BODY SECTION

This service manual has been prepared to provide SUBARU service personnel with the necessary information and data for the correct maintenance and repair of SUBARU vehicles.
This manual includes the procedures for maintenance, disassembling, reassembling, inspection and adjustment of components and diagnostics for guidance of experienced mechanics.
Please peruse and utilize this manual fully to ensure complete repair work for satisfying our customers by keeping their vehicle in optimum condition. When replacement of parts during repair work is needed, be sure to use SUBARU genuine parts.

All information, illustration and specifications contained in this manual are based on the latest product information available at the time of publication approval.

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)	AC
HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)	AC(diag)
AIRBAG SYSTEM	AB
AIRBAG SYSTEM (DIAGNOSTICS)	AB(diag)
SEAT BELT SYSTEM	SB
LIGHTING SYSTEM	LI
WIPER AND WASHER SYSTEMS	WW
ENTERTAINMENT	ET
COMMUNICATION SYSTEM	COM
GLASS/WINDOWS/MIRRORS	GW
BODY STRUCTURE	BS
INSTRUMENTATION/DRIVER INFO	IDI
SEATS	SE
SECURITY AND LOCKS	SL
SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)	SR
EXTERIOR/INTERIOR TRIM	EI
EXTERIOR BODY PANELS	EB

FUJI HEAVY INDUSTRIES LTD.

G2360GE7

BODY SECTION

CRUISE CONTROL SYSTEM	CC
CRUISE CONTROL SYSTEM (DIAGNOSTICS)	CC(diag)
IMMOBILIZER (DIAGNOSTICS)	IM(diag)
LAN SYSTEM (DIAGNOSTICS)	LAN(diag)

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

AC

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1. General Description

A: SPECIFICATION

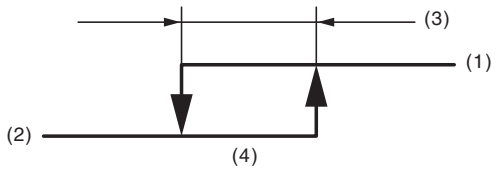
1. HEATER SYSTEM

Item		Specifications	On condition
Heating capacity		5.2 kW (4,471 kcal/h, 17,743 BTU/h) or more	• Mode selector switch: HEAT • Temperature control switch: FULL HOT • Temperature difference between hot water and inlet air: 65°C (149°F) • Hot water flow rate: 360 ℓ (95.1 US gal, 79.2 Imp gal)/h
Air flow rate		320 m^3 (11,301 cu ft)/h	Heat mode (FRESH), FULL HOT at 12.5 V
Max air flow rate		460 m^3 (16,245 cu ft)/h	• Temperature control switch: FULL COLD • Blower fan speed: Auto A/C: 6th position Manual A/C: 4th position • Mode selector lever: RECIRC
Heater core size (height × length × width)		264 × 110 × 27 mm (10.4 × 4.33 × 1.06 in)	—
Blower motor	Type	Magnet motor 220 W or less	12 V
	Fan type and size (diameter × width)	Sirocco fan type 150 × 75 mm (5.91 × 2.95 in)	—

2. A/C SYSTEM

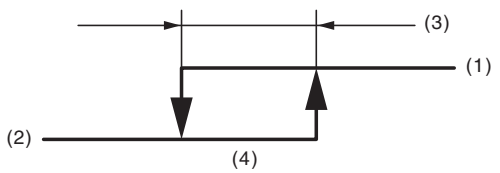
• Auto A/C model

Item		Specifications
Type of air conditioner		Reheat air-mix type
Cooling capacity		5.3 kW (4,557 kcal/h, 18,084 BTU/h)
Refrigerant		HFC-134a (CH_2FCF_3) [0.4±0.03 kg (0.88±0.07 lb)]
Compressor	Type	Scroll, constant volume (SCSA 08C)
	Discharge	74.5 cc (4.55 cu in)/rev
	Max. permissible speed	9,000 rpm
Magnet clutch	Type	Dry, single-disc type
	Power consumption	35 W
	Type of belt	H4 model: V-belt 4 PK H6 model: V-belt 6 PK
	Pulley dia. (effective dia.)	93 mm (3.7 in)
	Pulley ratio	1.43
Condenser	Type	Corrugated fin (Sub cool type)
	Core face area	0.186 m^2 (2.002 sq ft)
	Core thickness	16 mm (0.63 in)
	Radiation area	5.49 m^2 (59.09 sq ft)
Receiver drier	Effective inner capacity	190 cm^3 (11.6 cu in)
Expansion valve	Type	Internal equalizing
Evaporator	Type	Single tank
	Dimensions (W × H × T)	298.6 × 151 × 38 mm (11.76 × 5.94 × 1.50 in)
Blower fan	Fan type	Sirocco fan
	Outer diameter × width	150 × 75 mm (5.91 × 2.95 in)
	Power consumption	220 W

Condenser fan (Sub fan)		Motor type	Magnet
		Power consumption	H4 model: 90 W H6 model: 160 W
		Fan outer diameter	H4 model: 300 mm (11.8 in) H6 model: 320 mm (12.6 in)
Radiator fan (Main fan)		Motor type	Magnet
		Power consumption	H4 model: 90 W H6 model: 160 W
		Fan outer diameter	H4 model: 300 mm (11.8 in) H6 model: 320 mm (12.6 in)
Idling speed (A/C ON)		MPFI model	SOHC model: 800±100 rpm DOHC model: 825±50 rpm 3.0 L model: 770±50 rpm
Triple switch (Pressure switch)	Low-pressure switch operating pressure	ON → OFF	196±20 kPa (2.00±0.20 kgf/cm^2, 28.4±2.9 psi)
		OFF → ON	225^{+25}_{-29} kPa ($2.29^{+0.25}_{-0.30}$ kgf/cm^2 , $32.6^{+3.6}_{-4.2}$ psi)
	High-pressure switch operating pressure	ON → OFF	$3{,}140^{+50}_{-200}$ kPa ($32.02^{+0.51}_{-2.04}$ kgf/cm^2, $455.4^{+7.25}_{-29.0}$ psi)
		OFF → ON	2,550±200 kPa (26.00±2.04 kgf/cm^2, 369.8±29.0 psi)
	Middle-pressure switch operating pressure	ON → OFF	1,370±120 kPa (13.97±1.22 kgf/cm^2, 198.65±17.35 psi)
		OFF → ON	1,770±100 kPa (18.05±1.02 kgf/cm^2, 256.81±14.50 psi)
Thermo-control amplifier working temperature (Evaporator outlet air)		 AC-00601 (1) ON (2) OFF (3) 1±0.5°C (33.8±0.9°F) (4) $4^{+1.5}_{0}$°C ($39.2^{+2.7}_{0}$ °F)	

- Manual A/C model

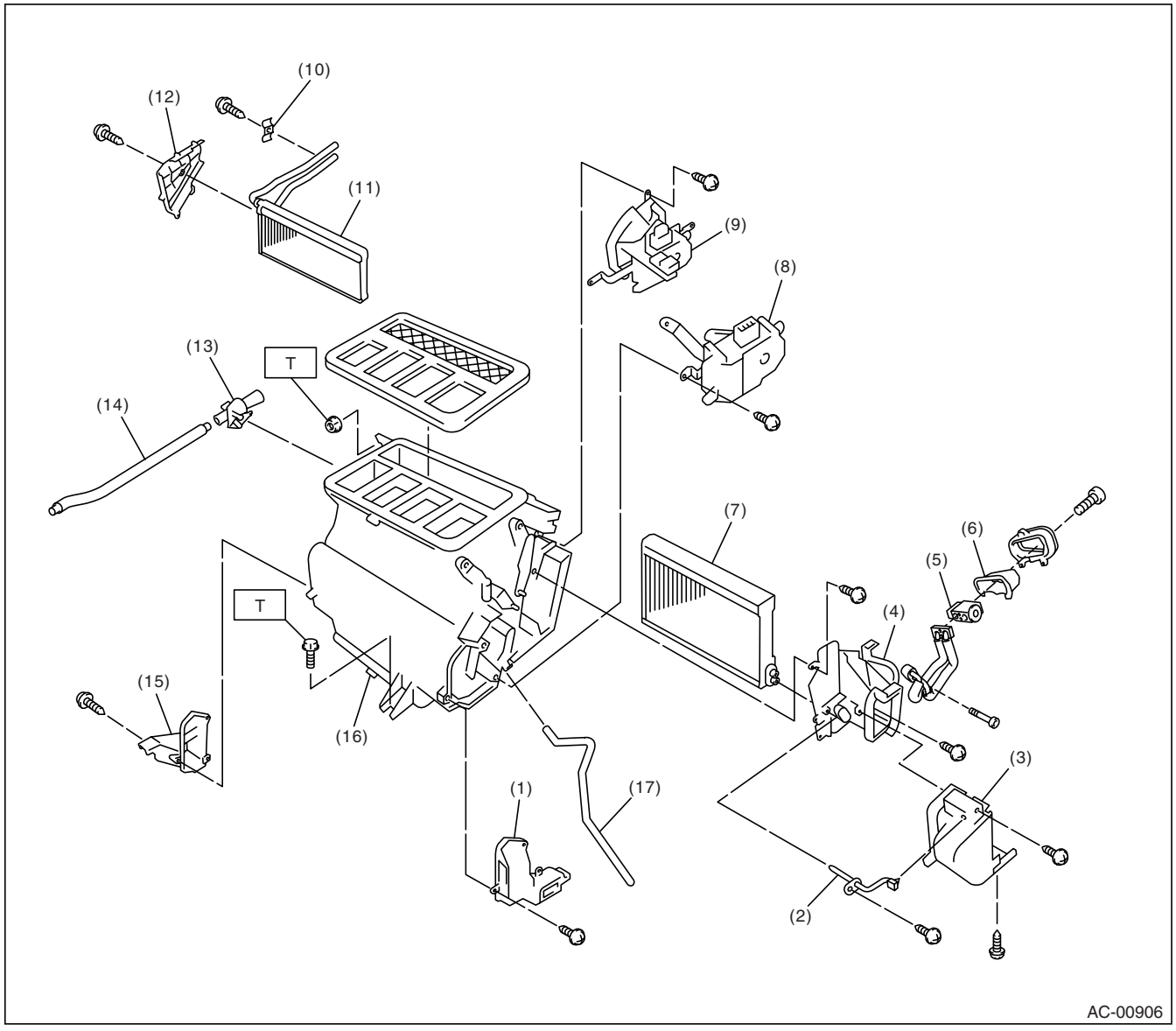
Item		Specifications
Type of air conditioner		Reheat air-mix type
Cooling capacity		5.3 kW (4,557 kcal/h, 18,084 BTU/h)
Refrigerant		HFC-134a (CH_2FCF_3) [0.4±0.03 kg (0.88±0.07 lb)]
Compressor	Type	Scroll, constant volume (SCSA 08C)
	Discharge	74.5 cc (4.55 cu in)/rev
	Max. permissible speed	9,000 rpm

Magnet clutch		Type	Dry, single-disc type
		Power consumption	35 W
		Type of belt	V-belt 4 PK
		Pulley dia. (effective dia.)	93 mm (3.7 in)
		Pulley ratio	1.43
Condenser		Type	Corrugated fin (Sub cool type)
		Core face area	0.186 m^2 (2.002 sq ft)
		Core thickness	16 mm (0.63 in)
		Radiation area	5.49 m^2 (59.09 sq ft)
Receiver drier		Effective inner capacity	190 cm^3 (11.59 cu in)
Expansion valve		Type	Externally equalizing
Evaporator		Type	Single tank
		Dimensions (W × H × T)	298.6 × 151 × 38 mm (11.7 × 5.94 × 1.50 in)
Blower fan		Fan type	Sirocco fan
		Outer diameter × width	150 × 75 mm (5.91 × 2.95 in)
		Power consumption	220 W
Condenser fan (Sub fan)		Motor type	Magnet
		Power consumption	90 W
		Fan outer diameter	300 mm (11.8 in)
Radiator fan (Main fan)		Motor type	Magnet
		Power consumption	90 W
		Fan outer diameter	300 mm (11.8 in)
Idling speed (A/C ON)		MPFI model	800±100 rpm
Triple switch (Pressure switch)	Low-pressure switch operating pressure	ON → OFF	196±20 kPa (2.00±0.20 kgf/cm^2, 28.4±2.9 psi)
		OFF → ON	225^{+25}_{-29} kPa ($2.29^{+0.25}_{-0.30}$ kgf/cm^2 , $32.6^{+3.6}_{-4.2}$ psi)
	High-pressure switch operating pressure	ON → OFF	$3{,}140^{+50}_{-200}$ kPa ($32.02^{+0.51}_{-2.04}$ kgf/cm^2 , $455.4^{+7.25}_{-29.0}$ psi)
		OFF → ON	2,550±200 kPa (26.00±2.04 kgf/cm^2, 369.8±29.0 psi)
	Middle-pressure switch operating pressure	ON → OFF	1,370±120 kPa (13.97±1.22 kgf/cm^2, 198.65±17.35 psi)
		OFF → ON	1,770±100 kPa (18.05±1.02 kgf/cm^2, 256.81±14.50 psi)
Thermo control amplifier working temperature (Evaporator outlet air)		 AC-00601 (1) ON (2) OFF (3) 1±0.5°C (33.8±0.9°F) (4) $4^{+1.5}_{0}$°C ($39.2^{+2.7}_{0}$°F)	

B: COMPONENT

1. HEATER COOLING UNIT

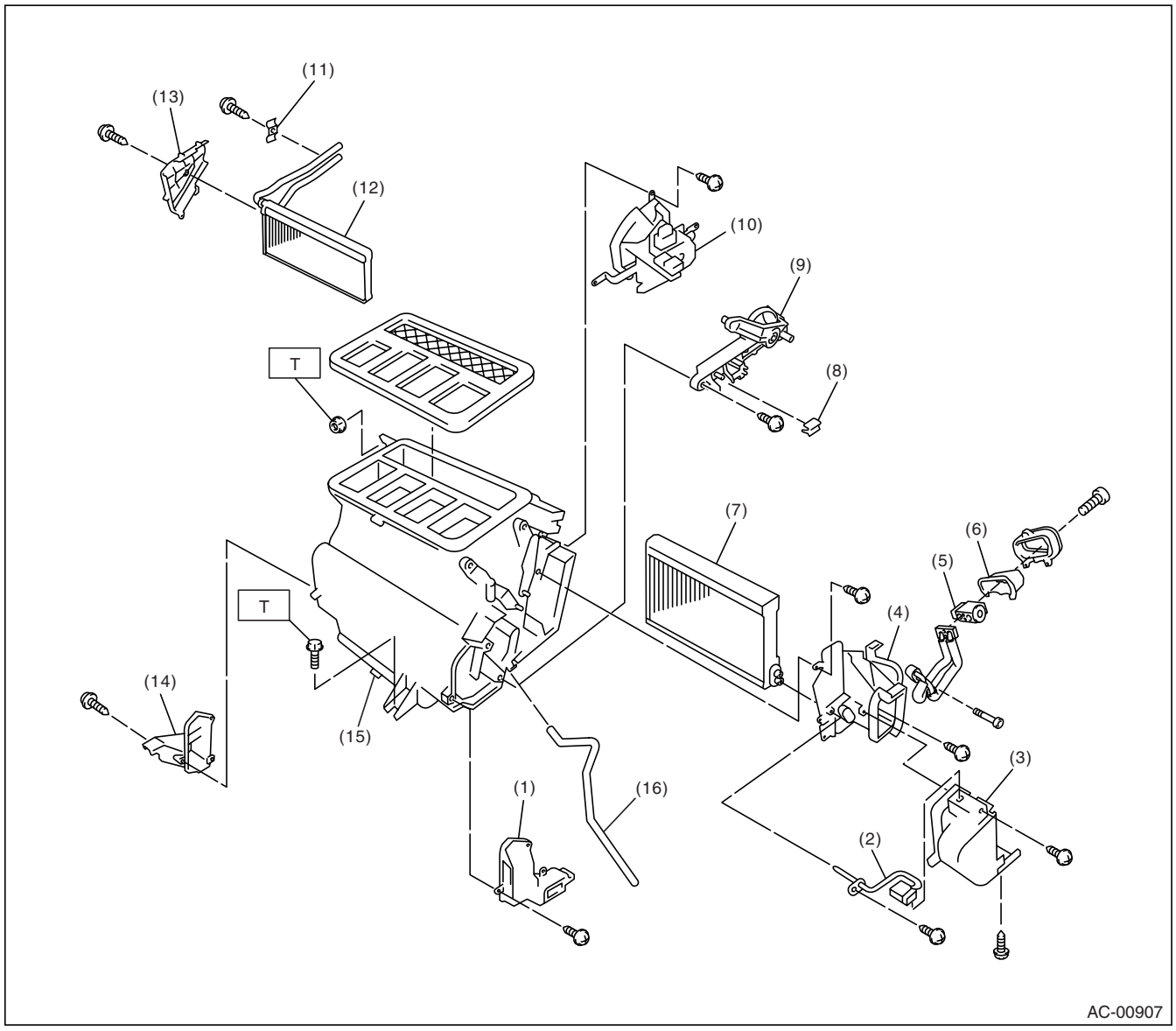
- Auto A/C model



(1) Foot duct (RH)
(2) Evaporator center
(3) Pipe cover
(4) Evaporator cover
(5) Expansion valve
(6) Packing
(7) Evaporator
(8) Mix actuator
(9) Mode actuator
(10) Heater pipe clamp
(11) Heater core
(12) Heater core cover
(13) Aspirator
(14) Aspirator hose
(15) Foot duct (LH)
(16) Unit ASSY
(17) Drain hose

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

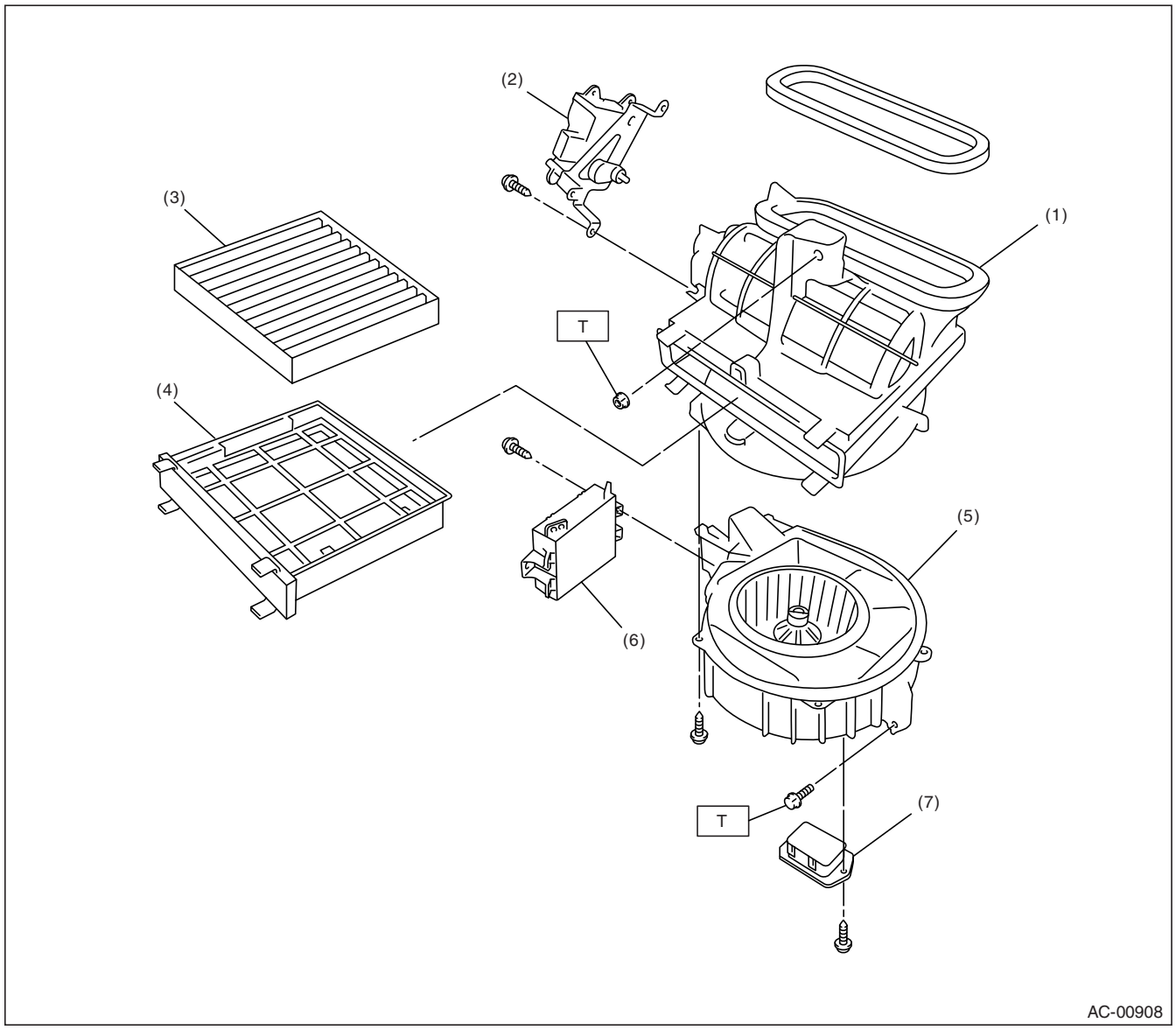
- Manual A/C model



(1) Foot duct (RH)
(2) Thermo amplifier
(3) Pipe cover
(4) Evaporator cover
(5) Expansion valve
(6) Packing
(7) Evaporator
(8) Clip
(9) Air mix door linkage
(10) Mode actuator
(11) Heater pipe clamp
(12) Heater core
(13) Heater core cover
(14) Foot duct (LH)
(15) Unit ASSY
(16) Drain hose

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

2. BLOWER MOTOR UNIT

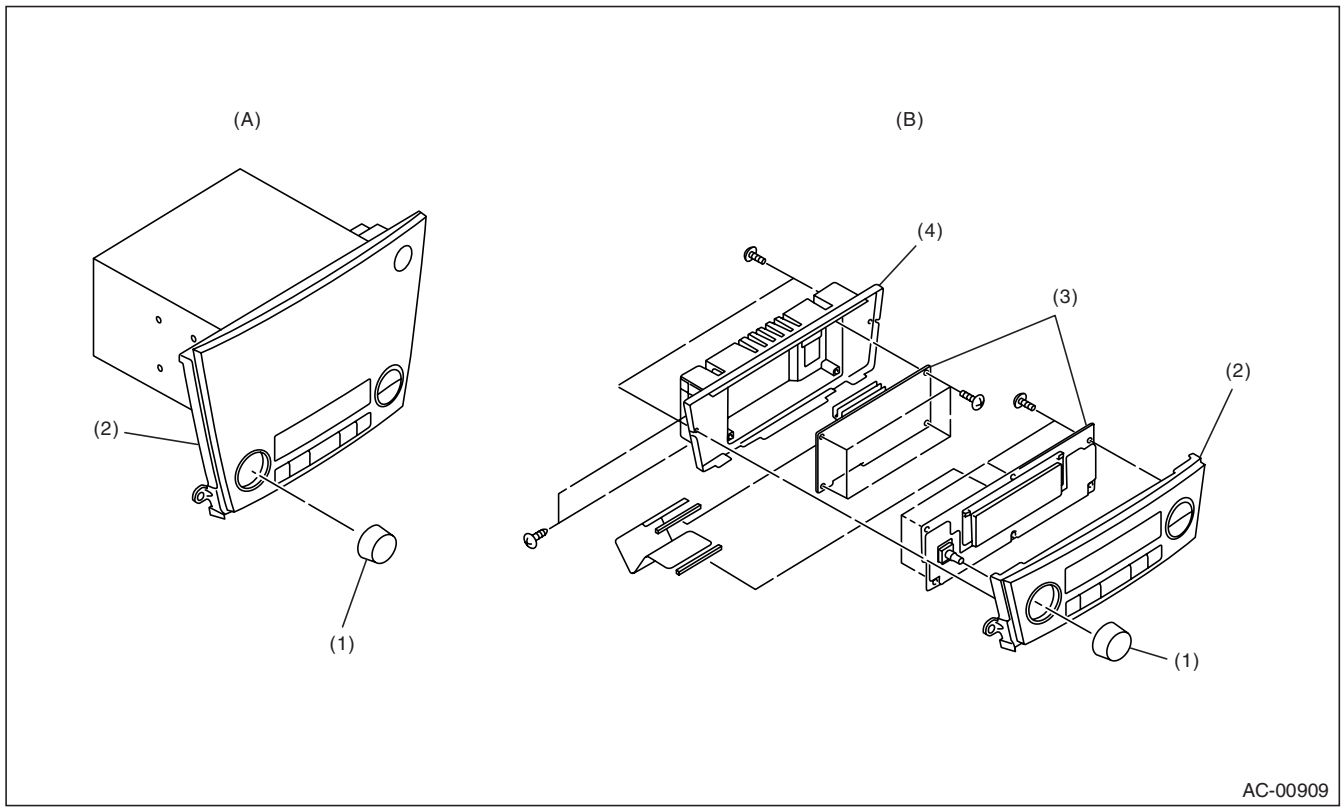


(1) Upper case
(2) Intake door actuator
(3) Filter (Auto A/C model)
(4) Filter cover
(5) Blower motor ASSY
(6) Control unit (Auto A/C model)
(7) Power transistor (Auto A/C model)
Blower resistor (Manual A/C model)

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

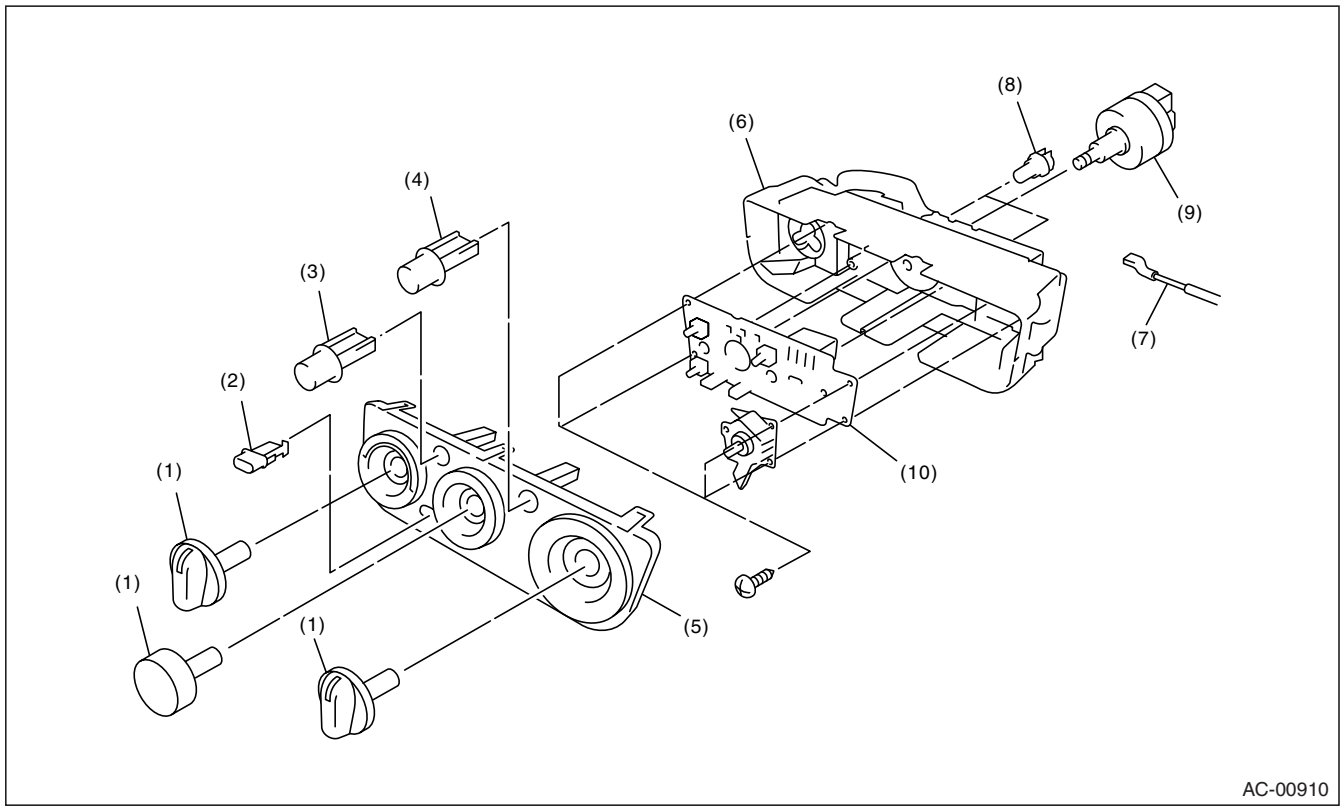
3. CONTROL PANEL

- Auto A/C model



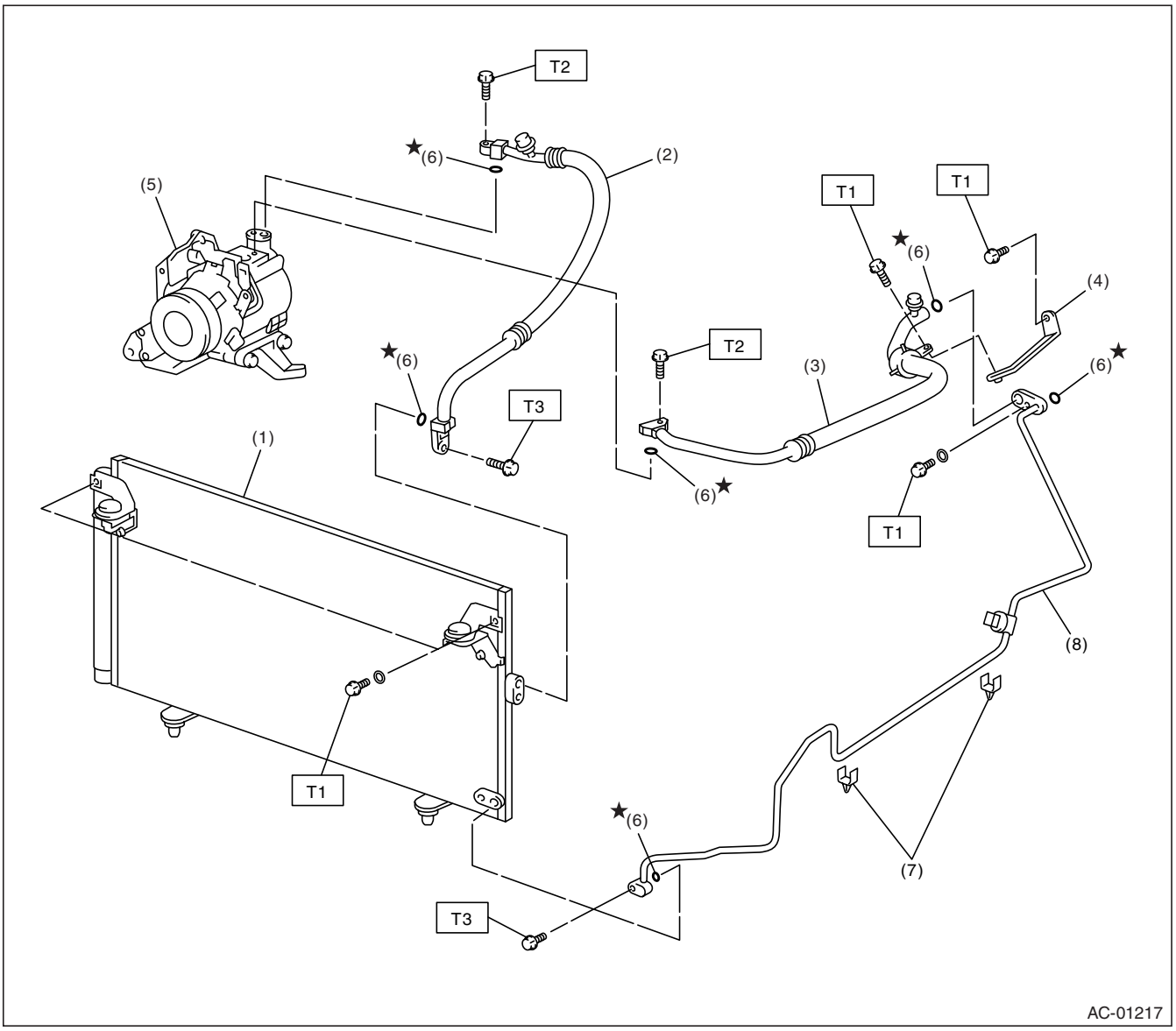
(A) For integrated audio
(B) For McIntosh audio
(1) Temperature control dial
(2) Control panel assembly
(3) Board
(4) Heater control base

- Manual A/C model



(1) Dial
(2) A/C switch
(3) FRESH/RECIRC switch
(4) Rear window defogger switch
(5) Heater control panel
(6) Heater control base
(7) Temperature control cable
(8) Valve
(9) Fan switch ASSY
(10) Switch base

4. AIR CONDITIONING UNIT

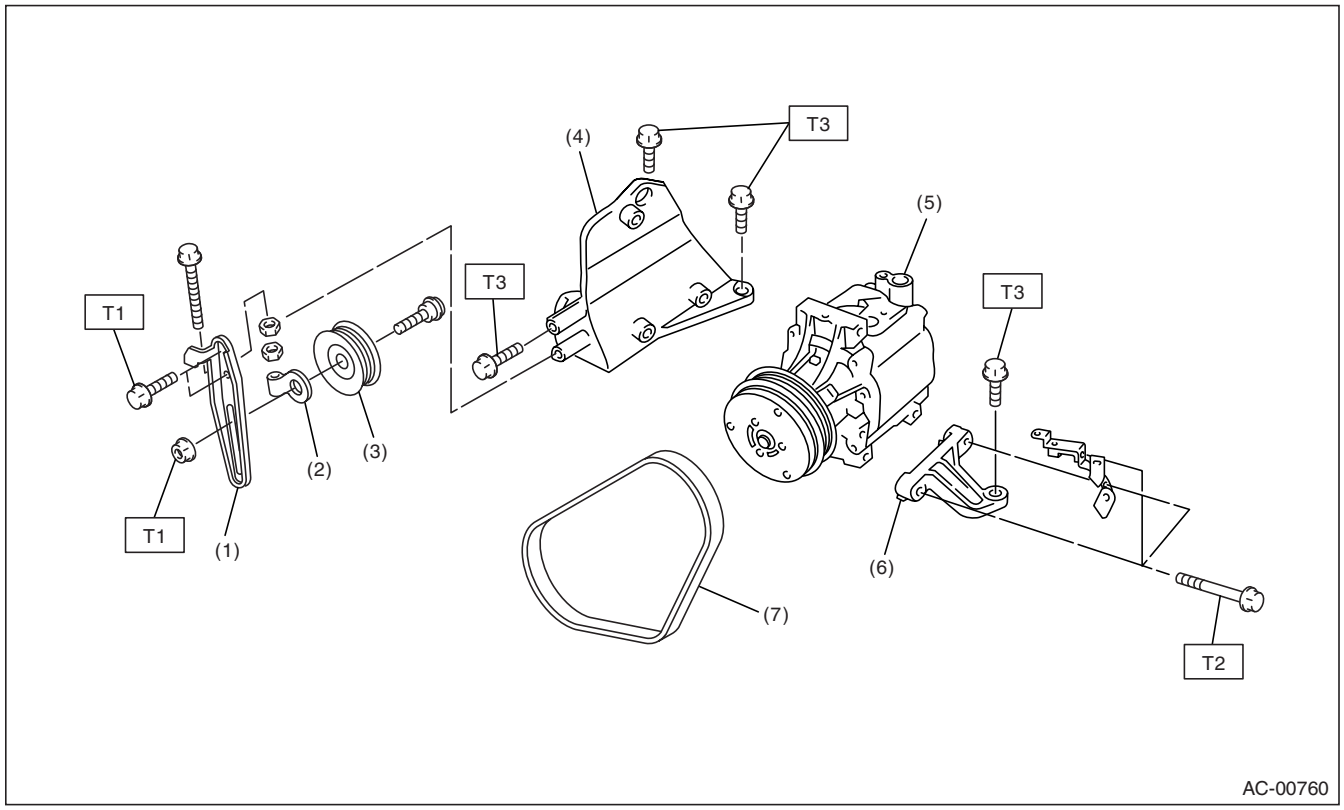


(1)	Condenser	(5)	Compressor
(2)	Hose (High-pressure)	(6)	O-ring
(3)	Hose (Low-pressure)	(7)	Clamp
(4)	Bracket	(8)	Tube

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 10 (1.0, 7.4)
T3: 5 (0.5, 3.7)

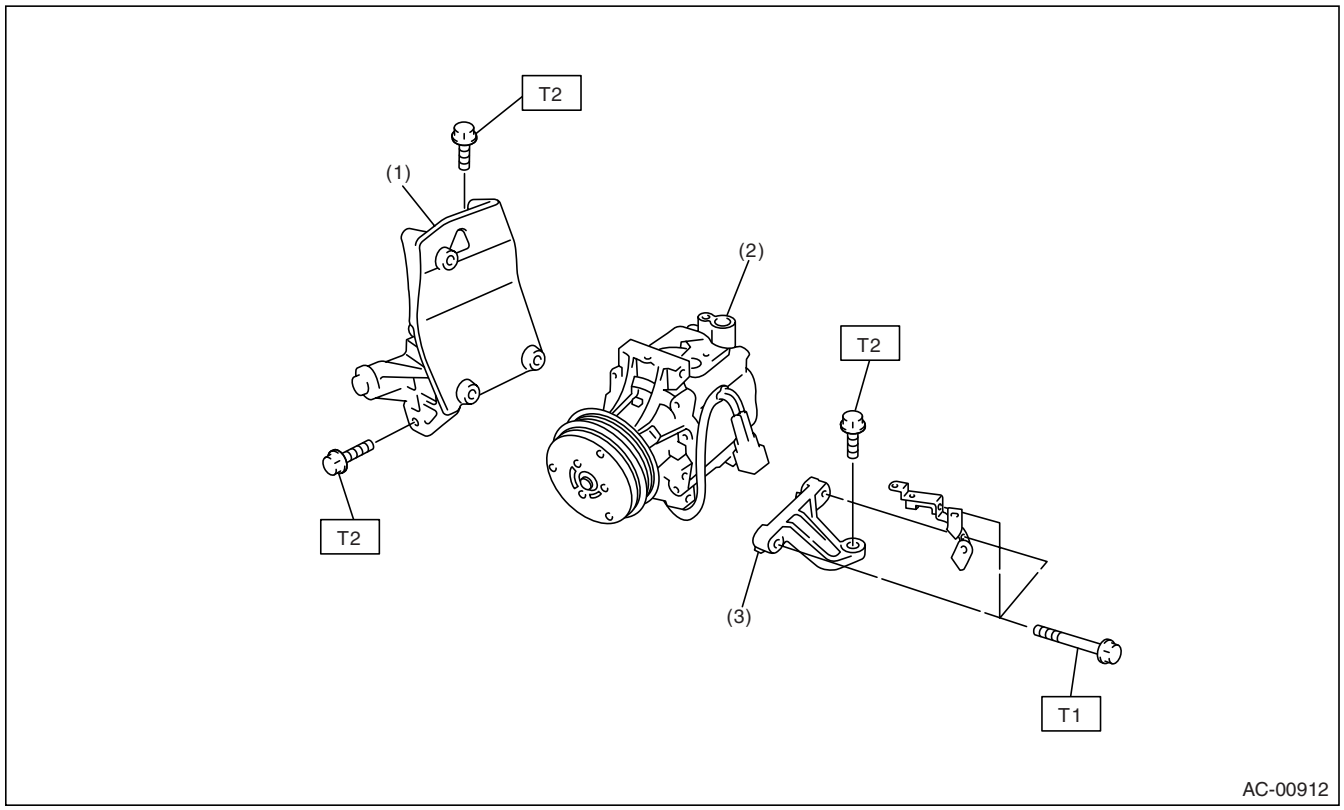
5. COMPRESSOR

- H4 model



(1)	Idler pulley bracket	(5)	Compressor	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Idler pulley adjuster	(6)	Compressor lower bracket	***T1: 23.0 (2.35, 17.0)***
(3)	Idler pulley	(7)	V-Belt	***T2: 28.9 (2.95, 21.3)***
(4)	Compressor upper bracket			***T3: 36 (3.7, 26.6)***

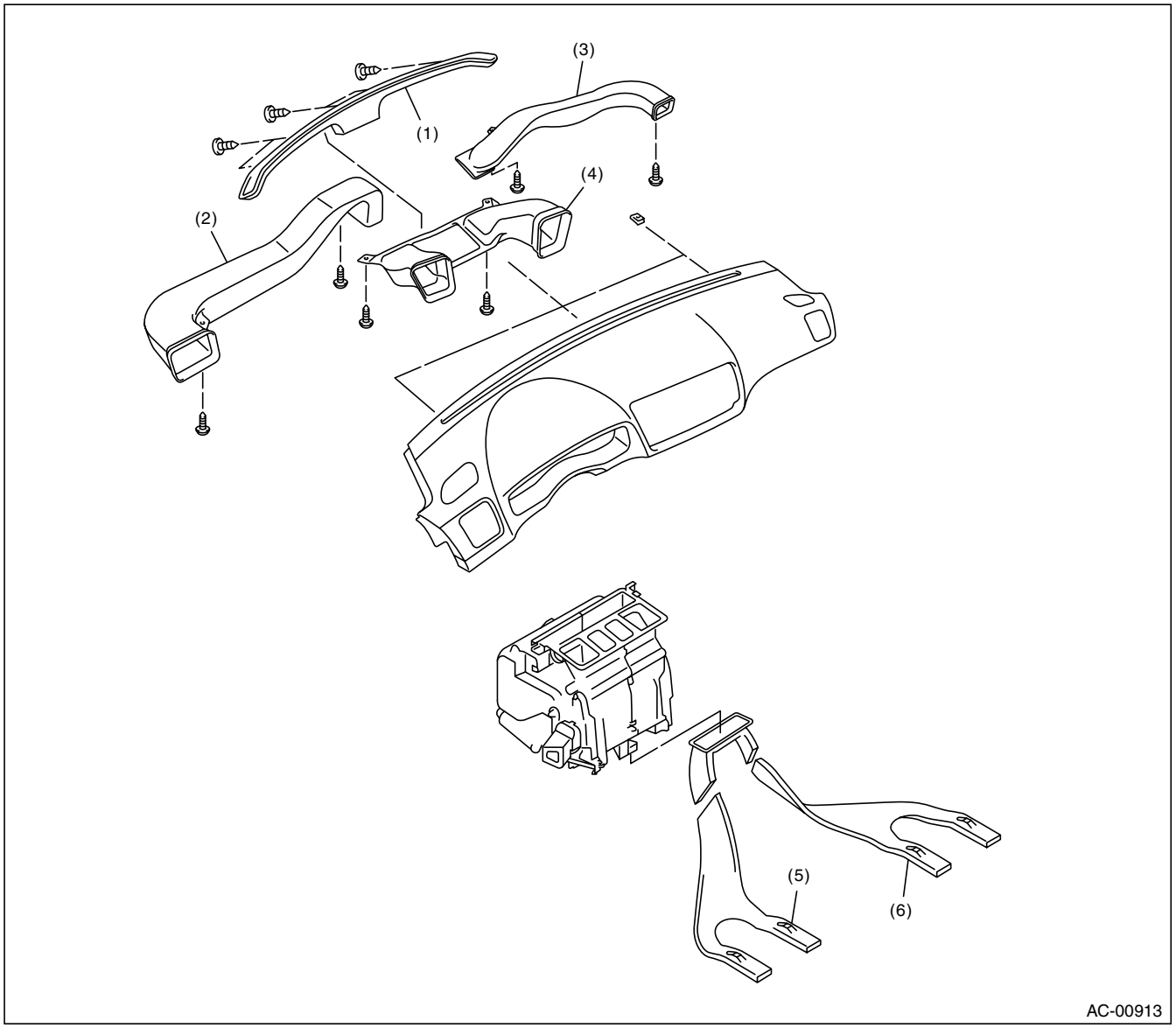
- H6 model



(1) Compressor upper bracket
(2) Compressor
(3) Compressor lower bracket

Tightening torque: N·m (kgf-m, ft-lb)
T1: 28.9 (2.95, 21.3)
T2: 36 (3.7, 26.6)

6. HEATER DUCT

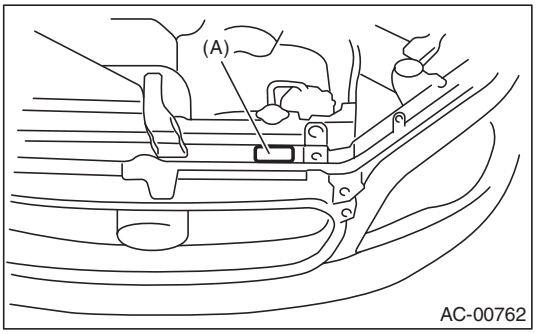


(1) Front defroster nozzle
(2) Side ventilation duct (LH)
(3) Side ventilation duct (RH)
(4) Center ventilation duct
(5) Rear heater duct (LH)
(6) Rear heater duct (RH)

C: CAUTION

1. HFC-134a A/C SYSTEM

• The cooling system components for the HFC-134a system such as the refrigerant and compressor oil are different from the conventional CFC-12 system components and they are incompatible with each other.
• Vehicles with the HFC-134a system can be identified by the label (A) attached to the vehicle.
Before maintenance, check which A/C system is installed to the vehicle.



2. COMPRESSOR OIL

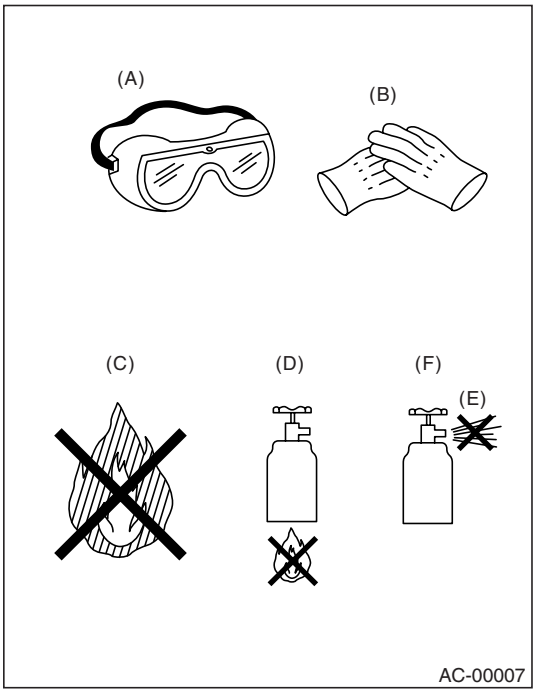
• HFC-134a compressor oil has no compatibility with that of CFC-12 system.
• Use only Denso Oil 8 which is a manufacturer-authorized compressor oil for HFC-134a system.
• Do not mix multiple compressor oils.
If CFC-12 compressor oil is used in the HFC-134a A/C system, the compressor may become stuck due to poor lubrication, or the refrigerant may leak due to swelling of rubber parts.
On the other hand, if HFC-134a compressor oil is used in a CFC-12 A/C system, the durability of the A/C system will be lowered.
• HFC-134a compressor oil is very hygroscopic. When replacing or installing/removing A/C parts, immediately isolate the oil from atmosphere using a plug or tape. In order to avoid moisture, store the oil in a container with its cap tightly closed.

3. REFRIGERANT

• The CFC-12 refrigerant cannot be used in the HFC-134a A/C system. The HFC-134a refrigerant, also, cannot be used in the CFC-12 A/C system.
• If an incorrect or no refrigerant is used, it will result in poor lubrication and the compressor itself may be damaged.

4. HANDLING OF REFRIGERANT

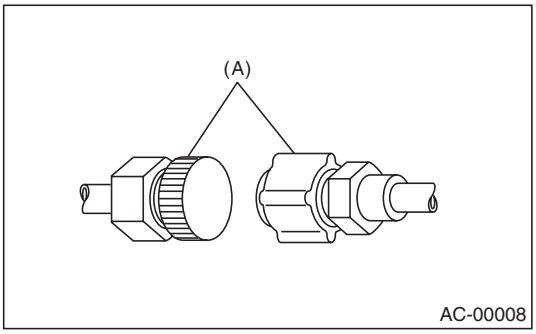
• The refrigerant boils at approx. –30°C (–22°F). When handling it, be sure to wear protective goggles and protective gloves. Direct contact of the refrigerant with skin may cause frostbite.
If the refrigerant gets into your eye, avoid rubbing your eyes with your hands. Wash your eye with plenty of water, and receive medical treatment from an eye doctor.
• Do not heat a service can. If a service can is directly heated, or put into boiling water, the inside pressure will become extremely high. This may cause the can to explode. If a service can must be warmed up, use hot water in 40°C (104°F) max.
• Do not drop or impact a service can. (Observe the precautions and operation procedure described on the refrigerant can.)
• When the engine is running, do not open the high-pressure valve of manifold gauge. The high-pressure gas will back-flow resulting in an explosion of the can.
• Provide good ventilation and do not work in a closed area.
• In order to prevent global warming, avoid releasing HFC-134a into the atmosphere. Using a refrigerant recovery system, discharge and reuse it.



(A) Goggles
(B) Gloves
(C) Avoid open flame
(D) No direct heat on container
(E) Do not discharge
(F) Loosen

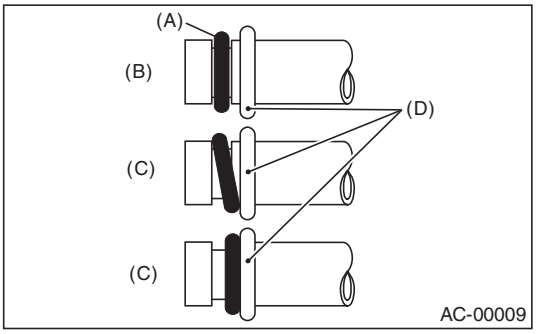
5. O-RING CONNECTIONS

- Always use a new O-ring.
- In order to keep the O-rings free of lint which will cause a refrigerant gas leak, perform operations without gloves and cloth.
- Apply compressor oil to O-rings to avoid sticking, before installation.
- Use a torque wrench to tighten the O-ring fittings. Over-tightening will result in damage of O-ring and tube end distortion.
- If the operation is interrupted before completing a pipe connection; recap the tubes, components and fittings with a plug or tape to prevent foreign matter from entering.



(A) Seal

- Visually check the surfaces and mating surfaces of O-rings, threads and connecting points. If a failure is found, replace the applicable parts.
- Install the O-rings at right angle to tube beads.

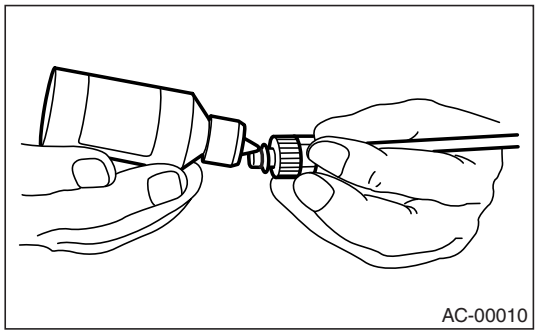


(A) O-ring
(B) OK
(C) NG
(D) Bead

- Use compressor oil specified in the service manual to lubricate the O-rings.

Apply oil to the top and sides of O-rings before installation.

Apply compressor oil to the bead of tube.



- After tightening, use a clean cloth to remove excess compressor oil from the connections and any oil which may have run on the vehicle body or other parts.
- If any leakage is suspected after tightening, do not further tighten the connections, but disconnect the connections, remove the O-rings, and check the O-rings, threads, and connections.

D: PREPARATION TOOL

CAUTION:
When working on vehicles with HFC-134a system, only use HFC-134a specified tools and parts. Do not mix with those of CFC-12. If HFC-134a and CFC-12 refrigerant or compressor oil is mixed, it will result in poor lubrication and the compressor itself may be destroyed.
In order to prevent the mixture of HFC-134a and CFC-12 parts and liquid, the tool and screw type and the type of service valves used are different. The gas leak detectors for the HFC-134a and CFC-12 systems must also not be interchanged.

	HFC-134a	CFC-12
Tool & screw type	Millimeter size	Inch size
Valve type	Quick joint type	Screw-in type

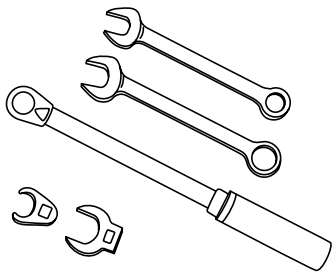
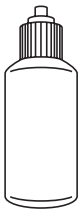
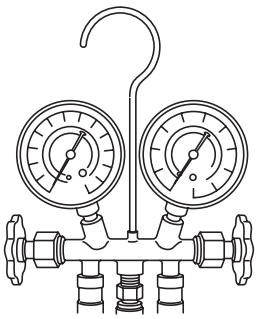
ILLUSTRATION	Tools and Equipment
 AC-00213	Wrench Various **WRENCHES** will be required to service any A/C system. 7 to 40 N·m (0.7 to 4.1 kgf-m, 5 to 30 ft-lb) torque wrench and various crow-foot wrenches will be needed. Open end or flare nut wrenches will be needed to hold the tube and hose fittings.
 AC-00012	Applicator bottle A small **APPLICATOR BOTTLE** is recommended to apply compressor oil to the various parts. It can be available at a hardware or drug store.
 AC-00013	Manifold gauge set A **MANIFOLD GAUGE SET** (with hoses) can be available at either a refrigerant supplier or an automotive equipment supplier.

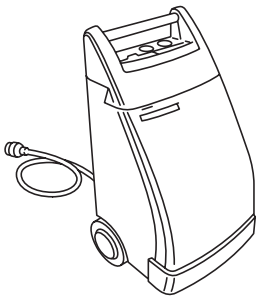
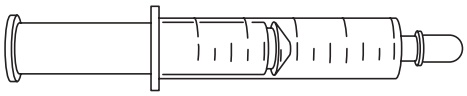
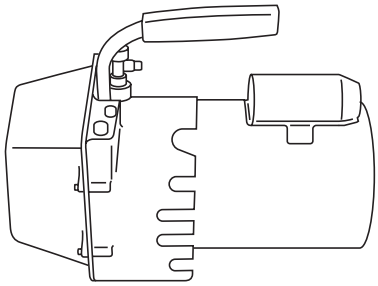
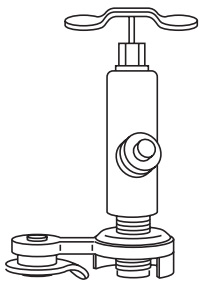
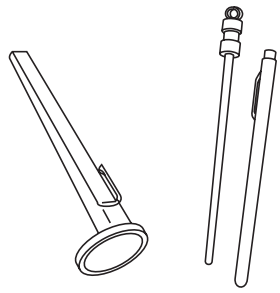
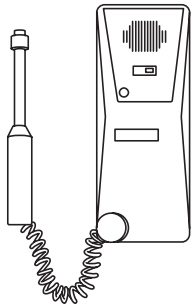
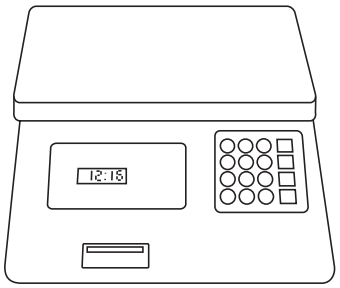
ILLUSTRATION	Tools and Equipment
 AC-00014	Refrigerant recovery system A **REFRIGERANT RECOVERY SYSTEM** is used for the recovery and reuse of A/C system refrigerant after contaminants and moisture have been removed from the refrigerant.
 AC-00015	Syringe A graduated plastic **SYRINGE** will be needed to add oil back into the system. A syringe can be available at a pharmacy or drug store.
 AC-00016	Vacuum pump A **VACUUM PUMP** is necessary (for a good working condition), and may be available at either a refrigerant supplier or an automotive equipment supplier.
 AC-00017	Can tap A **CAN TAP** for the 397 g (14 oz.) can is available at an automotive equipment supplier.

ILLUSTRATION	Tools and Equipment
 AC-00018	Temperature gauge A Pocket **THERMOMETER** is available at either a industrial hardware store or a refrigerant suppliers.
 AC-00019	Electronic leak detector An **ELECTRONIC LEAK DETECTOR** can be available at either a specialty tool supplier or an A/C equipment supplier.
 AC-00020	Weight scale A **WEIGHT SCALE** such as an electronic charging scale or a bathroom scale with digital display will be needed, if a 13.6 kg (30 lb) refrigerant container is used.

2. Refrigerant Pressure with Manifold Gauge Set

A: PROCEDURE

1) Place the vehicle in the shade and windless condition.
2) Connect the manifold gauge set.
3) Open the front windows and close all doors.
4) Open the front hood.
5) Increase the engine to 1,500 rpm.
6) Turn on the A/C switch.
7) Turn the temperature control switch to MAX COOL.
8) Put in RECIRC position.
9) Turn the blower control switch to HI.
10) Read the gauge.

Standard:
Low pressure: 127 — 196 kPa (1.3 — 2.0 kgf/cm^2, 18 — 28 psi)
High pressure: 1,471 — 1,667 kPa (15 — 17 kgf/cm^2, 213 — 242 psi)
Ambient temperature: 30 — 35°C (86 — 95°F)

B: INSPECTION

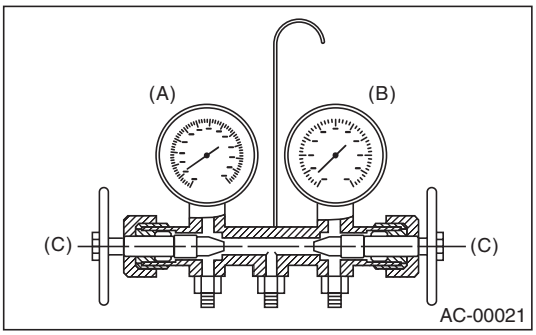
Symptom	Probable cause	Repair order
High-pressure side is unusually high.	• Defective condenser fan motor • Clogged condenser fin • Too much refrigerant • Air inside the system • Defective receiver dryer	• Replace the fan motor. • Clean the condenser fin. • Discharge refrigerant. • Replace the receiver dryer. • After evacuating again, charge an appropriate amount of refrigerant.
High-pressure side is unusually low.	• Defective compressor • Not enough refrigerant • Clogged expansion valve • Expansion valve frozen temporarily by moisture.	• Replace the compressor. • Check for leaks. • Replace the expansion valve. • Fully evacuate the expansion valve.
Low-pressure side is unusually high.	• Defective compressor • Defective expansion valve • Too much refrigerant	• Replace the compressor. • Replace the expansion valve. • Discharge refrigerant.
Low-pressure side is unusually low.	• Not enough refrigerant • Clogged expansion valve • Expansion valve frozen temporarily by moisture. • Saturated receiver dryer	• Check for leaks. • Replace the expansion valve. • Replace the receiver dryer.

3. Refrigerant Recovery Procedure

A: PROCEDURE

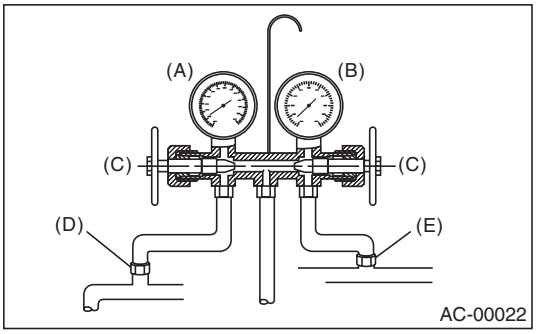
CAUTION:
• During operation, be sure to wear protective goggles and protective gloves.
• Connect the refrigerant recovery system with the manifold gauge set to discharge the refrigerant from the A/C system and reuse it.
• When reusing the discharged refrigerant, keep service cans on hand. Because the discharge rate with the recovery system is approx. 90%, service cans are necessary to charge the refrigerant.
• Follow the detailed operation procedure described in the operation manual attached to the refrigerant recovery system.

1) Perform the compressor oil return operation. <Ref. to AC-25, PROCEDURE, Compressor Oil.>
2) Stop the engine.
3) Make sure the valves on low-/high-pressure sides of manifold gauge set are fully closed.



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close

4) Install the low-/high-pressure hoses to the service ports on the low-/high-pressure sides of the vehicle respectively.



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close
(D) Low-pressure side service port
(E) High-pressure side service port

5) Connect the center hose to the refrigerant recovery system.
6) Follow the operation manual to activate the refrigerant recovery system.

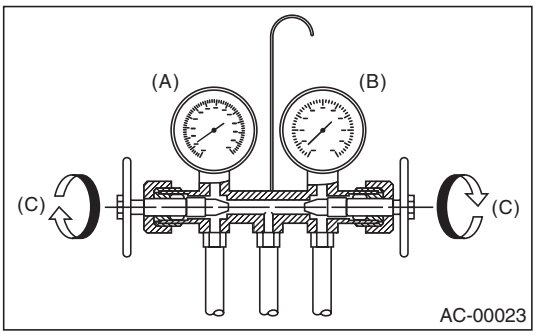
4. Refrigerant Charging Procedure

A: PROCEDURE

CAUTION:
• During operation, be sure to wear protective goggles and protective gloves.
• Before charging the refrigerant, evacuate the system to remove small amounts of moisture remaining in the system.
The moisture in the system can be completely evacuated only under the minimum vacuum level. The minimum vacuum level affects the temperature in the system.
• The list below shows the vacuum values necessary to boil water in various temperature. In addition, the vacuum levels indicated on the gauge are approx. 3.3 kPa (25 mmHg, 0.98 inHg) lower than those measured at 304.8 m (1,000 ft) above sea level.

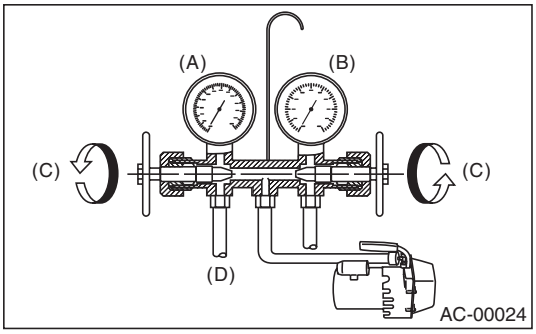
Vacuum level required to boil water (at sea level)	
Temperature	Vacuum
1.7°C (35°F)	100.9 kPa (757 mmHg, 29.8 inHg)
7.2°C (45°F)	100.5 kPa (754 mmHg, 29.7 inHg)
12.8°C (55°F)	99.8 kPa (749 mmHg, 29.5 inHg)
18.3°C (65°F)	99.2 kPa (744 mmHg, 29.3 inHg)
23.9°C (75°F)	98.5 kPa (739 mmHg, 29.1 inHg)
29.4°C (85°F)	97.2 kPa (729 mmHg, 28.7 inHg)
35°C (95°F)	95.8 kPa (719 mmHg, 28.3 inHg)

1) Close the valves on low-/high-pressure sides of the manifold gauge.



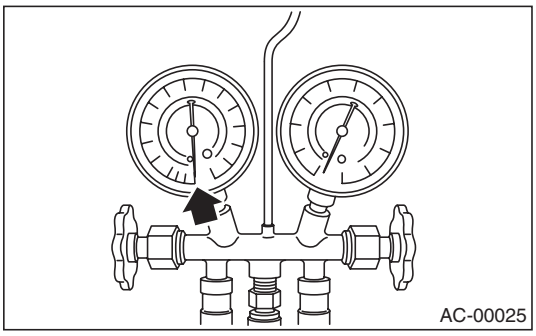
(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close

2) Install the low-/high-pressure hoses to the corresponding service ports on the vehicle respectively.
3) Connect the center hose of the manifold gauge set with the vacuum pump.
4) Carefully open the valves on the low-/high-pressure sides to activate the vacuum pump.

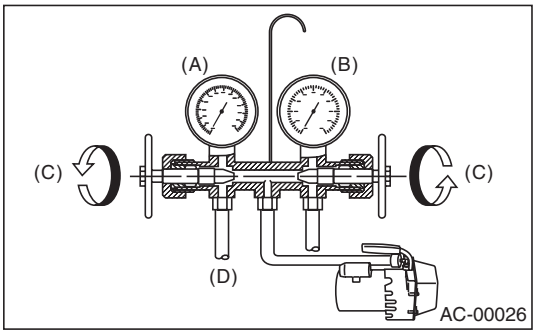


(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Slowly open
(D) Vacuum pump turn on

5) After the low-pressure gauge reaches 100.0 kPa (750 mmHg, 29.5 inHg) or higher, evacuate the system for approx. 15 minutes. (Continue evacuation).

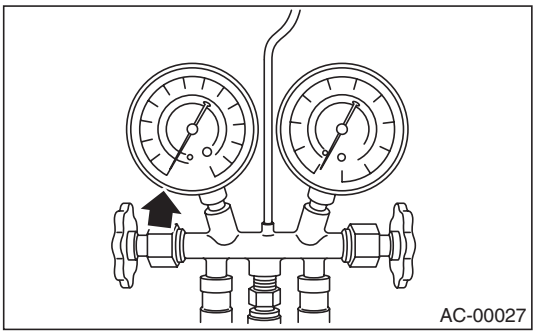


6) After 15 minutes of evacuation, if the reading shows 100.0 kPa (750 mmHg, 29.5 inHg) or higher, close the valves on the both sides to stop the vacuum pump.

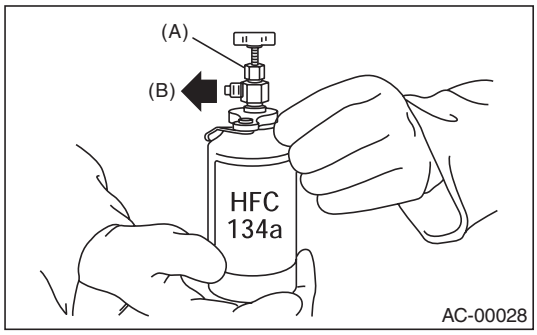


(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close
(D) Vacuum pump turn off

7) Note the low-pressure gauge reading.

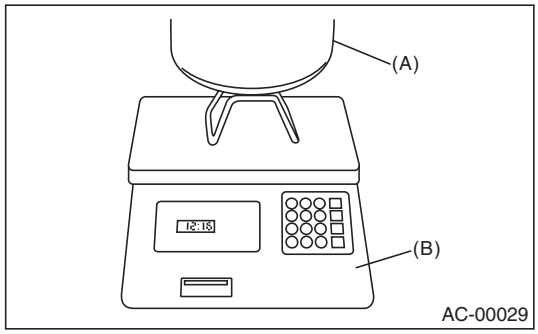


8) Leave it at least 5 minutes, and then check the low-pressure gauge reading for any changes.
When a gauge indicator shows near to zero point, it is a sign of leakage. Check pipe connector points, repair them, make sure there is no leakage by air bleeding.
9) Following the can tap operation manual instructions, install it to the refrigerant can.



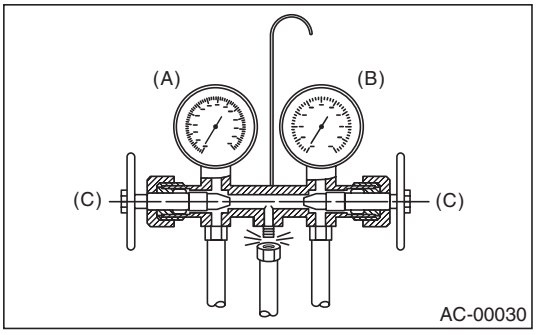
(A) Tap valve
(B) Center manifold hose

10) Disconnect the center manifold hose from the vacuum pump, and connect the hose to the tap valve.
11) When a 13.6 kg (30 lb) refrigerant container is used, measure the refrigerant amount in use using a weight scale.



(A) Refrigerant container (HFC-134a)
(B) Weight scale

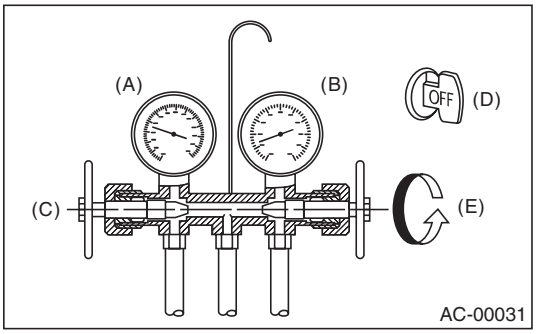
12) Confirm that all the 3 hoses are tightly connected to the manifold gauge set.



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close

13) Open the valve on the HFC-134a source.
14) Loosen the center hose connection on the manifold gauge set (if applicable, press a purge valve on the manifold gauge set) only for a couple of seconds to allow the air in the center hose to escape by the refrigerant.
15) Carefully open the high-pressure valve with the engine stopping.

CAUTION:
Do not open the low-pressure valve.



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close
(D) Ignition switch OFF
(E) Slowly open

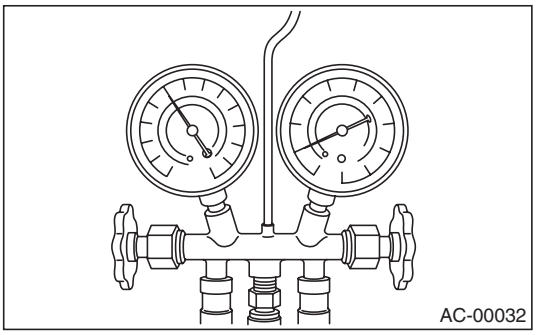
CAUTION:
Never run the engine during charging from the high-pressure side.

16) Close the high-pressure valve when the low-pressure gauge reaches 98 kPa (1 kgf/cm^2, 14 psi).
Using a leak tester, check the system for leaks.
If any leakage is found after the refrigerant recovery is completed, repair the applicable area.

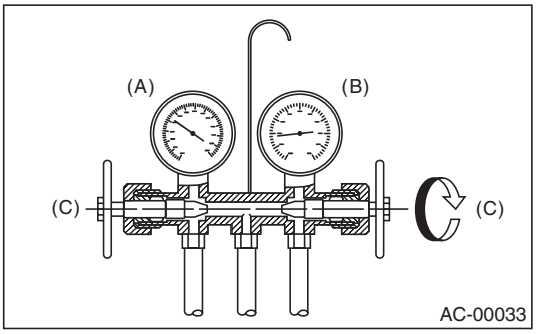
17) After confirming that there are no leaks with the leak test, charge the required amount of refrigerant.

CAUTION:
Never run the engine during charging from the high-pressure side.

18) Close the high-pressure valve when;
• the readings of low- / high-pressure gauges become almost equal, after the charging speed is reduced,
• the HFC-134a source becomes empty, or the system is filled with the gas.



19) If the HFC-134a source is empty, close the high-pressure valve, close the valve on the can tap, and replace the HFC-134a source with a new one to restart the operation.

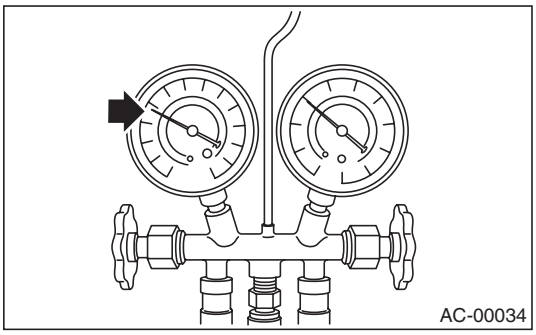


(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close

20) Confirm that both the low-/high-pressure valves can be closed. Start the engine with the A/C switch OFF.
21) Quickly repeat ON-OFF cycles a few times to prevent initial compressor damage.
22) Set up the vehicle to the following status:
• A/C switch ON
• Engine running at 1,500 rpm
• Blower speed setting to “HI”
• Temperature setting to “MAX COOL”
• Air inlet setting to “RECIRC”
• Window open

23) While reading the low-pressure gauge, carefully open the low-pressure valve with the refrigerant source connected and the service hose purged.

CAUTION:
Never open the high-pressure valve with the engine running. The high-pressure gas will backflow resulting in an explosion of the can.



24) Adjust the refrigerant flow to maintain the pressure on the low-pressure side at 276 kPa (2.81 kgf/cm^2, 40 psi) max.
25) After the system is fully charged, close the low-pressure valve.
26) Close the valve on the refrigerant source.

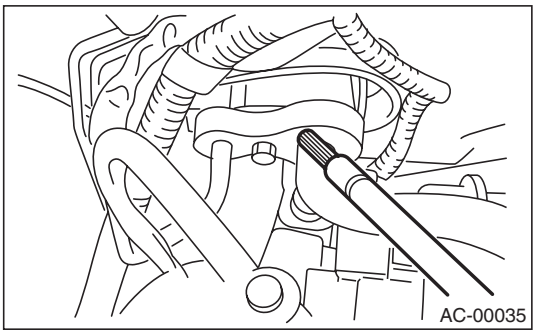
Refrigerant amount		
Refrigerant	Minimum	Maximum
HFC-134a	370 g (0.82 lb)	430 g (0.95 lb)

27) Disconnect the hose from the service port, and install the service port cap.

5. Refrigerant Leak Check

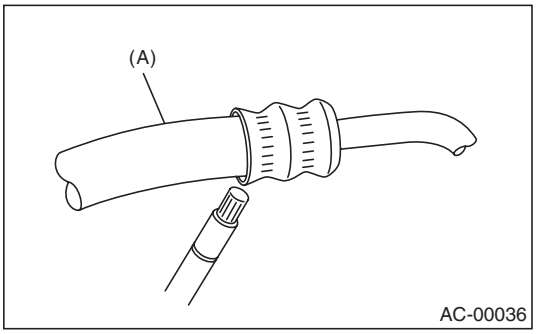
A: INSPECTION

1) Operate the A/C system for approx. 10 minutes, and confirm that the high-side pressure shows at least 690 kPa (7.03 kgf/cm^2, 100 psi). Then stop the engine to start the leak test.
2) Starting from the connection between high-pressure pipe and evaporator, check the system for leaks along the high-pressure side through the compressor. The following items must be checked thoroughly.
3) Check the joint and seam between pressure switch (triple pressure switch) and high-pressure pipe.
4) Check the connections between condenser and pipes, and welded joints on the condenser.
The leak tester may detect the oil on the condenser fins as a leak.
5) Check the joint between compressor and hoses.
6) Check the machined area of compressor and other joints on the compressor.
7) Check the compressor shaft seal at the area near the center of compressor clutch pulley.
Some shaft seals show a slight amount of leakage about 3 g (0.1 oz.) per year. This is not a problem.
8) Starting from the connection between low-pressure pipe and evaporator, check the system for leakage along the low-pressure side through the compressor. The following items must be checked thoroughly.
- Connection between 2 parts
- Connection between pipe and plate


AC-00035

9) Visually check the rubber area of the flexible hose for cracks.
Check the entire length of the flexible hose, especially the connection with the metal hose end.

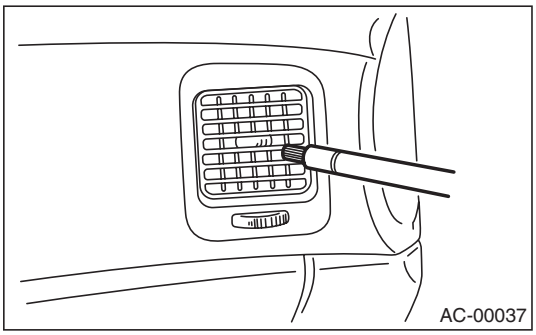
CAUTION:
Carefully check the external surface of hoses and tubes at approx. 25 mm (0.98 in) per second.



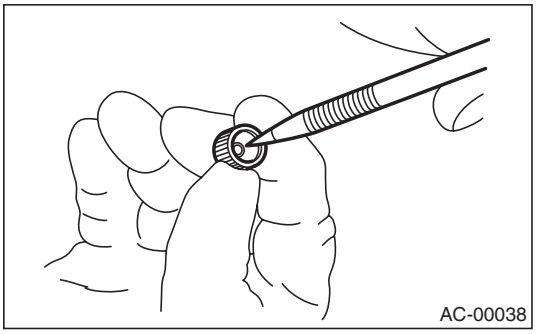
AC-00036

(A) Flexible hose

10) Disconnect the drain hose from heater case, and check the hose end for at least 10 seconds.
After the test is finished, reconnect the drain hose.
11) Turn the ignition key to ON position, and run the blower at high speed for approx. 1 minute. Stop the blower to check the ventilation grille on the instrument panel. While moving the tester closer to the grille, run the blower for 1 or 2 seconds, then stop it. Check the grille at that point for at least 10 seconds.


AC-00037

12) Check the valve in the service port.
13) Visually check the rubber seal in the service port cap.


AC-00038

6. Compressor Oil

A: PROCEDURE

NOTE:
Before making repairs, perform the oil return operation to return the compressor oil in circulation with the refrigerant to the compressor.

1) Increase the engine to 1,500 rpm.
2) Turn ON the A/C switch.
3) Turn the temperature control switch to MAX COOL.
4) Turn the FRESH/RECIRC switch to RECIRC.
5) Turn the blower control switch to HI.
6) Leave in this condition for 10 minutes.

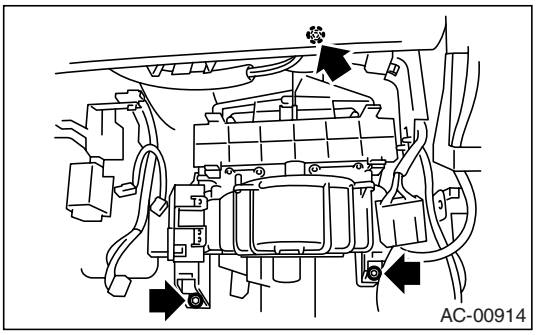
B: REPLACEMENT

NOTE:
• If a component has been replaced, add an appropriate amount of compressor oil (same as the amount of remaining oil in removed component).
• When replacing the compressor, the new compressor will already have the specified amount of oil in it. Install the new compressor after removing the same amount of oil that is remaining in the compressor removed.

7. Blower Motor Unit Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-51, REMOVAL, Glove Box.>
3) Disconnect the connectors of A/C control module, intake door actuator, blower motor, power transistor and blower resistor.
4) Loosen the bolt and nut to remove blower motor unit assembly.



B: INSTALLATION

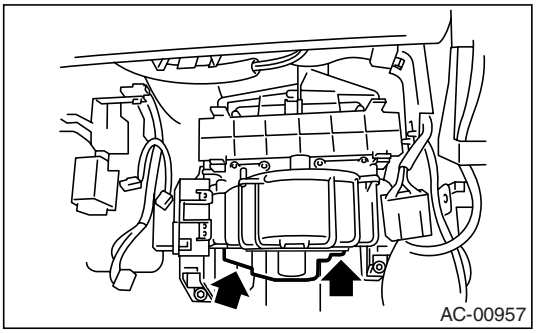
Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.> <Ref. to AC-7, BLOWER MOTOR UNIT, COMPONENT, General Description.>

8. Blower Motor

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box lower cover. <Ref. to EI-51, REMOVAL, Glove Box.>
3) Disconnect the connector of blower motor.
4) Loosen the screw to remove blower motor.

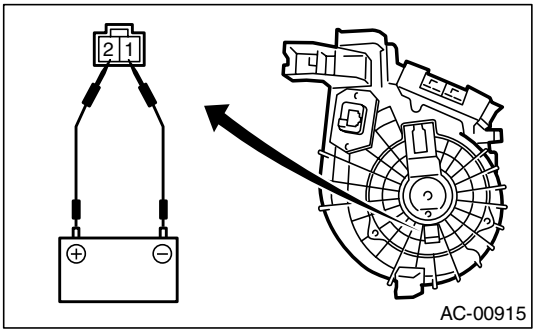


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

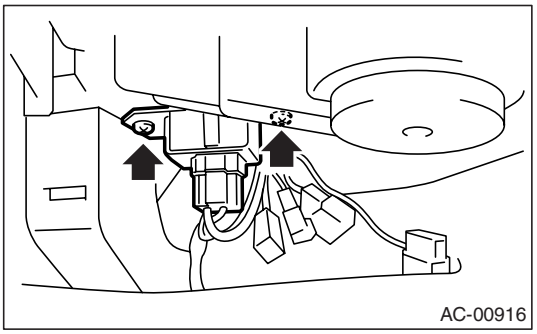
Connect the battery positive (+) terminal to terminal No. 2 of blower motor, and negative (−) terminal to terminal No. 1. Check the blower motor for smooth rotation.



9. Power Transistor (Auto A/C Model)

A: REMOVAL

1) Remove the glove box lower cover on passenger side. <Ref. to EI-51, REMOVAL, Glove Box.>
2) Disconnect the power transistor connector.
3) Remove two screws, and then remove the power transistor.



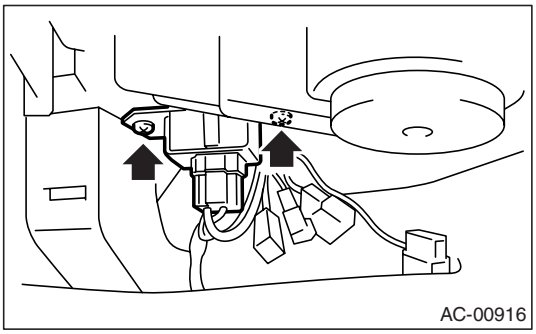
B: INSTALLATION

Install in the reverse order of removal.

10. Blower Resistor (Manual A/C Model)

A: REMOVAL

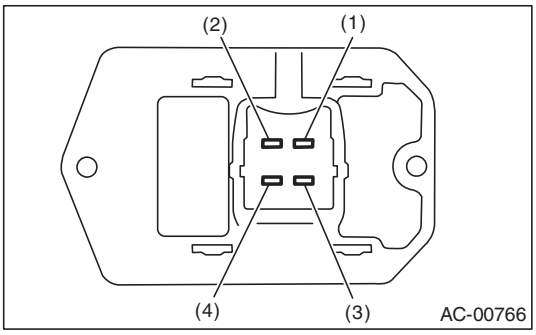
1) Remove the glove box lower cover on passenger side. <Ref. to EI-51, REMOVAL, Glove Box.>
2) Disconnect the blower resistor connector.
3) Remove two screws, and then remove the blower resistor.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION



Measure the blower resistor resistance.

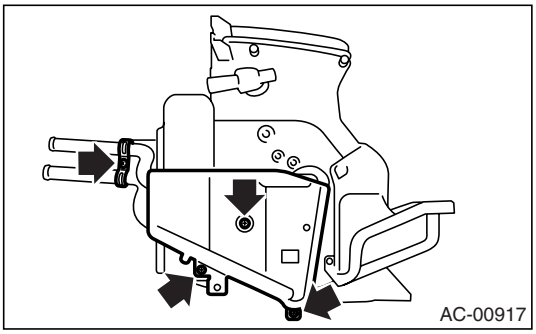
Terminal No.	Standard
4 and 2	Approx. 0.44 Ω
4 and 3	Approx. 1.12 Ω
4 and 1	Approx. 2.92 Ω

If NG, replace the blower resistor.

11.Heater Core

A: REMOVAL

1) Remove the heater and cooling unit. <Ref. to AC-37, REMOVAL, Heater and Cooling Unit.>
2) Remove the screws and remove the heater core cover and pipe clamp.



3) Remove the heater core.

B: INSTALLATION

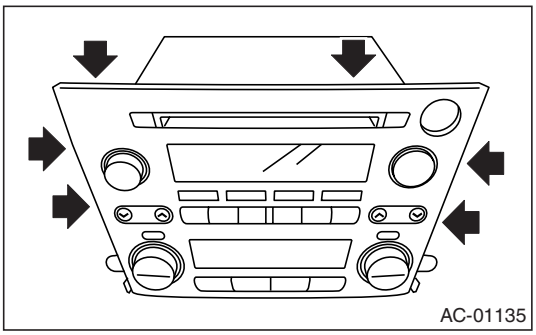
Install in the reverse order of removal.

12. Control Panel (Auto A/C Model)

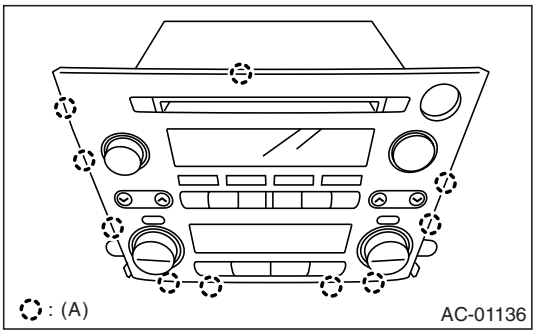
A: REMOVAL

1) Remove the audio assembly. <Ref. to ET-5, REMOVAL, Audio.>
2) Remove the six screws.

NOTE:
When working the removed audio assembly with its back facing down, place wooden blocks between the audio assembly and the workbench to prevent ground terminal from folding.



3) Using a fine flat tip screwdriver, remove the ten hooks gradually in the order of both sides, lower and upper side.



(A) Hook

4) Pull the panel straight toward you to remove.

CAUTION:
Be careful not to touch the logic board to prevent static electricity damage.

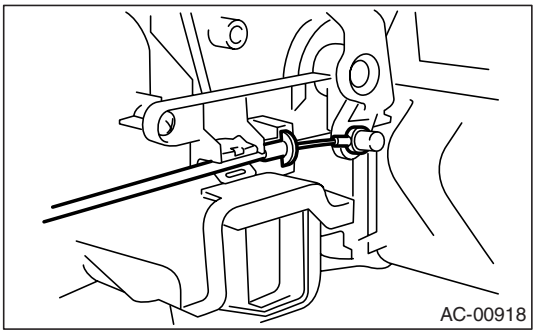
B: INSTALLATION

1) Fit the hooks. Make sure the firm connection between logic board and connector by pushing the center part of panel with fingertips.
2) Install in the reverse order of removal.

13. Control Unit (Manual A/C Model)

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-51, REMOVAL, Glove Box.>
3) Remove the temperature control cables.



4) Remove the integrated panel. <Ref. to ET-5, REMOVAL, Audio.>
5) Loosen the screw to remove the control unit from bracket.

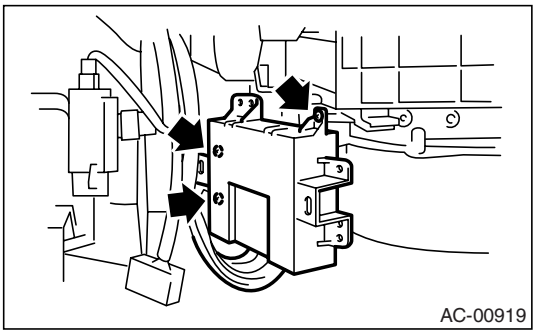
B: INSTALLATION

Install in the reverse order of removal.

14.Control Unit (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-51, REMOVAL, Glove Box.>
3) Remove the screw, disconnect the connector and remove the control unit.



B: INSTALLATION

Install in the reverse order of removal.

15.Compressor

A: INSPECTION

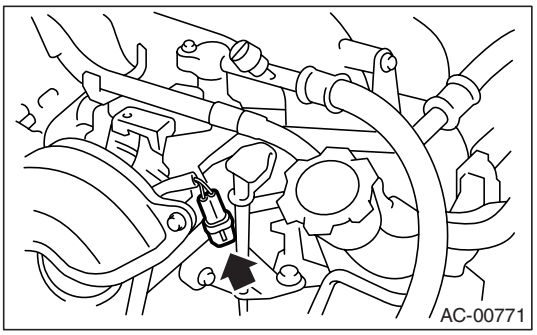
1. MAGNETIC CLUTCH CLEARANCE

Check the clearance of entire circumference around the drive plate and pulley.

Standard:
0.45±0.15 mm (0.0177±0.0059 in)

2. MAGNETIC CLUTCH OPERATION

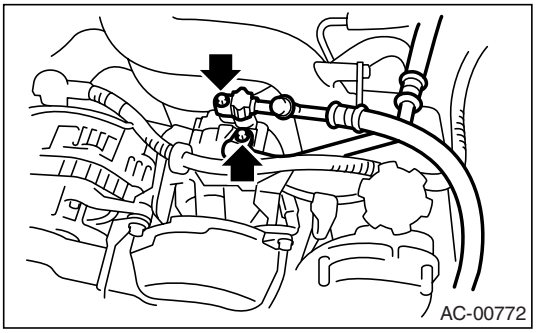
1) Disconnect the compressor connector.
2) Connect the battery positive (+) terminal to terminal No. 1 of compressor connector, and negative (−) terminal to terminal No. 2.



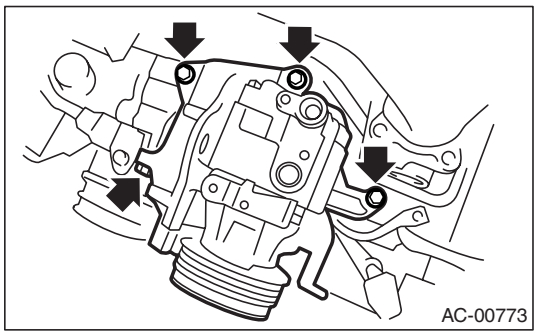
3) Check the magnet clutch engagement.
If NG, replace the compressor.

B: REMOVAL

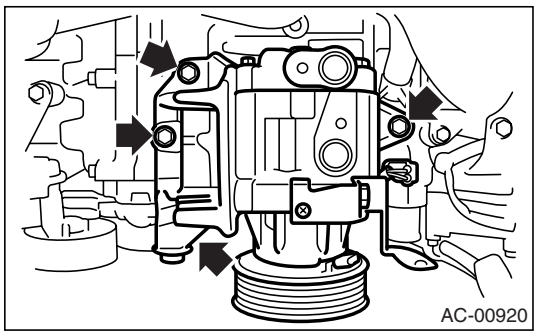
1) Perform the compressor oil return operation. <Ref. to AC-25, PROCEDURE, Compressor Oil.>
2) Turn the A/C switch to OFF and stop the engine.
3) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
4) Disconnect the ground cable from battery.
5) Remove the V-belts. <Ref. to ME(H4SO 2.0)-37, REMOVAL, V-belt.> <Ref. to ME(H4DOTC)-40, REMOVAL, V-belt.> <Ref. to ME(H6DO)-33, REMOVAL, V-belt.>
6) Remove the generator. <Ref. to SC(H4SO 2.0)-14, REMOVAL, Generator.>
7) Remove the bolt and remove the low-pressure hose and high-pressure hose.



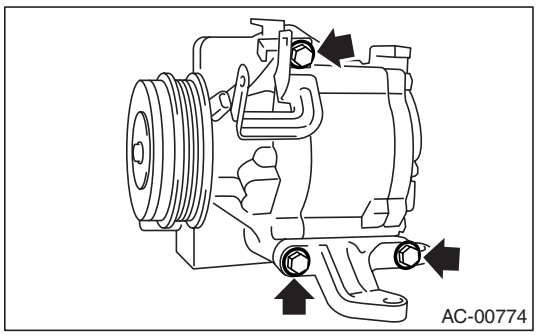
8) Disconnect the compressor harness from body harness.
9) Remove the bolts and remove compressor bracket.
- H4 model



- H6 model



10) Remove the bolts, and then remove the bracket from compressor.



C: INSTALLATION

1) Install in the reverse order of removal.
2) Replace the O-rings on low-/high-pressure hoses with new ones, then apply compressor oil.
3) When replacing the compressor, adjust amount of compressor oil. <Ref. to AC-25, PROCEDURE, Compressor Oil.>
4) Charge refrigerant. <Ref. to AC-21, PROCEDURE, Refrigerant Charging Procedure.>

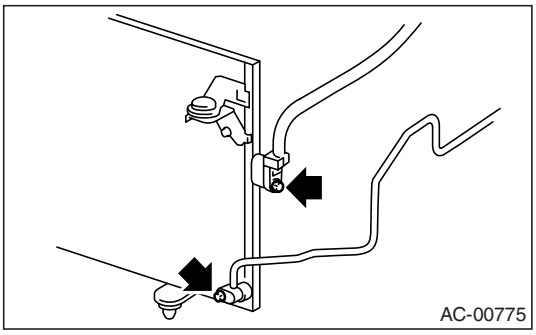
Tightening torque:

Refer to "COMPONENT" of "General Description". <Ref. to AC-10, AIR CONDITIONING UNIT, COMPONENT, General Description.> <Ref. to AC-11, COMPRESSOR, COMPONENT, General Description.>

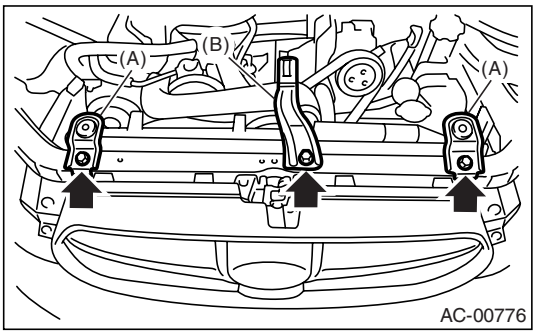
16.Condenser

A: REMOVAL

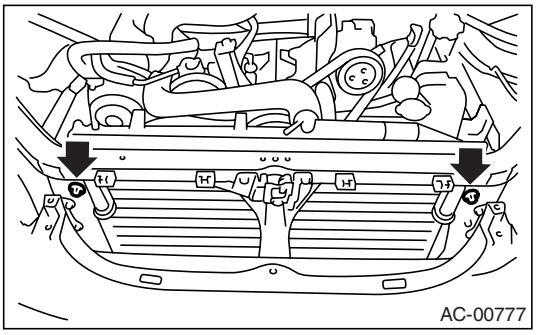
1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
2) Disconnect the ground cable from battery.
3) Disconnect the pressure hose and pipe from condenser.



4) Remove the radiator bracket (A) and hood stay (B).



5) Remove the front grille. <Ref. to EI-24, REMOVAL, Front Grille.>
6) Remove two bolts. While lifting condenser, pull it out through the space between radiator and radiator panel.

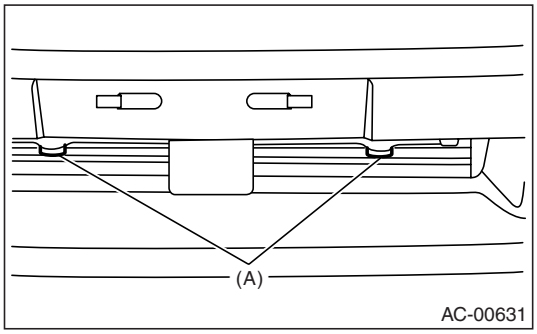


CAUTION:
• Be careful not to damage the condenser fins. If a damaged fin is found, repair it using a thin screwdriver.
• If the condenser is replaced, add an appropriate amount of compressor oil to the compressor. <Ref. to AC-25, REPLACEMENT, Compressor Oil.>

B: INSTALLATION

1) Install in the reverse order of removal.

CAUTION:
Replace the O-rings on hoses or pipes with new ones, and then apply compressor oil. Confirm that lower guide of condenser (A) has been fitted into holes on radiator panel.



2) Charge refrigerant. <Ref. to AC-21, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-10, AIR CONDITIONING UNIT, COMPONENT, General Description.> <Ref. to CO(H4SO 2.0)-5, RADIATOR AND RADIATOR FAN, COMPONENT, General Description.>

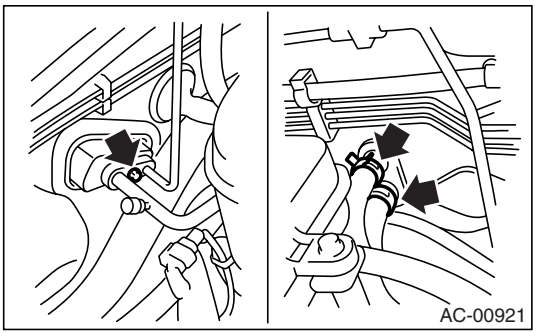
C: INSPECTION

1) Check no dust or insects are found on the condenser fins. Air-blow or flush fins with water as needed.
2) Inspect for oil leakage from condenser. If a failure is found, replace the condenser with a new one.

