore, when one nut is adjusted, secure the other.

9) Make the same adjustment of two adjusting bolts of rear sash.



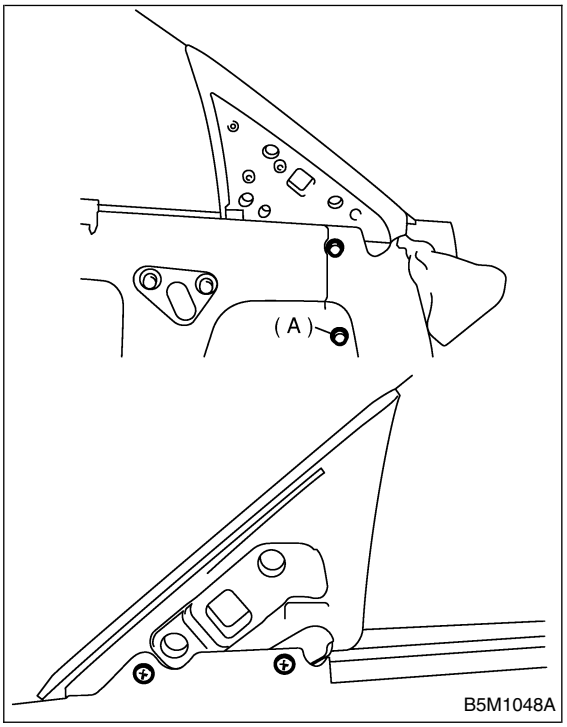

**CAUTION:**
**Do not tilt sash bracket to inner panel during adjustment. Otherwise smooth regulator operation cannot be achieved.**




10) Make adjustment of front sash in the same manner as that of rear sash.

**CAUTION:**
**Although front and rear sashes must, as a rule, be adjusted in the same manner, in some door installation, the adjustment in a different manner may be required. However, adjustment of one sash to the maximum amount and the other to the minimum amount is not permitted. Such adjustment may result in application of excessive load to regulator.**

11) After adjustments, tighten nuts.
12) After adjustment of glass, if there is a gap between outer lip of gusset and glass surface, adjust the gap with adjusting bolt (A) in lower fitting part of gusset to prevent generation of wind noise.
13) During adjustments, loosen other three clamping bolts.

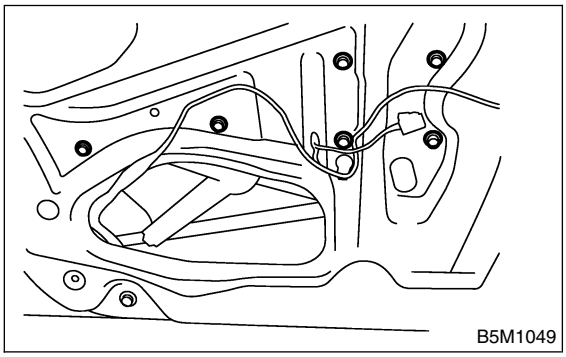



14) After adjustment, tighten bolts and nuts.

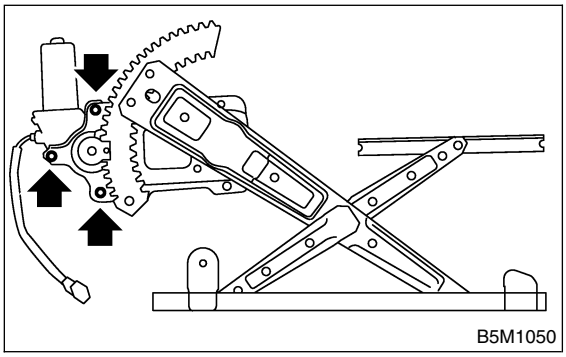
# 7. Front Regulator and Motor Assembly S905449

## A: REMOVAL S905449A18

1) Remove door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
2) Remove sealing cover. <Ref. to EB-13, REMOVAL, Front Sealing Cover.>
3) Remove inner remote. <Ref. to SL-27, REMOVAL, Front Inner Remote.>
4) Remove door glass. <Ref. to GW-16, REMOVAL, Front Door Glass.>
5) Disconnect electrical connector.
6) Loosen four bolts and two nuts to pull out regulator assembly.




7) Loosen screws to remove motor assembly.




## B: INSTALLATION S905449A11

1) Install in the reverse order of removal.
2) Adjust front door glass. <Ref. to GW-17, ADJUSTMENT, Front Door Glass.>

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

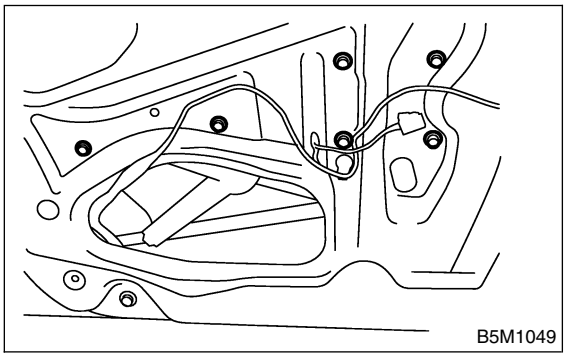
## C: INSPECTION S905449A10

1) Make sure that power window motor rotates properly when battery voltage is applied to terminals of motor connector.
2) Change polarity of battery connections to terminals to ensure that motor rotates in reverse direction.

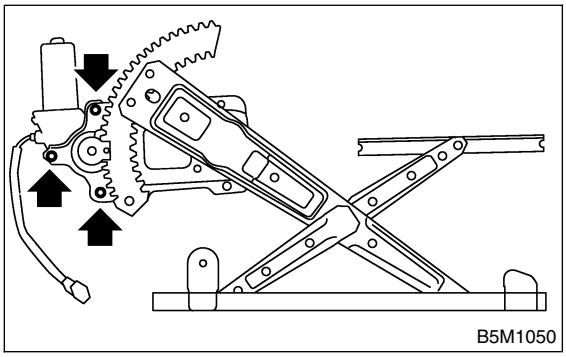
# 7. Front Regulator and Motor Assembly S905449

## A: REMOVAL S905449A18

1) Remove door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
2) Remove sealing cover. <Ref. to EB-13, REMOVAL, Front Sealing Cover.>
3) Remove inner remote. <Ref. to SL-27, REMOVAL, Front Inner Remote.>
4) Remove door glass. <Ref. to GW-16, REMOVAL, Front Door Glass.>
5) Disconnect electrical connector.
6) Loosen four bolts and two nuts to pull out regulator assembly.




7) Loosen screws to remove motor assembly.




## B: INSTALLATION S905449A11

1) Install in the reverse order of removal.
2) Adjust front door glass. <Ref. to GW-17, ADJUSTMENT, Front Door Glass.>

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

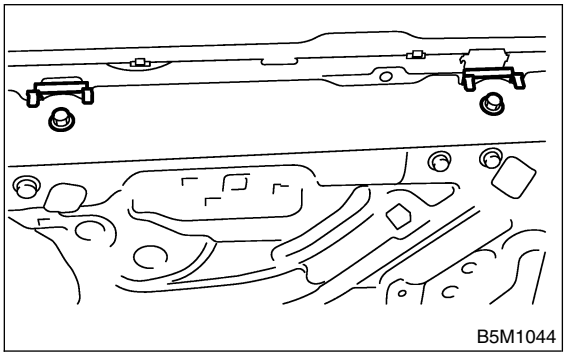
## C: INSPECTION S905449A10

1) Make sure that power window motor rotates properly when battery voltage is applied to terminals of motor connector.
2) Change polarity of battery connections to terminals to ensure that motor rotates in reverse direction.

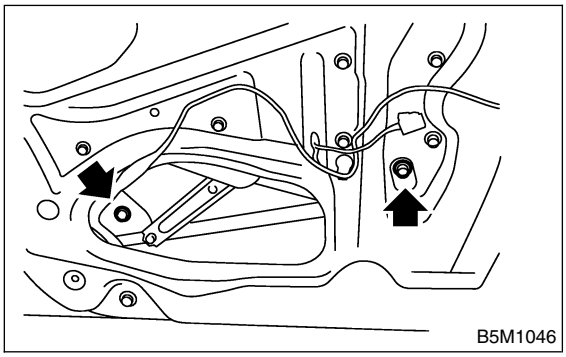
# 8. Rear Door Glass S905450

## A: REMOVAL S905450A18

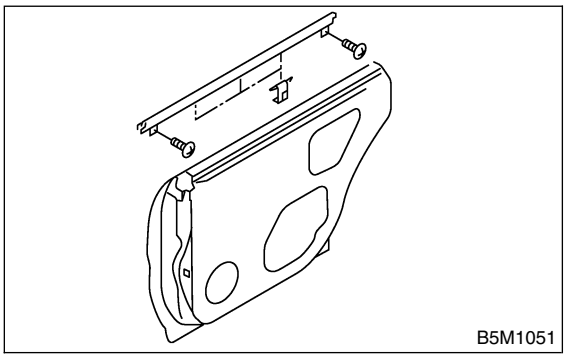
1) Remove door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
2) Remove sealing cover. <Ref. to EB-16, REMOVAL, Rear Sealing Cover.>
3) Remove stabilizer.


B5M1044

4) Operate power window switch to move glass as shown in the figure, and remove two nuts.


B5M1046

5) Loosen two screws to remove weatherstrip.


B5M1051

6) Pull out glass.

**CAUTION:**
**Avoid impact and damage to the glass.**

## B: INSTALLATION S905450A11

1) Install in the reverse order of removal.

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

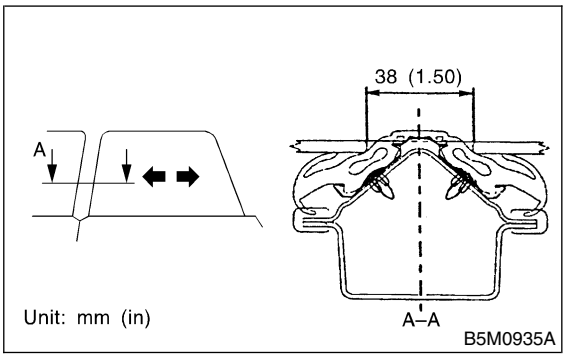
2) Adjust rear door glass. <Ref. to GW-20, ADJUSTMENT, Rear Door Glass.>

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EB-5, REAR DOOR PANEL, COMPONENT, General Description.> and <Ref. to GW-5, REAR DOOR GLASS, COMPONENT, General Description.>***

## C: ADJUSTMENT S905450A01

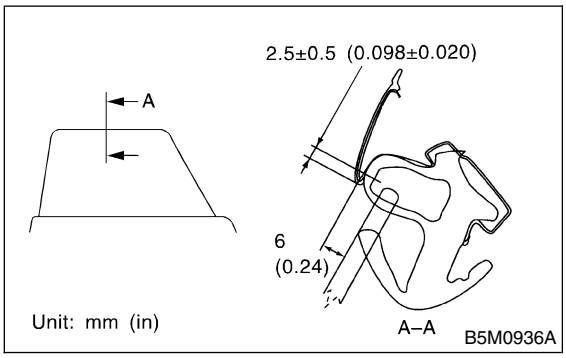
NOTE:
Rear door glass, as a rule, should be adjusted in the same manner as front glass, although they are different in dimension. Special notes for rear glass are given below.

1) Adjust glass position using the following dimensions as a guide line.




**CAUTION:**
**• If dimensions are smaller than the given dimensions, glass may get caught in weatherstrip during lifting/lowering operation. In the worst case, it may cause glass not to be opened fully.**
**• After adjustment, move glass up and down to check whether it is caught.**

2) Adjust crimp of glass using the following dimensions as a guide line.

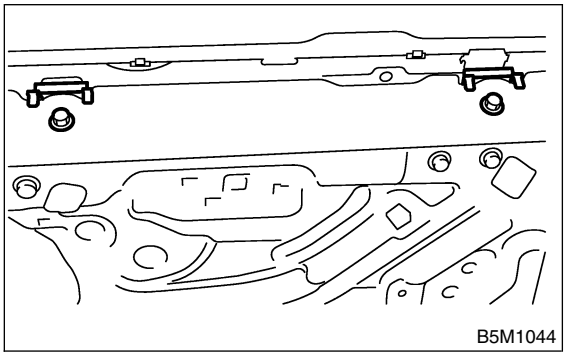



**CAUTION:**
**• If crimp of rear glass is higher than necessary, glass may get caught in weatherstrip of center pillar corner, resulting in early wear of weatherstrip. Be careful when adjusting.**
**• After adjustment, move glass up and down to check whether it is caught.**

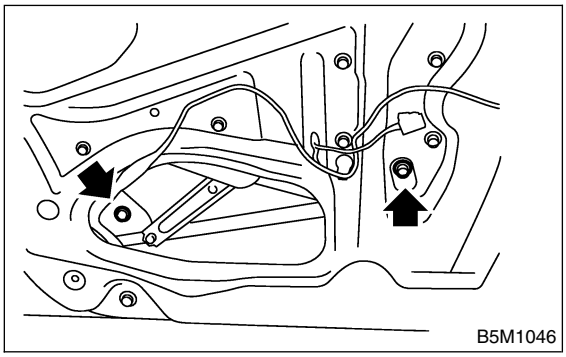
# 8. Rear Door Glass S905450

## A: REMOVAL S905450A18

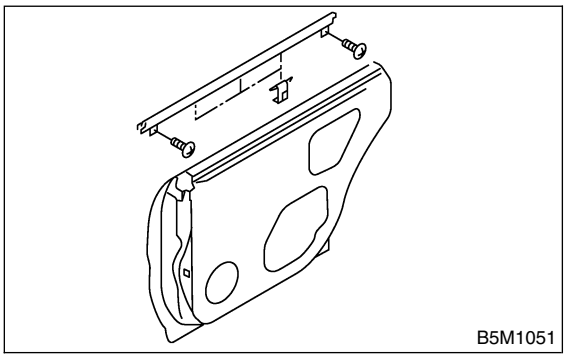
1) Remove door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
2) Remove sealing cover. <Ref. to EB-16, REMOVAL, Rear Sealing Cover.>
3) Remove stabilizer.


B5M1044

4) Operate power window switch to move glass as shown in the figure, and remove two nuts.


B5M1046

5) Loosen two screws to remove weatherstrip.


B5M1051

6) Pull out glass.

**CAUTION:**
**Avoid impact and damage to the glass.**

## B: INSTALLATION S905450A11

1) Install in the reverse order of removal.

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

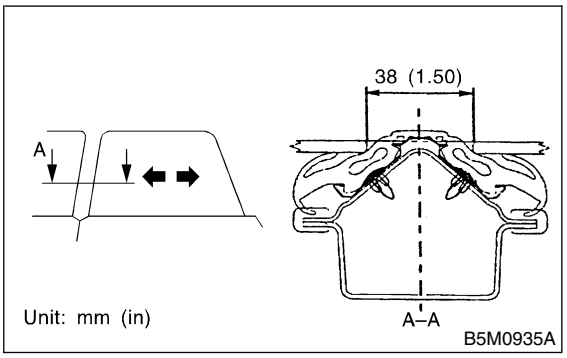
2) Adjust rear door glass. <Ref. to GW-20, ADJUSTMENT, Rear Door Glass.>

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EB-5, REAR DOOR PANEL, COMPONENT, General Description.> and <Ref. to GW-5, REAR DOOR GLASS, COMPONENT, General Description.>***

## C: ADJUSTMENT S905450A01

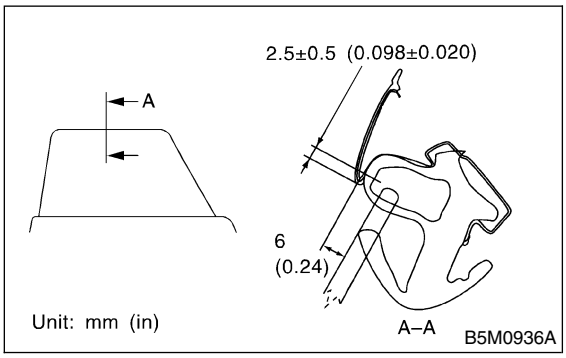
NOTE:
Rear door glass, as a rule, should be adjusted in the same manner as front glass, although they are different in dimension. Special notes for rear glass are given below.

1) Adjust glass position using the following dimensions as a guide line.




**CAUTION:**
**• If dimensions are smaller than the given dimensions, glass may get caught in weatherstrip during lifting/lowering operation. In the worst case, it may cause glass not to be opened fully.**
**• After adjustment, move glass up and down to check whether it is caught.**

2) Adjust crimp of glass using the following dimensions as a guide line.

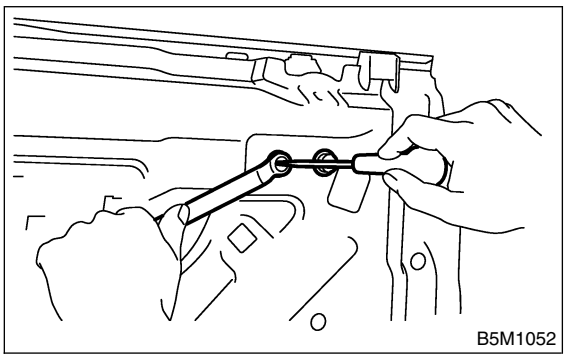



**CAUTION:**
**• If crimp of rear glass is higher than necessary, glass may get caught in weatherstrip of center pillar corner, resulting in early wear of weatherstrip. Be careful when adjusting.**
**• After adjustment, move glass up and down to check whether it is caught.**

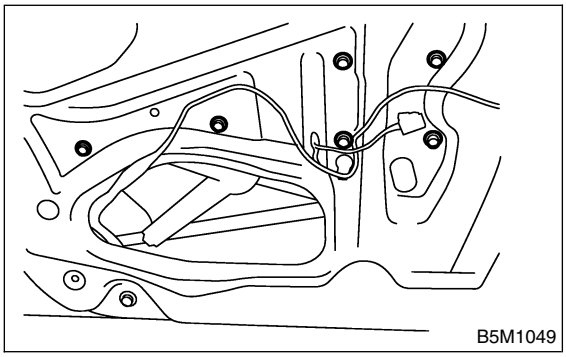
# 9. Rear Regulator and Motor Assembly S905451

## A: REMOVAL S905451A18

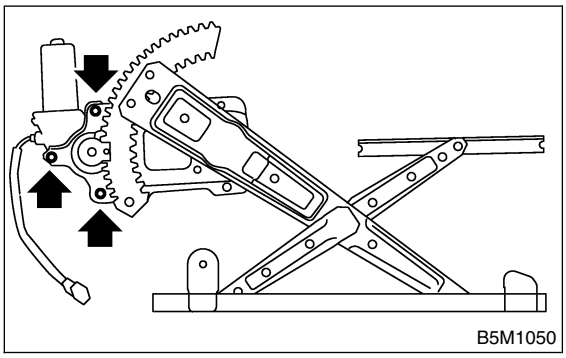
1) Remove door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
2) Remove sealing cover. <Ref. to EB-16, REMOVAL, Rear Sealing Cover.>
3) Remove door glass. <Ref. to GW-20, REMOVAL, Rear Door Glass.>
4) Secure bolts using screwdriver to remove front sash adjusting nut.


B5M1052

5) Remove front sash.
6) Disconnect electrical connector.
7) Loosen four bolts and two nuts to remove regulator assembly.


B5M1049

8) Loosen screws to remove motor assembly.


B5M1050

## B: INSTALLATION S905451A11

1) Install in the reverse order of removal.
2) Adjust rear door glass. <Ref. to GW-20, ADJUSTMENT, Rear Door Glass.>

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to GW-5, REAR DOOR GLASS, COMPONENT, General Description.>***

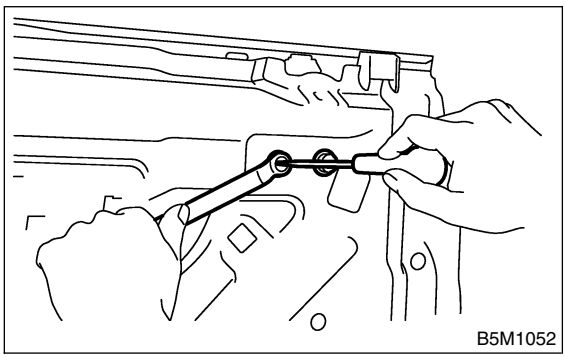
## C: INSPECTION S905451A10

1) Make sure that power window motor rotates properly when battery voltage is applied to terminals of motor connector.
2) Change polarity of battery connections to terminals to ensure that motor rotates in reverse direction.

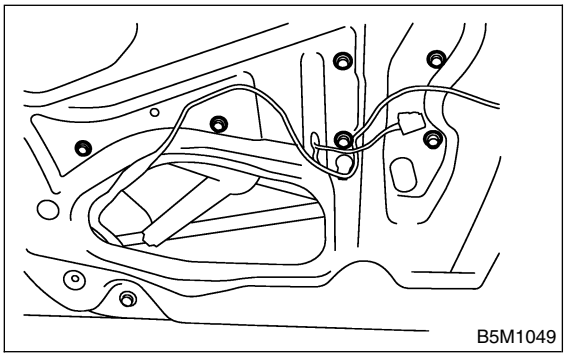
# 9. Rear Regulator and Motor Assembly S905451

## A: REMOVAL S905451A18

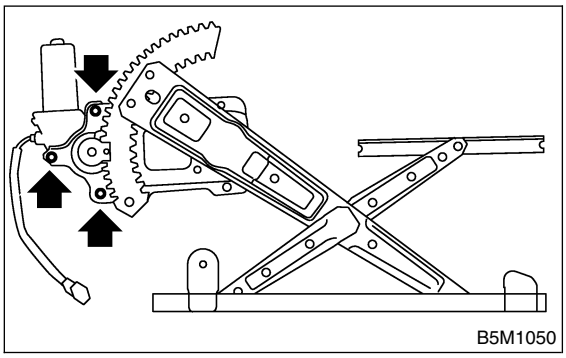
1) Remove door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
2) Remove sealing cover. <Ref. to EB-16, REMOVAL, Rear Sealing Cover.>
3) Remove door glass. <Ref. to GW-20, REMOVAL, Rear Door Glass.>
4) Secure bolts using screwdriver to remove front sash adjusting nut.


B5M1052

5) Remove front sash.
6) Disconnect electrical connector.
7) Loosen four bolts and two nuts to remove regulator assembly.


B5M1049

8) Loosen screws to remove motor assembly.


B5M1050

## B: INSTALLATION S905451A11

1) Install in the reverse order of removal.
2) Adjust rear door glass. <Ref. to GW-20, ADJUSTMENT, Rear Door Glass.>

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to GW-5, REAR DOOR GLASS, COMPONENT, General Description.>***

## C: INSPECTION S905451A10

1) Make sure that power window motor rotates properly when battery voltage is applied to terminals of motor connector.
2) Change polarity of battery connections to terminals to ensure that motor rotates in reverse direction.

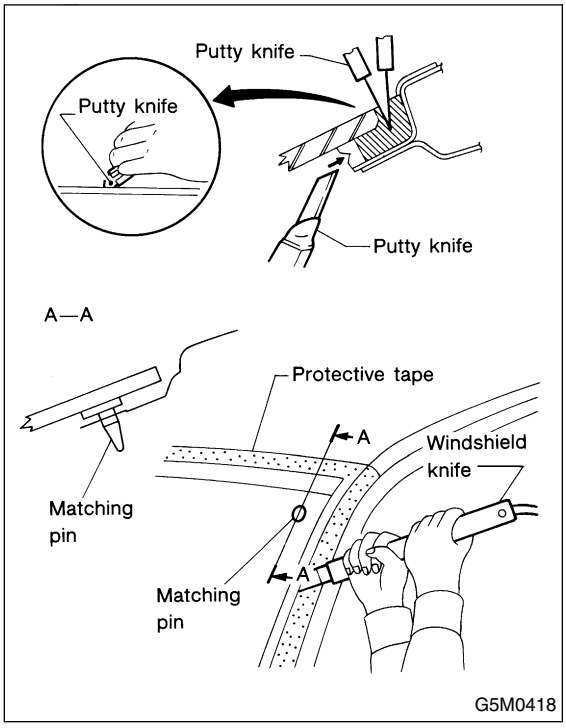
# 10. Windshield Glass S905448

## A: REMOVAL S905448A18

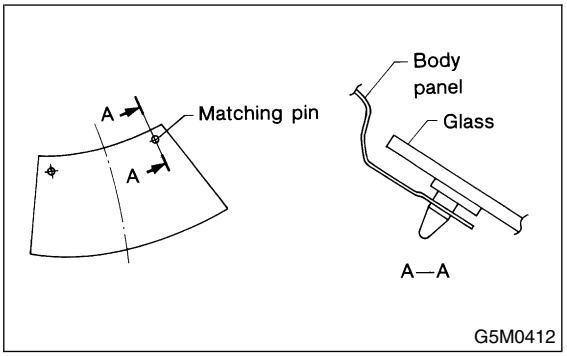
### 1. USING WINDSHIELD KNIFE S905448A1801

1) Remove cowl panel. <Ref. to EI-27, REMOVAL, Cowl Panel.>
2) Remove front side molding and upper front molding.
3) Tape body side of the circumference of windshield glass for protection.
4) Apply sufficient amount of soapy water to adhesive layer.
5) Insert windshield knife into the adhesive layer.
6) While holding the knife edge and windshield glass edge at a right angle, move windshield knife in parallel to windshield glass edge along face and edge of windshield glass to cut the adhesive layer.

**CAUTION:**
- **Do not twist windshield knife.**
- **Cutting of adhesive layer shall be started with wider gap between windshield glass and body.**

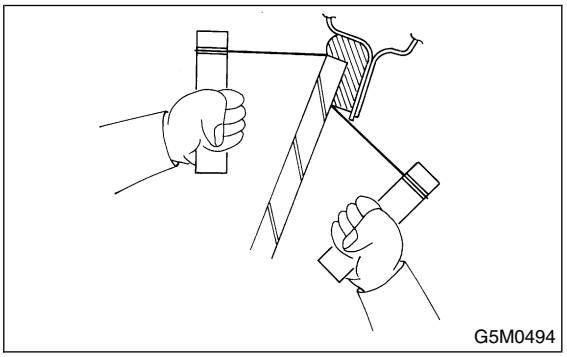



NOTE:
Because matching pins are bonded to the corners of glass, use piano wire to cut the pin.




### 2. USING PIANO WIRE S905448A1802

1) Remove cowl panel. <Ref. to EI-27, REMOVAL, Cowl Panel.>
2) Remove roof molding and upper front molding.
3) Tape the body side of the circumference of windshield glass for protection.
4) Make a hole in adhesive layer using drill or knife.
5) Pass piano wire through the hole, and attach securely both the wire ends to pieces of wood.



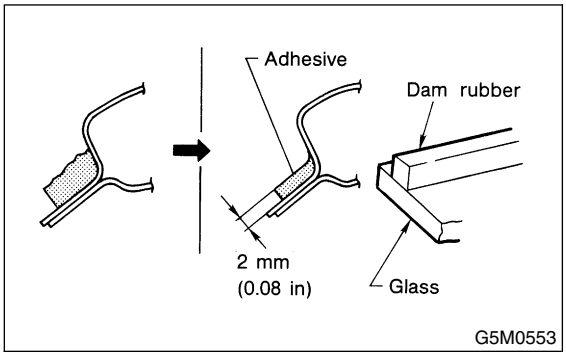

6) Pull the wire ends alternately to cut off the adhesive layer.

**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.**

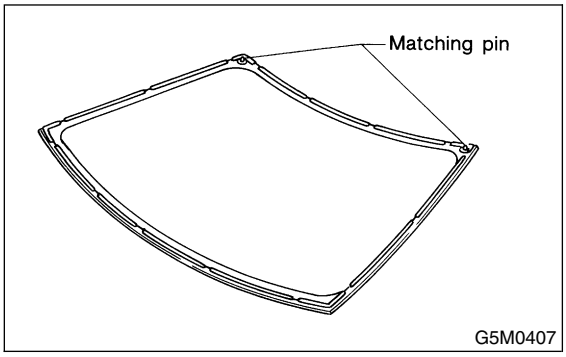
## B: INSTALLATION S905448A11

1) Clean external circumference of windshield glass with alcohol or white gasoline.
2) Remove adhesive layer on the body using cutter knife to obtain smooth face 2 mm (0.08 in) thick.

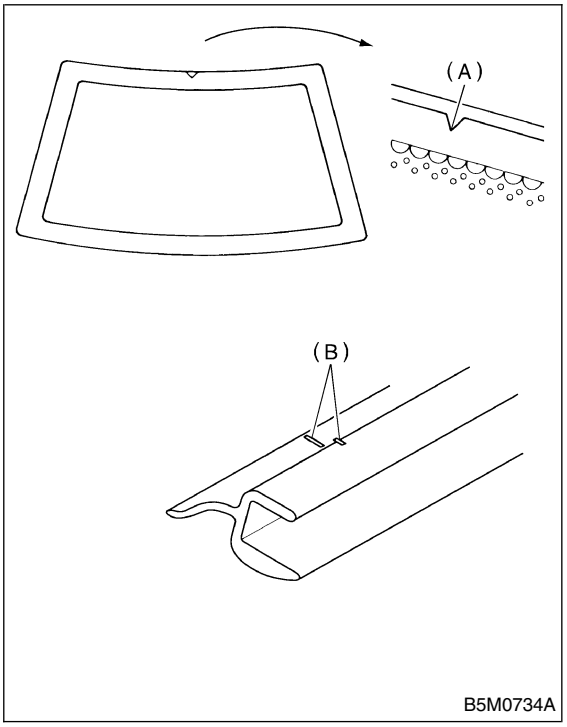
**CAUTION:**
**Be careful not to damage the body and paint surface.**




3) Clean body with alcohol or white gasoline to remove thoroughly chips, dusts, and dirts from body face.
4) Place glass on body.
5) Adjust glass position to make uniform clearance between body and glass in four corners.
6) Place matching pins and body on glass.

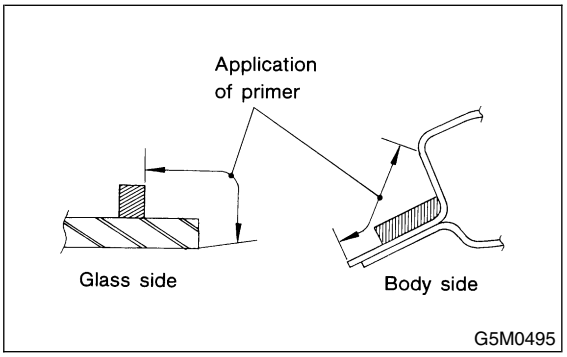



7) Remove glass from body.
8) Fit molding mark (B) to notch (A) of ceramic print.

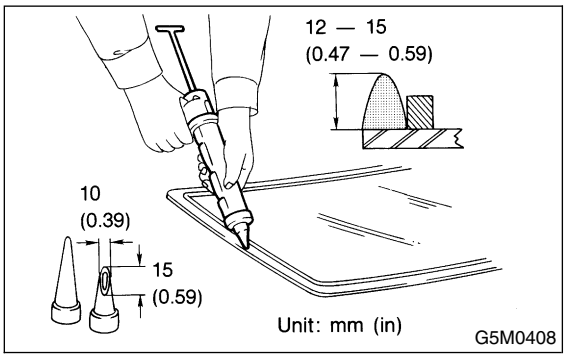



9) Apply primer to adhesive layer of glass using sponge.
10) Apply primer to adhesive layer of body.

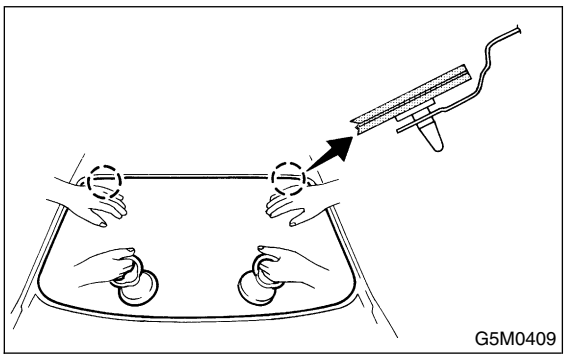
**CAUTION:**
- **Primer once attached to the painted surface of the body and internal trim is hard to wipe off. Mask the circumference of such areas.**
- **Let primer dry for about ten minutes before installing the glass.**
- **Do not touch surface coated with primer.**



11) Cut off cartridge nozzle tip and set it in sealant gun as shown.




12) Apply adhesive to glass end surface as shown.
13) Fit matching pins using suction rubber cup to install windshield glass.




14) Lightly press windshield glass for tight fit.
15) Make adhesive surface flush using spatula.

**CAUTION:**
**• When door is opened/closed after glass is bonded, always lower door glass and then open/close it carefully.**
**• Move vehicle slowly.**

16) After completion of all work, allow vehicle to stand for about 24 hours.

NOTE:
For minimum drying time and time the vehicle must be left standing before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

17) After curing of adhesive, pour water on external surface of vehicle to check that there are no water leaks.

**CAUTION:**
**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) Install cowl panel. <Ref. to EI-27, INSTALLATION, Cowl Panel.>

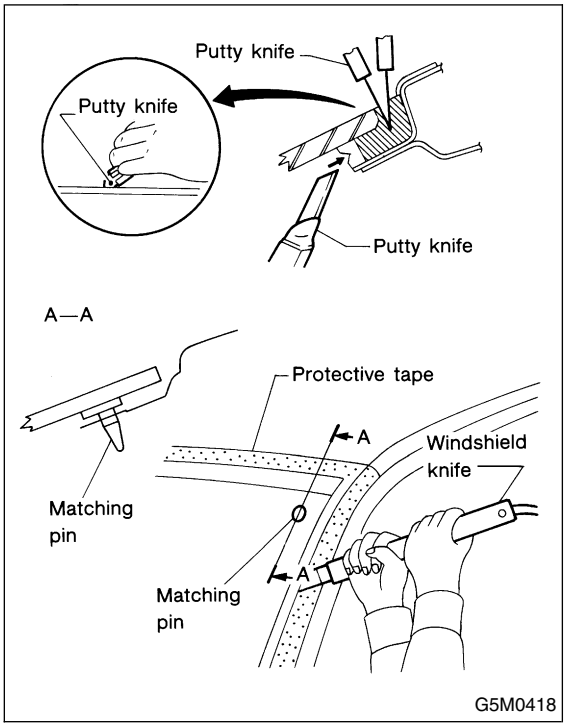
# 10. Windshield Glass S905448

## A: REMOVAL S905448A18

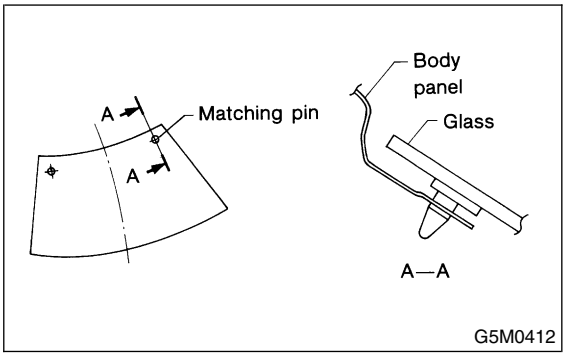
### 1. USING WINDSHIELD KNIFE S905448A1801

1) Remove cowl panel. <Ref. to EI-27, REMOVAL, Cowl Panel.>
2) Remove front side molding and upper front molding.
3) Tape body side of the circumference of windshield glass for protection.
4) Apply sufficient amount of soapy water to adhesive layer.
5) Insert windshield knife into the adhesive layer.
6) While holding the knife edge and windshield glass edge at a right angle, move windshield knife in parallel to windshield glass edge along face and edge of windshield glass to cut the adhesive layer.

**CAUTION:**
- **Do not twist windshield knife.**
- **Cutting of adhesive layer shall be started with wider gap between windshield glass and body.**

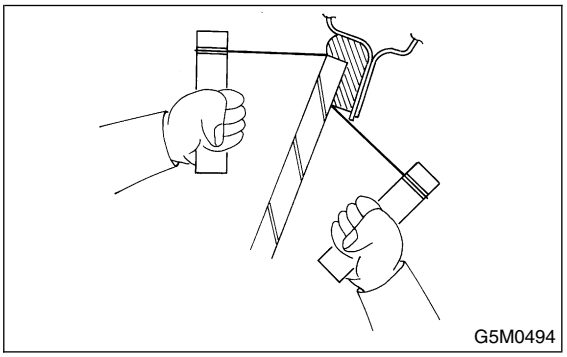



NOTE:
Because matching pins are bonded to the corners of glass, use piano wire to cut the pin.




### 2. USING PIANO WIRE S905448A1802

1) Remove cowl panel. <Ref. to EI-27, REMOVAL, Cowl Panel.>
2) Remove roof molding and upper front molding.
3) Tape the body side of the circumference of windshield glass for protection.
4) Make a hole in adhesive layer using drill or knife.
5) Pass piano wire through the hole, and attach securely both the wire ends to pieces of wood.



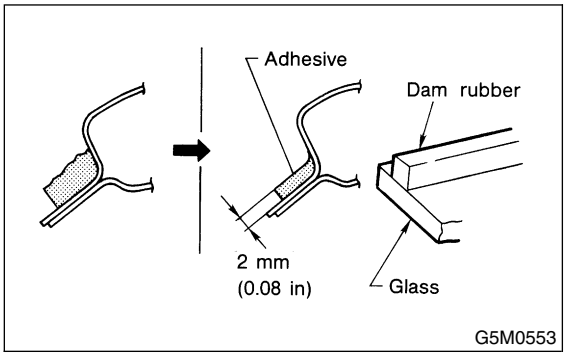

6) Pull the wire ends alternately to cut off the adhesive layer.

**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.**

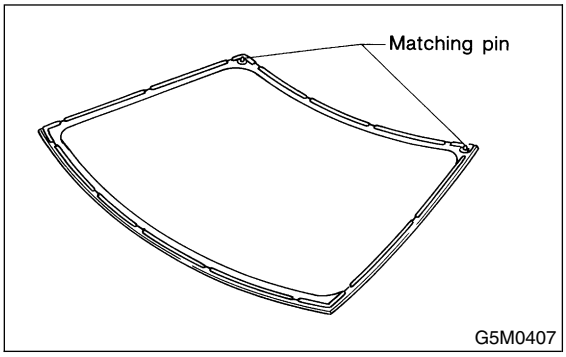
## B: INSTALLATION S905448A11

1) Clean external circumference of windshield glass with alcohol or white gasoline.
2) Remove adhesive layer on the body using cutter knife to obtain smooth face 2 mm (0.08 in) thick.

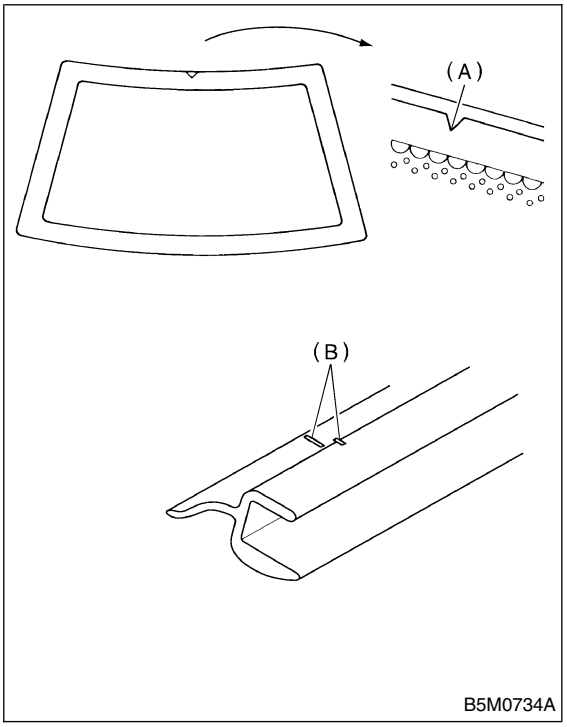
**CAUTION:**
**Be careful not to damage the body and paint surface.**




3) Clean body with alcohol or white gasoline to remove thoroughly chips, dusts, and dirts from body face.
4) Place glass on body.
5) Adjust glass position to make uniform clearance between body and glass in four corners.
6) Place matching pins and body on glass.

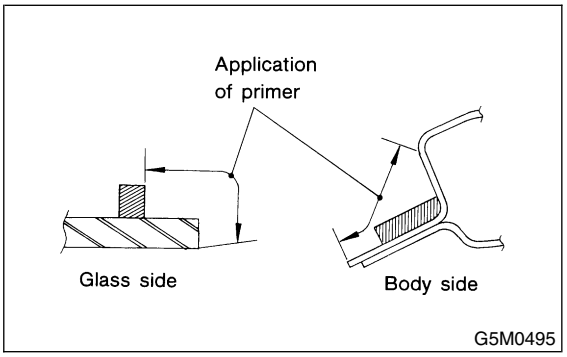



7) Remove glass from body.
8) Fit molding mark (B) to notch (A) of ceramic print.

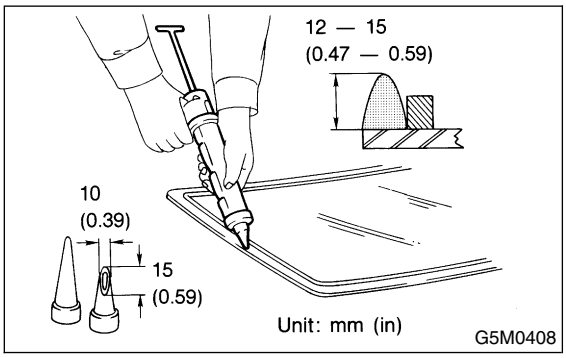



9) Apply primer to adhesive layer of glass using sponge.
10) Apply primer to adhesive layer of body.

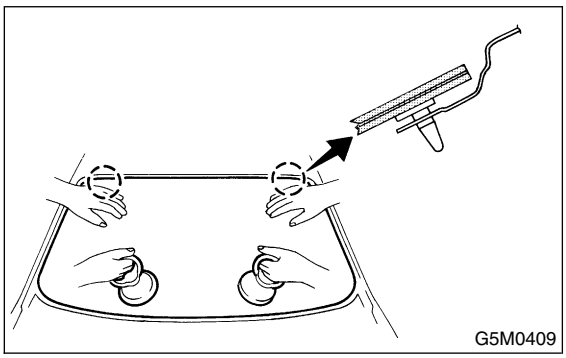
**CAUTION:**
- **Primer once attached to the painted surface of the body and internal trim is hard to wipe off. Mask the circumference of such areas.**
- **Let primer dry for about ten minutes before installing the glass.**
- **Do not touch surface coated with primer.**



11) Cut off cartridge nozzle tip and set it in sealant gun as shown.




12) Apply adhesive to glass end surface as shown.
13) Fit matching pins using suction rubber cup to install windshield glass.




14) Lightly press windshield glass for tight fit.
15) Make adhesive surface flush using spatula.

**CAUTION:**
**• When door is opened/closed after glass is bonded, always lower door glass and then open/close it carefully.**
**• Move vehicle slowly.**

16) After completion of all work, allow vehicle to stand for about 24 hours.

NOTE:
For minimum drying time and time the vehicle must be left standing before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

17) After curing of adhesive, pour water on external surface of vehicle to check that there are no water leaks.

**CAUTION:**
**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) Install cowl panel. <Ref. to EI-27, INSTALLATION, Cowl Panel.>

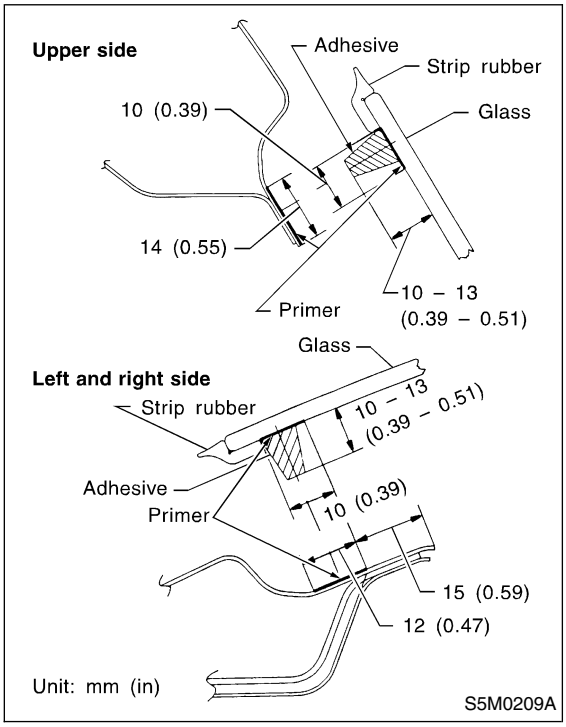
# 11. Rear Gate Glass S905376

## A: REMOVAL S905376A18

1) Remove real wiper motor. <Ref. to WW-16, REMOVAL, Rear Wiper Motor.>
2) Remove electrical connector from rear defogger terminal.
3) Remove glass in the same procedure as for windshield glass. <Ref. to GW-23, REMOVAL, Windshield Glass.>

## B: INSTALLATION S905376A11

1) Apply adhesive evenly to the glass attachment area.
2) Insert the glass clip pin into the rear gate hole, and after pushing on the area around the clip pin to secure it, push lightly all around the area to seal it.
3) About one hour after installation, conduct a leak test.




**CAUTION:**
- **When door is opened/closed after glass is bonded, always lower door glass and then open/close it carefully.**
- **Move vehicle slowly.**

4) After completion of all work, allow vehicle to stand for about 24 hours.

NOTE:
For minimum drying time and time the vehicle must be left standing before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

**CAUTION:**
**When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.**

5) Connect rear defogger terminals.
6) Install rear wiper. <Ref. to WW-16, INSTALLATION, Rear Wiper Motor.>

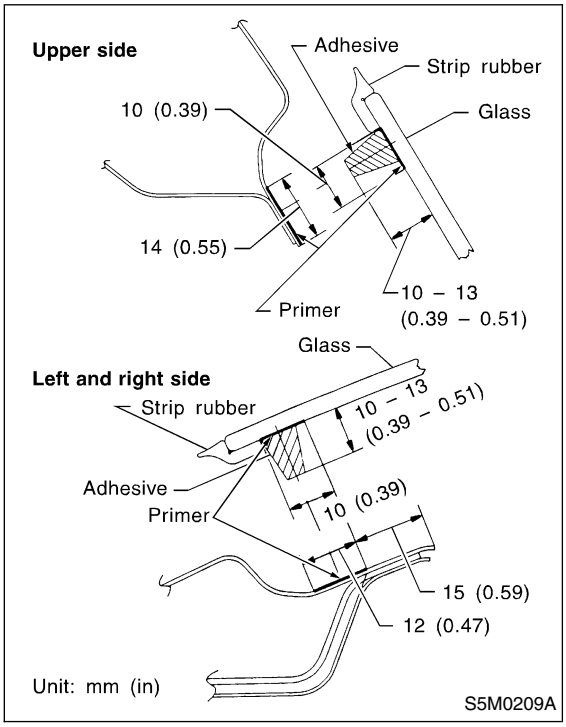
# 11. Rear Gate Glass S905376

## A: REMOVAL S905376A18

1) Remove real wiper motor. <Ref. to WW-16, REMOVAL, Rear Wiper Motor.>
2) Remove electrical connector from rear defogger terminal.
3) Remove glass in the same procedure as for windshield glass. <Ref. to GW-23, REMOVAL, Windshield Glass.>

## B: INSTALLATION S905376A11

1) Apply adhesive evenly to the glass attachment area.
2) Insert the glass clip pin into the rear gate hole, and after pushing on the area around the clip pin to secure it, push lightly all around the area to seal it.
3) About one hour after installation, conduct a leak test.




**CAUTION:**
- **When door is opened/closed after glass is bonded, always lower door glass and then open/close it carefully.**
- **Move vehicle slowly.**

4) After completion of all work, allow vehicle to stand for about 24 hours.

NOTE:
For minimum drying time and time the vehicle must be left standing before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

**CAUTION:**
**When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.**

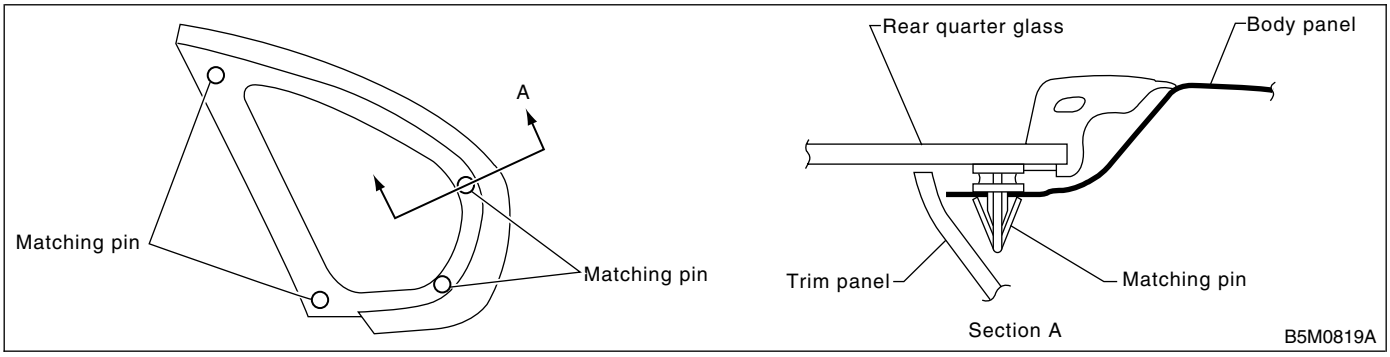
5) Connect rear defogger terminals.
6) Install rear wiper. <Ref. to WW-16, INSTALLATION, Rear Wiper Motor.>

# 12. Rear Quarter Glass S905453

## A: REMOVAL S905453A18

### 1. SEDAN S905453A1801

Remove glass in the same procedure as for windshield glass. <Ref. to GW-23, REMOVAL, Windshield Glass.>

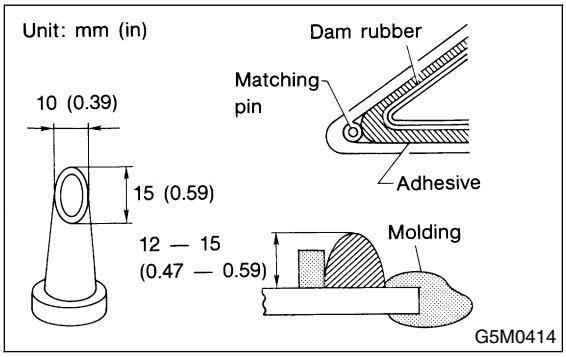



### 2. WAGON S905453A1802

Remove glass in the same procedure as for windshield glass. <Ref. to GW-23, REMOVAL, Windshield Glass.>

## B: INSTALLATION S905453A11

1) Cut off nozzle tip as shown in the figure.




2) Install glass in the same procedure as for windshield glass. <Ref. to GW-24, INSTALLATION, Windshield Glass.>

**CAUTION:**
- **When door is opened/closed after glass is bonded, always lower door glass and then open/close it carefully.**
- **Move vehicle slowly.**

3) After completion of all work, allow vehicle to stand for about 24 hours.

NOTE:
For minimum drying time and time the vehicle must be left standing before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

4) After curing of adhesive, pour water on external surface of vehicle to check that there are no water leaks.

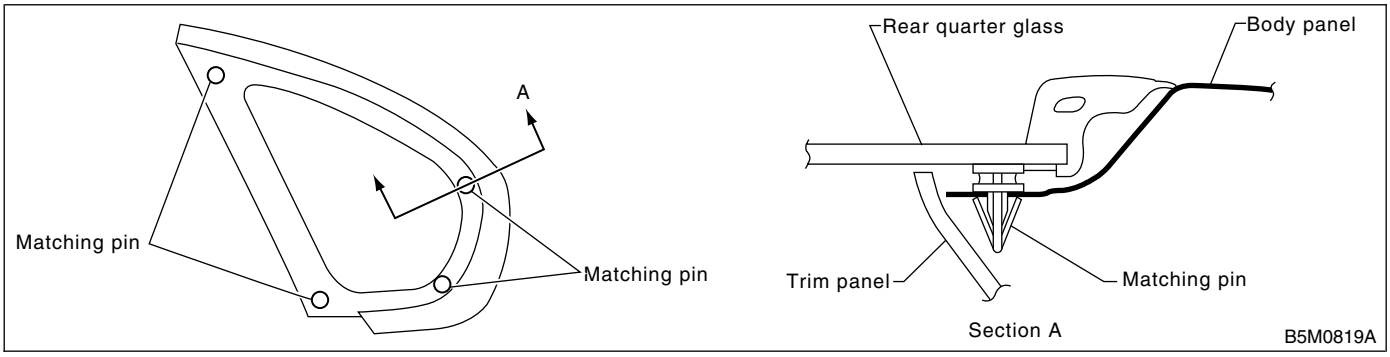
**CAUTION:**
**When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.**

# 12. Rear Quarter Glass S905453

## A: REMOVAL S905453A18

### 1. SEDAN S905453A1801

Remove glass in the same procedure as for windshield glass. <Ref. to GW-23, REMOVAL, Windshield Glass.>

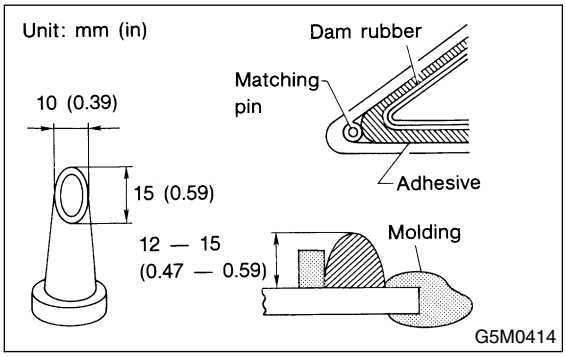



### 2. WAGON S905453A1802

Remove glass in the same procedure as for windshield glass. <Ref. to GW-23, REMOVAL, Windshield Glass.>

## B: INSTALLATION S905453A11

1) Cut off nozzle tip as shown in the figure.




2) Install glass in the same procedure as for windshield glass. <Ref. to GW-24, INSTALLATION, Windshield Glass.>

**CAUTION:**
- **When door is opened/closed after glass is bonded, always lower door glass and then open/close it carefully.**
- **Move vehicle slowly.**

3) After completion of all work, allow vehicle to stand for about 24 hours.

NOTE:
For minimum drying time and time the vehicle must be left standing before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

4) After curing of adhesive, pour water on external surface of vehicle to check that there are no water leaks.

**CAUTION:**
**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.**

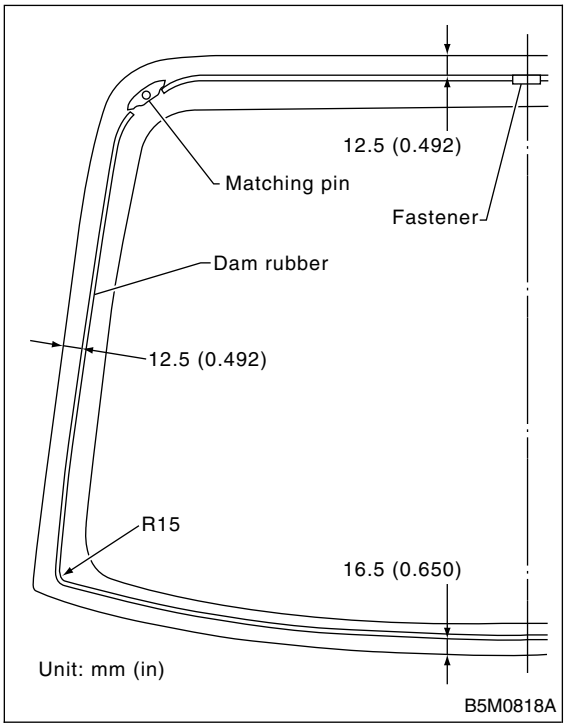
# 13. Rear Window Glass S905454

## A: REMOVAL S905454A18

1) Disconnect electrical connectors from rear defogger terminals.
2) Remove glass in the same procedure as for windshield glass. <Ref. to GW-23, REMOVAL, Windshield Glass.>

## B: INSTALLATION S905454A11

1) Bond dam rubber and matching pin.




2) Install glass in the same procedure as for windshield glass. <Ref. to GW-24, INSTALLATION, Windshield Glass.>
3) Connect rear defogger terminals.

**CAUTION:**
**• When door is opened/closed after glass is bonded, always lower door glass and then open/close door carefully.**
**• Move vehicle slowly.**

4) After completion of all work, allow vehicle to stand for about 24 hours.

NOTE:
For minimum drying time and time the vehicle must be left standing before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

5) After curing of adhesive, pour water on external surface of vehicle to check that there are no water leaks.

**CAUTION:**
**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.**

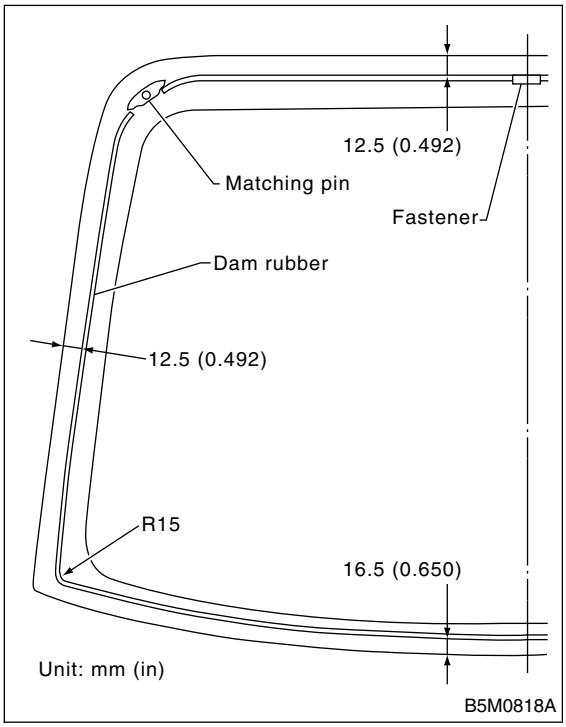
# 13. Rear Window Glass S905454

## A: REMOVAL S905454A18

1) Disconnect electrical connectors from rear defogger terminals.
2) Remove glass in the same procedure as for windshield glass. <Ref. to GW-23, REMOVAL, Windshield Glass.>

## B: INSTALLATION S905454A11

1) Bond dam rubber and matching pin.




2) Install glass in the same procedure as for windshield glass. <Ref. to GW-24, INSTALLATION, Windshield Glass.>
3) Connect rear defogger terminals.

**CAUTION:**
**• When door is opened/closed after glass is bonded, always lower door glass and then open/close door carefully.**
**• Move vehicle slowly.**

4) After completion of all work, allow vehicle to stand for about 24 hours.

NOTE:
For minimum drying time and time the vehicle must be left standing before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

5) After curing of adhesive, pour water on external surface of vehicle to check that there are no water leaks.

**CAUTION:**
**When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.**

# 14. Roof Window Glass S905339

## A: REMOVAL S905339A18

<Ref. to SR-6, REMOVAL, Sunroof Lid.>

## B: INSTALLATION S905339A11

<Ref. to SR-6, INSTALLATION, Sunroof Lid.>

## C: ADJUSTMENT S905339A01

<Ref. to SR-6, ADJUSTMENT, Sunroof Lid.>

# 14. Roof Window Glass S905339

## A: REMOVAL S905339A18

<Ref. to SR-6, REMOVAL, Sunroof Lid.>

## B: INSTALLATION S905339A11

<Ref. to SR-6, INSTALLATION, Sunroof Lid.>

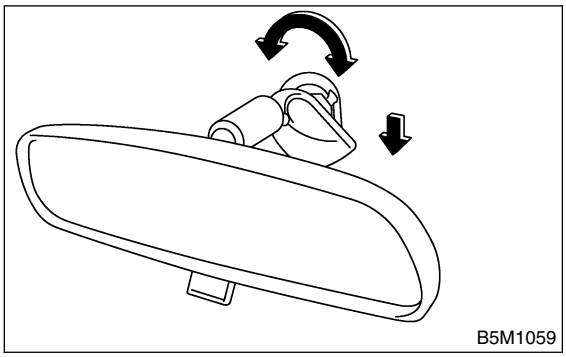
## C: ADJUSTMENT S905339A01

<Ref. to SR-6, ADJUSTMENT, Sunroof Lid.>

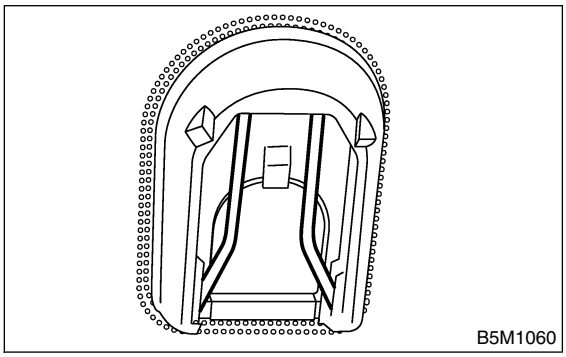
# 15. Inner Rearview Mirror S905340

## A: REMOVAL S905340A18

1) Turn mirror base 90 degrees clockwise or counterclockwise to remove it.




2) Remove spring from mirror base.




**CAUTION:**
**Be careful not to damage the mirror surface.**

## B: INSTALLATION S905340A11

Install in the reverse order of removal.

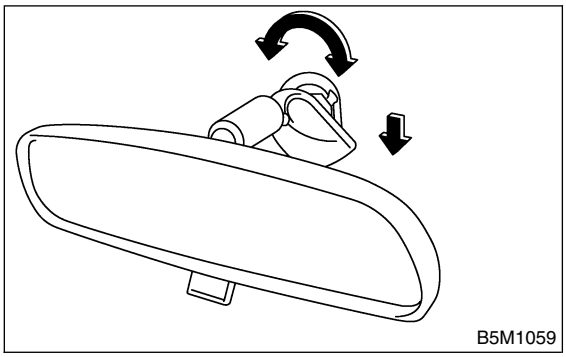
## C: INSPECTION S905340A10

Do not let mirror be damaged.
Do not let spring deteriorate.

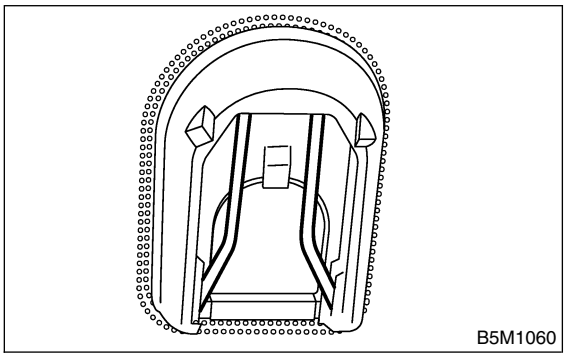
# 15. Inner Rearview Mirror S905340

## A: REMOVAL S905340A18

1) Turn mirror base 90 degrees clockwise or counterclockwise to remove it.




2) Remove spring from mirror base.




**CAUTION:**
**Be careful not to damage the mirror surface.**

## B: INSTALLATION S905340A11

Install in the reverse order of removal.

## C: INSPECTION S905340A10

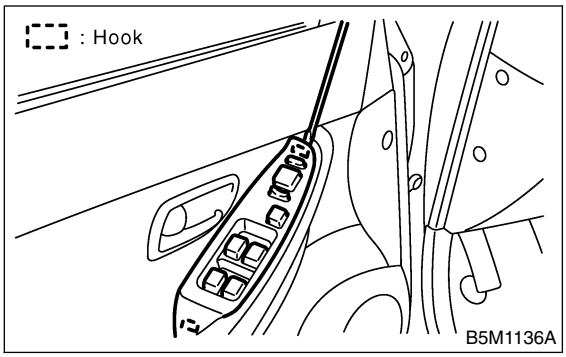
Do not let mirror be damaged.
Do not let spring deteriorate.

# 16. Power Window Control Switch S905621

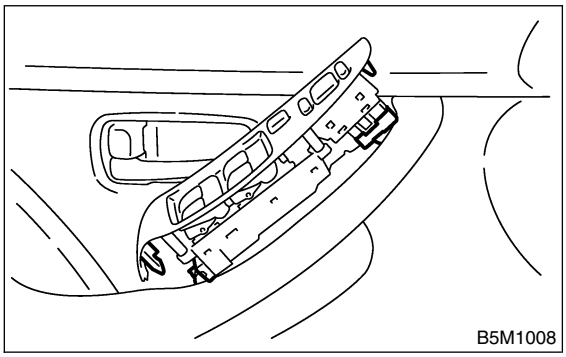
## A: REMOVAL S905621A18

### 1. MAIN SWITCH S905621A1801

1) Remove two hooks of switch panel to remove power window main switch.

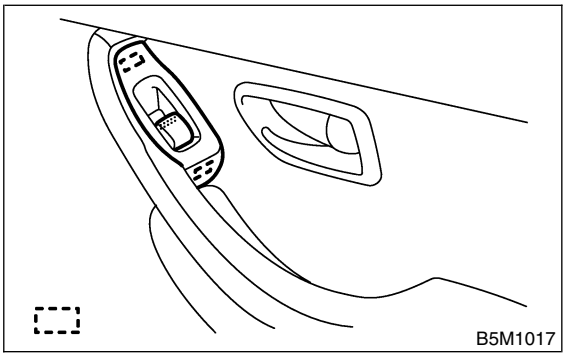



2) Disconnect electrical connectors from power window main switch and mirror switch.




### 2. SUB-SWITCH S905621A1802

Remove two hooks of switch panel to remove power window sub-switch and disconnect electrical connector.




## B: INSTALLATION S905621A11

### 1. MAIN SWITCH S905621A1101

Install in the reverse order of removal.

### 2. SUB-SWITCH S905621A1102

Install in the reverse order of removal.

## C: INSPECTION S905621A10

### 1. MAIN SWITCH S905621A1001

Measure switch resistance.

**Driver's switch:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| UP | 3 and 9, 7 and 1 | Less than 1 Ω |
| OFF | 3 and 7 and 1 | Less than 1 Ω |
| DOWN | 7 and 9, 3 and 1 | Less than 1 Ω |
| AUTO DOWN | 7 and 9, 3 and 1 | Less than 1 Ω |

**Front passenger's switch:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| UP | 9 and 5, 1 and 4 | Less than 1 Ω |
| OFF | 1 and 5 and 4 | Less than 1 Ω |
| DOWN | 9 and 4, 1 and 5 | Less than 1 Ω |

**Rear left switch:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| UP | 9 and 13, 1 and 8 | Less than 1 Ω |
| OFF | 1 and 13 and 8 | Less than 1 Ω |
| DOWN | 9 and 8, 1 and 13 | Less than 1 Ω |

**Rear right switch:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| UP | 9 and 16, 1 and 14 | Less than 1 Ω |
| OFF | 1 and 16 and 14 | Less than 1 Ω |
| DOWN | 9 and 14, 1 and 16 | Less than 1 Ω |

If NG, replace the main switch.

## 2. SUB-SWITCH *S905621A1002*

Measure switch resistance.

**Front passenger's door switch and rear door switch:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| UP | 5 and 1, 6 and 2 | Less than 1 Ω |
| OFF | 4 and 1, 6 and 2 | Less than 1 Ω |
| DOWN | 5 and 2, 4 and 1 | Less than 1 Ω |

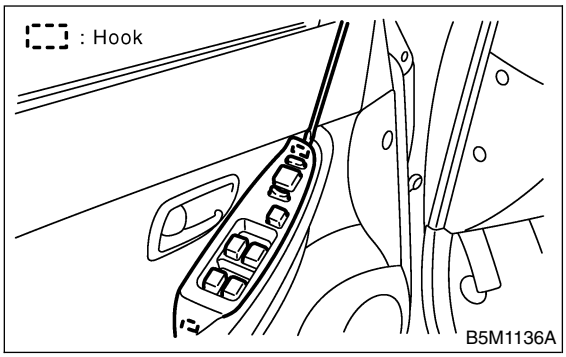
If NG, replace the sub-switch.

# 16. Power Window Control Switch S905621

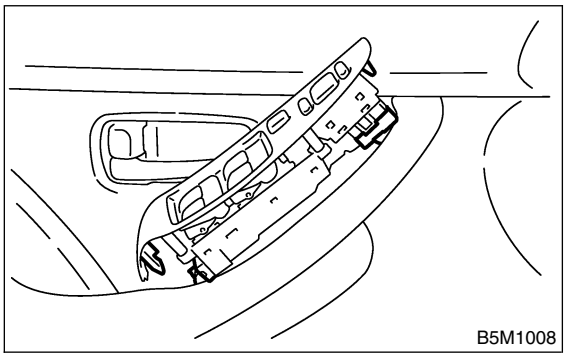
## A: REMOVAL S905621A18

### 1. MAIN SWITCH S905621A1801

1) Remove two hooks of switch panel to remove power window main switch.

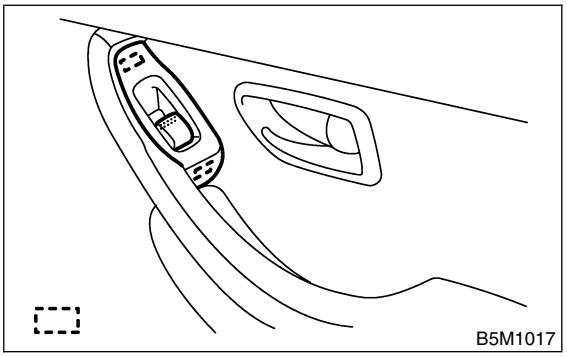



2) Disconnect electrical connectors from power window main switch and mirror switch.




### 2. SUB-SWITCH S905621A1802

Remove two hooks of switch panel to remove power window sub-switch and disconnect electrical connector.




## B: INSTALLATION S905621A11

### 1. MAIN SWITCH S905621A1101

Install in the reverse order of removal.

### 2. SUB-SWITCH S905621A1102

Install in the reverse order of removal.

## C: INSPECTION S905621A10

### 1. MAIN SWITCH S905621A1001

Measure switch resistance.

**Driver's switch:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| UP | 3 and 9, 7 and 1 | Less than 1 Ω |
| OFF | 3 and 7 and 1 | Less than 1 Ω |
| DOWN | 7 and 9, 3 and 1 | Less than 1 Ω |
| AUTO DOWN | 7 and 9, 3 and 1 | Less than 1 Ω |

**Front passenger's switch:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| UP | 9 and 5, 1 and 4 | Less than 1 Ω |
| OFF | 1 and 5 and 4 | Less than 1 Ω |
| DOWN | 9 and 4, 1 and 5 | Less than 1 Ω |

**Rear left switch:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| UP | 9 and 13, 1 and 8 | Less than 1 Ω |
| OFF | 1 and 13 and 8 | Less than 1 Ω |
| DOWN | 9 and 8, 1 and 13 | Less than 1 Ω |

**Rear right switch:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| UP | 9 and 16, 1 and 14 | Less than 1 Ω |
| OFF | 1 and 16 and 14 | Less than 1 Ω |
| DOWN | 9 and 14, 1 and 16 | Less than 1 Ω |

If NG, replace the main switch.

## 2. SUB-SWITCH *S905621A1002*

Measure switch resistance.

**Front passenger's door switch and rear door switch:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| UP | 5 and 1, 6 and 2 | Less than 1 Ω |
| OFF | 4 and 1, 6 and 2 | Less than 1 Ω |
| DOWN | 5 and 2, 4 and 1 | Less than 1 Ω |

If NG, replace the sub-switch.

# 17. Rear Window Defogger Switch S905559

## A: REMOVAL S905559A18

<Ref. to AC-30, REMOVAL, Control Unit.>

## B: INSTALLATION S905559A11

<Ref. to AC-30, INSTALLATION, Control Unit.>

## C: INSPECTION S905559A10

Check continuity between connectors at the back of heater control unit.

**AUTO A/C:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| ON | (i48) 13 and (i49) 12 | Less than 1 Ω |

**MANUAL A/C:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| OFF | (i17) 14 and (i17) 10 | Less than 1 Ω |

# 17. Rear Window Defogger Switch S905559

## A: REMOVAL S905559A18

<Ref. to AC-30, REMOVAL, Control Unit.>

## B: INSTALLATION S905559A11

<Ref. to AC-30, INSTALLATION, Control Unit.>

## C: INSPECTION S905559A10

Check continuity between connectors at the back of heater control unit.

**AUTO A/C:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| ON | (i48) 13 and (i49) 12 | Less than 1 Ω |

**MANUAL A/C:**

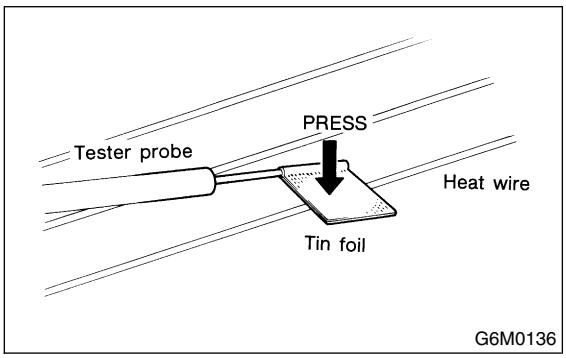
| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| OFF | (i17) 14 and (i17) 10 | Less than 1 Ω |

# 18. Rear Window Defogger S905341

## A: INSPECTION S905341A10

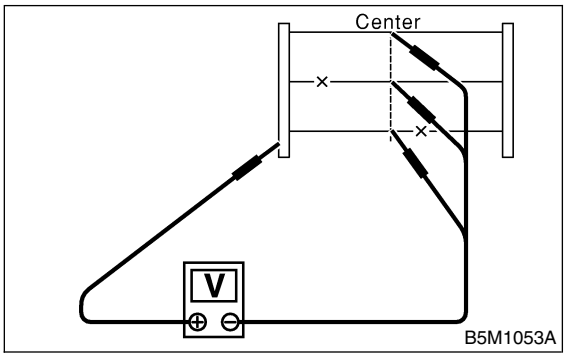
**CAUTION:**
**When wiping stain on glass off with cloth, use a dry and soft cloth and move it in the direction of the heat wire extension to avoid damage to the heat wire.**

1) Turn ignition switch to ON.
2) Turn defogger switch to ON.
3) Wrap tips of tester pins with aluminum foil to avoid damage to heat wire.




4) Measure voltage at wire center with DC voltmeter.

***Standard voltage:***
***Approx. 6 volts***



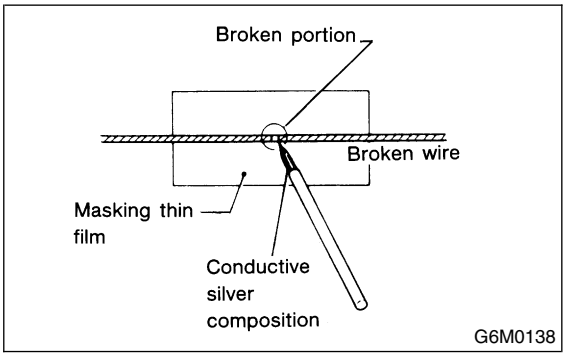

| Voltage | Criteria |
|---|---|
| Approx. 6 V | OK |
| Approx. 12 V or 0 V | Broken |

NOTE:
● If the measured value is 12 volts, heat wire is open between wire center and positive (+) end.
● If zero volt, heat wire is open between wire center and ground.

5) Apply positive lead of voltmeter to positive terminal of voltmeter, and then move negative lead along the wire up to the negative terminal end. If voltage changes from zero to several volts during movement of lead, heat wire is open at the voltage change point.

## B: REPAIR S905341A11

1) Clean broken portion with alcohol or white gasoline.
2) Mask both side of wire with thin film.
3) Apply conductive silver composition (DUPONT No. 4817) to broken portion.



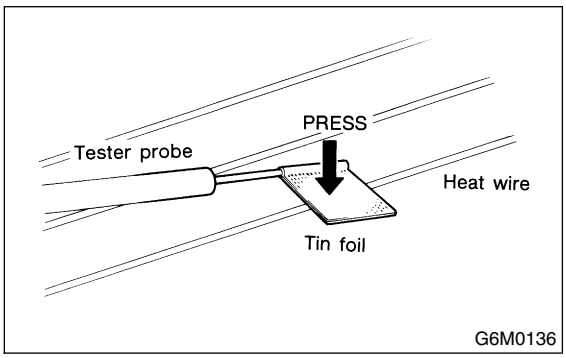

4) After repair, check wire.

# 18. Rear Window Defogger S905341

## A: INSPECTION S905341A10

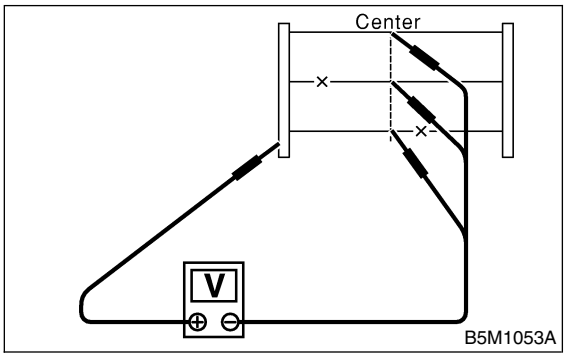
**CAUTION:**
**When wiping stain on glass off with cloth, use a dry and soft cloth and move it in the direction of the heat wire extension to avoid damage to the heat wire.**

1) Turn ignition switch to ON.
2) Turn defogger switch to ON.
3) Wrap tips of tester pins with aluminum foil to avoid damage to heat wire.




4) Measure voltage at wire center with DC voltmeter.

***Standard voltage:***
***Approx. 6 volts***



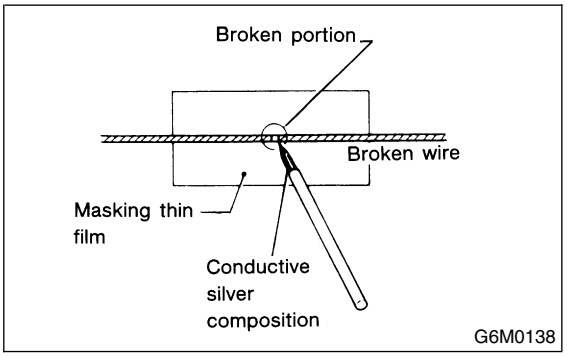

| Voltage | Criteria |
|---|---|
| Approx. 6 V | OK |
| Approx. 12 V or 0 V | Broken |

NOTE:
● If the measured value is 12 volts, heat wire is open between wire center and positive (+) end.
● If zero volt, heat wire is open between wire center and ground.

5) Apply positive lead of voltmeter to positive terminal of voltmeter, and then move negative lead along the wire up to the negative terminal end. If voltage changes from zero to several volts during movement of lead, heat wire is open at the voltage change point.

## B: REPAIR S905341A11

1) Clean broken portion with alcohol or white gasoline.
2) Mask both side of wire with thin film.
3) Apply conductive silver composition (DUPONT No. 4817) to broken portion.

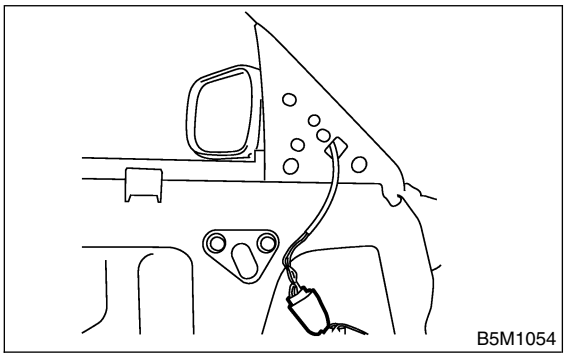



4) After repair, check wire.

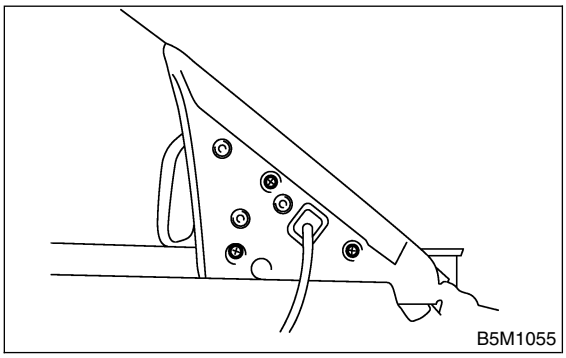
# 19. Outer Mirror Assembly S905338

## A: REMOVAL S905338A18

1) Remove door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
2) Pull off sealing cover to disconnect mirror electrical connector.




3) Loosen screws to remove mirror assembly.




## B: INSTALLATION S905338A11

Install in the reverse order of removal.

## C: INSPECTION S905338A10

Check to ensure that rearview mirror moves properly when battery voltage is applied to terminals.

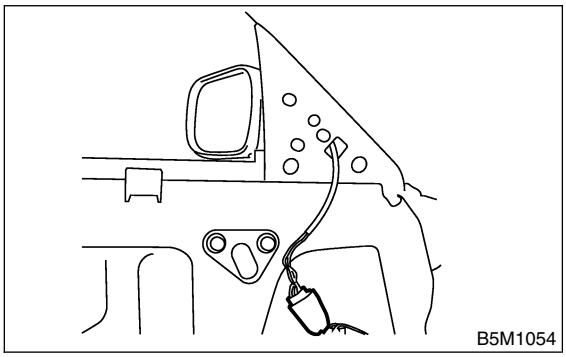
| Switch position | Terminal No. |
|---|---|
| OFF | — |
| UP | 1 (+) and 3 (–) |
| DOWN | 3 (+) and 1 (–) |
| LEFT | 2 (+) and 3 (–) |
| RIGHT | 3 (+) and 2 (–) |

If NG, replace the mirror.

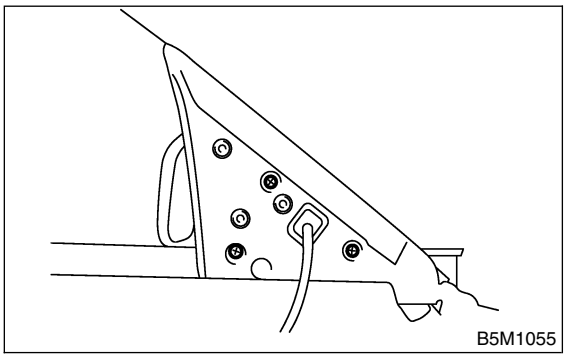
# 19. Outer Mirror Assembly S905338

## A: REMOVAL S905338A18

1) Remove door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
2) Pull off sealing cover to disconnect mirror electrical connector.




3) Loosen screws to remove mirror assembly.




## B: INSTALLATION S905338A11

Install in the reverse order of removal.

## C: INSPECTION S905338A10

Check to ensure that rearview mirror moves properly when battery voltage is applied to terminals.

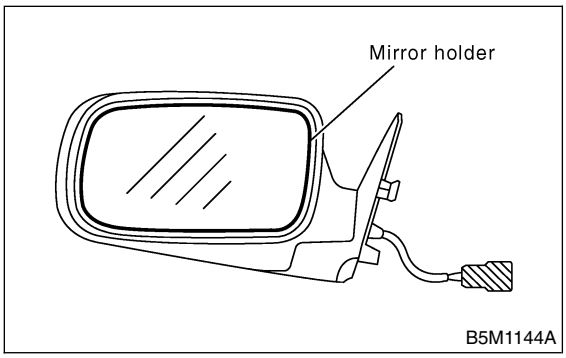
| Switch position | Terminal No. |
|---|---|
| OFF | — |
| UP | 1 (+) and 3 (–) |
| DOWN | 3 (+) and 1 (–) |
| LEFT | 2 (+) and 3 (–) |
| RIGHT | 3 (+) and 2 (–) |

If NG, replace the mirror.

# 20. Outer Mirror S905658

## A: REPLACEMENT S905658A20

1) Remove the door mirror assembly. <Ref. to GW-36, REMOVAL, Outer Mirror Assembly.>
2) Warm the area around the mirror holder with a hair drier until the edges of the mirror holder become soft (about 2 or 3 minutes with a 1,000 W drier.)
3) Use a flat-bladed screwdriver without sharp edges to lift the mirror out of the mirror holder. (Also remove the connector from the back of mirrors with heaters.)



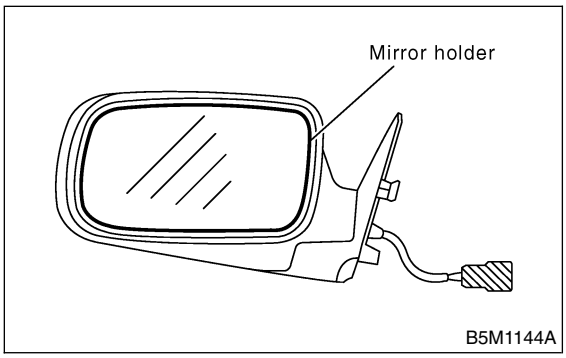

4) Warm the area around the mirror holder with a hair drier until the edges of the mirror holder become soft (about 2 or 3 minutes with a 1,000 W drier.)
5) Remove the backing of the new two-sided tape, and push the mirror in to install it.

**CAUTION:**
**Unless the mirror holder is warmed sufficiently, the mirror holder edges may be damaged or the mirror cracked.**

# 20. Outer Mirror S905658

## A: REPLACEMENT S905658A20

1) Remove the door mirror assembly. <Ref. to GW-36, REMOVAL, Outer Mirror Assembly.>
2) Warm the area around the mirror holder with a hair drier until the edges of the mirror holder become soft (about 2 or 3 minutes with a 1,000 W drier.)
3) Use a flat-bladed screwdriver without sharp edges to lift the mirror out of the mirror holder. (Also remove the connector from the back of mirrors with heaters.)



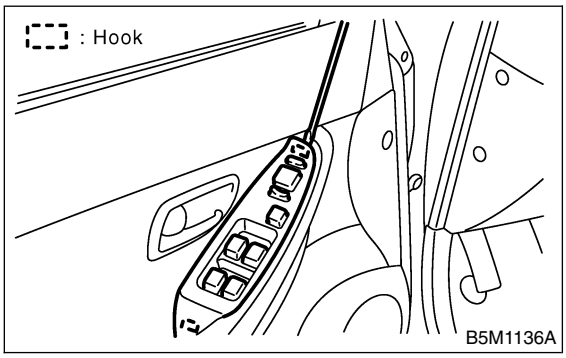

4) Warm the area around the mirror holder with a hair drier until the edges of the mirror holder become soft (about 2 or 3 minutes with a 1,000 W drier.)
5) Remove the backing of the new two-sided tape, and push the mirror in to install it.

**CAUTION:**
**Unless the mirror holder is warmed sufficiently, the mirror holder edges may be damaged or the mirror cracked.**

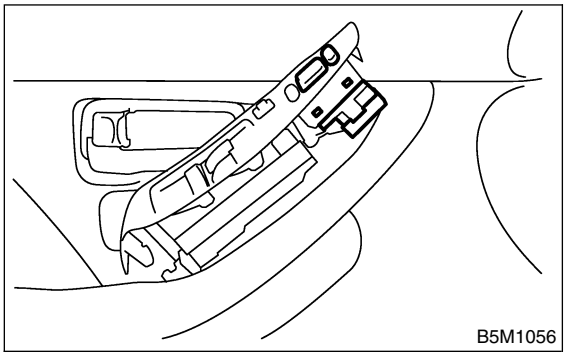
# 21. Remote Control Mirror Switch S905342

## A: REMOVAL S905342A18

1) Remove power window main switch panel.




2) Remove four hook to remove remote control mirror switch.

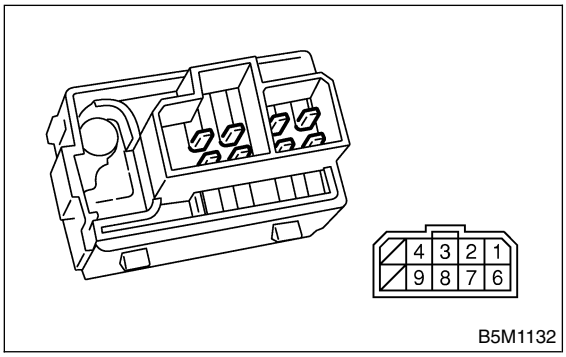



## B: INSTALLATION S905342A11

Install in the reverse order of removal.

## C: INSPECTION S905342A10

Move rearview mirror switch to each position and check continuity between terminals.




**Change over switch left position:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1MΩ |
| UP | 7 and 4, 2 and 1 | Less than 1Ω |
| DOWN | 7 and 2, 4 and 1 | Less than 1Ω |
| LEFT | 9 and 4, 2 and 1 | Less than 1Ω |
| RIGHT | 9 and 2, 4 and 1 | Less than 1Ω |

**Change over switch right position:**

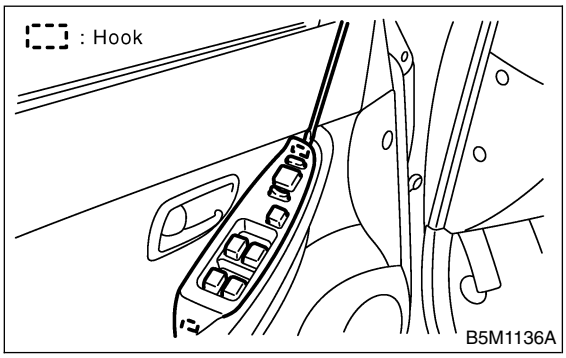
| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1MΩ |
| UP | 6 and 4, 2 and 1 | Less than 1Ω |
| DOWN | 6 and 2, 4 and 1 | Less than 1Ω |
| LEFT | 8 and 4, 2 and 1 | Less than 1Ω |
| RIGHT | 8 and 2, 4 and 1 | Less than 1Ω |

If NG, replace the switch.

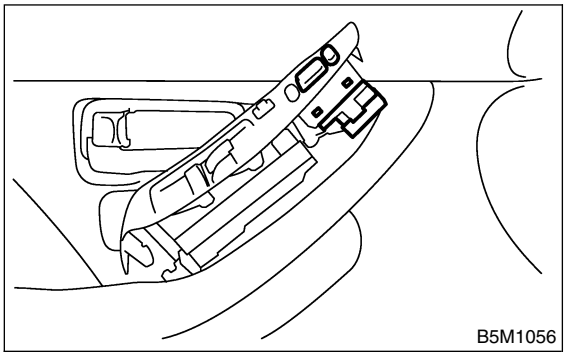
# 21. Remote Control Mirror Switch S905342

## A: REMOVAL S905342A18

1) Remove power window main switch panel.




2) Remove four hook to remove remote control mirror switch.

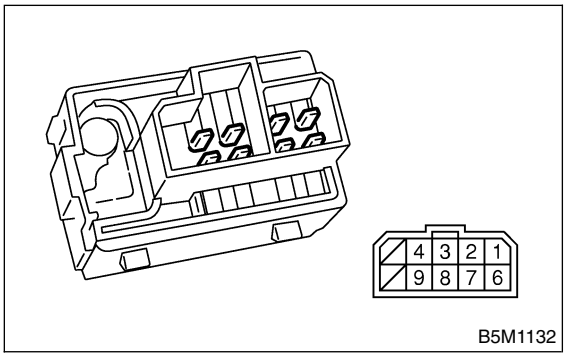



## B: INSTALLATION S905342A11

Install in the reverse order of removal.

## C: INSPECTION S905342A10

Move rearview mirror switch to each position and check continuity between terminals.




**Change over switch left position:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1MΩ |
| UP | 7 and 4, 2 and 1 | Less than 1Ω |
| DOWN | 7 and 2, 4 and 1 | Less than 1Ω |
| LEFT | 9 and 4, 2 and 1 | Less than 1Ω |
| RIGHT | 9 and 2, 4 and 1 | Less than 1Ω |

**Change over switch right position:**

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1MΩ |
| UP | 6 and 4, 2 and 1 | Less than 1Ω |
| DOWN | 6 and 2, 4 and 1 | Less than 1Ω |
| LEFT | 8 and 4, 2 and 1 | Less than 1Ω |
| RIGHT | 8 and 2, 4 and 1 | Less than 1Ω |

If NG, replace the switch.

# 22. Wiper Deicer S905622

## A: INSPECTION S905622A10

Refer to INSPECTION under Rear Window Defogger. <Ref. to GW-35, INSPECTION, Rear Window Defogger.>

## B: REPAIR S905622A11

Refer to REPAIR under Rear Window Defogger. <Ref. to GW-35, REPAIR, Rear Window Defogger.>

# 22. Wiper Deicer S905622

## A: INSPECTION S905622A10

Refer to INSPECTION under Rear Window Defogger. <Ref. to GW-35, INSPECTION, Rear Window Defogger.>

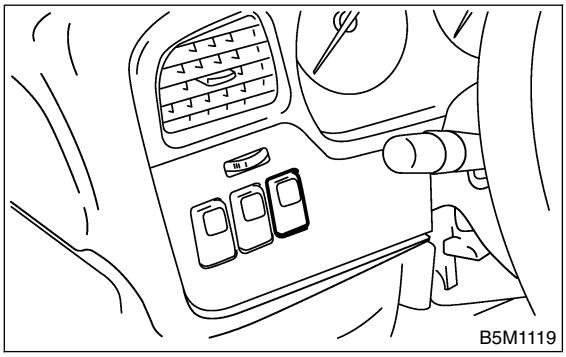
## B: REPAIR S905622A11

Refer to REPAIR under Rear Window Defogger. <Ref. to GW-35, REPAIR, Rear Window Defogger.>

# 23. Wiper Deicer Switch S905623

## A: REMOVAL S905623A18

Remove driver side switch panel, and then remove wiper deicer switch.




## B: INSTALLATION S905623A11

Install in the reverse order of removal.

## C: INSPECTION S905623A10

Move wiper deicer switch to each position and check continuity between terminals.

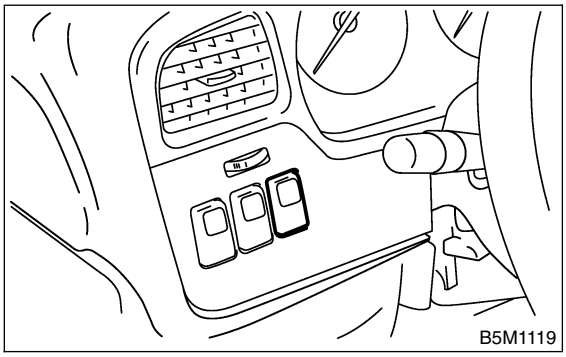
| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| ON | 3 and 5 | Less than 1 Ω |

If NG, replace the switch.

# 23. Wiper Deicer Switch S905623

## A: REMOVAL S905623A18

Remove driver side switch panel, and then remove wiper deicer switch.




## B: INSTALLATION S905623A11

Install in the reverse order of removal.

## C: INSPECTION S905623A10

Move wiper deicer switch to each position and check continuity between terminals.

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | More than 1 MΩ |
| ON | 3 and 5 | Less than 1 Ω |

If NG, replace the switch.

# 1. General Description S906001

## A: PREPARATION TOOL S906001A17

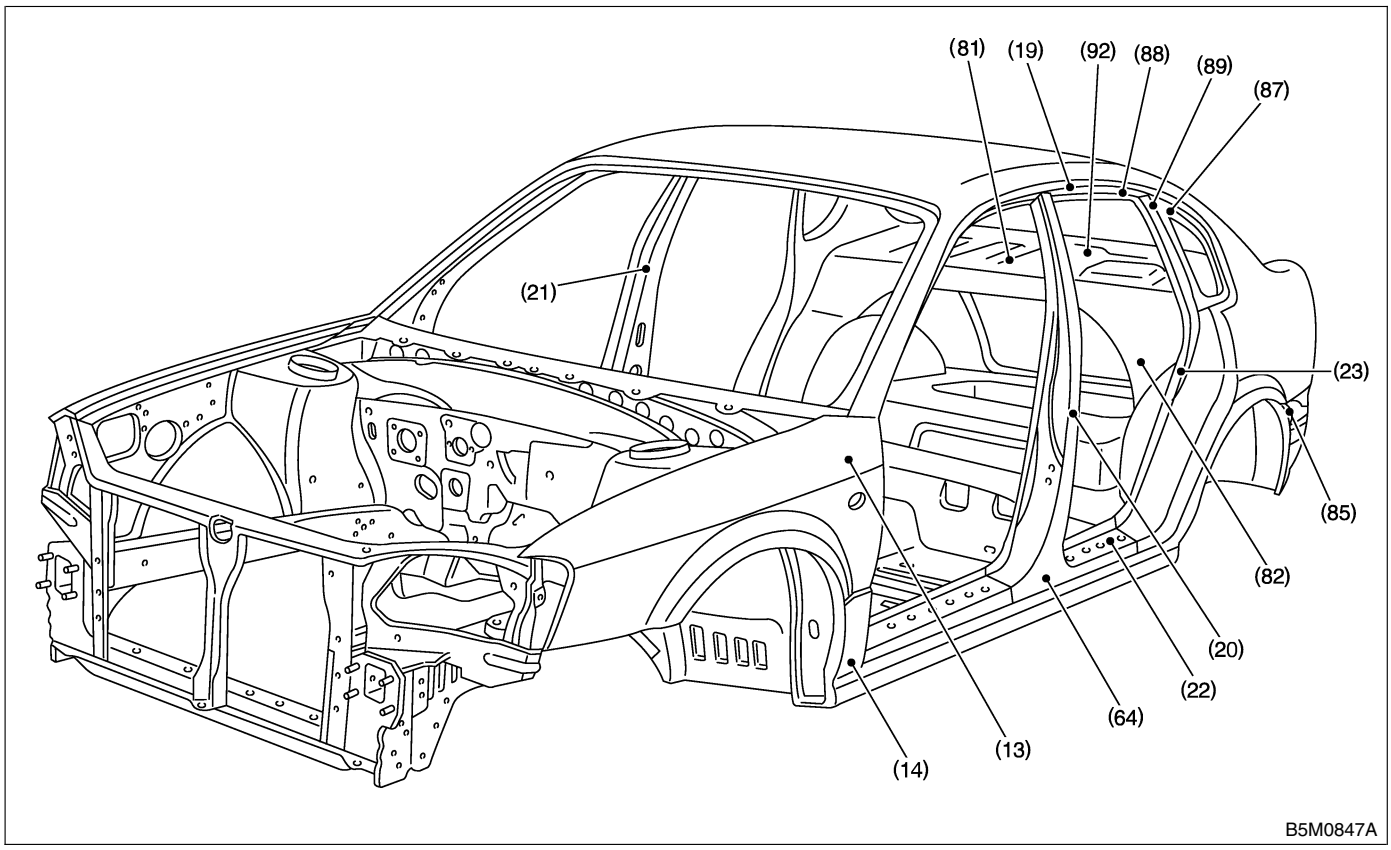
| TOOL NAME | REMARKS |
|---|---|
| Tram tracking gauge | Used for measuring dimension. |
| Tape measure | Used for measuring dimension |

# 2. Datum Points S906540

## A: LOCATION S906540A13

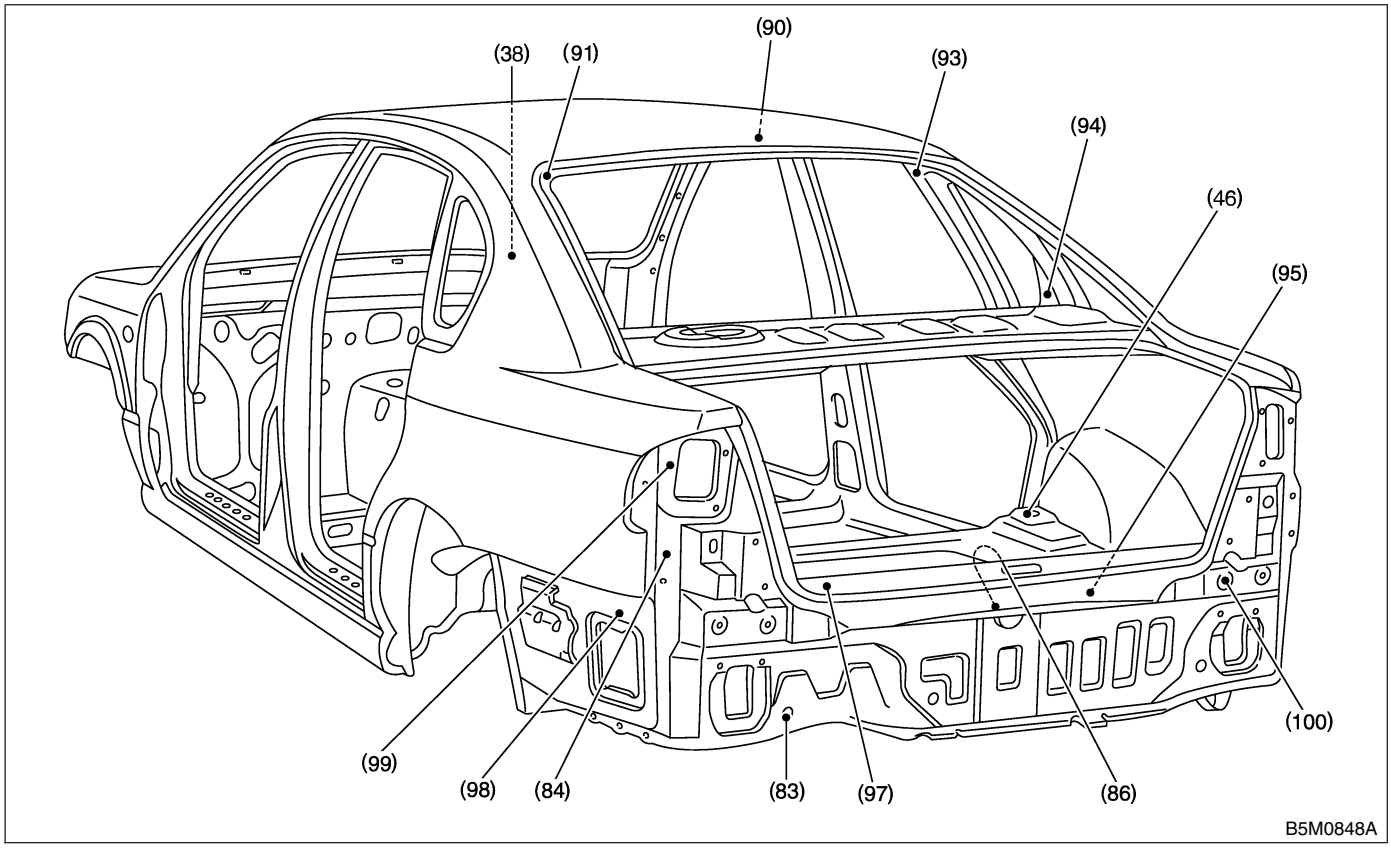
NOTE:
- Datum points are specified for body repair.
- Guide holes, locators, and indents are provided to facilitate panel replacement and to increase alignment accuracy.
- Both right and left reference points are symmetrical.

### 1. ROOM SECTION S906540A1301



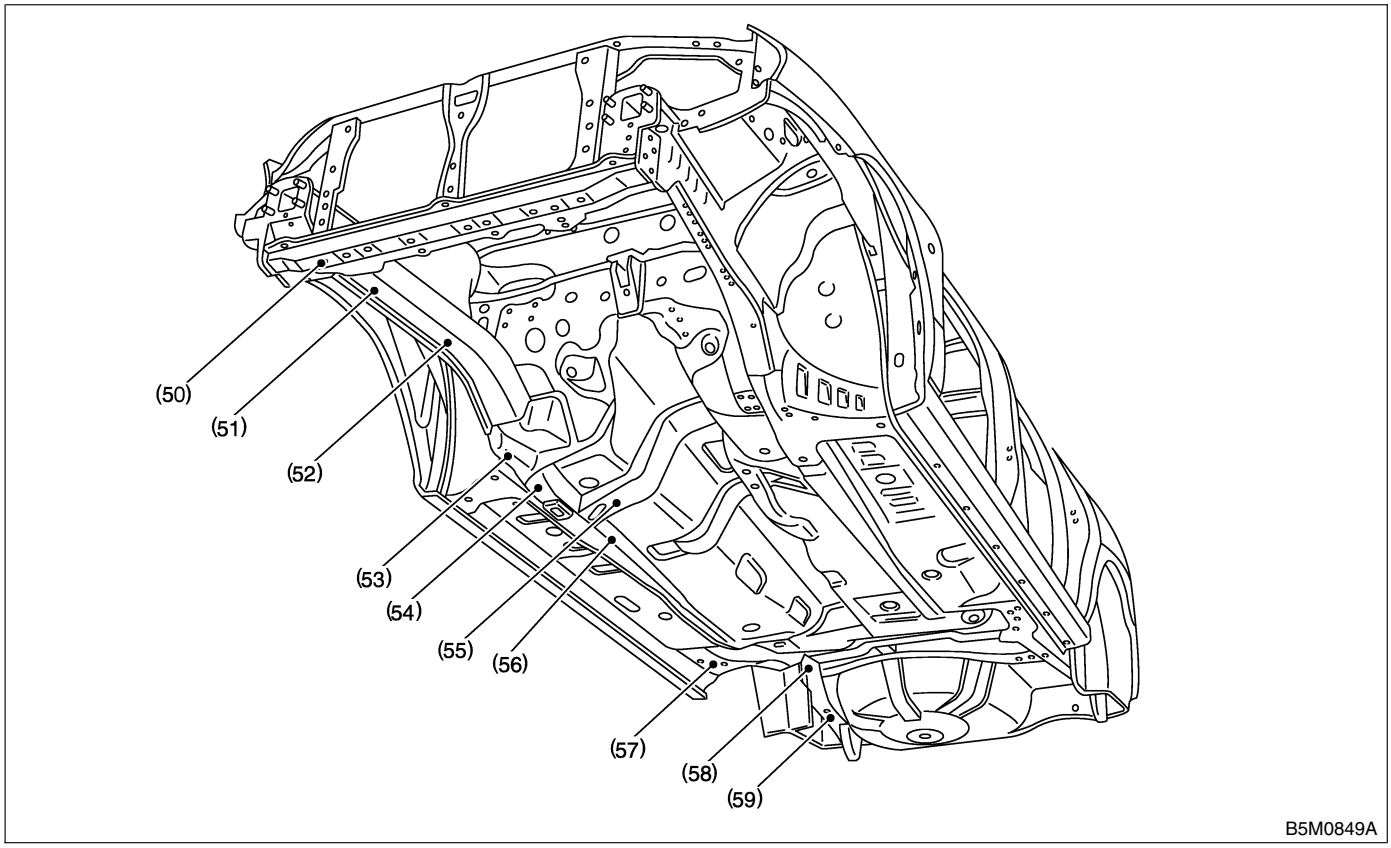

(13) Front fender attaching hole at front pillar center portion M6
(14) Front fender attaching hole at front pillar lower portion M6
(19) Retainer attaching hole at side rail outer 3.2 mm (0.126 in) dia.
(20) Center pillar outer hole 14 mm (0.55 in) dia.
(21) Front seat belt adjust plate attaching hole M10
(22) Side sill outer hole 20 mm (0.79 in) dia.
(23) Rear quarter outer door switch attaching hole 20 mm (0.79 in) dia.
(64) Center pillar (LWR) gauge hole 13 mm (0.51 in) dia.
(81) Rear shelf (UPR) center hole 8 mm (0.31 in) dia.
(82) Rear side bulk head (UPR) gauge hole 7 mm (0.28 in) dia.
(85) Rear quarter outer gauge hole 20 mm (0.79 in) dia.
(87) Six light upper retainer attaching hole 6.2 mm (0.244 in) dia.
(88) Retainer attaching square hole at side rail outer 8 × 8 mm (0.31 × 0.31 in)
(89) Retainer attaching square hole at rear quarter outer 8 × 8 mm (0.31 × 0.31 in)
(92) Rear shelf (UPR) hole 6 mm (0.24 in) dia.

## 2. REAR SECTION S906540A1302



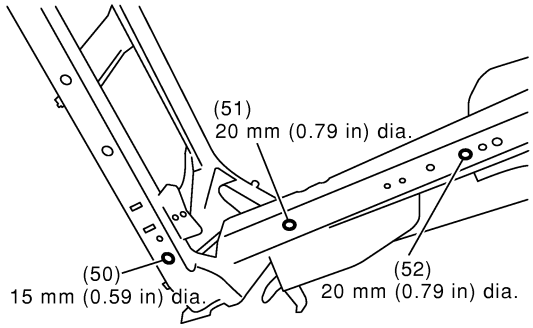

(38) Front panel instrument panel attaching hole 18 × 36 mm (0.71 × 1.42 in) dia. oblong hole
(46) Rear shock absorber attaching hole 13 mm (0.51 in) dia.
(83) Rear skirt outer gauge hole 20 mm (0.79 in) dia.
(84) Rear extension attaching hole 6.2 mm (0.244 in) dia.
(86) Skirt rear inner center location hole 7 mm (0.28 in) dia.
(90) Roof trim attaching hole 8 mm (0.31 in) dia.
(91) Rear glass upper locating hole RH: 6.8 mm (0.268 in) dia., LH: 6.8 × 10 mm (0.268 × 0.39 in) dia. oblong hole
(93) Inner trim attaching hole (UPR) 8 mm (0.31 in) dia.
(94) Inner trim attaching hole (LWR) 8 mm (0.31 in) dia.
(95) Rear bumper attaching hole 12.5 × 17 mm (0.492 × 0.669 in) dia. oblong hole
(97) Trim attaching hole at rear skirt 7 mm (0.28 in) dia.
(98) Rear bumper side attaching hole 6.2 mm (0.244 in) dia.
(99) Rear combination light mounting hole 8 mm (0.31 in) dia.
(100) Rear bumper beam attaching hole 8.2 mm (0.323 in) dia.

## 3. UNDERBODY SECTION S906540A1303

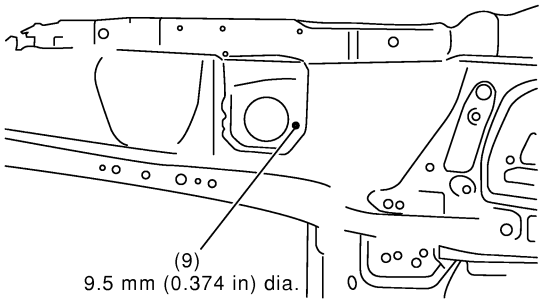



(50) Radiator panel (LWR) frame gauge hole 15 mm (0.59 in) dia.
(51) Front side frame (Ft) gauge hole 20 mm (0.79 in) dia.
(52) Front side frame (Ft) gauge hole 20 mm (0.79 in) dia.
(53) Front suspension attaching hole M14
(54) Front side frame (Rr) gauge hole 20 mm (0.79 in) dia.
(55) Crossmember front floor gauge hole M10
(56) Side frame (Rr) gauge hole 18 mm (0.71 in) dia.
(57) Frame rear floor side gauge hole 25 mm (0.98 in) dia.
(58) Reinforcement crossmember B hole RH: 15 mm (0.59 in) dia., LH: 12 mm (0.47 in) dia.
(59) Frame rear floor side gauge hole 30 mm (1.18 in) dia.