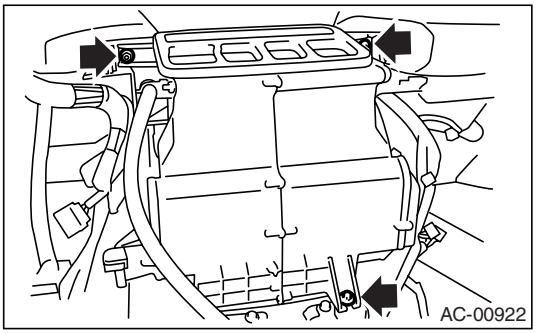
17.Heater and Cooling Unit

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
3) Drain coolant from the radiator.
4) Remove the bolts securing expansion valve and pipe in engine compartment. Release the heater hose clamps in engine compartment to remove the hoses.



5) Remove the instrument panel. <Ref. to EI-56, REMOVAL, Instrument Panel Assembly.>
6) Remove the support beam.
7) Remove the blower motor unit assembly. <Ref. to AC-26, REMOVAL, Blower Motor Unit Assembly.>
8) Disconnect the actuator connector.
9) Remove the bolt and nuts to remove the heater and cooling unit.



B: INSTALLATION

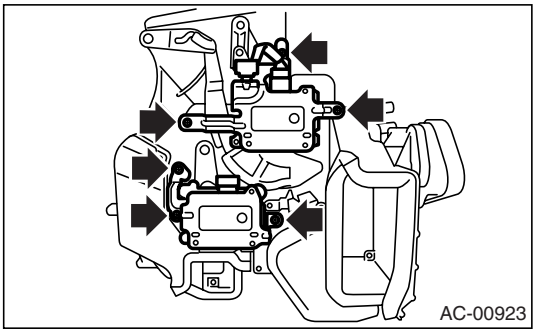
1) Install in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-21, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.>

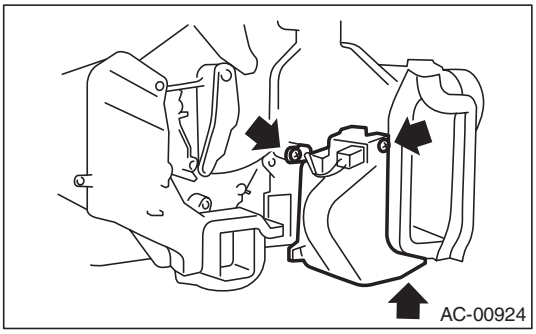
18. Evaporator

A: REMOVAL

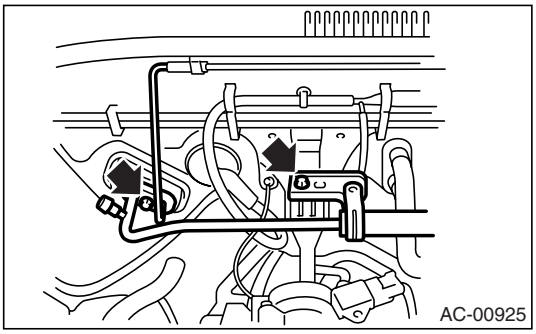
1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
2) Disconnect the ground cable from battery.
3) Remove the blower motor unit assembly. <Ref. to AC-26, REMOVAL, Blower Motor Unit Assembly.>
4) Disconnect the connector, remove the screw and then remove the air-mix door actuator and mode door actuator.



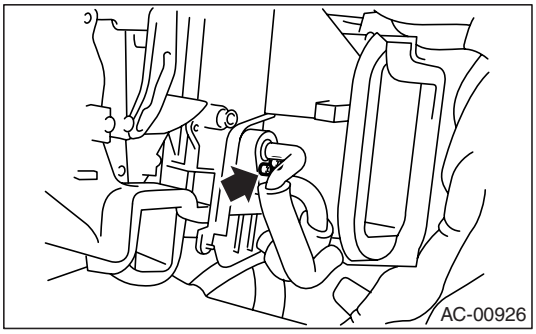
5) Disconnect the connector, remove the screw and remove the pipe cover and evaporator sensor.



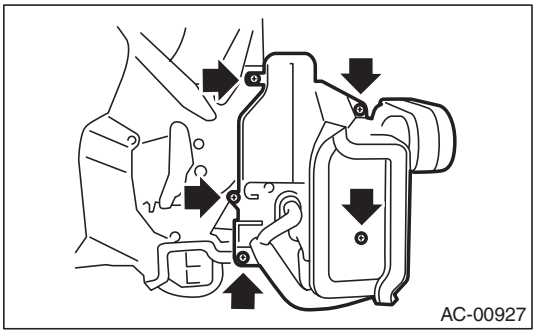
6) Remove the bolts securing expansion valve and pipe in engine compartment.



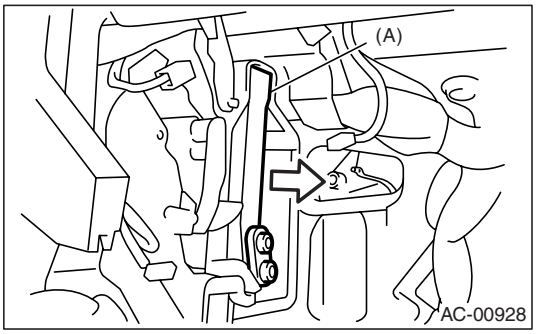
7) Remove the bolt which holds the pipe to evaporator.



8) Remove the screws and clip to remove the evaporator cover.



9) Pull out the evaporator (A) in the direction of arrow.



CAUTION:
If the evaporator is replaced, add an appropriate amount of compressor oil to evaporator. <Ref. to AC-25, REPLACEMENT, Compressor Oil.>

B: INSTALLATION

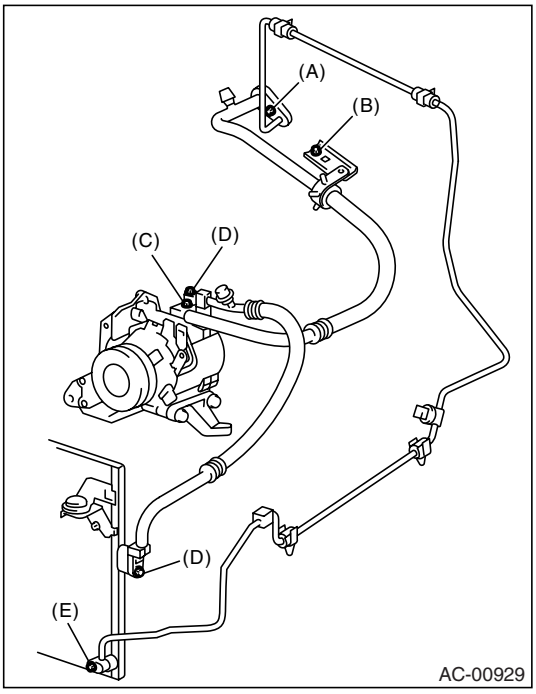
Install in the reverse order of removal.

19.Hose and Tube

A: REMOVAL

CAUTION:
• When disconnecting/connecting hoses, do not apply an excessive force to them. Confirm that no torsion and excessive tension is charged after installing.
• Seal the disconnected hose with a plug or vinyl tape to prevent foreign matter from entering.

1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the evaporator unit mounting bolt (A) and low-pressure hose bracket bolt (B).
4) Remove the low-pressure hose attaching bolts (C).
5) Disconnect the low-pressure hose from evaporator unit.
6) Disconnect the low-pressure hose from compressor.
7) Remove the low-pressure hose from vehicle.
8) Remove the high-pressure hose attaching bolt (D).
9) Disconnect the high-pressure hose from compressor.
10) Disconnect the high-pressure hose from condenser.
11) Remove the high-pressure hose from vehicle.
12) Remove the high-pressure attaching bolt (E).
13) Remove the high-pressure tube from vehicle.



B: INSTALLATION

CAUTION:
• When disconnecting or connecting the hoses, do not apply excessive force to them. Confirm that no torsion and excessive tension is charged after installing.
• Seal the disconnected hose with a plug or vinyl tape to prevent foreign matter from entering.

1) Install in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-21, PROCEDURE, Refrigerant Charging Procedure.>

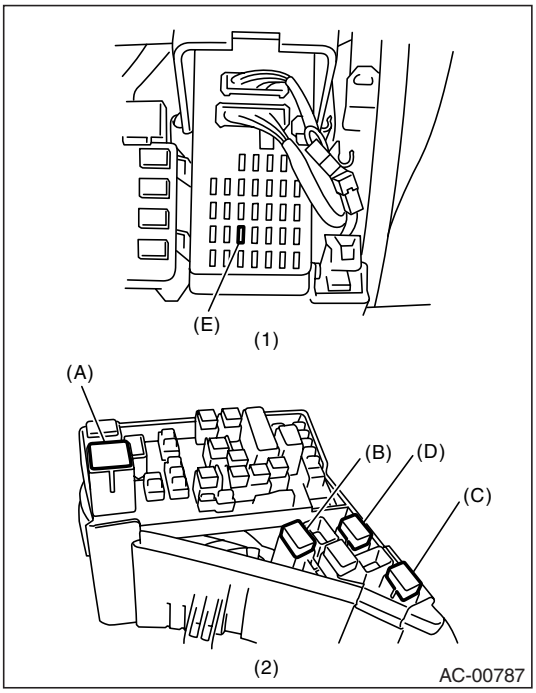
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-10, AIR CONDITIONING UNIT, COMPONENT, General Description.>

C: INSPECTION

Check the hoses for cracks, damage and expansion. If any fault is found, replace them with new ones.

20.Relay and Fuse

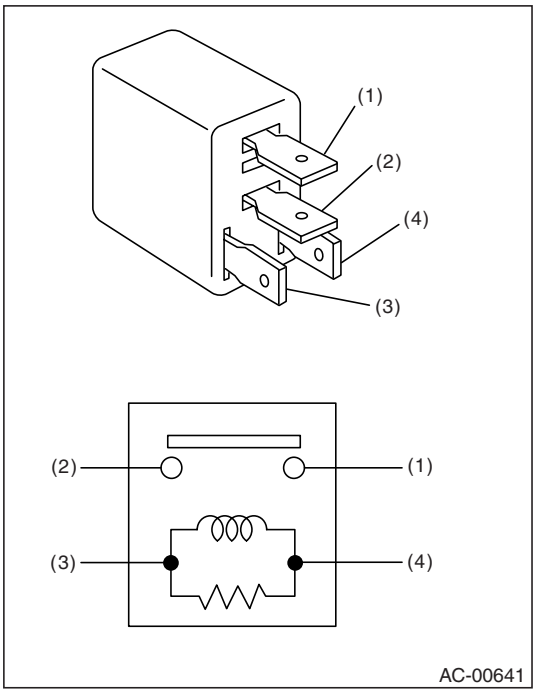
A: LOCATION



(1) Joint box
(2) Main fuse box

Main Fan Relay 1	(A)
Main Fan Relay 2	(B)
Sub Fan Relay	(C)
A/C Relay	(D)
A/C Fuse	(E)

B: INSPECTION



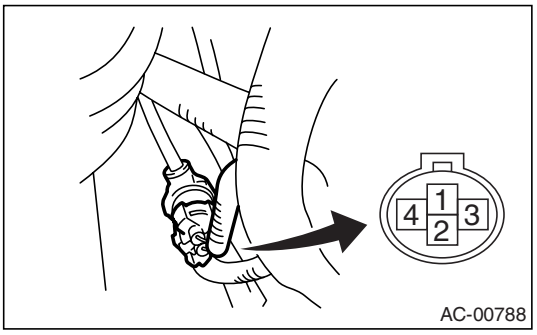
(3) — (4): Continuity exists
(1) — (2): Continuity does not exist

While applying battery voltage to the terminal between (3) and (4), check continuity between (1) and (2).
If no continuity exists, replace the relay with a new one.

21.Pressure Switch (Triple Pressure Switch)

A: INSPECTION

1) Connect the manifold gauge to the service valve on the high-pressure side.
2) Remove the pressure switch harness connector. Using a circuit tester, inspect the ON-OFF operation of pressure switch.



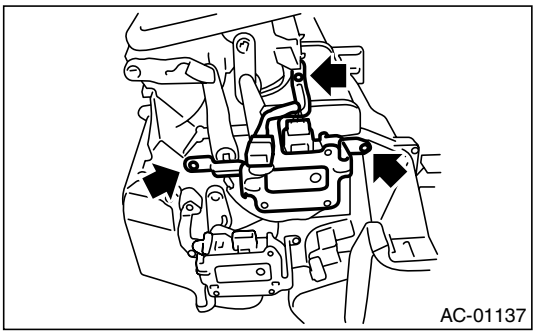
	Terminal No.	Operation	Standard kPa (kgf/cm^2, psi)
High and low pressure switch	1 and 2	Turns OFF.	Increasing to $3{,}140^{+50}_{-200}$ ($32.02^{+0.51}_{-2.04}$, $455.4^{+7.25}_{-29.0}$)
			Decreasing to 196±20 (2.00±0.20, 28.4±2.9)
		Turns ON.	Increasing to 225^{+25}_{-29} ($2.29^{+0.25}_{-0.30}$, $32.6^{+3.6}_{-4.2}$)
			Decreasing to 2,550±200 (26.00±2.04, 369.8±29.0)
Middle pressure switch	3 and 4	Turns OFF.	Decreasing to 1,370±120 (14±1, 199±14)
		Turns ON.	Increasing to 1,770±100 (18±1, 256±14)

22.Actuator

A: REMOVAL

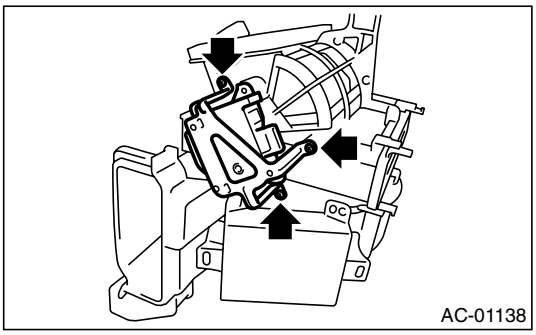
1. MODE DOOR ACTUATOR

Disconnect the connector, remove the screw, and then remove the mode door actuator from heater and cooling unit.



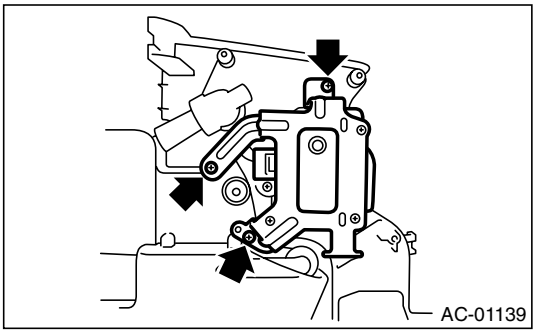
2. INTAKE DOOR ACTUATOR

Disconnect the connector, remove the screw, and then remove the intake door actuator from blower motor unit.



3. AIR MIX DOOR ACTUATOR (AUTO A/C MODEL)

Disconnect the connector, remove the screw, and then remove the air mix door actuator from heater and cooling unit.



B: INSTALLATION

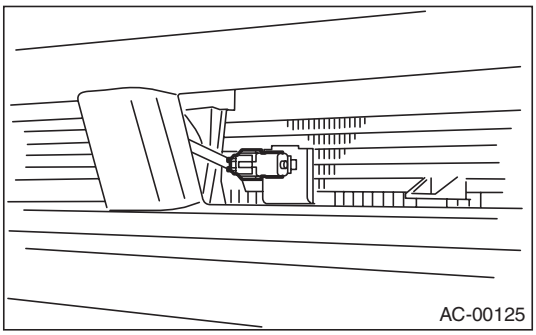
Install in the reverse order of removal.

23. Ambient Sensor (Auto A/C Model)

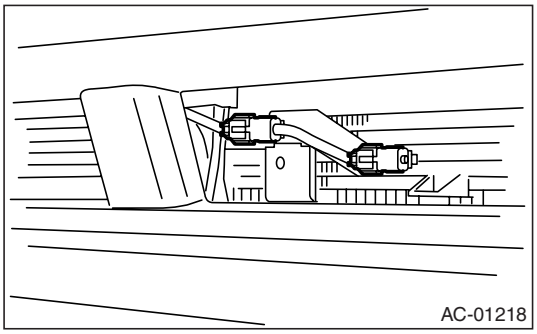
A: REMOVAL

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

- H4 model



- H6 model



B: INSTALLATION

Install in the reverse order of removal.

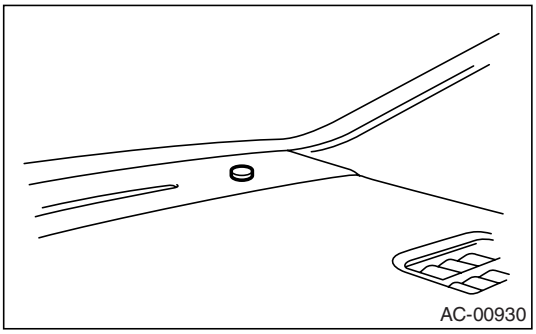
C: INSPECTION

<Ref. to AC(diag)-30, AMBIENT SENSOR, Diagnostic Procedure for Sensors.>

24.Sunload Sensor (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Disconnect the connector and remove the sunload sensor.



CAUTION:
Be careful not to damage the interior trims when removing the sensor.

B: INSTALLATION

Install in the reverse order of removal.

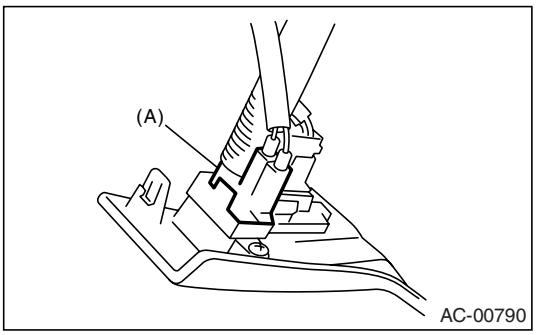
C: INSPECTION

<Ref. to AC(diag)-37, SUNLOAD SENSOR, Diagnostic Procedure for Sensors.>

25.In-Vehicle Sensor (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
3) Disconnect the connector and aspirator hose, remove the pawl and remove the in-vehicle sensor (A) from instrument lower cover.



CAUTION:
Be careful not to damage the sensors and interior trims when removing.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

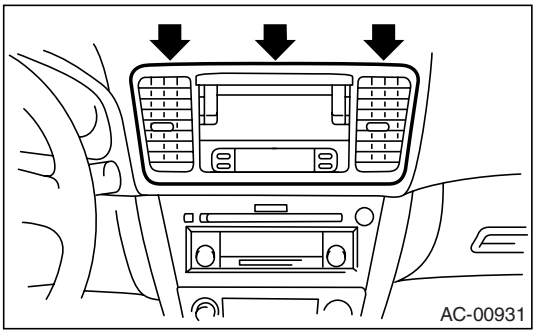
<Ref. to AC(diag)-33, IN-VEHICLE SENSOR, Diagnostic Procedure for Sensors.>

26.Air Vent Grille

A: REMOVAL

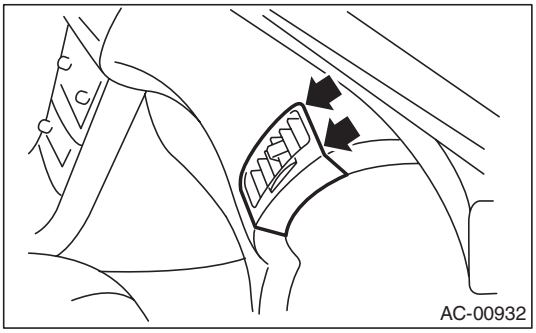
1. CENTER GRILLE

1) Disconnect the ground cable from battery.
2) Remove the three pawls and connector to remove center air vent grill.



2. SIDE GRILLE

Remove the two pawls to remove side air vent grill.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

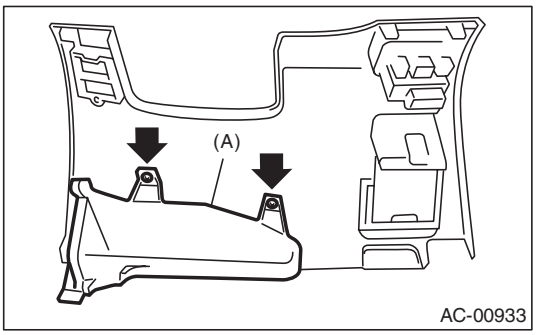
1) Check the direction and amount of air can be adjusted smoothly.
2) Check the adjustment can be kept in each position.

27.Heater Duct

A: REMOVAL

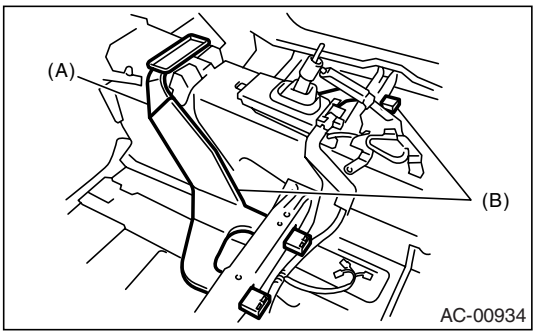
1. FRONT HEATER DUCT

1) Remove the instrument panel lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the screws and detach the front heater duct (A).



2. REAR HEATER DUCT

1) Remove the heater cooling unit. <Ref. to AC-37, REMOVAL, Heater and Cooling Unit.>
2) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
3) Remove the front side sill cover.
4) Pull off the floor mat to remove the rear center heater duct (A) and rear heater duct LH, RH (B).



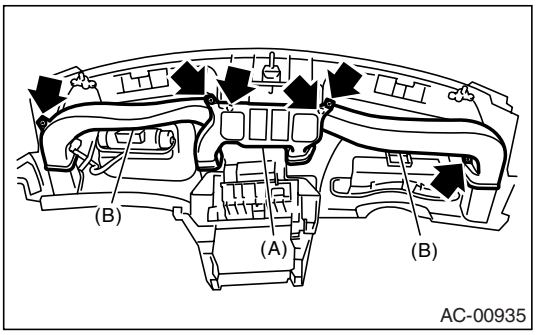
B: INSTALLATION

Install in the reverse order of removal.

28.Heater Vent Duct

A: REMOVAL

1) Remove the instrument panel. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the screws and detach the center vent duct (A).
3) Remove the screws and detach the center vent duct (B).
4) Remove the insulator, remove the screws and detach the defroster duct.



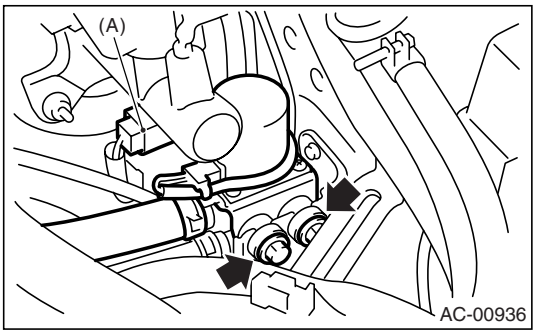
B: INSTALLATION

Install in the reverse order of removal.

29.Heater Cock Solenoid Valve

A: REMOVAL

1) Drain the engine coolant. <Ref. to CO(H4SO 2.0)-13, DRAINING OF ENGINE COOLANT, Engine Coolant.>
2) Disconnect the harness connector (A) of the heater cock solenoid valve.
3) Remove the two bolts to remove the heater cock solenoid from the bracket.



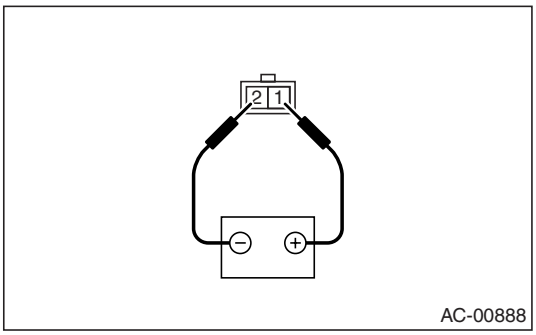
4) Pull out the heater cock solenoid. Loosen the hose clamp and disconnect the two heater hoses.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1) Remove the heater cock solenoid valve. <Ref. to AC-49, REMOVAL, Heater Cock Solenoid Valve.>
2) Connect the positive terminal of battery to No. 1 terminal of heater cock solenoid valve, and the ground terminal to No. 2 terminal. Check that the heater cock solenoid valve opens and closes normally.

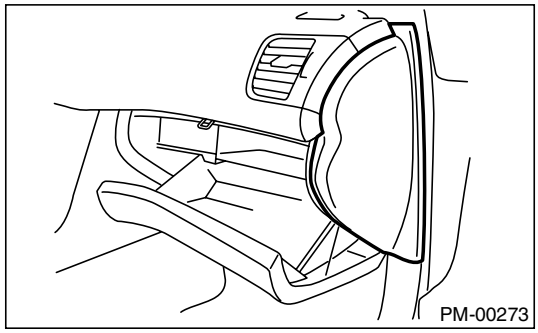


If any failure is found, replace the heater cock solenoid valve.

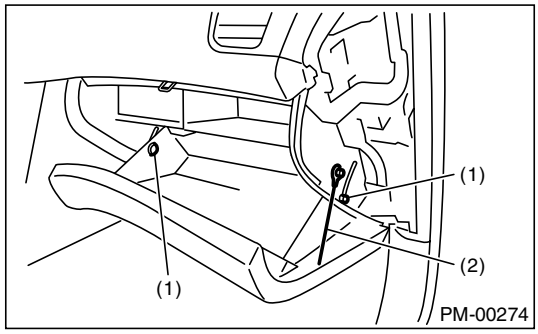
30.A/C Filter

A: REPLACEMENT

1) Remove the instrument panel side cover.

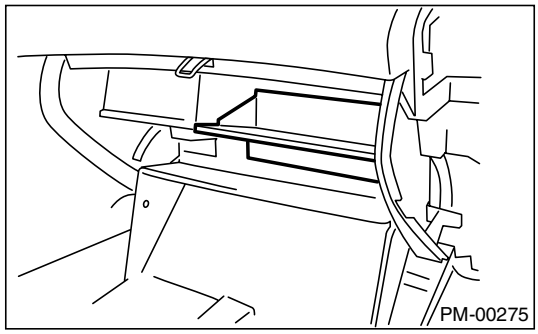


2) Remove the clip and damper (string).

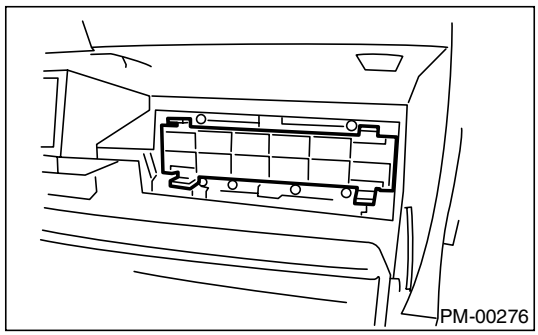


(1) Clip
(2) Damper

3) Remove the tray for car registration.



4) Remove the A/C filter.



5) Install in the reverse order of removal.

31.General Diagnostic Table

A: INSPECTION

Symptom		Repair order
Blower motor	Does not operate.	Fuse
		Blower motor relay
		Blower motor
		Blower motor resistor
		Blower switch
		Wire harness
	Noise	Blower motor
Compressor	Does not operate.	Refrigerant
		Fuse
		Air conditioning relay
		Magnet clutch
		Compressor
		Pressure switch
		A/C switch
		Blower switch
		Wire harness
		Lock sensor (3.0 L model)
	Noise	V-Belt
		V-Belt tensioner
		Magnet clutch
		Compressor
Cold air not emitted.		Refrigerant
		V-Belt
		Magnet clutch
		Compressor
		Pressure switch
		A/C switch
		Blower switch
		Wire harness
		Heater duct
		Heater vent duct
Warm air not emitted.		Engine coolant
		Blower switch
		Heater core
		Heater cock solenoid valve
Temperature of air from vents does not change.		Engine coolant
		Air mix actuator (Auto A/C)
		Wire harness (Auto A/C)
		Temperature control cable (Manual A/C)
Unable to switch blow vents.		Mode actuator (Auto A/C)
		Air flow switch (Auto A/C)
		Wire harness (Auto A/C)
		Mode cable (Manual A/C)
Unable to switch suction vents.		Air inlet select switch (Auto A/C)
		FRESH/RECIRC actuator (Auto A/C)
		Wire harness (Auto A/C)
		Intake cable (Manual A/C)

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

AC(diag)

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4. Auto A/C Control Module I/O Signal....8
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6. Diagnostics for A/C System Malfunction 15
7. Diagnostic Procedure for Actuators 24
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9. Diagnostics with Phenomenon....41

1. Basic Diagnostic Procedure

A: PROCEDURE

Step		Check	Yes	No
1	**START INSPECTIONS.** 1) Perform the pre-inspection. <Ref. to AC(diag)-3, INSPECTION, General Description.> 2) Perform the self-diagnosis. <Ref. to AC(diag)-10, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Does the self-diagnosis operate?	Go to step **2.**	<Ref. to AC(diag)-15, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.>
2	**IDENTIFY MALFUNCTION PART.** Identify the malfunction part with self-diagnosis.	Can the malfunction part be identified?	Repair the malfunction part in accordance with each diagnostic chart.	Go to step **3.**
3	**CHECK COMPARTMENT TEMPERATURE.** 1) Turn ON the A/C switch. 2) Turn the temperature control dial at maximum cool position. 3) Check the compartment temperature change.	Does the compartment temperature change?	Go to step **4.**	<Ref. to AC(diag)-20, COMPARTMENT TEMPERATURE DOES NOT CHANGE, OR A/C SYSTEM DOES NOT RESPOND PROMPTLY., Diagnostics for A/C System Malfunction.>
4	**CHECK A/C SYSTEM RESPONSE.** Change the temperature setting, and check the response of A/C system.	Does the A/C system respond quickly?	A/C system is normal.	<Ref. to AC(diag)-20, COMPARTMENT TEMPERATURE DOES NOT CHANGE, OR A/C SYSTEM DOES NOT RESPOND PROMPTLY., Diagnostics for A/C System Malfunction.>

2. General Description

A: CAUTION

1) Never connect the battery in reverse polarity.
• Auto A/C control module may be destroyed instantly.
2) Do not disconnect the battery terminals while the engine is running.
• A large counter electromotive force will be generated in the generator, and this voltage may damage electronic parts such as auto A/C control module, etc.
3) Before disconnecting the connectors of each sensor and the auto A/C control module, be sure to turn off the ignition switch.
• Auto A/C control module may be damaged.
4) Every A/C-related part is a precision part. Do not drop them.
5) Airbag system wiring harness is routed near the A/C control panel and junction box.

CAUTION:
• For airbag system, yellow-colored wiring harness and connectors are used. Do not use the electrical test equipment on these circuits.
• Be careful not to damage the airbag system wiring harness when servicing the A/C control panel and junction box.

B: INSPECTION

Before performing the diagnosis, check the following items which might affect A/C system problems.

1. BATTERY

1) Measure the battery voltage and specific gravity of electrolyte.

Standard voltage: 12 V

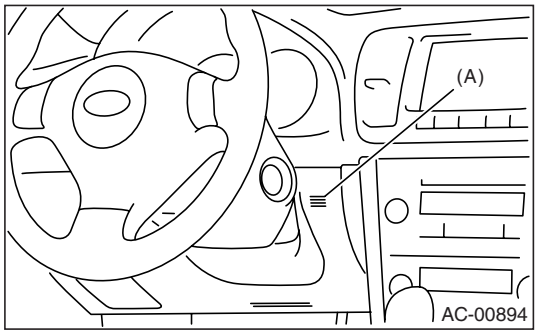
Specific gravity: More than 1.260

2) Check the condition of the fuses for A/C system power supply and other fuses.
3) Check the condition of harness and harness connector connections.

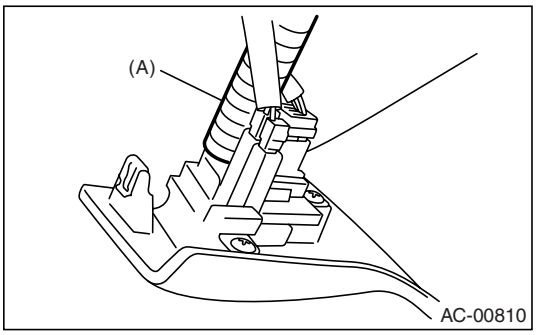
2. ASPIRATOR HOSE

1) Turn the ignition switch to ON, and press the A/C switch.
2) Turn the temperature control dial at maximum hot position.
3) Turn the air flow control dial to “DEF” position.
4) Turn the fan speed control dial to 4th position.
5) Approach a strip of paper in front of the in-vehicle sensor suction port (A) located in the instrument lower cover, and check that air is being sucked into the port by seeing the paper moving towards the port.

NOTE:
Be careful not to let the paper get sucked into the port.

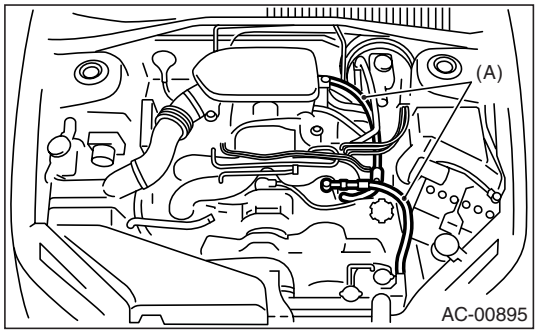


6) If the paper does not move at all, remove the instrument panel lower cover <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.> and check for improper connection of the aspirator hose (A), in-vehicle sensor and heater unit, and repair them if necessary.



3. A/C LINE

Check the connection for A/C line (A) and lower side high-pressure pipe.



4. CONTROL LINKAGE

1) Check the state of mode door linkage.
2) Check the state of air mix door linkage.
3) Check the state of intake door linkage.

5. CONTROL SWITCHES

Start and warm-up the engine completely.
1) Inspection using switches

No.	Point to check	Switch operation	Judgment standard
1	OFF switch	Press the OFF switch.	Setting temperature display goes out. • Blower fan: OFF • Inlet opening: FRESH • Compressor: OFF
2	AUTO switch	1) Press the AUTO switch. 2) Turn the temperature control dial to the left fully, and set to 18°C (maximum cool position).	AUTO display illuminates. • Outlet air temperature: COOL • Blower fan: HI (AUTO) • Outlet opening: FACE • Inlet opening: AUTO • Compressor: AUTO
		3) Turn the temperature control dial to the right slowly, and change the setting from 18°C (maximum cool position) to 32°C.	• Outlet air temperature: COOL → HOT • Blower fan: AUTO • Outlet opening: FACE → B/L → FOOT • Inlet opening: AUTO • Compressor: AUTO
		4) Turn the temperature control dial to the right fully, and set to 32°C (maximum hot position).	• Outlet air temperature: HOT • Blower fan: HI (AUTO) • Outlet opening: FOOT • Inlet opening: FRESH (AUTO) • Compressor: AUTO
3	Defroster switch	Press the defroster switch.	Defroster switch indicator illuminates. • Outlet air temperature: AUTO • Blower fan: AUTO • Outlet opening: DEF • Inlet opening: FRESH • Compressor: ON
4	FRESH/RECIRC switch	Press the FRESH/RECIRC switch.	Inlet opening switches RECIRC → FRESH or FRESH → RECIRC each time pressing the switch.
5	MODE switch	Press the MODE switch.	Outlet opening switches FACE → B/L → FOOT → F/D each time pressing the switch
6	FAN switch	Press the FAN (+) switch.	Inlet opening switches LO → M1 → M2 → M3 → M4 → HI each time pressing the switch

2) Compressor operation inspection

No.	Point to check	Switch operation	Judgment standard
1	Compressor	1) Turn the A/C switch to ON. 2) Set the FAN switch between LO and HI.	Compressor: ON

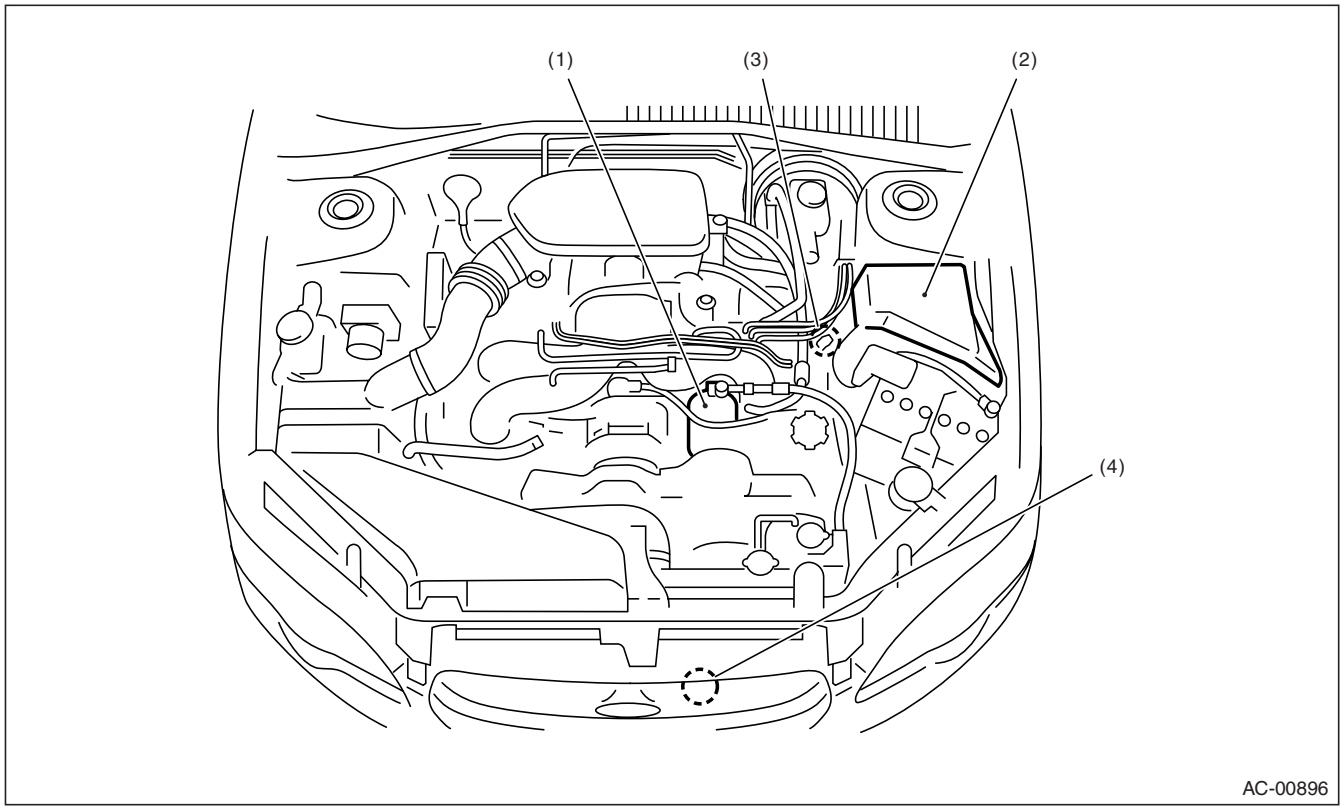
3) Inspection of illumination control

No.	Point to check	Switch operation	Judgment standard
1	Illumination	Turn the lighting switch to ON.	Illumination comes on.

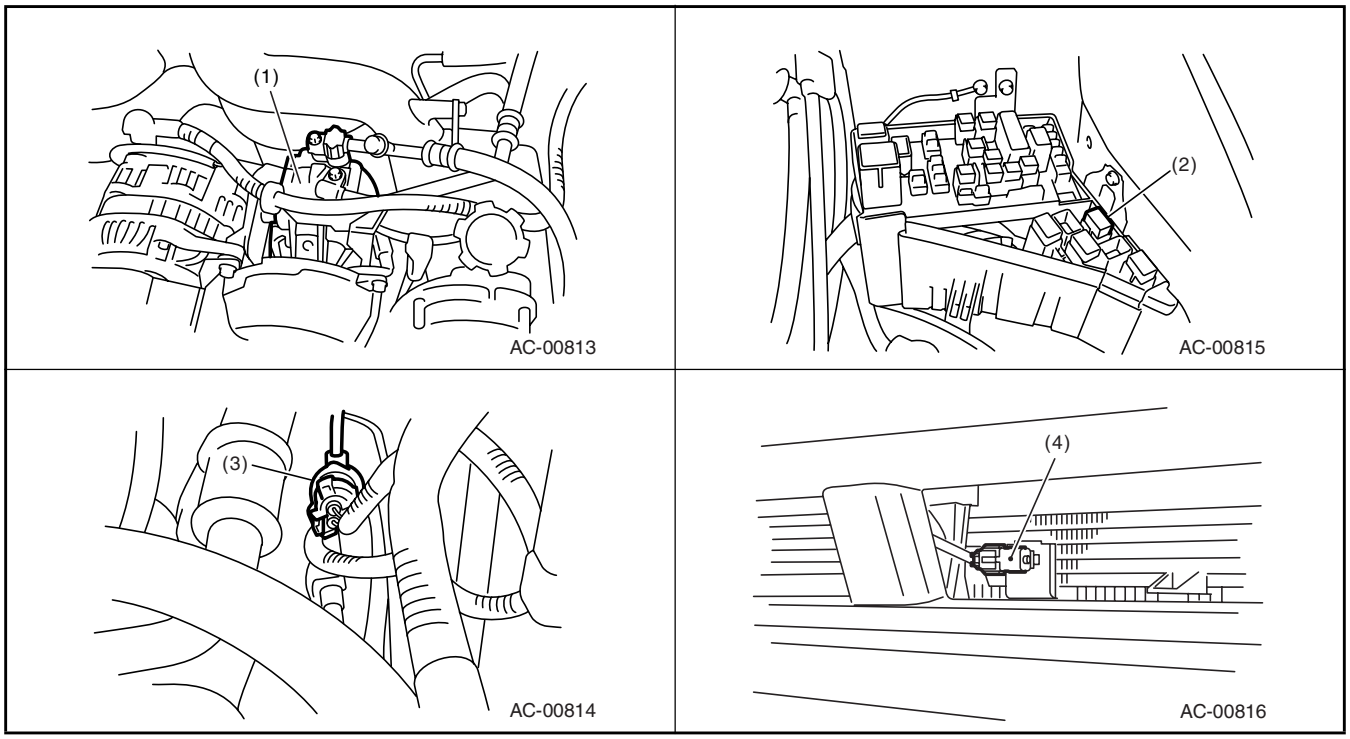
3. Electrical Component Location

A: LOCATION

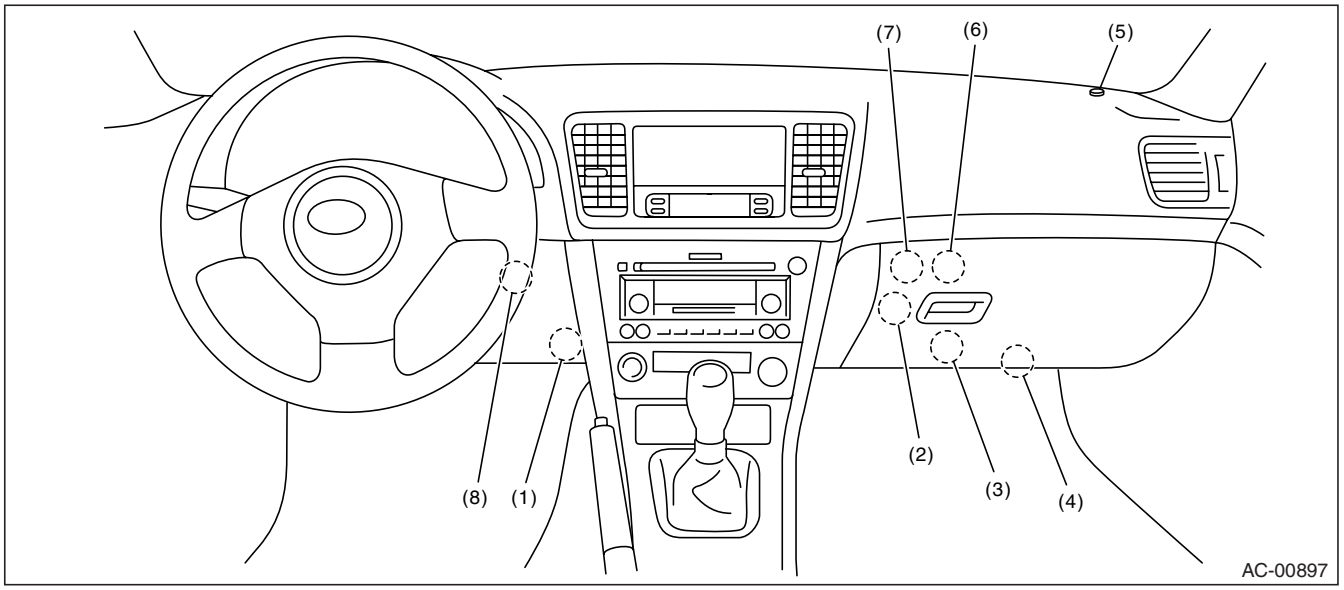
1. ENGINE COMPARTMENT



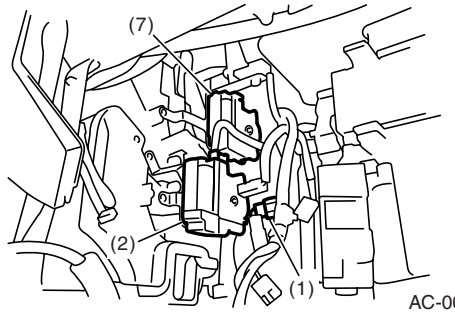
(1) A/C compressor
(2) A/C relay
(3) Pressure switch
(4) Ambient sensor



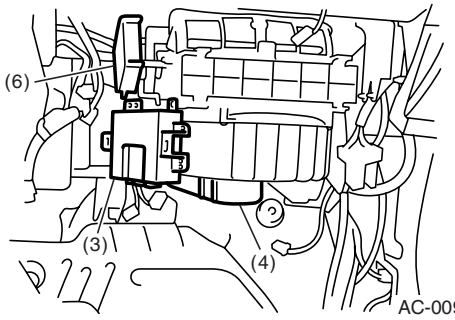
2. PASSENGER COMPARTMENT



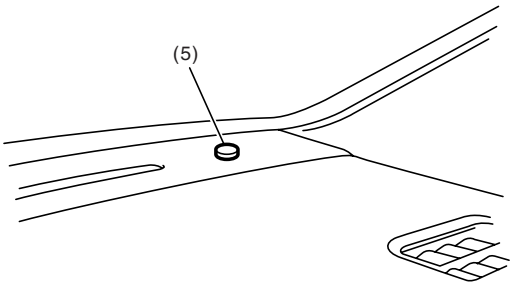
(1) Evaporator sensor
(2) Air mix door actuator
(3) Auto A/C control module
(4) Blower motor
(5) Sunload sensor
(6) Intake door actuator
(7) Mode door actuator
(8) In-vehicle sensor



AC-00898



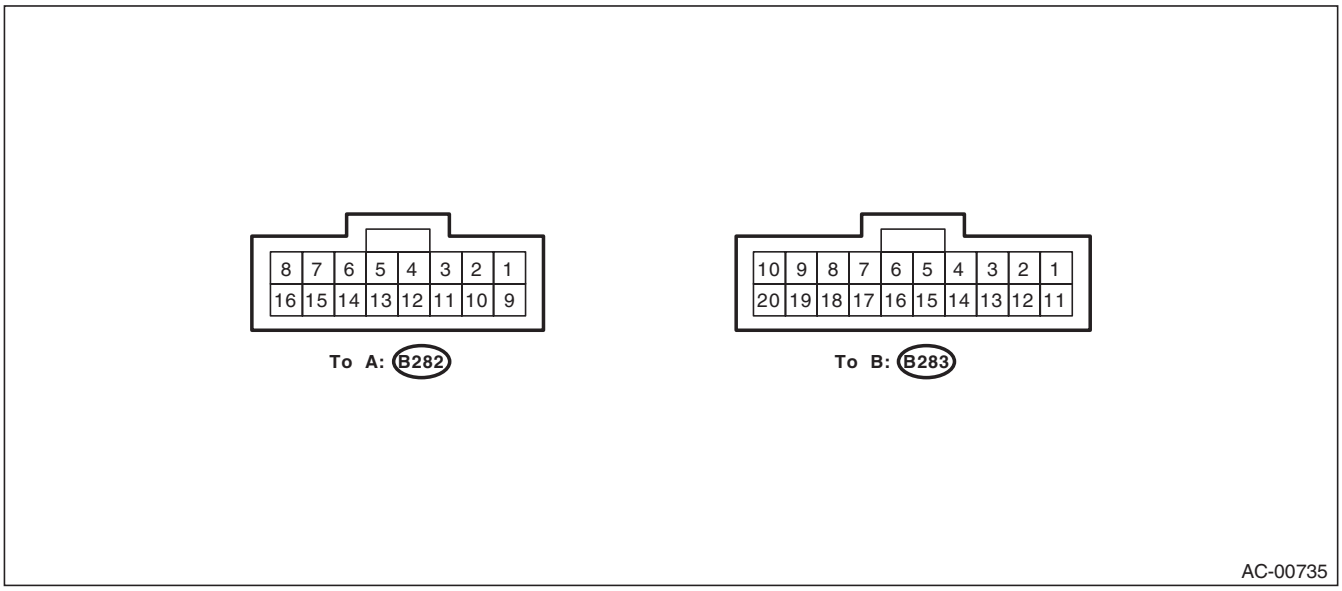
AC-00900



AC-00899

4. Auto A/C Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Terminal No.	Remarks	Measuring conditions	Specification
A1	Battery power supply	Ignition switch: OFF	Battery voltage
A2	ACC power supply	Ignition switch: ACC	Battery voltage
A3	Mode door actuator position signal	Mode door: FACE position	4 V
		Mode door: DEF position	1 V
A4	Air mix door actuator position signal	Air mix door: Maximum cool position	4 V
		Air mix door: Maximum hot position	1 V
A5	In-vehicle sensor	Ignition switch: ON	Less than 5 V
A6	Sunload sensor	Ignition switch: ON, With sunload (No sunload: 0 V)	3 V
A8	Sensor power supply	Ignition switch: ON	5 V
A9	Ignition power supply	Ignition switch: ON	Battery voltage
A10	A/C cut signal	Ignition switch: ON	Battery voltage
		When operating pressure SW	0 V
A13	Evaporator center	Ignition switch: ON	Less than 5 V
A14, A16	Ground	Continuity to chassis ground	0 Ω
A15	Sensor ground	Continuity to chassis ground	0 Ω
B1, B11	Ambient sensor, engine coolant temperature sensor	—	*1
B2	Blower motor control	Ignition switch : ON, Blower switch : ON	0.45 V
B3	Blower motor control	Ignition switch : ON, Blower switch : ON	9.05 V
B4	RAM monitor	—	*1
B5	RAM monitor	—	*1
B6	A/C ON signal	A/C ON (A/C OFF: 0 V)	7 — 14 V
B7	Mode door actuator power supply	When switching mode door from DEF → FACE	Battery voltage
B17		When switching mode door from FACE → DEF	Battery voltage
B8	Air mix door actuator power supply	When switching air mix door from HOT → COOL	Battery voltage
B18		When switching air mix door from COOL → HOT	Battery voltage
B10	Intake door actuator	FRESH (RECIRC: Battery voltage)	0 V
B20		RECIRC (FRESH: Battery voltage)	0 V
B13	Blower fan ON signal	When blower fan is rotating (Not rotating: Battery voltage)	0 V
B14	RAM monitor	—	*1

Terminal No.	Remarks	Measuring conditions	Specification
B15, B16	Control panel	—	*1

*1: Unable to measure the voltage for digital signal.

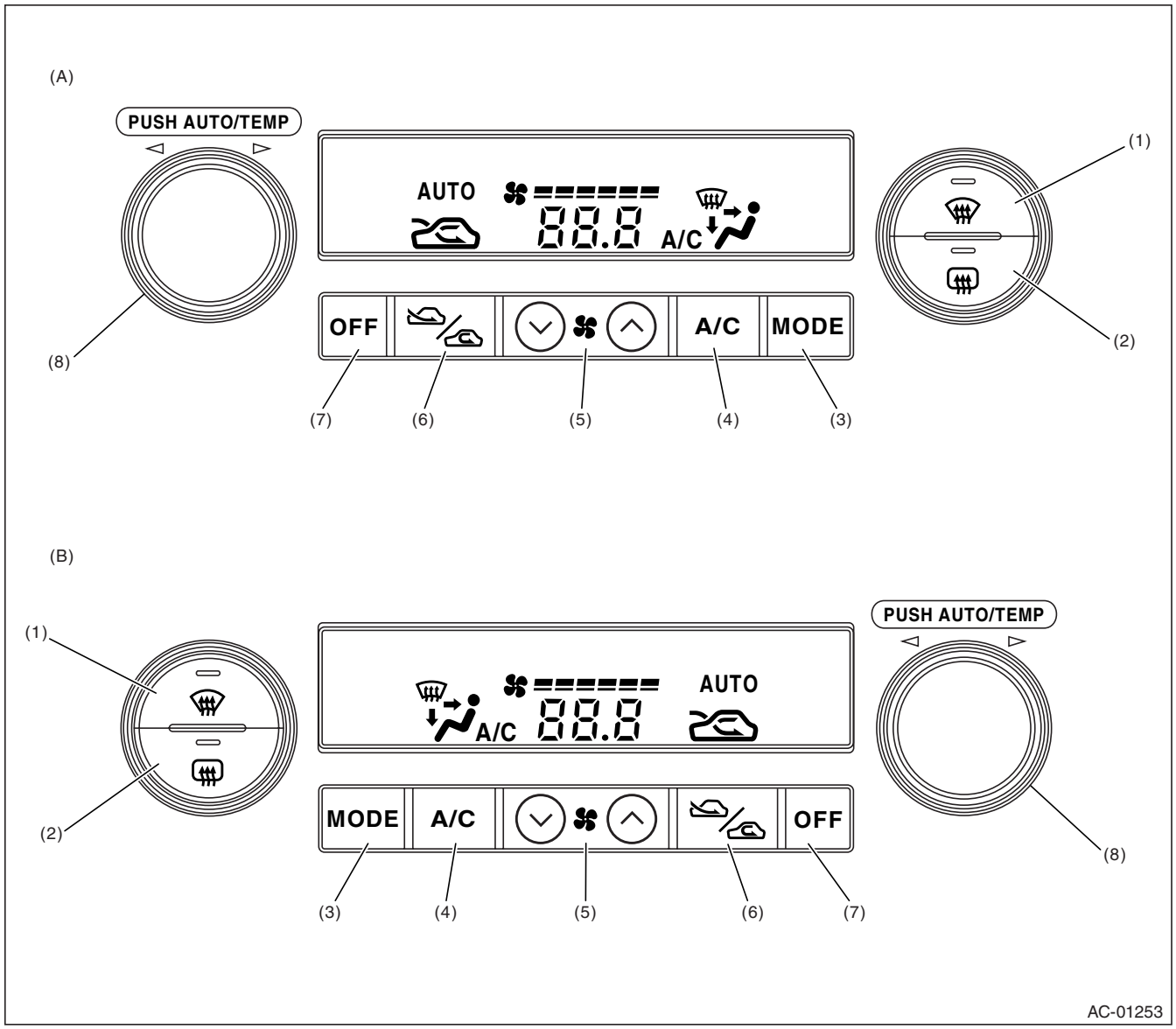
B: WIRING DIAGRAM

1. AIR CONDITIONER AUTO A/C MODEL

<Ref. to WI-189, WIRING DIAGRAM, Air Conditioning System.>

5. Diagnostic Chart for Self-Diagnosis

A: OPERATION



(A) LHD model
(B) RHD model

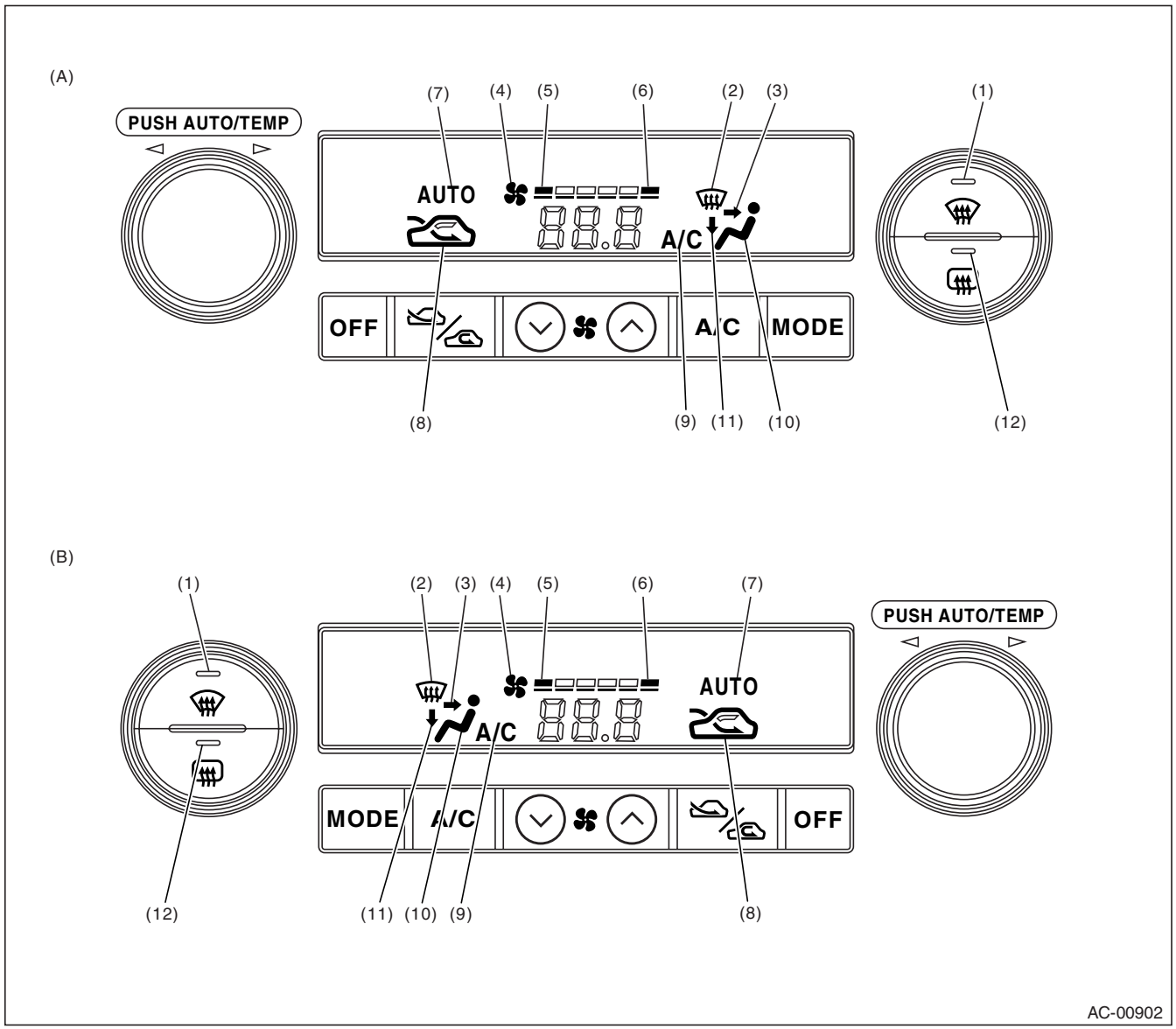
(1) Defroster switch
(2) Rear window defogger switch
(3) Air flow control switch
(4) A/C switch
(5) Fan switch
(6) FRESH/RECIRC switch
(7) OFF switch
(8) Temperature control dial (AUTO switch)

NOTE:
For A/C system self-diagnosis, there is one that checks the control panel, and the other that checks the whole control system (sensor, actuator, blower motor, etc.). Perform the self-diagnosis for control panel first, and then perform the self-diagnosis for control system.

1. A/C CONTROL PANEL SELF-DIAGNOSIS

	Step	Check	Yes	No
1	**SET SELF-DIAGNOSIS MODE BY OPERATING A/C CONTROL PANEL.** 1) Turn the ignition switch to OFF. 2) Turn the ignition switch to ON with the defroster switch and A/C switch pressed. 3) The screen display and indicator illuminate.	Does the self-diagnosis mode operate?	Go to step **2.**	<Ref. to AC(diag)-15, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.>
2	**CHECK DISPLAY AND INDICATOR.** Check the display and all indicators illuminate.	Do the display and all indicators illuminate?	Go to step **3.**	Replace the A/C control panel.
3	**CHECK SWITCH AND TEMPERATURE CONTROL DIAL INPUT.** According to the switch check table, press each switch or turn the temperature control dial, and check the relative screen display and indicators illuminate. <Ref. to AC(diag)-12, SWITCH CHECK TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Does the screen display related to each switch and dial input illuminate?	Go to step **4.**	Replace the A/C control panel.
4	**CHECK A/C CONTROL PANEL COMMUNICATION.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto A/C control module harness connector. 3) Using a suitable lead wire, short the terminal No. 15 and No. 16 of auto A/C control module harness connector (B283). 4) Turn the ignition switch to ON with the rear defogger switch and A/C switch pressed. 5) When no malfunction occurs in the control panel communication, “CL” is displayed in the screen; and when malfunction occurs, “OP” is displayed.	Is “CL” displayed in the screen?	A/C control panel is normal. Turn the ignition switch to OFF, and connect the auto A/C control module harness connector.	Replace the A/C control panel.

2. SWITCH CHECK TABLE



(A) LHD model (B) RHD model

Switch	Display screen	Switch	Display screen
A/C switch	(9)	FAN switch (+)	(6)
AUTO switch	(7)	FAN switch (–)	(5)
Air flow control switch	(10)	Temperature control dial (Right turn)	(3)
FRESH/RECIRC	(8)	Temperature control dial (Left turn)	(11)
Defroster switch	(1) (2)	OFF switch	(4)
Rear defogger switch	(12)		

3. A/C CONTROL SYSTEM SELF-DIAGNOSIS

	Step	Check	Yes	No
1	**SET SELF-DIAGNOSIS MODE BY OPERATING A/C CONTROL PANEL.** 1) Turn the ignition switch to OFF. 2) Start the engine with the auto switch and FRESH/RECIRC switch pressed. NOTE: Self-diagnosis can also be performed with ignition switch ON, but start the engine because telling the magnet clutch operation is difficult. 3) All the indicator blinks four times.	Does the self-diagnosis mode operate?	Go to step **2.**	<Ref. to AC(diag)-15, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.>
2	**CHECK EACH SENSOR AND POTENTIOMETER** 1) After the indicators are completed to blink, automatically change to the inspection mode of sensor and potentiometer. NOTE: Display items can be changed each time the A/C switch is pressed. (Step Operation) 2) When malfunction occurs in each sensor and potentiometer, codes are displayed on the screen. When no malfunction occurs in each sensor and potentiometer, code “20” is displayed on the screen. 3) Identify the defective sensor according to the sensor check table. <Ref. to AC(diag)-14, SENSOR CHECK TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Are other codes except “20” displayed?	Repair the defective sensor. <Ref. to AC(diag)-30, Diagnostic Procedure for Sensors.>	Go to step **3.**
3	**CHECK EACH ACTUATOR, BLOWER FAN AND MAGNET CLUTCH.** 1) After completing each sensor and potentiometer inspection, change to the inspection mode of actuator, blower fan and magnet clutch by pressing the defroster switch. 2) Each mode will change and operate automatically every four seconds. NOTE: Operation mode items can be changed each time the A/C switch is pressed. (Step Operation) 3) Check the operation of actuator, blower fan and magnet clutch in each mode according to the operating mode table. <Ref. to AC(diag)-14, OPERATING MODE TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Do the actuator, blower fan and magnet clutch operate along the operating mode table?	A/C control system is normal. Press the OFF switch and complete the self-diagnosis mode.	Repair the malfunction part in accordance with each diagnostic chart. <Ref. to AC(diag)-15, Diagnostics for A/C System Malfunction.> or <Ref. to AC(diag)-24, Diagnostic Procedure for Actuators.>

4. SENSOR CHECK TABLE

NOTE:
When the sunload sensor check is conducted indoors or in the shade, open circuit might be indicated. Always check the sunload sensor at the place where the sun shines directly on it.

Display screen (Malfunction at present) *1	SENSOR	Trouble contents
21/AUTO Blink	In-vehicle sensor	Broken
–21/AUTO Blink		Short
22/AUTO Blink	Ambient sensor	Sensor trouble or communication malfunction
23/AUTO Blink	Evaporator sensor	Broken
–23/AUTO Blink		Short
24/AUTO Blink	Engine coolant temperature sensor	Sensor trouble or communication malfunction
25 Blink	Sunload sensor	Open *2
–25/AUTO Blink		Short
26/AUTO Blink	Air mix door actuator potentiometer	COOL
27/AUTO Blink		HOT
28/AUTO Blink	Mode door actuator potentiometer	FACE
29/AUTO Blink		DEF
20 Blink	When all conditions are normal	

*1: “AUTO” display does not blink when past malfunction occurred. Past malfunction means that abnormal signal had input for a certain time continuously in the past.
*2: Present malfunction only is displayed for sunload sensor open circuit.

5. OPERATING MODE TABLE

Display screen	FRESH/RECIRC door	Mode door	Air mix door	Blower fan	A/C compressor (Magnet clutch)
31	FRESH	FACE	Maximum cool	LO	OFF
32	RECIRC	FACE	Maximum cool	LO	ON
33	RECIRC	FACE	Maximum cool	M1	ON
34	FRESH	B/L	50%	M1	ON
35	FRESH	FOOT	50%	M1	ON
36	FRESH	FOOT	Maximum hot	M3	ON
37	FRESH	F/D	Maximum hot	M3	ON
38	FRESH	DEF	Maximum hot	HI	ON

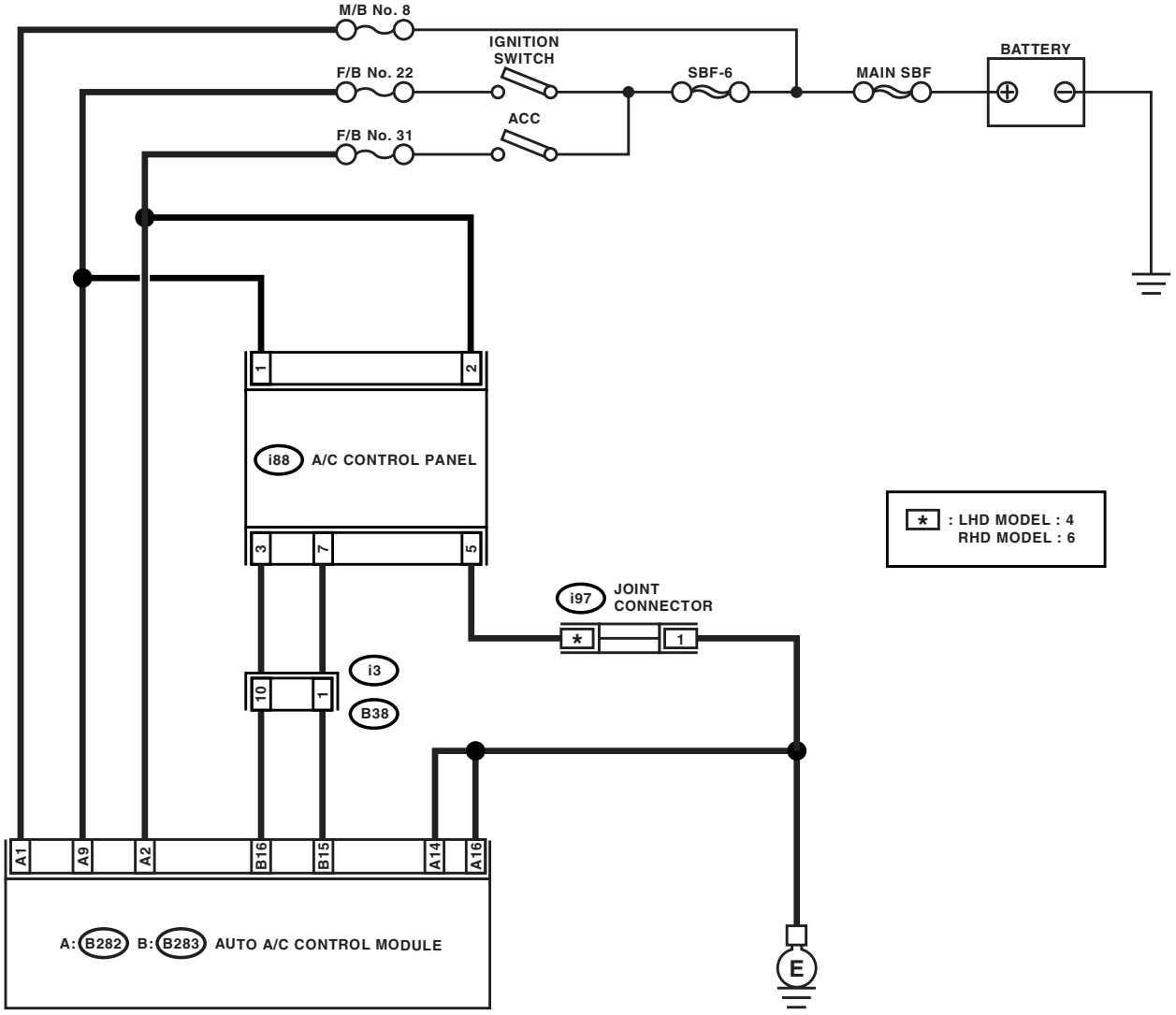
6. Diagnostics for A/C System Malfunction

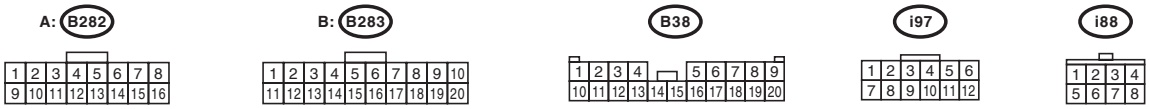
A: A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE

TROUBLE SYMPTOM:

- "Set" temperature is not indicated on the display, switch LEDs are faulty and switches do not operate.
- Self-diagnosis system does not operate.

WIRING DIAGRAM:





AC-01248

	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 8 from main fuse box. 3) Check the condition of fuse.	Is the fuse blown-out?	Replace the fuse.	Go to step **2.**
2	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 22 and 31 from fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown-out?	Replace the fuse.	Go to step **3.**
3	**CHECK A/C CONTROL PANEL POWER CIRCUIT.** 1) Replace the A/C control panel. 2) Disconnect the A/C control panel harness connector. 3) Measure the voltage between A/C control panel harness connector terminal and chassis ground after turning the ignition switch to ACC position. ***Connector & terminal*** ***(i88) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **4.**	Check the harness for open or short circuit between A/C control panel and fuse.
4	**CHECK A/C CONTROL PANEL POWER CIRCUIT.** Measure the voltage between A/C control panel harness connector terminal and chassis ground after turning the ignition switch to ON position. ***Connector & terminal*** ***(i88) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **5.**	Check the harness for open or short circuit between A/C control panel and fuse.
5	**CHECK A/C CONTROL PANEL GROUND POWER CIRCUIT.** Measure the resistance in harness between A/C control panel and chassis ground after turning the ignition switch to OFF position. ***Connector & terminal*** ***(i88) No. 5 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **6.**	Repair the harness for ground line.
6	**CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.** Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to OFF position. ***Connector & terminal*** ***(B282) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **7.**	Check the harness for open or short circuit between auto A/C control module and fuse.
7	**CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.** Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to ACC position. ***Connector & terminal*** ***(B282) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **8.**	Check the harness for open or short circuit between auto A/C control module and fuse.
8	**CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.** Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to ON position. ***Connector & terminal*** ***(B282) No. 9 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **9.**	Check the harness for open or short circuit between auto A/C control module and fuse.

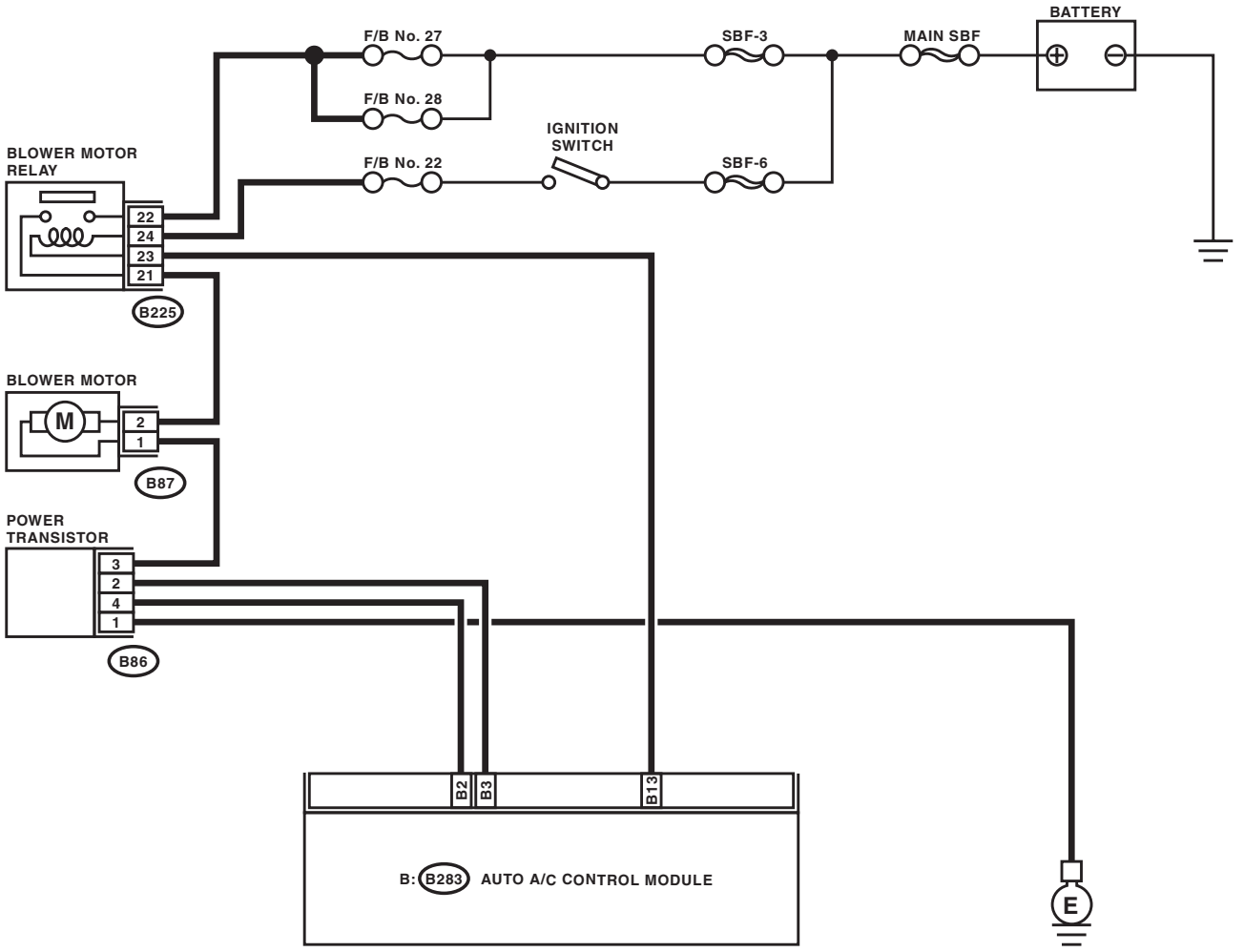
	Step	Check	Yes	No
9	**CHECK AUTO A/C CONTROL MODULE GROUND CIRCUIT.** Measure the resistance in harness between auto A/C control module and chassis ground. ***Connector & terminal*** ***(B282) No. 14, No. 16 — Chassis ground:***	Is the resistance less than 5 Ω?	Go to step **10.**	Repair the harness for ground line.
10	**CHECK COMMUNICATION CIRCUIT.** Measure the resistance in harness between A/C control panel and auto A/C control module. ***Connector & terminal*** ***(i88) No. 3 — (B283) No. 16:*** ***(i88) No. 7 — (B283) No. 15:***	Is the resistance less than1 Ω?	Go to step **11.**	Repair the harness.
11	**CHECK POOR CONTACT.** Check poor contact in auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module.

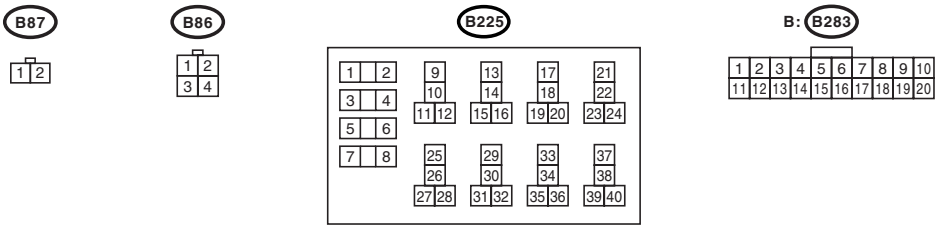
B: BLOWER FAN DOES NOT ROTATE.

TROUBLE SYMPTOM:

- Blower motor does not rotate.
- Blower motor does not rotate in “HI”.

WIRING DIAGRAM:



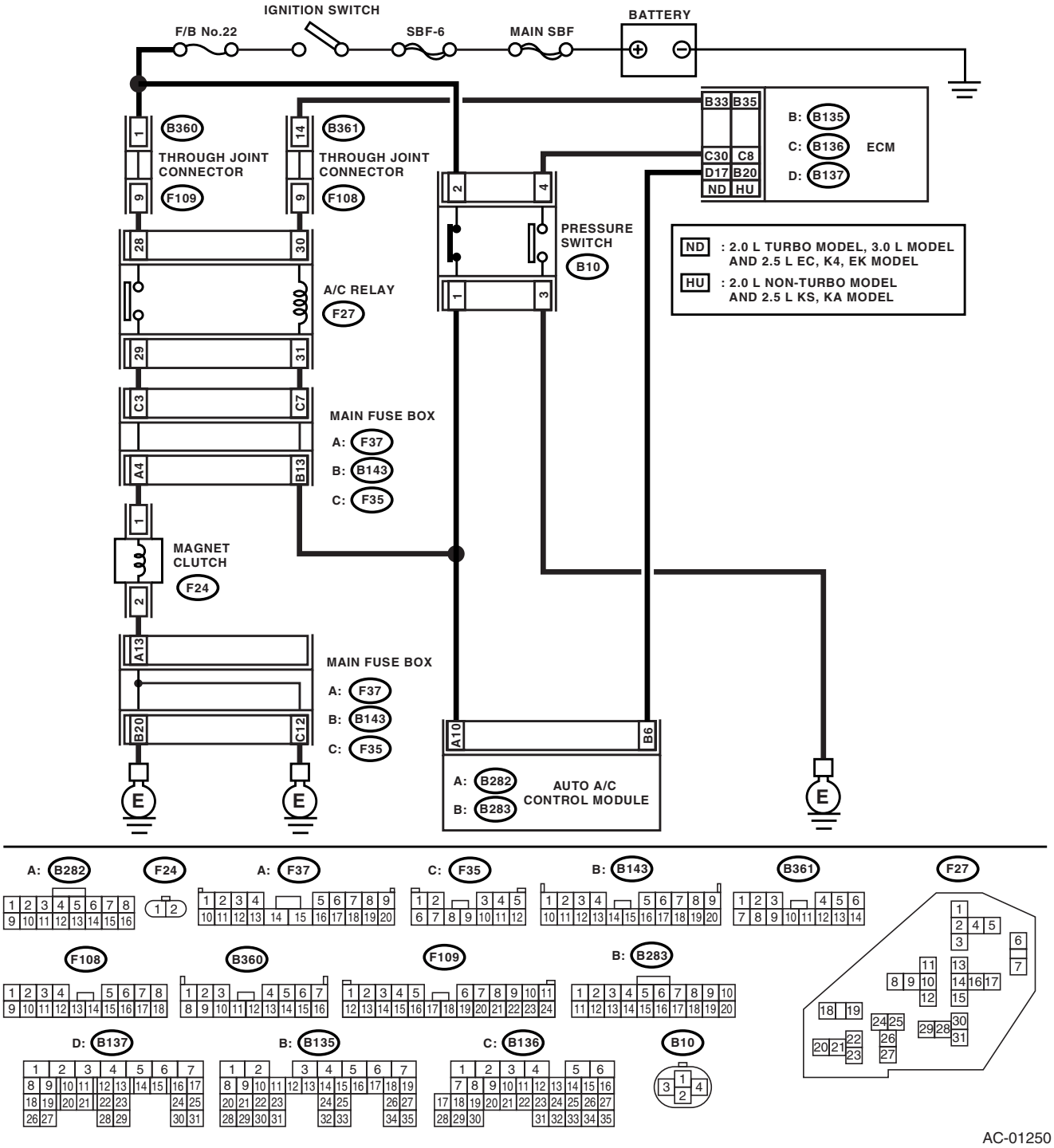


AC-01249

	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Remove the fuse No. 22, 27 and 28 from fuse & relay box. 2) Check the condition of fuse.	Is any fuse blown-out?	Replace the fuse.	Go to step **2.**
2	**CHECK POWER SUPPLY FOR BLOWER MOTOR.** 1) Turn the ignition switch to ON. 2) Turn the blower switch to ON. 3) Measure the voltage between blower motor and chassis ground. ***Connector & terminal*** ***(B87) No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Repair the open circuit of blower motor power supply line harness.
3	**CHECK BLOWER MOTOR RELAY.** 1) Turn the ignition switch to OFF. 2) Remove the blower motor relay. 3) Connect the battery positive (+) terminal to terminal No. 24 of blower motor relay, and negative (−) terminal to terminal No. 23. 4) Measure the resistance between terminals No. 21 and 22. ***Terminals*** ***No. 21 — No. 22:***	Is the resistance less than 1 Ω?	Go to step **4.**	Replace the blower motor relay.
4	**CHECK BLOWER MOTOR.** 1) Disconnect the connector from blower motor. 2) Connect the battery positive (+) terminal to terminal No. 2 of blower motor connector, and negative (−) terminal to terminal No. 1. 3) Make sure the blower motor runs.	Does the blower motor run?	Go to step **5.**	Replace the blower motor.
5	**CHECK POOR CONTACT.** Check poor contact in auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module.

C: COMPARTMENT TEMPERATURE DOES NOT CHANGE, OR A/C SYSTEM DOES NOT RESPOND PROMPTLY.

WIRING DIAGRAM:



AC-01250

	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 22 from fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown-out?	Replace the fuse.	Go to step **2.**
2	**CHECK SIGNAL TO A/C RELAY AND A/C CONTROL MODULE.** 1) Disconnect the A/C relay and auto A/C control module harness connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between A/C relay connector terminal and chassis ground. 4) Measure the voltage between auto A/C control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(F27) No. 31 (+) — Chassis ground (−):*** ***(B282) No. 10 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **5.**	Go to step **3.**
3	**CHECK POWER SUPPLY FOR PRESSURE SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the pressure switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between pressure switch harness connector terminal and chassis ground. ***Connector & terminal*** ***(B10) No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **4.**	Check the harness for open or short circuit between fuse and pressure switch.
4	**CHECK HARNESS BETWEEN PRESSURE SWITCH AND A/C RELAY, AUTO A/C CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Measure the resistance in harness between pressure switch connector and A/C relay connector. 3) Measure the resistance in harness between pressure switch connector and auto A/C control module connector. ***Connector & terminal*** ***(B10) No. 1 — (F27) No. 31:*** ***(B10) No. 1 — (B282) No. 10:***	Is the resistance less than 1 Ω?	Check the pressure switch. <Ref. to AC-41, INSPECTION, Pressure Switch (Triple Pressure Switch).>	Repair the harness.
5	**CHECK POWER SUPPLY FOR A/C RELAY.** Measure the voltage between A/C relay connector terminal and chassis ground. ***Connector & terminal*** ***(F27) No. 28 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **6.**	Check the harness for open or short circuit between fuse and A/C relay.
6	**CHECK A/C RELAY.** Check the A/C relay. <Ref. to AC-40, INSPECTION, Relay and Fuse.>	Is malfunction found in A/C relay?	Go to step **7.**	Replace the A/C relay.

	Step	Check	Yes	No
7	**CHECK A/C ON SIGNAL.** 1) Turn the ignition switch to OFF. 2) Connect the A/C relay and all disconnected connectors. 3) Start the engine and turn the A/C switch to ON. 4) Turn the temperature control dial at maximum cool position. 5) Measure the voltage between auto A/C control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B283) No. 6 (+) — Chassis ground (–):***	Is the voltage more than 5.5 V?	Go to step **9.**	Go to step **8.**
8	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of auto A/C control module and ECM. 3) Measure the resistance in harness between auto A/C control module connector and ECM connector. ***Connector & terminal*** ***2.0 L turbo model, 3.0 L model and 2.5 L EC, K4, EK model*** ***(B283) No. 6 — (B137) No. 17:*** ***2.0 L non-turbo model and 2.5 L KS, KA model*** ***(B283) No. 6 — (B135) No. 20:***	Is the resistance less than 1 Ω?	Replace the auto A/C control module.	Repair the harness.
9	**CHECK MAGNET CLUTCH ON SIGNAL.** 1) Stop the engine and turn the A/C switch to OFF. 2) Turn the ignition switch to ON. 3) Measure the voltage between ECM connector terminal and chassis ground. ***Connector & terminal*** ***2.0 L turbo model, 3.0 L model and 2.5 L EC, K4, EK model*** ***(B135) No. 33 (+) — Chassis ground (–):*** ***2.0 L non-turbo model and 2.5 L KS, KA model*** ***(B135) No. 35 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **10.**	Check the harness for open or short circuit between A/C relay and ECM.
10	**CHECK MAGNET CLUTCH ON SIGNAL.** 1) Start the engine and turn the A/C switch to ON. 2) Turn the temperature control dial at maximum cool position. 3) Measure the voltage between ECM connector terminal and chassis ground. ***Connector & terminal*** ***2.0 L turbo model, 3.0 L model and 2.5 L EC, K4, EK model*** ***(B135) No. 33 (+) — Chassis ground (–):*** ***2.0 L non-turbo model and 2.5 L KS, KA model*** ***(B135) No. 35 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **11.**	Replace the ECM.

	Step	Check	Yes	No
11	**CHECK POWER SUPPLY FOR MAGNET CLUTCH.** 1) Stop the engine and turn the A/C switch to OFF. 2) Disconnect the harness connector of magnet clutch. 3) Start the engine and turn the A/C switch to ON. 4) Turn the temperature control dial at maximum cool position. 5) Measure the voltage between magnet clutch harness connector terminal and chassis ground. ***Connector & terminal*** ***(F24) No. 1 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **12.**	Check the harness for open or short circuit between A/C relay and magnet clutch.
12	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND ECM.** 1) Stop the engine and turn the A/C switch to OFF. 2) Measure the resistance between magnet clutch harness connector terminal and chassis ground. ***Connector & terminal*** ***(F24) No. 2 — Chassis ground:***	Is the resistance less than 1 Ω?	Check the compressor. <Ref. to AC-34, INSPECTION, Compressor.>	Repair the harness.

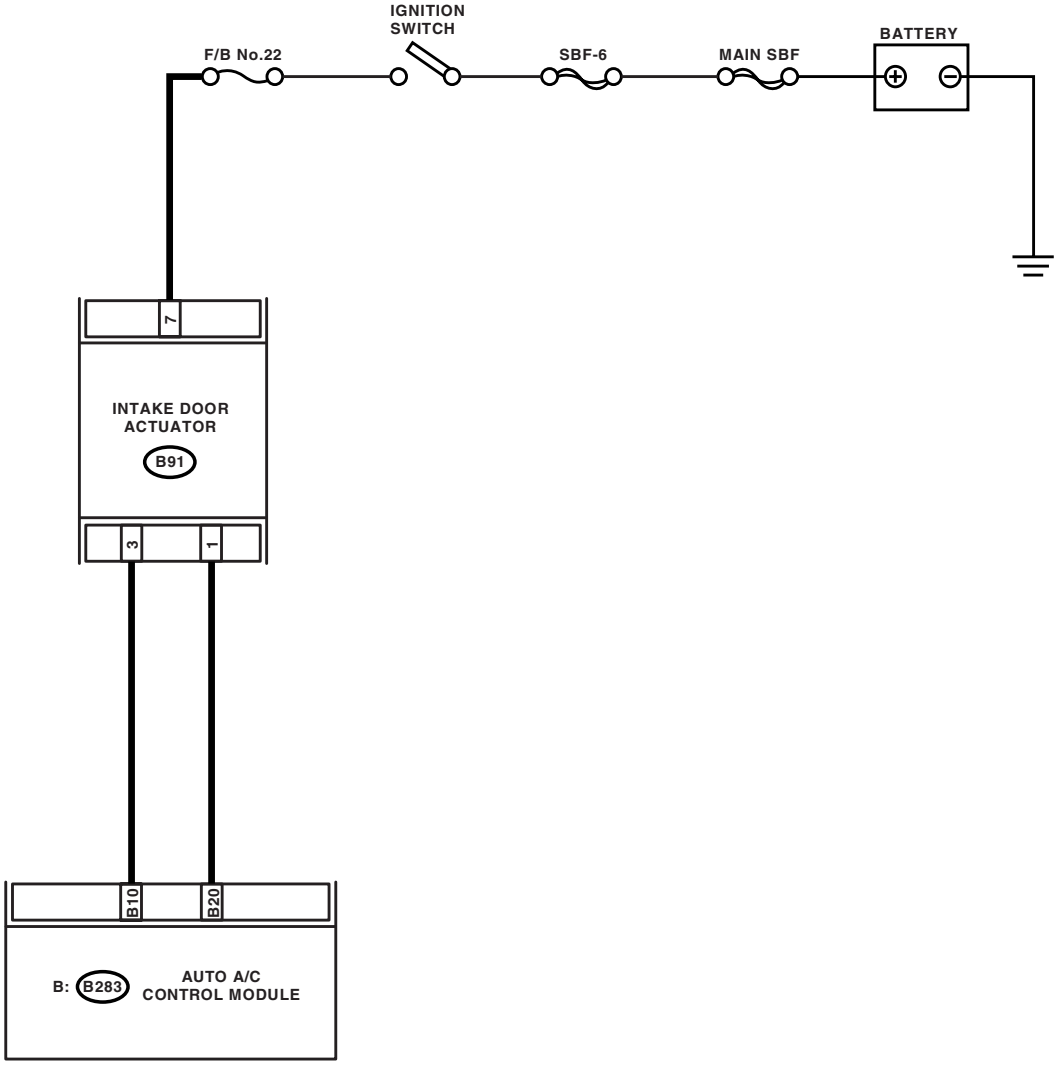
7. Diagnostic Procedure for Actuators

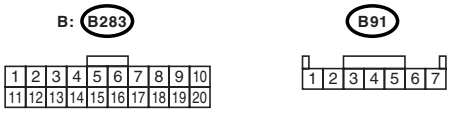
A: INTAKE DOOR ACTUATOR

TROUBLE SYMPTOM:

FRESH/RECIRC mode is not changed.

WIRING DIAGRAM:



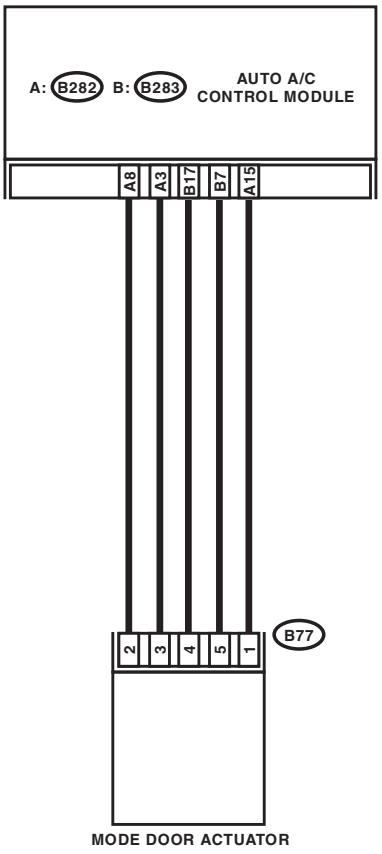


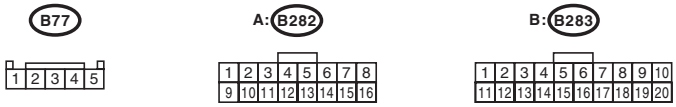
AC-01251

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the intake door actuator connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between intake door actuator connector and chassis ground. ***Connector & terminal*** ***(B91) No. 7 (+) — Chassis ground (−):***	Is the voltage 7 V (at normal temperature)?	Go to step **2.**	Check the harness for open or short circuit between intake door actuator and fuse.
2	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto A/C control module connector. 3) Measure the resistance between intake door actuator connector and auto A/C control module connector. ***Connector & terminal*** ***(B283) No. 10 — (B91) No. 3:*** ***(B283) No. 20 — (B91) No. 1:***	Is the resistance less than 1 Ω?	Go to step **3.**	Repair the harness between auto A/C control module and intake door actuator.
3	**CHECK OPERATION OF INTAKE DOOR ACTUATOR.** 1) Connect the intake door actuator connector. 2) Ground the auto A/C control module connector with a suitable wire. 3) Turn the ignition switch to ON, and check the operation of intake door actuator. ***Connector & terminal*** ***(B283) No. 10 — Chassis ground:***	Does the actuator move to the FRESH side?	Go to step **4.**	Replace the intake door actuator.
4	**CHECK OPERATION OF INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Ground the auto A/C control module connector with a suitable wire. 3) Turn the ignition switch to ON, and check the operation of intake door actuator. ***Connector & terminal:*** ***(B283) No. 20 — Chassis ground:***	Does the actuator move to the RECIRC side?	Replace the auto A/C control module.	Replace the intake door actuator.

B: MODE DOOR ACTUATOR

TROUBLE SYMPTOM:
Air flow outlet is not changed.
WIRING DIAGRAM:





AC-00827

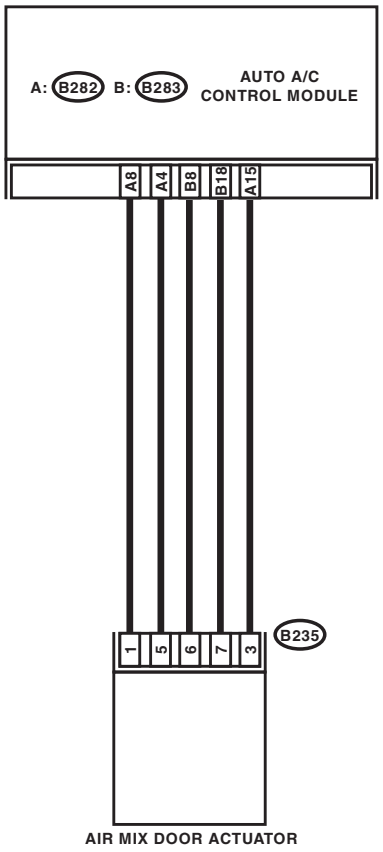
	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR POSITION SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the mode door actuator connector. 3) Turn the ignition switch and AUTO switch to ON. 4) Measure the voltage between auto A/C control module connector terminals. ***Connector & terminal*** ***(B282) No. 8 (+) — (B282) No. 15 (–):***	Is the voltage approx. 5 V?	Go to step **2.**	Replace the auto A/C control module.
2	**CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the air flow control switch to FACE position. ***Connector & terminal*** ***(B283) No. 7 (+) — Chassis ground (–):***	Is the voltage 7 V (at normal temperature)?	Go to step **3.**	Replace the auto A/C control module.
3	**CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the air flow control switch to DEF position. ***Connector & terminal*** ***(B283) No. 17 (+) — Chassis ground (–):***	Is the voltage 7 V (at normal temperature)?	Go to step **4.**	Replace the auto A/C control module.
4	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND MODE DOOR ACTUATOR.** 1) Turn the A/C and ignition switch to OFF. 2) Disconnect the auto A/C control module connector. 3) Measure the resistance between auto A/C control module and mode door actuator connector. ***Connector & terminal*** ***(B77) No. 1 — (B282) No. 15:*** ***(B77) No. 2 — (B282) No. 8:*** ***(B77) No. 3 — (B282) No. 3:*** ***(B77) No. 4 — (B283) No. 17:*** ***(B77) No. 5 — (B283) No. 7:***	Is the resistance less than 1 Ω?	Go to step **5.**	Repair the harness between auto A/C control module and mode door actuator.
5	**CHECK MODE DOOR ACTUATOR POSITION SWITCH SIGNAL.** 1) Connect the connector of auto A/C control module and mode door actuator. 2) Turn the ignition switch and AUTO switch to ON. 3) Check the voltage between auto A/C control module connector terminals while changing the mode between DEF and FACE. ***Connector & terminal*** ***(B282) No. 3 (+) — (B282) No. 15 (–):***	Does the voltage change between 1 (DEF) — 4 (FACE) V?	Go to step **6.**	Replace the mode door actuator.
6	**CHECK POOR CONTACT.** Check poor contact in auto A/C control module and connector.	Is there poor contact in connector?	Repair connector.	Replace the auto A/C control module.

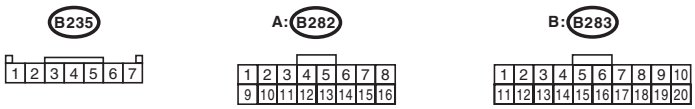
C: AIR MIX DOOR ACTUATOR

TROUBLE SYMPTOM:

Outlet air temperature does not change.

WIRING DIAGRAM:





AC-00828

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR POSITION SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the air mix door actuator connector. 3) Turn the ignition switch and AUTO switch to ON. 4) Measure the voltage between auto A/C control module connector terminals. ***Connector & terminal*** ***(B282) No. 8 (+) — (B282) No. 15 (−):***	Is the voltage approx. 5 V?	Go to step **2.**	Replace the auto A/C control module.
2	**CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the temperature control dial to maximum COOL position. ***Connector & terminal*** ***(B283) No. 8 (+) — Chassis ground (−):***	Is the voltage 7 V (at normal temperature)?	Go to step **3.**	Replace the auto A/C control module.
3	**CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the temperature control dial to maximum HOT position. ***Connector & terminal*** ***(B283) No. 18 (+) — Chassis ground (−):***	Is the voltage 7 V (at normal temperature)?	Go to step **4.**	Replace the auto A/C control module.
4	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND AIR MIX DOOR ACTUATOR.** 1) Turn the A/C and ignition switch to OFF. 2) Disconnect the auto A/C control module connector. 3) Measure the resistance between auto A/C control module and air mix door actuator connector. ***Connector & terminal*** ***(B235) No. 1 — (B282) No. 8:*** ***(B235) No. 3 — (B282) No. 15:*** ***(B235) No. 5 — (B282) No. 4:*** ***(B235) No. 6 — (B283) No. 8:*** ***(B235) No. 7 — (B283) No. 18:***	Is the resistance less than 1 Ω?	Go to step **5.**	Repair the harness between auto A/C control module and air mix door actuator.
5	**CHECK AIR MIX DOOR ACTUATOR POSITION SWITCH SIGNAL.** 1) Connect the connector of auto A/C control module and air mix door actuator. 2) Turn the ignition switch and AUTO switch to ON. 3) Check the voltage between auto A/C control module connector terminals while changing the setting temperature between maximum COOL and maximum HOT. ***Connector & terminal*** ***(B282) No. 4 (+) — (B282) No. 15 (−):***	Does the voltage change between 1 (maximum HOT) — 4 (maximum COOL) V?	Go to step **6.**	Replace the air mix door actuator.
6	**CHECK POOR CONTACT.** Check poor contact in auto A/C control module and connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module.

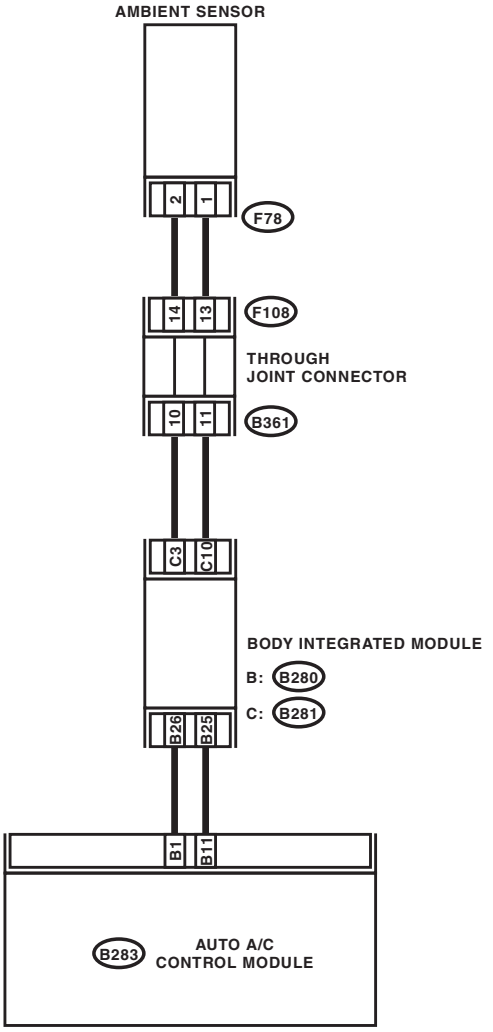
8. Diagnostic Procedure for Sensors

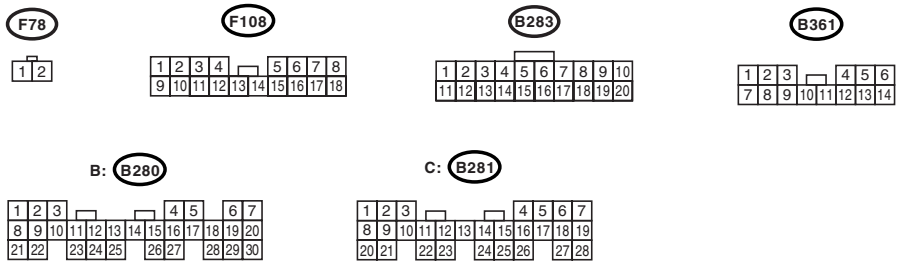
A: AMBIENT SENSOR

TROUBLE SYMPTOM:

Fan speed is not switched when the fan speed control dial is in AUTO position.

WIRING DIAGRAM:





AC-00829

	Step	Check	Yes	No
1	**CHECK AMBIENT SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ambient sensor. 3) Measure the resistance between connector terminals of ambient sensor. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance approx. 2.2 kΩ at 25°C (77°F)?	Go to step **2.**	Replace the ambient sensor.
2	**CHECK INPUT SIGNAL FOR AMBIENT SENSOR.** 1) Turn the ignition to ON. 2) Measure the voltage between connector (F78) terminals. ***Connector & terminal*** ***(F78) No. 1 (+) — No. 2 (–):***	Is the voltage approx. 5 V?	Go to step **6.**	Go to step **3.**
3	**CHECK OUTPUT SIGNAL OF BODY INTEGRATED MODULE.** 1) Turn the ignition switch to OFF. 2) Draw out the body integrated module. 3) Disconnect the connector from ambient sensor. 4) Turn the ignition switch to ON. 5) Measure the voltage between connector terminals of body integrated module. ***Connector & terminal*** ***(B281) No. 3 (+) — No. 10 (–):***	Is the voltage approx. 5 V?	Go to step **4.**	Go to step **6.**
4	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED MODULE AND AMBIENT SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated module. 3) Measure the resistance in harness between body integrated module and ambient sensor. ***Connector & terminal*** ***(F78) No. 1 — (B281) No. 10:***	Is the resistance less than 1 Ω?	Go to step **5.**	Repair the open circuit in harness between body integrated module and ambient sensor.
5	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED MODULE AND AMBIENT SENSOR.** Measure the resistance in harness between body integrated module and ambient sensor. ***Connector & terminal*** ***(F78) No. 2 — (B281) No. 3:***	Is the resistance less than 1 Ω?	Go to step **6.**	Repair the open circuit in harness between body integrated module and ambient sensor.
6	**CHECK COMMUNICATION ERROR DISPLAY.** 1) Connect the connectors of body integrated module and ambient sensor. 2) Check “Er lu” is indicated on the Odo/Trip meter in combination meter after turning the ignition switch to ON.	Is the error display “Er lu” indicated?	Replace the body integrated module. <Ref. to SL-44, REMOVAL, Body Integrated Module.>	Go to step **7.**

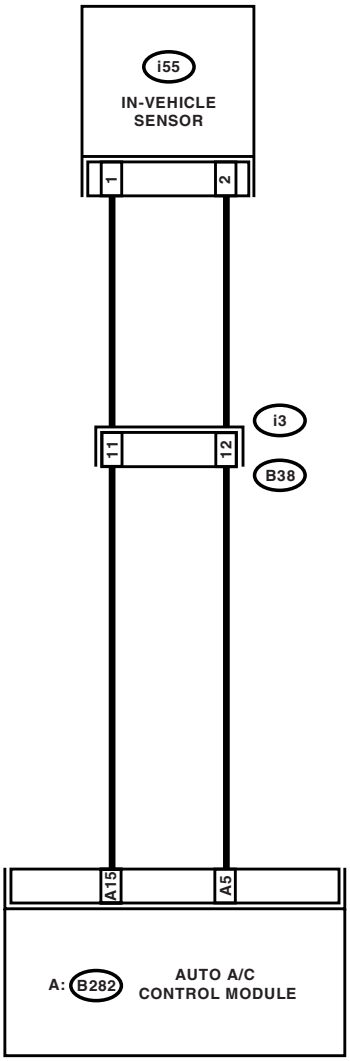
	Step	Check	Yes	No
7	**CHECK COMMUNICATION ERROR DISPLAY.** Check “Er LC” is indicated on the Odo/Trip meter in combination meter after turning the ignition switch to ON.	Is the error display “Er LC” indicated?	Go to step **8.**	Read the Diagnostic Trouble Code (DTC) for body integrated module, and perform the diagnosis according to DTC. <Ref. to LAN(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>
8	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED MODULE AND AUTO A/C CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated module. 3) Disconnect auto A/C control module connector. 4) Measure the resistance in harness between body integrated module and auto A/C control module. ***Connector & terminal*** ***(B280) No. 25 — (B283) No. 11:***	Is the resistance less than 1Ω?	Go to step **9.**	Repair the open circuit in harness between body integrated module and auto A/C control module. <Ref. to LAN(diag)-5, LAN SYSTEM, CAUTION, General Description.>
9	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED MODULE AND AUTO A/C CONTROL MODULE.** Measure the resistance in harness between body integrated module and auto A/C control module. ***Connector & terminal*** ***(B280) No. 25 — (B283) No. 1:***	Is the resistance less than 1Ω?	Go to step **10.**	Repair the open circuit in harness between body integrated module and auto A/C control module. <Ref. to LAN(diag)-5, LAN SYSTEM, CAUTION, General Description.>
10	**CHECK POOR CONTACT.** Check poor contact in auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the A/C control module.

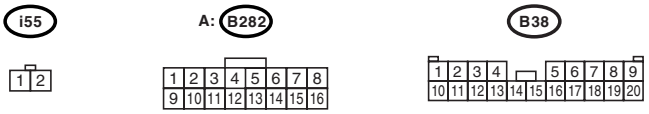
B: IN-VEHICLE SENSOR

TROUBLE SYMPTOM:

Blower fan speed, air flow outlet and air flow inlet do not change after turning the AUTO switch to ON.

WIRING DIAGRAM:





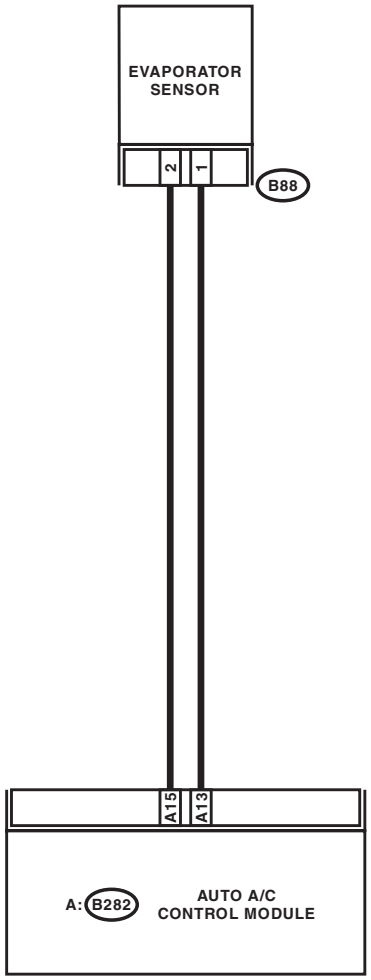
AC-00830

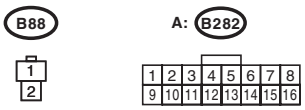
Diagnostic Procedure for Sensors

	Step	Check	Yes	No
1	**CHECK IN-VEHICLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Remove the driver's side lower cover. 3) Disconnect the connector from in-vehicle sensor. 4) Measure the resistance between connector terminals of in-vehicle sensor. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance approx. 2.7 kΩ at 20°C (68°F)?	Go to step **2.**	Replace the in-vehicle sensor.
2	**CHECK INPUT SIGNAL FOR IN-VEHICLE SENSOR.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (i55) terminals. ***Connector & terminal*** ***(i55) No. 2 (+) — No. 1 (–):***	Is the voltage approx. 5 V?	Go to step **6.**	Go to step **3.**
3	**CHECK AUTO A/C CONTROL MODULE OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Remove the auto A/C control module. 3) Turn the ignition switch to ON. 4) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(B282) No. 5 (+) — (B282) No. 15 (–):***	Is the voltage approx. 5 V?	Go to step **4.**	Go to step **6.**
4	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND IN-VEHICLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from auto A/C control module. 3) Measure the resistance in harness between auto A/C control module and in-vehicle sensor. ***Connector & terminal*** ***(i55) No. 2 — (B282) No. 5:***	Is the resistance less than 1 Ω?	Go to step **5.**	Repair the harness between auto A/C control module and in-vehicle sensor.
5	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND IN-VEHICLE SENSOR.** Measure the resistance in harness between auto A/C control module and in-vehicle sensor. ***Connector & terminal*** ***(i55) No. 1 — (B282) No. 15:***	Is the resistance less than 1 Ω?	Go to step **6.**	Repair the harness between auto A/C control module and in-vehicle sensor.
6	**CHECK POOR CONTACT.** Check poor contact in auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module.

C: EVAPORATOR SENSOR

WIRING DIAGRAM:





AC-00831

Diagnostic Procedure for Sensors

	Step	Check	Yes	No
1	**CHECK EVAPORATOR SENSOR** 1) Turn the ignition switch to OFF. 2) Remove the glove box. 3) Disconnect the connector from evaporator sensor. 4) Measure the resistance between connector terminals of evaporator sensor. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance approx. 3.3 kΩ at 20°C (68°F)?	Go to step **2.**	Replace the evaporator sensor.
2	**CHECK INPUT SIGNAL FOR EVAPORATOR SENSOR.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (B88) terminals. ***Connector & terminal*** ***(B88) No. 1 (+) — No. 2 (−):***	Is the voltage approx. 5 V?	Go to step **6.**	Go to step **3.**
3	**CHECK AUTO A/C CONTROL MODULE OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Remove the auto A/C control module. 3) Turn the ignition switch to ON. 4) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(B282) No. 13 (+) —No. 15 (−):***	Is the voltage approx. 5 V?	Go to step **4.**	Go to step **6.**
4	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND EVAPORATOR SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from auto A/C control module. 3) Measure the resistance in harness between auto A/C control module and evaporator sensor. ***Connector & terminal*** ***(B88) No. 2 — (B282) No. 15:***	Is the resistance less than 1 Ω?	Go to step **5.**	Repair the open circuit in harness between auto A/C control module and evaporator sensor.
5	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND EVAPORATOR SENSOR.** Measure the resistance in harness between auto A/C control module and evaporator sensor. ***Connector & terminal*** ***(B88) No. 1 — (B282) No. 13:***	Is the resistance less than 1 Ω?	Go to step **6.**	Repair the open circuit in harness between auto A/C control module and evaporator sensor.
6	**CHECK POOR CONTACT.** Check poor contact in auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module.

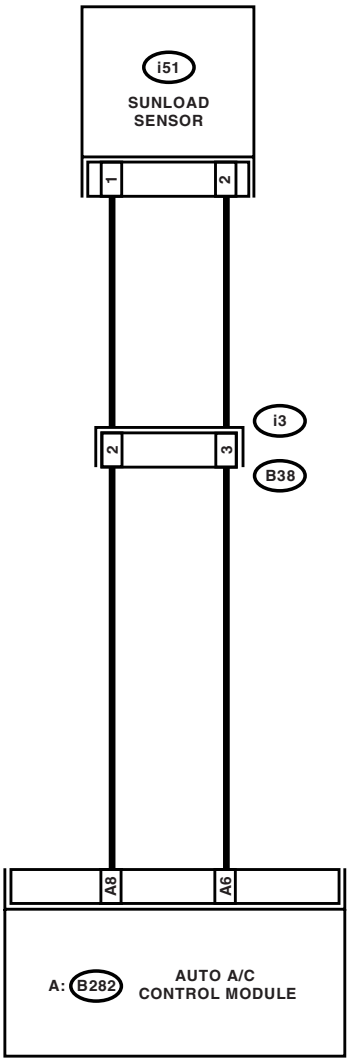
D: SUNLOAD SENSOR

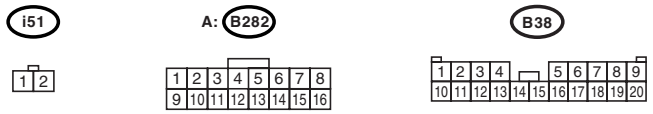
TROUBLE SYMPTOM:

- Sensor identifies that sunlight is at maximum. Then, A/C system is controlled to COOL side.
- Sensor identifies that sunlight is at minimum. Then, A/C system is controlled to HOT side.

NOTE:
When the sunload sensor check is conducted indoors or in the shade, open circuit might be indicated. Always check the sunload sensor at the place where the sun shines directly on it.

WIRING DIAGRAM:





AC-00832

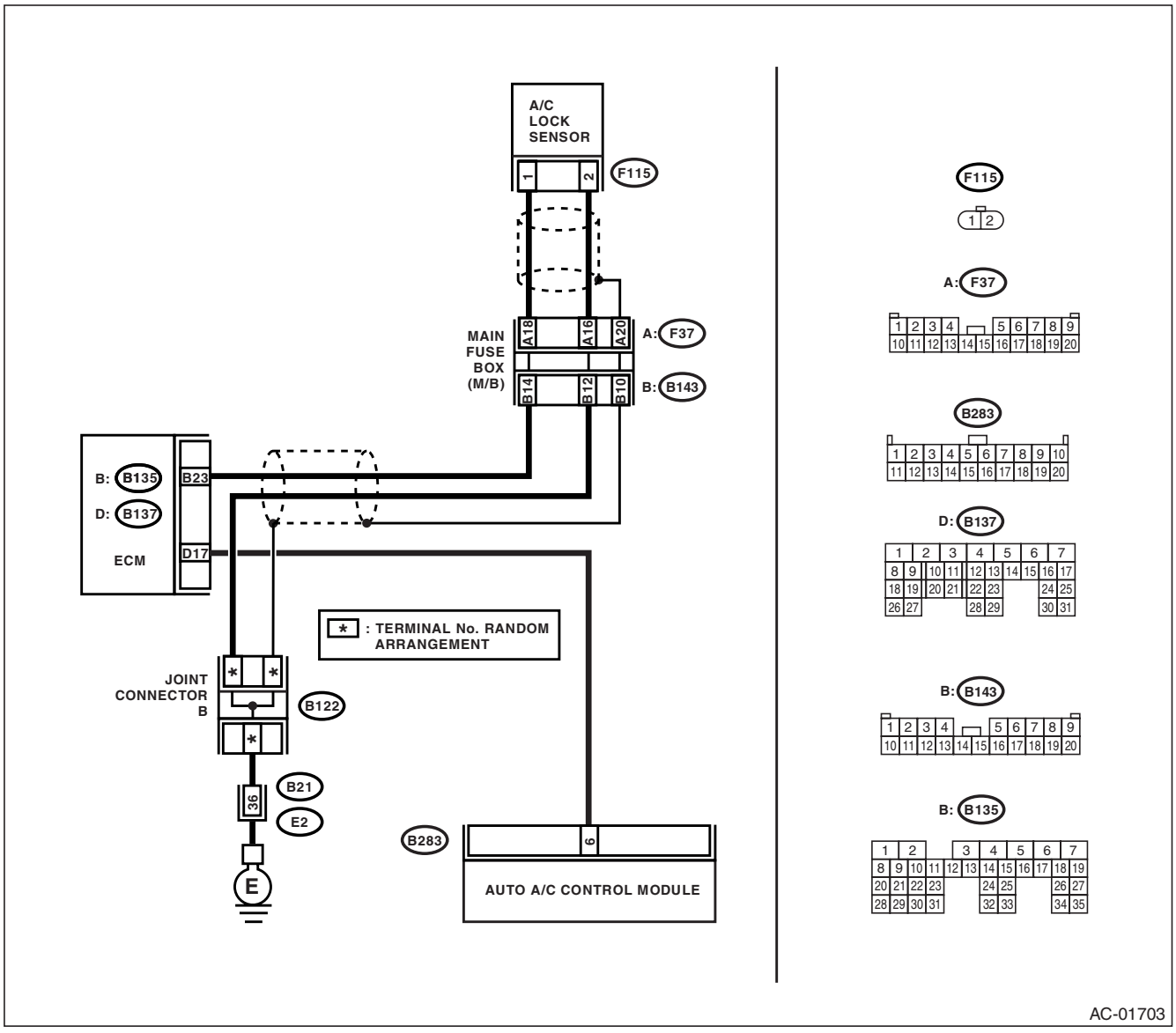
Diagnostic Procedure for Sensors

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY VOLTAGE FOR SUNLOAD SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from sunload sensor. 3) Turn the ignition switch to ON. 4) Measure the power supply voltage for sunload sensor. ***Connector & terminal*** ***(i51) No. 1 (+) — No. 2 (–):***	Is the voltage approx. 5 V?	Go to step **4.**	Go to step **2.**
2	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND SUNLOAD SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from auto A/C control module. 3) Measure the resistance in harness between auto A/C control module and sunload sensor. ***Connector & terminal*** ***(i51) No. 2 — (B282) No. 6:***	Is the resistance less than 1 Ω?	Go to step **3.**	Repair the harness between auto A/C control module and sunload sensor.
3	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND SUNLOAD SENSOR.** Measure the resistance in harness between auto A/C control module and sunload sensor. ***Connector & terminal*** ***(i51) No. 1 — (B282) No. 8:***	Is the resistance less than 1 Ω?	Go to step **4.**	Repair the harness between auto A/C control module and sunload sensor.
4	**CHECK INPUT VOLTAGE FOR AUTO A/C CONTROL MODULE.** 1) Connect the connectors of sunload sensor and auto A/C control module. 2) Turn the ignition switch to ON. 3) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(B282) No. 8 (+) — (B282) No. 6 (–):***	Is the voltage approx. 2.5 V?	Go to step **5.**	Replace the sunload sensor.
5	**CHECK POOR CONTACT.** Check poor contact in auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module.

E: A/C LOCK SENSOR

- H6 model

WIRING DIAGRAM:



Diagnostic Procedure for Sensors

Step		Check	Yes	No
1	**CHECK A/C LOCK SENSOR SIGNAL.** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. 3) Start the engine and turn A/C to ON. 4) Read the data of A/C lock signal using Subaru Select Monitor. NOTE: • Subaru Select Monitor For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <Ref. to EN(H6DO)(diag)-27, READ CURRENT DATA FOR ENGINE. (NORMAL MODE), OPERATION, Subaru Select Monitor.>	Is the A/C lock signal ON?	Go to step **4.**	Go to step **2.**
2	**CHECK A/C LOCK SENSOR SIGNAL.** 1) Start the engine and turn A/C to ON. 2) Measure the voltage between auto A/C control module connector and chassis ground. ***Connector & terminal*** ***(B283) No. 6 (+) — Chassis ground (−):***	Is the voltage 7 — 14 V?	Replace the auto A/C control module.	Go to step **3.**
3	**CHECK OUTPUT OF ECM.** Measure the voltage between ECM and chassis ground. ***Connector & terminal*** ***(D137) No. 17 (+) — Chassis ground (−):***	Is the voltage 7 — 14 V?	Repair the harness between ECM and auto A/C control module.	Replace the ECM.
4	**CHECK A/C LOCK SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM connector. 3) Measure the resistance between ECM connector and chassis ground. ***Connector & terminal*** ***(B135) No. 23 — Chassis ground:***	Is the resistance 240 — 290 Ω?	Replace the ECM.	Go to step **5.**
5	**CHECK A/C LOCK SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the main fuse box connector. 3) Measure the resistance between main fuse box terminals. ***Connector & terminal*** ***(F37) No. 16 — No. 18:***	Is the resistance 240 — 290 Ω?	Go to step **7.**	Go to step **6.**
6	**CHECK A/C LOCK SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the A/C lock sensor connector. 3) Measure the resistance between A/C lock sensor terminals. ***Connector & terminal*** ***(F115) No. 1 — No. 2:***	Is the resistance 240 — 290 Ω?	Repair or replace the harness between A/C lock sensor and main fuse box.	Replace the A/C compressor assembly. (A/C lock switch is faulty.)
7	**CHECK MAIN FUSE BOX.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector, and measure the resistance between main fuse box terminals. ***Connector & terminal*** ***(F37) No. 16 — (F143) No. 12:*** ***(F37) No. 18 — (F143) No. 14:***	Is the resistance less than 10 Ω?	Repair or replace the harness between A/C lock sensor and main fuse box.	Replace the main fuse box.

9. Diagnostics with Phenomenon

A: INSPECTION

Symptom	Problem parts
A/C system fails to operate.	• Fuse (M/B No. 8, F/B No. 22, 31) • Connector (Poor contact) • Ground • Auto A/C control module • Blower fan motor • Blower fan relay • A/C Relay • Compressor (Magnet clutch) • Compressor (Lock sensor): 3.0 L model • Evaporator sensor
Fuse is blown out.	• Fuse (M/B No. 8, F/B No. 22, 31) • Connector (Poor contact)
Illumination cannot dim.	• Fuse (M/B No. 8, F/B No. 22, 31) • Connector (Poor contact) • Auto A/C control module
Blower fan does not rotate or fan speed cannot be controlled.	• Fuse (M/B No. 8, F/B No. 22, 31) • Connector (Poor contact) • Ground • Auto A/C control module • Blower fan motor • Blower fan relay
Unable to switch suction vents.	• Connector (Poor contact) • Auto A/C control module • Intake door actuator
Unable to switch blow vents.	• Connector (Poor contact) • Auto A/C control module • Mode door actuator
Compartment temperature does not increase. (No hot air is discharged.)	• Connector (Poor contact) • Auto A/C control module • Air mix door actuator • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose
Compartment temperature does not decrease. (No cool air is discharged.)	• Connector (Poor contact) • Auto A/C control module • Air mix door actuator • A/C Relay • Compressor (Magnet clutch) • Radiator fan motor • Radiator fan relay • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose
Compartment temperature is higher or lower than setting temperature.	• Auto A/C control module • Air mix door actuator • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose
Compartment temperature does not quickly respond to setting temperature.	• Air mix door actuator • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose
Radiator fan does not rotate during A/C operation.	• Radiator fan motor • Radiator fan relay

AIRBAG SYSTEM

AB

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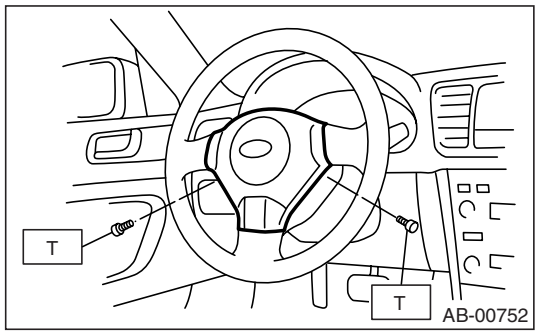
1. General Description

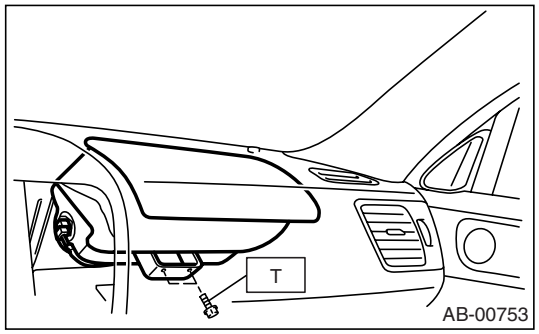
A: COMPONENT

1. DRIVER'S AIRBAG MODULE



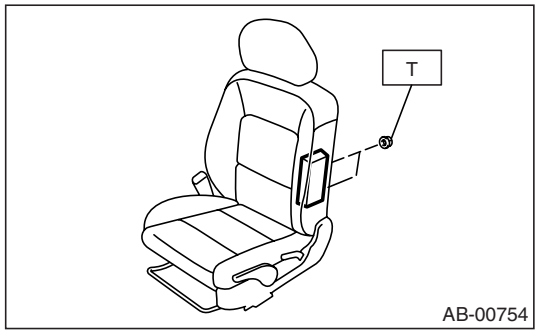
Tightening torque:
10 N·m (1.0 kgf-m, 7.2 ft-lb)

2. PASSENGER'S AIRBAG MODULE



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

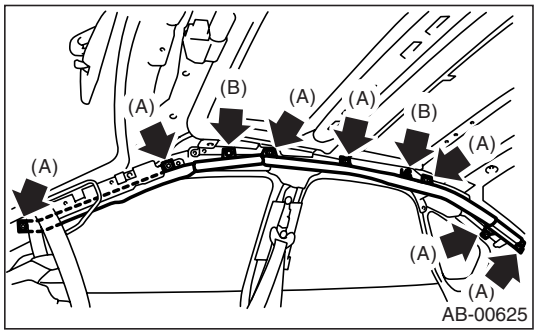
3. SIDE AIRBAG MODULE



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

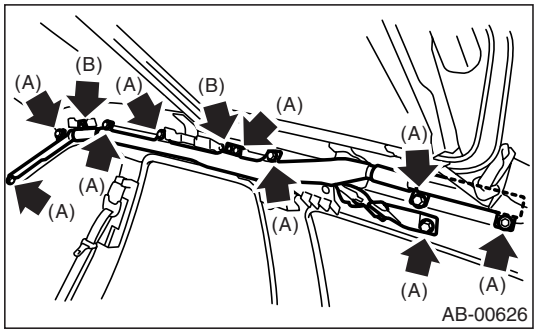
4. CURTAIN AIRBAG MODULE

- Sedan model



(A) Bolt
(B) Clip

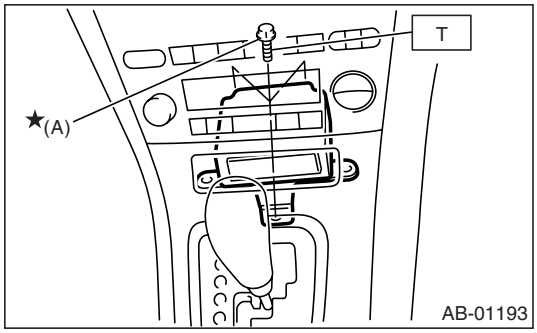
- Wagon model



(A) Bolt
(B) Clip

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

5. AIRBAG CONTROL MODULE

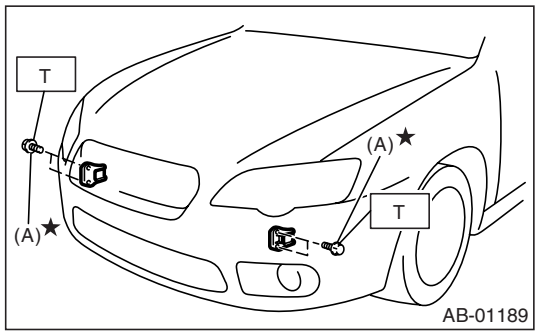


(A) Bolt

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

CAUTION:
Do not reuse mounting bolts and nuts.

6. FRONT SUB SENSOR

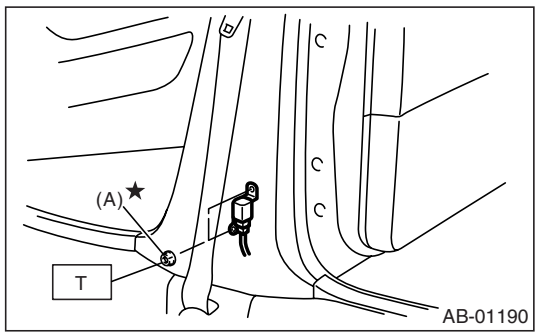


(A) Bolt

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

CAUTION:
Do not reuse mounting bolts and nuts.

7. SIDE AIRBAG SENSOR

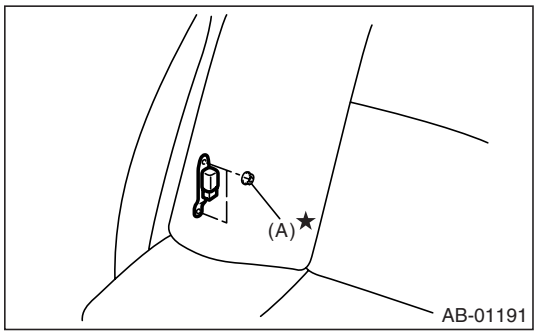


(A) Nut

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

CAUTION:
Do not reuse mounting bolts and nuts.

8. CURTAIN AIRBAG SENSOR

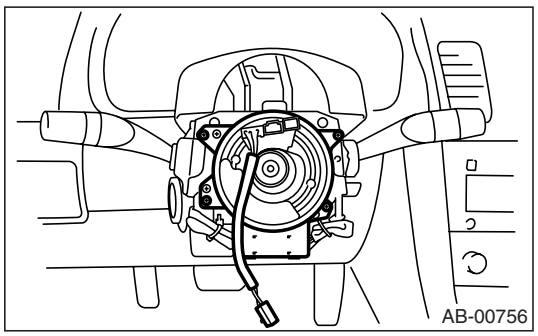


(A) Nut

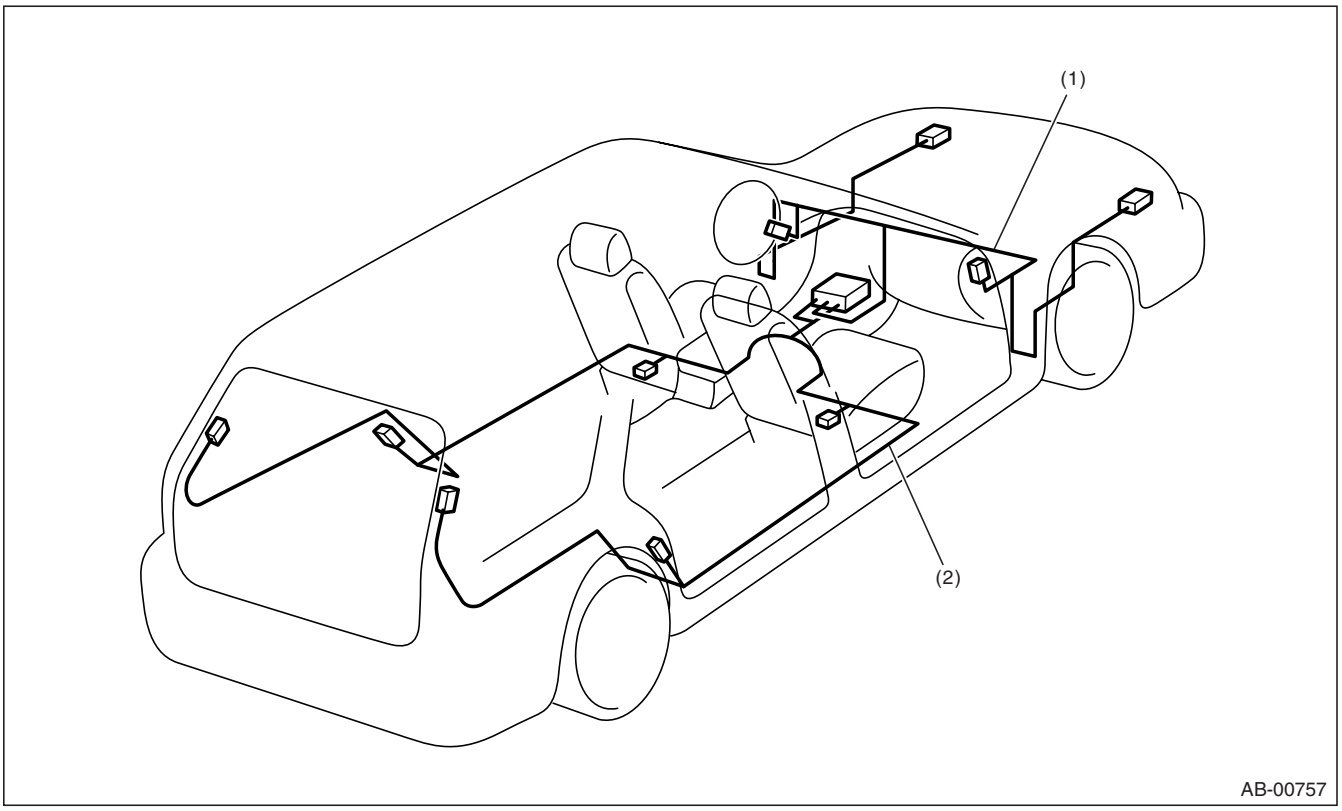
Tightening torque:
7.4 N·m (0.75 kgf-m, 5.5 ft-lb)

CAUTION:
Do not reuse mounting bolts and nuts.

9. STEERING ROLL CONNECTOR



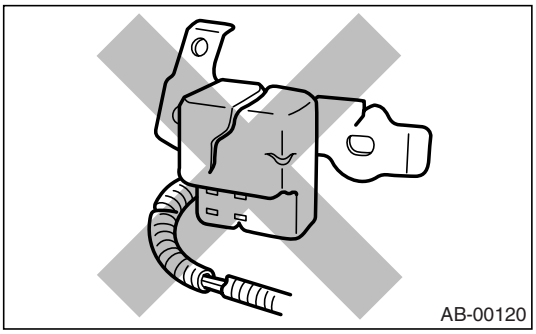
10.AIRBAG HARNESS



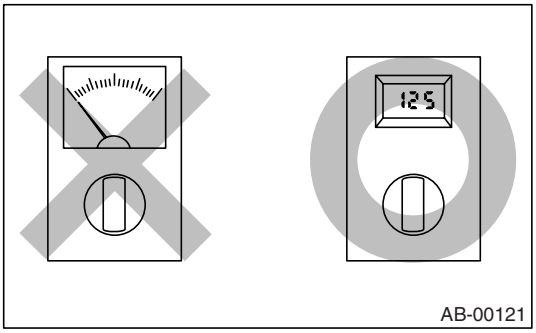
(1) Airbag main harness
(2) Airbag rear harness

B: CAUTION

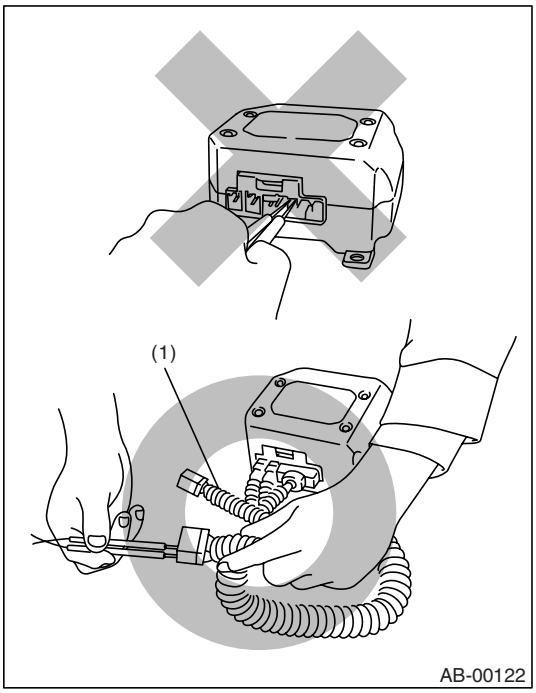
• When servicing a vehicle, be sure to turn the ignition switch to OFF, disconnect the ground cable from battery, and wait for more than 20 seconds before starting work.
• The airbag system is fitted with a backup power source. If the airbag system is serviced within 20 seconds after the ground cable is disconnected, it may inflate.
• If the airbag warning light illuminates, repair the vehicle immediately. Airbag or pretensioner may inflate incorrectly, or not inflate in collision.
• If sensors, airbag module, airbag control module, pretensioner and harness are deformed or damaged, replace them with new parts.


AB-00120

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

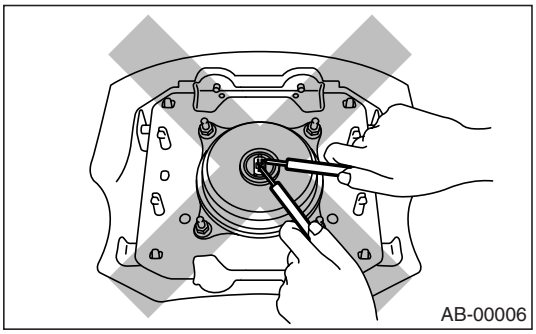

AB-00121

• When checking, use a test harness (1). Since damage to the connector terminal may cause the airbag to activate erroneously, do not directly apply the tester probe to any connector terminal of the airbag.

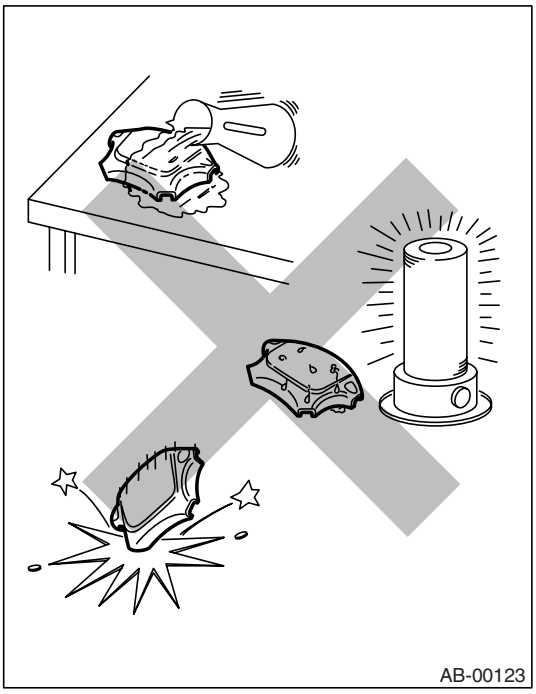


AB-00122

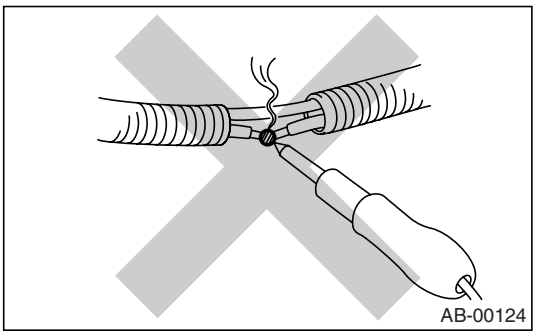
• Do not check continuity of the airbag modules for driver's side, passenger's side and curtain, or pretensioner.


AB-00006

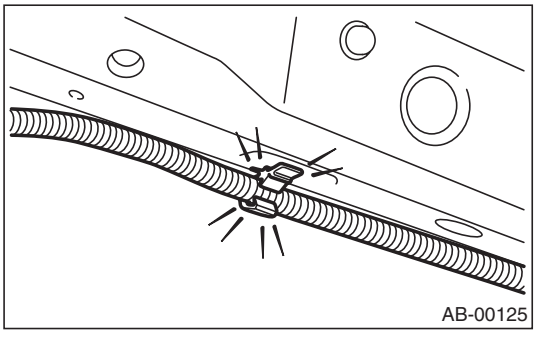
• Do not drop the airbag module, subject them to high temperature over 93°C (199°F), or let water, oil or grease get on them; the internal parts may be damaged and reliability greatly lowered.


AB-00123

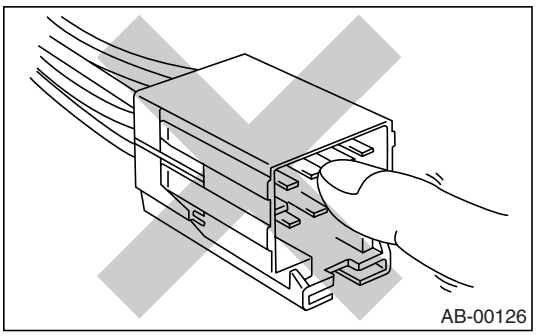
• If any damage, opening or rust is found on the airbag system wire harness, do not attempt to repair using soldering equipment. Replace the faulty harness with a new genuine part.


AB-00124

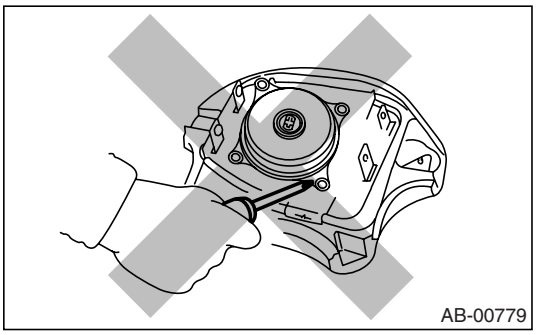
• Install the wire harness securely with the specified clips to avoid interference or tangled up with other parts.


AB-00125

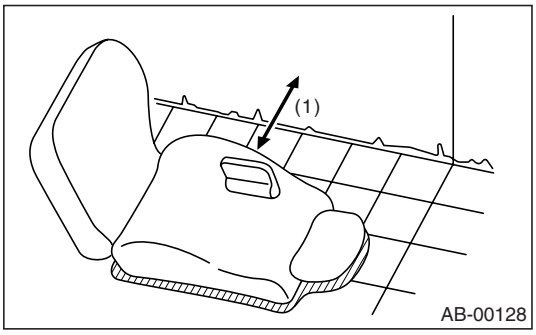
• Do not allow water or oil to come in contact with the connector terminals. Also do not touch the connector terminals.


AB-00126

• Either of the airbag modules for driver's, passenger's, side or curtain, or pretensioner must not be disassembled.


AB-00779

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

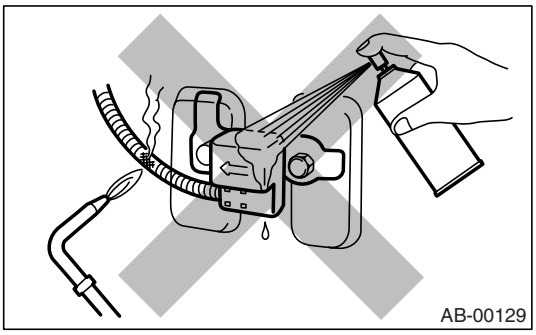


AB-00128

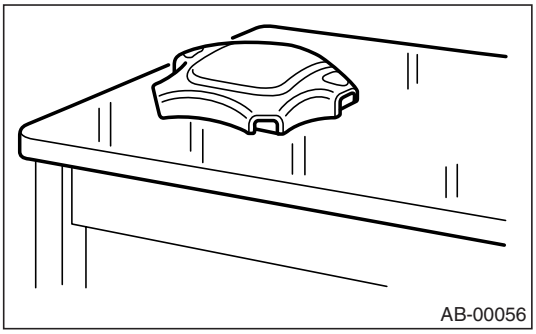
(1) 200 mm (8 in) or more

• Do not use the airbag parts or pretensioner parts of other vehicles. Always replace the defective parts with new parts.
• Never reuse deployed airbag and pretensioner.
• When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender and front side frame, remove the front sub sensors and wire harness of airbag system.
• Do not discard a undeployed airbag module or pretensioner.

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

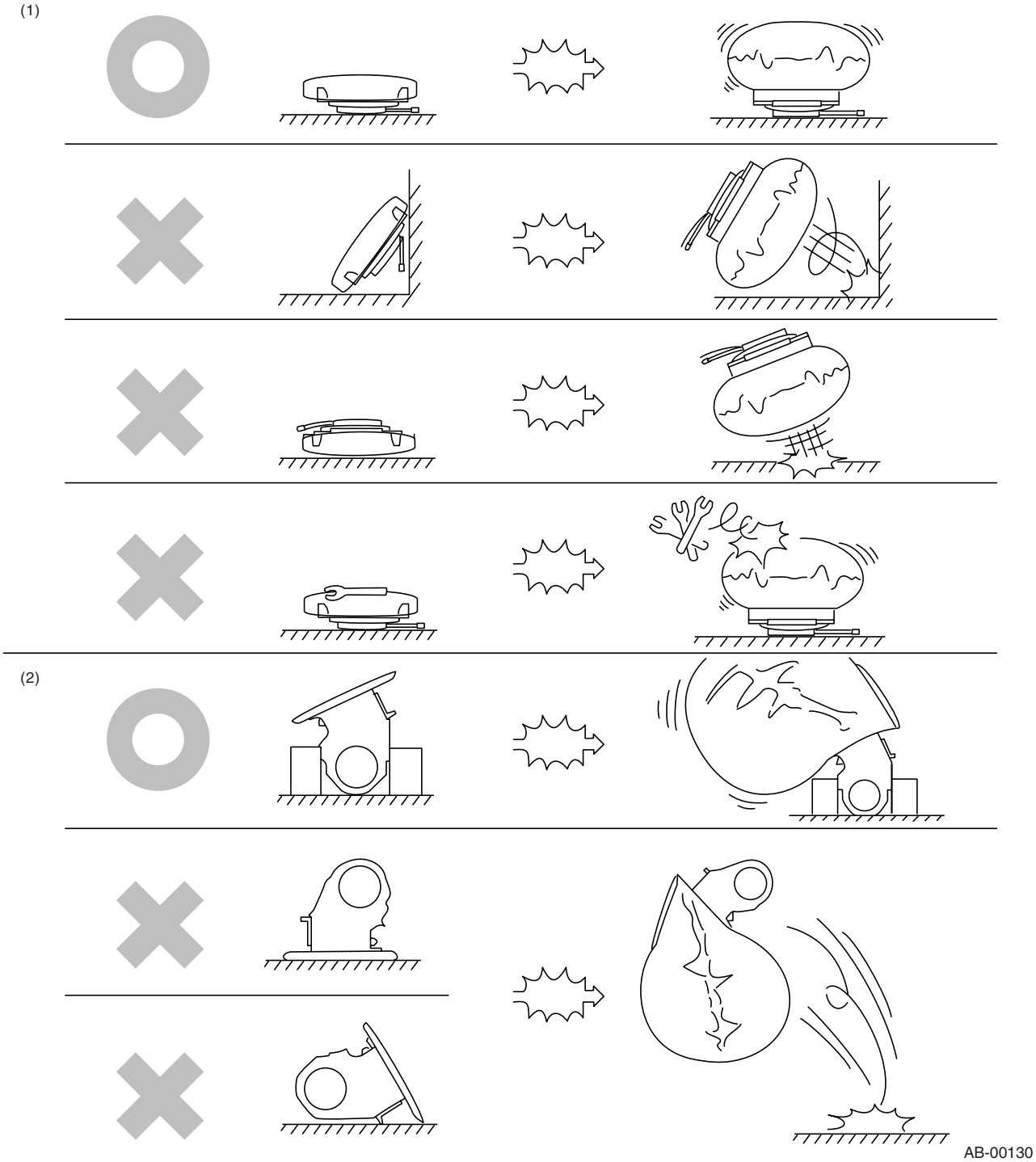


• After removal of each parts for airbag system, keep them with the pad facing upward on a dry, clean and flat surface without heat, light sources, moisture and dust.



• When airbag control module, front sub sensor, side airbag sensor and curtain airbag sensor are removed, do not reuse the bolts and nuts of them. Always use new bolts and nuts for them.

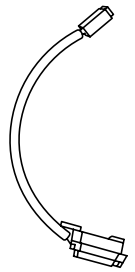
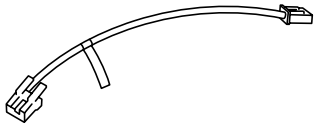
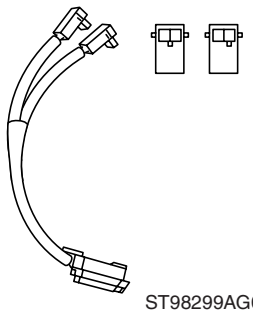
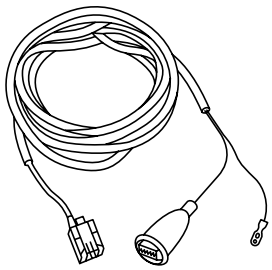
• When storing a removed airbag module, do not place any objects on it or pile them up. If the airbag inflates for some reason when it is placed with its pad side facing downward or under any object, a serious accident may result.



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

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299FC030	98299FC030	DEPLOYMENT ADAPTER A	• Used for deploying side airbag module. • Used for deploying curtain airbag module. • Used with DEPLOYMENT TOOL (98299PA030).
 ST98299SA030	98299SA030	DEPLOYMENT ADAPTER E	• Used for deploying driver's airbag module. • Used for deploying passenger's airbag module. • Used with DEPLOYMENT TOOL (98299PA030).
 ST98299AG030	98299AG030	DEPLOYMENT ADAPTER X	• Used for deploying driver's airbag module. • Used with DEPLOYMENT TOOL (98299PA030). • Can not reuse.
 ST98299PA030	98299PA030	DEPLOYMENT TOOL	• Used for deploying airbag module. • Used with each deployment adapter.

2. GENERAL TOOL

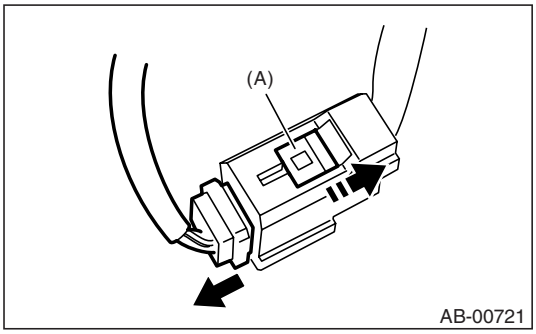
TOOL NAME	REMARKS
TORX® T30	Used for removing and installing driver's airbag module.

2. Airbag Connector

A: PROCEDURE

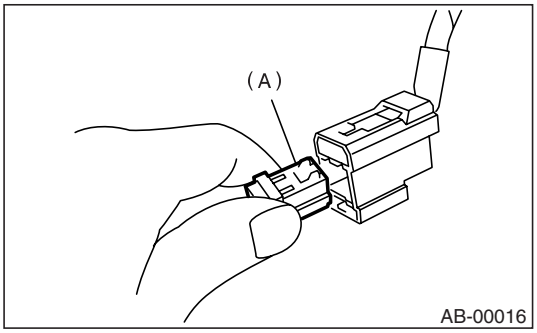
1. POWER SUPPLY

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



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

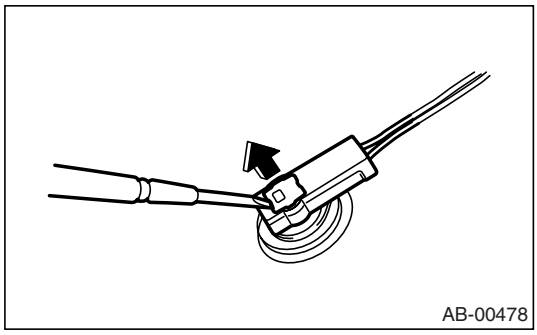
2) How to connect:
Holding the connector (A), and push it in securely until a connecting sound is heard.



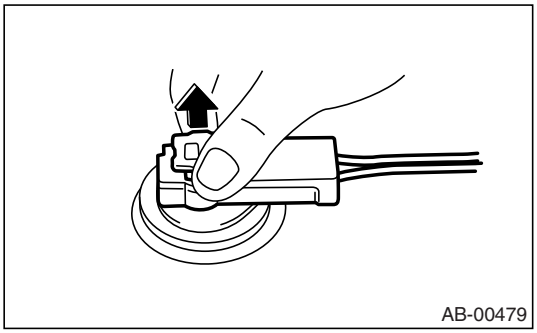
CAUTION:
Be sure to insert the connector until it is locked. Pull it gently to make sure that it is locked securely.

2. DRIVER'S AIRBAG MODULE, PRETENSIONER AND LAP SEAT BELT PRETENSIONER

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

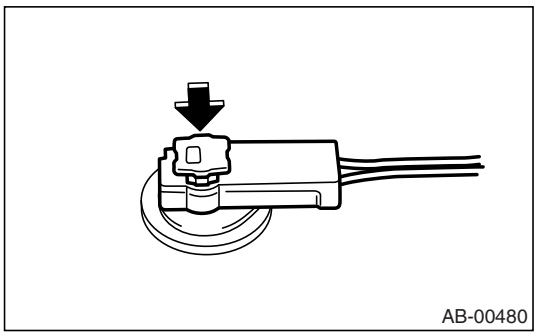


(2) Pull the connector to disconnect from driver's side airbag module assembly or retractor assembly.



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

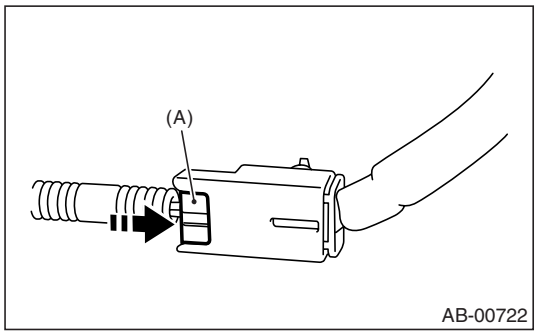
CAUTION:
• Be sure to insert the connector in until it is locked. Pull it gently to make sure that it is locked securely.
• Be sure to push the push lock in securely.



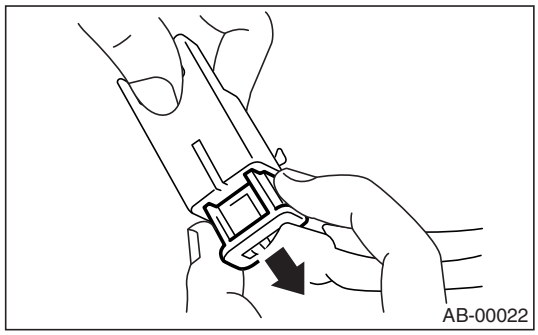
NOTE:
The connector can not be connected when the push lock is in lock position. To connect the connector, set the push lock to unlock position.

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

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



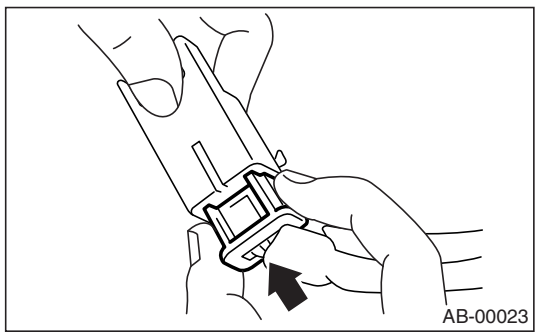
(2) With the slide lock pushed, disconnect the connector.



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

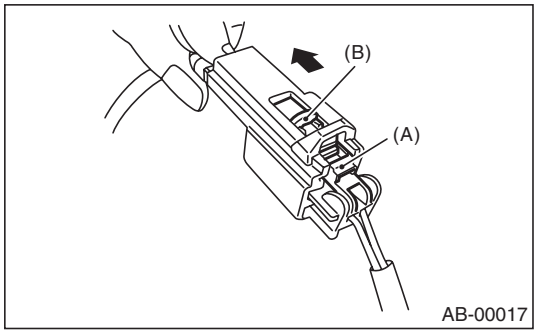
2) How to connect:
Holding the connector, push it in securely until a connecting sound is heard.

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



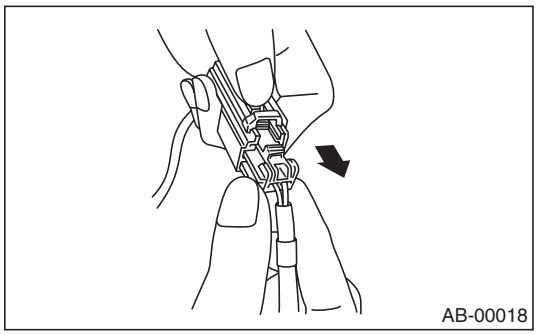
4. SIDE AIRBAG AND CURTAIN AIRBAG

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



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

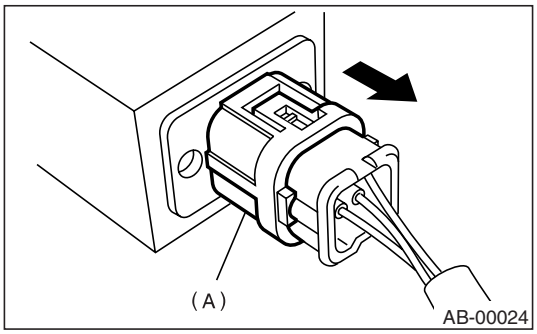
CAUTION:
When pulling the slide lock or disconnecting the connector, be sure to hold the connector, not the harness.



5. FRONT SUB-SENSOR, SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR

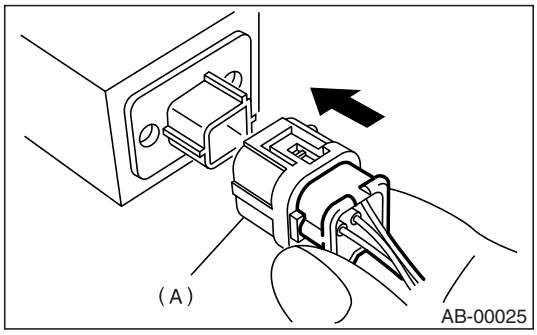
1) How to disconnect:
Holding outer part (A), pull it in the direction of arrow.

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



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

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



3. Inspection Locations After a Collision

A: REPLACEMENT

Replace the following parts when the airbag is deployed.

1. FRONT COLLISION

1) Driver's airbag module
2) Passenger's airbag module
3) Driver's seat belt (Pretensioner)
4) Passenger's seat belt (Pretensioner)
5) Airbag control module
6) Front sub sensor
7) Roll connector
8) Instrument panel (for integrating with passenger's airbag module)

2. SIDE COLLISION

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

3. INSPECTION OF OTHER PARTS

Check for the following parts, and replace the damaged parts with new parts.
1) Steering wheel and steering shaft
Check the steering shaft for mounting conditions and deflection of front, rear, upward and downward directions, and deflection of front and rear direction when tilt lever released. (After a collision, absorbing part of steering shaft may have been operated.)
2) Check the direct type connector of driver's airbag module, pretensioner, etc. for damage, and also check each harness for pinch and connector damage. Replace the harness as a unit if damage is found.
3) Check the installing condition and play of the seat cushion, backrest, seat rail and headrest.

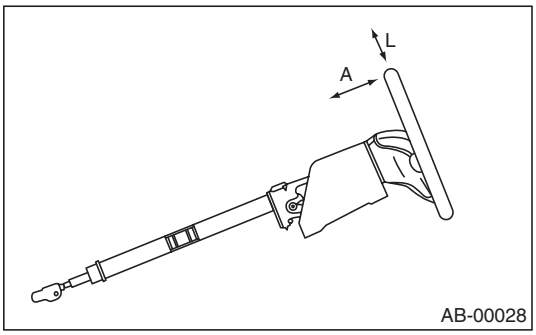
B: INSPECTION

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

1. DRIVER'S AIRBAG MODULE

1) Perform the inspection of following items, and replace the damaged parts with new ones.
• Airbag module is cracked or deformed.
• Harness and/or connector is cracked, deformed or open. Harness wire is exposed.
• The module surface is fouled with grease, oil, water or cleaning solvent.
2) When installing a new driver's airbag module, check for the following, and replace the damaged parts with new parts.
• It is difficult to install the airbag module due to the condition of steering wheel.
• The clearance between the driver's airbag module and steering wheel is not constant.
• When steering wheel deformation in axial, upward and downward directions exceed limits.

Specification:
Height deflection A
Less than 6 mm (0.24 in)
O.D. deflection L
Less than 7 mm (0.28 in)



2. PASSENGER'S AIRBAG MODULE

Perform the inspection of following items, and replace the damaged parts with new ones.
• Airbag module and instrument panel are cracked or deformed.
• Harness and/or connector is cracked, deformed or open. Harness wire is exposed.
• Mounting bracket is cracked or deformed.

3. SIDE AIRBAG MODULE

Perform the inspection of the following items, and replace the damaged parts with new ones.
• Front seat, airbag module and mounting bracket are damaged or deformed.
• Harness and/or connector is cracked, deformed or open. Harness wire is exposed.

4. CURTAIN AIRBAG MODULE

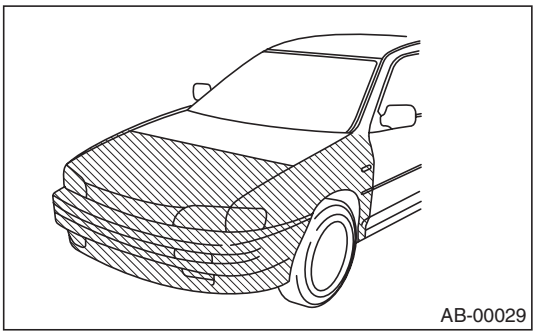
Perform the inspection of the following items, and replace the damaged parts with new ones.
• Airbag cover is scratched or broken.
• Harness and/or connector is cracked, deformed or open. Harness wire is exposed.
• Mounting bracket and securing clip are cracked or deformed.

5. AIRBAG CONTROL MODULE

Perform the inspection of the following items, and replace the damaged parts with new ones.
- Control module is cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Airbag is deployed.
- Side airbag is deployed.
- Curtain airbag is deployed.

6. FRONT SUB SENSOR

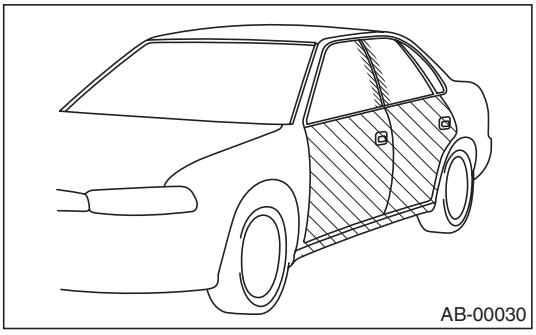
If the section of vehicle as shown in the figure is damaged, check the following items and replace the damaged parts with new parts.



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

7. SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR

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



- Side airbag sensor and curtain airbag sensor are cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Side airbag sensor or curtain airbag is deployed. (operating side)

8. ROLL CONNECTOR

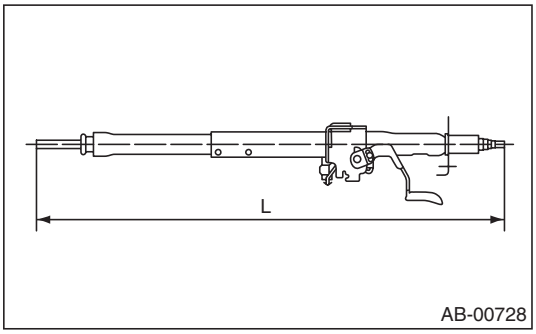
Perform the inspection of the following items, and replace the damaged parts with new ones.
- Combination switch or steering roll connector is cracked or deformed.

9. STEERING SHAFT

Perform the inspection of the following items, and replace the damaged parts with new ones.
- Overall length of steering column should be within specification.

Specification:

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

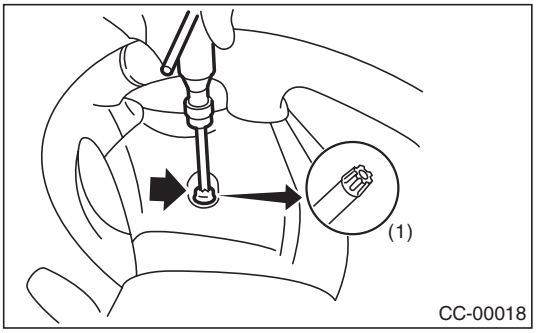


4. Driver's Airbag Module

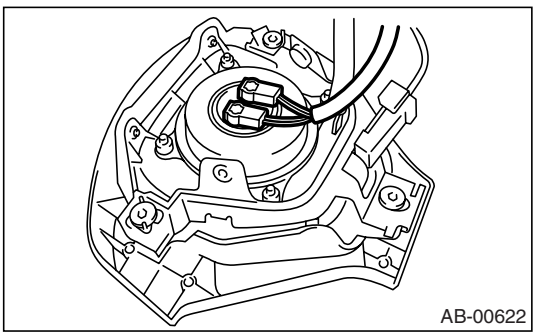
A: REMOVAL

CAUTION:
Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>

1) Position the front wheels straight ahead. (After moving a vehicle more than 5 m (16 ft) with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead).)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
4) Using TORX® BIT T30 (1), remove the two TORX® bolts on the side of steering wheel.



5) Disconnect the horn harness.
6) Disconnect the airbag connector on the back of airbag module, and then remove the airbag module. <Ref. to AB-11, PROCEDURE, Airbag Connector.>



7) Refer to the "CAUTION" for handling of a removed airbag module. <Ref. to AB-5, CAUTION, General Description.>

B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>
• Do not allow harness and connectors to interfere or get tangled up with other parts.
• To prevent the misconnection, the connector is colored. Connect the harness side connector to the same color of module side connector.

Install in the reverse order of removal.

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

C: INSPECTION

CAUTION:
Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>

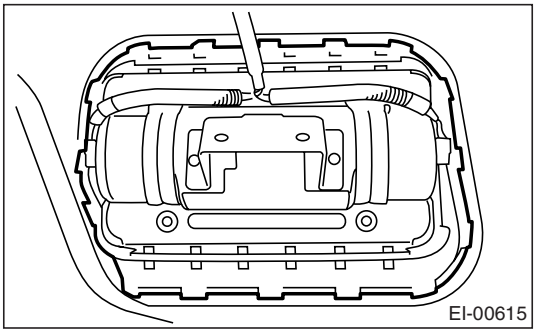
Perform the inspection of the following items, and replace the damaged parts with new ones.
• Airbag module, harness, connector and mounting bracket are damaged. <Ref. to AB-14, DRIVER'S AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>

5. Passenger's Airbag Module

A: REMOVAL

CAUTION:
Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the instrument panel. <Ref. to EI-56, INSTRUMENT PANEL (EXCLUDING STEERING SUPPORT BEAM), REMOVAL, Instrument Panel Assembly.>
4) Remove the pawl, and remove the passenger's airbag module.



5) Refer to the "CAUTION" for handling of a removed airbag module. <Ref. to AB-5, CAUTION, General Description.>

B: INSTALLATION

CAUTION:
Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>

Install in the reverse order of removal.

CAUTION:
Do not allow harness and connectors to interfere or get tangled up with other parts.

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

C: INSPECTION

CAUTION:
Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>

Perform the inspection of the following items, and replace the damaged parts with new ones.
• Airbag module, harness, connector and mounting bracket are damaged. <Ref. to AB-14, PASSENGER'S AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>

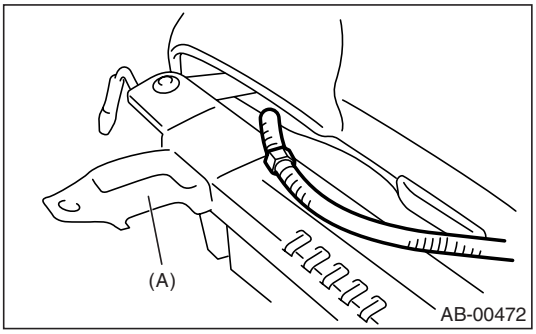
6. Side Airbag Module

A: REMOVAL

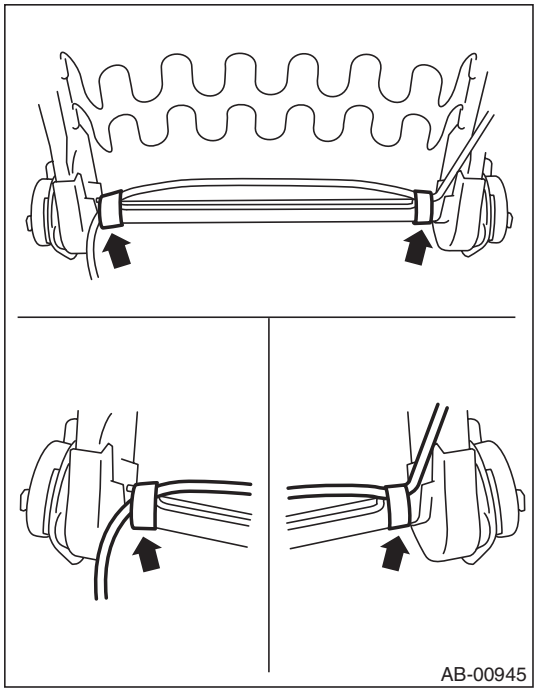
CAUTION:
Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>

NOTE:
Remove the passenger's side by referring to driver's side.

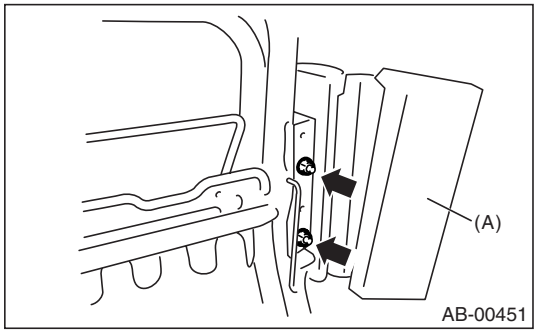
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
4) Remove the clip from reverse side of seat cushion assembly and inner slide rail (A), and then remove the side airbag harness. (Manual seat model)



5) Remove the side airbag harness from back side of seat cushion assembly. (Power seat model)
6) Remove the backrest cover. <Ref. to SE-7, DISASSEMBLY, Front Seat.>
7) Remove the side airbag harness from backrest frame assembly.



8) Remove the side airbag module (A) from backrest frame assembly.

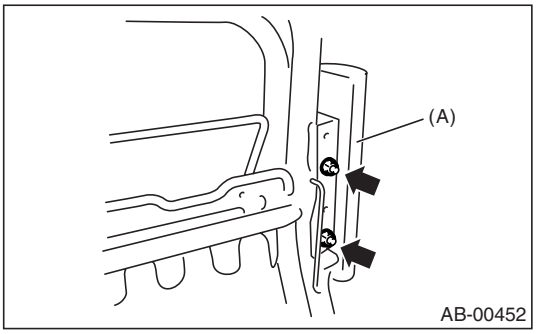


B: INSTALLATION

CAUTION:
Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>

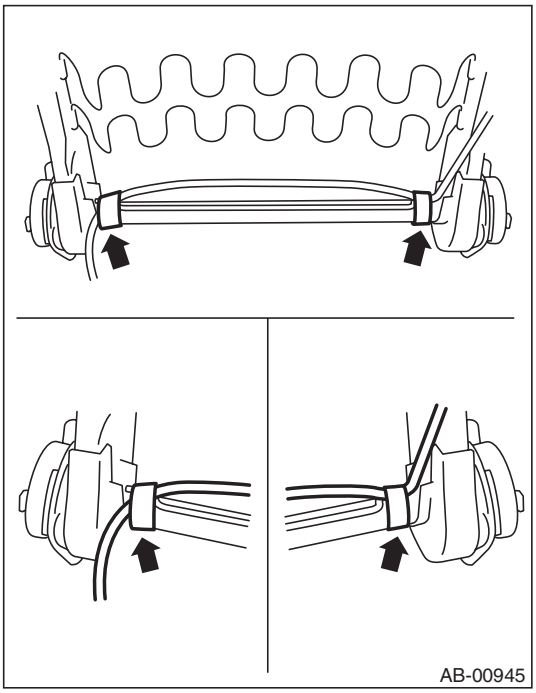
1) Ensure that there are no foreign articles on side airbag module.
2) Install the side airbag module (A) to backrest frame assembly.

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



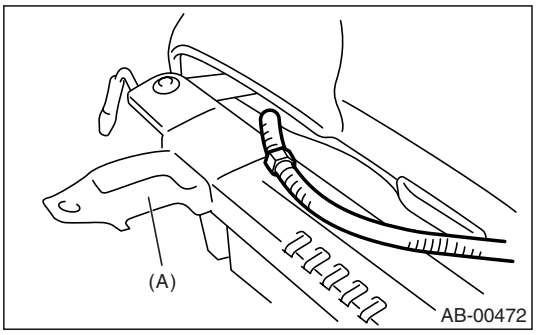
3) Install the side airbag harness to backrest frame assembly.

NOTE:
Secure the harness to located position of seat.



4) Install the backrest cover. <Ref. to SE-13, ASSEMBLY, Front Seat.>

5) Install the side airbag harness to inner slide rail (A), and then secure the connector to the bracket on back side of seat cushion assembly. (Manual seat model)



6) Draw the side airbag harness around the back side of seat cushion assembly. (Power seat model)
7) Recline the seat or slide it backward and forward, and check there is no contact between the seat backrest assembly, cushion cover assembly and side airbag harness.

C: INSPECTION

CAUTION:
Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>

Perform the inspection of the following items, and replace the damaged parts with new ones. <Ref. to AB-14, SIDE AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>
1) With side collision (when side airbag is deployed)
- Side airbag module assembly
- Backrest pad assembly
- Backrest frame assembly
- Backrest cover assembly

2) When damage is found by visual check
- Headrest assembly
- Headrest lock bush
- Outer slide rail
- Inner slide rail
- Seat hinge cover
- Seat lifter lever
- Reclining lever
- Side airbag harness and connector on body side.

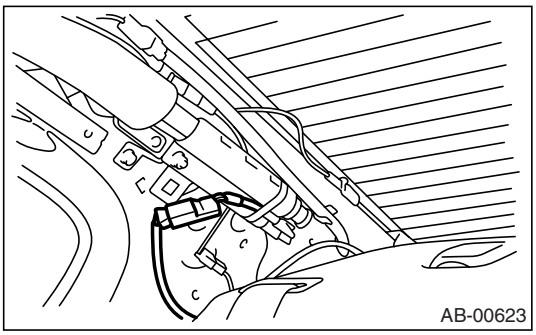
3) With side collision (when side airbag is not deployed)
Check the seat and airbag module visually, and then replace them with new ones if damaged or cracked.
Specially inspect the damage of airbag module body, mounting bracket, and harness connector.
4) Without side collision (dirt and damage of cover)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

7. Curtain Airbag Module

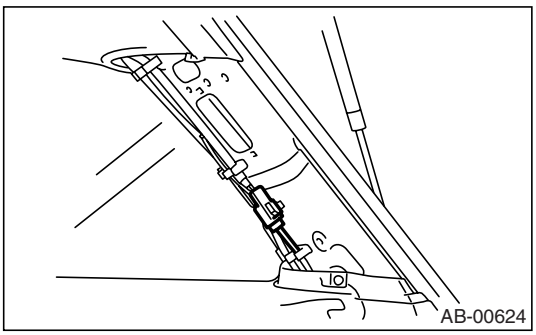
A: REMOVAL

CAUTION:
Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the rear quarter trim. (Sedan model) <Ref. to EI-63, SEDAN MODEL (MODEL WITH CURTAIN AIRBAG), REMOVAL, Rear Quarter Trim.>
4) Remove the quarter rear pillar trim. (Wagon model) <Ref. to EI-63, WAGON MODEL, REMOVAL, Rear Quarter Trim.>
5) Disconnect the curtain airbag module connector.
• Sedan model


AB-00623

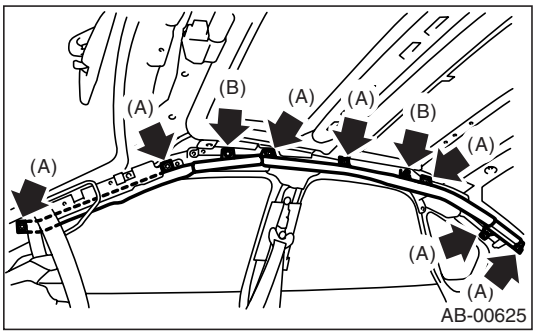
• Wagon model


AB-00624

6) Remove the roof trim. <Ref. to EI-67, REMOVAL, Roof Trim.>
7) Remove the bolts (A) and clips (B), and then remove the curtain airbag module.

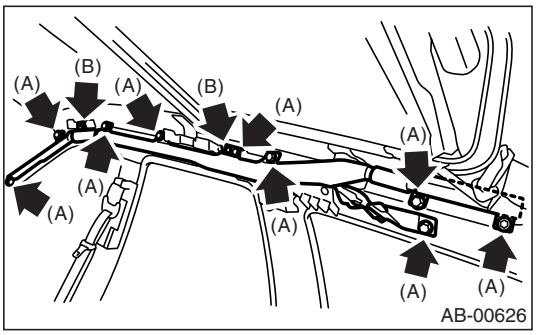
CAUTION:
• Be careful not to damage the curtain airbag module during removal.
• Never open the curtain airbag module before deploying it. Never reuse the deployed curtain airbag module.

• Sedan model



AB-00625

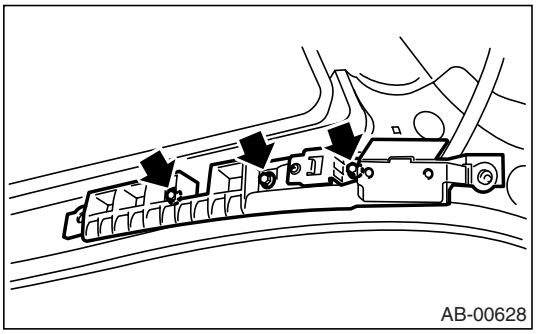
• Wagon model



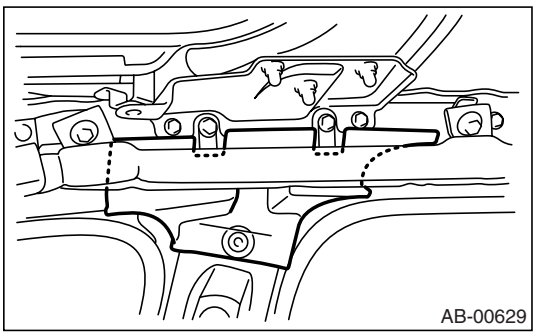
AB-00626

NOTE:
Remove the rear center seat belt retractor on the RH side before servicing.

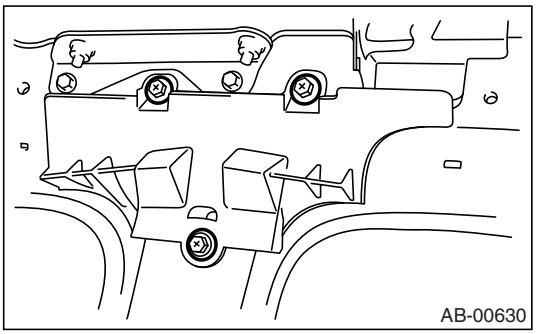
8) Remove the airbag guide A from front pillar.


AB-00628

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

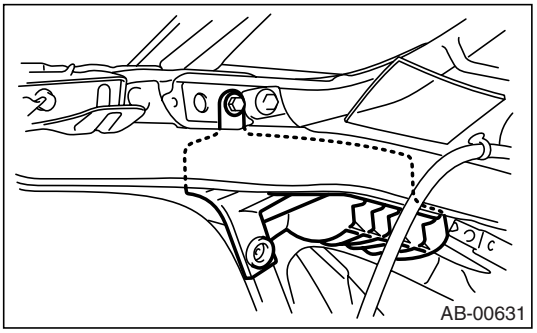

AB-00629

• Wagon model

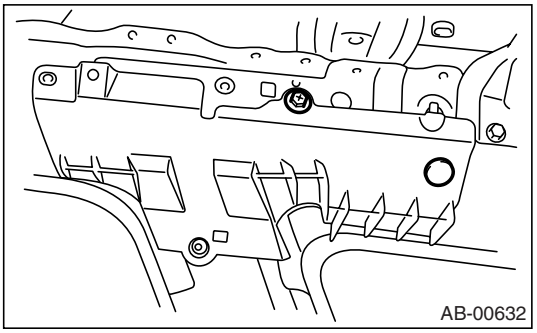


10) Remove the airbag guide C from quarter pillar.

• Sedan model



• Wagon model



B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>
• When installing the curtain airbag module, install a specified part at specified place.
• Be careful not to damage the curtain airbag module during removal.
• Never open the curtain airbag module before deploying it. Never reuse the deployed curtain airbag module.
• Ensure that there are no foreign articles on airbag module.

Install in the reverse order of removal.

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

C: INSPECTION

CAUTION:
Refer to "CAUTION" of General Description before handling the airbag module. <Ref. to AB-5, CAUTION, General Description.>

Perform the inspection of the following items, and replace the damaged parts with new ones. <Ref. to AB-14, CURTAIN AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>

1) With side collision (when curtain airbag is deployed)
• Curtain airbag module assembly
• Roof trim
• Front pillar upper trim
• Center pillar upper trim
• Rear quarter pillar trim
• Airbag guide A, B, C

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

3) With side collision (when curtain airbag is not deployed)
Check the roof trim, pillar trim and airbag module visually, and then replace them with new ones if damaged or cracked.
Specially inspect the damage of airbag module body, mounting bracket, and harness connector.

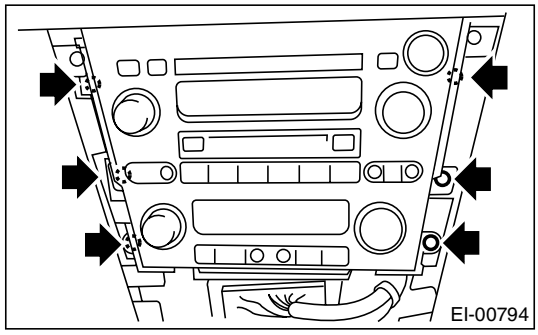
4) Without side collision (dirt and damage of cover)
Replace the corresponding part with a new one.

8. Airbag Control Module

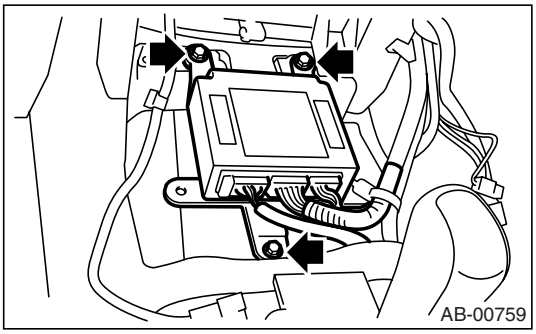
A: REMOVAL

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

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the console front panel and console side garnish. <Ref. to EI-54, REMOVAL, Center Console.>
4) Remove the screws and pull out the audio unit assembly and disconnect the connector for removal.



5) Disconnect the connector from airbag control module.
6) Remove the bolts and remove airbag control module.



B: INSTALLATION

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

Install in the reverse order of removal.

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

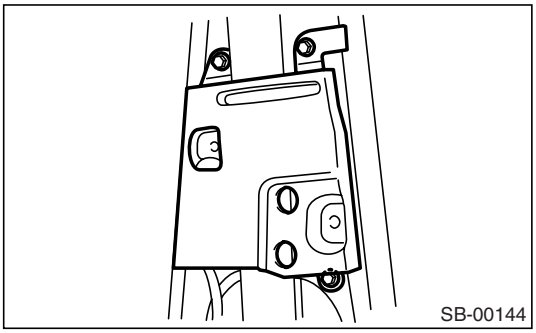
C: INSPECTION

Perform the inspection of the following items, and replace the damaged parts with new ones.
• Control module, connector and mounting bracket are damaged.
• Airbag is deployed.
• Side airbag is deployed.
• Curtain airbag is deployed.

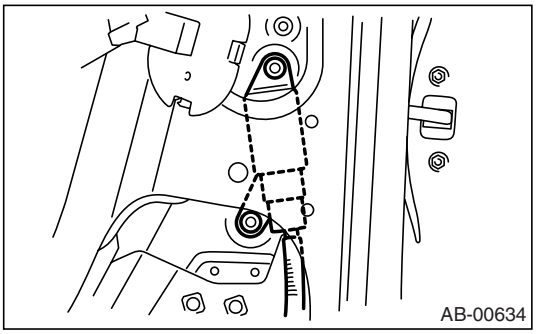
9. Side Airbag Sensor

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the center pillar lower trim. <Ref. to EI-60, REMOVAL, Lower Inner Trim.>
4) Remove the center pillar inner protector lower.



5) Remove the front outer seat belt retractor. <Ref. to SB-14, OUTER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
6) Remove the nut and disconnect the airbag connector to remove side airbag sensor.



B: INSTALLATION

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

Install in the reverse order of removal.

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

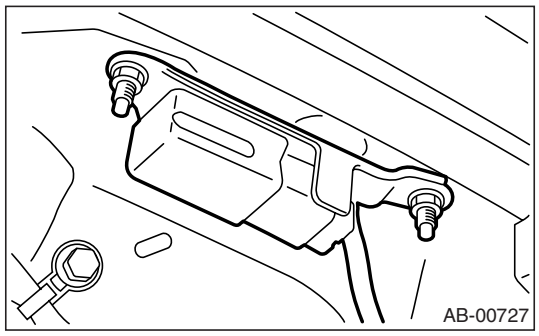
C: INSPECTION

Perform the inspection of the following items, and replace the damaged parts with new ones.
- Mounting bracket or connector of side airbag sensor is damaged.
- Side airbag is deployed.

10.Curtain Airbag Sensor

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the rear seat. <Ref. to SE-14, REMOVAL, Rear Seat.>
4) Remove the nut and disconnect the airbag connector to remove the curtain airbag sensor.



B: INSTALLATION

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

Install in the reverse order of removal.

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

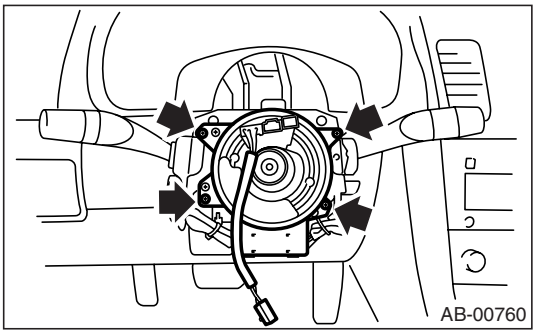
C: INSPECTION

Perform the inspection of the following items, and replace the damaged parts with new ones.
- Mounting bracket or connector of curtain airbag sensor is damaged.
- Curtain airbag is deployed.

11.Roll Connector

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the driver's airbag module. <Ref. to AB-16, REMOVAL, Driver's Airbag Module.>
4) Remove the steering wheel. <Ref. to PS-21, REMOVAL, Steering Wheel.>
5) Remove the steering column cover.
6) Remove the screws, and then remove the roll connector.



B: INSTALLATION

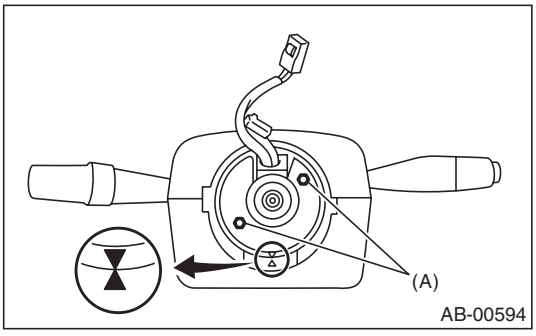
1) Install in the reverse order of removal.
2) Before installing steering wheel, adjust the direction of roll connector to steering. <Ref. to AB-25, ADJUSTMENT, Roll Connector.>

C: INSPECTION

Perform the inspection of the following items, and replace the damaged parts with new ones.
• Combination switch and roll connector are cracked or deformed.

D: ADJUSTMENT

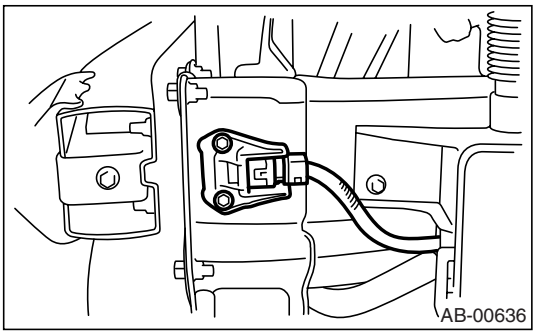
1) Check that front wheels are positioned in straight ahead direction.
2) Turn the roll connector pin (A) clockwise until it stops.
3) Turn the roll connector pins (A) approx. 3.25 turns until "▲" marks are aligned.



12.Front Sub Sensor

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the front bumper face. <Ref. to EI-30, FRONT BUMPER FACE, REMOVAL, Front Bumper.>
4) Remove the bolt, and then detach the front sub sensor.



5) Disconnect the connector from front sub sensor.

B: INSTALLATION

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

Install in the reverse order of removal.

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

C: INSPECTION

Perform the inspection of the following items, and replace the damaged parts with new ones.
- Front sub sensor, mounting bracket and connector are damaged.
- Airbag is deployed.

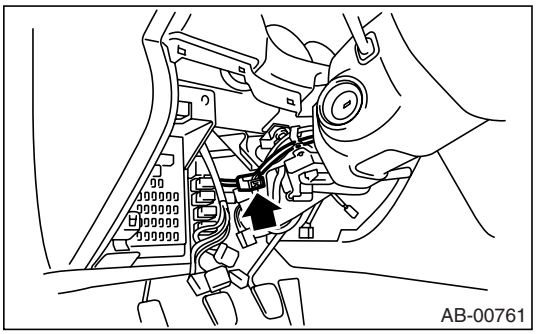
13. Airbag Module Disposal (Deployment Processing on Vehicle)

A: PROCEDURE

CAUTION:
• Do not discard an undeployed airbag modules because it may cause a serious personal injury when accidentally deployed.
• As a rule, airbag modules should be deployed in the vehicle. Do not remove the airbag modules unless necessary.
• Deployment of airbag modules should be performed on a flat place in safety area. Avoid deploying outdoors when rainy or windy weather.
• Deploying an airbag module causes a high explosive noise, be sure to warn people in the area, and do not allow anyone within 5 m (16 ft) radius of the disposal site.
• Some smoke will be emitted after deployment of the airbag module. Therefore, it must be deployed in a well-ventilated place with no smoke detector nearby.
• Wear protective gloves, safety goggles and earplugs during this operation. Wash your hands afterwards.
• After deployment, the airbag module is extremely hot, leave it unattended for 40 minutes, and discard it.
• Do not let water into the deployed airbag module.
• Wrap the deployed airbag module in a sealed vinyl bag, and discard it.
• If circumstances do not permit the airbag module deployment, contact the SUBARU dealer.