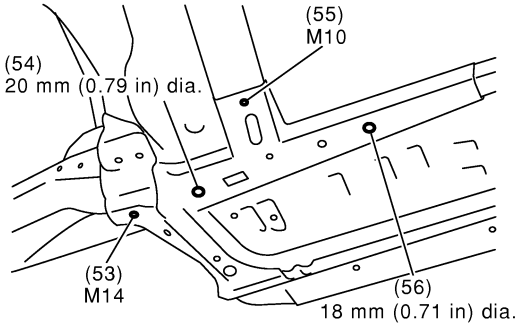
# DATUM POINTS



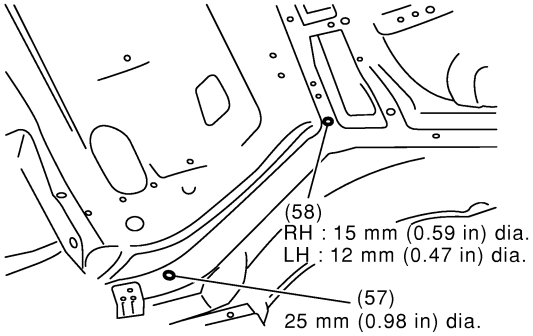

B5M0850A



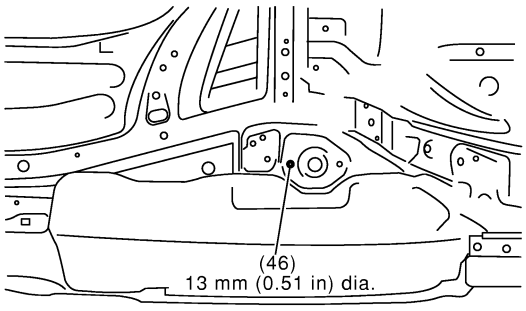

B5M0853B



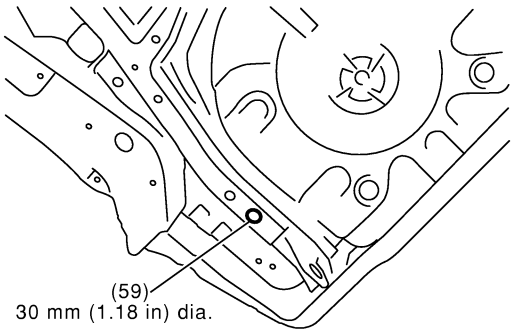

B5M0851A



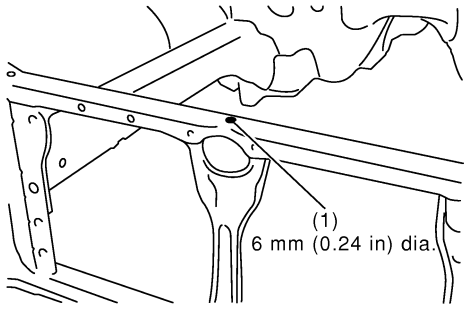

B5M0854A



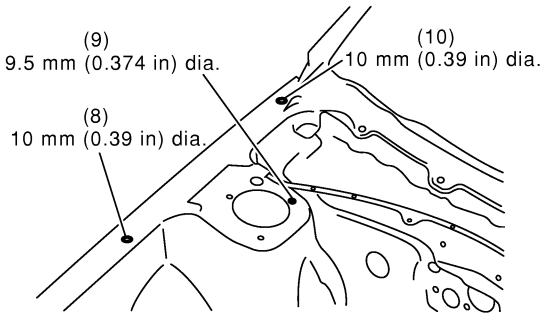

B5M0852A



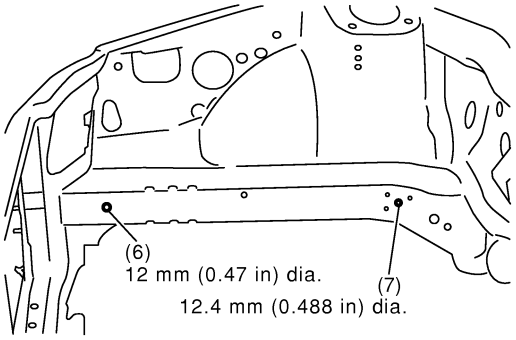

B5M0855A



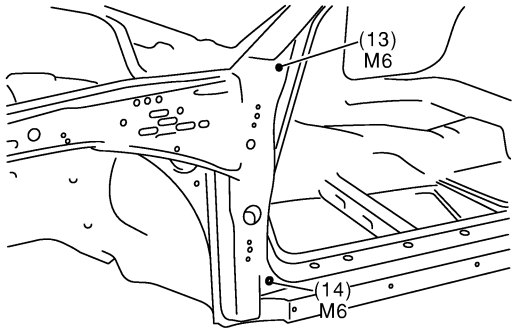

B5M0856A



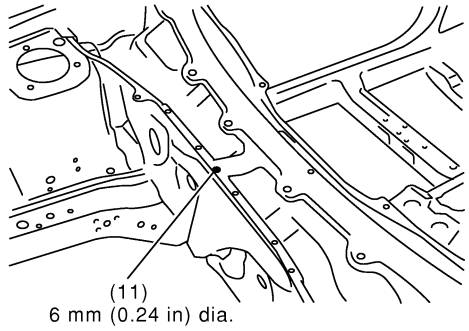

B5M0860A



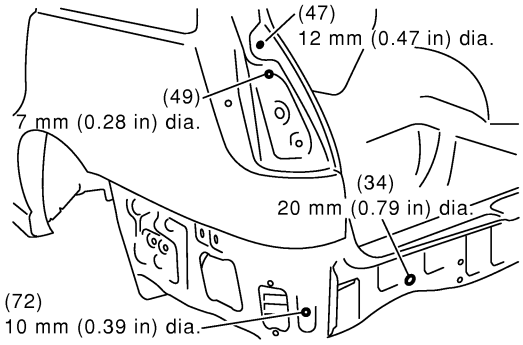

B5M0857A



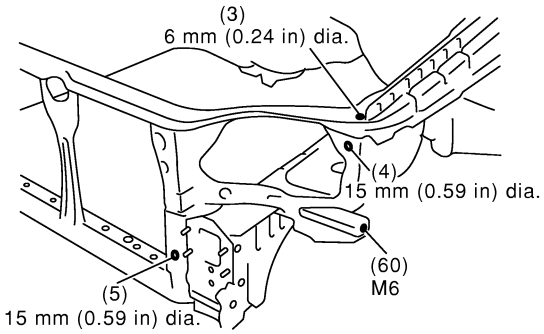

B5M0861A



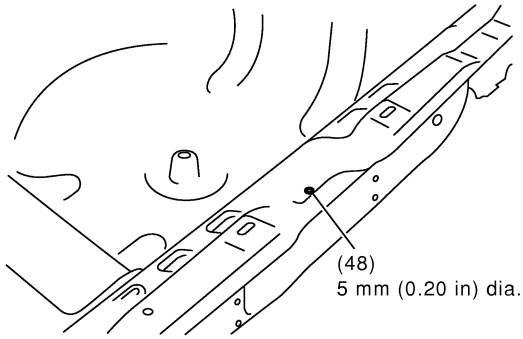

B5M0858A



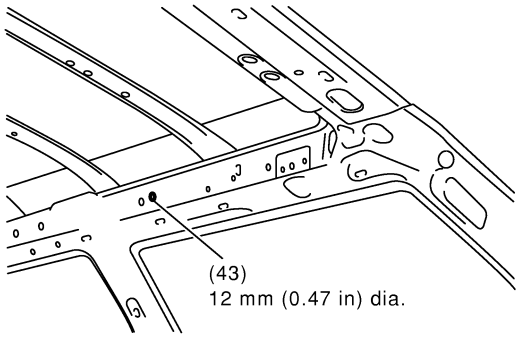

B5M0862A



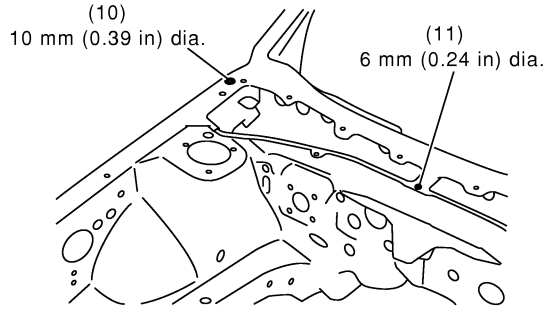

B5M0859A




B5M0863A

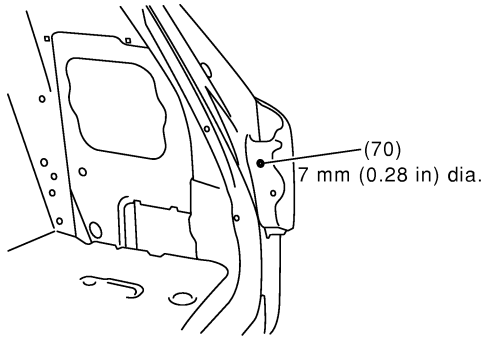



B5M0864A

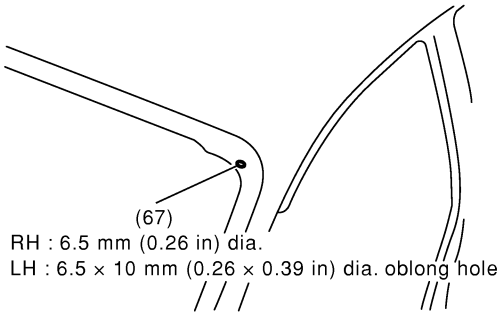



B5M0868A

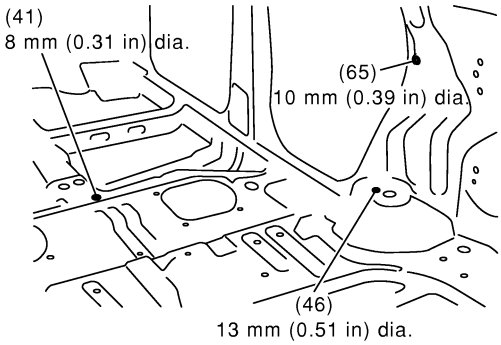
# DATUM POINTS



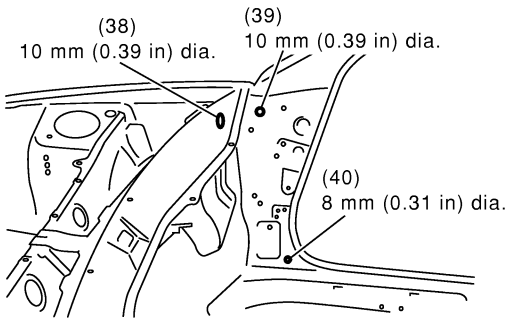

B5M0865A



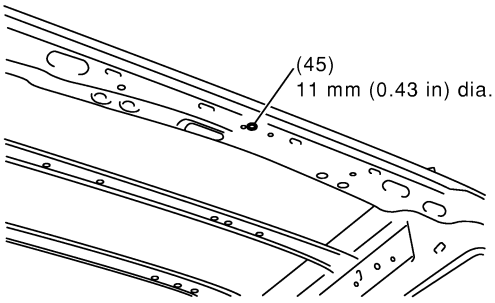

B5M0869A



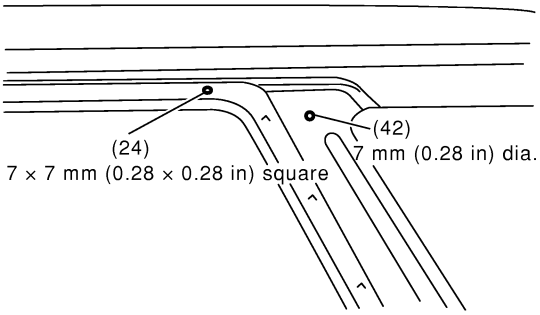

B5M0866A



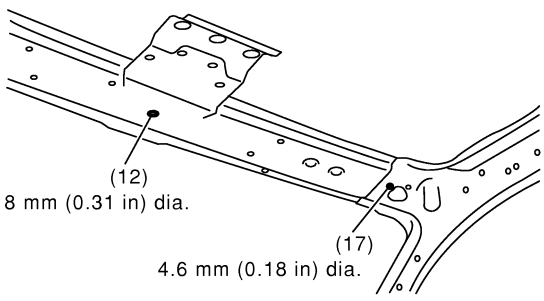

B5M0882A



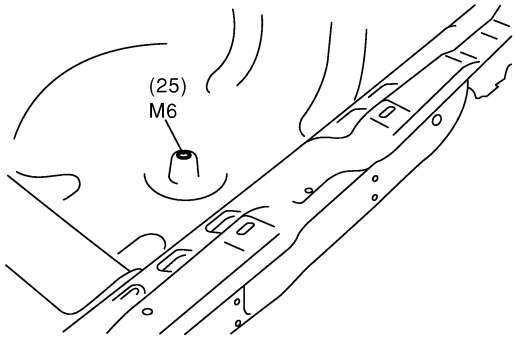

B5M0867A



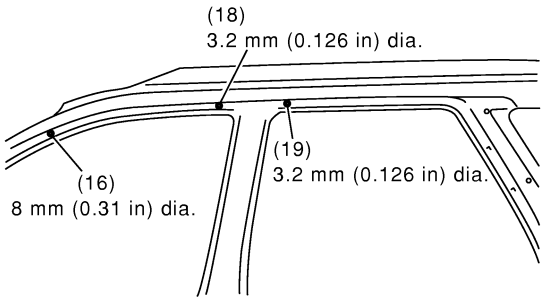

B5M0871A



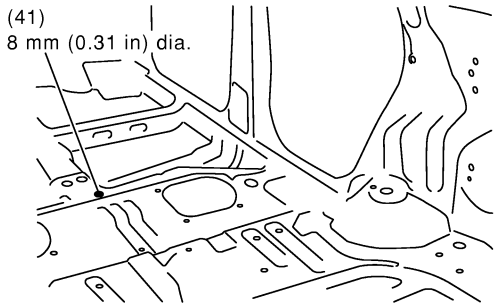

B5M0872A



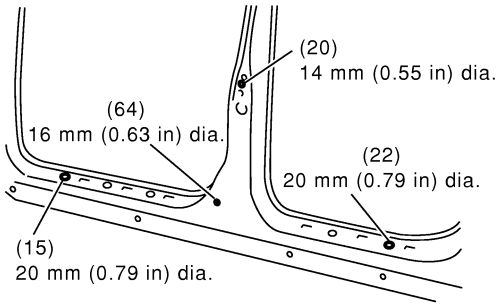

B5M0876A



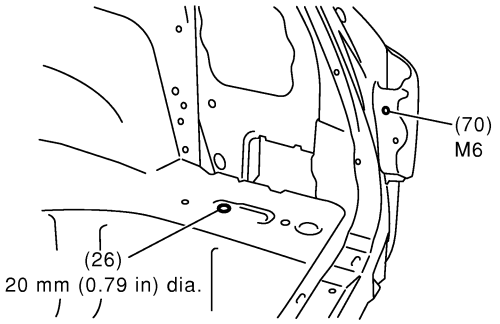

B5M0873A



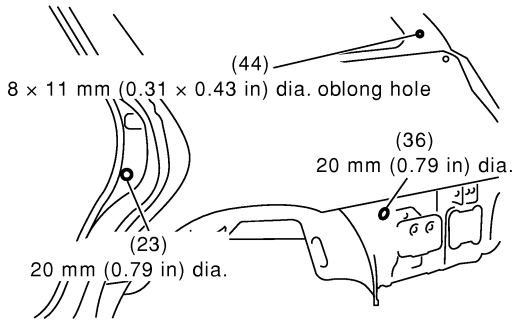

B5M0877A



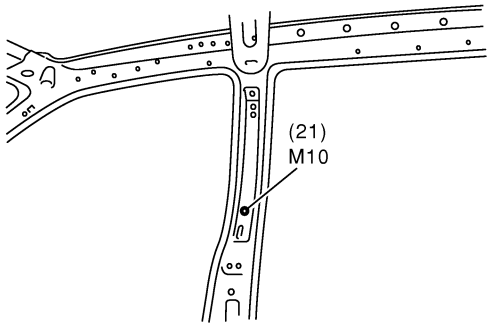

B5M0874A




B5M0880A




B5M0875A



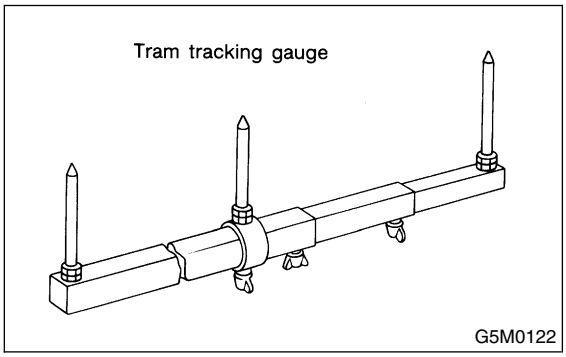

B5M0881A

# 3. Datum Dimensions S906337

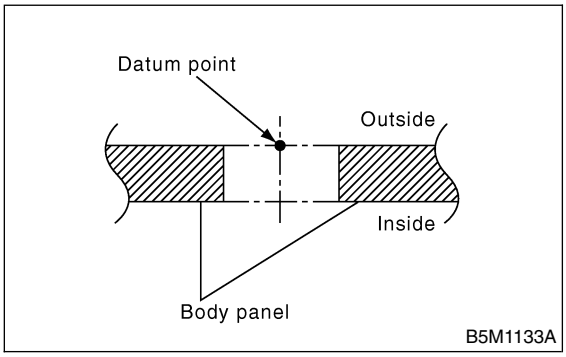
## A: MEASUREMENT S906337A14

Refer to LOCATION for details on measurement points. <Ref. to BS-3, LOCATION, Datum Points.>

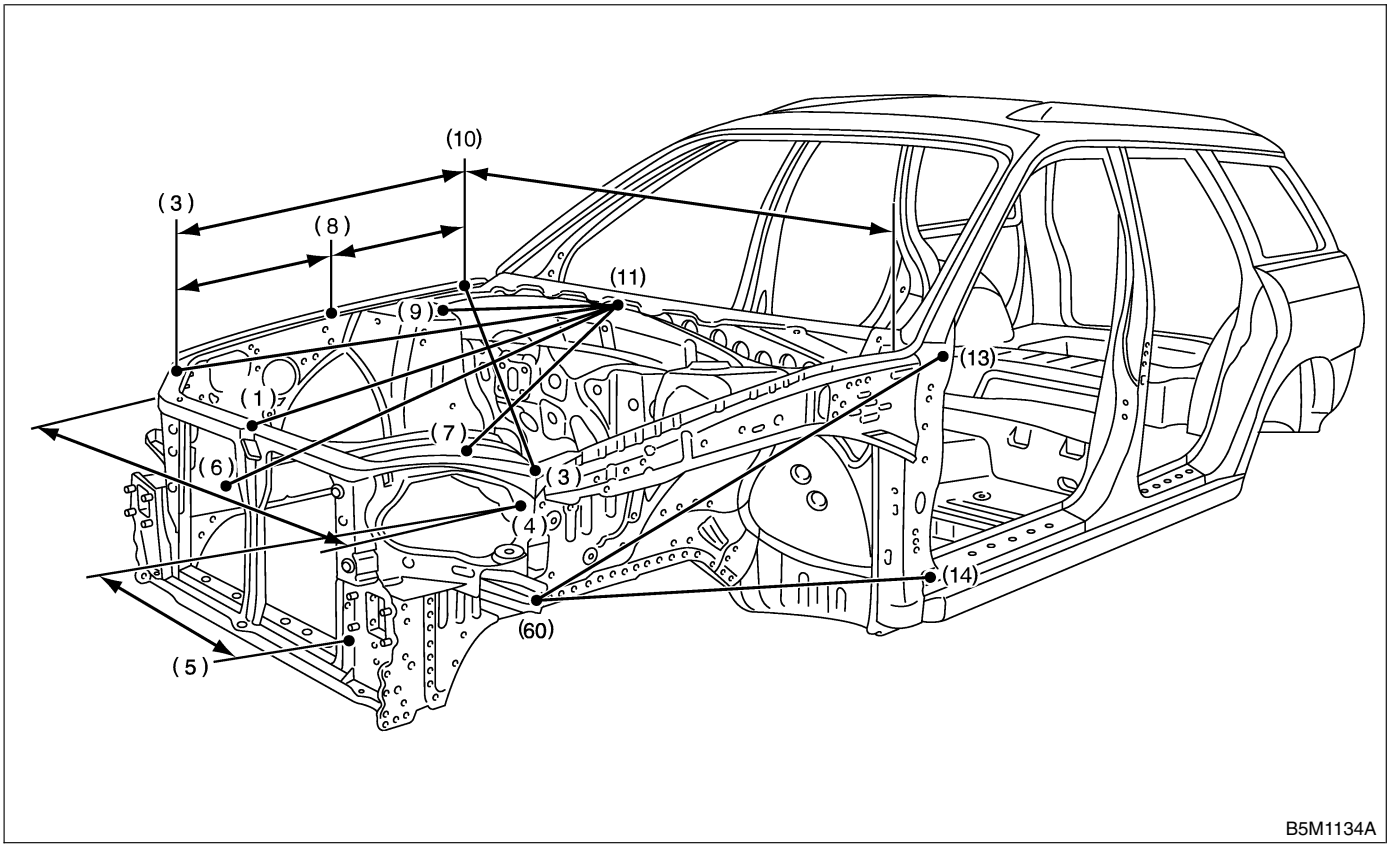
NOTE:
- Using a tram tracking gauge, measure all the dimensions.
- When using a tape measure, carefully measure dimensions without letting the tape measure sag or twist.
- Measure the linear dimensions between cores of holes.
- Suffixes “RH” and “LH” indicate right-hand and left-hand.




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

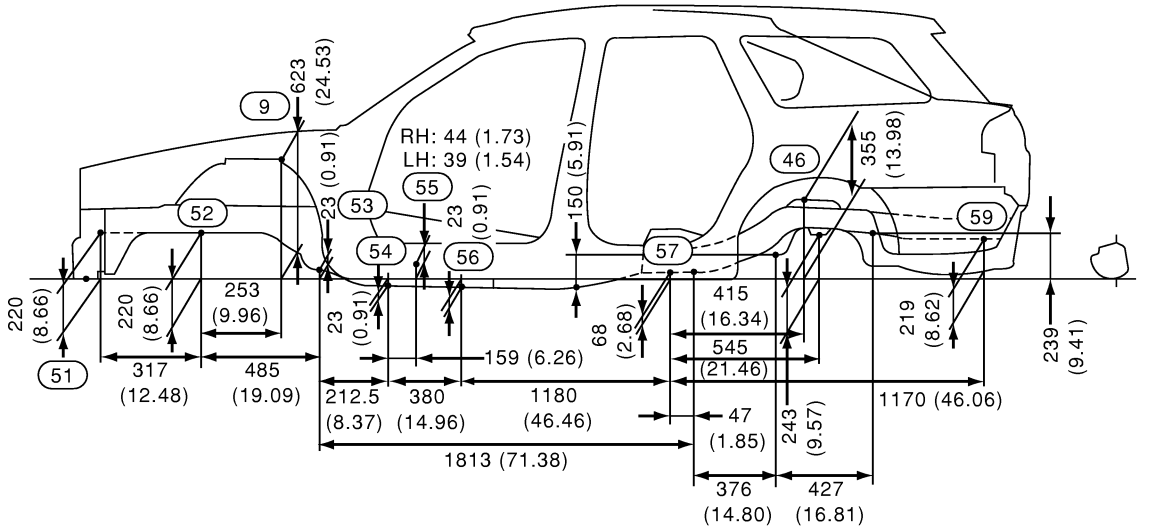


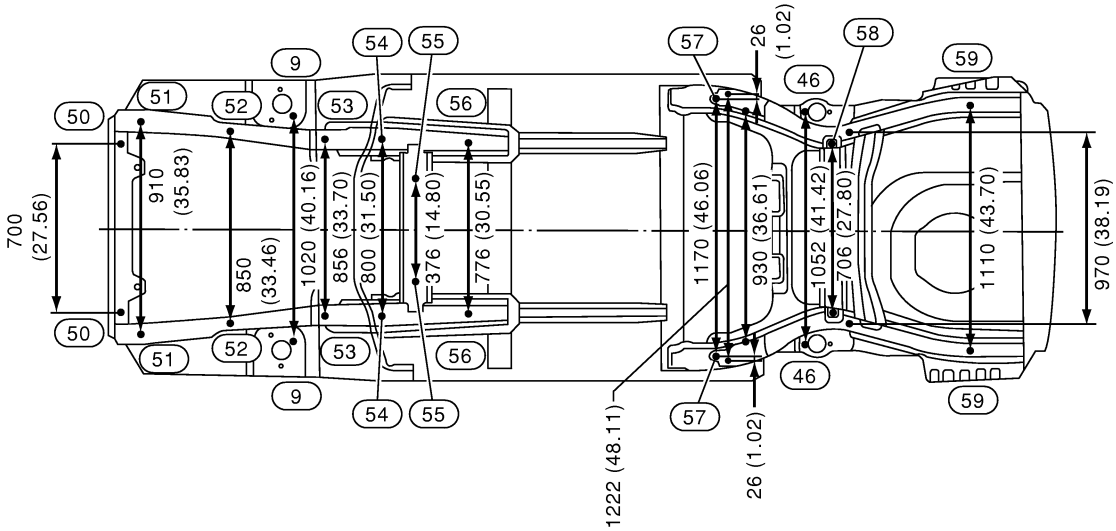
## 1. FRONT STRUCTURE S906337A1401

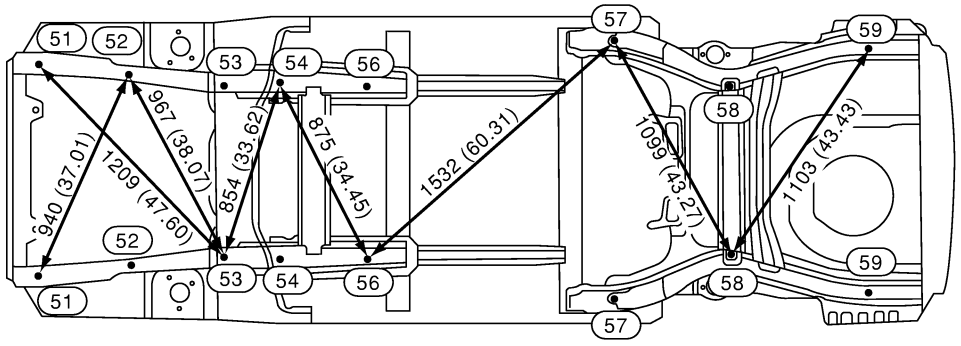



| Point to point | Dimension | Point to point | Dimension |
|---|---|---|---|
| (11) to (1) | 888 (34.96) | (4) RH to (4) LH | 1,320 (51.97) |
| (11) to (9) RH | 519 (20.43) | (5) RH to (4) LH | 1,073 (42.24) |
| (11) to (9) LH | 519 (20.43) | (5) LH to (4) RH | 1,073 (42.24) |
| (11) to (6) RH | 950 (37.40) | (60) RH to (13) RH | 1,179 (46.42) |
| (11) to (6) LH | 950 (37.40) | (60) LH to (13) LH | 1,179 (46.42) |
| (11) to (3) RH | 1,008 (39.68) | (60) RH to (14) RH | 1,135 (44.68) |
| (11) to (3) LH | 1,008 (39.68) | (60) LH to (14) LH | 1,135 (44.68) |
| (10) RH to (3) RH | 897 (35.31) | (10) RH to (3) LH | 1,679 (66.10) |
| (10) RH to (8) RH | 504 (19.84) | (10) LH to (3) RH | 1,679 (66.10) |
| (10) LH to (8) LH | 504 (19.84) | (8) RH to (8) LH | 1,398 (55.04) |
| (9) RH to (9) LH | 1,020 (40.16) | (8) RH to (10) LH | 1,519 (59.80) |
| (6) RH to (6) LH | 870 (34.25) | (8) LH to (10) RH | 1,519 (59.80) |
| (6) RH to (10) LH | 1,522 (59.92) | (3) RH to (8) LH | 1,439 (56.65) |
| (6) LH to (10) RH | 1,522 (59.92) | (3) LH to (8) RH | 1,439 (56.65) |
| (8) RH to (3) RH | 395 (15.55) | (7) RH to (7) LH | 860 (33.86) |
| (8) LH to (3) LH | 395 (15.55) | (7) RH to (6) LH | 943 (37.13) |
| (10) RH to (10) LH | 1,470 (57.87) | (7) LH to (6) RH | 943 (37.13) |
| (3) RH to (3) LH | 1,370 (53.94) | (7) RH to (10) LH | 1,322 (52.05) |
| (5) RH to (5) LH | 720 (28.35) | (7) LH to (10) RH | 1,322 (52.05) |
| Unit: mm (in) | | | |

## 2. CENTER STRUCTURE S906337A1402



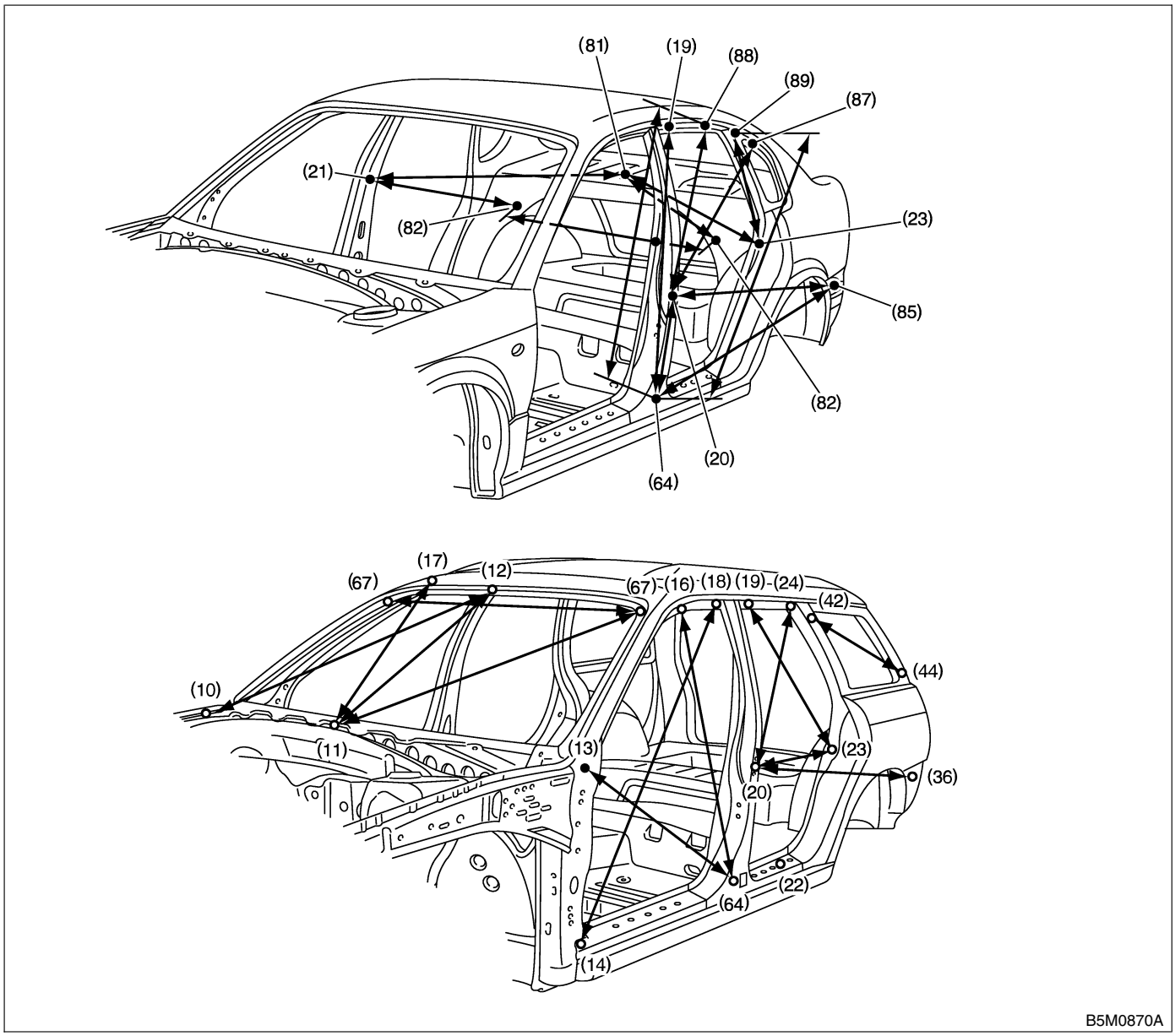




Unit: mm (in)

B5M0879A

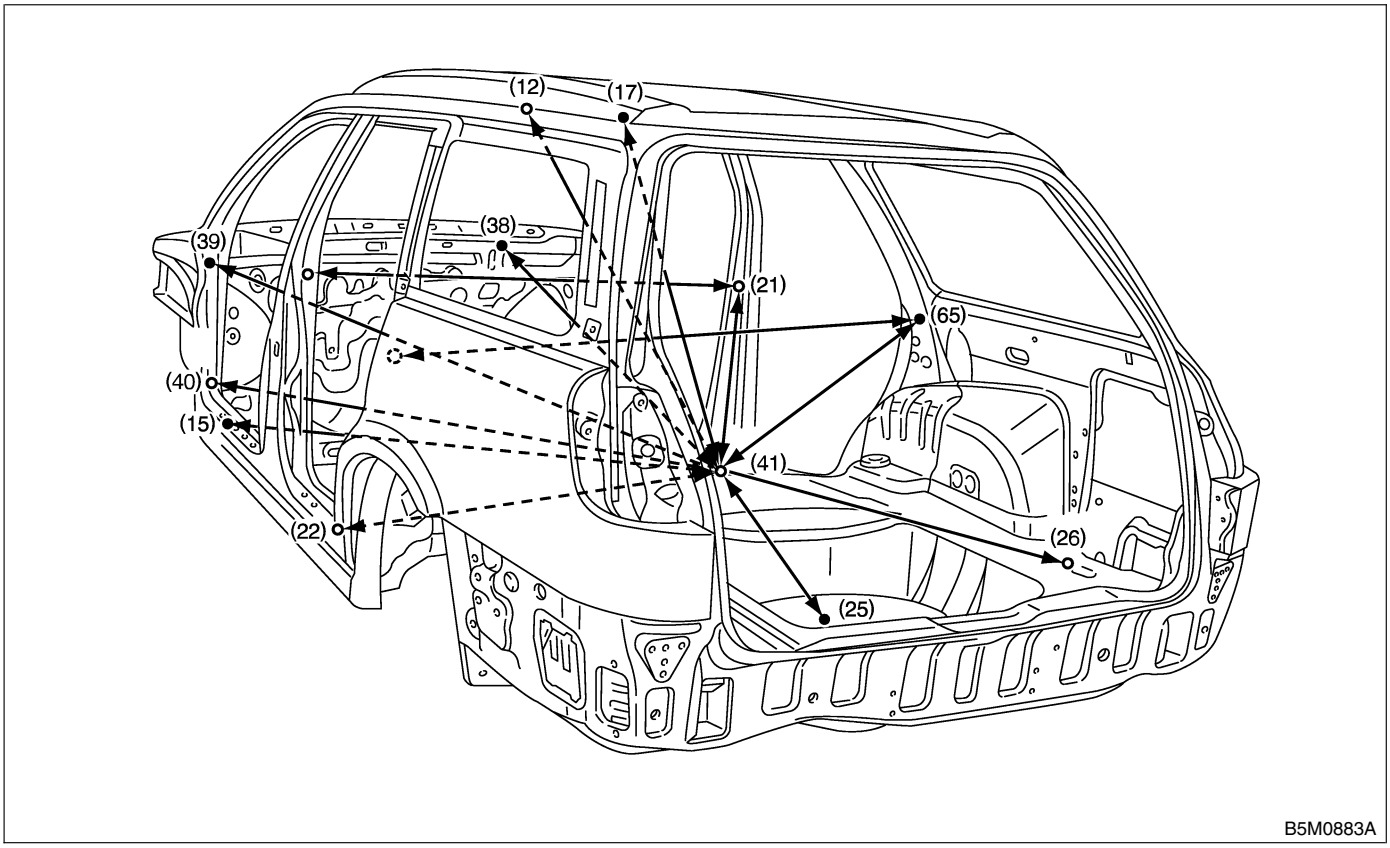
## 3. WINDSHIELD AND DOORS S906337A1403



# DATUM DIMENSIONS

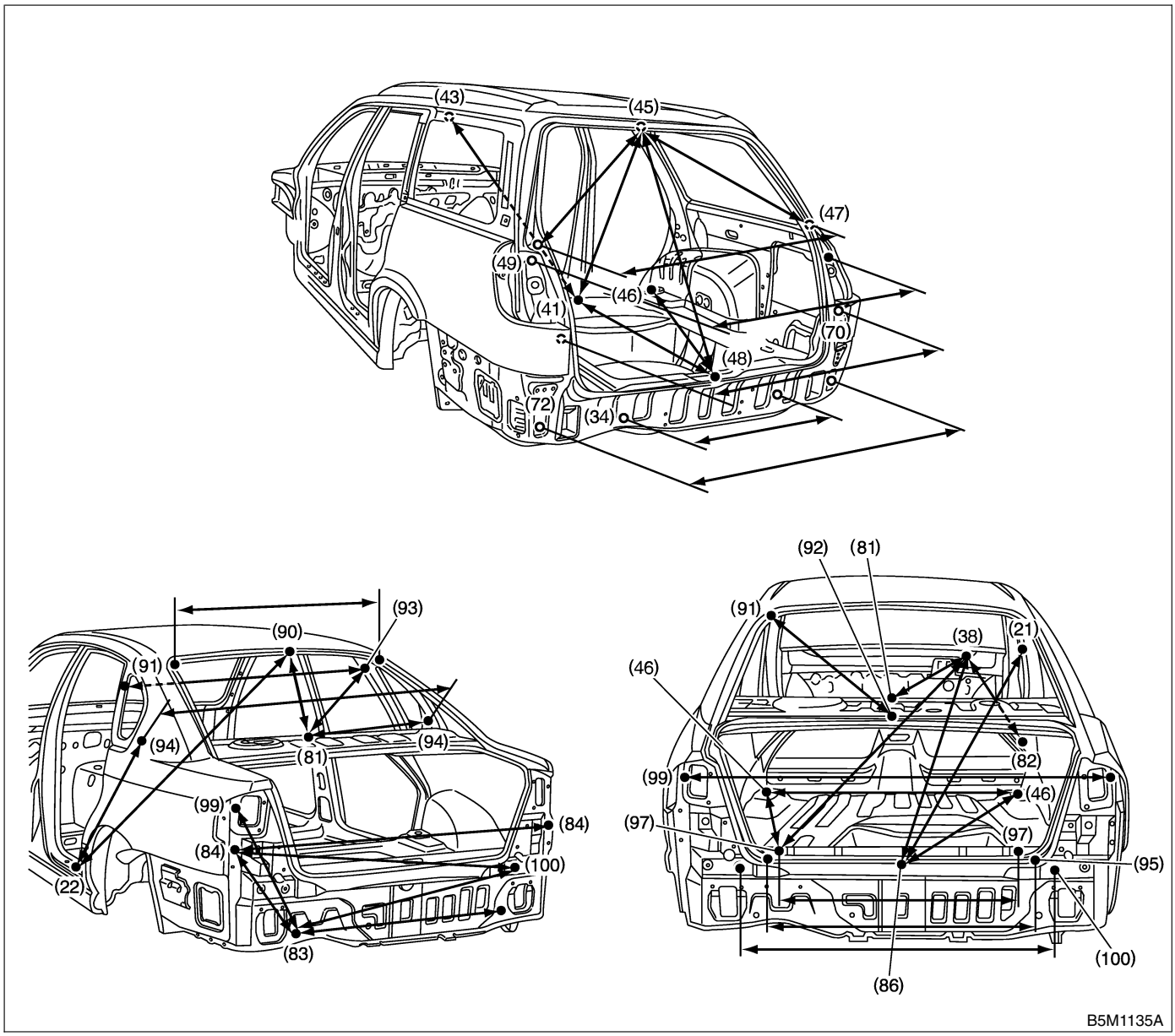
| Point to point | Dimension | Point to point | Dimension |
|---|---|---|---|
| (14) RH to (18) RH | 1,425 (56.10) | (12) to (10) RH | 1,136 (44.72) |
| (14) LH to (18) LH | 1,425 (56.10) | (12) to (10) LH | 1,136 (44.72) |
| (13) RH to (64) RH | 1,031 (40.59) | (11) to (17) RH | 1,130 (44.49) |
| (13) LH to (64) LH | 1,031 (40.59) | (11) to (17) LH | 1,130 (44.49) |
| (16) RH to (64) RH | 966 (38.03) | (81) to (82) RH | 611 (24.06) |
| (16) LH to (64) LH | 966 (38.03) | (81) to (82) LH | 611 (24.06) |
| (20) RH to (23) RH | 864 (34.02) | (81) to (21) RH | 1,309 (51.54) |
| (20) LH to (23) LH | 864 (34.02) | (81) to (21) LH | 1,309 (51.54) |
| (20) RH to (24) RH | 863 (33.98) | (81) to (23) RH | 812 (31.97) |
| (20) LH to (24) LH | 863 (33.98) | (81) to (23) LH | 812 (31.97) |
| (19) RH to (23) RH | 899 (35.39) | (82) LH to (21) LH | 1,019 (40.12) |
| (19) LH to (23) LH | 899 (35.39) | (82) RH to (21) LH | 1,606 (63.23) |
| (20) RH to (36) RH | 1,548 (60.94) | (82) RH to (82) LH | 1,140 (44.88) |
| (20) LH to (36) LH | 1,548 (60.94) | (85) LH to (20) LH | 1,548 (60.94) |
| (42) RH to (44) RH | 1,037 (40.83) | (85) LH to (64) LH | 1,650 (64.96) |
| (42) LH to (44) LH | 1,037 (40.83) | (19) LH to (64) LH | 1,029 (40.51) |
| (11) to (12) | 989 (38.94) | (20) LH to (87) LH | 911 (35.87) |
| (67) RH to (67) LH | 1,100 (43.31) | (20) LH to (88) LH | 842 (33.15) |
| (11) to (67) RH | 1,119 (44.06) | (20) LH to (64) LH | 399 (15.71) |
| (11) to (67) LH | 1,119 (44.06) | (23) LH to (89) LH | 552 (21.73) |
| (12) to (67) RH | 551 (21.69) | (88) LH to (64) LH | 1,192 (46.93) |
| (12) to (67) LH | 551 (21.69) | (89) LH to (64) LH | 1,204 (47.40) |
| Unit: mm (in) | | | |

## 4. COMPARTMENT S906337A1404




| Point to point | Dimension | Point to point | Dimension |
|---|---|---|---|
| (21) RH to (21) LH | 1,351 (53.19) | (41) to (22) LH | 738 (29.06) |
| (15) RH to (15) LH | 1,455 (57.28) | (41) to (26) RH | 1,459 (57.44) |
| (22) RH to (22) LH | 1,455 (57.28) | (41) to (26) LH | 1,459 (57.44) |
| (39) RH to (39) LH | 1,385 (54.53) | (41) to (25) | 1,290 (50.79) |
| (40) RH to (40) LH | 1,392 (54.80) | (41) to (12) | 1,228 (48.35) |
| (41) to (38) | 1,639 (64.53) | (41) to (21) RH | 940 (37.01) |
| (41) to (39) RH | 1,642 (64.65) | (41) to (21) LH | 940 (37.01) |
| (41) to (39) LH | 1,642 (64.65) | (41) to (17) RH | 1,261 (49.65) |
| (41) to (40) RH | 1,531 (60.28) | (41) to (17) LH | 1,261 (49.65) |
| (41) to (40) LH | 1,531 (60.28) | (65) RH to (65) LH | 1,307 (51.46) |
| (41) to (15) RH | 1,342 (52.83) | (41) to (65) RH | 969 (38.15) |
| (41) to (15) LH | 1,342 (52.83) | (41) to (65) LH | 969 (38.15) |
| (41) to (22) RH | 738 (29.06) | | Unit: mm (in) |

## 5. TRUNK LID AND REAR GATE S906337A1405



| Point to point | Dimension | Point to point | Dimension |
|---|---|---|---|
| (45) to (48) | 974 (38.35) | (84) RH to (84) LH | 1,410 (55.51) |
| (45) to (47) RH | 797 (31.38) | (100) RH to (84) LH | 1,226 (48.27) |
| (45) to (47) LH | 797 (31.38) | (86) to (21) RH | 2,073 (81.61) |
| (47) RH to (47) LH | 1,289 (50.75) | (86) to (21) LH | 2,086 (82.13) |
| (49) RH to (49) LH | 1,313 (51.69) | (86) to (38) | 3,143 (123.74) |
| (34) RH to (34) LH | 700 (27.56) | (86) to (46) RH | 1,121 (44.13) |
| (41) to (45) | 1,482 (58.35) | (86) to (46) LH | 1,140 (44.88) |
| (41) to (43) RH | 1,206 (47.48) | (86) to (96) | 558 (21.97) |
| (41) to (43) LH | 1,199 (47.20) | (90) to (22) RH | 1,319 (51.93) |
| (41) to (48) | 1,663 (65.47) | (90) to (22) LH | 1,319 (51.93) |
| (48) to (46) RH | 1,191 (46.89) | (22) RH to (94) LH | 1,710 (67.32) |
| (48) to (46) LH | 1,191 (46.89) | (22) LH to (94) RH | 1,710 (67.32) |
| (70) RH to (70) LH | 1,215 (47.83) | (38) to (97) RH | 3,100 (122.05) |
| (72) RH to (72) LH | 1,320 (51.97) | (38) to (97) LH | 3,100 (122.05) |
| (81) to (38) | 2,351 (92.56) | (92) to (91) RH | 776 (30.55) |
| (81) to (90) | 444 (17.48) | (92) to (91) LH | 776 (30.55) |
| (81) to (93) RH | 719 (28.31) | (91) RH to (91) LH | 976 (38.43) |
| (81) to (93) LH | 719 (28.31) | (46) LH to (97) LH | 1,008 (39.68) |
| (81) to (94) RH | 632 (24.88) | (46) LH to (97) RH | 1,374 (54.09) |
| (81) to (94) LH | 632 (24.88) | (46) LH to (46) RH | 1,052 (41.42) |
| (38) to (82) RH | 2,178 (85.75) | (93) RH to (93) LH | 1,099 (43.27) |
| (38) to (82) LH | 2,419 (95.24) | (94) RH to (94) LH | 1,257 (49.49) |
| (83) RH to (83) LH | 930 (36.61) | (95) RH to (95) LH | 1,115 (43.90) |
| (84) RH to (83) LH | 1,216 (47.87) | (97) RH to (97) LH | 830 (32.68) |
| (99) RH to (83) LH | 1,246 (49.06) | (99) RH to (99) LH | 1,370 (53.94) |
| (100) RH to (83) LH | 991 (39.02) | (100) RH to (100) LH | 1,020 (40.16) |
| Unit: mm (in) | | | |

**MEMO:**

# 1. General Description S907001

## A: SPECIFICATIONS S907001E49

| | | |
|---|---|---|
| Combination meter | Speedometer | Electric pulse type |
| | Temperature gauge | Thermistor cross coil type |
| | Fuel gauge | Resistance cross coil type |
| | Tachometer | Electric impulse type |
| | Turn signal indicator light | 12 V — 1.4 W |
| | Charge indicator light | 12 V — 1.4 W |
| | Oil pressure indicator light | 12 V — 1.4 W |
| | ABS warning light | 12 V — 1.4 W |
| | Check engine warning light (Malfunction indicator light) | 12 V — 1.4 W |
| | HI-beam indicator light | 12 V — 1.4 W |
| | Door open warning light | LED |
| | Seat belt warning light | LED |
| | Brake fluid and parking brake warning light | 12 V — 1.4 W |
| | FWD indicator light | 12 V — 1.4 W |
| | AIRBAG warning light | 12 V — 1.4 W |
| | Meter illumination light | 12 V — 3.4 W |
| | AT OIL TEMP. warning light | 12 V — 1.4 W |
| | Security indicator light | LED |
| | Low fuel warning light | 12 V — 1.4 W |
| | VDC warning light | 12 V — 1.4 W |
| | VDC function indicator light | 12 V — 3 W |
| | VDC OFF indicator light | 12 V — 1.4 W |
| | AT select lever position indicator light | 12 V — 100 mA |
| | LCD back light | 12 V — 1.4 W |

## B: CAUTION S907001A03

- Be careful not to damage meters and instrument panel.
- Be careful not to damage meter glasses.
- Make sure that 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 excessive force to printed circuit.
- Do not drop or otherwise apply impact.

## C: PREPARATION TOOL S907001A17

### 1. GENERAL TOOLS S907001A1701

| TOOL NAME | REMARKS |
|---|---|
| Circuit Tester | Used for measuring resistance and voltage. |

# 1. General Description S907001

## A: SPECIFICATIONS S907001E49

| | | |
|---|---|---|
| Combination meter | Speedometer | Electric pulse type |
| | Temperature gauge | Thermistor cross coil type |
| | Fuel gauge | Resistance cross coil type |
| | Tachometer | Electric impulse type |
| | Turn signal indicator light | 12 V — 1.4 W |
| | Charge indicator light | 12 V — 1.4 W |
| | Oil pressure indicator light | 12 V — 1.4 W |
| | ABS warning light | 12 V — 1.4 W |
| | Check engine warning light (Malfunction indicator light) | 12 V — 1.4 W |
| | HI-beam indicator light | 12 V — 1.4 W |
| | Door open warning light | LED |
| | Seat belt warning light | LED |
| | Brake fluid and parking brake warning light | 12 V — 1.4 W |
| | FWD indicator light | 12 V — 1.4 W |
| | AIRBAG warning light | 12 V — 1.4 W |
| | Meter illumination light | 12 V — 3.4 W |
| | AT OIL TEMP. warning light | 12 V — 1.4 W |
| | Security indicator light | LED |
| | Low fuel warning light | 12 V — 1.4 W |
| | VDC warning light | 12 V — 1.4 W |
| | VDC function indicator light | 12 V — 3 W |
| | VDC OFF indicator light | 12 V — 1.4 W |
| | AT select lever position indicator light | 12 V — 100 mA |
| | LCD back light | 12 V — 1.4 W |

## B: CAUTION S907001A03

- Be careful not to damage meters and instrument panel.
- Be careful not to damage meter glasses.
- Make sure that 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 excessive force to printed circuit.
- Do not drop or otherwise apply impact.

## C: PREPARATION TOOL S907001A17

### 1. GENERAL TOOLS S907001A1701

| TOOL NAME | REMARKS |
|---|---|
| Circuit Tester | Used for measuring resistance and voltage. |

# 2. Combination Meter System S907607

## A: SCHEMATIC S907607A21

### 1. COMBINATION METER S907607A2101

<Ref. to WI-70, SCHEMATIC, Combination Meter.>

### 2. OUTSIDE TEMPERATURE INDICATOR S907607A2102

<Ref. to WI-132, SCHEMATIC, Outside Temperature Display System.>

## B: INSPECTION S907607A10

**CAUTION:**
**When measuring voltage and resistance of the ECM, TCM, or each 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).**

### 1. SYMPTOM CHART S907607A1007

| Symptom | Repair order | Reference |
|---|---|---|
| Combination meter assembly does not operate. | (1) Power supply<br>(2) Ground circuit | <Ref. to IDI-5, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Combination Meter System.> |
| Speedometer does not operate. | (1) (MT) Vehicle speed sensor<br>(AT) Transmission control module<br>(2) Harness<br>(3) Speedometer | MT: <Ref. to IDI-6, CHECK VEHICLE SPEED SENSOR, INSPECTION, Combination Meter System.> |
| | | AT: <Ref. to IDI-7, CHECK TRANSMISSION CONTROL MODULE, INSPECTION, Combination Meter System.> |
| Tachometer does not operate. | (1) Engine control module<br>(2) Harness<br>(3) Tachometer | <Ref. to IDI-8, CHECK ENGINE CONTROL MODULE, INSPECTION, Combination Meter System.> |
| Fuel gauge does not operate. | (1) Fuel level sensor<br>(2) Harness<br>(3) Fuel gauge | <Ref. to IDI-9, CHECK FUEL LEVEL SENSOR, INSPECTION, Combination Meter System.> |
| Water temperature gauge does not operate. | (1) Engine coolant temperature sensor<br>(2) Harness<br>(3) Water temperature gauge | <Ref. to IDI-10, CHECK ENGINE COOLANT TEMPERATURE SENSOR, INSPECTION, Combination Meter System.> |
| Outside temperature indicator does not operate. | (1) Ambient sensor<br>(2) Harness<br>(3) Combination meter | <Ref. to IDI-10, CHECK OUTSIDE TEMPERATURE INDICATOR, INSPECTION, Combination Meter System.> |

## 2. CHECK POWER SUPPLY AND GROUND CIRCUIT S907607A1001

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY FOR COMBINATION METER.**<br>1) Remove combination meter. <Ref. to IDI-11, REMOVAL, Combination Meter Assembly.><br>2) Disconnect combination meter harness connector.<br>3) Turn ignition switch to ON.<br>4) Measure voltage between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i12) No. 3 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Check harness for open or short between ignition relay and combination meter. |
| 2 | **CHECK POWER SUPPLY FOR COMBINATION METER.**<br>Measure voltage between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i12) No. 7 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | Check harness for open or short between fuse and combination meter. |
| 3 | **CHECK GROUND CIRCUIT OF COMBINATION METER.**<br>1) Turn ignition switch to OFF.<br>2) Measure resistance of harness between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i10) No. 20 (+) — Chassis ground (–):*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair wiring harness. |
| 4 | **CHECK GROUND CIRCUIT OF COMBINATION METER.**<br>Measure resistance of harness between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i11) No. 16 (+) — Chassis ground (–):*** | Is the resistance less than 10 Ω? | Replace combination meter. | Repair wiring harness. |

## 3. CHECK VEHICLE SPEED SENSOR

S907607A1002

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK VEHICLE SPEED SENSOR.**<br>1) Lift-up the vehicle and support it with safety stands.<br>2) Remove the combination meter with harness connector.<br>**WARNING:**<br>**Be careful not to get caught in the running wheels.**<br>3) Drive the vehicle at a speed greater than 20 km/h/ (12 MPH).<br>4) Measure voltage between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i10) No. 13 (+) — Chassis ground (–):*** | Is the voltage less than 1 V ←→ more than 4 V? | Check speedometer. <Ref. to IDI-13, REMOVAL, Speedometer.> | Go to step **2**. |
| 2 | **CHECK VEHICLE SPEED SENSOR POWER SUPPLY.**<br>1) Turn ignition switch to OFF.<br>2) Disconnect vehicle speed sensor harness connector.<br>3) Turn ignition switch to ON.<br>4) Measure voltage between vehicle speed sensor connector and engine ground.<br>***Connector & terminal***<br>***(B17) No. 3 (+) — Engine ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | Check harness for open or short between ignition relay and vehicle speed sensor. |
| 3 | **CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND ENGINE GROUND.**<br>1) Turn ignition switch to OFF.<br>2) Measure resistance between vehicle speed sensor connector and engine ground.<br>***Connector & terminal***<br>***(B17) No. 2 (+) — Engine ground (–):*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair wiring harness. |
| 4 | **CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND COMBINATION METER.**<br>1) Disconnect connector from combination meter.<br>2) Measure resistance between vehicle speed sensor harness connector and combination meter harness connector.<br>***Connector & terminal***<br>***(B17) No. 1 — (i10) No. 13:*** | Is the resistance less than 10 Ω? | Replace vehicle speed sensor. | Repair wiring harness. |

## 4. CHECK TRANSMISSION CONTROL MODULE S907607A1008

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK AUTOMATIC TRANSMISSION CONTROL MODULE SIGNAL.**<br>1) Lift-up the vehicle and support it with safety stands.<br>**WARNING:**<br>**Be careful not to get caught in the running wheels.**<br>2) Drive the vehicle faster than 10 km/h (6 MPH).<br>3) Measure voltage between automatic transmission control module connector and chassis ground.<br>***Connector & terminal***<br>***With VDC:***<br>***(B56) No. 17 (+) — Chassis ground (–):***<br>***Without VDC:***<br>***(B55) No. 13 (+) — Chassis ground (–):*** | Is the voltage less than 1 V ←→ more than 4 V? | Go to step **2**. | Check automatic transmission control module. <Ref. to AT-2, Basic Diagnostic Procedure.> |
| 2 | **CHECK HARNESS BETWEEN AUTOMATIC TRANSMISSION CONTROL MODULE AND COMBINATION METER.**<br>1) Turn ignition switch to OFF.<br>2) Disconnect connector from automatic transmission control module and combination meter.<br>3) Measure resistance between automatic transmission control module harness connector and combination meter harness connector.<br>***Connector & terminal***<br>***With VDC:***<br>***(B56) No. 17 — (i10) No.13:***<br>***Without VDC:***<br>***(B55) No. 13 — (i10) No. 13:*** | Is the resistance less than 10 Ω? | Check speed meter. <Ref. to IDI-13, REMOVAL, Speedometer.> | Repair wiring harness. |

## 5. CHECK ENGINE CONTROL MODULE

S907607A1004

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ENGINE CONTROL MODULE SIGNAL.**<br>1) Start the engine.<br>2) Measure voltage between engine control module connector and engine ground.<br>***Connector & terminal***<br>***H6 model:***<br>***(B136) No. 9 (+) — Engine ground (–):***<br>***H4 model:***<br>***(B134) No. 30 (+) — Engine ground (–):*** | Is the voltage 0 ←→ 13 V or more? | Go to step **2**. | Check engine control module. <Ref. to EN-2, Basic Diagnostic Procedure.> or <Ref. to EN (H6)-2, Basic Diagnostic procedure.> |
| 2 | **CHECK HARNESS BETWEEN COMBINATION METER AND ENGINE CONTROL MODULE.**<br>1) Turn ignition switch to OFF.<br>2) Disconnect connector from engine control module and combination meter.<br>3) Measure resistance between engine control module harness connector and combination meter harness connector.<br>***Connector & terminal***<br>***H6 model:***<br>***(B136) No. 9 — (i11) No.7:***<br>***H4 model:***<br>***(B134) No. 30 — (i11) No. 7:*** | Is the resistance less than 10 Ω? | Check tachometer. <Ref. to IDI-14, REMOVAL, Tachometer.> | Repair wiring harness. |

## 6. CHECK FUEL LEVEL SENSOR S907607A1005

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUEL LEVEL SENSOR.**<br>1) Remove the fuel level sensor. <Ref. to FU-76, REMOVAL, Fuel Level Sensor.> or <Ref. to FU(H6)-73, REMOVAL, Fuel Level Sensor.><br>2) Measure the resistance between the fuel level sensor terminals when setting the float to FULL and EMPTY position.<br>***Terminals***<br>***No. 3 — No. 6:*** | Is the resistance 0.5 to 2.5 Ω (FULL) and 52.5 to 54.5 Ω (EMPTY)? | Go to step **2**. | Replace the fuel level sensor. |
| 2 | **CHECK FUEL SUB LEVEL SENSOR.**<br>1) Remove the fuel sub level sensor. <Ref. to FU-77, REMOVAL, Fuel Sub Level Sensor.> or <Ref. to FU(H6)-74, REMOVAL, Fuel Sub Level Sensor.><br>2) Measure the resistance between the fuel sub level sensor terminals when setting the float to FULL and EMPTY position.<br>***Terminals***<br>***No. 1 — No. 2:*** | Is the resistance 0.5 to 2.5 Ω (FULL) and 39.5 to 41.5 Ω (EMPTY)? | Go to step **3**. | Replace the fuel sub level sensor. |
| 3 | **CHECK HARNESS BETWEEN FUEL SUB LEVEL SENSOR AND COMBINATION METER.**<br>1) Disconnect the connector from the combination meter.<br>2) Measure the resistance between the fuel sub level sensor harness connector terminal and combination meter harness connector terminal.<br>***Connector & terminal***<br>***(R59) No. 1 — (i10) No. 3:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair the wiring harness. |
| 4 | **CHECK HARNESS BETWEEN FUEL LEVEL SENSOR AND FUEL SUB LEVEL SENSOR.**<br>Measure the resistance between the fuel level sensor harness connector terminal and fuel sub level sensor harness connector terminal.<br>***Connector & terminal***<br>***(R58) No. 6 — (R59) No.2:*** | Is the resistance less than 10 Ω? | Go to step **5**. | Repair wiring harness. |
| 5 | **CHECK FUEL LEVEL SENSOR GROUND CIRCUIT.**<br>Measure the resistance between the fuel level sensor harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(R58) No. 3 — Chassis ground:*** | Is the resistance less than 10 Ω? | Check the fuel gauge. <Ref. to IDI-15, REMOVAL, Fuel Gauge.> | Repair wiring harness. |

## 7. CHECK ENGINE COOLANT TEMPERATURE SENSOR S907607A1006

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ENGINE COOLANT TEMPERATURE SENSOR.**<br>Check engine coolant temperature sensor. <Ref. to EN(H6)-2, Basic Diagnostic Procedure.> or <Ref. to EN-2, Basic Diagnostic Procedure.> | Is engine coolant temperature sensor OK? | Go to step **2**. | Check engine coolant temperature sensor. |
| 2 | **CHECK HARNESS BETWEEN ENGINE COOLANT TEMPERATURE SENSOR AND COMBINATION METER.**<br>1) Turn ignition switch to OFF.<br>2) Disconnect connector from engine coolant temperature sensor and combination meter.<br>3) Measure resistance between engine coolant temperature sensor harness connector and combination meter harness connector.<br>***Connector & terminal***<br>***(E8) No. 3 — (i12) No. 8:*** | Is the resistance less than 10 Ω? | Check water temperature meter. <Ref. to IDI-16, INSPECTION, Water Temperature Gauge.> | Repair wiring harness. |

## 8. CHECK OUTSIDE TEMPERATURE INDICATOR S907607A1009

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY FOR AMBIENT SENSOR.**<br>1) Turn ignition switch OFF.<br>2) Disconnect connector from ambient sensor.<br>3) Turn ignition switch ON.<br>4) Measure voltage between ambient sensor harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(F78) No. 1 (+) — Chassis ground (–):*** | Is the voltage more than 4 V? | Go to step **2**. | Check harness for open or short between ambient sensor and combination meter. |
| 2 | **CHECK AMBIENT SENSOR.**<br>1) Turn ignition switch OFF.<br>2) Remove ambient sensor.<br>3) Check ambient sensor. <Ref. to IDI-17, INSPECTION, Ambient Sensor.> | Is the ambient sensor OK? | Go to step **3**. | Replace the ambient sensor. |
| 3 | **CHECK HARNESS BETWEEN AMBIENT SENSOR AND COMBINATION METER.**<br>1) Disconnect connector from combination meter.<br>2) Measure resistance between ambient sensor harness connector terminal and combination meter harness connector terminal.<br>***Connector & terminal***<br>***(F78) No. 2 — (i10) No. 22:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair wiring harness. |
| 4 | **CHECK OUTSIDE TEMPERATURE INDICATOR.**<br>1) Connect combination meter harness connector.<br>2) Connect a resistor (2.2 kΩ) between terminals of ambient sensor harness connector.<br>3) Turn ignition switch ON and check the outside temperature indicator display. | Is the outside temperature indicator indicating 25°C (77°F)? | Outside temperature indicator is OK. | Replace combination meter printed circuit. |

# 2. Combination Meter System S907607

## A: SCHEMATIC S907607A21

### 1. COMBINATION METER S907607A2101

<Ref. to WI-70, SCHEMATIC, Combination Meter.>

### 2. OUTSIDE TEMPERATURE INDICATOR S907607A2102

<Ref. to WI-132, SCHEMATIC, Outside Temperature Display System.>

## B: INSPECTION S907607A10

**CAUTION:**
**When measuring voltage and resistance of the ECM, TCM, or each 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).**

### 1. SYMPTOM CHART S907607A1007

| Symptom | Repair order | Reference |
|---|---|---|
| Combination meter assembly does not operate. | (1) Power supply<br>(2) Ground circuit | <Ref. to IDI-5, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Combination Meter System.> |
| Speedometer does not operate. | (1) (MT) Vehicle speed sensor<br>(AT) Transmission control module<br>(2) Harness<br>(3) Speedometer | MT: <Ref. to IDI-6, CHECK VEHICLE SPEED SENSOR, INSPECTION, Combination Meter System.> |
| | | AT: <Ref. to IDI-7, CHECK TRANSMISSION CONTROL MODULE, INSPECTION, Combination Meter System.> |
| Tachometer does not operate. | (1) Engine control module<br>(2) Harness<br>(3) Tachometer | <Ref. to IDI-8, CHECK ENGINE CONTROL MODULE, INSPECTION, Combination Meter System.> |
| Fuel gauge does not operate. | (1) Fuel level sensor<br>(2) Harness<br>(3) Fuel gauge | <Ref. to IDI-9, CHECK FUEL LEVEL SENSOR, INSPECTION, Combination Meter System.> |
| Water temperature gauge does not operate. | (1) Engine coolant temperature sensor<br>(2) Harness<br>(3) Water temperature gauge | <Ref. to IDI-10, CHECK ENGINE COOLANT TEMPERATURE SENSOR, INSPECTION, Combination Meter System.> |
| Outside temperature indicator does not operate. | (1) Ambient sensor<br>(2) Harness<br>(3) Combination meter | <Ref. to IDI-10, CHECK OUTSIDE TEMPERATURE INDICATOR, INSPECTION, Combination Meter System.> |

## 2. CHECK POWER SUPPLY AND GROUND CIRCUIT S907607A1001

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY FOR COMBINATION METER.**<br>1) Remove combination meter. <Ref. to IDI-11, REMOVAL, Combination Meter Assembly.><br>2) Disconnect combination meter harness connector.<br>3) Turn ignition switch to ON.<br>4) Measure voltage between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i12) No. 3 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Check harness for open or short between ignition relay and combination meter. |
| 2 | **CHECK POWER SUPPLY FOR COMBINATION METER.**<br>Measure voltage between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i12) No. 7 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | Check harness for open or short between fuse and combination meter. |
| 3 | **CHECK GROUND CIRCUIT OF COMBINATION METER.**<br>1) Turn ignition switch to OFF.<br>2) Measure resistance of harness between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i10) No. 20 (+) — Chassis ground (–):*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair wiring harness. |
| 4 | **CHECK GROUND CIRCUIT OF COMBINATION METER.**<br>Measure resistance of harness between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i11) No. 16 (+) — Chassis ground (–):*** | Is the resistance less than 10 Ω? | Replace combination meter. | Repair wiring harness. |

## 3. CHECK VEHICLE SPEED SENSOR

S907607A1002

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK VEHICLE SPEED SENSOR.**<br>1) Lift-up the vehicle and support it with safety stands.<br>2) Remove the combination meter with harness connector.<br>**WARNING:**<br>**Be careful not to get caught in the running wheels.**<br>3) Drive the vehicle at a speed greater than 20 km/h/ (12 MPH).<br>4) Measure voltage between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i10) No. 13 (+) — Chassis ground (–):*** | Is the voltage less than 1 V ←→ more than 4 V? | Check speedometer. <Ref. to IDI-13, REMOVAL, Speedometer.> | Go to step **2**. |
| 2 | **CHECK VEHICLE SPEED SENSOR POWER SUPPLY.**<br>1) Turn ignition switch to OFF.<br>2) Disconnect vehicle speed sensor harness connector.<br>3) Turn ignition switch to ON.<br>4) Measure voltage between vehicle speed sensor connector and engine ground.<br>***Connector & terminal***<br>***(B17) No. 3 (+) — Engine ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | Check harness for open or short between ignition relay and vehicle speed sensor. |
| 3 | **CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND ENGINE GROUND.**<br>1) Turn ignition switch to OFF.<br>2) Measure resistance between vehicle speed sensor connector and engine ground.<br>***Connector & terminal***<br>***(B17) No. 2 (+) — Engine ground (–):*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair wiring harness. |
| 4 | **CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND COMBINATION METER.**<br>1) Disconnect connector from combination meter.<br>2) Measure resistance between vehicle speed sensor harness connector and combination meter harness connector.<br>***Connector & terminal***<br>***(B17) No. 1 — (i10) No. 13:*** | Is the resistance less than 10 Ω? | Replace vehicle speed sensor. | Repair wiring harness. |

## 4. CHECK TRANSMISSION CONTROL MODULE S907607A1008

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK AUTOMATIC TRANSMISSION CONTROL MODULE SIGNAL.**<br>1) Lift-up the vehicle and support it with safety stands.<br>**WARNING:**<br>**Be careful not to get caught in the running wheels.**<br>2) Drive the vehicle faster than 10 km/h (6 MPH).<br>3) Measure voltage between automatic transmission control module connector and chassis ground.<br>***Connector & terminal***<br>***With VDC:***<br>***(B56) No. 17 (+) — Chassis ground (–):***<br>***Without VDC:***<br>***(B55) No. 13 (+) — Chassis ground (–):*** | Is the voltage less than 1 V ←→ more than 4 V? | Go to step **2**. | Check automatic transmission control module. <Ref. to AT-2, Basic Diagnostic Procedure.> |
| 2 | **CHECK HARNESS BETWEEN AUTOMATIC TRANSMISSION CONTROL MODULE AND COMBINATION METER.**<br>1) Turn ignition switch to OFF.<br>2) Disconnect connector from automatic transmission control module and combination meter.<br>3) Measure resistance between automatic transmission control module harness connector and combination meter harness connector.<br>***Connector & terminal***<br>***With VDC:***<br>***(B56) No. 17 — (i10) No.13:***<br>***Without VDC:***<br>***(B55) No. 13 — (i10) No. 13:*** | Is the resistance less than 10 Ω? | Check speed meter. <Ref. to IDI-13, REMOVAL, Speedometer.> | Repair wiring harness. |

## 5. CHECK ENGINE CONTROL MODULE

S907607A1004

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ENGINE CONTROL MODULE SIGNAL.**<br>1) Start the engine.<br>2) Measure voltage between engine control module connector and engine ground.<br>***Connector & terminal***<br>***H6 model:***<br>***(B136) No. 9 (+) — Engine ground (–):***<br>***H4 model:***<br>***(B134) No. 30 (+) — Engine ground (–):*** | Is the voltage 0 ←→ 13 V or more? | Go to step **2**. | Check engine control module. <Ref. to EN-2, Basic Diagnostic Procedure.> or <Ref. to EN (H6)-2, Basic Diagnostic procedure.> |
| 2 | **CHECK HARNESS BETWEEN COMBINATION METER AND ENGINE CONTROL MODULE.**<br>1) Turn ignition switch to OFF.<br>2) Disconnect connector from engine control module and combination meter.<br>3) Measure resistance between engine control module harness connector and combination meter harness connector.<br>***Connector & terminal***<br>***H6 model:***<br>***(B136) No. 9 — (i11) No.7:***<br>***H4 model:***<br>***(B134) No. 30 — (i11) No. 7:*** | Is the resistance less than 10 Ω? | Check tachometer. <Ref. to IDI-14, REMOVAL, Tachometer.> | Repair wiring harness. |

## 6. CHECK FUEL LEVEL SENSOR S907607A1005

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUEL LEVEL SENSOR.**<br>1) Remove the fuel level sensor. <Ref. to FU-76, REMOVAL, Fuel Level Sensor.> or <Ref. to FU(H6)-73, REMOVAL, Fuel Level Sensor.><br>2) Measure the resistance between the fuel level sensor terminals when setting the float to FULL and EMPTY position.<br>***Terminals***<br>***No. 3 — No. 6:*** | Is the resistance 0.5 to 2.5 Ω (FULL) and 52.5 to 54.5 Ω (EMPTY)? | Go to step **2**. | Replace the fuel level sensor. |
| 2 | **CHECK FUEL SUB LEVEL SENSOR.**<br>1) Remove the fuel sub level sensor. <Ref. to FU-77, REMOVAL, Fuel Sub Level Sensor.> or <Ref. to FU(H6)-74, REMOVAL, Fuel Sub Level Sensor.><br>2) Measure the resistance between the fuel sub level sensor terminals when setting the float to FULL and EMPTY position.<br>***Terminals***<br>***No. 1 — No. 2:*** | Is the resistance 0.5 to 2.5 Ω (FULL) and 39.5 to 41.5 Ω (EMPTY)? | Go to step **3**. | Replace the fuel sub level sensor. |
| 3 | **CHECK HARNESS BETWEEN FUEL SUB LEVEL SENSOR AND COMBINATION METER.**<br>1) Disconnect the connector from the combination meter.<br>2) Measure the resistance between the fuel sub level sensor harness connector terminal and combination meter harness connector terminal.<br>***Connector & terminal***<br>***(R59) No. 1 — (i10) No. 3:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair the wiring harness. |
| 4 | **CHECK HARNESS BETWEEN FUEL LEVEL SENSOR AND FUEL SUB LEVEL SENSOR.**<br>Measure the resistance between the fuel level sensor harness connector terminal and fuel sub level sensor harness connector terminal.<br>***Connector & terminal***<br>***(R58) No. 6 — (R59) No.2:*** | Is the resistance less than 10 Ω? | Go to step **5**. | Repair wiring harness. |
| 5 | **CHECK FUEL LEVEL SENSOR GROUND CIRCUIT.**<br>Measure the resistance between the fuel level sensor harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(R58) No. 3 — Chassis ground:*** | Is the resistance less than 10 Ω? | Check the fuel gauge. <Ref. to IDI-15, REMOVAL, Fuel Gauge.> | Repair wiring harness. |

## 7. CHECK ENGINE COOLANT TEMPERATURE SENSOR S907607A1006

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ENGINE COOLANT TEMPERATURE SENSOR.**<br>Check engine coolant temperature sensor. <Ref. to EN(H6)-2, Basic Diagnostic Procedure.> or <Ref. to EN-2, Basic Diagnostic Procedure.> | Is engine coolant temperature sensor OK? | Go to step **2**. | Check engine coolant temperature sensor. |
| 2 | **CHECK HARNESS BETWEEN ENGINE COOLANT TEMPERATURE SENSOR AND COMBINATION METER.**<br>1) Turn ignition switch to OFF.<br>2) Disconnect connector from engine coolant temperature sensor and combination meter.<br>3) Measure resistance between engine coolant temperature sensor harness connector and combination meter harness connector.<br>***Connector & terminal***<br>***(E8) No. 3 — (i12) No. 8:*** | Is the resistance less than 10 Ω? | Check water temperature meter. <Ref. to IDI-16, INSPECTION, Water Temperature Gauge.> | Repair wiring harness. |

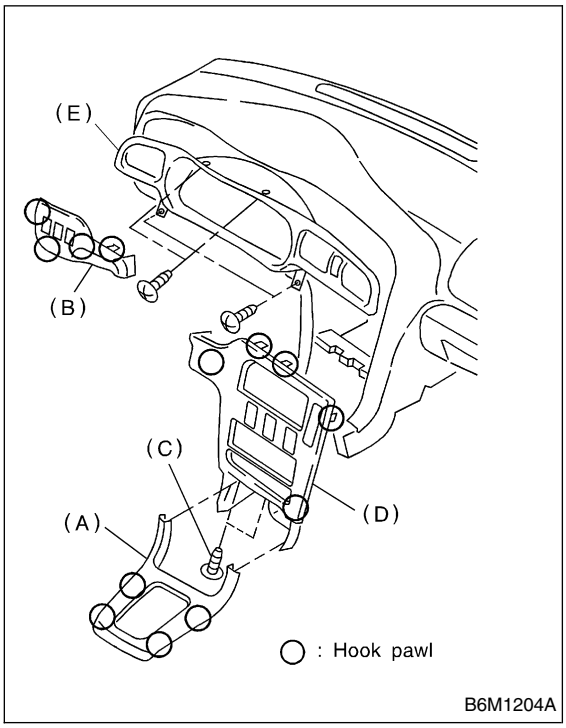
## 8. CHECK OUTSIDE TEMPERATURE INDICATOR S907607A1009

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY FOR AMBIENT SENSOR.**<br>1) Turn ignition switch OFF.<br>2) Disconnect connector from ambient sensor.<br>3) Turn ignition switch ON.<br>4) Measure voltage between ambient sensor harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(F78) No. 1 (+) — Chassis ground (–):*** | Is the voltage more than 4 V? | Go to step **2**. | Check harness for open or short between ambient sensor and combination meter. |
| 2 | **CHECK AMBIENT SENSOR.**<br>1) Turn ignition switch OFF.<br>2) Remove ambient sensor.<br>3) Check ambient sensor. <Ref. to IDI-17, INSPECTION, Ambient Sensor.> | Is the ambient sensor OK? | Go to step **3**. | Replace the ambient sensor. |
| 3 | **CHECK HARNESS BETWEEN AMBIENT SENSOR AND COMBINATION METER.**<br>1) Disconnect connector from combination meter.<br>2) Measure resistance between ambient sensor harness connector terminal and combination meter harness connector terminal.<br>***Connector & terminal***<br>***(F78) No. 2 — (i10) No. 22:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair wiring harness. |
| 4 | **CHECK OUTSIDE TEMPERATURE INDICATOR.**<br>1) Connect combination meter harness connector.<br>2) Connect a resistor (2.2 kΩ) between terminals of ambient sensor harness connector.<br>3) Turn ignition switch ON and check the outside temperature indicator display. | Is the outside temperature indicator indicating 25°C (77°F)? | Outside temperature indicator is OK. | Replace combination meter printed circuit. |

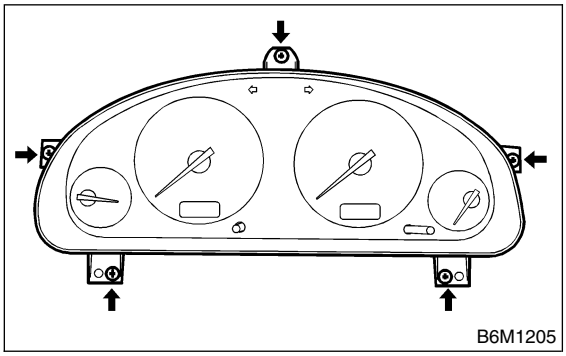
# 3. Combination Meter Assembly S907335

## A: REMOVAL S907335A18

1) Disconnect ground cable from battery.
2) Set tilt steering at the lowest position.
3) Disconnect each electrical connector to remove front cover (A) and switch panel (B).
4) Loosen screws (C) to remove center panel (D).
5) Remove meter visor (E).




6) Remove screws of combination meter to pull out the meter toward you.
7) Remove connector in the upper area of combination meter to remove meter.




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

## B: INSTALLATION S907335A11

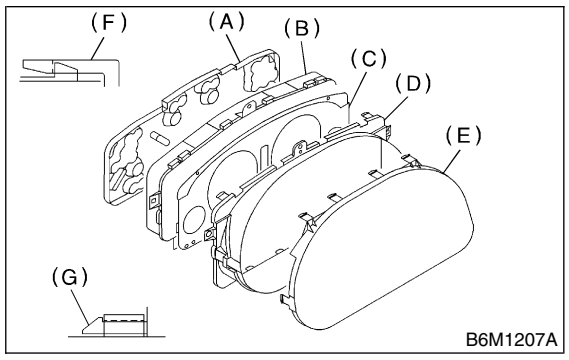
Install in the reverse order of removal.

**CAUTION:**
**• Make sure that electrical connector is connected securely.**
**• Make sure that each meter operates normally.**

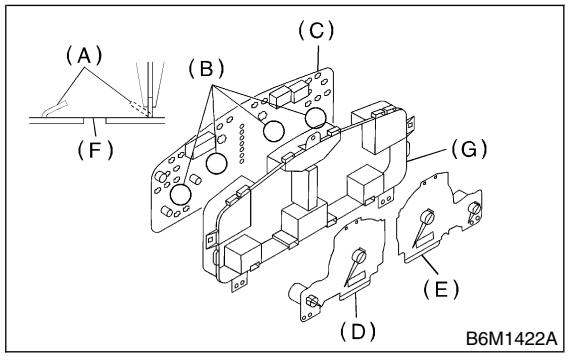
## C: DISASSEMBLY S907335A06

**CAUTION:**
**Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.**

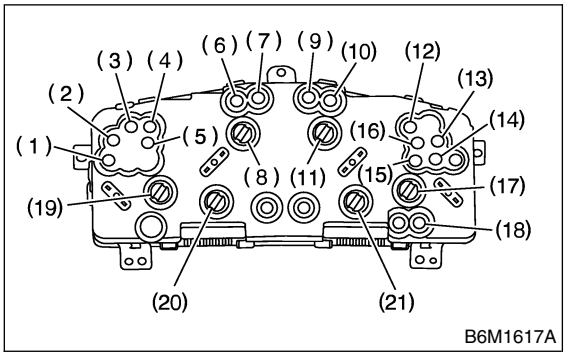
1) Disengage claw (F) to remove case (B) from back cover (A).
2) Disengage claw (G) to remove meter glass (E), reflector (D), and window plate (C) from inner case.




3) Pull up claw (A) in portion (B) of printed circuit (C) with combination pliers. Push out speedometer assembly (D) and tachometer assembly (E) using hole (F).
4) Pull up claw in the center of printed circuit (C), and remove printed circuit from case (G).



## 1. BULB REPLACEMENT S907335A0601




(1) FWD
(2) AT OIL TEMP.
(3) Oil pressure
(4) Check engine
(5) Charge
(6) HI-beam
(7) Turn RH
(8) Tachometer
(9) Turn LH
(10) Brake
(11) Speedometer
(12) VDC function
(13) Airbag
(14) ABS
(15) VDC OFF
(16) VDC
(17) Speedometer and fuel gauge
(18) Low fuel
(19) Tachometer and temperature gauge
(20) LCD (Clock or clock and outside temperature indicator)
(21) LCD (Odometer and trip meter)

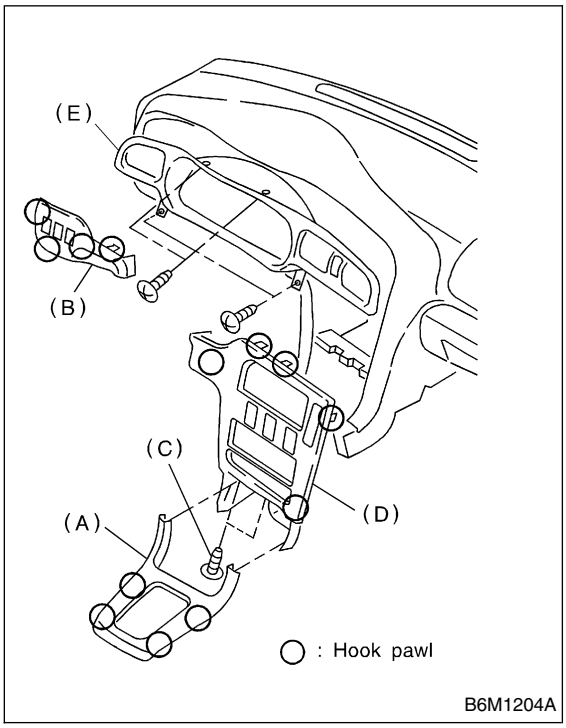
## D: ASSEMBLY S907335A02

Assemble in the reverse order of disassembly.

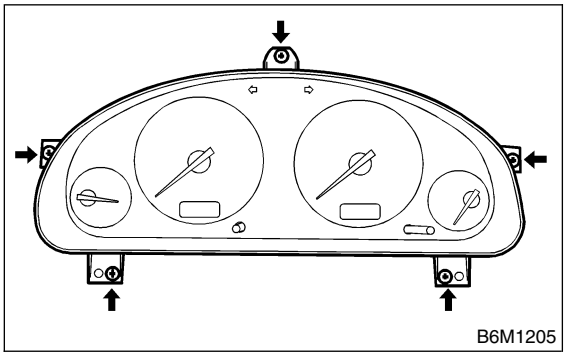
# 3. Combination Meter Assembly S907335

## A: REMOVAL S907335A18

1) Disconnect ground cable from battery.
2) Set tilt steering at the lowest position.
3) Disconnect each electrical connector to remove front cover (A) and switch panel (B).
4) Loosen screws (C) to remove center panel (D).
5) Remove meter visor (E).




6) Remove screws of combination meter to pull out the meter toward you.
7) Remove connector in the upper area of combination meter to remove meter.




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

## B: INSTALLATION S907335A11

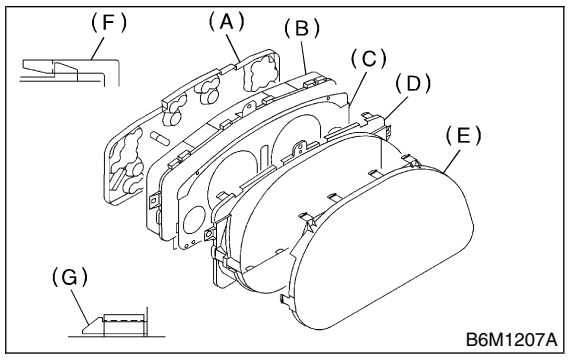
Install in the reverse order of removal.

**CAUTION:**
**• Make sure that electrical connector is connected securely.**
**• Make sure that each meter operates normally.**

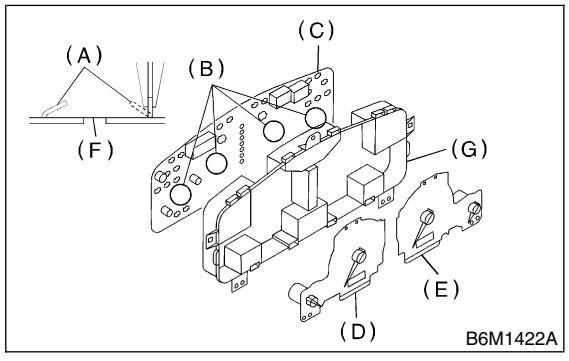
## C: DISASSEMBLY S907335A06

**CAUTION:**
**Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.**

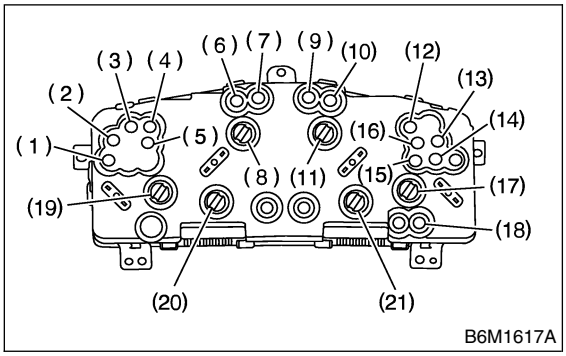
1) Disengage claw (F) to remove case (B) from back cover (A).
2) Disengage claw (G) to remove meter glass (E), reflector (D), and window plate (C) from inner case.




3) Pull up claw (A) in portion (B) of printed circuit (C) with combination pliers. Push out speedometer assembly (D) and tachometer assembly (E) using hole (F).
4) Pull up claw in the center of printed circuit (C), and remove printed circuit from case (G).



## 1. BULB REPLACEMENT S907335A0601




(1) FWD
(2) AT OIL TEMP.
(3) Oil pressure
(4) Check engine
(5) Charge
(6) HI-beam
(7) Turn RH
(8) Tachometer
(9) Turn LH
(10) Brake
(11) Speedometer
(12) VDC function
(13) Airbag
(14) ABS
(15) VDC OFF
(16) VDC
(17) Speedometer and fuel gauge
(18) Low fuel
(19) Tachometer and temperature gauge
(20) LCD (Clock or clock and outside temperature indicator)
(21) LCD (Odometer and trip meter)

## D: ASSEMBLY S907335A02

Assemble in the reverse order of disassembly.

# 4. Speedometer S907608

## A: REMOVAL S907608A18

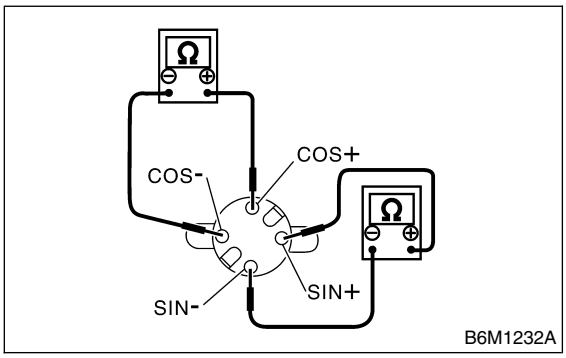
Disassemble combination meter, and then remove speedometer and fuel gauge assembly. <Ref. to IDI-11, DISASSEMBLY, Combination Meter Assembly.>

## B: INSTALLATION S907608A11

Install in the reverse order of removal.

## C: INSPECTION S907608A10

Measure speedometer resistance.




| Terminal | Resistance |
|---|---|
| Terminals SIN+ and SIN– | 200±8 Ω |
| Terminals COS+ and COS– | 200±8 Ω |

If NG, replace speedometer and fuel gauge assembly.
If OK, replace combination meter printed circuit.

# 4. Speedometer S907608

## A: REMOVAL S907608A18

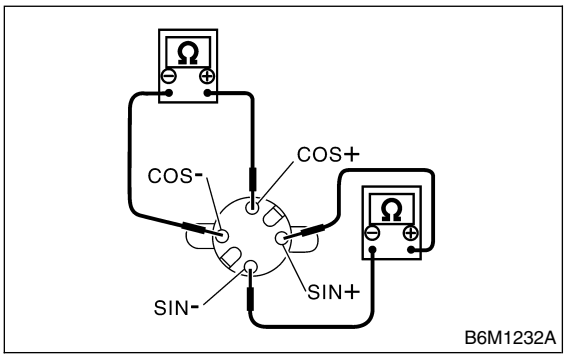
Disassemble combination meter, and then remove speedometer and fuel gauge assembly. <Ref. to IDI-11, DISASSEMBLY, Combination Meter Assembly.>

## B: INSTALLATION S907608A11

Install in the reverse order of removal.

## C: INSPECTION S907608A10

Measure speedometer resistance.




| Terminal | Resistance |
|---|---|
| Terminals SIN+ and SIN– | 200±8 Ω |
| Terminals COS+ and COS– | 200±8 Ω |

If NG, replace speedometer and fuel gauge assembly.
If OK, replace combination meter printed circuit.

# 5. Tachometer S907609

## A: REMOVAL S907609A18

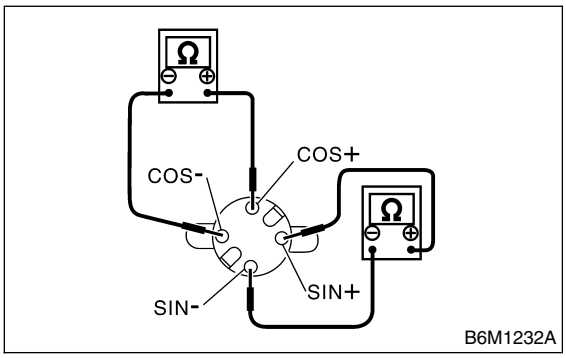
Disassemble combination meter, and then remove tachometer and water temperature gauge assembly. <Ref. to IDI-11, DISASSEMBLY, Combination Meter Assembly.>

## B: INSTALLATION S907609A11

Install in the reverse order of removal.

## C: INSPECTION S907609A10

Measure tachometer resistance.




| Terminal | Resistance |
|---|---|
| Terminals SIN+ and SIN– | 200±8 Ω |
| Terminals COS+ and COS– | 200±8 Ω |

If NG, replace tachometer and water temperature gauge assembly.
If OK, replace combination meter printed circuit.

# 5. Tachometer S907609

## A: REMOVAL S907609A18

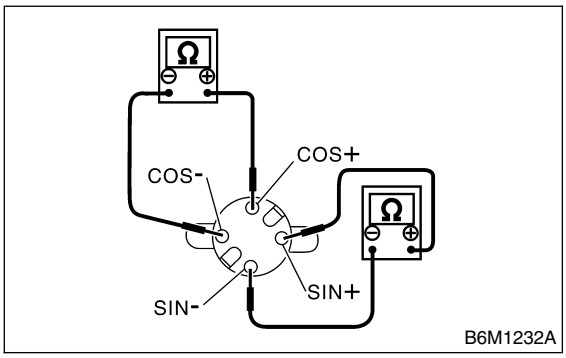
Disassemble combination meter, and then remove tachometer and water temperature gauge assembly. <Ref. to IDI-11, DISASSEMBLY, Combination Meter Assembly.>

## B: INSTALLATION S907609A11

Install in the reverse order of removal.

## C: INSPECTION S907609A10

Measure tachometer resistance.




| Terminal | Resistance |
|---|---|
| Terminals SIN+ and SIN– | 200±8 Ω |
| Terminals COS+ and COS– | 200±8 Ω |

If NG, replace tachometer and water temperature gauge assembly.
If OK, replace combination meter printed circuit.

# 6. Fuel Gauge S907610

## A: REMOVAL S907610A18

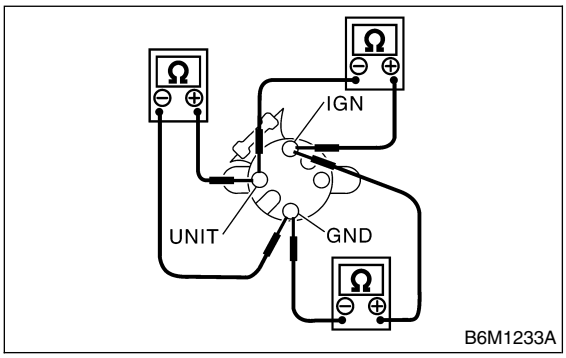
Disassemble combination meter, and then remove speedometer and fuel gauge assembly. <Ref. to IDI-11, DISASSEMBLY, Combination Meter Assembly.>

## B: INSTALLATION S907610A11

Install in the reverse order of removal.

## C: INSPECTION S907610A10

Measure fuel gauge resistance.




| Terminal | Resistance |
|---|---|
| Terminals IGN and GND | 170±10 Ω |
| Terminals IGN and UNIT | 35±10 Ω |
| Terminals UNIT and GND | 136±10 Ω |

If NG, replace speedometer and fuel gauge assembly.
If OK, replace combination meter printed circuit.

# 6. Fuel Gauge S907610

## A: REMOVAL S907610A18

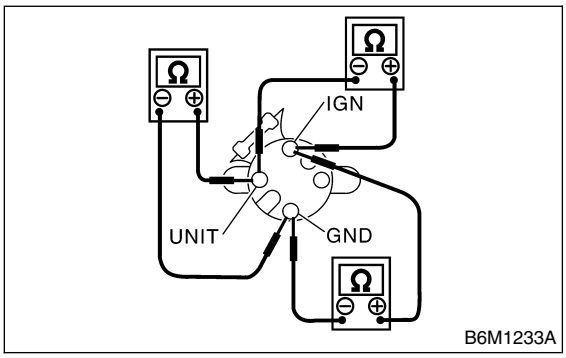
Disassemble combination meter, and then remove speedometer and fuel gauge assembly. <Ref. to IDI-11, DISASSEMBLY, Combination Meter Assembly.>

## B: INSTALLATION S907610A11

Install in the reverse order of removal.

## C: INSPECTION S907610A10

Measure fuel gauge resistance.




| Terminal | Resistance |
|---|---|
| Terminals IGN and GND | 170±10 Ω |
| Terminals IGN and UNIT | 35±10 Ω |
| Terminals UNIT and GND | 136±10 Ω |

If NG, replace speedometer and fuel gauge assembly.
If OK, replace combination meter printed circuit.

# 7. Water Temperature Gauge S907611

## A: REMOVAL S907611A18

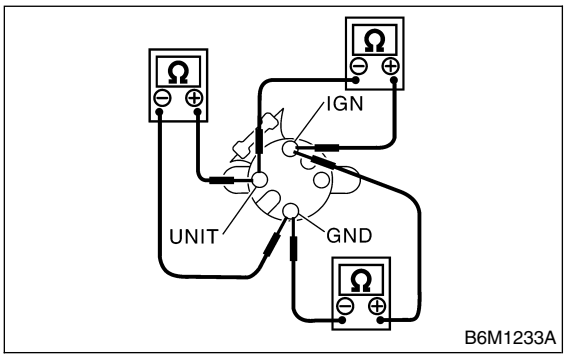
Disassemble combination meter, and then remove tachometer and water temperature gauge assembly. <Ref. to IDI-11, DISASSEMBLY, Combination Meter Assembly.>

## B: INSTALLATION S907611A11

Install in the reverse order of removal.

## C: INSPECTION S907611A10

Measure water temperature gauge resistance.




| Terminal | Resistance |
|---|---|
| Terminals IGN and GND | 208±10 Ω |
| Terminals IGN and UNIT | 56±10 Ω |
| Terminals UNIT and GND | 264±10 Ω |

If NG, replace tachometer and water temperature gauge assembly.
If OK, replace combination meter printed circuit.

# 7. Water Temperature Gauge S907611

## A: REMOVAL S907611A18

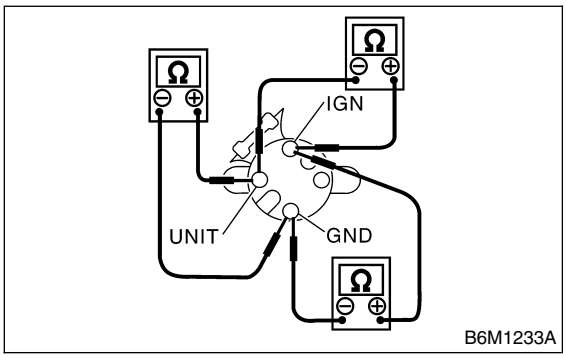
Disassemble combination meter, and then remove tachometer and water temperature gauge assembly. <Ref. to IDI-11, DISASSEMBLY, Combination Meter Assembly.>

## B: INSTALLATION S907611A11

Install in the reverse order of removal.

## C: INSPECTION S907611A10

Measure water temperature gauge resistance.



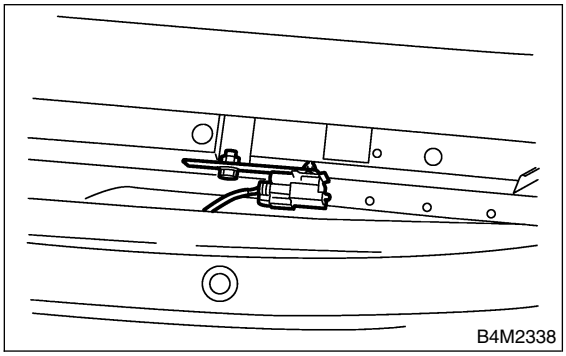

| Terminal | Resistance |
|---|---|
| Terminals IGN and GND | 208±10 Ω |
| Terminals IGN and UNIT | 56±10 Ω |
| Terminals UNIT and GND | 264±10 Ω |

If NG, replace tachometer and water temperature gauge assembly.
If OK, replace combination meter printed circuit.

# 8. Ambient Sensor S907644

## A: REMOVAL S907644A18

1) Open front hood.
2) Disconnect ground cable from battery.
3) Disconnect ambient sensor connector.
4) Remove ambient sensor from radiator lower panel.

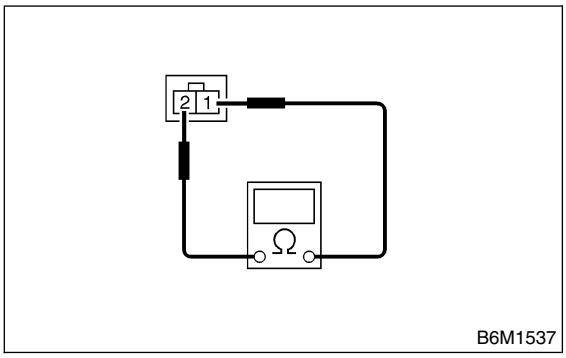



## B: INSTALLATION S907644A11

Install in the reverse order of removal.

## C: INSPECTION S907644A10

Measure ambient sensor resistance.




| Terminal | Resistance |
|---|---|
| 1 and 2 | 2.2 kΩ/25°C (77°F) |

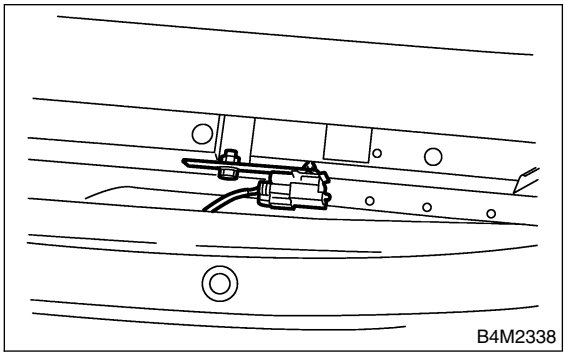
If NG, replace the ambient sensor.

**MEMO:**

# 8. Ambient Sensor S907644

## A: REMOVAL S907644A18

1) Open front hood.
2) Disconnect ground cable from battery.
3) Disconnect ambient sensor connector.
4) Remove ambient sensor from radiator lower panel.

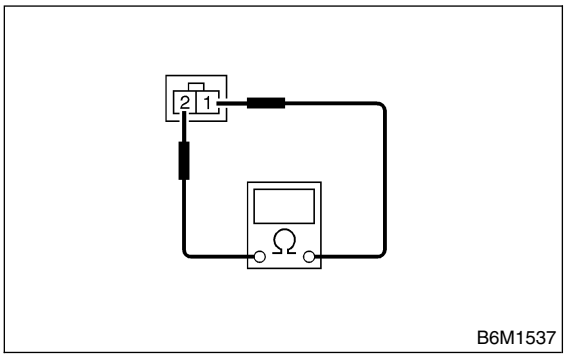



## B: INSTALLATION S907644A11

Install in the reverse order of removal.

## C: INSPECTION S907644A10

Measure ambient sensor resistance.




| Terminal | Resistance |
|---|---|
| 1 and 2 | 2.2 kΩ/25°C (77°F) |

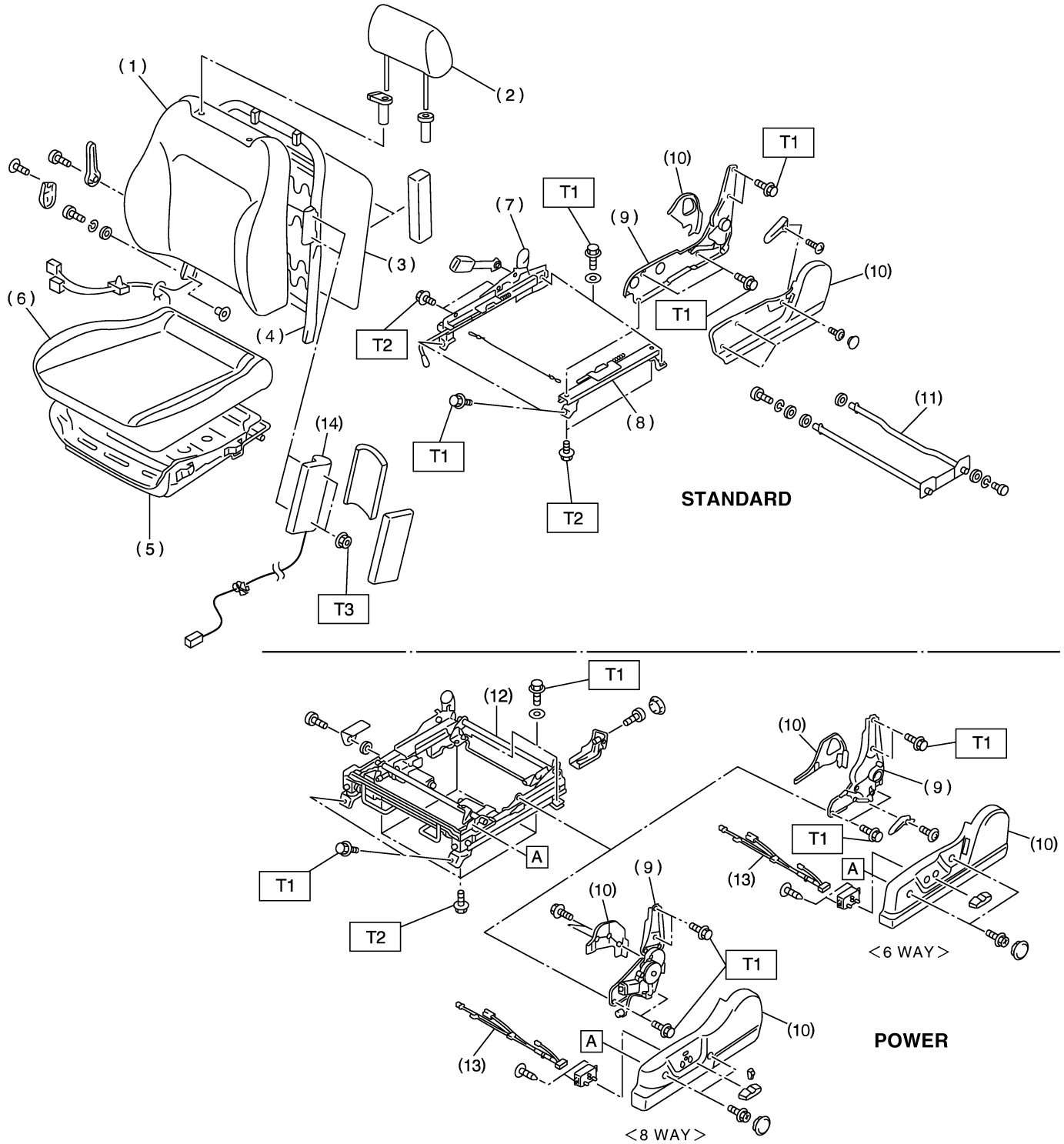
If NG, replace the ambient sensor.

**MEMO:**

# 1. General Description S908001

## A: COMPONENT S908001A05

### 1. FRONT SEAT S908001A0501



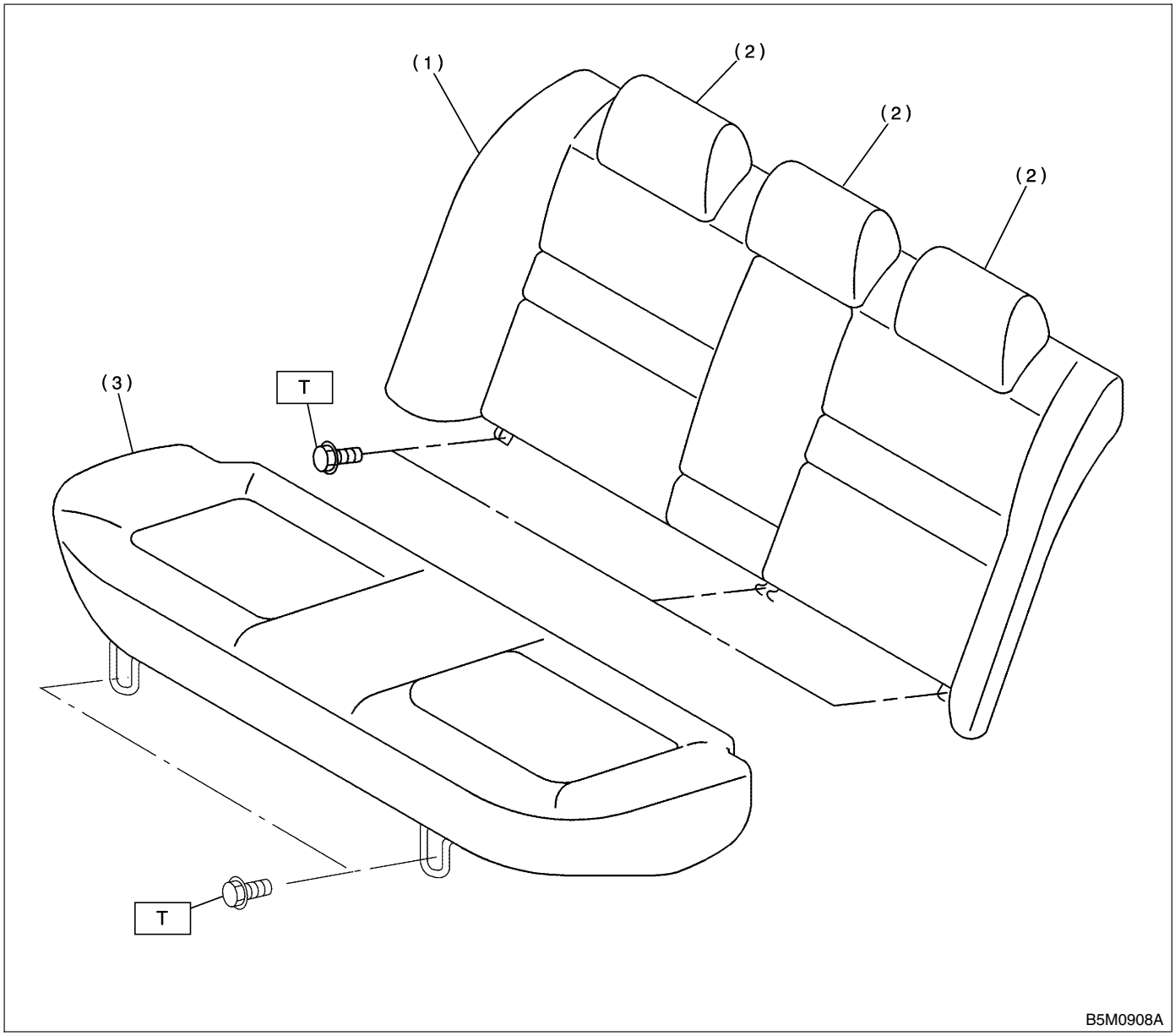

B5M1210A

(1) Seat back pad
(2) Headrest
(3) Seat back board
(4) Seat back frame ASSY
(5) Seat cushion frame ASSY
(6) Seat cushion pad

(7) Slide rail inner ASSY
(8) Slide rail outer ASSY
(9) Hinge assembly
(10) Hinge cover
(11) Rod
(12) Slide and unit ASSY
(13) Power seat harness
(14) Side airbag module

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 53 (5.4, 39)***
***T2: 18 (1.8, 13)***
***T3: 6 (0.6, 4.3)***

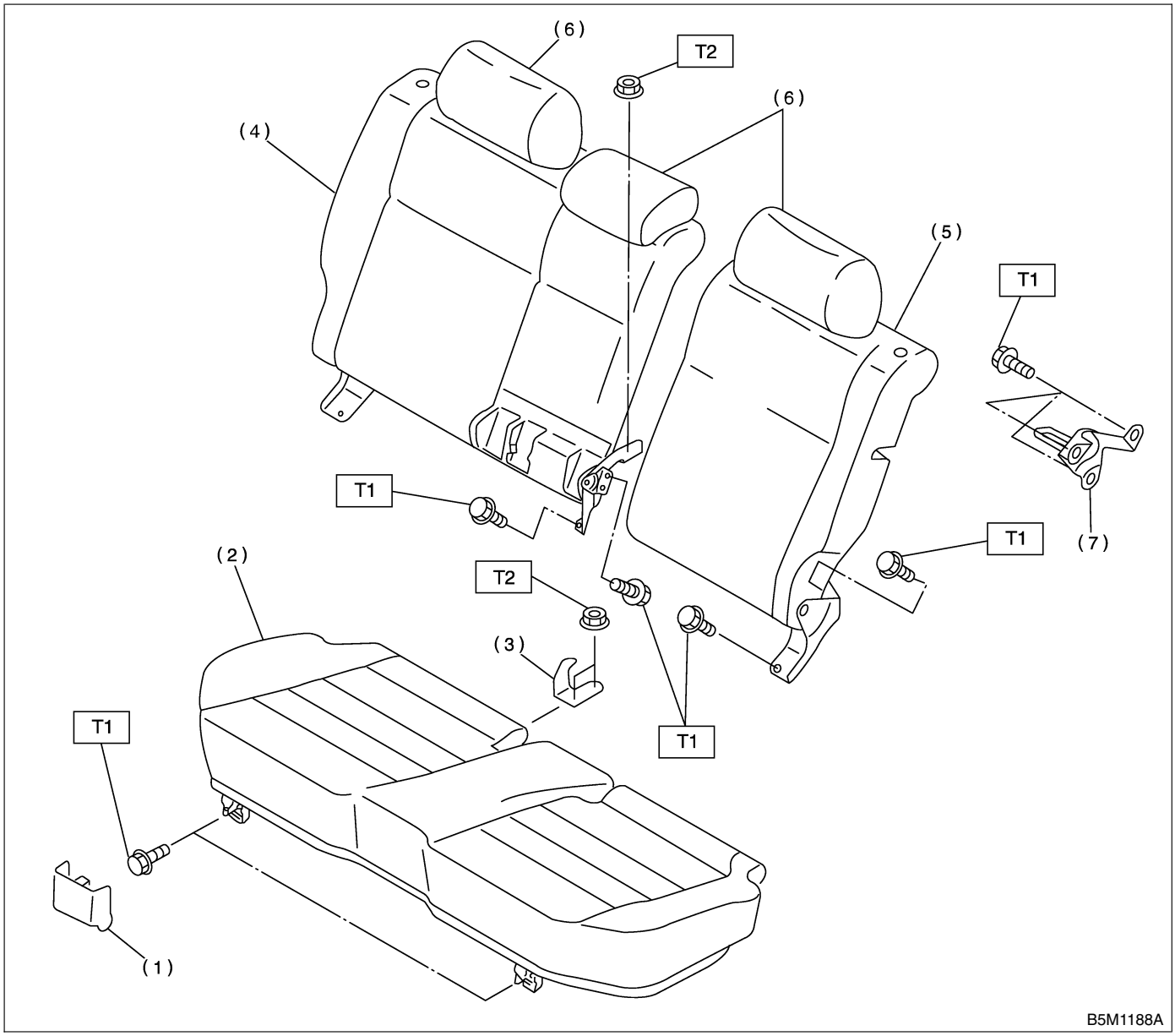
## 2. REAR SEAT (SEDAN) S908001A0502




(1) Backrest
(2) Head restraint
(3) Cushion

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 24.5 (2.5, 18.1)***

## 3. REAR SEAT (WAGON) S908001A0503




(1) Cover
(2) Cushion
(3) Hook
(4) Backrest RH
(5) Backrest LH
(6) Head restraint
(7) Striker

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 10 (1.0, 7.2)***
***T2: 24.5 (2.5, 18.1)***

## B: CAUTION S908001A03

- Take care not to contaminate or damage seat surface.
- While loading to or unloading to vehicle, take care not to contact body.
- When removing front seat from a side airbag loaded vehicle, follow cautions given in the airbag section.

## C: PREPARATION TOOL S908001A17

### 1. GENERAL TOOL S908001A1701

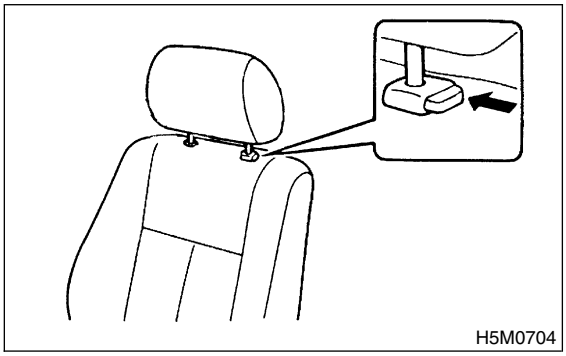
| TOOL NAME | REMARKS |
|---|---|
| Long nose pliers | Used for removing and installing hog ring |

# 2. Front Seat S908343

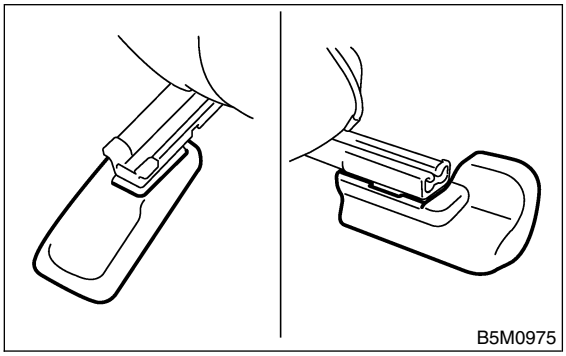
## A: REMOVAL S908343A18

### 1. STANDARD S908343A1801

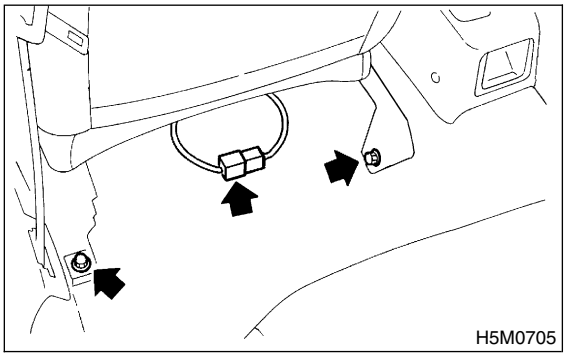
1) Disconnect battery ground cable.
2) While pressing headrest lock button, remove headrest.



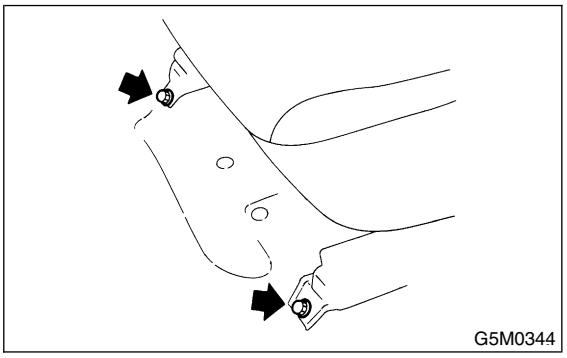

3) Tilt forward backrest.
4) Move seat to full front end.
5) Remove bolt cover at rear end of slide rail.




6) Disconnect side airbag connector under the seat. (Side airbag equipped vehicle)
7) Disconnect connectors of seat heater and seat belt warning. (Seat heater equipped vehicle)
8) Remove two bolts at rear side of seat rail.




9) Move seat to full rear end.
10) Remove two bolts at front side of seat rail.

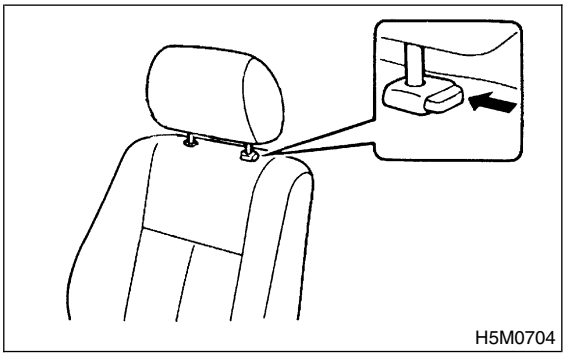



11) Remove front seat from vehicle.

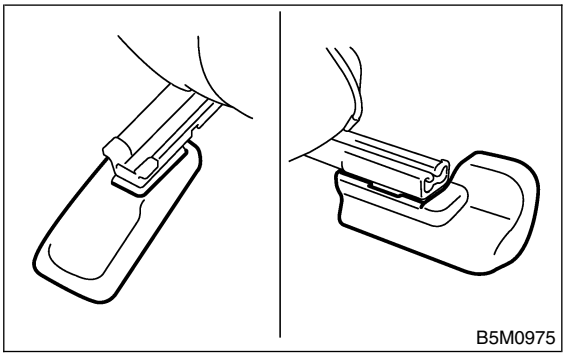
**CAUTION:**
**When removing seat from vehicle, take care not to damage body, seat, or trim.**

### 2. POWER S908343A1802

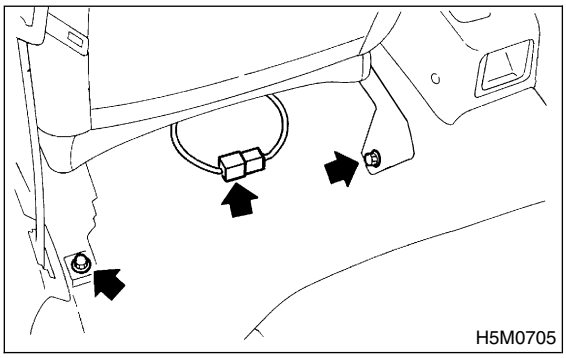
1) While pressing headrest lock button, remove headrest.



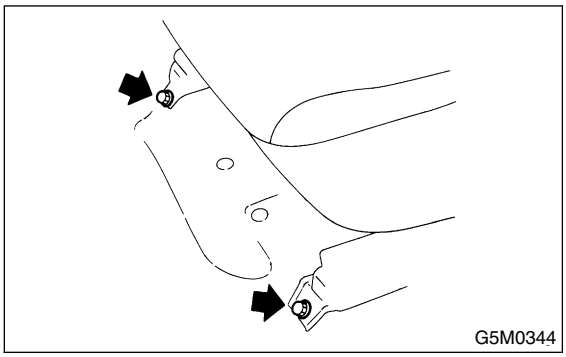

2) Tilt forward backrest.
3) Move seat to full front end.
4) Remove bolt cover at rear end of slide rail.



5) Remove two bolts at rear side of seat rail.



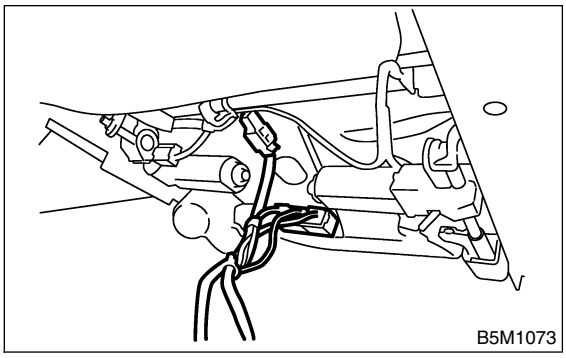

6) Move seat to full rear end.
7) Remove two bolts at front side of seat rail.




8) Disconnect battery ground cable.