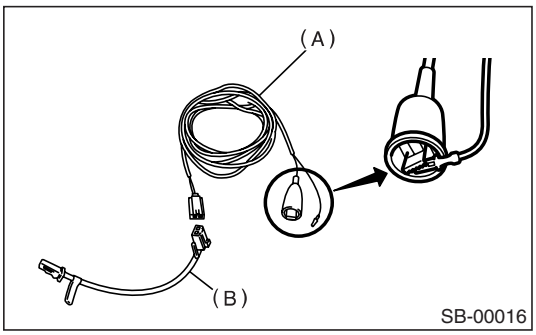
1. DRIVER'S AIRBAG MODULE

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the instrument panel lower cover upper. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
4) Disconnect the airbag connector.



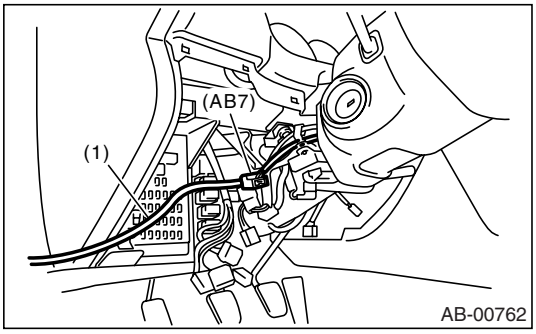
5) Short the terminal to the alligator clip furnished as deployment tool (A).
6) Connect the deployment tool and deployment adapter E (B).

CAUTION:
The deployment tool should be kept shorted terminal until just before deployment of airbag module.



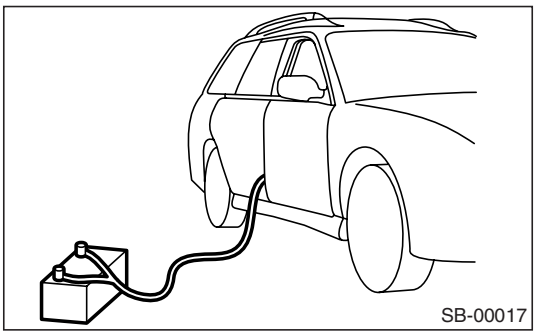
(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter E:
(Tool number 98299SA030)

7) Connect the deployment adapter E (1) to airbag connector (AB7).

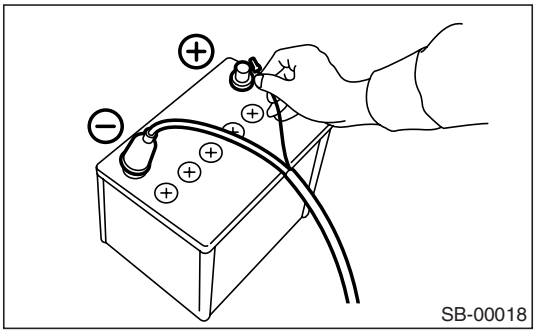


(1) Deployment adapter E:
(Tool number 98299SA030)

8) Extend fully the wiring of deployment tool, and make sure that the vehicle is empty. Close all the windows, sunroof and rear gate completely.

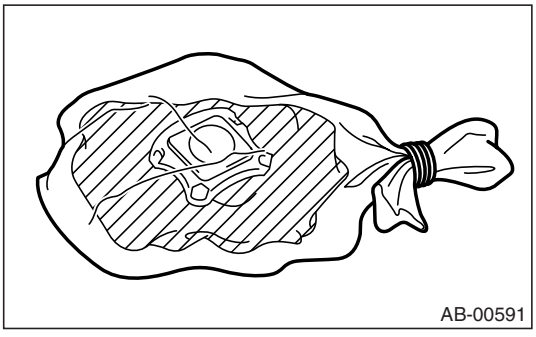

SB-00017

9) Move the battery at least 5 m (16 ft) from vehicle, and secure the nearby area. Connect the deployment tool alligator clip to the battery negative (−) terminal.
10) Connect the other cable of deployment tool to the battery positive (+) terminal, and deploy the airbag module.


SB-00018

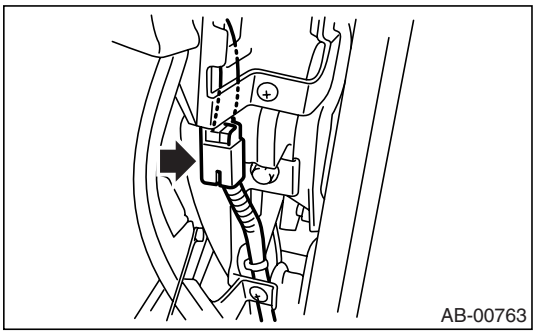
CAUTION:
• After deployment, the airbag module is extremely hot, leave it unattended for 40 minutes, and discard it.
• Do not let water get into the deployed airbag module.

11) Remove the airbag module. <Ref. to AB-16, Driver's Airbag Module.>
12) Wrap the deployed airbag module in sealed vinyl bag, and discard it.


AB-00591

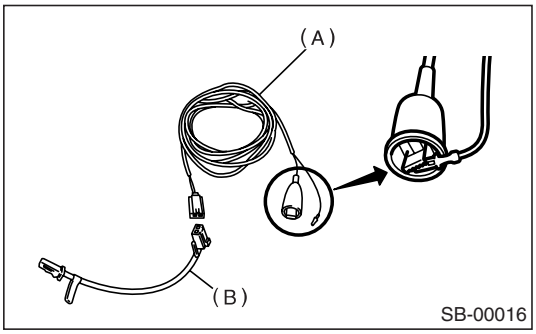
2. PASSENGER'S AIRBAG MODULE

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the instrument panel side cover of passenger's side and disconnect the airbag connector.


AB-00763

4) Short the terminal to the alligator clip furnished as deployment tool (A).
5) Connect the deployment tool (A) and deployment adapter E (B).

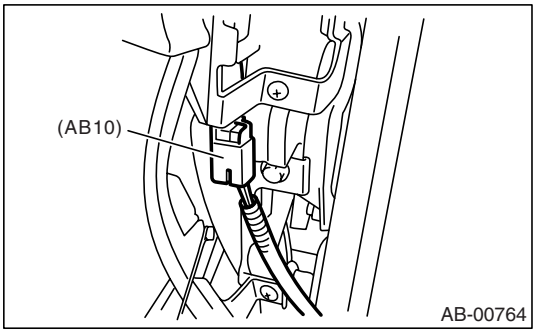
CAUTION:
The deployment tool should be kept shorted terminal until just before deployment of airbag module.



SB-00016

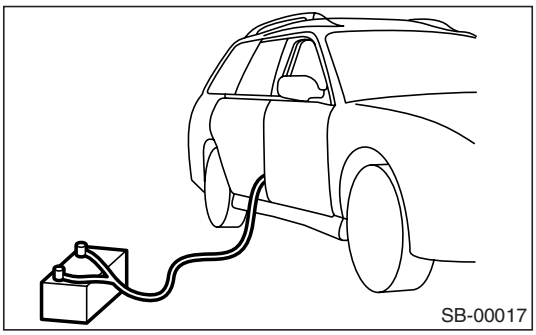
(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter E:
(Tool number 98299SA030)

6) Connect the deployment adapter E to airbag connector (AB10).

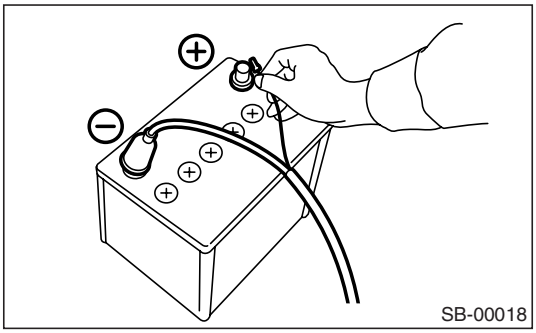


AB-00764

7) Extend fully the wiring of deployment tool, and make sure that the vehicle is empty. Close all the windows, sunroof and rear gate completely.

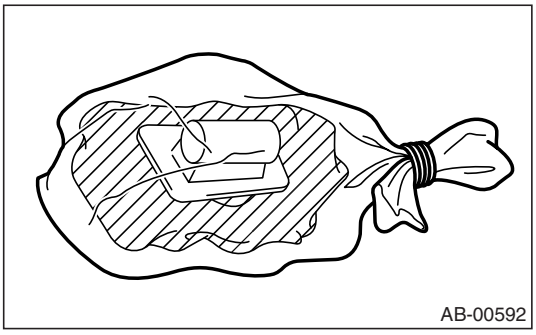

SB-00017

8) Move the battery at least 5 m (16 ft) from vehicle, and secure the nearby area. Connect the deployment tool alligator clip to the battery negative (−) terminal.
9) Connect the other cable of deployment tool to the battery positive (+) terminal, and deploy the airbag module.


SB-00018

CAUTION:
• After deployment, the airbag module is extremely hot, leave it unattended for 40 minutes, and discard it.
• Do not let water get into the deployed airbag module.

10) Remove the instrument panel upper. <Ref. to EI-56, REMOVAL, Instrument Panel Assembly.>
11) Remove the passenger airbag module from instrument panel upper.
12) Wrap the airbag module removed from instrument panel upper in sealed vinyl bag, and discard it.


AB-00592

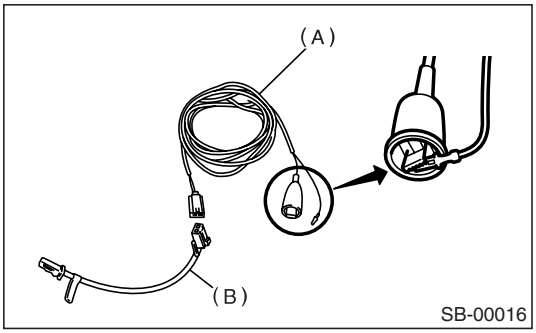
3. SIDE AIRBAG MODULE

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Disconnect the side airbag module connector (yellow) under the front seat cushion.

NOTE:
For power seat type, seat need to be removed. When deploying in vehicle, reinstall the seat after disconnecting the airbag connector. When deploying after removal from vehicle, refer to “Disposal of Airbag Module (Deploying After Removal from Vehicle)”. <Ref. to AB-32, PROCEDURE, PROCEDURE, Airbag Module Disposal (Deployment Processing After Removal from Vehicle).>

4) Set the backrest at most standing position, and then set the seat position at the center of slide rail.
5) Short the terminal to the alligator clip furnished as deployment tool (A).
6) Connect the deployment tool and deployment adapter A (B).

CAUTION:
The deployment tool should be kept shorted terminal until just before deployment of airbag module.

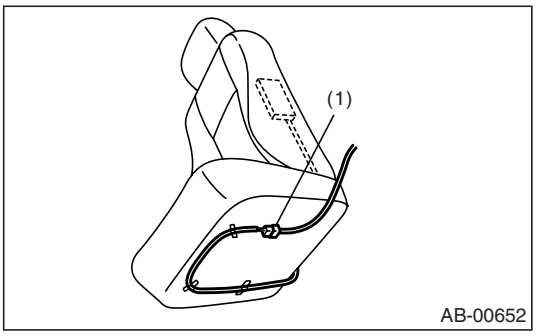


SB-00016

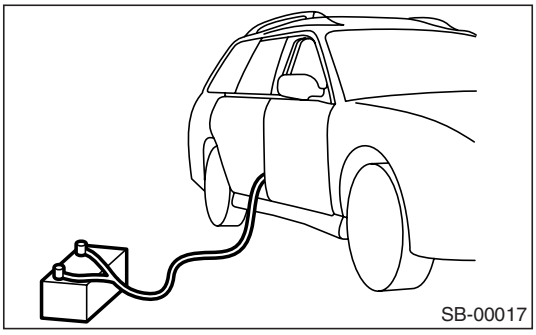
(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter A:
(Tool number 98299FC030)

7) Connect the deployment adapter A (1) to the side airbag module connector (yellow).

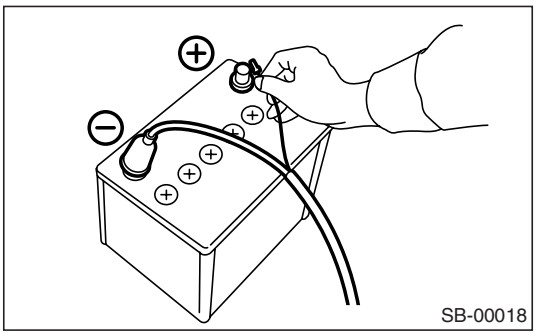
CAUTION:
• Do not place any object on front seat.
• Deploy the side airbag one by one and discard it.



8) Extend fully the wiring of deployment tool, and make sure that the vehicle is empty. Close all the windows, sunroof and rear gate completely.

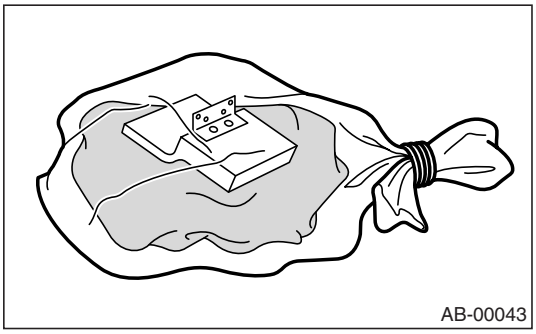


9) Move the battery at least 5 m (16 ft) from vehicle, and secure the nearby area. Connect the deployment tool alligator clip to the battery negative (−) terminal.
10) Connect the other cable of deployment tool to the battery positive (+) terminal, and deploy the airbag module.



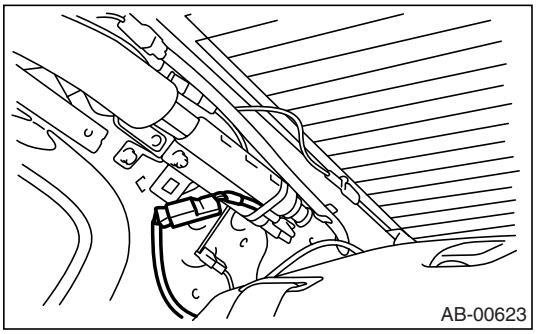
CAUTION:
• After deployment, the airbag module is extremely hot, leave it unattended for 40 minutes, and discard it.
• Do not let water get into the deployed airbag module.

11) Remove the side airbag module. <Ref. to AB-18, REMOVAL, Side Airbag Module.>
12) Wrap the deployed airbag module in sealed vinyl bag, and discard it.

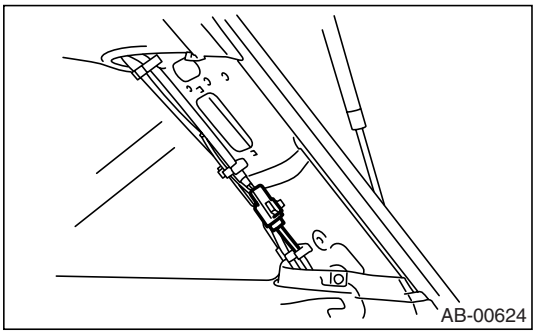


4. CURTAIN AIRBAG MODULE

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the rear quarter trim. <Ref. to EI-63, REMOVAL, Rear Quarter Trim.>
4) Disconnect the curtain airbag harness.
• Sedan model



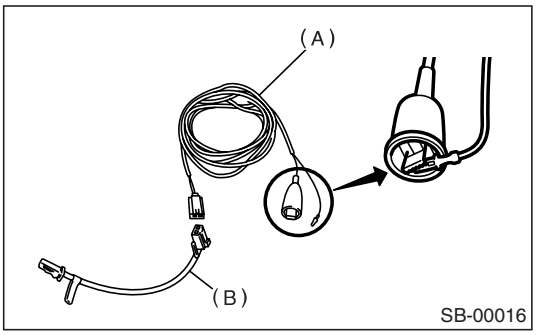
• Wagon model



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

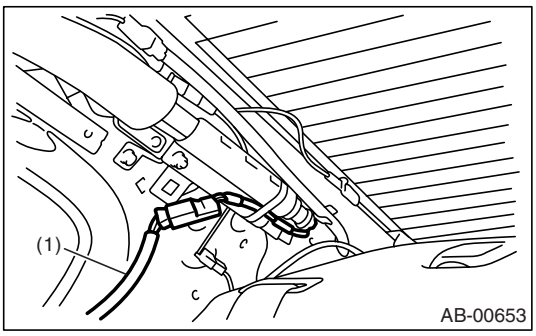
6) Connect the deployment tool and deployment adapter A (B).

CAUTION:
The deployment tool should be kept shorted terminal until just before deployment of airbag module.

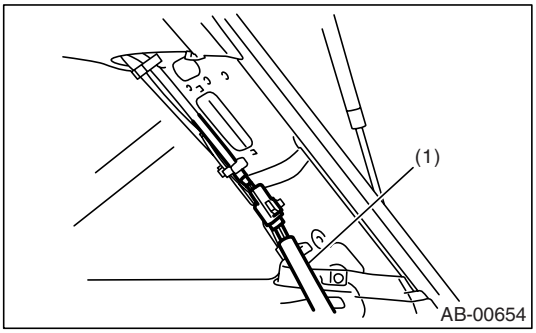


(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter A:
(Tool number 98299FC030)

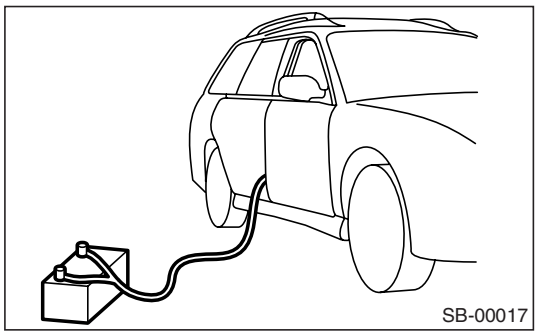
7) Connect the deployment adapter A (1) to the curtain airbag module connector (yellow).
• Sedan model



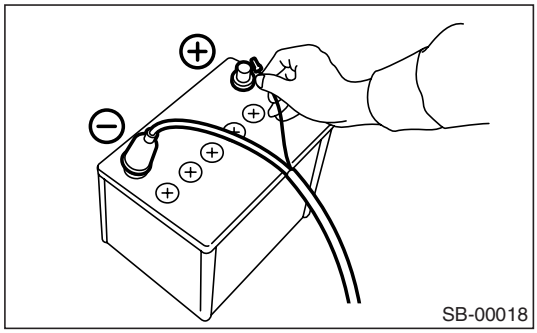
• Wagon model



8) Extend fully the wiring of deployment tool, and make sure that the vehicle is empty. Close all the windows, sunroof and rear gate completely.

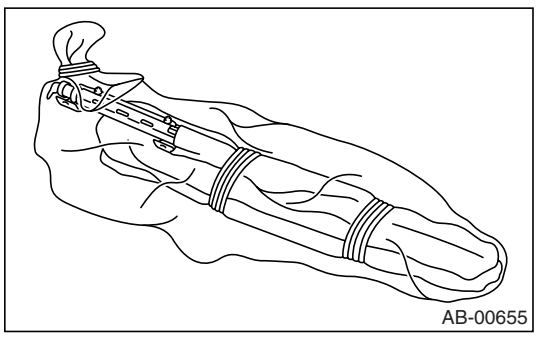


9) Move the battery at least 5 m (16 ft) from vehicle, and secure the nearby area. Connect the deployment tool alligator clip to the battery negative (−) terminal.
10) Connect the other cable of deployment tool to the battery positive (+) terminal, and deploy the airbag module.



CAUTION:
• After deployment, the airbag module is extremely hot, leave it unattended for 40 minutes, and discard it.
• Do not let water get into the deployed airbag module.

11) Remove the curtain airbag module. <Ref. to AB-20, REMOVAL, Curtain Airbag Module.>
12) Wrap the deployed airbag module in sealed vinyl bag, and discard it.



NOTE:
Fold the airbag cloth three or four times as required and fasten it with string and seal it in vinyl bag.

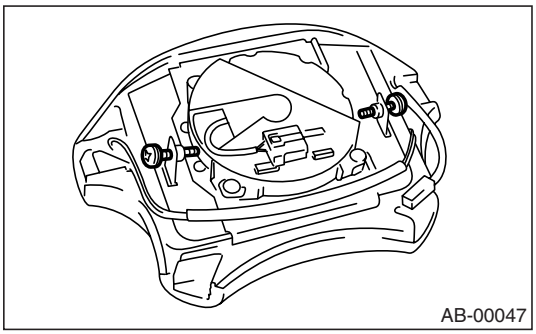
14. Airbag Module Disposal (Deployment Processing After Removal from Vehicle)

A: PROCEDURE

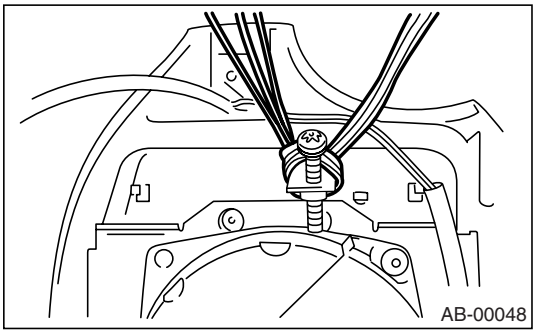
CAUTION:
• Do not discard an undeployed airbag module because it may cause serious personal injury when accidentally deployed.
• As a rule, airbag modules should be deployed in the vehicle. Do not remove the airbag modules unless necessary.
• Deployment of airbag modules should be performed on a flat place in safety area. Avoid deploying outdoors when rainy or windy weather.
• Do not damage the airbag module or drop it.
• Deploying an airbag module causes a high explosive noise, be sure to warn people in the area, and do not allow anyone within 5 m (16 ft) radius of the disposal site.
• Some smoke will be emitted after deployment of the airbag module. Therefore, it must be deployed in a well-ventilated place with no smoke detector nearby.
• Wear protective gloves, safety goggles and earplugs during this operation. Wash your hands afterwards.
• After deployment, the airbag module is extremely hot, leave it unattended for 40 minutes, and discard it.
• Do not let water get into the deployed airbag module.
• Wrap the deployed airbag module in a sealed vinyl bag, and discard it.
• If circumstances do not permit the airbag module deployment, contact the SUBARU dealer.

1. DRIVER'S AIRBAG MODULE

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the driver's airbag module. <Ref. to AB-16, Driver's Airbag Module.>
4) Install the removed bolts to airbag module.

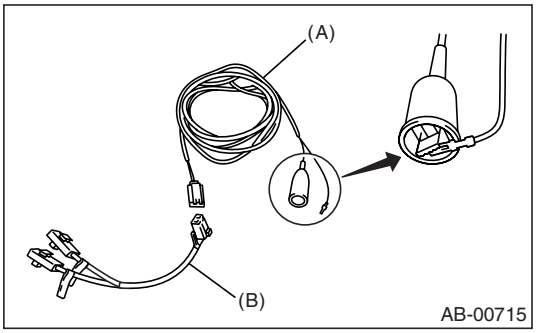

AB-00047

5) Bundle three automotive wire harnesses [each with a sectional area of 1.25 mm^2 (0.00194 sq in) or more], and bind them twofold around airbag module stay.


AB-00048

6) Short the terminal to the alligator clip furnished as deployment tool (A).
7) Connect the deployment tool and deployment adapter X (B).

CAUTION:
The deployment tool should be kept shorted terminal until just before deployment of airbag module.

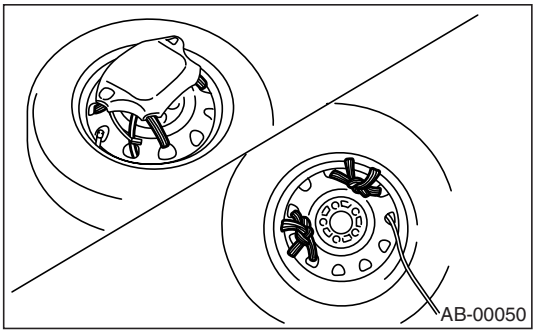


AB-00715

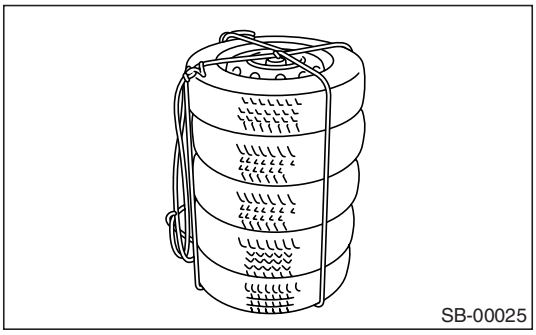
(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter X:
(Tool number 98299AG030)

8) Connect the deployment adapter X connector to airbag module.

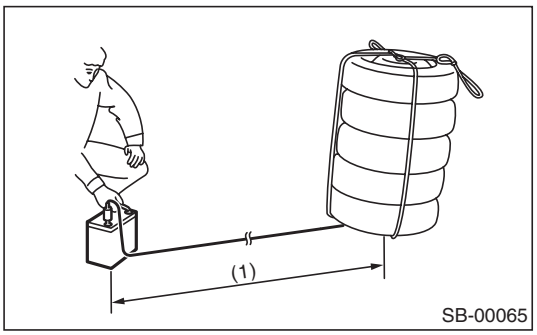
9) Install the airbag module with pad side facing upward on a wheel with tire.



10) Put three tires without wheels on the tire installed the airbag module. Put on an additional tire with a wheel, and then fasten them tight with a rope.

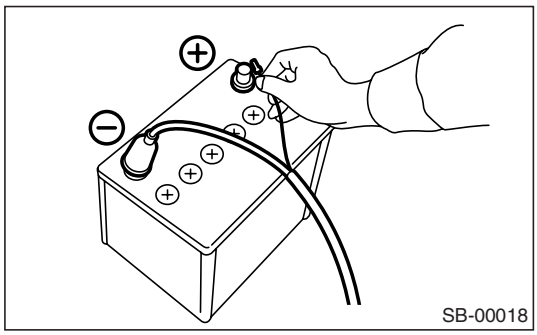


11) Move the battery at least 5 m (16 ft) from tires, and secure the nearby area. Connect the deployment tool alligator clip to the battery negative (−) terminal.



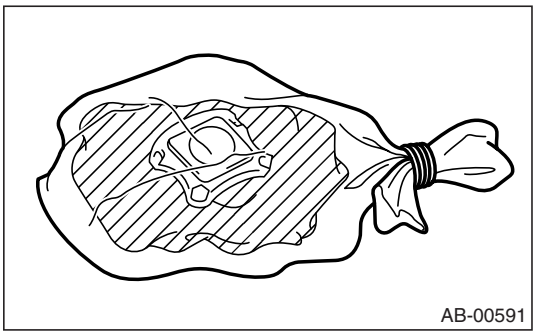
(1) 5 m (16 ft) or more

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



CAUTION:
• After deployment, the airbag module is extremely hot, leave it unattended for 40 minutes, and discard it.
• Do not let water get into the deployed airbag module.

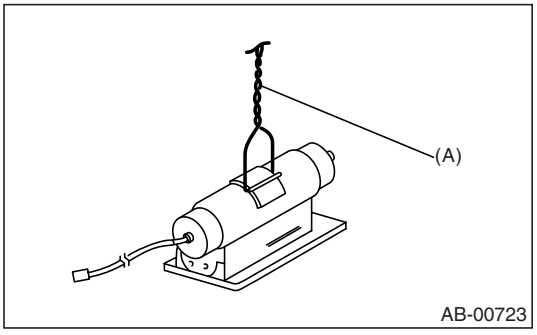
13) Wrap the deployed airbag module in sealed vinyl bag, and discard it.



2. PASSENGER'S AIRBAG MODULE

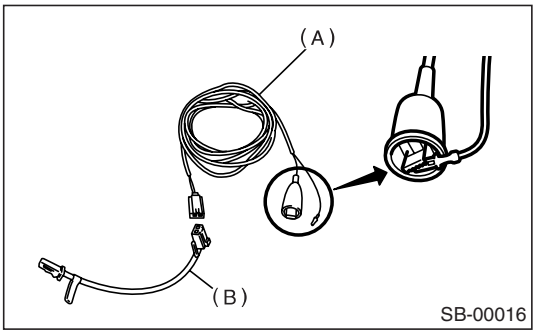
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the instrument panel assembly. <Ref. to EI-56, REMOVAL, Instrument Panel Assembly.>
4) Remove the passenger airbag module. <Ref. to AB-17, Passenger's Airbag Module.>

5) Bundle three automotive wire harnesses [each with a sectional area of 1.25 mm^2 (0.00194 sq in) or more], route them through airbag module bracket (A). Then, twist them to add strength.



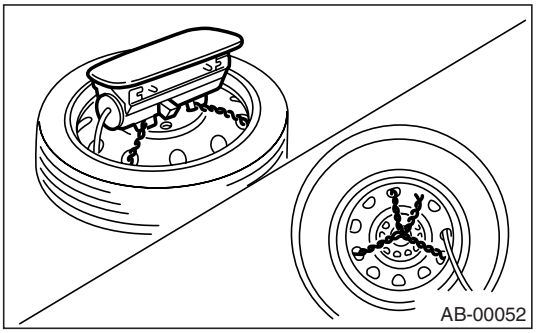
6) Short the terminal to the alligator clip furnished as deployment tool (A).
7) Connect the deployment tool and deployment adapter E (B).

CAUTION:
The deployment tool should be kept shorted terminal until just before deployment of airbag module.

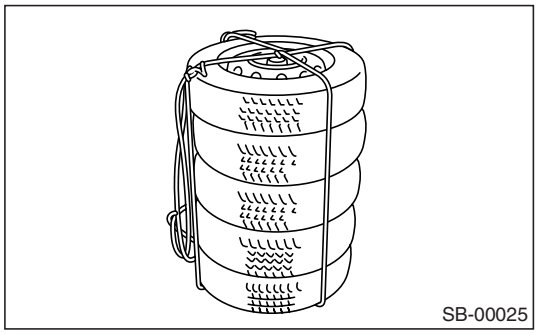


(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter E:
(Tool number 98299SA030)

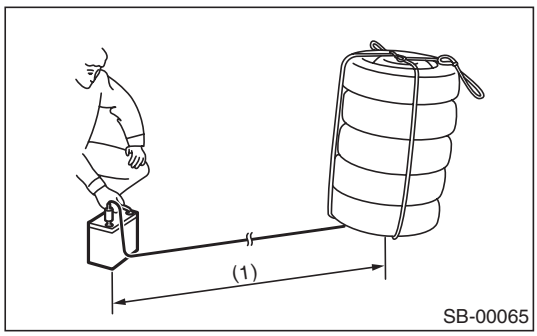
8) Connect the deployment adapter E connector to airbag module.
9) Install the airbag module with opening side facing upward on a 14-inch or greater size wheel with tire.



10) Put three tires without wheels on the tire installed the airbag module. Put on an additional tire with a wheel on top, and then fasten them tight with a rope.

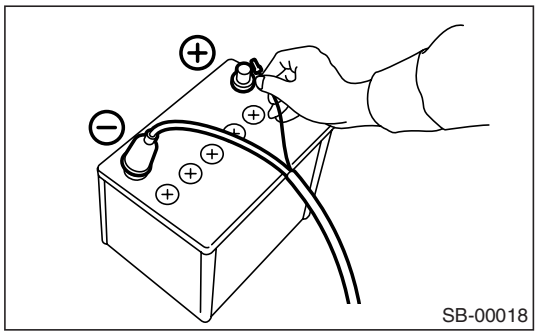


11) Move the battery at least 5 m (16 ft) from tires, and secure the nearby area. Connect the deployment tool alligator clip to the battery negative (–) terminal.



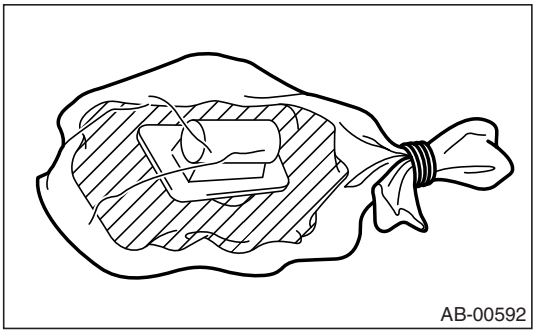
(1) 5 m (16 ft) or more

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



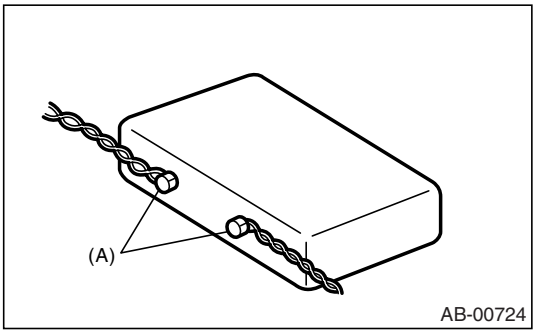
CAUTION:
• After deployment, the airbag module is extremely hot, leave it unattended for 40 minutes, and discard it.
• Do not let water get into the deployed airbag module.

13) Wrap the deployed airbag module in sealed vinyl bag, and discard it.



3. SIDE AIRBAG MODULE

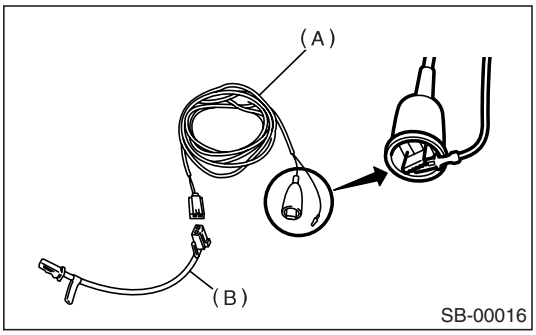
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
4) Remove the side airbag module. <Ref. to AB-18, REMOVAL, Side Airbag Module.>
5) Install the nuts (A) to airbag module, and then bind them with bundled three automotive wire harnesses [each with a sectional area of 1.25 mm^2 (0.00194 sq in) or more].



6) Short the terminal to the alligator clip furnished as deployment tool (A).

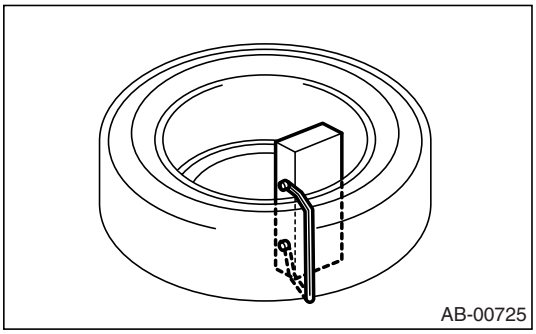
7) Connect the deployment tool and deployment adapter A (B).

CAUTION:
The deployment tool should be kept shorted terminal until just before deployment of airbag module.

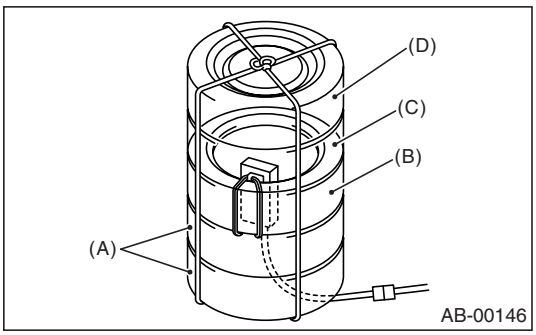


(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter A:
(Tool number 98299FC030)

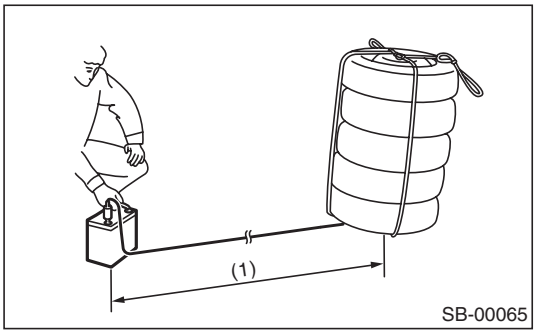
8) Connect the deployment adapter A connector to airbag module.
9) Install the airbag module on a 14-inch or greater size tire without wheel.



10) Put two tires (A) without wheel under the tire (B) installed with the side airbag module. Put an additional tire (C) without wheel, and then put a tire (D) with wheel on top. Fasten them tight with rope.

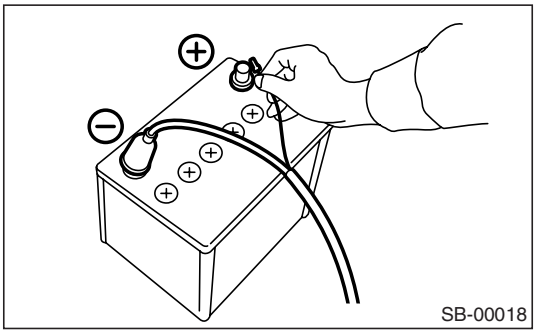


11) Move the battery at least 5 m (16 ft) from tires, and secure the nearby area. Connect the deployment tool alligator clip to the battery negative (−) terminal.



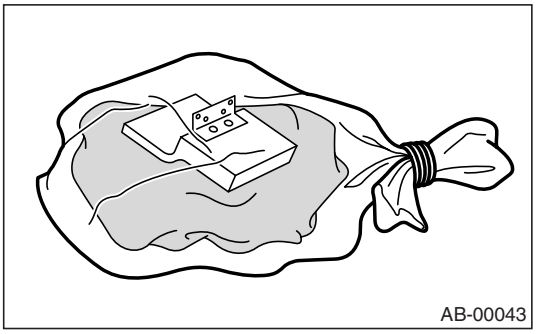
(1) 5 m (16 ft) or more

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



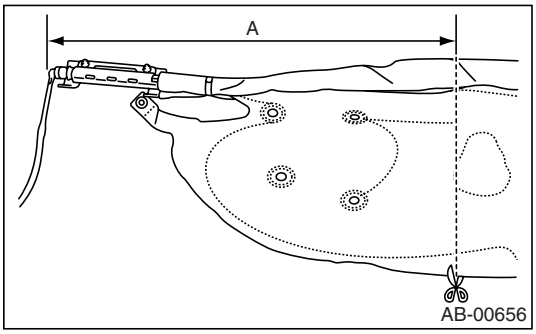
CAUTION:
• After deployment, the airbag module is extremely hot, leave it unattended for 40 minutes, and discard it.
• Do not let water get into the deployed airbag module.

13) Wrap the deployed airbag module in sealed vinyl bag, and discard it.

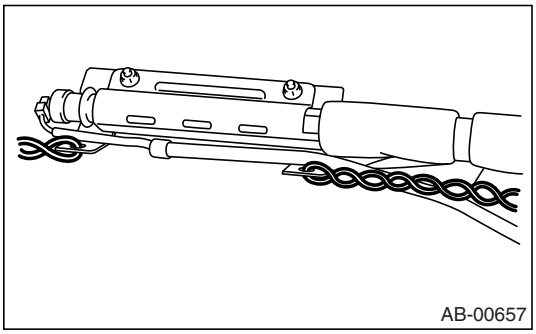


4. CURTAIN AIRBAG MODULE

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the roof trim. <Ref. to EI-67, REMOVAL, Roof Trim.>
4) Remove the curtain airbag module. <Ref. to AB-20, REMOVAL, Curtain Airbag Module.>
5) Extend the airbag cloth and cut off the airbag at the position of 750 mm (29.5 in) (A) from inflator end.



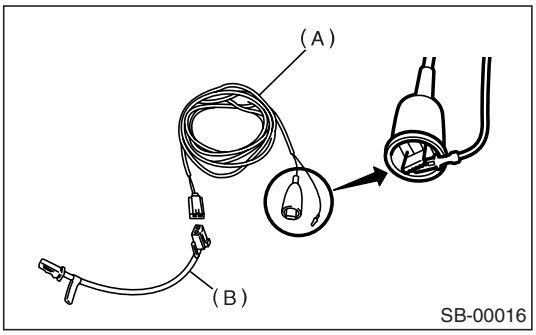
6) Bundle three automotive wire harnesses [each with a sectional area of 1.25 mm^2 (0.00194 sq in) or more], and then bind them through the holes in airbag module bracket.



7) Short the terminal to the alligator clip furnished as deployment tool (A).

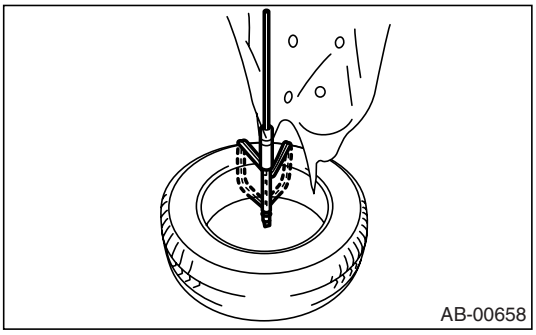
8) Connect the deployment tool and deployment adapter A (B).

CAUTION:
The deployment tool should be kept shorted terminal until just before deployment of airbag module.

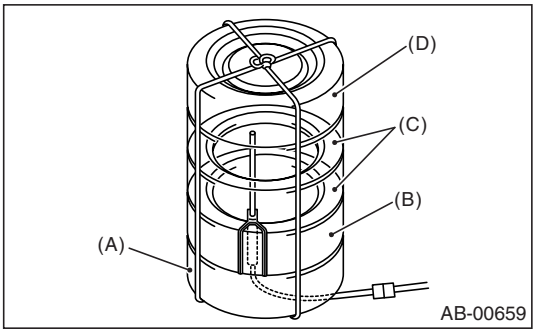


(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter A:
(Tool number 98299FC030)

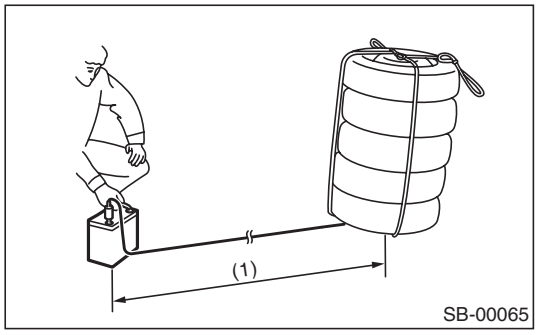
9) Connect the deployment adapter A connector to airbag module.
10) Install the airbag module on a 14-inch or greater size tire without wheel.



11) Put a tire (A) without wheel under the tire (B) installed with the side airbag module. Put two additional tires (C) without wheel, and then put a tire (D) with wheel on top. Fasten them tight with rope.

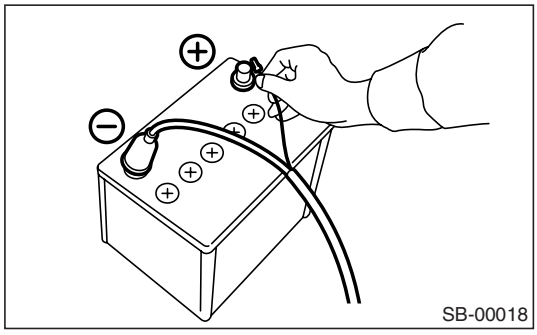


12) Move the battery at least 5 m (16 ft) from tires, and secure the nearby area. Connect the deployment tool alligator clip to the battery negative (–) terminal.



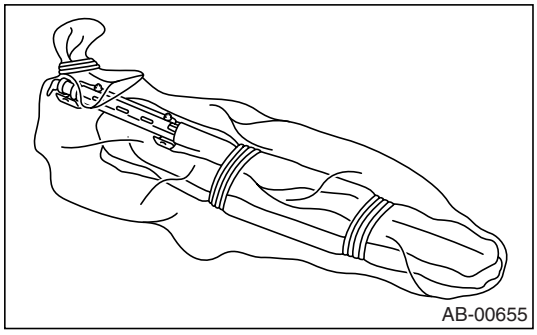
(1) 5 m (16 ft) or more

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



CAUTION:
• After deployment, the airbag module is extremely hot, leave it unattended for 40 minutes, and discard it.
• Do not let water get into the deployed airbag module.

14) Wrap the deployed airbag module in sealed vinyl bag, and discard it.



AIRBAG SYSTEM (DIAGNOSTICS)

AB(diag)

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1. Basic Diagnostic Procedure

A: PROCEDURE

Step		Check	Yes	No
1	**READ DTC.** <Ref. to AB(diag)-30, Read Diagnostic Trouble Code (DTC).>	Is the normal code detected?	Finish the diagnosis.	Go to step **2.**
2	**READ DTC.** <Ref. to AB(diag)-30, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Go to step **3.**	Go to “Airbag Warning Light Failure” <Ref. to AB(diag)-34, Airbag Warning Light Failure.>.
3	**PERFORM THE DIAGNOSIS.** 1) Judge the possible cause from “List of Diagnostic Trouble Code” <Ref. to AB(diag)-38, List of Diagnostic Trouble Code (DTC).>. 2) Inspect the DTC using “List of Diagnostic Trouble Code (DTC)”. 3) Repair the trouble cause. 4) Perform the clear memory mode. <Ref. to AB(diag)-33, Clear Memory Mode.> 5) Perform the inspection mode. <Ref. to AB(diag)-32, Inspection Mode.> 6) Read any DTC again.	Is DTC displayed?	Perform the procedure 1) to 5) in step 3.	Finish the diagnosis.

2. Check List for Interview

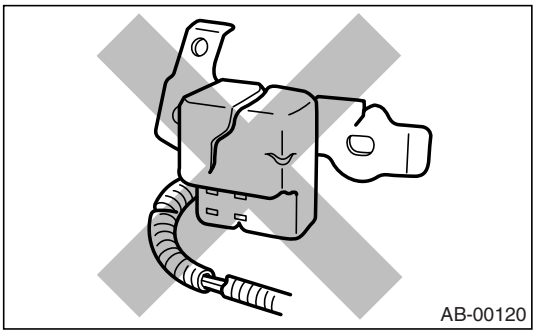
A: CHECK

Customer's Name		Inspector's Name	
Date Vehicle Brought In	/ /	Registration No.	
Odometer Reading	km miles	V.I.N.	
Date Problem Occurred	/ /	Registration Year	/ /
Weather	❑ Fine ❑ Cloudy ❑ Rainy ❑ Snowy ❑ Others:		
Temperature	°C (°F)		
Road Condition	❑ Level road ❑ Uphill ❑ Downhill ❑ Rough road ❑ Others:		
Vehicle Operation	❑ Starting ❑ Idling ❑ Driving (❑ Constant speed ❑ Acceleration ❑ Deceleration ❑ Steering wheel turn ❑ Others:)		
Details of Problem			
Check Airbag Warning Light	❑ Normal (After turning the ignition switch to ON, illuminates for 6 seconds then goes off.) ❑ Remains ON ❑ Remains OFF		
DTC output	❑ Normal Code ❑ DTC: (Code:)		

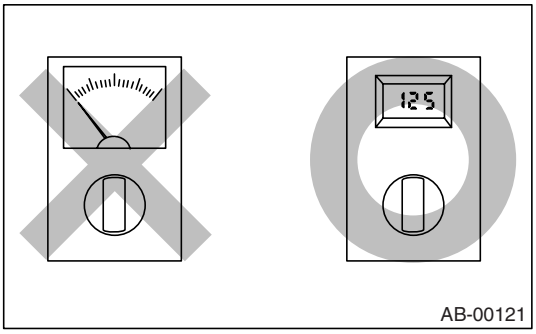
3. General Description

A: CAUTION

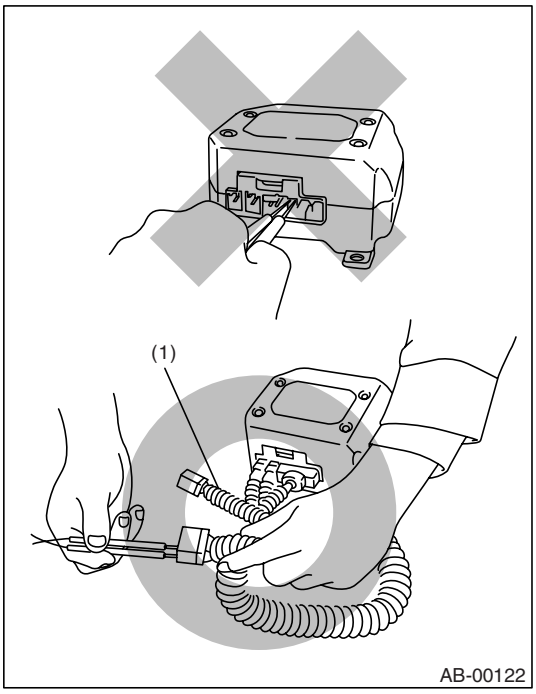
• When servicing a vehicle, be sure to turn the ignition switch to OFF, disconnect the ground cable from battery, and wait for more than 20 seconds before starting work.
• The airbag system is equipped with a backup power source. If the airbag system is serviced within 20 seconds from the ground cable is disconnected, it may inflate.
• If sensors, airbag module, airbag control module, pretensioner and harness are deformed or damaged, replace them with new parts.


AB-00120

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

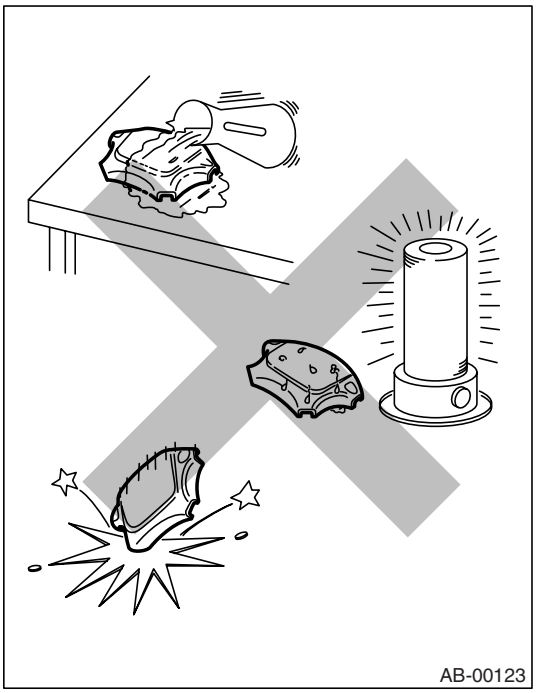

AB-00121

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

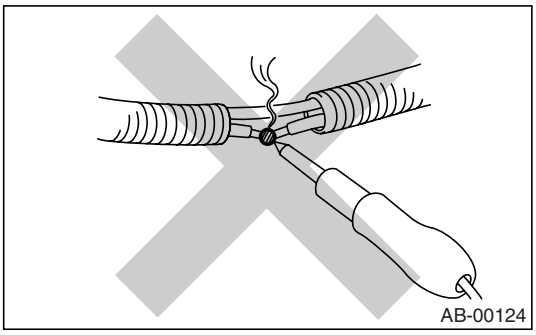


AB-00122

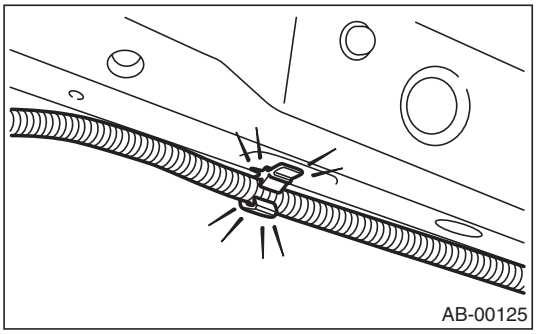
• Do not drop the airbag module, subject them to high temperature over 93°C (199°F), or let water, oil or grease get on them; the internal parts may be damaged and reliability greatly lowered.


AB-00123

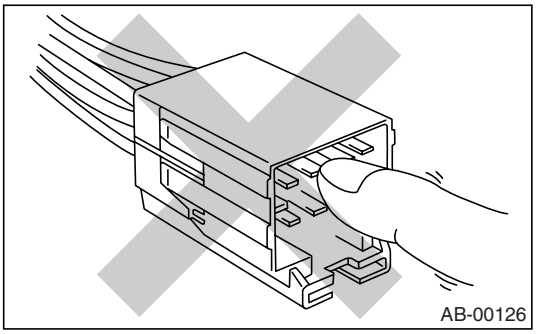
• If any damage, opening or rust is found on the airbag system wire harness, do not attempt to repair using soldering equipment. Replace the faulty harness with a new genuine part.



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

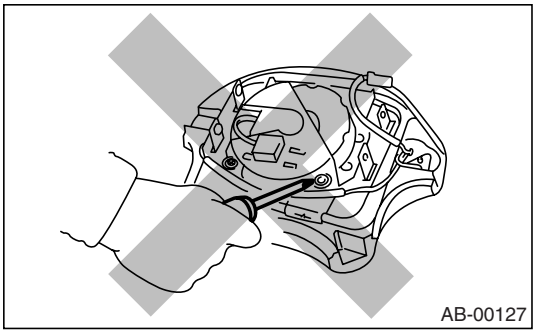


• Do not allow water or oil to come in contact with the connector terminals. Also do not touch the connector terminals.

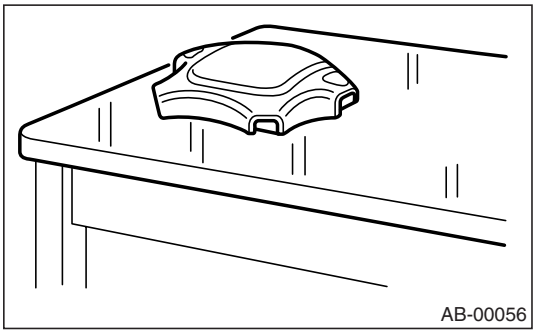


• Either of the airbag modules for driver's side, passenger's, side and curtain or pretensioner must not be disassembled.

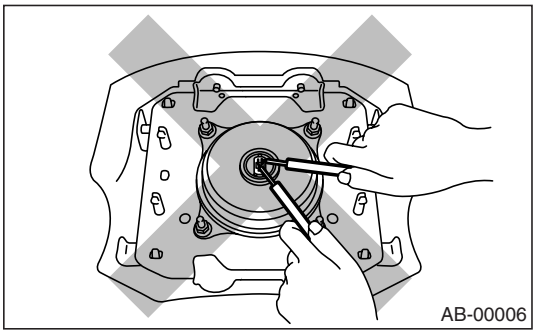
• The airbag module cannot be used again if deployed once.



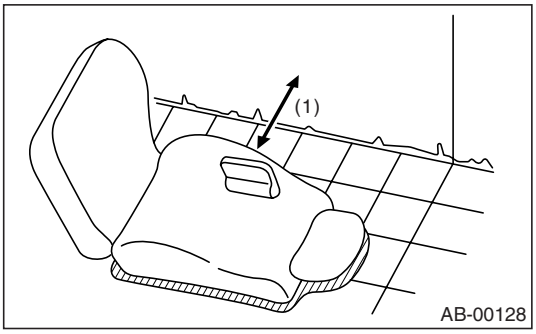
• After removal, keep the airbag module with the pad facing upward on a dry, clean and flat surface away from heat, light sources, moisture and dust.



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

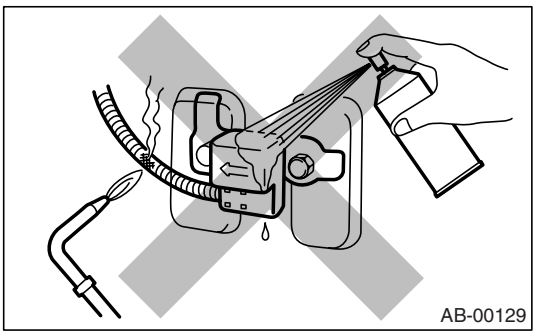


• The removed front seat with an airbag module must be kept at least 200 mm (8 in) away from walls and other objects.



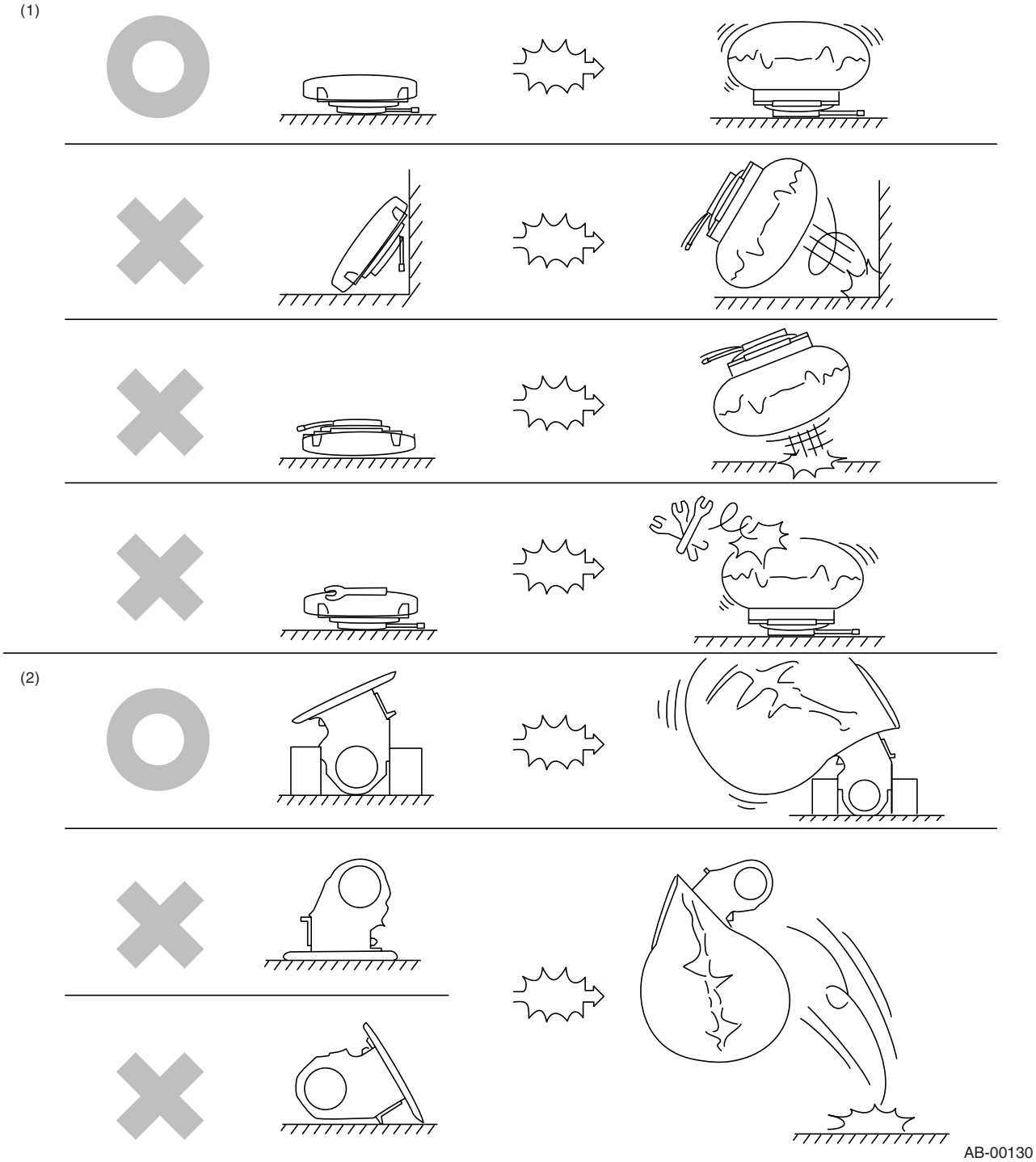
(1) 200 mm (8 in) or more

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



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

• When storing the removed airbag module, do not place any objects on it or pile them up. If the airbag deploys for some reason when it is placed with the pad side facing downward or under any object, a serious accident may result.



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

B: INSPECTION

Measure the battery voltage and check electrolyte.

Standard voltage: 12 V

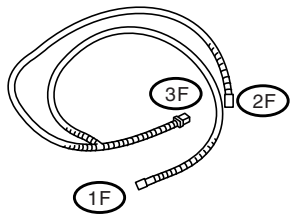
Specific gravity: Above 1.260

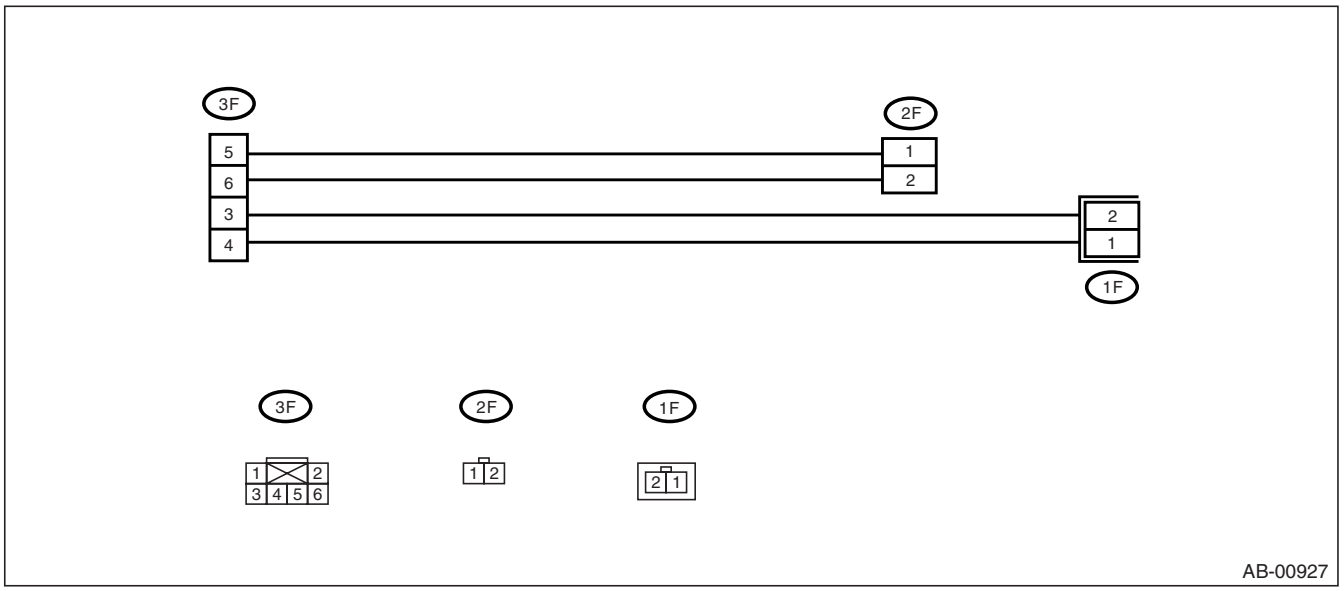
C: PREPARATION TOOL

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

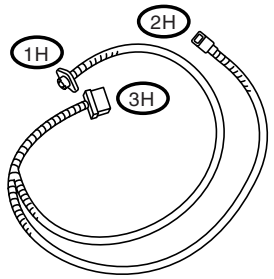
1. SPECIAL TOOL

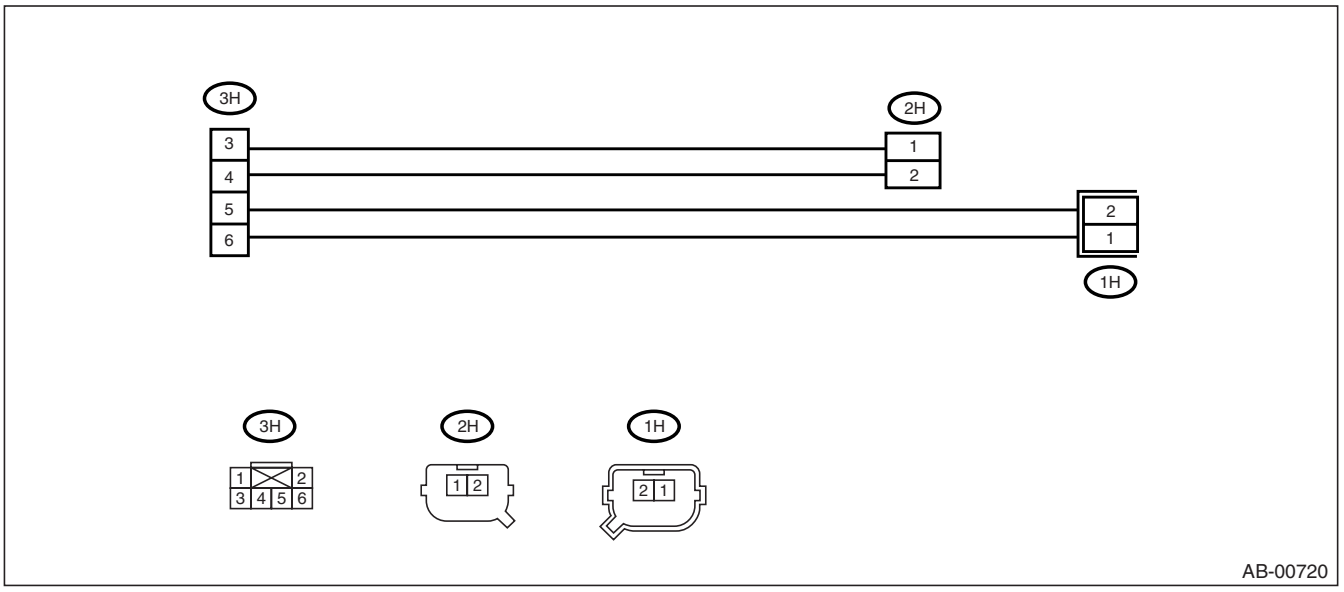
- TEST HARNESS F

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

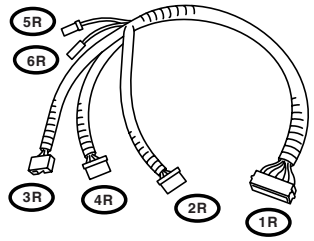


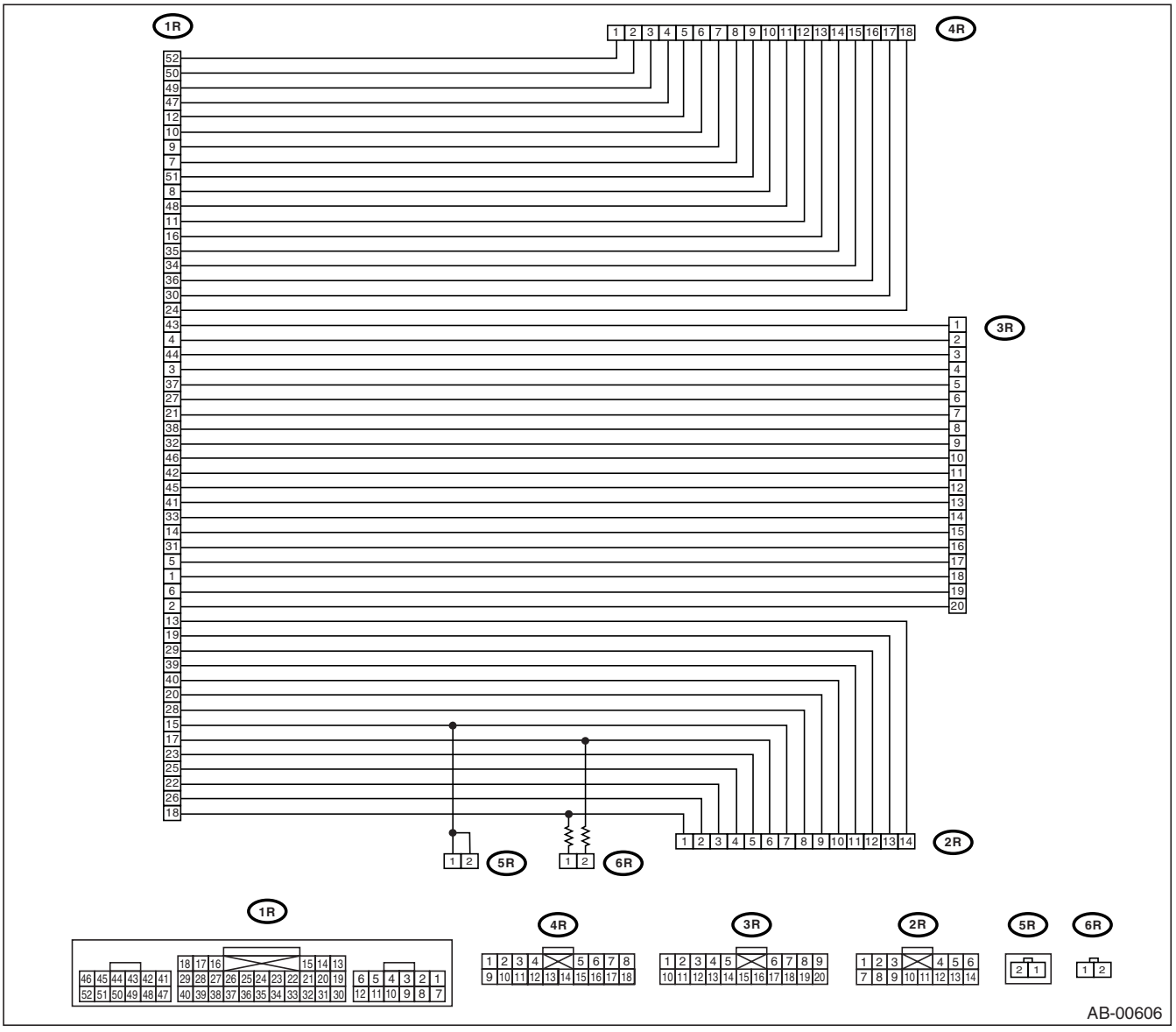
- TEST HARNESS H

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

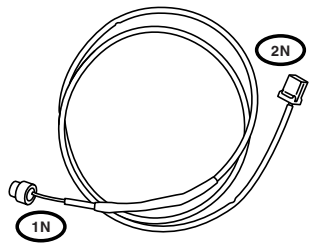


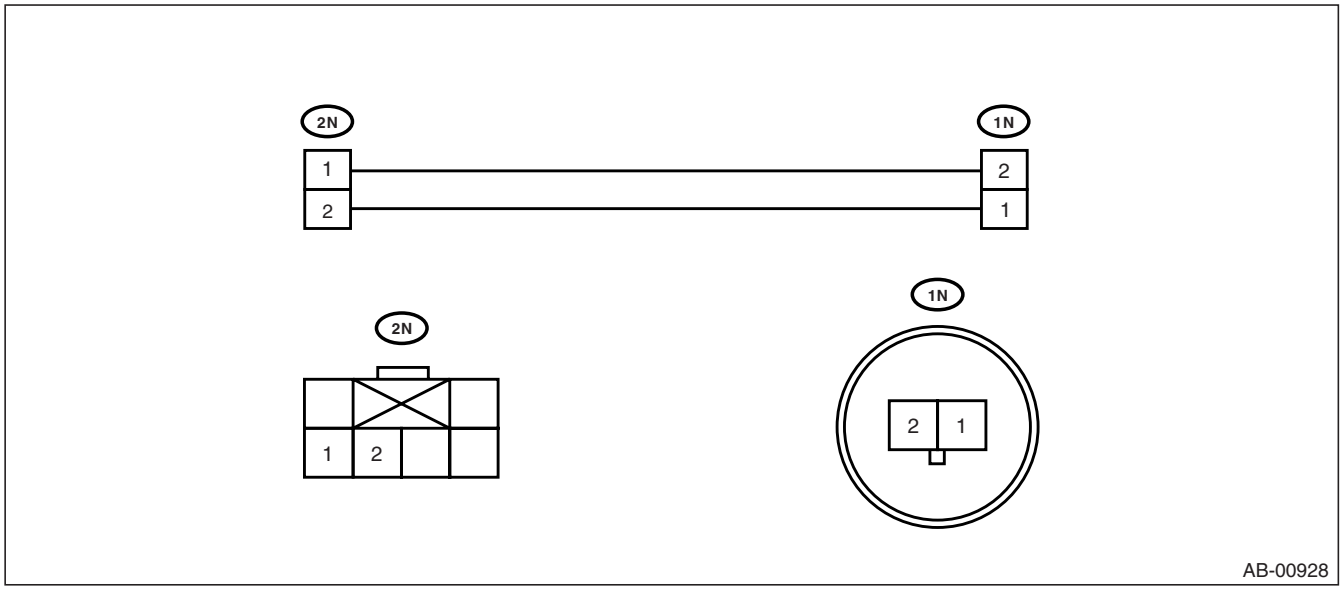
- TEST HARNESS R

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299FE030	98299FE030	TEST HARNESS R	Used when measuring voltage and resistance of airbag control module.

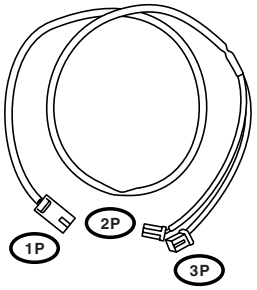


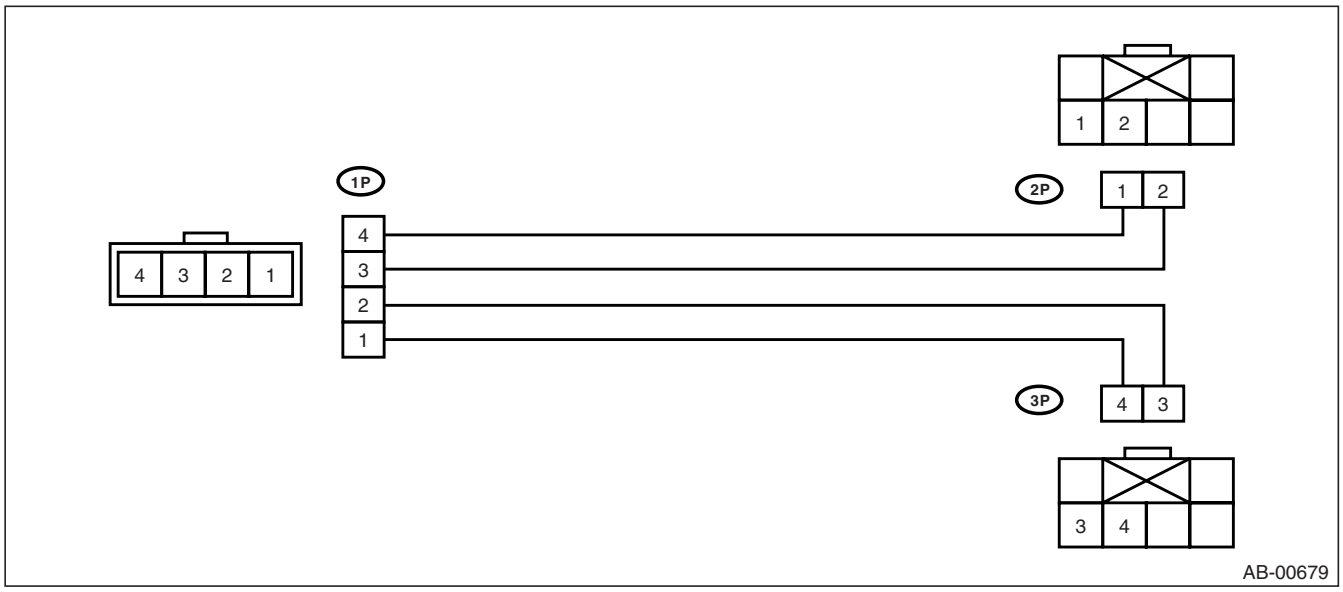
- TEST HARNESS N

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

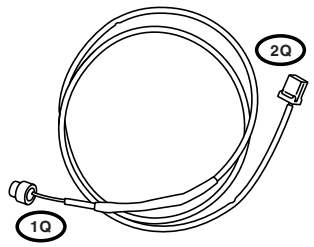


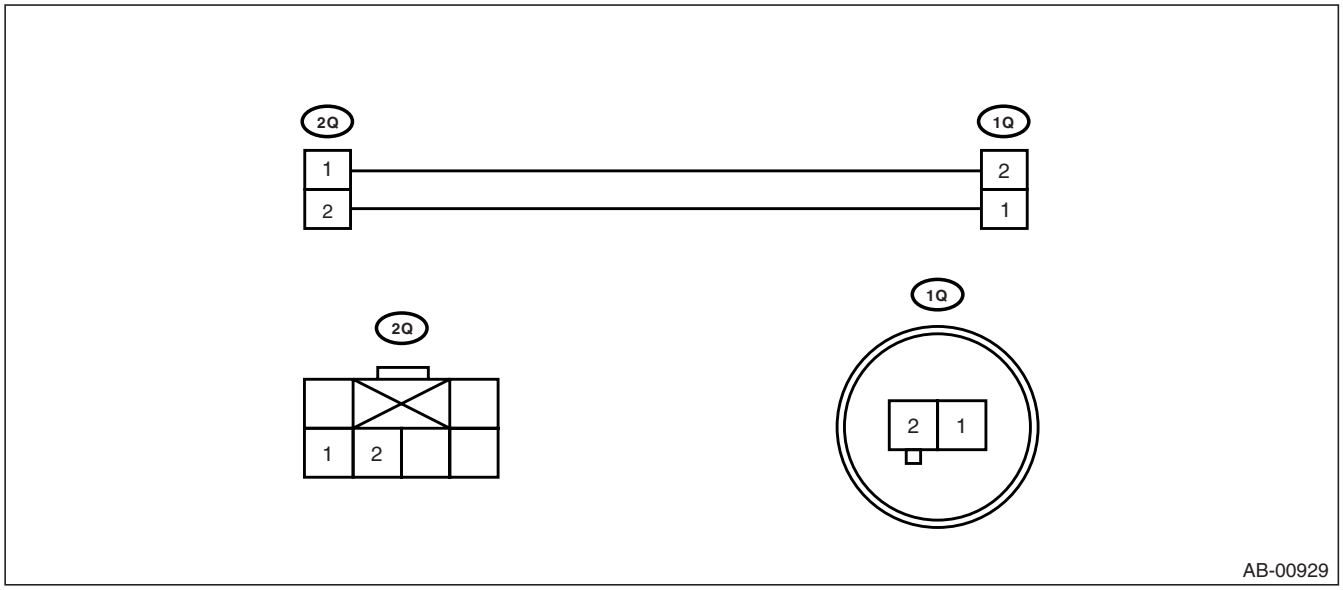
- TEST HARNESS P

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA020	98299SA000	TEST HARNESS P	Used when measuring voltage and resistance of driver's airbag module harness and passenger's airbag module harness.

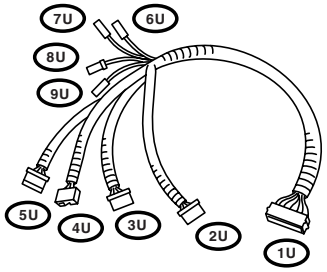


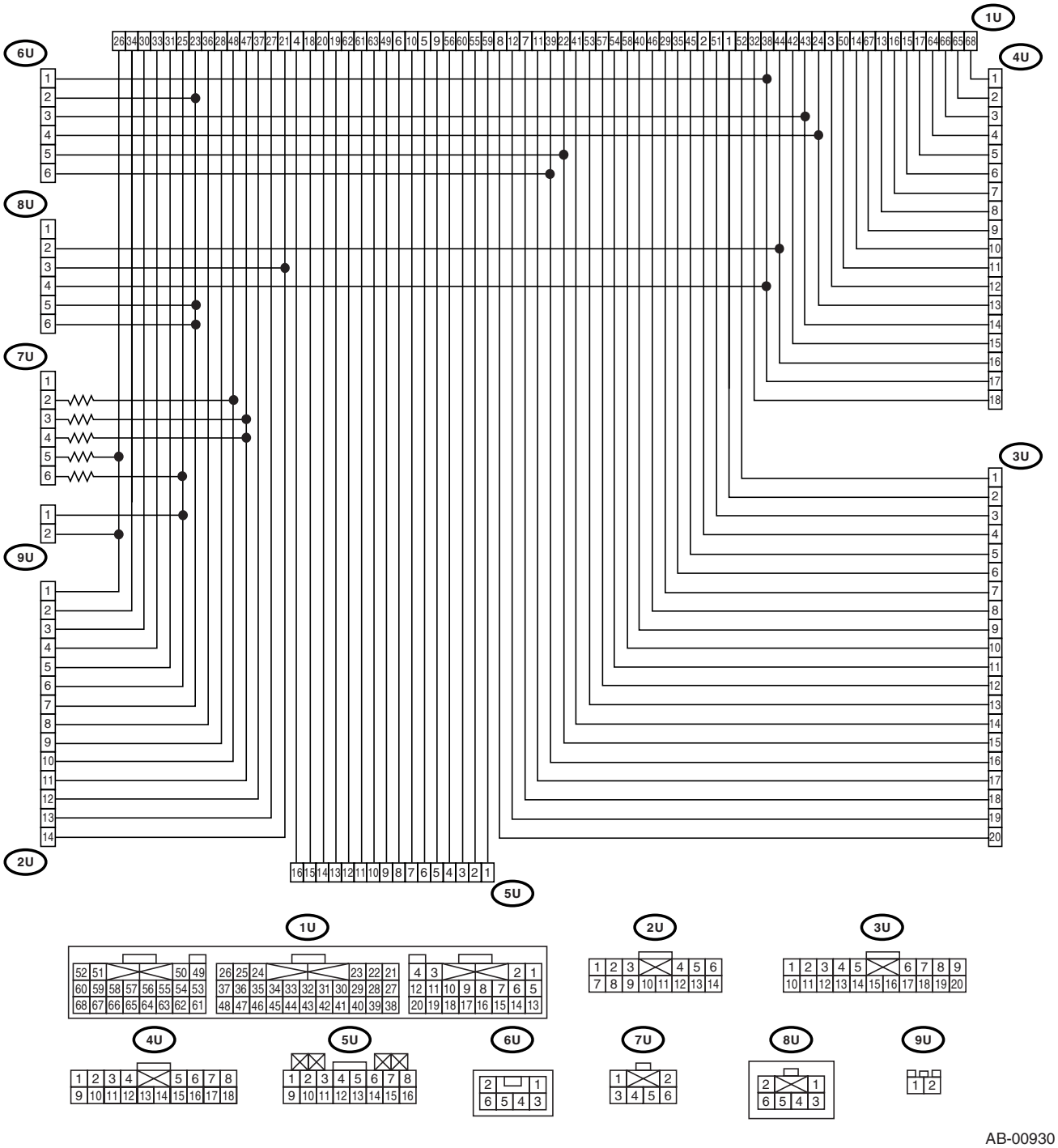
- TEST HARNESS Q

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

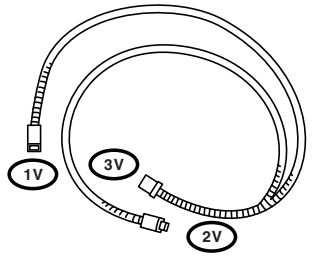


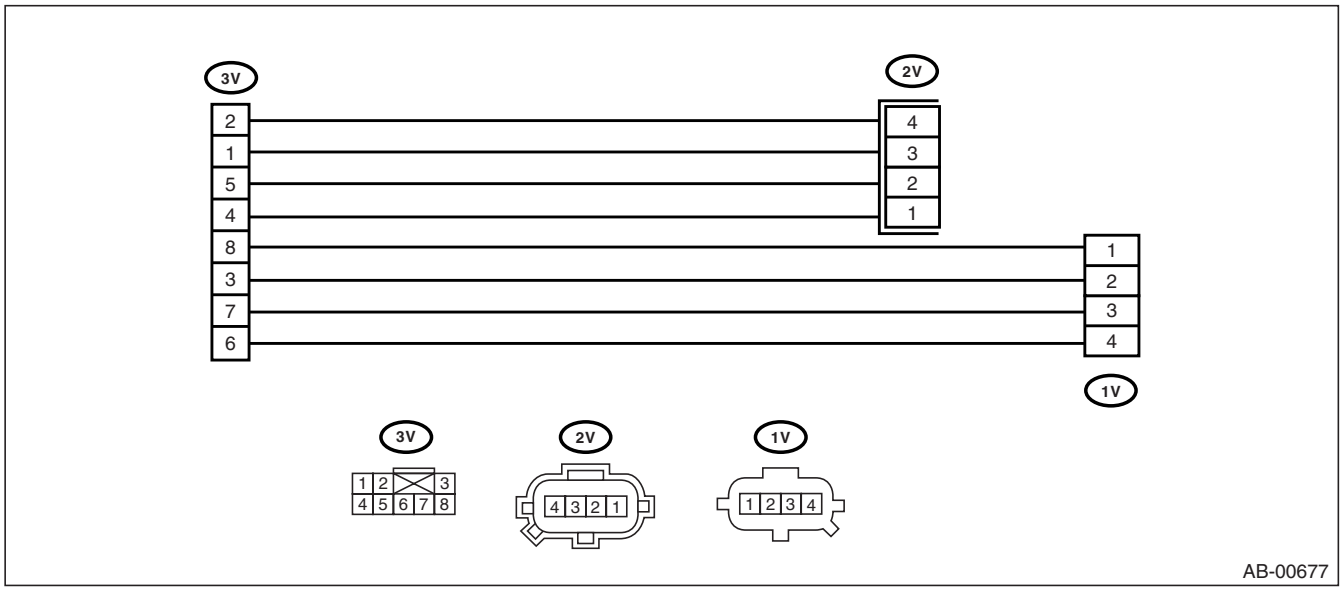
- TEST HARNESS U

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

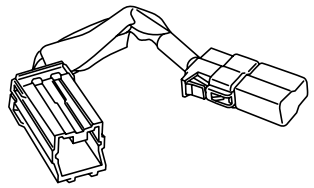

1U
6U
4U
8U
7U
3U
9U
2U
5U
AB-00930

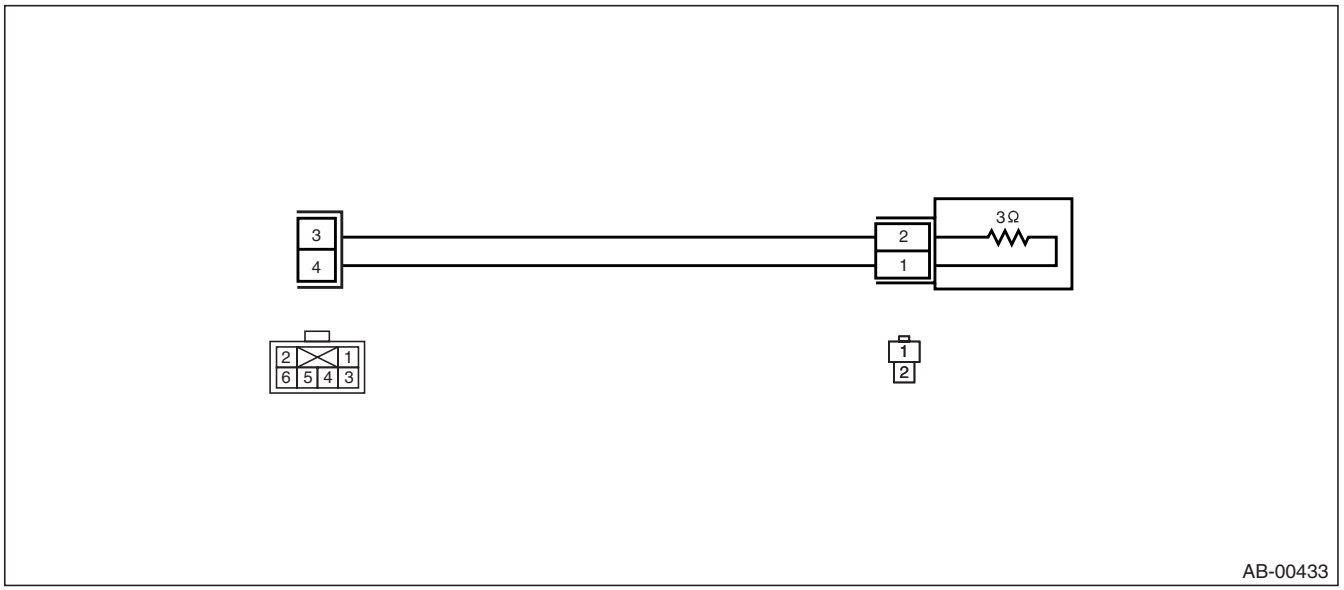
- TEST HARNESS V

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



• AIRBAG RESISTOR

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299PA040	98299PA040	AIRBAG RESISTOR	Used in replacement of airbag module for which resistance value is same as airbag module.



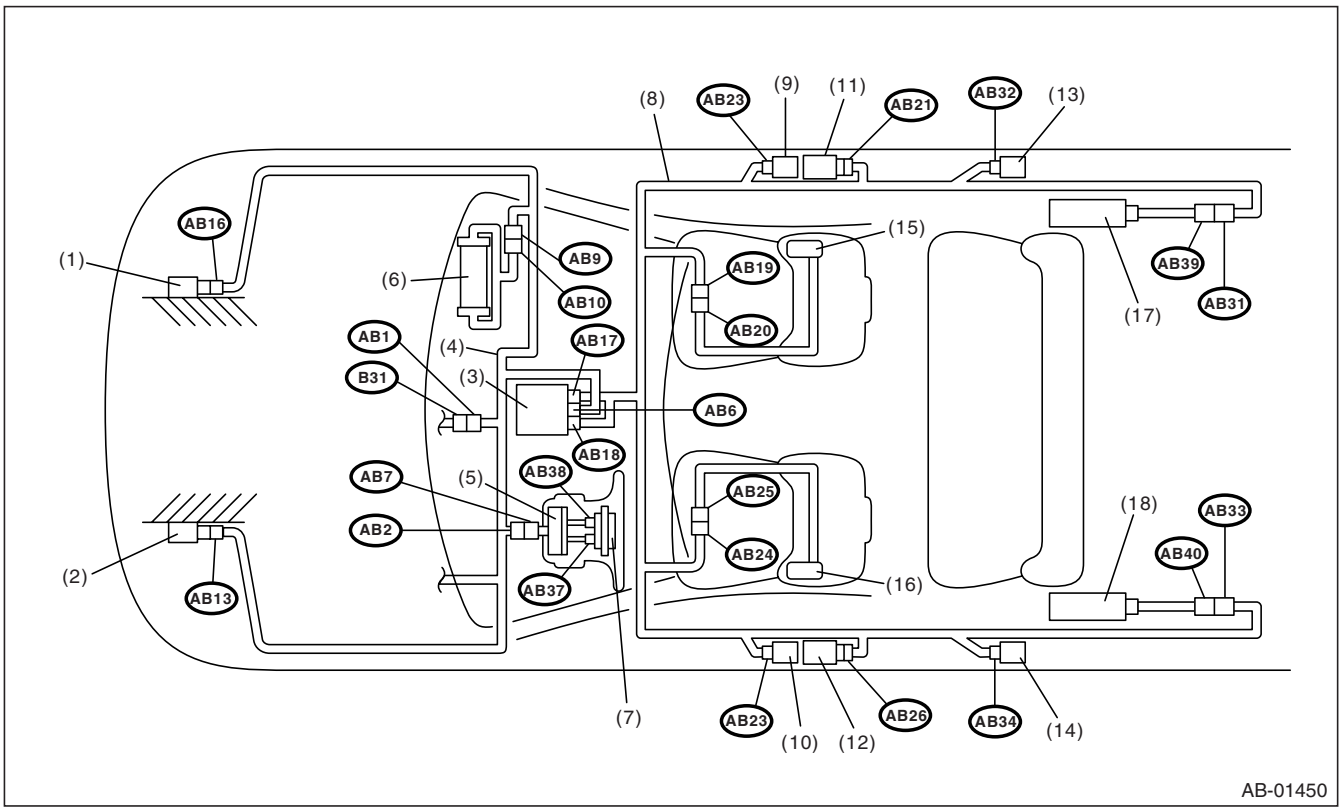
2. GENERAL TOOL

TOOL NAME	REMARKS
Digital circuit tester	Used for measuring resistance, voltage and ampere.

4. Electrical Component Location

A: LOCATION

1. LHD MODEL

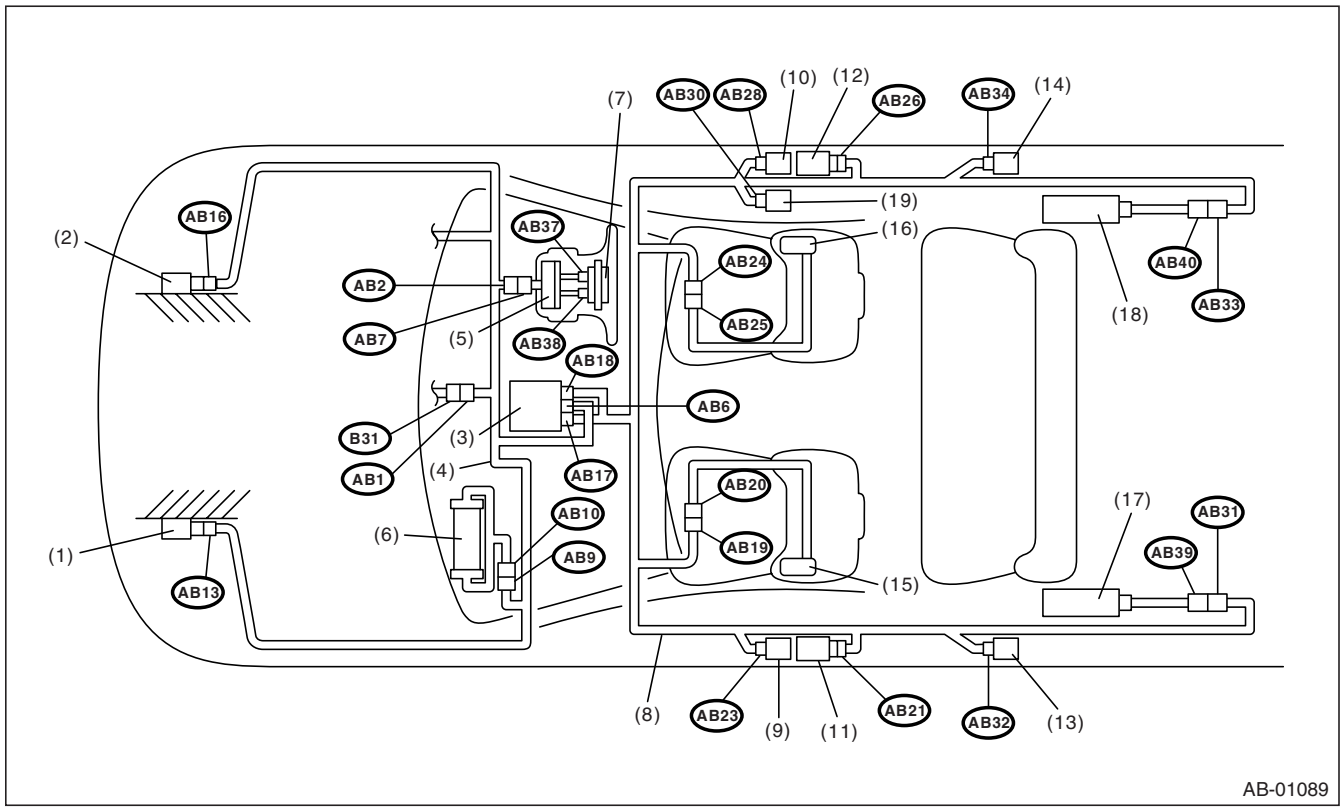


(1) Front sub sensor (RH)
(2) Front sub sensor (LH)
(3) Airbag control module with built-in safing and electric sensor
(4) Airbag main harness
(5) Roll connector
(6) Passenger's airbag module
(7) Driver's airbag module
(8) Airbag rear harness
(9) Side airbag sensor (RH)
(10) Side airbag sensor (LH)
(11) Seat belt pretensioner (RH)
(12) Seat belt pretensioner (LH)
(13) Curtain airbag sensor (RH)
(14) Curtain airbag sensor (LH)
(15) Side airbag module (RH)
(16) Side airbag module (LH)
(17) Side airbag module (RH)
(18) Curtain airbag module (LH)

Connector No.	(AB1)	(AB2)	(AB6)	(AB7)	(AB9)	(AB10)	(AB13)	(AB16)	(AB17)	(AB17)	(AB18)	(AB18)
Pin	6	4	28	4	4	4	2	2	12[*1]	20[*2]	12[*1]	20[*2]
Connector color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Male/Female	Female	Female	Female	Male	Female	Male	Female	Female	Female	Female	Female	Female
Connector No.	(AB19)	(AB20)	(AB21)	(AB23)	(AB24)	(AB25)	(AB26)	(AB28)	(AB31)	(AB32)	(AB33)	(AB34)
Pin	2	2	2	4	2	2	2	4	2	4	2	4
Connector color	Yellow	Yellow	Black	Yellow	Yellow	Yellow	Black	Yellow	Yellow	Yellow	Yellow	Yellow
Male/Female	Female	Male	Female	Female	Female	Male	Female	Female	Female	Female	Female	Female
Connector No.	(AB37)	(AB37)	(AB39)	(AB40)								
Pin	2	2	2	2								
Connector color	Orange	Black	Yellow	Yellow								
Male/Female	Female	Female	Male	Male								

[*1]: Model without curtain airbag
[*2]: Model with curtain airbag

2. RHD MODEL



(1) Front sub sensor (LH)
(2) Front sub sensor (RH)
(3) Airbag control module with built-in safing and electric sensor
(4) Airbag main harness
(5) Roll connector
(6) Passenger's airbag module
(7) Driver's airbag module
(8) Airbag rear harness
(9) Side airbag sensor (LH)
(10) Side airbag sensor (RH)
(11) Seat belt pretensioner (LH)
(12) Seat belt pretensioner (RH)
(13) Curtain airbag sensor (LH)
(14) Curtain airbag sensor (RH)
(15) Side airbag module (LH)
(16) Side airbag module (RH)
(17) Curtain airbag module (LH)
(18) Side airbag module (RH)
(19) Lap seat belt pretensioner

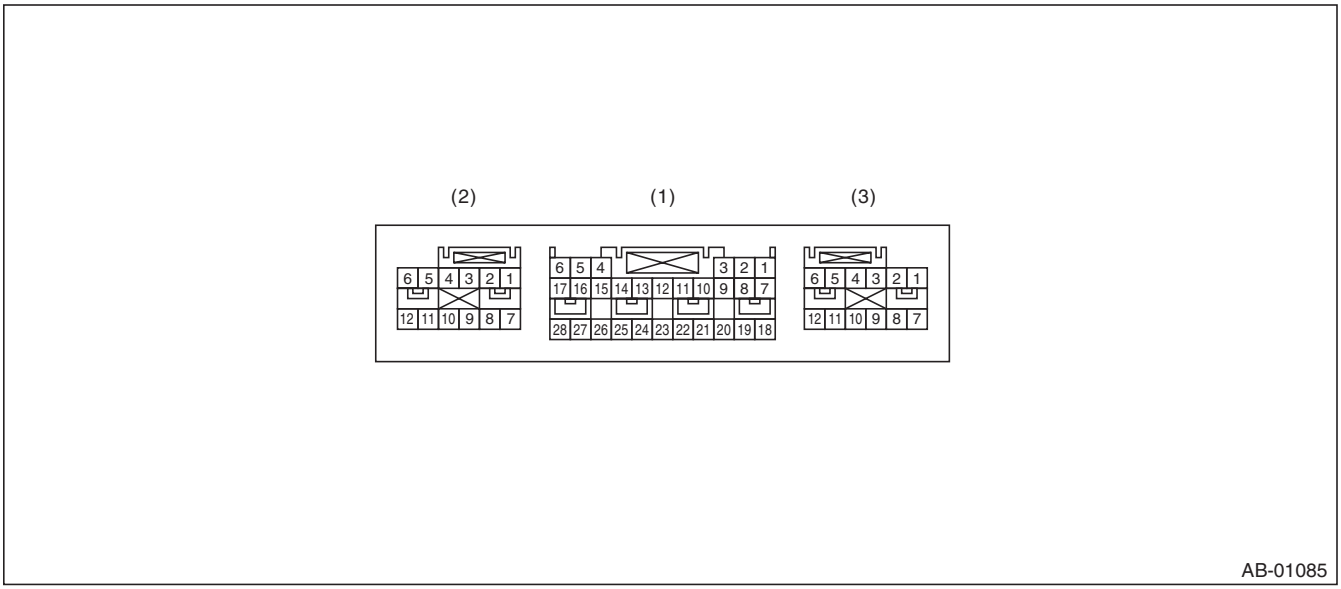
Connector No.	(AB1)	(AB2)	(AB6)	(AB7)	(AB9)	(AB10)	(AB13)	(AB16)	(AB17)	(AB17)	(AB18)	(AB18)
Pin	6	4	28	4	4	4	2	2	12*1	20*2	12*1	20*2
Connector color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Male/Female	Female	Female	Female	Male	Female	Male	Female	Female	Female	Female	Female	Female
Connector No.	(AB19)	(AB20)	(AB21)	(AB23)	(AB24)	(AB25)	(AB26)	(AB28)	(AB30)	(AB31)	(AB32)	(AB33)
Pin	2	2	2	4	2	2	2	4	2	2	4	2
Connector color	Yellow	Yellow	Black	Yellow	Yellow	Yellow	Black	Yellow	Orange	Yellow	Yellow	Yellow
Male/Female	Female	Male	Female	Female	Female	Male	Female	Female	Female	Female	Female	Female
Connector No.	(AB34)	(AB37)	(AB37)	(AB39)	(AB40)							
Pin	4	2	2	2	2							
Connector color	Yellow	Orange	Black	Yellow	Yellow							
Male/Female	Female	Female	Female	Male	Male							

*1: Model without curtain airbag
*2: Model with curtain airbag

5. Airbag Control Module I/O Signal

A: SPECIFICATION

1. MODEL WITHOUT CURTAIN AIRBAG

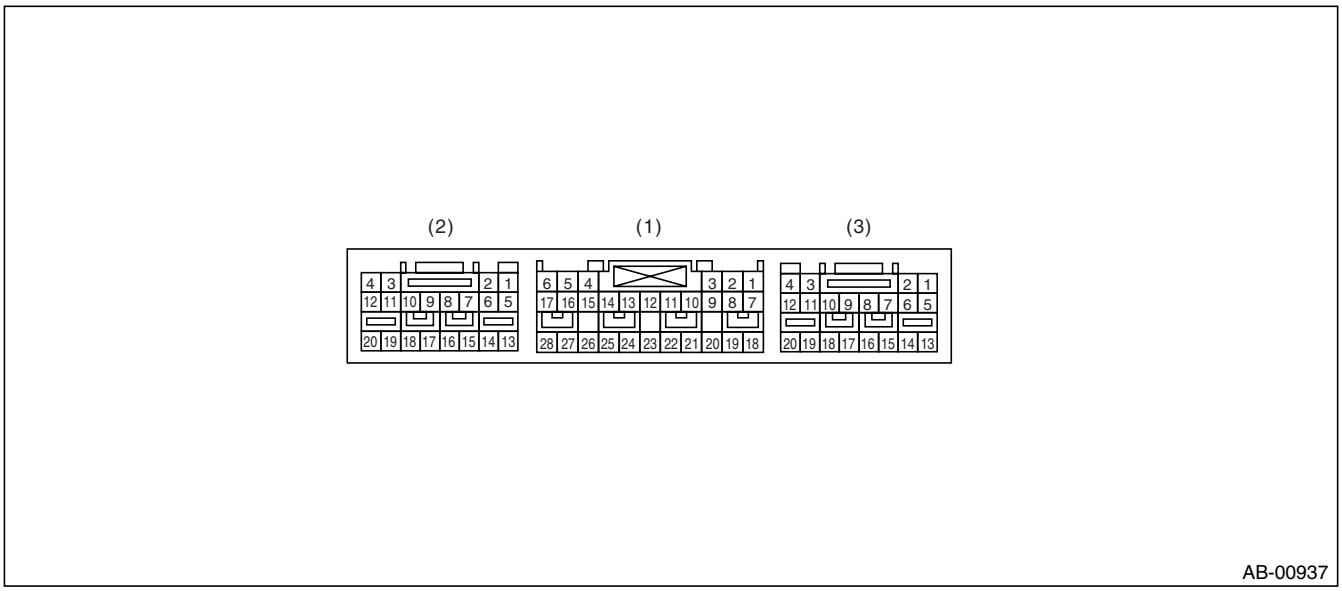


- Terminal numbers in airbag control module connector are shown in the figure.
- Airbag warning light illuminates when the connector is removed from airbag control module.

Item		Control module terminal No.	Terminal marks
Check connector		(1)-2	CLR
		(1)-19	DIG
Combination meter		(1)-3	LMP
Battery power supply		(1)-5	IG2
		(1)-6	IG1
Passenger's airbag module	1st stage output	(1)-10	PQ+
	1st stage input	(1)-11	PQ–
Passenger's airbag module	2nd stage output	(1)-8	P2+
	2nd stage input	(1)-7	P2–
Driver's airbag module	1st stage output	(1)-14	DQ+
	1st stage input	(1)-13	DQ–
Driver's airbag module	2nd stage output	(1)-16	D2+
	2nd stage input	(1)-17	D2–
Front sub sensor LH		(1)-15	SL+
		(1)-26	SL–
Front sub sensor RH		(1)-9	SR+
		(1)-20	SR–
GND		(1)-27	GND
		(1)-28	GND
Seat belt pretensioner LH		(2)-6	PL+
		(2)-5	PL–
Side airbag sensor LH		(2)-16	VUPL
		(2)-18	ESL
		(2)-17	SSL+
		(2)-20	SSL–
Side airbag module LH		(2)-10	FL+
		(2)-9	FL–

Item	Control module terminal No.	Terminal marks
Seat belt pretensioner RH	(3)-11	PR+
	(3)-12	PR–
Side airbag sensor RH	(3)-17	VUPR
	(3)-15	ESR
	(3)-16	SSR+
	(3)-13	SSR–
Side airbag module RH	(3)-7	FR+
	(3)-8	FR–

2. MODEL WITH CURTAIN AIRBAG



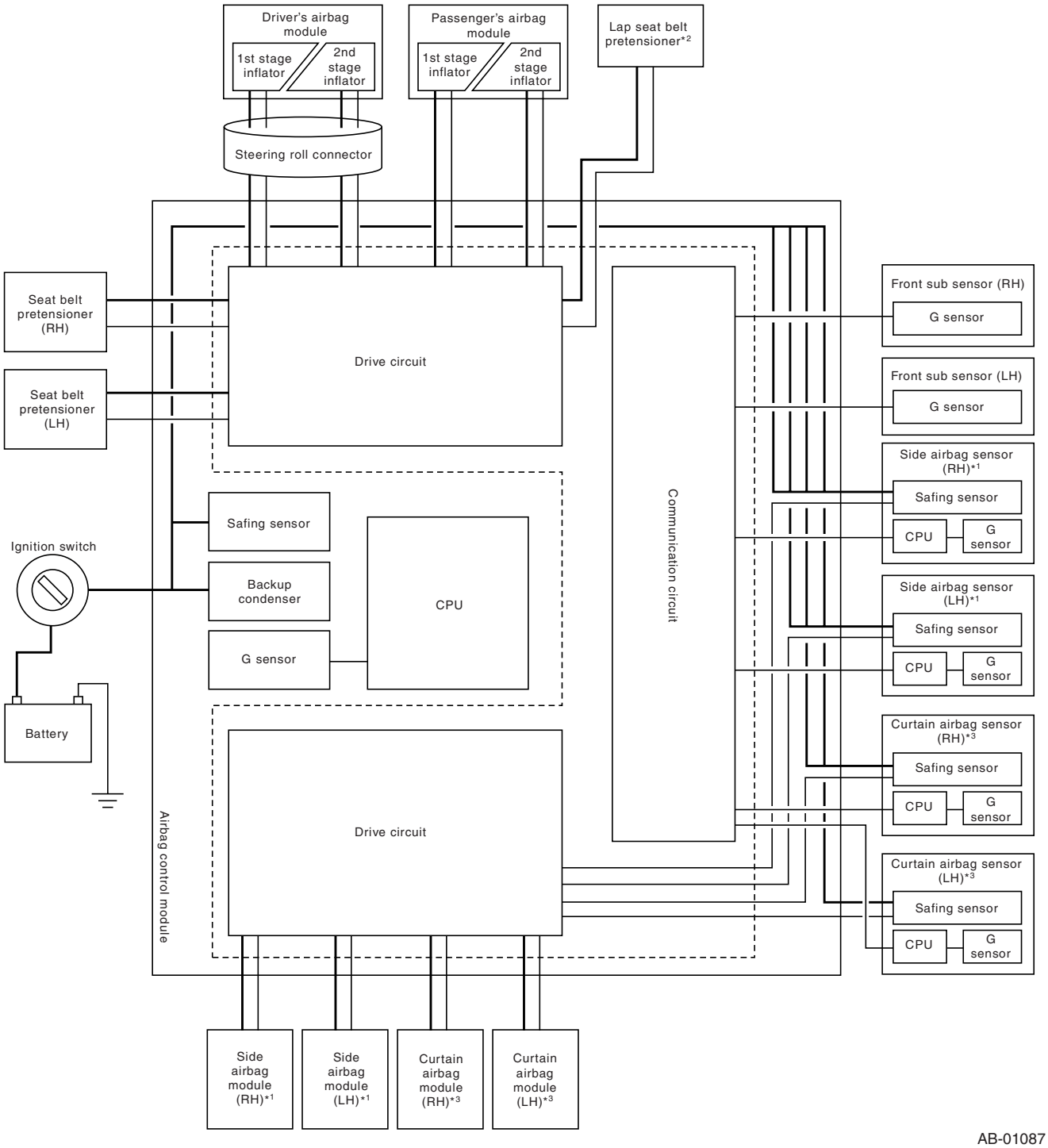
- Terminal numbers in airbag control module connector are shown in the figure.
- Airbag warning light illuminates when the connector is removed from airbag control module.

Item		Control module terminal No.	Terminal marks
Check connector		(1)-2	CLR
		(1)-19	DIG
Combination meter		(1)-3	LMP
Battery power supply		(1)-5	IG2
		(1)-6	IG1
Passenger's airbag module	1st stage output	(1)-10	PQ+
	1st stage input	(1)-11	PQ–
Passenger's airbag module	2nd stage output	(1)-8	P2+
	2nd stage input	(1)-7	P2–
Driver's airbag module	1st stage output	(1)-14	DQ+
	1st stage input	(1)-13	DQ–
Driver's airbag module	2nd stage output	(1)-16	D2+
	2nd stage input	(1)-17	D2–
Front sub sensor LH		(1)-15	SL+
		(1)-26	SL–
Front sub sensor RH		(1)-9	SR+
		(1)-20	SR–
GND		(1)-27	GND
		(1)-28	GND

Airbag Control Module I/O Signal

Item	Control module terminal No.	Terminal marks
Seat belt pretensioner LH	(2)-6	PL+
	(2)-5	PL–
Side airbag sensor LH	(2)-16	VUPL
	(2)-18	ESL
	(2)-17	SSL+
	(2)-20	SSL–
Side airbag module LH	(2)-10	FL+
	(2)-9	FL–
Curtain airbag sensor LH	(2)-14	VUCL
	(2)-13	ESCL
	(2)-15	CSL+
	(2)-1	CSL–
Curtain airbag module LH	(2)-11	ICL+
	(2)-12	ICL–
Seat belt pretensioner RH	(3)-11	PR+
	(3)-12	PR–
Side airbag sensor RH	(3)-17	VUPR
	(3)-15	ESR
	(3)-16	SSR+
	(3)-13	SSR–
Side airbag module RH	(3)-7	FR+
	(3)-8	FR–
Curtain airbag sensor RH	(3)-19	VUCR+
	(3)-20	ESCR
	(3)-18	CSR+
	(3)-4	CSR–
Curtain airbag module RH	(3)-6	ICR+
	(3)-5	ICR–
Lap seat belt pretensioner RH	(3)-10	LPR+
	(3)-9	LPR–

B: WIRING DIAGRAM



AB-01087

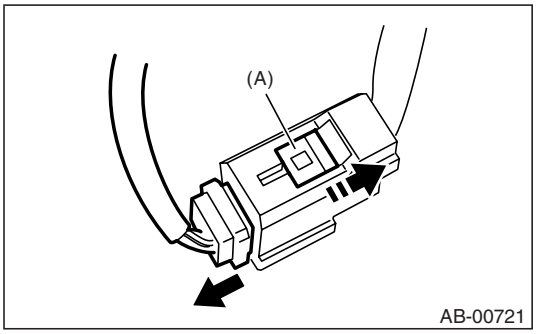
*1: Model with side airbag
*2: Model with lap seat belt pretensioner
*3: Model with curtain airbag

6. Airbag Connector

A: PROCEDURE

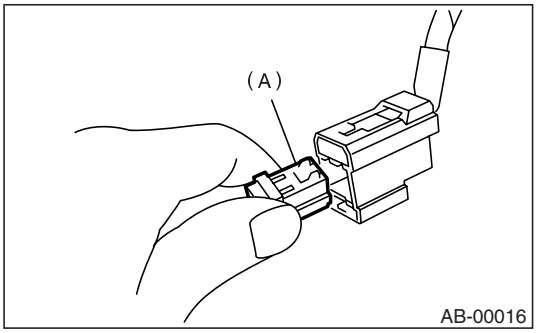
1. POWER SUPPLY

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



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

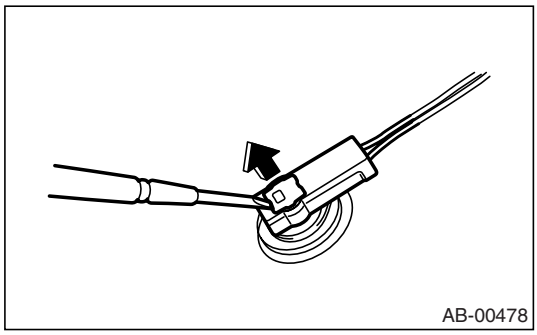
2) How to connect:
Holding the connector (A), and push it in securely until a connecting sound is heard.



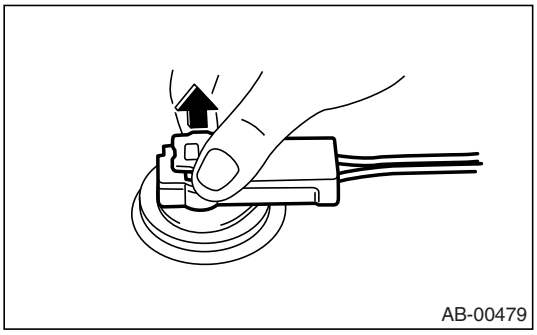
CAUTION:
Be sure to insert the connector in until it is locked. Pull it gently to make sure that it is locked securely.

2. DRIVER'S AIRBAG MODULE AND PRETENSIONER

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

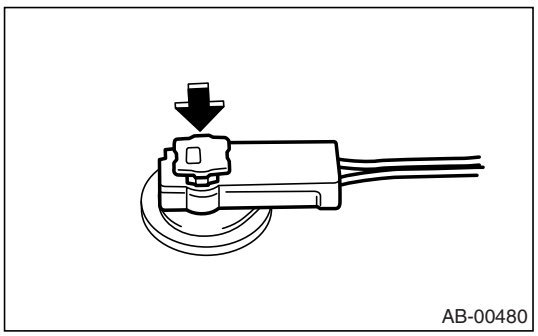


(2) Pull the connector to disconnect from driver's side airbag module assembly or retractor assembly.



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

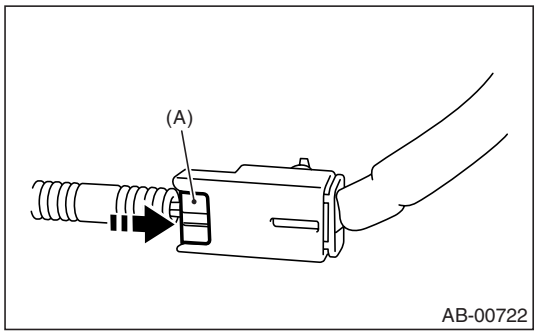
CAUTION:
• Be sure to insert the connector in until it is locked. Pull it gently to make sure that it is locked securely.
• Be sure to push the push lock in securely.



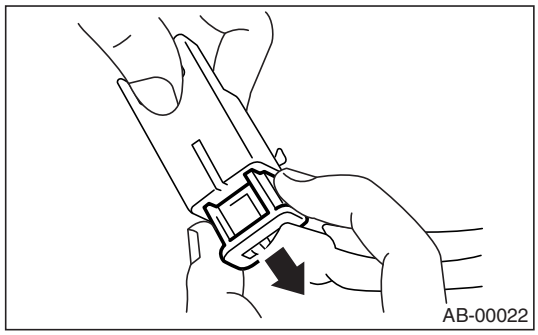
NOTE:
The connector can not be connected when the push lock is in lock position. To connect the connector, set the push lock to unlock position.

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

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



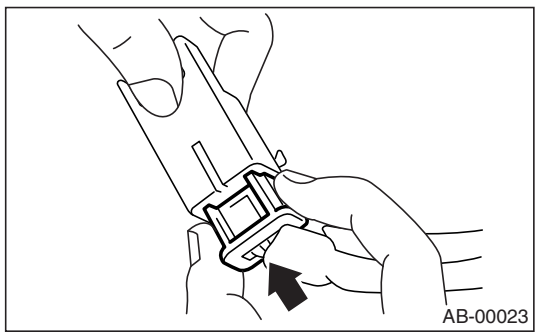
(2) With the slide lock pushed, disconnect the connector.



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

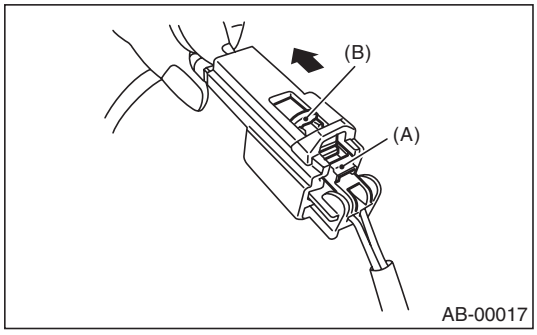
2) How to connect:
Holding the connector, push it in securely until a connecting sound is heard.

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



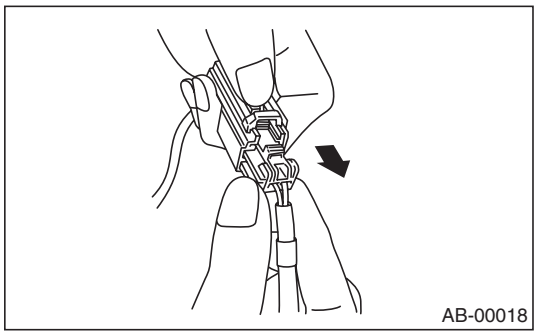
4. SIDE AIRBAG AND CURTAIN AIRBAG

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



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

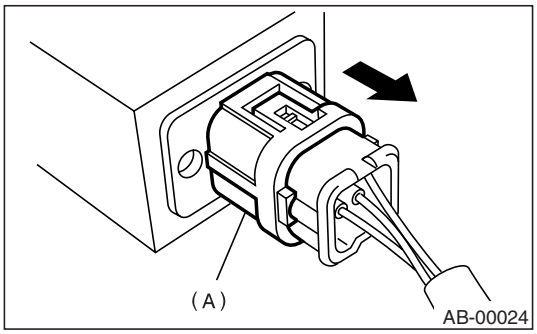
CAUTION:
When pulling the slide lock or disconnecting the connector, be sure to hold the connector, not the harness.



5. FRONT SUB-SENSOR, SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR

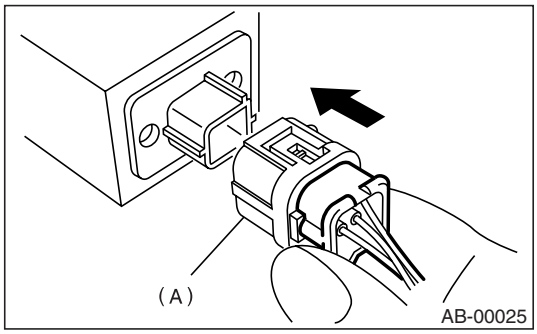
1) How to disconnect:
Holding outer part (A), pull it in the direction of arrow.

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



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

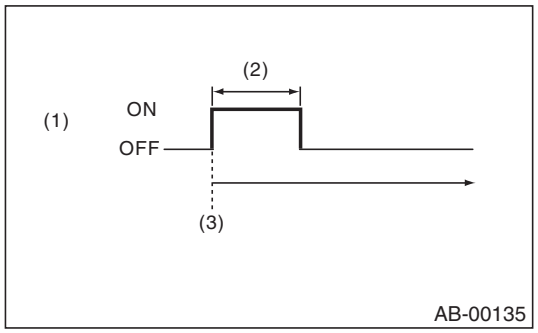
CAUTION:
• Outer side (A) move back, and so do not put your hand on the outer part.
• Be sure to insert the connector in until it is locked. Pull it gently to make sure that it is locked securely.



7. Airbag Warning Light Illumination Pattern

A: INSPECTION

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

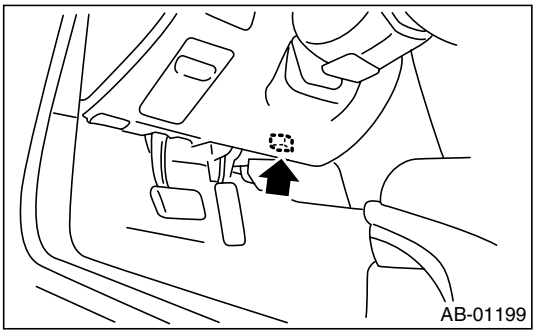


(1) Airbag warning light
(2) Approx. 6 sec.
(3) Ignition switch ON

8. Read Diagnostic Trouble Code (DTC)

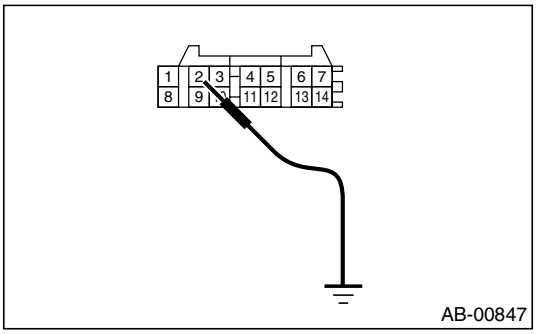
A: OPERATION

1) Remove the instrument panel lower cover under.
2) Disconnect the ground terminal harness from check connector harness on the side of heater unit.



NOTE:
The harness (black) of ground terminal is wrapped by tapes with the harness of check connector.

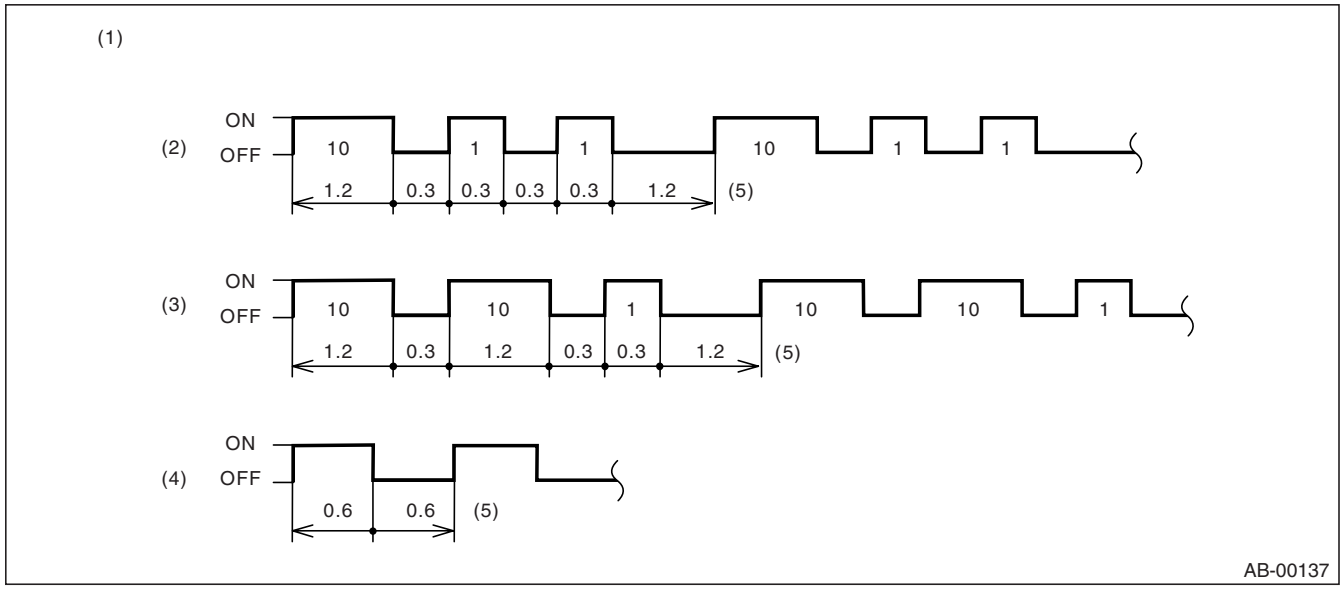
3) Turn the ignition switch to ON.
4) Connect one of the ground terminals to the check connector terminal No. 2.



CAUTION:
Do not connect the ground terminal to the connector except for the check connector terminal No. 2.

5) Read the DTC by identifying the blinking pattern of airbag warning light.
The airbag warning light blinks a DTC corresponding to the faulty parts.
The long segment (1.2 sec. on) indicates a “two - digit”, and the short segment (0.3 sec. on) indicates a “one-digit”.

NOTE:
- “List of Diagnostic Trouble Code (DTC)” <Ref. to AB(diag)-38, List of Diagnostic Trouble Code (DTC).>
- “Airbag Warning Light Failure” <Ref. to AB(diag)-34, Airbag Warning Light Failure.>.



(1) For example
(2) Blinking code 12:
(3) Blinking code 21:
(4) Blinking normal code:
(5) Sec.

6) Turn the ignition switch to OFF, and disconnect the ground terminal from diagnosis connector terminal No. 2.
7) Wind the tape around the ground terminal and return it to its original position.

9. Inspection Mode

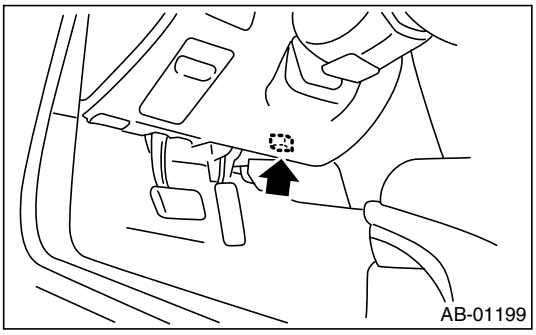
A: PROCEDURE

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

10. Clear Memory Mode

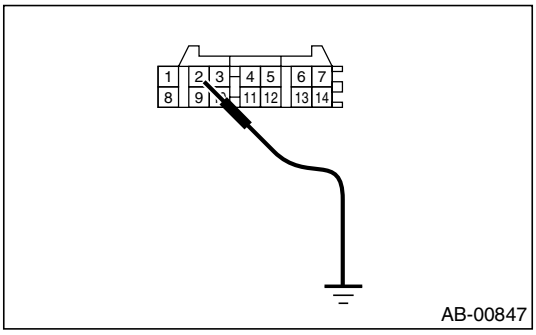
A: OPERATION

1) Remove the instrument panel lower cover under.
2) Disconnect the ground terminal harness from check connector harness on the side of heater unit.



NOTE:
The harness (black) of ground terminal is wrapped by tapes with the harness of check connector.

3) Turn the ignition switch to ON.
4) Connect one of the ground terminals to the check connector terminal No. 2.



CAUTION:
Do not connect the ground terminal to the connector except for the check connector terminal No. 2 and No. 3.

5) While the warning light blinks, connect another ground terminal to the check connector terminal No. 3.
6) Once the memory is erased, the warning light returns the normal blink rate (0.6 sec. on). If normal blink rate is not displayed, defective in parts still remain. Having repaired such parts, erase the memory again and confirm that the blink rate has returned to normal.
7) After the memory has been cleared, disconnect the ground terminal from the check connector.
8) Wind the tape around the ground terminal and return it to its original position.

11.Airbag Warning Light Failure

A: AIRBAG WARNING LIGHT REMAINS ON

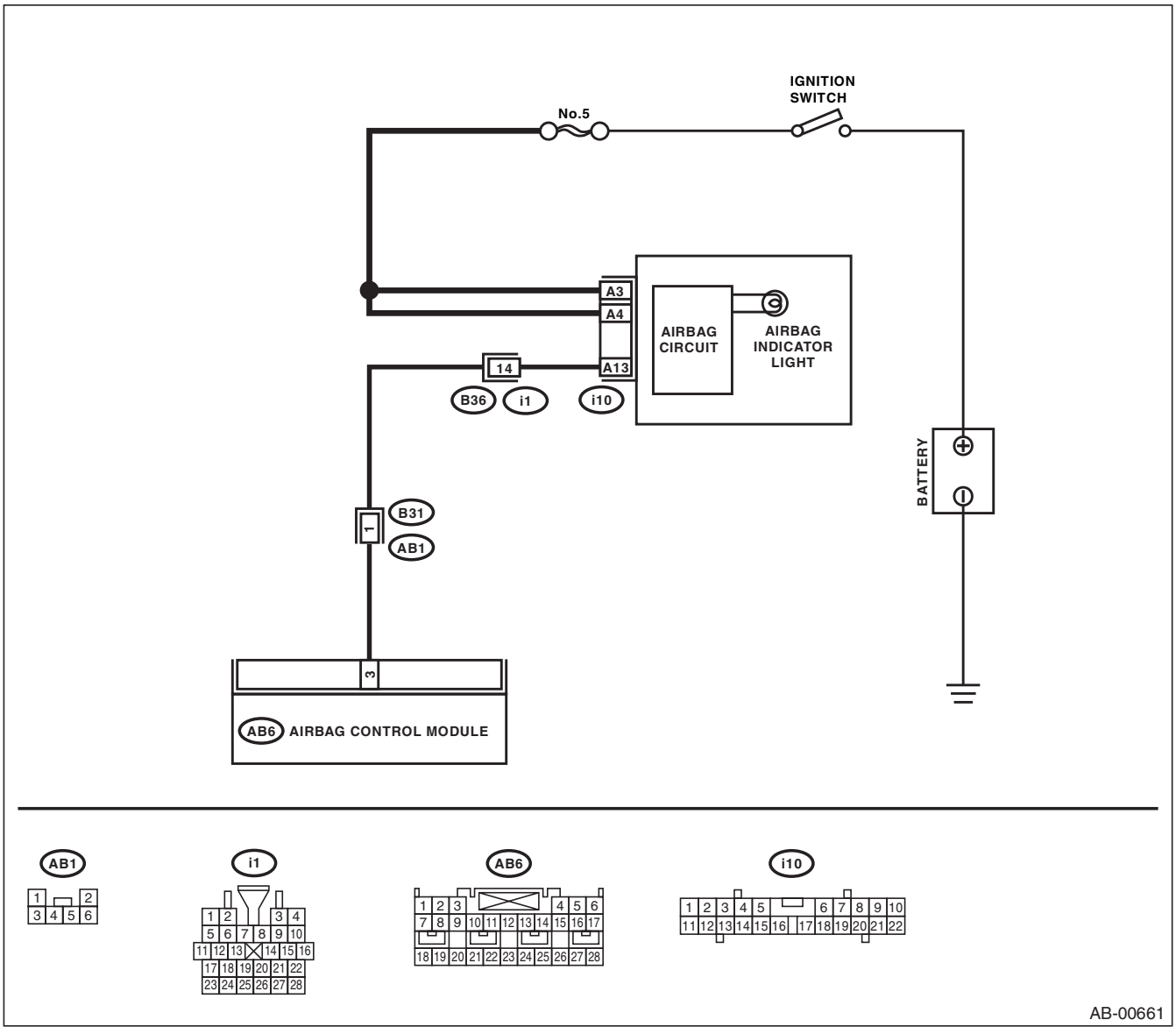
DETECTING CONDITION:

- Airbag warning light is faulty.
- Airbag control module to airbag warning light circuit is shorted or open.
- Grounding circuit is faulty.
- Airbag control module is faulty.
- (AB1) and (B31) are not connected properly.
- (AB6) is not connected properly to airbag control module.

CAUTION:

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

WIRING DIAGRAM:



Airbag Warning Light Failure

	Step	Check	Yes	No
1	**CHECK POOR CONTACT.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Confirm that the firm contact is secured between the airbag control module and connector (AB6).	Is there poor contact in connector (AB6)?	Replace the airbag main harness with body harness or replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Go to step **2.**
2	**CHECK AIRBAG MAIN HARNESS.** 1) Remove the instrument panel lower cover and disconnect the connectors (AB7) and (AB2). 2) Remove the instrument panel side cover on passenger's side and disconnect the connectors (AB10) and (AB9). 3) Disconnect the connector (AB6) from airbag control module, and connect the connector (1U) in the test harness U. 4) Connect the battery ground cable and turn the ignition switch to ON. 5) Connect the connectors (7U) and (8U) in the test harness U. NOTE: After defective has been eliminated, disconnect the connectors (7U) and (8U).	Does the airbag warning light go off?	Go to step **3.**	Go to step **4.**
3	**CHECK GROUND CIRCUIT.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB6) from airbag control module. 3) Connect the connector (1U) in the test harness U to body harness connector (AB6). 4) Measure the resistance between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 10 — Chassis ground:*** ***(2U) No. 11 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Repair the chassis ground circuit.
4	**CHECK AIRBAG MAIN HARNESS AND BODY HARNESS.** 1) Disconnect the connectors (7U) and (8U). 2) Remove the combination meter. 3) Measure the resistance between connector (i10) and connector (2U) in the test harness U. ***Connector & terminal*** ***(2U) No. 7 — (i10) No. 13:***	Is the resistance less than 10 Ω?	Replace the combination meter printed circuit. <Ref. to IDI-15, Combination Meter.>	Go to step **5.**
5	**CHECK POOR CONTACT IN CONNECTORS (AB1) AND (B31).** 1) Turn the ignition switch OFF, disconnect the battery ground terminal, and wait more than 20 seconds. 2) Confirm that firm contact is secured between connectors (AB1) and (B31).	Is there poor contact in connectors (AB1) and (B31)?	Repair the body harness or replace the airbag main harness with body harness.	Go to step **6.**
6	**CHECK AIRBAG MAIN HARNESS.** Check the airbag main harness for abnormalities.	Is anything unusual to airbag main harness?	Replace the airbag main harness with body harness.	Repair the body harness.

B: AIRBAG WARNING LIGHT REMAINS OFF

DETECTING CONDITION:

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

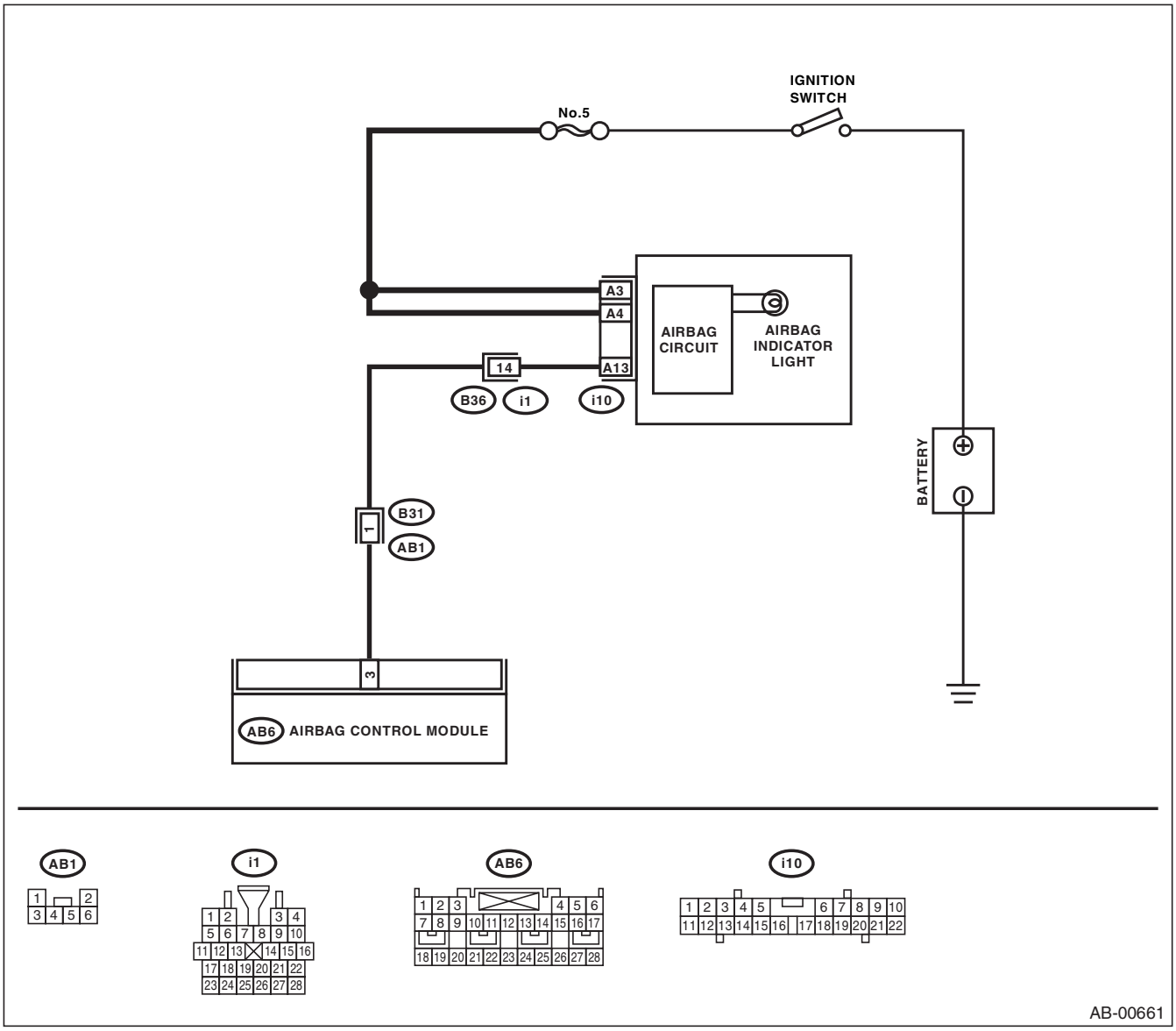
CAUTION:

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

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

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

WIRING DIAGRAM:



Airbag Warning Light Failure

	Step	Check	Yes	No
1	**CHECK COMBINATION METER.** Turn the ignition switch to ON, and confirm that warning lights of combination meter are turned on.	Do warning lights other than the airbag turn on?	Go to step **2.**	Repair the combination meter power supply. <Ref. to IDI-3, Combination Meter System.>
2	**CHECK FUSE No. 5 (IN MAIN FUSE BOX).** Remove the fuse No. 5 and perform visual inspection.	Is the fuse No. 5 (in main fuse box) blown out?	Replace the fuse No. 5. If the fuse No. 5 is blown again, go to step 3.	Go to step **3.**
3	**CHECK AIRBAG WARNING LIGHT CIRCUIT (IN COMBINATION METER).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB1) from (B31). 3) Connect the battery ground cable and turn the ignition switch to ON.	Does airbag warning light turn on?	Go to step **4.**	Replace the airbag warning light bulb or combination meter printed circuit. <Ref. to IDI-15, Combination Meter.>
4	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Connect the connector (AB1) to (B31). 3) Disconnect the connector (AB6) from airbag control module. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does airbag warning light turn on?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

12.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Memory function	Contents of diagnosis	NOTE
11	Experienced	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Driver's side) circuit is open, shorted or shorted to ground. • Roll connector circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-42, DTC 11 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
12	Experienced	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-45, DTC 12 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
15	Experienced	• Airbag main harness (Driver's side) circuit is shorted to power supply. • Airbag module harness (Driver's side) circuit is shorted to power supply. • Roll connector is shorted to power supply. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-47, DTC 15 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
16	Experienced	• Airbag main harness (Passenger's side) circuit is shorted to power supply. • Airbag module harness (Passenger's side) circuit is shorted to power supply. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-49, DTC 16 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
21	Experienced	Airbag control module is faulty.	<Ref. to AB(diag)-50, DTC 21 AIRBAG ECU FAILURE, Diagnostic Chart with Trouble Code.>
22	Experienced	Front airbag module and seat belt pretensioner (LH/RH) are deployed.	<Ref. to AB(diag)-51, DTC 22 FRONT AIRBAG FIRING OUTPUT, Diagnostic Chart with Trouble Code.>
23	None	(AB6), (AB17) and (AB18) are not connected properly to airbag control module.	<Ref. to AB(diag)-52, DTC 23 CONNECTOR TO AIRBAG ECU, Diagnostic Chart with Trouble Code.>
24	None	• Airbag control module is faulty. • Airbag main harness circuit is open. • Fuse No. 25 (in joint box) is blown. • Airbag rear harness circuit is open.	<Ref. to AB(diag)-53, DTC 24 IG1 OPEN, Diagnostic Chart with Trouble Code.>
25	Experienced	• Airbag control module is faulty. • Airbag main harness circuit is open. • Fuse No. 12 (in joint box) is blown. • Airbag rear harness circuit is open.	<Ref. to AB(diag)-55, DTC 25 IG2 OPEN, Diagnostic Chart with Trouble Code.>
31	Experienced	• Front sub sensor harness (RH) circuit is shorted. • Front sub sensor harness (RH) circuit is open. • Front sub sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-57, DTC 31 FRONT SUB SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>

DTC	Memory function	Contents of diagnosis	NOTE
32	Experienced	• Front sub sensor harness (LH) circuit is shorted. • Front sub sensor harness (LH) circuit is open. • Front sub sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-59, DTC 32 FRONT SUB SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
33	Experienced	Front sub sensor (RH) is faulty.	<Ref. to AB(diag)-60, DTC 33 FRONT SUB SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
34	Experienced	Front sub sensor (LH) is faulty.	<Ref. to AB(diag)-60, DTC 34 FRONT SUB SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
41	Experienced	• Side airbag harness (RH) circuit is faulty. • Side airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-61, DTC 41 SIDE AIRBAG RH FAILURE, Diagnostic Chart with Trouble Code.>
42	Experienced	• Side airbag harness (LH) circuit is faulty. • Side airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-64, DTC 42 SIDE AIRBAG LH FAILURE, Diagnostic Chart with Trouble Code.>
45	Experienced	• Side airbag harness (RH) circuit is shorted to power supply. • Airbag control module is faulty.	<Ref. to AB(diag)-67, DTC 45 SIDE AIRBAG RH FAILURE, Diagnostic Chart with Trouble Code.>
46	Experienced	• Side airbag harness (LH) circuit is shorted to power supply. • Airbag control module is faulty.	<Ref. to AB(diag)-70, DTC 46 SIDE AIRBAG LH FAILURE, Diagnostic Chart with Trouble Code.>
51	Experienced	• Side airbag sensor (RH) is faulty. • Side airbag harness (RH) circuit is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-73, DTC 51 SIDE AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
52	Experienced	• Side airbag sensor (LH) is faulty. • Side airbag harness (LH) circuit is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-76, DTC 52 SIDE AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
53	Experienced	Side airbag sensor (RH) is faulty.	<Ref. to AB(diag)-79, DTC 53 SIDE AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
54	Experienced	Side airbag sensor (LH) is faulty.	<Ref. to AB(diag)-79, DTC 54 SIDE AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>

List of Diagnostic Trouble Code (DTC)

DTC	Memory function	Contents of diagnosis	NOTE
55	Experienced	• Side airbag module is deployed. • Curtain airbag module is deployed.	<Ref. to AB(diag)-79, DTC 55 SIDE CURTAIN AIRBAG FIRING OUTPUT, Diagnostic Chart with Trouble Code.>
56	Experienced	• Curtain airbag sensor (RH) is faulty. • Curtain airbag harness (RH) circuit is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-80, DTC 56 CURTAIN AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
57	Experienced	• Curtain airbag sensor (LH) is faulty. • Curtain airbag harness (LH) circuit is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-82, DTC 57 CURTAIN AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
58	Experienced	Curtain airbag sensor (RH) is faulty.	<Ref. to AB(diag)-83, DTC 58 CURTAIN AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
59	Experienced	Curtain airbag sensor (LH) is faulty.	<Ref. to AB(diag)-83, DTC 59 CURTAIN AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
61	Experienced	• Seat belt pretensioner (RH) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Pretensioner is faulty. • Pretensioner harness is faulty.	<Ref. to AB(diag)-84, DTC 61 BELT PRETENSIONER RH FAILURE, Diagnostic Chart with Trouble Code.>
62	Experienced	• Seat belt pretensioner (LH) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Pretensioner is faulty. • Pretensioner harness is faulty.	<Ref. to AB(diag)-87, DTC 62 BELT PRETENSIONER LH FAILURE, Diagnostic Chart with Trouble Code.>
65	Experienced	• Seat belt pretensioner (RH) circuit is shorted to power supply. • Pretensioner is faulty. • Pretensioner harness is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-90, DTC 65 BELT PRETENSIONER RH FAILURE, Diagnostic Chart with Trouble Code.>
66	Experienced	• Seat belt pretensioner (LH) circuit is shorted to power supply. • Pretensioner is faulty. • Pretensioner harness is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-93, DTC 66 BELT PRETENSIONER LH FAILURE, Diagnostic Chart with Trouble Code.>
71	Experienced	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Driver's side) circuit is open, shorted or shorted to ground. • Roll connector circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-96, DTC 71 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>

DTC	Memory function	Contents of diagnosis	NOTE
72	Experienced	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-99, DTC 72 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
75	Experienced	• Airbag main harness (Driver's side) circuit is shorted to power supply. • Airbag module harness (Driver's side) circuit is shorted to power supply. • Roll connector is shorted to power supply. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-101, DTC 75 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
76	Experienced	• Airbag main harness (Passenger's side) circuit is shorted to power supply. • Airbag module harness (Passenger's side) circuit is shorted to power supply. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-103, DTC 76 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
81	Experienced	• Lap seat belt pretensioner (RH) circuit is open, shorted or shorted to ground. • Lap seat belt pretensioner is faulty. • Lap seat belt pretensioner harness is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-105, DTC 81 LAP SEAT BELT PRETENSIONER FAILURE, Diagnostic Chart with Trouble Code.>
85	Experienced	• Lap seat belt pretensioner (RH) circuit is shorted to power supply. • Lap seat belt pretensioner is faulty. • Lap seat belt pretensioner harness is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-107, DTC 85 LAP SEAT BELT PRETENSIONER FAILURE, Diagnostic Chart with Trouble Code.>
91	Experienced	• Curtain airbag harness (RH) circuit is faulty. • Curtain airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-109, DTC 91 CURTAIN AIRBAG MODULE RH FAILURE, Diagnostic Chart with Trouble Code.>
92	Experienced	• Curtain airbag harness (LH) circuit is faulty. • Curtain airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-111, DTC 92 CURTAIN AIRBAG MODULE LH FAILURE, Diagnostic Chart with Trouble Code.>
95	Experienced	• Curtain airbag harness (RH) circuit is shorted to power supply. • Curtain airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-113, DTC 95 CURTAIN AIRBAG MODULE RH FAILURE, Diagnostic Chart with Trouble Code.>
96	Experienced	• Curtain airbag harness (LH) circuit is shorted to power supply. • Curtain airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-115, DTC 96 CURTAIN AIRBAG MODULE LH FAILURE, Diagnostic Chart with Trouble Code.>

13. Diagnostic Chart with Trouble Code

A: DTC 11 DRIVER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

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

CAUTION:

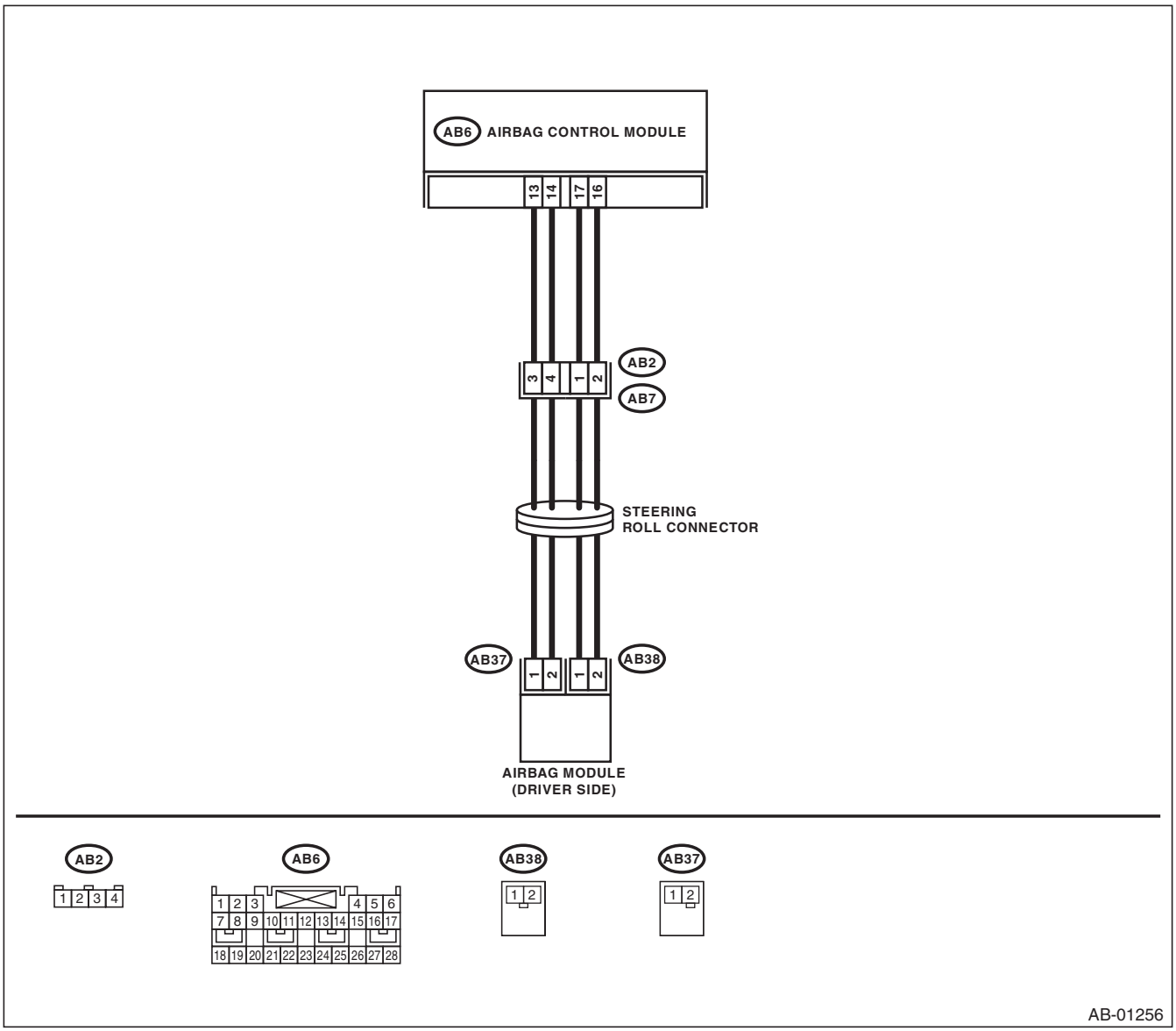
• Before diagnosing the airbag system, be sure to turn the ignition switch OFF, disconnect the ground cable from battery, and wait more than 20 seconds before starting to work.

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

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to connector (2Q) in the test harness Q. 7) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the driver's airbag module. <Ref. to AB-16, Driver's Airbag Module.>	Go to step **2.**

	Step	Check	Yes	No
2	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to connectors (2P) and (3P) in the test harness P. 7) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the roll connector. <Ref. to AB-25, Roll Connector.>	Go to step **3.**
3	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from connectors (2P) and (3P) in the test harness P. 3) Remove the instrument panel side cover on passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(2U) No. 2 — (2P) No. 1:*** ***(2U) No. 4 — (2P) No. 2:*** ***(2U) No. 8 — (3P) No. 3:*** ***(2U) No. 12 — (3P) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4.**	Replace the airbag main harness with body harness.
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** Measure the resistance between connector (2U) terminals in the test harness U. ***Connector & terminal*** ***(2U) No. 2 — (2U) No. 4:*** ***(2U) No. 4 — Chassis ground:*** ***(2U) No. 2 — Chassis ground:*** ***(2U) No. 8 — (2U) No. 12:*** ***(2U) No. 8 — Chassis ground:*** ***(2U) No. 12 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

B: DTC 12 PASSENGER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

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

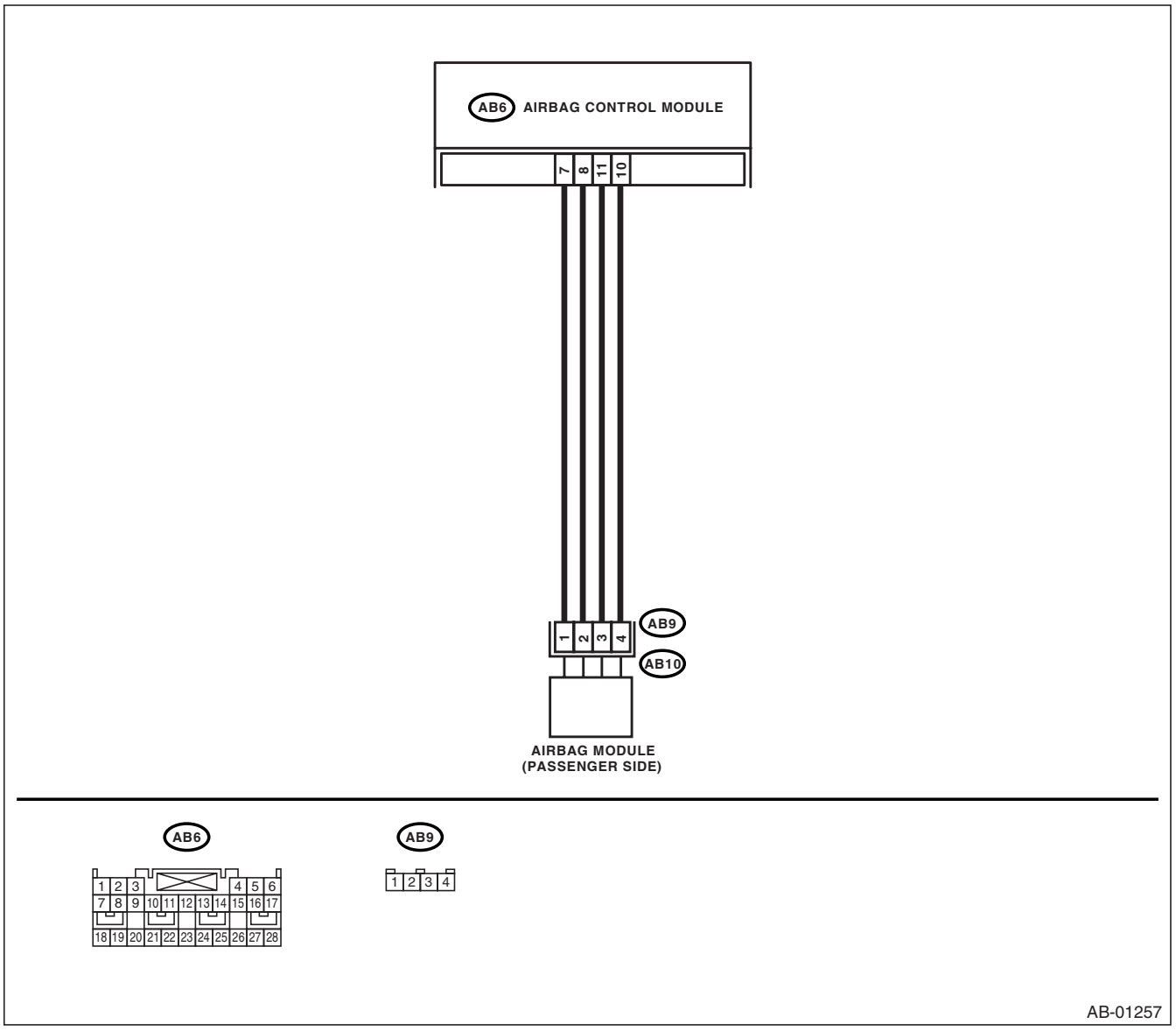
CAUTION:

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

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

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

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	Step	Check	Yes	No
1	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the instrument panel side cover on the passenger's side. 3) Disconnect the connector (AB10) from (AB9). 4) Connect the connector (1P) in the test harness P to connector (AB9). 5) Connect the airbag resistor to connectors (2P) and (3P) in the test harness P. 6) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-17, Passenger's Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from connectors (2P) and (3P) in the test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connector (AB6) from airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(2U) No. 3 — (2P) No. 1:*** ***(2U) No. 5 — (2P) No. 2:*** ***(2U) No. 9 — (3P) No. 3:*** ***(2U) No. 13 — (3P) No. 4:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag main harness with body harness.
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** Measure the resistance between connectors (2U) in the test harness U, and between connector (2U) and chassis ground. ***Connector & terminal*** ***(2U) No. 3 — (2U) No. 5:*** ***(2U) No. 3 — Chassis ground:*** ***(2U) No. 5 — Chassis ground:*** ***(2U) No. 9 — (2U) No. 13:*** ***(2U) No. 9 — Chassis ground:*** ***(2U) No. 13 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

C: DTC 15 DRIVER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

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

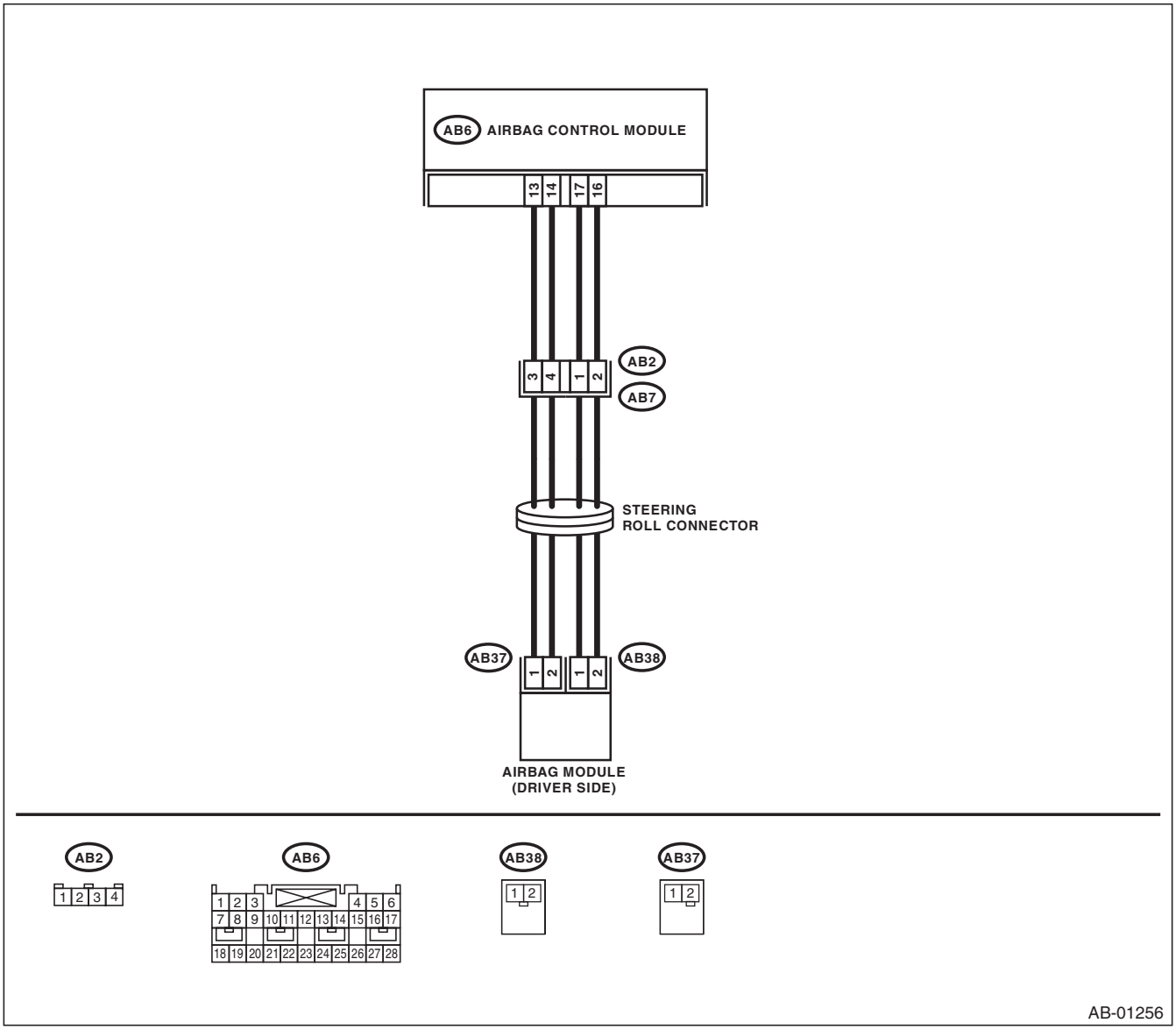
CAUTION:

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

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

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

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	Step	Check	Yes	No
1	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the driver's airbag module. 3) Connect the connector (AB38) to the connector (1N) in the test harness N. 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to connector (2Q) in the test harness Q. 7) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the driver's airbag module. <Ref. to AB-16, Driver's Airbag Module.>	Go to step **2.**
2	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to connectors (2P) and (3P) in the test harness P. 7) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the roll connector. <Ref. to AB-25, Roll Connector.>	Go to step **3.**
3	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from connectors (2P) and (3P) in the test harness P. 3) Remove the instrument panel side cover on passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from airbag control module, and connect the connector (1U) in the test harness U. 5) Connect the battery ground cable and turn the ignition switch to ON. (engine OFF) 6) Measure the resistance between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 4 (+) — Chassis ground (−):*** ***(2U) No. 2 (+) — Chassis ground (−):*** ***(2U) No. 8 (+) — Chassis ground (−):*** ***(2U) No. 12 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

D: DTC 16 PASSENGER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

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

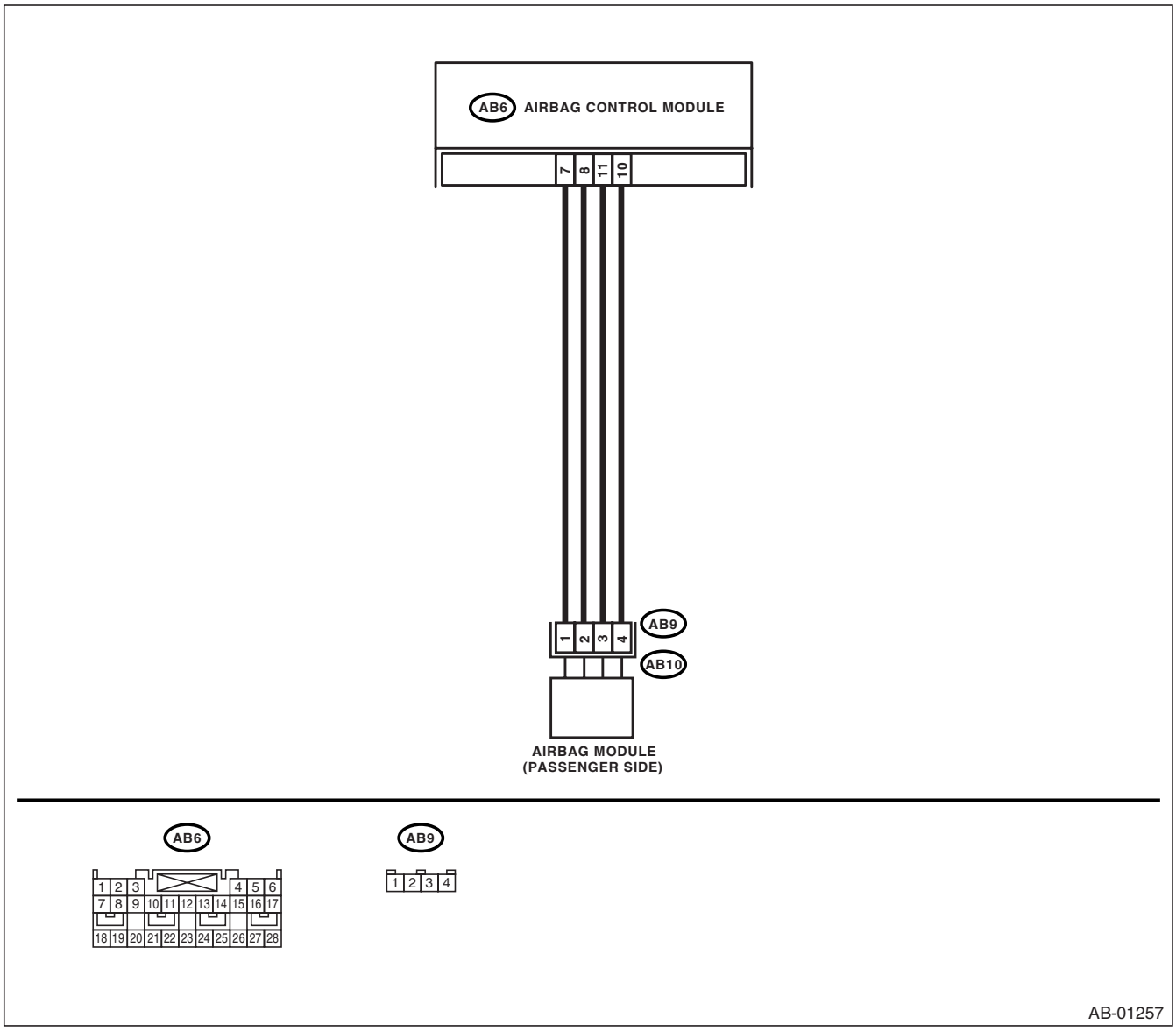
CAUTION:

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

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the instrument panel side cover on the passenger's side. 3) Disconnect the connector (AB10) from (AB9). 4) Connect the connector (1P) in the test harness P to connector (AB9). 5) Connect the airbag resistor to connectors (2P) and (3P) in the test harness P. 6) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-17, Passenger's Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from connectors (2P) and (3P) in the test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connector (AB6) from airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the resistance between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 3 (+) — Chassis ground (−):*** ***(2U) No. 5 (+) — Chassis ground (−):*** ***(2U) No. 9 (+) — Chassis ground (−):*** ***(2U) No. 13 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

E: DTC 21 AIRBAG ECU FAILURE

DTC DETECTING CONDITION:

Airbag control module is faulty.

CAUTION:

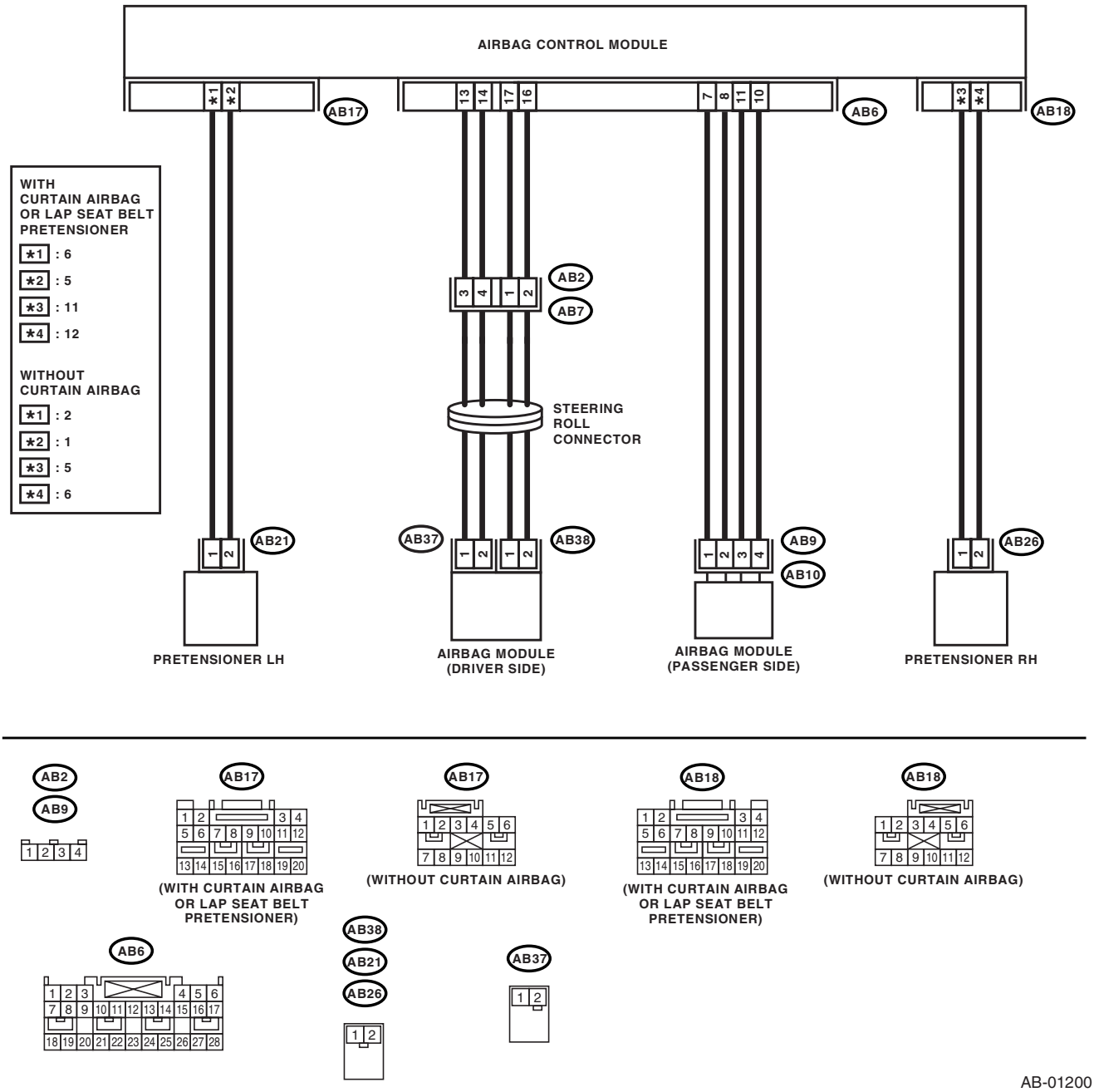
• Before diagnosing the airbag system, be sure to turn the ignition switch OFF, disconnect the ground cable from battery, and wait more than 20 seconds before starting to work.

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

	Step	Check	Yes	No
1	**CHECK IF DTC 21 IS INDICATED.** Read the DTC. <Ref. to AB(diag)-30, Read Diagnostic Trouble Code (DTC).>	Does the airbag warning light indicate DTC21?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Perform clear memory mode. <Ref. to AB(diag)-33, Clear Memory Mode.>

F: DTC 22 FRONT AIRBAG FIRING OUTPUT

WIRING DIAGRAM:



AB-01200

This DTC is indicated when the front airbag module and the pretensioner are deployed.
Once this DTC is displayed, the memory cannot be cleared. Therefore replace the following parts.

- Airbag control module. <Ref. to AB-22, Airbag Control Module.>
- Driver's airbag module. <Ref. to AB-16, Driver's Airbag Module.>
- Passenger's airbag module. <Ref. to AB-17, Passenger's Airbag Module.>
- Front sub sensor of both sides. <Ref. to AB-26, Front Sub Sensor.>
- Front seat belt outer with pretensioner of both sides. <Ref. to SB-14, Front Seat Belt.>

G: DTC 23 CONNECTOR TO AIRBAG ECU

DTC DETECTING CONDITION:

(AB6), (AB17) and (AB18) are not connected properly to airbag control module.

CAUTION:

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

	Step	Check	Yes	No
1	**CHECK POOR CONTACTS IN CONNECTORS (AB6), (AB17) AND (AB18).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connectors (AB6), (AB17) and (AB18) from airbag control module.	Is there rust or damage on the harness connector and the control module connector?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.> Or replace the body harness with airbag main harness or replace the body harness with airbag rear harness.	Go to step **2.**
2	**CHECK POOR CONTACTS IN CONNECTORS (AB6), (AB17) AND (AB18).** 1) Ensure that the connectors are firmly reconnected. 2) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>

H: DTC 24 IG1 OPEN

DTC DETECTING CONDITION:

- Airbag control module is faulty.
- Airbag main harness circuit is open.
- Fuse No. 25 (in joint box) is blown.
- Body harness circuit is open.

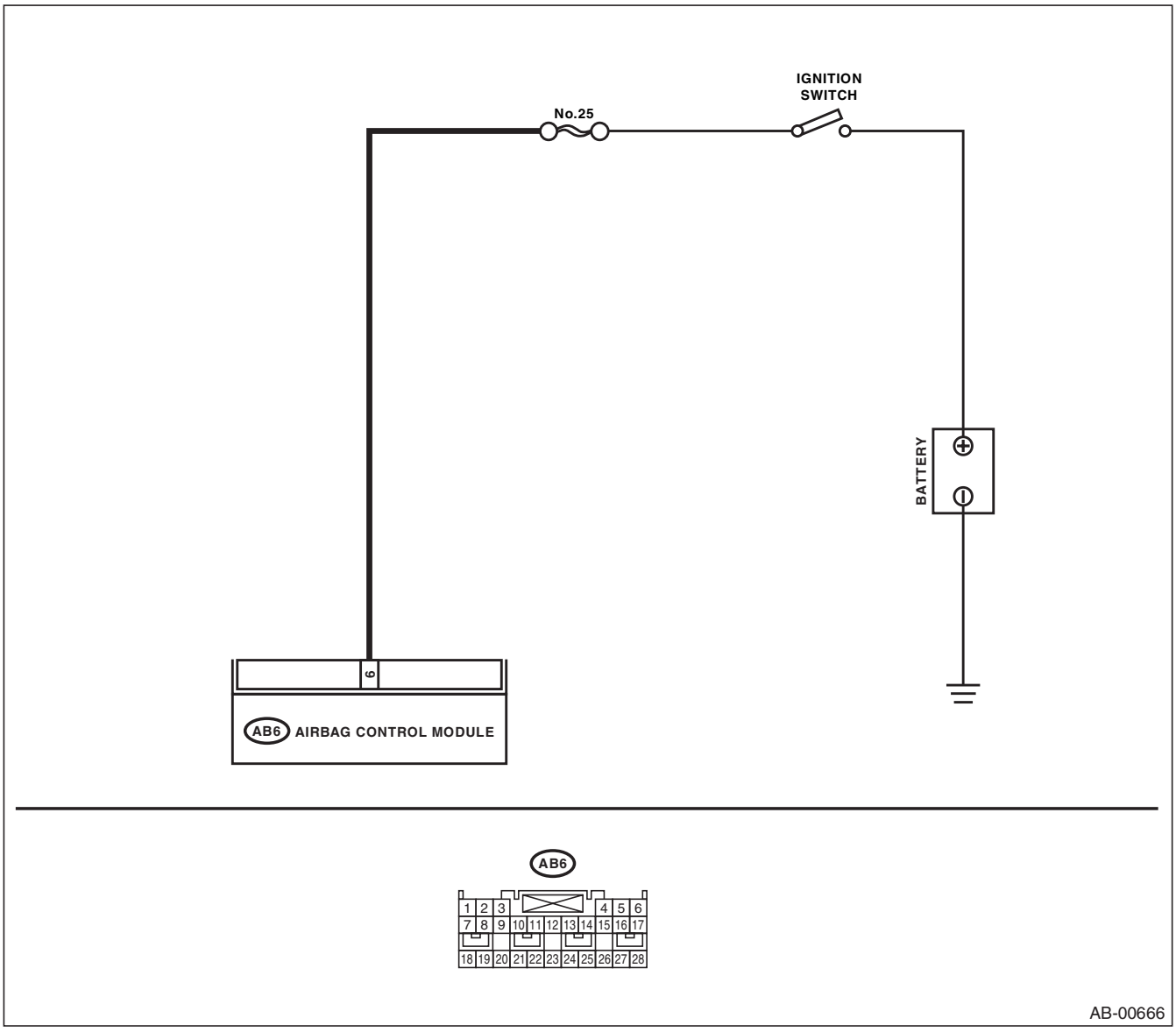
CAUTION:

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

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

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

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	Step	Check	Yes	No
1	**CHECK AIRBAG CONTROL MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB6) from air-bag control module. 3) Connect the connector (1U) in the test harness U to connector (AB6). 4) Connect the battery ground cable and turn the ignition switch to ON. 5) Measure the resistance between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 1 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Go to step **2.**
2	**CHECK FUSE No. 25 (IN JOINT BOX).** 1) Confirm that the ignition switch is turned OFF. 2) Remove the fuse No. 25 (in joint box) and perform visual inspection.	Is the fuse No. 25 blown out?	Replace the fuse No. 25. If the fuse No. 25 is blown again, repair the bulkhead harness. Or replace the air-bag main harness with body harness.	Repair the body harness.

I: DTC 25 IG2 OPEN

DTC DETECTING CONDITION:

- Airbag control module is faulty.
- Airbag main harness circuit is open.
- Fuse No. 12 (in joint box) is blown.
- Body harness circuit is open.

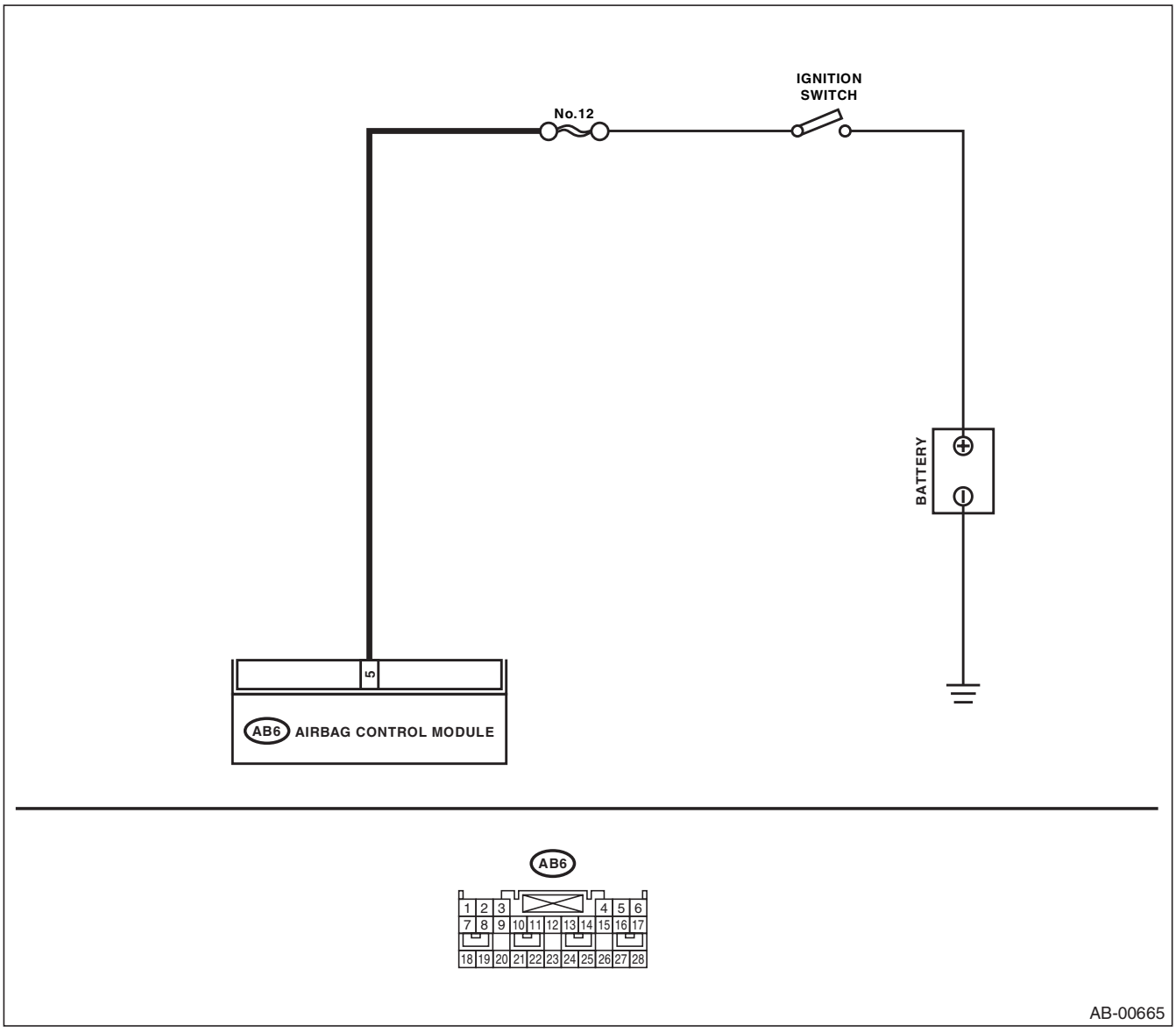
CAUTION:

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

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

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

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	Step	Check	Yes	No
1	**CHECK AIRBAG CONTROL MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB6) from air-bag control module. 3) Connect the connector (1U) in the test harness U to connector (AB6). 4) Connect the battery ground cable and turn the ignition switch to ON. 5) Measure the resistance between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 6 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Go to step **2.**
2	**CHECK FUSE No. 12 (IN JOINT BOX).** 1) Confirm that the ignition switch is turned OFF. 2) Remove the fuse No. 12 (in joint box) and perform visual inspection.	Is the fuse No. 12 blown out?	Replace the fuse No. 12. If the fuse No. 12 is blown again, repair the bulkhead harness. Or replace the air-bag main harness with body harness.	Repair the body harness.

J: DTC 31 FRONT SUB SENSOR RH FAILURE

DTC DETECTING CONDITION:

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

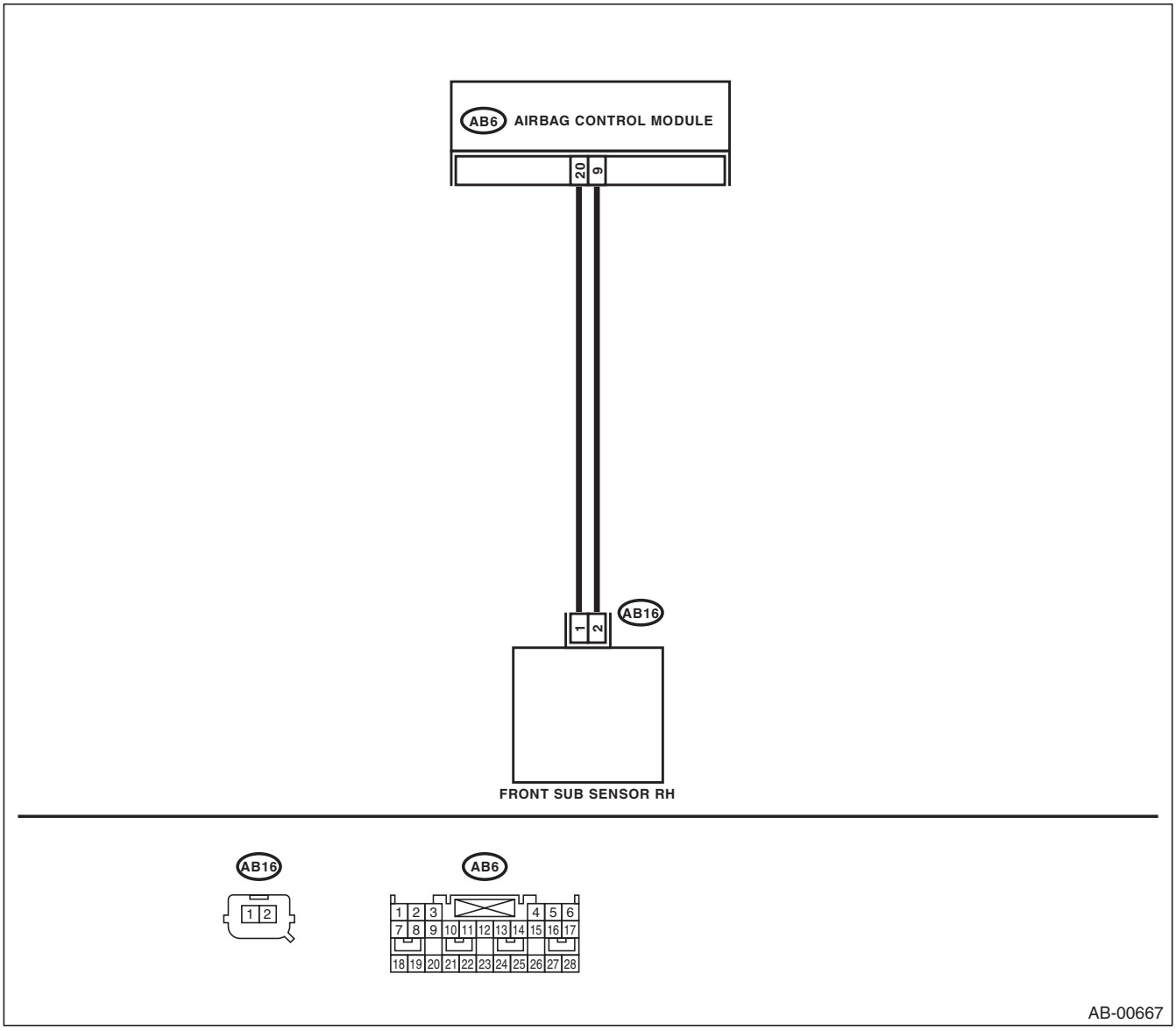
CAUTION:

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

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK AIRBAG MAIN HARNESS (FRONT SUB SENSOR HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the instrument panel lower cover and disconnect the connectors (AB7) and (AB2). 3) Remove the instrument panel side cover on passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from airbag control module. 5) Connect the connector (1U) in the test harness U to connector (AB6). 6) Disconnect the front sub sensor (RH), and then connect the connector (1H) in the test harness H to connector (AB16). 7) Measure the resistance between connector (3U) in the test harness U and connector (3H) in the test harness H. ***Connector & terminal*** ***(3U) No. 7 — (3H) No. 5:*** ***(3U) No. 9 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **2.**	Replace the airbag main harness with body harness.
2	**CHECK AIRBAG MAIN HARNESS (FRONT SUB SENSOR HARNESS RH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 7 — Chassis ground:*** ***(3U) No. 9 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the front sub sensor (RH). <Ref. to AB-26, Front Sub Sensor.> When the sensor is not OK though the sensor is replaced, replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

K: DTC 32 FRONT SUB SENSOR LH FAILURE

DTC DETECTING CONDITION:

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

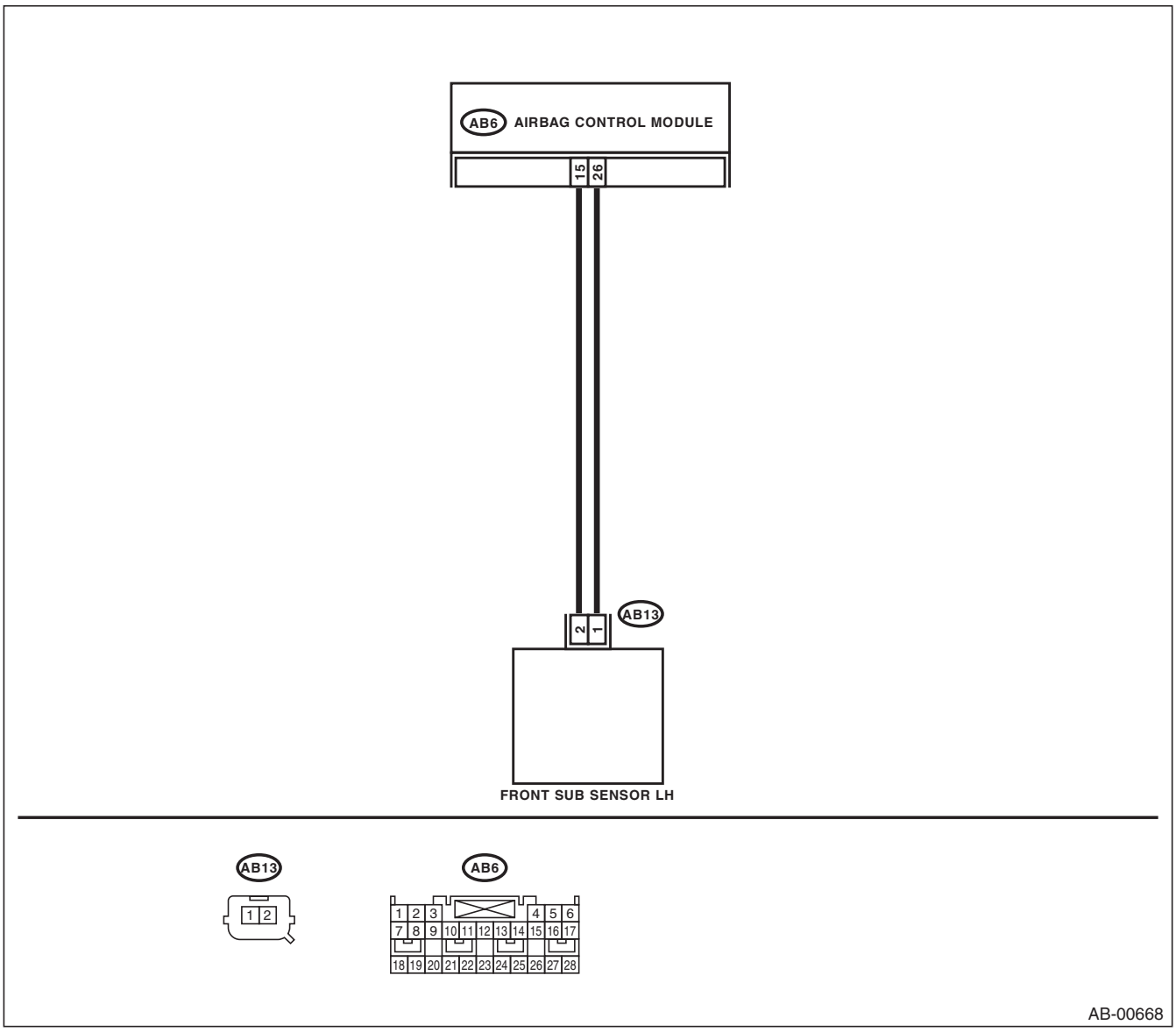
CAUTION:

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

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK AIRBAG MAIN HARNESS (FRONT SUB SENSOR HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the instrument panel lower cover and disconnect the connectors (AB7) and (AB2). 3) Remove the instrument panel side cover on passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from airbag control module. 5) Connect the connector (1U) in the test harness U to connector (AB6). 6) Disconnect the front sub sensor (LH), and then connect the connector (1H) in the test harness H to connector (AB13). 7) Measure the resistance between connector (3U) in the test harness U and connector (3H) in the test harness H. ***Connector & terminal*** ***(3U) No. 6 — (3H) No. 5:*** ***(3U) No. 8 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **2.**	Replace the airbag main harness with body harness.
2	**CHECK AIRBAG MAIN HARNESS (FRONT SUB SENSOR HARNESS LH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 6 — Chassis ground:*** ***(3U) No. 8 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the front sub sensor (LH). <Ref. to AB-26, Front Sub Sensor.> When the sensor is not OK though the sensor is replaced, replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

L: DTC 33 FRONT SUB SENSOR RH FAILURE

DTC DETECTING CONDITION:

Front sub sensor (RH) is faulty.