**CAUTION:**
**• Wait for 20 seconds or more after disconnecting the battery ground cable.**
**• The airbag system has a backup power source. The airbag might deploy if you do not wait for 20 seconds or more before starting.**

9) Disconnect side airbag connector under the seat. (Side airbag equipped vehicle)
10) Disconnect connectors of seat heater and seat belt warning. (Seat heater equipped vehicle)



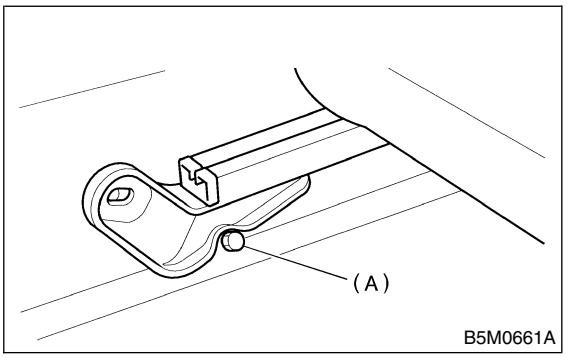

11) Remove front seat from vehicle.

**CAUTION:**
**When removing seat from vehicle, take care not to damage body, seat, or trim.**

## B: INSTALLATION S908343A11

### 1. STANDARD S908343A1101

1) Install in the reverse order of removal.
2) Place slide rail rear inner on location bolts (A).

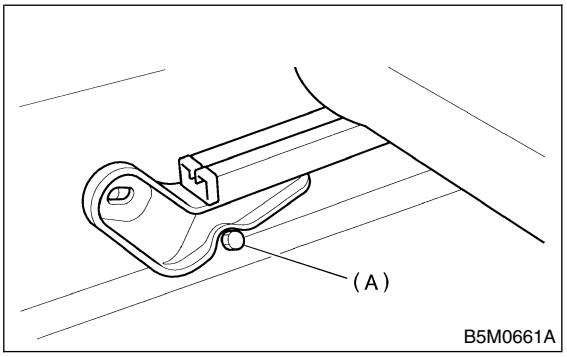



3) Tighten the four bolts of slide rail.

**CAUTION:**
**Confirm that seat can move smoothly and be locked securely at any position.**

### 2. POWER S908343A1102

1) Install in the reverse order of removal.
2) Place slide rail rear inner on location bolts (A).



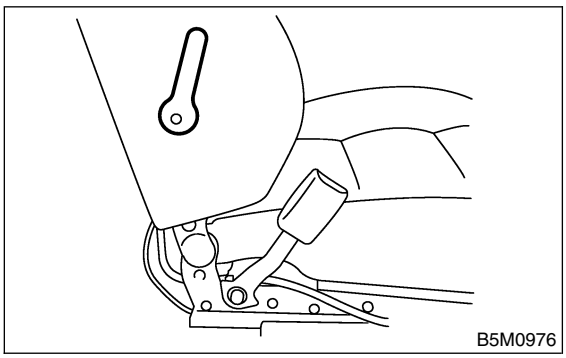

3) Tighten the four bolts of slide rail.

**CAUTION:**
**Confirm that seat can move smoothly.**

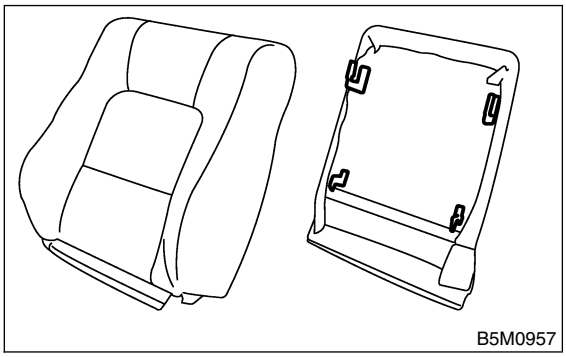
## C: DISASSEMBLY S908343A06

### 1. STANDARD S908343A0601

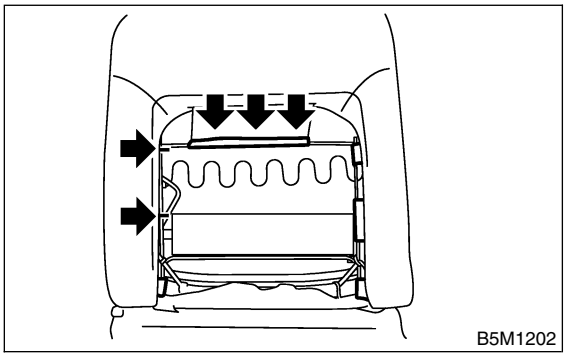
1) Remove seats from vehicle. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove lumber lever cover.


B5M0976

3) Remove hook at bottom, and then remove seat back board.

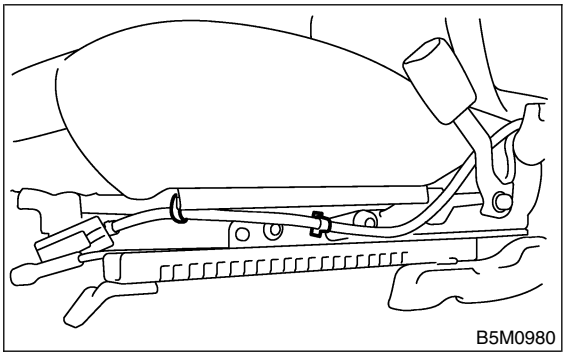

B5M0957

4) Remove hook on back side of seat, and remove hog rings using a plier.

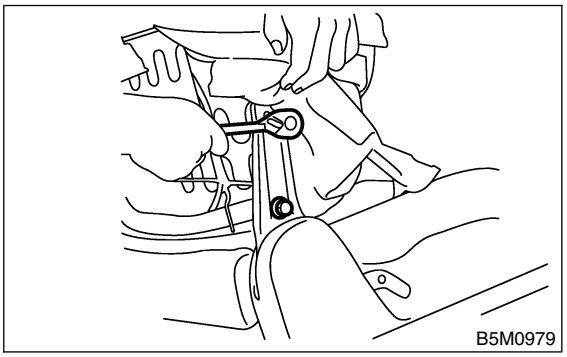

B5M1202

5) Remove clamp of side airbag wire harness. (Side airbag equipped vehicle)

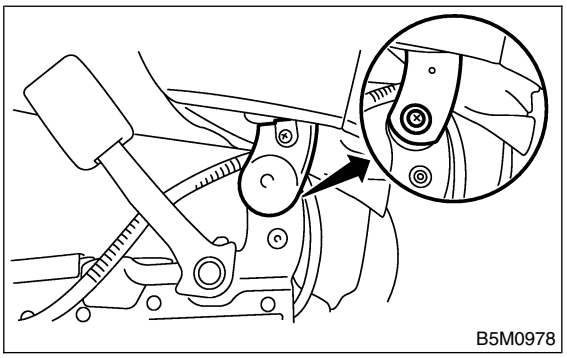
6) Remove clamp of seat heater wire harness. (Seat heater equipped vehicle)


B5M0980

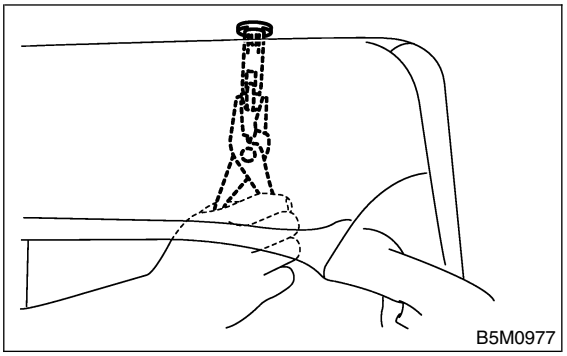
7) Turn cover and cushion, and remove the two bolts from hinge.


B5M0979

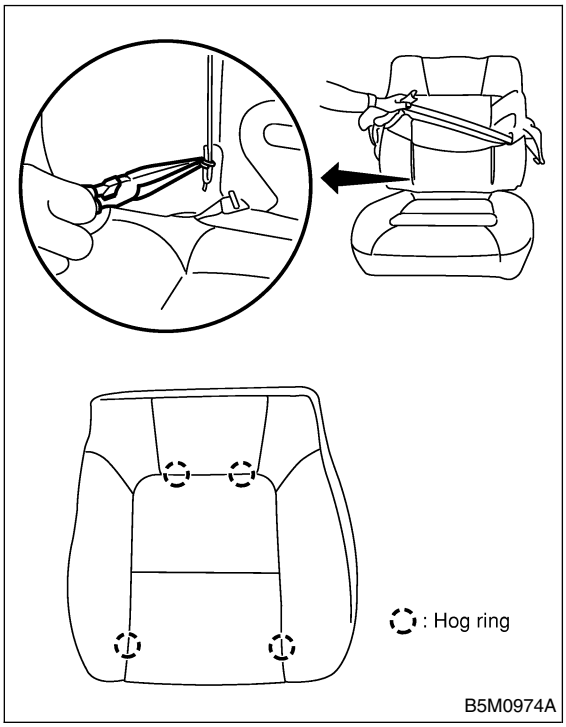
8) Remove hinge screw cover and screws, and remove seat back from hinge.


B5M0978

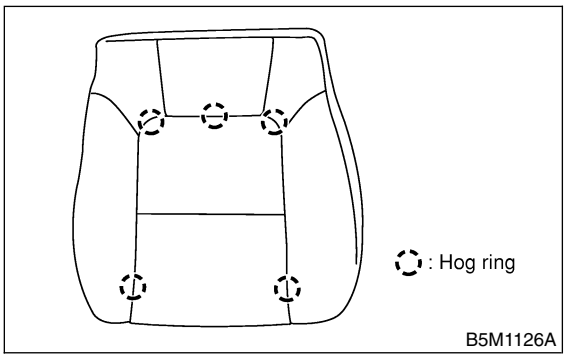
9) While picking up tip with a plier, remove headrest lock bushing.


B5M0977

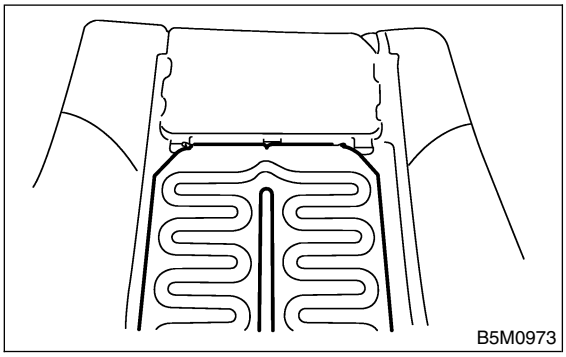
10) Remove hog ring on front face of seat.




Side airbag equipped vehicle:

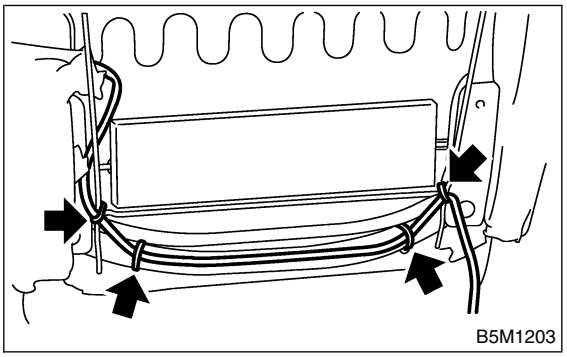



11) Remove hog rings, and then remove seat heater. (Seat heater equipped vehicle)

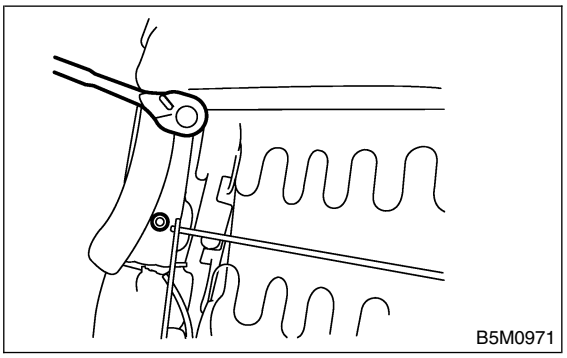



12) Remove seat cover.
13) Remove backrest pad.

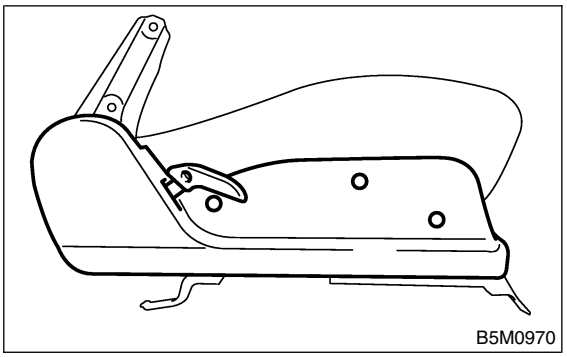
14) Remove clamp of airbag wire harness on back side of seat. (Side airbag equipped vehicle)



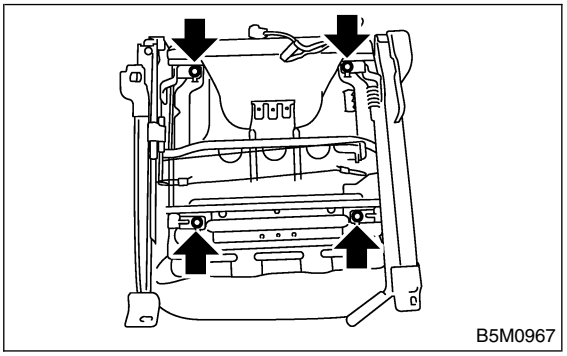

15) Remove the two cap nuts, and then remove side airbag module assembly. (Side airbag equipped vehicle)



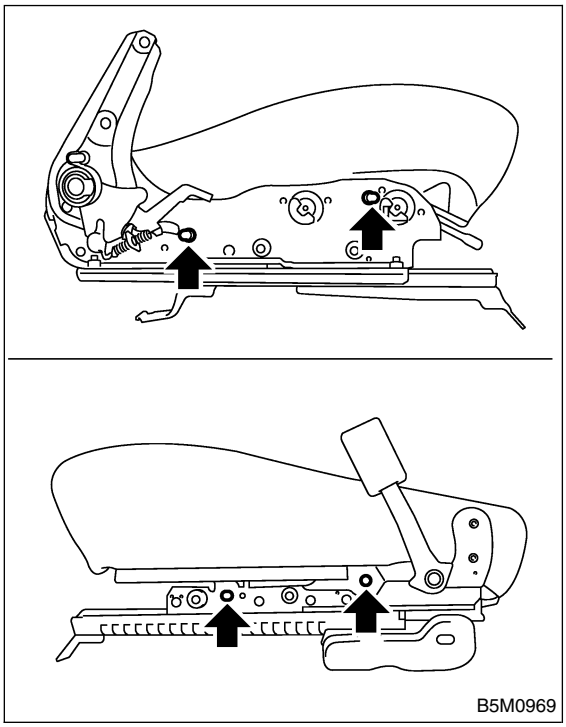

16) Remove reclining cover and hinge cover. (Non-tilt type vehicle)



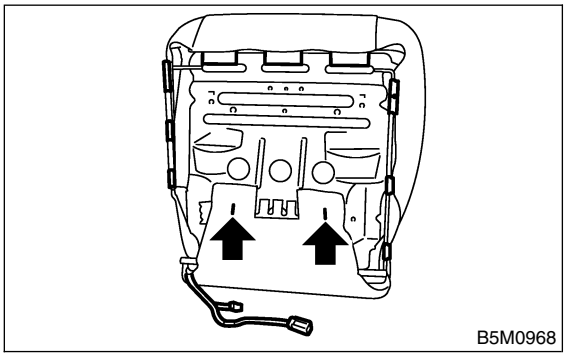

17) Remove the 4 bolts of seat hinge assembly, and then remove seat cushion.
Tilt type vehicle:



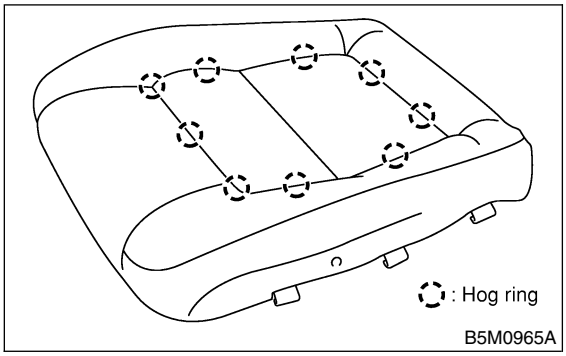
Non-tilt type vehicle:



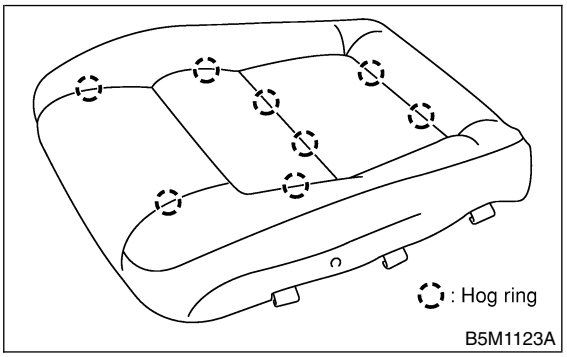

18) Remove hook clips on back side of seat cushion, and remove wire rings.
19) Remove clamp of seat heater wire harness. (Seat heater equipped vehicle)



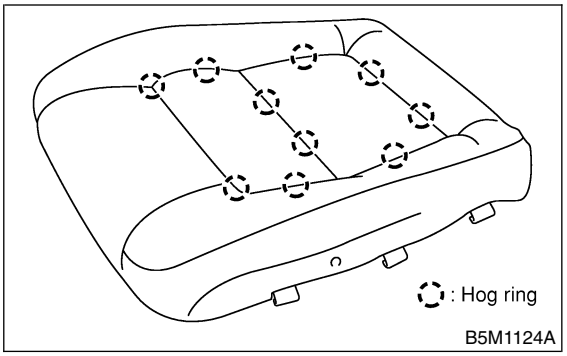

20) Remove hog rings.
Tilt type vehicle:



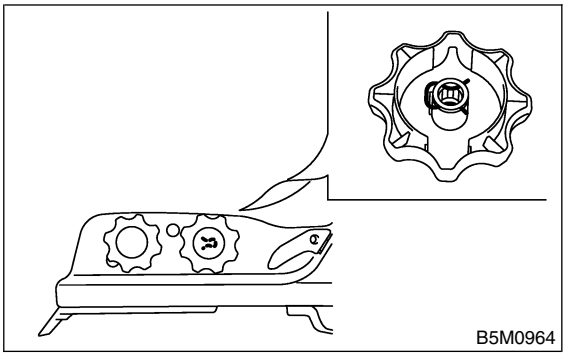

Non-tilt type vehicle:



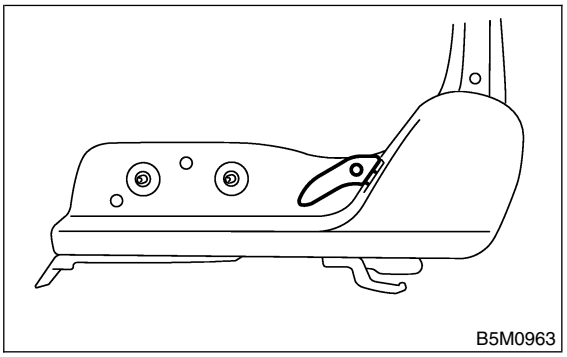

Leather type vehicle:



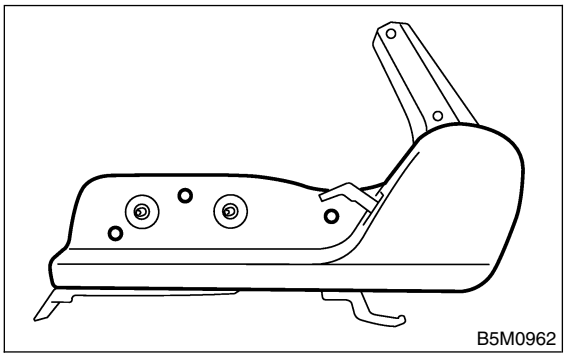

21) Remove cushion cover.
22) Remove cushion pad.
23) Remove clip pins, and remove seat lifter lever.



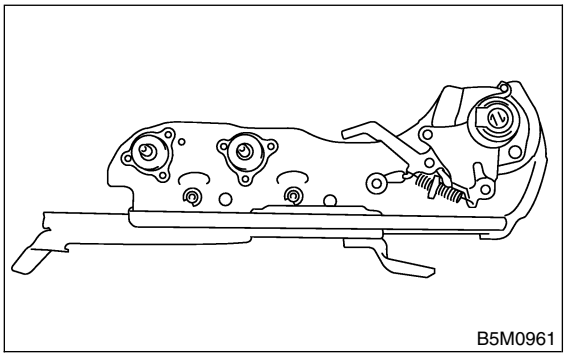

24) Remove reclining lever cover.



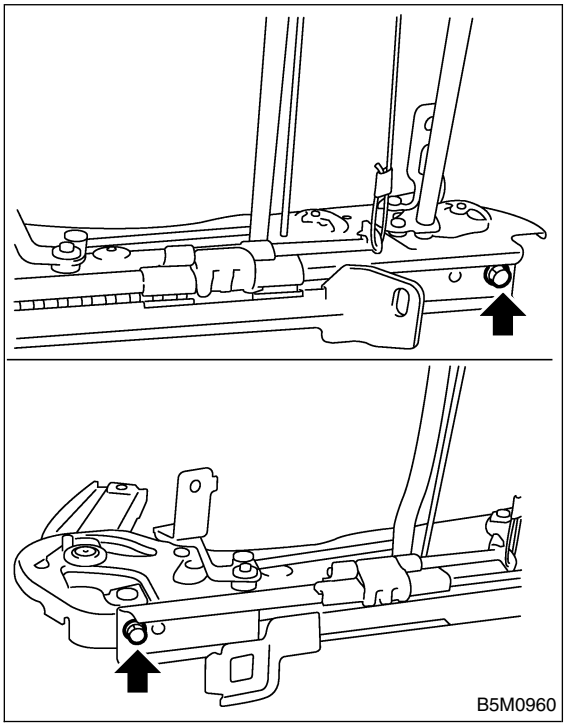
25) Remove hinge cover cap and screws.



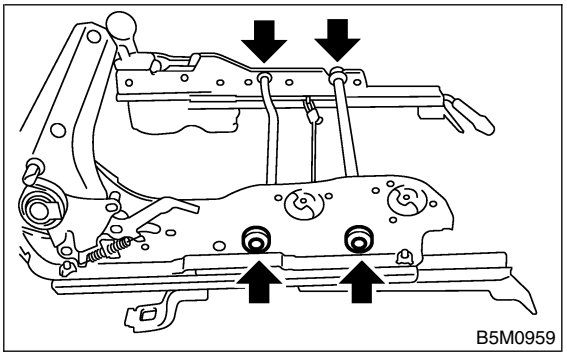

26) Remove seat hinge cover and hinge spring cover.



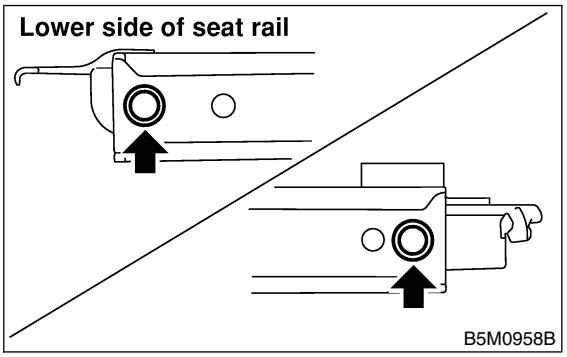

27) Remove 2 bolts, and then remove slide rail.




28) Remove 4 screws, and then remove hinge. (Non-tilt type vehicle)



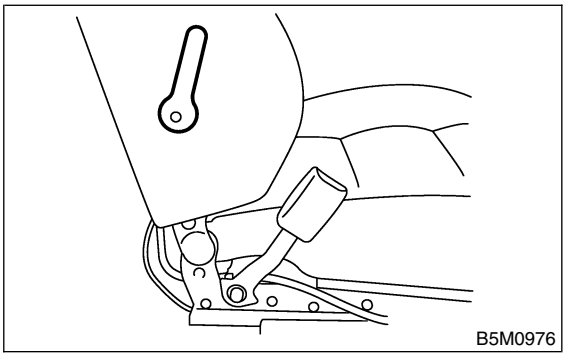

29) Remove 2 bolts, and then remove slide rail. (Non-tilt type vehicle)



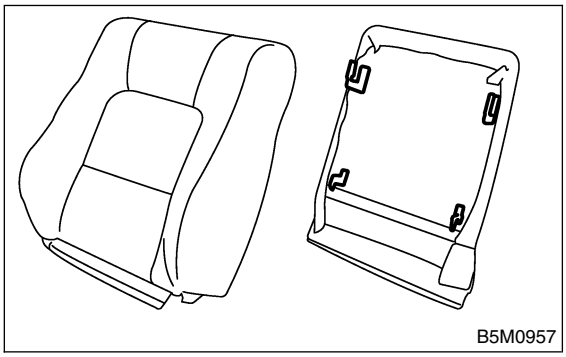

30) Remove connecting wire.

## 2. POWER *S908343A0602*

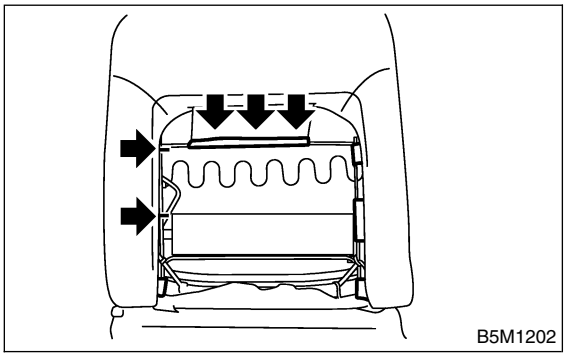
1) Remove seats from vehicle. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove lumber lever cover.



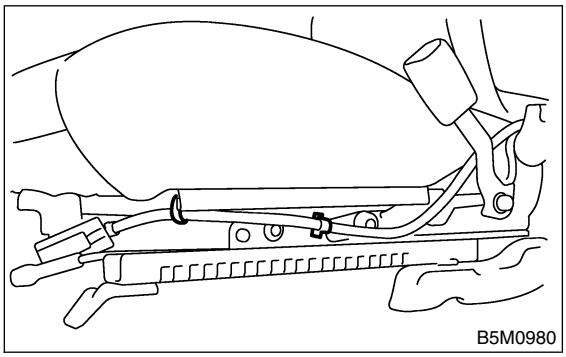
3) Remove hook at bottom, and then remove seat back board.



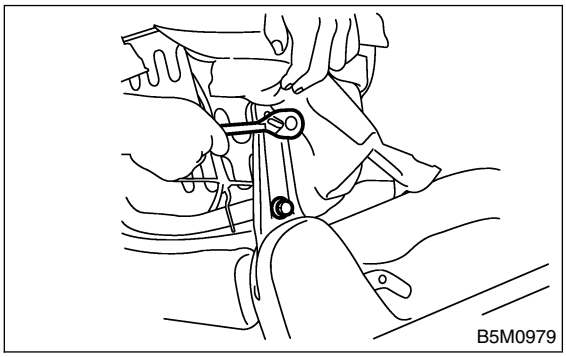

4) Remove hook on back side of seat, and remove wire rings using a plier.



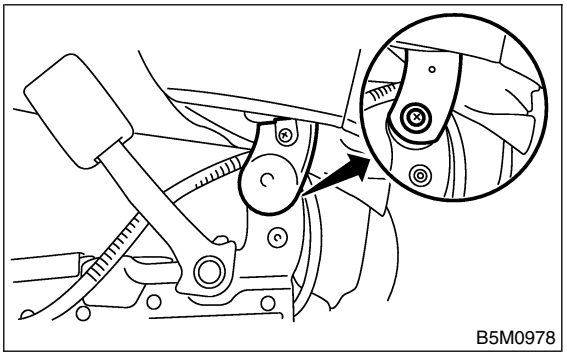

5) Remove clamp of side airbag wire harness. (Side airbag equipped vehicle)
6) Remove clamp of seat heater wire harness. (Seat heater equipped vehicle)



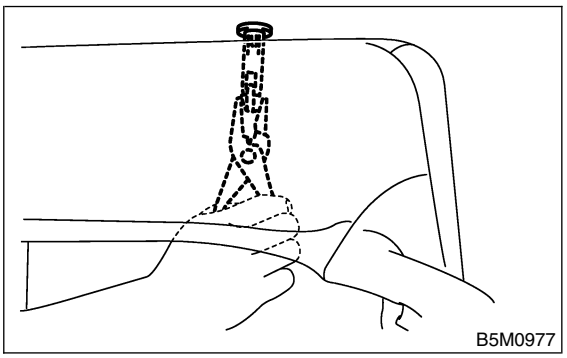

7) Turn cover and cushion, and remove the two bolts from hinge.



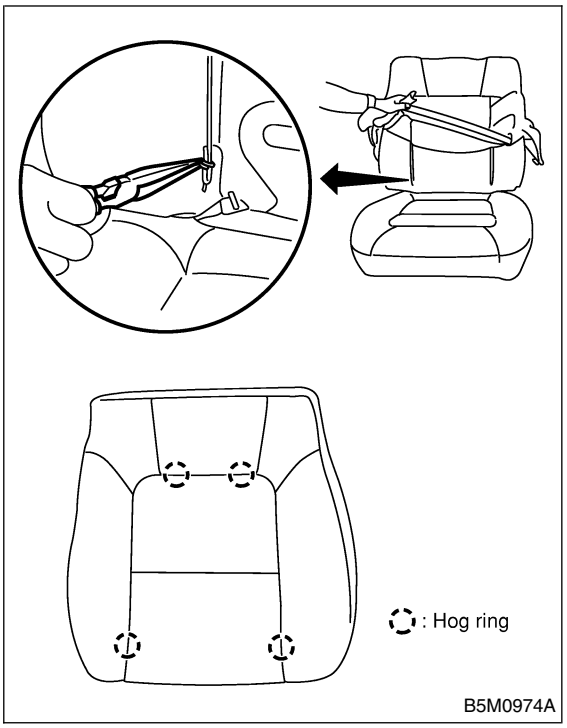

8) Remove hinge screw cover and screws, and remove seat back from hinge.



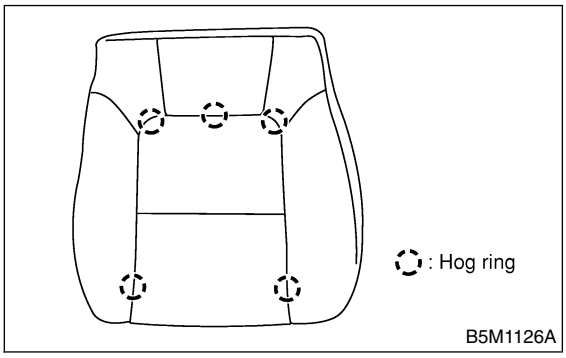

9) While picking up tip with a plier, remove headrest lock bushing.



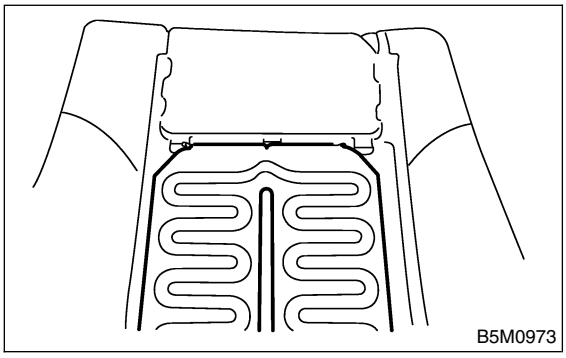

10) Remove wire ring on front face of seat.



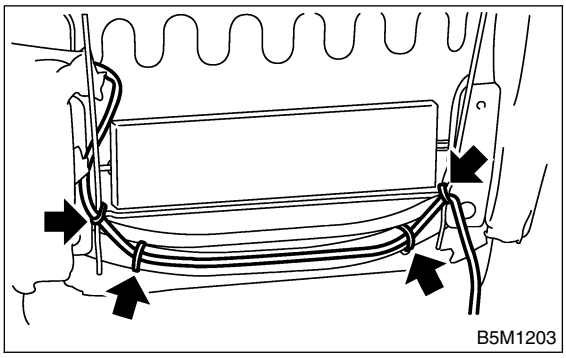
Side airbag equipped vehicle:



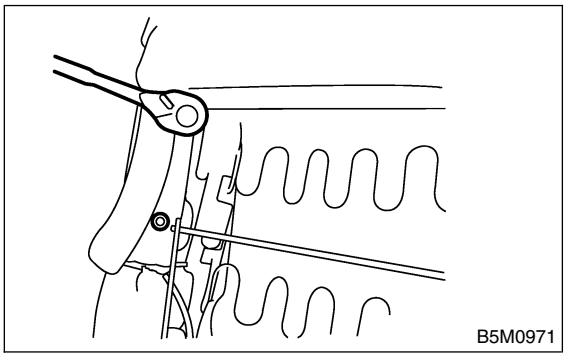

11) Remove wire rings, and then remove seat heater. (Seat heater equipped vehicle)



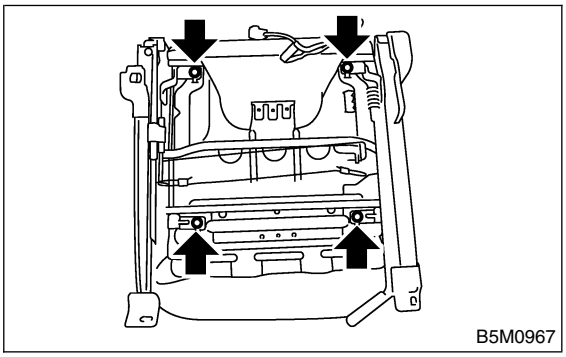

12) Remove seat cover.
13) Remove backrest pad.
14) Remove clamp of airbag wire harness on back side of seat. (Side airbag equipped vehicle)



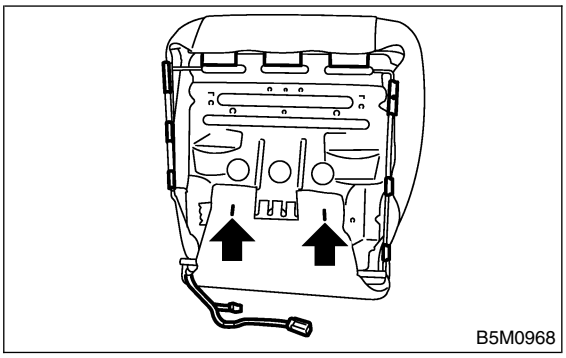

15) Remove the two cap nuts, and then remove side airbag module assembly. (Side airbag equipped vehicle)



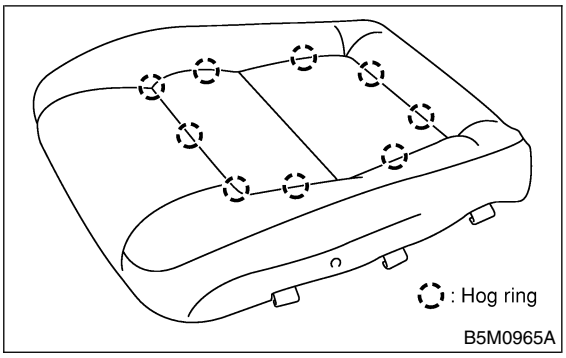

16) Remove the 4 bolts of seat hinge assembly, and then remove seat cushion.



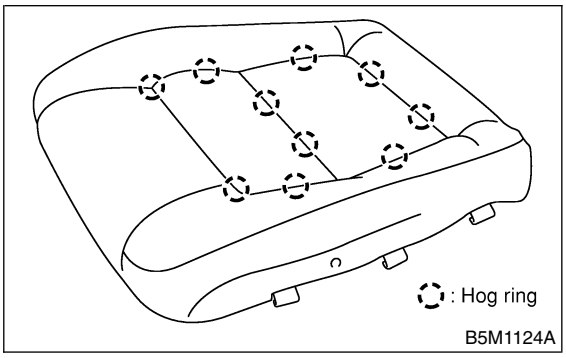

17) Remove hook clips on back side of seat cushion, and remove wire rings.
18) Remove clamp of seat heater wire harness. (Seat heater equipped vehicle)




19) Remove wire rings.

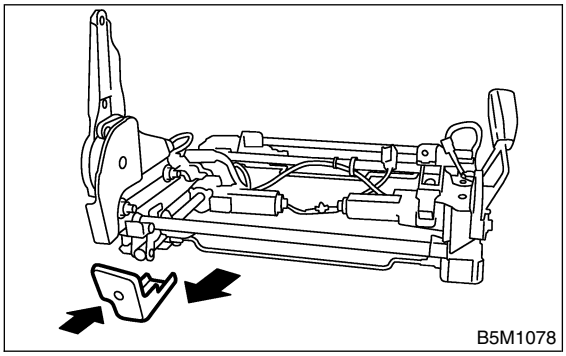



Leather type vehicle:

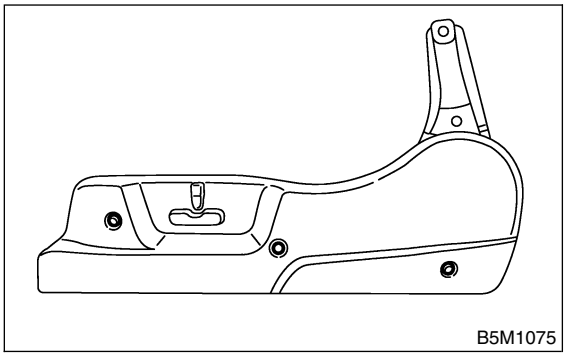



20) Remove cushion cover.
21) Remove cushion pad.

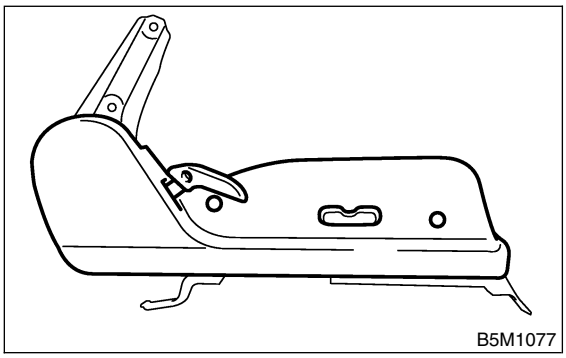
22) Remove the screw and then remove the cover.



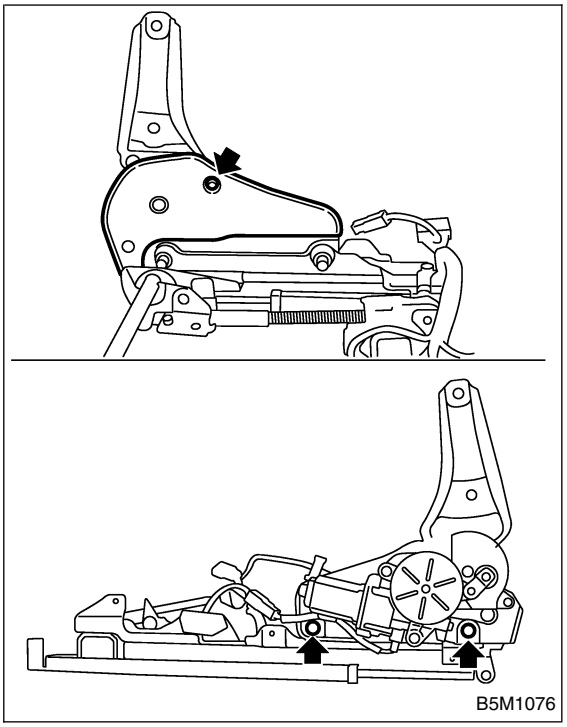

23) 8-way power:
Remove the screw, disconnect the seat switch connector on the underside of the cover, and remove the hinge cover.




6-way power:
Remove the reclining lever cover and screw, disconnect the seat switch connector on the underside of the cover, and remove the hinge cover.




24) Remove the cover on the underside of the seat hinge, remove the two bolts, and remove the seat hinge.



## D: ASSEMBLY S908343A02

### 1. STANDARD S908343A0201

1) Assemble in the reverse order of disassembly.

NOTE:
- Do not contaminate or damage cover.
- While installing hog rings, prevent seat from getting wrinkled.

2) Attach seat cover end hole to hinge inner. (Only non-tilt type standard seat)

### 2. POWER S908343A0202

1) Assemble in the reverse order of disassembly.

NOTE:
- Do not contaminate or damage cover.
- While installing hog rings, prevent seat from getting wrinkled.
- Make sure the connector is firmly connected.
- Make sure the wire harness is not pinched.

2) Attach seat cover end hole to hinge inner. (Only non-tilt type standard seat)

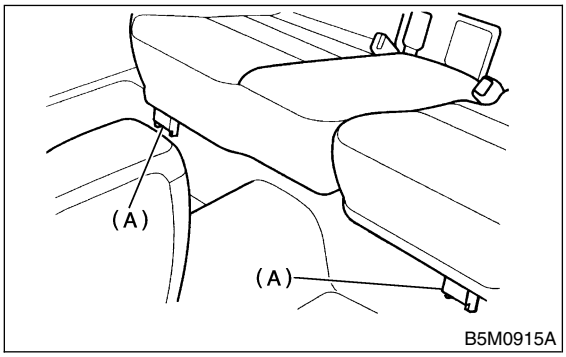
***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to SE-2, FRONT SEAT, COMPONENT, General Description.>***

# 3. Rear Seat S908350

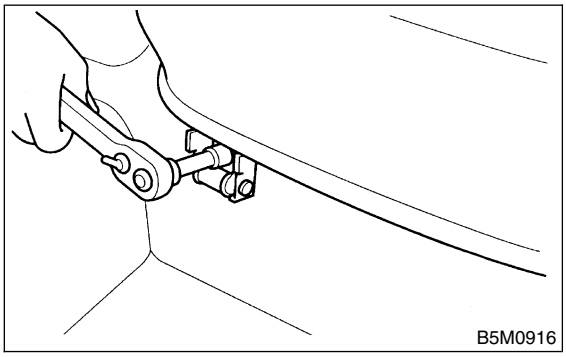
## A: REMOVAL S908350A18

### 1. WAGON S908350A1801

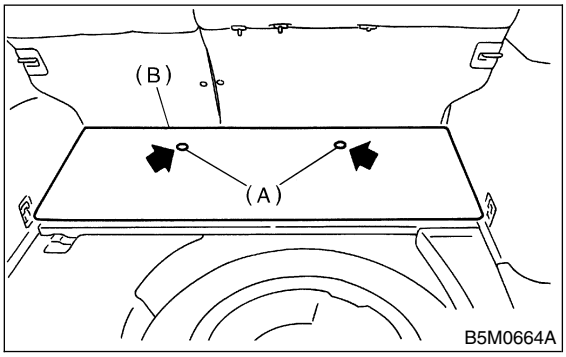
1) Remove cushion, and then remove bolt covers (A).



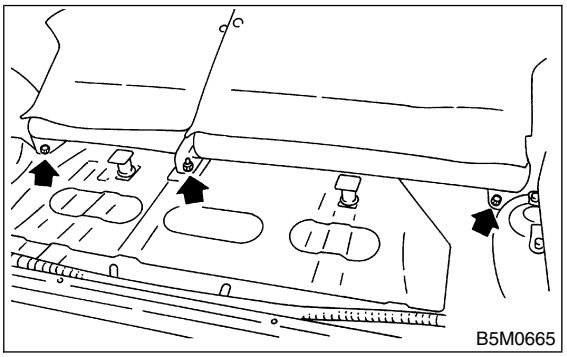

2) Remove bolts, and then remove rear seat cushion.

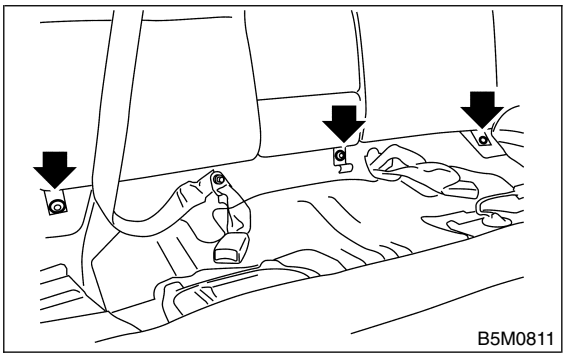



3) Remove headrest.
4) Remove clips (A), and then remove rear floor front mat (B).




5) Remove bolts and nuts of bracket hinge.

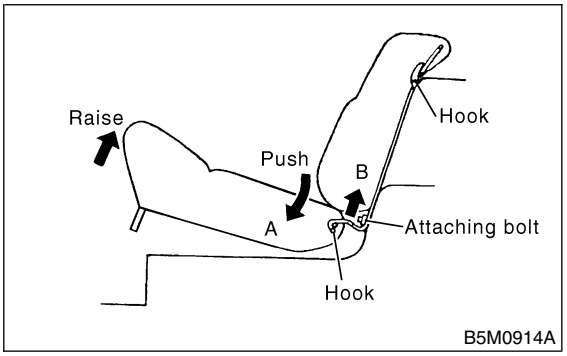


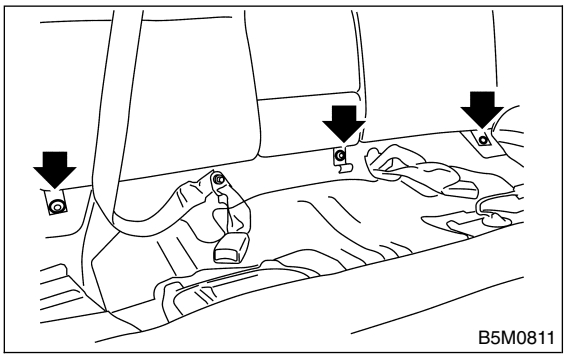

6) Remove rear seat backrest.

### 2. SEDAN S908350A1802

1) Slightly raise front of cushion while pushing down on cushion in the direction of “A”. With cushion held in that position, move it forward until it is unhooked.



2) Remove bolts securing lower portion of backrest and then open the center trunk through lid.




3) Lift rear seat backrest and then remove it.

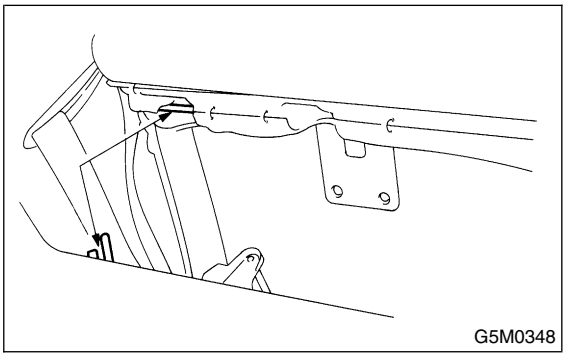
## B: INSTALLATION S908350A11

### 1. WAGON S908350A1101

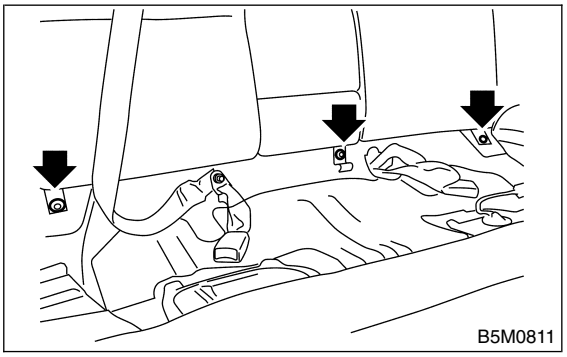
1) Install in the reverse order of removal.

### 2. SEDAN S908350A1102

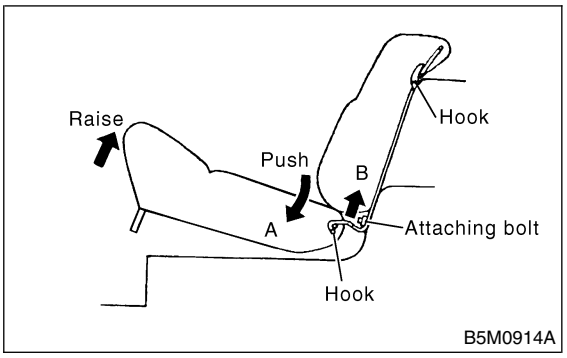
1) Hook and fasten the upper-back side of the rear seat backrest to the body hook.




2) Tighten the bolt and install the backrest.



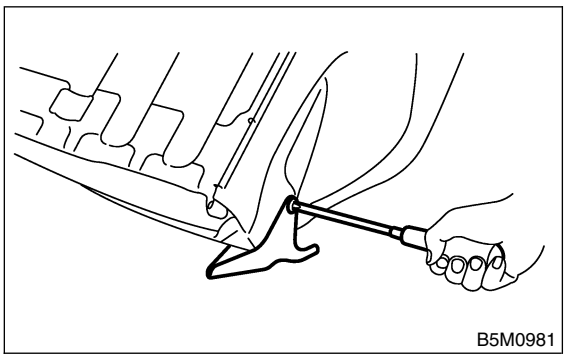

3) Hook and fasten the seat cushion to the hook on the lower part of the rear seat backrest.



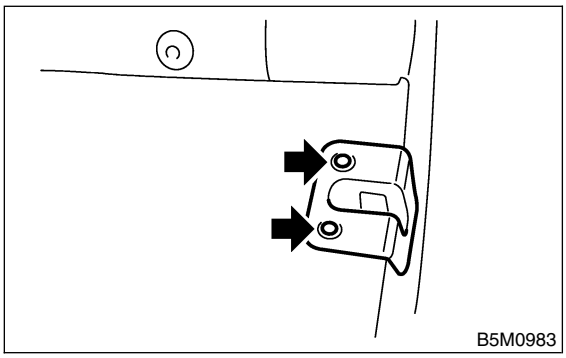
## C: DISASSEMBLY S908350A06

### 1. WAGON S908350A0601

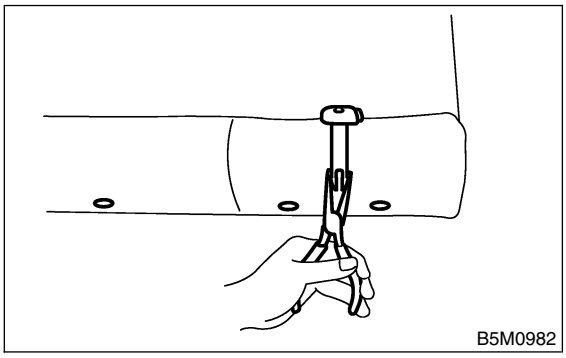
1) Remove rear seat. <Ref. to SE-17, REMOVAL, Rear Seat.>
2) Remove bolts, and then remove bracket hinge.


B5M0981

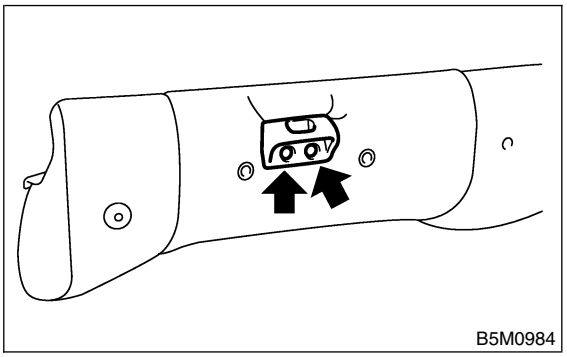
3) Remove rear backrest lock cover.


B5M0983

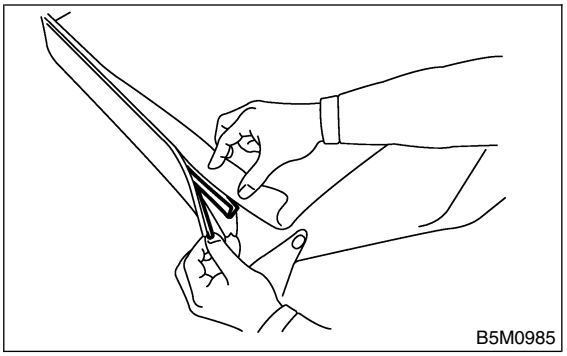
4) While turning counterclockwise rear backrest knob, remove it.
5) While picking up tip with pliers, remove headrest lock bushings.


B5M0982

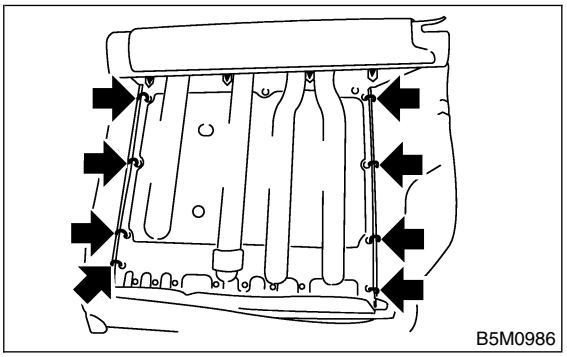
6) Remove backrest hook.


B5M0984

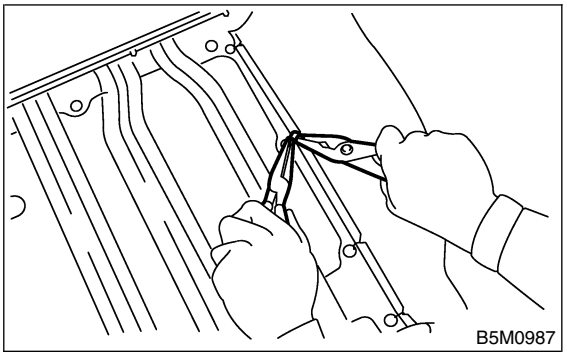
7) Remove hook at bottom.


B5M0985

8) Remove 4 pawls.

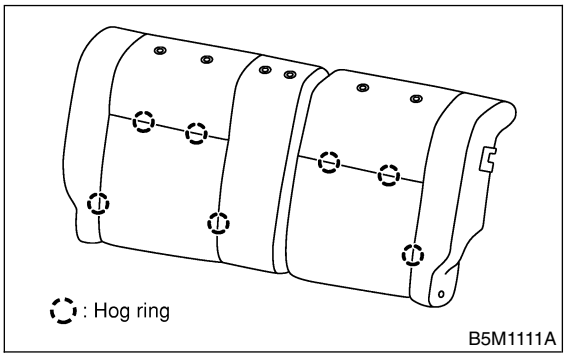

B5M0986

9) Remove 8 hog rings.

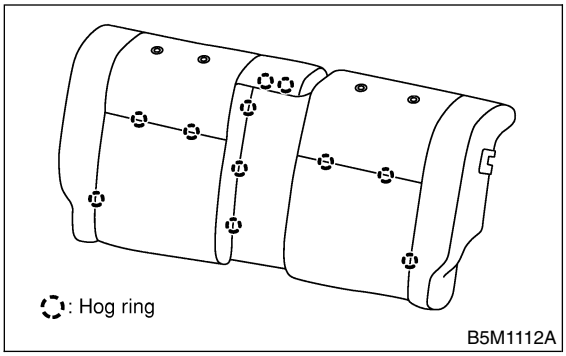

B5M0987

10) Remove the hog rings on front side of cushion pad.

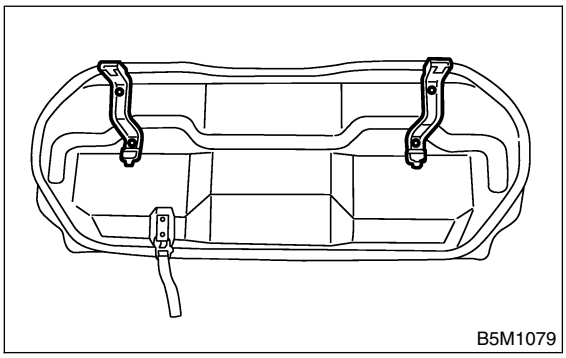
Armrest not-equipped vehicle:



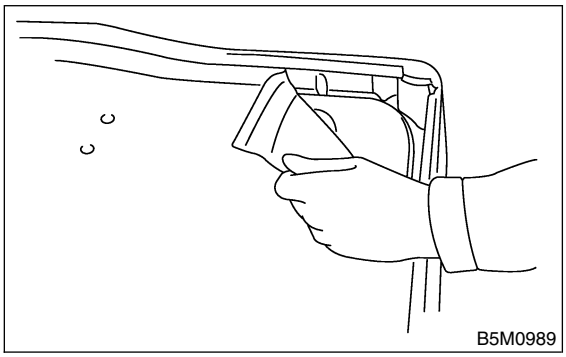

Armrest-equipped vehicle:



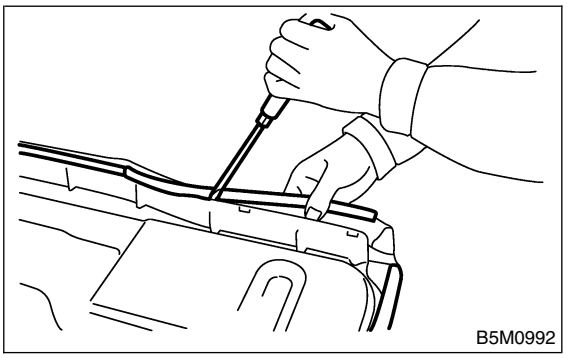

11) Remove cover. When disassembly of rear seat cushion is required, proceed to the following steps.
12) Remove bolts, and then remove cushion hinge.



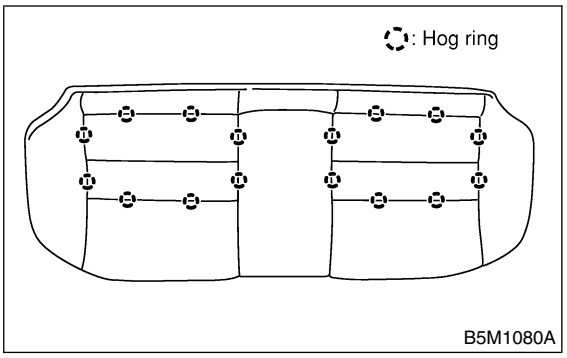

13) Remove rear cushion mat.




14) Remove hook, and then remove frame.

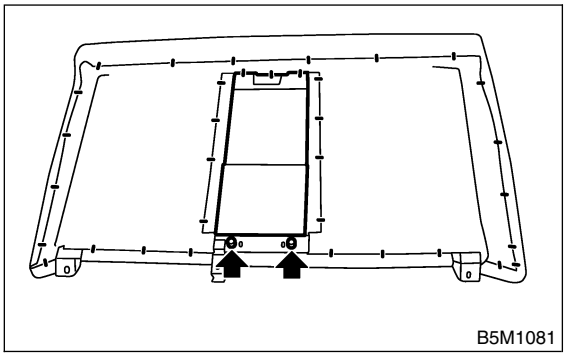



15) Remove hog rings, and then remove cover.

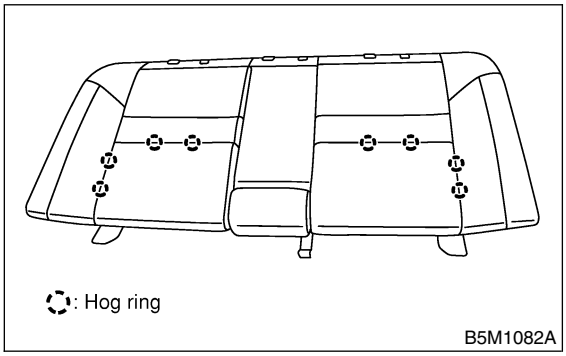


### 2. SEDAN S908350A0602

1) Remove the rear seat from the vehicle. <Ref. to SE-17, REMOVAL, Rear Seat.>
2) Remove the wiring from around the seat backrest.
3) Remove the two nuts and remove the armrest assembly.

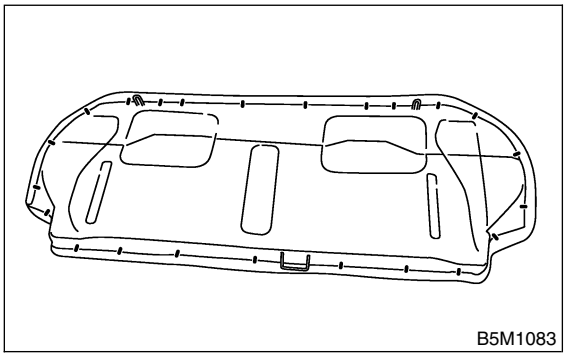

B5M1081

4) Remove the wiring, and then remove the seat cover.

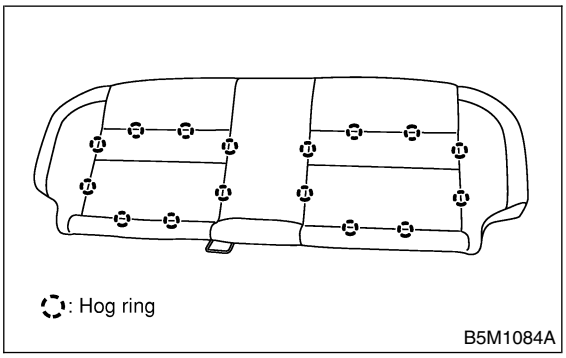


B5M1082A

5) Remove the wiring around the seat cushion.


B5M1083

6) Remove the wiring, and then remove the seat cover.



B5M1084A

## D: ASSEMBLY S908350A02

### 1. WAGON S908350A0201

1) Assemble in the reverse order of disassembly.

NOTE:
- Do not contaminate or damage cover.
- While installing wire rings, prevent seat from getting wrinkled.

### 2. SEDAN S908350A0202

1) Assemble in the reverse order of disassembly.

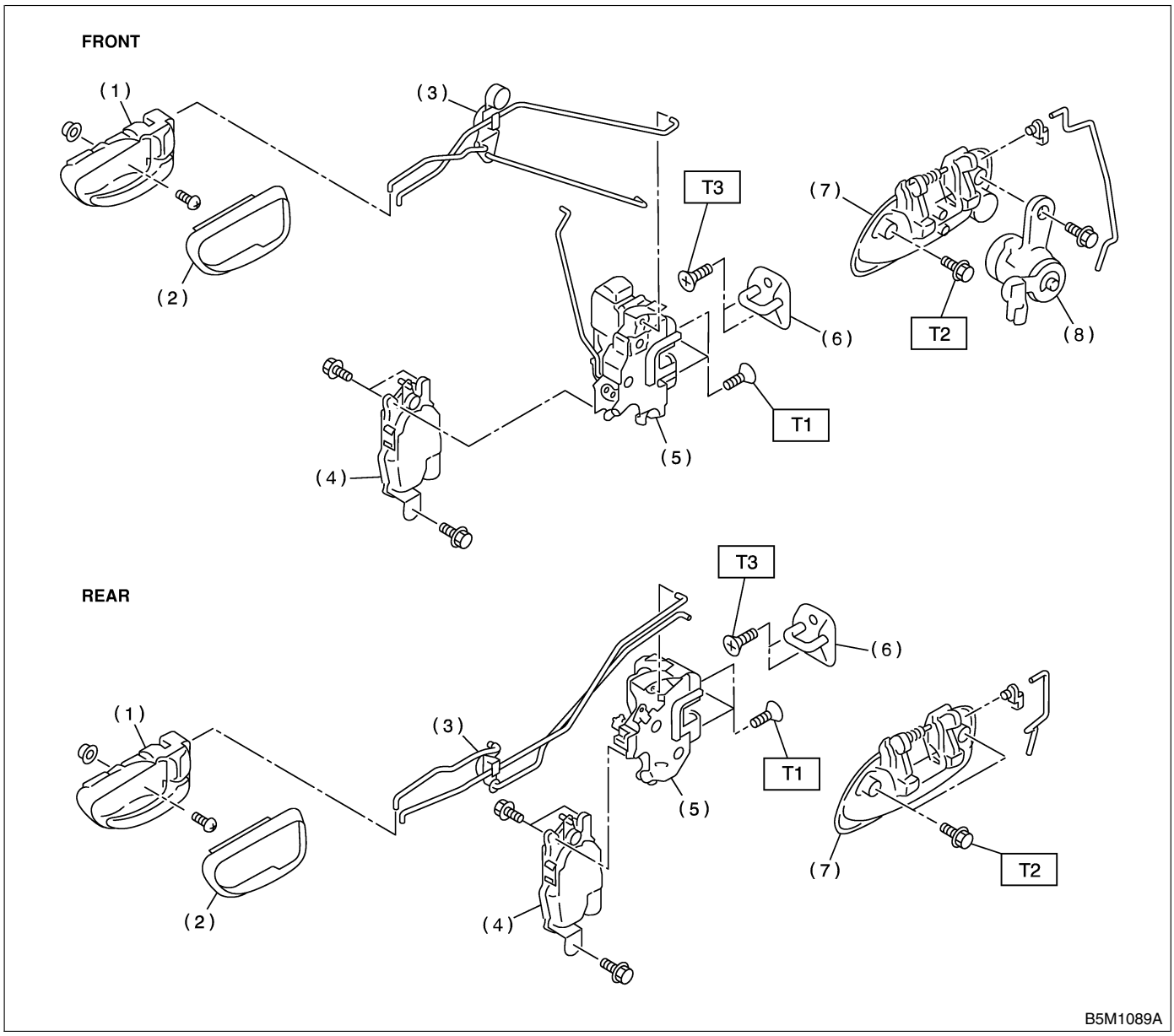
NOTE:
- Do not contaminate or damage cover.
- While installing wire rings, prevent seat from getting wrinkled.

**MEMO:**

# 1. General Description S909001

## A: COMPONENT S909001A05

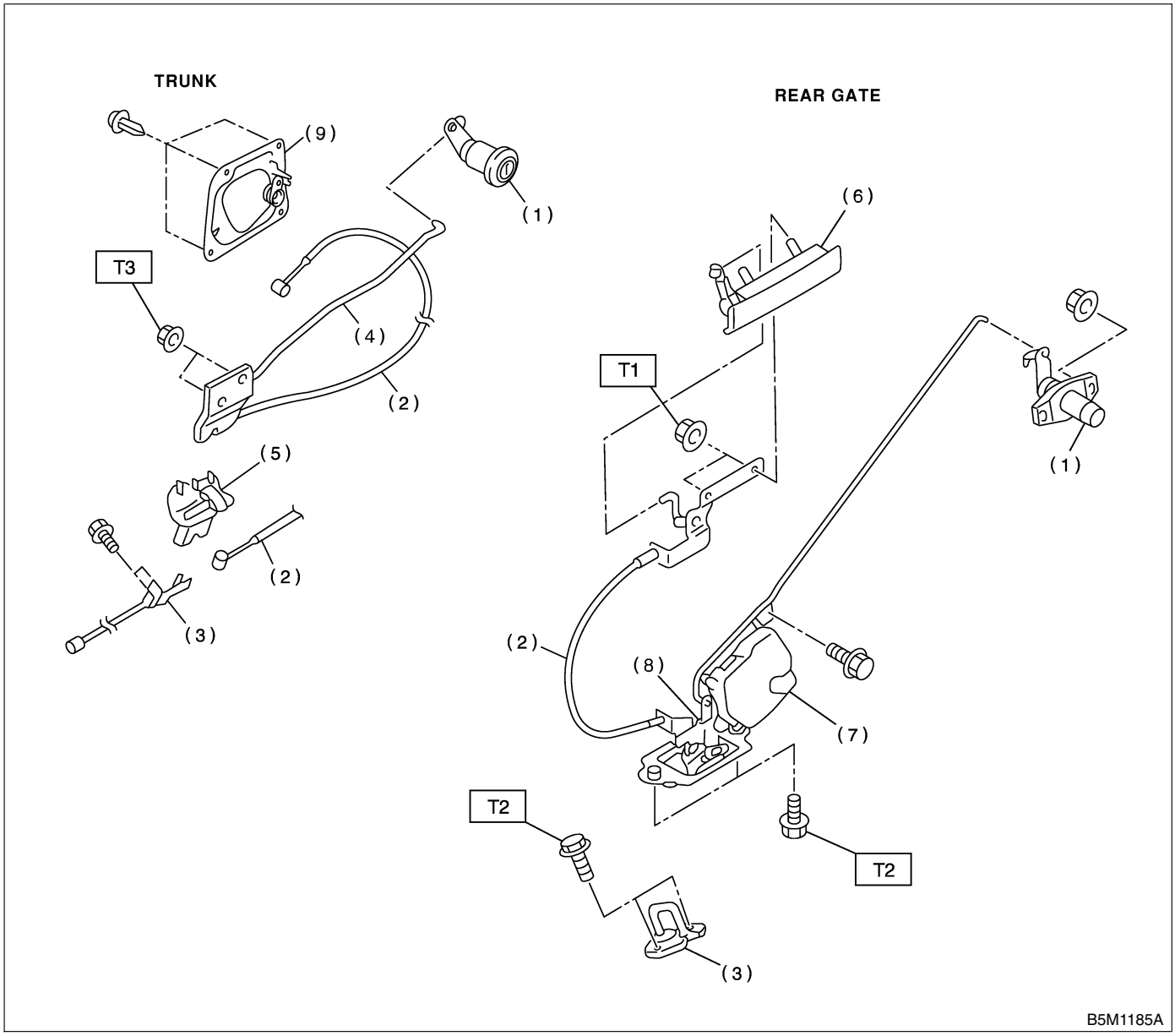
### 1. DOOR LOCK ASSEMBLY S909001A0501




(1) Inner remote ASSY
(2) Inner remote cover
(3) Bell crank
(4) Auto-door lock actuator
(5) Door latch
(6) Striker
(7) Door outer handle
(8) Key cylinder

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 6.4 (0.65, 4.7)***
***T2: 7.35 (0.75, 5.4)***
***T3: 18 (1.8, 13.0)***

## 2. TRUNK LID AND REAR GATE LOCK S909001A0502

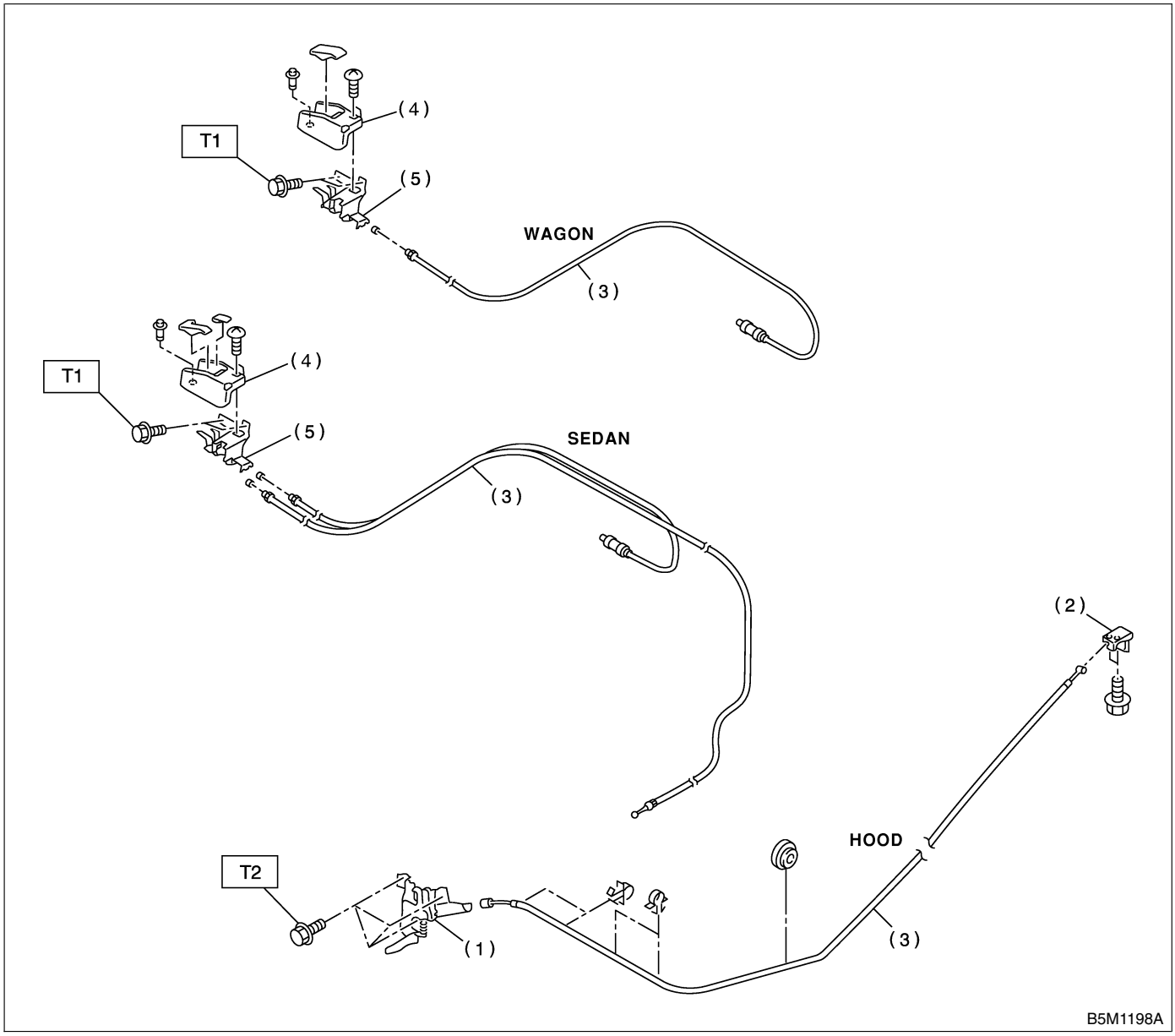



(1) Key cylinder
(2) Cable
(3) Striker
(4) Trunk lid lock ASSY
(5) Trunk lid lock cover
(6) Rear gate outer handle
(7) Rear gate actuator
(8) Rear gate latch
(9) Trunk lid release handle

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 7.5 (0.75, 5.4)***
***T2: 25 (2.5, 18.1)***
***T3: 18 (1.8, 13.0)***

## 3. HOOD LOCK AND REMOTE OPENERS

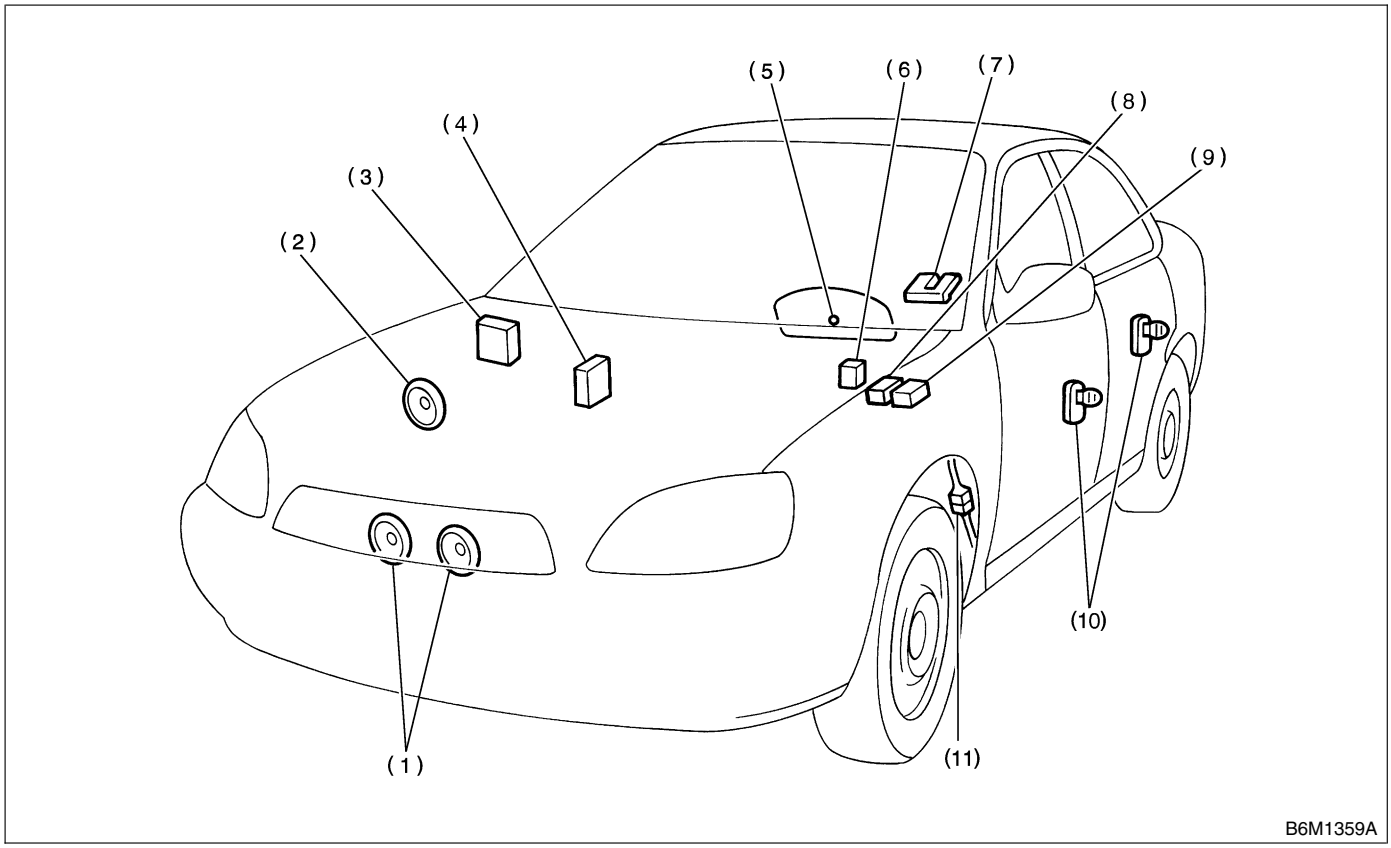
S909001A0503




(1) Hood lock ASSY
(2) Lever ASSY
(3) Cable
(4) Cover
(5) Pull handle ASSY

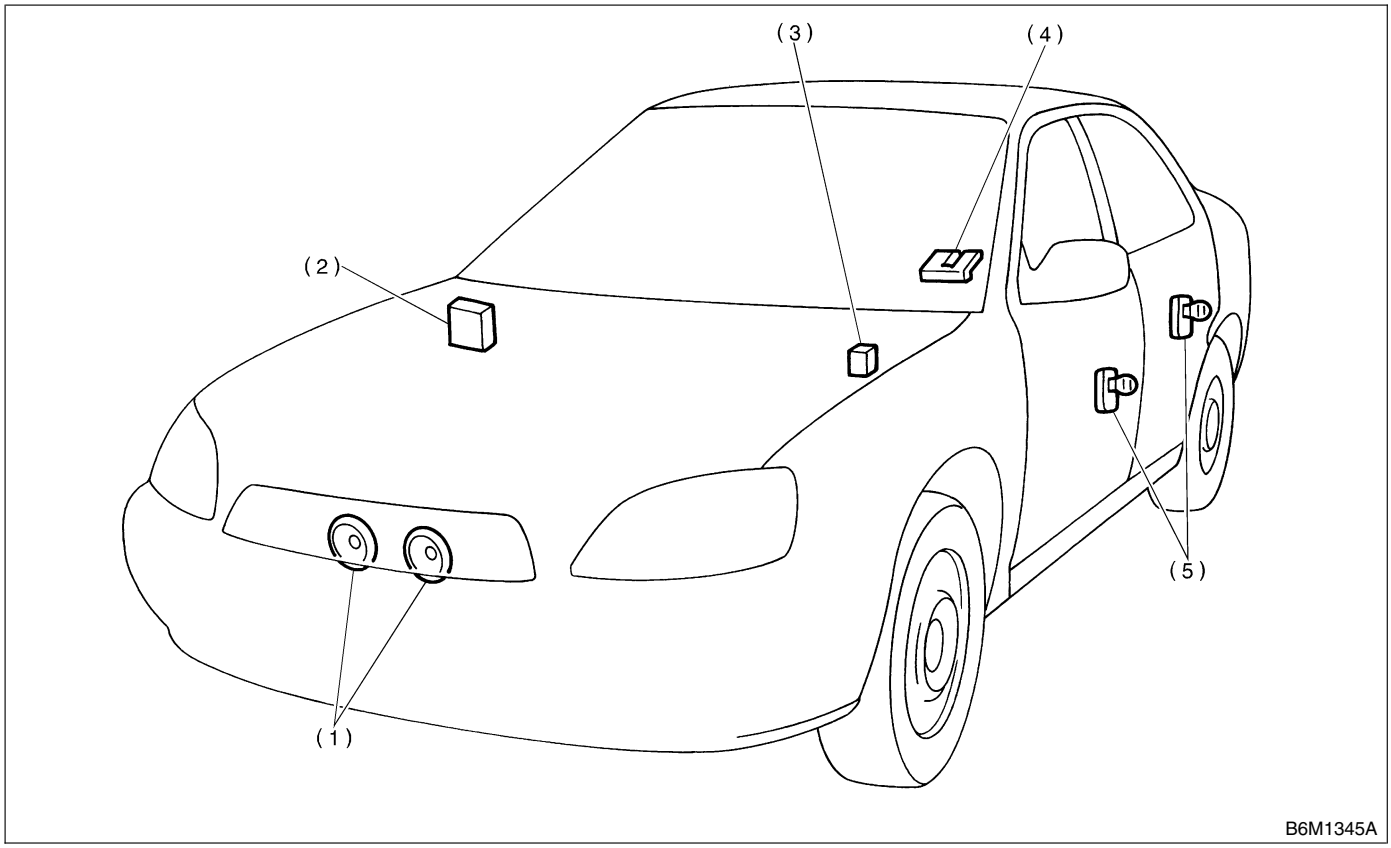
***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 7.4 (0.75, 5.4)***
***T2: 32 (33, 23.9)***

## 4. SECURITY SYSTEM S909001A0504




(1) Horn
(2) Security horn
(3) Keyless entry control module
(4) Security control module
(5) Security indicator light (in combination meter)
(6) Horn relay (in main fuse box)
(7) Trunk room light switch (Sedan), rear gate latch switch (Wagon)
(8) Interrupt relay
(9) Security horn relay
(10) Door switch
(11) Passive arm connector

## 5. KEYLESS ENTRY SYSTEM S909001A0505



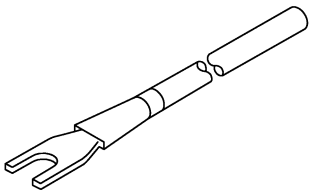

(1) Horn
(2) Keyless entry control module
(3) Horn relay (in main fuse box)
(4) Trunk room light switch (Sedan), rear gate latch switch (Wagon)
(5) Door switch

## B: CAUTION S909001A03

**● Before disassembling or reassembling parts, always disconnect battery ground cable. When repairing radio, control module, etc. which are provided with memory functions, record memory contents before disconnecting battery ground cable. Otherwise, these contents are cancelled upon disconnection.**
**● Reassemble parts in reverse order of disassembly procedure unless otherwise indicated.**
**● Adjust parts to specifications contained in this manual if so designated.**
**● Connect connectors and hoses securely during reassembly.**
**● After reassembly, ensure functional parts operate smoothly.**
**● Airbag system wiring harness is routed near the electrical parts and switch.**
**● All airbag system wiring harness and connectors are colored yellow. Do not use electrical test equipment on these circuits.**
**● Be careful not to damage airbag system wiring harness when servicing the ignition key cylinder.**

# C: PREPARATION TOOL S909001A17

## 1. SPECIAL TOOLS S909001A1701

| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  B5M1120 | 925580000 | PULLER | Used for removing trim clip. |

## 2. GENERAL TOOLS S909001A1702

| TOOL NAME | REMARKS |
|---|---|
| Circuit Tester | Used for measuring resistance and voltage. |
| Drill | Used for replacing ignition key lock. |

# 2. Door Lock Control System S909348

## A: SCHEMATIC S909348A21

### 1. DOOR LOCK WITHOUT KEYLESS ENTRY S909348A2101

<Ref. to WI-82, WITHOUT KEYLESS ENTRY MODEL, SCHEMATIC, Door Lock System.>

### 2. DOOR LOCK WITH KEYLESS ENTRY S909348A2102

<Ref. to WI-83, WITH KEYLESS ENTRY MODEL, SCHEMATIC, Door Lock System.>

# B: INSPECTION S909348A10

## 1. SYMPTOM CHART S909348A1001

| Symptom | Repair order | Reference |
|---|---|---|
| Door lock control system does not operate. | 1. Check the fuse. | <Ref. to SL-9, CHECK FUSE, INSPECTION, Door Lock Control System.> |
| | 2. Check the power supply and ground circuit for the door lock timer (without keyless entry) or keyless entry control module (with keyless entry). | <Ref. to SL-9, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.> |
| | 3. Check the door lock switch and the circuit. | <Ref. to SL-10, CHECK DOOR LOCK SWITCH AND CIRCUIT, INSPECTION, Door Lock Control System.> |
| | 4. Check the door lock actuator and the circuit. | <Ref. to SL-11, CHECK DOOR LOCK ACTUATOR AND CIRCUIT, INSPECTION, Door Lock Control System.> |
| Driver side or passenger side door lock switch does not operate. | Check the door lock switch and the circuit. | <Ref. to SL-10, CHECK DOOR LOCK SWITCH AND CIRCUIT, INSPECTION, Door Lock Control System.> |
| A specific door lock actuator does not operate. | Check the door lock actuator and the circuit. | <Ref. to SL-11, CHECK DOOR LOCK ACTUATOR AND CIRCUIT, INSPECTION, Door Lock Control System.> |

## 2. CHECK FUSE S909348A1002

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>Remove and visually check fuse No. 3 (in the fuse and relay box). | Is the fuse blown (15A)? | Replace the fuse with a new one. | Check power supply and ground circuit. <Ref. to SL-9, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.> |

## 3. CHECK POWER SUPPLY AND GROUND CIRCUIT S909348A1003

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY.**<br>1) Disconnect the door lock timer or keyless entry control module harness connector.<br>2) Measure the voltage between the harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***Without keyless entry:***<br>***(B92) No. 4 (+) — Chassis ground (–):***<br>***With keyless entry:***<br>***(B176) No. 3 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Check the harness for open circuits or shorts between the door lock timer or keyless entry control module and the fuse. |

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK GROUND CIRCUIT.**<br>Measure the resistance between the harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***Without keyless entry:***<br>***(B92) No. 8 (+) — Chassis ground (–):***<br>***With keyless entry:***<br>***(B176) No. 8 (+) — Chassis ground (–):*** | Is the resistance less than 10 Ω? | Power supply and ground circuit are OK. | Repair harness. |

## 4. CHECK DOOR LOCK SWITCH AND CIRCUIT S909348A1004

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DOOR LOCK SWITCH CIRCUIT.**<br>1) Disconnect the door lock timer or keyless entry control module harness connector.<br>2) Measure the resistance between the harness connector terminal and chassis ground when moving the door lock switch to LOCK.<br>***Connector & terminal***<br>***Without keyless entry:***<br>***(B92) No. 1 (+) — Chassis ground (–):***<br>***With keyless entry:***<br>***(B176) No. 5 (+) — Chassis ground (–):*** | Is the resistance less than 10 Ω? | Go to step **2**. | Go to step **3**. |
| 2 | **CHECK DOOR LOCK SWITCH CIRCUIT.**<br>Measure the resistance between the harness connector terminal and chassis ground when the door lock switch is moved to UNLOCK.<br>***Connector & terminal***<br>***Without keyless entry:***<br>***(B92) No. 7 — Chassis ground:***<br>***With keyless entry:***<br>***(B176) No. 15 (+) — Chassis ground (–):*** | Is the resistance less than 10 Ω? | The door lock switch is OK. | Go to step **3**. |
| 3 | **CHECK DOOR LOCK SWITCH.**<br>1) Disconnect the door lock switch harness connector.<br>2) Measure the resistance between the door lock switch terminals when moving the door lock switch to LOCK.<br>***Terminal***<br>***Driver side No. 1 — No. 2:***<br>***Passenger side No. 2 — No. 5:*** | Is the resistance less than 1 Ω? | Go to step **4**. | Replace the door lock switch. |
| 4 | **CHECK DOOR LOCK SWITCH.**<br>Measure the resistance between the door lock switch terminals when moving the door lock switch to UNLOCK.<br>***Terminal***<br>***Driver side No. 1 — No. 6:***<br>***Passenger side No. 1 — No. 5:*** | Is the resistance less than 1 Ω? | Check the harness for open circuits or shorts between the door lock timer or keyless entry control module and the door lock switch. | Replace the door lock switch. |

## 5. CHECK DOOR LOCK ACTUATOR AND CIRCUIT S909348A1005

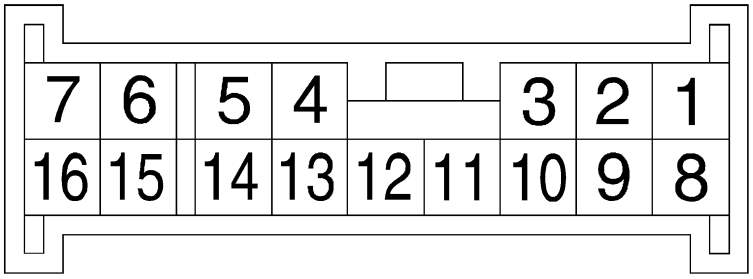
| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK OUTPUT SIGNAL.**<br>Measure the voltage between the harness connector terminal and chassis ground when moving the door lock switch to LOCK.<br>***Connector & terminal***<br>***Without keyless entry:***<br>***(B92) No. 3 — Chassis ground:***<br>***With keyless entry:***<br>***(B176) No. 2 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Replace the door lock timer or keyless entry control module. |
| 2 | **CHECK OUTPUT SIGNAL.**<br>Measure the voltage between the harness connector terminal and chassis ground when moving the door lock switch to UNLOCK.<br>***Connector & terminal***<br>***Without keyless entry:***<br>***(B92) No. 2 — Chassis ground:***<br>***With keyless entry:***<br>***(B176) No. 1, No. 9 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | Replace the door lock timer or keyless entry control module. |
| 3 | **CHECK DOOR LOCK ACTUATOR.**<br>Check the door lock actuator.<br>Front door lock actuator: <Ref. to SL-30, Front Door Lock Actuator.><br>Rear door lock actuator: <Ref. to SL-34, Rear Door Lock Actuator.><br>Rear gate latch lock actuator: <Ref. to SL-37, Rear Gate Latch Lock Actuator.> | Is the door lock actuator OK? | Check the harness for open circuits or shorts between the door lock timer or keyless entry control module and the door lock actuator. | Replace the door lock actuator. |

# 3. Keyless Entry System S909345

## A: SCHEMATIC S909345A21

<Ref. to WI-110, SCHEMATIC, Keyless Entry System.>

## B: ELECTRICAL SPECIFICATION S909345A08




B6M0957

| Content | Terminal No. | Measuring condition |
|---|---|---|
| Door and rear gate lock actuator (Except driver side) | 1 (OUTPUT) | Battery voltage is present when pressing the transmitter UNLOCK/DISARM button two times. |
| Door and rear gate lock actuator | 2 (OUTPUT) | Battery voltage is present when pressing the transmitter LOCK/ARM button once. |
| Power supply (Back-up) | 3 | Battery voltage is constantly present. |
| Room light/Ignition switch illumination | 4 (OUTPUT) | 0 V is present when pressing the transmitter UNLOCK/DISARM button one time. |
| Door lock switch | 5 (INPUT) | 0 V is present when operating the door lock switch. |
| Trunk room light switch (Sedan), rear gate latch switch (Wagon) | 6 (INPUT) | 0 V is present when opening the trunk lid or rear gate. |
| Door switch | 7 (INPUT) | 0 V is present when any door is open. |
| Ground | 8 | 0 V is constantly present. |
| Door lock actuator (Driver side) | 9 (OUTPUT) | Battery voltage is present when pressing the transmitter UNLOCK/DISARM button once. |
| Security control module | 10 | — |
| Security control module | 11 | — |
| Horn relay | 12 (OUTPUT) | 0 V is present when pressing the transmitter UNLOCK/DISARM or LOCK/ARM button. |
| Security control module | 13 | — |
| Ignition switch (ON) | 14 (INPUT) | Battery voltage is present when ignition switch is turned ON. |
| Door unlock switch | 15 (INPUT) | 0 V is present when operating the door lock switch. |
| Key warning switch | 16 (INPUT) | Battery voltage is present when inserting the key into the ignition switch. |

# C: INSPECTION S909345A10

## 1. SYMPTOM CHART S909345A1001

| Symptom | Repair order | Reference |
|---|---|---|
| None of the functions of the keyless entry system operate. | 1. Check the transmitter battery and function. | <Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 2. Check the fuse. | <Ref. to SL-16, CHECK FUSE, INSPECTION, Keyless Entry System.> |
| | 3. Check the keyless entry control module power supply and ground circuit. | <Ref. to SL-16, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry System.> |
| | 4. Replace the keyless entry control module. | <Ref. to SL-48, Keyless Entry Control Module.> |
| Transmitter cannot be programmed. | 1. Check the transmitter battery and function. | <Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 2. Check the ignition switch circuit. | <Ref. to SL-16, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Keyless Entry System.> |
| | 3. Check the door switch. | <Ref. to SL-16, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.> |
| | 4. Replace the keyless entry control module. | <Ref. to SL-48, Keyless Entry Control Module.> |
| Door lock or unlock does not operate.<br>NOTE:<br>If the door lock control system does not operate when using the door lock switch, check the door lock control system. <Ref. to SL-9, INSPECTION, Door Lock Control System.> | 1. Check the transmitter battery and function. | <Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 2. Check the key warning switch. | <Ref. to SL-17, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.> |
| | 3. Check the door switch. | <Ref. to SL-16, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.> |
| | 4. Replace the keyless entry control module. | <Ref. to SL- 48, Keyless Entry Control Module.> |
| Panic alarm does not operate. | 1. Check the transmitter battery and function. | <Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 2. Check the horn operation. | <Ref. to SL-18, CHECK HORN OPERATION, INSPECTION, Keyless Entry System.> |
| | 3. Replace the keyless entry control module. | <Ref. to SL-48, Keyless Entry Control Module.> |

| Symptom | Repair order | Reference |
|---|---|---|
| Horn chirp does not operate. | 1. Check the horn chirp function. | <Ref. to SL-15, CHECK HORN CHIRP SETTING, INSPECTION, Keyless Entry System.> |
| | 2. Check the transmitter battery and function. | <Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 3. Check the key warning switch. | <Ref. to SL-17, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.> |
| | 4. Check the door switch. | <Ref. to SL-16, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.> |
| | 5. Check the horn operation. | <Ref. to SL-18, CHECK HORN OPERATION, INSPECTION, Keyless Entry System.> |
| | 6. Replace the keyless entry control module. | <Ref. to SL-48, Keyless Entry Control Module.> |
| Room light and ignition switch illumination do not activate. | 1. Check the transmitter battery and function. | <Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 2. Check the room light operation. | <Ref. to SL-18, CHECK ROOM LIGHT OPERATION, INSPECTION, Keyless Entry System.> |
| | 3. Check ignition switch illumination circuit. | <Ref. to SL-19, CHECK IGNITION SWITCH ILLUMINATION CIRCUIT, INSPECTION, Keyless Entry System.> |
| | 4. Check the key warning switch. | <Ref. to SL-17, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.> |
| | 5. Check the door switch. | <Ref. to SL-16, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.> |
| | 6. Replace the keyless entry control module. | <Ref. to SL-48, Keyless Entry Control Module.> |
| Door warning does not operate. | 1. Check the transmitter battery and function. | <Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 2. Check the door switch. | <Ref. to SL-16, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.> |
| | 3. Check the horn operation. | <Ref. to SL-18, CHECK HORN OPERATION, INSPECTION, Keyless Entry System.> |
| | 4. Replace the keyless entry control module. | <Ref. to SL-48, Keyless Entry Control Module.> |

## 2. CHECK TRANSMITTER BATTERY AND FUNCTION S909345A1002

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK TRANSMITTER BATTERY.**<br>1) Remove the battery from the transmitter. <Ref. to SL-49, REMOVAL, Keyless Transmitter.><br>2) Check the battery voltage. <Ref. to SL-49, INSPECTION, Keyless Transmitter.> | Is the voltage more than 2 V? | Go to step **2**. | Replace the transmitter battery. |
| 2 | **CHECK LED OF TRANSMITTER.**<br>1) Press the LOCK/ARM or UNLOCK/DISARM button six times to synchronize with the keyless entry control module.<br>2) Press the LOCK/ARM button. | Does the LED blink once? | Go to step **3**. | Replace the transmitter. <Ref. to SL-49, REPLACEMENT, Keyless Transmitter.> |
| 3 | **CHECK LED OF TRANSMITTER.**<br>Keep the LOCK/ARM button pressed. | Does the LED blink once and then turn on? | Go to step **4**. | Replace the transmitter. <Ref. to SL-49, REPLACEMENT, Keyless Transmitter.> |
| 4 | **CHECK LED OF TRANSMITTER.**<br>Press the UNLOCK/DISARM button. | Does the LED blink once? | Go to step **5**. | Replace the transmitter. <Ref. to SL-49, REPLACEMENT, Keyless Transmitter.> |
| 5 | **CHECK LED OF TRANSMITTER.**<br>Keep the UNLOCK/DISARM button pressed. | Does the LED blink two times? | The transmitter is OK. | Replace the transmitter. <Ref. to SL-49, REPLACEMENT, Keyless Transmitter.> |

## 3. CHECK HORN CHIRP SETTING S909345A1003

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK HORN CHIRP SETTING.**<br>Check the current setting of the horn chirp.<br>1) Remove the key from the ignition switch.<br>2) Close all doors and the rear gate or trunk lid.<br>3) Press the LOCK/ARM button. | Does the horn signal chirp? | The horn chirp function is OK. | Go to step **2**. |
| 2 | **CHECK HORN CHIRP SETTING.**<br>1) Press the UNLOCK/DISARM button once.<br>2) Press both the LOCK/ARM and UNLOCK/DISARM button for more than 2 seconds.<br>3) Press the LOCK/ARM or UNLOCK/DISARM button. | Does the horn signal chirp? | The horn chirp function is OK. | Check the transmitter function. <Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |

## 4. CHECK FUSE S909345A1004

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>Remove and visually check fuse No. 3 (in the fuse and relay box) and SBF-6 (in the main fuse box) | Is the fuse blown? (15 A and 30 A) | Replace the fuse with a new one. | Check power supply and ground circuit. <Ref. to SL-16, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry System.> |

## 5. CHECK POWER SUPPLY AND GROUND CIRCUIT S909345A1005

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY.**<br>1) Disconnect the keyless entry control module harness connector.<br>2) Measure the voltage between the harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B176) No. 3 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Check the harness for open circuits or shorts between the keyless entry control module and fuse. |
| 2 | **CHECK GROUND CIRCUIT.**<br>Measure the resistance between the harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B176) No. 8 (+) — Chassis ground (–):*** | Is the resistance less than 10 Ω? | The power supply and ground circuit are OK. | Repair the harness. |

## 6. CHECK IGNITION SWITCH CIRCUIT

S909345A1006

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK IGNITION SWITCH SIGNAL.**<br>1) Disconnect the keyless entry control module harness connector.<br>2) Turn the ignition switch ON.<br>3) Measure the voltage between the harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B176) No. 14 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | The ignition switch circuit is OK. | Check the harness for open circuits or shorts between the keyless entry control module and ignition relay. |

## 7. CHECK DOOR SWITCH S909345A1007

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DOOR SWITCH CIRCUIT.**<br>Measure the voltage between the keyless entry control module harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***Front and rear door:***<br>***(B176) No. 7 (+) — Chassis ground (–):***<br>***Rear gate or trunk lid:***<br>***(B176) No. 6 (+) — Chassis ground (–):*** | Is the voltage 0 V when each door, rear gate and trunk lid is open? | Go to step **2**. | Go to step **3**. |

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK DOOR SWITCH CIRCUIT.**<br>Measure the voltage between the keyless entry control module harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***Front and rear door:***<br>***(B176) No. 7 (+) — Chassis ground (–):***<br>***Rear gate or trunk lid:***<br>***(B176) No. 6 (+) — Chassis ground (–):*** | Is the voltage approx. 10 V when each door, rear gate and trunk lid is closed? | The door switch is OK. | Go to step **3**. |
| 3 | **CHECK DOOR SWITCH.**<br>1) Disconnect the door switch harness connector.<br>2) Measure the resistance between the door switch terminals.<br>***Terminal***<br>***Front LH No. 1 — No. 3:***<br>***Front RH No. 1 — No. 3:***<br>***Rear LH No. 1 — No. 3:***<br>***Rear RH No. 1 — No. 3:***<br>***Rear gate No. 1 — No. 2:***<br>***Trunk lid No. 1 — No. 2:*** | Is the resistance more than 1 MΩ when the door switch is pushed? | Go to step **4**. | Replace the door switch. |
| 4 | **CHECK DOOR SWITCH.**<br>Measure the resistance between the door switch terminals.<br>***Terminal***<br>***Front LH No. 1 — No. 3:***<br>***Front RH No. 1 — No. 3:***<br>***Rear LH No. 1 — No. 3:***<br>***Rear RH No. 1 — No. 3:***<br>***Rear gate No. 1 — No. 2:***<br>***Trunk lid No. 1 — No. 2:*** | Is the resistance less than 1 Ω when the door switch is released? | Check the harness for open circuits or shorts between the keyless entry control module and door switch. | Replace the door switch. |

## 8. CHECK KEY WARNING SWITCH S909345A1008

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>Remove and visually check fuse No. 6 (in the main fuse box). | Is the fuse blown? (15A) | Replace the fuse with a new one. | Go to step **2**. |
| 2 | **CHECK KEY WARNING SWITCH CIRCUIT.**<br>1) Disconnect the keyless entry control module harness connector.<br>2) Insert the key into the ignition switch. (LOCK position)<br>3) Measure the voltage between the harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B176) No. 16 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | Go to step **4**. |
| 3 | **CHECK KEY WARNING SWITCH CIRCUIT.**<br>1) Remove the key from the ignition switch.<br>2) Measure the voltage between the harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B176) No. 16 (+) — Chassis ground (–):*** | Is the voltage 0 V? | The key warning switch is OK. | Go to step **4**. |

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 4 | **CHECK KEY WARNING SWITCH.**<br>1) Disconnect the key warning switch harness connector.<br>2) Insert the key into the ignition switch. (LOCK position)<br>3) Measure the resistance between the key warning switch terminals.<br>***Terminal***<br>***No. 1 — No. 2:*** | Is the resistance less than 1 Ω? | Go to step **5**. | Replace key warning switch. |
| 5 | **CHECK KEY WARNING SWITCH.**<br>1) Remove the key from the ignition switch.<br>2) Measure the resistance between the key warning switch terminals.<br>***Terminal***<br>***No. 1 — No. 2:*** | Is the resistance more than 1 MΩ? | **Check the following:**<br>• Harness for open circuits or shorts between the key warning switch and fuse<br>• Harness for open circuits or shorts between the keyless entry control module and key warning switch | Replace key warning switch. |

## 9. CHECK HORN OPERATION S909345A1009

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK HORN OPERATION.**<br>Make sure the horn sounds when the horn switch is pushed. | Does the horn sound? | Go to step **2**. | Check the horn circuit. |
| 2 | **CHECK HORN OPERATION.**<br>1) Disconnect the keyless entry control module harness connector.<br>2) Ground the harness connector terminal with a suitable wire.<br>***Connector & terminal***<br>***(B176) No. 12 — Chassis ground:*** | Does the horn sound? | Replace the keyless entry control module. | Check the harness for open circuits or shorts between the keyless entry control module and horn relay. |

## 10. CHECK ROOM LIGHT OPERATION

S909345A1010

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ROOM LIGHT OPERATION.**<br>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 KEYLESS ENTRY CONTROL MODULE.**<br>1) Disconnect the keyless entry control module harness connector and room light harness connector.<br>2) Measure the resistance between the keyless entry control module harness connector terminal and the room light harness connector terminal.<br>***Connector & terminal***<br>***(B176) No. 4 — (R52) No. 2:*** | Is resistance less than 10 Ω? | The room light operation circuit is OK. | Check the harness for open circuits or shorts between the keyless entry control module and room light. |

## 11. CHECK IGNITION SWITCH ILLUMINATION CIRCUIT S909345A1014

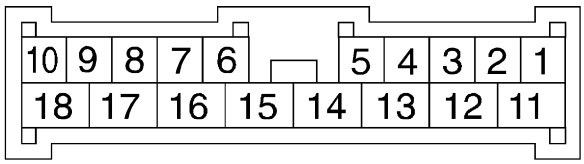
| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK IGNITION SWITCH ILLUMINATION POWER SUPPLY.**<br>1) Disconnect the ignition switch illumination harness connector.<br>2) Measure voltage between the ignition switch illumination harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B224) No. 2 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Check harness for open circuit or shorts between the ignition switch illumination and fuse. |
| 2 | **CHECK HARNESS BETWEEN IGNITION SWITCH ILLUMINATION AND KEYLESS ENTRY CONTROL MODULE.**<br>1) Disconnect the keyless entry control module harness connector.<br>2) Measure the resistance between the keyless entry harness connector terminal and the ignition switch illumination harness connector.<br>***Connector & terminal***<br>***(B176) No. 4 — (B224) No. 1:*** | Is the resistance less than 10 Ω? | Check the ignition switch illumination. If NG, replace the ignition switch illumination. | Repair the harness. |

# 4. Security System S909347

## A: SCHEMATIC S909347A21

<Ref. to WI-148, SCHEMATIC, Security System.>

## B: ELECTRICAL SPECIFICATION S909347A08




B6M0972

| Content | Terminal No. | Measuring condition |
|---|---|---|
| Empty | 1 | — |
| Ignition switch (ON) | 2 (INPUT) | Battery voltage is present when ignition switch is turned ON. |
| Passive arm | 3 | — |
| Trunk room light switch (Sedan), rear gate latch switch (Wagon) | 4 (INPUT) | 0 V is present when trunk room light switch or rear gate latch switch is turned ON. |
| Door switch | 5 (INPUT) | 0 V is present when any door is open. |
| Empty | 6 | — |
| Keyless entry control module | 7 | — |
| Keyless entry control module | 8 | — |
| Security indicator light | 9 (OUTPUT) | 0 V is present when activating the alarm operation. |
| Keyless entry control module | 10 | — |
| Power supply for clearance light (Back-up) | 11 | Battery voltage is constantly present. |
| Clearance light | 12 (OUTPUT) | Battery voltage is present when activating the alarm operation. |
| Power supply (Back-up) | 13 | Battery voltage is constantly present. |
| Ground | 14 | 0 V is constantly present. |
| Interrupt relay | 15 (OUTPUT) | Battery voltage is present when activating the alarm operation. |
| Security horn relay | 16 (INPUT) | Battery voltage is present when activating the alarm operation. |
| Security horn | 17 (OUTPUT) | Battery voltage is present when activating the alarm operation. |
| Security horn relay | 18 (INPUT) | Battery voltage is present when activating the alarm operation. |

# C: INSPECTION S909347A10

## 1. BASIC DIAGNOSTIC PROCEDURE

S909347A1001

NOTE:
Before starting diagnosis, check if the system is in valet mode. In valet mode, the security system does not operate. If the system in valet mode, the security indicator light blinks twice repeatedly. To exit valet mode, open driver's door and keep UNLOCK/DISARM button pressed for more than 2 seconds. The security indicator light will stop blinking and the system exits valet mode.

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SECURITY SYSTEM SET OPERATION.**<br>1) Before starting this diagnosis, open all windows.<br>2) Remove key from ignition key cylinder, and then close all doors and rear gate or trunk lid.<br>3) Press LOCK/ARM button of transmitter. | Can security system be set? | Go to step **2**. | Go to symptom 1. <Ref. to SL-22, SYMPTOM CHART, INSPECTION, Security System.> |
| 2 | **CHECK SECURITY INDICATOR LIGHT AND CLEARANCE LIGHT BLINKING.**<br>Check security indicator light and clearance light blinking. | Do security indicator light and clearance light blink? | Go to step **3**. | Go to symptom 2. <Ref. to SL-22, SYMPTOM CHART, INSPECTION, Security System.> |
| 3 | **CHECK SECURITY ALARM OPERATION.**<br>1) Unlock all doors using door lock switch on front door.<br>2) Open any door, rear gate or trunk lid. | Does security system not alarm when one of the doors is open? | Go to symptom 3. <Ref. to SL-22, SYMPTOM CHART, INSPECTION, Security System.> | Go to step **4**. |
| 4 | **CHECK SECURITY ALARM OPERATION.**<br>Check security alarm operation. | Does security alarm (horn, clearance light and security indicator light) operate? And is starter motor deactivated? | Go to step **5**. | Go to symptom 4. <Ref. to SL-22, SYMPTOM CHART, INSPECTION, Security System.> |
| 5 | **CHECK SECURITY ALARM CANCEL OPERATION.**<br>Press UNLOCK/DISARM button of transmitter. | Does security alarm (horn and clearance light) stop? And is starter motor activated? | Go to step **6**. | Go to symptom 5. <Ref. to SL-22, SYMPTOM CHART, INSPECTION, Security System.> |
| 6 | **CHECK BATTERY DISCONNECT PROTECTION.**<br>Check battery disconnect protection. <Ref. to SL-21, CHECK BATTERY DISCONNECT PROTECTION, INSPECTION, Security System.> | Is battery disconnect protection OK? | Go to step **7**. | Replace security control module. |
| 7 | **PERFORM IMPACT SENSITIVITY TEST.**<br>Perform impact sensitivity test. <Ref. to SL-44, IMPACT SENSITIVITY TEST, INSPECTION, Security Control Module.> | Is impact sensitivity OK? | Press UNLOCK/DISARM button of transmitter, and finish the diagnosis. | Replace security control module. |

## 2. CHECK BATTERY DISCONNECT PROTECTION S909347A1002

1) Remove the key from the ignition switch.
2) Close all the doors and rear gate or trunk lid.
3) Open the front hood.
4) Press the LOCK/ARM button of the transmitter.
5) Disconnect the ground cable from the battery.
6) Reconnect the cable to the battery.
7) Check that the security indicator light blinks after reconnecting the battery cable.

If NG, replace the security control module.

## 3. SYMPTOM CHART S909347A1004

| Symptom | | | Repair order | Reference |
|---|---|---|---|---|
| 1 | Security system cannot be set. | | 1. Check the transmitter function. | <Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | | | 2. Check the fuse. | <Ref. to SL-23, CHECK FUSE, INSPECTION, Security System.> |
| | | | 3. Check the security control module power supply and ground circuit. | <Ref. to SL-23, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Security System.> |
| | | | 4. Check the door switch. | <Ref. to SL-23, CHECK DOOR SWITCH, INSPECTION, Security System.> |
| | | | 5. Replace the security control module. | <Ref. to SL-44, Security Control Module.> |
| 2 | Security system can be set, but the security indicator light or clearance light does not blink. | Security indicator light | Check the security indicator light circuit. | <Ref. to SL-24, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Security System.> |
| | | Clearance light | Check the clearance light operation. | <Ref. to SL-25, CHECK CLEARANCE LIGHT OPERATION, INSPECTION, Security System.> |
| 3 | Security system does not alarm when one of the door is opened. | | Check the door switch. | <Ref. to SL-23, CHECK DOOR SWITCH, INSPECTION, Security System.> |
| 4 | Security alarm does not activate. | All functions | Check the door switch. | <Ref. to SL-23, CHECK DOOR SWITCH, INSPECTION, Security System.> |
| | | Security indicator light | Check the security indicator light circuit. | <Ref. to SL-24, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Security System.> |
| | | Security horn | Check the security horn. | <Ref. to SL-24, CHECK SECURITY HORN, INSPECTION, Security System.> |
| | | Clearance light | Check the clearance light operation. | <Ref. to SL-25, CHECK CLEARANCE LIGHT OPERATION, INSPECTION, Security System.> |
| | | Starter motor deactivation | Check the interrupt relay circuit. | <Ref. to SL-26, CHECK INTERRUPT RELAY CIRCUIT, INSPECTION, Security System.> |
| 5 | Security system cannot be canceled. | Transmitter | Check the transmitter function. | <Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | | Ignition switch | Check the ignition switch circuit. | <Ref. to SL-26, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Security System.> |

## 4. CHECK FUSE S909347A1005

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>Remove and visually check fuse No. 2 and 7 (in main fuse box). | Is the fuse blown? (15 A and 20 A) | Replace the fuse with a new one. | Check power supply and ground circuit. <Ref. to SL-23, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Security System.> |

## 5. CHECK POWER SUPPLY AND GROUND CIRCUIT S909347A1006

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY.**<br>1) Disconnect the security control module harness connector.<br>2) Measure the voltage between the harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B93) No. 11 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Check the harness for open circuits or shorts between the security control module and fuse. |
| 2 | **CHECK POWER SUPPLY.**<br>1) Disconnect the security control module harness connector.<br>2) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B93) No. 13 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | Check the harness for open circuits or shorts between the security control module and fuse. |
| 3 | **CHECK GROUND CIRCUIT.**<br>Measure the resistance between the harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B93) No. 14 (+) — Chassis ground (–):*** | Is the resistance less than 10 Ω? | The power supply and ground circuit are OK. | Repair the harness. |

## 6. CHECK DOOR SWITCH S909347A1007

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DOOR SWITCH CIRCUIT.**<br>Measure the voltage between the security control module harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***Front and rear door:***<br>***(B93) No. 5 (+) — Chassis ground (–):***<br>***Rear gate or trunk lid:***<br>***(B93) No. 4 (+) — Chassis ground (–):*** | Is voltage 0 V when each door, rear gate or trunk lid is open? | Go to step **2**. | Go to step **3**. |
| 2 | **CHECK DOOR SWITCH CIRCUIT.**<br>Measure voltage between security control module harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***Front and rear door:***<br>***(B93) No. 5 (+) — Chassis ground (–):***<br>***Rear gate or trunk lid:***<br>***(B93) No. 4 (+) — Chassis ground (–):*** | Is the voltage approx. 10 V when each door, rear gate or trunk lid is closed? | Door switch is OK. | Go to step **3**. |

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 3 | **CHECK DOOR SWITCH.**<br>1) Disconnect door switch harness connector.<br>2) Measure the resistance between door switch terminals.<br>***Terminal***<br>***Front LH No. 1 — No. 3:***<br>***Front RH No. 1 — No. 3:***<br>***Rear LH No. 1 — No. 3:***<br>***Rear RH No. 1 — No. 3:***<br>***Rear gate No. 1 — No. 2:***<br>***Trunk lid No. 1 — No. 2:*** | Is the resistance more than 1 MΩ when the door switch is pushed? | Go to step **4**. | Replace the door switch. |
| 4 | **CHECK DOOR SWITCH.**<br>Measure the resistance between the door switch terminals.<br>***Terminal***<br>***Front LH No. 1 — No. 3:***<br>***Front RH No. 1 — No. 3:***<br>***Rear LH No. 1 — No. 3:***<br>***Rear RH No. 1 — No. 3:***<br>***Rear gate No. 1 — No. 2:***<br>***Trunk lid No. 1 — No. 2:*** | Is the resistance less than 1 Ω when the door switch is released? | Check the harness for open circuits or shorts between the security control module and door switch. | Replace the door switch. |

## 7. CHECK SECURITY INDICATOR LIGHT CIRCUIT *S909347A1008*

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SECURITY INDICATOR LIGHT.**<br>1) Disconnect the security control module harness connector.<br>2) Ground the harness connector terminal with a suitable wire.<br>***Connector & terminal***<br>***(B93) No. 9 — Chassis ground:*** | Does the security indicator light illuminate? | Replace the security control module. | Go to step **2**. |
| 2 | **CHECK POWER SUPPLY FOR SECURITY INDICATOR LIGHT.**<br>1) Disconnect the connector from the combination meter.<br>2) Measure the voltage between the combination meter harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(i12) No. 7 (+) — Chassis ground (–):*** | Is voltage more than 10 V? | Go to step **3**. | Check the harness for open circuits or shorts between the combination meter and the fuse. |
| 3 | **CHECK SECURITY INDICATOR LIGHT CIRCUIT.**<br>Measure the resistance between the combination meter harness connector terminal and security control module harness connector terminal.<br>***Connector & terminal***<br>***(i12) No. 1 — (B93) No. 9:*** | Is resistance less than 10 Ω? | Replace the combination meter printed circuit. | Check the harness for open circuits or shorts between the combination meter and security control module. |

## 8. CHECK SECURITY HORN *S909347A1009*

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SECURITY HORN RELAY.**<br>Remove and check the security horn relay.<br><Ref. to SL-46, Security Horn Relay.> | Is the security horn relay OK? | Go to step **2**. | Replace the security horn relay. |

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK POWER SUPPLY FOR SECURITY HORN RELAY.**<br>Measure the voltage between the security horn relay harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B243) No. 1 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | Check the harness for open circuits or shorts between the security horn relay and horn relay. |
| 3 | **CHECK POWER SUPPLY FOR SECURITY HORN RELAY.**<br>Measure the voltage between the security horn relay harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B243) No. 2 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **4**. | Check the harness for open circuits or shorts between the security horn relay and the fuse. |
| 4 | **CHECK HARNESS BETWEEN SECURITY HORN RELAY AND SECURITY CONTROL MODULE.**<br>1) Disconnect the security control module harness connector.<br>2) Measure the resistance between the security horn relay harness connector terminal and security control module harness connector terminal.<br>***Connector & terminal***<br>***(B243) No. 3 — (B93) No. 18:*** | Is the resistance less than 10 Ω? | Go to step **5**. | Check the harness for open circuits or shorts between the security horn relay and security control module. |
| 5 | **CHECK HARNESS BETWEEN SECURITY HORN RELAY AND SECURITY CONTROL MODULE.**<br>Measure the resistance between the security horn relay harness connector terminal and security control module harness connector terminal.<br>***Connector & terminal***<br>***(B243) No. 4 — (B93) No. 16:*** | Is the resistance less than 10 Ω? | Go to step **6**. | Check the harness for open circuits or shorts between the security horn relay and security control module. |
| 6 | **CHECK HARNESS BETWEEN SECURITY CONTROL MODULE AND SECURITY HORN.**<br>1) Disconnect the security horn harness connector.<br>2) Measure the resistance between the security control module harness connector terminal and security horn harness connector terminal.<br>***Connector & terminal***<br>***(B93) No. 17 — (B204) No. 1:*** | Is the resistance less than 10 Ω? | Go to step **7**. | Check the harness for open circuits or shorts between the security control module and security horn. |
| 7 | **CHECK SECURITY HORN.**<br>Remove and check the security horn. <Ref. to SL-45, Security Horn.> | Is the security horn OK? | Replace the security control module. | Replace the security horn. |

## 9. CHECK CLEARANCE LIGHT OPERATION *S909347A1010*

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK CLEARANCE LIGHT OPERATION.**<br>Turn the parking switch ON and check if the clearance light illuminates. | Does the clearance light illuminate? | Go to step **2**. | Check the clearance light circuit. |

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK POWER SUPPLY FOR SECURITY CONTROL MODULE.**<br>1) Turn the parking switch OFF.<br>2) Disconnect the security control module harness connector.<br>3) Measure the voltage between the security control module harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B93) No. 11 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | Check the harness for open circuits or shorts between the security control module and the fuse. |
| 3 | **CHECK HARNESS BETWEEN SECURITY CONTROL MODULE AND FUSE BOX.**<br>1) Disconnect the fuse box harness connector (B152).<br>2) Measure the resistance between the security control module harness connector terminal and fuse box harness connector terminal.<br>***Connector & terminal***<br>***(B93) No. 12 — (B152) No. 11:*** | Is the resistance less than 10 Ω? | Replace the security control module. | Check the harness for open circuits or shorts between the security control module and the fuse. |

## 10. CHECK INTERRUPT RELAY CIRCUIT

*S909347A1011*

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK INTERRUPT RELAY.**<br>Remove and check the interrupt relay. <Ref. to SL-47, Interrupt Relay.> | Is the interrupt relay OK? | Go to step **2**. | Replace the interrupt relay. |
| 2 | **CHECK POWER SUPPLY FOR INTERRUPT RELAY.**<br>Measure the voltage between the interrupt relay harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B59) No. 1 (+) — Chassis ground (–):*** | Is the voltage more than 10 V when the ignition switch is turned to START? | Go to step **3**. | Check the harness for open circuits or shorts between the interrupt relay and ignition switch. |
| 3 | **CHECK HARNESS BETWEEN INTERRUPT RELAY AND SECURITY CONTROL MODULE.**<br>Measure the resistance between the interrupt relay harness connector terminal and security control module harness connector terminal.<br>***Connector & terminal***<br>***(B59) No. 4 — (B93) No. 15:*** | Is the resistance less than 10 Ω? | Replace the security control module. | Check the harness for open circuits or shorts between the interrupt relay and security control module. |

## 11. CHECK IGNITION SWITCH CIRCUIT

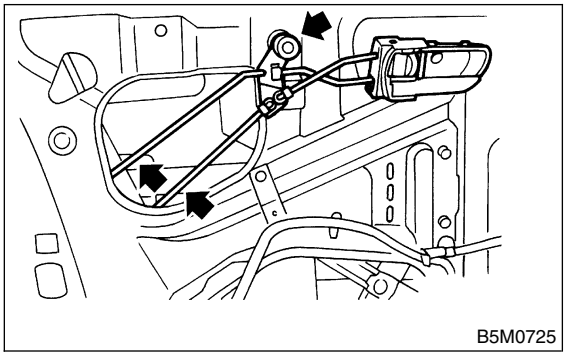
*S909347A1012*

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK IGNITION SWITCH SIGNAL.**<br>1) Disconnect the security control module harness connector.<br>2) Turn the ignition switch ON.<br>3) Measure the voltage between the harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B93) No. 2 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Ignition switch circuit is OK. | Check the harness for open circuits or shorts between the security control module and ignition relay. |

# 5. Front Inner Remote S909344

## A: REMOVAL S909344A18

1) Remove the door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
2) Remove the sealing cover. <Ref. to EB-13, REMOVAL, Front Sealing Cover.>
3) Remove the two rod joints.
4) Remove the front inner remote.




## B: INSTALLATION S909344A11

Install in the reverse order of removal.

NOTE:
Make sure the inner remote works properly after installation.

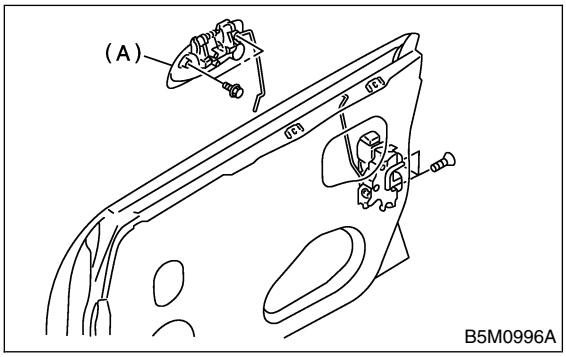
## C: INSPECTION S909344A10

1) Make sure the rod is not deformed.
2) Make sure the lever and rod work smoothly.

# 6. Front Outer Handle S909349

## A: REMOVAL S909349A18

1) Remove the door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
2) Remove the sealing cover. <Ref. to EB-13, REMOVAL, Front Sealing Cover.>
3) Remove the front door latch assembly. <Ref. to SL-29, REMOVAL, Front Door Latch Assembly.>
4) Remove the two rod joints.
5) Remove the two bolts. Remove the front outer handle (A).




**CAUTION:**
**Do not use excessive force to remove the door panel. This will deform it.**

## B: INSTALLATION S909349A11

Install in the reverse order of removal.

NOTE:
Make sure the outer handle works properly after installation.

## C: INSPECTION S909349A10

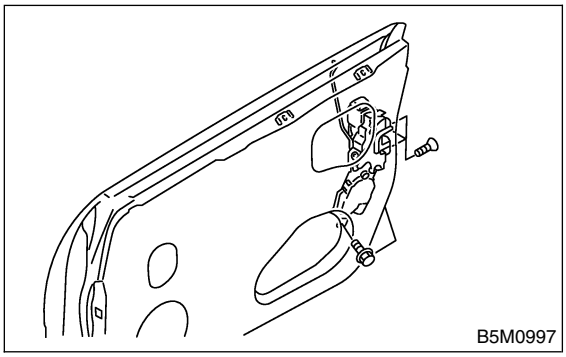
1) Make sure the rod is not deformed.
2) Make sure the lever and rod work smoothly.

# 7. Front Door Latch Assembly

S909334

## A: REMOVAL S909334A18

1) Disconnect ground cable from battery.
2) Remove the front door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
3) Remove the sealing cover. <Ref. to EB-13, REMOVAL, Front Sealing Cover.>
4) Remove the front inner remote. <Ref. to SL-27, REMOVAL, Front Inner Remote.>
5) Remove the three screws and bolt.




6) Disconnect the connector. Remove the front door latch assembly.

## B: INSTALLATION S909334A11

Install in the reverse order of removal.

NOTE:
Make sure the lock operates properly after installation.

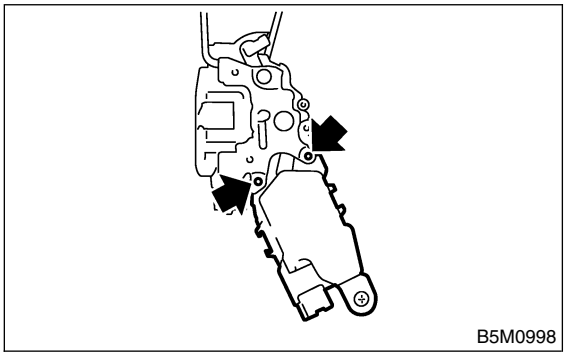
## C: INSPECTION S909334A10

1) Make sure the rod is not deformed.
2) Make sure the lever and rod work smoothly.

# 8. Front Door Lock Actuator S909319

## A: REMOVAL S909319A18

1) Remove the front door latch assembly. <Ref. to SL-29, REMOVAL, Front Door Latch Assembly.>
2) Remove the bolt. Remove the front door lock actuator.



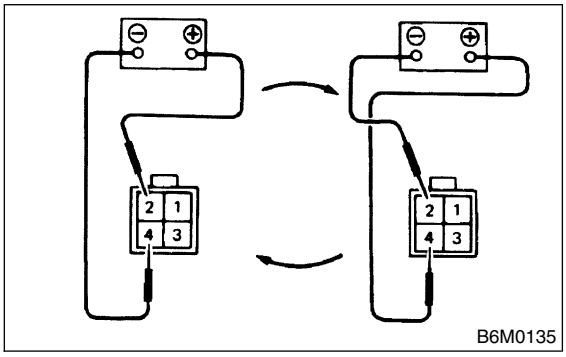

## B: INSTALLATION S909319A11

Install in the reverse order of removal.

NOTE:
Make sure the lock works properly after installation.

## C: INSPECTION S909319A10

1) Disconnect the door lock actuator harness connector.
2) Connect the battery to the door lock actuator terminals.



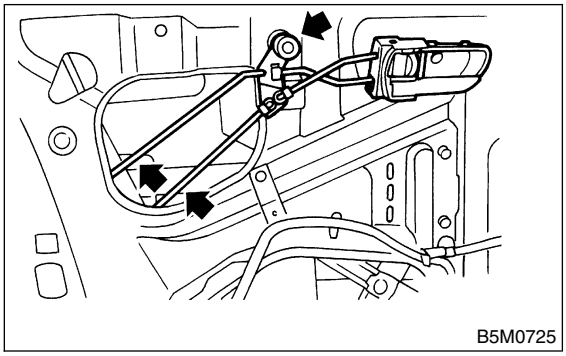

| Terminal No. | Actuator operation |
|---|---|
| No. 2 (+) and No. 4 (–) | Unlocked → Locked |
| No. 4 (+) and No. 2 (–) | Locked → Unlocked |

If NG, replace the door lock actuator.

# 9. Rear Inner Remote S909321

## A: REMOVAL S909321A18

1) Remove the rear door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
2) Remove the sealing cover. <Ref. to EB-16, REMOVAL, Rear Sealing Cover.>
3) Remove the two rod joints.
4) Remove the inner remote.




## B: INSTALLATION S909321A11

Install in the reverse order of removal.

NOTE:
Make sure the inner remote works properly after installation.

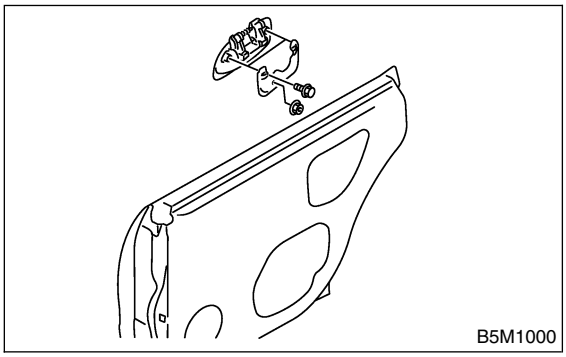
## C: INSPECTION S909321A10

1) Make sure the rod is not deformed.
2) Make sure the lever and rod work smoothly.

# 10. Rear Outer Handle S909322

## A: REMOVAL S909322A18

1) Remove the rear door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
2) Remove the sealing cover. <Ref. to EB-16, REMOVAL, Rear Sealing Cover.>
3) Remove the rear door latch assembly. <Ref. to SL-33, REMOVAL, Rear Door Latch Assembly.>
4) Remove the two bolts and nut. Remove the rear outer handle.




**CAUTION:**
**Do not use excessive force to remove the door panel. This will deform it.**

## B: INSTALLATION S909322A11

Install in the reverse order of removal.

NOTE:
Make sure the outer handle works properly after installation.

## C: INSPECTION S909322A10

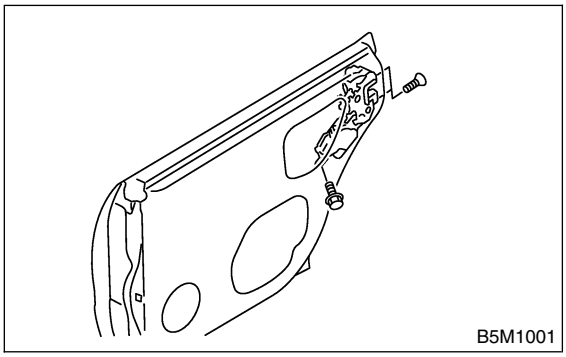
1) Make sure the rod is not deformed.
2) Make sure the lever and rod work smoothly.

# 11. Rear Door Latch Assembly

S909320

## A: REMOVAL S909320A18

1) Disconnect ground cable from battery.
2) Remove the rear door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
3) Remove the sealing cover. <Ref. to EB-16, REMOVAL, Rear Sealing Cover.>
4) Remove the rear inner remote. <Ref. to SL-31, REMOVAL, Rear Inner Remote.>
5) Remove the three screws and bolt.




6) Disconnect the connector. Remove the rear door latch assembly.

## B: INSTALLATION S909320A11

Install in the reverse order of removal.

NOTE:
Make sure the lock operates properly after installation.

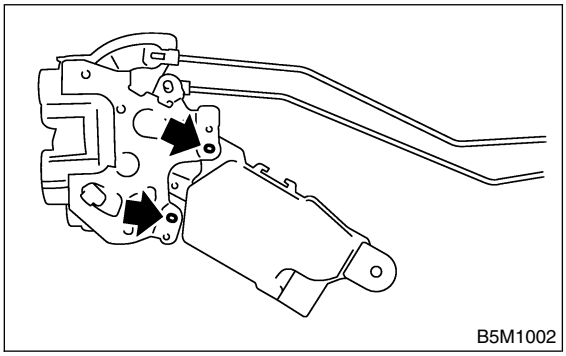
## C: INSPECTION S909320A10

1) Make sure the rod is not deformed.
2) Make sure the lever and rod work smoothly.
3) Make sure the child safety lock on the rear doors works properly.

# 12. Rear Door Lock Actuator S909323

## A: REMOVAL S909323A18

1) Remove the rear door latch assembly. <Ref. to SL-33, REMOVAL, Rear Door Latch Assembly.>
2) Remove the bolt. Remove the rear door lock actuator.



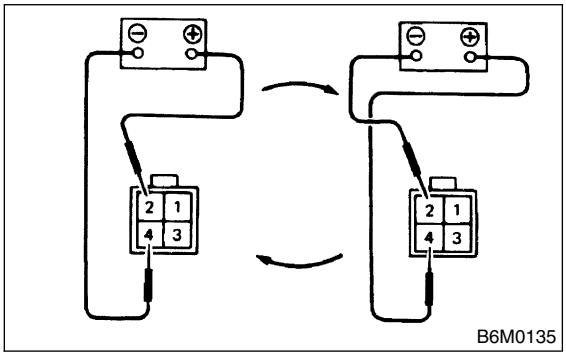

## B: INSTALLATION S909323A11

Install in the reverse order of removal.

NOTE:
Make sure the lock operates properly after installation.

## C: INSPECTION S909323A10

1) Disconnect the door lock actuator harness connector.
2) Connect the battery to the door lock actuator terminals.



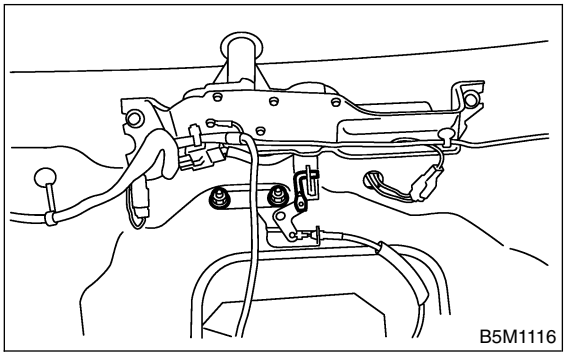

| Terminal No. | Actuator operation |
|---|---|
| No. 2 (+) and No. 4 (–) | Unlocked → Locked |
| No. 4 (+) and No. 2 (–) | Locked → Unlocked |

If NG, replace the door lock actuator.

# 13. Rear Gate Outer Handle S909626

## A: REMOVAL S909626A18

1) Remove the rear gate lower trim. <Ref. to EI-49, REMOVAL, Rear Gate Trim.>
2) Remove the rear gate latch rod.
3) Remove the nut holding the rear gate outer handle, and then remove the rear gate outer handle.




## B: INSTALLATION S909626A11

Install in the reverse order of removal.

NOTE:
Make sure the outer handle works properly after installation.

## C: INSPECTION S909626A10

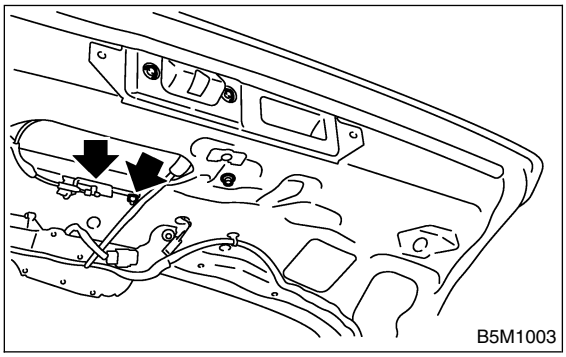
1) Inspect the rod for deformation.
2) Make sure the lever and rod move smoothly.

# 14. Rear Gate Latch Assembly

S909316

## A: REMOVAL S909316A18

1) Disconnect ground cable from battery.
2) Remove the rear gate lower trim. <Ref. to EI-49, REMOVAL, Rear Gate Trim.>
3) Remove the rear gate key cylinder rod.
4) Remove the nut holding the rear gate outer handle. Remove the stay.
5) Remove the three bolts.




6) Remove the two connectors and pull out the latch.

## B: INSTALLATION S909316A11

Install in the reverse order of removal.

NOTE:
Make sure the lock operates properly after installation.

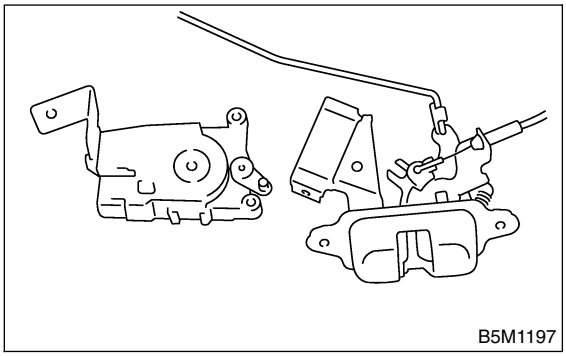
## C: INSPECTION S909316A10

1) Make sure the rod is not deformed.
2) Make sure the lever and rod work smoothly.

# 15. Rear Gate Latch Lock Actuator S909313

## A: REMOVAL S909313A18

1) Remove the rear gate latch assembly. <Ref. to SL-36, REMOVAL, Rear Gate Latch Assembly.>
2) Remove the rear gate lock actuator.



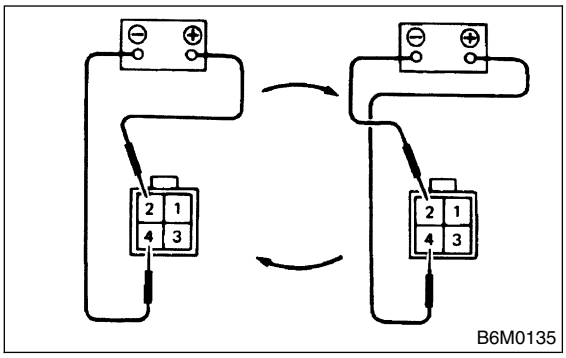

## B: INSTALLATION S909313A11

Install in the reverse order of removal.

NOTE:
Make sure the lock works properly after installation.

## C: INSPECTION S909313A10

1) Disconnect the door lock actuator harness connector.
2) Connect the battery to the door lock actuator terminals.




| Terminal No. | Actuator operation |
|---|---|
| No. 2 (+) and No. 4 (–) | Unlocked → Locked |
| No. 4 (+) and No. 2 (–) | Locked → Unlocked |

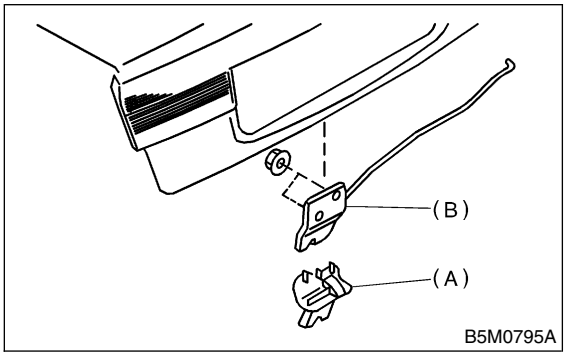
If NG, replace the rear gate latch lock actuator.

# 16. Trunk Lid Lock Assembly

S909314

## A: REMOVAL S909314A18

1) Remove the trunk lid key cylinder rod.
2) Remove the lock assembly cover (A).
3) Remove the nut while holding the lock assembly. Remove the lock assembly (B).




## B: INSTALLATION S909314A11

Install in the reverse order of removal.

NOTE:
- Apply grease to parts that rub.
- Make sure the lock operates properly after installation.

## C: INSPECTION S909314A10

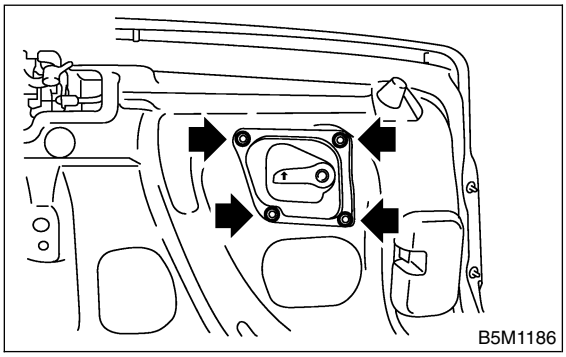
1) Check the striker for bending or abnormal wear.
2) Check the safety lever for improper movement.
3) Check other levers and the spring for rust formation and unsmooth movement.

# 17. Trunk Lid Release Handle

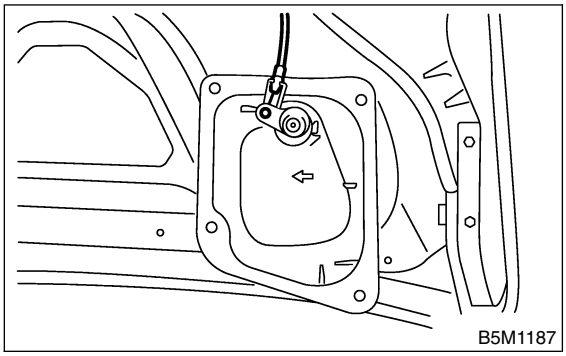
S909800

## A: REMOVAL S909800A18

1) Remove the four clips.




2) Remove the cable from trunk lid release handle.




## B: INSTALLATION S909800A11

Install in the reverse order of removal.

## C: INSPECTION S909800A10

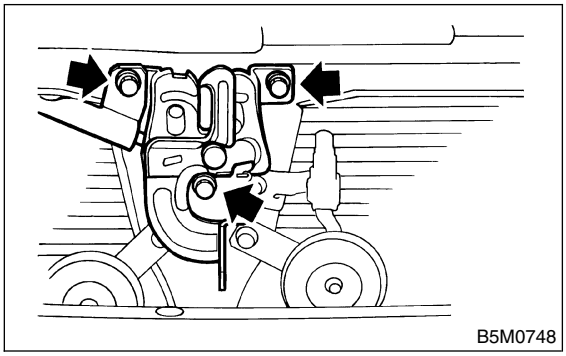
1) Make sure the cable is not deformed.
2) Make sure the lever works smoothly.

# 18. Front Hood Lock Assembly

S909595

## A: REMOVAL S909595A18

1) Open the hood.
2) Remove the bolt. Remove the hood lock assembly.
3) Remove the release cable from the lock assembly.



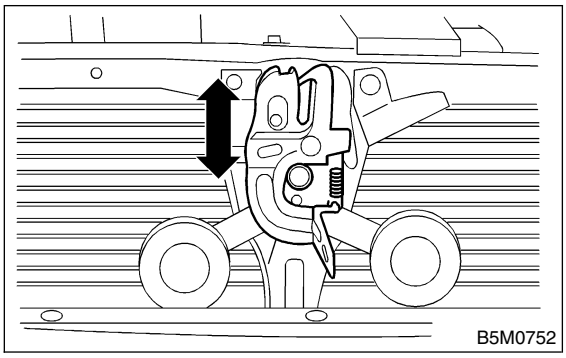

## B: INSTALLATION S909595A11

Install in the reverse order of removal.

NOTE:
- Apply grease to parts that rub.
- Make sure the release cable works properly after installation.

## C: ADJUSTMENT S909595A01

Loosen the bolt. Adjust the lock assembly while moving it up and down.




## D: INSPECTION S909595A10

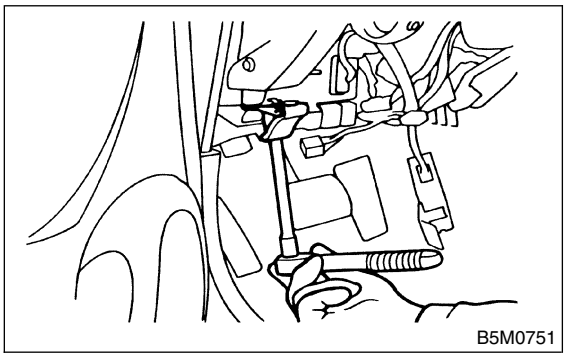
1) Check the striker for bending or abnormal wear.
2) Check the safety lever for improper movement.
3) Check other levers and the spring for rust formation and unsmooth movement.

# 19. Remote Openers S909317

## A: REMOVAL S909317A18

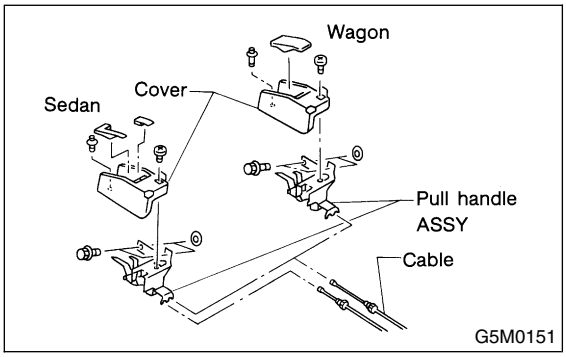
### 1. HOOD OPENER S909317A1801

1) Remove the release cable from the hood lock.
2) Remove the bolt. Remove the opener lever.

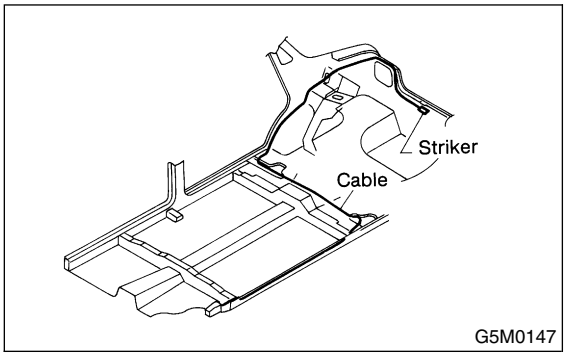



### 2. TRUNK LID OPENER S909317A1802

1) Remove the rear seat. <Ref. to SE-17, REMOVAL, Rear Seat.>
2) Remove the center pillar lower trim and side sill cover on the passenger side. Remove the rear pillar lower trim. Pull back the floor mat. Remove the clip holding the cable.
3) Remove the bolt. Remove the opener pull handle.

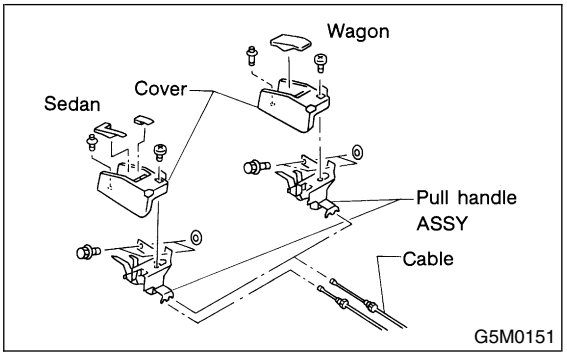



4) Remove the cable from the opener pull handle.
5) Remove the striker from the trunk lid.
6) Remove the cable from the striker.

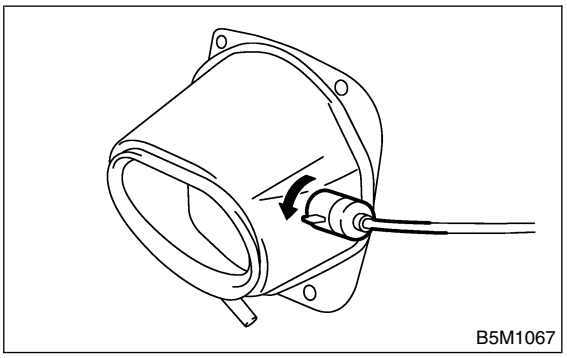



### 3. FUEL FLAP OPENER S909317A1803

1) Remove the rear seat. <Ref. to SE-17, REMOVAL, Rear Seat.>
2) Remove the center pillar lower trim and side sill cover on the passenger side. Remove the rear pillar lower trim. Pull back the floor mat. Remove the clip holding the cable.
3) Remove the bolt. Remove the opener pull handle.




4) Remove the cable from the opener pull handle.
5) Remove the right rear quarter trim. <Ref. to EI-44, REMOVAL, Rear Quarter Trim.>
6) Rotate the fuel lock inside the quarter panel to left and remove.




## B: INSTALLATION S909317A11

### 1. HOOD OPENER S909317A1101

Install in the reverse order of removal.

### 2. TRUNK LID OPENER S909317A1102

Install in the reverse order of removal.

### 3. FUEL FLAP OPENER S909317A1103

Install in the reverse order of removal.

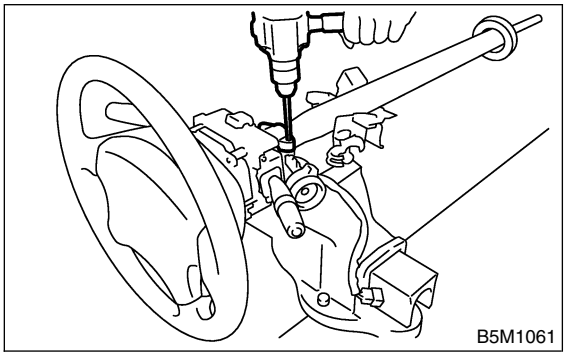
## C: INSPECTION S909317A10

Make sure the fuel flap opens and closes smoothly.

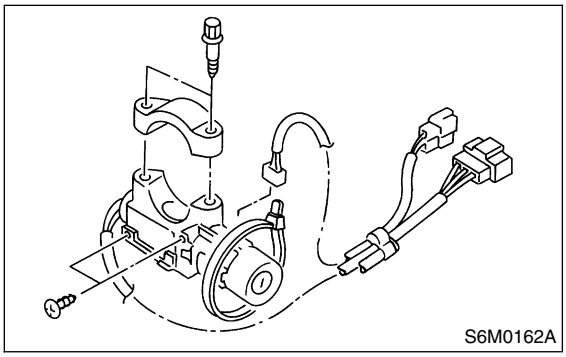
# 20. Ignition Key Lock S909318

## A: REPLACEMENT S909318A20

1) Remove ground cable from battery.
2) Remove the steering column. <Ref. to PS-20, REMOVAL, Tilt Steering Column.>
3) Secure the steering column in a vise. Remove the bolt with a drill.




4) Remove the ignition key lock.
5) Use a new torn bolt. Tighten the torn bolt to the end of the thread.




## B: INSPECTION S909318A10

1) Remove the instrument panel lower cover.
2) Remove the lower column cover.
3) Unfasten the hold-down clip which secures the harness and disconnect the connector of the ignition switch from the body harness.
4) Turn the ignition key plate to each position and check the continuity between the terminals of the ignition connector.

| Switch position | Terminal No. | Standard |
|---|---|---|
| LOCK | — | — |
| ACC | No. 1 and No. 2 | Less than 1 Ω |
| ON | No. 1 and No. 2<br>No. 1 and No.4<br>No. 2 and No.4 | Less than 1 Ω |
| ST | No. 1 and No. 3<br>No. 1 and No. 4<br>No. 3 and No. 4 | Less than 1 Ω |

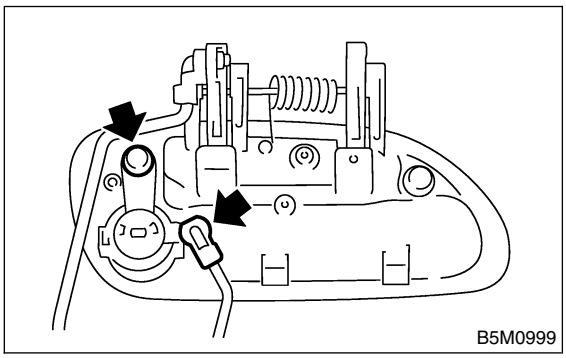
If NG, replace the ignition switch.

# 21. Key Lock Cylinders S909326

## A: REPLACEMENT S909326A20

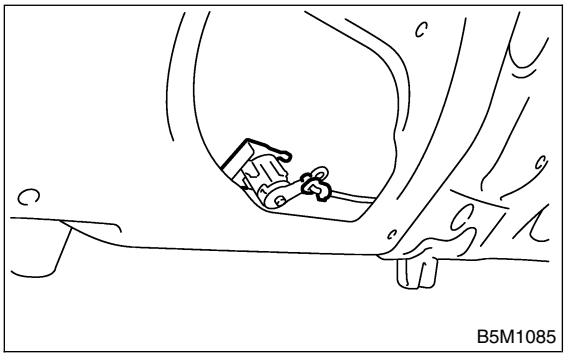
### 1. FRONT DOOR S909326A2001

1) Remove the door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
2) Pull back the sealing cover. <Ref. to EB-13, REMOVAL, Front Sealing Cover.>
3) Remove the rod clamp. Remove the bolt. Replace the key cylinder.


B5M0999

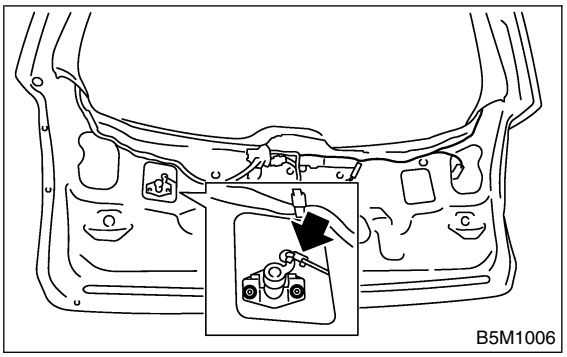
### 2. TRUNK LID S909326A2002

1) Remove the trunk trim. <Ref. to EI-51, REMOVAL, Trunk Trim.>
2) Remove the rod clamp. Remove the nut. Replace the key cylinder.


B5M1085

### 3. REAR GATE S909326A2003

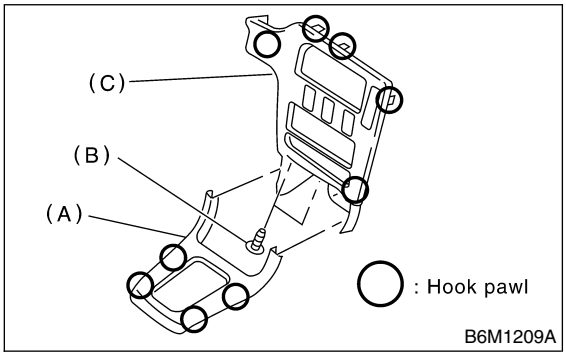
1) Remove the rear gate lower trim. <Ref. to EI-49, REMOVAL, Rear Gate Trim.>
2) Remove the rod clamp. Remove the nut. Replace the key cylinder.


B5M1006

# 22. Security Control Module S909330

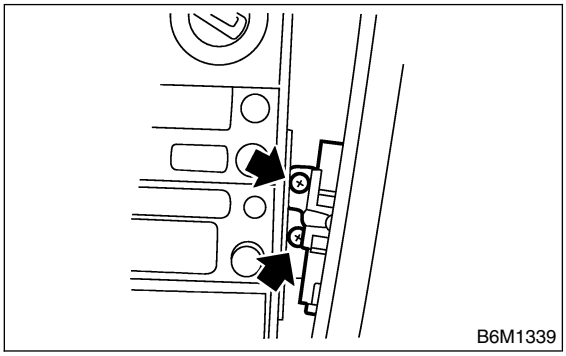
## A: REMOVAL S909330A18

1) Disconnect ground cable from battery.
2) Remove front cover (A).
3) Remove screws (B) and then detach center panel (C) while disconnecting connector.




4) Remove two screws.

NOTE:
Before removing the screw, apply a few turns of butyl tape to the tip of the service tool. This prevents the screw from falling during removal.




5) Remove radio and security control module together while disconnecting connector. <Ref. to ET-5, REMOVAL, Radio Body.>

## B: INSTALLATION S909330A11

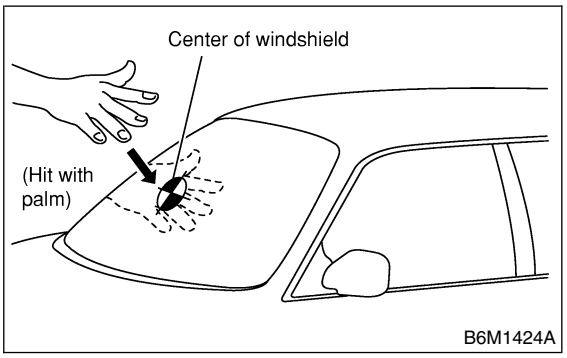
Install in the reverse order of removal.

NOTE:
Tighten bolts securely so that the bolts do not come loose.

## C: INSPECTION S909330A10

### 1. IMPACT SENSITIVITY TEST S909330A1001

1) Remove the key from the ignition switch.
2) Close all windows.
3) Close all doors and the rear gate or trunk lid.
4) Cover the hood with a blanket.
5) Press the LOCK/ARM button of the transmitter.
6) Confirm that the security indicator light blinks every 2 seconds.
7) Hit the center of the windshield with your palm and make sure the alarm operates.




If NG, adjust the impact sensitivity. <Ref. to SL-44, ADJUSTMENT, Security Control Module.>

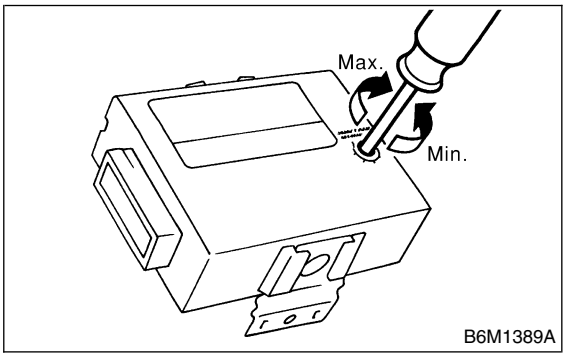
## D: ADJUSTMENT S909330A01

### 1. IMPACT SENSITIVITY S909330A0101

NOTE:
Before adjustment, make sure the security control module has been securely installed on the bracket.

1) Remove security control module. <Ref. to SL-44, REMOVAL, Security Control Module.>
2) Adjust the sensitivity adjusting screw in security control module.

NOTE:
After adjusting, be sure to plug the adjusting screw hole.

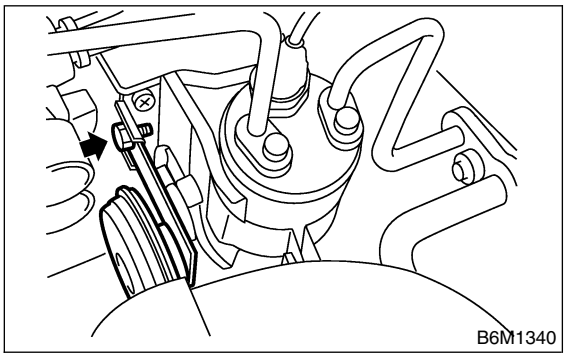



3) Install security control module.
4) Perform impact sensitivity test.

# 23. Security Horn S909333

## A: REMOVAL S909333A18

1) Disconnect ground cable from battery.
2) Remove bolt and then detach security horn while disconnecting connector.

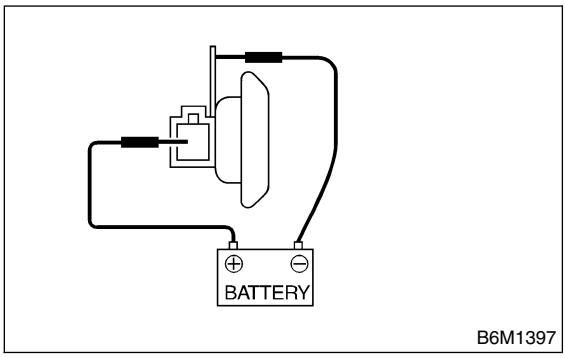



## B: INSTALLATION S909333A11

Install in the reverse order of removal.

## C: INSPECTION S909333A10

Connect the battery to the security horn terminal and case ground and make sure the horn sounds properly.

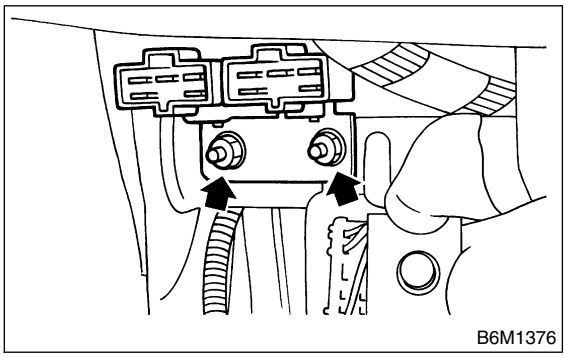



If NG, replace the security horn.

# 24. Security Horn Relay S909596

## A: REMOVAL S909596A18

1) Disconnect ground cable from battery.
2) Remove the mounting nuts and detach the security horn relay (near the fuse box).



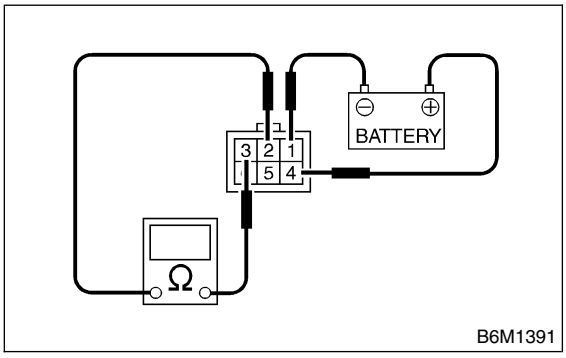

## B: INSTALLATION S909596A11

Install in the reverse order of removal.

## C: INSPECTION S909596A10

Measure the security horn relay resistance between terminals (indicated in the table below) while connecting terminal No. 4 to battery positive terminal and terminal No. 1 to battery ground terminal.

| Current | Terminal No. | Standard |
|---|---|---|
| Flow | 2 and 3 | Less than 1 Ω |
| No flow | | More than 1 MΩ |

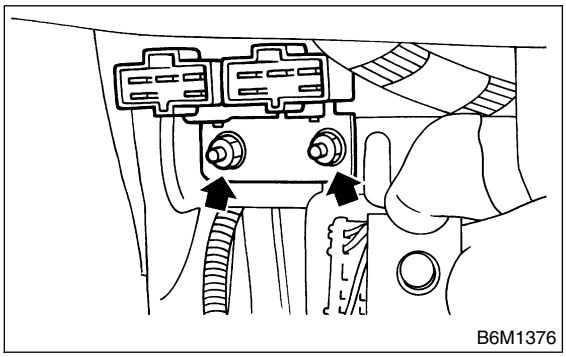



If NG, replace the security horn relay.

# 25. Interrupt Relay S909597

## A: REMOVAL S909597A18

1) Disconnect ground cable from battery.
2) Remove the mounting nuts and detach the interrupt relay (near the fuse box).



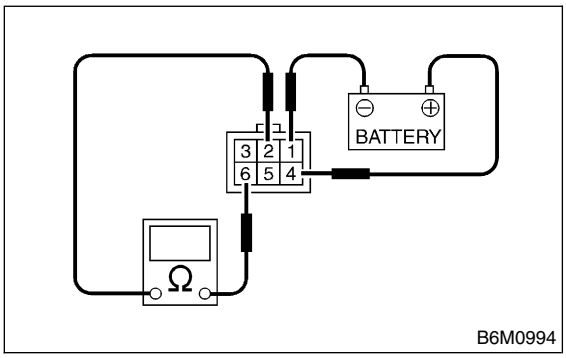

## B: INSTALLATION S909597A11

Install in the reverse order of removal.

## C: INSPECTION S909597A10

Measure the interrupt relay resistance between terminals (indicated in the table below) while connecting terminal No. 4 to battery positive terminal and terminal No. 1 to battery ground terminal.

| Current | Terminal No. | Standard |
|---|---|---|
| Flow | 2 and 6 | Less than 1 Ω |
| No flow | | More than 1 MΩ |

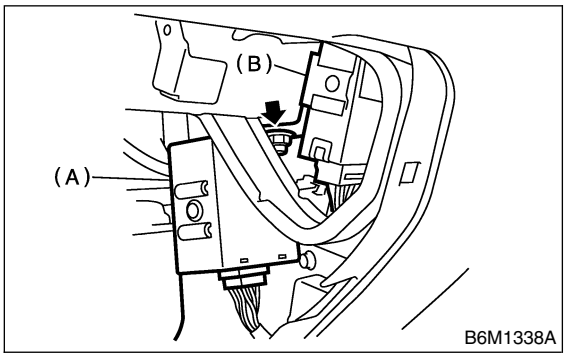



If NG, replace the interrupt relay.

# 26. Keyless Entry Control Module S909324

## A: REMOVAL S909324A18

1) Disconnect ground cable from battery.
2) Remove glove box. <Ref. to EI-34, REMOVAL, Glove Box.>
3) Remove nut, then remove keyless entry control module (B) and the other electrical control module (A) while disconnecting connector.




4) Disconnect keyless entry control module and the other electrical control module.

## B: INSTALLATION S909324A11

Install in the reverse order of removal.

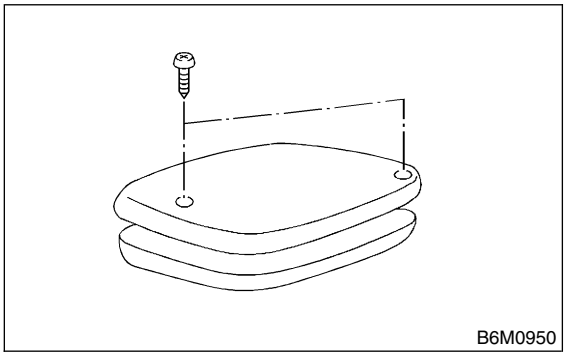
# 27. Keyless Transmitter S909325

## A: REMOVAL S909325A18

### 1. TRANSMITTER BATTERY S909325A1801

Remove battery from transmitter.

NOTE:
To prevent static electricity damage to transmitter printed circuit board, touch steel area of building with hand to discharge static electricity carried on body or clothes before disassembling transmitter.


B6M0950

## B: INSTALLATION S909325A11

### 1. TRANSMITTER BATTERY S909325A1101

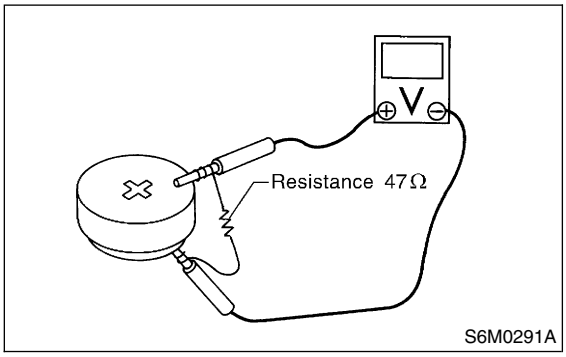
Install in the reverse order of removal.

## C: INSPECTION S909325A10

### 1. TRANSMITTER BATTERY S909325A1001

Measure voltage between battery (+) terminal and (–) terminal.

NOTE:
● Battery discharge occurs during measurement. Complete measurement within 5 seconds.
● During battery voltage measurement, voltage falls more than 1.8 volts in 3 seconds period.



S6M0291A

| Tester connection | | Standard |
|---|---|---|
| (+) | (–) | |
| Battery (+) terminal | Battery (–) terminal | More than 2 V |

If NG, replace the battery. (Use CR2032 or equivalent.)

## D: REPLACEMENT S909325A20

### 1. TRANSMITTER PROGRAMMING S909325A2001

NOTE:
Perform programming when the transmitter is replaced and when an additional transmitter is required.

NOTE:
Finish operation from step 1) through 4) within 45 seconds.

1) Sit on the driver's seat and close all doors, rear gate and trunk lid.
2) Open the driver's door.
3) Close the driver's door.
4) Turn the ignition switch from ON to LOCK ten times within 15 seconds.

NOTE:
Do not start the engine at this time.

5) The horn chirps once to indicate that the system has entered in the programming mode.
6) Open the driver's door.
7) Close the driver's door.
8) Press any button on the transmitter that you wish to program into the system.
9) Horn will chirp two times to indicate that the transmitter has been programmed.

NOTE:
Any additional transmitter can also be programmed at this time. Repeat steps 6) through 9) for an additional transmitter.

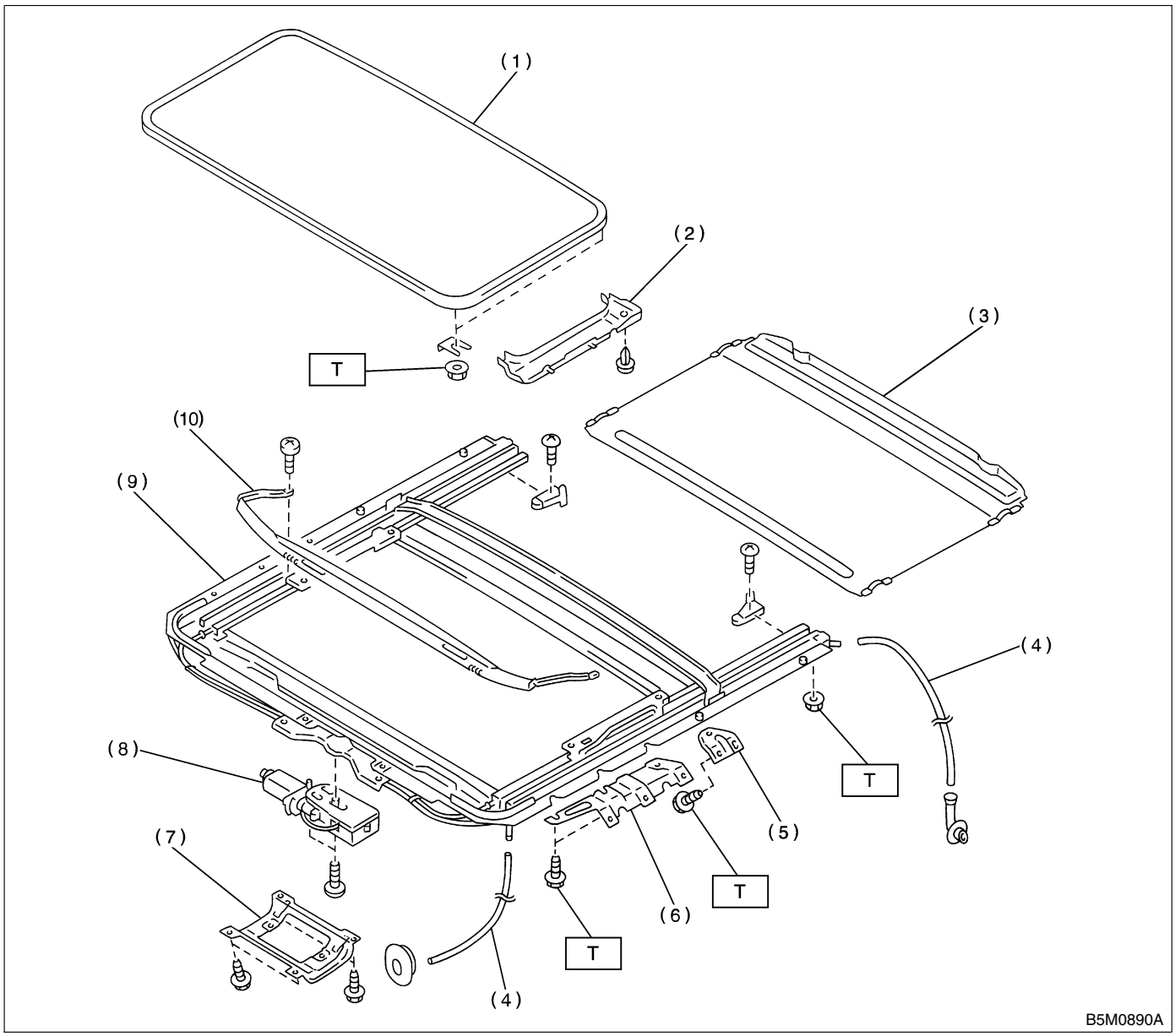
10) Remove the ignition key from the ignition switch.
11) The horn will chirp three times to indicate that the system has exited the programming mode.
12) Check the keyless entry system properly operates by operating each transmitter.

**MEMO:**

# 1. General Description S910001

## A: COMPONENT S910001A05

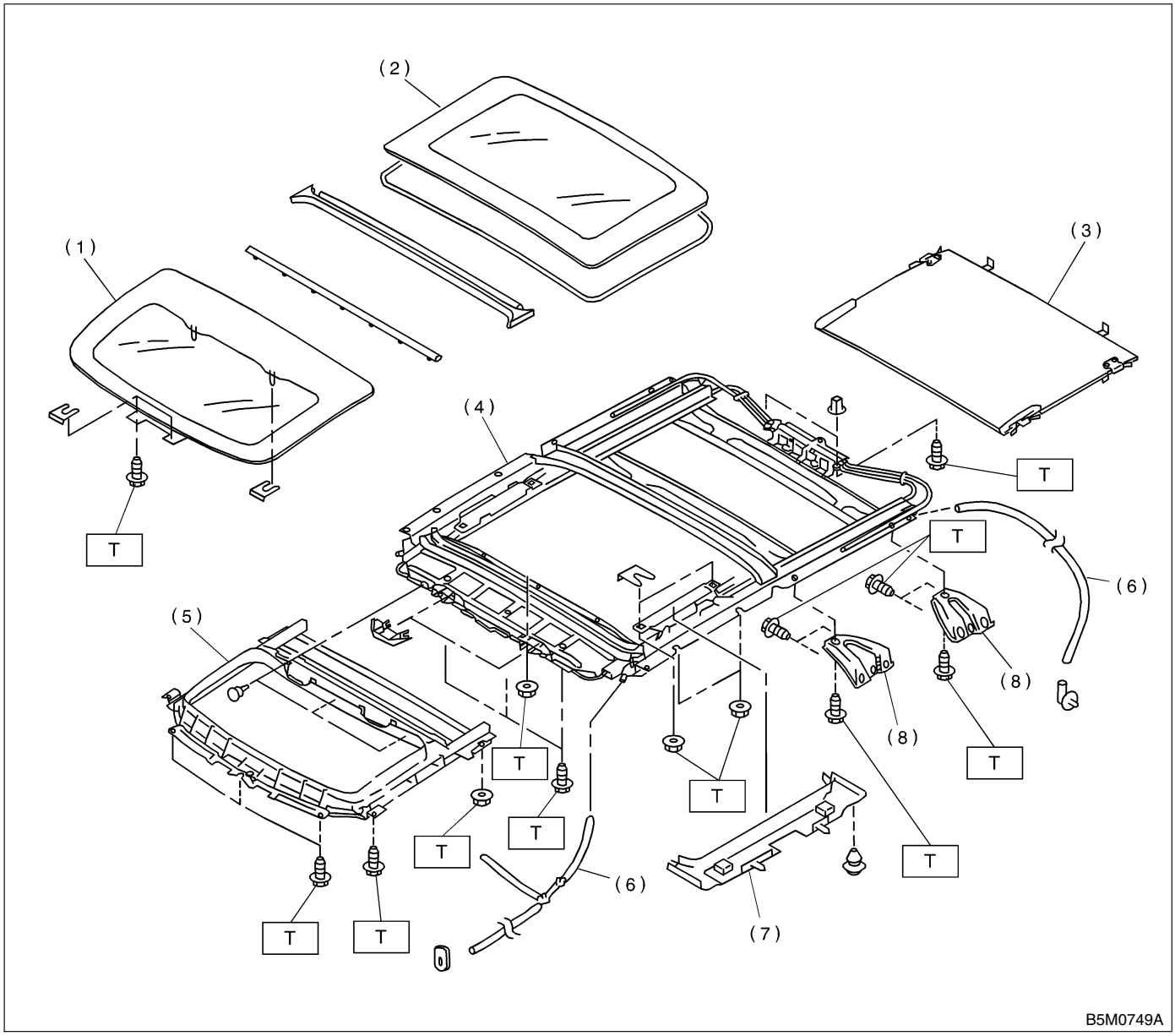
### 1. SEDAN S910001A0501




(1) Glass lid
(2) Guide rail cover
(3) Sunshade
(4) Drain tube
(5) Sunroof bracket (Rear)
(6) Sunroof bracket (Front)
(7) Motor cover
(8) Motor ASSY
(9) Frame ASSY
(10) Deflector

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 7.4 (0.75, 5.4)***

## 2. WAGON S910001A0502




(1) Glass lid (Front)
(2) Glass lid (Rear)
(3) Sunshade
(4) Frame ASSY (Rear)
(5) Frame ASSY (Front)
(6) Drain tube
(7) Cover
(8) Frame bracket

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 7.4 (0.75, 5.4)***

## B: CAUTION S910001A03

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

## C: PREPARATION TOOL S910001A17

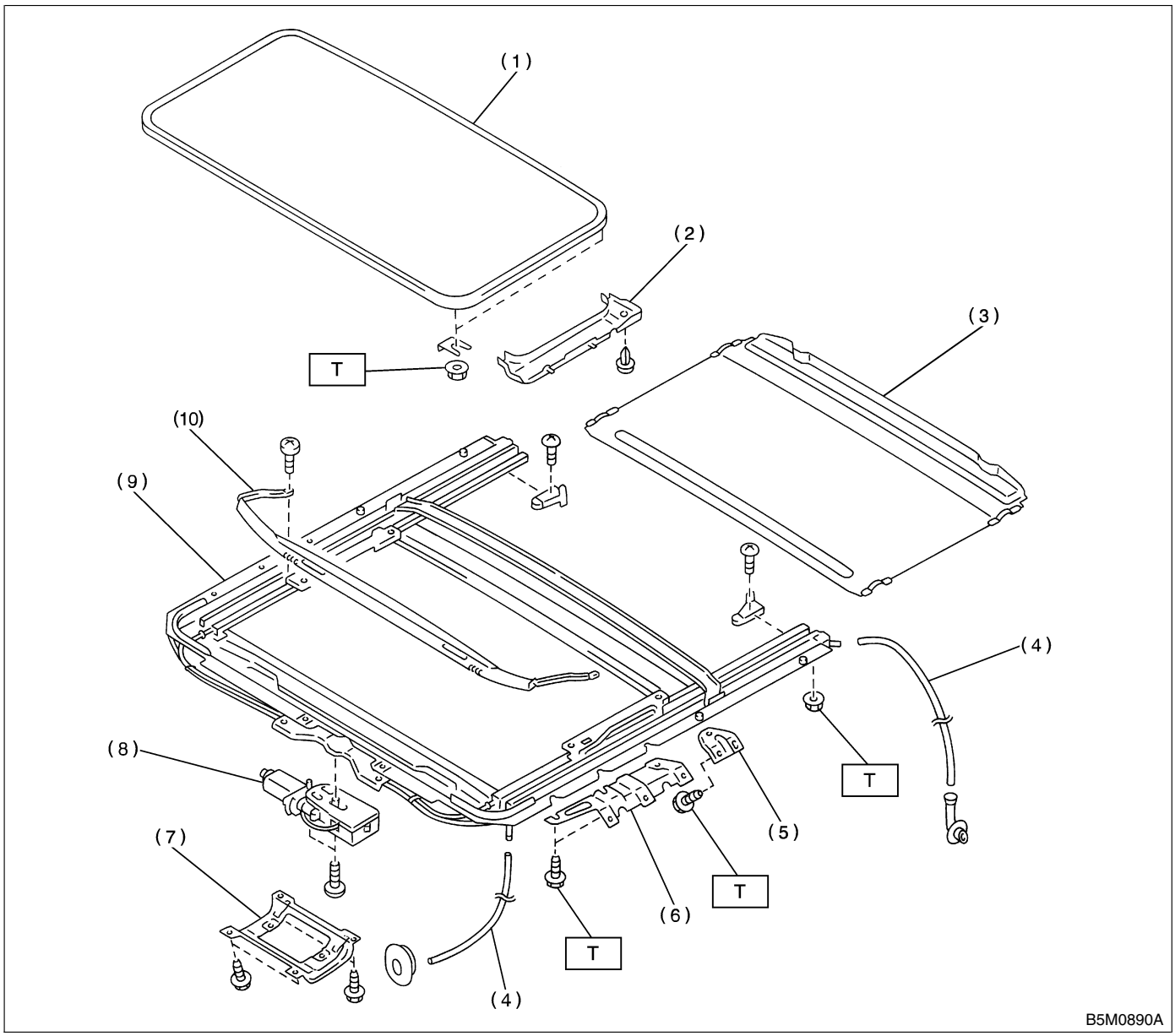
### 1. GENERAL TOOLS S910001A1701

| TOOL NAME | REMARKS |
|---|---|
| Circuit Tester | Used for measuring resistance and voltage. |

# 1. General Description S910001

## A: COMPONENT S910001A05

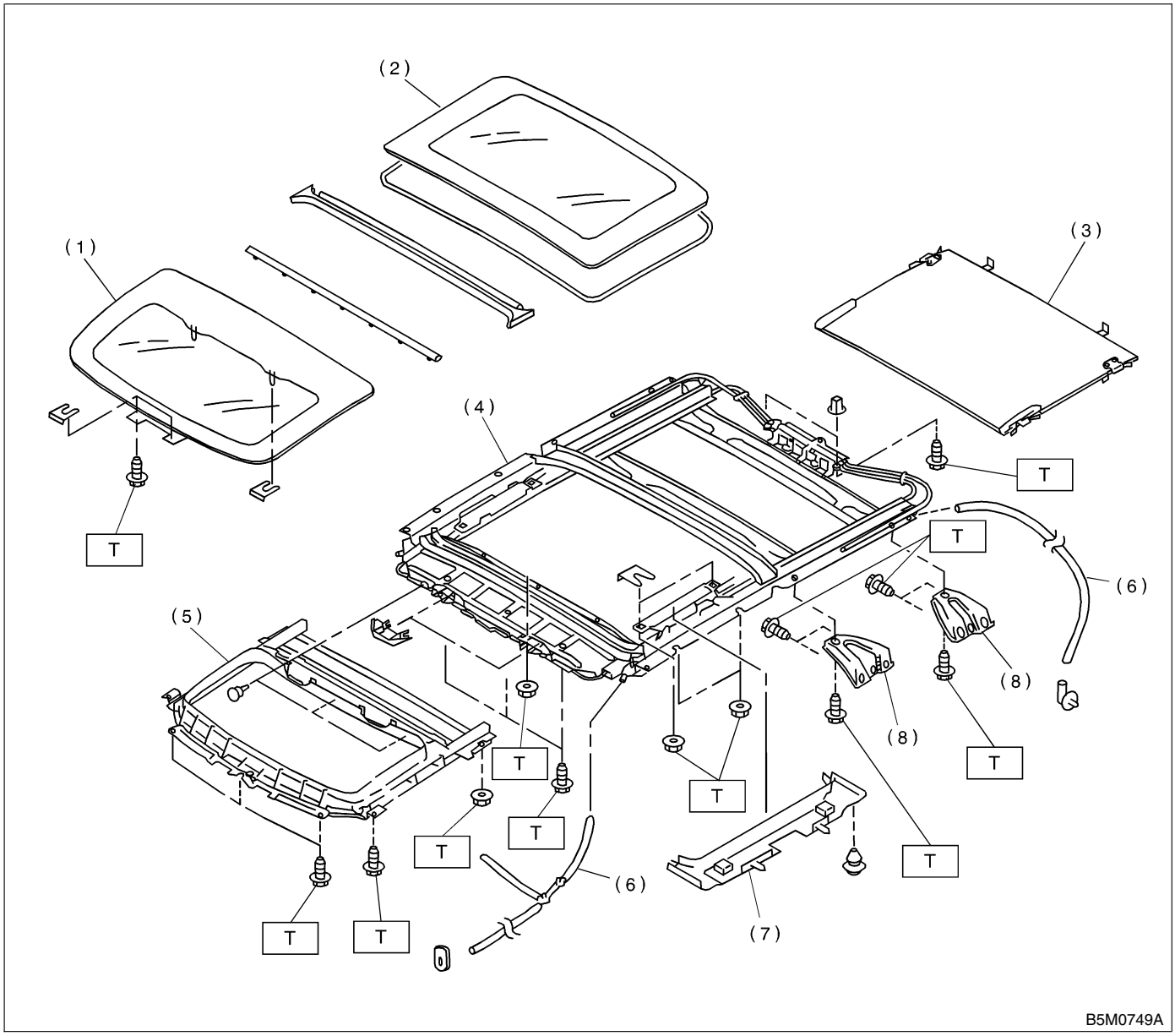
### 1. SEDAN S910001A0501




(1) Glass lid
(2) Guide rail cover
(3) Sunshade
(4) Drain tube
(5) Sunroof bracket (Rear)
(6) Sunroof bracket (Front)
(7) Motor cover
(8) Motor ASSY
(9) Frame ASSY
(10) Deflector

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 7.4 (0.75, 5.4)***

## 2. WAGON S910001A0502




(1) Glass lid (Front)
(2) Glass lid (Rear)
(3) Sunshade
(4) Frame ASSY (Rear)
(5) Frame ASSY (Front)
(6) Drain tube
(7) Cover
(8) Frame bracket

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 7.4 (0.75, 5.4)***

## B: CAUTION S910001A03

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

## C: PREPARATION TOOL S910001A17

### 1. GENERAL TOOLS S910001A1701

| TOOL NAME | REMARKS |
|---|---|
| Circuit Tester | Used for measuring resistance and voltage. |

# 2. Sunroof Control System S910328

## A: SCHEMATIC S910328A21

### 1. SUNROOF S910328A2101

<Ref. to WI-154, SCHEMATIC, Sunroof System.>

## B: INSPECTION S910328A10

| Symptom | Checking order |
|---|---|
| Water leaks. | (1) Check roof panel and sunroof lid for improper or poor sealing.<br>(2) Check drain tube for clogging.<br>(3) Check sunroof frame seal and body for improper fit. |
| Booming noise | (1) Check sunroof lid and roof panel for improper clearance.<br>(2) Check sunshade and roof trim for improper clearance. |
| Abnormal motor noise | (1) Check motor for looseness.<br>(2) Check gears and bearings for wear.<br>(3) Check cables for wear.<br>(4) Check cable pipe for deformities. |
| Failure of sunroof<br>(Motor operates properly.) | (1) Check guide rail for foreign particles.<br>(2) Check guide rail for improper installation.<br>(3) Check parts for mutual interference.<br>(4) Check cable slider for improper clinching.<br>(5) Check cable for improper installation.<br>(6) Check clutch adjustment nut for improper tightness. |
| Motor does not rotate or rotates improperly. | (1) Check fuse for blow-out.<br>(2) Check switch for improper function.<br>(3) Check motor for incorrect terminal voltage.<br>(4) Check relay for improper operation.<br>(5) Check poor grounding system.<br>(6) Check harness for open or short and terminals for poor connections.<br>(7) Check limit switch for improper operation. |

# 2. Sunroof Control System S910328

## A: SCHEMATIC S910328A21

### 1. SUNROOF S910328A2101

<Ref. to WI-154, SCHEMATIC, Sunroof System.>

## B: INSPECTION S910328A10

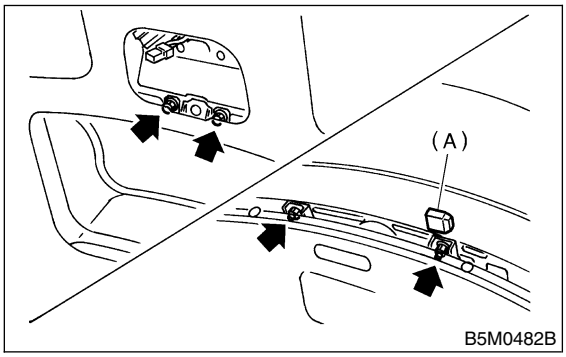
| Symptom | Checking order |
|---|---|
| Water leaks. | (1) Check roof panel and sunroof lid for improper or poor sealing.<br>(2) Check drain tube for clogging.<br>(3) Check sunroof frame seal and body for improper fit. |
| Booming noise | (1) Check sunroof lid and roof panel for improper clearance.<br>(2) Check sunshade and roof trim for improper clearance. |
| Abnormal motor noise | (1) Check motor for looseness.<br>(2) Check gears and bearings for wear.<br>(3) Check cables for wear.<br>(4) Check cable pipe for deformities. |
| Failure of sunroof<br>(Motor operates properly.) | (1) Check guide rail for foreign particles.<br>(2) Check guide rail for improper installation.<br>(3) Check parts for mutual interference.<br>(4) Check cable slider for improper clinching.<br>(5) Check cable for improper installation.<br>(6) Check clutch adjustment nut for improper tightness. |
| Motor does not rotate or rotates improperly. | (1) Check fuse for blow-out.<br>(2) Check switch for improper function.<br>(3) Check motor for incorrect terminal voltage.<br>(4) Check relay for improper operation.<br>(5) Check poor grounding system.<br>(6) Check harness for open or short and terminals for poor connections.<br>(7) Check limit switch for improper operation. |

# 3. Sunroof Lid S910536

## A: REMOVAL S910536A18

### 1. WAGON (FRONT) S910536A1801

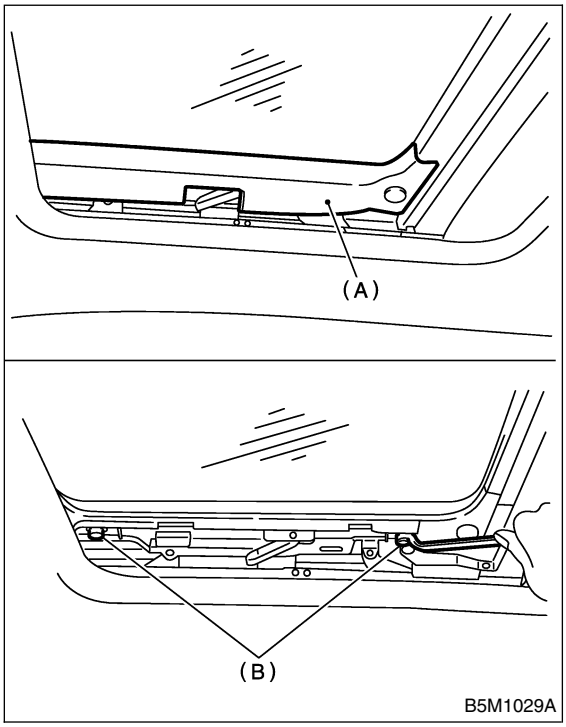
1) Tilt-up the front sunroof (most upper position).
2) Remove sunroof switch. <Ref. to SR-14, REMOVAL, Sunroof Switch.>
3) Remove two mounting bolts.
4) Detach covers (A) then remove two nuts from tilt-up assembly.




5) Remove the sunroof lid carefully.

### 2. SEDAN AND WAGON (REAR) S910536A1802

1) Completely close rear sunroof lid and open sunshade.
2) Remove covers (A) then remove nuts (B).

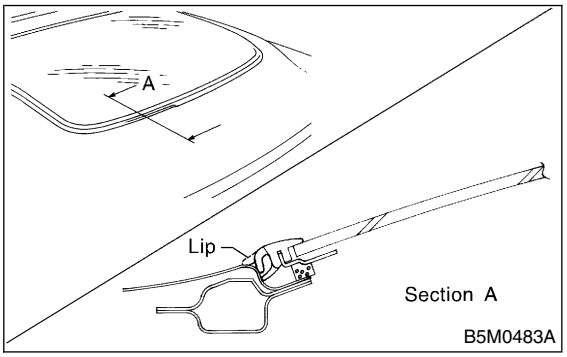



3) Remove the sunroof lid carefully.

## B: INSTALLATION S910536A11

Install in the reverse order of removal.

**CAUTION:**
**When installing sunroof lid, be careful not to pinch the lip of lid.**

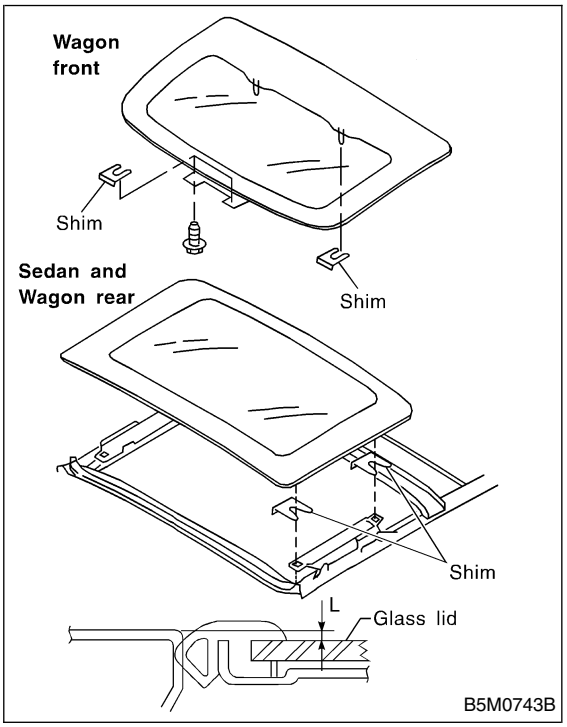



## C: ADJUSTMENT S910536A01

### 1. ALIGNMENT OF HEIGHT BETWEEN SUNROOF LID AND ROOF PANEL S910536A0101

Loosen sunroof lid installation nuts and then adjust height by adding (max: two pieces) or extracting (max: one piece) shims (standard: one piece) between sunroof lid and body.

***Difference in height between sunroof lid and roof panel: L***
***L: 2.0±0.5 mm (0.079±0.020 in)***

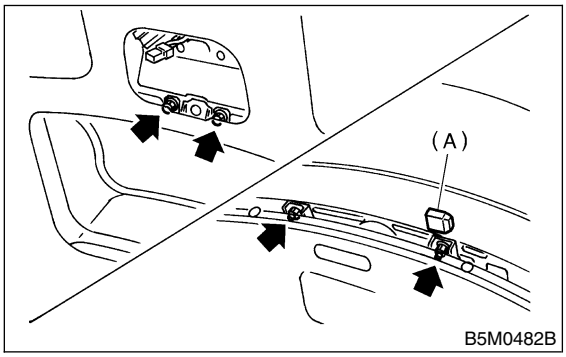


# 3. Sunroof Lid S910536

## A: REMOVAL S910536A18

### 1. WAGON (FRONT) S910536A1801

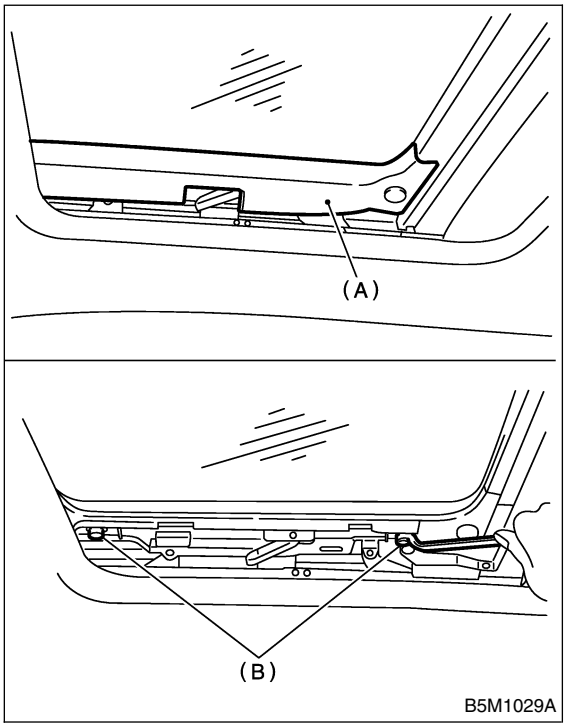
1) Tilt-up the front sunroof (most upper position).
2) Remove sunroof switch. <Ref. to SR-14, REMOVAL, Sunroof Switch.>
3) Remove two mounting bolts.
4) Detach covers (A) then remove two nuts from tilt-up assembly.




5) Remove the sunroof lid carefully.

### 2. SEDAN AND WAGON (REAR) S910536A1802

1) Completely close rear sunroof lid and open sunshade.
2) Remove covers (A) then remove nuts (B).

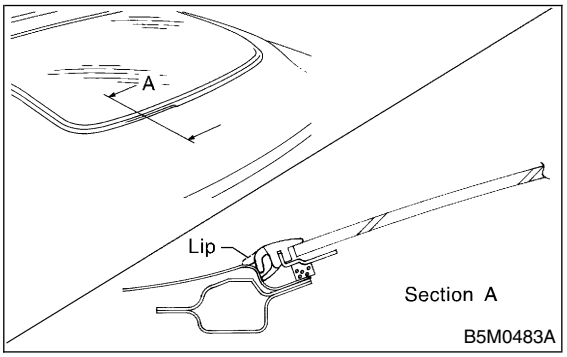



3) Remove the sunroof lid carefully.

## B: INSTALLATION S910536A11

Install in the reverse order of removal.

**CAUTION:**
**When installing sunroof lid, be careful not to pinch the lip of lid.**

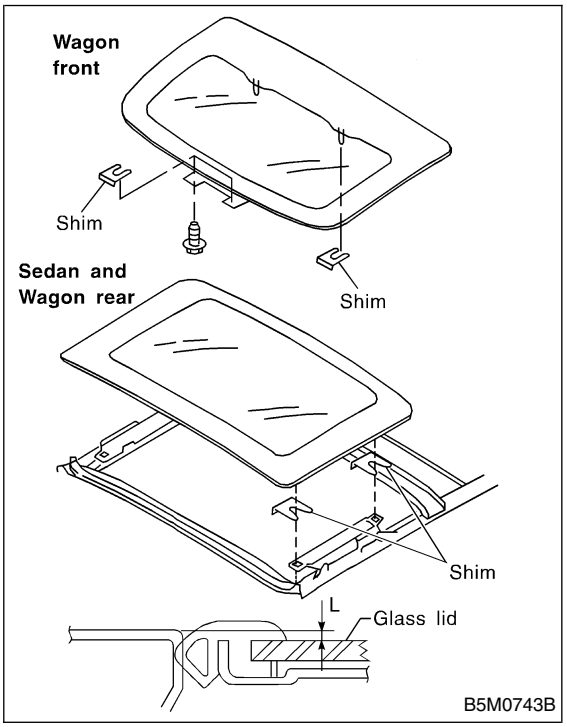



## C: ADJUSTMENT S910536A01

### 1. ALIGNMENT OF HEIGHT BETWEEN SUNROOF LID AND ROOF PANEL S910536A0101

Loosen sunroof lid installation nuts and then adjust height by adding (max: two pieces) or extracting (max: one piece) shims (standard: one piece) between sunroof lid and body.

***Difference in height between sunroof lid and roof panel: L***
***L: 2.0±0.5 mm (0.079±0.020 in)***

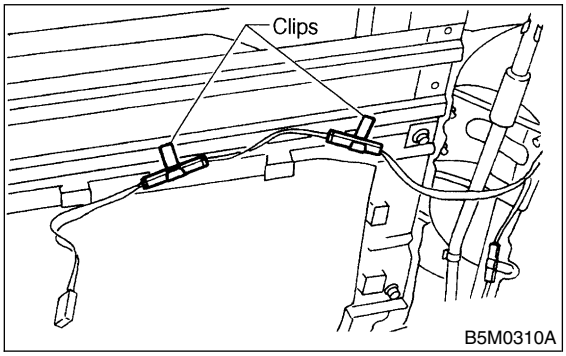


# 4. Sunroof Assembly S910329

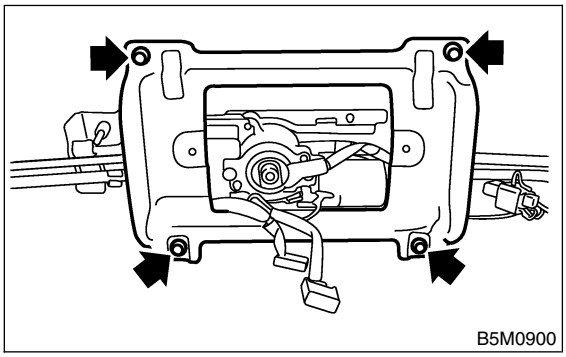
## A: REMOVAL S910329A18

### 1. SEDAN S910329A1801

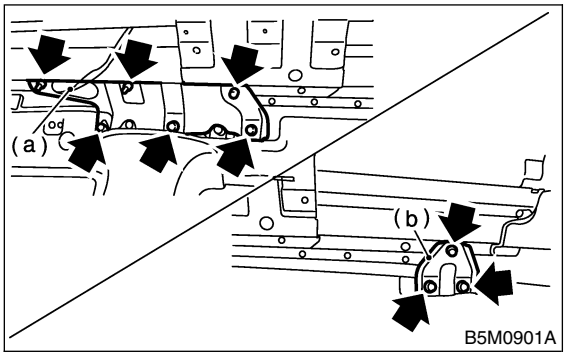
1) Disconnect ground cable from battery.
2) Remove roof trim. <Ref. to EI-47, REMOVAL, Roof Trim.>
3) Remove sunroof lid. <Ref. to SR-6, SEDAN AND WAGON (REAR), REMOVAL, Sunroof Lid.>
4) Disconnect drain tubes from sunroof frame.
5) Remove room lamp harness clip.



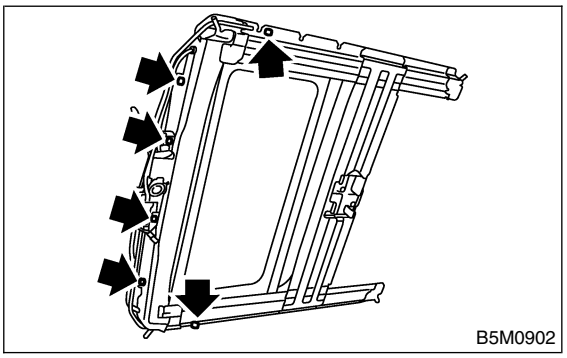

6) Disconnect sunroof harness connector.
7) Remove motor cover.




8) Remove sunroof brackets front (a) and rear (b).

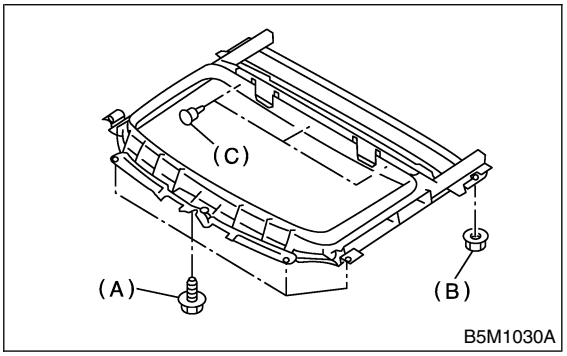



9) Remove nuts then detach the sunroof frame.



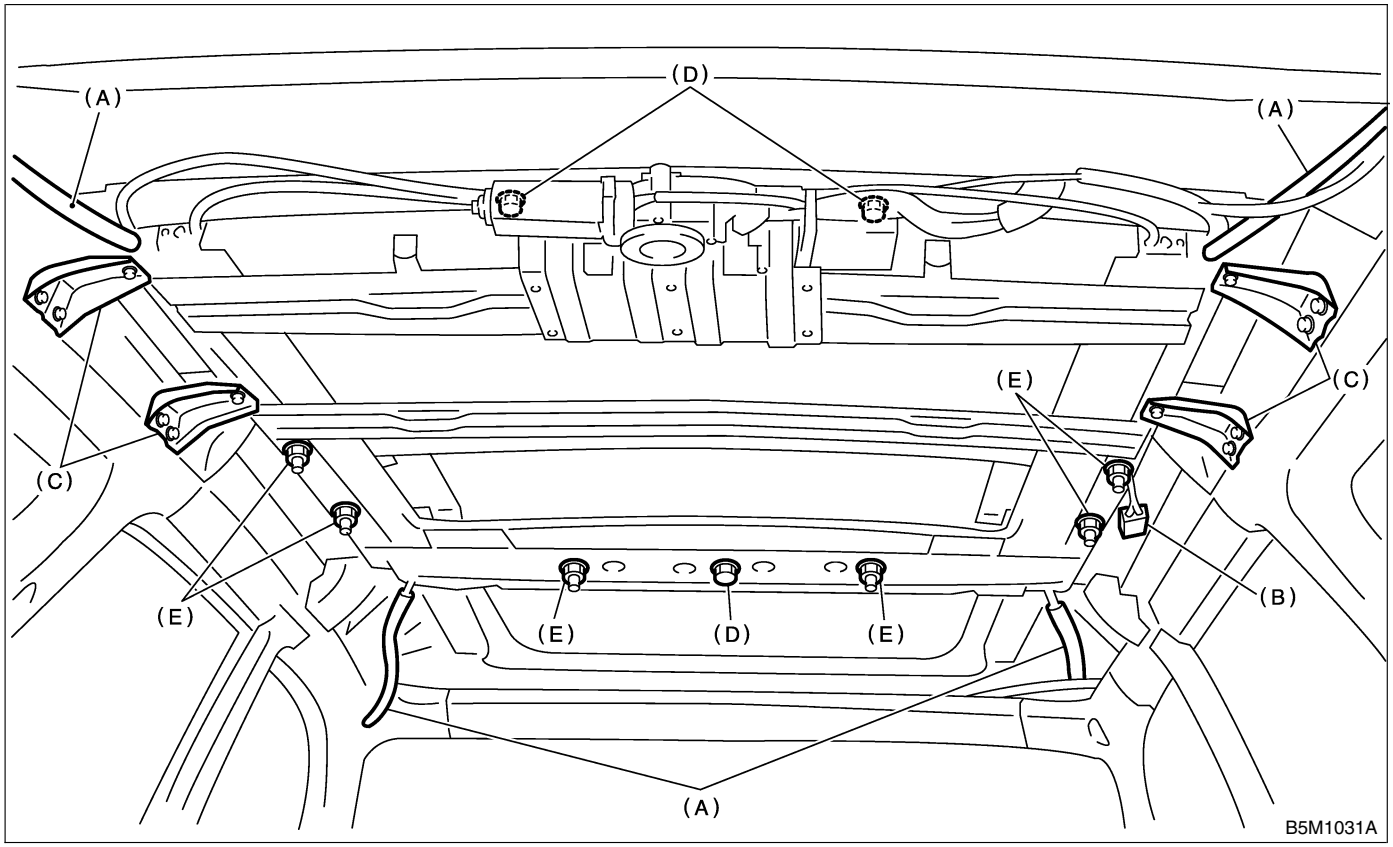

### 2. WAGON (FRONT) S910329A1802

1) Disconnect ground cable from battery.
2) Remove roof trim. <Ref. to EI-47, REMOVAL, Roof Trim.>
3) Remove front sunroof lid. <Ref. to SR-6, WAGON (FRONT), REMOVAL, Sunroof Lid.>
4) Remove room lamp harness clip.
5) Remove bolts (A), nuts (B) and clips (C) then detach the sunroof frame.



### 3. WAGON (REAR) S910329A1803

1) Disconnect ground cable from battery.
2) Remove roof trim. <Ref. to EI-47, REMOVAL, Roof Trim.>
3) Remove rear sunroof lid. <Ref. to SR-6, SEDAN AND WAGON (REAR), REMOVAL, Sunroof Lid.>
4) Disconnect drain tubes (A) from rear sunroof frame.
5) Disconnect sunroof harness connector (B).
6) Remove sunroof brackets (C).
7) Remove bolts (D) and nuts (E) then detach the sunroof frame.



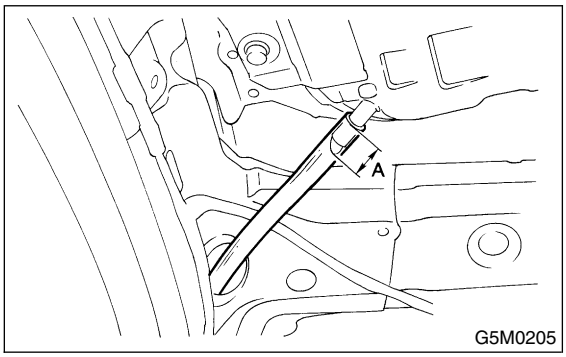
## B: INSTALLATION S910329A11

Install in the reverse order of removal.

**CAUTION:**
**Be careful not to snag the harness.**

NOTE:
- Make sure to connect harness connector.
- When installing drain tube, insert it securely onto drain pipe.

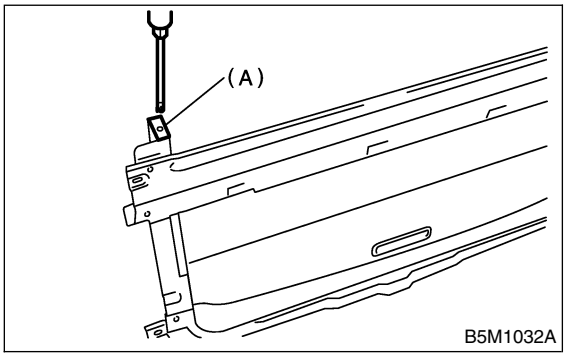
***Length A:***
***15 mm (0.59 in) or more***



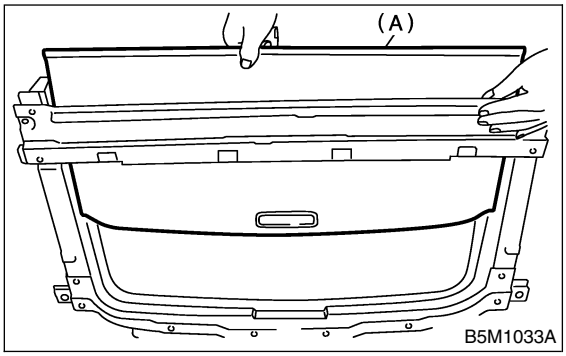

## C: DISASSEMBLY S910329A06

### 1. SEDAN AND WAGON (FRONT) S910329A0601

1) Remove sunroof frame.
2) Remove rail stoppers (A).

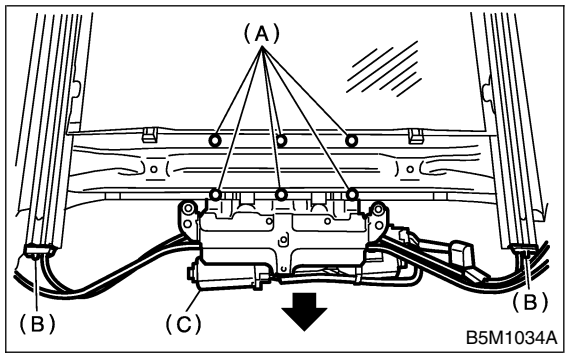



3) Pull out the sunshade (A) from sunroof frame.

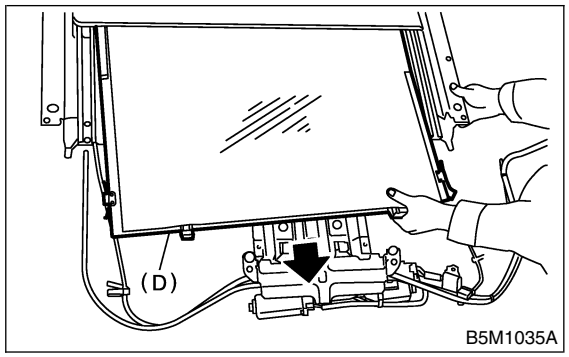



### 2. WAGON (REAR) S910329A0602

1) Remove rear sunroof frame.
2) Remove sunroof motor bracket mounting screws (A).
3) Remove rail stoppers (B) then pull the motor assembly (C) in the direction shown in the figure.




4) Pull out the sunshade (A) from sunroof frame.



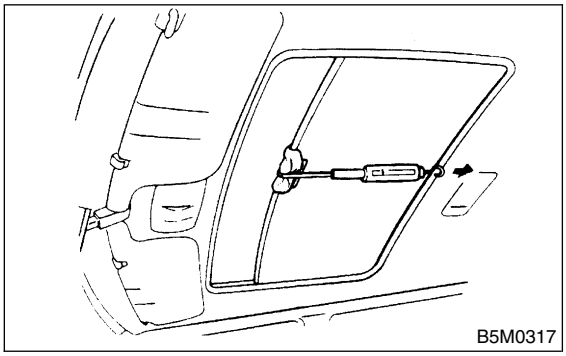

## D: ASSEMBLY S910329A02

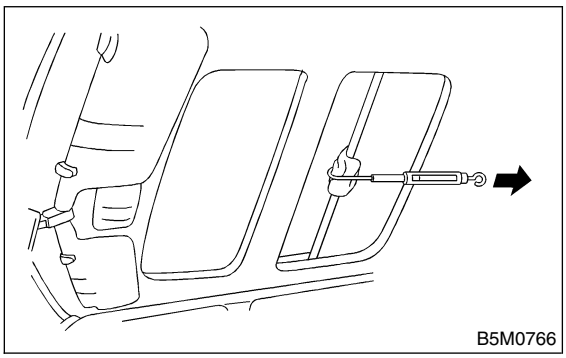
Assemble in the reverse order of disassembly.

## E: INSPECTION S910329A10

### 1. CHECK FOR MOVEMENT OF SUNSHADE S910329A1001

1) Place a cloth on sunshade, and attach a spring scale to sunshade edge using a cloth.


B5M0317


B5M0766

2) Pull spring scale to measure force required to move the sunshade.

***Force required to move rear sunshade:***
***Less than 24.5±4.9 N (2.5±0.5 kgf, 5.5±1.1 lb)***

NOTE:
Considerable force is required to start sunshade moving, so take a scale reading when it begins to move smoothly.

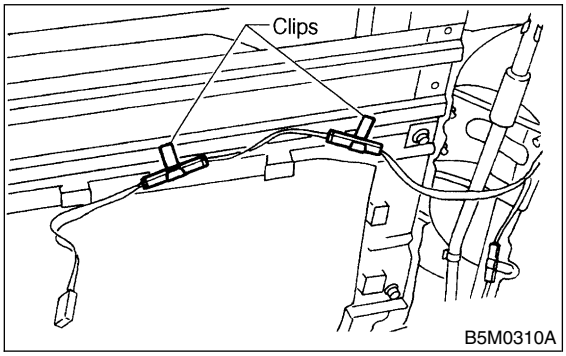
3) If the force required exceeds specifications, check the following points:
Sunroof lid, sunshade and guide rail assembly for improper installation

# 4. Sunroof Assembly S910329

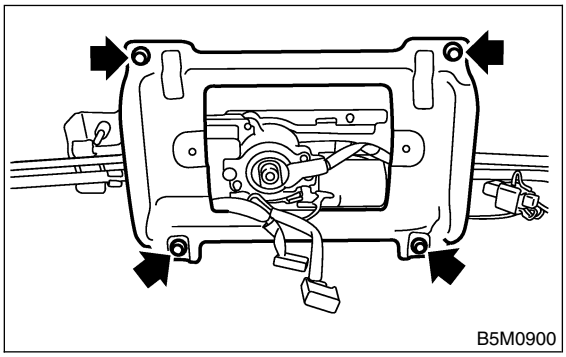
## A: REMOVAL S910329A18

### 1. SEDAN S910329A1801

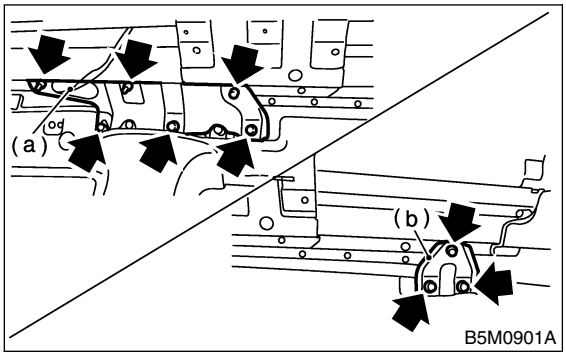
1) Disconnect ground cable from battery.
2) Remove roof trim. <Ref. to EI-47, REMOVAL, Roof Trim.>
3) Remove sunroof lid. <Ref. to SR-6, SEDAN AND WAGON (REAR), REMOVAL, Sunroof Lid.>
4) Disconnect drain tubes from sunroof frame.
5) Remove room lamp harness clip.



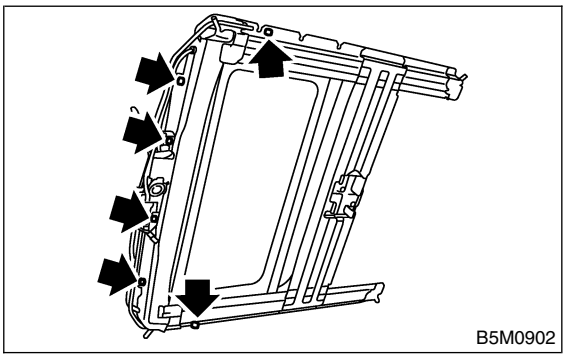

6) Disconnect sunroof harness connector.
7) Remove motor cover.




8) Remove sunroof brackets front (a) and rear (b).

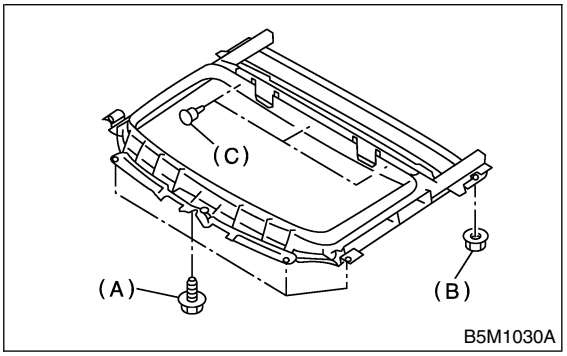



9) Remove nuts then detach the sunroof frame.



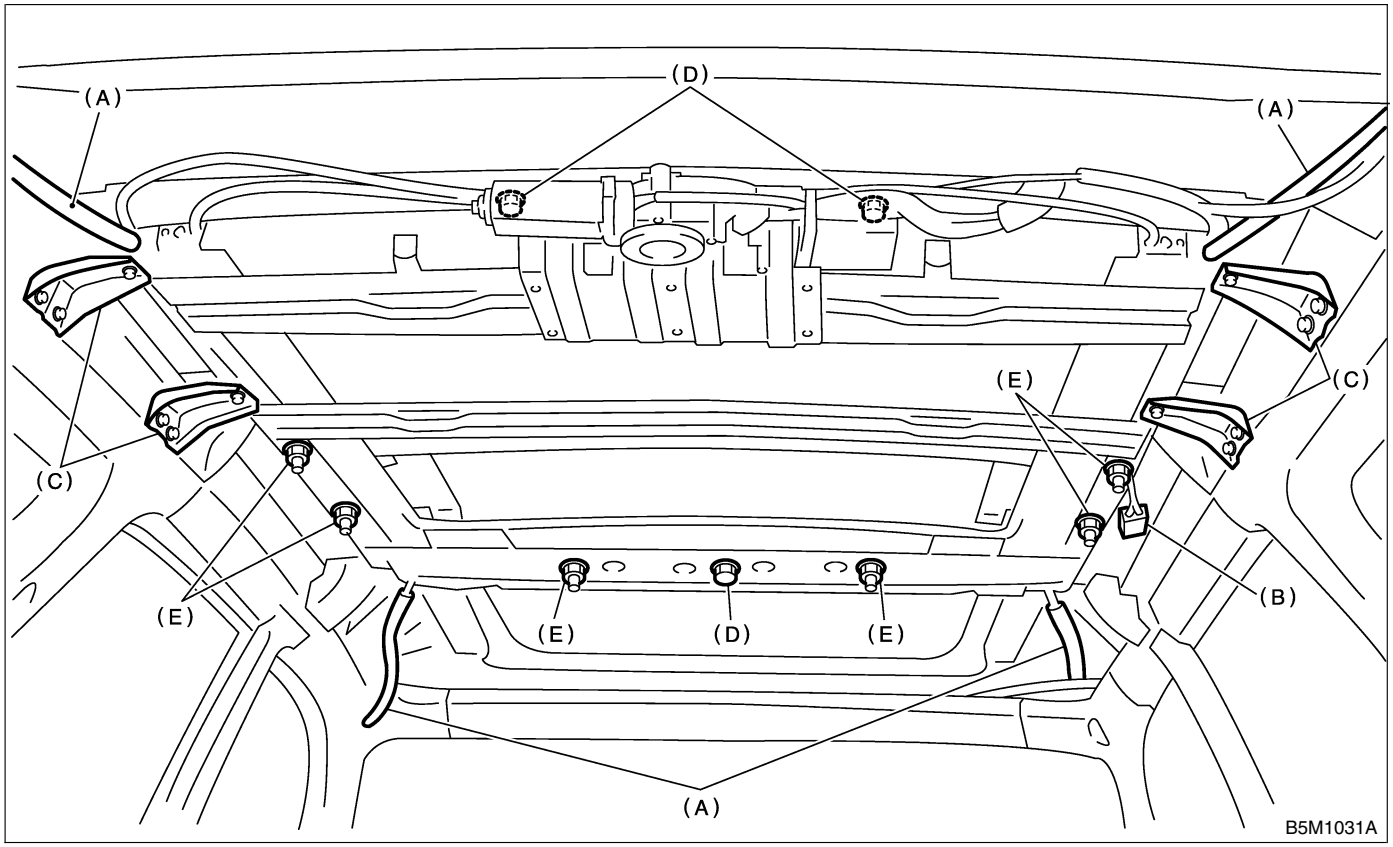

### 2. WAGON (FRONT) S910329A1802

1) Disconnect ground cable from battery.
2) Remove roof trim. <Ref. to EI-47, REMOVAL, Roof Trim.>
3) Remove front sunroof lid. <Ref. to SR-6, WAGON (FRONT), REMOVAL, Sunroof Lid.>
4) Remove room lamp harness clip.
5) Remove bolts (A), nuts (B) and clips (C) then detach the sunroof frame.



### 3. WAGON (REAR) S910329A1803

1) Disconnect ground cable from battery.
2) Remove roof trim. <Ref. to EI-47, REMOVAL, Roof Trim.>
3) Remove rear sunroof lid. <Ref. to SR-6, SEDAN AND WAGON (REAR), REMOVAL, Sunroof Lid.>
4) Disconnect drain tubes (A) from rear sunroof frame.
5) Disconnect sunroof harness connector (B).
6) Remove sunroof brackets (C).
7) Remove bolts (D) and nuts (E) then detach the sunroof frame.



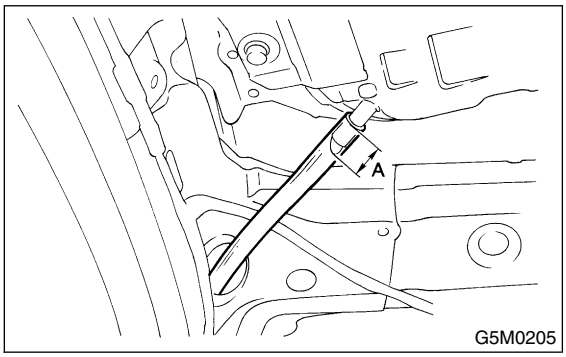
## B: INSTALLATION S910329A11

Install in the reverse order of removal.

**CAUTION:**
**Be careful not to snag the harness.**

NOTE:
- Make sure to connect harness connector.
- When installing drain tube, insert it securely onto drain pipe.

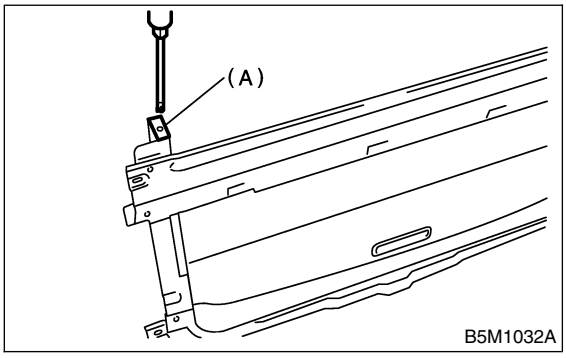
***Length A:***
***15 mm (0.59 in) or more***



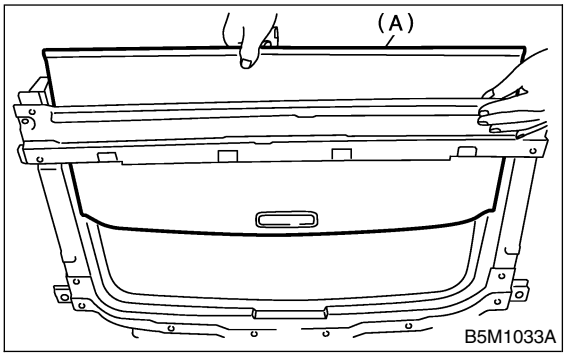

## C: DISASSEMBLY S910329A06

### 1. SEDAN AND WAGON (FRONT) S910329A0601

1) Remove sunroof frame.
2) Remove rail stoppers (A).

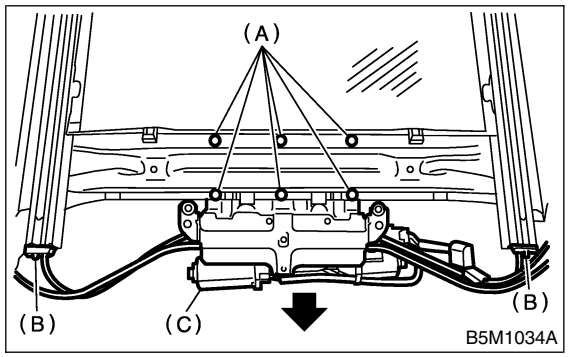



3) Pull out the sunshade (A) from sunroof frame.

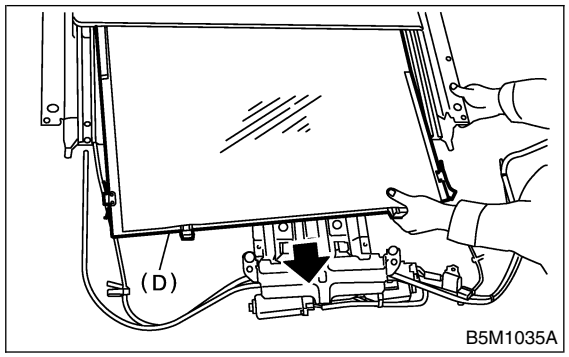



### 2. WAGON (REAR) S910329A0602

1) Remove rear sunroof frame.
2) Remove sunroof motor bracket mounting screws (A).
3) Remove rail stoppers (B) then pull the motor assembly (C) in the direction shown in the figure.




4) Pull out the sunshade (A) from sunroof frame.



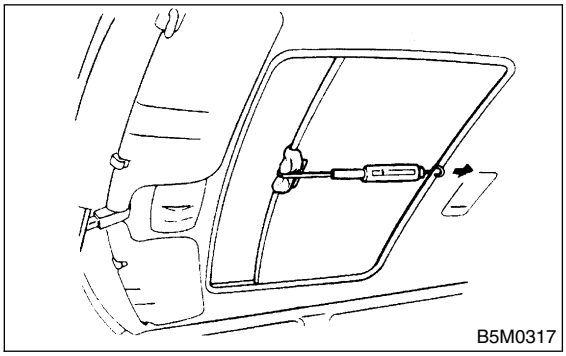

## D: ASSEMBLY S910329A02

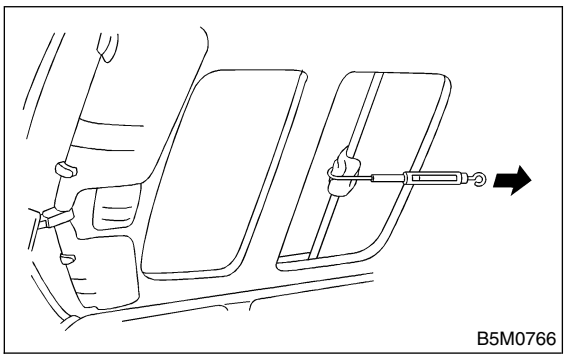
Assemble in the reverse order of disassembly.

## E: INSPECTION S910329A10

### 1. CHECK FOR MOVEMENT OF SUNSHADE S910329A1001

1) Place a cloth on sunshade, and attach a spring scale to sunshade edge using a cloth.


B5M0317


B5M0766

2) Pull spring scale to measure force required to move the sunshade.

***Force required to move rear sunshade:***
***Less than 24.5±4.9 N (2.5±0.5 kgf, 5.5±1.1 lb)***

NOTE:
Considerable force is required to start sunshade moving, so take a scale reading when it begins to move smoothly.

3) If the force required exceeds specifications, check the following points:
Sunroof lid, sunshade and guide rail assembly for improper installation

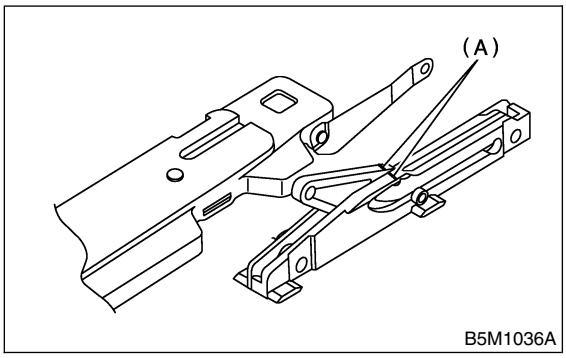
# 5. Sunroof Motor S910537

## A: REMOVAL S910537A18

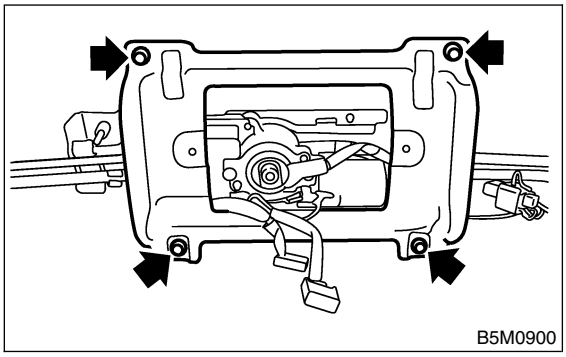
**CAUTION:**
**When removing clip, use great care not to damage the roof trim.**

### 1. SEDAN S910537A1801

1) Completely close the sunroof.
2) Disconnect ground cable from battery.
3) Remove sunroof lid. <Ref. to SR-6, SEDAN AND WAGON (REAR), REMOVAL, Sunroof Lid.>
4) Confirm the matching mark (A) of sunroof bracket link and the guide from sunroof opening. (If the mark does not match, adjust to match the mark.)



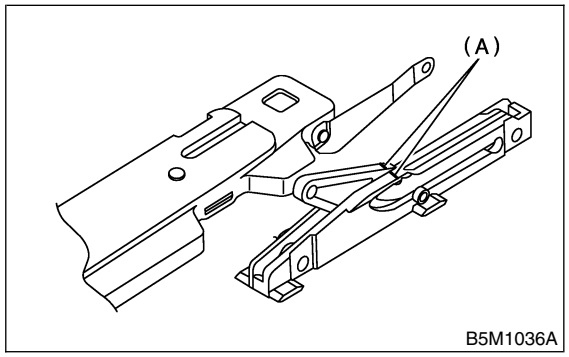

5) Remove roof trim. <Ref. to EI-47, REMOVAL, Roof Trim.>
6) Remove motor cover.



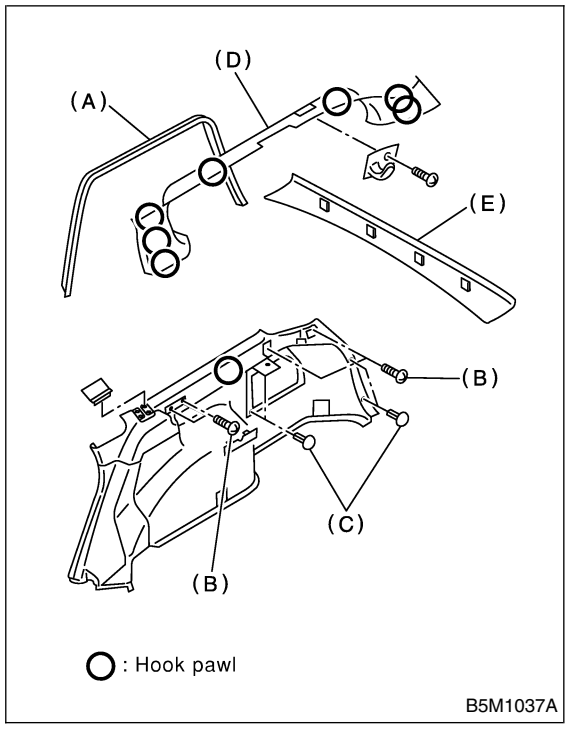

7) Disconnect harness connector and remove sunroof motor mounting screw.

### 2. WAGON S910537A1802

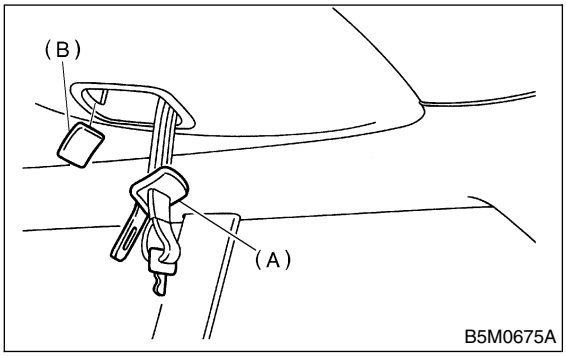
1) Completely close the front and rear sunroof, then tilt-up the front sunroof to the most upper position.
2) Disconnect ground cable from battery.
3) Remove rear sunroof lid. <Ref. to SR-6, SEDAN AND WAGON (REAR), REMOVAL, Sunroof Lid.>
4) Confirm the matching mark (A) of rear sunroof bracket link and the guide from sunroof opening. (If the mark does not match, adjust to match the mark.)



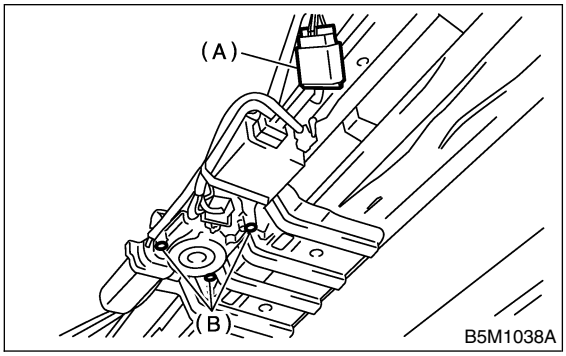

5) Remove luggage room light. <Ref. to LI-27, REMOVAL, Luggage Room Light.>
6) Remove rear assist grips.
7) Remove rear window mole of both sides (A).
8) Remove screws (B) and clips (C) of rear quarter lower trim shown in the figure.
9) Remove rear quarter upper trim (D) of both sides.
10) Remove rear rail trim (E).



11) Remove cover (B) while detaching snap lock carefully. Put the rear center seat belt tongue (A) out to the other side of the trim through the hole.