If DTC 33 is displayed, the circuit within the front sub sensor (RH) is faulty. Replace the front sub sensor (RH). <Ref. to AB-26, Front Sub Sensor.>

M: DTC 34 FRONT SUB SENSOR LH FAILURE

DTC DETECTING CONDITION:

Front sub sensor (LH) is faulty.

If DTC 34 is displayed, the circuit within the front sub sensor (LH) is faulty. Replace the front sub sensor (LH). <Ref. to AB-26, Front Sub Sensor.>

N: DTC 41 SIDE AIRBAG RH FAILURE

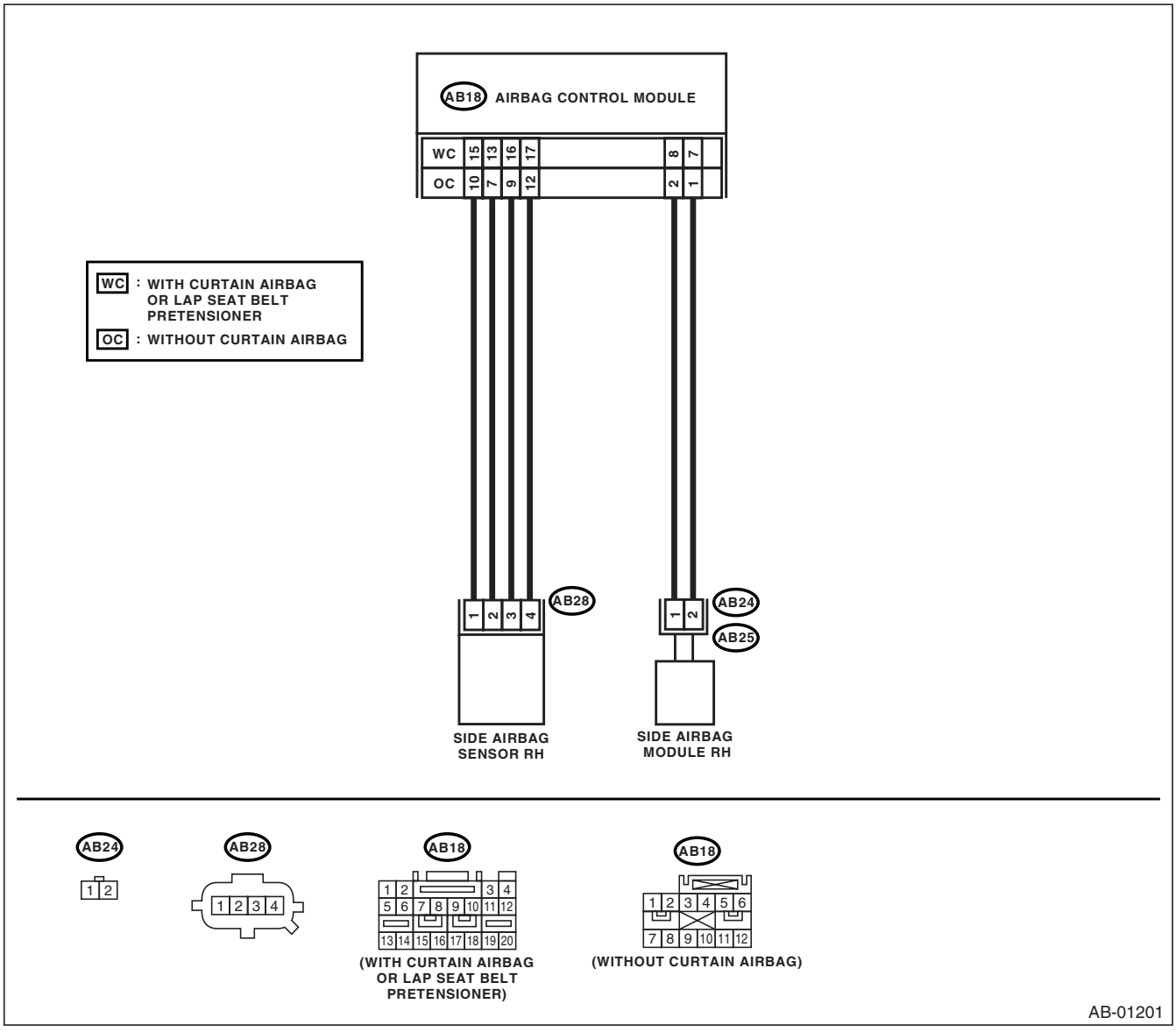
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



1. MODEL WITH CURTAIN AIRBAG OR LAP SEAT BELT PRETENSIONER

	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB25) from (AB24), and connect the connector (1F) in test harness F to connector (AB24). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (RH). <Ref. to AB-18, REMOVAL, Side Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) For the model with lap seat belt pretensioner, disconnect the connector (AB30) from lap seat belt pretensioner. 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the airbag resistor from the test harness F. 6) Disconnect the connector (AB18) from airbag control module. 7) Connect the connector (1U) in the test harness U to connector (AB18). 8) Measure the resistance between connector (3U) in the test harness U and connector (3F) in the test harness F. ***Connector & terminal*** ***(3U) No. 20 — (3F) No. 4:*** ***(3U) No. 18 — (3F) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** Measure the resistance between connector (3U) terminals in the test harness U. ***Connector & terminal*** ***(3U) No. 20 — (3U) No. 18:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the airbag rear harness with body harness.
4	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 20 — Chassis ground:*** ***(3U) No. 18 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

2. MODEL WITHOUT CURTAIN AIRBAG

	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB25) from (AB24), and connect the connector (1F) in test harness F to connector (AB24). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (RH). <Ref. to AB-18, REMOVAL, Side Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the airbag resistor from the test harness F. 5) Disconnect the connector (AB18) from airbag control module. 6) Connect the connector (1R) in the test harness R to connector (AB18). 7) Measure the resistance between connector (3R) in the test harness R and connector (3F) in the test harness F. ***Connector & terminal*** ***(3R) No. 20 — (3F) No. 4:*** ***(3R) No. 18 — (3F) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** Measure the resistance between connector (3R) terminals in the test harness R. ***Connector & terminal*** ***(3R) No. 20 — (3R) No. 18:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the airbag rear harness with body harness.
4	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** Measure the resistance between connector (3R) in the test harness R and chassis ground. ***Connector & terminal*** ***(3R) No. 20 — Chassis ground:*** ***(3R) No. 18 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

O: DTC 42 SIDE AIRBAG LH FAILURE

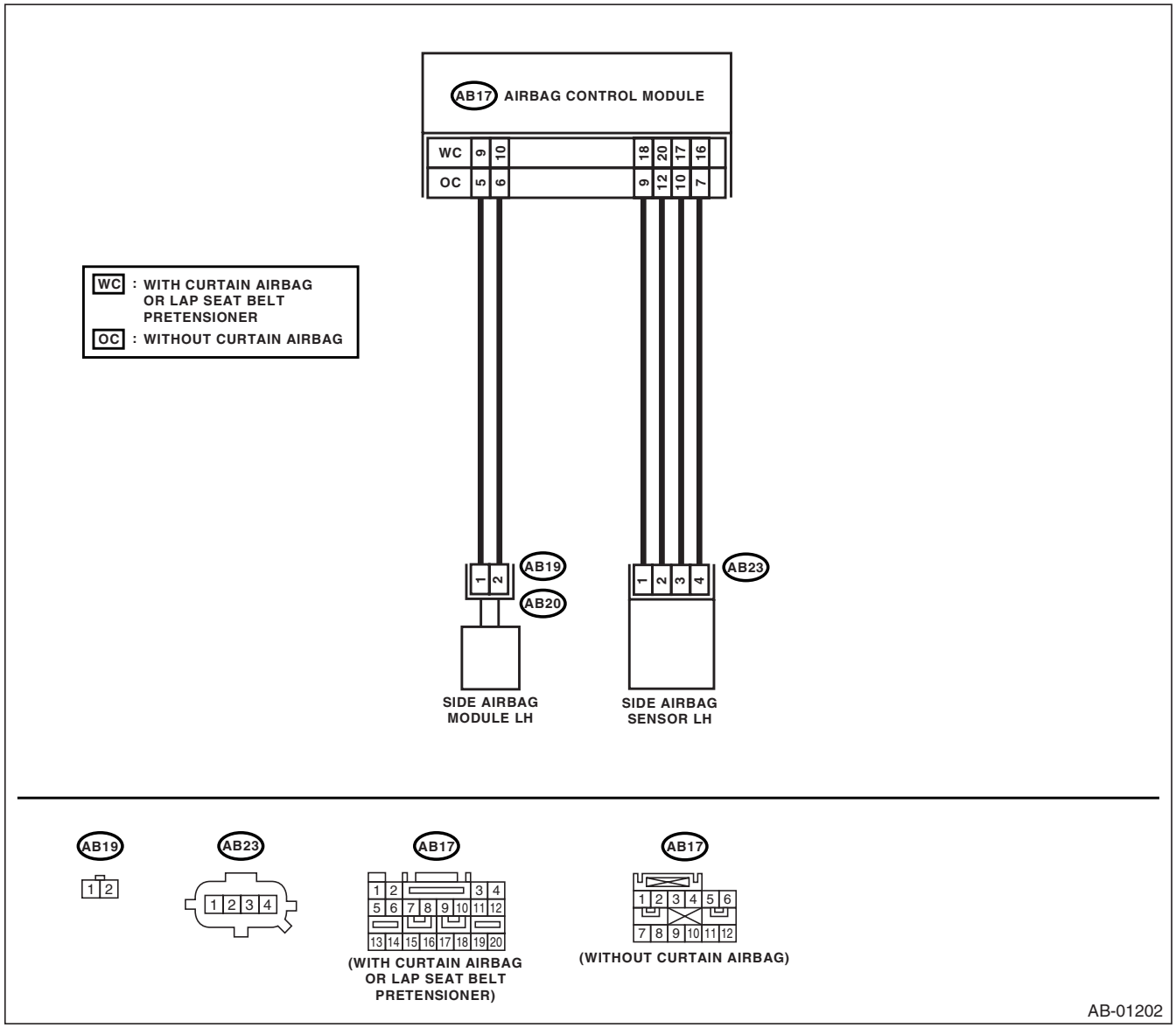
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



1. MODEL WITH CURTAIN AIRBAG OR LAP SEAT BELT PRETENSIONER

	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB20) from (AB19), and connect the connector (1F) in test harness F to connector (AB19). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (LH). <Ref. to AB-18, REMOVAL, Side Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Measure the resistance between connector (3U) in the test harness U and connector (3F) in the test harness F. ***Connector & terminal*** ***(3U) No. 12 — (3F) No. 4:*** ***(3U) No. 10 — (3F) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (3U) terminals in the test harness U. ***Connector & terminal*** ***(3U) No. 12 — (3U) No. 10:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the airbag rear harness with body harness.
4	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 12 — Chassis ground:*** ***(3U) No. 10 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

2. MODEL WITHOUT CURTAIN AIRBAG

	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB20) from (AB19), and connect the connector (1F) in test harness F to connector (AB19). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (LH). <Ref. to AB-18, REMOVAL, Side Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1R) in the test harness R to connector (AB17). 7) Measure the resistance between connector (3R) in the test harness R and connector (3F) in the test harness F. ***Connector & terminal*** ***(3R) No. 12 — (3F) No. 4:*** ***(3R) No. 10 — (3F) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (3R) terminals in the test harness R. ***Connector & terminal*** ***(3R) No. 12 — (3R) No. 10:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the airbag rear harness with body harness.
4	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (3R) in the test harness R and chassis ground. ***Connector & terminal*** ***(3R) No. 12 — Chassis ground:*** ***(3R) No. 10 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

P: DTC 45 SIDE AIRBAG RH FAILURE

DTC DETECTING CONDITION:

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

CAUTION:

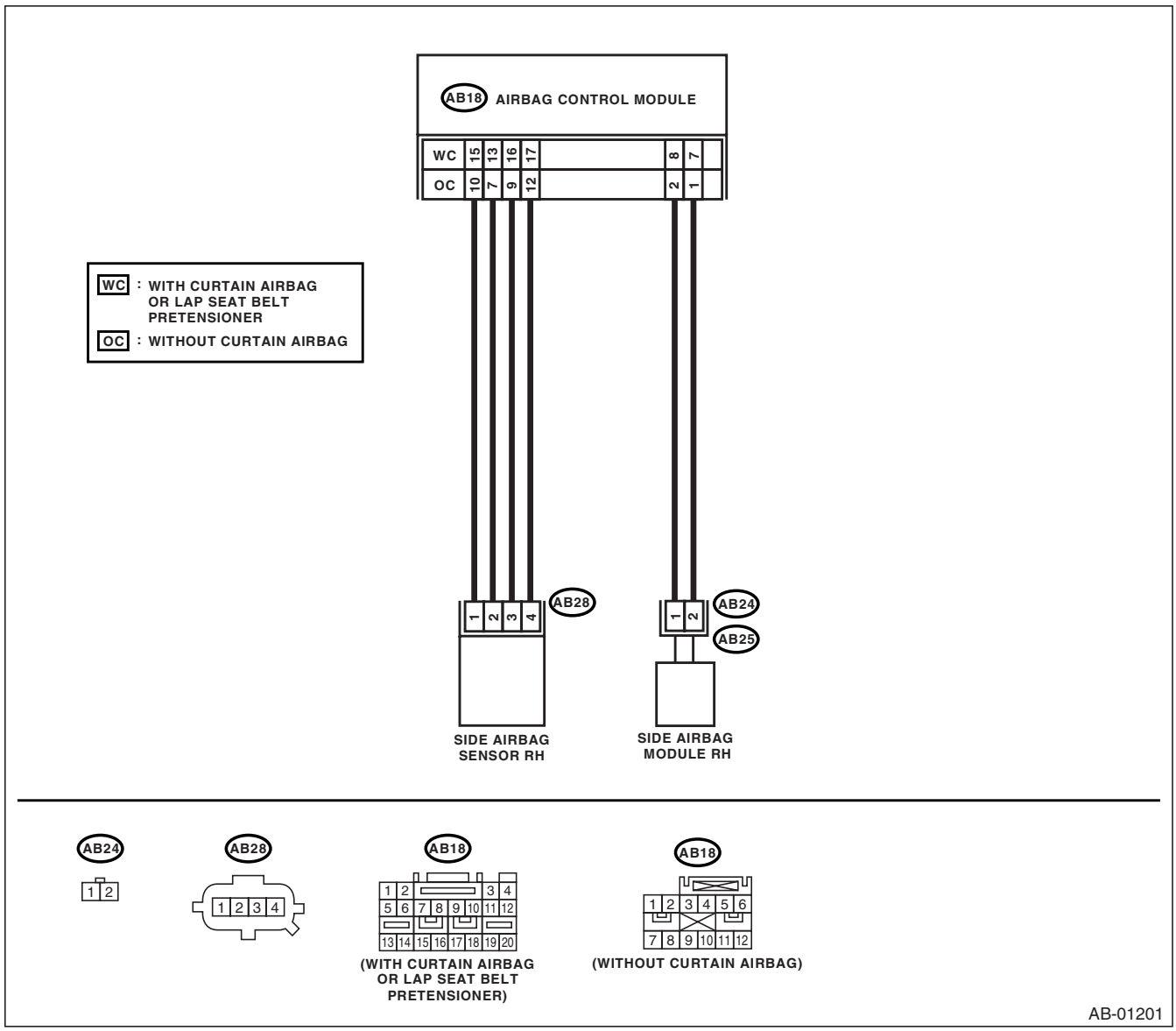
• Before diagnosing the airbag system, be sure to turn the ignition switch OFF, disconnect the ground cable from battery, and wait more than 20 seconds before starting to work.

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

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

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

WIRING DIAGRAM:



1. MODEL WITH CURTAIN AIRBAG OR LAP SEAT BELT PRETENSIONER

	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB25) from (AB24), and connect the connector (1F) in test harness F to connector (AB24). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (RH). <Ref. to AB-18, REMOVAL, Side Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) For the model with lap seat belt pretensioner, disconnect the connector (AB30) from lap seat belt pretensioner. 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the airbag resistor from test harness. 6) Disconnect the connector (AB18) from airbag control module. 7) Connect the connector (1U) in the test harness U to connector (AB18). 8) Connect the battery ground cable and turn the ignition switch to ON. 9) Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 20 (+) — Chassis ground (−):*** ***(3U) No. 18 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

2. MODEL WITHOUT CURTAIN AIRBAG

	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB25) from (AB24), and connect the connector (1F) in test harness F to connector (AB24). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (RH). <Ref. to AB-18, REMOVAL, Side Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connector (AB18) from airbag control module. 6) Connect the connector (1R) in the test harness R to connector (AB18). 7) Connect the battery ground cable and turn the ignition switch to ON. 8) Measure the voltage between connector (3R) in the test harness R and chassis ground. ***Connector & terminal*** ***(3R) No. 20 (+) — Chassis ground (−):*** ***(3R) No. 18 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

Q: DTC 46 SIDE AIRBAG LH FAILURE

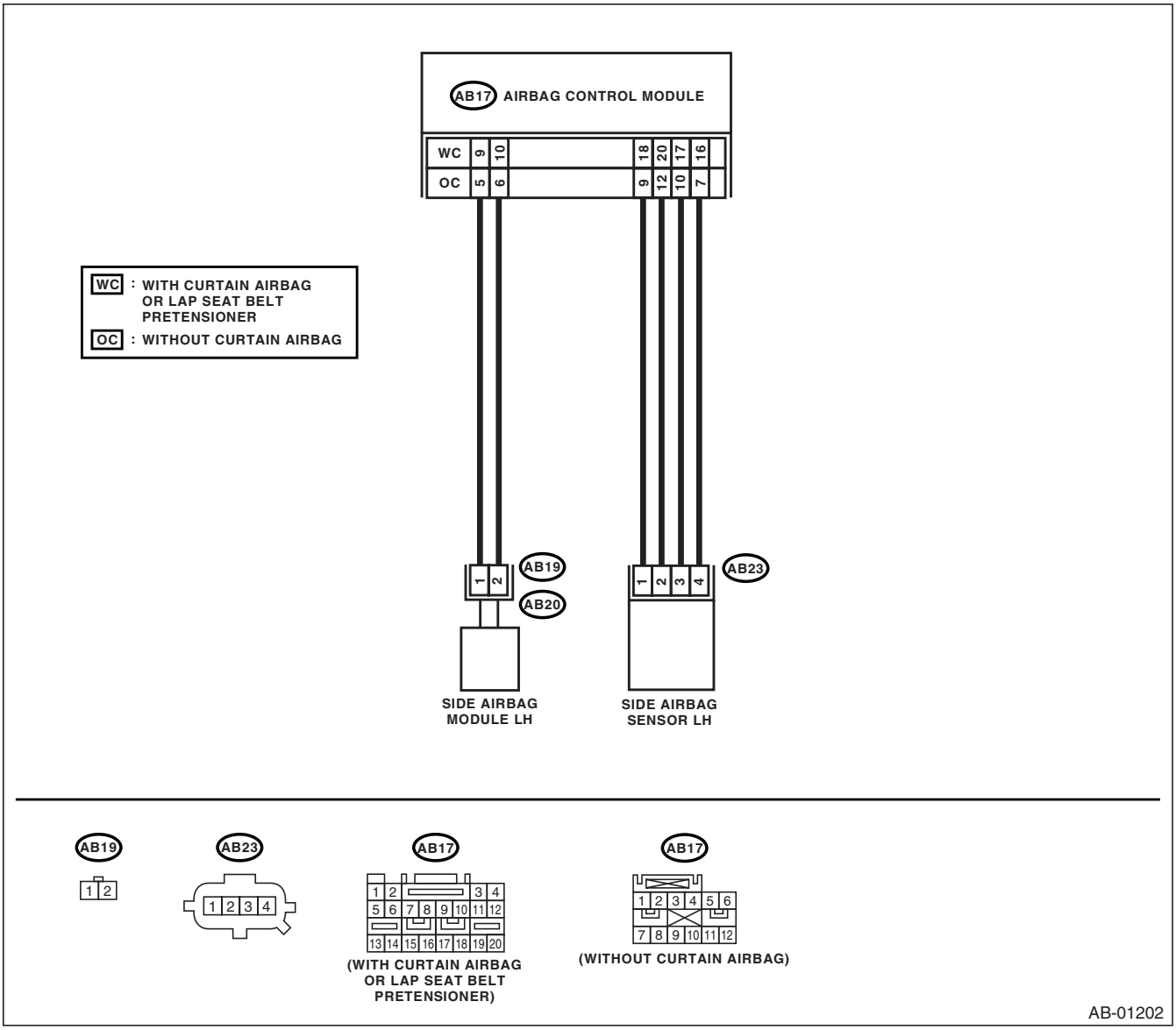
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



1. MODEL WITH CURTAIN AIRBAG OR LAP SEAT BELT PRETENSIONER

	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB20) from (AB19), and connect the connector (1F) in test harness F to connector (AB19). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (LH). <Ref. to AB-18, REMOVAL, Side Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Connect the battery ground cable and turn the ignition switch to ON. 8) Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 12 (+) — Chassis ground (−):*** ***(3U) No. 10 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

2. MODEL WITHOUT CURTAIN AIRBAG

	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB20) from (AB19), and connect the connector (1F) in test harness F to connector (AB19). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (LH). <Ref. to AB-18, REMOVAL, Side Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1R) in the test harness R to connector (AB17). 7) Connect the battery ground cable and turn the ignition switch to ON. 8) Measure the voltage between connector (3R) in the test harness R and chassis ground. ***Connector & terminal*** ***(3R) No. 12 (+) — Chassis ground (−):*** ***(3R) No. 10 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

R: DTC 51 SIDE AIRBAG SENSOR RH FAILURE

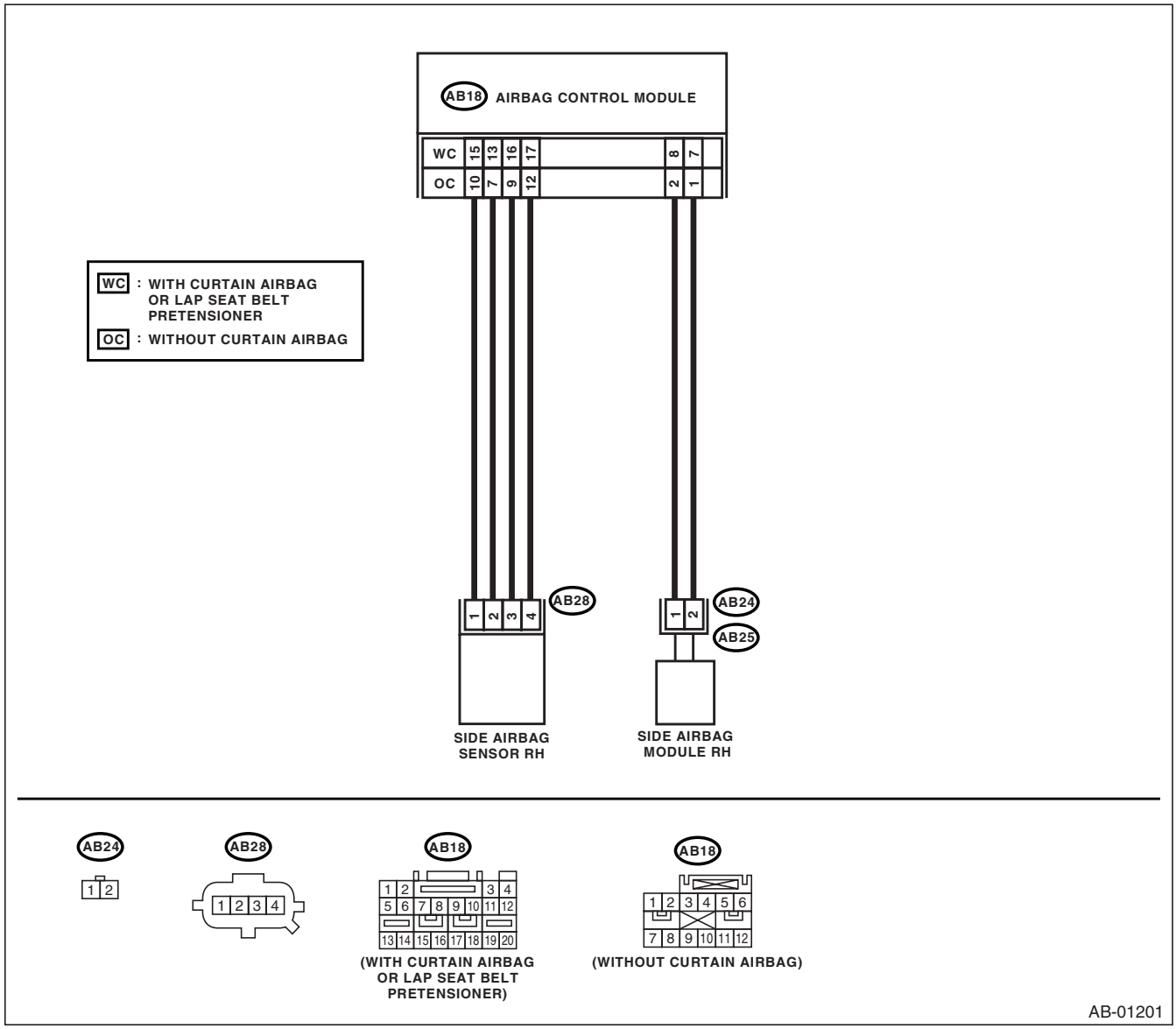
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



1. MODEL WITH CURTAIN AIRBAG OR LAP SEAT BELT PRETENSIONER

	Step	Check	Yes	No
1	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) For the model with lap seat belt pretensioner, disconnect the connector (AB30) from lap seat belt pretensioner. 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the connector (AB25) from (AB24). 6) Disconnect the connector (AB18) from airbag control module. 7) Connect the connector (1U) in the test harness U to connector (AB18). 8) Disconnect the connector (AB28) from side airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB28). 9) Measure the resistance between connector (4U) in the test harness U and connector (3V) in the test harness V. ***Connector & terminal*** ***(4U) No. 5 — (3V) No. 2:*** ***(4U) No. 7 — (3V) No. 1:*** ***(4U) No. 8 — (3V) No. 5:*** ***(4U) No. 6 — (3V) No. 4:***	Is the resistance less than 10 Ω?	Go to step **2.**	Replace the airbag rear harness with body harness.
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS RH).** Measure the resistance between connector (4U) in the test harness U and chassis ground. ***Connector & terminal*** ***(4U) No. 5 — Chassis ground:*** ***(4U) No. 7 — Chassis ground:*** ***(4U) No. 8 — Chassis ground:*** ***(4U) No. 6 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the side airbag sensor (RH). <Ref. to AB-23, Side Airbag Sensor.> When the sensor is not OK though the sensor is replaced, replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

2. MODEL WITHOUT CURTAIN AIRBAG

	Step	Check	Yes	No
1	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the connector (AB25) from (AB24). 5) Disconnect the connector (AB18) from airbag control module. 6) Connect the connector (1R) in the test harness R to connector (AB18). 7) Disconnect the connector (AB28) from side airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB28). 8) Measure the resistance between connector (4R) in the test harness R and connector (3V) in the test harness V. ***Connector & terminal*** ***(4R) No. 5 — (3V) No. 2:*** ***(4R) No. 7 — (3V) No. 1:*** ***(4R) No. 8 — (3V) No. 5:*** ***(4R) No. 6 — (3V) No. 4:***	Is the resistance less than 10 Ω?	Go to step **2.**	Replace the airbag rear harness with body harness.
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS RH).** Measure the resistance between connector (4R) in the test harness R and chassis ground. ***Connector & terminal*** ***(4R) No. 5 — Chassis ground:*** ***(4R) No. 7 — Chassis ground:*** ***(4R) No. 8 — Chassis ground:*** ***(4R) No. 6 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the side airbag sensor (RH). <Ref. to AB-23, Side Airbag Sensor.> When the sensor is not OK though the sensor is replaced, replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

S: DTC 52 SIDE AIRBAG SENSOR LH FAILURE

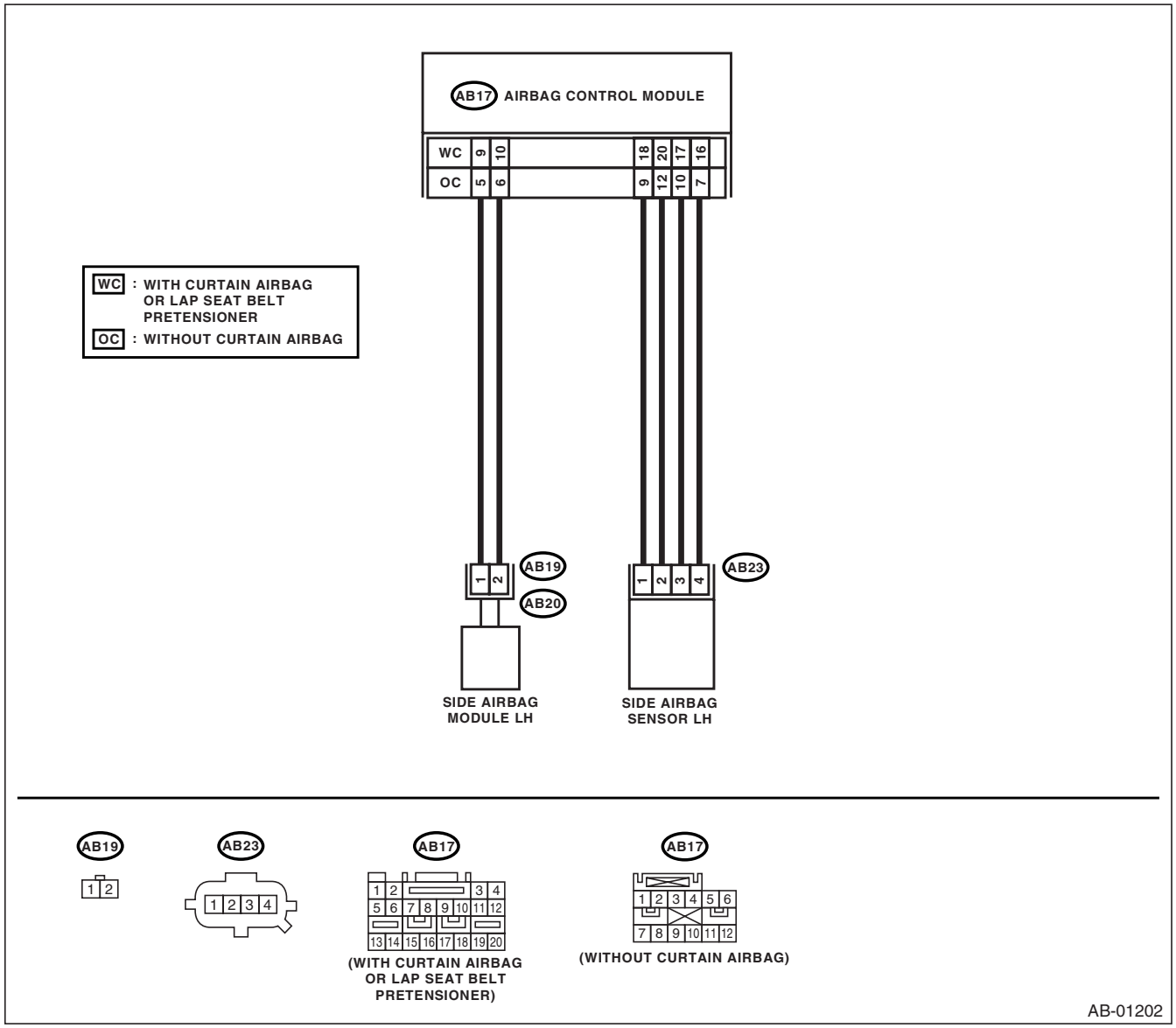
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



1. MODEL WITH CURTAIN AIRBAG OR LAP SEAT BELT PRETENSIONER

	Step	Check	Yes	No
1	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the connector (AB20) from (AB19). 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Disconnect the connector (AB23) from side airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB23). 8) Measure the resistance between connector (4U) in the test harness U and connector (3V) in the test harness V. ***Connector & terminal*** ***(4U) No. 3 — (3V) No. 4:*** ***(4U) No. 1 — (3V) No. 5:*** ***(4U) No. 2 — (3V) No. 1:*** ***(4U) No. 4 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **2.**	Replace the airbag rear harness with body harness.
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS LH).** Measure the resistance between connector (4U) in the test harness U and chassis ground. ***Connector & terminal*** ***(4U) No. 3 — Chassis ground:*** ***(4U) No. 1 — Chassis ground:*** ***(4U) No. 2 — Chassis ground:*** ***(4U) No. 4 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the side airbag sensor (LH). <Ref. to AB-23, Side Airbag Sensor.> When the sensor is not OK though the sensor is replaced, replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

2. MODEL WITHOUT CURTAIN AIRBAG

	Step	Check	Yes	No
1	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the connector (AB20) from (AB19). 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1R) in the test harness R to connector (AB17). 7) Disconnect the connector (AB23) from side airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB23). 8) Measure the resistance between connector (4R) in the test harness R and connector (3V) in the test harness V. ***Connector & terminal*** ***(4R) No. 3 — (3V) No. 4:*** ***(4R) No. 1 — (3V) No. 5:*** ***(4R) No. 2 — (3V) No. 1:*** ***(4R) No. 4 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **2.**	Replace the airbag rear harness with body harness.
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS LH).** Measure the resistance between connector (4R) in the test harness R and chassis ground. ***Connector & terminal*** ***(4R) No. 3 — Chassis ground:*** ***(4R) No. 1 — Chassis ground:*** ***(4R) No. 2 — Chassis ground:*** ***(4R) No. 4 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the side airbag sensor (LH). <Ref. to AB-23, Side Airbag Sensor.> When the sensor is not OK though the sensor is replaced, replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

T: DTC 53 SIDE AIRBAG SENSOR RH FAILURE

DTC DETECTING CONDITION:

Side airbag sensor (RH) is faulty.

If DTC 53 is displayed, the circuit within the side airbag sensor (RH) is faulty. Replace the side airbag sensor (RH). <Ref. to AB-23, Side Airbag Sensor.>

U: DTC 54 SIDE AIRBAG SENSOR LH FAILURE

DTC DETECTING CONDITION:

Side airbag sensor (LH) is faulty.

If DTC 54 is displayed, the circuit within the side airbag sensor (LH) is faulty. Replace the side airbag sensor (LH). <Ref. to AB-23, Side Airbag Sensor.>

V: DTC 55 SIDE CURTAIN AIRBAG FIRING OUTPUT

This code is displayed when the side airbag module and curtain airbag module are deployed.

Once this code is displayed, the memory cannot be erased. Replace the following parts.

- Airbag control module <Ref. to AB-22, Airbag Control Module.>
- Front seat with side airbag module (Operating side) <Ref. to SE-7, Front Seat.>
- Side airbag sensor (Operating side) <Ref. to AB-23, Side Airbag Sensor.>
- Curtain airbag module (Operating side) <Ref. to AB-20, Curtain Airbag Module.>
- Curtain airbag sensor (Operating side) <Ref. to AB-24, Curtain Airbag Sensor.>

W: DTC 56 CURTAIN AIRBAG SENSOR RH FAILURE

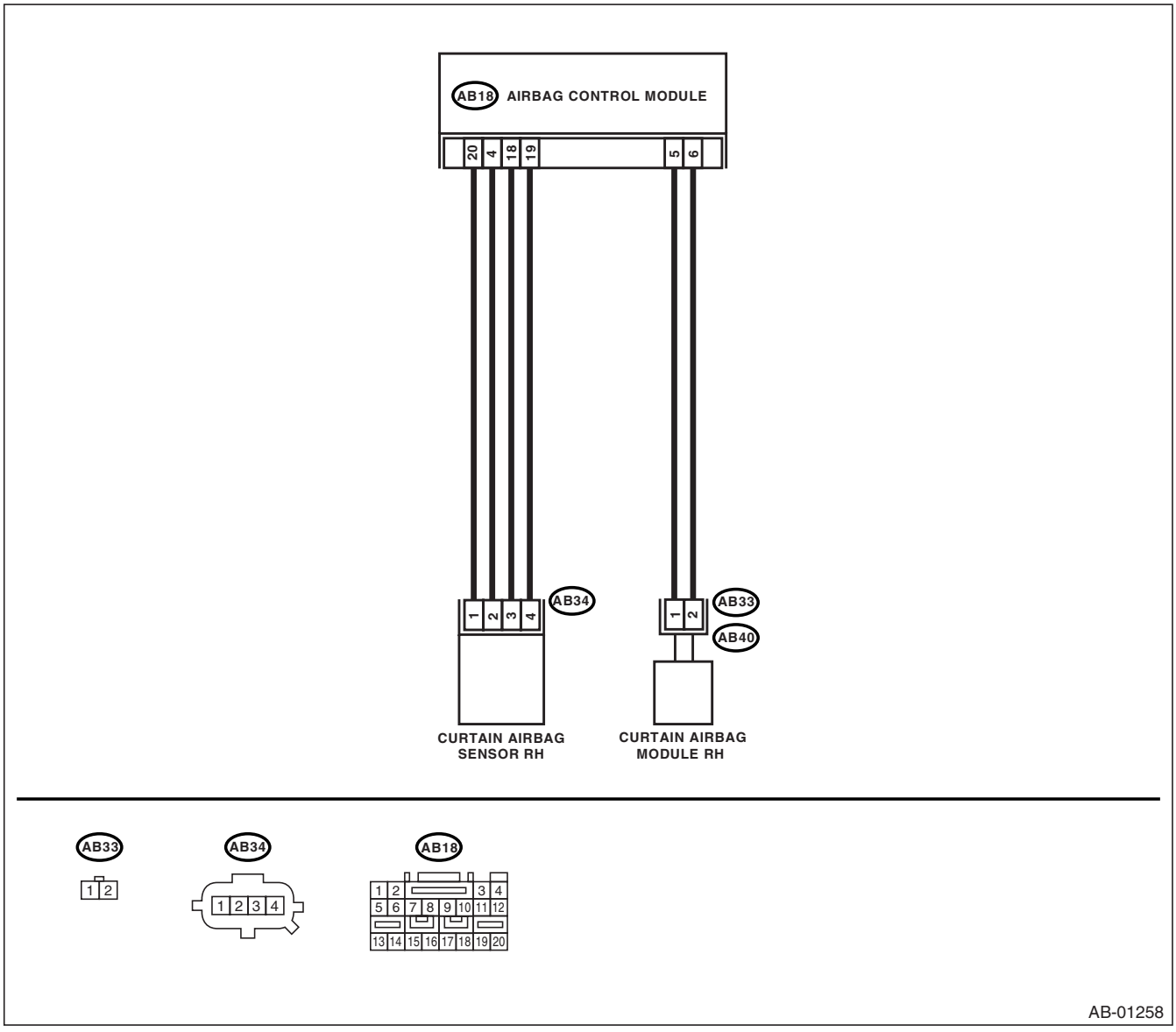
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG SENSOR HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) For the model with lap seat belt pretensioner, disconnect the connector (AB30) from lap seat belt pretensioner. 4) Disconnect the connector (AB24) from side airbag module (RH). 5) Disconnect the connector (AB33) from (AB40). 6) Disconnect the connector (AB18) from airbag control module. 7) Connect the connector (1U) in the test harness U to connector (AB18). 8) Disconnect the connector (AB34) from curtain airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB34). 9) Measure the resistance between connector (5U) in the test harness U and connector (3V) in the test harness V. ***Connector & terminal*** ***(5U) No. 14 — (3V) No. 4:*** ***(5U) No. 16 — (3V) No. 5:*** ***(5U) No. 15 — (3V) No. 1:*** ***(5U) No. 13 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **2.**	Replace the airbag rear harness with body harness.
2	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG SENSOR HARNESS RH).** Measure the resistance between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 14 — Chassis ground:*** ***(5U) No. 16 — Chassis ground:*** ***(5U) No. 15 — Chassis ground:*** ***(5U) No. 13 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the curtain airbag sensor (RH). <Ref. to AB-24, Curtain Airbag Sensor.> When the sensor is not OK though the sensor is replaced, replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

X: DTC 57 CURTAIN AIRBAG SENSOR LH FAILURE

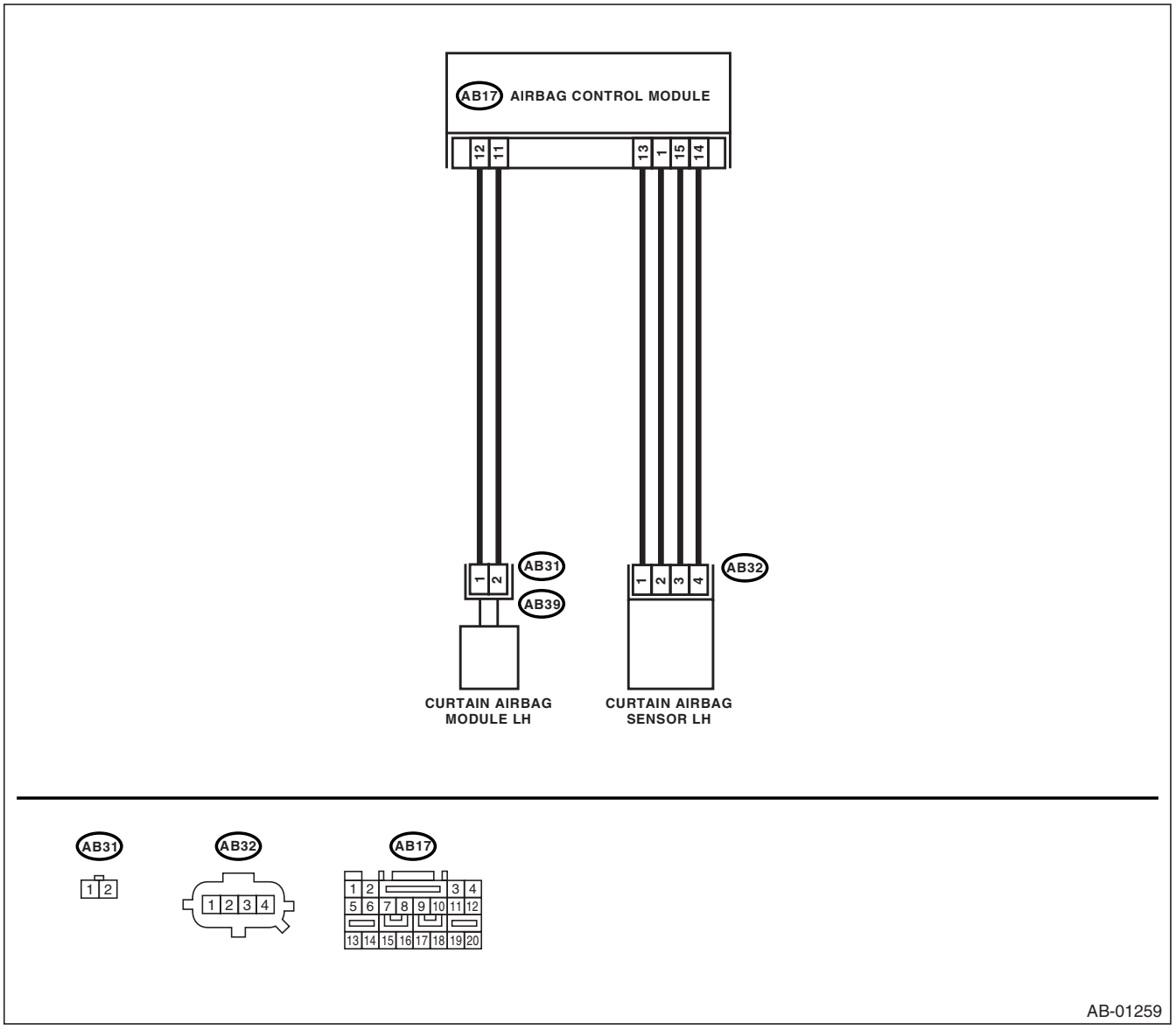
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG SENSOR HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from (AB39). 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Disconnect the connector (AB32) from curtain airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB32). 8) Measure the resistance between connector (5U) in the test harness U and connector (3V) in the test harness V. ***Connector & terminal*** ***(5U) No. 11 — (3V) No. 4:*** ***(5U) No. 9 — (3V) No. 5:*** ***(5U) No. 10 — (3V) No. 1:*** ***(5U) No. 12 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **2.**	Replace the airbag rear harness with body harness.
2	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG SENSOR HARNESS LH).** Measure the resistance between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 11 — Chassis ground:*** ***(5U) No. 9 — Chassis ground:*** ***(5U) No. 10 — Chassis ground:*** ***(5U) No. 12 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the curtain airbag sensor (LH). <Ref. to AB-24, Curtain Airbag Sensor.> When the sensor is not OK though the sensor is replaced, replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

Y: DTC 58 CURTAIN AIRBAG SENSOR RH FAILURE

DTC DETECTING CONDITION:

Curtain airbag sensor (RH) is faulty.

If DTC 58 is displayed, the circuit within the curtain airbag sensor (RH) is faulty. Replace the curtain airbag sensor (RH). <Ref. to AB-24, Curtain Airbag Sensor.>

Z: DTC 59 CURTAIN AIRBAG SENSOR LH FAILURE

DTC DETECTING CONDITION:

Curtain airbag sensor (LH) is faulty.

If DTC 59 is displayed, the circuit within the curtain airbag sensor (LH) is faulty. Replace the curtain airbag sensor (LH). <Ref. to AB-24, Curtain Airbag Sensor.>

AA:DTC 61 BELT PRETENSIONER RH FAILURE

DTC DETECTING CONDITION:

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

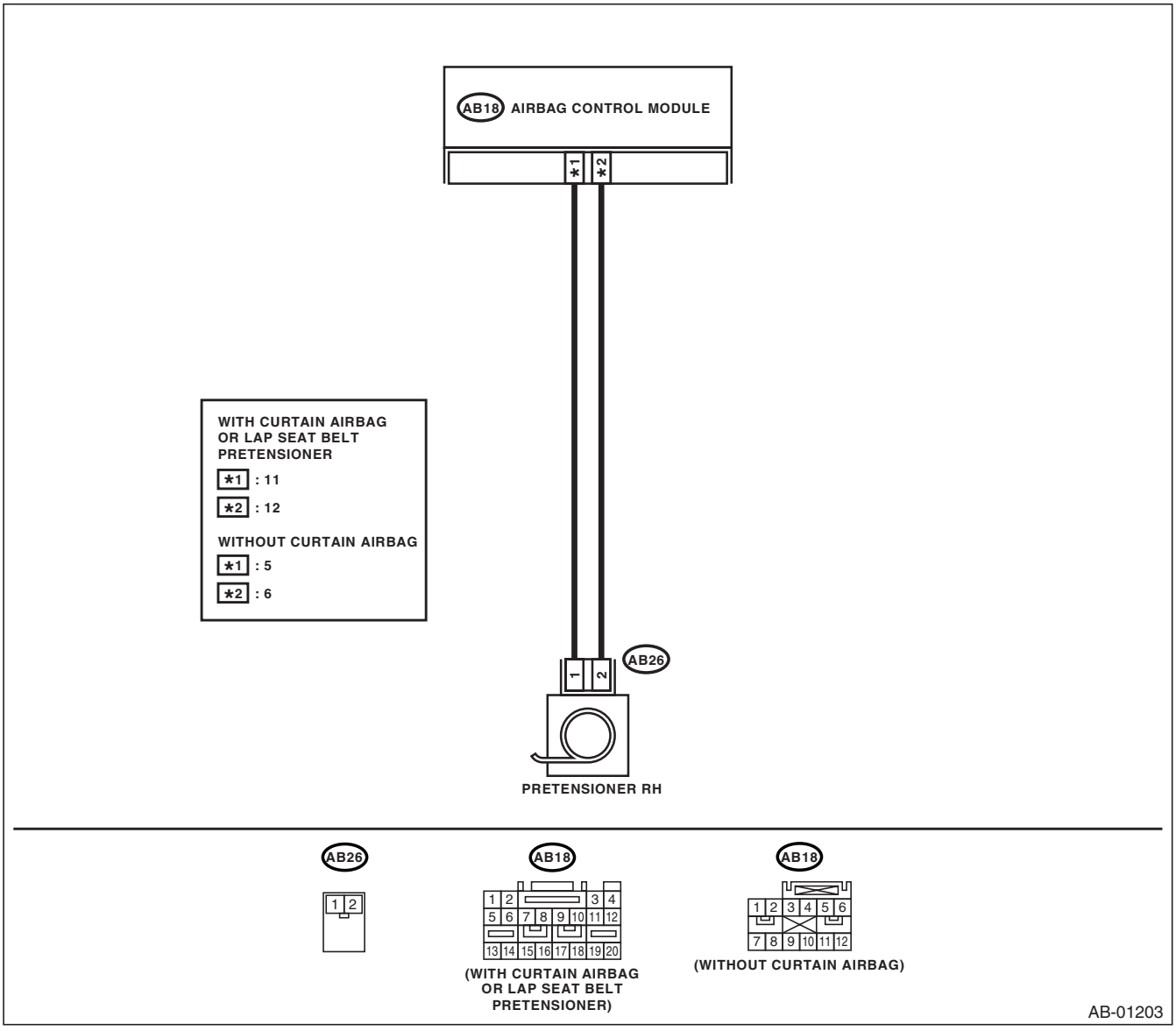
CAUTION:

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

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

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

WIRING DIAGRAM:



1. MODEL WITH CURTAIN AIRBAG OR LAP SEAT BELT PRETENSIONER

	Step	Check	Yes	No
1	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (RH). <Ref. to SB-14, Front Seat Belt.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from test harness. 3) For the model with lap seat belt pretensioner, disconnect the connector (AB30) from lap seat belt pretensioner. 4) Disconnect the connector (AB24) from side airbag module (RH). 5) Disconnect the connector (AB33) from curtain airbag module (RH). 6) Disconnect the connectors (AB17) and (AB18) from airbag control module. 7) Connect the connector (1U) in the test harness U to connector (AB18). 8) Measure the resistance between connector (3U) in the test harness V and connector (2N) in the test harness N. ***Connector & terminal*** ***(3U) No. 17 — (2N) No. 2:*** ***(3U) No. 19 — (2N) No. 1:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** Measure the resistance between connector (3U) terminals in the test harness U. ***Connector & terminal*** ***(3U) No. 19 — (3U) No. 17:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the airbag rear harness with body harness.
4	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 17 — Chassis ground:*** ***(3U) No. 19 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

2. MODEL WITHOUT CURTAIN AIRBAG

	Step	Check	Yes	No
1	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (RH). <Ref. to SB-14, Front Seat Belt.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connectors (AB17) and (AB18) from airbag control module. 4) Connect the connector (1R) in the test harness R to connector (AB18). 5) Measure the resistance between connector (3R) in the test harness R and connector (2N) in the test harness N. ***Connector & terminal*** ***(3R) No. 17 — (2N) No. 2:*** ***(3R) No. 19 — (2N) No. 1:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** Measure the resistance between connector (3R) terminals in the test harness R. ***Connector & terminal*** ***(3R) No. 19 — (3R) No. 17:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the airbag rear harness with body harness.
4	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** Measure the resistance between connector (3R) in the test harness R and chassis ground. ***Connector & terminal*** ***(3R) No. 17 — Chassis ground:*** ***(3R) No. 19 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

AB:DTC 62 BELT PRETENSIONER LH FAILURE

DTC DETECTING CONDITION:

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

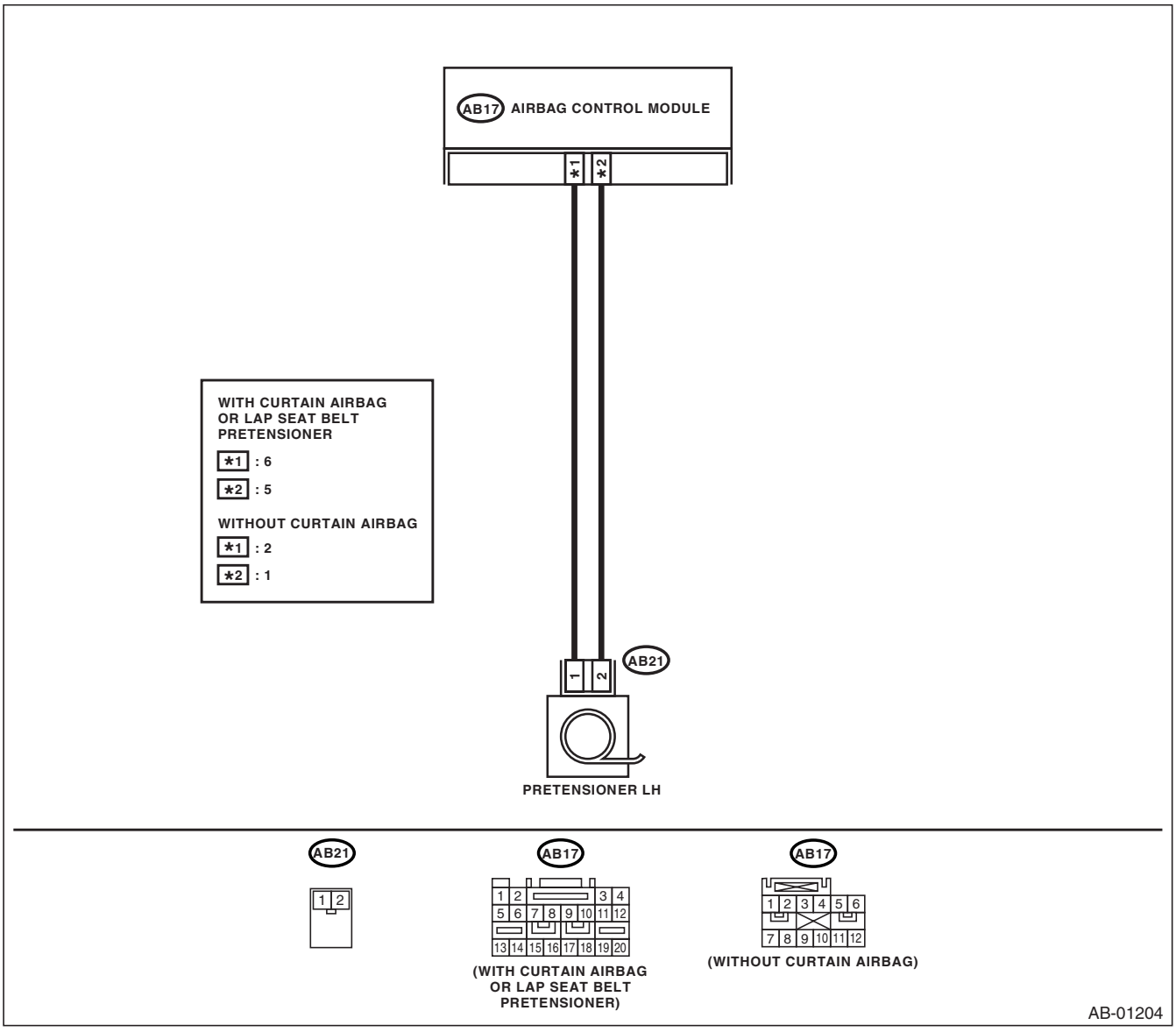
CAUTION:

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

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

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

WIRING DIAGRAM:



1. MODEL WITH CURTAIN AIRBAG OR LAP SEAT BELT PRETENSIONER

	Step	Check	Yes	No
1	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (LH). <Ref. to SB-14, Front Seat Belt.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connectors (AB17) and (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Measure the resistance between connector (3U) in the test harness V and connector (2N) in the test harness N. ***Connector & terminal*** ***(3U) No. 13 — (2N) No. 1:*** ***(3U) No. 11 — (2N) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** Measure the resistance between connector (3U) terminals in the test harness U. ***Connector & terminal*** ***(3U) No. 11 — (3U) No. 13:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the airbag rear harness with body harness.
4	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 11 — Chassis ground:*** ***(3U) No. 13 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

2. MODEL WITHOUT CURTAIN AIRBAG

	Step	Check	Yes	No
1	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (LH). <Ref. to SB-14, Front Seat Belt.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connectors (AB17) and (AB18) from airbag control module. 4) Connect the connector (1R) in the test harness R to connector (AB17). 5) Measure the resistance between connector (3R) in the test harness R and connector (2N) in the test harness N. ***Connector & terminal*** ***(3R) No. 13 — (2N) No. 1:*** ***(3R) No. 11 — (2N) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** Measure the resistance between connector (3R) terminals in the test harness R. ***Connector & terminal*** ***(3R) No. 11 — (3R) No. 13:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the airbag rear harness with body harness.
4	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** Measure the resistance between connector (3R) in the test harness R and chassis ground. ***Connector & terminal*** ***(3R) No. 11 — Chassis ground:*** ***(3R) No. 13 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

AC:DTC 65 BELT PRETENSIONER RH FAILURE

DTC DETECTING CONDITION:

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

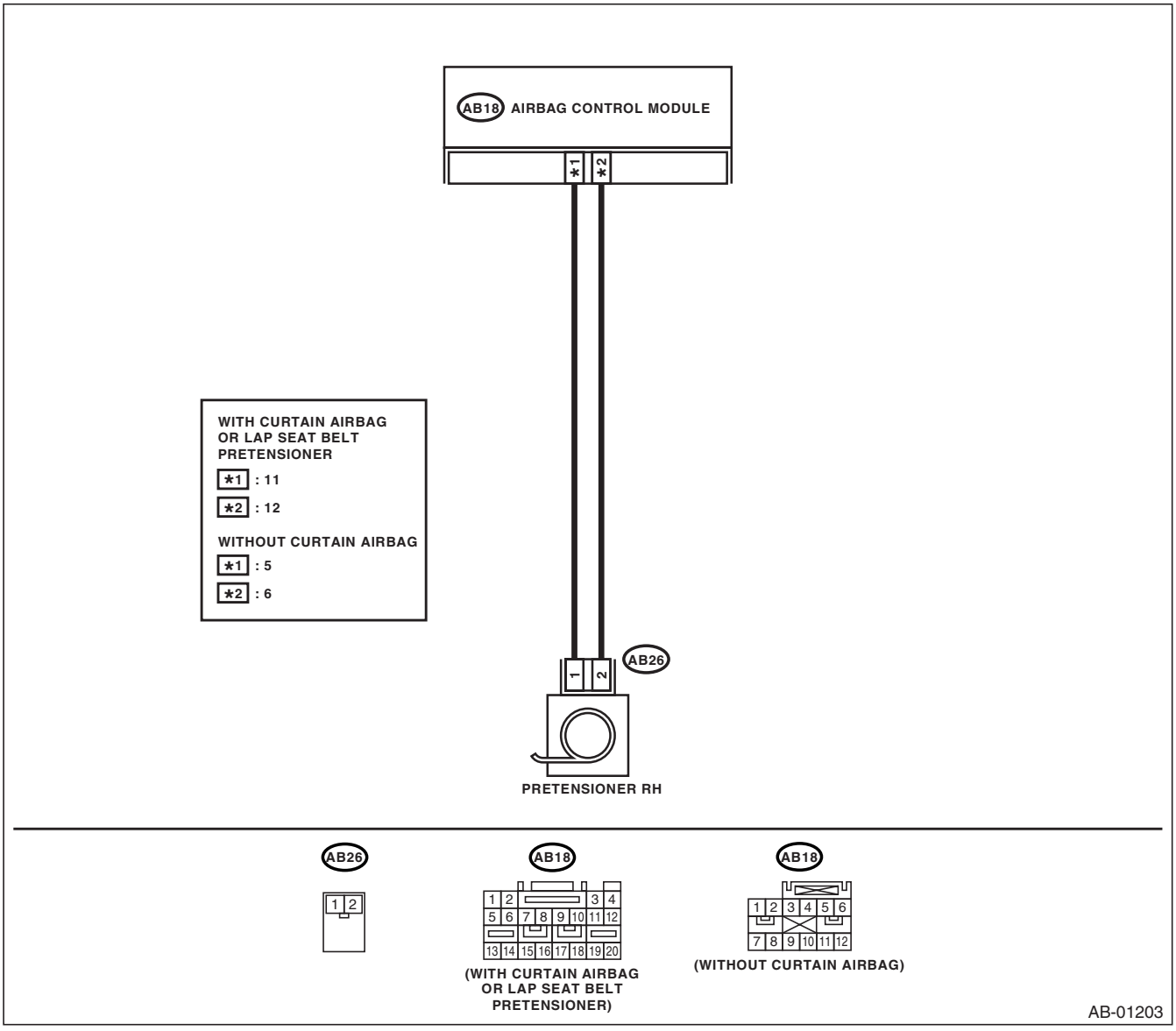
CAUTION:

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

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

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

WIRING DIAGRAM:



1. MODEL WITH CURTAIN AIRBAG OR LAP SEAT BELT PRETENSIONER

	Step	Check	Yes	No
1	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (RH). <Ref. to SB-14, Front Seat Belt.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from test harness. 3) For the model with lap seat belt pretensioner, disconnect the connector (AB30) from lap seat belt pretensioner. 4) Disconnect the connector (AB24) from side airbag module (RH). 5) Disconnect the connector (AB33) from curtain airbag module (RH). 6) Disconnect the connectors (AB17) and (AB18) from airbag control module. 7) Connect the connector (1U) in the test harness U to connector (AB18). 8) Connect the battery ground cable and turn the ignition switch to ON. 9) Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 17 (+) — Chassis ground (−):*** ***(3U) No. 19 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

2. MODEL WITHOUT CURTAIN AIRBAG

	Step	Check	Yes	No
1	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (RH). <Ref. to SB-14, Front Seat Belt.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connectors (AB17) and (AB18) from airbag control module. 4) Connect the connector (1R) in the test harness R to connector (AB18). 5) Connect the battery ground cable and turn the ignition switch to ON. 6) Measure the voltage between connector (3R) in the test harness R and chassis ground. ***Connector & terminal*** ***(3R) No. 19 (+) — Chassis ground (−):*** ***(3R) No. 17 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

AD:DTC 66 BELT PRETENSIONER LH FAILURE

DTC DETECTING CONDITION:

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

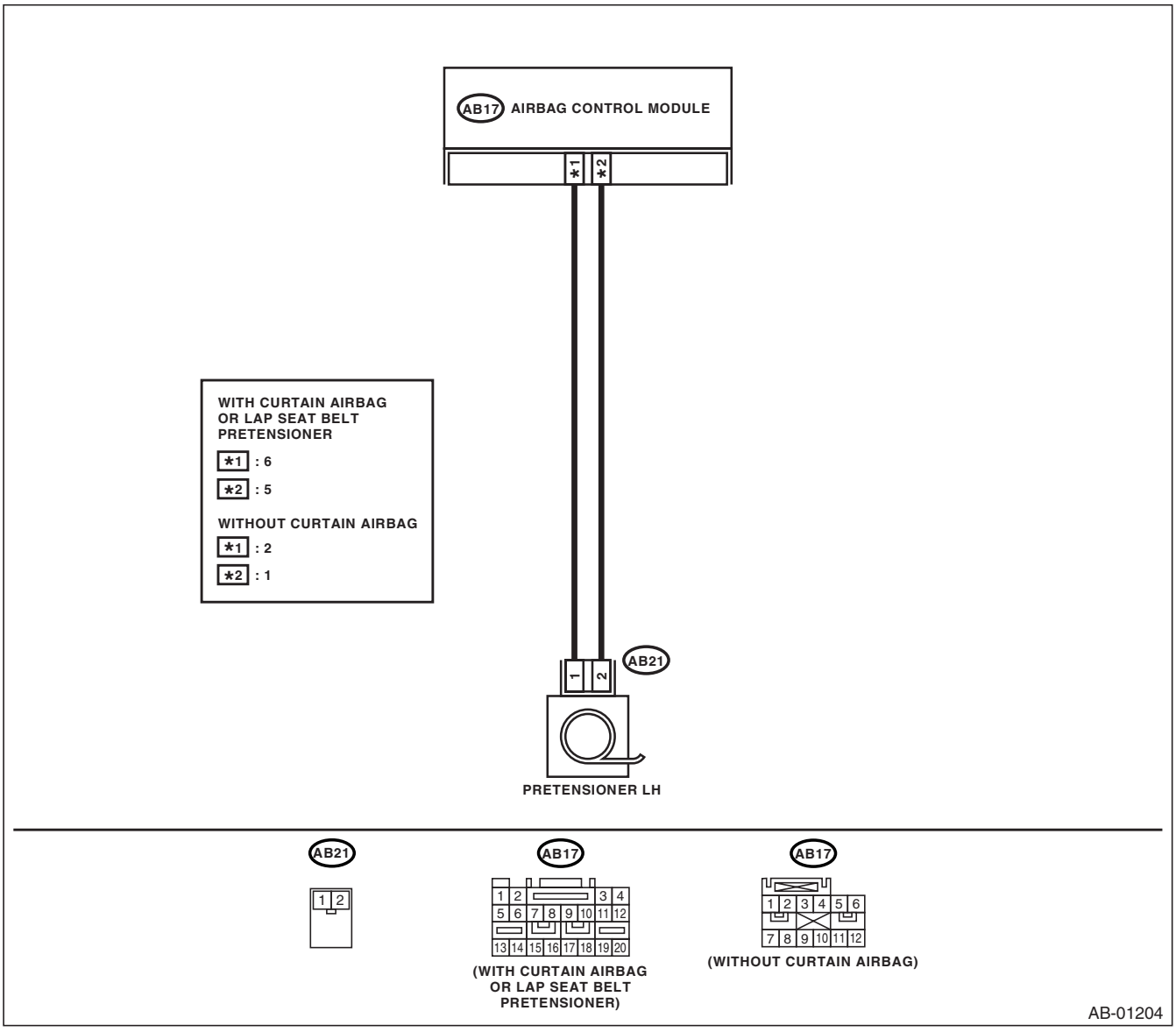
CAUTION:

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

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

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

WIRING DIAGRAM:



1. MODEL WITH CURTAIN AIRBAG OR LAP SEAT BELT PRETENSIONER

	Step	Check	Yes	No
1	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (LH). <Ref. to SB-14, Front Seat Belt.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connectors (AB17) and (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Connect the battery ground cable and turn the ignition switch to ON. 8) Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 11 (+) — Chassis ground (−):*** ***(3U) No. 13 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

2. MODEL WITHOUT CURTAIN AIRBAG

	Step	Check	Yes	No
1	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (LH). <Ref. to SB-14, Front Seat Belt.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connectors (AB17) and (AB18) from airbag control module. 4) Connect the connector (1R) in the test harness R to connector (AB17). 5) Connect the battery ground cable and turn the ignition switch to ON. 6) Measure the voltage between connector (3R) in the test harness R and chassis ground. ***Connector & terminal*** ***(3R) No. 13 (+) — Chassis ground (−):*** ***(3R) No. 11 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

AE:DTC 71 DRIVER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

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

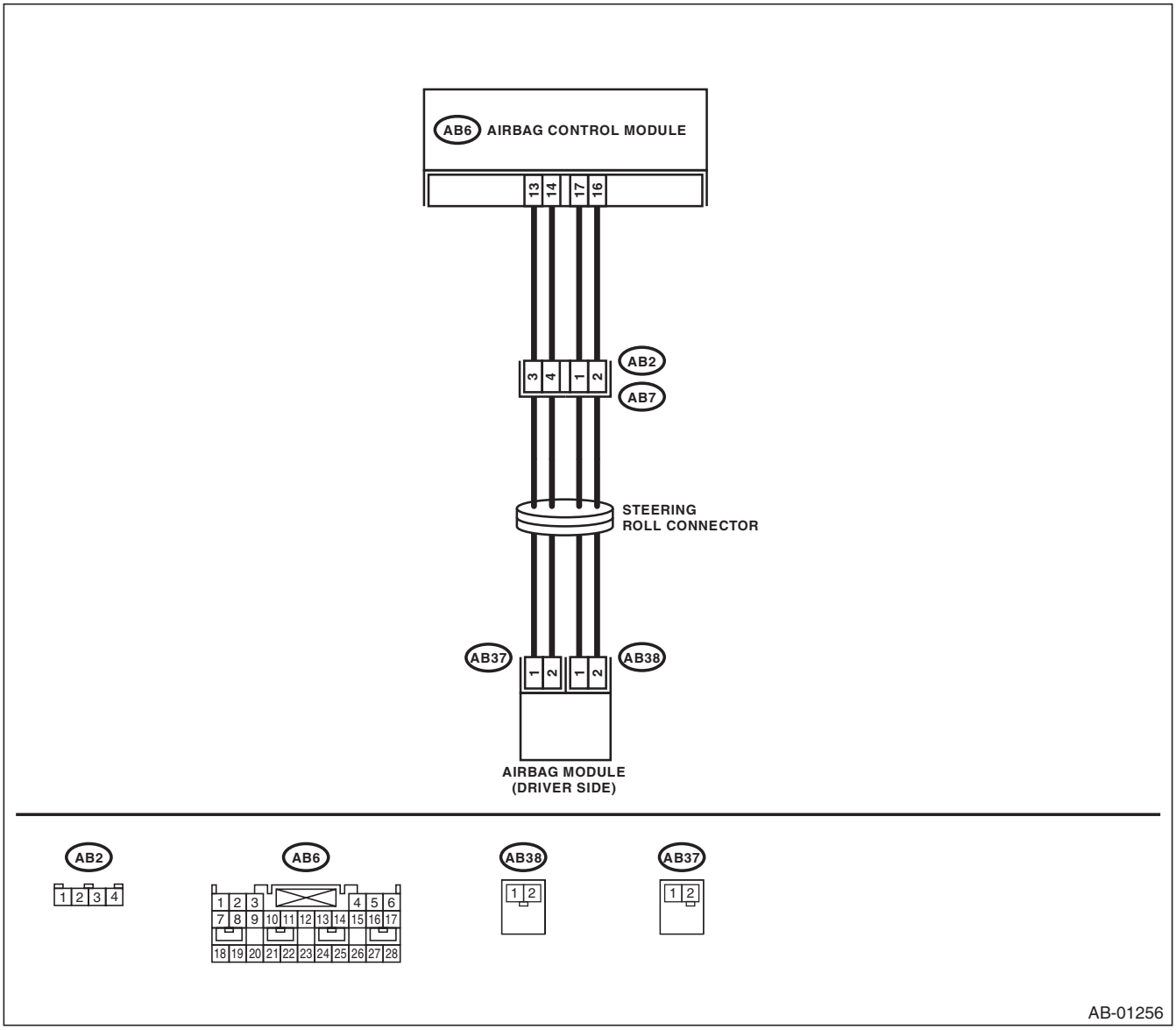
CAUTION:

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

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to connector (2Q) in the test harness Q. 7) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the driver's airbag module. <Ref. to AB-16, Driver's Airbag Module.>	Go to step **2.**
2	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to connectors (2P) and (3P) in the test harness P. 7) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the roll connector. <Ref. to AB-25, Roll Connector.>	Go to step **3.**
3	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from connectors (2P) and (3P) in the test harness P. 3) Remove the instrument panel side cover on passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(2U) No. 2 — (2P) No. 1:*** ***(2U) No. 4 — (2P) No. 2:*** ***(2U) No. 8 — (3P) No. 3:*** ***(2U) No. 12 — (3P) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4.**	Replace the airbag main harness with body harness.

	Step	Check	Yes	No
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** Measure the resistance between connectors (2U) in the test harness U, and between connector (2U) and chassis ground. ***Connector & terminal*** ***(2U) No. 2 — (2U) No. 4:*** ***(2U) No. 4 — Chassis ground:*** ***(2U) No. 2 — Chassis ground:*** ***(2U) No. 8 — (2U) No. 12:*** ***(2U) No. 8 — Chassis ground:*** ***(2U) No. 12 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

AF:DTC 72 PASSENGER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

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

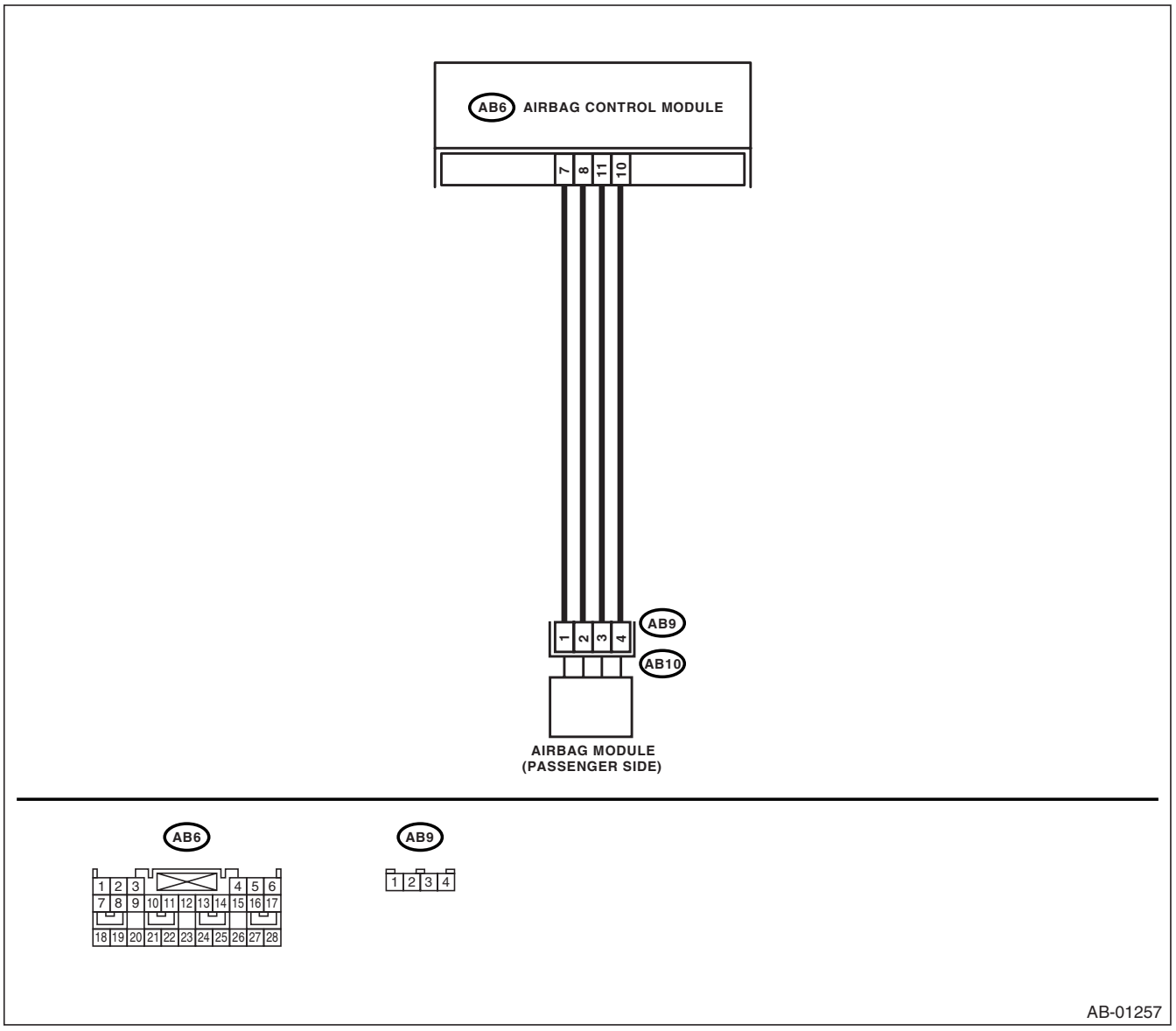
CAUTION:

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

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

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

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	Step	Check	Yes	No
1	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the instrument panel side cover on the passenger's side. 3) Disconnect the connector (AB10) from (AB9). 4) Connect the connector (1P) in the test harness P to connector (AB9). 5) Connect the airbag resistor to connectors (2P) and (3P) in the test harness P. 6) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-17, Passenger's Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from connectors (2P) and (3P) in the test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connector (AB6) from airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(2U) No. 3 — (2P) No. 1:*** ***(2U) No. 5 — (2P) No. 2:*** ***(2U) No. 9 — (3P) No. 3:*** ***(2U) No. 13 — (3P) No. 4:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag main harness with body harness.
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** Measure the resistance between connectors (2U) in the test harness U, and between connector (2U) and chassis ground. ***Connector & terminal*** ***(2U) No. 3 — (2U) No. 5:*** ***(2U) No. 3 — Chassis ground:*** ***(2U) No. 5 — Chassis ground:*** ***(2U) No. 9 — (2U) No. 13:*** ***(2U) No. 9 — Chassis ground:*** ***(2U) No. 13 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

AG:DTC 75 DRIVER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

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

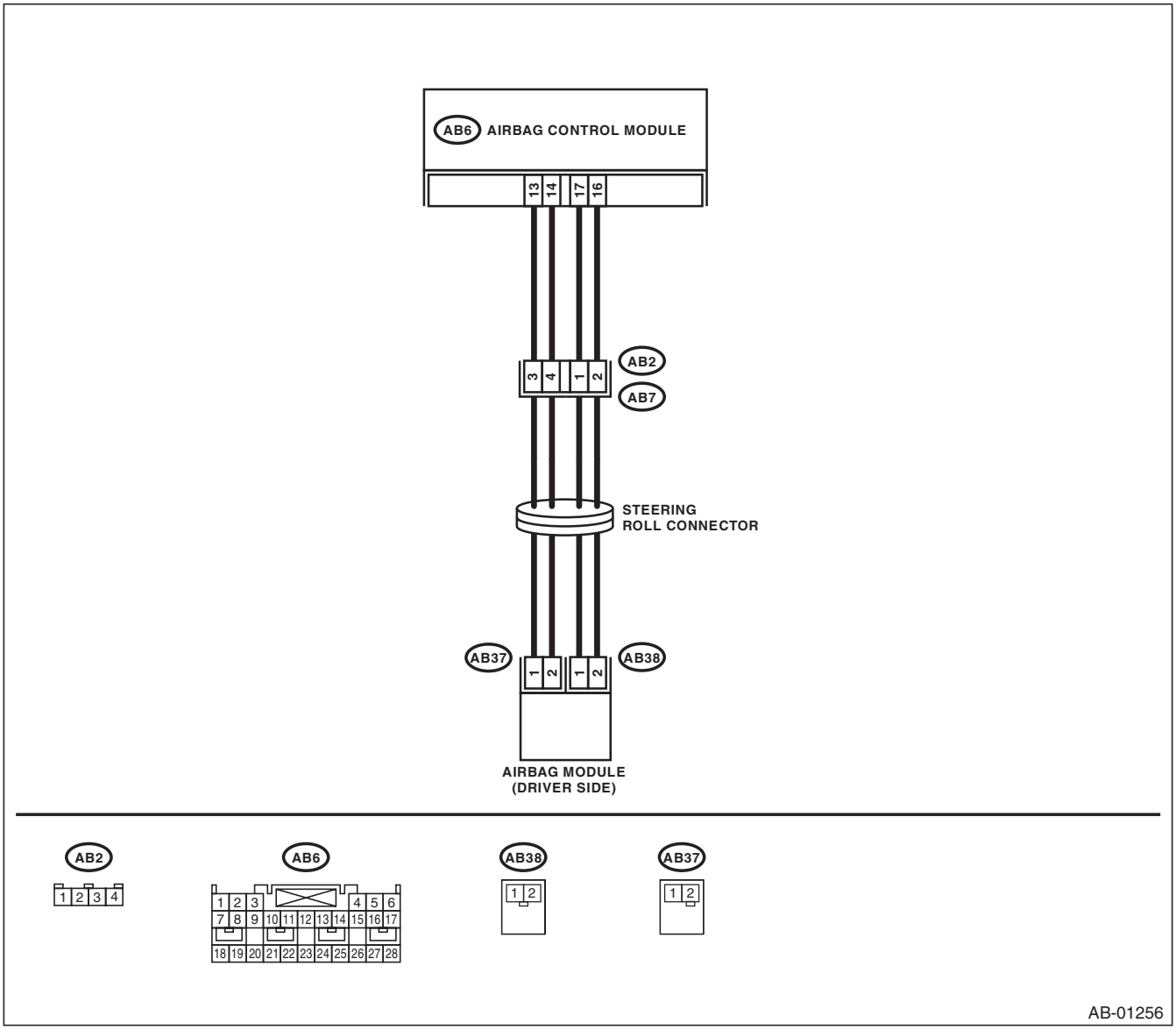
CAUTION:

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

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

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

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	Step	Check	Yes	No
1	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the driver's airbag module. 3) Connect the connector (AB38) to the connector (1N) in the test harness N. 4) Connect the airbag resistor to connector (2N) in the test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to connector (2Q) in the test harness Q. 7) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the driver's airbag module. <Ref. to AB-16, Driver's Airbag Module.>	Go to step **2.**
2	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to connectors (2P) and (3P) in the test harness P. 7) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the roll connector. <Ref. to AB-25, Roll Connector.>	Go to step **3.**
3	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from connectors (2P) and (3P) in the test harness P. 3) Remove the instrument panel side cover on passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from airbag control module, and connect the connector (1U) in the test harness U. 5) Connect the battery ground cable and turn the ignition switch to ON. (engine OFF) 6) Measure the resistance between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 4 (+) — Chassis ground (−):*** ***(2U) No. 2 (+) — Chassis ground (−):*** ***(2U) No. 8 (+) — Chassis ground (−):*** ***(2U) No. 12 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

AH:DTC 76 PASSENGER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

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

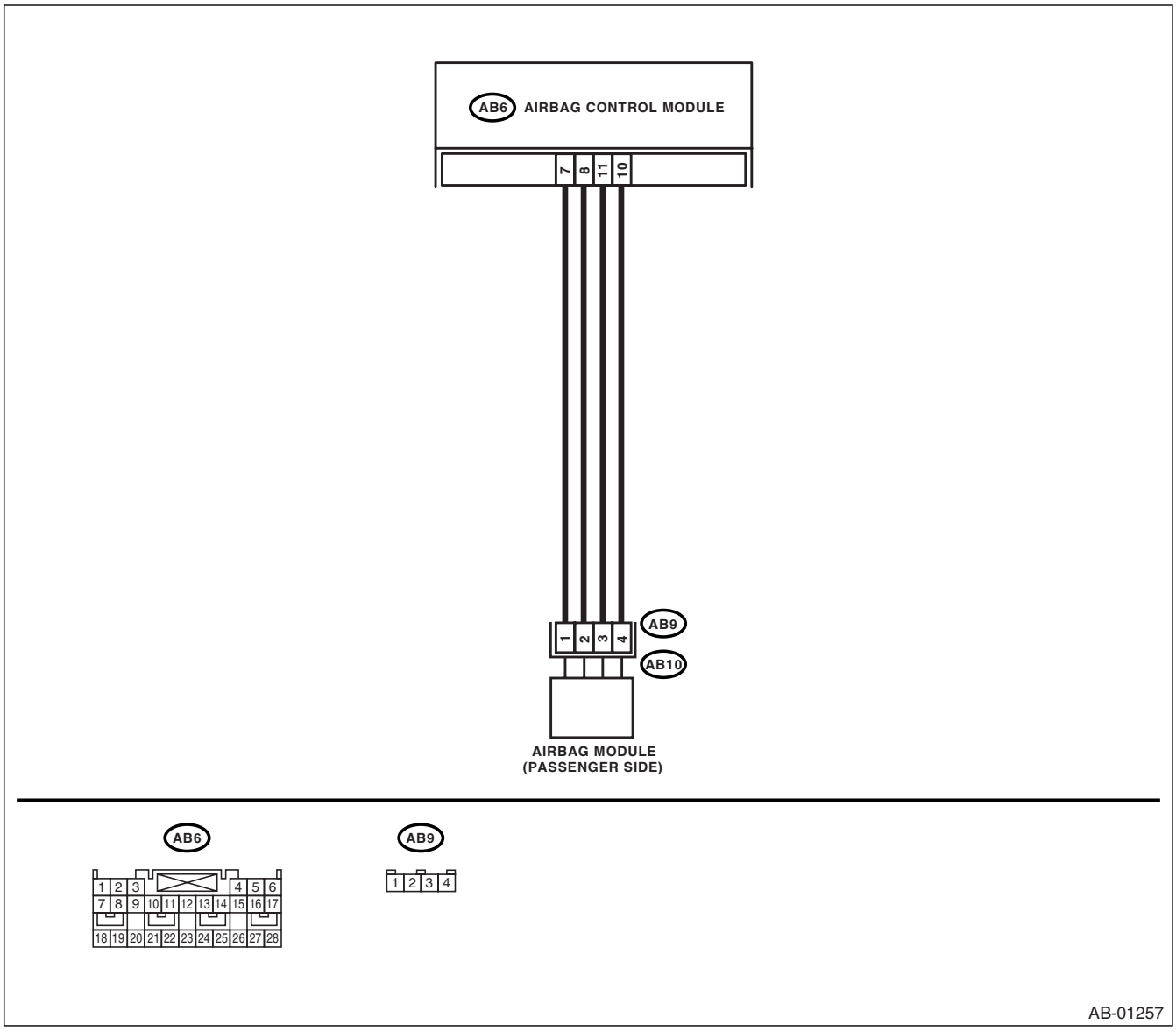
CAUTION:

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

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the instrument panel side cover on the passenger's side. 3) Disconnect the connector (AB10) from (AB9). 4) Connect the connector (1P) in the test harness P to connector (AB9). 5) Connect the airbag resistor to connectors (2P) and (3P) in the test harness P. 6) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-17, Passenger's Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from connectors (2P) and (3P) in the test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connector (AB6) from airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the resistance between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 3 (+) — Chassis ground (−):*** ***(2U) No. 5 (+) — Chassis ground (−):*** ***(2U) No. 9 (+) — Chassis ground (−):*** ***(2U) No. 13 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag main harness with body harness.