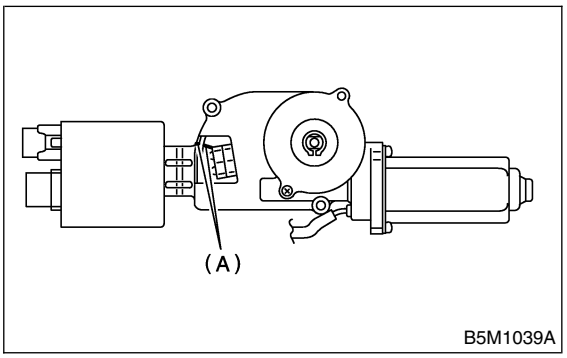

12) Remove clips and hang down rear end of roof trim.
13) Disconnect harness connector (A) and remove sunroof motor mounting screw (B).



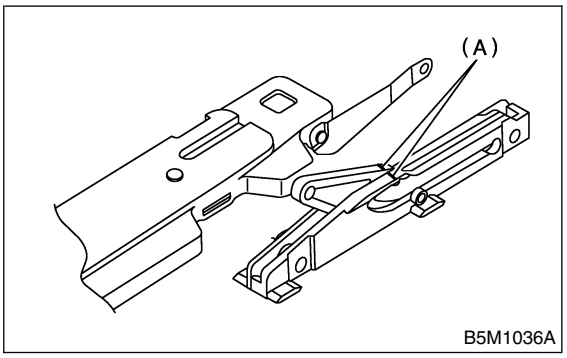

## B: INSTALLATION S910537A11

**CAUTION:**
**● Never rotate the sunroof motor while removed.**
**● Be careful not to move the sunroof cable when installing sunroof motor.**

1) Check the matching mark (A) of sunroof motor.




2) Confirm the matching mark (A) of sunroof bracket link.




3) Install sunroof motor.
4) After installing the motor, reconfirm the matching marks of motor side and sunroof bracket link side.
5) Connect sunroof motor harness connector and then connect battery ground cable.

6) Check the sunroof operation with the procedure as shown in the table.

**SEDAN**

| Operation | Switch position |
|---|---|
| (1) Completely close sunroof. | Closed |
| (2) Tilt-up sunroof to most upper position. | Up |
| (3) Lower sunroof completely. | Down |
| (4) Open sunroof to near the completely open position. | Open |
| (5) Completely open sunroof. | Open |
| (6) Close sunroof 150 mm (5.91 in) away from completely closed position. | Closed |
| (7) Completely close sunroof. | Closed |

**WAGON**

| Operation | Switch position |
|---|---|
| (1) Completely close front and rear sunroof. | Closed |
| (2) Tilt-up front sunroof to most upper position. | Open |
| (3) Open rear sunroof to near the completely open position. | Open |
| (4) Completely open front and rear sunroof. | Open |
| (5) Close rear sunroof 150 mm (5.91 in) away from completely closed position. | Closed |
| (6) Completely close rear sunroof. | Closed |
| (7) Lower front sunroof and completely close front and rear sunroof. | Closed |

7) Install trims in the reverse order of removal.

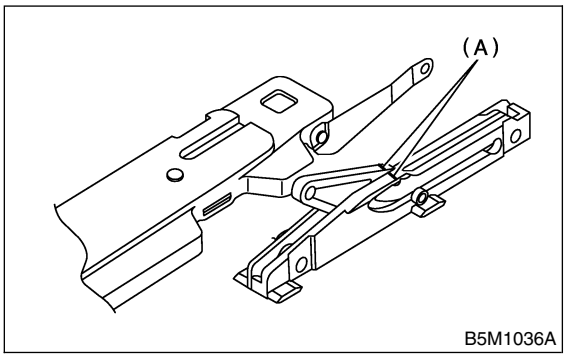
# 5. Sunroof Motor S910537

## A: REMOVAL S910537A18

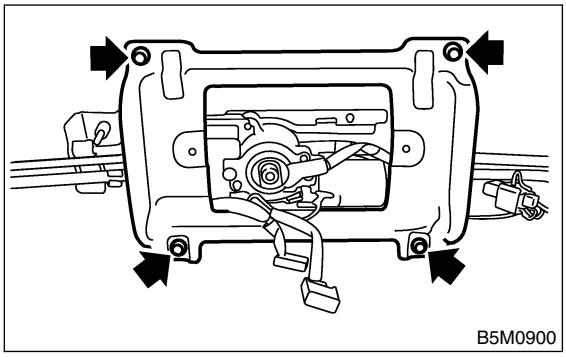
**CAUTION:**
**When removing clip, use great care not to damage the roof trim.**

### 1. SEDAN S910537A1801

1) Completely close the sunroof.
2) Disconnect ground cable from battery.
3) Remove sunroof lid. <Ref. to SR-6, SEDAN AND WAGON (REAR), REMOVAL, Sunroof Lid.>
4) Confirm the matching mark (A) of sunroof bracket link and the guide from sunroof opening. (If the mark does not match, adjust to match the mark.)



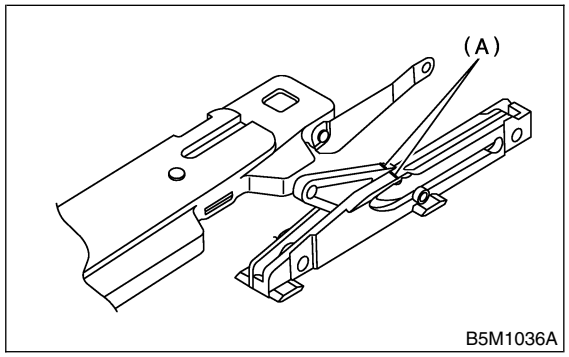

5) Remove roof trim. <Ref. to EI-47, REMOVAL, Roof Trim.>
6) Remove motor cover.



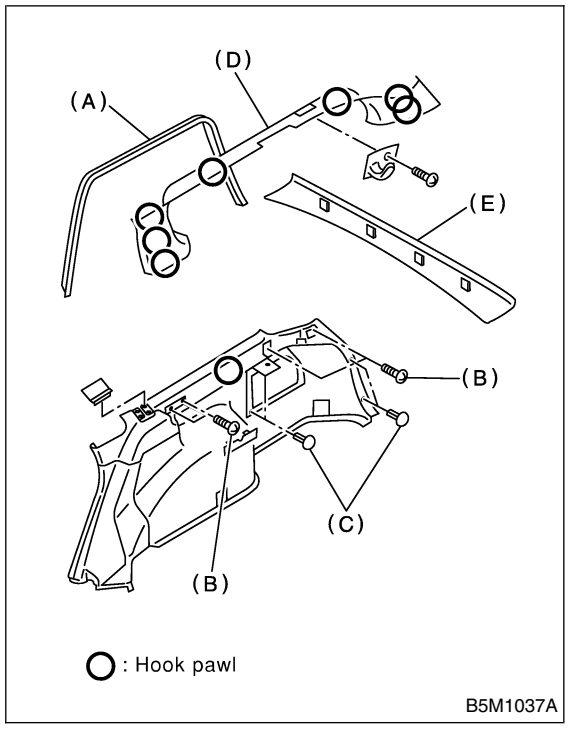

7) Disconnect harness connector and remove sunroof motor mounting screw.

### 2. WAGON S910537A1802

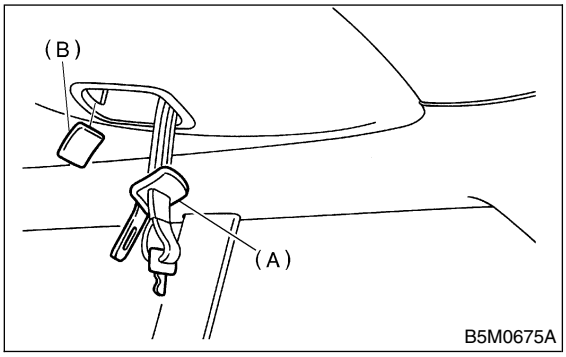
1) Completely close the front and rear sunroof, then tilt-up the front sunroof to the most upper position.
2) Disconnect ground cable from battery.
3) Remove rear sunroof lid. <Ref. to SR-6, SEDAN AND WAGON (REAR), REMOVAL, Sunroof Lid.>
4) Confirm the matching mark (A) of rear sunroof bracket link and the guide from sunroof opening. (If the mark does not match, adjust to match the mark.)



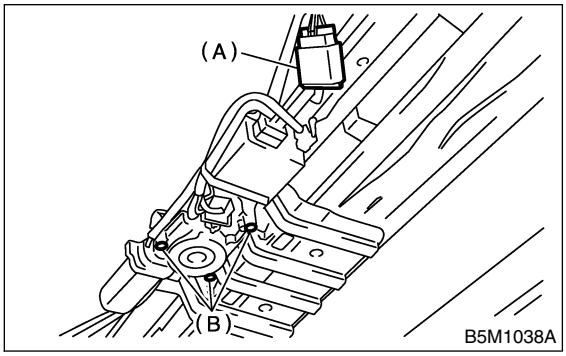

5) Remove luggage room light. <Ref. to LI-27, REMOVAL, Luggage Room Light.>
6) Remove rear assist grips.
7) Remove rear window mole of both sides (A).
8) Remove screws (B) and clips (C) of rear quarter lower trim shown in the figure.
9) Remove rear quarter upper trim (D) of both sides.
10) Remove rear rail trim (E).



11) Remove cover (B) while detaching snap lock carefully. Put the rear center seat belt tongue (A) out to the other side of the trim through the hole.



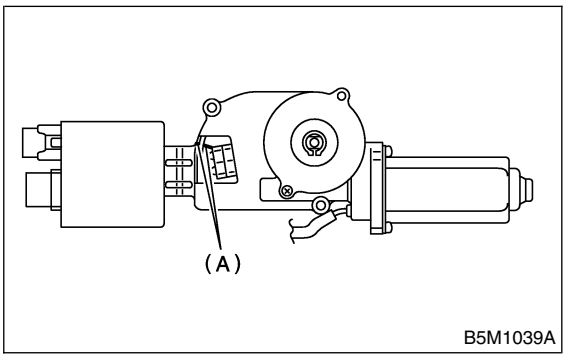

12) Remove clips and hang down rear end of roof trim.
13) Disconnect harness connector (A) and remove sunroof motor mounting screw (B).



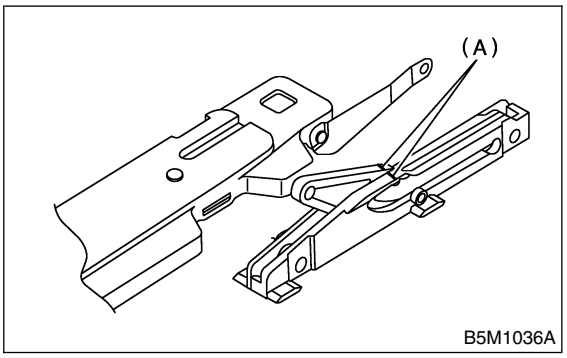

## B: INSTALLATION S910537A11

**CAUTION:**
**● Never rotate the sunroof motor while removed.**
**● Be careful not to move the sunroof cable when installing sunroof motor.**

1) Check the matching mark (A) of sunroof motor.




2) Confirm the matching mark (A) of sunroof bracket link.




3) Install sunroof motor.
4) After installing the motor, reconfirm the matching marks of motor side and sunroof bracket link side.
5) Connect sunroof motor harness connector and then connect battery ground cable.

6) Check the sunroof operation with the procedure as shown in the table.

**SEDAN**

| Operation | Switch position |
|---|---|
| (1) Completely close sunroof. | Closed |
| (2) Tilt-up sunroof to most upper position. | Up |
| (3) Lower sunroof completely. | Down |
| (4) Open sunroof to near the completely open position. | Open |
| (5) Completely open sunroof. | Open |
| (6) Close sunroof 150 mm (5.91 in) away from completely closed position. | Closed |
| (7) Completely close sunroof. | Closed |

**WAGON**

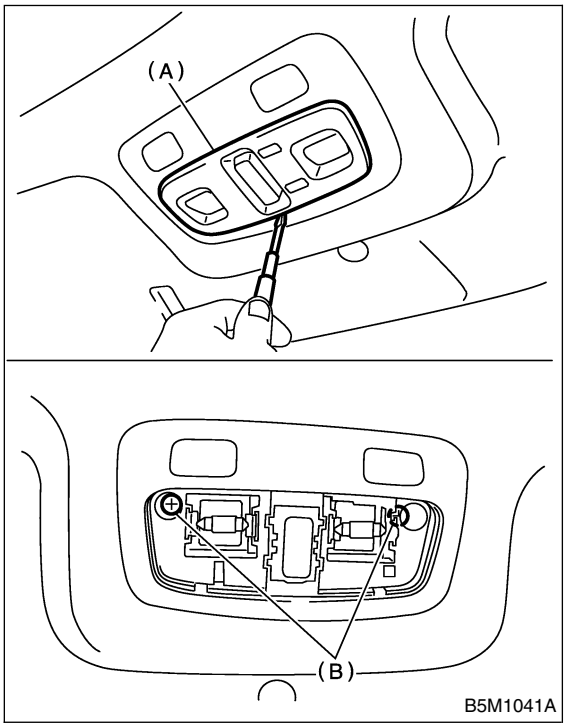
| Operation | Switch position |
|---|---|
| (1) Completely close front and rear sunroof. | Closed |
| (2) Tilt-up front sunroof to most upper position. | Open |
| (3) Open rear sunroof to near the completely open position. | Open |
| (4) Completely open front and rear sunroof. | Open |
| (5) Close rear sunroof 150 mm (5.91 in) away from completely closed position. | Closed |
| (6) Completely close rear sunroof. | Closed |
| (7) Lower front sunroof and completely close front and rear sunroof. | Closed |

7) Install trims in the reverse order of removal.

# 6. Sunroof Switch S910538

## A: REMOVAL S910538A18

1) Disconnect ground cable from battery.
2) Remove spot light lens (A) and sunroof switch mounting screw (B).




3) Disconnect harness connectors and remove sunroof switch.

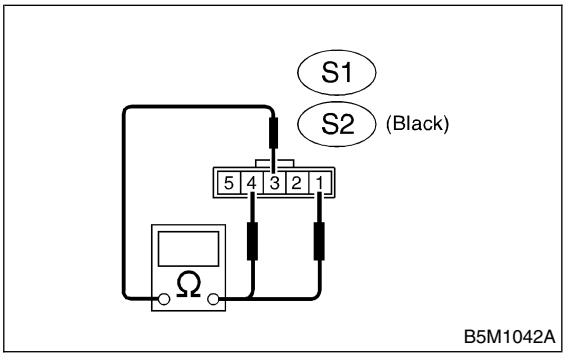
## B: INSTALLATION S910538A11

Install in the reverse order of removal.

## C: INSPECTION S910538A10

### 1. SEDAN S910538A1001

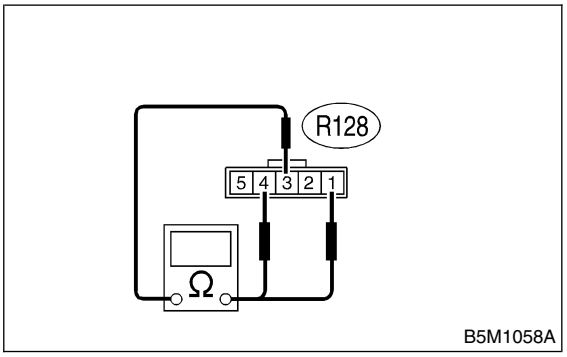
Measure sunroof switch resistance.




| Switch position | Terminal No. | Standard |
|---|---|---|
| Open | S1: 3 and 4 | Less than 1 Ω |
| Close | S1: 1 and 3 | Less than 1 Ω |
| Tilt-up | S2: 3 and 4 | Less than 1 Ω |
| Tilt-down | S2: 1 and 3 | Less than 1 Ω |

### 2. WAGON S910538A1002

Measure sunroof switch resistance.

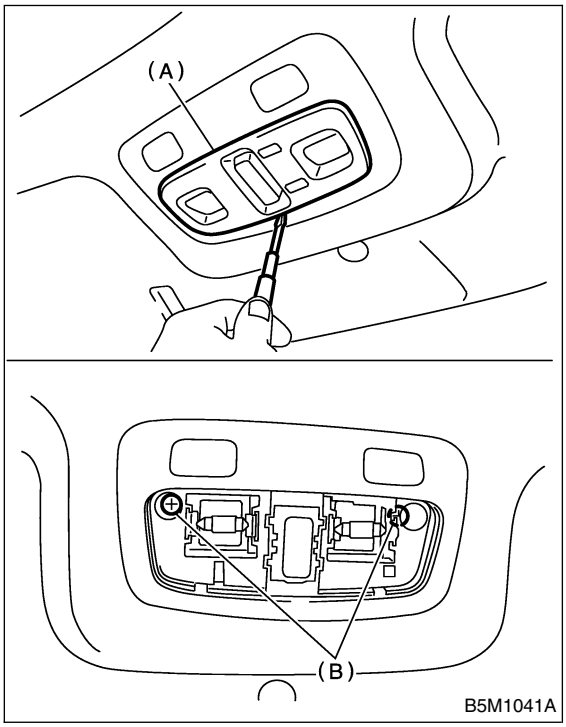



| Switch position | Terminal No. | Standard |
|---|---|---|
| Open | 3 and 4 | Less than 1 Ω |
| Close | 1 and 3 | Less than 1 Ω |

# 6. Sunroof Switch S910538

## A: REMOVAL S910538A18

1) Disconnect ground cable from battery.
2) Remove spot light lens (A) and sunroof switch mounting screw (B).




3) Disconnect harness connectors and remove sunroof switch.

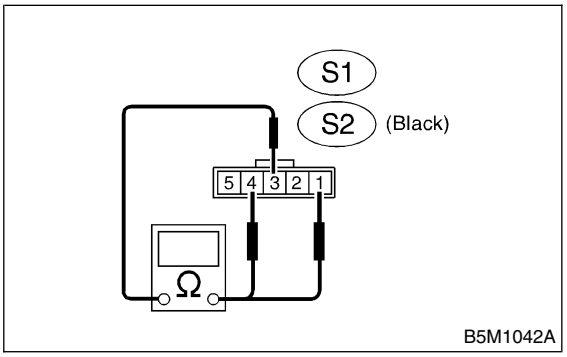
## B: INSTALLATION S910538A11

Install in the reverse order of removal.

## C: INSPECTION S910538A10

### 1. SEDAN S910538A1001

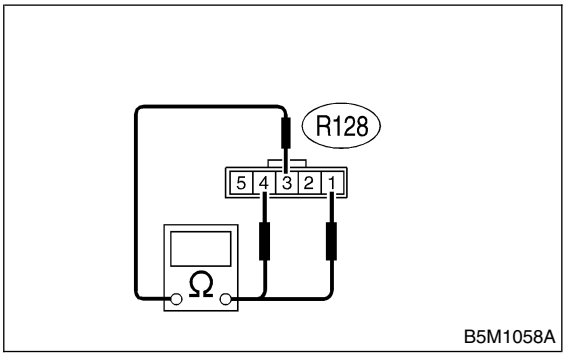
Measure sunroof switch resistance.




| Switch position | Terminal No. | Standard |
|---|---|---|
| Open | S1: 3 and 4 | Less than 1 Ω |
| Close | S1: 1 and 3 | Less than 1 Ω |
| Tilt-up | S2: 3 and 4 | Less than 1 Ω |
| Tilt-down | S2: 1 and 3 | Less than 1 Ω |

### 2. WAGON S910538A1002

Measure sunroof switch resistance.

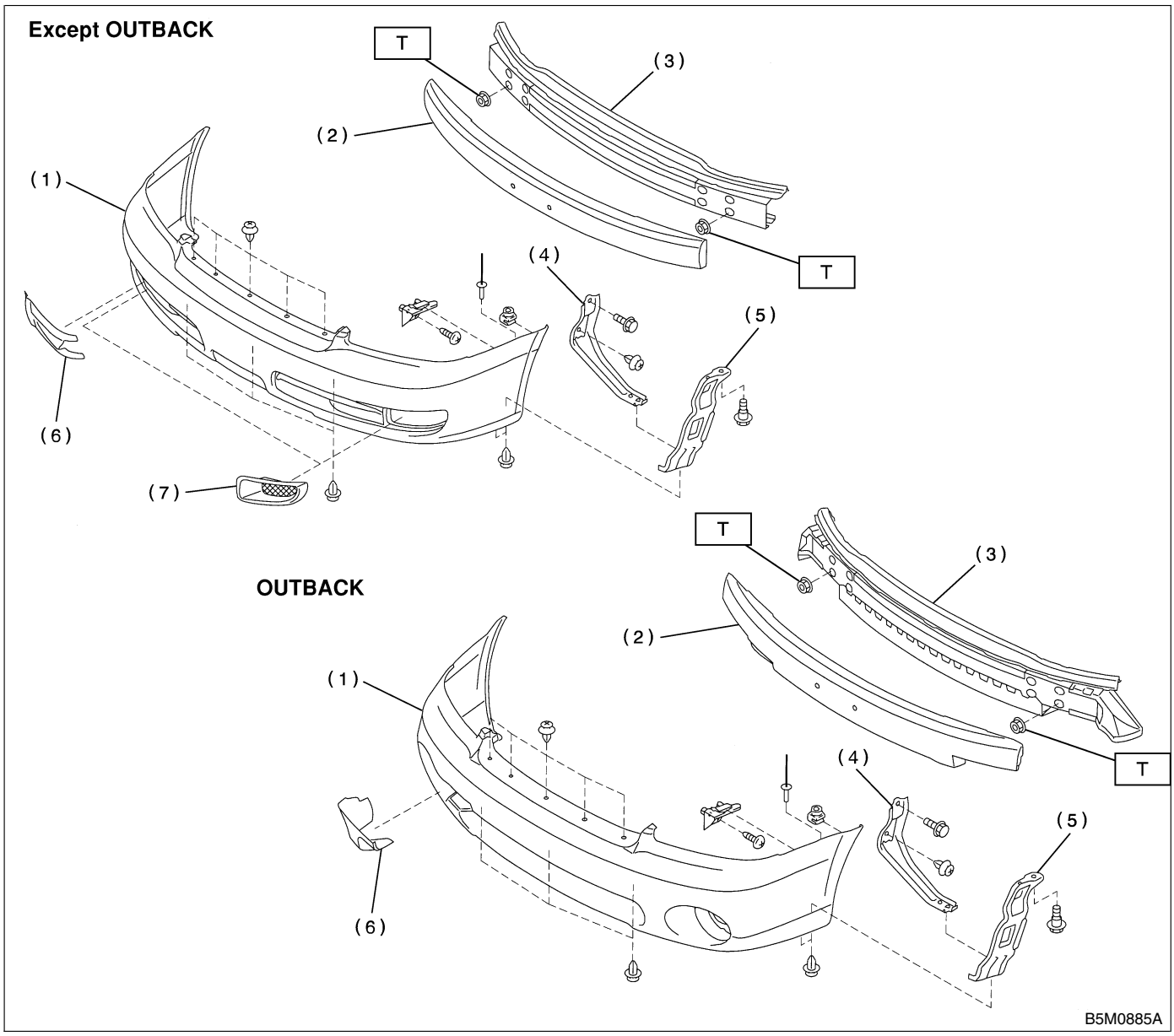



| Switch position | Terminal No. | Standard |
|---|---|---|
| Open | 3 and 4 | Less than 1 Ω |
| Close | 1 and 3 | Less than 1 Ω |

# 1. General Description S911001

## A: COMPONENT S911001A05

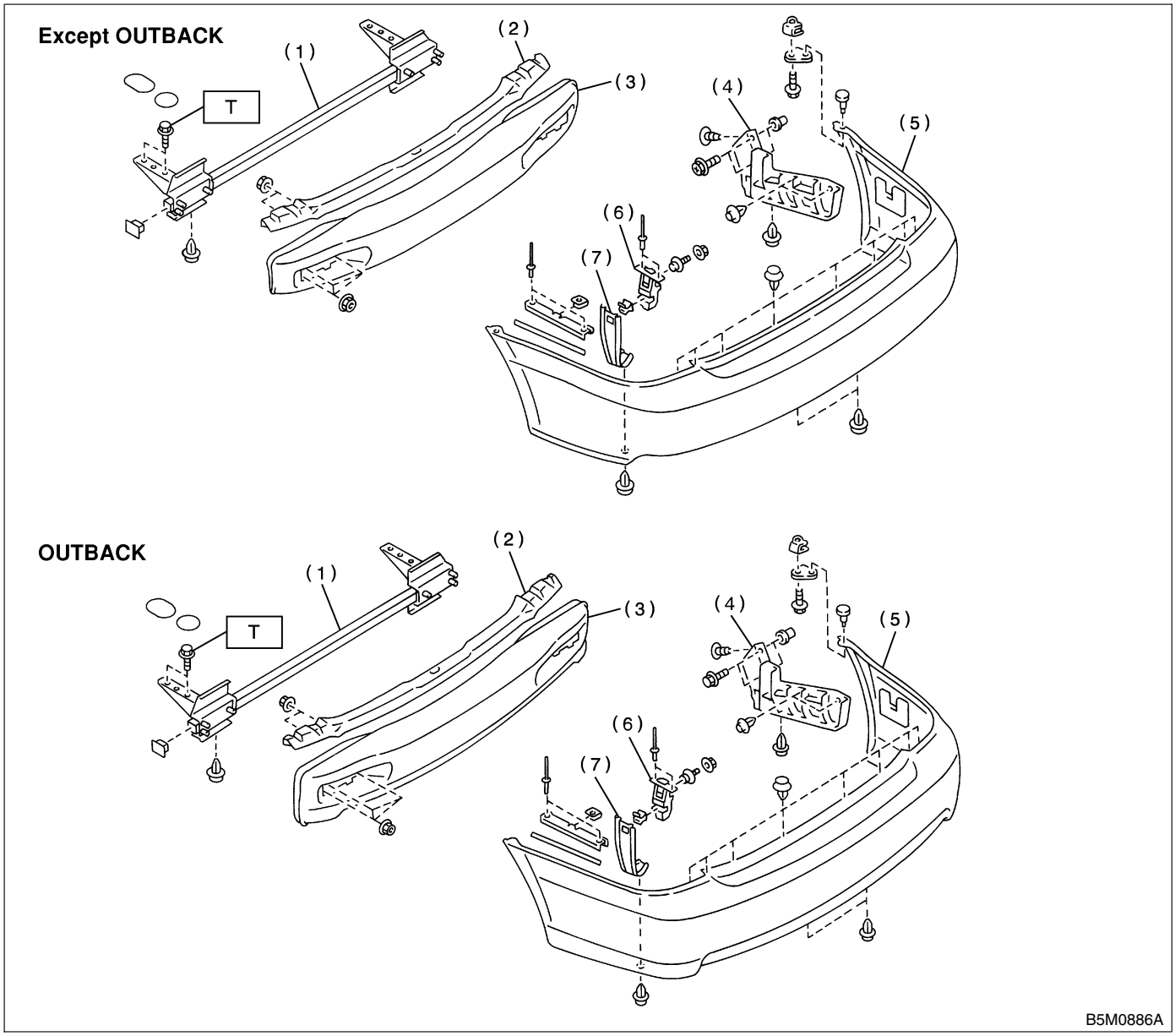
### 1. FRONT BUMPER S911001A0501




(1) Bumper face
(2) E/A form
(3) Bumper beam
(4) Side stay
(5) Side bracket
(6) Cover (Tie down hook)
(7) Cover

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 33 (3.4, 25)***

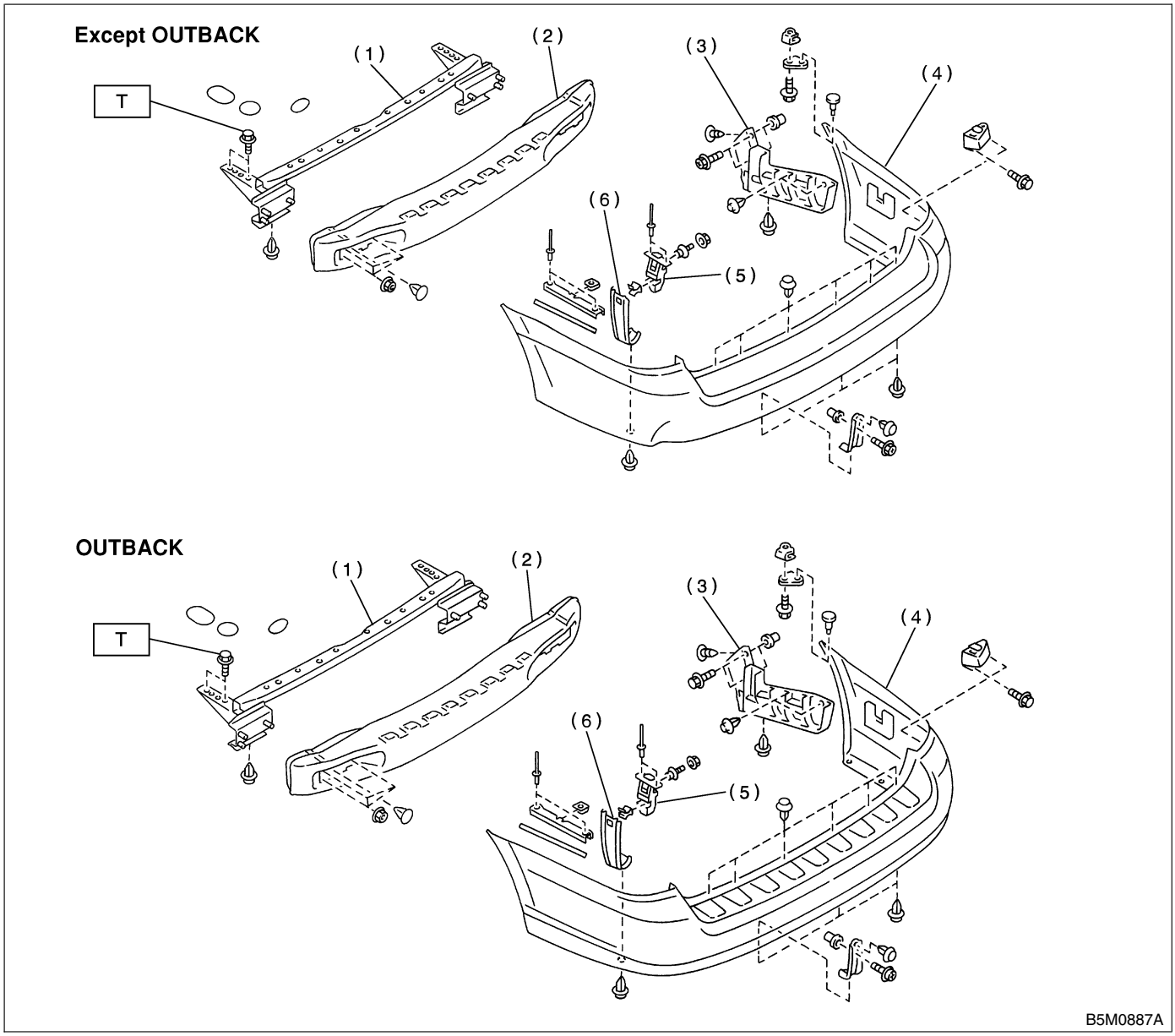
## 2. REAR BUMPER (SEDAN) S911001A0502




(1) Bumper beam
(2) Upper beam
(3) Resin beam
(4) Side bracket
(5) Bumper face
(6) Hook
(7) Side stay

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 95 (9.7, 70)***

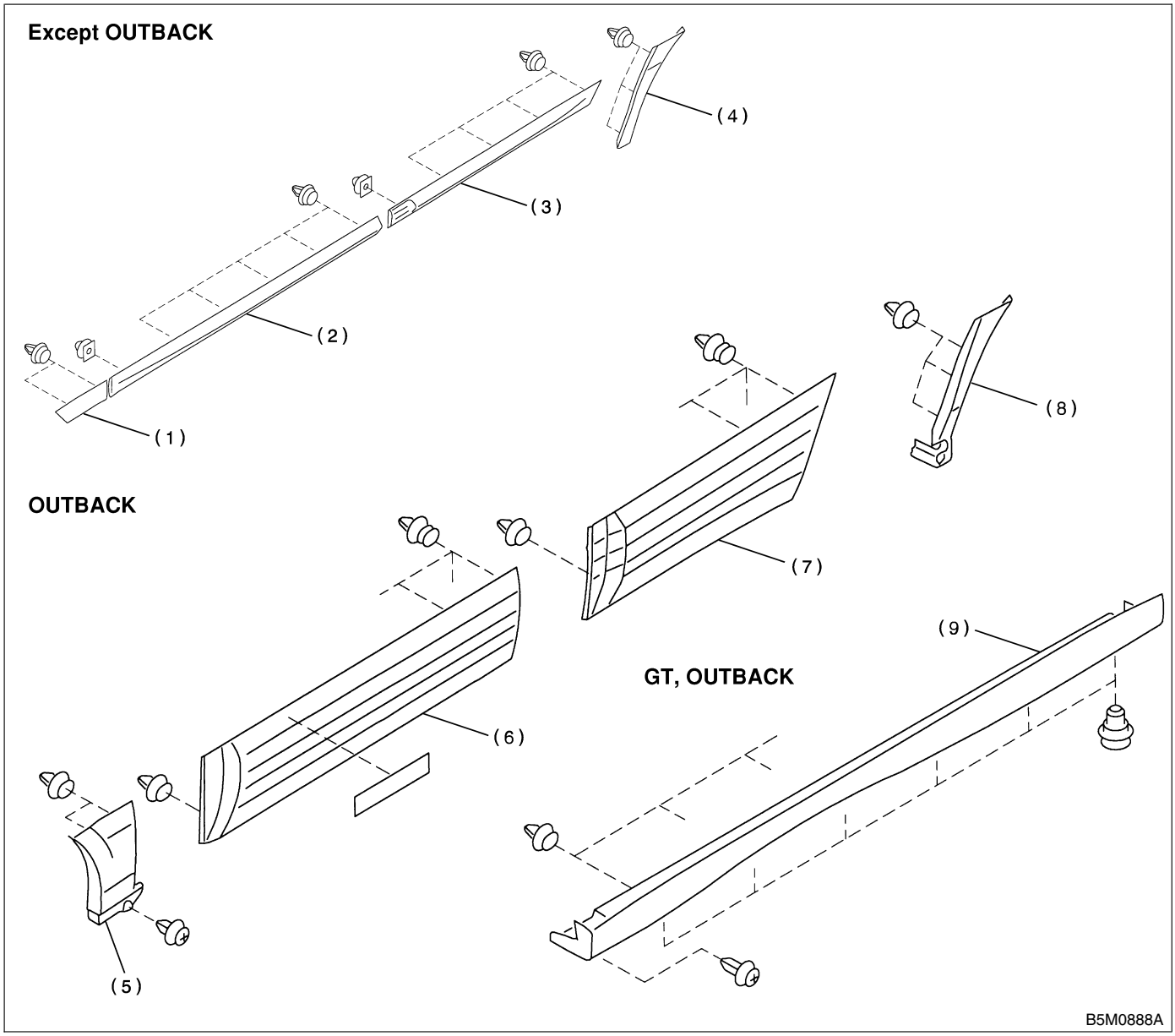
## 3. REAR BUMPER (WAGON) S911001A0503




(1) Bumper beam
(2) Resin beam
(3) Side bracket
(4) Bumper face
(5) Hook
(6) Side stay

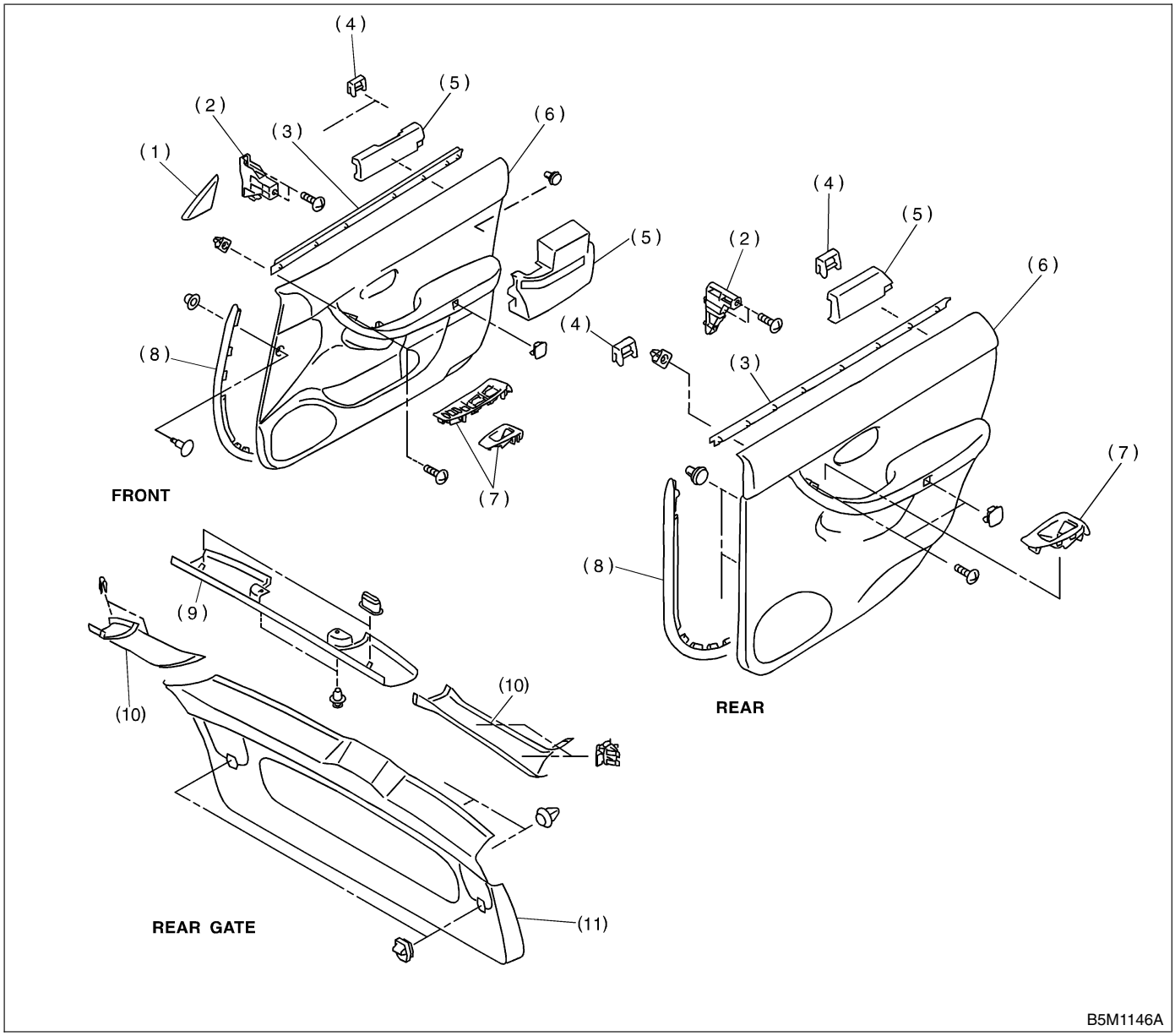
***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 95 (9.7, 70)***

## 4. SIDE PROTECTOR S911001A0504



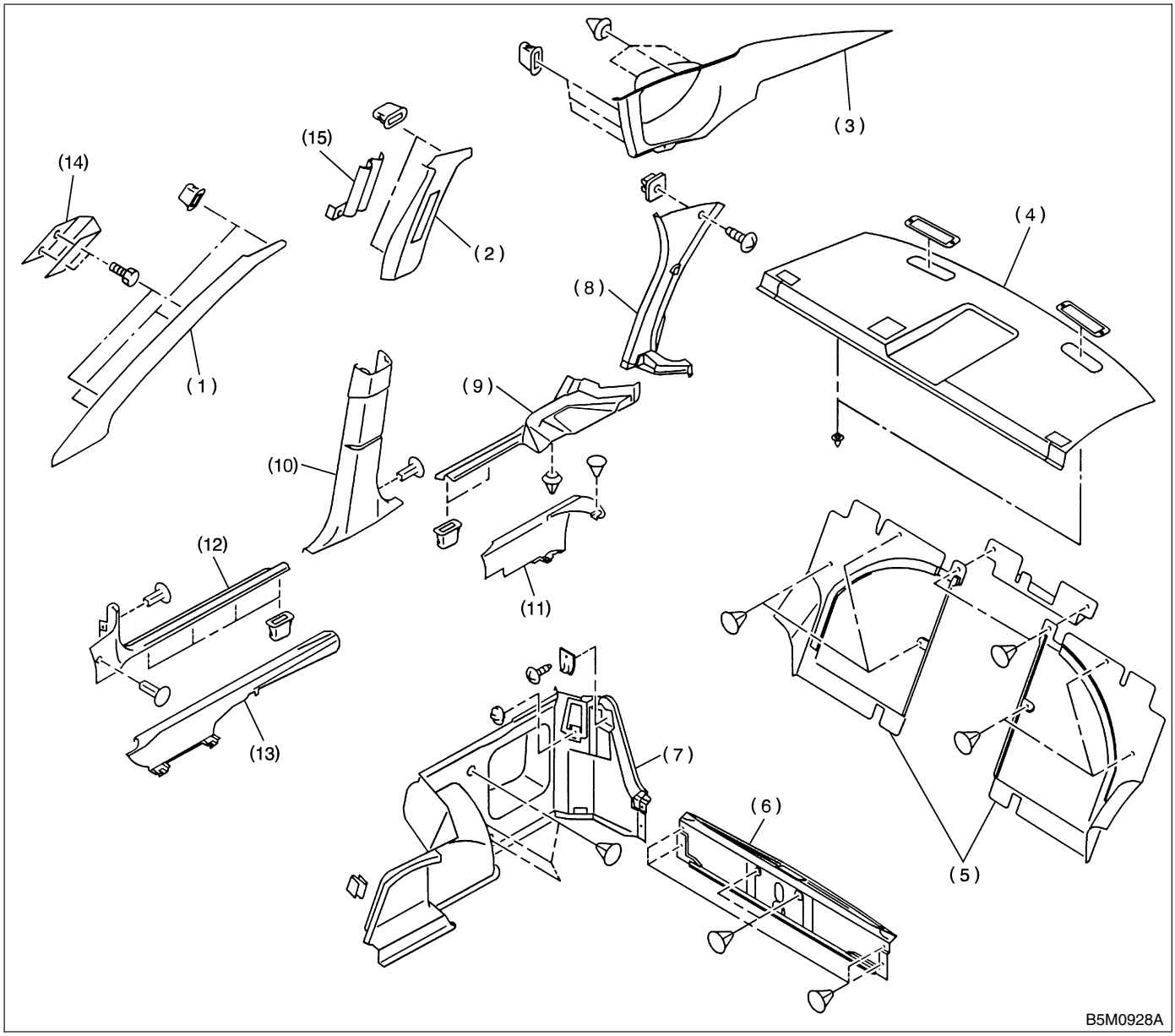

(1) Side protector (Front fender)
(2) Side protector (Front door)
(3) Side protector (Rear door)
(4) Side protector (Rear quarter)
(5) Side garnish (Front fender)
(6) Side garnish (Front door)
(7) Side garnish (Rear door)
(8) Side garnish (Rear quarter)
(9) Side garnish (Side sill)

## 5. DOOR TRIM S911001A0505



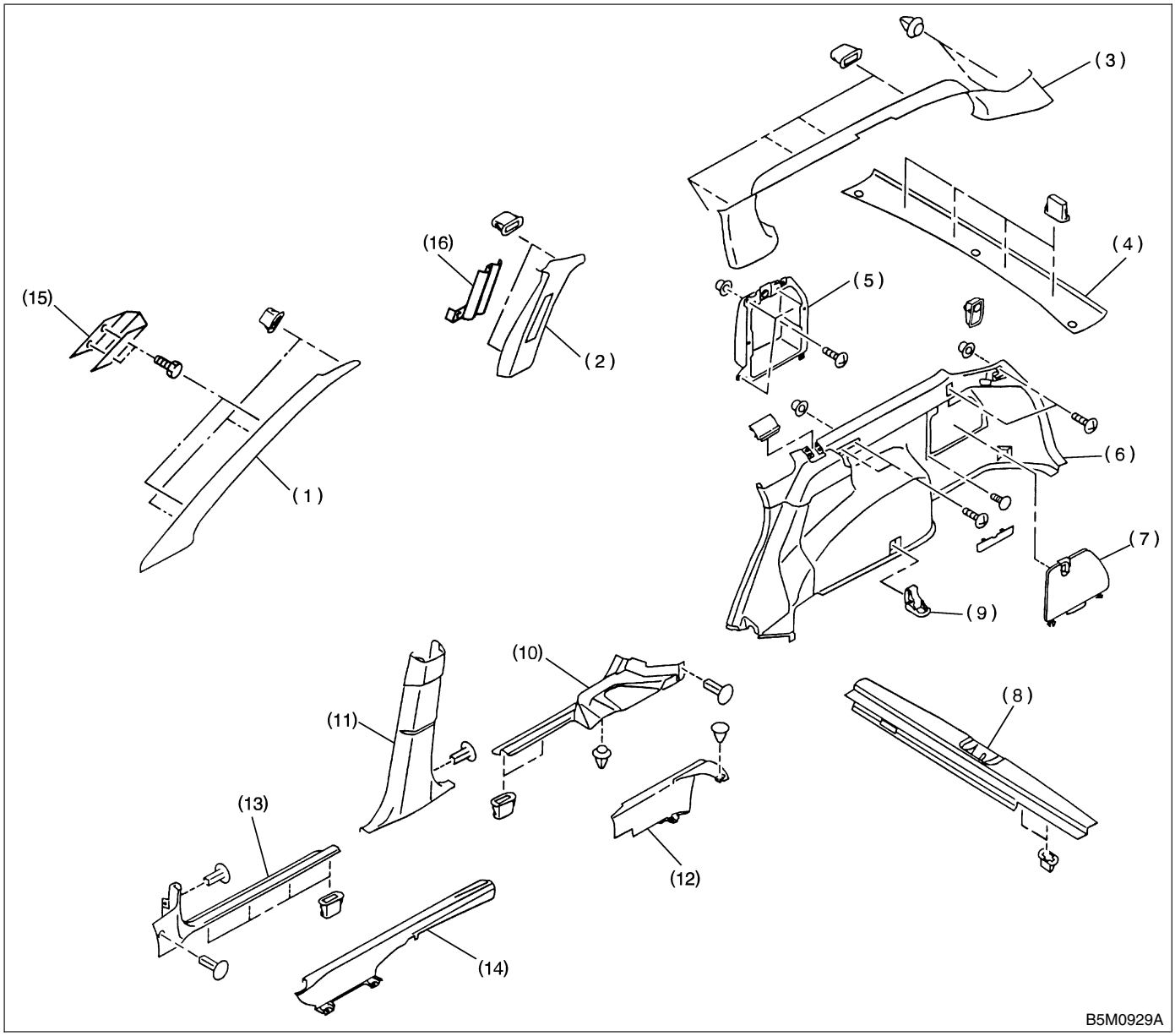

(1) Gusset cover
(2) Bracket
(3) Weatherstrip upper
(4) Clip
(5) Pad
(6) Trim panel
(7) Power window switch cover
(8) Weatherstrip lower
(9) Upper trim
(10) Side trim
(11) Lower trim

## 6. INNER TRIM (SEDAN) S911001A0506



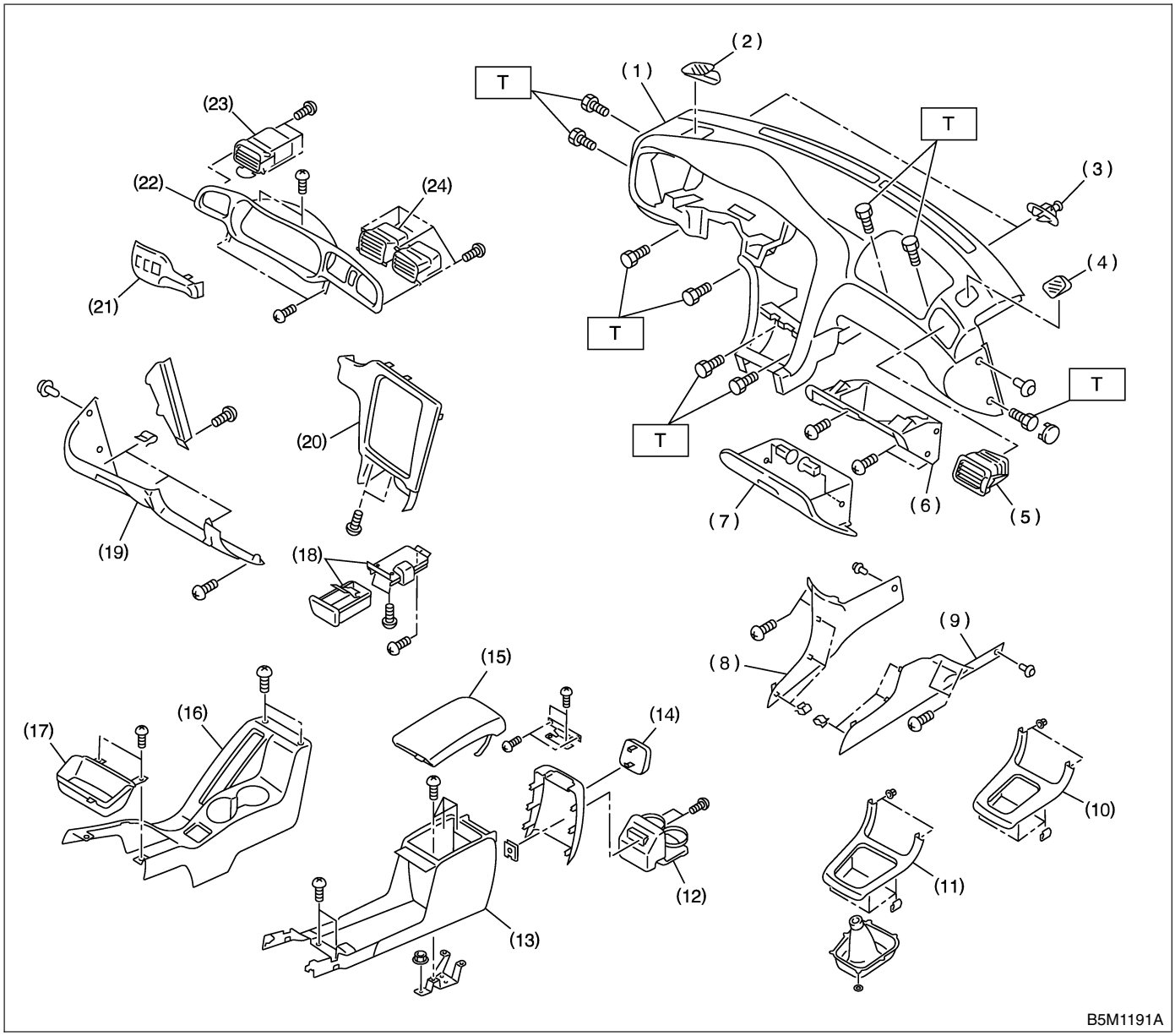

(1) Front pillar upper trim
(2) Center pillar upper trim
(3) Rear pillar upper trim
(4) Rear shelf trim
(5) Rear bulk trim
(6) Trunk rear trim
(7) Trunk side trim
(8) Rear pillar lower trim
(9) Side sill rear upper cover
(10) Center pillar lower trim
(11) Side sill rear lower cover
(12) Front pillar lower trim
(13) Side sill front lower cover
(14) Pad stopper A pillar
(15) Pad B pillar upper

## 7. INNER TRIM (WAGON) S911001A0507




(1) Front pillar upper trim
(2) Center pillar upper trim
(3) Rear pillar upper trim
(4) Rear rail trim
(5) Pocket
(6) Rear quarter lower trim
(7) Lid
(8) Rear skirt trim
(9) Hook
(10) Side sill rear upper cover
(11) Center pillar lower trim
(12) Side sill rear lower cover
(13) Front pillar lower trim
(14) Side sill front lower cover
(15) Pad stopper A pillar
(16) Pad B pillar upper

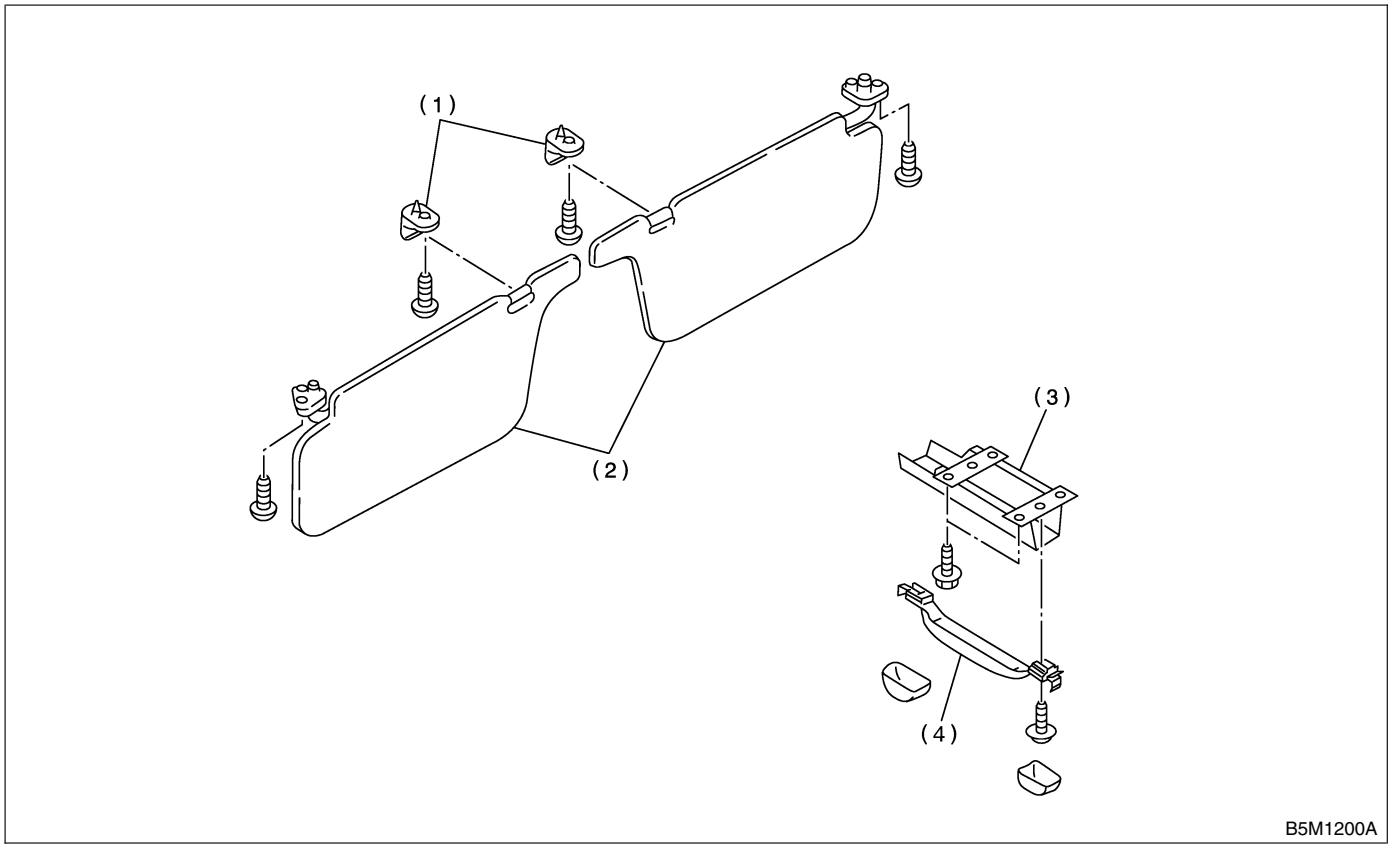
## 8. INSTRUMENT PANEL S911001A0508




(1) Pad & frame
(2) Grille side (D)
(3) Hook
(4) Grille side (P)
(5) Grille vent (P)
(6) Glove box panel
(7) Glove box lid
(8) Center panel side (D)
(9) Center panel side (P)
(10) Front cover (AT)
(11) Front cover (MT)
(12) Rear cup holder
(13) Console box
(14) Cap
(15) Console lid
(16) Console cover
(17) Tray
(18) Ash tray
(19) Lower cover
(20) Center panel
(21) Switch panel
(22) Meter visor
(23) Grille vent (D)
(24) Grille center

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 7 (0.7, 5.1)***

## 9. INNER ACCESSORIES S911001A0510




(1) Hook
(2) Sun visor
(3) Pad side rail
(4) Assist grip

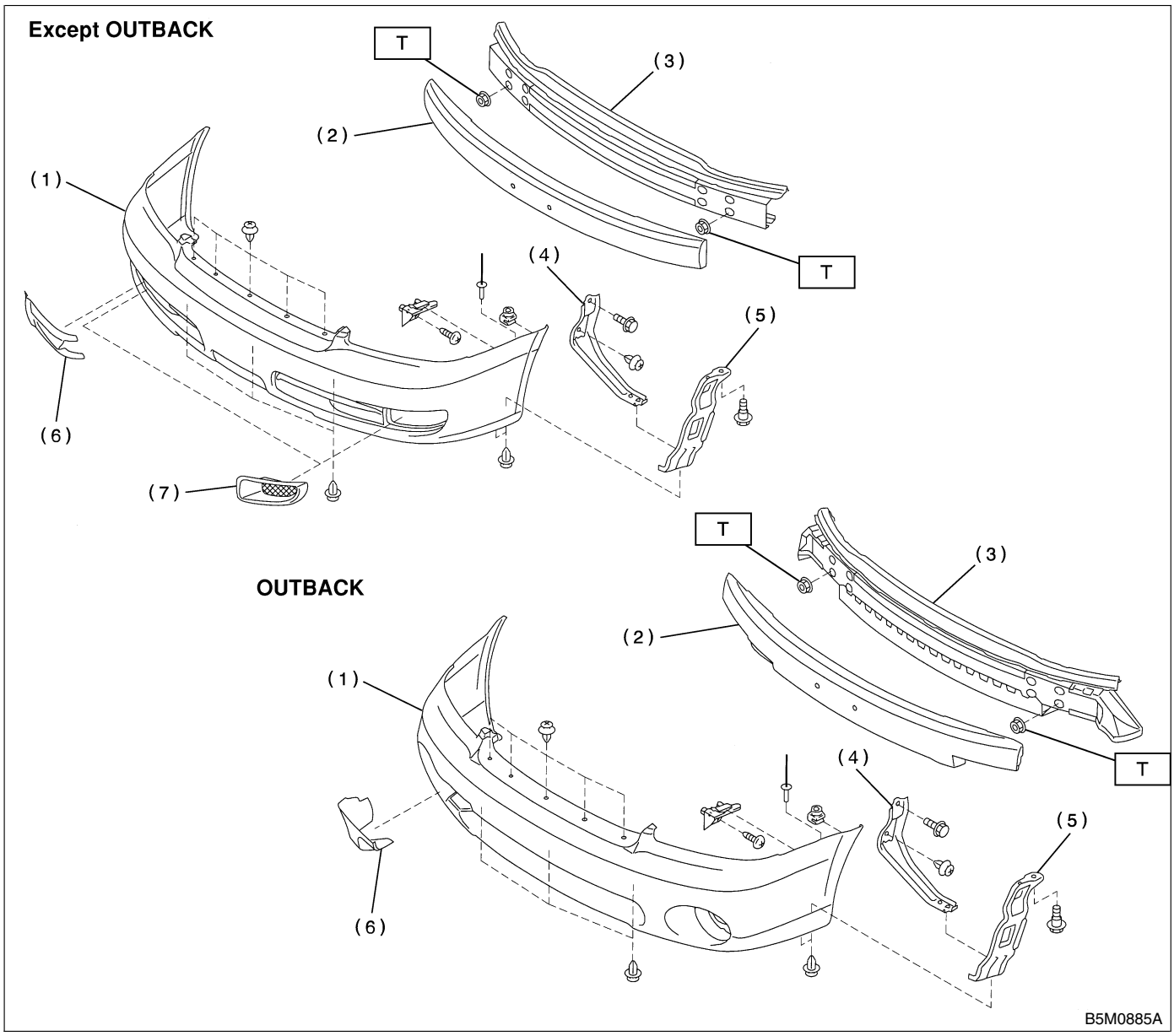
## B: PREPARATION TOOL S911001A17

| TOOL NAME | REMARKS |
|---|---|
| Clip remover | Used for trim removal. |
| Adhesive remover | Used for side protector removal. |
| Primer | Used for side protector installation. |
| Infrared lamp | Used for removal/installation of side protector. |
| Tow-sided tape | Used for side protector installation. |
| TORX® T30 | Used for removal/installation of crossbar. |

# 1. General Description S911001

## A: COMPONENT S911001A05

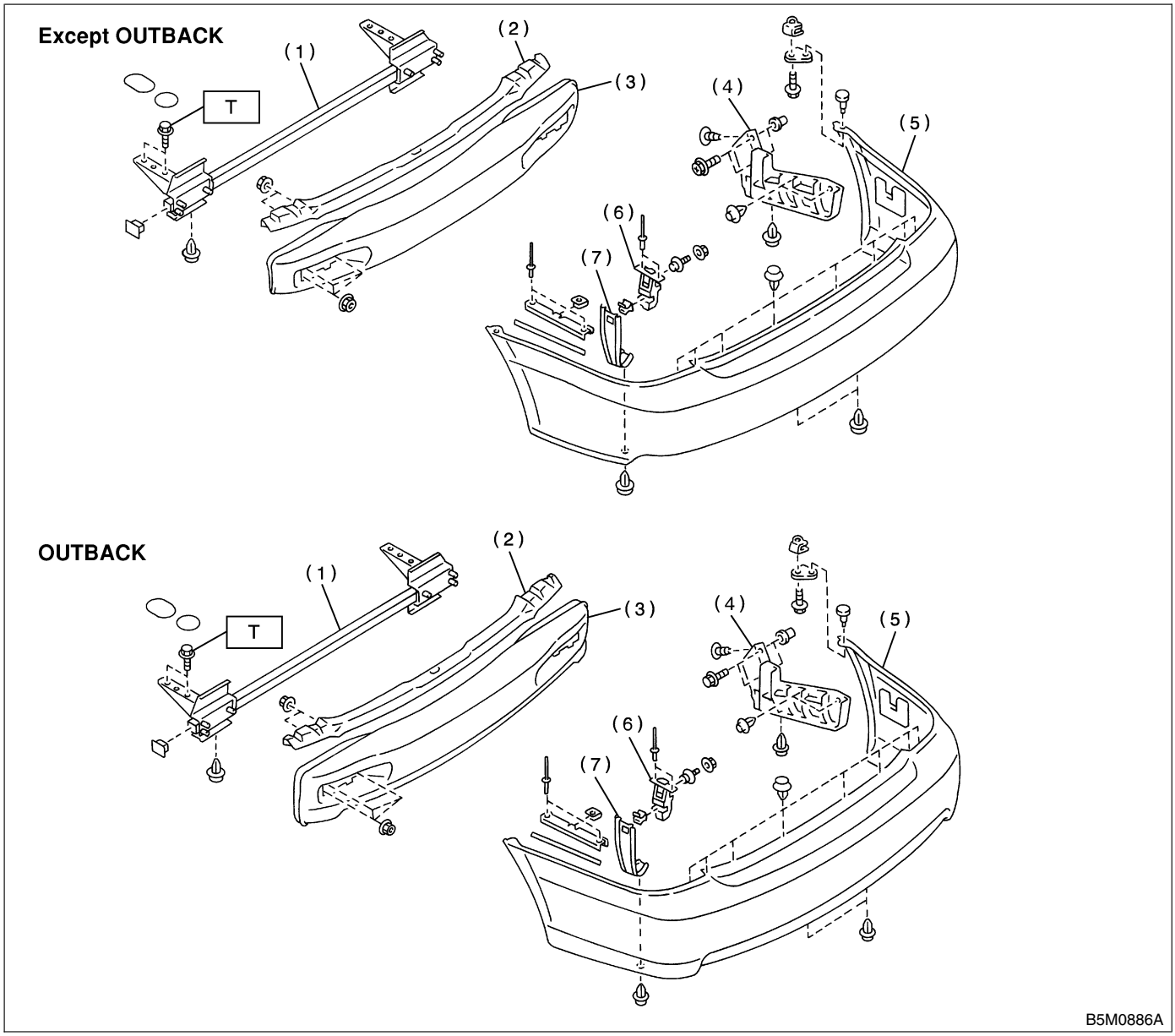
### 1. FRONT BUMPER S911001A0501




(1) Bumper face
(2) E/A form
(3) Bumper beam
(4) Side stay
(5) Side bracket
(6) Cover (Tie down hook)
(7) Cover

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 33 (3.4, 25)***

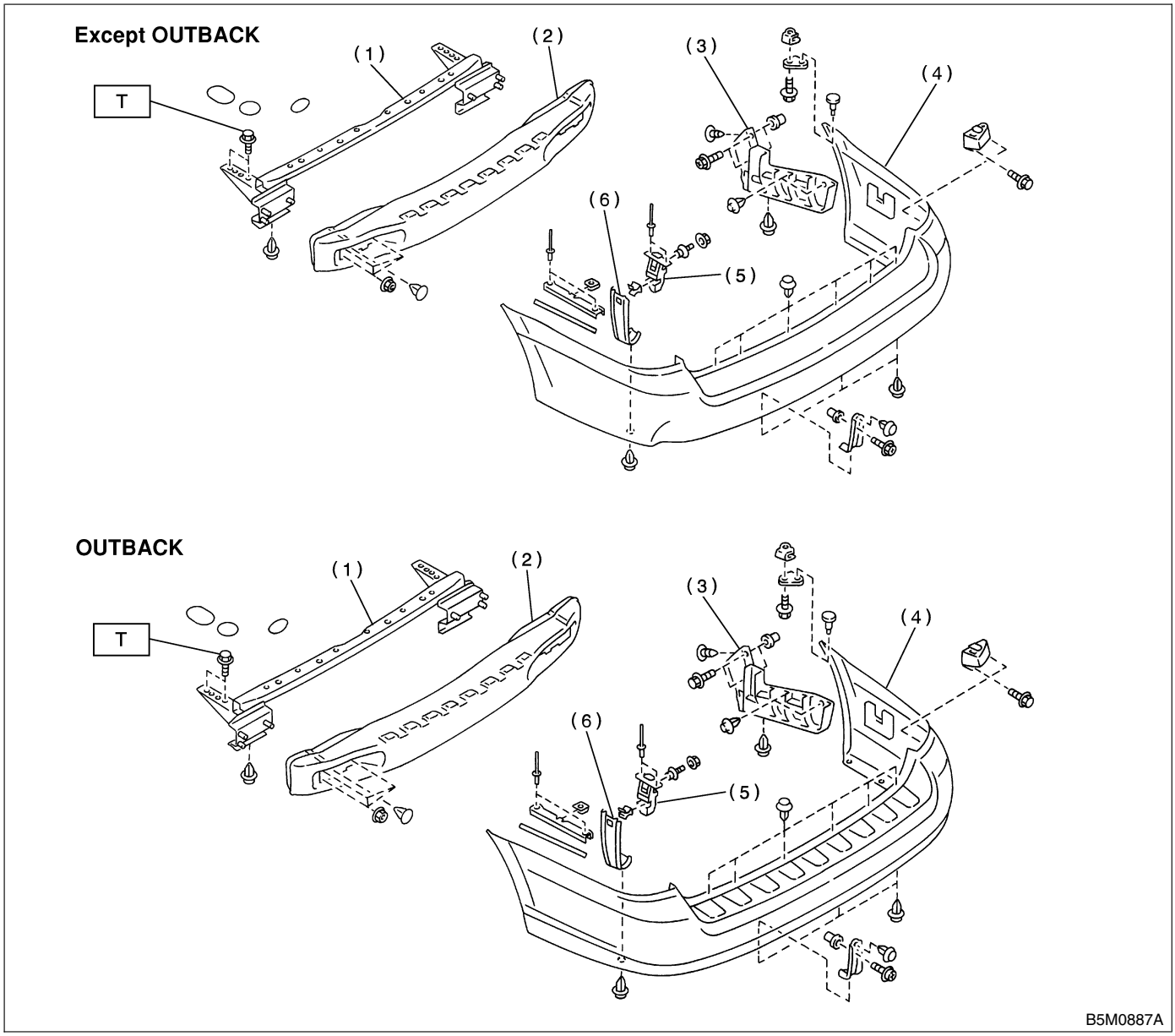
## 2. REAR BUMPER (SEDAN) S911001A0502




(1) Bumper beam
(2) Upper beam
(3) Resin beam
(4) Side bracket
(5) Bumper face
(6) Hook
(7) Side stay

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 95 (9.7, 70)***

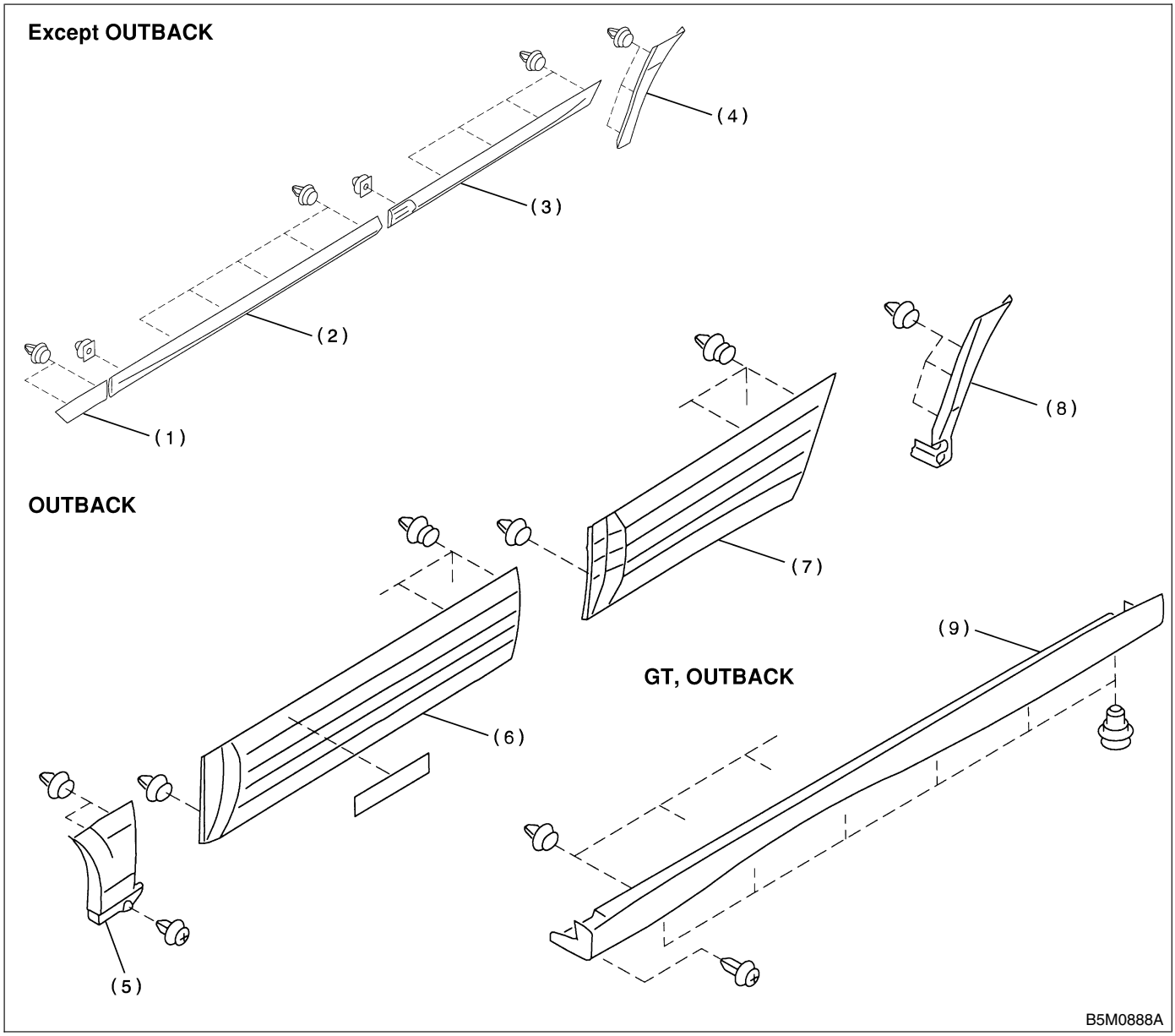
## 3. REAR BUMPER (WAGON) S911001A0503




(1) Bumper beam
(2) Resin beam
(3) Side bracket
(4) Bumper face
(5) Hook
(6) Side stay

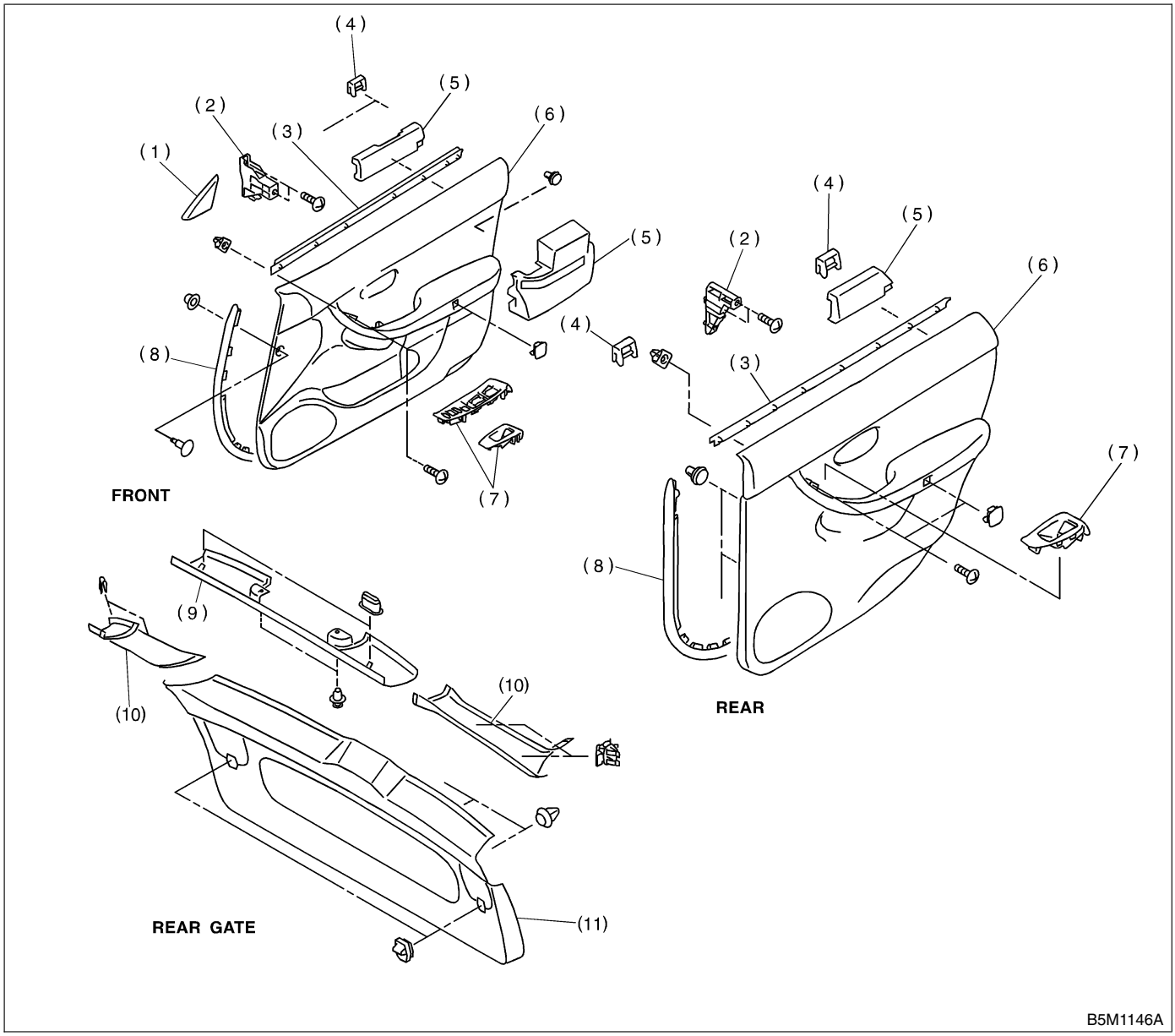
***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 95 (9.7, 70)***

## 4. SIDE PROTECTOR S911001A0504



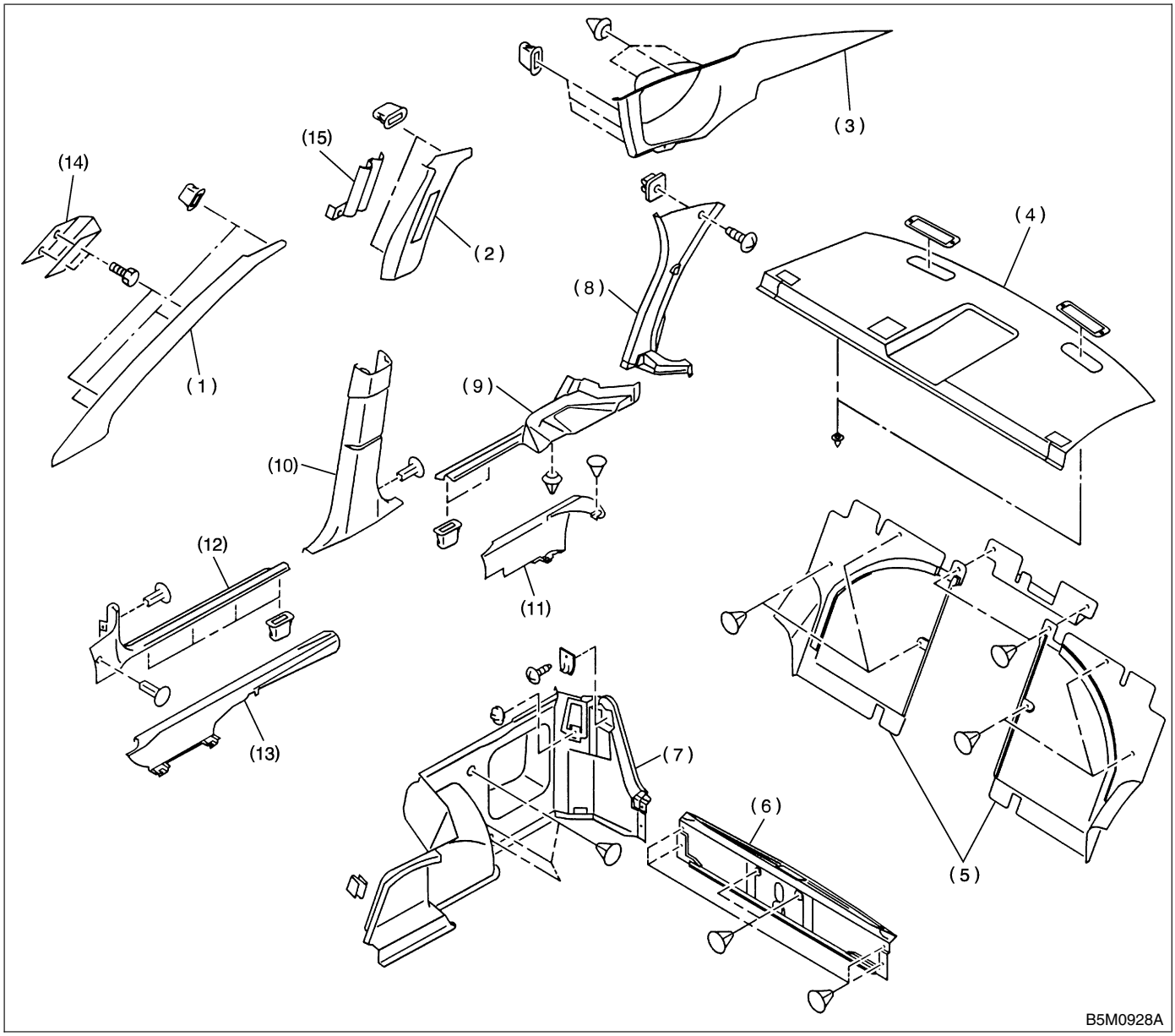

(1) Side protector (Front fender)
(2) Side protector (Front door)
(3) Side protector (Rear door)
(4) Side protector (Rear quarter)
(5) Side garnish (Front fender)
(6) Side garnish (Front door)
(7) Side garnish (Rear door)
(8) Side garnish (Rear quarter)
(9) Side garnish (Side sill)

## 5. DOOR TRIM S911001A0505



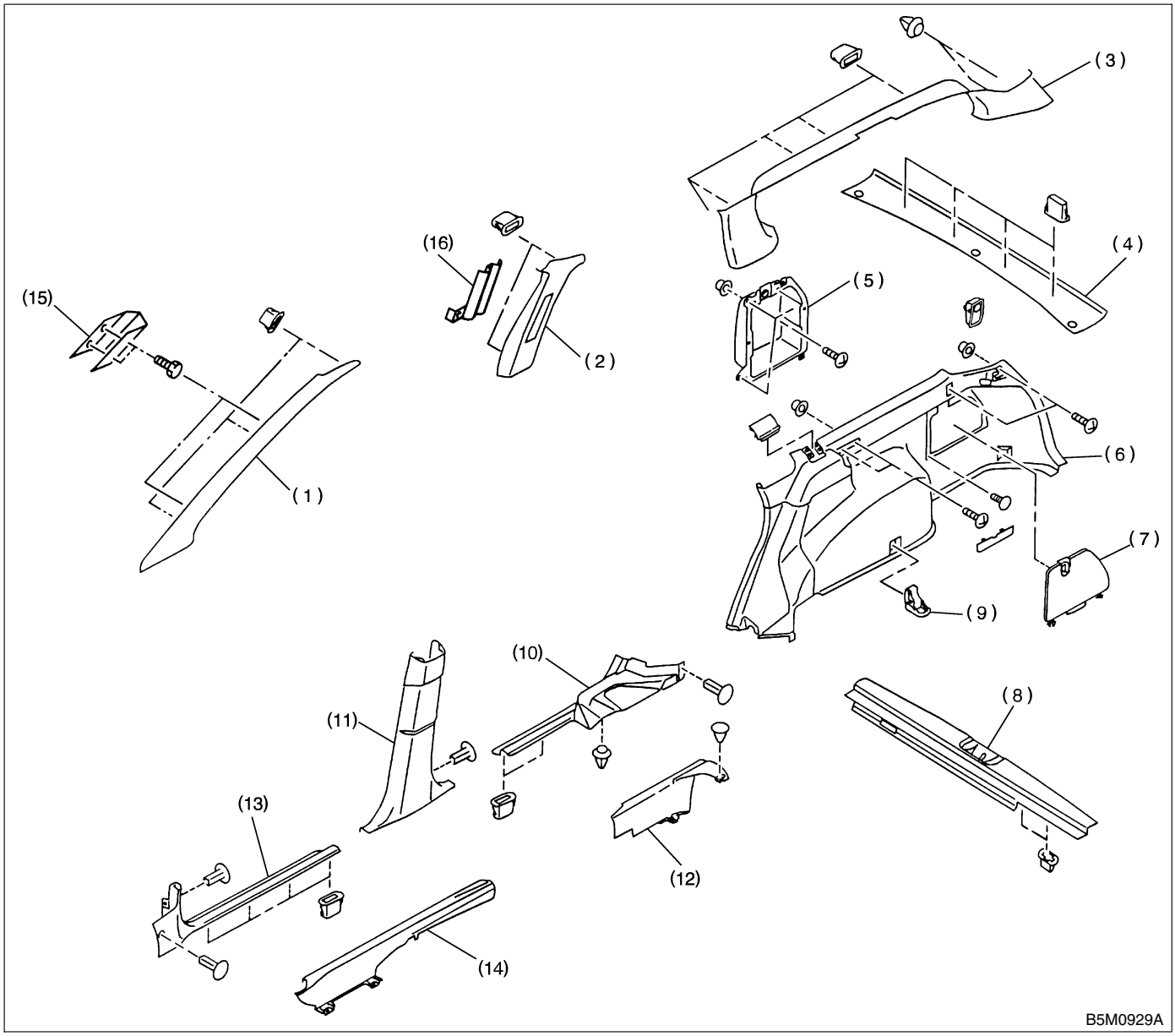

(1) Gusset cover
(2) Bracket
(3) Weatherstrip upper
(4) Clip
(5) Pad
(6) Trim panel
(7) Power window switch cover
(8) Weatherstrip lower
(9) Upper trim
(10) Side trim
(11) Lower trim

## 6. INNER TRIM (SEDAN) S911001A0506



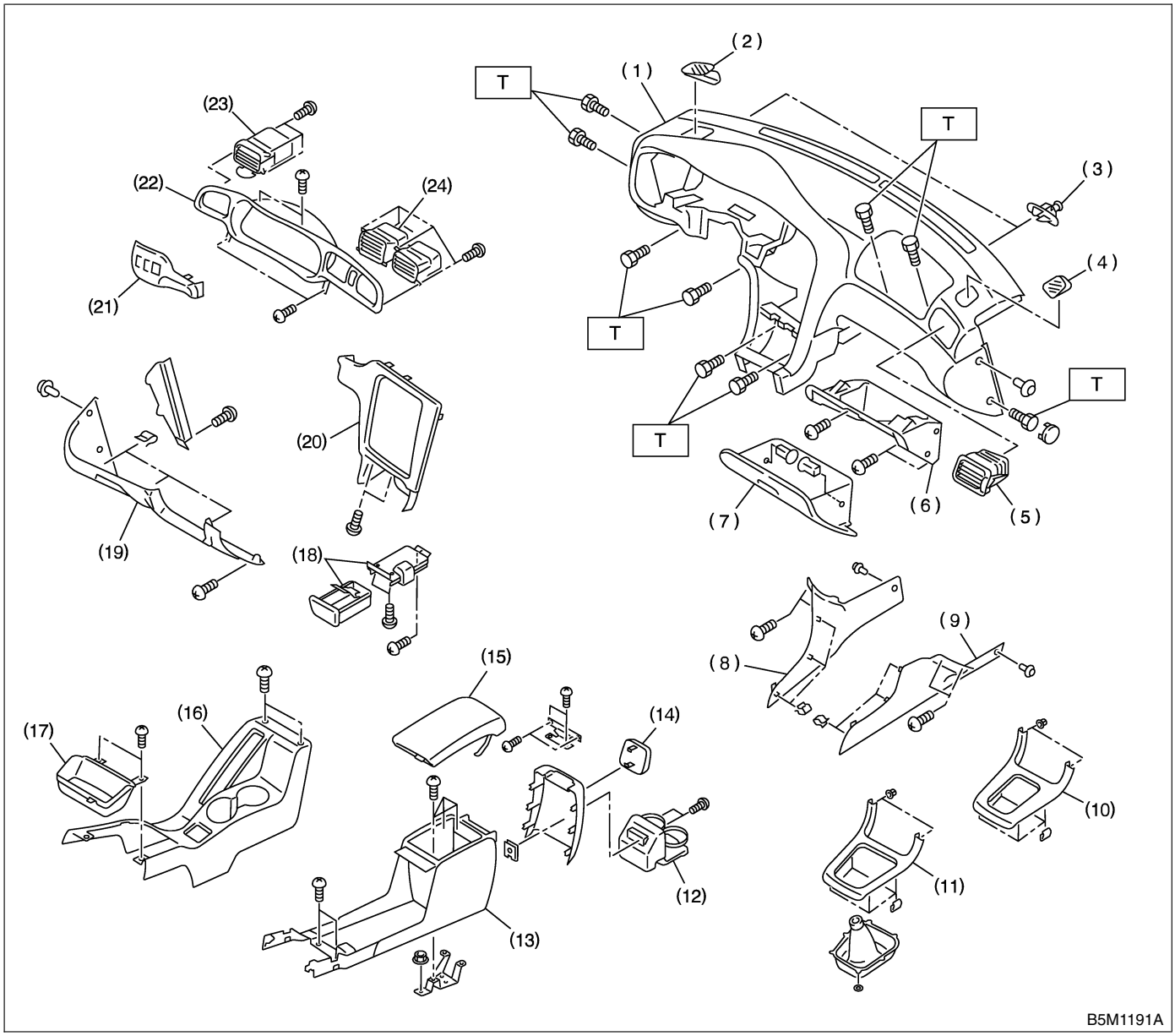

(1) Front pillar upper trim
(2) Center pillar upper trim
(3) Rear pillar upper trim
(4) Rear shelf trim
(5) Rear bulk trim
(6) Trunk rear trim
(7) Trunk side trim
(8) Rear pillar lower trim
(9) Side sill rear upper cover
(10) Center pillar lower trim
(11) Side sill rear lower cover
(12) Front pillar lower trim
(13) Side sill front lower cover
(14) Pad stopper A pillar
(15) Pad B pillar upper

## 7. INNER TRIM (WAGON) S911001A0507




(1) Front pillar upper trim
(2) Center pillar upper trim
(3) Rear pillar upper trim
(4) Rear rail trim
(5) Pocket
(6) Rear quarter lower trim
(7) Lid
(8) Rear skirt trim
(9) Hook
(10) Side sill rear upper cover
(11) Center pillar lower trim
(12) Side sill rear lower cover
(13) Front pillar lower trim
(14) Side sill front lower cover
(15) Pad stopper A pillar
(16) Pad B pillar upper

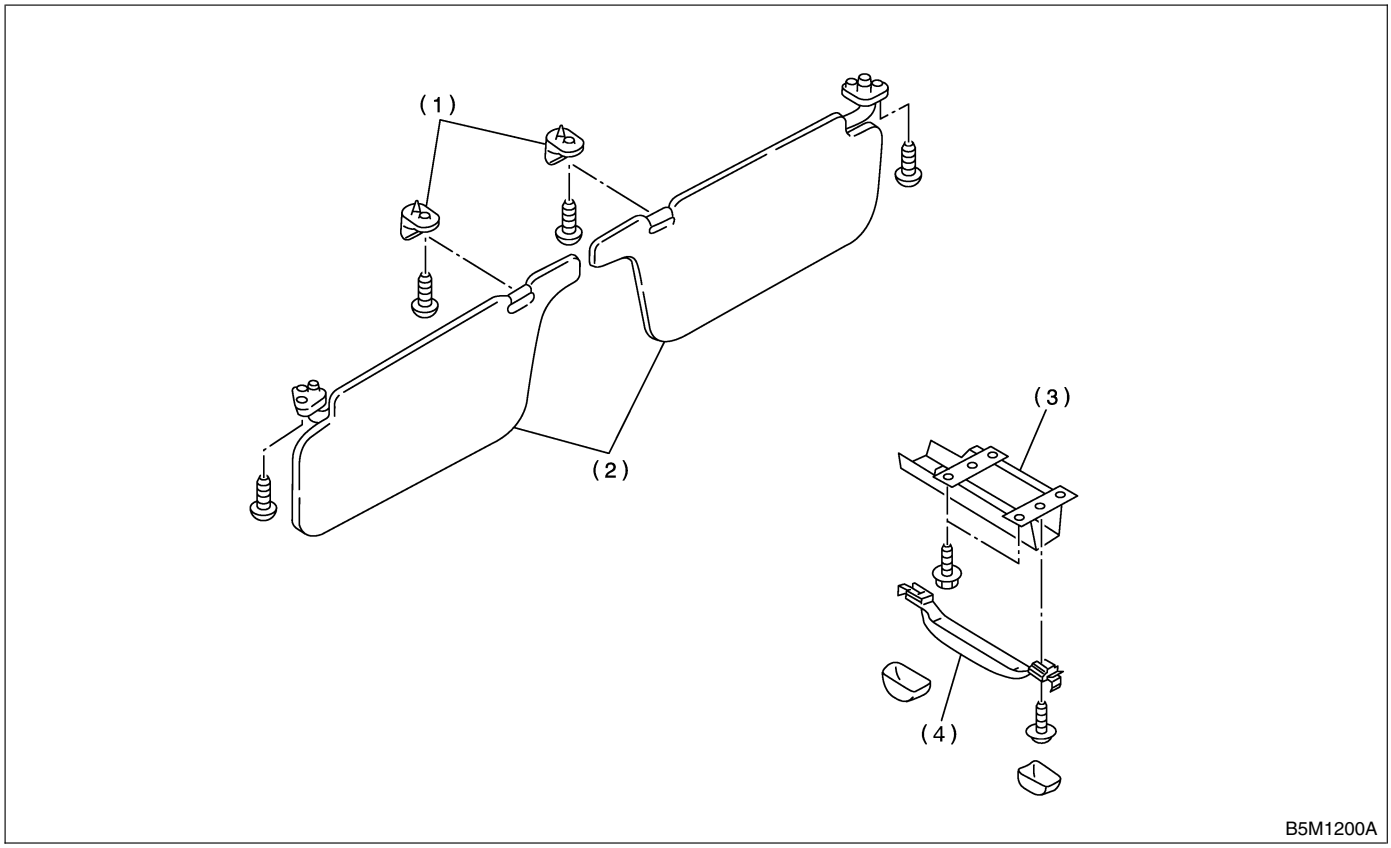
## 8. INSTRUMENT PANEL S911001A0508




(1) Pad & frame
(2) Grille side (D)
(3) Hook
(4) Grille side (P)
(5) Grille vent (P)
(6) Glove box panel
(7) Glove box lid
(8) Center panel side (D)
(9) Center panel side (P)
(10) Front cover (AT)
(11) Front cover (MT)
(12) Rear cup holder
(13) Console box
(14) Cap
(15) Console lid
(16) Console cover
(17) Tray
(18) Ash tray
(19) Lower cover
(20) Center panel
(21) Switch panel
(22) Meter visor
(23) Grille vent (D)
(24) Grille center

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 7 (0.7, 5.1)***

## 9. INNER ACCESSORIES S911001A0510




(1) Hook
(2) Sun visor
(3) Pad side rail
(4) Assist grip

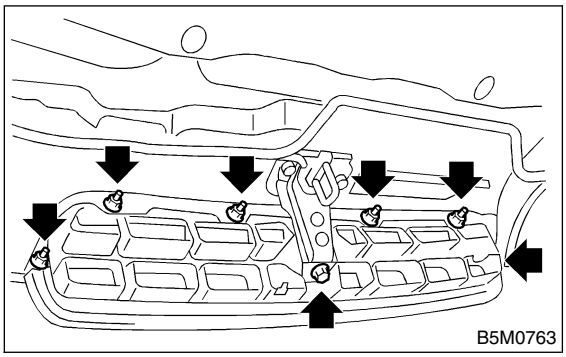
## B: PREPARATION TOOL S911001A17

| TOOL NAME | REMARKS |
|---|---|
| Clip remover | Used for trim removal. |
| Adhesive remover | Used for side protector removal. |
| Primer | Used for side protector installation. |
| Infrared lamp | Used for removal/installation of side protector. |
| Tow-sided tape | Used for side protector installation. |
| TORX® T30 | Used for removal/installation of crossbar. |

## 2. Front Grille S911379

### A: REMOVAL S911379A18

1) Open hood.
2) Loosen bolts and nuts to remove front grille.



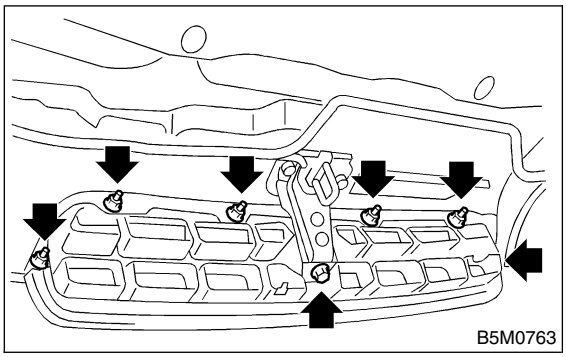

### B: INSTALLATION S911379A11

Install in the reverse order of removal.

## 2. Front Grille S911379

### A: REMOVAL S911379A18

1) Open hood.
2) Loosen bolts and nuts to remove front grille.



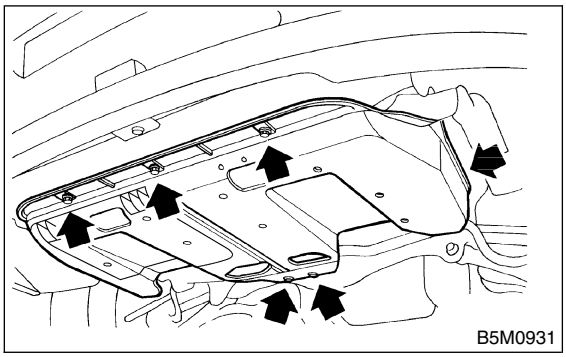

### B: INSTALLATION S911379A11

Install in the reverse order of removal.

# 3. Front Under Cover S911372

## A: REMOVAL S911372A18

1) Lift-up the vehicle.
2) Loosen bolts and clips to remove under cover.




## B: INSTALLATION S911372A11

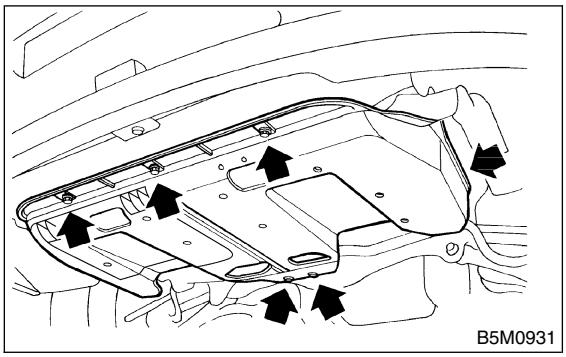
Install in the reverse order of removal.

***Tightening torque:***
***18.4 N·m (1.88 kgf-m, 13.6 ft-lb)***

# 3. Front Under Cover S911372

## A: REMOVAL S911372A18

1) Lift-up the vehicle.
2) Loosen bolts and clips to remove under cover.




## B: INSTALLATION S911372A11

Install in the reverse order of removal.

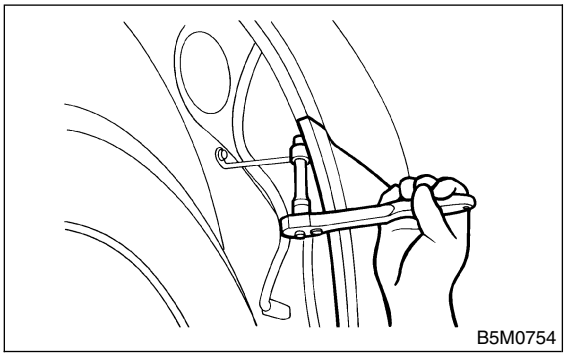
***Tightening torque:***
***18.4 N·m (1.88 kgf-m, 13.6 ft-lb)***

# 4. Front Bumper S911371

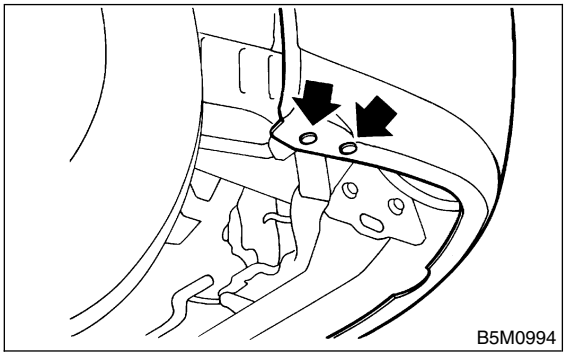
## A: REMOVAL S911371A18

**CAUTION:**
**• Handle bumper carefully to avoid damage to bumper face.**
**• Do not damage body during removal or installation of bumper.**
**• To avoid damage to bumper, lay removed bumper on sheet spread on the floor. Do not lay it directly on the floor.**

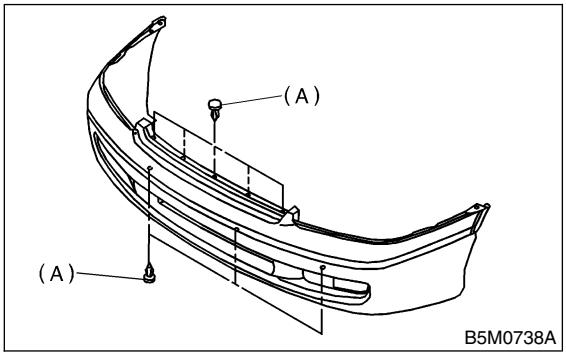
1) Open hood.
2) Remove ground cable from battery.
3) Pull off front side of front mud guard to remove bolts.


B5M0754

4) Remove clip at bottom of bumper.


B5M0994

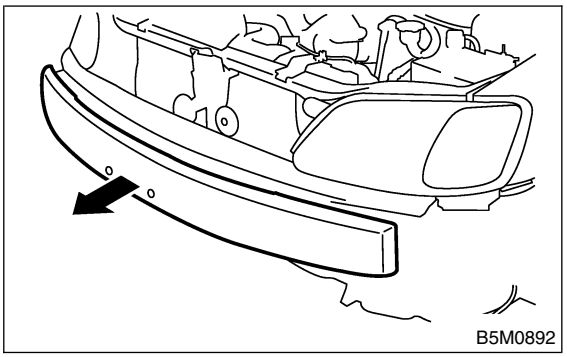
5) Remove clip (A), and pull out bumper slightly.
6) Disconnect electrical connector of fog light to remove bumper.



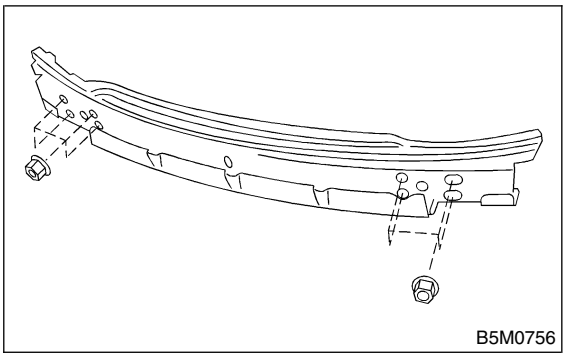
B5M0738A

7) Remove E/A FORM from bumper beam.

**CAUTION:**
**E/A FORM is easy to break. Do not apply excessive force to it during removal.**


B5M0892

8) Remove bumper beam.


B5M0756

## B: INSTALLATION S911371A11

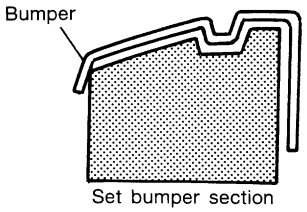
Install in the reverse order of removal.

**CAUTION:**
**• Handle bumper carefully to avoid damage to bumper face.**
**• Do not damage body during removal or installation of bumper.**

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EI-2, FRONT BUMPER, COMPONENT, General Description.>***

# C: REPAIR S911371A19

## 1. COATING METHOD FOR PP BUMPER S911371A1901

| Process No. | Process name | Job contents | |
|---|---|---|---|
| 1 | Bumper mounting | Set bumper on paint worktable if required. Use paint worktable conforming to inner shape of bumper when possible. |  G5M0164 |
| 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 one to all parts to be painted, using air gun. Use primer (clear). | |
| 5 | Drying | Dry at normal temperature [10 to 15 min. at 20°C (68°F)].<br>In half-dried condition, PP primer paint is dissolved by solvent, e.g. thinner, etc.<br>Therefore, if dust or dirt must be removed, use ordinary alcohol, etc. | |
| 6 | Top coat paint (I) | Solid color | Metallic color |
| | | Use section (block) paint for top coat.<br>● Paint in use (for each color):<br>Solid paint<br>Hardener PB<br>Thinner T-301<br>● Mixing ratio:<br>Main agent vs. hardener = 4:1<br>● Viscosity: 10 — 13 sec/20°C (68°F)<br>● Film thickness: 35 — 45μ<br>● Spraying pressure: 245 — 343 kPa<br>(2.5 — 3.5 kg/cm$^2$, 36 — 50 psi) | Use section (block) paint for top coat.<br>● Paint in use (for each color):<br>Metallic paint<br>Hardener PB<br>Thinner T-306<br>● Mixing ratio:<br>Main agent vs. hardener = 10:1<br>● Viscosity: 10 — 13 sec/20°C (68°F)<br>● Film thickness: 15 — 20μ<br>● Spraying pressure: 245 — 343 kPa<br>(2.5 — 3.5 kg/cm$^2$, 36 — 50 psi) |
| 7 | Drying | Not required. | Dry at normal temperature [10 min. or more at 20°C (68°F)].<br>In half-dried condition, avoid dust, dirt. |
| 8 | Top coat paint (II) | Not required. | Apply a clear coat to parts with top coat paint (I), three times, at 5 — 7 minutes intervals.<br>● Paint in use:<br>Metallic paint<br>Hardener PB<br>Thinner T-301<br>● Mixing ratio: Clear vs. hardener = 6:1<br>● Viscosity: 14 — 16 sec/20°C (68°F)<br>● Film thickness: 25 — 30μ<br>● Spraying pressure: 245 — 343 kPa<br>(2.5 — 3.5 kg/cm$^2$, 36 — 50 psi) |
| 9 | Drying | 60°C (140°F), 60 min. or 80°C (176°F), 30 min.<br>If higher than 80°C (176°F), PP may be deformed. Keep maximum temperature of 80°C (176°F). | |
| 10 | Inspection | Paint check. | |
| 11 | Masking removal | Remove masking in process No. 2. | |

## 2. REPAIR INSTRUCTIONS FOR COLORED PP BUMPER S911371A1902

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. Damage limited to shallow scratches that cause only a change in the lustre of the base material or coating, can be almost fully restored. Before repairing a damaged area, explain this point to the customer and get an understanding about the matter. Repair methods are outlined below, based on a classification of the extent of damage.

### • Minor damage causing only a change in the lustre 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 a soft cloth (such as flannel). Recommended wax: NITTO KASEI Soft 99 TIRE WAX BLACK, or equivalent.</td><td rowspan="2">Perform either the same operation as for the resin section or process No. 18 and subsequent operations in the “(3)” section, depending on the degree and nature of damage.</td></tr>
<tr><td>Polish the waxed area with a clean cloth after 5 to 10 minutes.</td></tr>
</table>

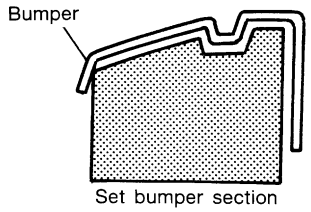
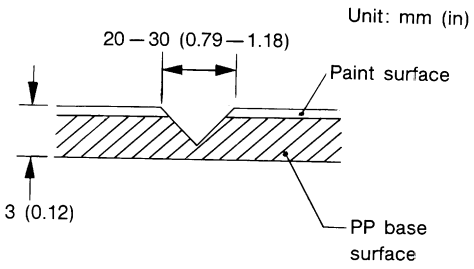
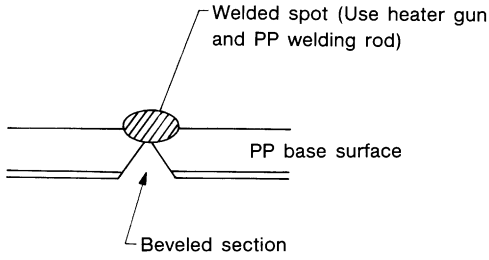
### • Deep damage caused by scratching fences, etc.

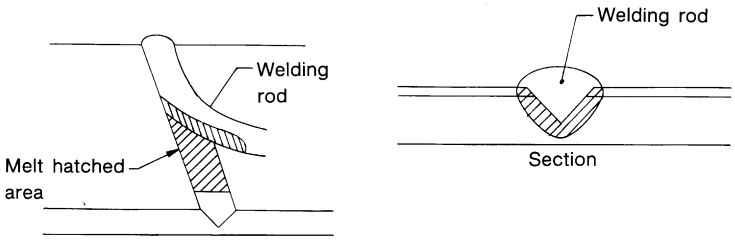
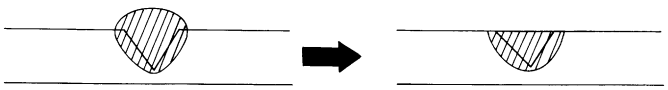
A dent cannot be repaired but a whitened or swelled part can be removed.

<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 damaged area with water.</td></tr>
<tr><td>2</td><td>Removal of damaged area</td><td colspan="2">Cut off protruding area, if any, due to collision, using a putty knife.</td></tr>
<tr><td>3</td><td>Sanding</td><td colspan="2">Grind the affected area with #100 to #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>

## • Deep damage such as a break or hole that requires filling

Much of the peripheral grained surface must be sacrificed for repair, and 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 bumper as required. | |
| 2 | Part removal | Remove parts built into bumper as required. | |
| 3 | Bumper placement | Place bumper on a paint worktable as required.<br>It is recommended that contour of worktable accommodate internal shape of bumper. |  G5M0164 |
| 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). | |
| 5 | Cutting | If nature of damage are cracks or holes, 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's base surface. Then, bevel or "V-out" the affected area using a knife or grinder. |  G5M0165 |
| 6 | Sanding (I) | Grind beveled surface with sand paper (#40 to #60) to smooth finish. | |
| 7 | Cleaning | Clean the sanded surface with the same solvent as used in Process No. 4. | |
| 8 | Temporary welding | Grind the side just opposite the beveled area with sand paper (#40 to #60) and clean using a solvent.<br>Temporarily spot-weld the side, using a PP welding rod and heater gun. |  G5M0166<br>NOTE:<br>• Do not melt welding rod until it flows out. This results in reduced strength.<br>• Leave the welded spot unattended until it cools completely. |

| Process No. | Process name | Job contents |
|---|---|---|
| 9 | Welding | Using a heater gun and PP welding rod, weld the beveled spot while melting the rod and damaged area. |
| | |  <br>G5M0167 |
| | | NOTE:<br>● Melt the sections indicated by hatched area.<br>● Do not melt welding rod until it flows out, in order to provide strength.<br>● Always keep the heater gun 1 to 2 cm (0.4 to 0.8 in) away from the welding spot.<br>● Leave the welded spot unattended until it cools completely. |
| 10 | Sanding (II) | Remove excess part of weld with a putty knife. If a drill or disc wheel is used instead of the knife, operate it at a rate lower than 1,500 rpm and grind the excess part little by little. A higher rpm will cause the PP substrate to melt from the heat. |
| | |  <br>G5M0168 |
| | | Sand the welded spot smooth with #240 sand paper. |
| 11 | Masking | Mask the black substrate section using masking tape.<br>Recommended masking tape: Nichiban No. 533 or equivalent |
| 12 | Cleaning/ degreasing | Completely clean the entire coated area, using solvent similar to that used in Process No. 4. |
| 13 | Primer coating | Apply a coat of primer to the repaired surface and its surrounding areas. Mask these areas, if necessary.<br>Recommended primer: Mp/ 364 PP Primer<br>NOTE:<br>Be sure to apply one coat of primer at a spraying pressure of 245 to 343 kPa (2.5 to 3.5 kg/cm$^2$, 36 to 50 psi) with a spray gun. |
| 14 | Leave unattended. | Leave the repaired area unattended at 20°C (68°F) for 10 to 15 minutes until primer is half-dry.<br>NOTE:<br>If dirt or dust comes in contact with the coated area, wipe it off with a cloth dampended with alcohol. (Do not use thinner since the coated area tends to melt.) |
| 15 | Primer surfacer coating | Apply a coat of primer surfacer to the repaired area two or three times at an interval of 3 to 5 minutes.<br>Recommended surfacer:<br>● UPS 300 Flex Primer<br>● No. 303 UPS 300 Exclusive hardener<br>● NPS 725 Exclusive Reducer (thinner)<br>● Mixing ratio: 2 : 1 (UPS 300: No. 303)<br>● Viscosity: 12 — 14 sec/20°C (68°F)<br>● Coated film thickness: 40 — 50μ |
| 16 | Drying | Allow the coated surface to dry for 60 minutes at 20°C (68°F) [or 30 minutes at 60°C (140°F)]. |
| 17 | Sanding (III) | Sand the coated surface and its surrounding areas using #400 sand paper and water. |
| 18 | Cleaning/ degreasing | Same as Process No. 12. |

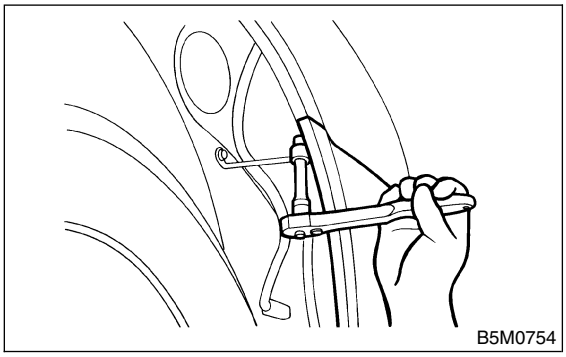
| Process No. | Process name | Job contents | |
|---|---|---|---|
| | | Solid color | Metallic color |
| 19 | Top coat (I) | Use a “block” coating method.<br>● Recommended paint:<br>Suncryl (SC)<br>No. 307 Flex Hardener<br>SC Reducer (thinner)<br>● Mixing ratio: 3 : 1<br>Suncryl (SC) vs. No. 307 Flex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

# 4. Front Bumper S911371

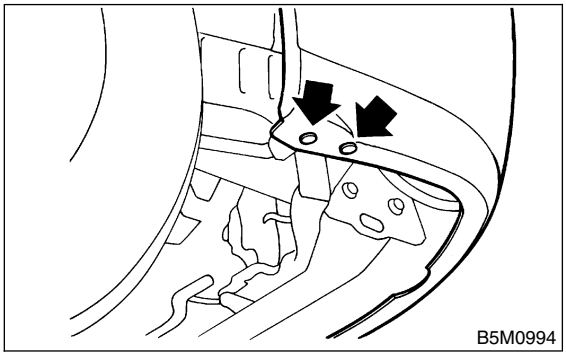
## A: REMOVAL S911371A18

**CAUTION:**
**• Handle bumper carefully to avoid damage to bumper face.**
**• Do not damage body during removal or installation of bumper.**
**• To avoid damage to bumper, lay removed bumper on sheet spread on the floor. Do not lay it directly on the floor.**

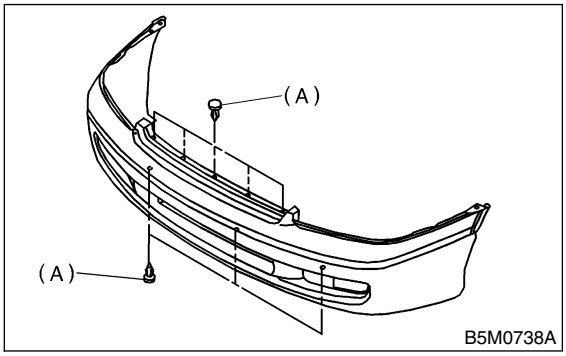
1) Open hood.
2) Remove ground cable from battery.
3) Pull off front side of front mud guard to remove bolts.


B5M0754

4) Remove clip at bottom of bumper.


B5M0994

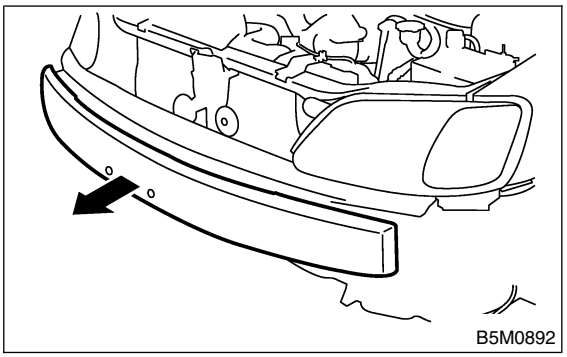
5) Remove clip (A), and pull out bumper slightly.
6) Disconnect electrical connector of fog light to remove bumper.



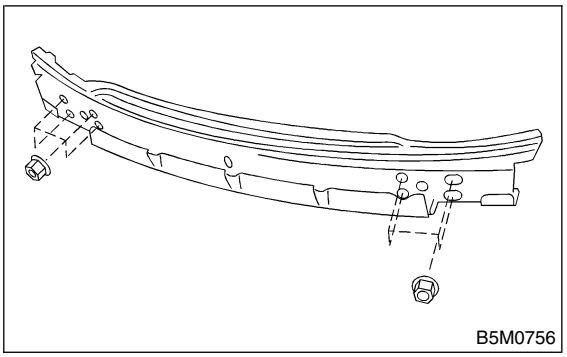
B5M0738A

7) Remove E/A FORM from bumper beam.

**CAUTION:**
**E/A FORM is easy to break. Do not apply excessive force to it during removal.**


B5M0892

8) Remove bumper beam.


B5M0756

## B: INSTALLATION S911371A11

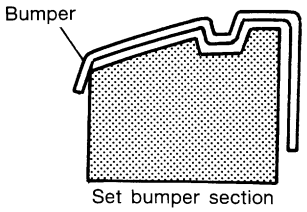
Install in the reverse order of removal.

**CAUTION:**
**• Handle bumper carefully to avoid damage to bumper face.**
**• Do not damage body during removal or installation of bumper.**

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EI-2, FRONT BUMPER, COMPONENT, General Description.>***

# C: REPAIR S911371A19

## 1. COATING METHOD FOR PP BUMPER S911371A1901

| Process No. | Process name | Job contents | |
|---|---|---|---|
| 1 | Bumper mounting | Set bumper on paint worktable if required. Use paint worktable conforming to inner shape of bumper when possible. |  G5M0164 |
| 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 one to all parts to be painted, using air gun. Use primer (clear). | |
| 5 | Drying | Dry at normal temperature [10 to 15 min. at 20°C (68°F)].<br>In half-dried condition, PP primer paint is dissolved by solvent, e.g. thinner, etc.<br>Therefore, if dust or dirt must be removed, use ordinary alcohol, etc. | |
| 6 | Top coat paint (I) | Solid color | Metallic color |
| | | Use section (block) paint for top coat.<br>● Paint in use (for each color):<br>Solid paint<br>Hardener PB<br>Thinner T-301<br>● Mixing ratio:<br>Main agent vs. hardener = 4:1<br>● Viscosity: 10 — 13 sec/20°C (68°F)<br>● Film thickness: 35 — 45μ<br>● Spraying pressure: 245 — 343 kPa<br>(2.5 — 3.5 kg/cm$^2$, 36 — 50 psi) | Use section (block) paint for top coat.<br>● Paint in use (for each color):<br>Metallic paint<br>Hardener PB<br>Thinner T-306<br>● Mixing ratio:<br>Main agent vs. hardener = 10:1<br>● Viscosity: 10 — 13 sec/20°C (68°F)<br>● Film thickness: 15 — 20μ<br>● Spraying pressure: 245 — 343 kPa<br>(2.5 — 3.5 kg/cm$^2$, 36 — 50 psi) |
| 7 | Drying | Not required. | Dry at normal temperature [10 min. or more at 20°C (68°F)].<br>In half-dried condition, avoid dust, dirt. |
| 8 | Top coat paint (II) | Not required. | Apply a clear coat to parts with top coat paint (I), three times, at 5 — 7 minutes intervals.<br>● Paint in use:<br>Metallic paint<br>Hardener PB<br>Thinner T-301<br>● Mixing ratio: Clear vs. hardener = 6:1<br>● Viscosity: 14 — 16 sec/20°C (68°F)<br>● Film thickness: 25 — 30μ<br>● Spraying pressure: 245 — 343 kPa<br>(2.5 — 3.5 kg/cm$^2$, 36 — 50 psi) |
| 9 | Drying | 60°C (140°F), 60 min. or 80°C (176°F), 30 min.<br>If higher than 80°C (176°F), PP may be deformed. Keep maximum temperature of 80°C (176°F). | |
| 10 | Inspection | Paint check. | |
| 11 | Masking removal | Remove masking in process No. 2. | |

## 2. REPAIR INSTRUCTIONS FOR COLORED PP BUMPER S911371A1902

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. Damage limited to shallow scratches that cause only a change in the lustre of the base material or coating, can be almost fully restored. Before repairing a damaged area, explain this point to the customer and get an understanding about the matter. Repair methods are outlined below, based on a classification of the extent of damage.

### • Minor damage causing only a change in the lustre 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 a soft cloth (such as flannel). Recommended wax: NITTO KASEI Soft 99 TIRE WAX BLACK, or equivalent.</td><td rowspan="2">Perform either the same operation as for the resin section or process No. 18 and subsequent operations in the “(3)” section, depending on the degree and nature of damage.</td></tr>
<tr><td>Polish the waxed area with a clean cloth after 5 to 10 minutes.</td></tr>
</table>

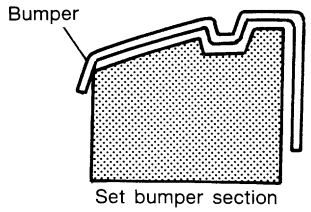
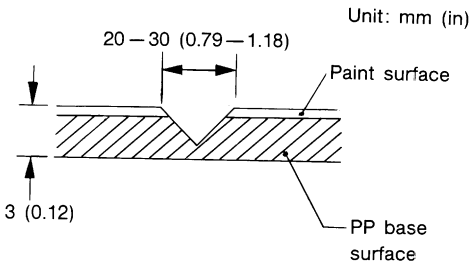
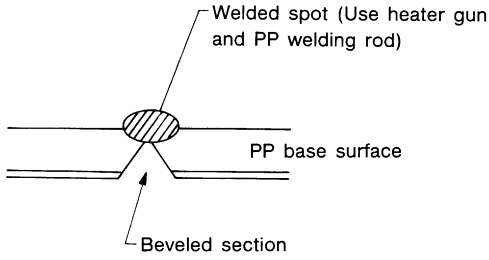
### • Deep damage caused by scratching fences, etc.

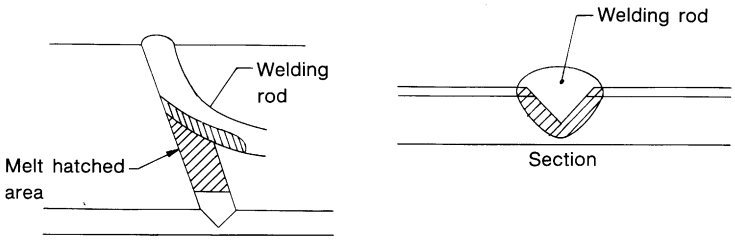
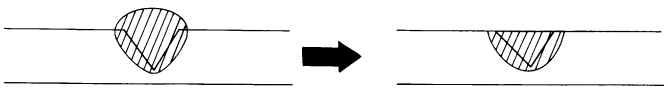
A dent cannot be repaired but a whitened or swelled part can be removed.

<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 damaged area with water.</td></tr>
<tr><td>2</td><td>Removal of damaged area</td><td colspan="2">Cut off protruding area, if any, due to collision, using a putty knife.</td></tr>
<tr><td>3</td><td>Sanding</td><td colspan="2">Grind the affected area with #100 to #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>

## • Deep damage such as a break or hole that requires filling

Much of the peripheral grained surface must be sacrificed for repair, and 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 bumper as required. | |
| 2 | Part removal | Remove parts built into bumper as required. | |
| 3 | Bumper placement | Place bumper on a paint worktable as required.<br>It is recommended that contour of worktable accommodate internal shape of bumper. |  G5M0164 |
| 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). | |
| 5 | Cutting | If nature of damage are cracks or holes, 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's base surface. Then, bevel or "V-out" the affected area using a knife or grinder. |  G5M0165 |
| 6 | Sanding (I) | Grind beveled surface with sand paper (#40 to #60) to smooth finish. | |
| 7 | Cleaning | Clean the sanded surface with the same solvent as used in Process No. 4. | |
| 8 | Temporary welding | Grind the side just opposite the beveled area with sand paper (#40 to #60) and clean using a solvent.<br>Temporarily spot-weld the side, using a PP welding rod and heater gun. |  G5M0166<br>NOTE:<br>• Do not melt welding rod until it flows out. This results in reduced strength.<br>• Leave the welded spot unattended until it cools completely. |

| Process No. | Process name | Job contents |
|---|---|---|
| 9 | Welding | Using a heater gun and PP welding rod, weld the beveled spot while melting the rod and damaged area. |
| | |  <br>G5M0167 |
| | | NOTE:<br>● Melt the sections indicated by hatched area.<br>● Do not melt welding rod until it flows out, in order to provide strength.<br>● Always keep the heater gun 1 to 2 cm (0.4 to 0.8 in) away from the welding spot.<br>● Leave the welded spot unattended until it cools completely. |
| 10 | Sanding (II) | Remove excess part of weld with a putty knife. If a drill or disc wheel is used instead of the knife, operate it at a rate lower than 1,500 rpm and grind the excess part little by little. A higher rpm will cause the PP substrate to melt from the heat. |
| | |  <br>G5M0168 |
| | | Sand the welded spot smooth with #240 sand paper. |
| 11 | Masking | Mask the black substrate section using masking tape.<br>Recommended masking tape: Nichiban No. 533 or equivalent |
| 12 | Cleaning/ degreasing | Completely clean the entire coated area, using solvent similar to that used in Process No. 4. |
| 13 | Primer coating | Apply a coat of primer to the repaired surface and its surrounding areas. Mask these areas, if necessary.<br>Recommended primer: Mp/ 364 PP Primer<br>NOTE:<br>Be sure to apply one coat of primer at a spraying pressure of 245 to 343 kPa (2.5 to 3.5 kg/cm$^2$, 36 to 50 psi) with a spray gun. |
| 14 | Leave unattended. | Leave the repaired area unattended at 20°C (68°F) for 10 to 15 minutes until primer is half-dry.<br>NOTE:<br>If dirt or dust comes in contact with the coated area, wipe it off with a cloth dampended with alcohol. (Do not use thinner since the coated area tends to melt.) |
| 15 | Primer surfacer coating | Apply a coat of primer surfacer to the repaired area two or three times at an interval of 3 to 5 minutes.<br>Recommended surfacer:<br>● UPS 300 Flex Primer<br>● No. 303 UPS 300 Exclusive hardener<br>● NPS 725 Exclusive Reducer (thinner)<br>● Mixing ratio: 2 : 1 (UPS 300: No. 303)<br>● Viscosity: 12 — 14 sec/20°C (68°F)<br>● Coated film thickness: 40 — 50μ |
| 16 | Drying | Allow the coated surface to dry for 60 minutes at 20°C (68°F) [or 30 minutes at 60°C (140°F)]. |
| 17 | Sanding (III) | Sand the coated surface and its surrounding areas using #400 sand paper and water. |
| 18 | Cleaning/ degreasing | Same as Process No. 12. |

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

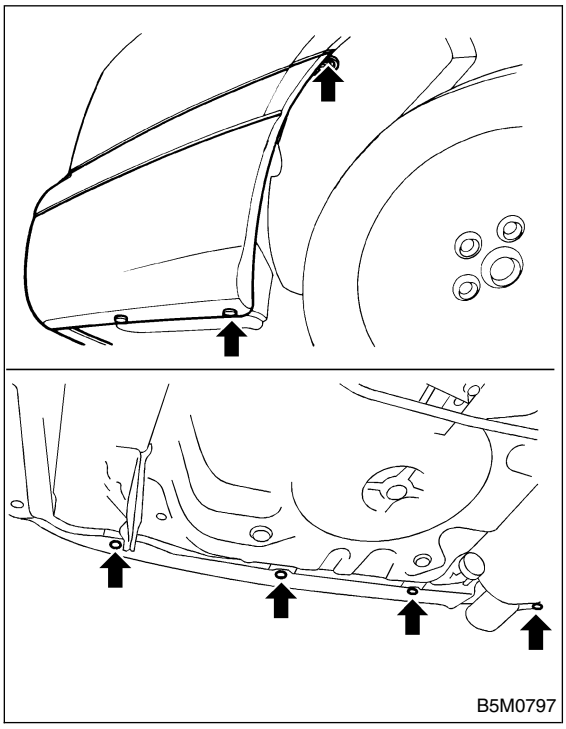
# 5. Rear Bumper S911370

## A: REMOVAL S911370A18

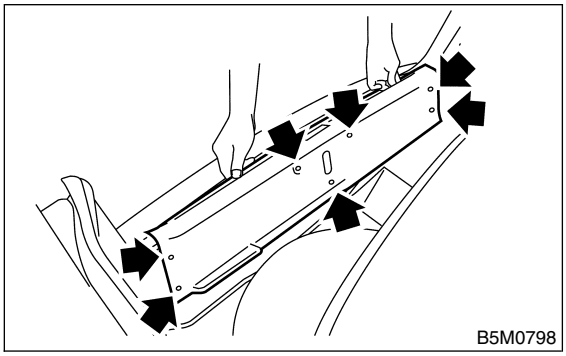
### 1. SEDAN S911370A1801

**CAUTION:**
**• Handle bumper carefully to avoid damage to bumper face.**
**• Do not damage body during removal or installation of bumper.**
**• To avoid damage to bumper, lay removed bumper on sheet spread on the floor. Do not lay it directly on the floor.**

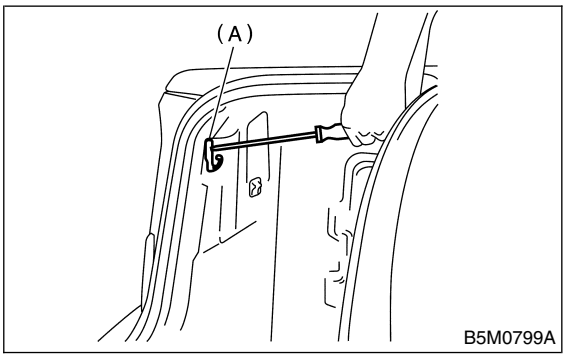
1) Lift-up the vehicle.
2) Remove bolts and clips.



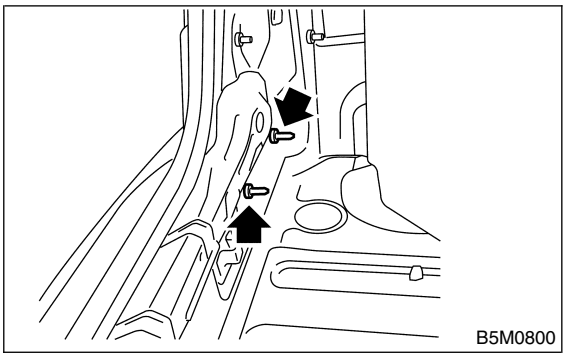

3) Loosen clips to remove trunk rear trim.



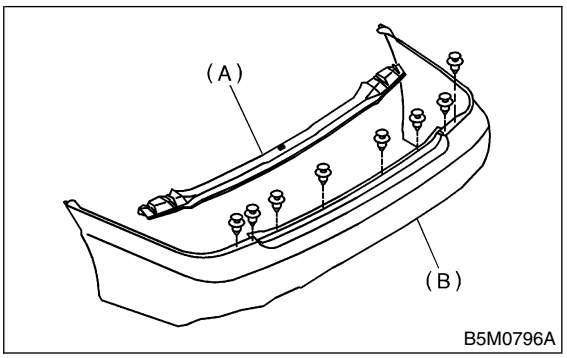

4) Remove hook (A) to pull off rear side of trunk side trim.



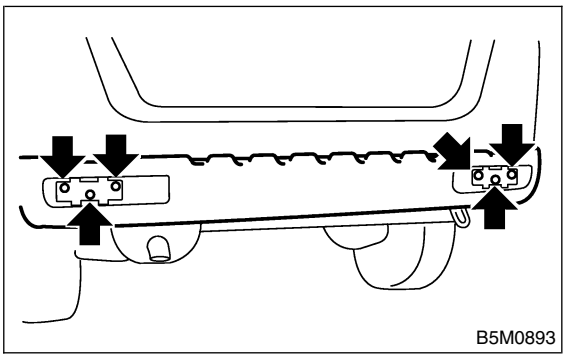

5) Remove two nuts from each side to remove rear bumper.




6) Loosen clips to remove upper beam (A) from bumper face.



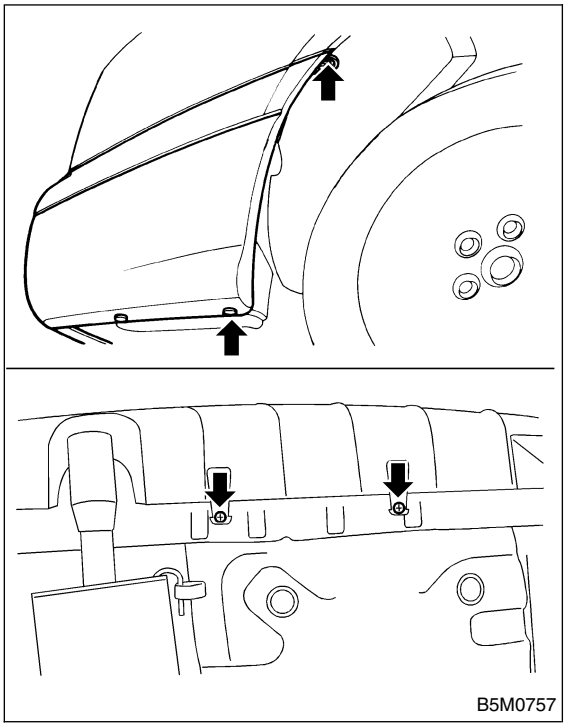

7) Remove resin beam.



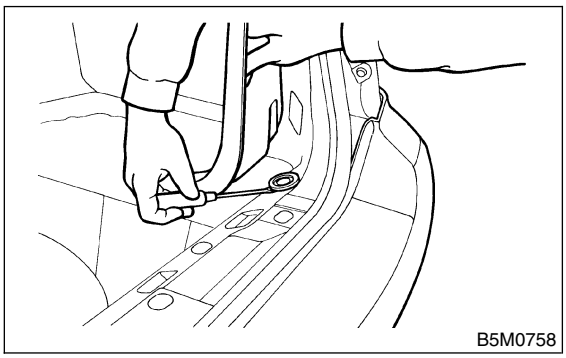
## 2. WAGON S911370A1802

**CAUTION:**
**● Handle bumper carefully to avoid damage to bumper face.**
**● Do not damage body during removal or installation of bumper.**
**● To avoid damage to bumper, lay removed bumper on sheet spread on the floor. Do not lay it directly on the floor.**

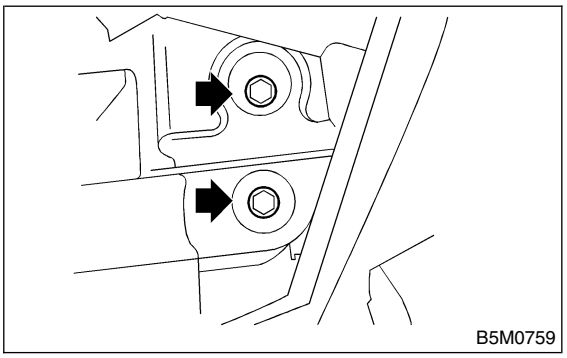
1) Lift-up the vehicle.
2) Remove trailer hitch. <Ref. to EI-31, REMOVAL, Trailer Hitch.>
3) Remove bolts and clips.


B5M0757

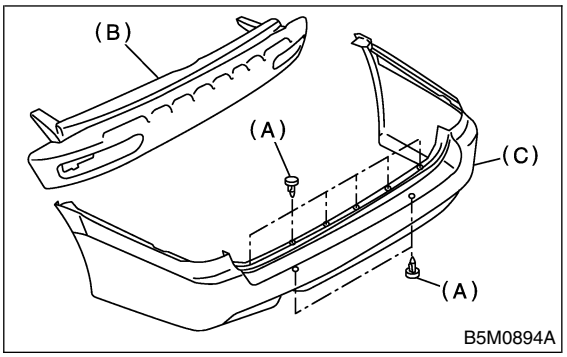
4) Remove rear floor box. <Ref. to EI-44, REMOVAL, Rear Quarter Trim.>
5) Pull off rear end of rear quarter lower trim to remove cap.


B5M0758

6) Loosen bolts to remove rear bumper.

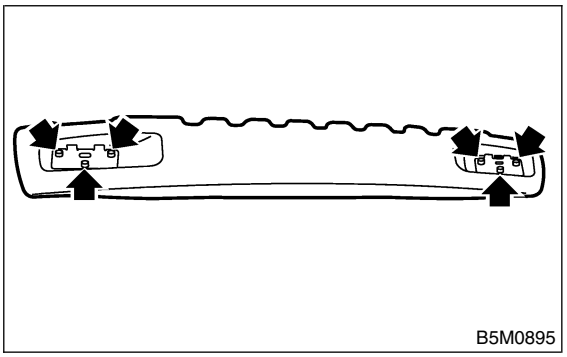

B5M0759

7) Loosen clip (A) to remove bumper beam (B) from rear bumper face (C).



B5M0894A

8) Remove resin beam from bumper beam.

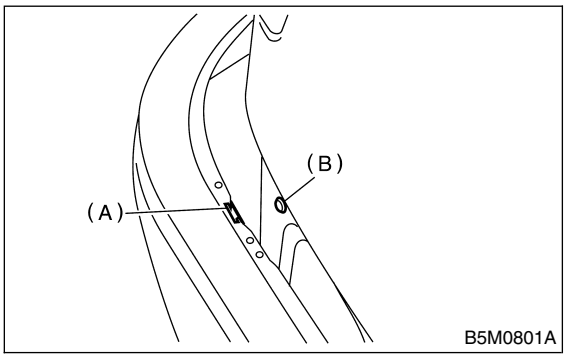

B5M0895

## B: INSTALLATION S911370A11

### 1. SEDAN S911370A1101

**CAUTION:**
**• Handle bumper carefully to avoid damage to bumper face.**
**• Do not damage body during removal or installation of bumper.**

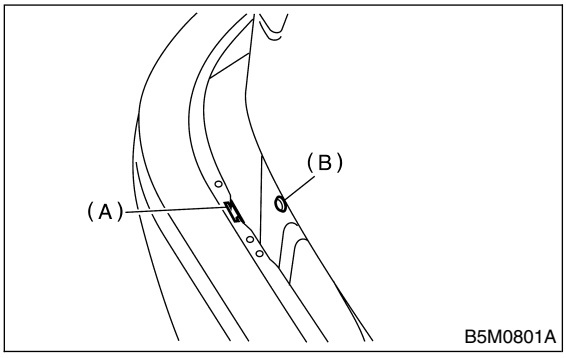
1) Install in the reverse order of removal.
2) Fit slider (A) to guide pin (B) securely.




### 2. WAGON S911370A1102

**CAUTION:**
**• Handle bumper carefully to avoid damage to bumper face.**
**• Do not damage body during removal or installation of bumper.**

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




***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EI-3, REAR BUMPER (SEDAN), COMPONENT, General Description.>***

## C: REPAIR S911370A19

Refer to front bumper repair. <Ref. to EI-15, REPAIR, Front Bumper.>

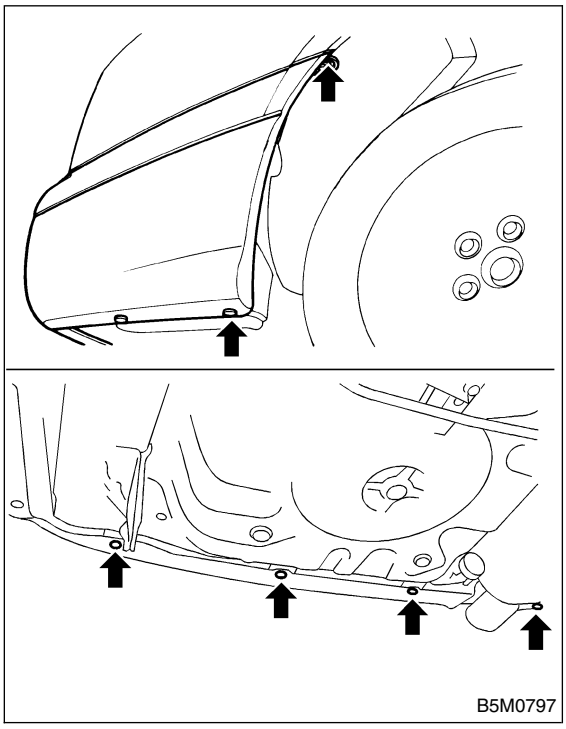
# 5. Rear Bumper S911370

## A: REMOVAL S911370A18

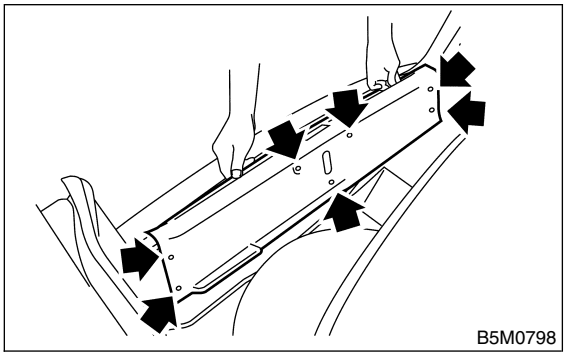
### 1. SEDAN S911370A1801

**CAUTION:**
**• Handle bumper carefully to avoid damage to bumper face.**
**• Do not damage body during removal or installation of bumper.**
**• To avoid damage to bumper, lay removed bumper on sheet spread on the floor. Do not lay it directly on the floor.**

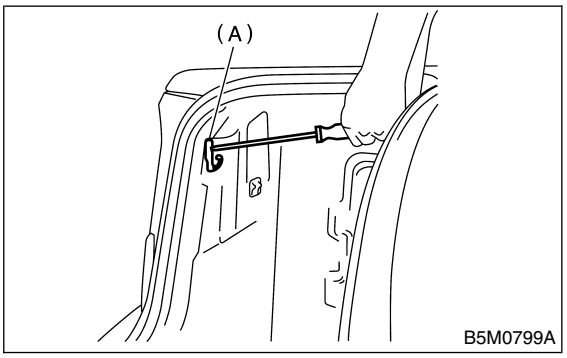
1) Lift-up the vehicle.
2) Remove bolts and clips.



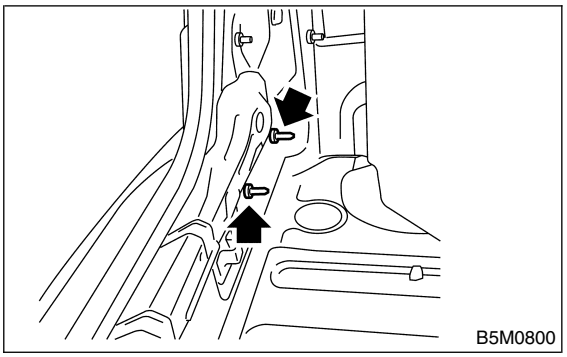

3) Loosen clips to remove trunk rear trim.



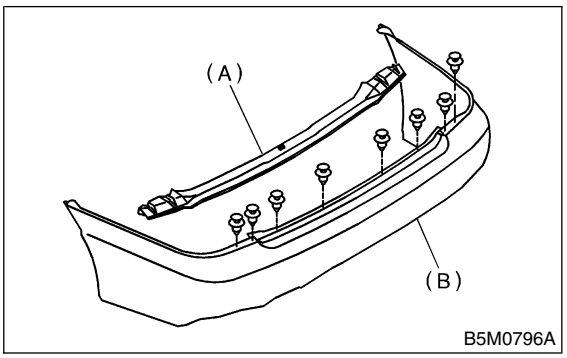

4) Remove hook (A) to pull off rear side of trunk side trim.



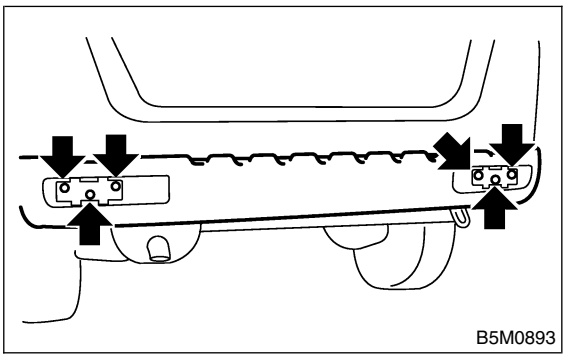

5) Remove two nuts from each side to remove rear bumper.




6) Loosen clips to remove upper beam (A) from bumper face.



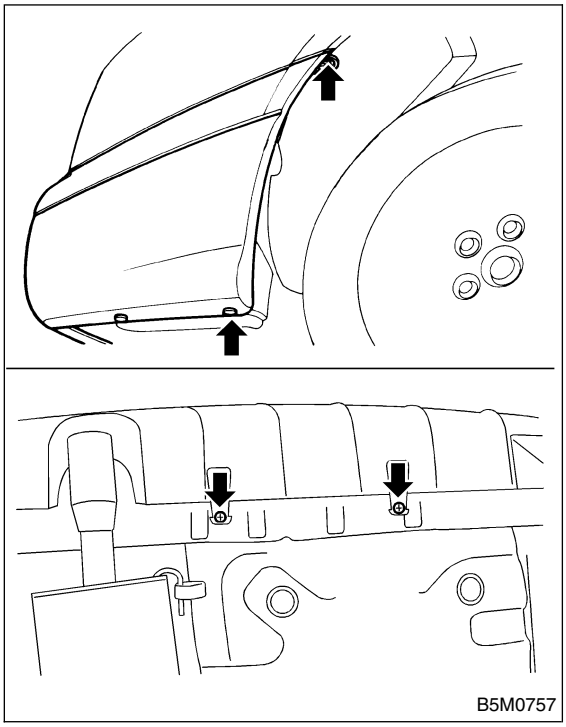

7) Remove resin beam.



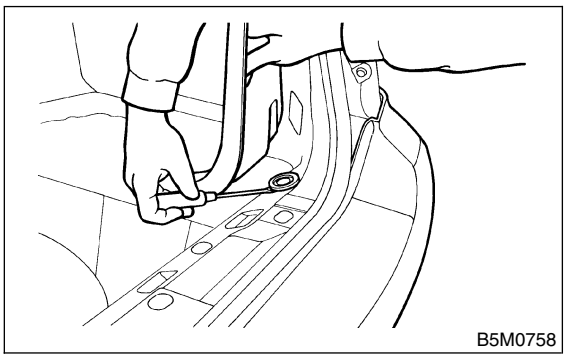
## 2. WAGON S911370A1802

**CAUTION:**
**● Handle bumper carefully to avoid damage to bumper face.**
**● Do not damage body during removal or installation of bumper.**
**● To avoid damage to bumper, lay removed bumper on sheet spread on the floor. Do not lay it directly on the floor.**

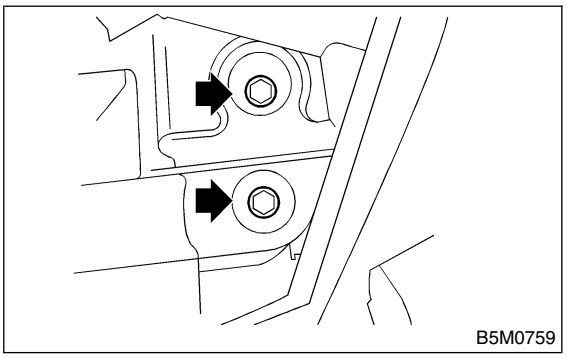
1) Lift-up the vehicle.
2) Remove trailer hitch. <Ref. to EI-31, REMOVAL, Trailer Hitch.>
3) Remove bolts and clips.


B5M0757

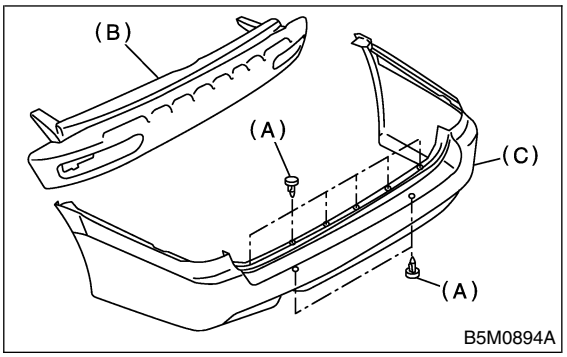
4) Remove rear floor box. <Ref. to EI-44, REMOVAL, Rear Quarter Trim.>
5) Pull off rear end of rear quarter lower trim to remove cap.


B5M0758

6) Loosen bolts to remove rear bumper.

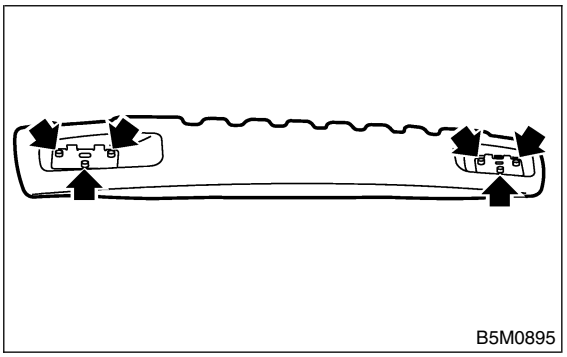

B5M0759

7) Loosen clip (A) to remove bumper beam (B) from rear bumper face (C).



B5M0894A

8) Remove resin beam from bumper beam.

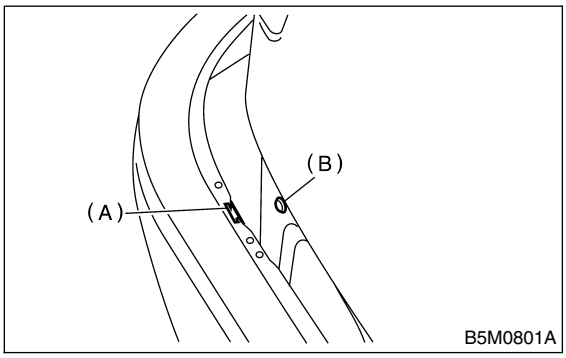

B5M0895

## B: INSTALLATION S911370A11

### 1. SEDAN S911370A1101

**CAUTION:**
**• Handle bumper carefully to avoid damage to bumper face.**
**• Do not damage body during removal or installation of bumper.**

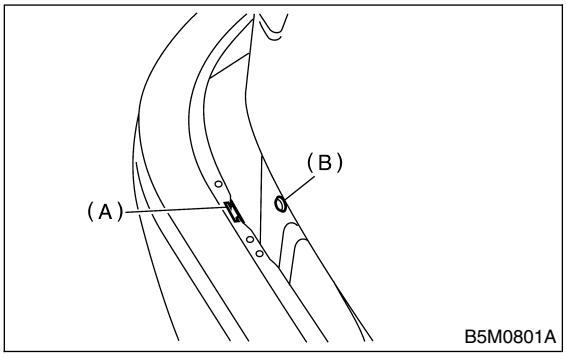
1) Install in the reverse order of removal.
2) Fit slider (A) to guide pin (B) securely.




### 2. WAGON S911370A1102

**CAUTION:**
**• Handle bumper carefully to avoid damage to bumper face.**
**• Do not damage body during removal or installation of bumper.**

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




***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EI-3, REAR BUMPER (SEDAN), COMPONENT, General Description.>***

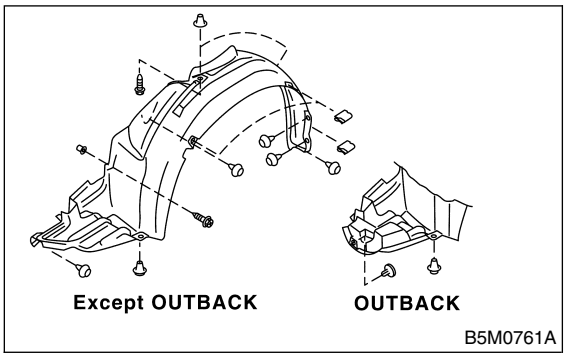
## C: REPAIR S911370A19

Refer to front bumper repair. <Ref. to EI-15, REPAIR, Front Bumper.>

# 6. Mud Guard S911374

## A: REMOVAL S911374A18

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



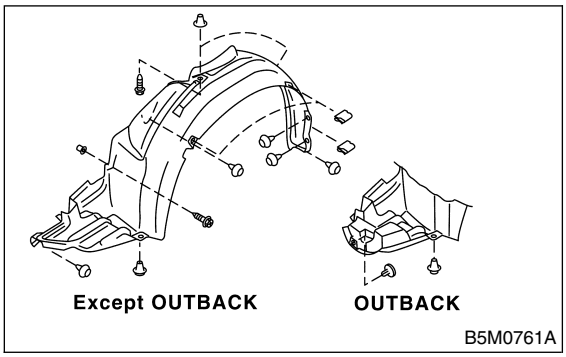

## B: INSTALLATION S911374A11

Insert hook into body, and tighten it with screw and clip.

# 6. Mud Guard S911374

## A: REMOVAL S911374A18

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



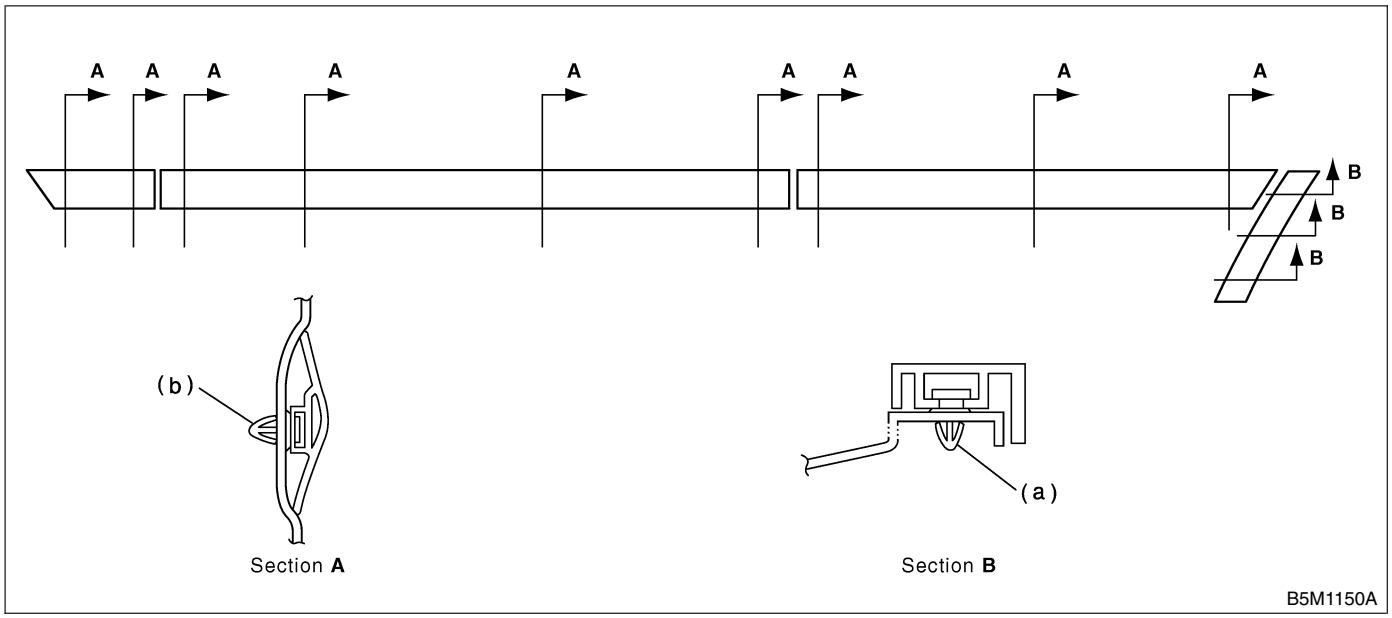

## B: INSTALLATION S911374A11

Insert hook into body, and tighten it with screw and clip.

# 7. Protector S911380

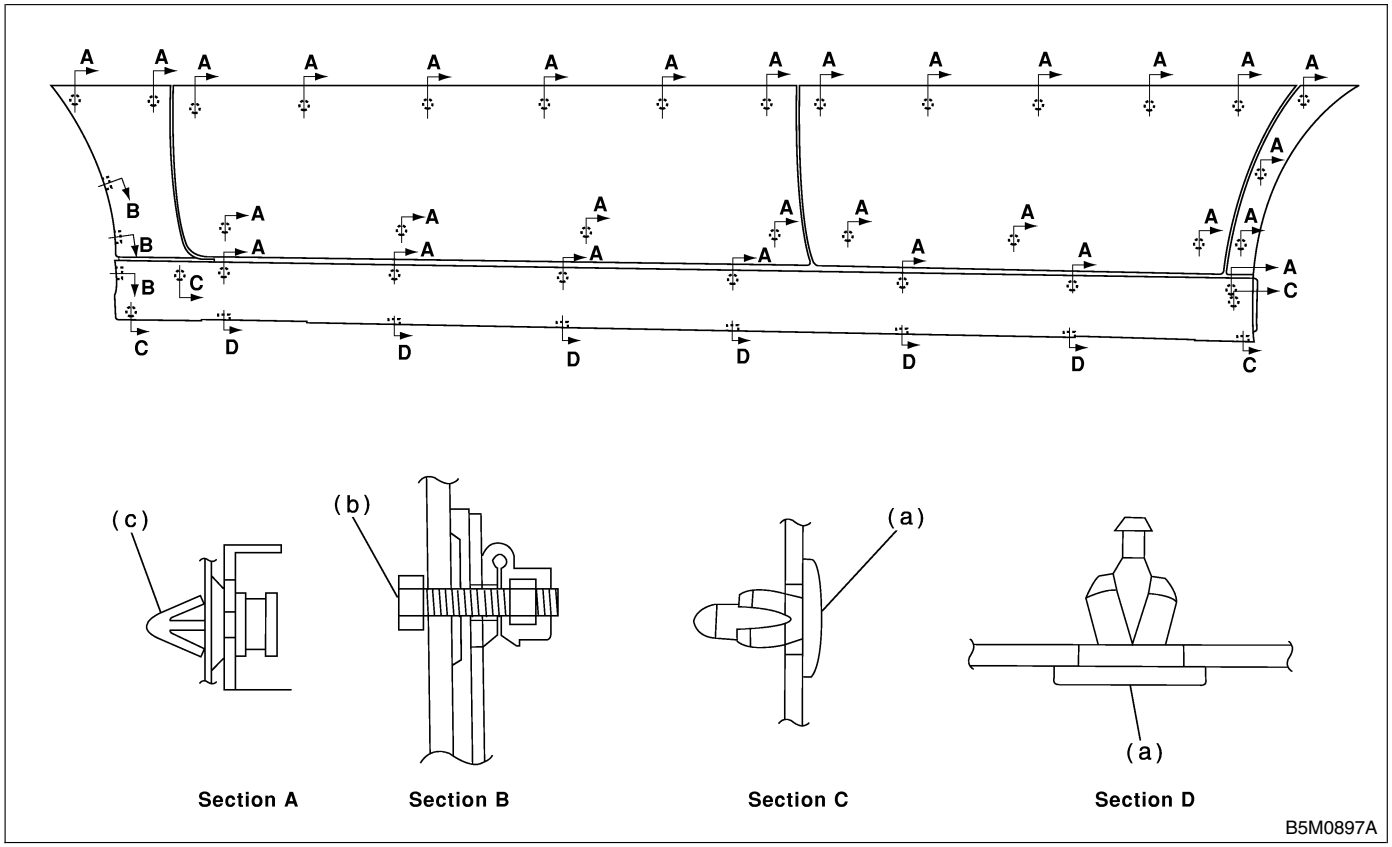
## A: REMOVAL S911380A18

1) Except OUTBACK:



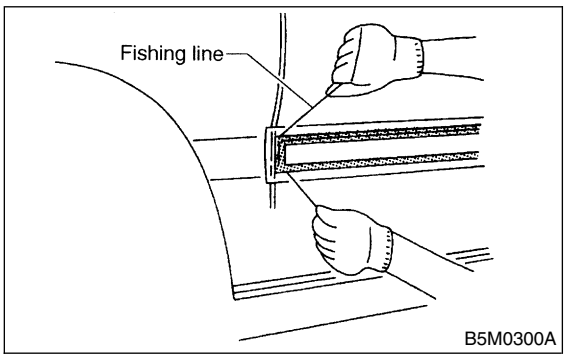

NOTE:
Paying attention to the position of clip (b).

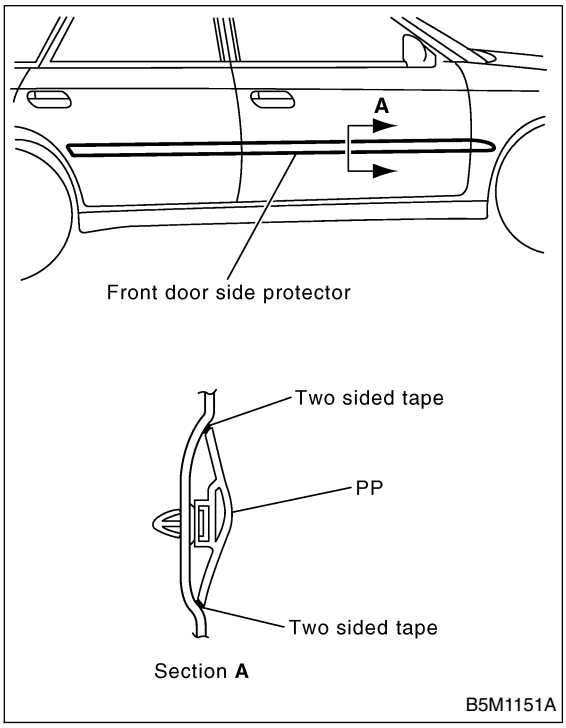
OUTBACK:
Remove clip (a) and bolt (b).



NOTE:
Paying attention to the position of clip (c).

2) Attach masking tape to outer perimeter of side protector. (If original side protector is re-installed, tape the entire protector.)
3) Insert fishing line [0.8 mm (0.31 in) dia.] between side protector and vehicle body. Cut (pull the line) through two-sided tape along side protector on the body. Using a puller, remove clips from vehicle body while pulling side protector towards yourself as required.




NOTE:
- To increase adhesive remover strength, leave two-sided tape on body and side protector.
- If two-sided tape is too thick, use a putty knife to cut it thin so that adhesive remover is ready for use.
- If two-sided tape is hard to remove, heat to approximately 40°C (104°F).

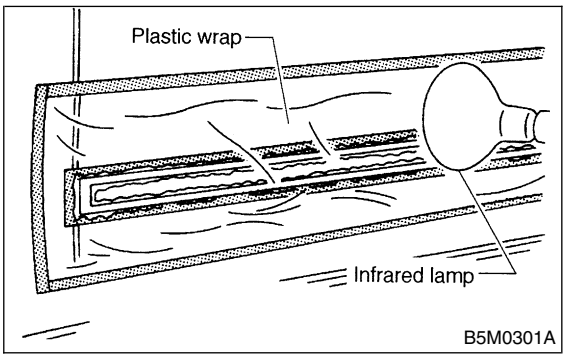
4) Apply an even coat of adhesive remover to the two-sided tape.

***Recommended adhesive remover:***
***SUMITOMO 3M4000 or equivalent***

**CAUTION:**
**Do not apply adhesive remover to lacquer base coated body panels.**

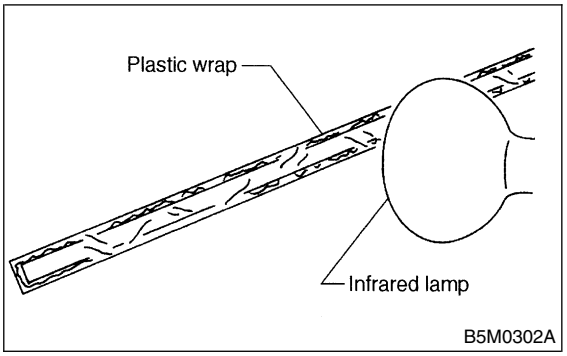
5) Attach plastic wrap to adhesive remover coated areas and heat to 40 to 60°C (104 to 140°F) for 5 to 10 minutes using an infrared lamp.

**CAUTION:**
**Do not overheat until plastic wrap is somewhat white.**




6) Using a plastic spatula, remove traces of two-sided tape from body panel.
7) Remove masking tape and clean traces of two-sided tape using a cloth dampened with white gasoline.
8) Similarly, clean traces of adhesive from two-sided tape on side protector.

**CAUTION:**
**Make sure side protector is clean and free of adhesive remover. Clean if necessary.**



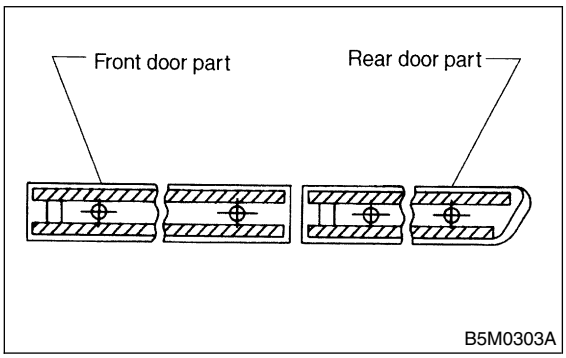
## B: INSTALLATION S911380A11

1) Apply primer to original side protector (if used), and attach two-sided tape to side protectors as shown.

***Two-sided tape:***
***Thickness; 1.2 mm (0.047 in)***
***Width; 5 mm (0.20 in)***

***Recommended primer:***
***SUMITOMO 3MK-500 or equivalent***

***Recommended two-sided tape:***
***SUMITOMO 3M4210 or equivalent***



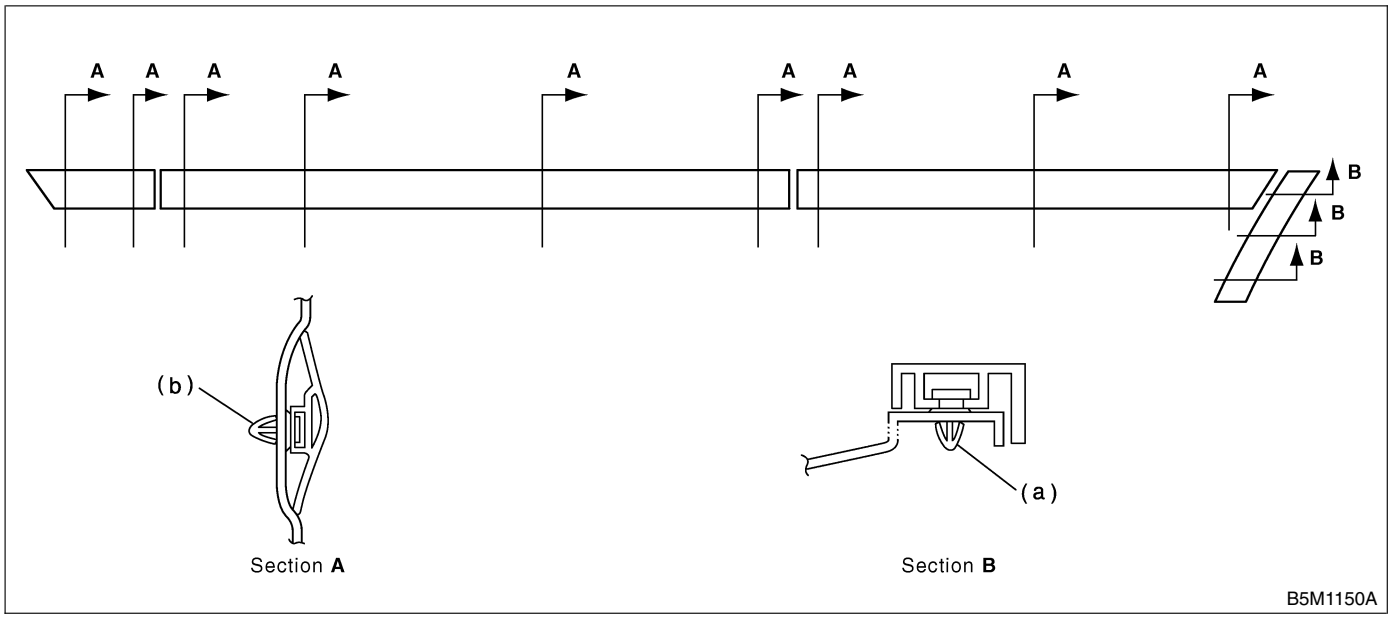

2) Using an infrared lamp, heat body panel to 40 to 60°C (104 to 140°F) and rear surface of side protector to 20 to 30°C (68 to 86°F).
3) Remove tack paper from two-sided paper. While aligning clips with holes in body panel, attach two-sided tape to side protector and body panel with a force of more than 49 N (5 kgf, 11 lb) with roller. Do not allow air to enter mating surface of the two.

**CAUTION:**
**● To maintain adhesive power, do not wash the vehicle for 24 hours after tape application.**
**● Push clip in securely using hands.**
**(To prevent deformation, do not use excessive force.)**

# 7. Protector S911380

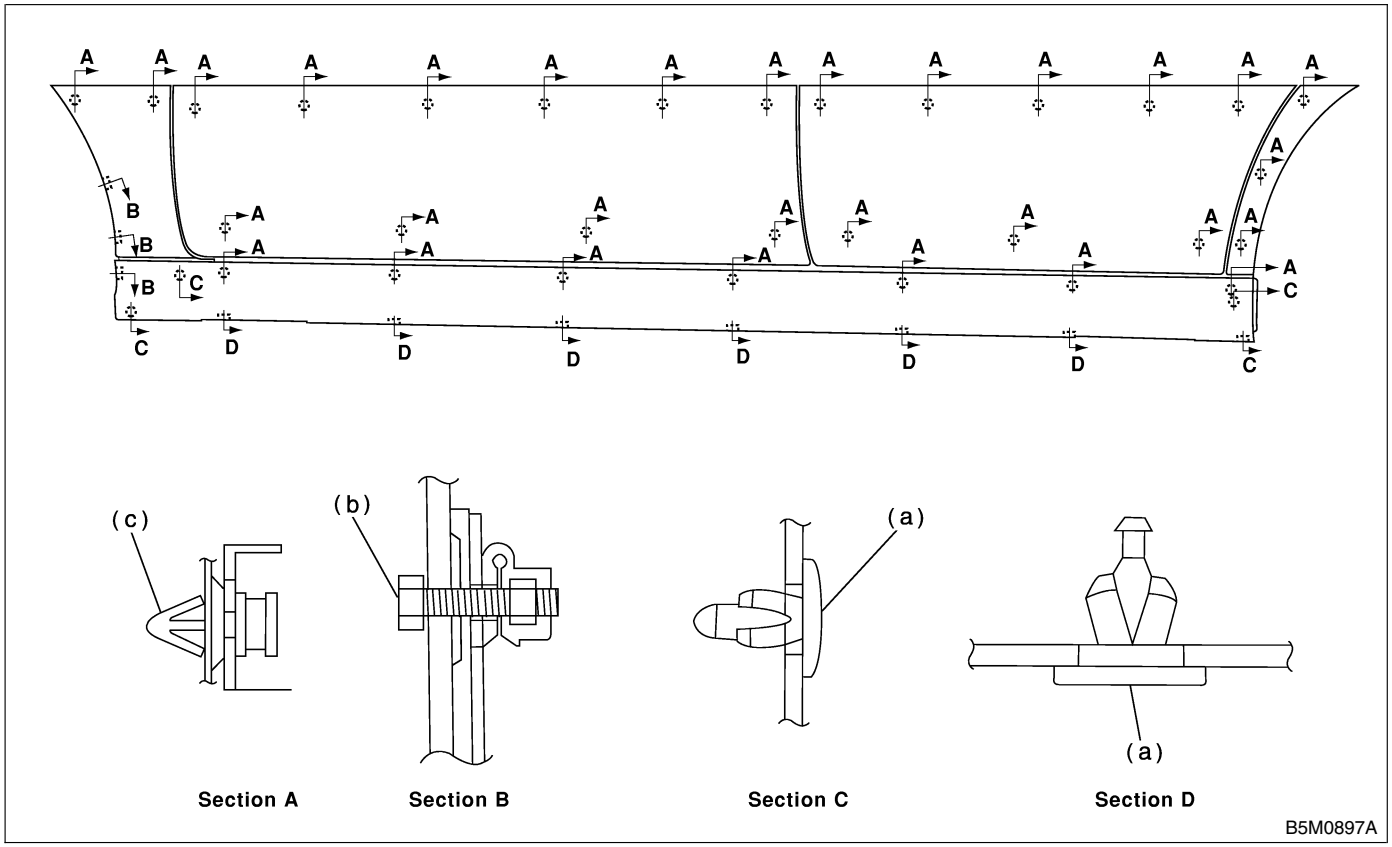
## A: REMOVAL S911380A18

1) Except OUTBACK:



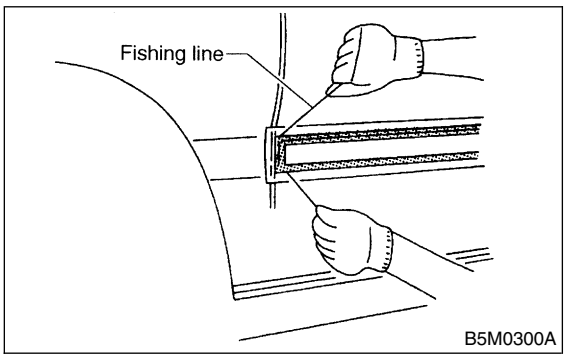

NOTE:
Paying attention to the position of clip (b).

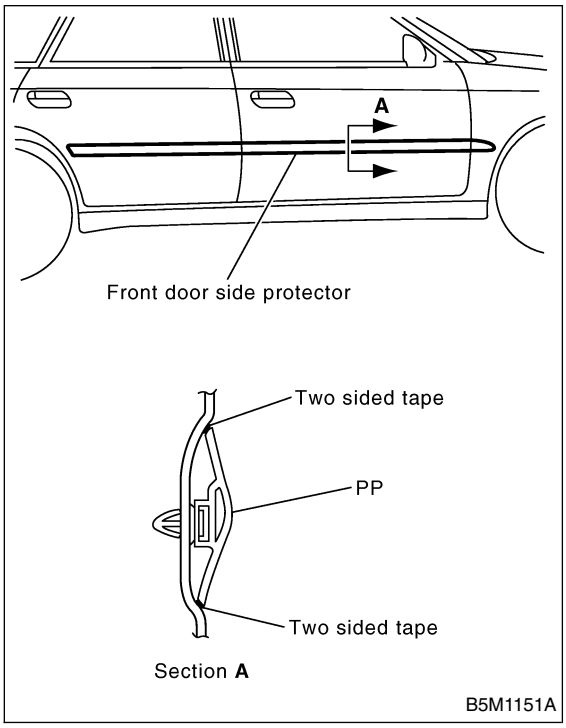
OUTBACK:
Remove clip (a) and bolt (b).



NOTE:
Paying attention to the position of clip (c).

2) Attach masking tape to outer perimeter of side protector. (If original side protector is re-installed, tape the entire protector.)
3) Insert fishing line [0.8 mm (0.31 in) dia.] between side protector and vehicle body. Cut (pull the line) through two-sided tape along side protector on the body. Using a puller, remove clips from vehicle body while pulling side protector towards yourself as required.




NOTE:
- To increase adhesive remover strength, leave two-sided tape on body and side protector.
- If two-sided tape is too thick, use a putty knife to cut it thin so that adhesive remover is ready for use.
- If two-sided tape is hard to remove, heat to approximately 40°C (104°F).

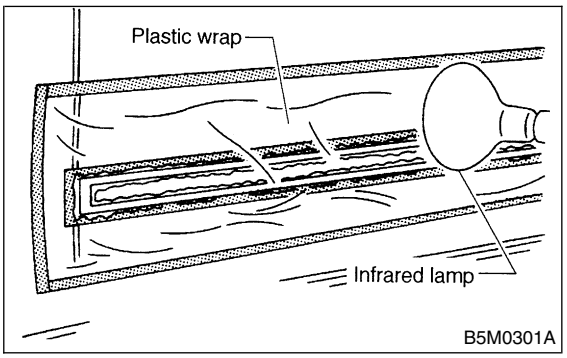
4) Apply an even coat of adhesive remover to the two-sided tape.

***Recommended adhesive remover:***
***SUMITOMO 3M4000 or equivalent***

**CAUTION:**
**Do not apply adhesive remover to lacquer base coated body panels.**

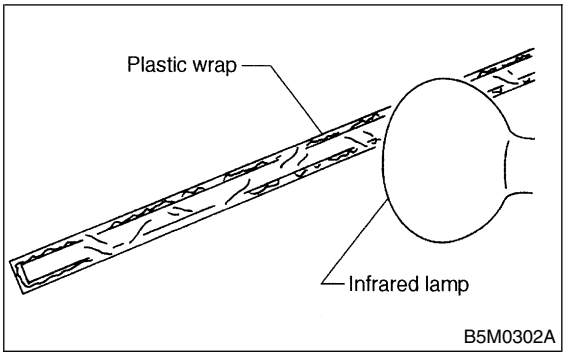
5) Attach plastic wrap to adhesive remover coated areas and heat to 40 to 60°C (104 to 140°F) for 5 to 10 minutes using an infrared lamp.

**CAUTION:**
**Do not overheat until plastic wrap is somewhat white.**




6) Using a plastic spatula, remove traces of two-sided tape from body panel.
7) Remove masking tape and clean traces of two-sided tape using a cloth dampened with white gasoline.
8) Similarly, clean traces of adhesive from two-sided tape on side protector.

**CAUTION:**
**Make sure side protector is clean and free of adhesive remover. Clean if necessary.**



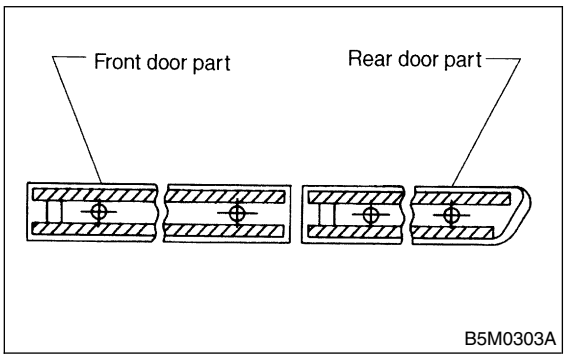
## B: INSTALLATION S911380A11

1) Apply primer to original side protector (if used), and attach two-sided tape to side protectors as shown.

***Two-sided tape:***
***Thickness; 1.2 mm (0.047 in)***
***Width; 5 mm (0.20 in)***

***Recommended primer:***
***SUMITOMO 3MK-500 or equivalent***

***Recommended two-sided tape:***
***SUMITOMO 3M4210 or equivalent***



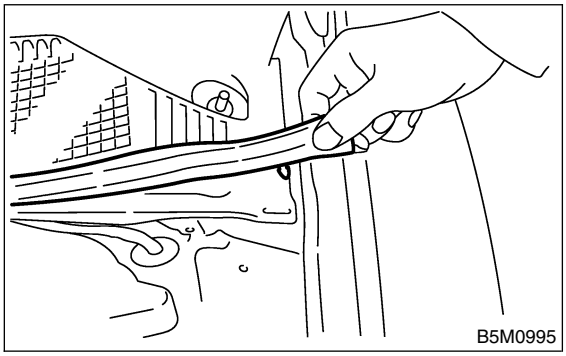

2) Using an infrared lamp, heat body panel to 40 to 60°C (104 to 140°F) and rear surface of side protector to 20 to 30°C (68 to 86°F).
3) Remove tack paper from two-sided paper. While aligning clips with holes in body panel, attach two-sided tape to side protector and body panel with a force of more than 49 N (5 kgf, 11 lb) with roller. Do not allow air to enter mating surface of the two.

**CAUTION:**
**● To maintain adhesive power, do not wash the vehicle for 24 hours after tape application.**
**● Push clip in securely using hands.**
**(To prevent deformation, do not use excessive force.)**

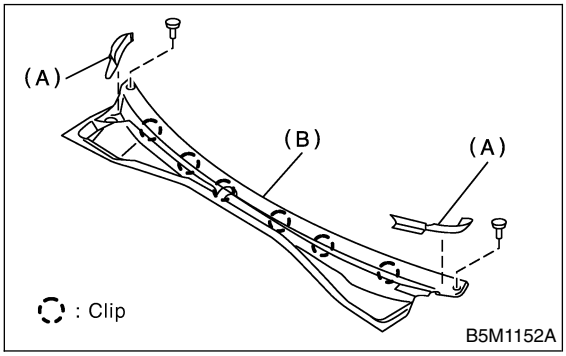
# 8. Cowl Panel S911387

## A: REMOVAL S911387A18

1) Open hood.
2) Remove wiper arm. <Ref. to WW-11, REMOVAL, Front Wiper Arm.>
3) Remove front panel seal.




4) Loosen clips to remove cowl panel.



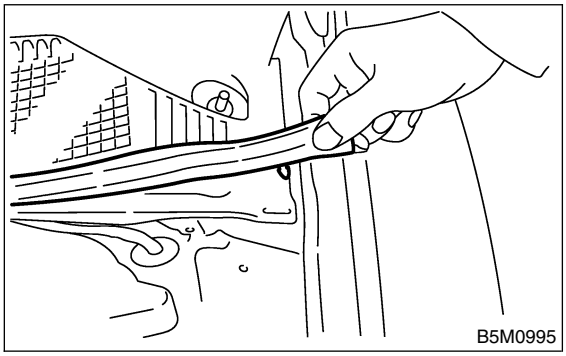

## B: INSTALLATION S911387A11

Install in the reverse order of removal.

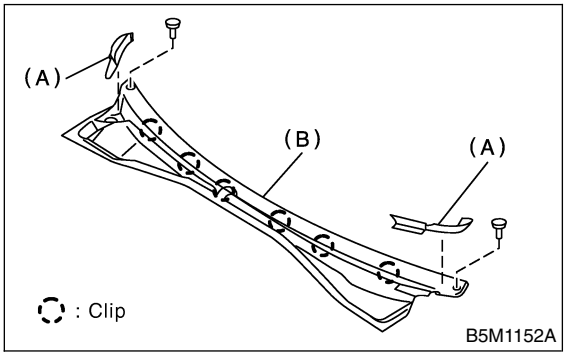
# 8. Cowl Panel S911387

## A: REMOVAL S911387A18

1) Open hood.
2) Remove wiper arm. <Ref. to WW-11, REMOVAL, Front Wiper Arm.>
3) Remove front panel seal.




4) Loosen clips to remove cowl panel.




## B: INSTALLATION S911387A11

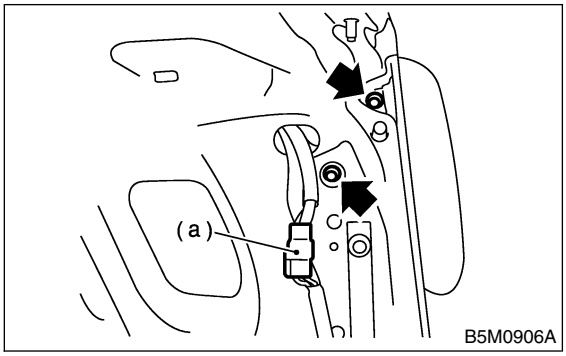
Install in the reverse order of removal.

# 9. Spoiler S911385

## A: REMOVAL S911385A18

1) Open trunk lid.
2) Remove electrical connector (a) of high-mounted stop light.
3) Remove mounting nut of rear spoiler to remove rear spoiler.

**CAUTION:**
**• When removing nut, do not drop it into trunk lid.**
**• Pay attention to avoid damage during removal or installation.**




## B: INSTALLATION S911385A11

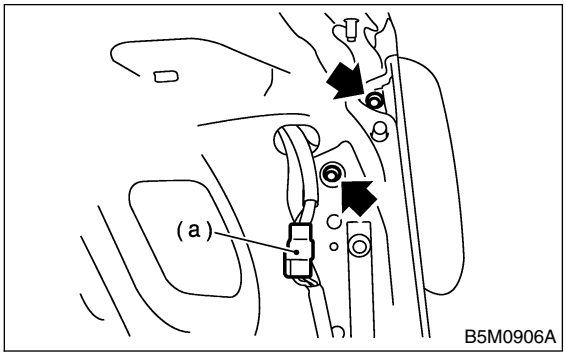
1) Install in the reverse order of removal.
2) Clean mounting surfaces of trunk lid and spoiler before installation.

# 9. Spoiler S911385

## A: REMOVAL S911385A18

1) Open trunk lid.
2) Remove electrical connector (a) of high-mounted stop light.
3) Remove mounting nut of rear spoiler to remove rear spoiler.

**CAUTION:**
**• When removing nut, do not drop it into trunk lid.**
**• Pay attention to avoid damage during removal or installation.**



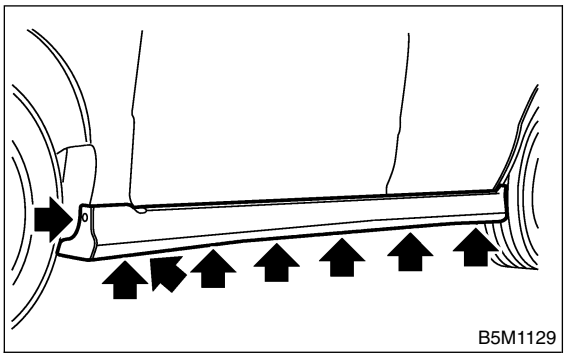

## B: INSTALLATION S911385A11

1) Install in the reverse order of removal.
2) Clean mounting surfaces of trunk lid and spoiler before installation.

# 10. Side Sill Spoiler S911646

## A: REMOVAL S911646A18

Remove clips F (1 on front, 6 on lower, 1 on side) and remove side sill spoiler.



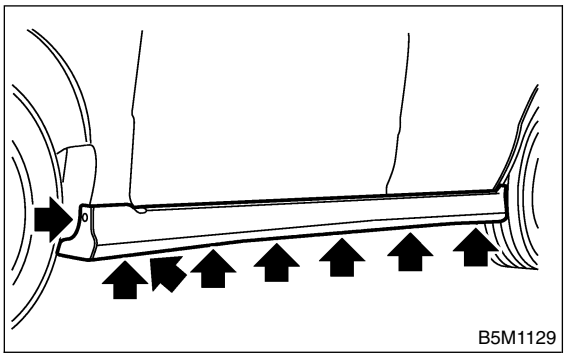

## B: INSTALLATION S911646A11

Install in the reverse order of removal.

# 10. Side Sill Spoiler S911646

## A: REMOVAL S911646A18

Remove clips F (1 on front, 6 on lower, 1 on side) and remove side sill spoiler.



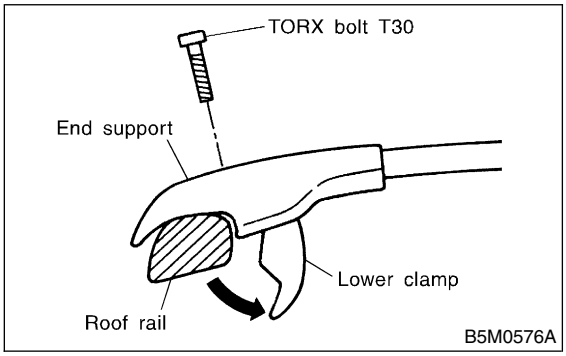

## B: INSTALLATION S911646A11

Install in the reverse order of removal.

# 11. Crossbar S911388

## A: REMOVAL S911388A18

1) Remove TORX® bolt T30 from each cross end support.
2) Rotate lower clamp of each end support about 90 degrees downward to remove crossbar.

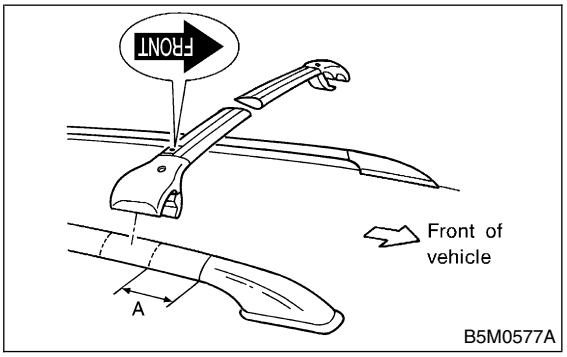



**CAUTION:**
**Do not damage roof panel during removal or installation.**

## B: INSTALLATION S911388A11

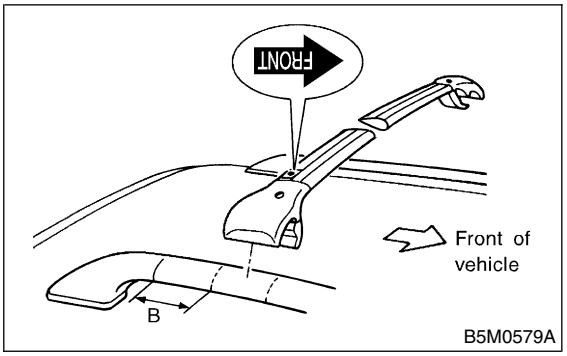
1) Rotate lower clamp of each end support about 90 degrees downward.
2) Set crossbar so that front direction arrow on the right top face of crossbar points in the direction of vehicle front, and place crossbar end support at position 152.4 mm (6.00 in) back from joint of front roof rail support and roof rail.

***Length A:***
***152.4 mm (6.00 in)***




3) Set crossbar so that front direction arrow on the right top face of crossbar points in the direction of vehicle front, and place crossbar end support at position 152.4 mm (6.00 in) back from joint of rear roof rail support and roof rail.

***Length B:***
***152.4 mm (6.00 in)***

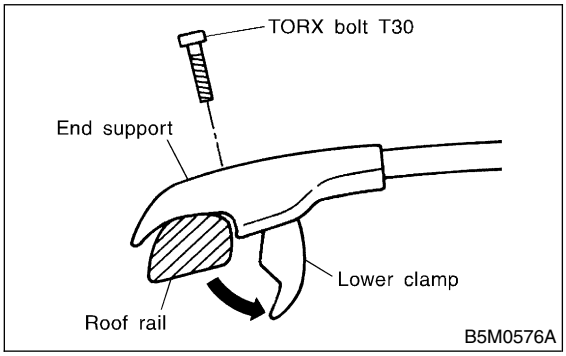



4) Tighten end support and lower clamp using TORX® bolt T30.

# 11. Crossbar S911388

## A: REMOVAL S911388A18

1) Remove TORX® bolt T30 from each cross end support.
2) Rotate lower clamp of each end support about 90 degrees downward to remove crossbar.

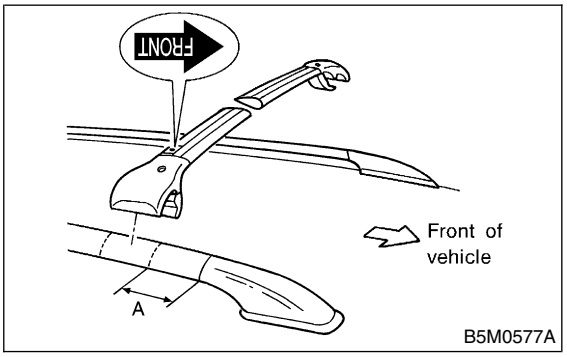



**CAUTION:**
**Do not damage roof panel during removal or installation.**

## B: INSTALLATION S911388A11

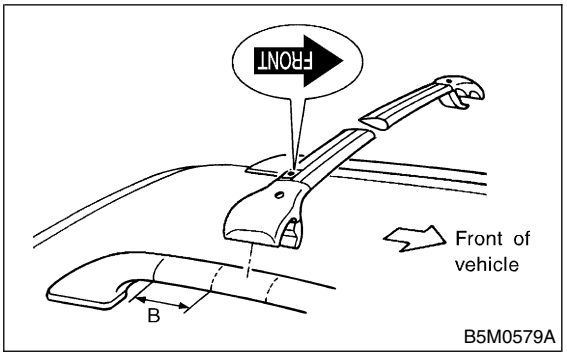
1) Rotate lower clamp of each end support about 90 degrees downward.
2) Set crossbar so that front direction arrow on the right top face of crossbar points in the direction of vehicle front, and place crossbar end support at position 152.4 mm (6.00 in) back from joint of front roof rail support and roof rail.

***Length A:***
***152.4 mm (6.00 in)***




3) Set crossbar so that front direction arrow on the right top face of crossbar points in the direction of vehicle front, and place crossbar end support at position 152.4 mm (6.00 in) back from joint of rear roof rail support and roof rail.

***Length B:***
***152.4 mm (6.00 in)***




4) Tighten end support and lower clamp using TORX® bolt T30.

# 12. Trailer Hitch S911389

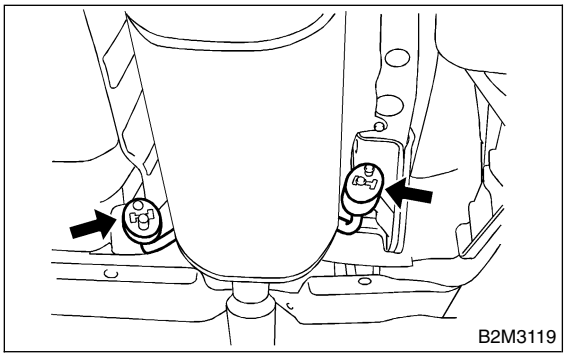
## A: REMOVAL S911389A18

**CAUTION:**
**Because trailer hitch is heavy, two people are required to remove it.**

1) Lift-up the vehicle.
2) Remove rubber cushion from body.

NOTE:
If rubber cushion is hard to remove, apply SUBARU CRC.

***SUBARU CRC (Part No. 004301003 )***

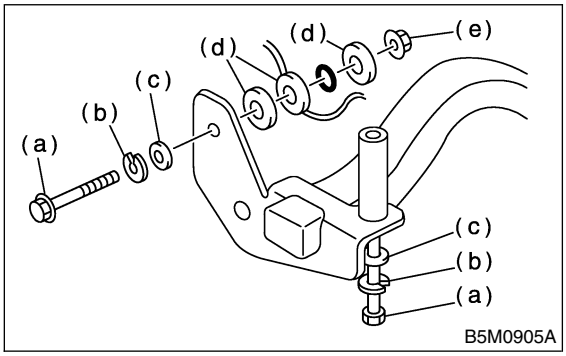



3) Remove strap (a).
4) Remove bolts. Remove trailer hitch while lowering muffler.

## B: INSTALLATION S911389A11

**CAUTION:**
**Because trailer hitch is heavy, two people are required to remove it.**

1) Install in the reverse order of removal.
2) For installation method of bolt, see the figure.




(a) Bolt
(b) Spring washer
(c) Flat washer
(d) Plate
(e) Nut

# 12. Trailer Hitch S911389

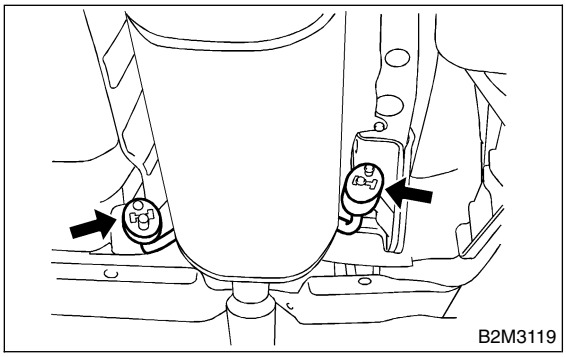
## A: REMOVAL S911389A18

**CAUTION:**
**Because trailer hitch is heavy, two people are required to remove it.**

1) Lift-up the vehicle.
2) Remove rubber cushion from body.

NOTE:
If rubber cushion is hard to remove, apply SUBARU CRC.

***SUBARU CRC (Part No. 004301003 )***

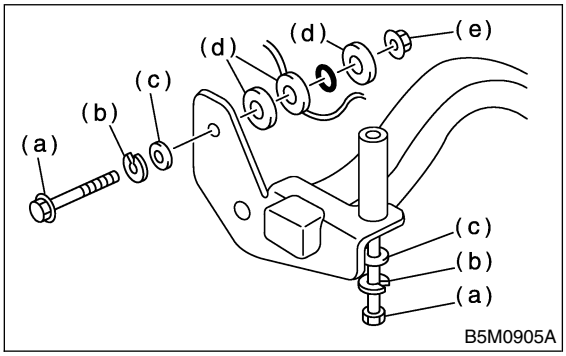



3) Remove strap (a).
4) Remove bolts. Remove trailer hitch while lowering muffler.

## B: INSTALLATION S911389A11

**CAUTION:**
**Because trailer hitch is heavy, two people are required to remove it.**

1) Install in the reverse order of removal.
2) For installation method of bolt, see the figure.



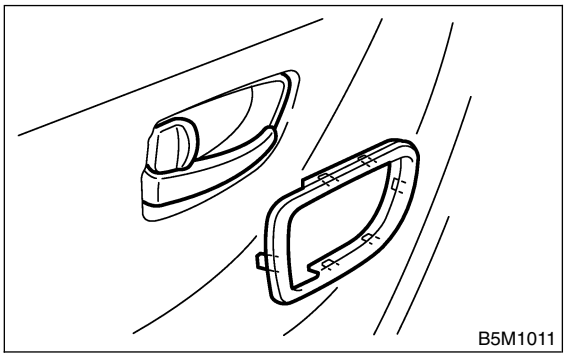

(a) Bolt
(b) Spring washer
(c) Flat washer
(d) Plate
(e) Nut

# 13. Front Door Trim S911356

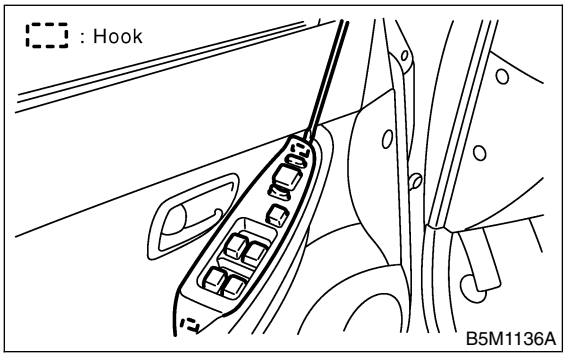
## A: REMOVAL S911356A18

**CAUTION:**
**Do not apply excessive force to clip. Otherwise the clip may be broken.**

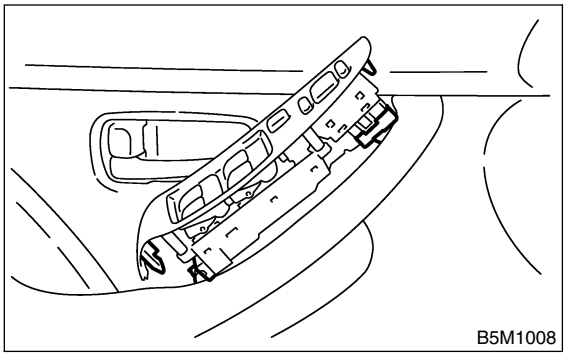
1) Pull up inner remote cover toward you to remove upper hook. Pull down it to remove lower claw. Remove inner remote cover.



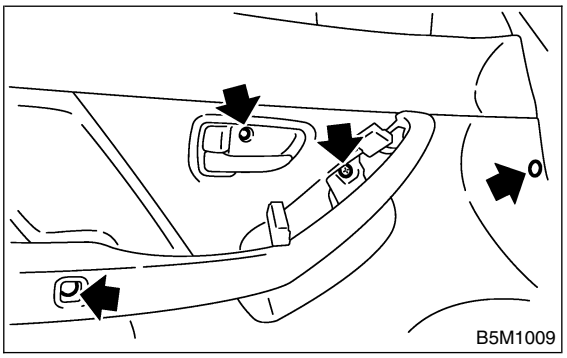

2) Remove two hooks of switch panel to remove power window main switch.



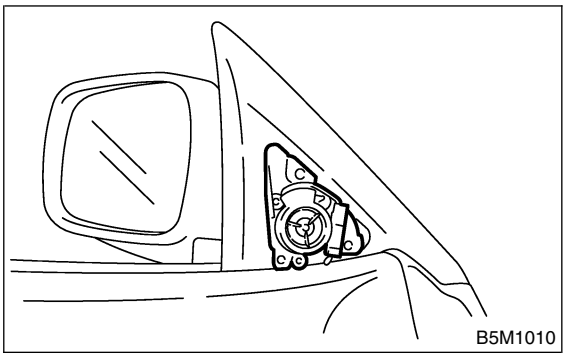

3) Disconnect electrical connectors from power window main switch and mirror switch.



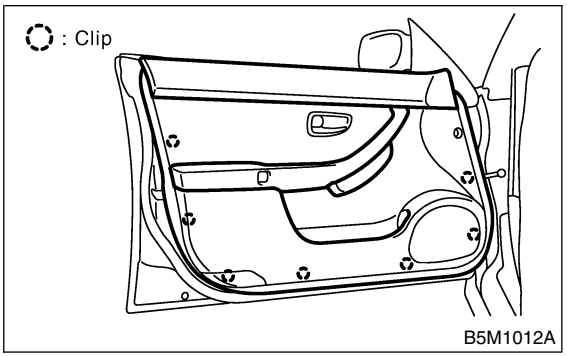

4) Remove three screws and clips.




5) Remove gusset cover. Disconnect electrical connectors to remove speaker.




6) Remove seven clips of trim panel using clip remover to remove trim panel.




## B: INSTALLATION S911356A11

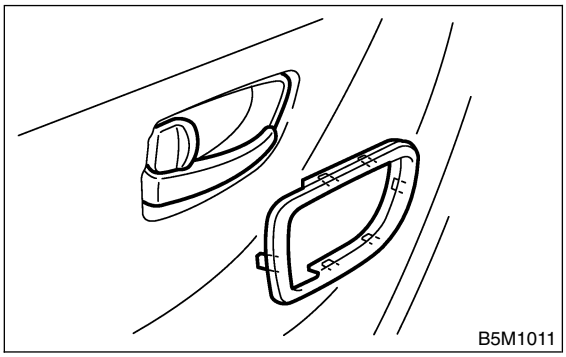
Install in the reverse order of removal.

# 13. Front Door Trim S911356

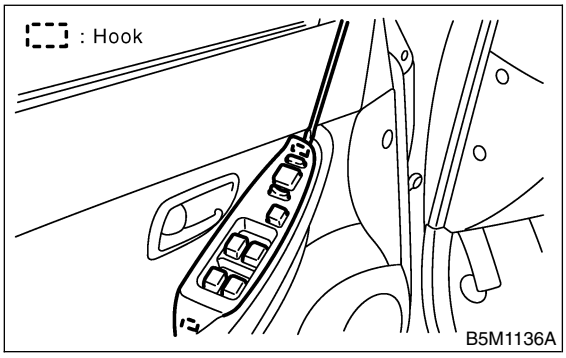
## A: REMOVAL S911356A18

**CAUTION:**
**Do not apply excessive force to clip. Otherwise the clip may be broken.**

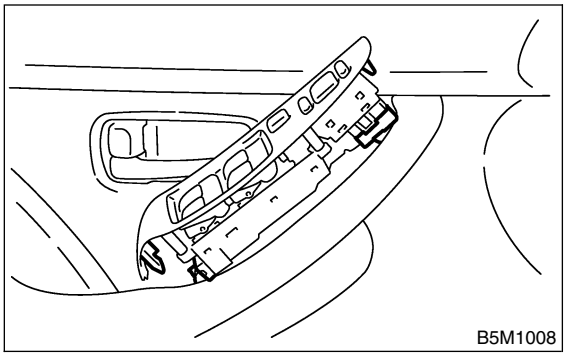
1) Pull up inner remote cover toward you to remove upper hook. Pull down it to remove lower claw. Remove inner remote cover.



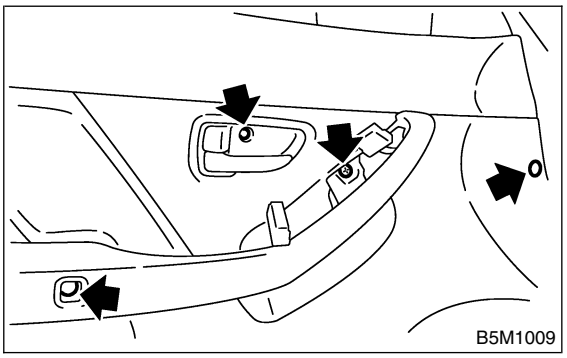

2) Remove two hooks of switch panel to remove power window main switch.



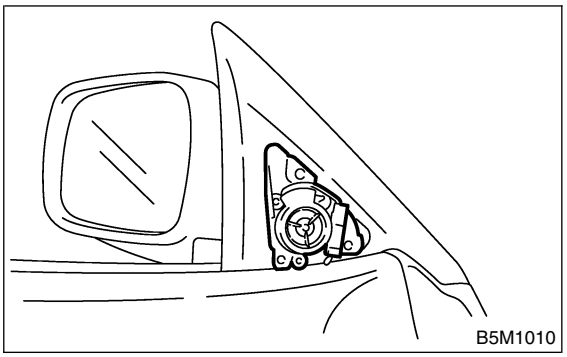

3) Disconnect electrical connectors from power window main switch and mirror switch.



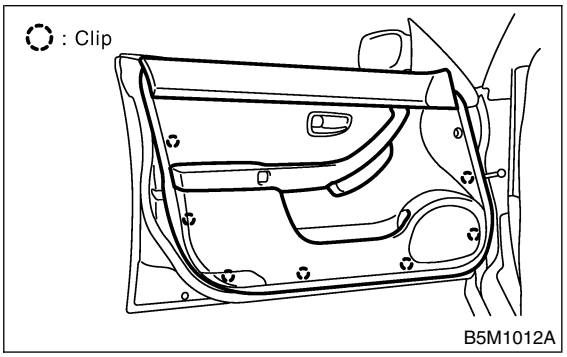

4) Remove three screws and clips.




5) Remove gusset cover. Disconnect electrical connectors to remove speaker.




6) Remove seven clips of trim panel using clip remover to remove trim panel.




## B: INSTALLATION S911356A11

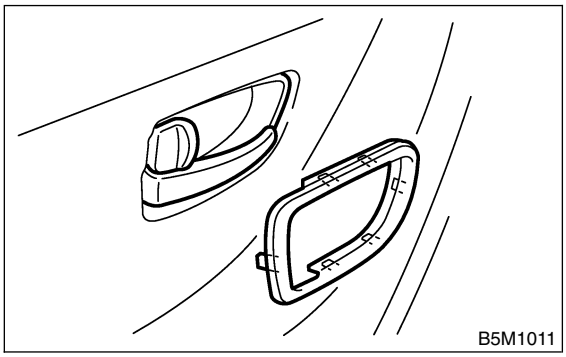
Install in the reverse order of removal.

# 14. Rear Door Trim S911354

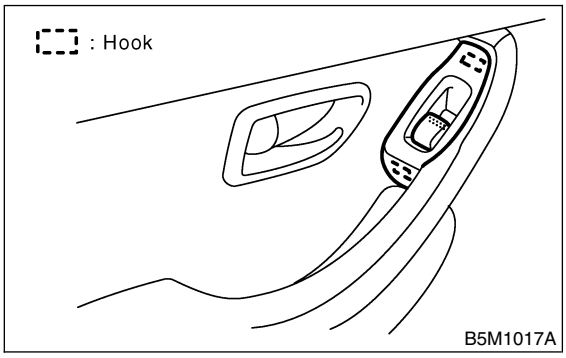
## A: REMOVAL S911354A18

**CAUTION:**
**Do not apply excessive force to clip. Otherwise the clip may be broken.**

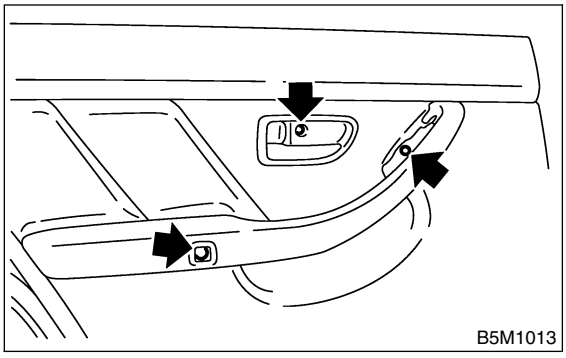
1) Pull up inner remote cover toward you to remove upper hook. Pull down it to remove lower claw. Remove inner remote cover.



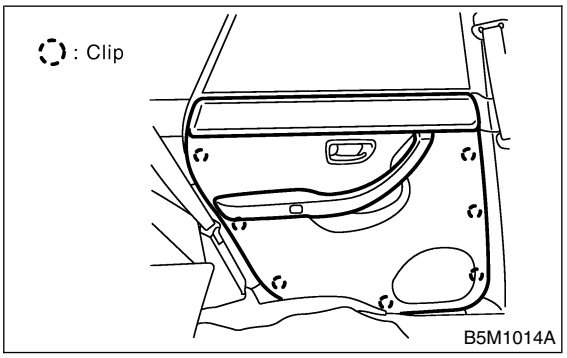

2) Remove two hooks of switch panel to remove power window sub switch and disconnect electrical connector.




3) Remove three screws and clips.




4) Remove seven clips of trim panel using clip remover to remove trim panel.




## B: INSTALLATION S911354A11

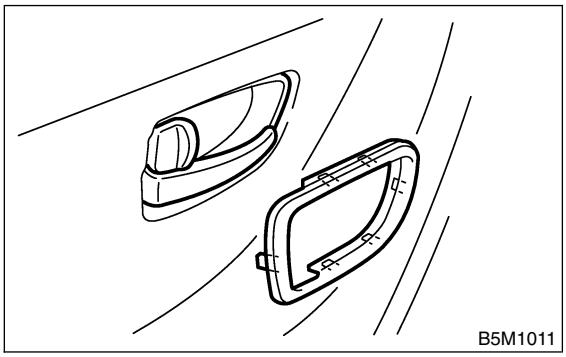
Install in the reverse order of removal.

# 14. Rear Door Trim S911354

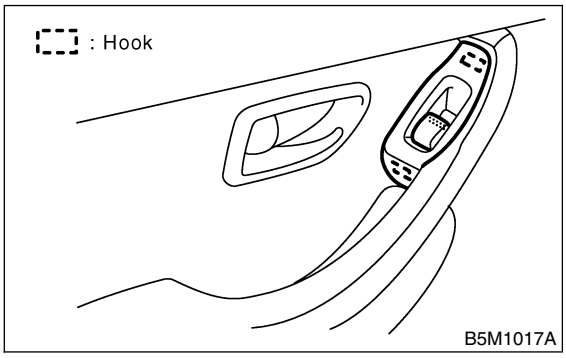
## A: REMOVAL S911354A18

**CAUTION:**
**Do not apply excessive force to clip. Otherwise the clip may be broken.**

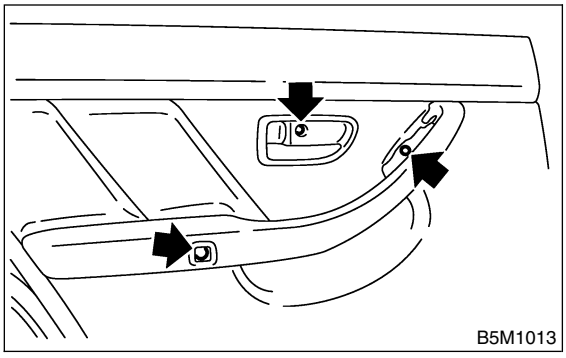
1) Pull up inner remote cover toward you to remove upper hook. Pull down it to remove lower claw. Remove inner remote cover.



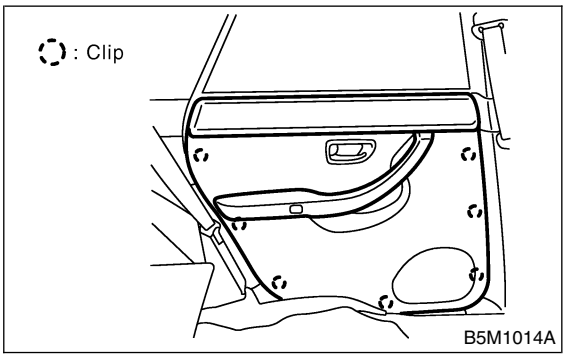

2) Remove two hooks of switch panel to remove power window sub switch and disconnect electrical connector.




3) Remove three screws and clips.




4) Remove seven clips of trim panel using clip remover to remove trim panel.



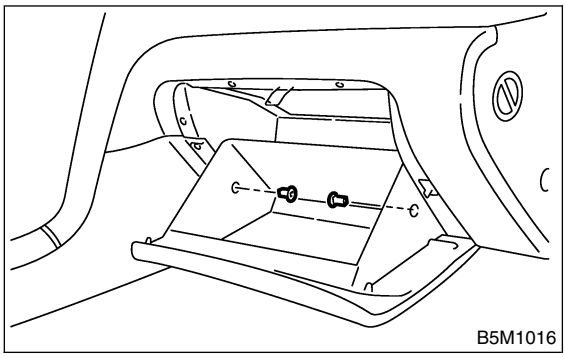

## B: INSTALLATION S911354A11

Install in the reverse order of removal.

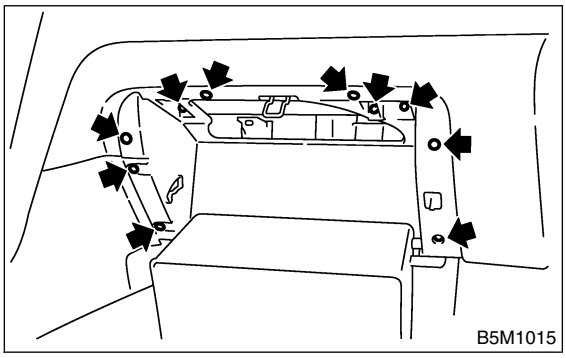
# 15. Glove Box S911558

## A: REMOVAL S911558A18

1) Remove stoppers.




2) Loosen screws to remove glove box.



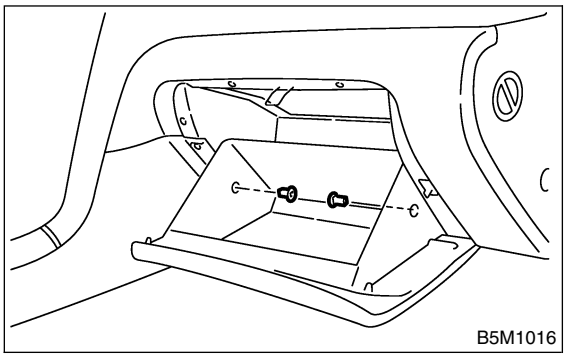

## B: INSTALLATION S911558A11

Install in the reverse order of removal.

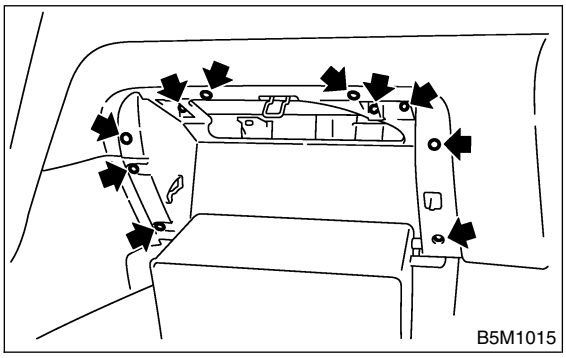
# 15. Glove Box S911558

## A: REMOVAL S911558A18

1) Remove stoppers.




2) Loosen screws to remove glove box.



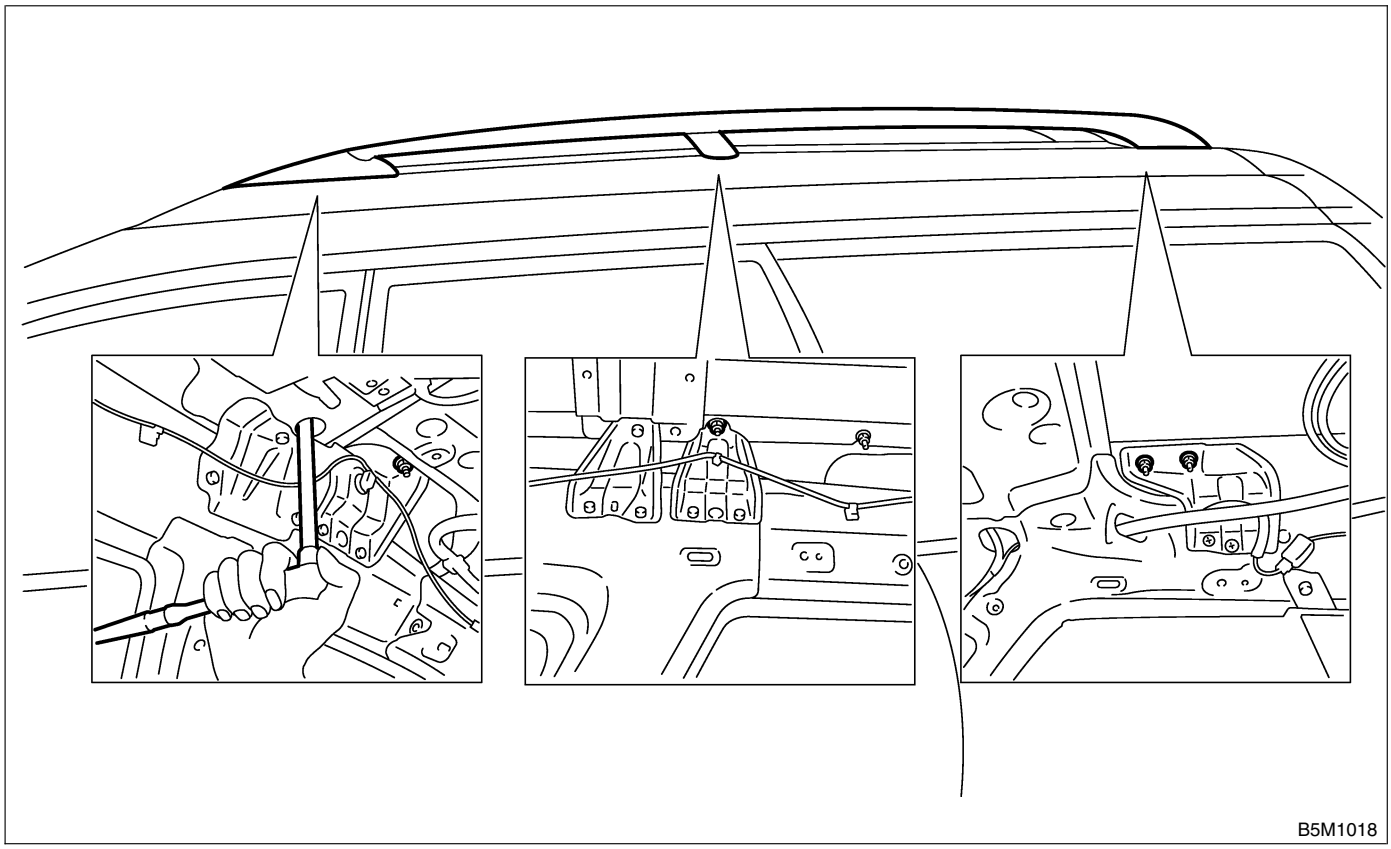

## B: INSTALLATION S911558A11

Install in the reverse order of removal.

# 16. Roof Rail S911383

## A: REMOVAL S911383A18

1) Remove roof trim. <Ref. to EI-47, REMOVAL, Roof Trim.>
2) Remove five mounting nuts and then detach roof rail carefully.




## B: INSTALLATION S911383A11

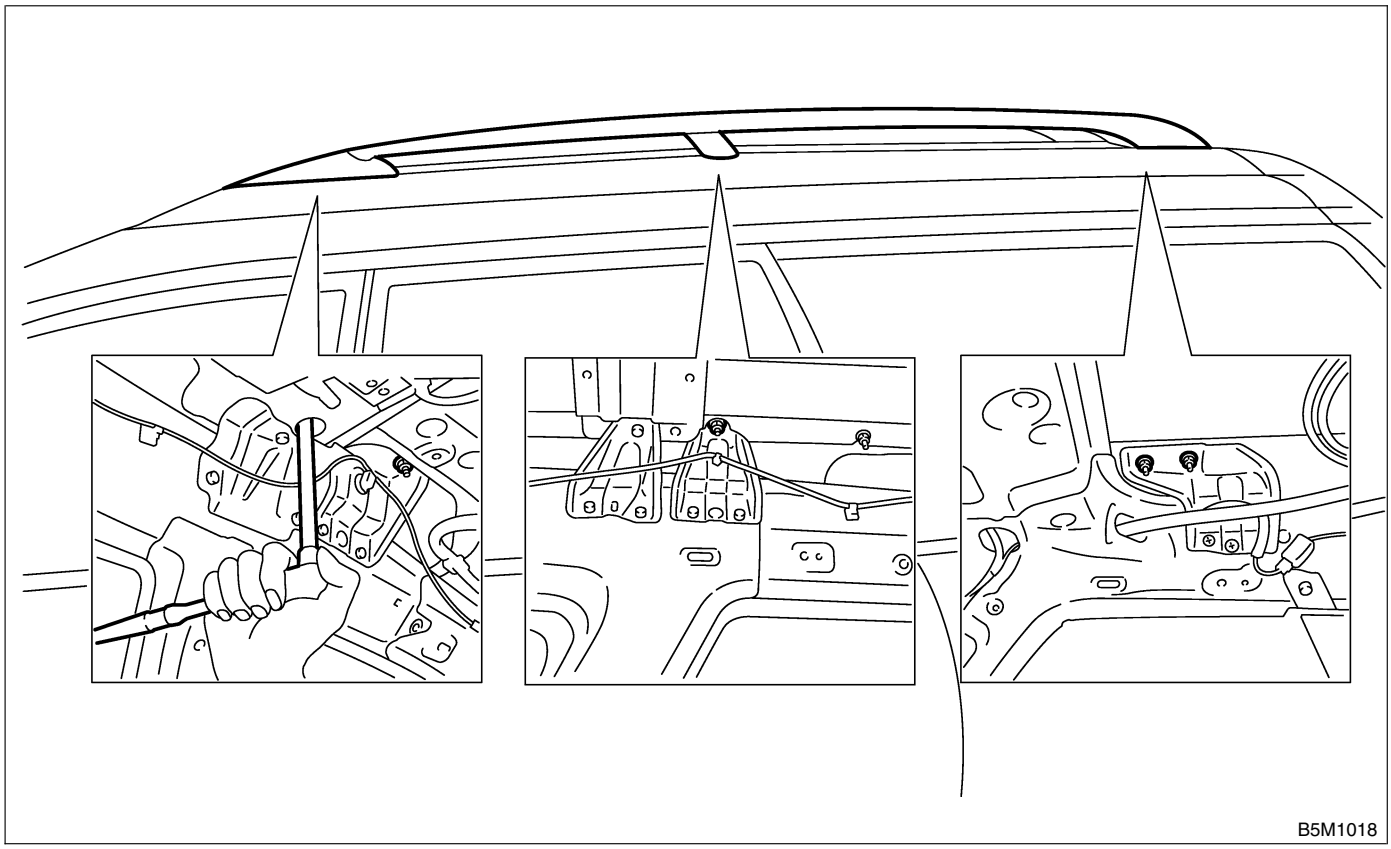
Install in the reverse order of removal.

**CAUTION:**
**Be careful not to scratch body panels with roof rail stud bolts when removing and installing them.**

# 16. Roof Rail S911383

## A: REMOVAL S911383A18

1) Remove roof trim. <Ref. to EI-47, REMOVAL, Roof Trim.>
2) Remove five mounting nuts and then detach roof rail carefully.




## B: INSTALLATION S911383A11

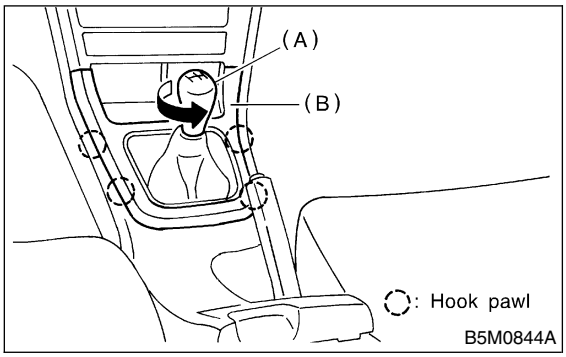
Install in the reverse order of removal.

**CAUTION:**
**Be careful not to scratch body panels with roof rail stud bolts when removing and installing them.**

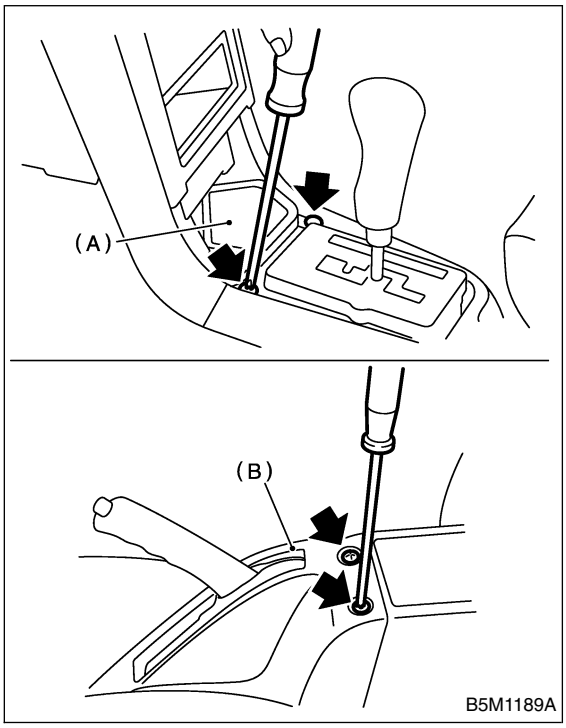
# 17. Console Box S911382

## A: REMOVAL S911382A18

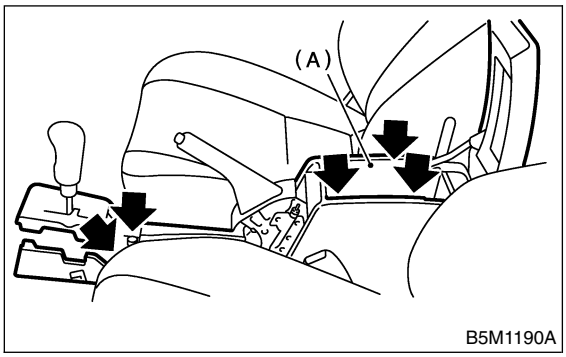
1) Remove shift knob (A) (MT model) and front cover (B).




2) Remove tray (A) and console cover (B).




3) Remove console box (A).



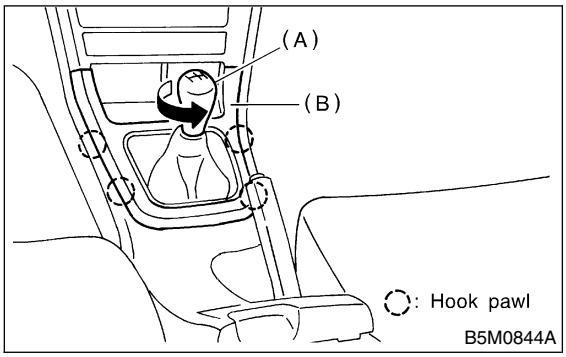

## B: INSTALLATION S911382A11

Install in the reverse order of removal.

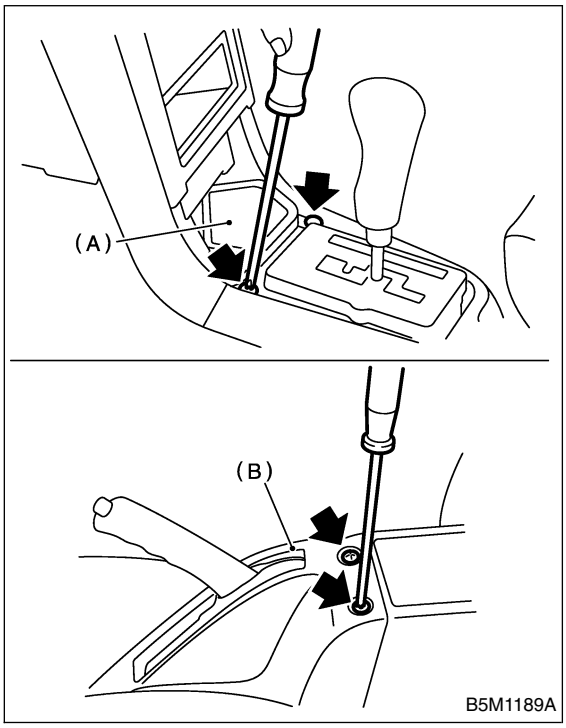
# 17. Console Box S911382

## A: REMOVAL S911382A18

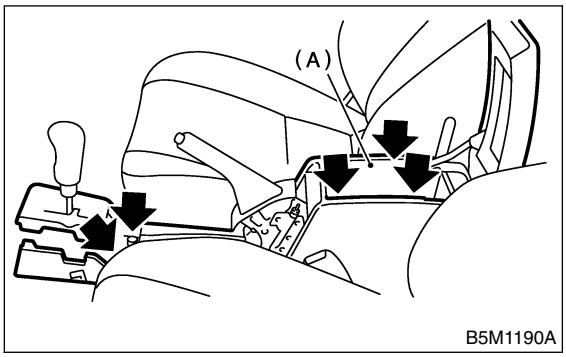
1) Remove shift knob (A) (MT model) and front cover (B).




2) Remove tray (A) and console cover (B).




3) Remove console box (A).




## B: INSTALLATION S911382A11

Install in the reverse order of removal.

# 18. Instrument Panel Assembly

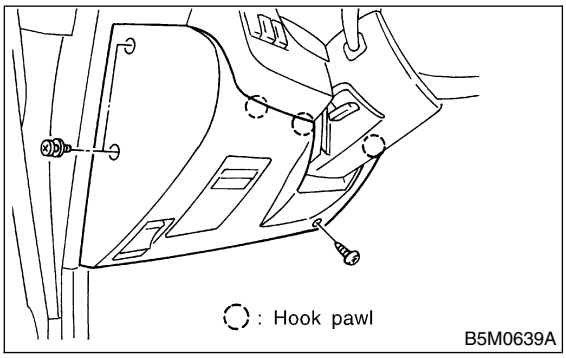
S911381

## A: REMOVAL S911381A18

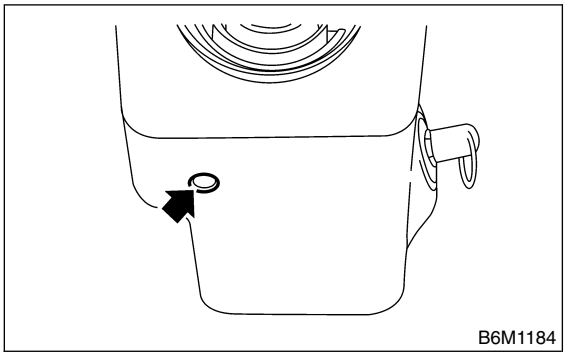
Airbag system wiring harness is routed near the combination meter.

**WARNING:**
**• All airbag system wiring harness and connectors are colored yellow. Do not use electrical test equipment on these circuits.**
**• Be careful not to damage airbag system harness when servicing the instrument panel.**

1) Disconnect ground cable from battery.
2) Remove lower cover.

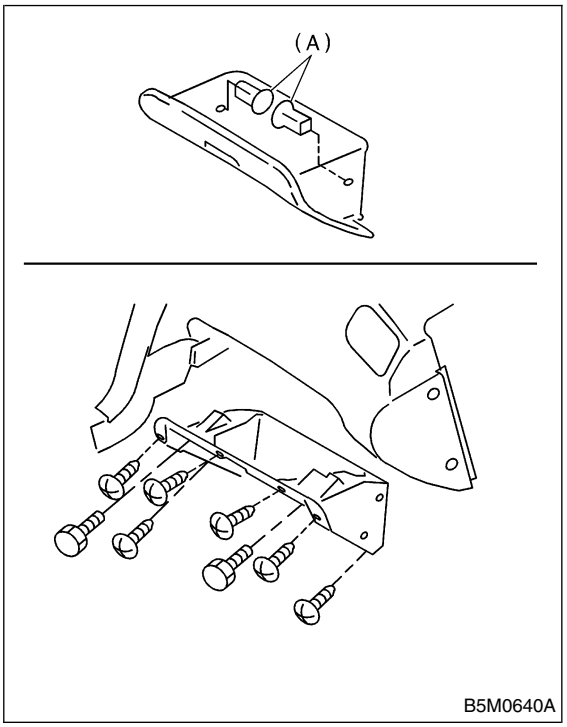



3) Remove lower column cover and disconnect harness connectors to steering column.

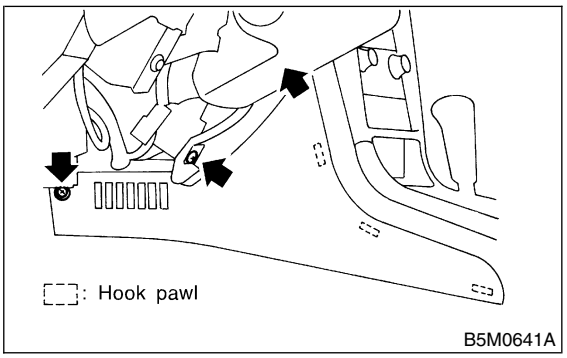



4) Remove steering column assembly (with steering wheel). <Ref. to PS-20, REMOVAL, Tilt Steering Column.>

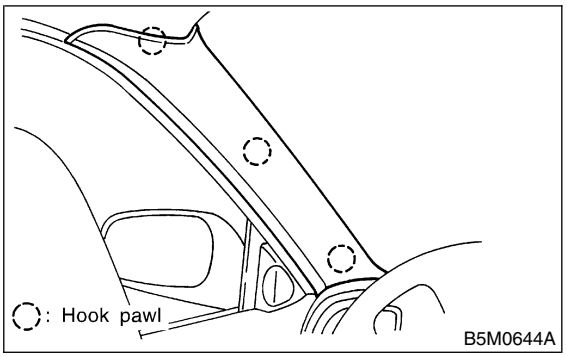
5) Remove stopper (A) then remove glove box.