AI: DTC 81 LAP SEAT BELT PRETENSIONER FAILURE

DIAGNOSIS:

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

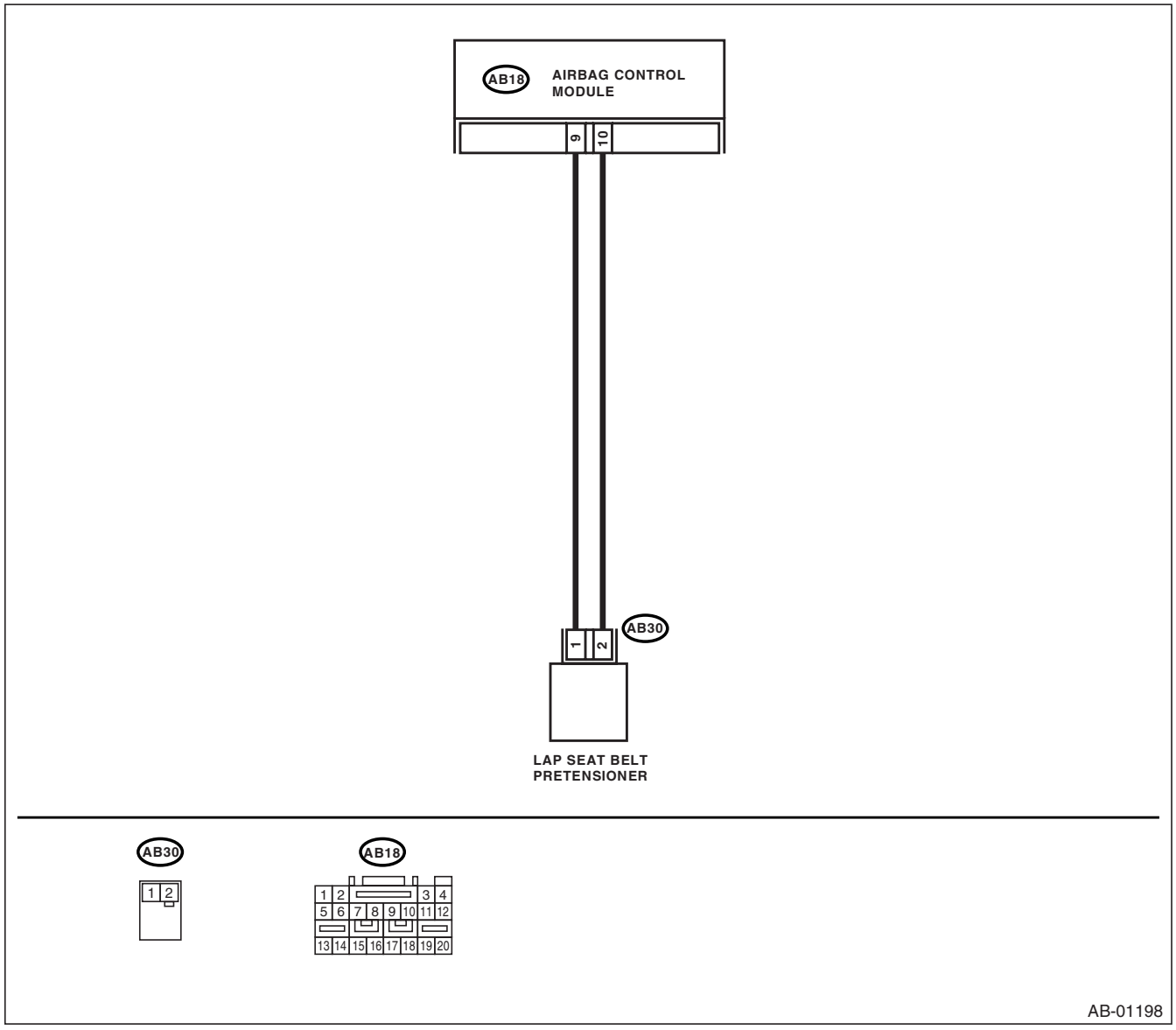
CAUTION:

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

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

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

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	Step	Check	Yes	No
1	**CHECK LAP SEAT BELT PRETENSIONER.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB30) from lap seat belt pretensioner (RH). 3) Connect the connector (1Q) in the test harness Q to connector (AB30). 4) Connect the airbag resistor to connector (2Q) in the test harness Q. 5) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the lap seat belt pretensioner (RH). <Ref. to SB-14, OUTER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB26) from seat belt pretensioner. 5) Disconnect the connector (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB18). 7) Measure the resistance between connector (5U) in the test harness U and connector (2Q) in the test harness Q. ***Connector & terminal*** ***(5U) No. 7 — (2Q) No. 1:*** ***(5U) No. 5 — (2Q) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS.** Measure the resistance between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 7 — (5U) No. 5:*** ***(5U) No. 7 — Chassis ground:*** ***(5U) No. 5 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

AJ:DTC 85 LAP SEAT BELT PRETENSIONER FAILURE

DIAGNOSIS:

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

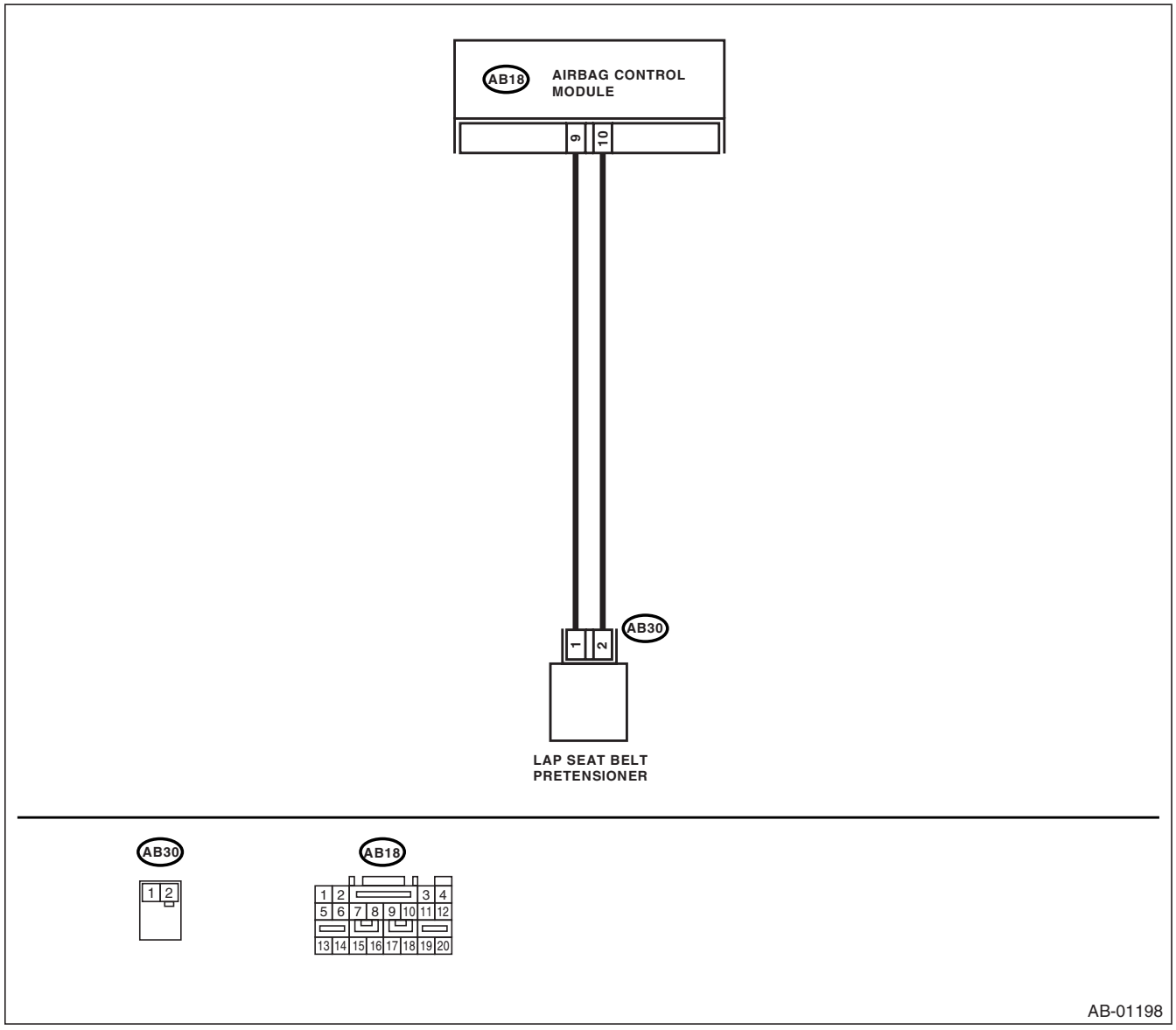
CAUTION:

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

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK LAP SEAT BELT PRETENSIONER.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB30) from lap seat belt pretensioner (RH). 3) Connect the connector (1Q) in the test harness Q to connector (AB30). 4) Connect the airbag resistor to connector (2Q) in the test harness Q. 5) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the lap seat belt pretensioner (RH). <Ref. to SB-14, OUTER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB26) from seat belt pretensioner. 5) Disconnect the connectors (AB17) and (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB18). 7) Connect the battery ground cable and turn the ignition switch to ON. 8) Measure the voltage between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 7 (+) — Chassis ground (−):*** ***(5U) No. 5 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

AK:DTC 91 CURTAIN AIRBAG MODULE RH FAILURE

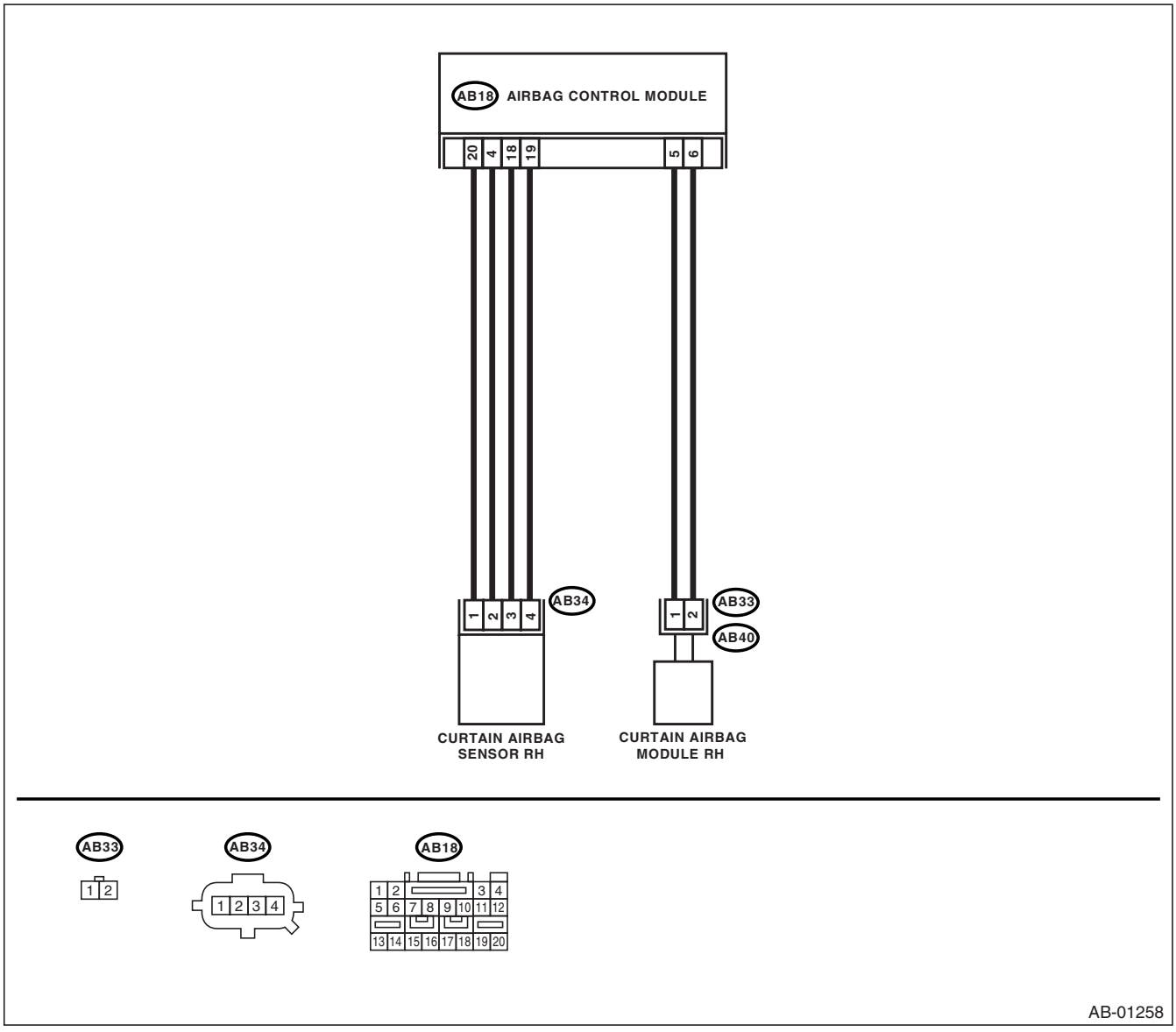
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB33) from (AB40), and connect the connector (1F) in test harness F to connector (AB33). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the curtain airbag module (RH). <Ref. to AB-20, Curtain Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) For the model with lap seat belt pretensioner, disconnect the connector (AB30) from lap seat belt pretensioner. 4) Disconnect the connector (AB24) from side airbag module (RH). 5) Disconnect the airbag resistor from the test harness F. 6) Disconnect the connector (AB18) from airbag control module. 7) Connect the connector (1U) in the test harness U to connector (AB18). 8) Measure the resistance between connector (5U) in the test harness U and connector (3F) in the test harness F. ***Connector & terminal*** ***(5U) No. 6 — (3F) No. 4:*** ***(5U) No. 8 — (3F) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).** Measure the resistance between connector (5U) terminals in the test harness U. ***Connector & terminal*** ***(5U) No. 6 — (5U) No. 8:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the airbag rear harness with body harness.
4	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).** Measure the resistance between the terminals of connector (3F) in the test harness F. ***Connector & terminal*** ***(3F) No. 3 — (3F) No. 4:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

AL:DTC 92 CURTAIN AIRBAG MODULE LH FAILURE

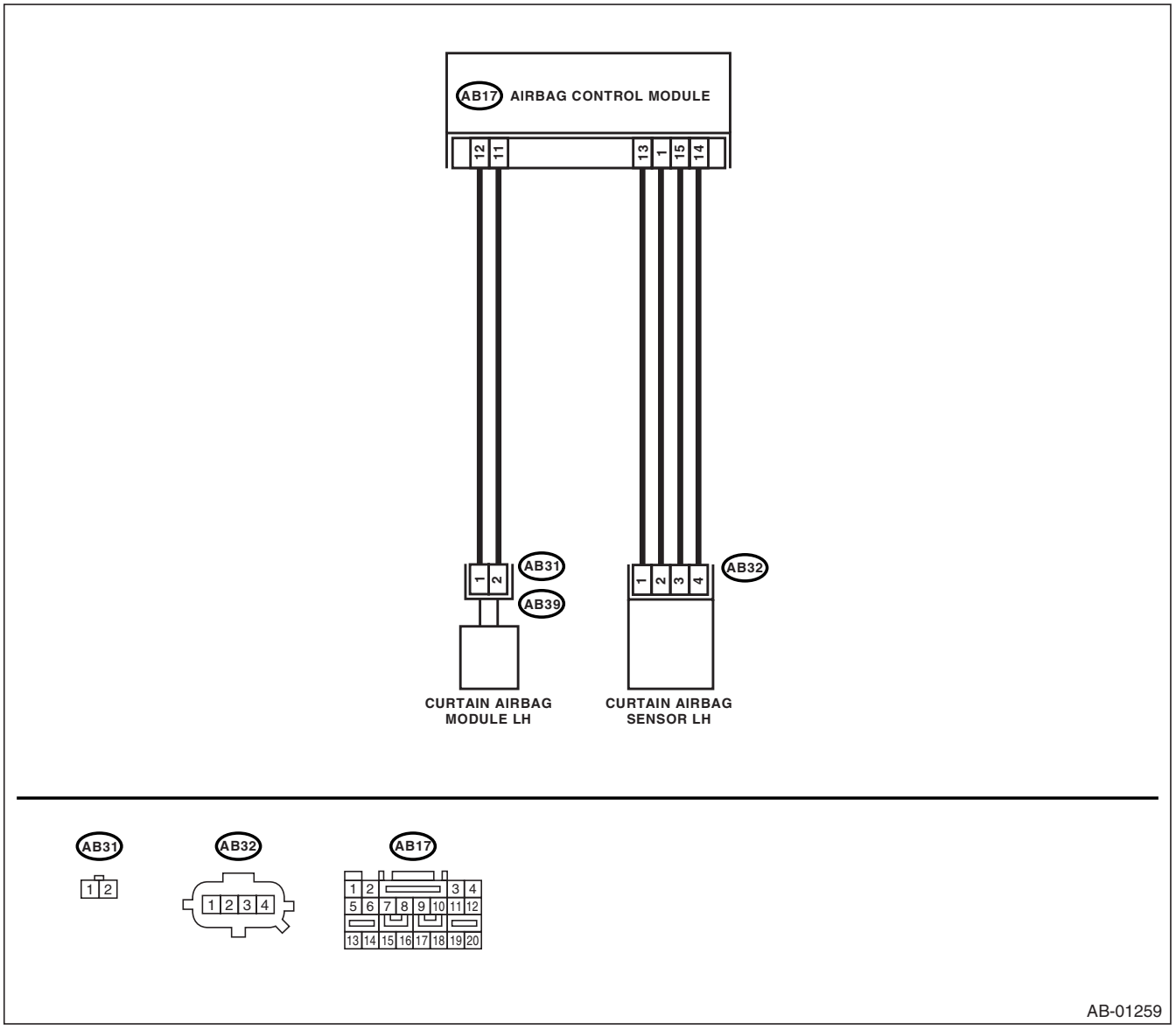
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



AB-01259

	Step	Check	Yes	No
1	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB31) from (AB39), and connect the connector (1F) in test harness F to connector (AB31). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the curtain airbag module (LH). <Ref. to AB-20, Curtain Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB19) from side airbag module (LH). 4) Disconnect the airbag resistor from the test harness F. 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Measure the resistance between connector (5U) in the test harness U and connector (3F) in the test harness F. ***Connector & terminal*** ***(5U) No. 1 — (3F) No. 3:*** ***(5U) No. 3 — (3F) No. 4:***	Is the resistance less than 10 Ω?	Go to step **3.**	Replace the airbag rear harness with body harness.
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (5U) terminals in the test harness U. ***Connector & terminal*** ***(5U) No. 1 — (5U) No. 3:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the airbag rear harness with body harness.
4	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).** Measure the resistance between the terminals of connector (3F) in the test harness F. ***Connector & terminal*** ***(3F) No. 3 — (3F) No. 4:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

AM:DTC 95 CURTAIN AIRBAG MODULE RH FAILURE

DTC DETECTING CONDITION:

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

CAUTION:

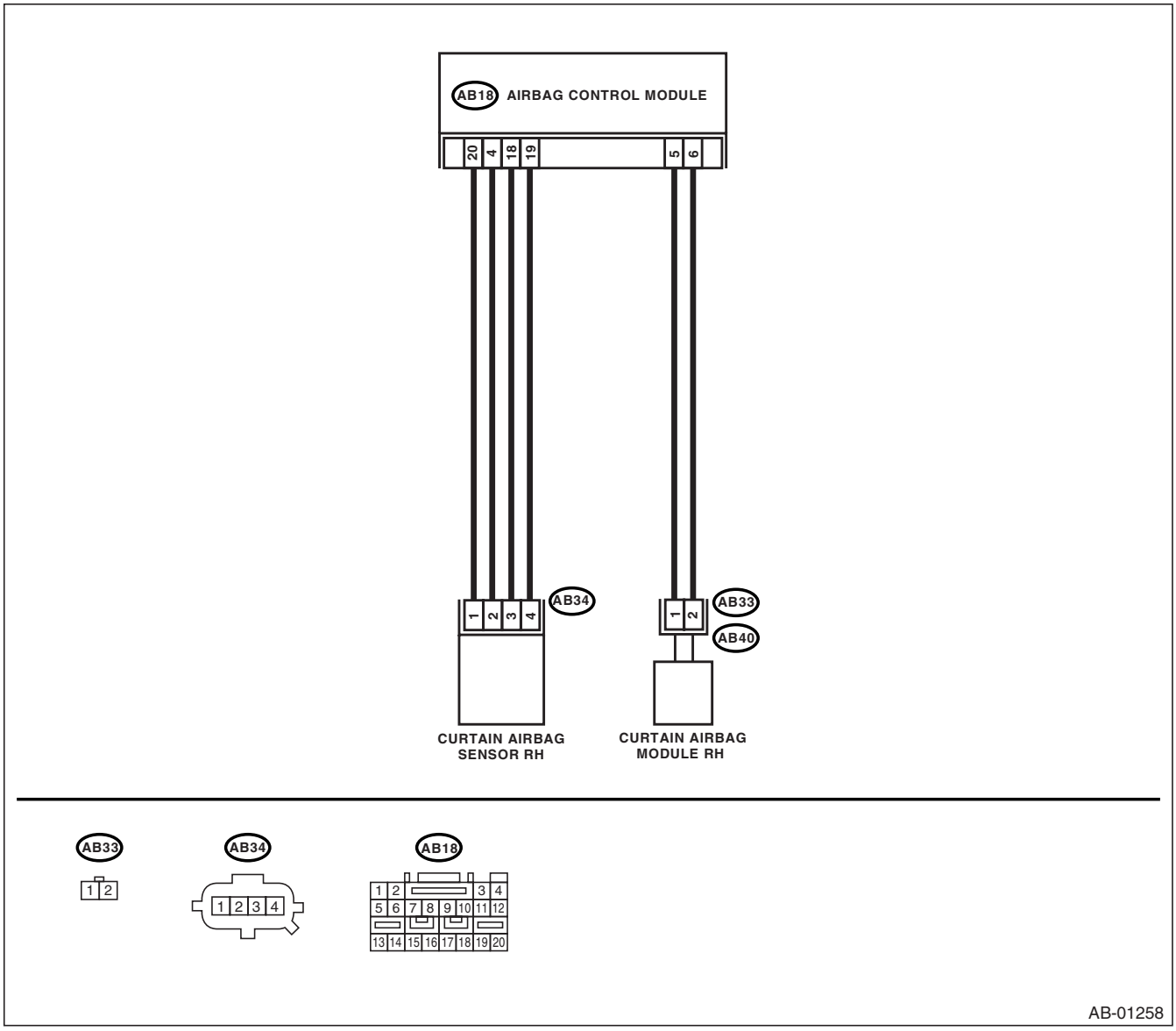
• Before diagnosing the airbag system, be sure to turn the ignition switch OFF, disconnect the ground cable from battery, and wait more than 20 seconds before starting to work.

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

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

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB33) from (AB40), and connect the connector (1F) in test harness F to connector (AB33). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the curtain airbag module (RH). <Ref. to AB-20, Curtain Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) For the model with lap seat belt pretensioner, disconnect the connector (AB30) from lap seat belt pretensioner. 4) Disconnect the connector (AB24) from side airbag module (RH). 5) Disconnect the airbag resistor from the test harness F. 6) Disconnect the connector (AB18) from airbag control module. 7) Connect the connector (1U) in the test harness U to connector (AB18). 8) Connect the battery ground cable and turn the ignition switch to ON. 9) Measure the voltage between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 6 (+) — Chassis ground (−):*** ***(5U) No. 8 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

AN:DTC 96 CURTAIN AIRBAG MODULE LH FAILURE

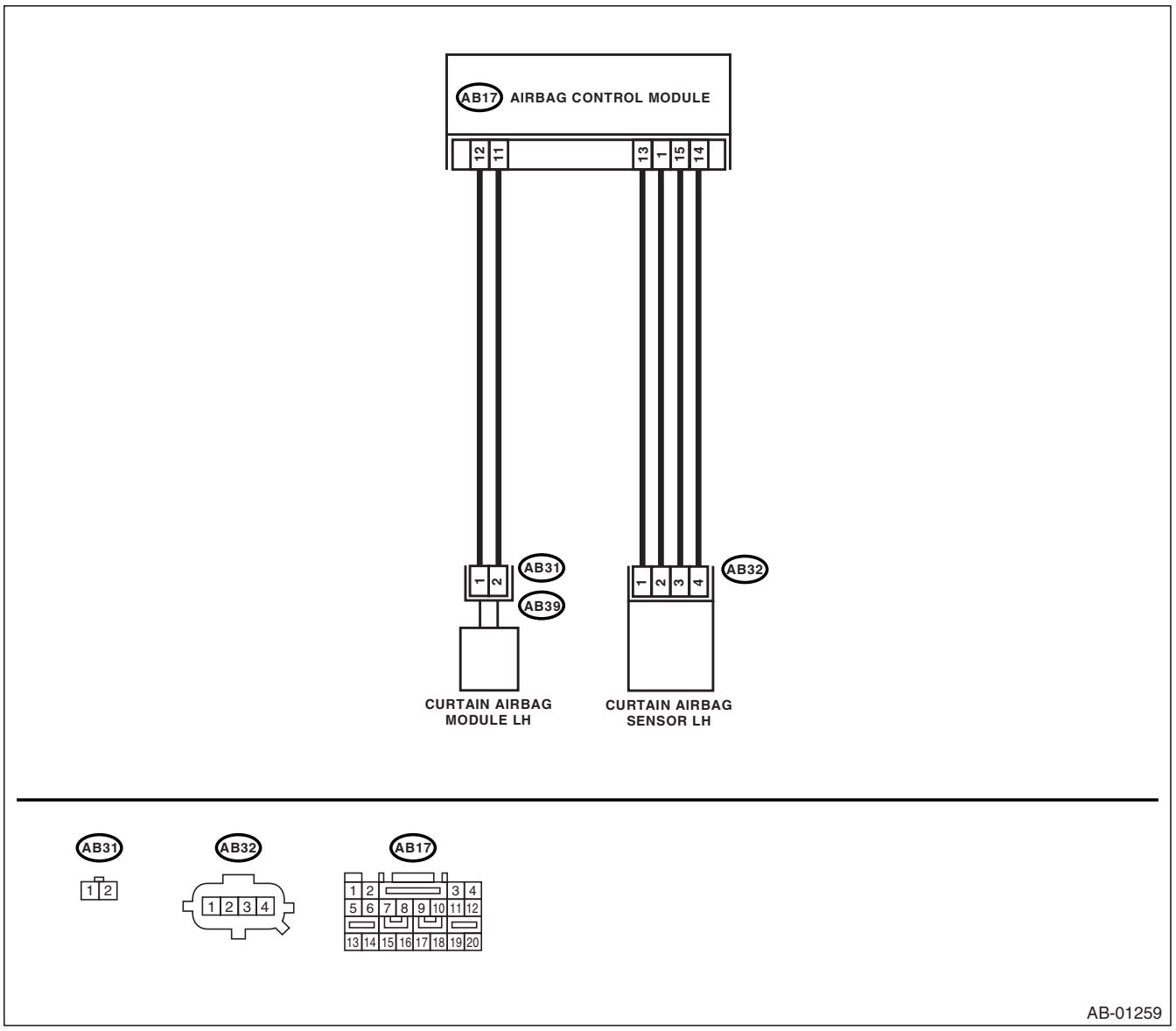
DTC DETECTING CONDITION:

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

CAUTION:

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

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB31) from (AB39), and connect the connector (1F) in test harness F to connector (AB31). 3) Connect the airbag resistor to connector (3F) in the test harness F. 4) Connect the battery ground cable and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the curtain airbag module (LH). <Ref. to AB-20, Curtain Airbag Module.>	Go to step **2.**
2	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB19) from side airbag module (LH). 4) Disconnect the airbag resistor from the test harness F. 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Connect the battery ground cable and turn the ignition switch to ON. 8) Measure the voltage between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 1 (+) — Chassis ground (−):*** ***(5U) No. 3 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-22, Airbag Control Module.>	Replace the airbag rear harness with body harness.

SEAT BELT SYSTEM

SB

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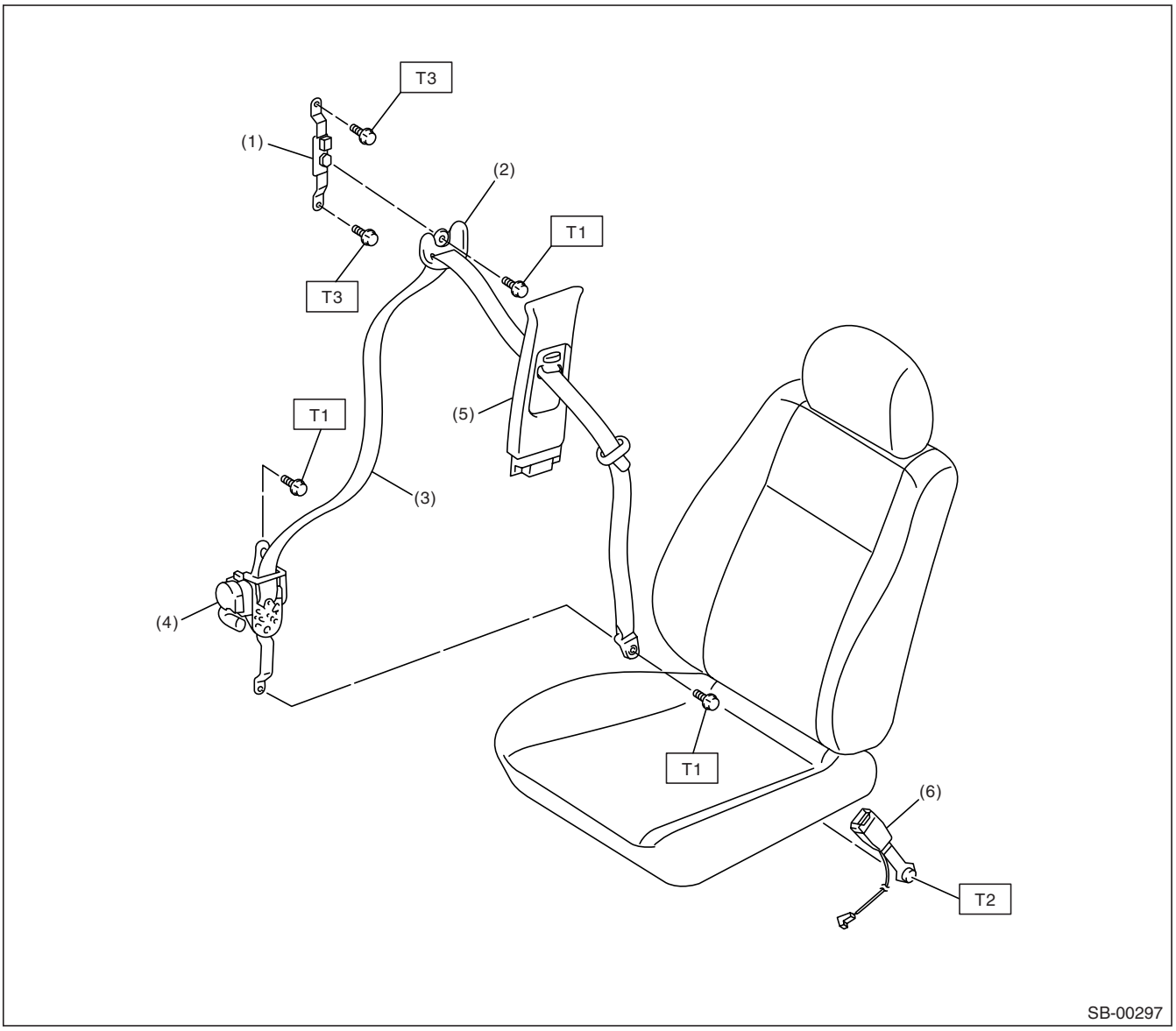
4. Seat Belt Warning System 10
5. Front Seat Belt 14
6. Rear Seat Belt 16
7. Disposal of Pretensioner 19

1. General Description

A: COMPONENT

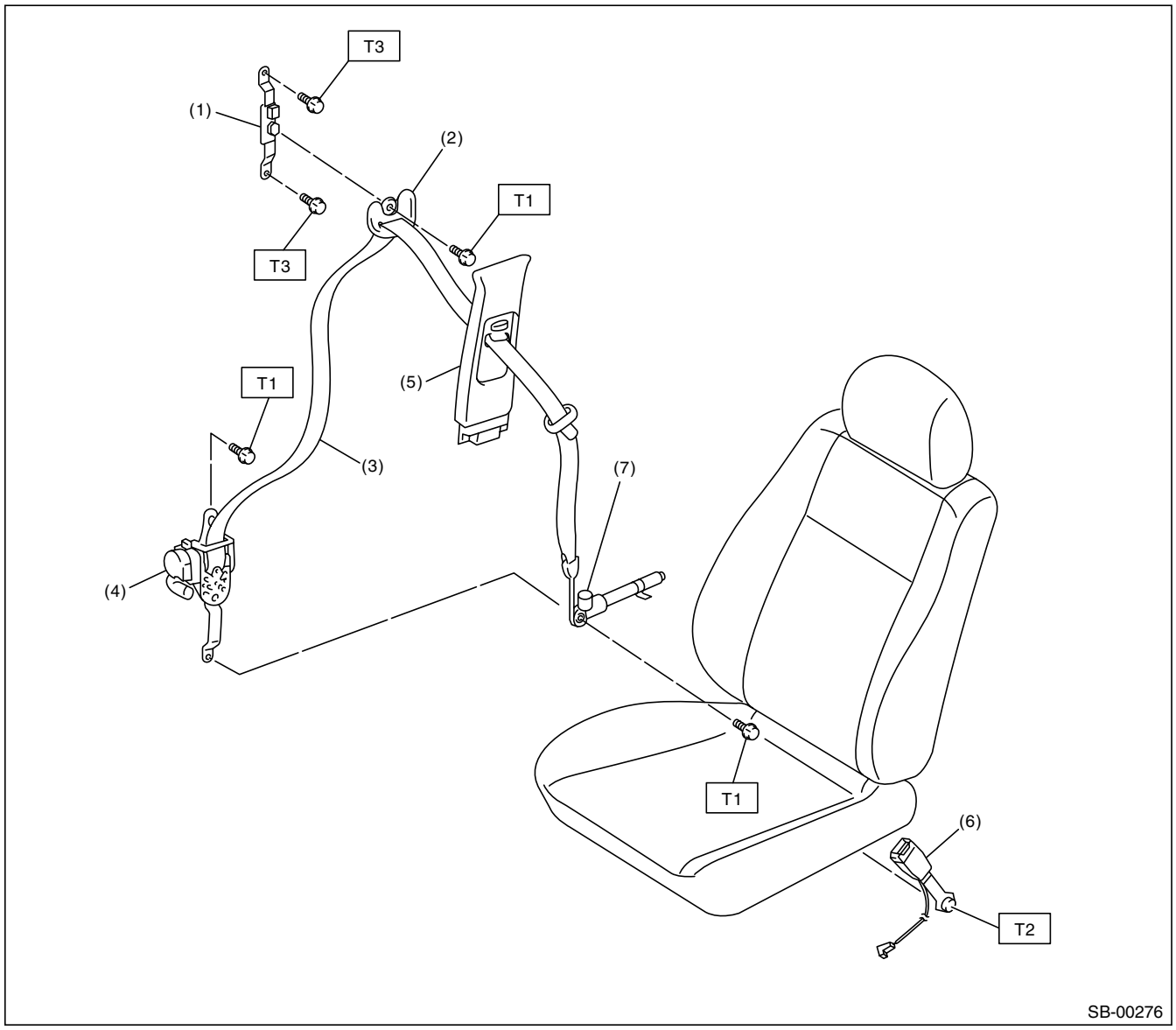
1. FRONT SEAT BELT



(1)	Adjustable anchor ASSY	(4)	Seat belt retractor
(2)	Shoulder anchor	(5)	Center pillar upper trim
(3)	Outer seat belt ASSY	(6)	Inner seat belt ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T1: 30 (3.1, 22)
T2: 38 (3.9, 28)
T3: 53 (5.4, 39)

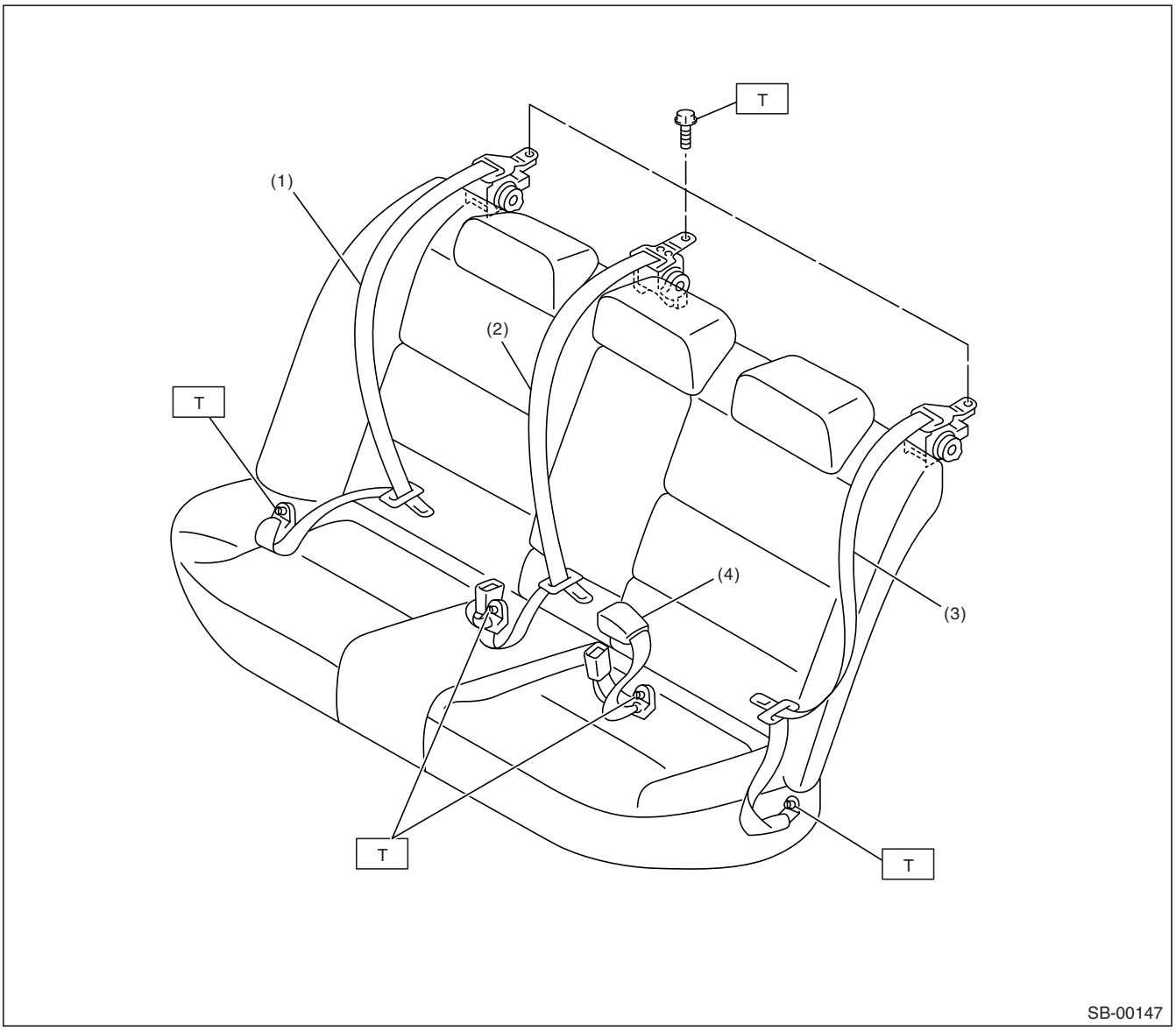
2. FRONT SEAT BELT (WITH LAP SEAT BELT PRETENSIONER)



(1) Adjustable anchor ASSY
(2) Shoulder anchor
(3) Outer seat belt ASSY
(4) Seat belt retractor
(5) Center pillar upper trim
(6) Inner seat belt ASSY
(7) Lap seat belt pretensioner

Tightening torque: N·m (kgf-m, ft-lb)
T1: 30 (3.1, 22)
T2: 38 (3.9, 28)
T3: 53 (5.4, 39)

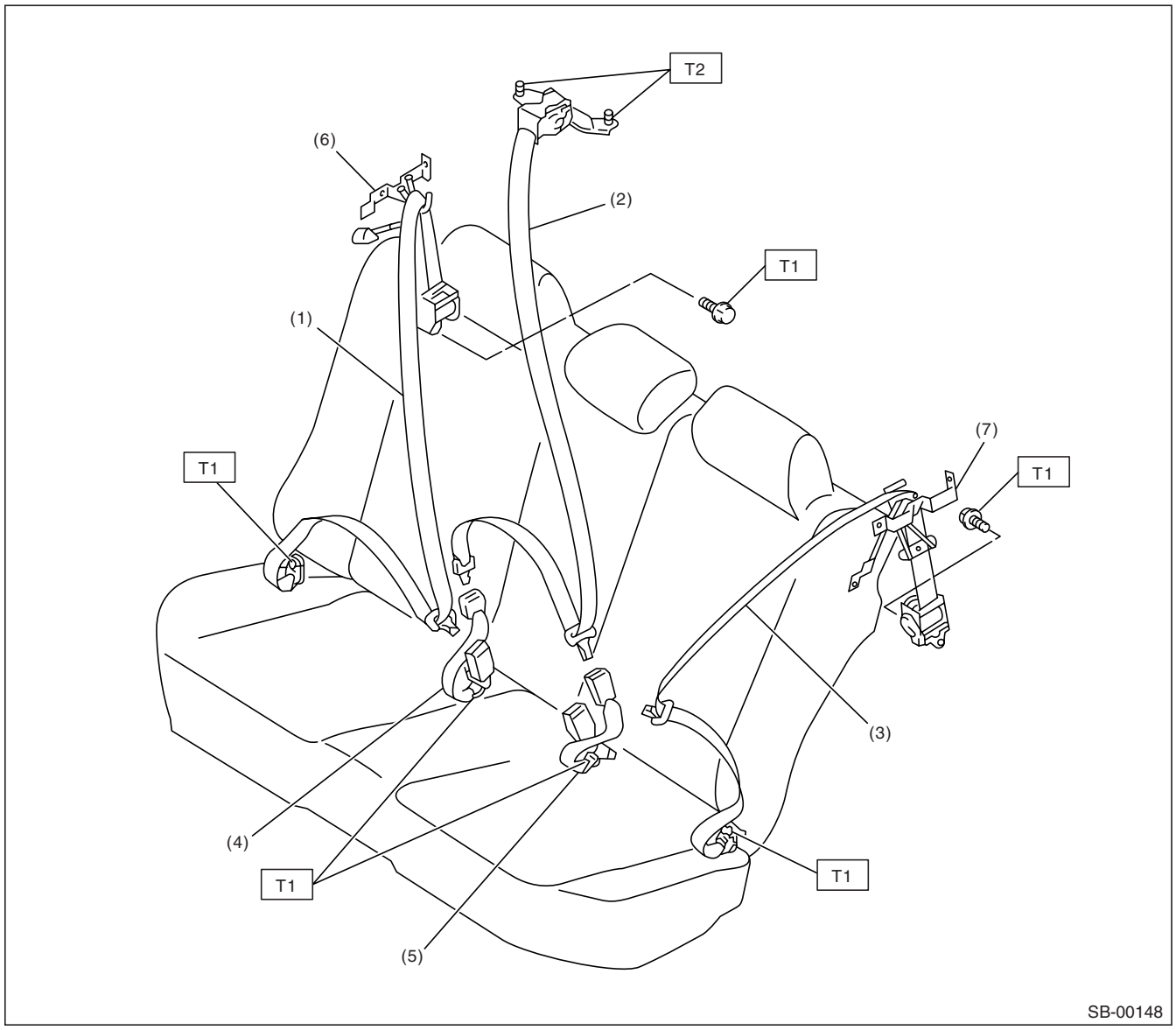
3. REAR SEAT BELT (SEDAN MODEL)



(1) Outer seat belt RH ASSY
(2) Shoulder seat belt center ASSY
(3) Outer seat belt LH ASSY
(4) Center seat belt LH ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T: 30 (3.1, 22)

4. REAR SEAT BELT (WAGON MODEL)



(1) Outer seat belt RH ASSY
(2) Shoulder seat belt center ASSY
(3) Outer seat belt LH ASSY
(4) Center seat belt RH ASSY
(5) Center seat belt LH ASSY
(6) Outer belt guide RH
(7) Outer belt guide LH

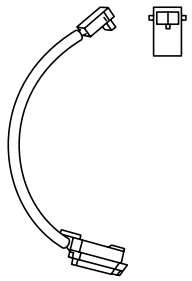
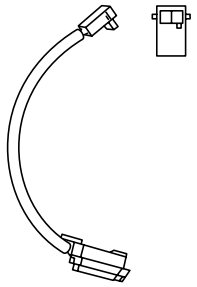
Tightening torque: N·m (kgf-m, ft-lb)
T1: 30 (3.1, 22)
T2: 53 (5.4, 39)

B: CAUTION

• Before starting service, turn the ignition switch to OFF, disconnect the battery ground cable and wait for 20 seconds or more.
• The pretensioner system has a backup power source. The pretensioner might deploy if you do not wait for 20 seconds or more before starting work.
• Do not drop or apply any impact to the pretensioner.
• If oil, grease or water gets on the pretensioner, wipe it off immediately with a dry cloth.
• Do not expose the pretensioner to high temperature or flame.
• Do not allow current to flow through or voltage to reach the pretensioner. Do not use a circuit tester to check resistance of the pretensioner.
• Do not disassemble or attempt to repair the pretensioner. If it is dented, cracked or deformed, replace it with a new one.
• Do not use the airbag or pretensioner parts from other vehicles. Always replace the parts with new ones.
• When handling a seat belt with deployed pretensioner, wear gloves and goggles. Wash your hands afterwards.
• Do not reuse a seat belt with deployed pretensioner.
• If the material gets in your eyes or on your skin during deployment, wash it away with clean water, and then consult a doctor.

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA010	98299SA010	DEPLOYMENT ADAPTER D	• Used for deploying the pretensioner. • Used with DEPLOYMENT TOOL (98299PA030).
 ST98299SA050	98299SA050	DEPLOYMENT ADAPTER F	• Used for deploying the lap seat belt pretensioner. • Used with DEPLOYMENT TOOL (98299PA030).
ST98299PA030	98299PA030	DEPLOYMENT TOOL	• Used for deploying the pretensioner. • Used with DEPLOYMENT ADAPTER D (98299SA010) or DEPLOYMENT ADAPTER F (98299SA050).

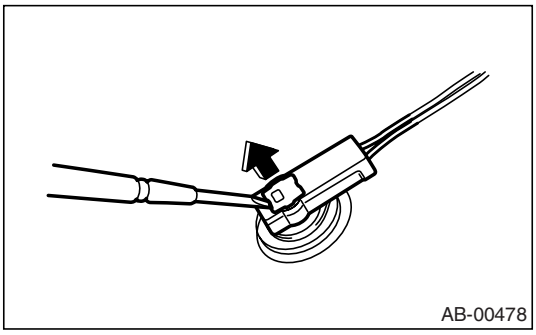
2. GENERAL TOOL

TOOL NAME	REMARKS
TORX® T50	Used for removing and installing the inner seat belt assembly.

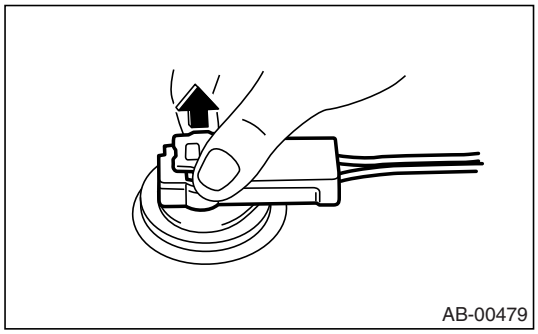
2. Pretensioner Connector

A: REMOVAL

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



2) Pull out the connector to disconnect it from retractor assembly.

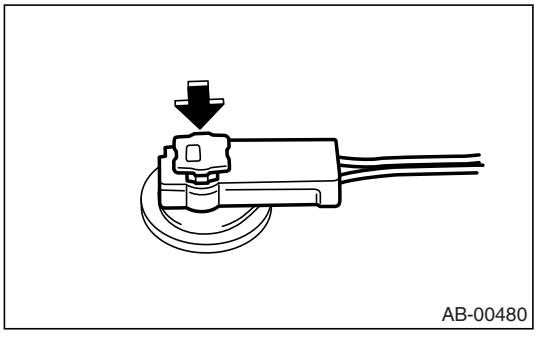


B: INSTALLATION

Connect the connector in the reverse order of disconnection. At this time, be sure to insert the push lock until a connecting sound is heard.

CAUTION:

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



3. Inspection Locations After a Collision

A: INSPECTION

Check for the following, and replace with new parts if necessary.

- Center pillar lower garnish is discolored or cracked.
- Wire harness and connector are damaged.

4. Seat Belt Warning System

A: WIRING DIAGRAM

1. LHD MODEL

<Ref. to WI-240, LHD MODEL, WIRING DIAGRAM, Seat Belt Warning System.>

2. RHD MODEL

<Ref. to WI-241, RHD MODEL, WIRING DIAGRAM, Seat Belt Warning System.>

B: INSPECTION

TROUBLE SYMPTOM:

- Seat belt warning light does not come on or go off.
- Warning buzzer does not beep.

1. DRIVER'S SEAT

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED MODULE.** Check DTC of body integrated module using Subaru Select Monitor. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2.**
2	**CHECK VEHICLE SPEED SIGNAL.** Check DTC of ABS or vehicle dynamics control (VDC) using Subaru Select Monitor. <Ref. to ABS(diag)-15, OPERATION, Subaru Select Monitor.> or <Ref. to VDC(diag)-16, OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3.**
3	**CHECK BODY INTEGRATED MODULE.** 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON (engine OFF). 3) Turn the Subaru Select Monitor power switch to ON. 4) Read the data of "Driver's Seat SW input" using Subaru Select Monitor. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.>	Is the data of "Driver's Seat SW input" "OFF"?	Go to step **4.**	Check the harness between body integrated module and chassis ground.
4	**CHECK SEAT BELT WARNING LIGHT.** Read the data of "D-belt warning light O/P" using Subaru Select Monitor. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.>	Is the data of "D-belt warning light O/P" "ON"? Or does the seat belt warning light on combination meter illuminate?	Go to step **5.**	Check the harness between ignition switch and body integrated module.
5	**CHECK BODY INTEGRATED MODULE.** 1) Insert the tongue plate to driver's seat belt buckle. 2) Read the data of "Driver's Seat SW input" using Subaru Select Monitor. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.>	Is the data of "Driver's Seat SW input" "ON"?	Go to step **6.**	Check the body integrated module.
6	**CHECK SEAT BELT WARNING LIGHT.** Read the data of "D-belt warning light O/P" using Subaru Select Monitor. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.>	Is the data of "D-belt warning light O/P" "OFF"? Or is the seat belt warning light on combination meter off?	Go to step **7.**	Check the harness between ignition switch and body integrated module.

	Step	Check	Yes	No
7	**CHECK VEHICLE MODEL.**	Is the vehicle EC, EK or KA model?	Go to step **8.**	The seat belt warning light system is normal at this time. A temporary poor contact of harness connector may be the cause. Check the poor contact.
8	**CHECK SEAT BELT WARNING SYSTEM.** 1) Hold the tang plate disconnected from seat belt buckle. 2) Turn the ignition switch to ON.	Does the seat belt warning light illuminate?	Go to step **9.**	Replace the body integrated module.
9	**CHECK SEAT BELT WARNING SYSTEM.** 1) Lift-up the vehicle. NOTE: Raise all wheels off floor. 2) Hold the tang plate disconnected from seat belt buckle. 3) Start the engine, and set the vehicle speed to more than 24 km/h (15 MPH). NOTE: The speed difference between front and rear wheels may light the ABS or VDC warning light, but this indicates no malfunction. When diagnosis is finished, perform the clear memory mode for ABS or VDC. <Ref. to ABS(diag)-15, OPERATION, Subaru Select Monitor.> or <Ref. to VDC(diag)-16, OPERATION, Subaru Select Monitor.>	Does the seat belt warning light blink and the buzzer beep?	Go to step **10.**	Replace the body integrated module.
10	**CHECK SEAT BELT WARNING SYSTEM.** While the seat belt warning light is blinking and the buzzer is beeping, decelerate the vehicle speed to less than 21 km/h (13 MPH).	Does the buzzer stop beeping and the seat belt warning light change from blinking to illuminating?	Go to step **11.**	Replace the body integrated module.
11	**CHECK SEAT BELT WARNING SYSTEM.** 1) Set the vehicle speed to more than 24 km/h (15 MPH). 2) Wait for approx. 108 seconds while the seat belt warning light is blinking and the buzzer is beeping. NOTE: The speed difference between front and rear wheels may light the ABS or VDC warning light, but this indicates no malfunction. When diagnosis is finished, perform the clear memory mode for ABS or VDC. <Ref. to ABS(diag)-15, OPERATION, Subaru Select Monitor.> or <Ref. to VDC(diag)-16, OPERATION, Subaru Select Monitor.>	Does the buzzer stop beeping and the seat belt warning light change from blinking to illuminating?	The seat belt warning light system is normal. A temporary poor contact of harness connector may be the cause. Check the poor contact.	Replace the body integrated module.

2. PASSENGER'S SEAT

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED MODULE.** Check DTC of body integrated module using Subaru Select Monitor. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2.**
2	**CHECK VEHICLE SPEED SIGNAL.** Check DTC of ABS or vehicle dynamics control (VDC) using Subaru Select Monitor. <Ref. to ABS(diag)-15, OPERATION, Subaru Select Monitor.> or <Ref. to VDC(diag)-16, OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3.**
3	**CHECK BODY INTEGRATED MODULE.** 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON (engine OFF). 3) Turn the Subaru Select Monitor power switch to ON. 4) Read the data of "P seatbelt SW input" using Subaru Select Monitor. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.>	Is the data of "P seatbelt SW input" "OFF"?	Go to step **4.**	Check the harness between body integrated module and chassis ground.
4	**CHECK SEAT BELT WARNING LIGHT.** Read the data of "P-belt warning light O/P" using Subaru Select Monitor. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.>	Is the data of "P-belt warning light O/P" "ON"? Or does the passenger's seat belt warning light illuminate?	Go to step **5.**	Check the harness between ignition switch and body integrated module.
5	**CHECK BODY INTEGRATED MODULE.** 1) Insert the tongue plate into the passenger's seat belt buckle. 2) Read the data of "P seatbelt SW input" using Subaru Select Monitor. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.>	Is the data of "P seatbelt SW input" "ON"?	Go to step **6.**	Check the body integrated module.
6	**CHECK SEAT BELT WARNING LIGHT.** Read the data of "P-belt warning light O/P" using Subaru Select Monitor. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.>	Is the data of "P-belt warning light O/P" "OFF"? Or is the passenger's seat belt warning light off?	Go to step **7.**	Check the harness between ignition switch and body integrated module.
7	**CHECK VEHICLE MODEL.**	Is the vehicle EC, EK or KA model?	Go to step **8.**	The seat belt warning light system is normal at this time. A temporary poor contact of harness connector may be the cause. Check the poor contact.
8	**CHECK SEAT BELT WARNING SYSTEM.** 1) Hold the tang plate disconnected from seat belt buckle. 2) Turn the ignition switch to ON.	Does the seat belt warning light illuminate?	Go to step **9.**	Check the body integrated module.

	Step	Check	Yes	No
9	**CHECK SEAT BELT WARNING SYSTEM.** 1) Lift-up the vehicle. NOTE: Raise all wheels off floor. 2) Insert the tongue plate of driver's seat belt into seat belt buckle. 3) Hold the tang plate of passenger's seat belt disconnected from seat belt buckle. 4) Start the engine, and set the vehicle speed to more than 24 km/h (15 MPH). NOTE: The speed difference between front and rear wheels may light the ABS or VDC warning light, but this indicates no malfunction. When diagnosis is finished, perform the clear memory mode for ABS or VDC. <Ref. to ABS(diag)-15, OPERATION, Subaru Select Monitor.> or <Ref. to VDC(diag)-16, OPERATION, Subaru Select Monitor.>	Does the seat belt warning light blink and the buzzer beep?	Go to step **10.**	Check the body integrated module.
10	**CHECK SEAT BELT WARNING SYSTEM.** While the seat belt warning light is blinking and the buzzer is beeping, decelerate the vehicle speed to less than 21 km/h (13 MPH).	Does the buzzer stop beeping and the seat belt warning light change from blinking to illuminating?	Go to step **11.**	Check the body integrated module.
11	**CHECK SEAT BELT WARNING SYSTEM.** 1) Set the vehicle speed to more than 24 km/h (15 MPH). 2) Wait for approx. 108 seconds while the seat belt warning light is blinking and the buzzer is beeping. NOTE: The speed difference between front and rear wheels may light the ABS or VDC warning light, but this indicates no malfunction. When diagnosis is finished, perform the clear memory mode for ABS or VDC. <Ref. to ABS(diag)-15, OPERATION, Subaru Select Monitor.> or <Ref. to VDC(diag)-16, OPERATION, Subaru Select Monitor.>	Does the buzzer stop beeping and the seat belt warning light change from blinking to illuminating?	The seat belt warning light system is normal. A temporary poor contact of harness connector may be the cause. Check the poor contact.	Check the body integrated module.

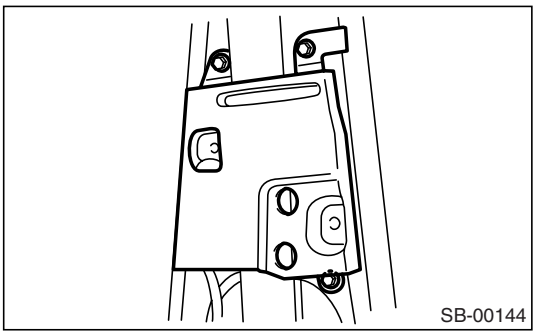
5. Front Seat Belt

A: REMOVAL

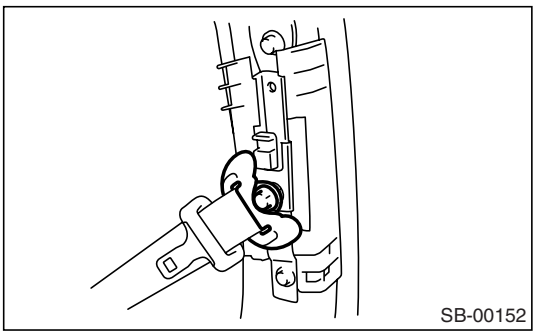
1. OUTER SEAT BELT ASSEMBLY

CAUTION:
• Do not drop or apply any impact to the seat belt pretensioner.
• Since the seat belt pretensioner and bracket are integrated as a unit, do not disassemble them.

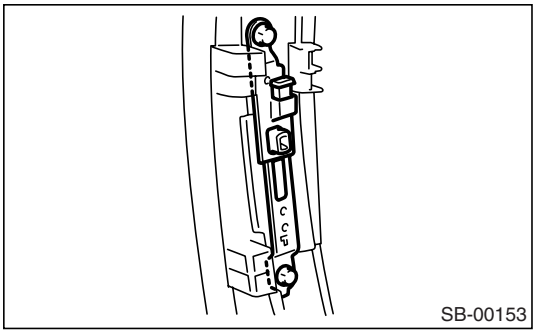
1) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait more than 20 seconds.
2) Fold the backrest all the way forward, and then move the front seat all the way forward.
3) Remove the center pillar lower trim. <Ref. to EI-60, REMOVAL, Lower Inner Trim.>
4) Remove the center pillar upper trim. <Ref. to EI-62, REMOVAL, Upper Inner Trim.>
5) Remove the bolt, and remove the center pillar inner protector lower.


SB-00144

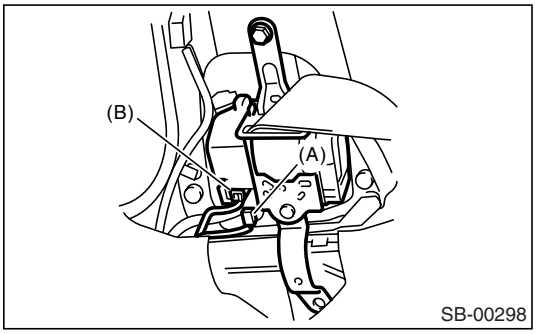
6) Remove the bolt, and then remove the shoulder anchor.


SB-00152

7) Remove the bolt, and then remove the adjustable anchor assembly.

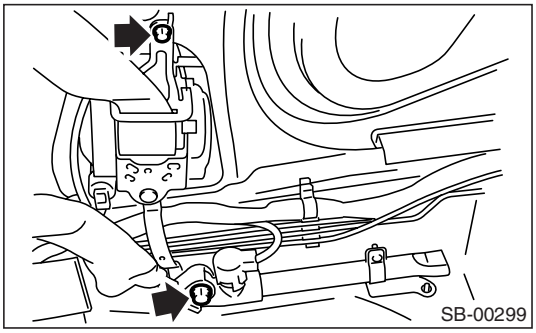

SB-00153

8) Disconnect the seat belt pretensioner connector (A).



SB-00298

NOTE:
Disconnect the tension reducer connector (B) for the seat belt retractor with tension reducer function.
9) Pull off the floor mat to remove the bolt.

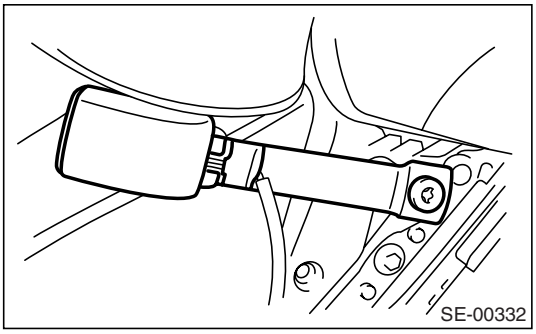

SB-00299

10) Disconnect the orange connector of lap seat belt pretensioner harness to remove outer seat belt assembly.

2. INNER SEAT BELT ASSEMBLY

1) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait more than 20 seconds.
2) Remove the console box. <Ref. to EI-53, REMOVAL, Console Box.>
3) Disconnect the seat belt warning light connector under the seat.
4) Remove the harness clips from slide rail.

5) Remove the TORX® bolt, and then remove the inner seat belt assembly.



B: INSTALLATION

1. OUTER SEAT BELT ASSEMBLY

Install in the reverse order of removal.

CAUTION:
• The parts of driver and passenger sides are not identical. Before installation, make sure that the correct part is used.
• Be careful not to twist the seat belts during installation.

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

2. INNER SEAT BELT ASSEMBLY

Install in the reverse order of removal.

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

C: INSPECTION

1. OUTER SEAT BELT ASSEMBLY

Check for the following, and replace with new parts if necessary.
• Pretensioner is cracked or deformed.
• Seat belt is slackened, bent or worn. Seat belt is abnormally wound or extended.

2. INNER SEAT BELT ASSEMBLY

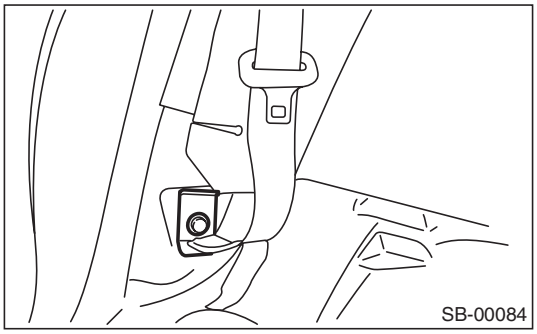
Check for the following, and replace with new parts if necessary.
• Inner seat belt assembly is deformed or damaged.
• Seat belt buckle cannot be engaged properly.

6. Rear Seat Belt

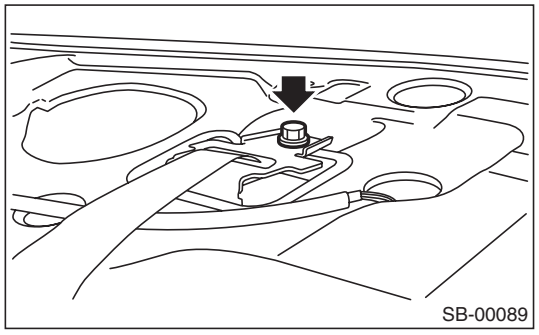
A: REMOVAL

1. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (SEDAN MODEL)

1) Remove the rear seat. <Ref. to SE-14, REMOVAL, Rear Seat.>
2) Remove the seat belt lower anchor bolt.

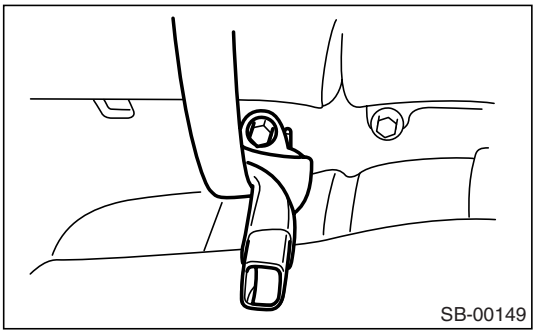

SB-00084

3) Remove the rear quarter trim. <Ref. to EI-63, SEDAN MODEL (MODEL WITH CURTAIN AIRBAG), REMOVAL, Rear Quarter Trim.>
4) Remove the bolts, and then detach the outer seat belt assembly.


SB-00089

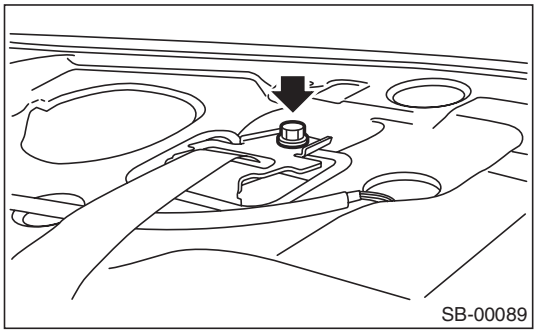
2. SHOULDER SEAT BELT CTR ASSEMBLY (SEDAN MODEL)

1) Remove the rear seat cushion. <Ref. to SE-14, REMOVAL, Rear Seat.>
2) Remove the seat belt lower anchor bolt.


SB-00149

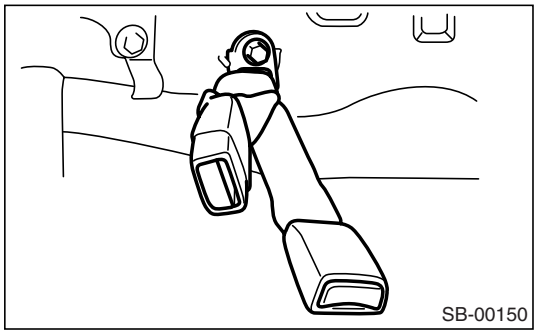
NOTE:
For models with rear seat belt warning light, disconnect the seat belt warning light connector.

3) Remove the rear quarter trim. <Ref. to EI-63, REMOVAL, Rear Quarter Trim.>
4) Remove the rear shelf trim. <Ref. to EI-70, REMOVAL, Rear Shelf Trim.>
5) Remove the bolts, and then detach the shoulder seat belt assembly.


SB-00089

3. CENTER SEAT BELT LH ASSEMBLY (SEDAN MODEL)

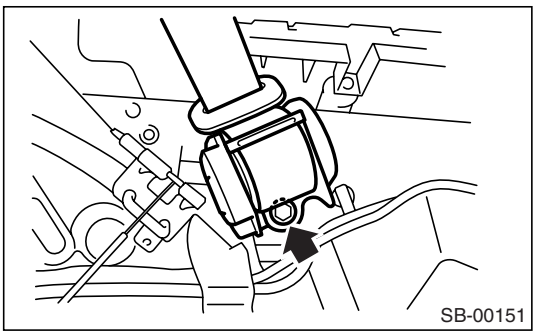
1) Remove the rear seat cushion. <Ref. to SE-14, REMOVAL, Rear Seat.>
2) Remove the bolts, and then detach the center seat belt LH assembly.


SB-00150

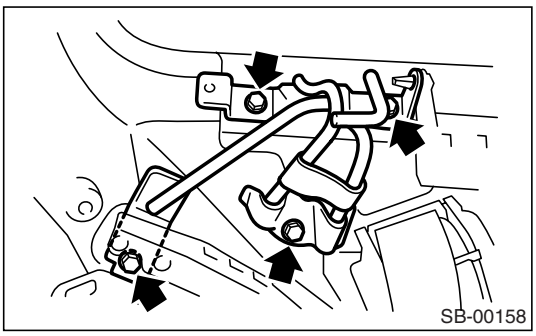
NOTE:
For models with rear seat belt warning light, disconnect the seat belt warning light connector.

4. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (WAGON MODEL)

1) Remove the luggage floor box. <Ref. to EI-74, REMOVAL, Luggage Floor Box.>
2) Remove the rear seat cushion and backrest shoulder. <Ref. to SE-14, WAGON MODEL, REMOVAL, Rear Seat.>
3) Remove the rear quarter lower trim. <Ref. to EI-63, WAGON MODEL, REMOVAL, Rear Quarter Trim.>
4) Remove the bolt to remove outer seat belt retractor.

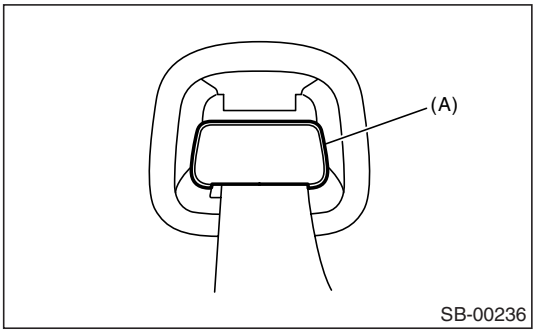

SB-00151

5) Remove the bolts to remove outer seat belt guide.


SB-00158

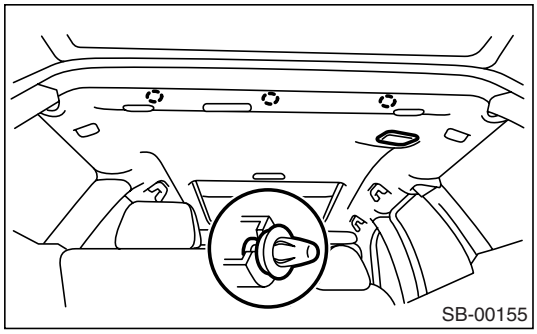
5. SHOULDER SEAT BELT CTR ASSEMBLY (WAGON MODEL)

1) Remove the quarter rear pillar trim. <Ref. to EI-63, WAGON MODEL, REMOVAL, Rear Quarter Trim.>
2) Remove the cover (A) from roof trim, and then insert it to the inside of roof trim.



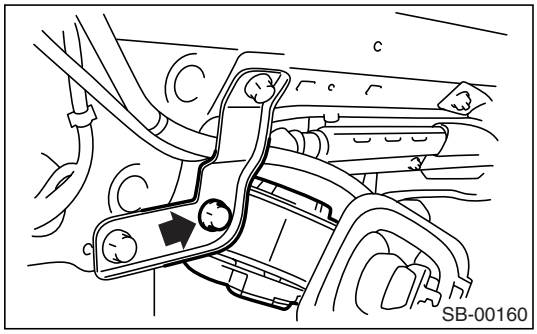
SB-00236

3) Remove the clips, and then lower the roof trim end.


SB-00155

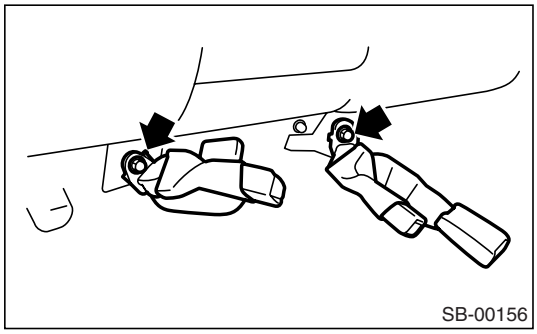
CAUTION:
When removing the roof trim clip, do not pull the roof trim end backward with excessive force, otherwise roof trim may be damaged.

4) Remove the bolt to remove seat belt retractor.


SB-00160

6. CENTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (WAGON MODEL)

1) Remove the rear seat cushion. <Ref. to SE-14, SEDAN MODEL, REMOVAL, Rear Seat.>
2) Remove the bolts, and then detach the center seat belt assembly.


SB-00156

NOTE:
For models with rear seat belt warning light, disconnect the seat belt warning light connector.

B: INSTALLATION

1. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (SEDAN MODEL)

Install in the reverse order of removal.

CAUTION:
• During installation, make sure that the seat belts are not twisted.
• After installation, make sure that the seat belts are smoothly extended and wound.

2. SHOULDER SEAT BELT CTR ASSEMBLY (SEDAN MODEL)

Install in the reverse order of removal.

CAUTION:
• During installation, make sure that the seat belts are not twisted.
• After installation, make sure that the seat belts are smoothly extended and wound.

3. CENTER SEAT BELT LH ASSEMBLY (SEDAN MODEL)

Install in the reverse order of removal.

CAUTION:
During installation, make sure that the seat belts are not twisted.

4. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (WAGON MODEL)

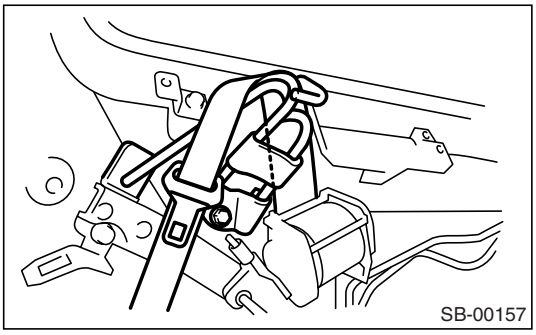
Install in the reverse order of removal.

CAUTION:
• During installation, make sure that the seat belts are not twisted.
• After installation, make sure that the seat belts are smoothly extended and wound.

5. SHOULDER SEAT BELT CTR ASSEMBLY (WAGON MODEL)

Install in the reverse order of removal.

CAUTION:
• After seat belt guide installation, make sure that the seat belts are wound.


SB-00157

• During installation, make sure that the seat belts are not twisted.
• After installation, make sure that the seat belts are smoothly extended and wound.

6. CENTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (WAGON MODEL)

Install in the reverse order of removal.

CAUTION:
During installation, make sure that the seat belts are not twisted.

C: INSPECTION

1. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (SEDAN MODEL)

Check for the following, and replace with new parts if necessary.
- Seat belt is slackened, bent or worn.
- Seat belt is abnormally wound or extended.

2. SHOULDER SEAT BELT CTR ASSEMBLY (SEDAN MODEL)

Check for the following, and replace with new parts if necessary.
- Seat belt is slackened, bent or worn.
- Seat belt is abnormally wound or extended.

3. CENTER SEAT BELT LH ASSEMBLY (SEDAN MODEL)

Check for the following, and replace with new parts if necessary.
- Inner belt is deformed or damaged.
- Seat belt buckle cannot be engaged properly.

4. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (WAGON MODEL)

Check for the following, and replace with new parts if necessary.
- Seat belt is slackened, bent or worn.
- Seat belt is abnormally wound or extended.

5. SHOULDER SEAT BELT CTR ASSEMBLY (WAGON MODEL)

Check for the following, and replace with new parts if necessary.
- Seat belt is slackened, bent or worn.
- Seat belt is abnormally wound or extended.

6. CENTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (WAGON MODEL)

Check for the following, and replace with new parts if necessary.
- Inner belt is deformed or damaged.
- Seat belt buckle cannot be engaged properly.

7. Disposal of Pretensioner

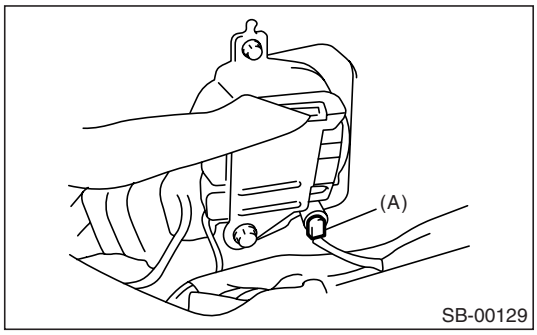
A: CAUTION

• Discard deployed pretensioners because it may cause serious personal injury when accidentally deployed.
• Deployment of the pretensioners should be done on a flat place free from any possible danger. Avoid deploying outdoors during rainy or windy weather.
• Wear protective gloves, safety goggles and earplugs during this operation. Wash your hands afterwards.
• Do not drop or damage the pretensioner.
• Because deploying of pretensioners cause a high-explosive noise, be sure to warn people in the area, and do not allow anyone within a 5 m (16 ft) radius of the disposal site.
• Some smoke will be emitted after deployment of the pretensioner. Therefore, it must be deployed in a well-ventilated place with no fire alarms nearby.
• After deployment, the pretensioner is especially hot, leave it unattended for 40 minutes or longer, and then discard it.
• Do not let water get in the deployed pretensioner.
• Wrap the deployed pretensioner in an airtight vinyl bag, and then discard it.
• If circumstances do not permit the pretensioner deployment, contact the SUBARU dealer.

B: PROCEDURE

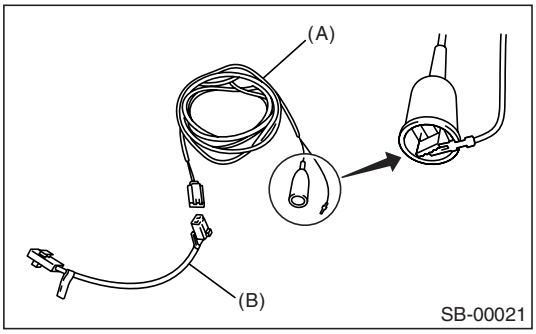
1. DEPLOYING OF PRETENSIONER WHILE INSTALLED IN VEHICLE

1) Fold the backrest all the way forward, and then move the front seat all the way forward.
2) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds.
3) Remove the center pillar lower trim. <Ref. to EI-60, REMOVAL, Lower Inner Trim.>
4) Disconnect the pretensioner connector (A).



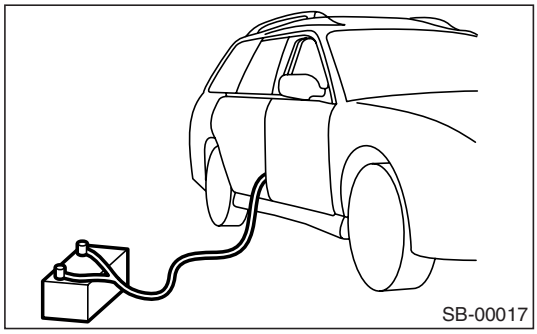
5) Short the terminal to alligator clip of deployment tool (A).
6) Connect the deployment tool and deployment adapter D (B).

CAUTION:
The terminals of deployment tool should be kept shorted until just before deploying the pretensioner.

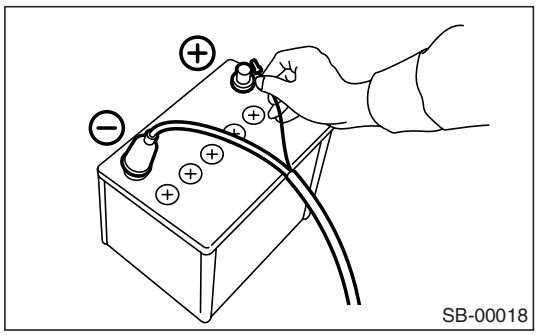


(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter D:
(Tool number 98299SA010)

7) Connect the deployment adapter D connector and pretensioner connector.
8) Extend the wiring of deployment tool to the limit, and make sure that the vehicle is empty. Close all windows, sunroof and rear gate completely.



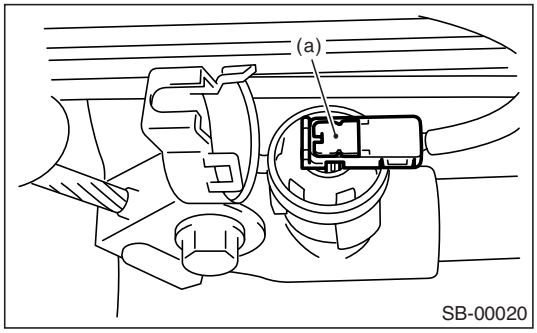
9) Move the battery at least 5 m (16 ft) away from vehicle, and secure to the nearby area. Connect the deployment tool alligator clip to the battery negative (−) terminal.
10) Connect the other cable of deployment tool to the battery positive (+) terminal, and deploy the pretensioner.



Disposal of Pretensioner

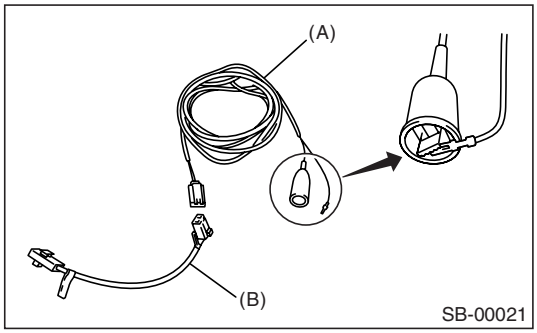
CAUTION:
• After deployment, the pretensioner is especially hot, leave it unattended for 40 minutes or longer.
• Do not let water get in the deployed pretensioner.

11) For the model with lap seat belt pretensioner, proceed to operation 12) to 17).
12) Disconnect the orange connector (a) from lap seat belt pretensioner.



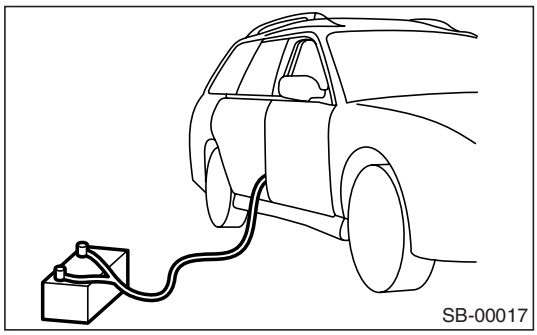
13) Connect the deployment tool (A) and deployment adapter F (B).

CAUTION:
The terminals of deployment tool should be kept shorted until just before deploying the pretensioner.

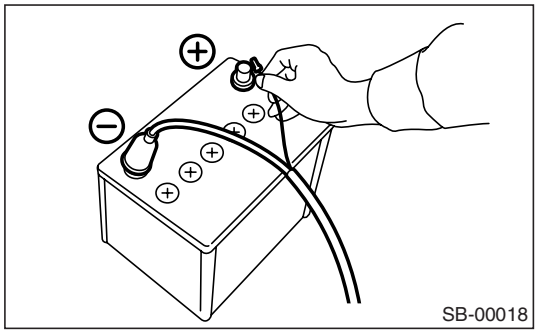


(A) Deployment tool:
(Tool number 98299PA030)
(B) DEPLOYMENT ADAPTER F:
(Tool number 98299SA050)

14) Connect the deployment adapter F connector and orange connector of lap seat belt pretensioner.
15) Extend the wiring of deployment tool to the limit, and make sure that the vehicle is empty. Close all windows, sunroof and rear gate completely.

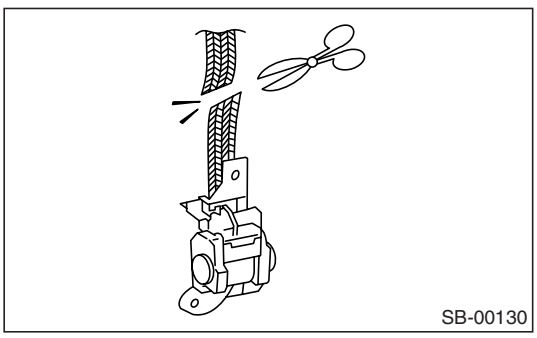


16) Move the battery at least 5 m (16 ft) away from vehicle, and secure to the nearby area. Connect the deployment tool alligator clip to the battery negative (–) terminal
17) Connect the other cable of deployment tool to the battery positive (+) terminal, and deploy the pretensioner.

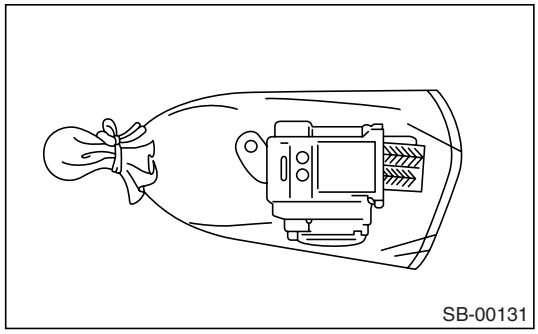


CAUTION:
• After deployment, the pretensioner is especially hot, leave it unattended for 40 minutes or longer.
• Do not let water get in the deployed pretensioner.

18) Remove the front outer belt. <Ref. to SB-14, REMOVAL, Front Seat Belt.>
19) Cut off the seat belt as close to seat belt retractor as possible.

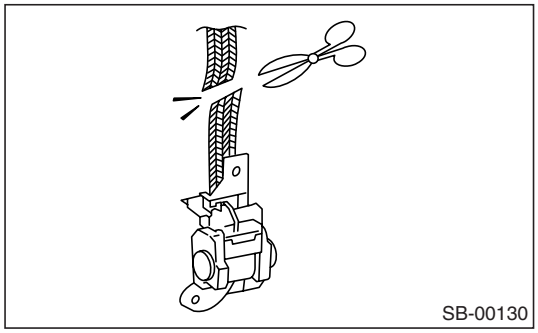


20) Wrap the deployed pretensioner in airtight vinyl bag to discard.


SB-00131

2. DEPLOYING OF PRETENSIONER AFTER REMOVAL FROM VEHICLE

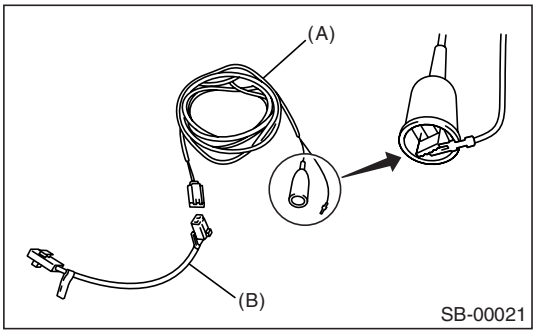
1) Fold the backrest all the way forward, and then move the front seat all the way forward.
2) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait more than 20 seconds.
3) Remove the front outer belt. <Ref. to SB-14, REMOVAL, Front Seat Belt.>
4) Cut off the seat belt as close to seat belt retractor as possible.


SB-00130

5) Short the terminal to alligator clip of deployment tool.

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

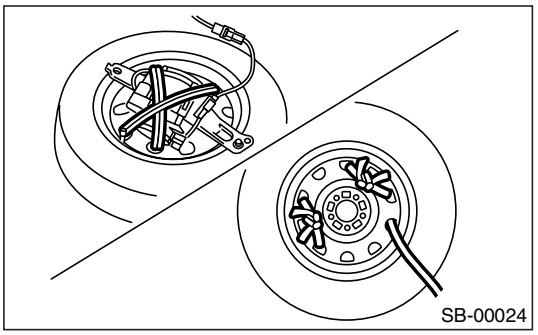
CAUTION:
The terminals of deployment tool should be kept shorted until just before deploying the pretensioner.



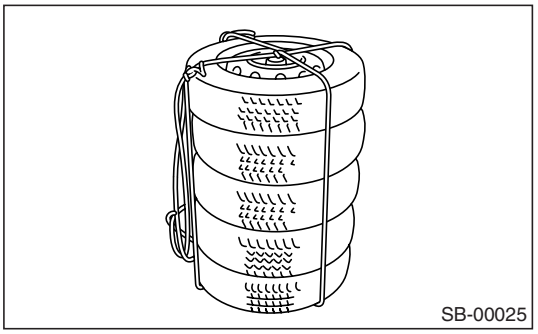
SB-00021

(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter D:
(Tool number 98299SA010)

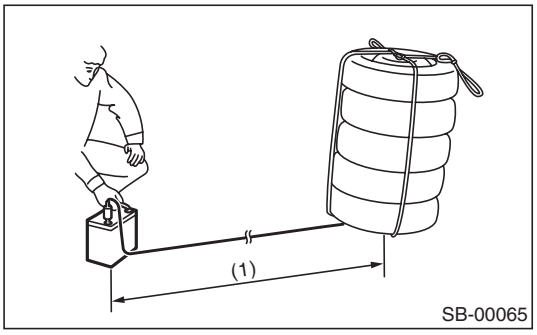
7) Connect the deployment adapter D connector and pretensioner connector.
8) Install the pretensioner on a wheel with tire. Then, bundle three automotive wire harness [each with a sectional area of 1.25 mm^2 (0.00194 sq in) or more], and bind them twofold around the pretensioner bracket and wheel.


SB-00024

9) Put three tires without wheel on the tire installed with pretensioner. Put on an additional tire with a wheel on top, and then fasten them tight with a rope.

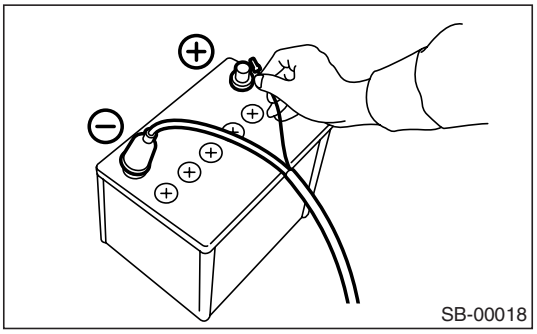

SB-00025

10) Move the battery at least 5 m (16 ft) from tires, and secure the nearby area. Connect the deployment tool alligator clip to the battery negative (–) terminal.



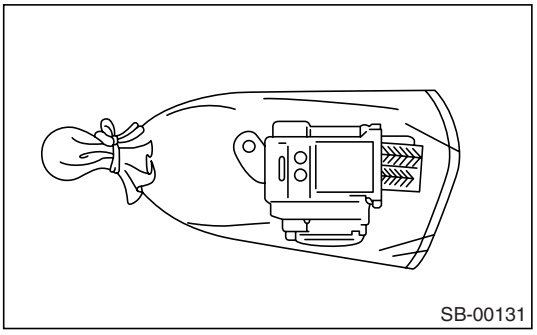
(1) 5 m (16 ft) or more

11) Connect the other cable of deployment tool to the battery positive (+) terminal, and deploy the pretensioner.



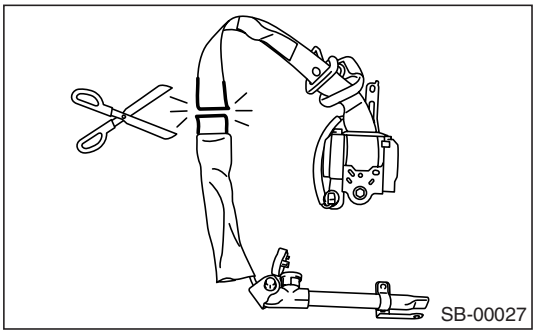
CAUTION:
• After deployment, the pretensioner is especially hot, leave it unattended for 40 minutes or longer.
• Do not let water get in the deployed pretensioner.

12) Wrap the deployed pretensioner in airtight vinyl bag to discard.



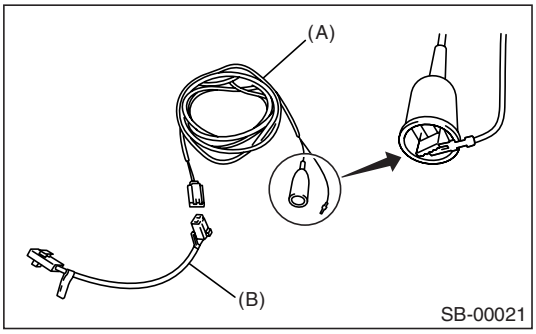
3. DEPLOYING OF LAP SEAT BELT PRETENSIONER AFTER REMOVAL FROM VEHICLE

1) Fold the backrest all the way forward, and then move the front seat all the way forward.
2) Before starting service, turn the ignition switch to OFF, disconnect the battery ground cable and wait for 20 seconds or more.
3) Remove the front outer belt. <Ref. to SB-14, REMOVAL, Front Seat Belt.>
4) Cut off the seat belt as close to lap seat belt pretensioner as possible.



5) Short the terminal to alligator clip of deployment tool (A).
6) Connect the deployment tool and deployment adapter F (B).

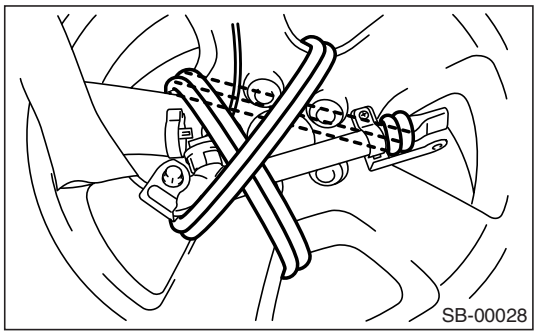
CAUTION:
The terminals of deployment tool should be kept shorted until just before deploying the pretensioner.



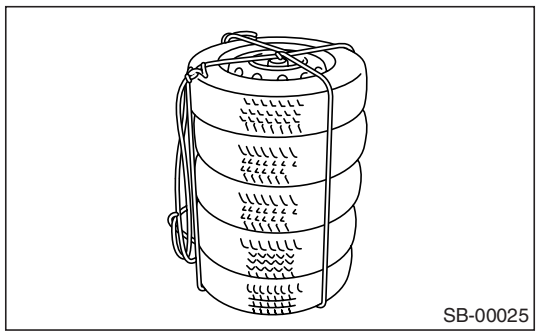
(A) Deployment tool:
(Tool number 98299PA030)
(B) Deployment adapter F:
(Tool number 98299SA050)

7) Connect the deployment adapter F connector and orange connector of lap seat belt pretensioner.

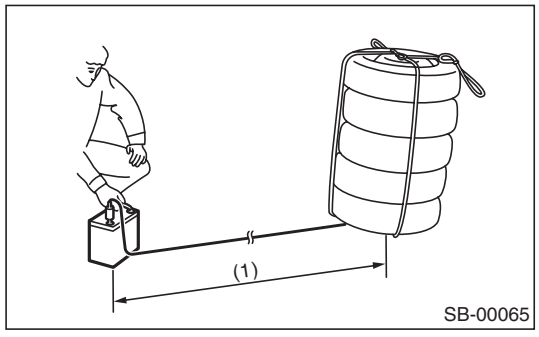
8) Install the pretensioner on a wheel with tire. Then, bundle three automotive wire harness [each with a sectional area of 1.25 mm^2 (0.00194 sq in) or more], and bind them twofold around the pretensioner bracket and wheel.


SB-00028

9) Put three tires without wheel on the tire installed with pretensioner. Put on an additional tire with a wheel on top, and then fasten them tight with a rope.


SB-00025

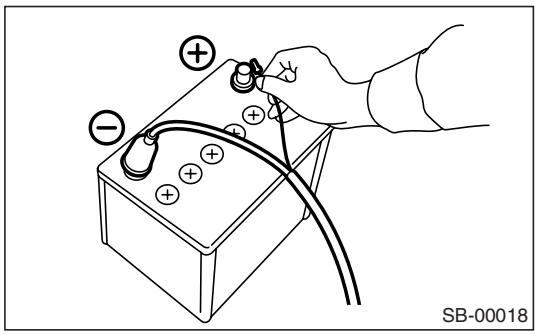
10) Move the battery at least 5 m (16 ft) from vehicle, and secure the nearby area. Connect the deployment tool alligator clip to the battery negative (–) terminal.



SB-00065

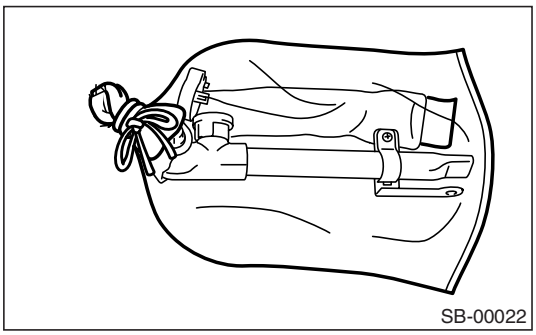
(1) 5 m (16 ft) or more

11) Connect the other cable of deployment tool to the battery positive (+) terminal, and deploy the pretensioner.


SB-00018

CAUTION:
• After deployment, the pretensioner is especially hot, leave it unattended for 40 minutes or longer.
• Do not let water get in the deployed pretensioner.

12) Wrap the deployed pretensioner in airtight vinyl bag to discard.


SB-00022

Disposal of Pretensioner

LIGHTING SYSTEM

LI

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1. General Description

A: SPECIFICATION

Headlight	Halogen type low beam		12 V — 55 W
	Halogen type high beam		12 V — 60 W
Front turn signal light			12 V — 21 W
Clearance/parking light			12 V — 5 W
Front fog light			12 V — 55 W
Side turn signal light			12 V — 2.7 W (LED)
Rear combination light	Sedan	Tail/stop light (Model with rear fog light)	12 V — 5/21 W
		Tail light (Model without rear fog light)	12 V — 5/21 W
		Stop light (Model without rear fog light)	12 V — 21 W
	Wagon	Tail/stop light	12 V — 5/21 W
	Turn signal light		12 V — 21 W
Back-up light	Sedan		12 V — 16 W
	Wagon		12 V — 21 W
License plate light			12 V — 5 W
Rear fog light	Sedan		12 V — 21 W
	Wagon		12 V — 2 W (LED)
High-mounted stop light	Sedan		12 V — 21 W
	Wagon		12 V — 1.3 W (LED)
Interior light			12 V — 8 W
Spot map light			12 V — 8 W
Luggage room light			12 V — 13 W
Trunk room light			12 V — 5 W
Glove box light			12 V — 1.4 W
Door step light			12 V — 3.5 W

B: CAUTION

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

WARNING:

- **The 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 the electrical 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

1. GENERAL TOOL

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

2. Headlight and Tail Light System

A: WIRING DIAGRAM

1. HALOGEN TYPE HEADLIGHT

<Ref. to WI-244, WIRING DIAGRAM, Headlight System.>

2. CLEARANCE LIGHT AND ILLUMINATION LIGHT

<Ref. to WI-255, WIRING DIAGRAM, Clearance Light and Illumination Light System.>

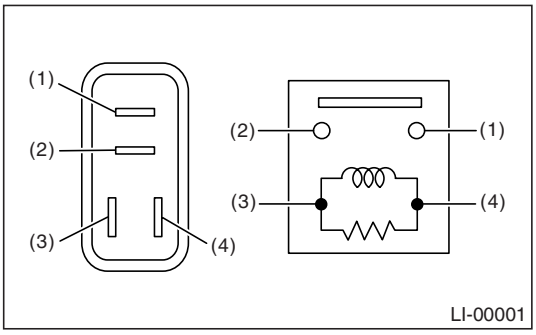
B: INSPECTION

1. HEADLIGHT SWITCH

<Ref. to LI-10, INSPECTION, Combination Switch (Light).>

2. HEADLIGHT RELAY

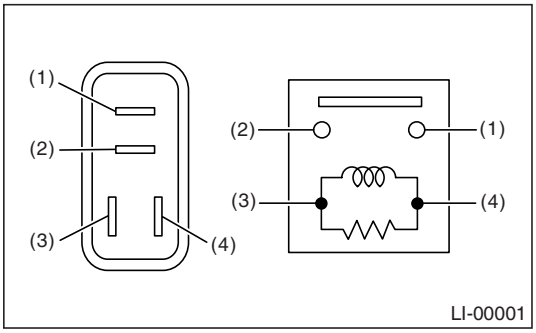
Measure the resistance between headlight relay terminals when connecting terminal No. 4 to battery positive terminal and terminal No. 3 to battery ground terminal.



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

3. TAIL AND ILLUMINATION RELAY

Measure the resistance between tail and illumination relay terminals when 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. Front Fog Light System

A: WIRING DIAGRAM

1. FRONT FOG LIGHT

<Ref. to WI-248, WIRING DIAGRAM, Front Fog Light System.>

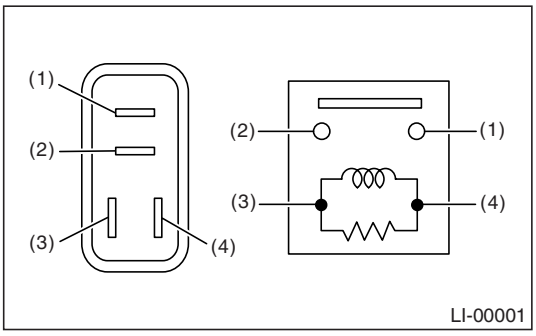
B: INSPECTION

1. FRONT FOG LIGHT SWITCH

Measure the resistance between front fog light switch terminals.
<Ref. to LI-10, INSPECTION, Combination Switch (Light).>

2. FRONT FOG LIGHT RELAY

Measure the resistance between front fog light relay terminals when 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. Rear Fog Light System

A: WIRING DIAGRAM

1. REAR FOG LIGHT

<Ref. to WI-250, WIRING DIAGRAM, Rear Fog Light System.>

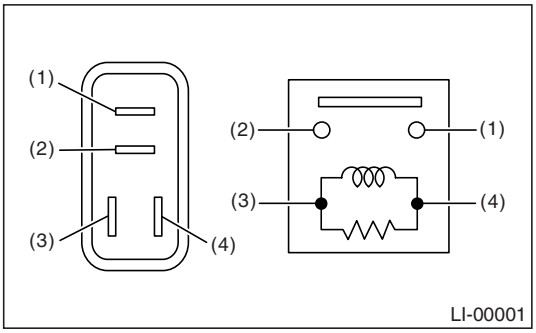
B: INSPECTION

1. REAR FOG LIGHT SWITCH

Measure the rear fog light switch resistance between terminals. <Ref. to LI-10, INSPECTION, Combination Switch (Light).>

2. REAR FOG LIGHT RELAY

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



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

5. Turn Signal Light and Hazard Light System

A: WIRING DIAGRAM

1. TURN SIGNAL LIGHT AND HAZARD LIGHT SYSTEM

<Ref. to WI-263, WIRING DIAGRAM, Turn Signal Light and Hazard Light System.>

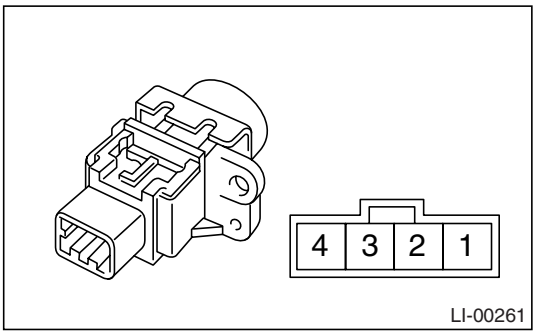
B: INSPECTION

1. TURN SIGNAL SWITCH

<Ref. to LI-10, INSPECTION, Combination Switch (Light).>

2. HAZARD SWITCH

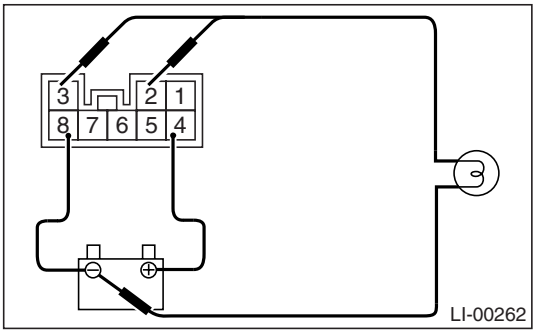
Measure the resistance between hazard switch terminals.



Switch position	Terminal No.	Standard
OFF	2 and 3	More than 1 MΩ
ON		Less than 1 Ω

3. TURN SIGNAL LIGHT AND HAZARD LIGHT MODULE

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



6. Back-up Light System

A: WIRING DIAGRAM

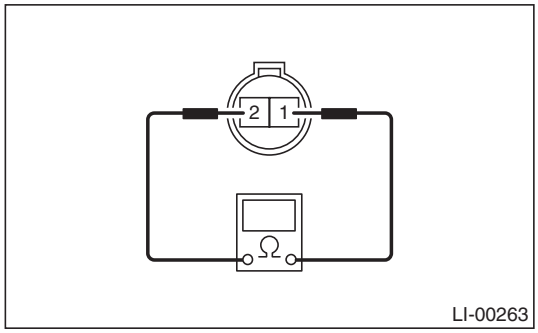
1. BACK-UP LIGHT

<Ref. to WI-252, WIRING DIAGRAM, Back-up Light System.>

B: INSPECTION

1. BACK-UP LIGHT SWITCH (MT MODEL)

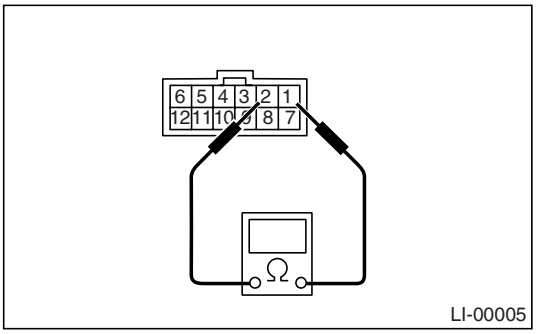
Measure the resistance between back-up light switch terminals.