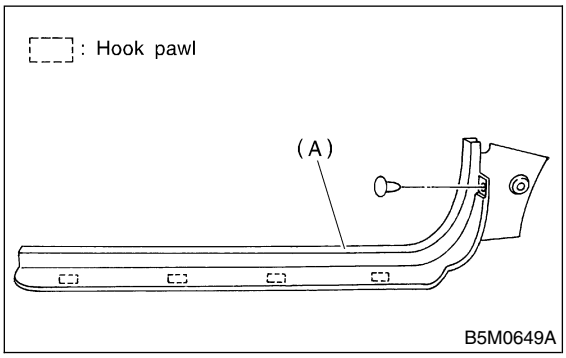

6) Remove side panel of both sides.




7) Remove passenger's airbag module. <Ref. to AB-14, Passenger's Airbag Module.>
8) Remove console box. <Ref. to EI-36, REMOVAL, Console Box.>
9) Remove front pillar upper trim of both sides.



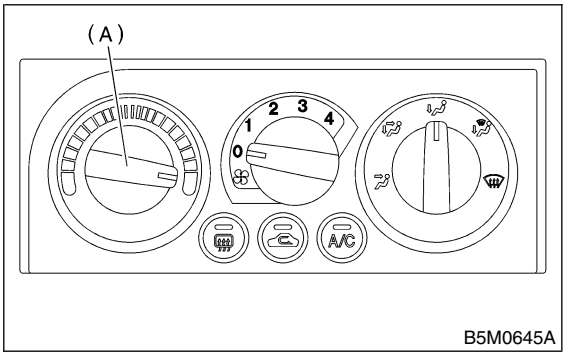
10) Remove front pillar lower trim of passenger side.

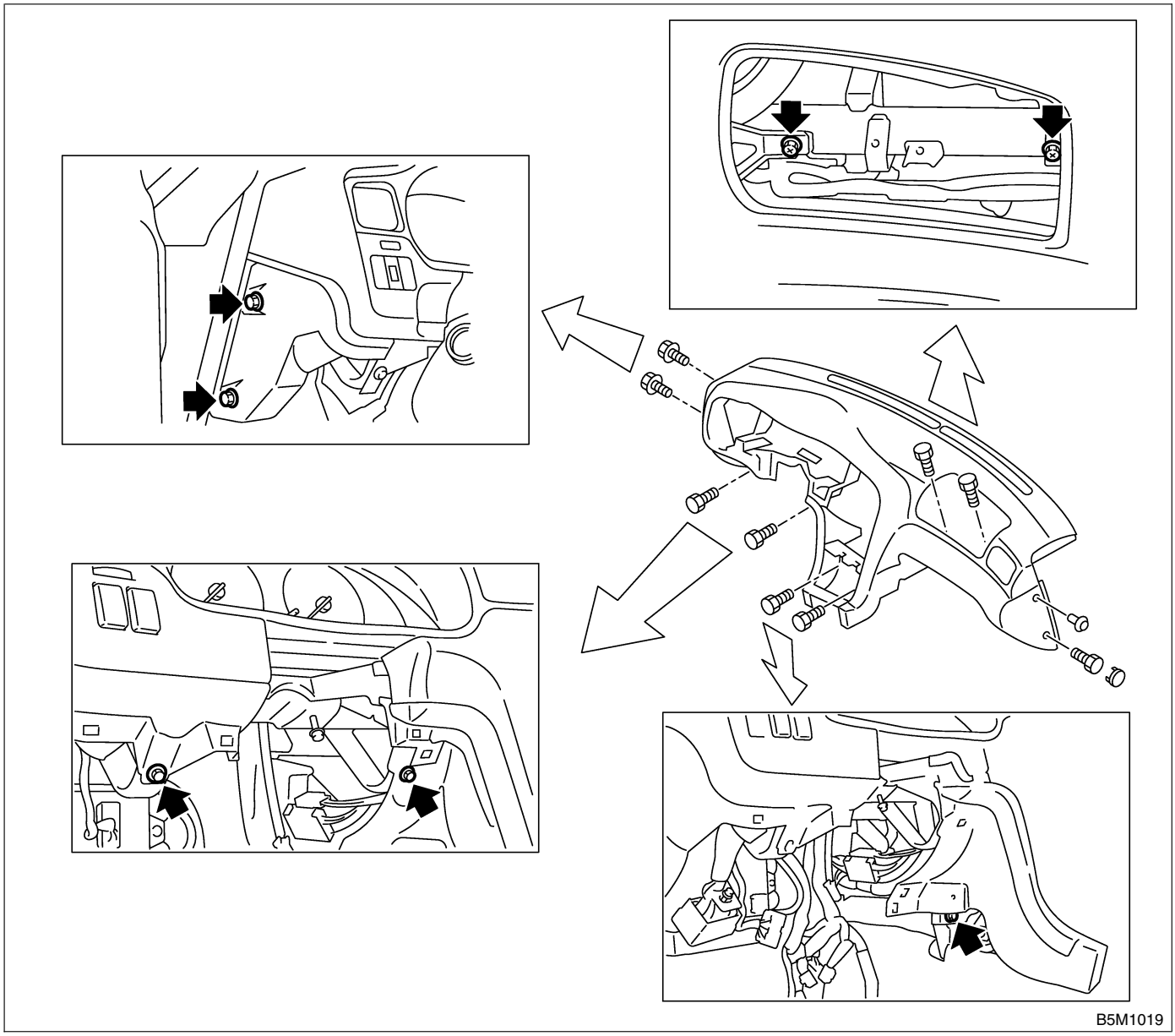



11) Set temperature control switch (A) to “FULL HOT” and then disconnect temperature control cable from bottom of heater unit. (Manual A/C equipped model)

12) Remove instrument panel mounting bolts.

NOTE:
Do not move the switch and link when installing.

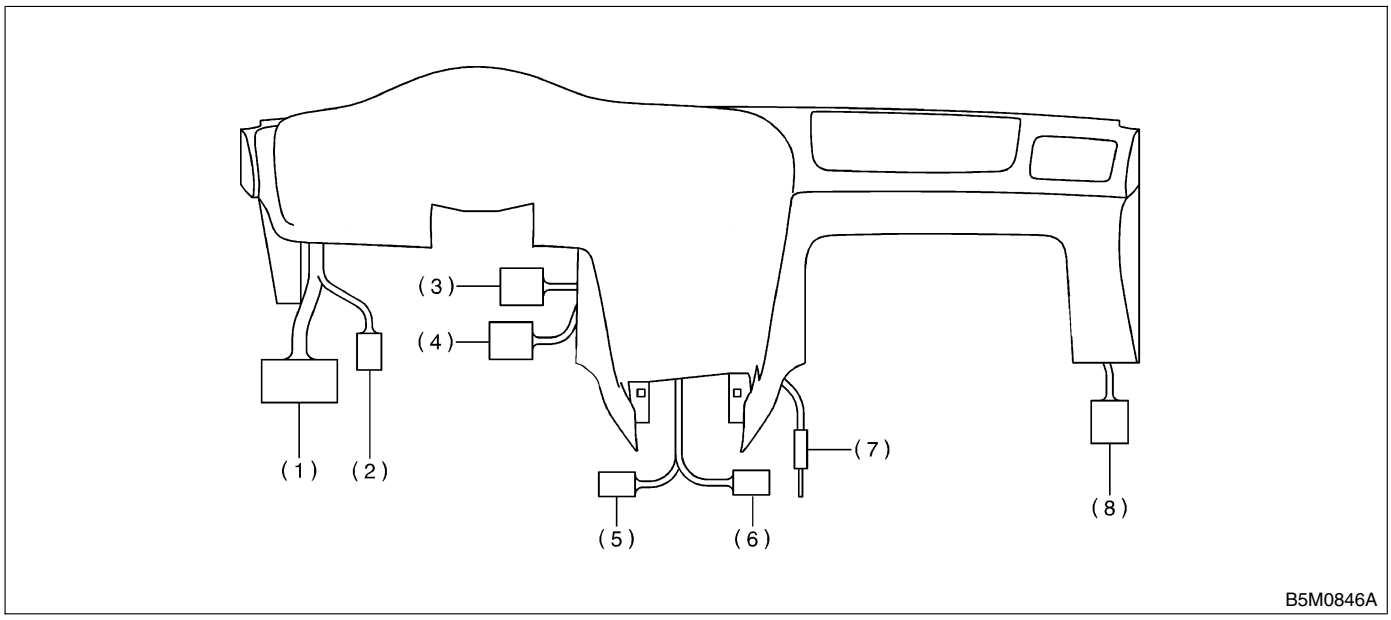



B5M1019

13) Disconnect harness connectors and remove instrument panel carefully.

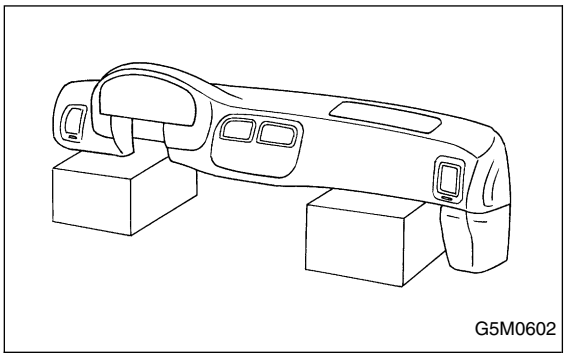
**CAUTION:**
**Do not pull the harness when disconnecting the connector.**

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




(1) SMJ/White
(2) 2P/Blue
(3) 10P/White
(4) 8P/White
(5) 1P/Black
(6) 1P/Black
(7) Antenna feeder
(8) 16P/Blue

**CAUTION:**
**• Take care not to scratch the instrument panel and related parts.**
**• When storing the removed instrument panel, place it standing up on the floor.**

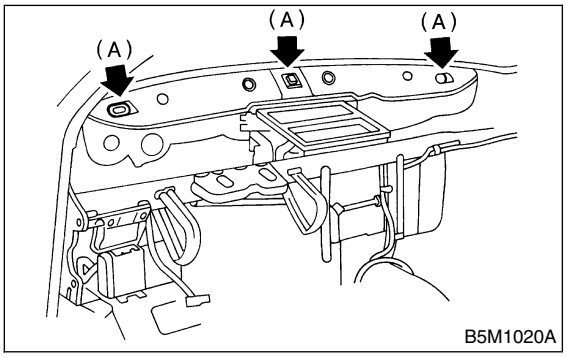


## B: INSTALLATION S911381A11

Install in the reverse order of removal.

**CAUTION:**
- **Be careful not to snag the harness.**
- **Make sure to connect harness connector.**
- **Take care not to scratch the instrument panel and related parts.**

NOTE:
When setting the instrument panel into position, push the three hooks into grommet (A) on the body panel.




***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EI-9, INSTRUMENT PANEL, COMPONENT, General Description.>***

# 18. Instrument Panel Assembly

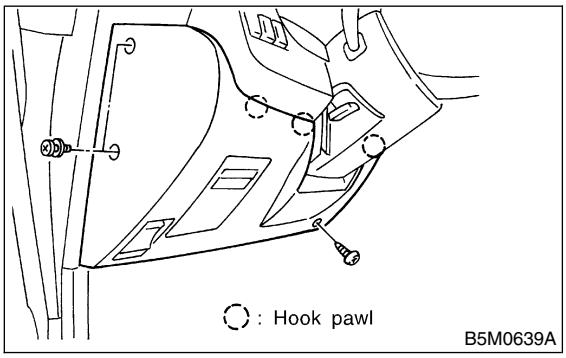
S911381

## A: REMOVAL S911381A18

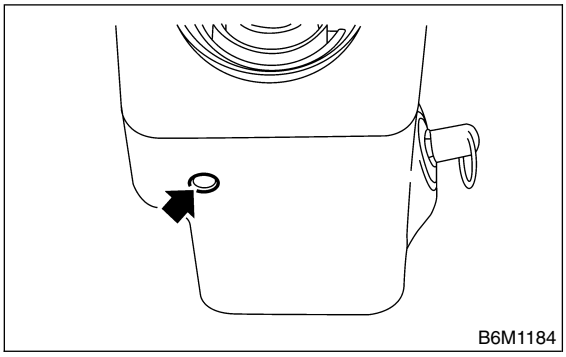
Airbag system wiring harness is routed near the combination meter.

**WARNING:**
**• All airbag system wiring harness and connectors are colored yellow. Do not use electrical test equipment on these circuits.**
**• Be careful not to damage airbag system harness when servicing the instrument panel.**

1) Disconnect ground cable from battery.
2) Remove lower cover.

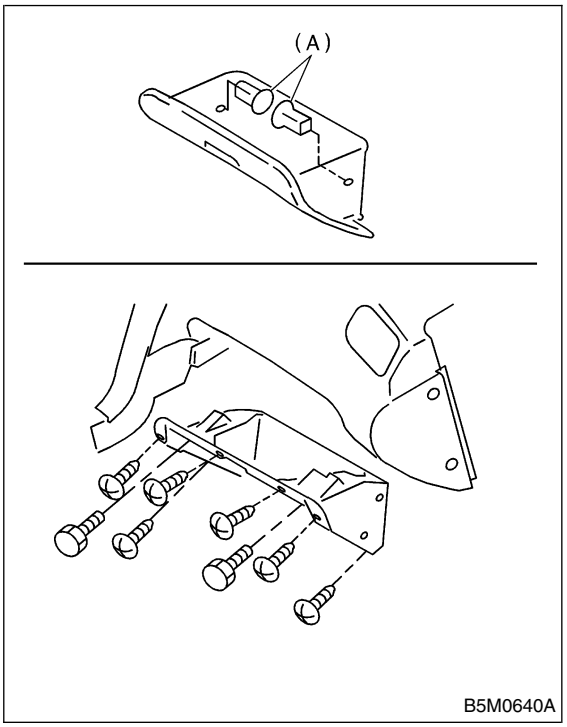



3) Remove lower column cover and disconnect harness connectors to steering column.

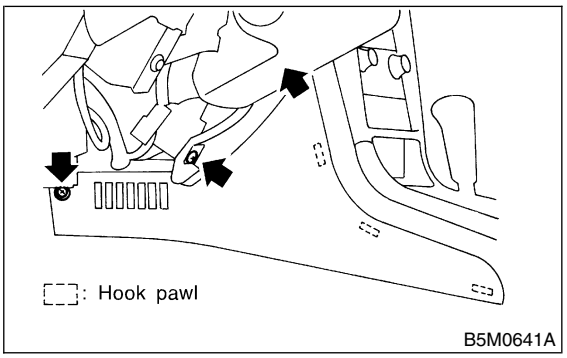



4) Remove steering column assembly (with steering wheel). <Ref. to PS-20, REMOVAL, Tilt Steering Column.>

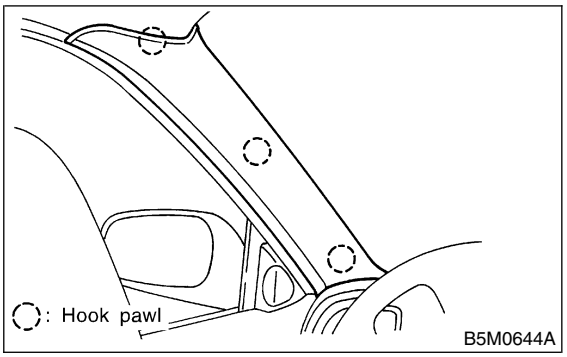
5) Remove stopper (A) then remove glove box.



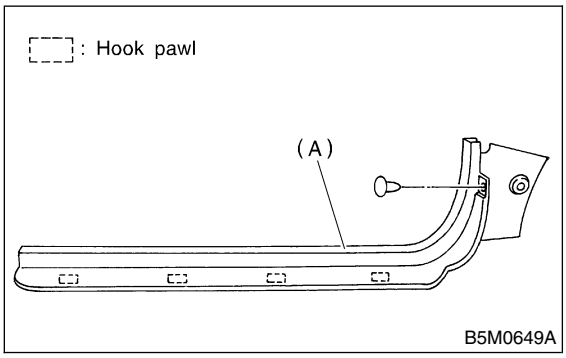

6) Remove side panel of both sides.




7) Remove passenger's airbag module. <Ref. to AB-14, Passenger's Airbag Module.>
8) Remove console box. <Ref. to EI-36, REMOVAL, Console Box.>
9) Remove front pillar upper trim of both sides.



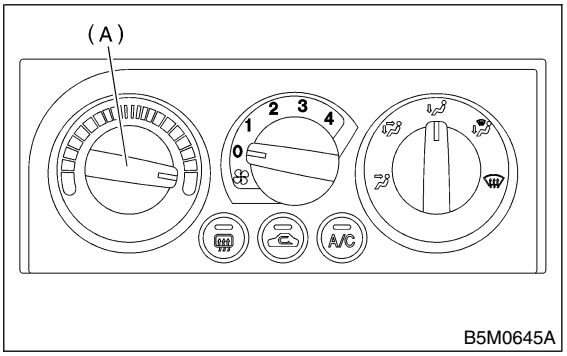
10) Remove front pillar lower trim of passenger side.

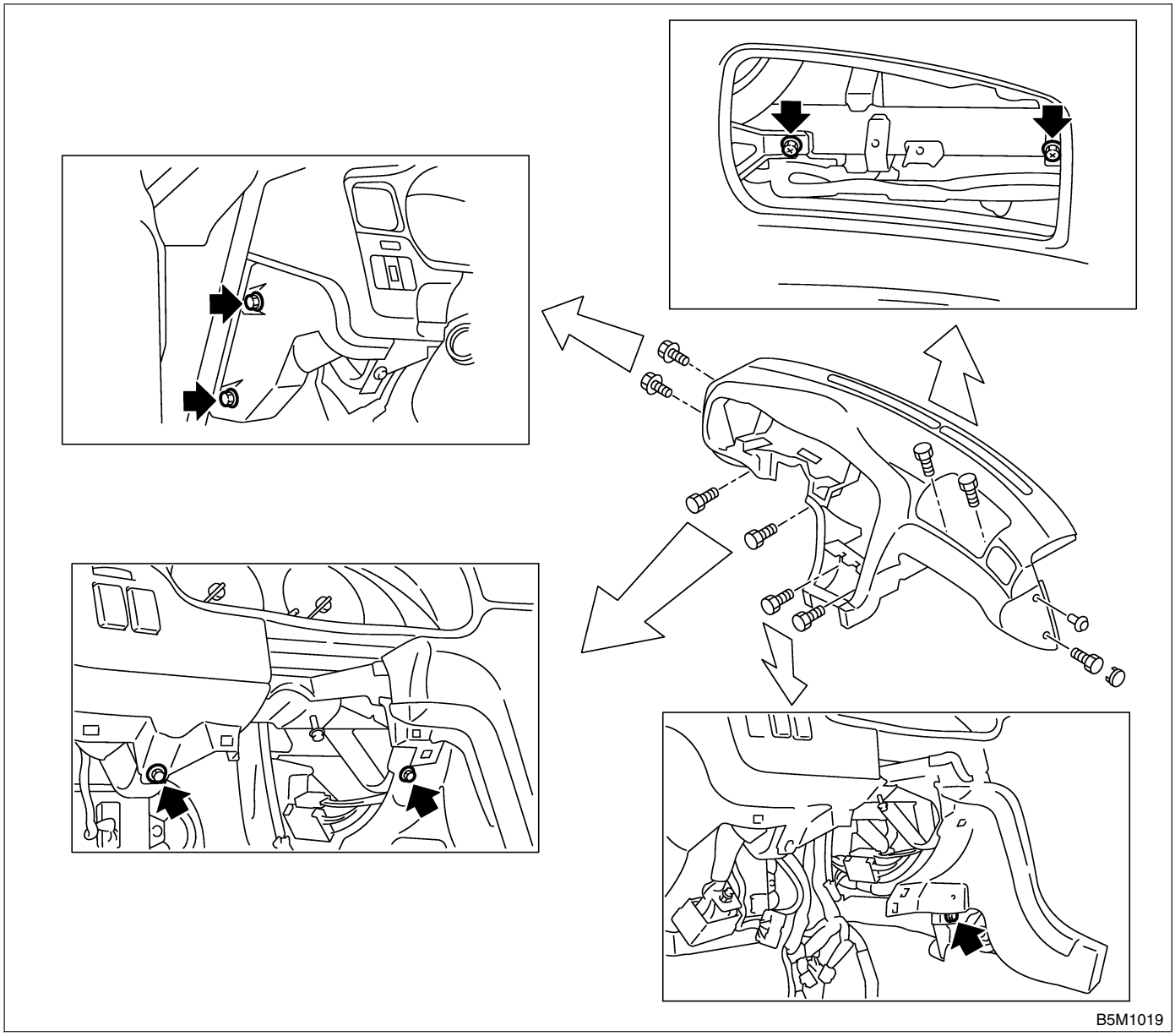



11) Set temperature control switch (A) to “FULL HOT” and then disconnect temperature control cable from bottom of heater unit. (Manual A/C equipped model)

12) Remove instrument panel mounting bolts.

NOTE:
Do not move the switch and link when installing.

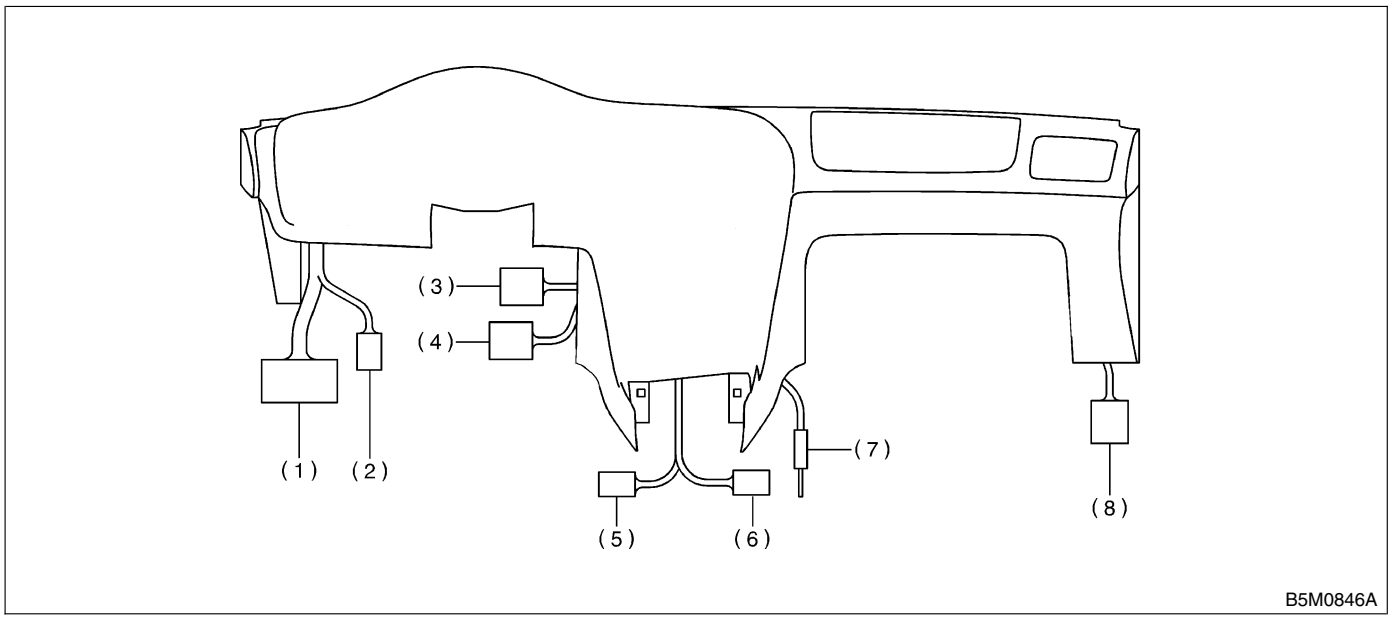



B5M1019

13) Disconnect harness connectors and remove instrument panel carefully.

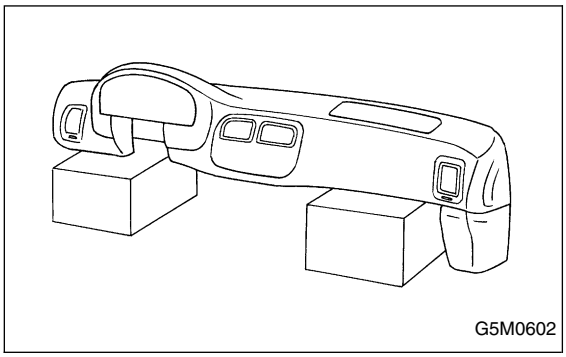
**CAUTION:**
**Do not pull the harness when disconnecting the connector.**

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




(1) SMJ/White
(2) 2P/Blue
(3) 10P/White
(4) 8P/White
(5) 1P/Black
(6) 1P/Black
(7) Antenna feeder
(8) 16P/Blue

**CAUTION:**
**• Take care not to scratch the instrument panel and related parts.**
**• When storing the removed instrument panel, place it standing up on the floor.**

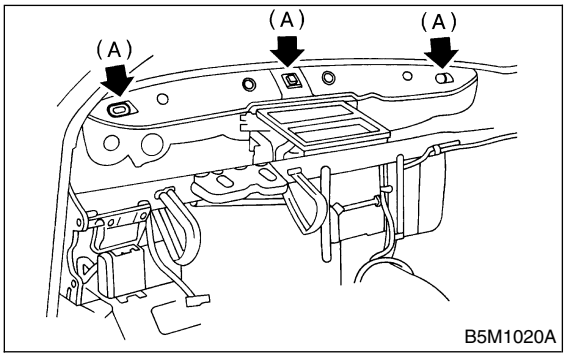


## B: INSTALLATION S911381A11

Install in the reverse order of removal.

**CAUTION:**
- **Be careful not to snag the harness.**
- **Make sure to connect harness connector.**
- **Take care not to scratch the instrument panel and related parts.**

NOTE:
When setting the instrument panel into position, push the three hooks into grommet (A) on the body panel.

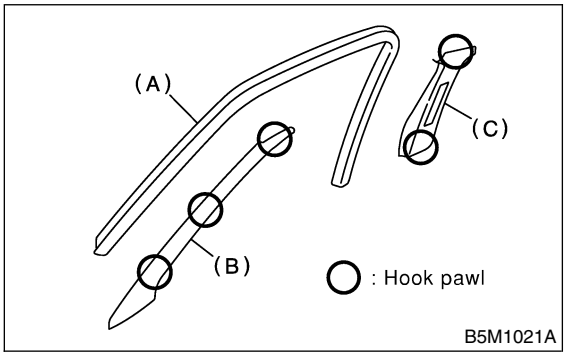



***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EI-9, INSTRUMENT PANEL, COMPONENT, General Description.>***

# 19. Upper Inner Trim S911384

## A: REMOVAL S911384A18

1) Remove front mole (A).
2) Remove front pillar upper trim (B).
3) Detach front seat belt shoulder anchor, then remove center pillar upper trim (C).

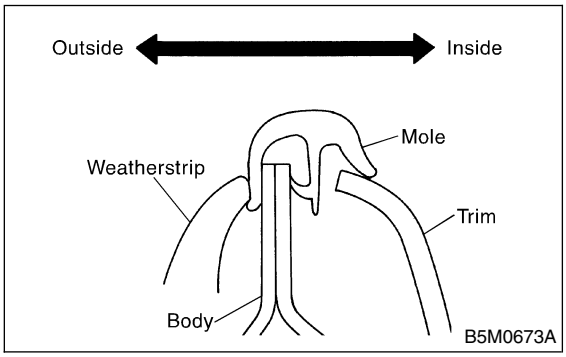



## B: INSTALLATION S911384A11

Install in the reverse order of removal.

**CAUTION:**
**Be sure to securely hook pawls of inner trim panel to body flange.**

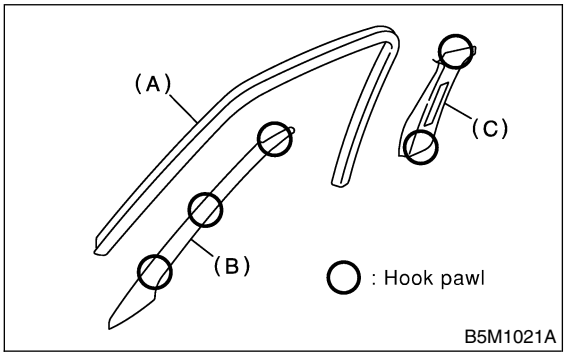
NOTE:
When installing center pillar upper trim and front pillar upper trim, be sure to set front mole as shown in figure.



# 19. Upper Inner Trim S911384

## A: REMOVAL S911384A18

1) Remove front mole (A).
2) Remove front pillar upper trim (B).
3) Detach front seat belt shoulder anchor, then remove center pillar upper trim (C).

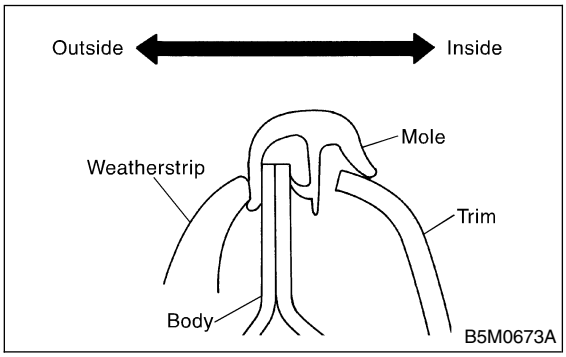



## B: INSTALLATION S911384A11

Install in the reverse order of removal.

**CAUTION:**
**Be sure to securely hook pawls of inner trim panel to body flange.**

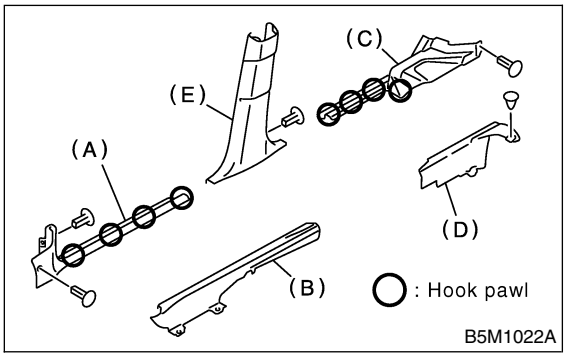
NOTE:
When installing center pillar upper trim and front pillar upper trim, be sure to set front mole as shown in figure.



# 20. Lower Inner Trim S911369

## A: REMOVAL S911369A18

1) Remove front pillar lower trim (A).
2) Remove side sill front lower cover (B).
3) For sedan: Remove rear seat cushion <Ref. to SE-17, REMOVAL, Rear Seat.>, then remove side sill rear upper cover (C).
For wagon: Rise rear seat cushion, then remove side sill rear upper cover (C).
4) Remove side sill rear lower cover (D).
5) Remove center pillar lower trim (E).




## B: INSTALLATION S911369A11

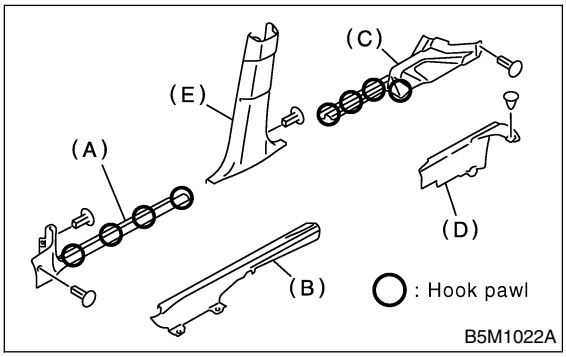
Install in the reverse order of removal.

**CAUTION:**
**Be sure to securely hook pawls of inner trim panel to body flange.**

# 20. Lower Inner Trim S911369

## A: REMOVAL S911369A18

1) Remove front pillar lower trim (A).
2) Remove side sill front lower cover (B).
3) For sedan: Remove rear seat cushion <Ref. to SE-17, REMOVAL, Rear Seat.>, then remove side sill rear upper cover (C).
For wagon: Rise rear seat cushion, then remove side sill rear upper cover (C).
4) Remove side sill rear lower cover (D).
5) Remove center pillar lower trim (E).




## B: INSTALLATION S911369A11

Install in the reverse order of removal.

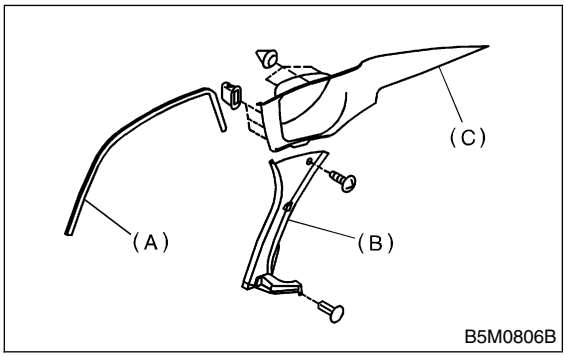
**CAUTION:**
**Be sure to securely hook pawls of inner trim panel to body flange.**

# 21. Rear Quarter Trim S911358

## A: REMOVAL S911358A18

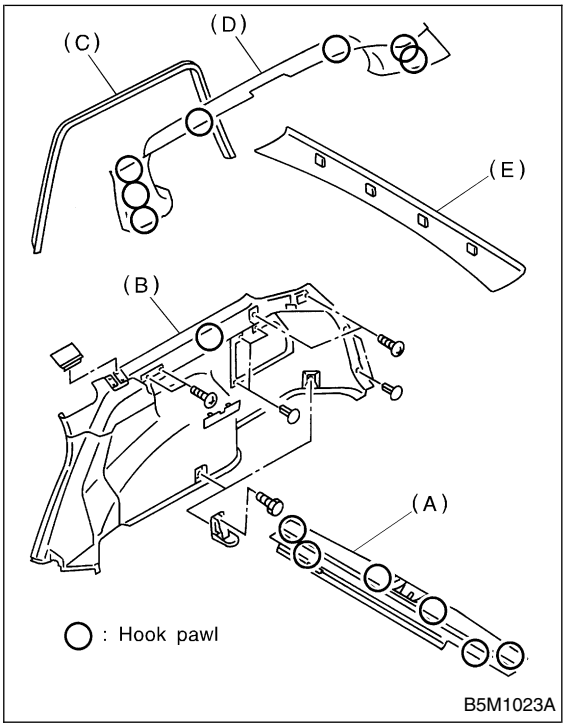
### 1. SEDAN S911358A1801

1) Remove rear mole (A).
2) Remove rear shelf trim. <Ref. to EI-50, REMOVAL, Rear Shelf Trim.>
3) Remove side sill rear upper cover. <Ref. to EI-43, REMOVAL, Lower Inner Trim.>
4) Remove rear pillar lower trim (B).
5) Remove rear pillar upper trim (C).




### 2. WAGON S911358A1802

1) Remove side sill rear upper cover. <Ref. to EI-43, REMOVAL, Lower Inner Trim.>
2) Remove luggage floor mat. <Ref. to EI-53, REMOVAL, Luggage Floor Mat.>
3) Remove rear skirt trim (A).
4) Remove rear quarter lower trim mounting volts, screws and clips, then remove the trim (B).
5) Remove rear mole (C).
6) Remove rear quarter upper trim mounting screw, then remove the trim (D).
7) Remove rear rail trim (E).

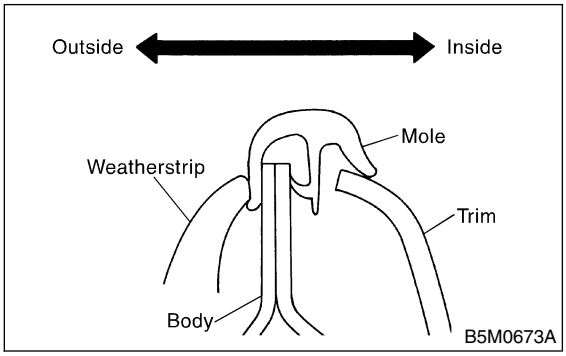


## B: INSTALLATION S911358A11

Install in the reverse order of removal.

**CAUTION:**
**Be sure to securely hook pawls of inner trim panel to body flange.**

NOTE:
When installing rear quarter upper trim, be sure to set rear mole as shown in the figure.

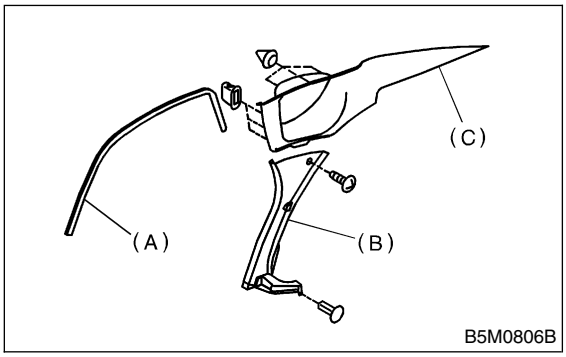


# 21. Rear Quarter Trim S911358

## A: REMOVAL S911358A18

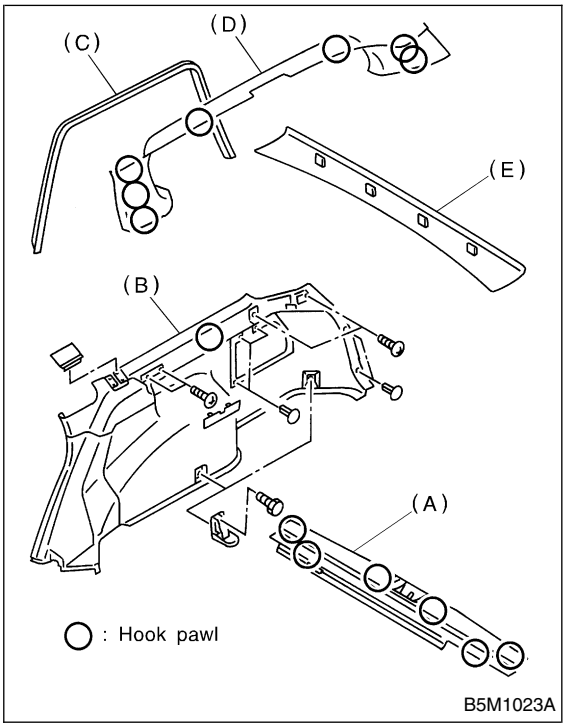
### 1. SEDAN S911358A1801

1) Remove rear mole (A).
2) Remove rear shelf trim. <Ref. to EI-50, REMOVAL, Rear Shelf Trim.>
3) Remove side sill rear upper cover. <Ref. to EI-43, REMOVAL, Lower Inner Trim.>
4) Remove rear pillar lower trim (B).
5) Remove rear pillar upper trim (C).




### 2. WAGON S911358A1802

1) Remove side sill rear upper cover. <Ref. to EI-43, REMOVAL, Lower Inner Trim.>
2) Remove luggage floor mat. <Ref. to EI-53, REMOVAL, Luggage Floor Mat.>
3) Remove rear skirt trim (A).
4) Remove rear quarter lower trim mounting volts, screws and clips, then remove the trim (B).
5) Remove rear mole (C).
6) Remove rear quarter upper trim mounting screw, then remove the trim (D).
7) Remove rear rail trim (E).

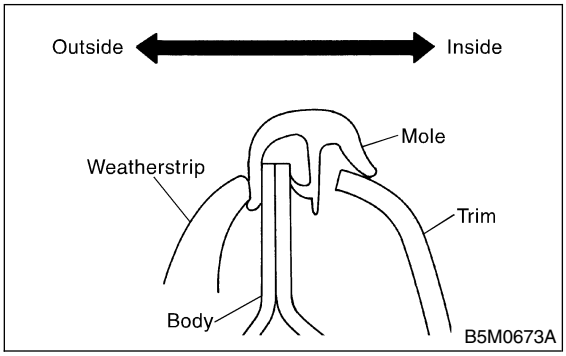


## B: INSTALLATION S911358A11

Install in the reverse order of removal.

**CAUTION:**
**Be sure to securely hook pawls of inner trim panel to body flange.**

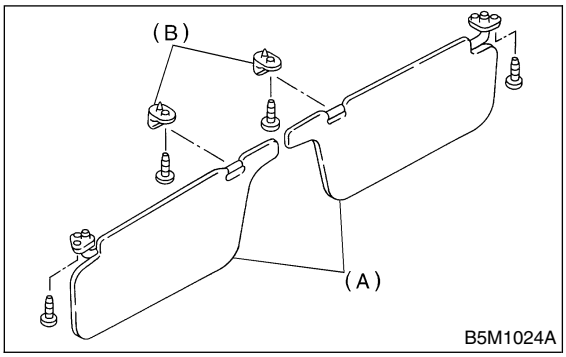
NOTE:
When installing rear quarter upper trim, be sure to set rear mole as shown in the figure.



# 22. Sun Visor S911359

## A: REMOVAL S911359A18

Remove mounting screws then detach sun visor (A) and hook (B).



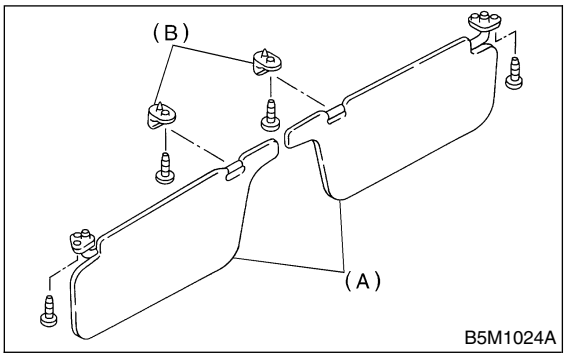

## B: INSTALLATION S911359A11

Install in the reverse order of removal.

# 22. Sun Visor S911359

## A: REMOVAL S911359A18

Remove mounting screws then detach sun visor (A) and hook (B).




## B: INSTALLATION S911359A11

Install in the reverse order of removal.

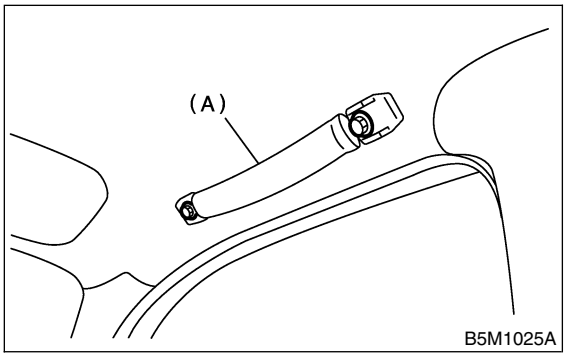
# 23. Roof Trim S911360

## A: REMOVAL S911360A18

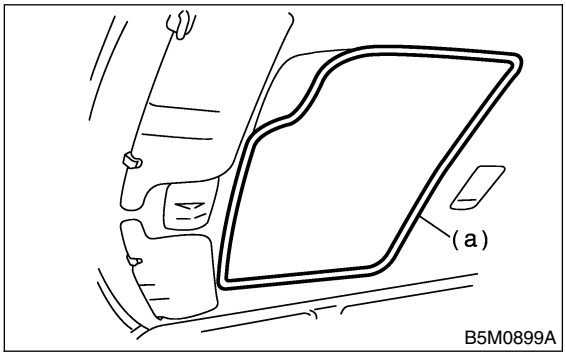
**CAUTION:**
**When removing clip, use great care not to damage the roof trim.**

### 1. SEDAN S911360A1801

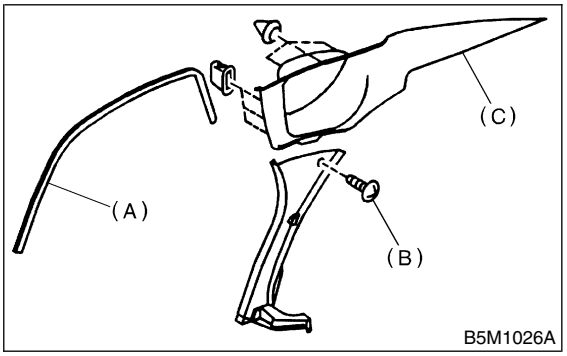
1) Disconnect ground cable from battery.
2) Remove sunroof switch. (Sunroof equipped model) <Ref. to SR-14, REMOVAL, Sunroof Switch.>
3) Remove room light. <Ref. to LI-26, REMOVAL, Room Light.>
4) Remove sun visor and hook of both sides. <Ref. to EI-46, REMOVAL, Sun Visor.>
5) Remove assist grips (A).



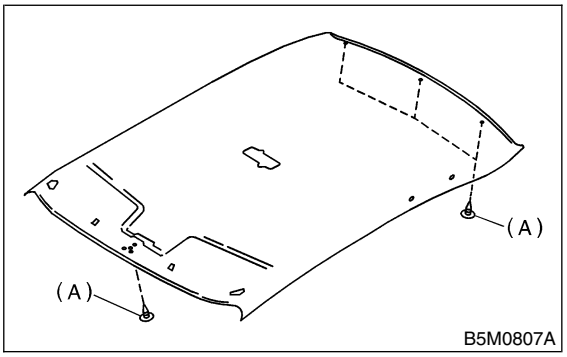

6) Remove sunroof garnish (A).




7) Remove upper inner trim. <Ref. to EI-42, REMOVAL, Upper Inner Trim.>
8) Remove rear window mole (A) of both sides.
9) Remove screw (B) of rear quarter lower trim shown in the figure.
10) Remove rear quarter upper trim (C) of both sides.

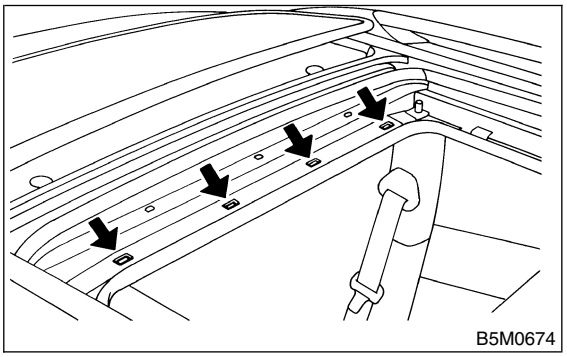



11) Remove clips, and then remove roof trim.



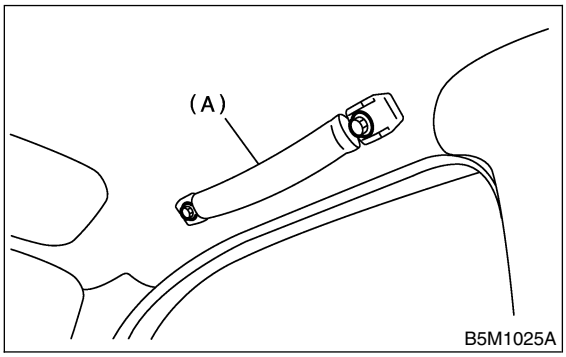

### 2. WAGON S911360A1802

1) Open the rear sunroof, and then remove four clips. (Sunroof equipped model)

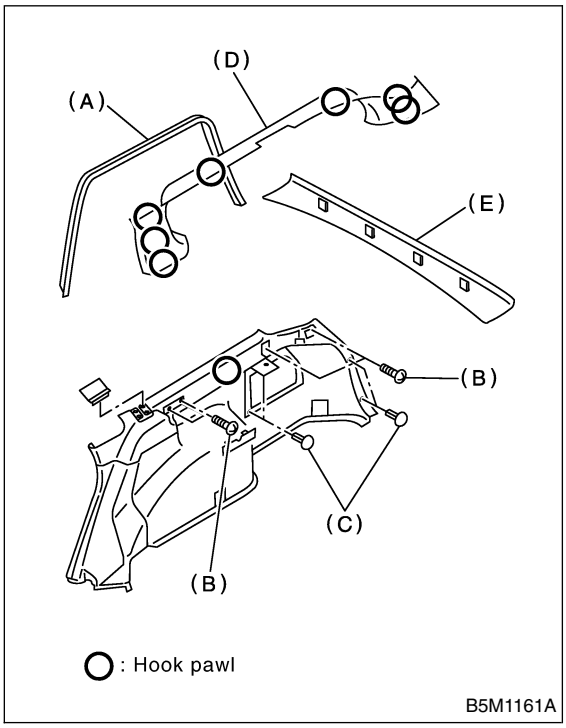



2) Disconnect ground cable from battery.
3) Remove sunroof switch. (Sunroof equipped model) <Ref. to SR-14, REMOVAL, Sunroof Switch.>
4) Remove room light and luggage room light. <Ref. to LI-26, REMOVAL, Room Light.> and <Ref. to LI-27, REMOVAL, Luggage Room Light.>
5) Remove sun visor and hook of both sides. <Ref. to EI-46, REMOVAL, Sun Visor.>

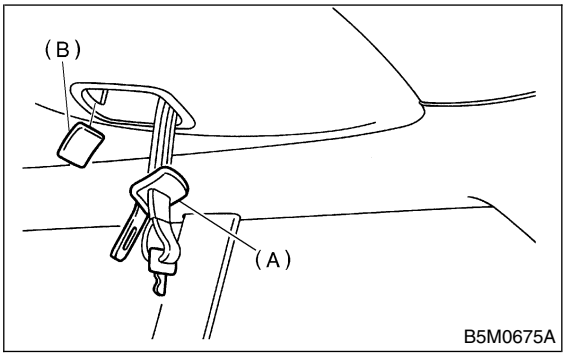
6) Remove assist grips (A).



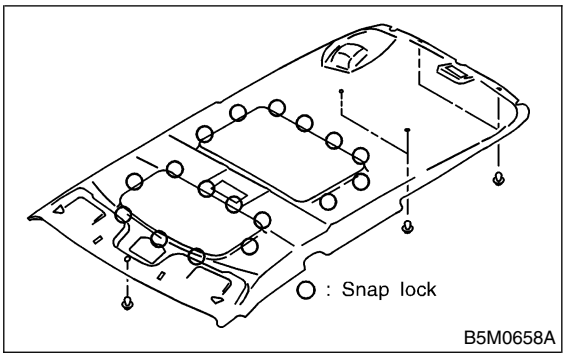

7) Remove upper inner trim. <Ref. to EI-42, REMOVAL, Upper Inner Trim.>
8) Remove rear window mole of both sides (A).
9) Remove screws (B) and clips (C) of rear quarter lower trim shown in the figure.
10) Remove rear quarter upper trim (D) of both sides.
11) Remove rear rail trim (E).




12) Remove cover (B) while detaching snap lock carefully. Put the rear center seat belt tongue (A) out to the other side of the trim through the hole.




13) Remove clips and then remove roof trim.




## B: INSTALLATION S911360A11

Install in the reverse order of removal.

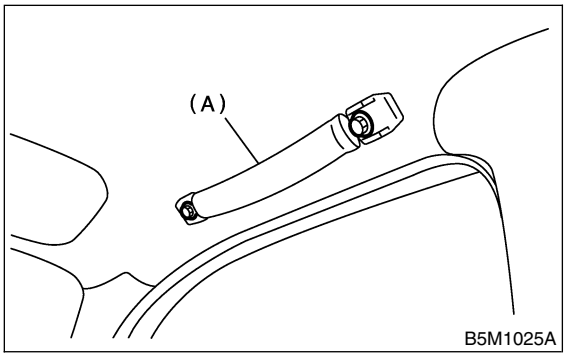
# 23. Roof Trim S911360

## A: REMOVAL S911360A18

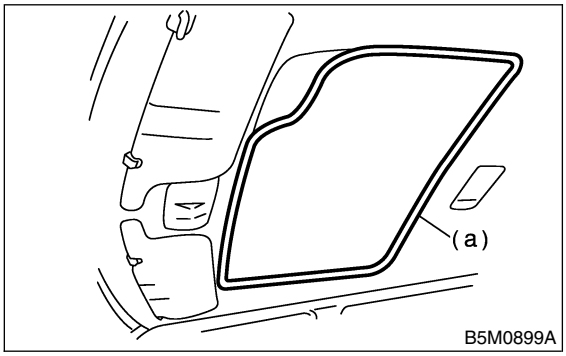
**CAUTION:**
**When removing clip, use great care not to damage the roof trim.**

### 1. SEDAN S911360A1801

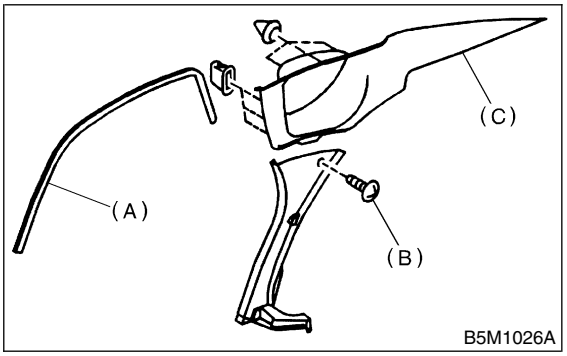
1) Disconnect ground cable from battery.
2) Remove sunroof switch. (Sunroof equipped model) <Ref. to SR-14, REMOVAL, Sunroof Switch.>
3) Remove room light. <Ref. to LI-26, REMOVAL, Room Light.>
4) Remove sun visor and hook of both sides. <Ref. to EI-46, REMOVAL, Sun Visor.>
5) Remove assist grips (A).



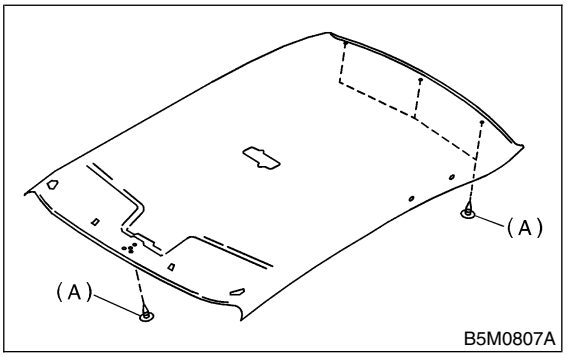

6) Remove sunroof garnish (A).




7) Remove upper inner trim. <Ref. to EI-42, REMOVAL, Upper Inner Trim.>
8) Remove rear window mole (A) of both sides.
9) Remove screw (B) of rear quarter lower trim shown in the figure.
10) Remove rear quarter upper trim (C) of both sides.

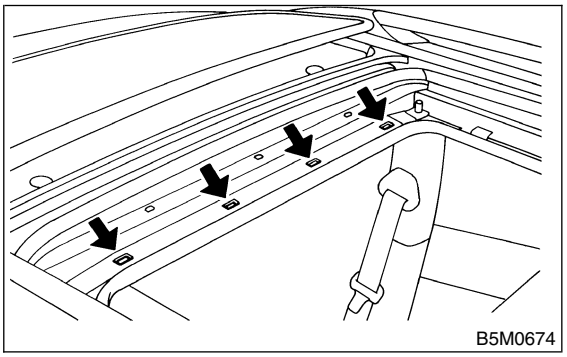



11) Remove clips, and then remove roof trim.



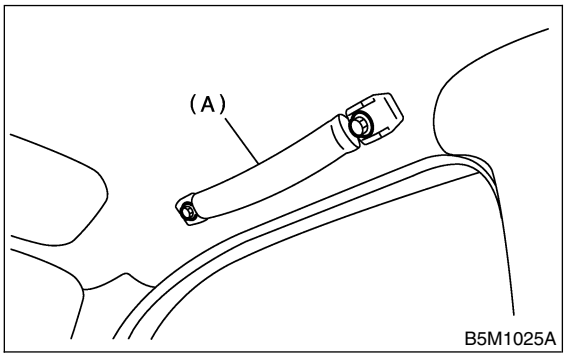

### 2. WAGON S911360A1802

1) Open the rear sunroof, and then remove four clips. (Sunroof equipped model)

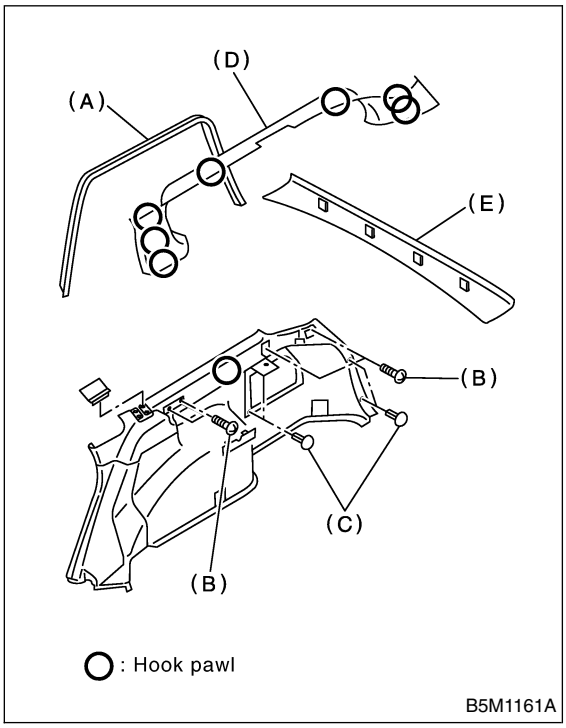



2) Disconnect ground cable from battery.
3) Remove sunroof switch. (Sunroof equipped model) <Ref. to SR-14, REMOVAL, Sunroof Switch.>
4) Remove room light and luggage room light. <Ref. to LI-26, REMOVAL, Room Light.> and <Ref. to LI-27, REMOVAL, Luggage Room Light.>
5) Remove sun visor and hook of both sides. <Ref. to EI-46, REMOVAL, Sun Visor.>

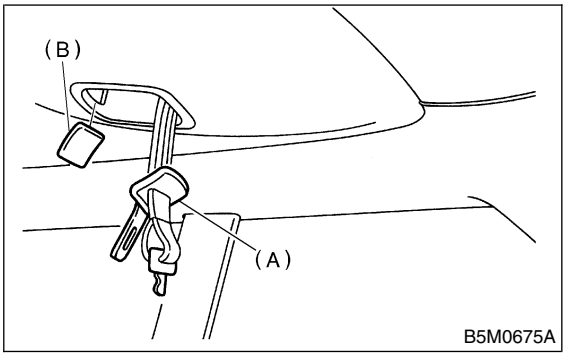
6) Remove assist grips (A).



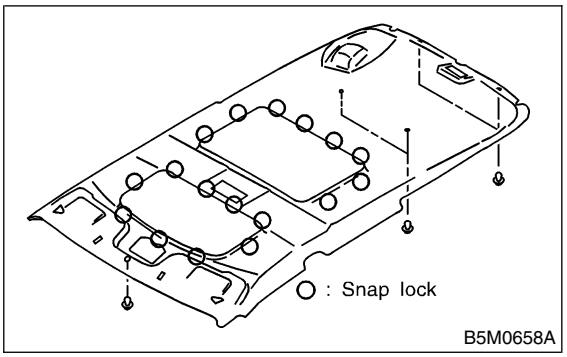

7) Remove upper inner trim. <Ref. to EI-42, REMOVAL, Upper Inner Trim.>
8) Remove rear window mole of both sides (A).
9) Remove screws (B) and clips (C) of rear quarter lower trim shown in the figure.
10) Remove rear quarter upper trim (D) of both sides.
11) Remove rear rail trim (E).




12) Remove cover (B) while detaching snap lock carefully. Put the rear center seat belt tongue (A) out to the other side of the trim through the hole.




13) Remove clips and then remove roof trim.




## B: INSTALLATION S911360A11

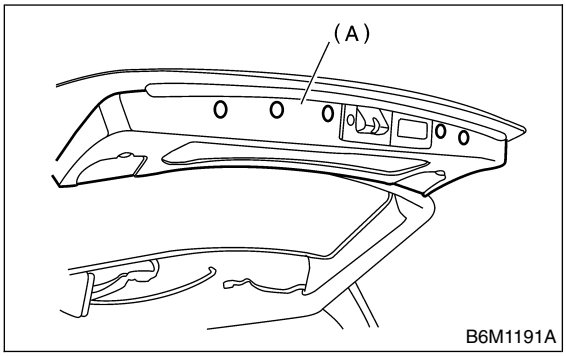
Install in the reverse order of removal.

# 24. Rear Gate Trim S911357

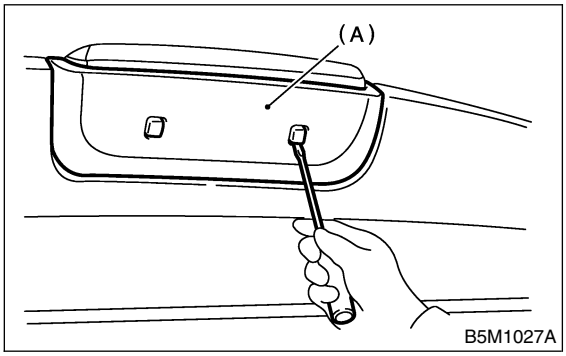
## A: REMOVAL S911357A18

**CAUTION:**
**Be careful not to damage clips or their holes.**

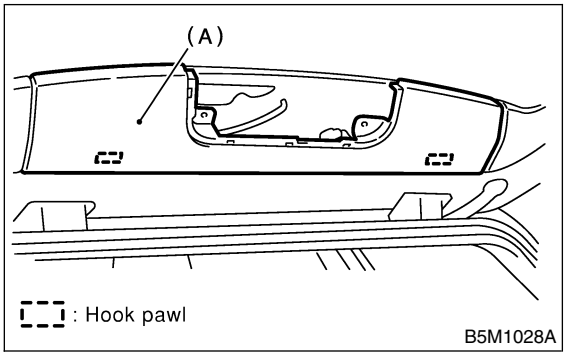
1) Remove clips and detach rear gate lower trim (A).




2) Remove caps and screws, and then detach high-mounted stop light cover (A).




3) Remove rear gate upper trim (A).




## B: INSTALLATION S911357A11

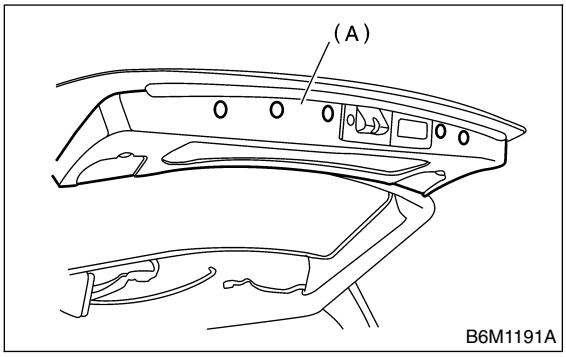
Install in the reverse order of removal.

# 24. Rear Gate Trim S911357

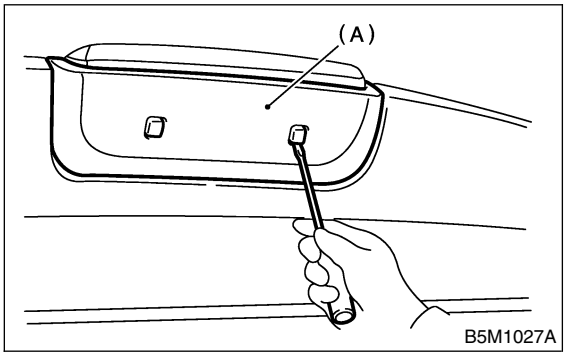
## A: REMOVAL S911357A18

**CAUTION:**
**Be careful not to damage clips or their holes.**

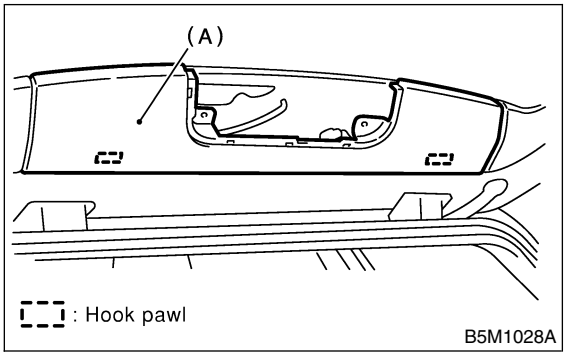
1) Remove clips and detach rear gate lower trim (A).




2) Remove caps and screws, and then detach high-mounted stop light cover (A).




3) Remove rear gate upper trim (A).



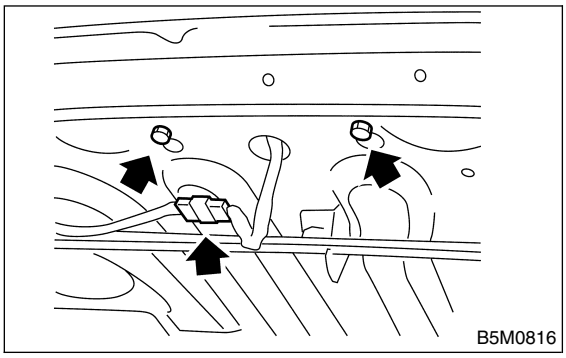

## B: INSTALLATION S911357A11

Install in the reverse order of removal.

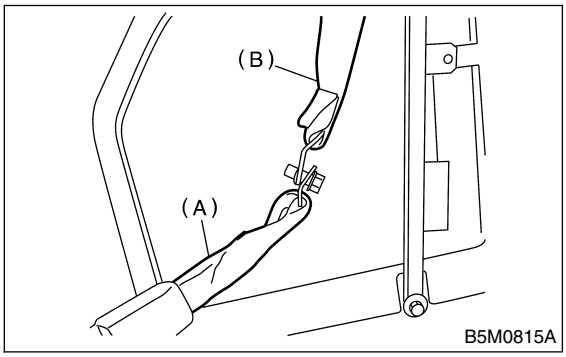
# 25. Rear Shelf Trim S911361

## A: REMOVAL S911361A18

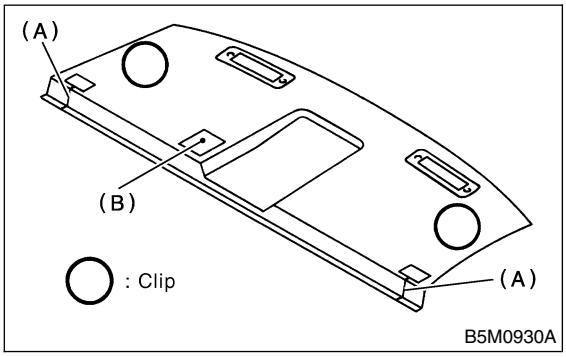
1) Remove high-mounted stop light.




2) Remove rear seat backrest. <Ref. to SE-17, REMOVAL, Rear Seat.>
3) Remove inner seat belt RH, then disconnect inner seat belt RH (A) and outer seat belt center (B).




4) Detach rear shelf trim through each rear outer seat belt from slits (A) and hole (B) of rear shelf trim.



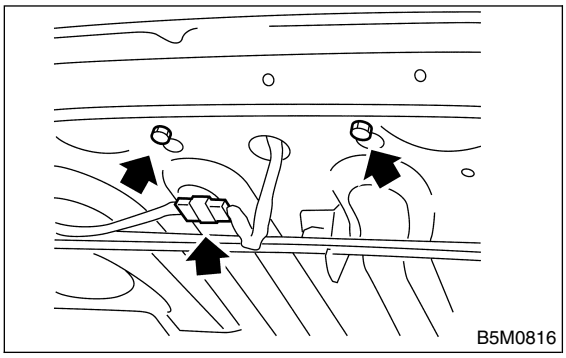

## B: INSTALLATION S911361A11

Install in the reverse order of removal.

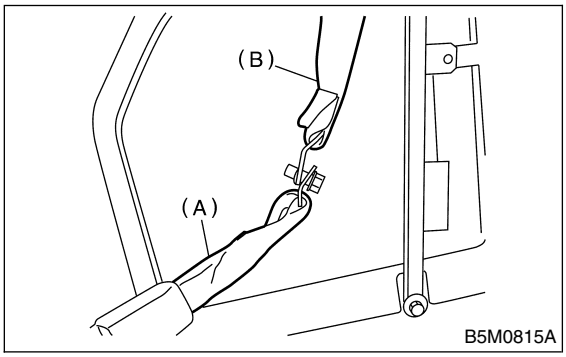
# 25. Rear Shelf Trim S911361

## A: REMOVAL S911361A18

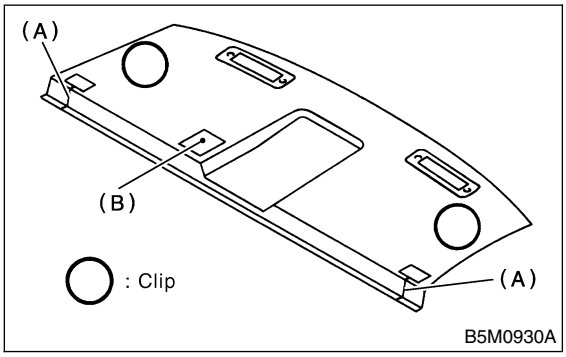
1) Remove high-mounted stop light.




2) Remove rear seat backrest. <Ref. to SE-17, REMOVAL, Rear Seat.>
3) Remove inner seat belt RH, then disconnect inner seat belt RH (A) and outer seat belt center (B).




4) Detach rear shelf trim through each rear outer seat belt from slits (A) and hole (B) of rear shelf trim.



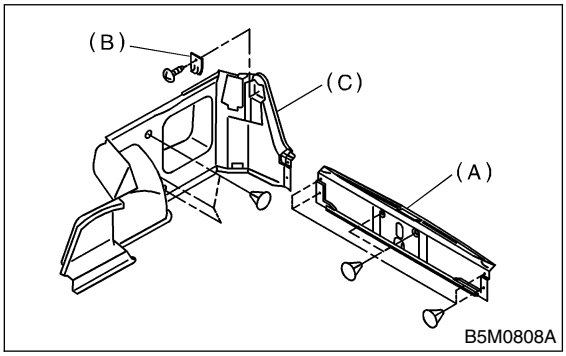

## B: INSTALLATION S911361A11

Install in the reverse order of removal.

# 26. Trunk Trim S911352

## A: REMOVAL S911352A18

1) Remove clips, and then detach trunk rear trim (A).
2) Remove luggage hook (B) and clips, then detach trunk side trim (C).



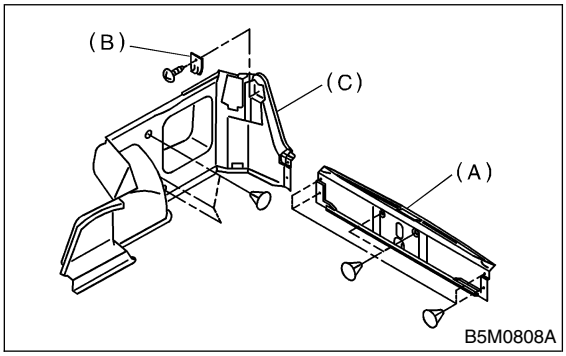

## B: INSTALLATION S911352A11

Install in the reverse order of removal.

# 26. Trunk Trim S911352

## A: REMOVAL S911352A18

1) Remove clips, and then detach trunk rear trim (A).
2) Remove luggage hook (B) and clips, then detach trunk side trim (C).




## B: INSTALLATION S911352A11

Install in the reverse order of removal.

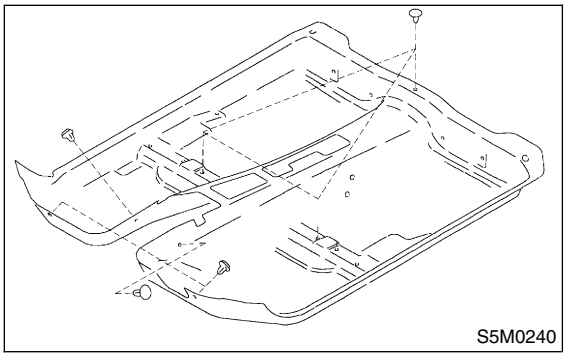
# 27. Floor Mat S911362

## A: REMOVAL S911362A18

1) Remove front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove rear seat cushion. <Ref. to SE-17, REMOVAL, Rear Seat.>
3) Remove console box. <Ref. to EI-36, Console Box.>
4) Remove front pillar lower trim, side sill rear upper cover and center pillar lower trim. <Ref. to EI-43, Lower Inner Trim.>
5) Remove clips from floor mat.

NOTE:
When pulling out edge, do not pull mat alone; pull mat together with edge. Ply off two steel clips on side sill front cover and one on side sill rear cover using screwdriver.

6) Remove mat hook.
7) Remove mat from toe board area.
8) Remove mat from rear heater duct.
9) Roll mat, and then take it out of open rear door.


S5M0240

## B: INSTALLATION S911362A11

Install in the reverse order of removal.

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

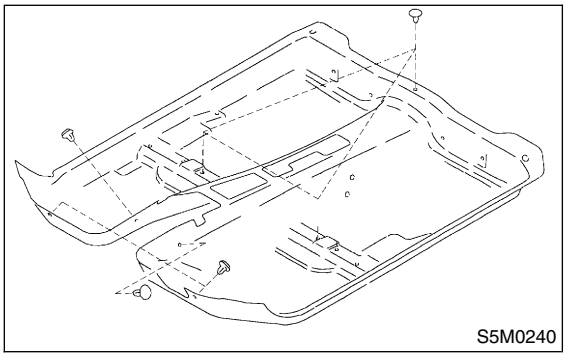
# 27. Floor Mat S911362

## A: REMOVAL S911362A18

1) Remove front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove rear seat cushion. <Ref. to SE-17, REMOVAL, Rear Seat.>
3) Remove console box. <Ref. to EI-36, Console Box.>
4) Remove front pillar lower trim, side sill rear upper cover and center pillar lower trim. <Ref. to EI-43, Lower Inner Trim.>
5) Remove clips from floor mat.

NOTE:
When pulling out edge, do not pull mat alone; pull mat together with edge. Ply off two steel clips on side sill front cover and one on side sill rear cover using screwdriver.

6) Remove mat hook.
7) Remove mat from toe board area.
8) Remove mat from rear heater duct.
9) Roll mat, and then take it out of open rear door.


S5M0240

## B: INSTALLATION S911362A11

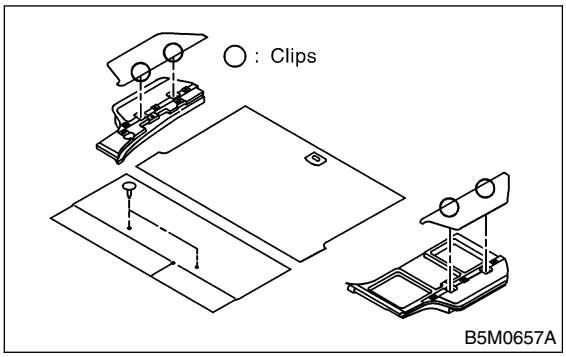
Install in the reverse order of removal.

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

# 28. Luggage Floor Mat S911353

## A: REMOVAL S911353A18

Remove clips, then detach rear floor mats and boxes.



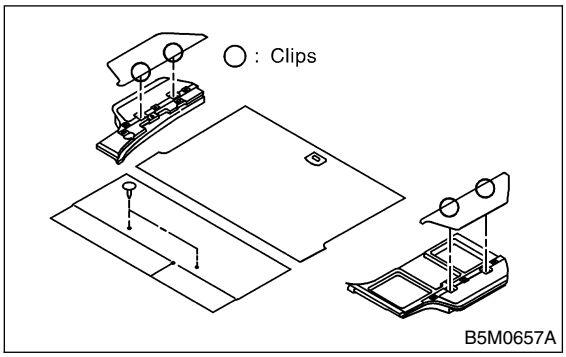

## B: INSTALLATION S911353A11

Install in the reverse order of removal.

# 28. Luggage Floor Mat S911353

## A: REMOVAL S911353A18

Remove clips, then detach rear floor mats and boxes.



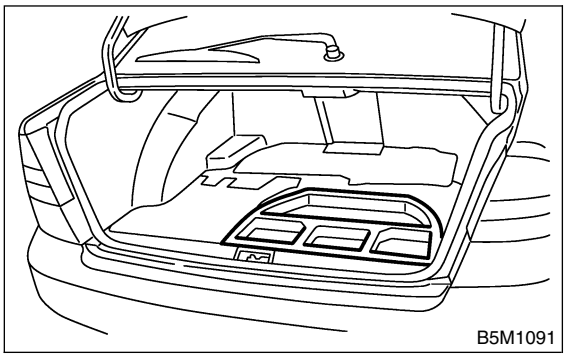

## B: INSTALLATION S911353A11

Install in the reverse order of removal.

# 29. Trunk Room Mat S911351

## A: REMOVAL S911351A18

Draw out trunk room mat, and detach box.



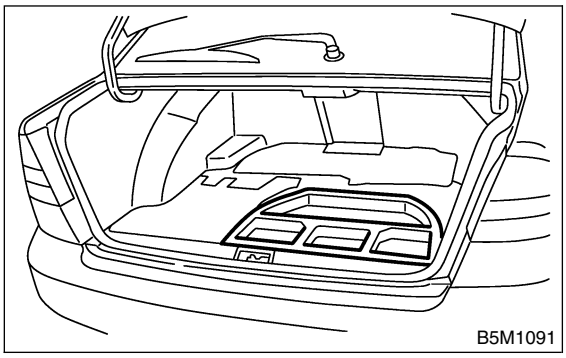

## B: INSTALLATION S911351A11

Install in the reverse order of removal.

# 29. Trunk Room Mat S911351

## A: REMOVAL S911351A18

Draw out trunk room mat, and detach box.

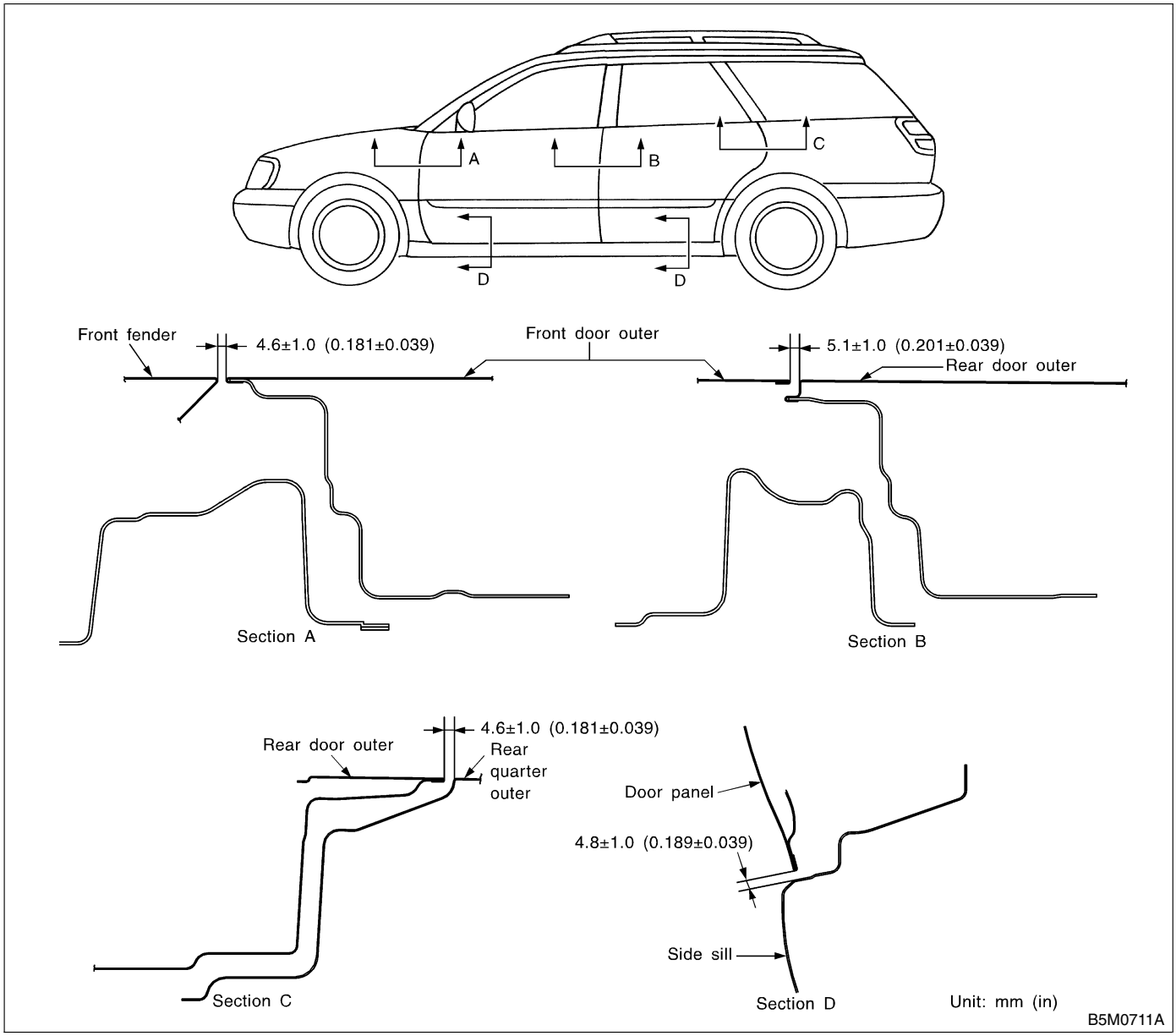



## B: INSTALLATION S911351A11

Install in the reverse order of removal.

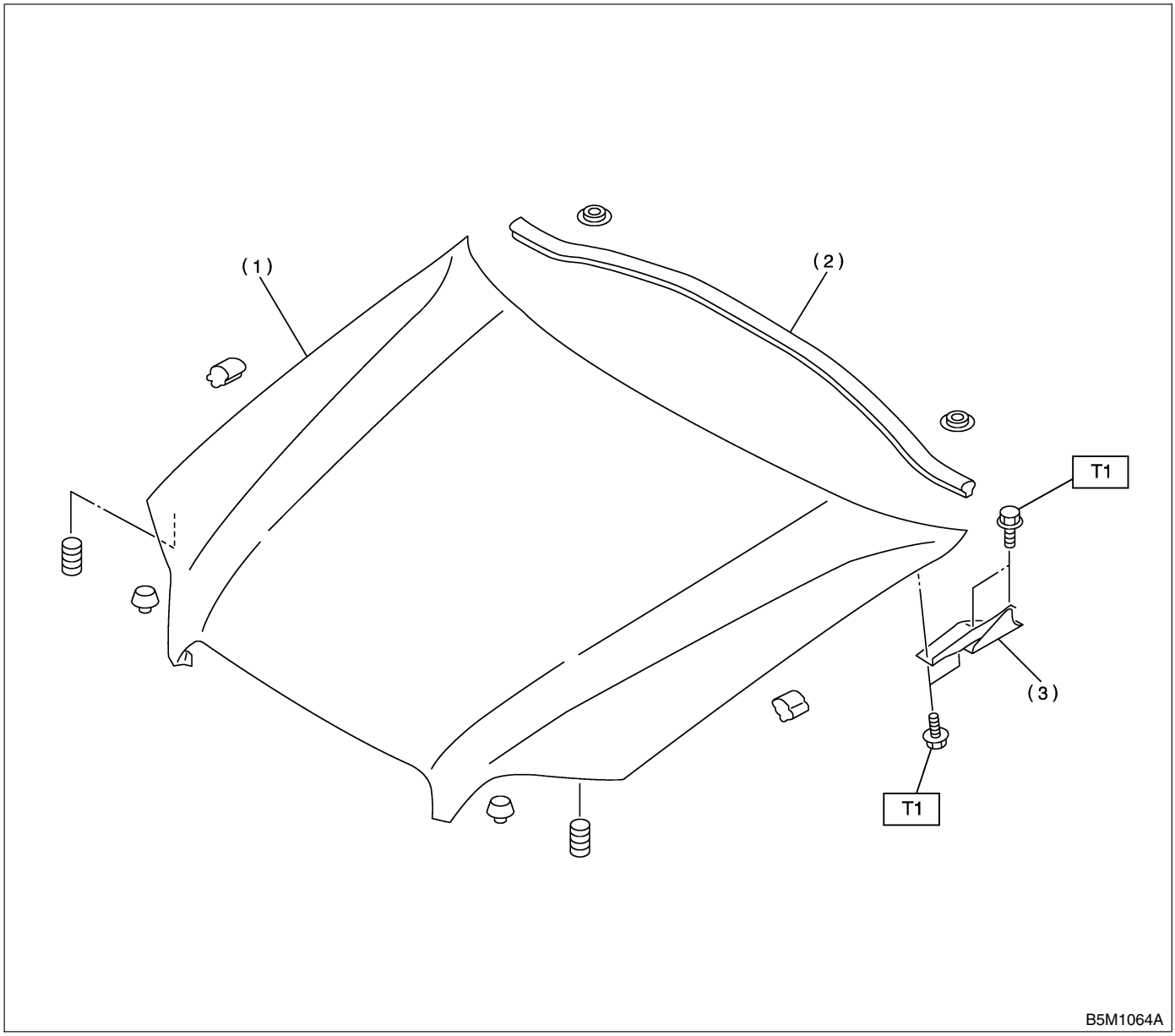
# 1. General Description S913001

## A: SPECIFICATIONS S913001E49



## B: COMPONENT S913001A05

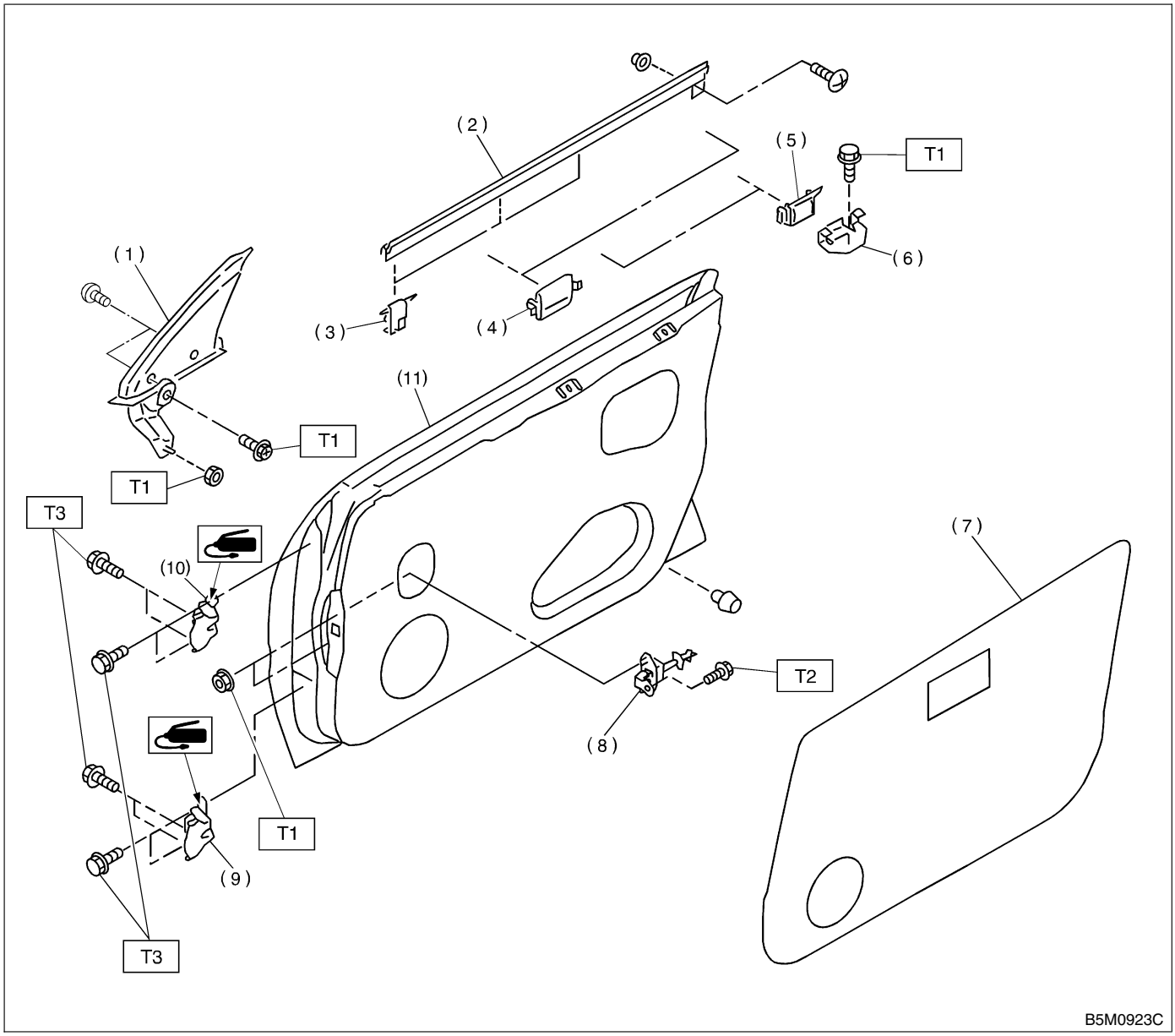
### 1. FRONT HOOD S913001A0501




(1) Front hood
(2) Seal (Front hood)
(3) Hinge

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 24.5 (2.50, 18.1)***

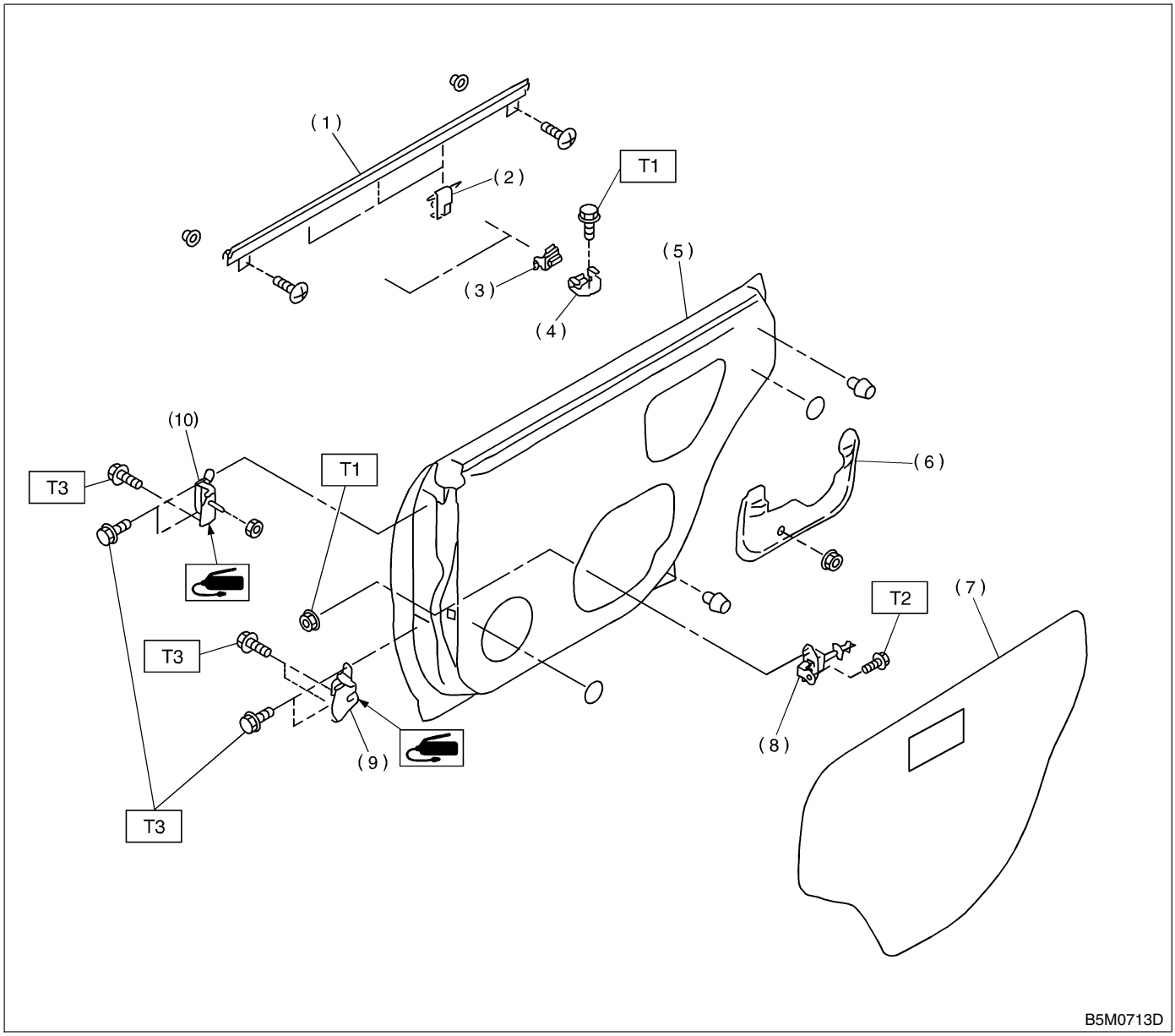
## 2. FRONT DOOR PANEL S913001A0502




(1) Gusset
(2) Weatherstrip
(3) Clip (Weatherstrip)
(4) Stabilizer (Lifter)
(5) Stabilizer (Outer)
(6) Stabilizer (Inner)
(7) Sealing cover
(8) Checker
(9) Lower hinge
(10) Upper hinge
(11) Door panel

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 7.4 (0.75, 5.4)***
***T2: 18 (1.8, 13.0)***
***T3: 30 (3.1, 22.4)***

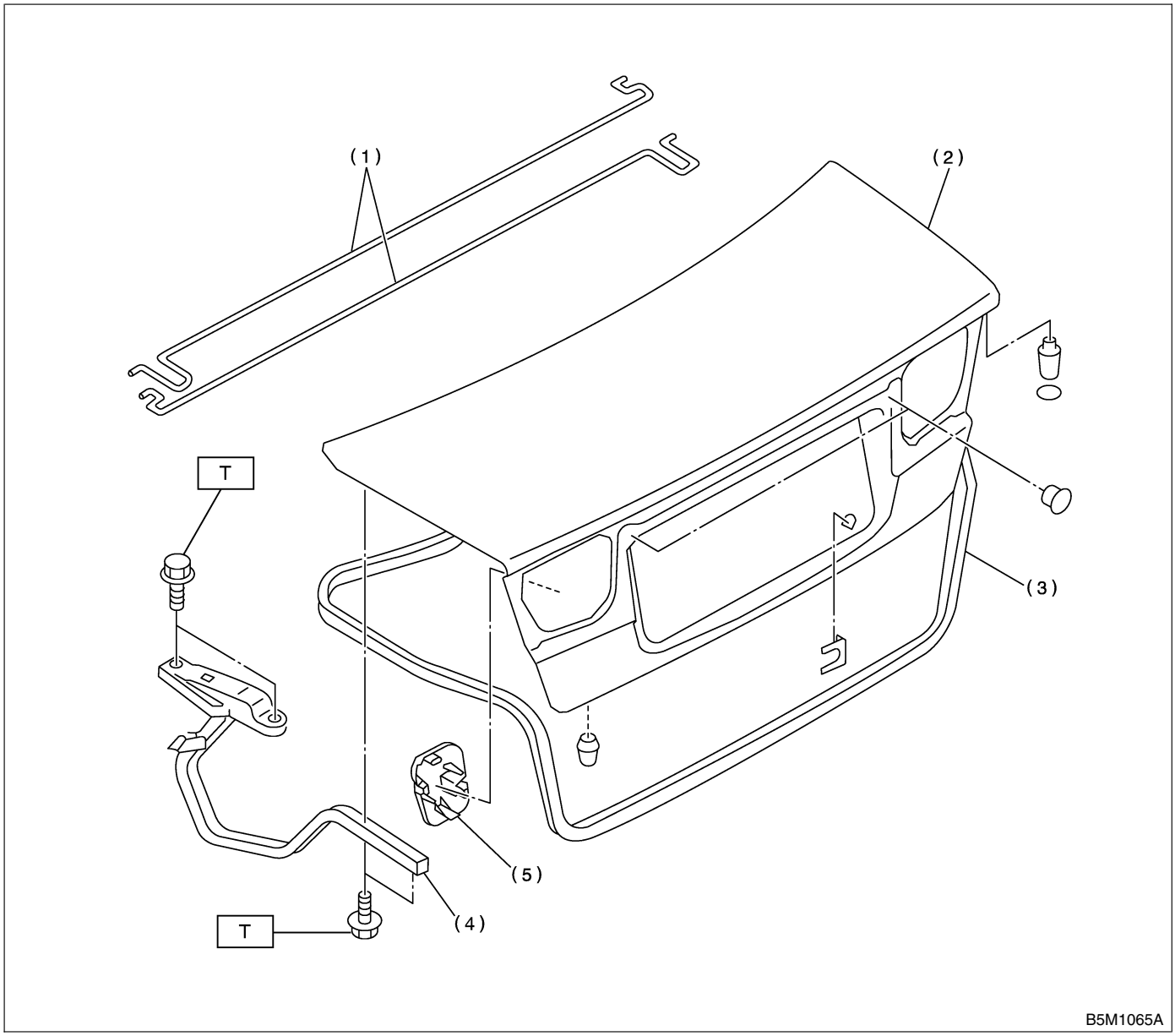
## 3. REAR DOOR PANEL S913001A0503




(1) Weatherstrip
(2) Clip (Weatherstrip)
(3) Stabilizer (Outer)
(4) Stabilizer (Inner)
(5) Door panel
(6) Plate
(7) Sealing cover
(8) Checker
(9) Lower hinge
(10) Upper hinge

***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 7.35 (0.75, 5.4)***
***T2: 18 (1.8, 13.0)***
***T3: 30 (3.1, 22.4)***

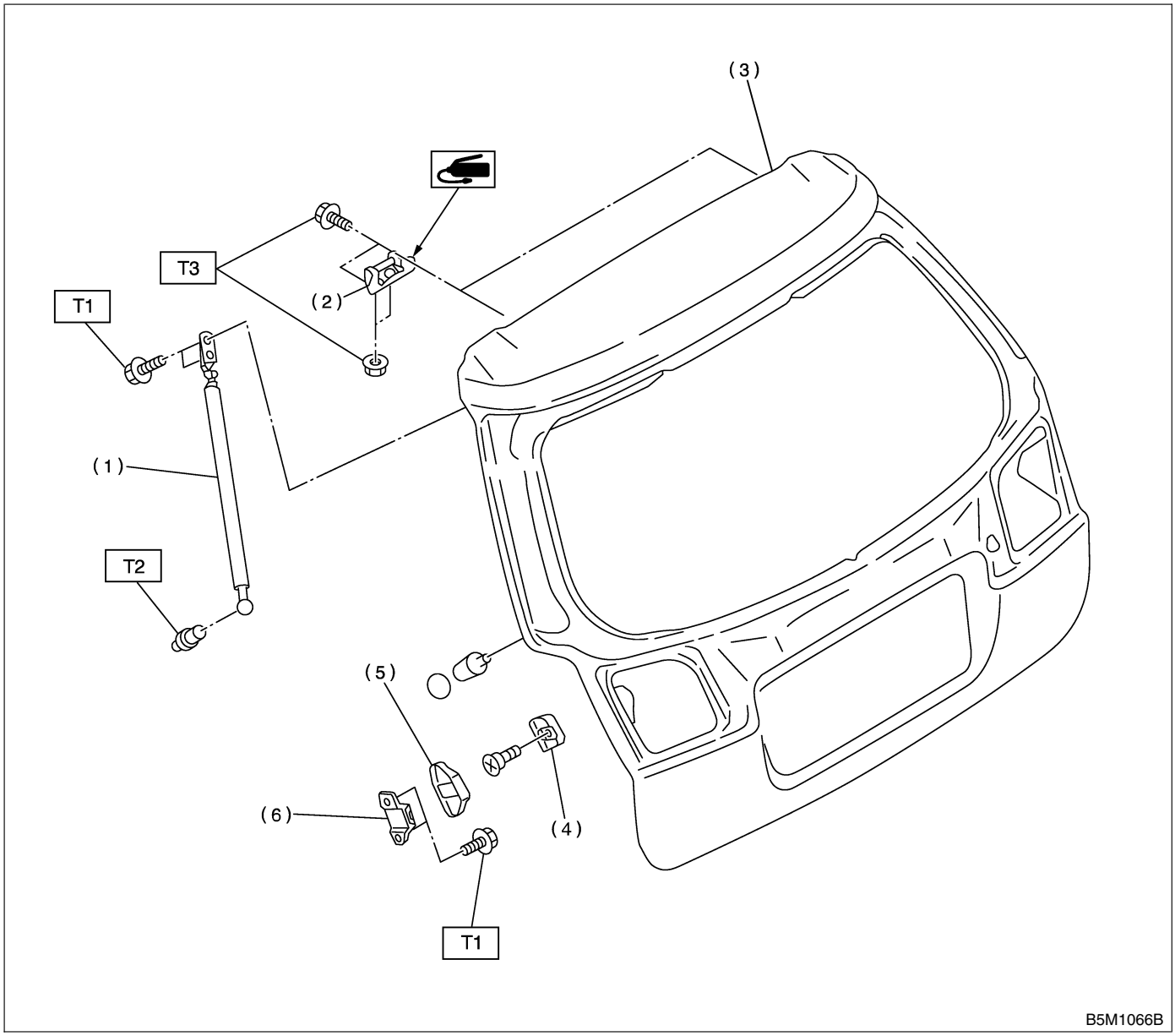
## 4. TRUNK LID PANEL S913001A0504




(1) Torsion bar
(2) Trunk lid
(3) Weatherstrip
(4) Hinge ASSY
(5) Cover

***Tightening torque: N·m (kgf-m, ft-lb)***
***T: 18 (1.8, 13.0)***

## 5. REAR GATE PANEL S913001A0505




(1) Gas stay
(2) Hinge
(3) Rear gate
(4) Buffer (Rear gate)
(5) Buffer cover
(6) Buffer (Back door)

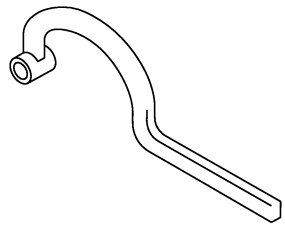
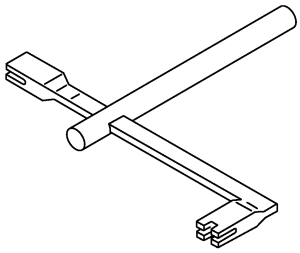
***Tightening torque: N·m (kgf-m, ft-lb)***
***T1: 7.5 (0.76, 5.5)***
***T2: 14 (1.4, 10.1)***
***T3: 25 (2.5, 18.1)***

## C: CAUTION S913001A03

- 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 S913001A17

### 1. SPECIAL TOOLS S913001A1701

| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  B5M1117 | 925610000 | WRENCH | Used for removing and installing door hinge. |
|  B5M1118 | 927780000 | REMOVER | Used for removing and installing trunk torsion bar. |

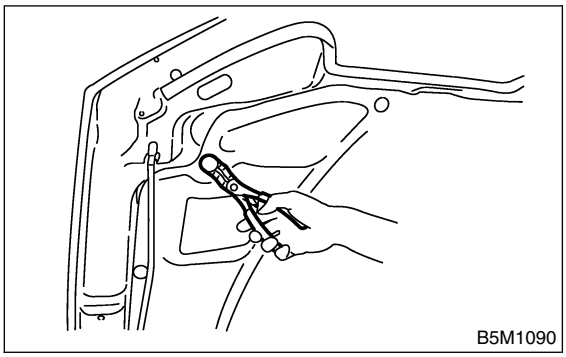
### 2. GENERAL TOOL S913001A1702

| TOOL NAME | REMARKS |
|---|---|
| Support Jack | Used for supporting door panel. |

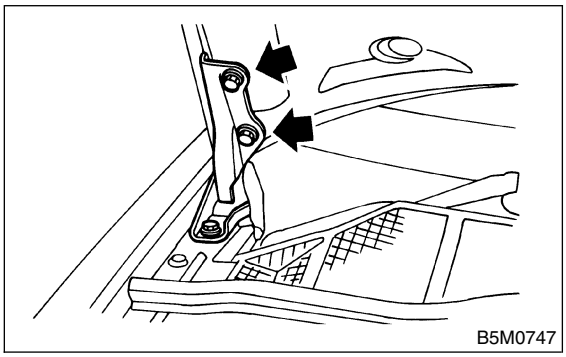
## 2. Front Hood S913367

### A: REMOVAL S913367A18

1) Open front hood to remove washer nozzles.
2) Remove clips to remove hood insulator.


B5M1090

3) Remove bolts to disconnect hood from hinges.


B5M0747

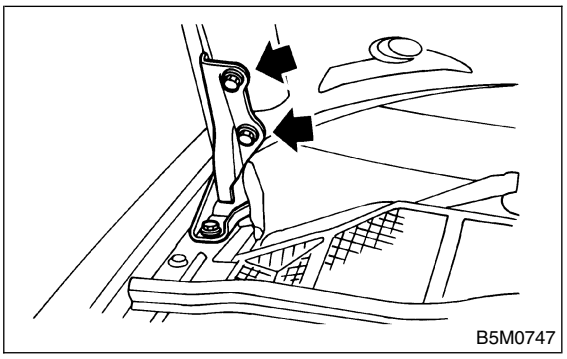
### B: INSTALLATION S913367A11

1) Install in the reverse order of removal.
2) Adjust clearance between hood and fender. Clearance must be equal at both sides.

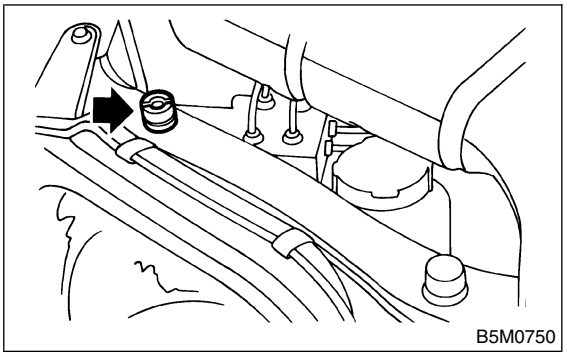
***Tightening torque:***
***24.5 N·m (2.50 kgf-m, 18.1 ft-lb)***

### C: ADJUSTMENT S913367A01

1) Use hinge mounting holes to align front hood longitudinally and laterally.


B5M0747

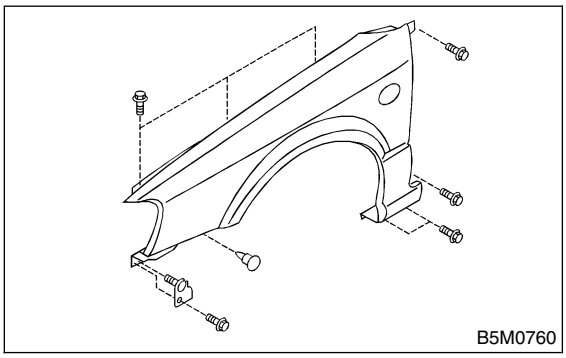
2) Adjust height at front end of hood. <Ref. to SL-40, ADJUSTMENT, Front Hood Lock Assembly.>
3) Rotate hood buffer to adjust lateral height.


B5M0750

# 3. Fender Panel S913368

## A: REMOVAL S913368A18

1) Disconnect ground cable from battery.
2) Remove side spoilers. <Ref. to EI-29, Side Sill Spoiler.> (If fitted)
3) Remove side protectors and fender protectors. (OUTBACK)
4) Remove front bumper face. <Ref. to EI-14, REMOVAL, Front Bumper.>
5) Remove headlights. <Ref. to LI-10, REMOVAL, Headlight Assembly.>
6) Remove mud guard. <Ref. to EI-23, REMOVAL, Mud Guard.>
7) Remove bolts and clips to remove front fender.


B5M0760

## B: INSTALLATION S913368A11

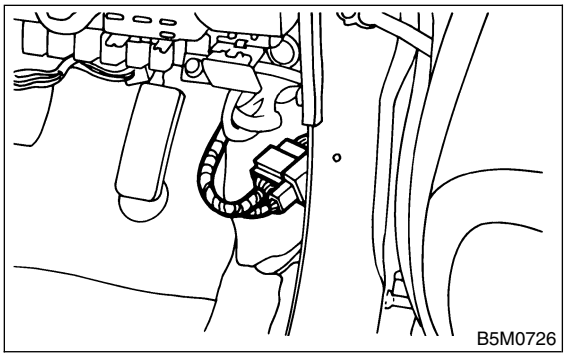
1) Install in the reverse order of removal.
2) When fender panel is installed, clearance between fender panel and hood or front fender must be equal.

***Tightening torque:***
***7.35 N·m (0.75 kgf-m, 5.4 ft-lb)***

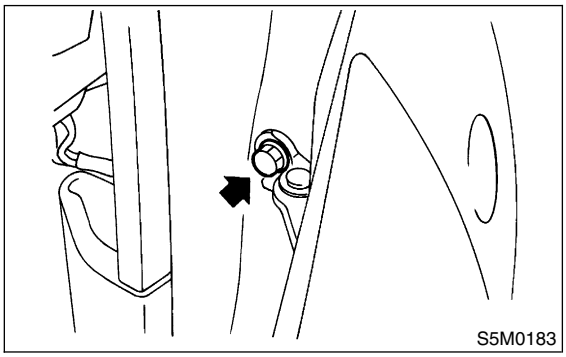
# 4. Front Door Panel S913366

## A: REMOVAL S913366A18

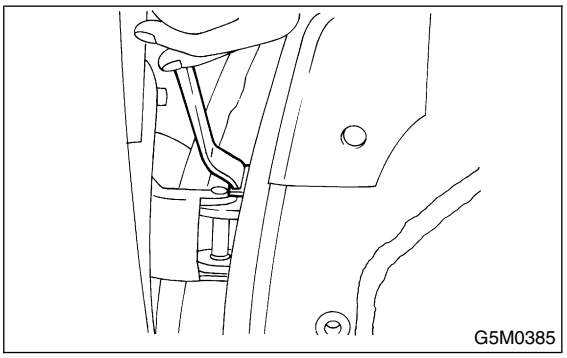
1) Disconnect ground cable from battery.
2) Remove front door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
3) Remove outer mirror assembly. <Ref. to GW-36, REMOVAL, Outer Mirror Assembly.>
4) Remove front door regulator and motor. <Ref. to GW-19, REMOVAL, Front Regulator and Motor Assembly.>
5) Remove front door latch assembly. <Ref. to SL-29, REMOVAL, Front Door Latch Assembly.>
6) Remove front outer handle. <Ref. to SL-28, REMOVAL, Front Outer Handle.>
7) Remove front pillar lower trim to disconnect connector from body harness.


B5M0726

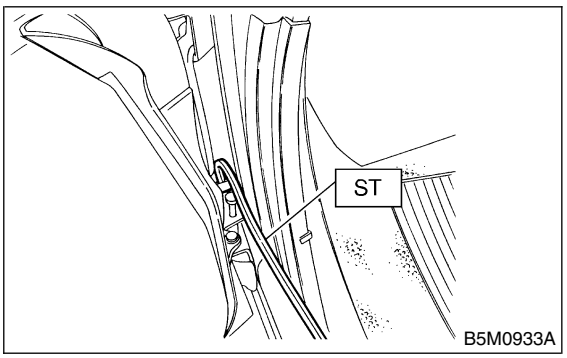
8) Put wooden block on jack and place jack under door. Support door with a jack to protect it from damage.
9) Remove checker bolts.


S5M0183

10) Remove door-side bolts for upper and lower hinges to remove door.


G5M0385

11) Using special tool, remove body-side bolts for upper and lower hinges, and remove door hinges.
ST 925610000 DOOR HINGE WRENCH



B5M0933A

**CAUTION:**
**• During removal and installation of doors, do not damage body.**
**• Doors are heavy. Be careful not to drop and damage them.**

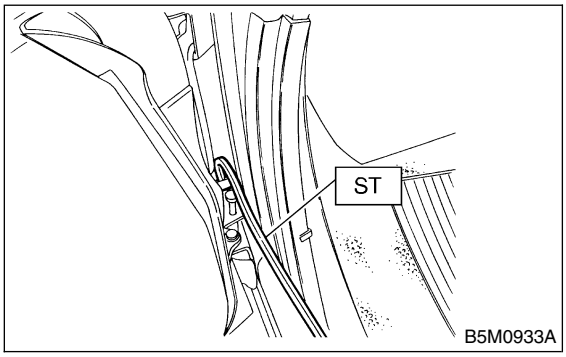
## B: INSTALLATION S913366A11

1) Install in the reverse order of removal.
2) Apply grease to sliding area of door hinges.

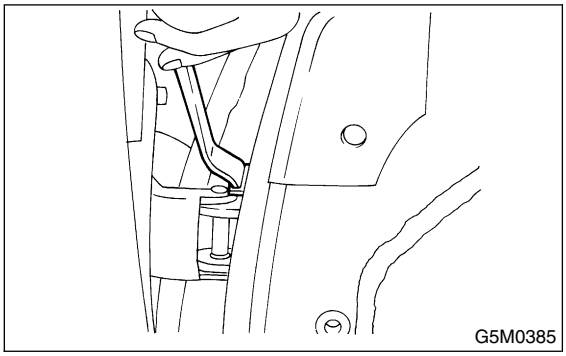
***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EB-4, FRONT DOOR PANEL, COMPONENT, General Description.>***

## C: ADJUSTMENT S913366A01

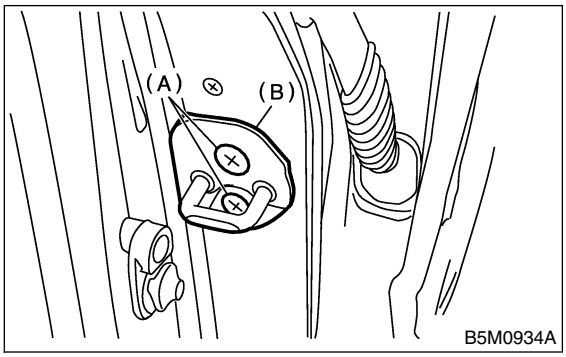
1) Using special tool, loosen body-side bolts of upper and lower hinges to align the position of front door panel longitudinally and vertically.
ST 925610000 DOOR HINGE WRENCH




2) Loosen door-side bolts of upper and lower hinges to align the position of front door panel vertically and laterally at the front end.




3) Loosen screw (A) and tap striker (B) using plastic hammer to adjust striker.



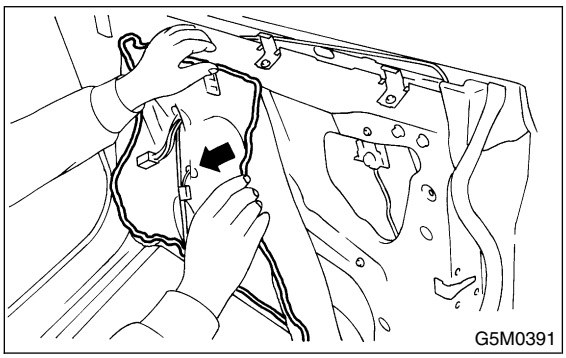

**CAUTION:**
**Do not use impact wrench. Welding area on striker nut plate is easily broken.**

# 5. Front Sealing Cover S913564

## A: REMOVAL S913564A18

1) Remove front door trim. <Ref. to EI-32, REMOVAL, Front Door Trim.>
2) Remove front speaker. <Ref. to EI-6, REMOVAL, Front Speaker.>

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




## B: INSTALLATION S913564A11

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

***Butyl tape:***
***3M8626 or equivalent***

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

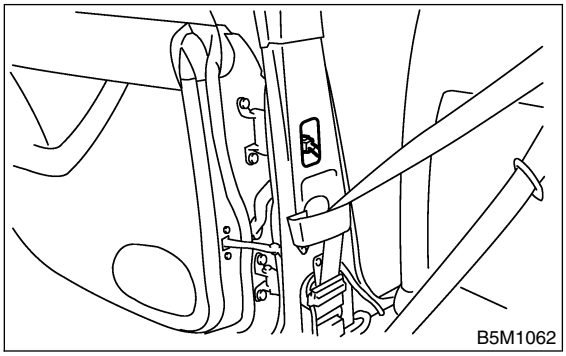
## C: INSPECTION S913564A10

If sealing cover is damaged, replace it with a new one.

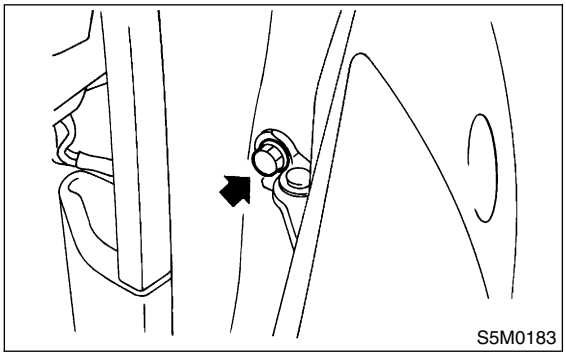
# 6. Rear Door Panel S913364

## A: REMOVAL S913364A18

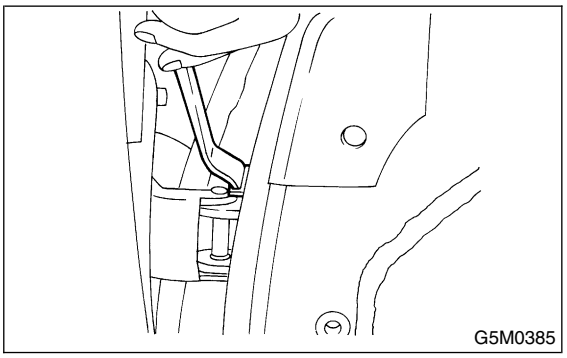
1) Disconnect ground cable from battery.
2) Remove rear door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
3) Remove rear door regulator and motor assembly. <Ref. to GW-22, REMOVAL, Rear Regulator and Motor Assembly.>
4) Remove rear door latch. <Ref. to SL-33, REMOVAL, Rear Door Latch Assembly.>
5) Remove rear outer handle. <Ref. to SL-32, REMOVAL, Rear Outer Handle.>
6) Remove center pillar lower trim. <Ref. to EI-43, REMOVAL, Lower Inner Trim.>
7) Remove seatbelt bracket and blind plug.
Disconnect connector of door harness and remove door hinge nut.


B5M1062

8) Put a wooden block on the jack and place the jack under the door. Support the door with the jack to protect it.
9) Remove checker bolts.


S5M0183

10) Remove door-side bolts for upper and lower hinges to remove door.


G5M0385

11) Using special tool, remove body-side bolts for upper and lower hinges, and remove door hinges.
ST 925610000 WRENCH

**CAUTION:**
**• During removal and installation of doors, do not damage body.**
**• Doors are heavy. Be careful not to drop and damage them.**

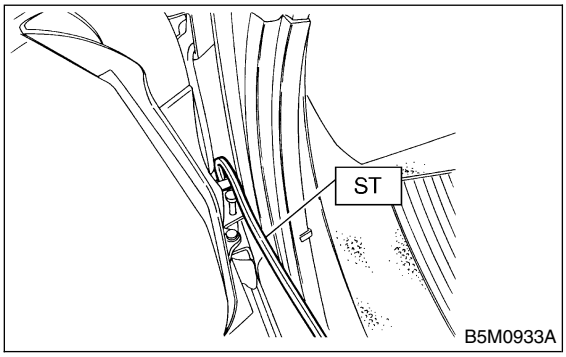
## B: INSTALLATION S913364A11

1) Install in the reverse order of removal.
2) Apply grease to sliding area of door hinges.

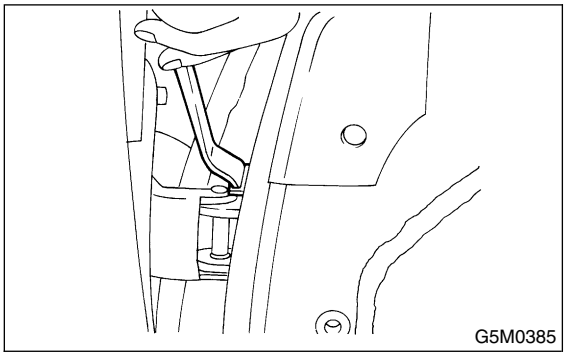
***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EB-5, REAR DOOR PANEL, COMPONENT, General Description.>***

## C: ADJUSTMENT S913364A01

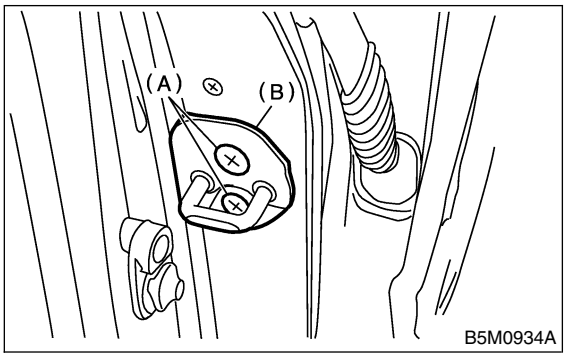
1) Using special tool, loosen body-side bolts of upper and lower hinges to align the position of rear door panel longitudinally and vertically.
ST 925610000 WRENCH




2) Loosen door-side bolts of upper and lower hinges to align the position of rear door panel vertically and laterally at front-end.




3) Loosen screw (A) and tap striker (B) using plastic hammer to adjust striker.



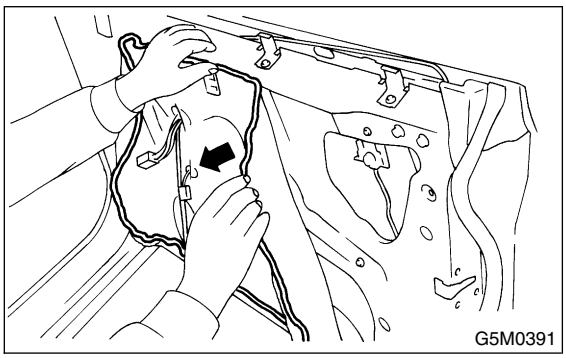

**CAUTION:**
**Do not use an impact wrench. The welding area on the striker nut plate is easily broken.**

# 7. Rear Sealing Cover S913565

## A: REMOVAL S913565A18

1) Remove rear door trim. <Ref. to EI-33, REMOVAL, Rear Door Trim.>
2) Remove rear speaker. <Ref. to ET-8, REMOVAL, Rear Speaker.>

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




## B: INSTALLATION S913565A11

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

***Butyl tape:***
***3M8626 or equivalent***

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

## C: INSPECTION S913565A10

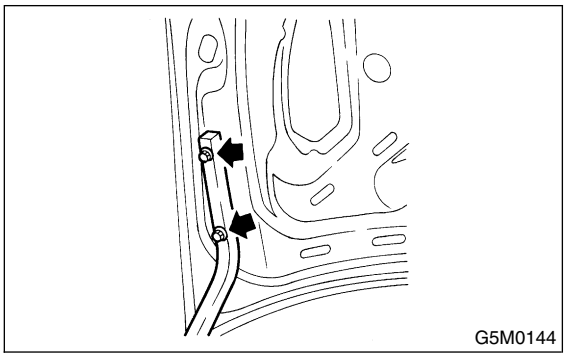
If sealing cover gets damaged, replace it with a new one.

# 8. Trunk Lid Panel S913365

## A: REMOVAL S913365A18

### 1. TRUNK LID S913365A1801

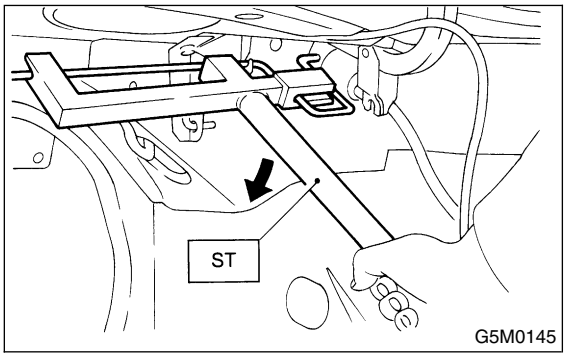
1) Open trunk lid.
2) Disconnect trunk lid connector.
3) Loosen trunk lid mounting bolts to remove trunk lid from hinges.




### 2. TORSION BAR S913365A1802

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

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




3) Remove right/left torsion bars.

**CAUTION:**
**After the torsion bar is removed, the trunk lid will slam shut. Be careful not to get hit by the trunk lid.**

## B: INSTALLATION S913365A11

### 1. TRUNK LID S913365A1101

1) Install in the reverse order of removal.
2) Install trunk lid with uniform clearance.

### 2. TORSION BAR S913365A1102

1) Install in the reverse order of removal.
2) Apply grease to rotating area of hinges and mating surface of torsion bar.

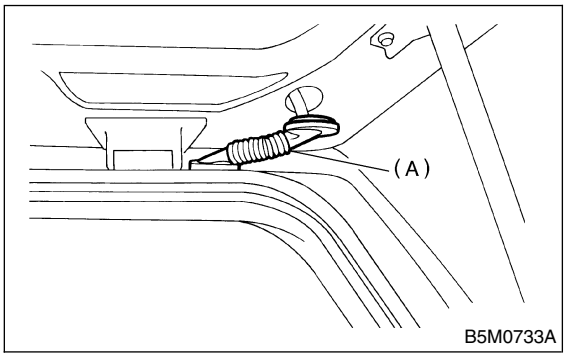
***Tightening torque:***
***18 N·m (1.8 kgf-m, 13.0 ft-lb)***

# 9. Rear Gate Panel S913363

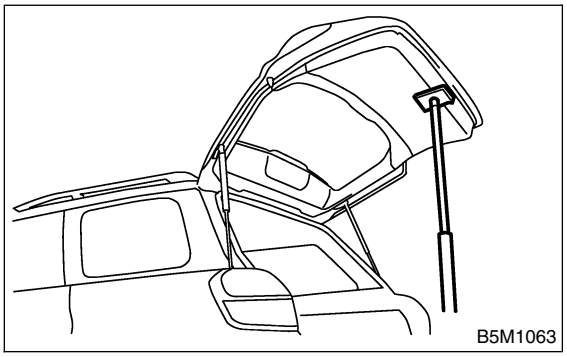
## A: REMOVAL S913363A18

### 1. REAR GATE PANEL S913363A1801

1) Open rear gate.
2) Remove rear gate outer handle. <Ref. to SL-35, REMOVAL, Rear Gate Outer Handle.>
3) Remove rear gate latch assembly. <Ref. to SL-36, REMOVAL, Rear Gate Latch Assembly.>
4) Remove rear gate trim. <Ref. to EI-49, REMOVAL, Rear Gate Trim.>
5) Remove rear gate key lock cylinders. <Ref. to SL-43, REAR GATE, REMOVAL, Key Lock Cylinders.>
6) Remove rear finisher light assembly. <Ref. to LI-19, WAGON, REMOVAL, Rear Finisher Light Assembly.>
7) Remove rear wiper. <Ref. to WW-16, REMOVAL, Rear Wiper Motor.>
8) Disconnect connectors of rear wiper, rear defogger, and other lighting devices.
9) Disconnect washer hose.
10) Remove rubber duct (A) connection, and pull out harness and washer hose from rear gate.




11) Using a support, support the rear gate while removing gas stay mounting bolts.

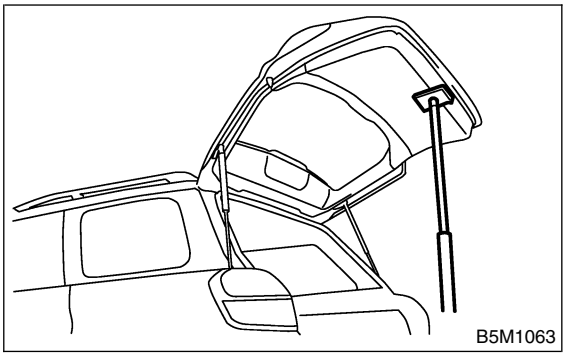



**CAUTION:**
**When the rear gate is released, it may hit and damage the body. To prevent this, place a shop cloth between body and gate.**

12) Loosen rear gate bolts to remove rear gate.

### 2. GAS STAY S913363A1802

1) Open rear gate. Using a jack to support the rear gate.




**CAUTION:**
**• After gas stay is removed, rear gate cannot stay open. Supporting the rear gate with a jack, remove the bolts.**
**• Do not damage piston rods and oil seals.**
**• Never disassemble cylinders: They contain gas.**

2) Loosen bolts to remove gas stay from rear gate.

## B: INSTALLATION S913363A11

### 1. REAR GATE PANEL S913363A1101

1) Install in the reverse order of removal.
2) Install rear gate panel with uniform clearance to body.

**CAUTION:**
**Do not damage painted surfaces of body and rear gate.**

### 2. GAS STAY S913363A1102

Install in the reverse order of removal.

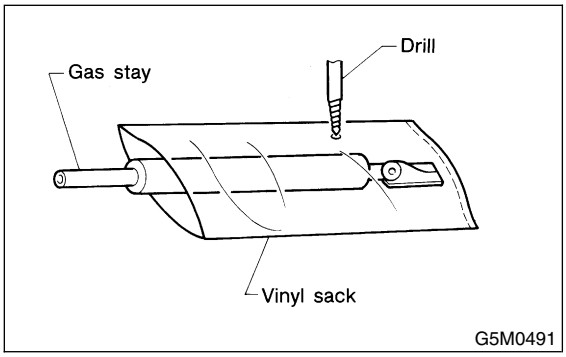
**CAUTION:**
**• Do not confuse right and left sides of gas stay.**
**• After supporting rear gate with a jack, start operation.**

***Tightening torque:***
***Refer to COMPONENT in General Description. <Ref. to EB-7, REAR GATE PANEL, COMPONENT, General Description.>***

## C: DISPOSAL S913363A07

### 1. GAS STAY S913363A0701

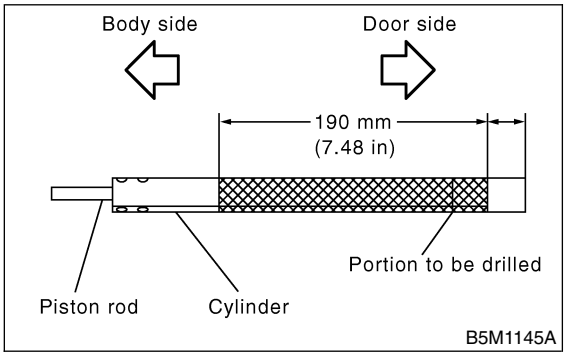
1) Cover with a vinyl case before drilling holes.




**CAUTION:**
**Prevent the vinyl case from being caught by drill cutting edge**

2) Lift body side slightly with piston rods fully extended, and secure body side on vise stand.
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 gas stay completely.

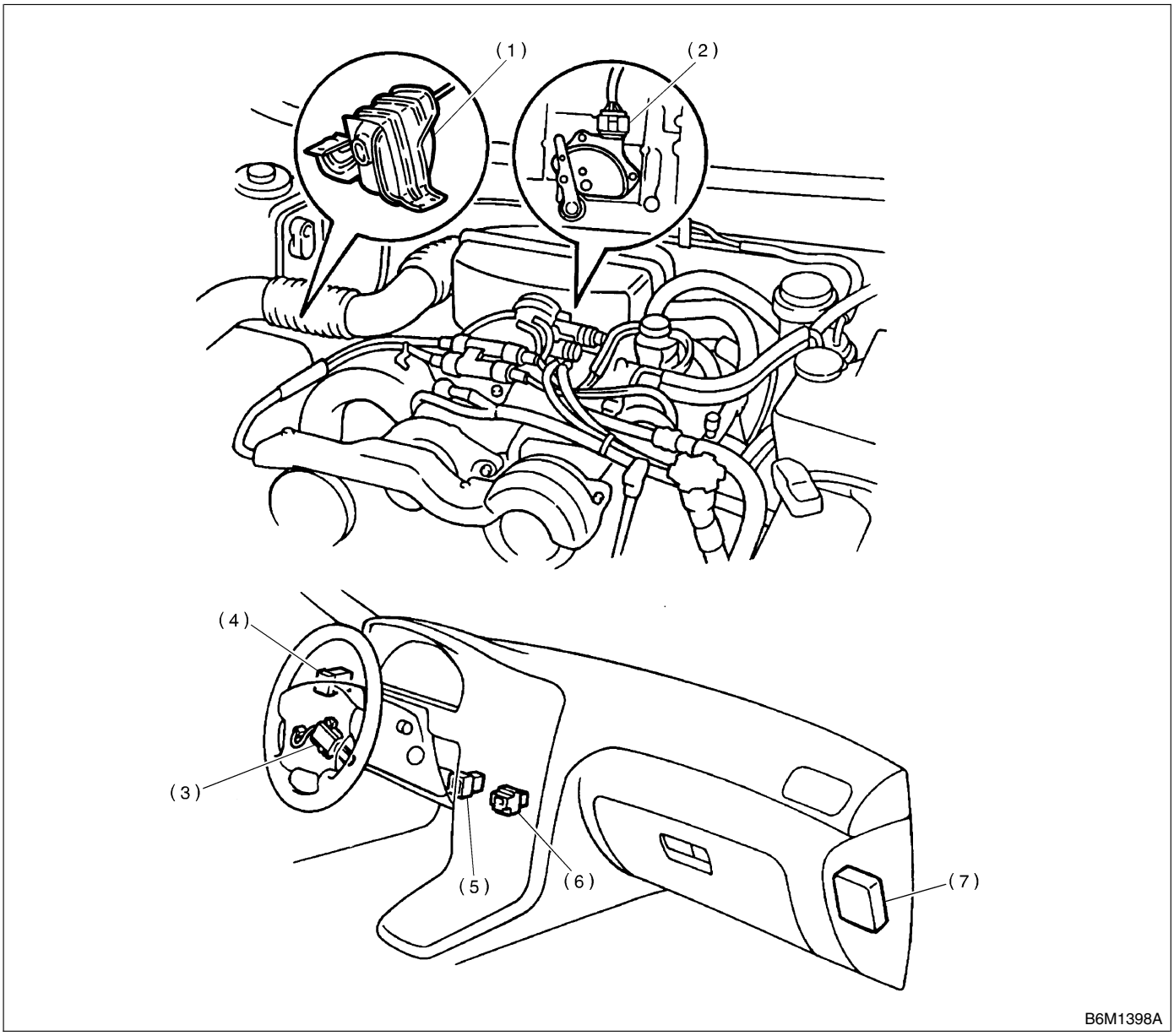
**CAUTION:**
**Gas is colorless, odorless, and harmless. However, gas pressure may spray cutting powder or oil. Be sure to wear dust-resistant goggles.**



**MEMO:**

# 1. General Description S912001

## A: COMPONENT S912001A05




(1) Actuator
(2) Inhibitor switch (AT)
(3) Cruise control command switch
(4) Cruise control main switch
(5) Clutch switch (MT)
(6) Stop and brake switch
(7) Cruise control module

## B: CAUTION S912001A03

- Before disassembling or reassembling parts, always disconnect the battery ground cable. When repairing the radio, control module and other parts with memory functions, make note of the memory before disconnecting the battery ground cable. All memory will be erased.
- Reassemble parts in the reverse order of disassembly unless otherwise indicated.
- Adjust parts to specifications specified in this manual.
- Connect connectors and hoses securely during reassembly.
- After reassembly, ensure functional parts operate properly.

## C: PREPARATION TOOL S912001A17

### 1. GENERAL TOOLS S912001A1701

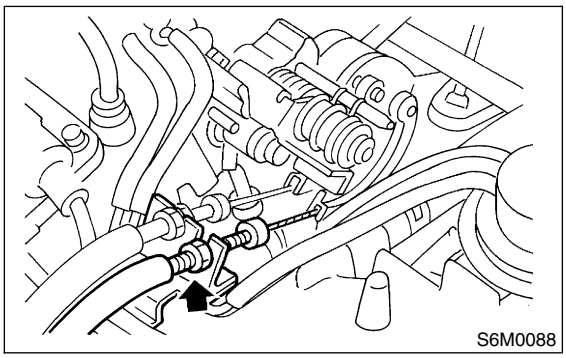
| TOOL NAME | REMARKS |
|---|---|
| Circuit Tester | Used for measuring resistance and voltage. |

## 2. Actuator S912499

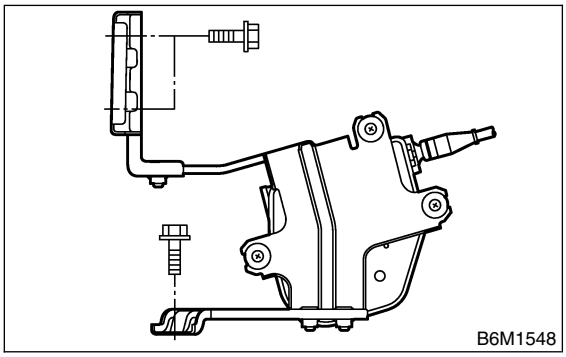
### A: REMOVAL S912499A18

**CAUTION:**
**• Be careful not to apply excessive load to the wire cable when adjusting and/or installing; otherwise, the actuator may be deformed or damaged.**
**• Do not bend cable sharply with a radius less than 100 mm (3.94 in); otherwise, cable may bend permanently, resulting in poor performance.**
**• When installing cable, be careful not to sharply bend or pinch the inner cable; otherwise, the cable may break.**

1) Disconnect ground cable from battery.
2) Remove clip bands from cruise control cable.
3) Loosen nut which secures cruise control cable end to throttle cam and then remove cable from throttle cam.


S6M0088

4) Remove actuator attaching bolts.
5) Remove actuator while disconnecting connector.

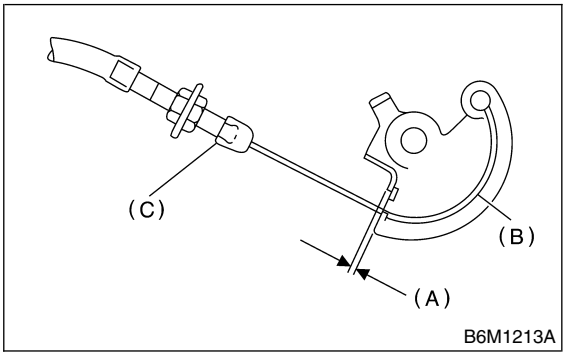

B6M1548

### B: INSTALLATION S912499A11

Install in the reverse order of removal.

***Tightening torque:***
***7.4 N·m (0.75 kgf-m, 5.4 ft-lb)***

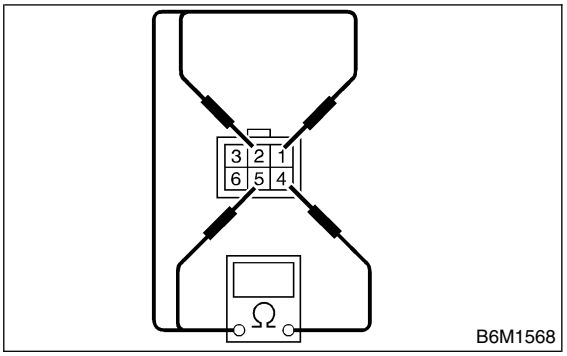
NOTE:
(A): Must be adjusted when cable end outer is fixed in place, so that gap between throttle cam and lever is 0 — 1 mm (0 — 0.04 in).
(Must be attached while throttle cam is being pulled by wire cable.)
(B): Must be coated evenly on cam end inner connection.
(C): Cover must be inserted securely, until tip of cable touches cover stopper.



B6M1213A

### C: INSPECTION S912499A10

Measure cruise control actuator resistance.



B6M1568

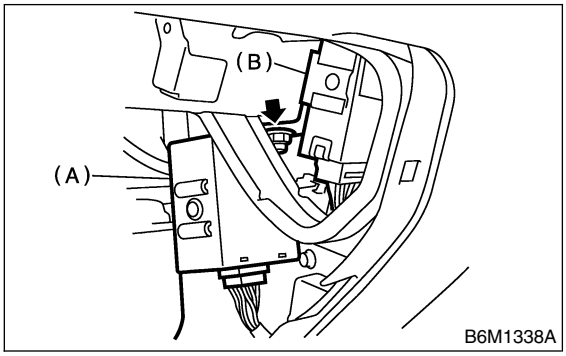
| Terminal No. | Standard |
|---|---|
| 4 and 1 | Approx. 5 Ω |
| 4 and 2 | Approx. 5 Ω |
| 4 and 5 | Approx. 5 Ω |
| 3 and 6 | Approx. 39 Ω |

If NG, replace cruise control actuator.

# 3. Cruise Control Module S912500

## A: REMOVAL S912500A18

1) Disconnect ground cable from battery.
2) Remove glove box. <Ref. to EI-34, REMOVAL, Glove Box.>
3) Remove nut, then remove cruise control module (A) and the other electrical control module (B) while disconnecting connector.




4) Disconnect cruise control module and the other electrical control module.

## B: INSTALLATION S912500A11

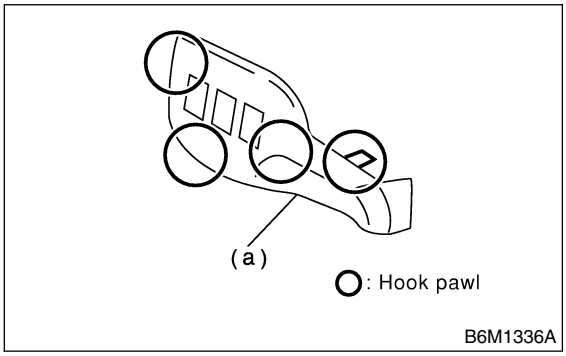
Install is in the reverse order of removal.

# 4. Cruise Control Main Switch

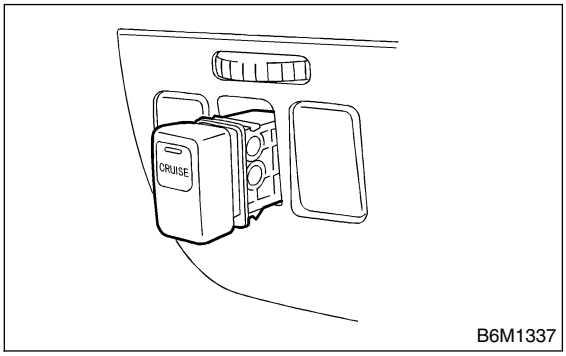
S912498

## A: REMOVAL S912498A18

1) Disconnect ground cable from battery.
2) Remove switch panel (a) while disconnecting connector.




3) Remove main switch by pushing it outward.

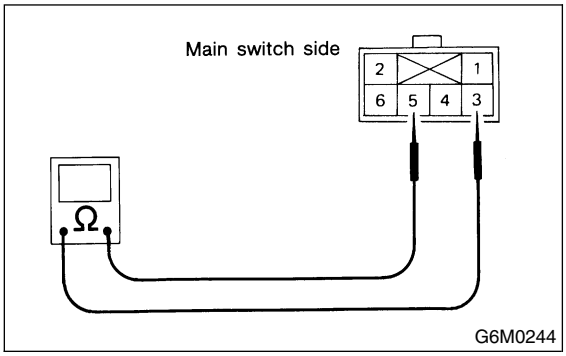



## B: INSTALLATION S912498A11

Install is in the reverse order of removal.

## C: INSPECTION S912498A10

Measure cruise control main switch resistance.




| Switch position | Terminal No. 1 | Standard |
|---|---|---|
| OFF | 3 and 5 | More than 1 MΩ |
| ON | 3 and 5 | Less than 1 Ω |

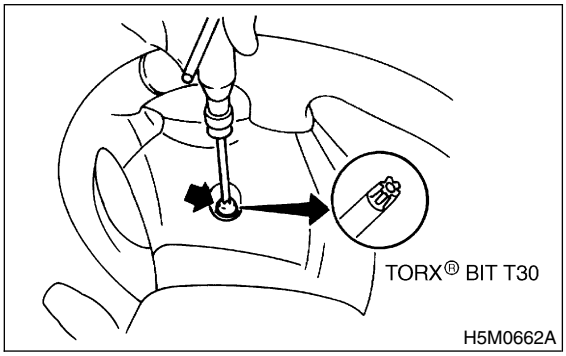
If NG, replace cruise control main switch.

# 5. Cruise Control Command Switch S912497

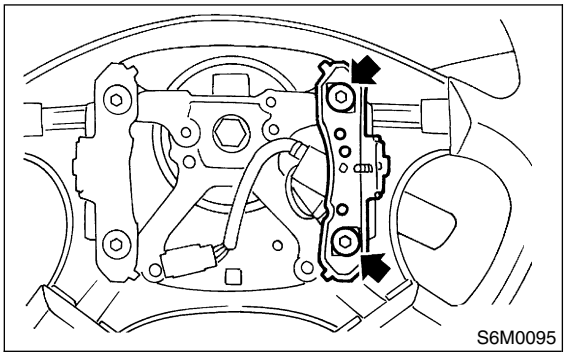
## A: REMOVAL S912497A18

**WARNING:**
**Before servicing, be sure to read the notes in the AB section for proper handling of the driver's airbag module. <Ref. to AB-13, Driver's Airbag Module.>**

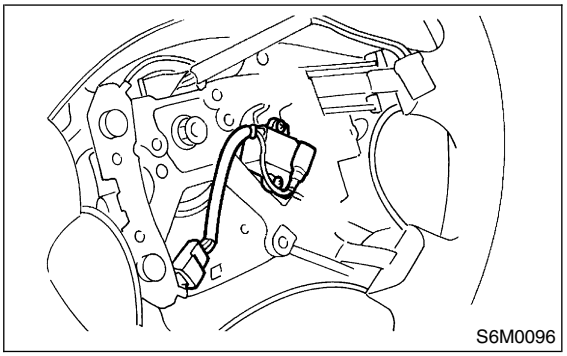
1) Set front wheels in straight ahead position.
2) Turn ignition switch OFF.
3) Disconnect ground cable from battery and wait for at least 20 seconds before starting work.
4) Using TORX® BIT T30 (Tamper resistant type), loosen two TORX® bolts which secure driver's airbag module.




5) Disconnect airbag module connector on back of airbag module.
6) Remove horn switch from steering wheel as shown.




7) Disconnect horn and cruise control command switch connector, then remove cruise control command switch.

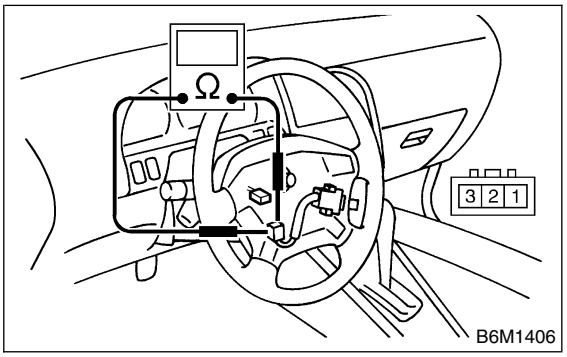



## B: INSTALLATION S912497A11

Install is in the reverse order of removal.

## C: INSPECTION S912497A10

Measure cruise control command switch resistance.




| Switch | Position | Terminal No. | Standard |
|---|---|---|---|
| CANCEL | ON | 1 (+) and 2 (–) | Less than 1 Ω |
| | ON | 1 (+) and 3 (–) | Less than 1 Ω |
| SET/COAST | OFF | 1 and 2 | More than 1 M Ω |
| | ON | 1 and 2 | Less than 1 Ω |
| RESUME/ ACCEL | OFF | 1 and 3 | More than 1 MΩ |
| | ON | 1 and 3 | Less than 1 Ω |

If NG, replace cruise control command switch.

# 6. Stop and Brake Switch S912496

## A: REMOVAL S912496A18

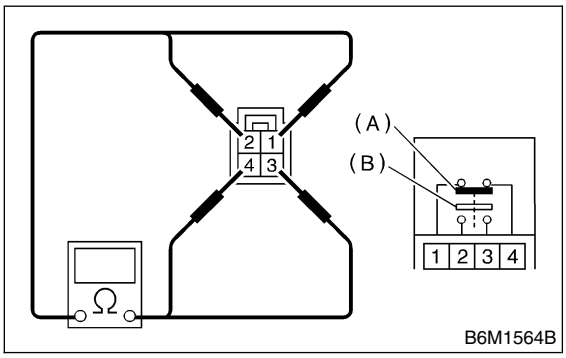
1) Disconnect ground cable from battery.
2) Disconnect connector from stop and brake switch, and then remove the switch. <Ref. to BR-45, REMOVAL, Stop Light Switch.>

## B: INSTALLATION S912496A11

Install in the reverse order of removal.

## C: INSPECTION S912496A10

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




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

If NG, replace stop and brake switch.

# 7. Clutch Switch S912258

## A: REMOVAL S912258A18

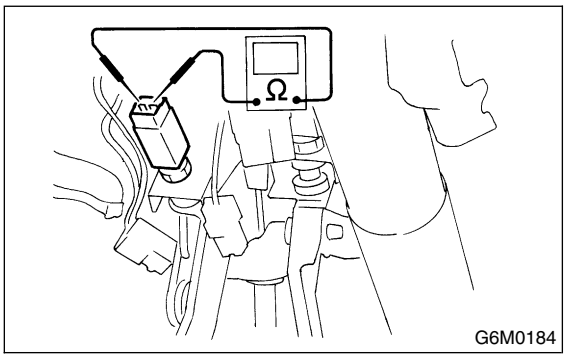
1) Disconnect ground cable from battery.
2) Disconnect the connector from the clutch switch, and then remove the switch. <Ref. to CL-21, DISASSEMBLY, Clutch Pedal.>

## B: INSTALLATION S912258A11

Install in the reverse order of removal.

## C: INSPECTION S912258A10

Measure clutch switch resistance.




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

If NG, replace the clutch switch.

# 8. Inhibitor Switch S912243

## A: REMOVAL S912243A18

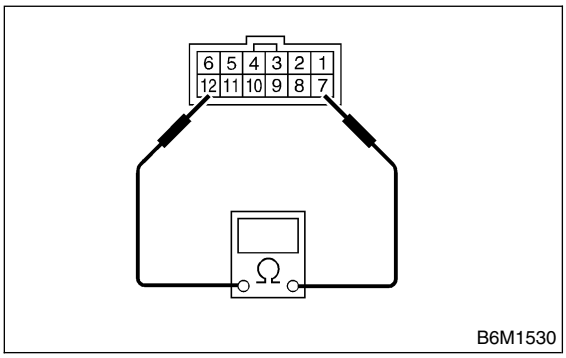
1) Disconnect ground cable from battery.
2) Disconnect connector from inhibitor switch, and then remove the switch. <Ref. to AT-30, REMOVAL, Inhibitor Switch.>

## B: INSTALLATION S912243A11

Installation is in the reverse order of removal.

## C: INSPECTION S912243A10

Measure inhibitor switch resistance.




| Selector lever position | Terminal No. | Standard |
|---|---|---|
| P | 7 and 12 | Less than 1 Ω |
| N | | Less than 1 Ω |
| Except P and N | | More than 1 MΩ |

If NG, replace inhibitor switch.

**MEMO:**

# 1. Basic Diagnostic Procedure S003501

## A: PROCEDURE S003501E45

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **START DIAGNOSIS.**<br>1) Perform pre-inspection. <Ref. to CC-5, INSPECTION, General Description.><br>2) Check cruise control main switch operation. | Is cruise control main switch turned ON? | Go to step **2**. | Go to symptom 1. <Ref. to CC-12, SYMPTOM CHART, Diagnostics Chart with Symptom.> |
| 2 | **PREPARE SUBARU SELECT MONITOR.** | Is the select monitor available? | Go to step **3**. | Go to step **4**. |
| 3 | **PERFORM CRUISE CANCEL CONDITIONS DIAGNOSIS.**<br>Perform cruise cancel conditions diagnosis. <Ref. to CC-10, Subaru Select Monitor.> | Is trouble code indicated? | Go to "List of Diagnostic Trouble Code (DTC)". <Ref. to CC-27, List of Diagnostic Trouble Code (DTC).> | Go to step **4**. |
| 4 | **CHECK CRUISE CONTROL SET OPERATION.**<br>Check cruise control set operation. | Can cruise control be set while driving at 40 km/h (25 MPH)? | Go to step **5**. | Go to symptom 2. <Ref. to CC-12, SYMPTOM CHART, Diagnostics Chart with Symptom.> |
| 5 | **CHECK VEHICLE SPEED IS HELD WITHIN SET SPEED.**<br>Make sure vehicle speed is held within set speed. | Is vehicle speed held within set speed ±3 km/h (±2 MPH) ? | Go to step **6**. | Go to symptom 3. <Ref. to CC-12, SYMPTOM CHART, Diagnostics Chart with Symptom.> |
| 6 | **CHECK RESUME/ACCEL OPERATION.**<br>Check RESUME/ACCEL operation. | Does vehicle speed increase or return to set speed after RESUME/ACCEL switch has been pressed? | Go to step **7**. | Go to symptom 4. <Ref. to CC-12, SYMPTOM CHART, Diagnostics Chart with Symptom.> |
| 7 | **CHECK SET/COAST OPERATION.**<br>Check SET/COAST operation. | Does vehicle speed decrease after SET/COAST switch has been pressed? | Go to step **8**. | Go to symptom 5. <Ref. to CC-12, SYMPTOM CHART, Diagnostics Chart with Symptom.> |
| 8 | **CHECK CANCEL OPERATION.**<br>Check CANCEL operation. | Is cruise control released after CANCEL switch has been pressed? | Go to step **9**. | Go to symptom 6. <Ref. to CC-12, SYMPTOM CHART, Diagnostics Chart with Symptom.> |
| 9 | **CHECK CRUISE CONTROL RELEASE OPERATION.**<br>Check cruise control release operation. | Is cruise control released after brake pedal has been depressed? | Go to step **10**. | Go to symptom 7. <Ref. to CC-12, SYMPTOM CHART, Diagnostics Chart with Symptom.> |

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 10 | **CHECK CRUISE CONTROL RELEASE OPERATION.**<br>Check cruise control release operation. | Is cruise control released after clutch pedal has been depressed? (MT) | Finish the diagnostics. | Go to symptom 8. <Ref. to CC-12, SYMPTOM CHART, Diagnostics Chart with Symptom.> |

# 2. General Description S003001

## A: CAUTION S003001A03

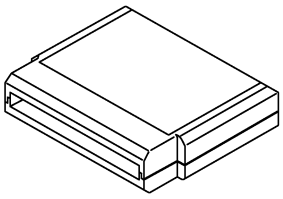
### 1. SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG" S003001A0301

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

**CAUTION:**
**• All airbag system wiring harness and connectors are colored yellow. Do not use electrical test equipment on these circuits.**
**• Be careful not to damage airbag system wiring harness when servicing the cruise control module and cruise control command switch.**

## B: PREPARATION TOOL S003001A17

### 1. SPECIAL TOOLS S003001A1701

| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  B2M3876 | 24082AA190 (Newly adopted tool) | CARTRIDGE | Troubleshooting for electrical systems. |
|  B2M3877 | 22771AA030 | SELECT MONITOR KIT | Troubleshooting for electrical systems.<br>• English:<br>22771AA030 (Without printer)<br>• German:<br>22771AA070 (Without printer)<br>• French:<br>22771AA080 (Without printer)<br>• Spanish:<br>22771AA090 (Without printer) |

### 2. GENERAL TOOLS S003001A1702

| TOOL NAME | REMARKS |
|---|---|
| Circuit Tester | Used for measuring resistance, voltage and ampere. |

## C: INSPECTION S003001A10

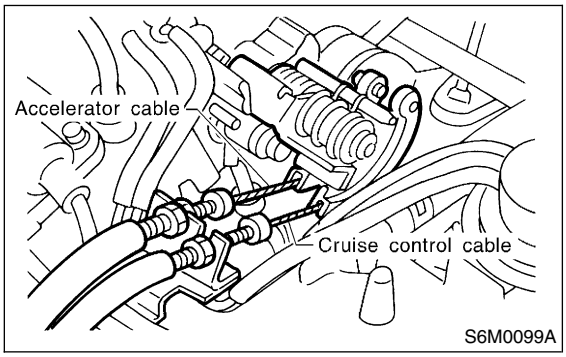
### 1. BATTERY S003001A1002

Measure battery voltage and specific gravity of electrolyte.

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

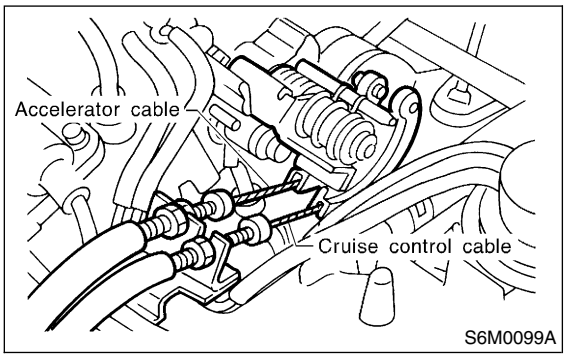
***Specific gravity:***
***Above 1.260***

### 2. CRUISE CONTROL CABLE S003001A1003




Check the cruise control cable installation.
If NG, install the cable securely.

### 3. ACCELERATOR CABLE S003001A1004

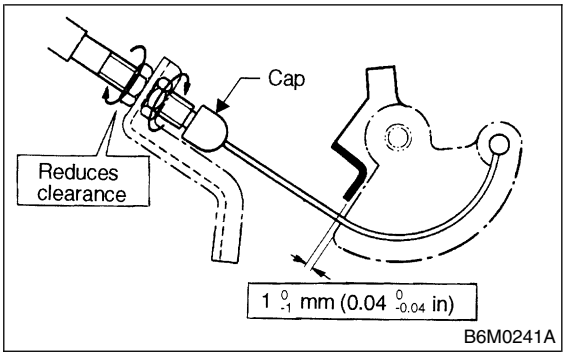



Check movement of the accelerator cable when the cruise control throttle is moved by hand.
If NG, check throttle cam.

### 4. THROTTLE CAM S003001A1005

Check that the throttle cam moves smoothly.
If NG, repair throttle cam.

### 5. CABLE FREE PLAY S003001A1006




Check that the throttle cam-to-lever clearance is within specifications.

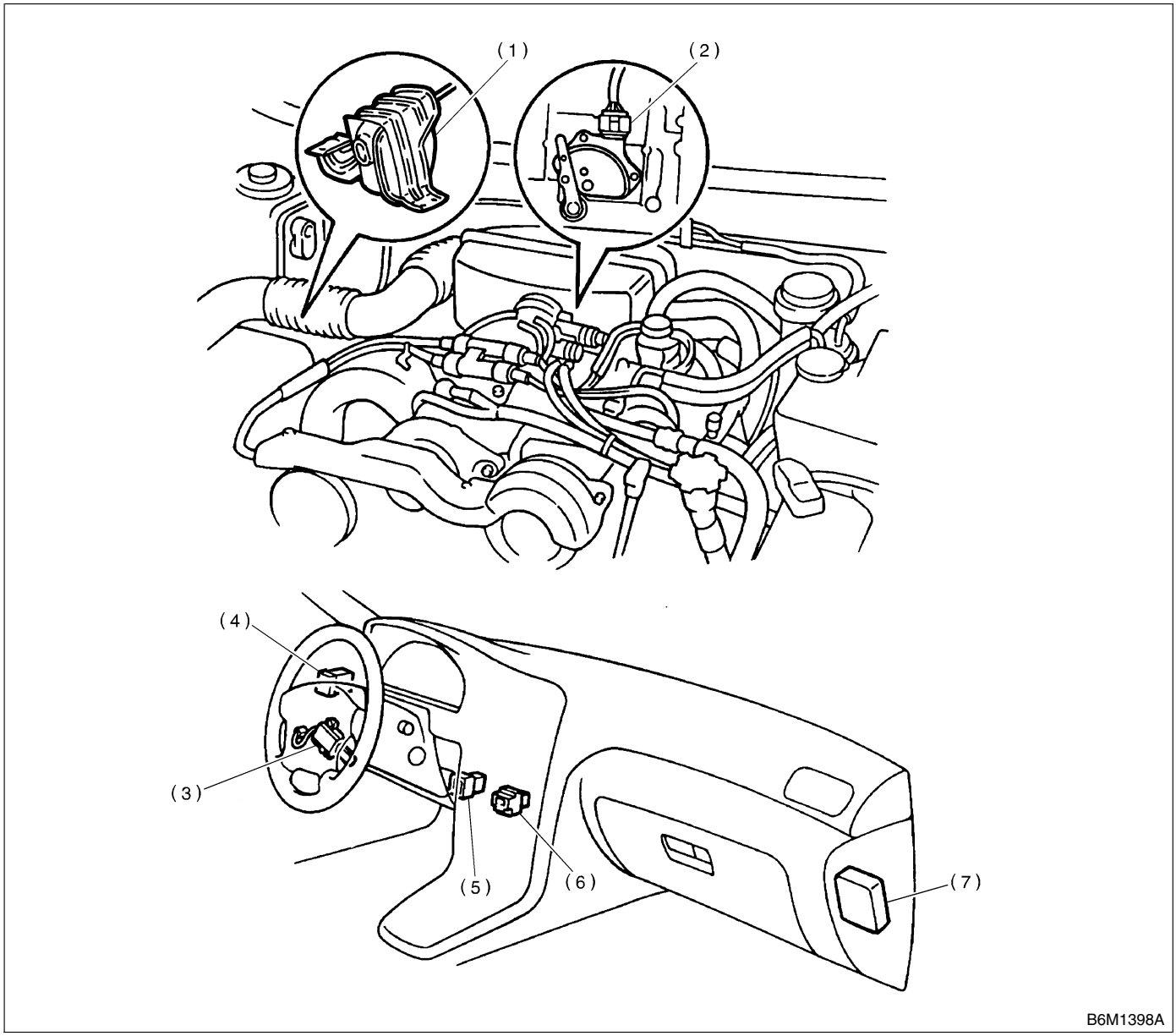
***Throttle cam-to-lever clearance:***
***0 — 1 mm (0 — 0.04 in)***

If NG, adjust the clearance with the adjusting nut.

NOTE:
Check that the cap is positioned in the groove.

# 3. Electrical Components Location S003507

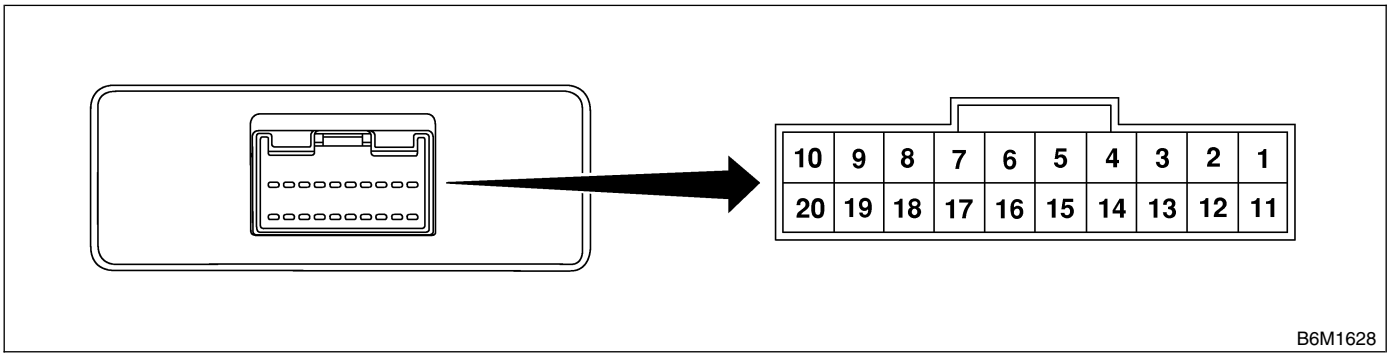
## A: LOCATION S003507A13




(1) Actuator
(2) Inhibitor switch (AT)
(3) Cruise control command switch
(4) Cruise control main switch
(5) Clutch switch (MT)
(6) Stop and brake switch
(7) Cruise control module

# 4. Cruise Control Module I/O Signal S003515

## A: ELECTRICAL SPECIFICATION S003515A08




| Content | Terminal No. | Measuring conditions and I/O signals (ignition switch ON and engine idling) |
|---|---|---|
| Main light | 1 | ● Battery voltage is present when main switch is turned OFF.<br>● “0” volt is present when main switch is turned ON. |
| Inhibitor switch (AT) | 4 | ● Battery voltage is present when selector lever is other than “P” or “N” position.<br>● “0” volt is present when selector lever is set to “P” or “N” position. |
| Motor B | 5 | ● ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating.<br>● “0” volt is present when main switch is turned OFF. |
| Ground | 6 | — |
| Motor A | 7 | ● ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating.<br>● “0” volt is present when main switch is turned OFF. |
| RESUME/ACCEL switch | 9 | ● Battery voltage is present when command switch is turned to RESUME/ACCEL position.<br>● “0” volt is present when command switch is released. |
| SET/COAST switch | 10 | ● Battery voltage is present when command switch is turned to SET/COAST position.<br>● “0” volt is present when command switch is released. |
| Main power supply | 11 | ● Battery voltage is present when main power is turned ON.<br>● “0” volt is present when main power is turned OFF. |
| Ignition switch | 12 | ● Battery voltage is present when ignition switch is turned ON.<br>● “0” volt is present when ignition switch is turned OFF. |
| Motor C | 13 | ● ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating.<br>● “0” volt is present when main switch is turned OFF. |
| Motor clutch | 14 | ● ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating.<br>● “0” volt is present when vehicle is stopped. |
| Cruise control main switch | 15 | ● Battery voltage is present during pressing the cruise control main switch, and then battery voltage is present while main switch is turned ON.<br>● “0” volt is present when main switch is turned OFF. |
| Brake switch | 16 | Leave clutch pedal released (MT), while cruise control main switch is turned ON.<br>Then check that;<br>● Battery voltage is present when brake pedal is released.<br>● “0” volt is present when brake pedal is depressed.<br>Additionally only in MT vehicle, keep the cruise control main switch to ON and leave brake pedal released.<br>Then check that;<br>● Battery voltage is present when clutch pedal is released.<br>● “0” volt is present when clutch pedal is depressed. |
| Data link connector | 17 | — |

| Content | Terminal No. | Measuring conditions and I/O signals (ignition switch ON and engine idling) |
|---|---|---|
| Data link connector | 18 | — |
| Vehicle speed sensor (MT)<br>TCM (AT) | 19 | Lift-up the vehicle until all four wheels are raised off ground, and then rotate any wheel manually.<br>Approx. “5” and “0” volt pulse signals are alternately input to cruise control module. |
| Stop light switch | 20 | Turn ignition switch to OFF.<br>Then check that;<br>● Battery voltage is present when brake pedal is depressed.<br>● “0” volt is present when brake pedal is released. |
| NOTE:<br>Voltage at terminals 5, 7, 13 and 14 cannot be checked unless vehicle is driving by cruise control operation. | | |

## B: SCHEMATIC S003515A21

### 1. CRUISE CONTROL 4 CYLINDER ENGINE MODEL S003515A2101

<Ref. to WI-76, 4-CYLINDER ENGINE MODEL, SCHEMATIC, Cruise Control System.>

### 2. CRUISE CONTROL 6 CYLINDER ENGINE MODEL S003515A2102

<Ref. to WI-79, 6-CYLINDER ENGINE MODEL, SCHEMATIC, Cruise Control System.>

# 5. Subaru Select Monitor S003503

## A: OPERATION S003503A16

### 1. GENERAL S003503A1604

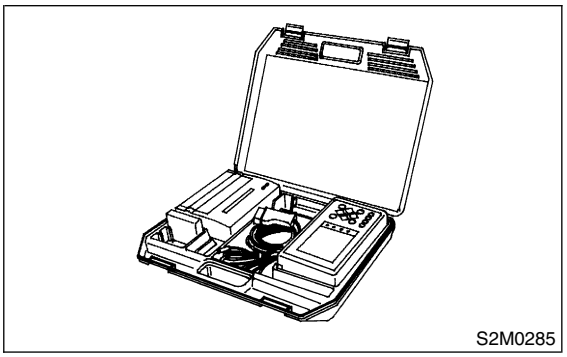
The on-board diagnosis function of the cruise control system uses an external Subaru Select Monitor.
The on-board diagnosis function operates in two categories, which are used depending on the type of problems;
1) Cruise cancel conditions diagnosis
(1) This category of diagnosis requires actual vehicle 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 module memory stores the cancel condition (Code No.) which occurred during driving. When there are plural cancel conditions (Code No.), they are shown on the Subaru Select Monitor.

**CAUTION:**
**● The cruise control memory stores not only the cruise "cancel" which occurred (although "cancel" operation is not entered by the driver), but also the "cancel" condition input by the driver.**
**● The content of memory is cleared when ignition switch or cruise main switch is turned OFF.**

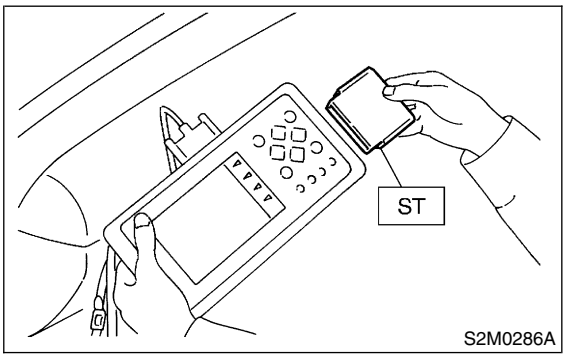
2) Real-time diagnosis
The real-time diagnosis function is used to determine whether or not the input signal system is in good order, according to signal emitted from switches, sensors, etc.
(1) Vehicle cannot be driven at cruise speed because problem occurs in the cruise control system or its associated circuits.
(2) Monitor the signal conditions from switches and sensors.

### 2. CRUISE CANCEL CONDITIONS DIAGNOSIS S003503A1605

1) Prepare Subaru Select Monitor kit.

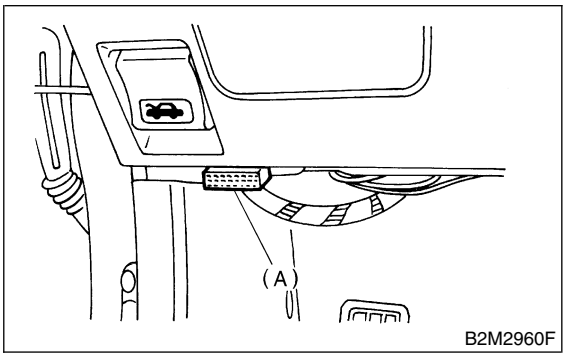

S2M0285

2) Connect diagnosis cable to Subaru Select Monitor.
3) Insert cartridge into Subaru Select Monitor.
<Ref. to CC-4, SPECIAL TOOLS, PREPARATION TOOL, General Description.>



S2M0286A

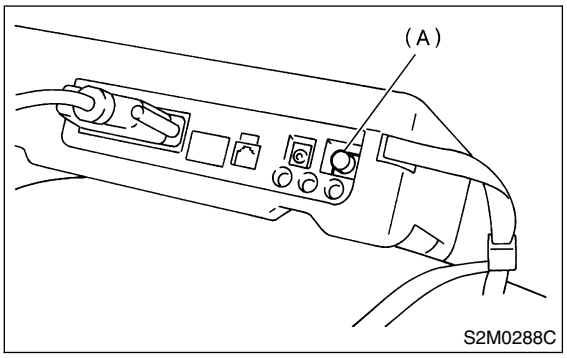
4) Connect Subaru Select Monitor to data link connector.
(1) Data link connector (A) located in the lower portion of the instrument panel (on the driver's side).



B2M2960F

(2) Connect diagnosis cable to data link connector.

5) Start engine and turn cruise control main switch to ON.
6) Turn Subaru Select Monitor switch (A) to ON.




7) On the ≪Main Menu≫ display screen, select the {All System Diagnosis} and press the [YES] key.

NOTE:
The diagnostic trouble code (DTC) is also shown in the {Each System Check} mode. This mode is called up on the ≪Cruise Control Diagnosis≫ screen by selecting the item {Cancel Code(s) Display}.

8) Drive vehicle at least 30 km/h (19 MPH) with cruise speed set.
9) If cruise speed is canceled itself (without doing any cancel operations), a diagnostic trouble code (DTC) will appear on select monitor display.

**CAUTION:**
**● A diagnostic trouble code (DTC) will also appear when cruise cancel is activated by driver. Do not confuse.**
**● Have a co-worker ride in vehicle to assist in diagnosis during driving.**

NOTE:
Diagnostic trouble code (DTC) will be cleared by turning ignition switch or cruise control main switch to OFF.

## 3. REAL-TIME DIAGNOSIS S003503A1606

1) Connect select monitor.
2) Turn ignition switch and cruise control main switch to ON.
3) Turn Subaru Select Monitor switch to ON.
4) On the ≪Main Menu≫ display screen, select the {Each System Check} and press the [YES] key.
5) On the ≪System Selection Menu≫ display screen, select the {Cruise Control} and press the [YES] key.
6) Press the [YES] key after displayed the information of engine type.
7) On the ≪Cruise Control Diagnosis≫ display screen, select the {Current Data Display & Save} and press the [YES] key.
8) Make sure that normal indication is displayed when controls are operated as indicated below:
● Depress/release the brake pedal. (Stop light switch and brake switch turn ON.)
● Turn ON the “SET/COAST” switch.
● Turn ON the “RESUME/ACCEL” switch.
● Depress/release the clutch pedal. (MT)
● Set the selector lever to P or N. (AT)

NOTE:
● For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.
● For detailed concerning diagnostic trouble codes (DTCs), refer to the List of Diagnostic Trouble Code (DTC).
<Ref. to CC-27, List of Diagnostic Trouble Code (DTC).>

# 6. Diagnostics Chart with Symptom S003619

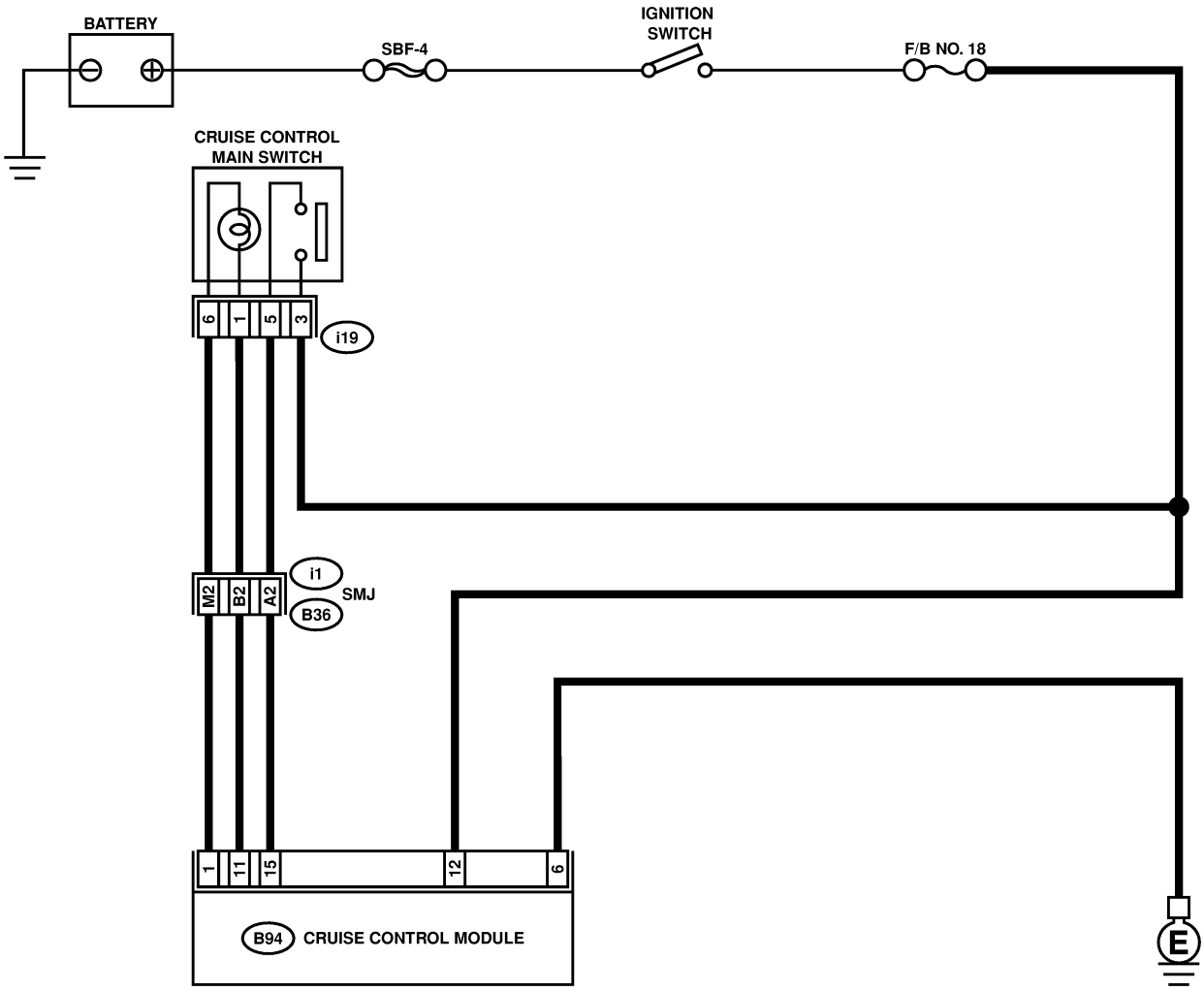
## A: SYMPTOM CHART S003619F22

| Symptom | | Repair area | Reference |
|---|---|---|---|
| 1 | Cruise control main switch is not turned ON. | (1) Check power supply. | <Ref. to CC-14, CHECK POWER SUPPLY, Diagnostics Chart with Symptom.> |
| | | (2) Check cruise control main switch. | <Ref. to CC-16, CHECK CRUISE CONTROL MAIN SWITCH, Diagnostics Chart with Symptom.> |
| 2 | Cruise control cannot be set. | (1) Check SET/COAST switch. | <Ref. to CC-19, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics Chart with Symptom.> |
| | | (2) Check stop light switch and brake switch. | <Ref. to CC-21, CHECK STOP LIGHT SWITCH AND BRAKE SWITCH, Diagnostics Chart with Symptom.> |
| | | (3) Check clutch switch (MT). | <Ref. to CC-23, CHECK CLUTCH SWITCH (MT), Diagnostics Chart with Symptom.> |
| | | (4) Check inhibitor switch (AT). | <Ref. to CC-25, CHECK INHIBITOR SWITCH (AT), Diagnostics Chart with Symptom.> |
| | | (5) Check vehicle speed sensor. | <Ref. to CC-29, DTC 22 VEHICLE SPEED SENSOR, Diagnostics Chart with Trouble Code.> |
| | | (6) Check motor drive system. | <Ref. to CC-33, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostics Chart with Trouble Code.> |
| | | (7) Check motor clutch drive system. | <Ref. to CC-35, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostics Chart with Trouble Code.> |
| 3 | Vehicle speed is not held within set speed ±3 km/h (±2 MPH). | (1) Check vehicle speed sensor. | <Ref. to CC-29, DTC 22 VEHICLE SPEED SENSOR, Diagnostics Chart with Trouble Code.> |
| | | (2) Check motor drive system. | <Ref. to CC-33, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostics Chart with Trouble Code.> |
| | | (3) Check motor clutch drive system. | <Ref. to CC-35, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostics Chart with Trouble Code.> |
| 4 | Vehicle speed does not increase or does not return to set speed after RESUME/ACCEL switch has been pressed. | (1) Check RESUME/ACCEL switch. | <Ref. to CC-19, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics Chart with Symptom.> |
| | | (2) Check motor drive system. | <Ref. to CC-33, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostics Chart with Trouble Code.> |
| | | (3) Check motor clutch drive system. | <Ref. to CC-35, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostics Chart with Trouble Code.> |
| 5 | Vehicle speed does not decrease after SET/COAST switch has been pressed. | (1) Check SET/COAST switch. | <Ref. to CC-19, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics Chart with Symptom.> |
| | | (2) Check motor drive system. | <Ref. to CC-33, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostics Chart with Trouble Code.> |
| | | (3) Check motor clutch drive system. | <Ref. to CC-35, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostics Chart with Trouble Code.> |

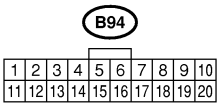
| Symptom | | Repair area | Reference |
|---|---|---|---|
| 6 | Cruise control is not released after CANCEL switch has been pressed. | (1) Check CANCEL switch. | <Ref. to CC-19, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics Chart with Symptom.> |
| | | (2) Check motor drive system. | <Ref. to CC-33, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostics Chart with Trouble Code.> |
| | | (3) Check motor clutch drive system. | <Ref. to CC-35, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostics Chart with Trouble Code.> |
| 7 | Cruise control is not released after brake pedal has been depressed. | (1) Check stop light switch and brake switch. | <Ref. to CC-21, CHECK STOP LIGHT SWITCH AND BRAKE SWITCH, Diagnostics Chart with Symptom.> |
| | | (2) Check motor drive system. | <Ref. to CC-33, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostics Chart with Trouble Code.> |
| | | (3) Check motor clutch drive system. | <Ref. to CC-35, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostics Chart with Trouble Code.> |
| 8 | Cruise control is not released after clutch pedal has been depressed (MT). | (1) Check clutch switch. | <Ref. to CC-23, CHECK CLUTCH SWITCH (MT), Diagnostics Chart with Symptom.> |
| | | (2) Check motor drive system. | <Ref. to CC-33, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostics Chart with Trouble Code.> |
| | | (3) Check motor clutch drive system. | <Ref. to CC-35, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostics Chart with Trouble Code.> |

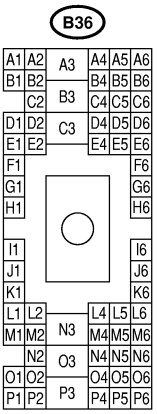
## B: CHECK POWER SUPPLY S003619F23

**TROUBLE SYMPTOM:**
Cruise control can be set normally, but indicator does not come on. (When main switch is pressed.)
**WIRING DIAGRAM:**








B6M1612

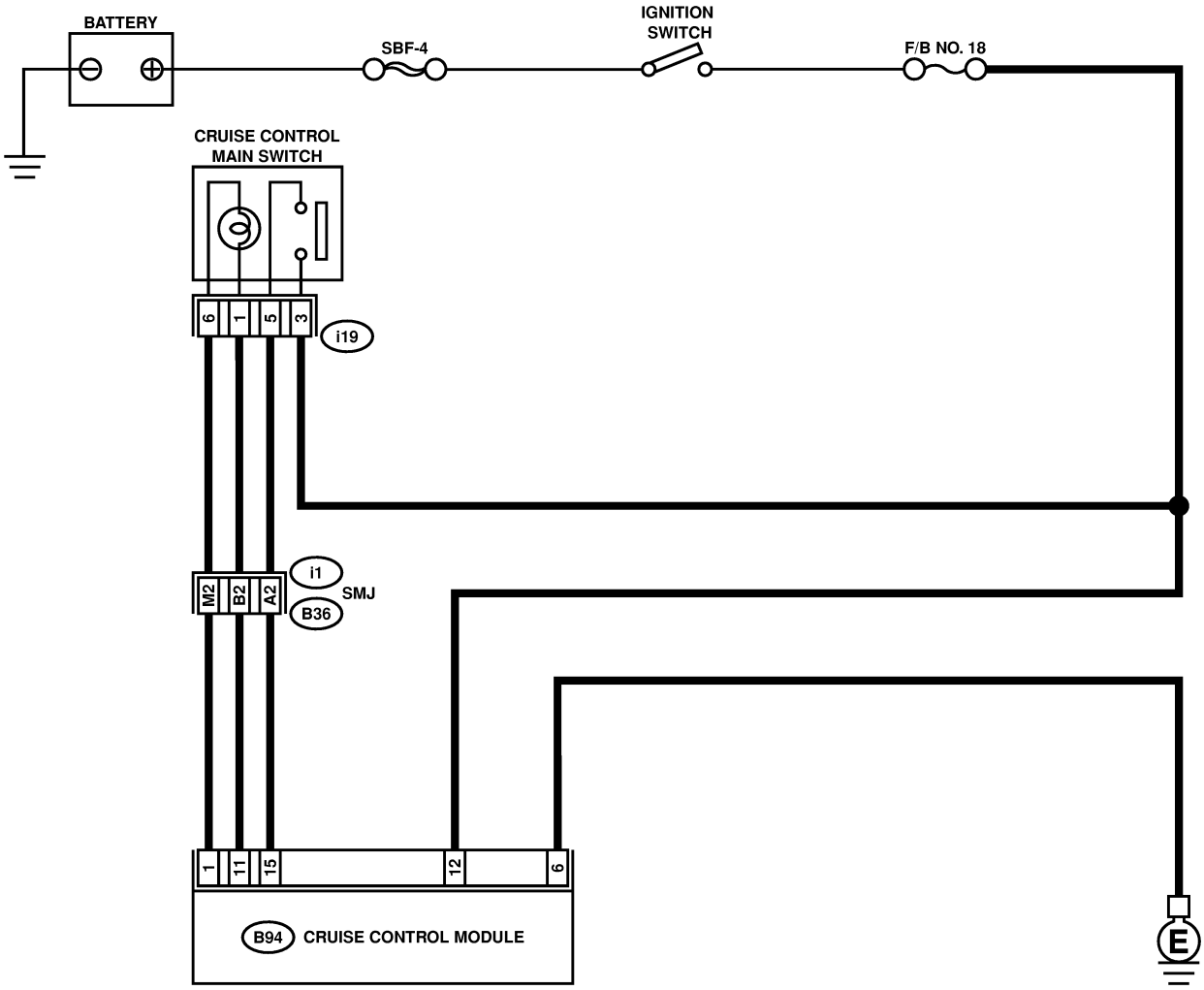
| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY.**<br>1) Turn ignition switch OFF.<br>2) Disconnect cruise control module harness connector.<br>3) Turn ignition switch ON.<br>4) Measure voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B94) No. 12 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | • Check fuse No. 18 (in fuse & relay box).<br>• Check harness for open or short between cruise control module and fuse & relay box. |
| 2 | **CHECK GROUND CIRCUIT.**<br>1) Turn ignition switch OFF.<br>2) Measure resistance between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B94) No. 6 (+) — Chassis ground (–):*** | Is the resistance less than 10 Ω? | Power supply and ground circuit are OK. | Repair harness. |

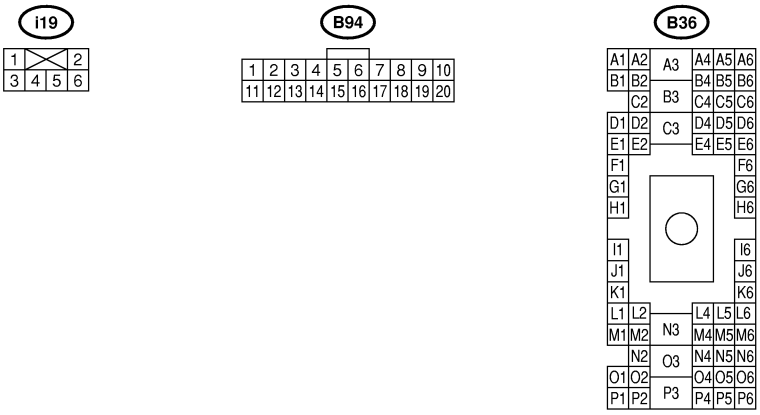
## C: CHECK CRUISE CONTROL MAIN SWITCH S003619F24

**TROUBLE SYMPTOM:**
Cruise control main switch is not turned ON and cruise control cannot be set.

NOTE:
When the main relay (built-in cruise control module) operates, the main switch circuit is in normal condition.
The main relay operation can be checked by hearing the operation sounds.
This operation sounds will be heard when ignition switch and cruise control main switch are turned to ON.

## WIRING DIAGRAM:



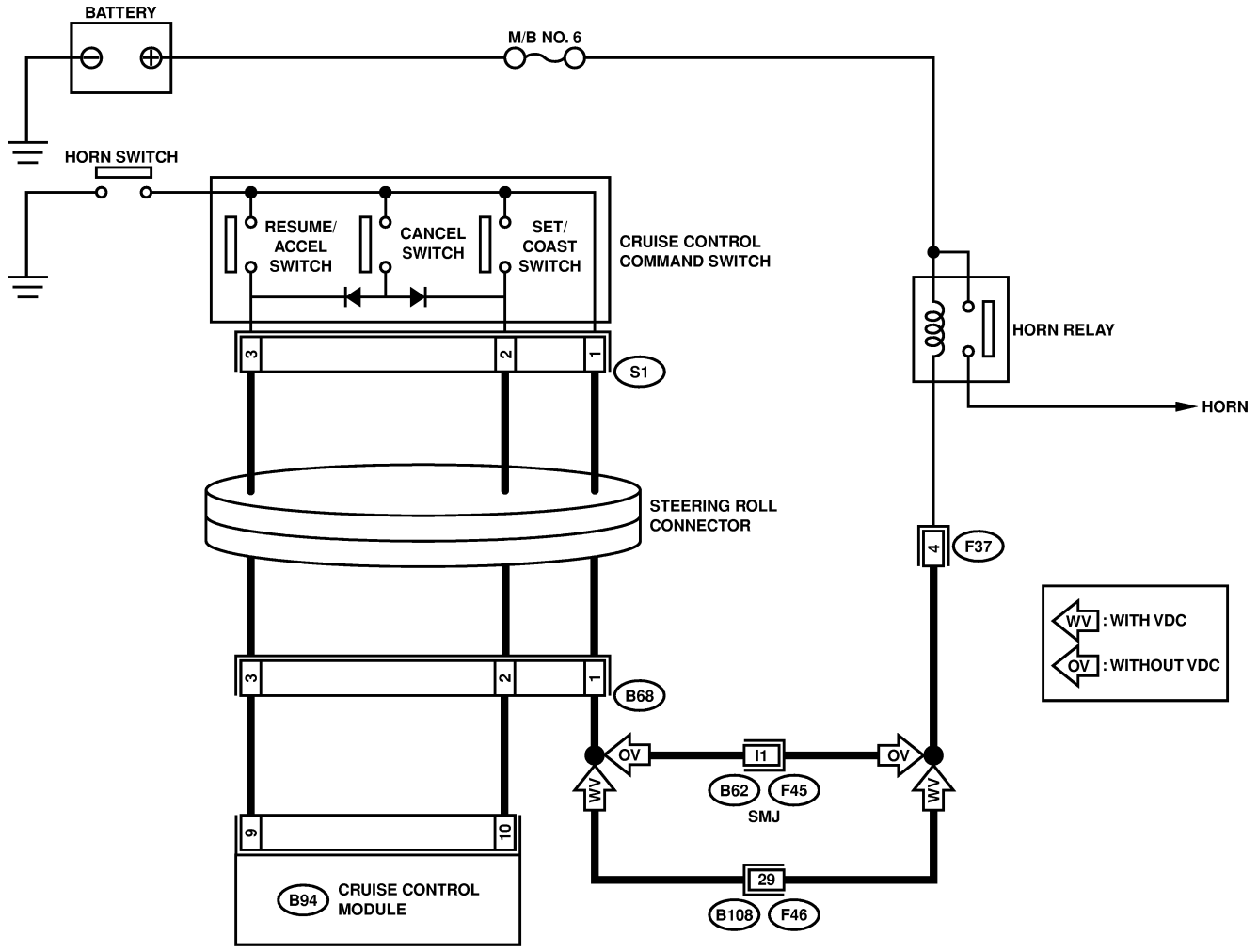

B6M1612

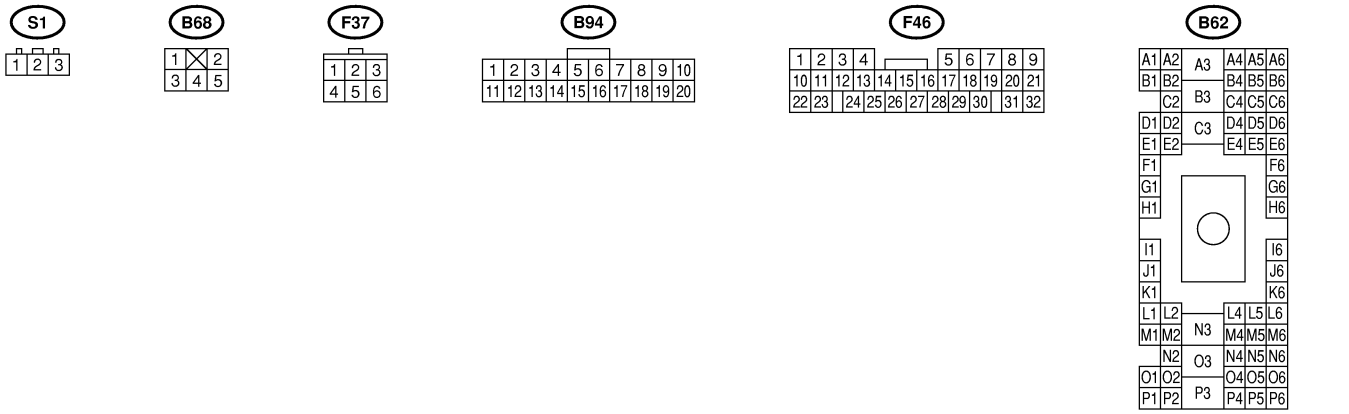
# DIAGNOSTICS CHART WITH SYMPTOM

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK CRUISE CONTROL MAIN SWITCH CIRCUIT.**<br>1) Turn ignition switch OFF.<br>2) Disconnect cruise control main switch harness connector.<br>3) Turn ignition switch ON.<br>4) Measure voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(i19) No. 3 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | • Check fuse No. 18 (in fuse & relay box).<br>• Check harness for open or short between cruise control main switch and fuse & relay box. |
| 2 | **CHECK CRUISE CONTROL MAIN SWITCH CIRCUIT.**<br>1) Turn ignition switch OFF.<br>2) Disconnect cruise control module harness connector.<br>3) Measure resistance between cruise control module harness connector terminal and cruise control main switch harness connector terminal.<br>***Connector & terminal***<br>***(B94) No. 15 (+) — (i19) No. 5 (–):***<br>***(B94) No. 1 (+) — (i19) No. 6 (–):***<br>***(B94) No. 11(+) — (i19) No. 1 (–):*** | Is the resistance less than 10 Ω? | Go to step **3**. | Repair harness. |
| 3 | **CHECK CRUISE CONTROL MAIN SWITCH.**<br>Remove and check cruise control main switch. <Ref. to CC-5, Cruise Control Main Switch.> | Is cruise control main switch OK? | Replace cruise control module. | Replace cruise control main switch. |

## D: CHECK CRUISE CONTROL COMMAND SWITCH S003619F25

**TROUBLE SYMPTOM:**
Cruise control cannot be set. (Cancelled immediately.)
**WIRING DIAGRAM:**



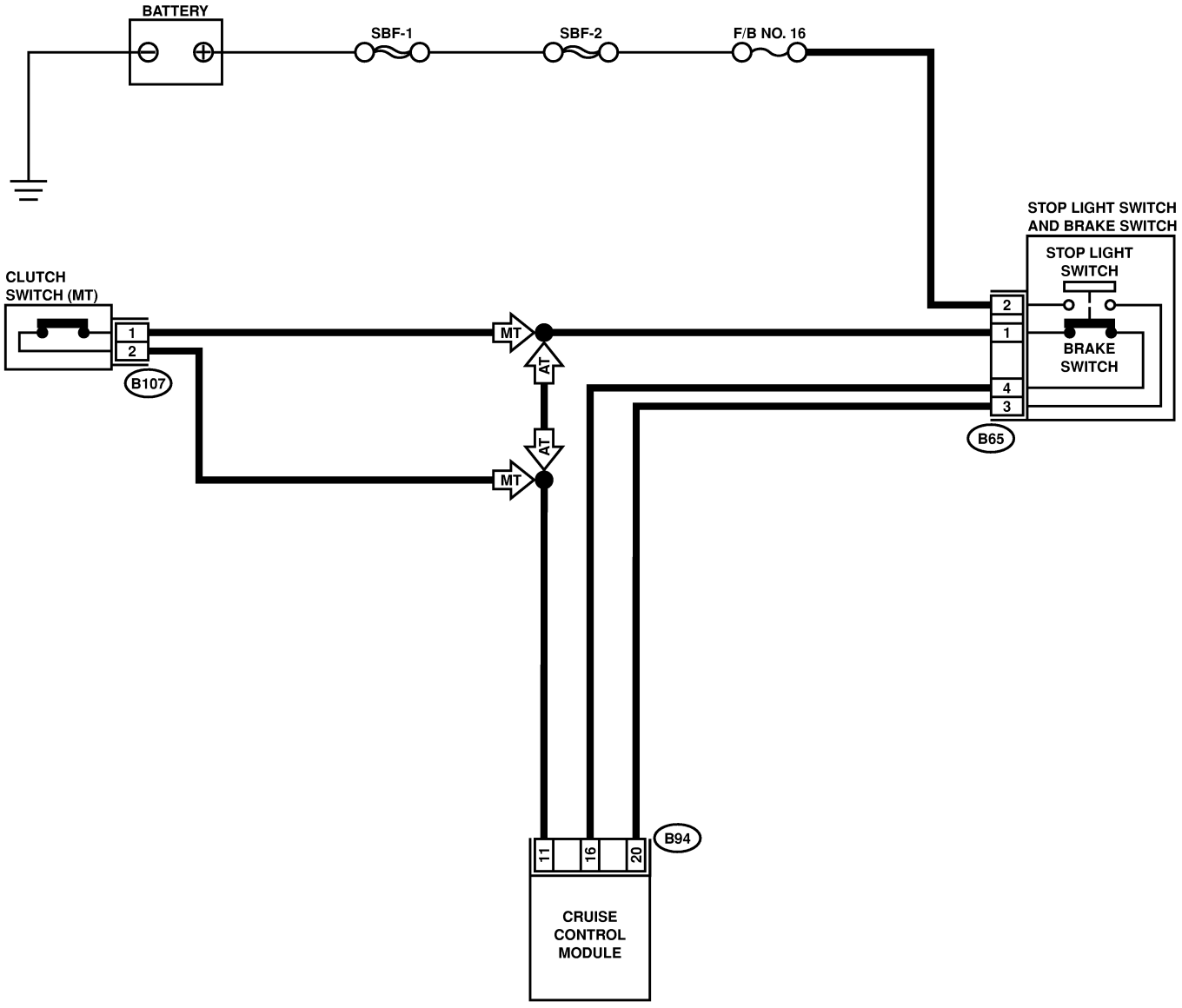

B6M1613

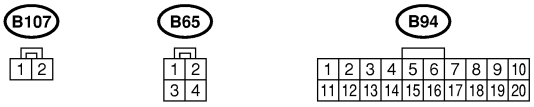
# DIAGNOSTICS CHART WITH SYMPTOM

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SET/COAST SWITCH CIRCUIT.**<br>1) Turn ignition switch OFF.<br>2) Disconnect cruise control module harness connector.<br>3) Measure voltage between harness connector terminal and chassis ground when SET/COAST switch is pressed and not pressed.<br>***Connector & terminal***<br>***(B94) No. 10 (+) — Chassis ground (–):*** | Is the voltage 0 V when SET/COAST switch is not pressed? Is the voltage more than 10 V when SET/COAST switch is pressed? | Go to step **2**. | Go to step **4**. |
| 2 | **CHECK RESUME/ACCEL SWITCH CIRCUIT.**<br>Measure voltage between harness connector terminal and chassis ground when RESUME/ACCEL switch is pressed and not pressed.<br>***Connector & terminal***<br>***(B94) No. 9 (+) — Chassis ground (–):*** | Is the voltage 0 V when RESUME/ACCEL switch is not pressed? Is the voltage more than 10 V when RESUME/ACCEL switch is pressed? | Go to step **3**. | Go to step **4**. |
| 3 | **CHECK CANCEL SWITCH CIRCUIT.**<br>Measure voltage between harness connector terminal and chassis ground when CANCEL switch is pressed and not pressed.<br>***Connector & terminal***<br>***(B94) No. 9 (+) — Chassis ground (–):***<br>***(B94) No. 10 (+) — Chassis ground (–):*** | Is the voltage 0 V when CANCEL switch is not pressed? Is the voltage more than 10 V when CANCEL switch is pressed? | Cruise control command switch circuit is OK. | Go to step **4**. |
| 4 | **CHECK POWER SUPPLY FOR COMMAND SWITCH.**<br>Check horn operation. | Does horn sound? | Go to step **5**. | • Check fuse No. 6 (in main fuse box).<br>• Check horn relay. <Ref. to COM-4, HORN RELAY, INSPECTION, Horn System.><br>• Check harness for open or short between cruise control command switch and fuse & relay box. |
| 5 | **CHECK CRUISE CONTROL COMMAND SWITCH.**<br>Remove and check cruise control command switch. <Ref. to CC-6, Cruise Control Command Switch.> | Is cruise control command switch OK? | Check harness between cruise control command switch and cruise control module. | Replace cruise control command switch. |

## E: CHECK STOP LIGHT SWITCH AND BRAKE SWITCH S003619F26

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



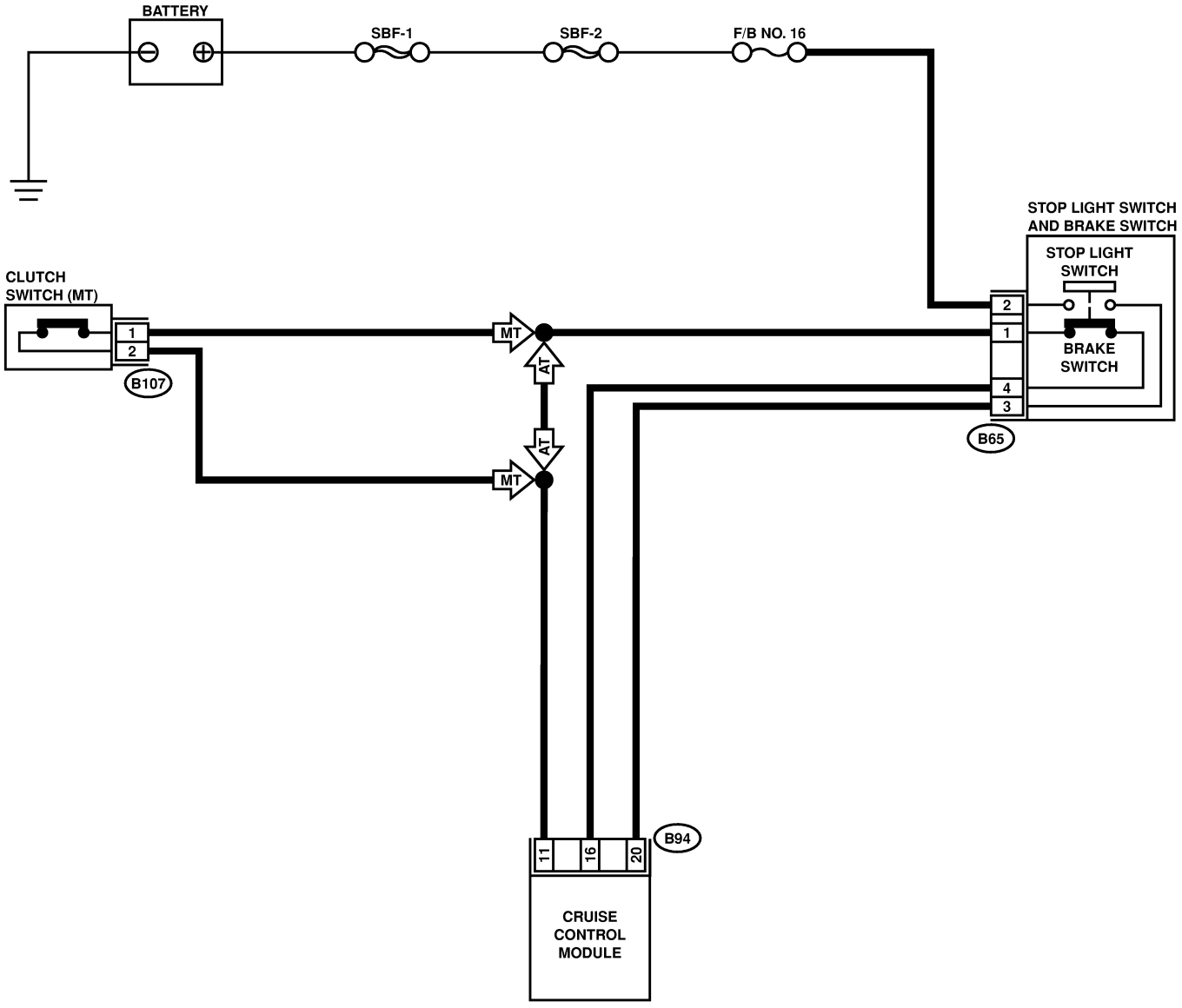

B6M1614

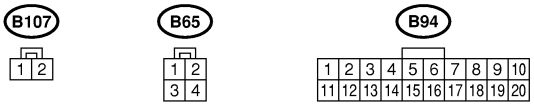
# DIAGNOSTICS CHART WITH SYMPTOM

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.**<br>1) Turn ignition switch OFF.<br>2) Disconnect stop light switch and brake switch harness connector.<br>3) Turn ignition switch ON.<br>4) Turn cruise control main switch ON.<br>5) Measure voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B65) No. 2 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | • Check fuse No. 16 (in fuse & relay box).<br>• Check harness for open or short between stop light/brake switch and fuse & relay box. |
| 2 | **CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.**<br>Measure voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B65) No. 1 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | • Check harness for open or short between stop light/brake switch and cruise control module (AT).<br>• Check clutch switch and the circuit (MT). |
| 3 | **CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.**<br>1) Turn cruise control main switch and ignition switch OFF.<br>2) Disconnect cruise control module harness connector.<br>3) Measure resistance between cruise control module harness connector terminal and stop light switch and brake switch harness connector terminal.<br>***Connector & terminal***<br>***(B94) No. 20 (+) — (B65) No. 3 (–):***<br>***(B94) No. 16 (+) — (B65) No. 4 (–):*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair harness. |
| 4 | **CHECK STOP LIGHT SWITCH AND BRAKE SWITCH.**<br>Remove and check stop light switch and brake switch. <Ref. to CC-7, Stop and Brake Switch.> | Is stop light switch and brake switch OK? | Stop light switch and brake switch circuit are OK. | Replace stop light switch and brake switch. |

## F: CHECK CLUTCH SWITCH (MT) S003619F27

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



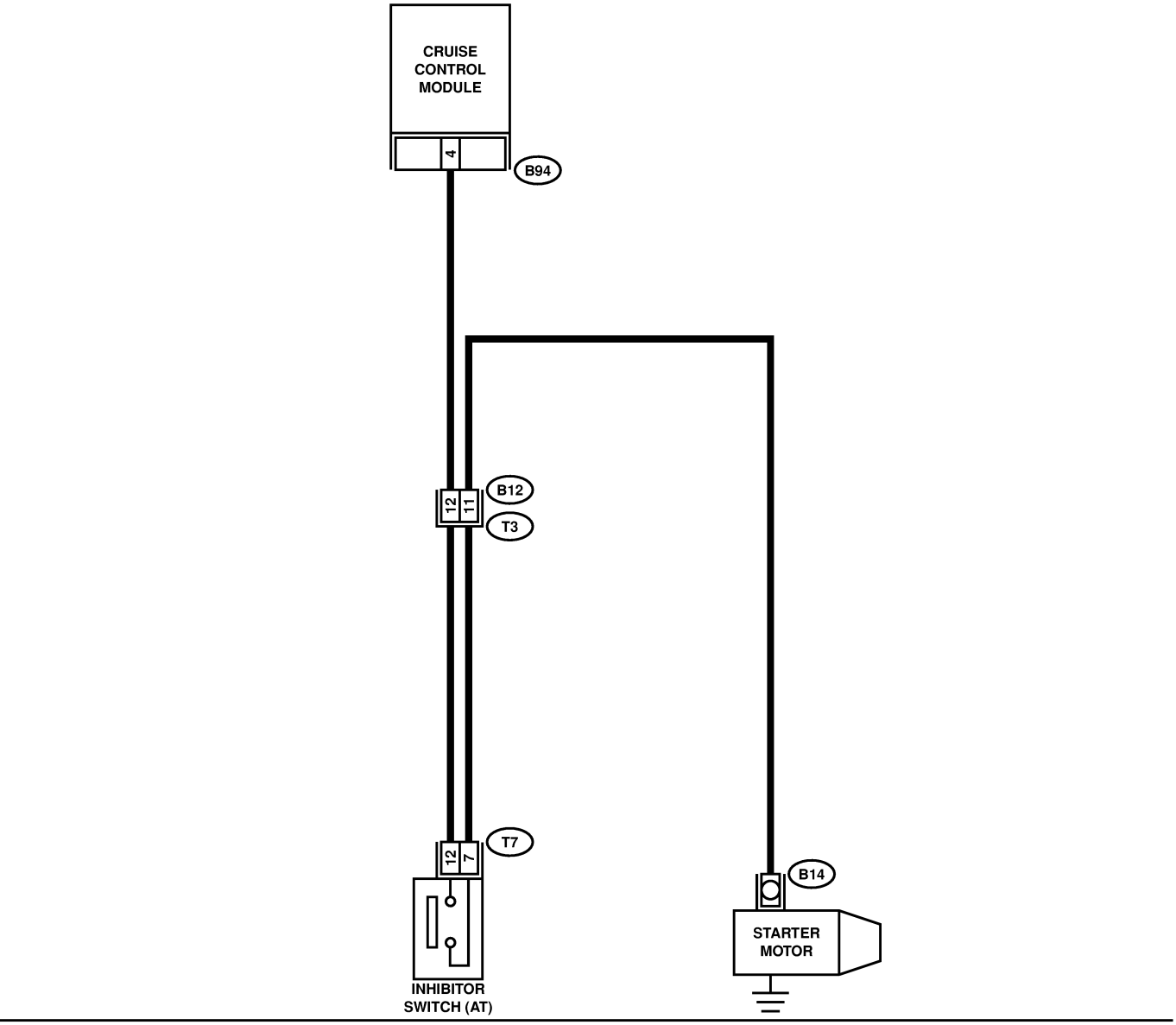

B6M1614

# DIAGNOSTICS CHART WITH SYMPTOM

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK CLUTCH SWITCH CIRCUIT.**<br>1) Turn ignition switch OFF.<br>2) Disconnect clutch switch harness connector.<br>3) Turn ignition switch ON.<br>4) Turn cruise control main switch ON.<br>5) Measure voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B107) No. 2 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Check harness for open or short between clutch switch and cruise control module. |
| 2 | **CHECK CLUTCH SWITCH CIRCUIT.**<br>1) Turn cruise control main switch and ignition switch OFF.<br>2) Disconnect stop light switch and brake switch harness connector.<br>3) Measure resistance between clutch switch harness connector terminal and stop light switch and brake switch harness connector terminal.<br>***Connector & terminal***<br>***(B107) No. 1 (+) — (B65) No. 1 (–):*** | Is the resistance less than 10 Ω? | Go to step **3**. | Repair harness. |
| 3 | **CHECK CLUTCH SWITCH.**<br>Remove and check clutch switch. <Ref. to CC-8, Clutch Switch.> | Is clutch switch OK? | Clutch switch circuit is OK. | Replace clutch switch. |

## G: CHECK INHIBITOR SWITCH (A/T) S003619F28

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




B6M1527

# DIAGNOSTICS CHART WITH SYMPTOM

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK INHIBITOR SWITCH CIRCUIT.**<br>1) Turn ignition switch OFF.<br>2) Disconnect inhibitor switch harness connector.<br>3) Turn ignition switch ON.<br>4) Turn cruise control main switch ON.<br>5) Measure voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(T7) No. 12 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Check harness for open or short between inhibitor switch and cruise control module. |
| 2 | **CHECK INHIBITOR SWITCH CIRCUIT.**<br>1) Turn cruise control main switch and ignition switch OFF.<br>2) Disconnect starter motor harness connector.<br>3) Measure resistance between inhibitor switch harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(T7) No. 7 (+) — (B14) No. 1 (–):*** | Is the resistance less than 10 Ω? | Go to step **3**. | Repair harness. |
| 3 | **CHECK INHIBITOR SWITCH.**<br>Remove and check inhibitor switch. <Ref. to CC-9, Inhibitor Switch.> | Is inhibitor switch OK? | Inhibitor switch circuit is OK. | Replace inhibitor switch. |

# 7. List of Diagnostic Trouble Code (DTC) S003525

## A: LIST S003525A12

| DTC | Item | Contents of diagnosis | Reference |
|---|---|---|---|
| 21 | Inner relay is seized. | Cruise control module inner relay is seized when main switch is OFF. | <Ref. to CC-28, DTC 21, 24, 25 AND 2A CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM, Diagnostics Chart with Trouble Code.> |
| 22 | Vehicle speed sensor | Vehicle speed signal changes more than 10 km/h (6 MPH) within 350 ms. | <Ref. to CC-29, DTC 22 VEHICLE SPEED SENSOR, Diagnostics Chart with Trouble Code.> |
| 24 | Cruise control module is abnormal. | Two vehicle speed values stored in cruise control module memory are not the same. | <Ref. to CC-28, DTC 21, 24, 25 AND 2A CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM, Diagnostics Chart with Trouble Code.> |
| 25 | Cruise control module is abnormal. | Two output values stored in cruise control module memory are not the same. | <Ref. to CC-28, DTC 21, 24, 25 AND 2A CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM, Diagnostics Chart with Trouble Code.> |
| 28 | Wiring harness opened. | Open wiring harness circuit is detected via control module relay when main switch is ON. | <Ref. to CC-32, DTC 28 WIRING HARNESS OPENED., Diagnostics Chart with Trouble Code.> |
| 35 | Motor drive system is abnormal. | • Motor output circuit is open or shorted.<br>• Motor drive circuit is open or shorted. | <Ref. to CC-33, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostics Chart with Trouble Code.> |
| 36 | Trouble of motor turning speed | Motor turning speed is low. | <Ref. to CC-33, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostics Chart with Diagnostic Trouble Code.> |
| 37 | Motor clutch drive system is abnormal. | • Motor clutch output circuit is open or shorted.<br>• Motor clutch drive circuit is open or shorted. | <Ref. to CC-35, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostics Chart with Trouble Code.> |
| 38 | Motor drive shaft does not engage properly. | Motor drive gear engagement is not properly adjusted. | <Ref. to CC-37, DTC 38 MOTOR DRIVE SHAFT DOES NOT ENGAGE PROPERLY., Diagnostics Chart with Trouble Code.> |
| 39 | Motor is overloaded. | Current flows through motor more frequently than under normal conditions. | <Ref. to CC-38, DTC 39 MOTOR IS OVERLOADED., Diagnostics Chart with Trouble Code.> |
| 2A | Cruise control module is abnormal. | Cruise control module self-diagnosis function senses abnormality. | <Ref. to CC-28, DTC 21, 24, 25 AND 2A CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM, Diagnostics Chart with Trouble Code.> |

# 8. Diagnostics Chart with Trouble Code S003620

## A: DTC 21, 24, 25 AND 2A CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM S003620J92

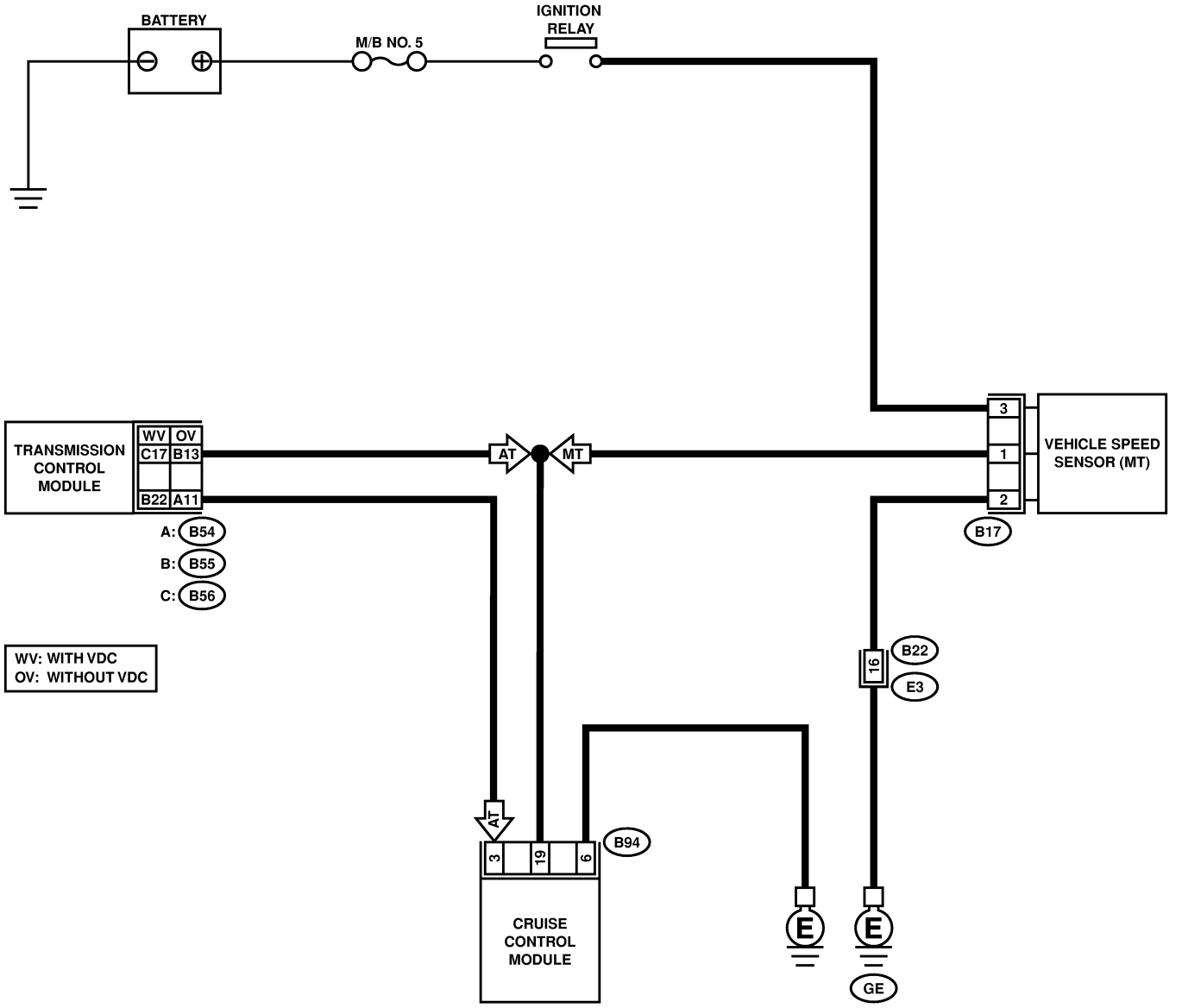
**DIAGNOSIS:**
- Poor welding of built-in relay of cruise control module.
- Failure of built-in CPU RAM of cruise control module.

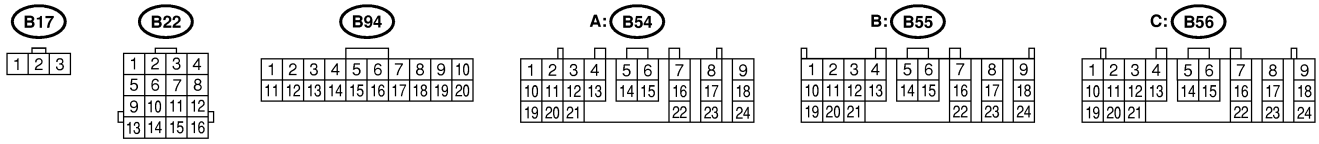
**TROUBLE SYMPTOM:**
- Cruise control is canceled and memorized cruise speed is also canceled.
- Once the cruise control is canceled, the cruise control cannot be set until the ignition switch and cruise control main switch turns OFF, and then turns ON again.

NOTE:
Check the input/output signal and vehicle speed signal with select monitor. When the signals are in good condition, failure is in cruise control module. (Check power supply and ground conditions of cruise control module.)

## B: DTC 22 VEHICLE SPEED SENSOR S003620J93

**DIAGNOSIS:**
Disconnection or short circuit of vehicle speed sensor system.
**TROUBLE SYMPTOM:**
Cruise control cannot be set. (Cancelled immediately.)
**WIRING DIAGRAM:**




B6M1615

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK TRANSMISSION TYPE.** | Is the transmission type MT? | Go to step **2**. | Go to step **6**. |
| 2 | **CHECK HARNESS BETWEEN BATTERY AND VEHICLE SPEED SENSOR.**<br>1) Turn ignition switch OFF.<br>2) Disconnect harness connector from vehicle speed sensor.<br>3) Turn ignition switch ON.<br>4) Measure voltage between vehicle speed sensor harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B17) No. 3 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **3**. | Check harness for open or short between ignition relay and vehicle speed sensor. |
| 3 | **CHECK HARNESS BETWEEN CRUISE CONTROL MODULE AND VEHICLE SPEED SENSOR.**<br>1) Turn ignition switch OFF.<br>2) Disconnect harness connector from cruise control module.<br>3) Measure resistance between vehicle speed sensor harness connector terminal and cruise control module harness connector terminal.<br>***Connector & terminal***<br>***(B17) No. 1 — (B94) No. 19:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair harness. |
| 4 | **CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND ENGINE GROUND.**<br>Measure resistance between vehicle speed sensor harness connector terminal and engine ground.<br>***Connector & terminal***<br>***(B17) No. 2 (+) — Engine ground (–):*** | Is the resistance less than 10 Ω? | Go to step **5**. | Repair harness. |
| 5 | **CHECK VEHICLE SPEED SENSOR.**<br>1) Connect harness connector to vehicle speed sensor.<br>2) Lift-up the vehicle and support with safety stands.<br>**WARNING:**<br>**Be careful not to be caught up by the running wheels.**<br>3) Drive the vehicle at speed greater than 20 km/h (12 MPH).<br>4) Measure voltage between cruise control module harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B94) No. 19 (+) — Chassis ground (–):*** | Is the voltage less than 1 V ←→ more than 4 V? | Replace cruise control module. <Ref. to CC-4, Cruise Control Module.> | Replace vehicle speed sensor. |

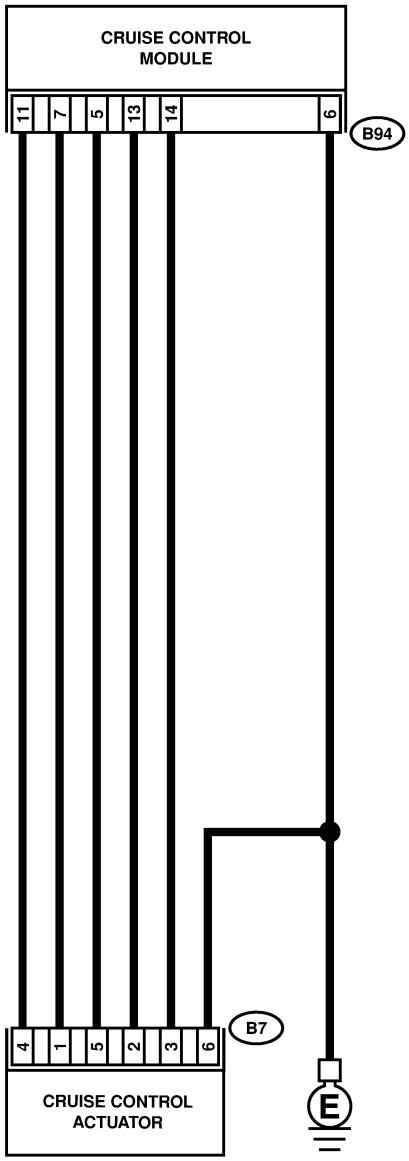
| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 6 | **CHECK HARNESS BETWEEN CRUISE CONTROL MODULE AND TRANSMISSION CONTROL MODULE.**<br>1) Turn ignition switch OFF.<br>2) Disconnect harness connector from transmission control module and cruise control module.<br>3) Measure resistance between cruise control module harness connector terminal and transmission control module harness connector terminal.<br>**CAUTION:**<br>**To measure the voltage and/or resistance, use a tapered pin with a diameter of less than 0.64 mm (0.025 in). Do not insert the pin more than 2 mm (0.08 in).**<br>***Connector & terminal***<br>***Without VDC:***<br>***(B94) No. 19 — (B55) No. 13:***<br>***With VDC:***<br>***(B94) No. 19 — (B56) No. 17:*** | Is the resistance less than 10 Ω? | Go to step **7**. | Repair harness. |
| 7 | **CHECK TRANSMISSION CONTROL MODULE.**<br>1) Connect harness connector to transmission control module.<br>2) Lift-up the vehicle and support with safety stands.<br>**WARNING:**<br>**Be careful not to be caught by the running wheels.**<br>3) Drive the vehicle faster than 10 km/h (6 MPH).<br>4) Measure voltage between transmission control module harness connector terminal and chassis ground.<br>**CAUTION:**<br>**To measure the voltage and/or resistance, use a tapered pin with a diameter of less than 0.64 mm (0.025 in). Do not insert the pin more than 2 mm (0.08 in).**<br>***Connector & terminal***<br>***Without VDC:***<br>***(B55) No. 13 (+) — Chassis ground (–):***<br>***With VDC:***<br>***(B56) No. 17 (+) — Chassis ground (–):*** | Is the voltage less than 1 V ←→ more than 4 V? | Replace cruise control module. <Ref. to CC-4, Cruise Control Module.> | Replace transmission control module. <Ref. to AT-49, Transmission Control Module (TCM).> |

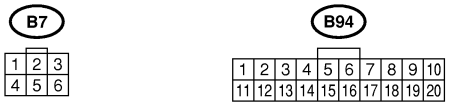
## C: DTC 28 WIRING HARNESS OPENED. S003620J94

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK BATTERY.**<br>Measure battery specific gravity of electrolyte. | Is battery specific gravity more than 1.250? | Go to step **2**. | Charge or replace battery. Go to step **2**. |
| 2 | **CHECK FUSES, CONNECTORS AND HARNESSES.**<br>Check the condition of the main and other fuses, and harnesses and connectors. Also check for proper grounding. | Is there anything unusual about the appearance of main fuse, fuse, harness, connector and grounding? | Repair or replace faulty parts. | End of inspection. |

## D: DTC 35 AND 36 ACTUATOR MOTOR S003620J95

**DIAGNOSIS:**
Open or poor contact of cruise control actuator motor.
**TROUBLE SYMPTOM:**
Cruise control cannot be set. (Cancelled immediately.)
**WIRING DIAGRAM:**



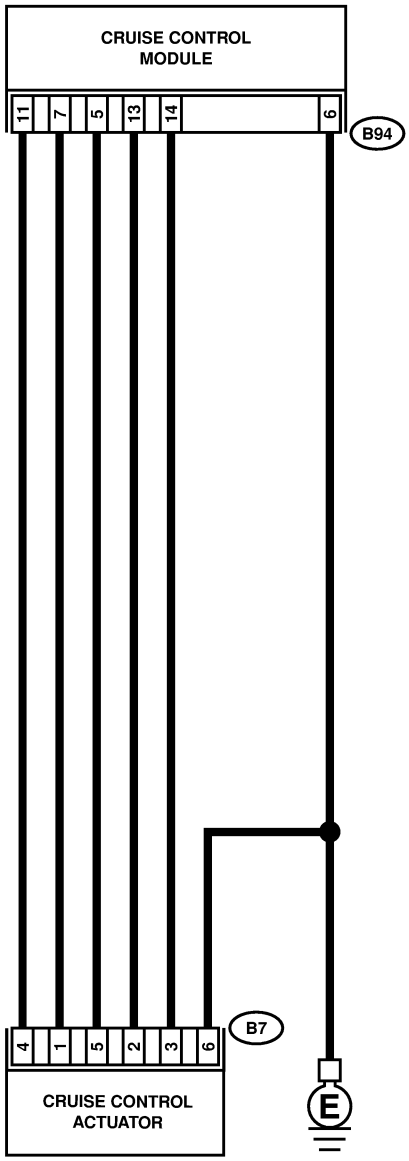

B6M1616

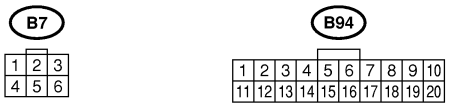
# DIAGNOSTICS CHART WITH TROUBLE CODE

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY.**<br>1) Turn ignition switch OFF.<br>2) Disconnect harness connector from cruise control actuator.<br>3) Turn ignition switch ON.<br>4) Turn cruise control main switch ON.<br>5) Measure voltage between cruise control actuator harness connector terminal and chassis ground.<br>***Terminals***<br>***(B7) No. 4 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Check harness for open or short between cruise control module and cruise control actuator. |
| 2 | **CHECK GROUND CIRCUIT OF ACTUATOR.**<br>1) Turn ignition switch and cruise control main switch OFF.<br>2) Measure resistance between cruise control actuator harness connector terminal and chassis ground.<br>***Terminals***<br>***(B7) No. 6 (+) — Chassis ground (–):*** | Is resistance less than 10 Ω? | Go to step **3**. | Repair harness. |
| 3 | **MEASURE RESISTANCE OF ACTUATOR.**<br>Measure resistance of cruise control actuator motor.<br>***Terminals***<br>***No. 4 — No. 1:***<br>***No. 4 — No. 2:***<br>***No. 4 — No. 5:*** | Is resistance approximately 5 Ω? | Go to step **4**. | Replace cruise control actuator. <Ref. to CC-3, Actuator.> |
| 4 | **CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.**<br>1) Disconnect harness connector from cruise control module.<br>2) Measure resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal.<br>***Connector & terminal***<br>***(B7) No. 1 — (B94) No. 7:*** | Is resistance less than 10 Ω? | Go to step **5**. | Repair harness. |
| 5 | **CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.**<br>Measure resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal.<br>***Connector & terminal***<br>***(B7) No. 5 — (B94) No. 5:*** | Is resistance less than 10 Ω? | Replace cruise control module. <Ref. to CC-4, Cruise Control Module.> | Repair harness. |

## E: DTC 37 ACTUATOR MOTOR CLUTCH S003620J96

**DIAGNOSIS:**
Open or poor contact of cruise control actuator motor clutch.
**TROUBLE SYMPTOM:**
Cruise control cannot be set. (Cancelled immediately.)
**WIRING DIAGRAM:**




B6M1616

# DIAGNOSTICS CHART WITH TROUBLE CODE

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY.**<br>1) Turn ignition switch OFF.<br>2) Disconnect harness connector from cruise control actuator.<br>3) Turn ignition switch ON.<br>4) Turn cruise control main switch ON.<br>5) Measure voltage between cruise control actuator harness connector terminal and chassis ground.<br>***Terminals***<br>***(B7) No. 4 (+) — Chassis ground (–):*** | Is the voltage more than 10 V? | Go to step **2**. | Check harness for open or short between cruise control module and cruise control actuator. |
| 2 | **CHECK GROUND CIRCUIT OF ACTUATOR.**<br>1) Turn ignition switch and cruise control main switch OFF.<br>2) Measure resistance between cruise control actuator harness connector terminal and chassis ground.<br>***Terminals***<br>***(B7) No. 6 — Chassis ground:*** | Is resistance less than 10 Ω? | Go to step **3**. | Repair harness. |
| 3 | **MEASURE RESISTANCE OF ACTUATOR CLUTCH.**<br>Measure resistance of cruise control actuator clutch.<br>***Terminals***<br>***No. 3 — No. 6:*** | Is resistance approximately 39 Ω? | Go to step **4**. | Replace cruise control actuator. <Ref. to CC-3, Actuator.> |
| 4 | **CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.**<br>1) Disconnect harness connector from cruise control module.<br>2) Measure resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal<br>***Connector & terminal***<br>***(B7) No. 2 — (B94) No. 13:*** | Is resistance less than 10 Ω? | Go to step **5**. | Repair harness. |
| 5 | **CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.**<br>Measure resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal.<br>***Connector & terminal***<br>***(B7) No. 3 — (B94) No. 14:*** | Is resistance less than 10 Ω? | Replace cruise control module. <Ref. to CC-4, Cruise Control Module.> | Repair harness. |

## F: DTC 38 MOTOR DRIVE SHAFT DOES NOT ENGAGE PROPERLY. S003620J97

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ACTUATOR MOTOR.**<br>1) Turn ignition switch OFF.<br>2) Disconnect harness connector from cruise control actuator.<br>3) Remove cruise control actuator from mounting bracket.<br>4) Pull cable by hand to check for looseness or status of inner gear engagement. | Are foreign particles caught in inner gear or does inner gear engage and disengage improperly? | Replace cruise control actuator. <Ref. to CC-3, Actuator.> | Check the cruise control cable adjustment. <Ref. to CC-5, CABLE FREE PLAY, INSPECTION, General Description.> |

## G: DTC 39 MOTOR IS OVERLOADED. S003620J98

| No. | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK THE OPERATING CURRENT TO ACTUATOR MOTOR.**<br>1) Connect Subaru Select Monitor to data link connector.<br>2) Try to drive the vehicle while operating the cruise control system.<br>3) Check the operation current to the cruise control actuator motor. | Is current flow more than 10A? | Replace cruise control module. <Ref. to CC-4, Cruise Control Module.> | Check the power supply circuit. <Ref. to CC-14, CHECK POWER SUPPLY, Diagnostics Chart with Symptom.> |