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

2. INHIBITOR SWITCH (4AT MODEL)

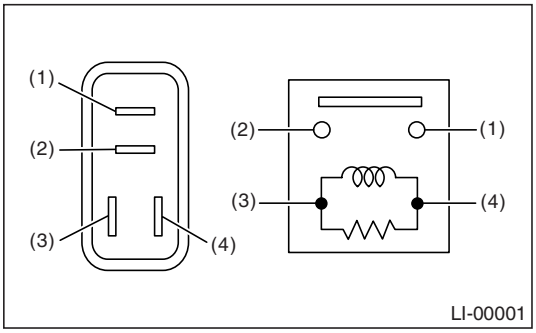
Measure the resistance between inhibitor switch terminals.



Switch position	Terminal No.	Standard
When the selector lever is in "R" range	1 and 2	Less than 1 Ω
Other positions		More than 1 MΩ

3. BACK-UP LIGHT RELAY (5AT MODEL)

Measure the resistance between back-up light relay terminals when 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

NOTE:
Check other than back-up light relay. <Ref. to 4AT-51, INSPECTION, Inhibitor Switch.>

7. Stop Light System

A: WIRING DIAGRAM

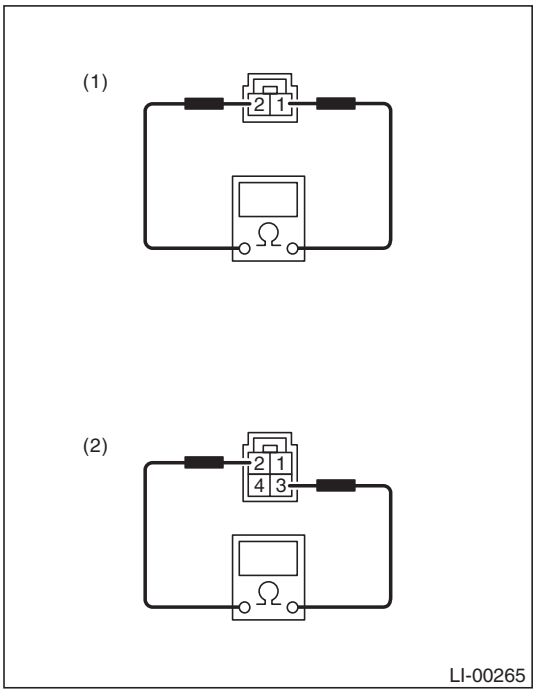
1. STOP LIGHT

<Ref. to WI-254, WIRING DIAGRAM, Stop Light System.>

B: INSPECTION

1. STOP LIGHT SWITCH

Measure the resistance between stop light switch terminals.



(1) Model without cruise control
(2) Model with cruise control

Switch position	Terminal No.	Standard
When brake pedal is depressed	Model without cruise control: 1 and 2	Less than 1 Ω
When brake pedal is released	Model with cruise control: 2 and 3	More than 1 MΩ

8. Room Light System

A: WIRING DIAGRAM

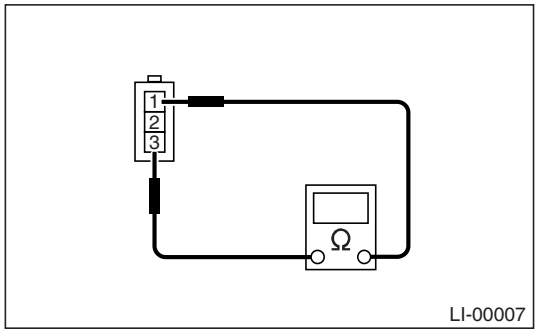
1. INTERIOR LIGHT

<Ref. to WI-267, WIRING DIAGRAM, Interior Light System.>

B: INSPECTION

1. DOOR SWITCH

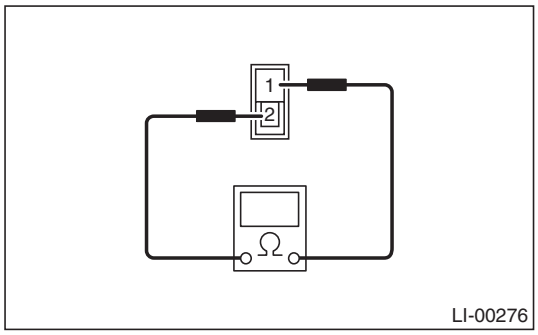
Measure the resistance between door switch terminals.



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

2. REAR GATE LATCH SWITCH

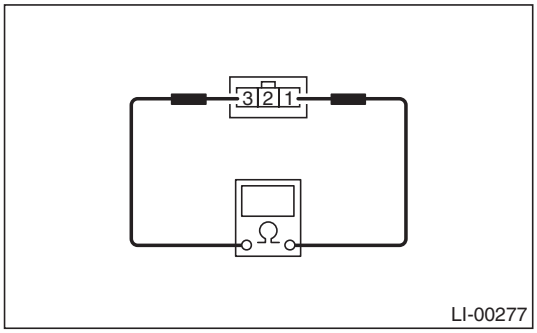
Measure the resistance between rear gate latch switch terminals.



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

3. TRUNK ROOM LIGHT SWITCH

Measure the resistance between trunk room light switch terminals.

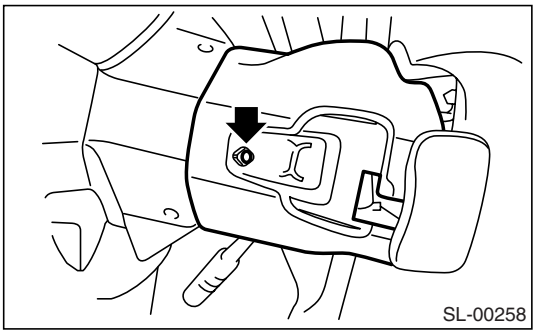


Switch position	Terminal No.	Standard
When trunk lid is opened	1 and 3	Less than 1 Ω
When trunk lid is closed		More than 1 MΩ

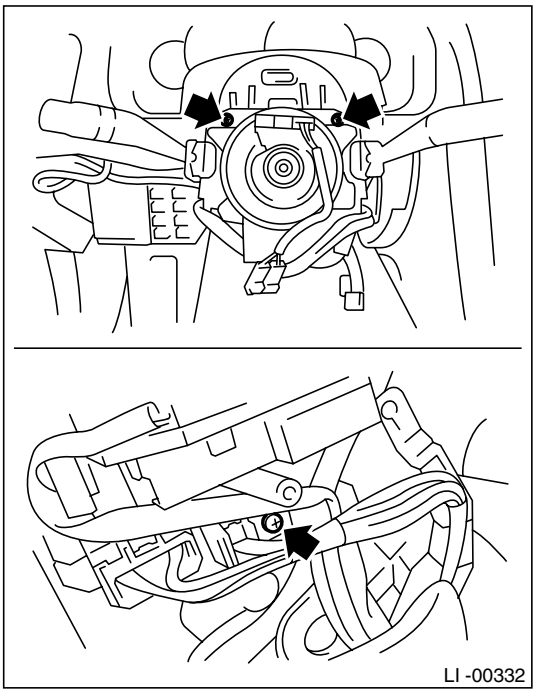
9. Combination Switch (Light)

A: REMOVAL

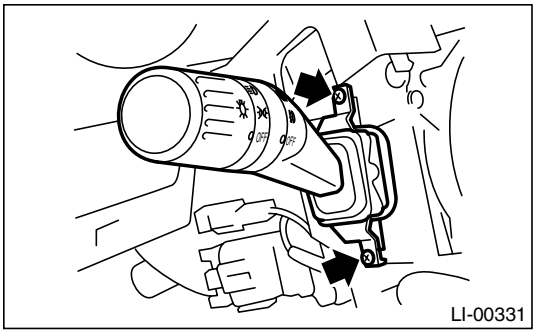
1) Disconnect the ground cable from battery.
2) Remove the screws and remove the steering column cover (upper and lower).



3) Disconnect the connector from combination switch.
4) Remove three screws, and pull the combination base switch assembly toward you. (Only for KA model)



5) Remove the screws which secure switch, then remove the combination switch.

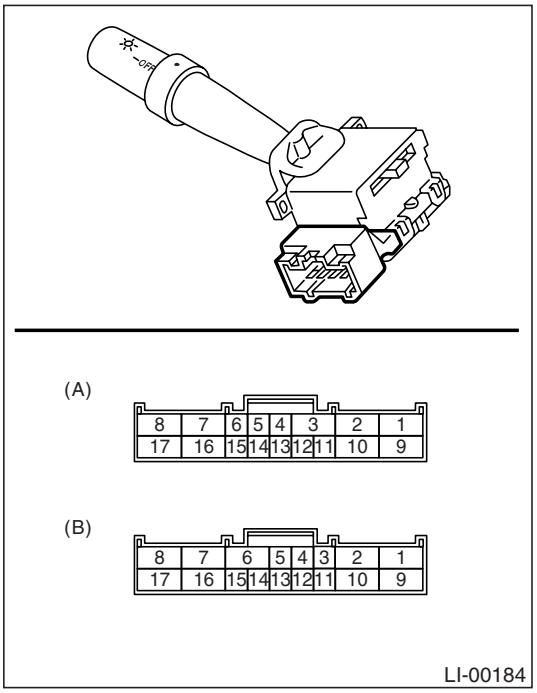


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the resistance between combination switch terminals.



(A) LHD and EK model
(B) KA model

1. LIGHTING SWITCH

• LHD model

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

• EK model

Switch position	Terminal No.	Standard
OFF	—	More than 1 MΩ
Tail	14 and 16	Less than 1 Ω
Head	13, 14 and 10	Less than 1 Ω

• KA model

Switch position	Terminal No.	Standard
OFF	—	More than 1 MΩ
Tail	15 and 9	Less than 1 Ω
Head	14, 15 and 9	Less than 1 Ω

2. DIMMER & PASSING SWITCH

• LHD model

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

• EK model

Switch position	Terminal No.	Standard
Passing	8, 7 and 10	Less than 1 Ω
Low beam	17 and 10	Less than 1 Ω
High beam	7 and 10	Less than 1 Ω

• KA model

Switch position	Terminal No.	Standard
Passing	1, 2 and 9	Less than 1 Ω
Low beam	10 and 9	Less than 1 Ω
High beam	2 and 9	Less than 1 Ω

3. TURN SIGNAL SWITCH

• LHD model/EK model

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

• KA model

Switch position	Terminal No.	Standard
Left	6 and 7	Less than 1 Ω
Neutral	—	More than 1 MΩ
Right	7 and 8	Less than 1 Ω

4. FRONT FOG LIGHT

• LHD model/EK model

Switch position	Terminal No.	Standard
OFF	—	More than 1 MΩ
ON	10 and 11	Less than 1 Ω

• KA model

Switch position	Terminal No.	Standard
OFF	12 and 16	More than 1 MΩ
ON		Less than 1 Ω

5. REAR FOG LIGHT

• LHD model/EK model

Switch position	Terminal No.	Standard
OFF	—	More than 1 MΩ
ON	12 and 10	Less than 1 Ω

• KA model

Switch position	Terminal No.	Standard
OFF	16 and 13	More than 1 MΩ
ON		Less than 1 Ω

10. Headlight Beam Leveler System

A: WIRING DIAGRAM

1. HEADLIGHT BEAM LEVELER SYSTEM

<Ref. to WI-246, WIRING DIAGRAM, Headlight Beam Leveler System.>

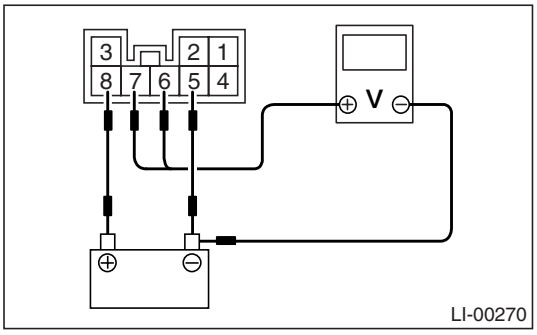
B: INSPECTION

1. HEADLIGHT BEAM LEVELER ACTUATOR

1) Turn on the headlights.
2) Confirm the headlight beam level is lowered by changing the switch position to 0 → 1 → 2 → 3 → 4 → 5.

2. HEADLIGHT BEAM LEVELER SWITCH

Connect the battery and headlight beam leveler switch connector to the circuit tester. Measure the voltage at each switch position.

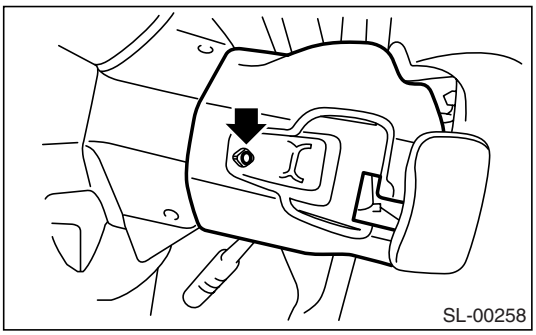


Switch position	Terminal No.	Standard
0	6, 7 (+) and battery (−)	84 — 89% of the battery voltage
1		67 — 73% of the battery voltage
2		51 — 57% of the battery voltage
3		36 — 41% of the battery voltage
4		21 — 26% of the battery voltage
5		7 — 10% of the battery voltage

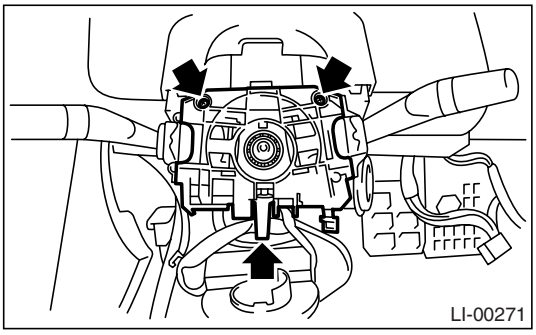
11.Combination Base Switch Assembly

A: REMOVAL

1) Remove the driver's airbag module. <Ref. to AB-16, REMOVAL, Driver's Airbag Module.>
2) Remove the steering wheel. <Ref. to PS-21, REMOVAL, Steering Wheel.>
3) Remove the screws and remove the steering column lower cover.



4) Remove the combination switch. <Ref. to LI-10, REMOVAL, Combination Switch (Light).> <Ref. to WW-8, REMOVAL, Combination Switch (Wiper).>
5) Remove the four screws and remove the roll connector.
6) Remove the three screws.



7) Disconnect the connector and remove the combination base switch assembly.

B: INSTALLATION

1) Install in the reverse order of removal.
2) Before installing steering wheel, be sure the direction of roll connector is adjusted with steering. <Ref. to AB-25, ADJUSTMENT, Roll Connector.>

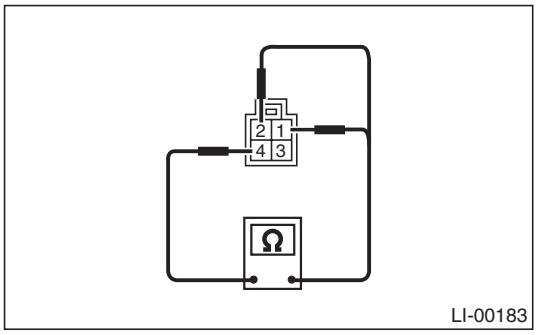
C: INSPECTION

1. COMBINATION BASE SWITCH ASSEMBLY

Inspect the combination base switch assembly and roll connector for crack or deformation. If any damage is found, replace with a new one.

2. PARKING SWITCH

Measure the resistance between parking switch terminals.

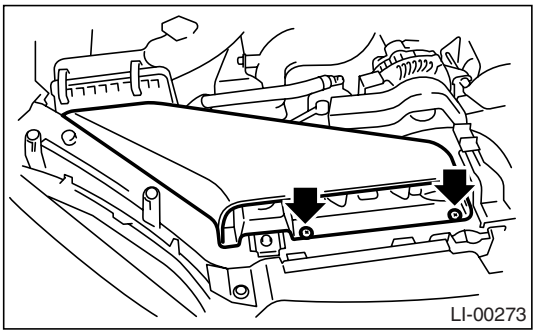


Switch position	Terminal No.	Standard
OFF	2 and 4	Less than 1 Ω
ON	1 and 4	Less than 1 Ω

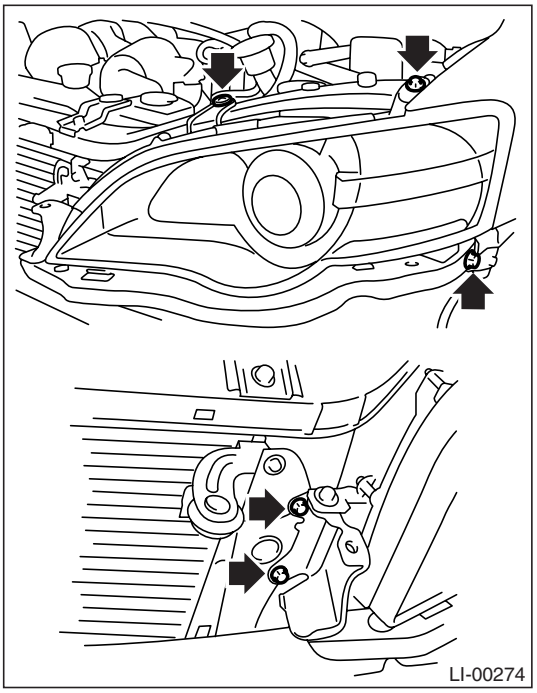
12.Headlight Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the air intake duct. (When removing the headlight RH)



3) Remove the front grille. <Ref. to EI-24, REMOVAL, Front Grille.>
4) Remove the front bumper. <Ref. to EI-30, REMOVAL, Front Bumper.>
5) Disconnect each harness connector.
6) Remove the four bolts and disengage clips, and then detach the headlight assembly.



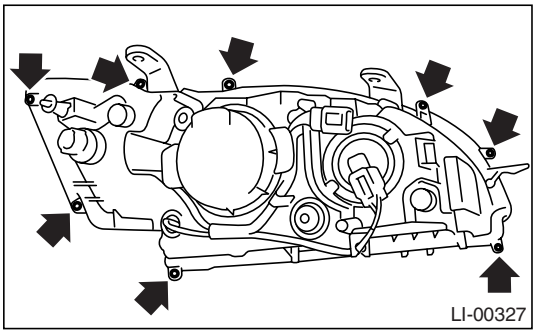
B: INSTALLATION

Install in the reverse order of removal.

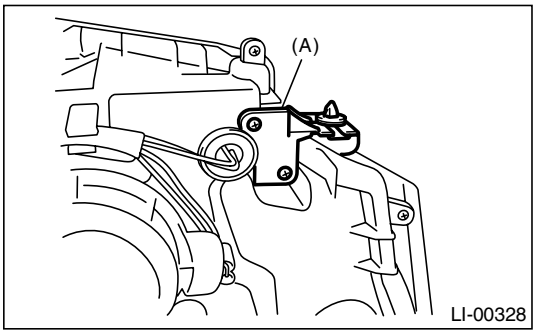
C: DISASSEMBLY

CAUTION:
- **Do not touch the bulb glass portion.**
- **Do not touch inside the lens (extension portion) or reflector portion.**
- **Replace the packing with a new one.**

1) Remove the headlight assembly. <Ref. to LI-14, REMOVAL, Headlight Assembly.>
2) Remove the eight screws.



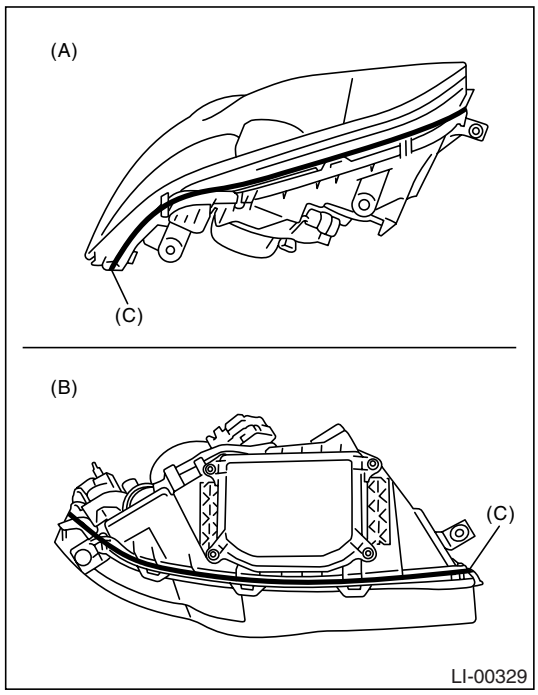
3) Remove headlight side bracket.



(A) Headlight side bracket

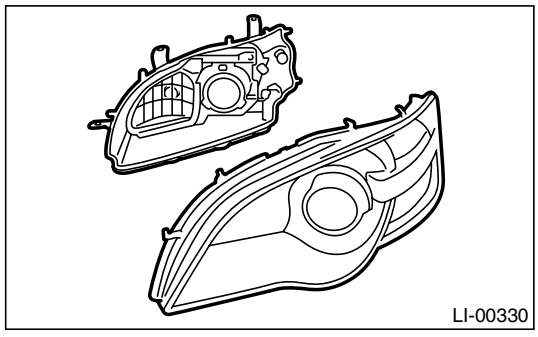
4) Heat the sealing portion between headlight assembly and lens using heating gun.

CAUTION:
Avoid heating one specific point of the seal portion and heating the headlight assembly to 100°C (212°F) or more.



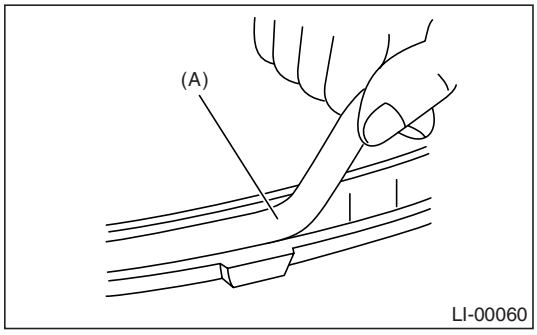
(A) Headlight ASSY upper
(B) Headlight ASSY lower
(C) Heated portion

5) Unhook the hook, and then take the lens off the headlight assembly.



6) Remove the packing (A) from seal groove.

CAUTION:
Completely remove the packing not to leave any chips behind.

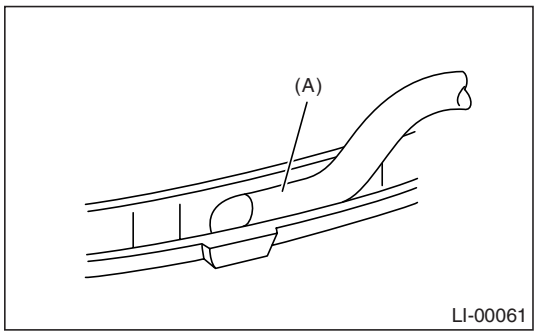


(A) Packing

D: ASSEMBLY

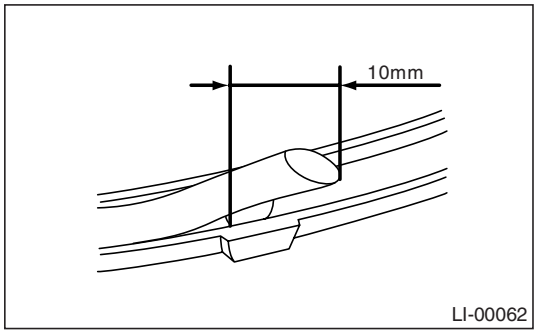
1) Cut the tip of packing (A) at an angle of 45°.
2) With the cut end facing upward, insert packing (A) into the groove around the seal.

CAUTION:
• If the packing protrudes, slowly take it off the groove.
• Do not stretch the packing. If the packing is stretched, seal fails.



(A) Packing

3) After making a round of the seal, cut its tip at an angle of 45°, with its length 10 mm (0.39 in) longer than the circumference of seal so that the tip overlaps the other. Then, press it onto the seal, using a screwdriver.



4) Match the positions of the lens and headlight assembly, and then insert the lens into the headlight assembly.

CAUTION:
Remove the turn signal light bulb and clearance/parking light bulb before installing the lens.

5) Secure the hook, and then install the clip and screw.
6) Put the seal portion of headlight assembly into the water and check that water does not enter inside the headlight.

CAUTION:
Be sure that water does not enter inside the headlight through the bulb socket and ventilation hole.

E: ADJUSTMENT

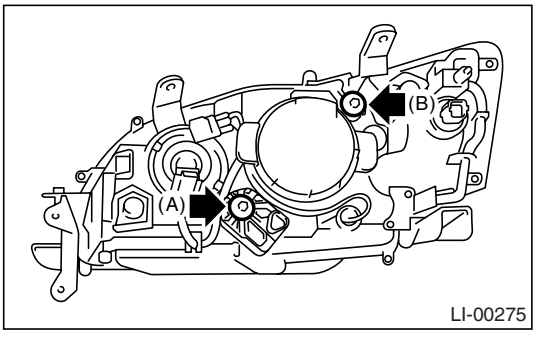
1. HEADLIGHT AIMING

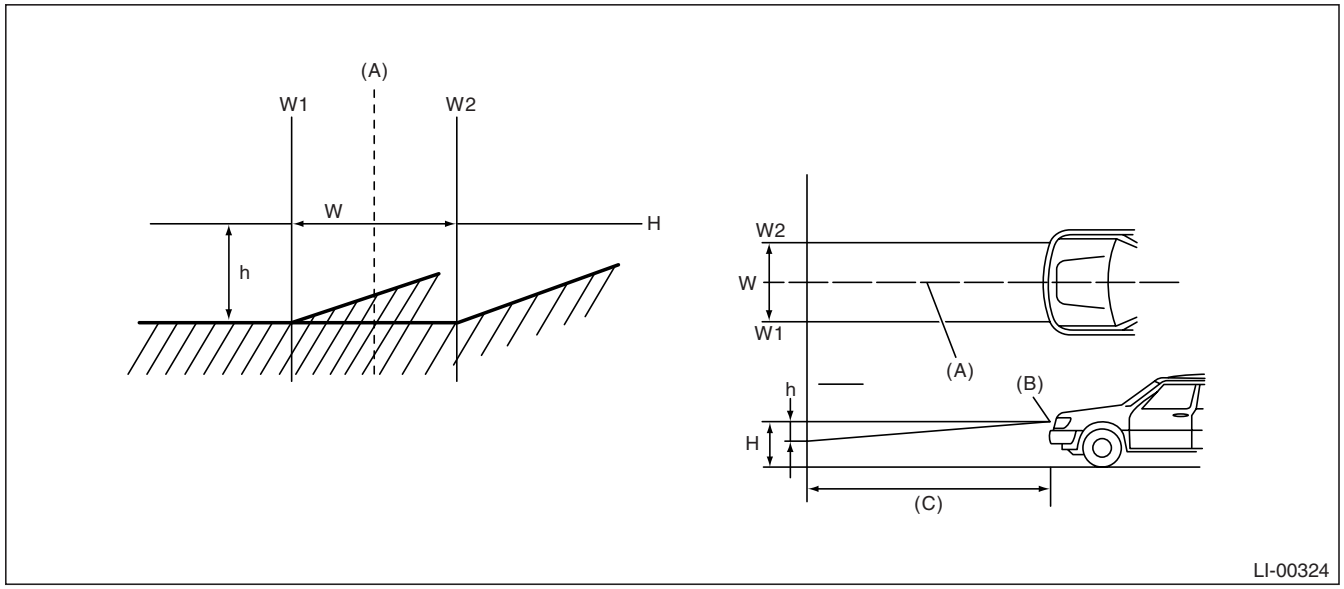
CAUTION:
Turn off the light before adjusting headlight beam level. If the light is necessary to check aiming, do not turn on for more than two minutes.

NOTE:
Before checking the headlight beam level, 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 a level surface.
• The inflation pressure of tires is correct.
• Vehicle's fuel tank is fully filled.

1) Bounce the vehicle several times to normalize the suspension.
2) Make certain that someone is seated in the driver's seat.
3) Turn the headlights on and then adjust the low beam pattern.

NOTE:
• Position the headlight beam leveler switch to "0".
• Adjust the vertical aim (A) first, then horizontal aim (B).





(A) Vehicle center (B) Bulb center marking (C) 3 m (10 ft)

Illustration above shows the illumination pattern for LHD model. Illumination pattern for RHD model is symmetrically opposite.

W mm (in)	H mm (in)			h mm (in) at 3 m (10 ft)
	Sedan	Wagon		
	640 (25.20)	Except for OUTBACK	OUTBACK	
1,180 (46.46)		635 (25.00)	705 (27.76)	30 (1.18)

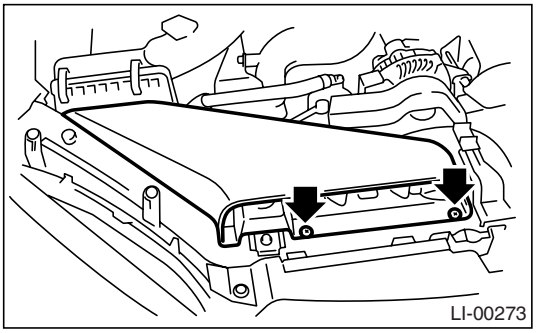
13.Headlight Bulb

A: REMOVAL

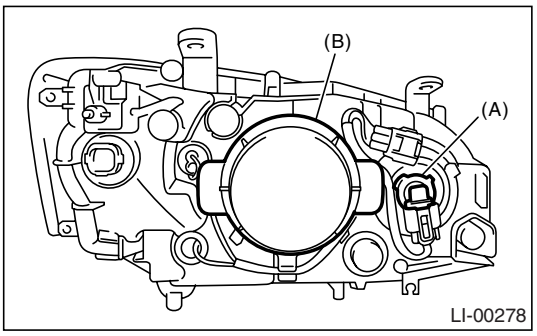
1. HIGH BEAM AND LOW BEAM

CAUTION:
• Because the halogen bulb operates at a high temperature, dirt and oil on the bulb surface reduces the bulb's service life. Hold the flange portion when replacing the bulb. Never touch the glass portion.
• Do not leave the headlight without a bulb for a long time. Dust, moisture, etc. entering the headlight may affect its performance.

1) Disconnect the ground cable from battery.
2) Remove the air intake duct. (When removing the headlight bulb RH).

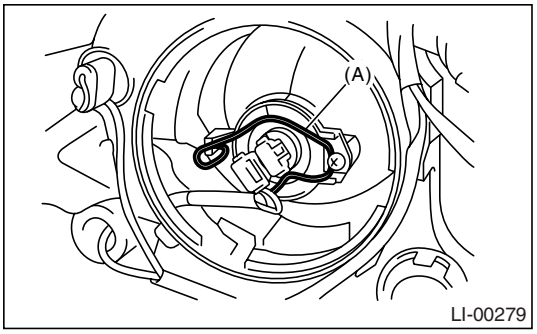

LI-00273

3) Remove the battery cover. (When removing the headlight bulb LH).
4) Tilt the washer tank filler neck. (When removing the headlight bulb LH).
5) Disconnect the harness connector.
6) Remove the bulb assembly (A) to remove high beam. To remove the low beam, remove the back cover (B), and then go to Step 7.



LI-00278

7) Remove the light bulb retaining spring (A) to remove bulb.



LI-00279

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

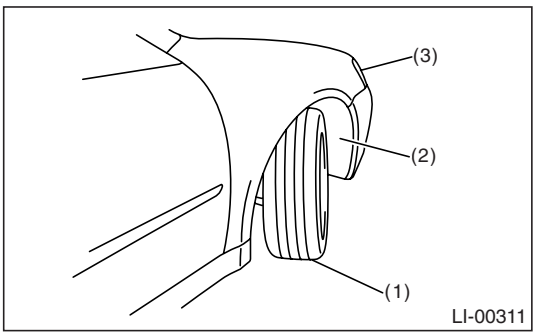
1. HALOGEN TYPE

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

14.Front Turn Signal Light Bulb

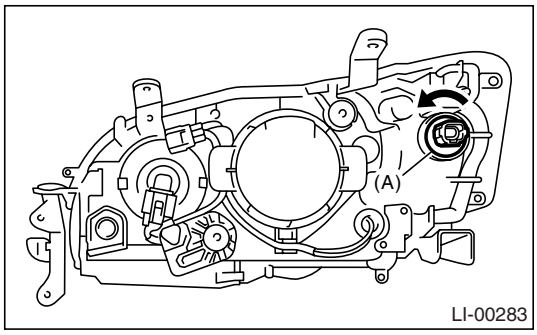
A: REMOVAL

1) When removing the turn signal light bulb, fully turn the steering wheels to opposite direction from desired turn signal light bulb.



(1) Turn the steering wheel fully.
(2) Mud guard
(3) Front turn signal light

2) Turn the mud guard inward.
3) Turn the socket (A) from wheel arch part, and then remove the front turn signal light bulb.



CAUTION:
For 5AT model, remove the turn signal light bulb LH from engine compartment with removing battery, because it can not be removed from wheel arch part.

B: INSTALLATION

Install in the reverse order of removal.

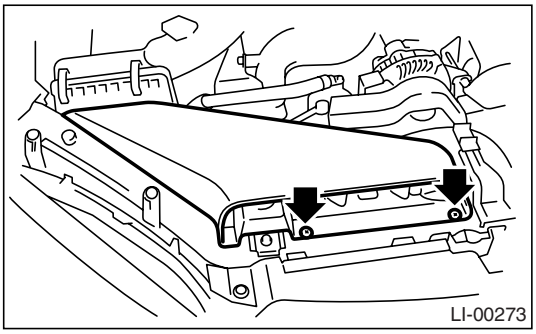
C: INSPECTION

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

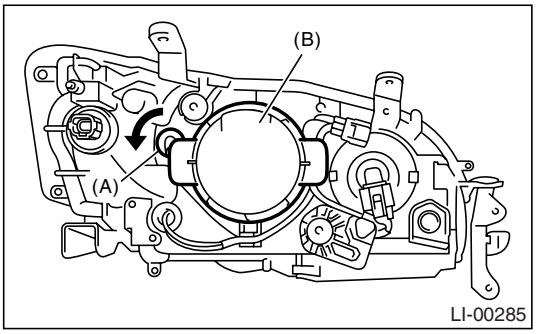
15.Clearance/Parking Light Bulb

A: REMOVAL

1) Remove the air intake duct. (When removing the clearance light/parking light bulb RH).



2) Remove the battery cover. (When removing the clearance light/parking light bulb LH)
3) Tilt the washer tank filler neck. (When removing the clearance/parking light bulb)
4) Remove the headlight low beam back cover (B).
5) Turn the socket (A) and remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

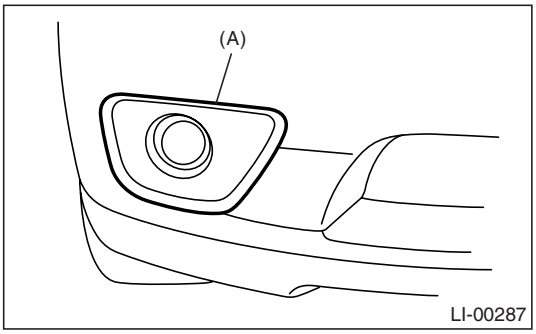
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

16.Front Fog Light Assembly

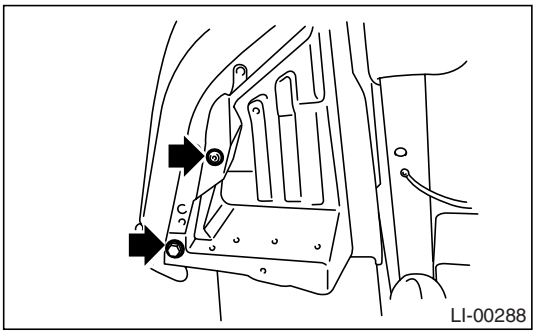
A: REMOVAL

1. EXCEPT FOR OUTBACK MODEL

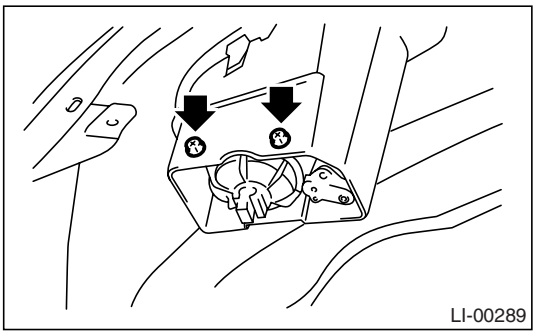
1) Disconnect the ground cable from battery.
2) Remove the front fog light cover (A).



3) Disengage the two clips, and then turn over the lower mud guard.

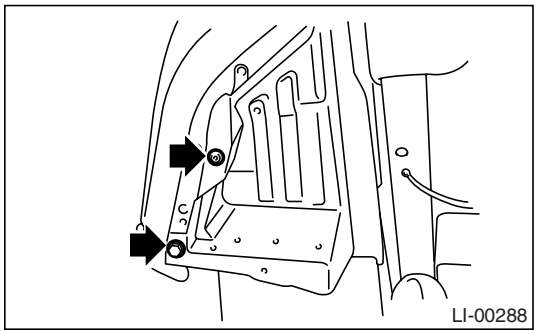


4) Disconnect the harness connector.
5) Remove the mounting bolts, and then detach the fog light assembly by pulling it.

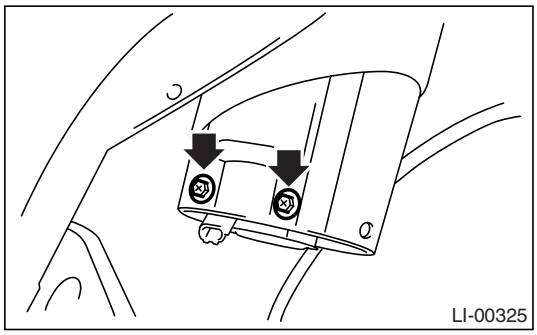


2. OUTBACK MODEL

1) Disconnect the ground cable from battery.
2) Remove the two clips, and then turn over the lower mud guard.



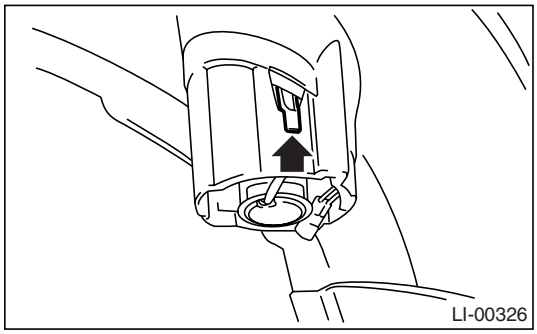
3) Disconnect the harness connector.
4) Remove the mounting bolts, and then detach the fog light assembly by pulling it.



B: INSTALLATION

Install in the reverse order of removal.

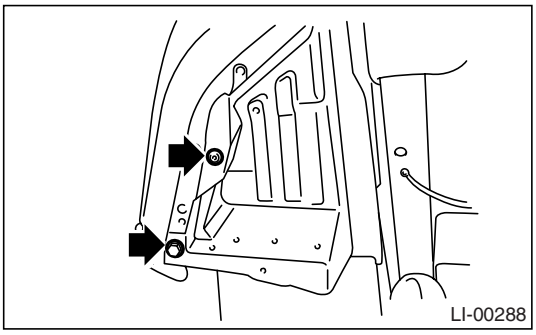
CAUTION:
When installing the fog light assembly, be sure to secure the upper hock.



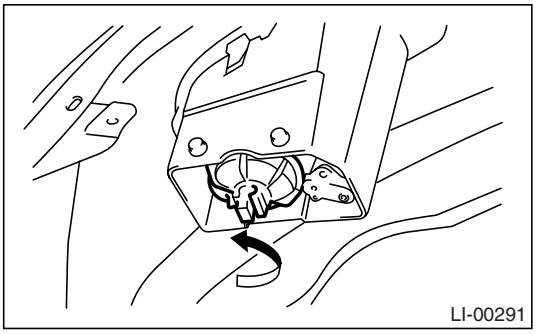
17.Front Fog Light Bulb

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the two clips, and then turn over the lower mud guard.



3) Disconnect the harness connector.
4) Remove the back cover.



5) Remove the spring retainer then detach the fog light bulb.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

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

18.Rear Fog Light

A: REMOVAL

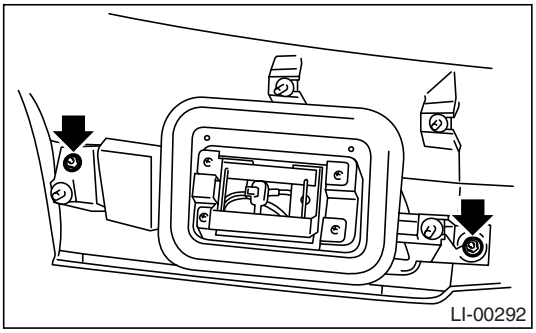
NOTE:
Rear fog light is installed to rear combination light of driver's side for sedan and rear gate garnish of driver's side for wagon.

1. SEDAN MODEL

Remove the rear combination light. <Ref. to LI-25, REMOVAL, Rear Combination Light Assembly.>

2. WAGON MODEL

1) Remove the rear gate trim. <Ref. to EI-69, REMOVAL, Rear Gate Trim.>
2) Disconnect the harness connectors and remove the rear gate garnish. <Ref. to EI-76, REMOVAL, Rear Gate Garnish.>
3) Remove the mounting nuts and detach the rear fog light assembly.



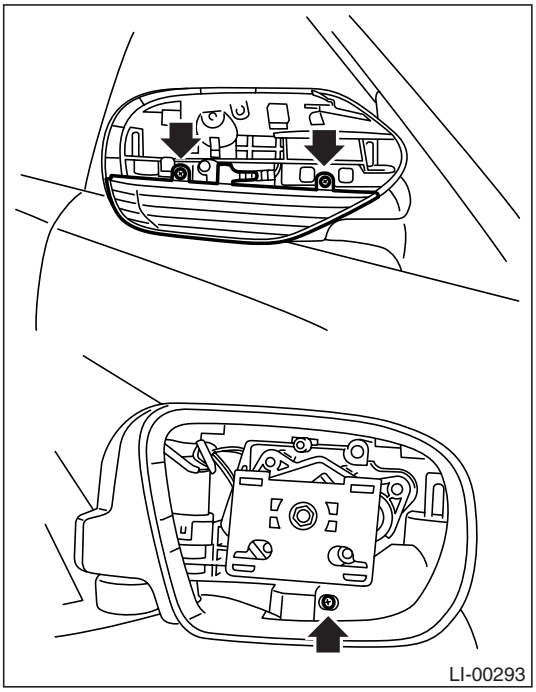
B: INSTALLATION

Install in the reverse order of removal.

19.Side Turn Signal Light Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the scalp caps. <Ref. to GW-18, REPLACEMENT, Scalp Cap.>
3) Remove the mirror. <Ref. to GW-21, REPLACEMENT, Outer Mirror.>
4) Disconnect the harness connector, remove the 3 mounting screws and then remove the side turn signal light assembly.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1) Install the side turn signal light assembly and check that it blinks normally.
2) If it does not blink normally, replace the side turn signal light assembly with a new one.

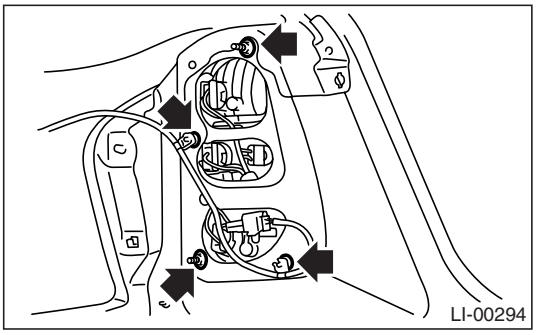
NOTE:
Since LED (Light Emitting Diode) is used for side turn signal light, replace the side turn signal light assembly when the LED is powered off.

20. Rear Combination Light Assembly

A: REMOVAL

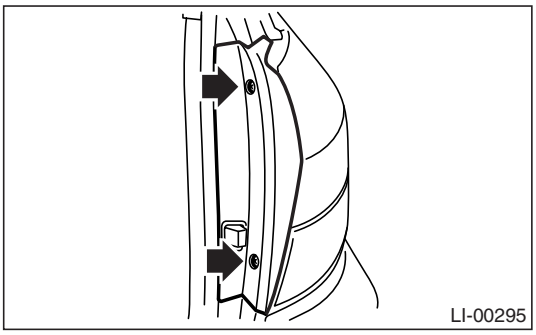
1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the trunk room side trim. <Ref. to EI-71, REMOVAL, Trunk Room Trim.>
3) Remove the four nuts, and then detach the rear combination light after disconnecting the connector.

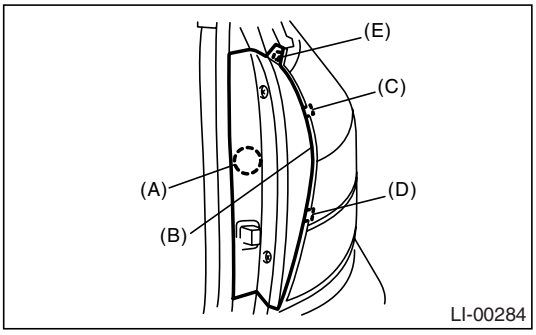


2. WAGON MODEL

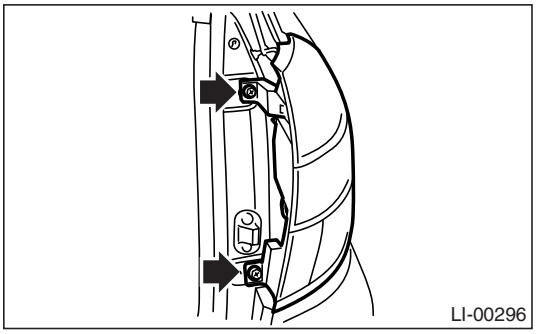
1) Disconnect the ground cable from battery.
2) Remove the clips.



3) While pressing the portion (A), insert your finger or flat-tip screwdriver wrapped with tape into the clearance (B) to remove pawls in the order of (C), (D), (E), and remove the rear combination cover.



4) Remove the two bolts, and then detach the rear combination light by pulling it to the rear side of vehicle.



5) Remove the rear combination light after turning the socket of tail/stop light bulb and rear turn signal light bulb to remove the bulbs.

B: INSTALLATION

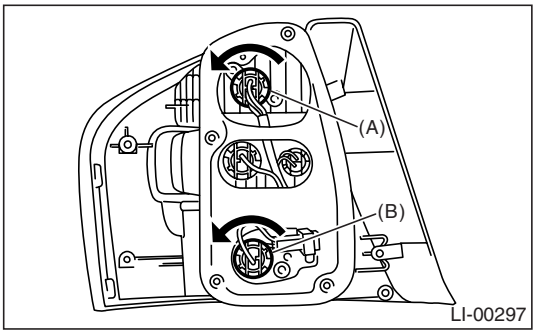
Install in the reverse order of removal.

21.Tail/Stop Light Bulb

A: REMOVAL

1. SEDAN MODEL

1) Remove the trunk side trim cover.
2) Turn the socket and remove the bulb.



Model without rear fog light

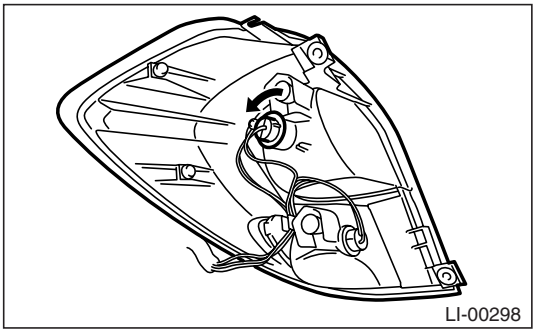
(A) Tail light
(B) Stop light

Model with rear fog light

(A) Tail/stop light
(B) Rear fog light (Driver's side only)

2. WAGON MODEL

1) Remove the rear combination light assembly. <Ref. to LI-25, WAGON MODEL, REMOVAL, Rear Combination Light Assembly.>
2) Turn the socket and remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

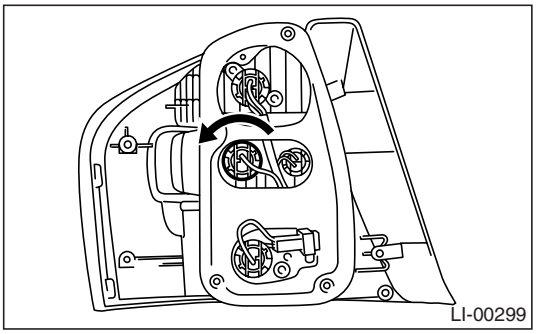
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

22.Rear Turn Signal Light Bulb

A: REMOVAL

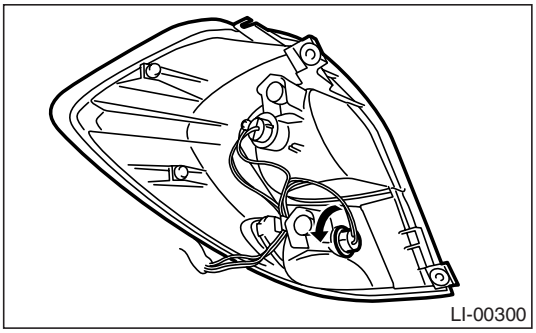
1. SEDAN MODEL

1) Remove the trunk side trim cover.
2) Turn the socket and remove the bulb.



2. WAGON MODEL

1) Remove the rear combination light assembly. <Ref. to LI-25, WAGON MODEL, REMOVAL, Rear Combination Light Assembly.>
2) Turn the socket and remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

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

23.Back-up Light Assembly

A: REMOVAL

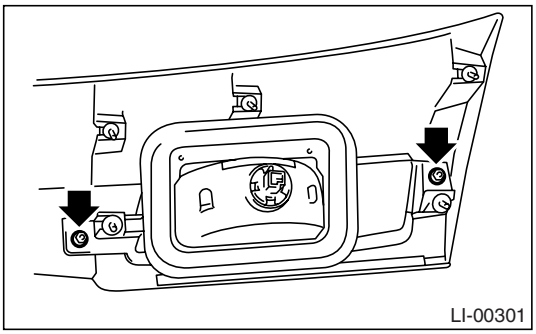
NOTE:
In case of model with rear fog light, back-up light is installed to only passenger's side.

1. SEDAN MODEL

Remove the rear combination light. <Ref. to LI-25, REMOVAL, Rear Combination Light Assembly.>

2. WAGON MODEL

1) Remove the rear gate trim. <Ref. to EI-69, REMOVAL, Rear Gate Trim.>
2) Disconnect the harness connectors and remove the rear gate garnish. <Ref. to EI-76, REMOVAL, Rear Gate Garnish.>
3) Remove the mounting nuts and detach the back-up light assembly.



B: INSTALLATION

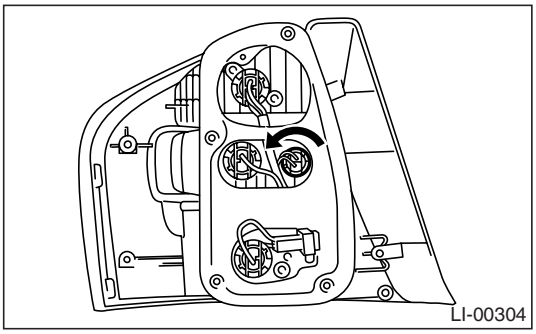
Install in the reverse order of removal.

24.Back-up Light Bulb

A: REMOVAL

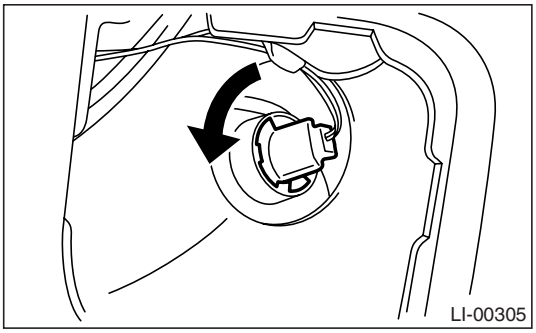
1. SEDAN MODEL

1) Remove the bulb inspection cover of trunk side trim.
2) Turn the socket and remove the bulb.



2. WAGON MODEL

1) Remove the bulb inspection cover of rear gate trim.
2) Turn the socket and remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

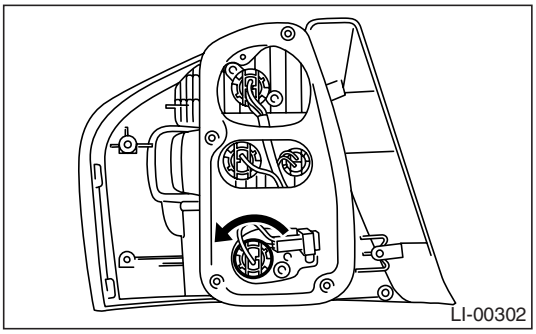
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

25.Rear Fog Light Bulb

A: REMOVAL

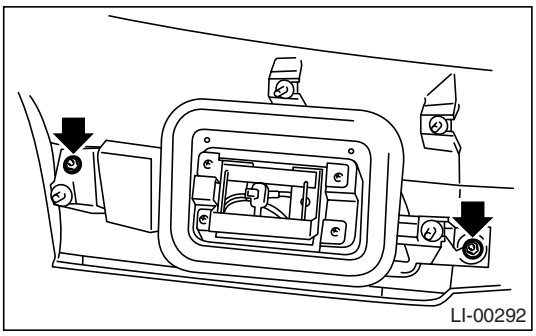
1. SEDAN MODEL

1) Remove the bulb inspection cover of trunk side trim.
2) Turn the socket and remove the bulb.



2. WAGON MODEL

1) Remove the rear fog light assembly. <Ref. to LI-23, REMOVAL, Rear Fog Light.>
2) Remove the mounting screws, and then remove the rear fog light assembly.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. SEDAN MODEL

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

2. WAGON MODEL

1) Install the rear fog light assembly to check that it illuminate normally.
2) If it does not illuminate, replace the rear fog light assembly with a new one.

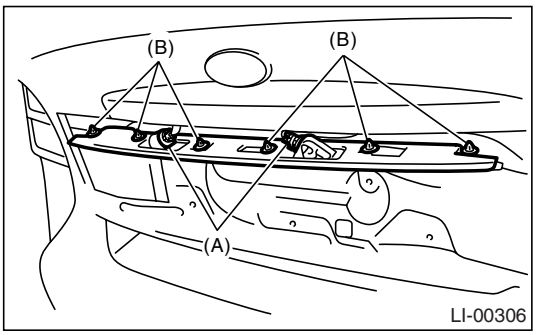
NOTE:
Since LED (Light Emitting Diode) is used for the rear fog light, replace the rear fog light assembly when the LED is powered off.

26. License Plate Light Assembly

A: REMOVAL

1. SEDAN MODEL

1) Remove the trunk lid garnish. <Ref. to EI-75, REMOVAL, Trunk Lid Garnish.>
2) Remove the trunk lid trim. <Ref. to EI-71, TRUNK LID TRIM, REMOVAL, Trunk Room Trim.>
3) Turn and remove the bulb socket (A). Remove the clip (B) and remove the license plate light assembly.



B: INSTALLATION

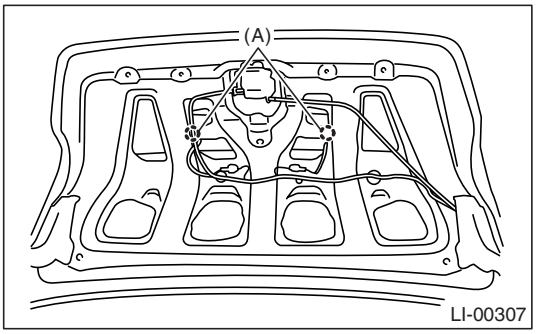
Install in the reverse order of removal.

27.License Plate Light

A: REMOVAL

1. SEDAN MODEL

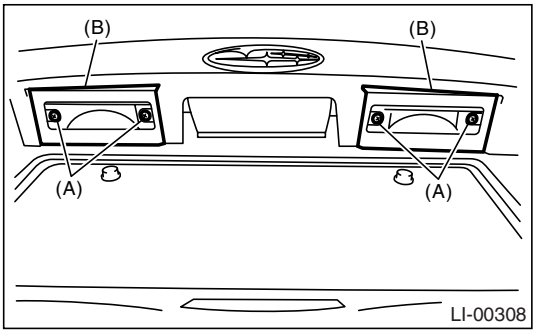
1) Remove the trunk lid trim. <Ref. to EI-71, TRUNK LID TRIM, REMOVAL, Trunk Room Trim.>
2) Turn and remove the bulb socket (A).



3) Remove the bulb.

2. WAGON MODEL

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



2) Remove the bulb.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

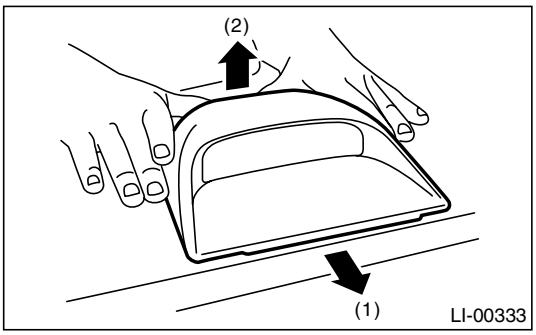
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

28.High-mounted Stop Light

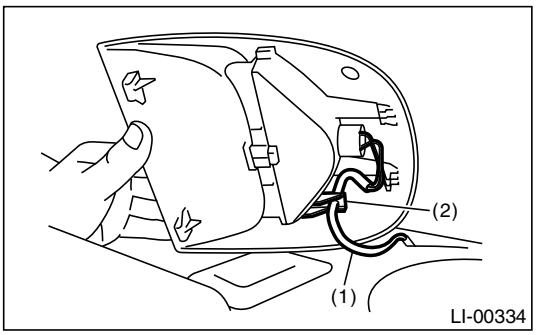
A: REMOVAL

1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Push the high-mounted stop light backward of the vehicle (1), raise the rear portion of it (2) and remove the clips to remove it.

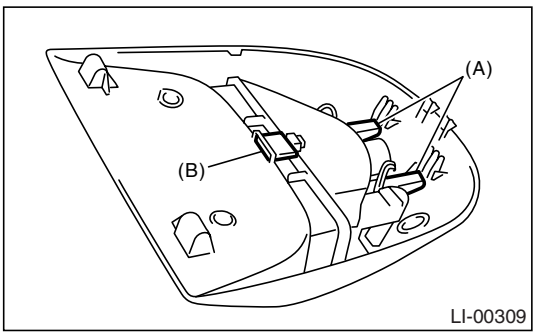


3) Remove the harness from clamp.

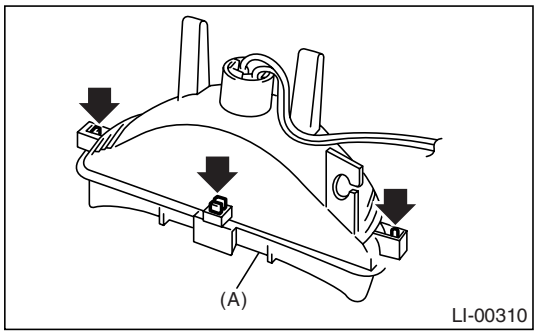


(1) Harness
(2) Clamp

4) Disengage two claws (A), pull out the high-mounted stop light from the cover and remove the claw (B).



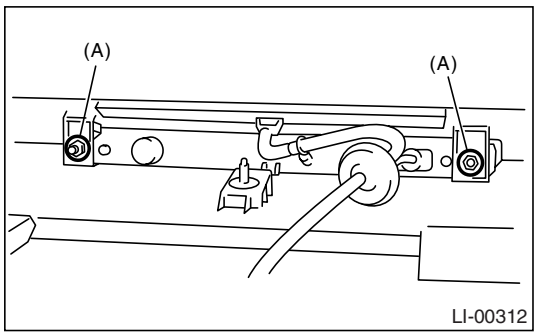
5) Remove three claws and remove the lens (A).



6) Remove the bulb.

2. WAGON MODEL

1) Disconnect the ground cable from battery.
2) Detach the roof spoiler. <Ref. to EI-40, REMOVAL, Roof Spoiler.>
3) Remove the nuts (A), then detach the high-mounted stop light.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. SEDAN (STANDARD TYPE)

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

2. SEDAN (REAR SPOILER BUILT-IN TYPE) AND WAGON

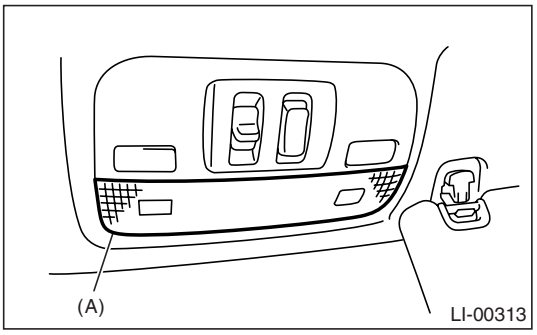
1) Install the high-mounted stop light to test if it illuminates normally.
2) If the high-mounted stop light does not illuminate, replace it with a new one.

NOTE:
Since LED (Light Emitting Diode) is used for the high-mounted stop light of wagon model, replace the high-mounted stop light assembly when the LED is powered off.

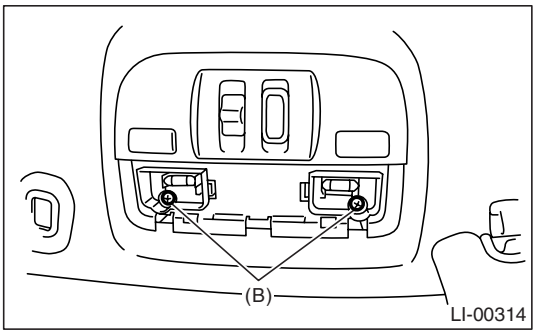
29.Spot Map Light

A: REMOVAL

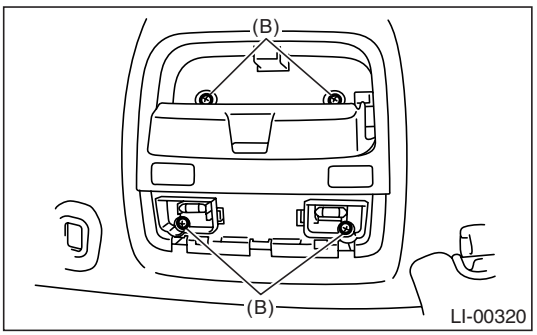
1) Disconnect the ground cable from battery.
2) Remove the lens (A) and spot map light mounting screws (B).



- Model with sunroof



- Model without sunroof



3) Disconnect the harness connectors and remove the spot map light.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. SPOT MAP LIGHT BULB

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

2. SPOT MAP LIGHT SWITCH

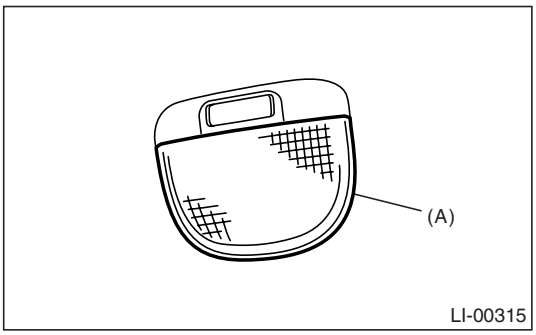
Measure the resistance between spot map light switch terminals.

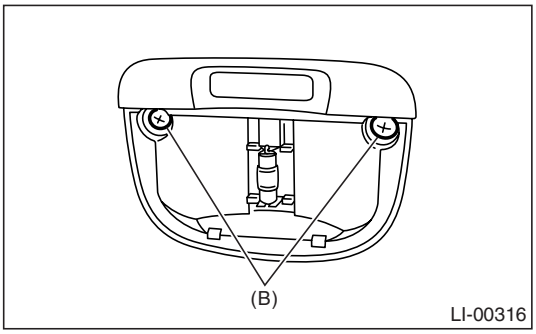
Switch position	Terminal No.	Standard
OFF	—	More than 1 MΩ
ON	1 and 2	18±5.4 Ω

30.Room Light

A: REMOVAL

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





3) Disconnect the harness connector and remove the room light.

B: INSTALLATION

Install in the reverse order of removal.

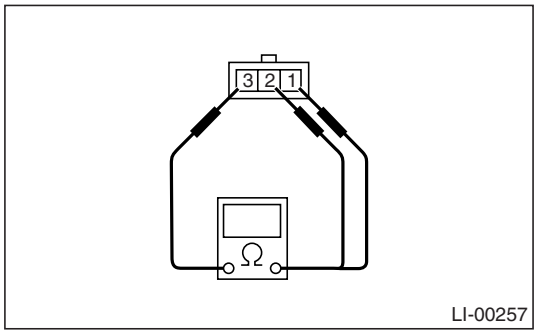
C: INSPECTION

1. ROOM LIGHT BULB

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

2. ROOM LIGHT SWITCH

Measure the resistance between room light switch terminals.

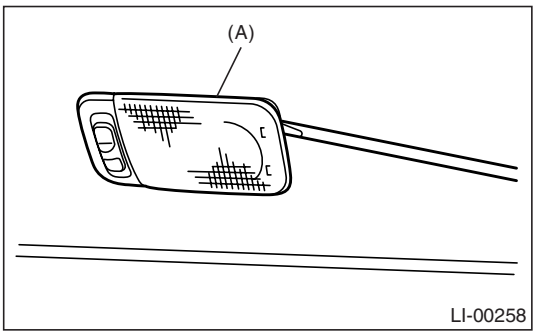


Switch position	Terminal No.	Standard
OFF	—	More than 1 MΩ
ON	1 and 3	1.5±0.5 Ω
DOOR	2 and 3	1.5±0.5 Ω

31.Luggage Room Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove luggage room light body (A).



3) Disconnect the harness connector and remove the lens.

B: INSTALLATION

Install in the reverse order of removal.

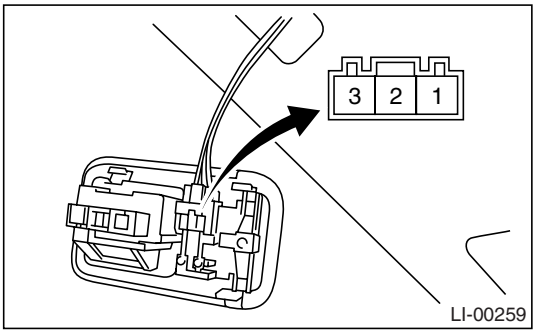
C: INSPECTION

1. LUGGAGE ROOM LIGHT BULB

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

2. LUGGAGE ROOM LIGHT SWITCH

Measure the resistance between luggage room light switch terminals.

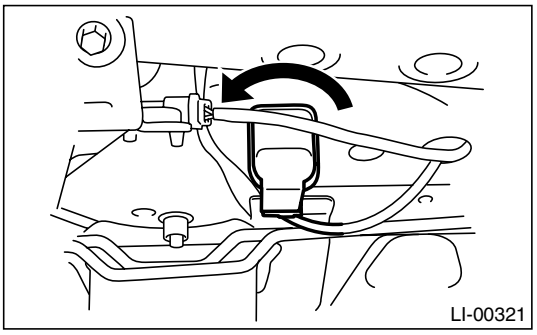


Switch position	Terminal No.	Standard
OFF	—	More than 1 MΩ
ON	1 and 2	1.5±0.5 Ω
DOOR	2 and 3	1.5±0.5 Ω

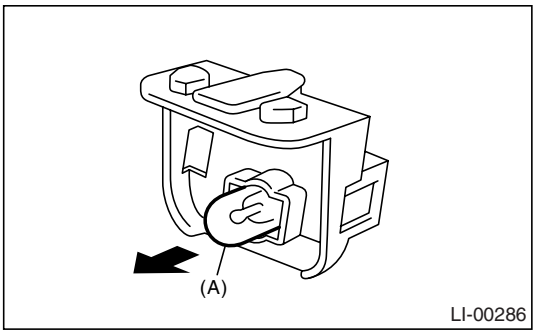
32.Trunk Room Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Turn the trunk room light to the left for 60° to remove it and disconnect the harness connector.



3) Remove the bulb (A).



B: INSTALLATION

Install in the reverse order of removal.

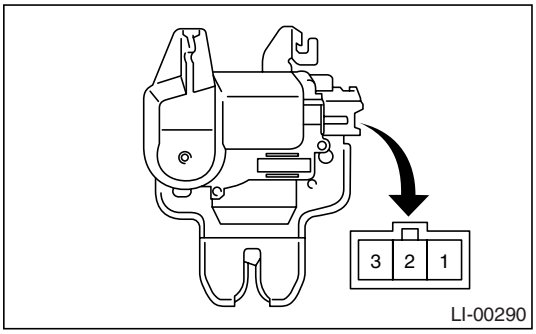
C: INSPECTION

1. TRUNK ROOM LIGHT BULB

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

2. TRUNK LID SWITCH (TRUNK ROOM LIGHT SWITCH)

Measure the resistance between trunk lid switch terminals.

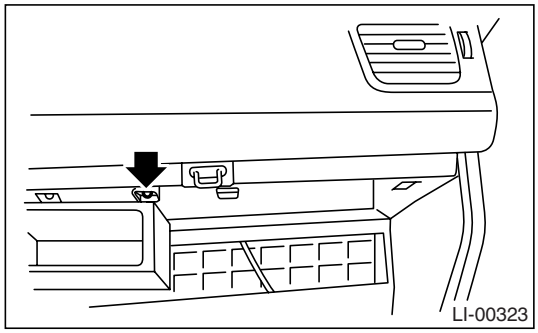


Trunk lid position	Terminal No.	Standard
Close	1 and 3	More than 1 MΩ
Open		1.5±0.5 Ω

33.Glove Box Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-51, REMOVAL, Glove Box.>
3) Disconnect the harness connector.
4) Remove the glove box light.



B: INSTALLATION

Install in the reverse order of removal.

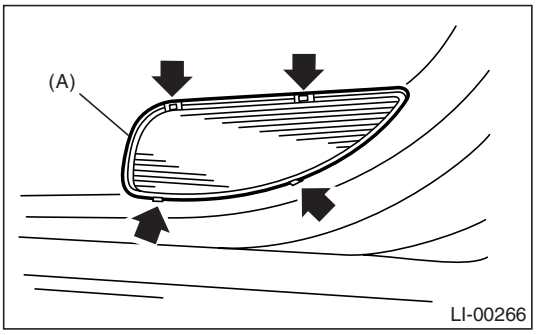
C: INSPECTION

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

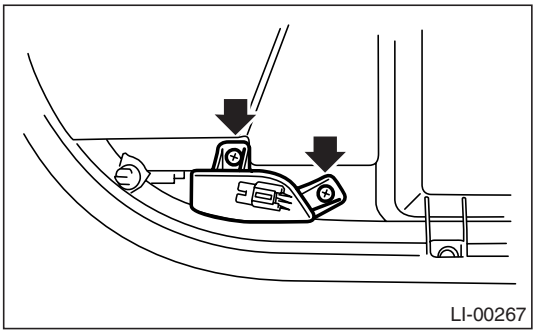
34. Door Step Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the lens (A), and then remove the door step light bulb.



3) Remove the front door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
4) Disconnect the harness connector.
5) Remove the mounting screw from rear side of trim and remove the door step light.



B: INSTALLATION

Install in the reverse order of removal.

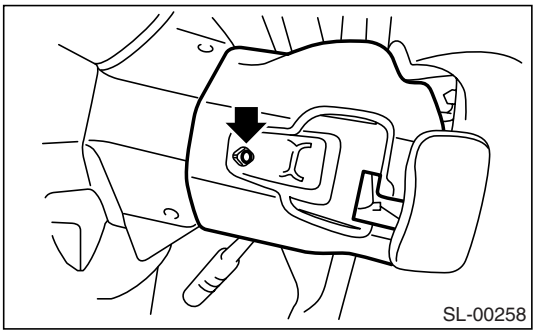
C: INSPECTION

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

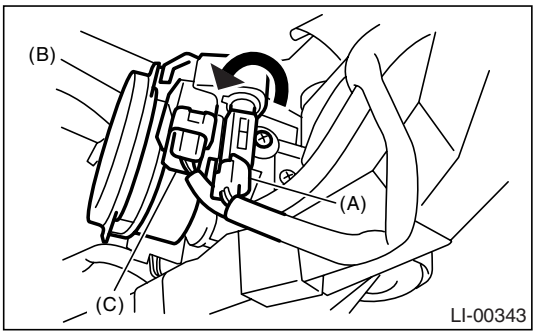
35.Ignition Switch Illumination

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the screws and detach the upper column cover and lower column cover.



3) Remove the instrument panel lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
4) Disconnect the ignition switch illumination connector (A).
5) Turn the ignition switch illumination connector to left and remove it.



(A) Ignition switch illumination connector
(B) Ignition switch illumination
(C) Immobilizer antenna connector

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Step		Check	Yes	No
1	**CHECK IGNITION SWITCH ILLUMINATION.** Make sure the ignition switch illumination illuminates when driver's side door is open.	Does the ignition switch illumination illuminate?	Ignition switch illumination is normal.	Go to step **2.**
2	**CHECK IGNITION SWITCH ILLUMINATION.** Make sure the ignition switch illumination blinks when ignition switch is turned to ON.	Does the ignition switch illumination blink?	Check the function setting of body integrated module. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Check the ignition switch illumination circuit. <Ref. to SL-25, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.>

WIPER AND WASHER SYSTEMS

WW

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11.	Rear Washer	23

1. General Description

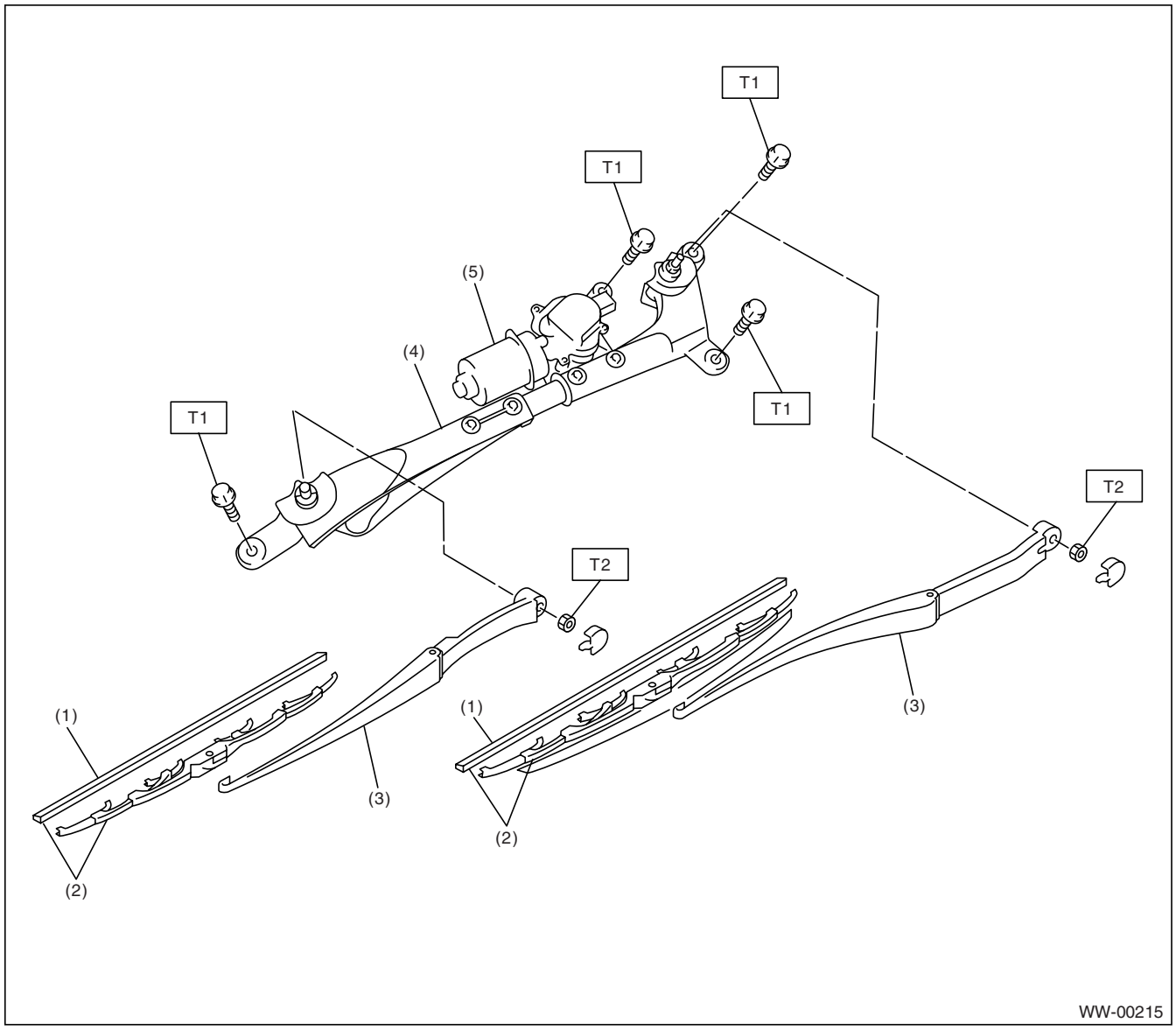
A: SPECIFICATION

Front wiper motor	Input	12 V — 72 W or less
Rear wiper motor	Input	12 V — 42 W or less
Front washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less
Rear washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less

B: COMPONENT

1. FRONT WIPER

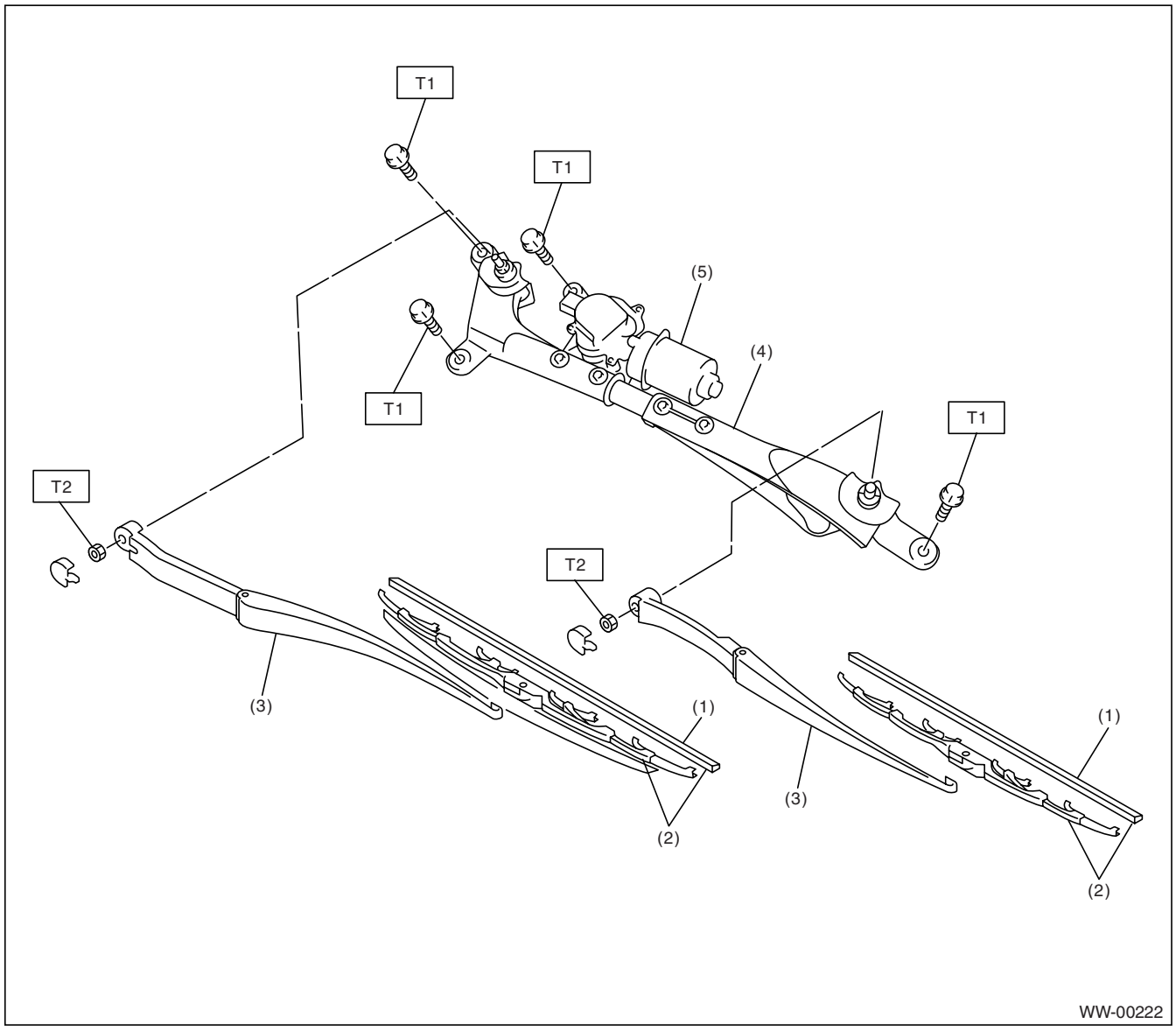
- LHD model



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

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.0 (0.61, 4.3)
T2: 20 (2.0, 14.5)

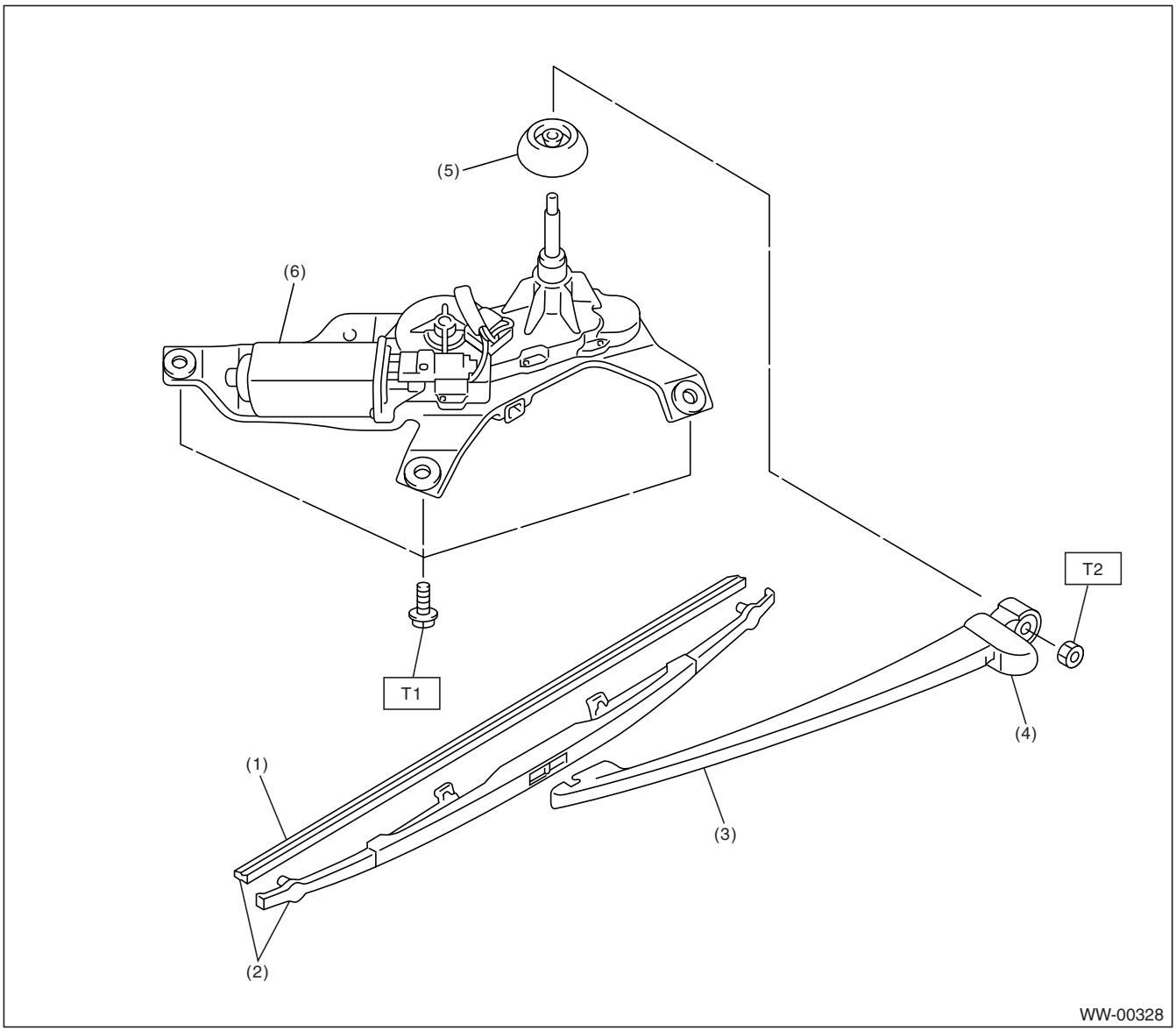
- RHD model



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

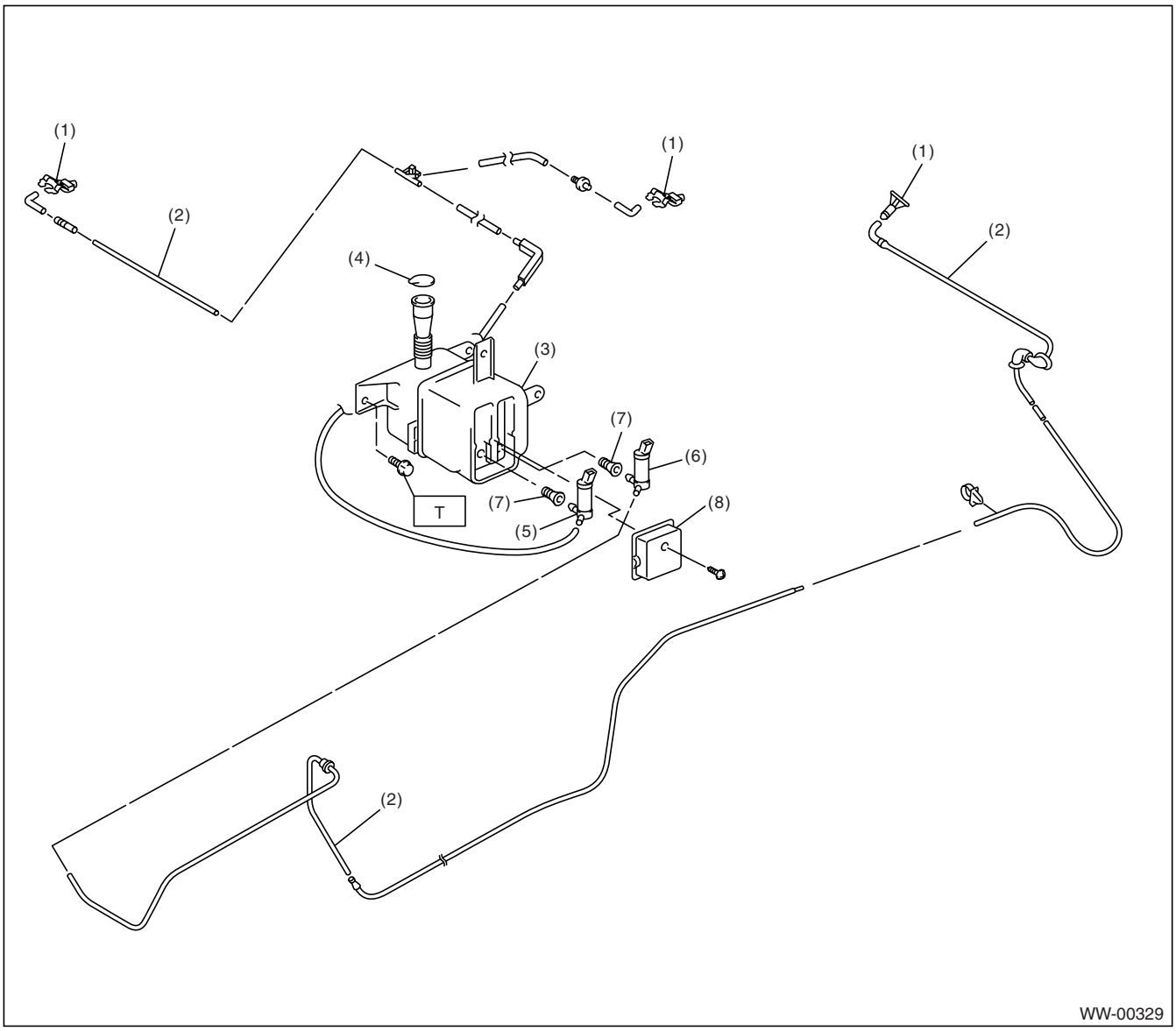
Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.0 (0.61, 4.3)
T2: 20 (2.0, 14.5)

2. REAR WIPER (WAGON MODEL)



(1)	Wiper rubber	(4)	Wiper arm cover	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Wiper blade ASSY	(5)	Cap	***T1: 6.0 (0.61, 4.3)***
(3)	Wiper arm	(6)	Wiper motor ASSY	***T2: 8.0 (0.82, 5.9)***

3. WASHER TANK



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

Tightening torque: N·m (kgf-m, ft-lb)
T: 6.0 (0.61, 4.3)

C: CAUTION

- Connect the connectors and hoses securely during reassembly.
- After reassembly, make sure functional parts operate smoothly.
- Be careful that wire harnesses of airbag system pass near electrical parts and switches.
- Wiring harnesses and connectors of all airbag system are yellow color. Do not use a tester equipment on these circuits.
- Care must be taken when connecting 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 is easily formed on the glass, causing the wiper to chatter and judder, therefore, be careful not to let this happen.

2. Wiper and Washer System

A: WIRING DIAGRAM

1. WIPER AND WASHER (FRONT) LHD MODEL

<Ref. to WI-275, LHD MODEL, WIRING DIAGRAM, Front Wiper and Washer System.>

2. WIPER AND WASHER (FRONT) RHD MODEL

<Ref. to WI-276, RHD MODEL, WIRING DIAGRAM, Front Wiper and Washer System.>

3. WIPER AND WASHER (REAR) LHD MODEL

<Ref. to WI-277, LHD MODEL, WIRING DIAGRAM, Rear Wiper and Washer System.>

4. WIPER AND WASHER (REAR) RHD MODEL

<Ref. to WI-278, RHD MODEL, WIRING DIAGRAM, Rear Wiper and Washer System.>

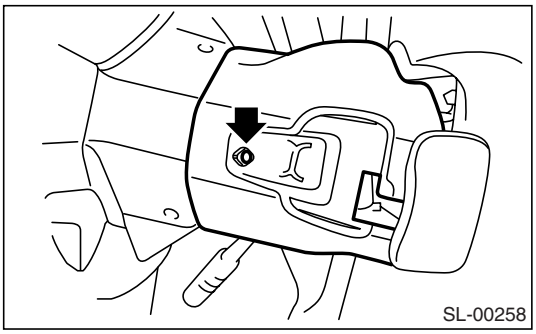
B: INSPECTION

Symptom	Repair order
Wiper and washers do not operate.	(1) Wiper fuse (Front: F/B No. 30, Rear: F/B No. 23) (2) Combination switch (3) Wiper motor assembly (4) Wiring harness (5) Body integrated module (rear wiper only)
Wipers do not operate in LO or HI.	(1) Combination switch (2) Wiper motor assembly (3) Wiring harness
Wipers do not operate in INT.	(1) Combination switch (2) Wiper motor assembly (3) Wiring harness (4) Body integrated module (rear wiper only)
Washer motor does not operate.	(1) Washer switch (2) Washer motor (3) Wiring harness
Wipers do not operate when washer switch is ON.	(1) Wiper motor assembly (2) Wiring harness
Washer fluid spray does not operate properly.	(1) Washer motor (2) Washer hose and nozzle

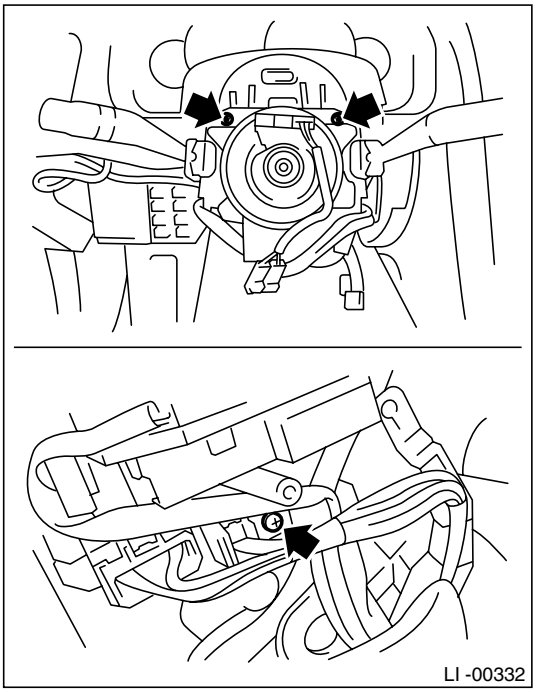
3. Combination Switch (Wiper)

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the screw to remove steering column cover (upper and lower).



4) Disconnect the connector from combination switch.
5) Remove the three screws, and pull out the combination base switch assembly toward you. (EC, EK, KS and K4 model)



6) Remove the screws which secure switch, then remove the combination switch.

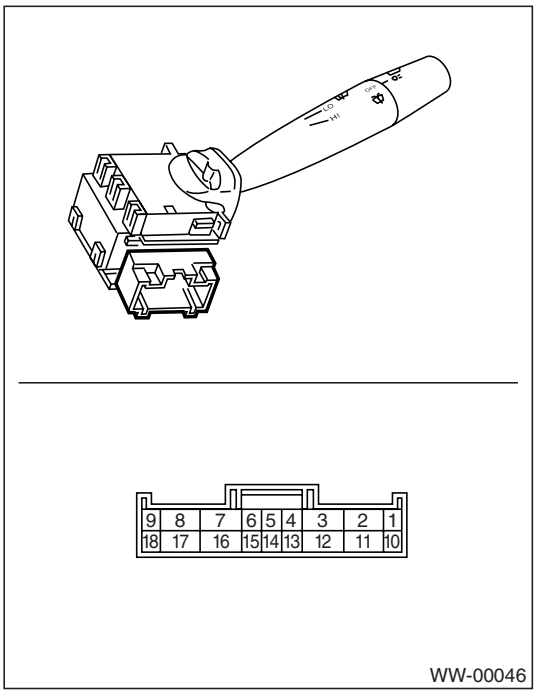
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. COMBINATION SWITCH

1) Inspect the continuity between each connector terminal.



- EC, EK, KS, EH, ER and K4 model

	Switch position	Terminal No.	Standard
Front	OFF	7 and 16	Less than 1 Ω
	INT	7 and 16	Less than 1 Ω
	LO	7 and 17	Less than 1 Ω
	HI	8 and 17	Less than 1 Ω
	Washer ON	2 and 11	Less than 1 Ω
Rear (Wagon model)	Washer ON	2 and 11 12 and 10 2 and 10	Less than 1 Ω
	OFF	—	More than 1 MΩ
	INT	2 and 13	Less than 1 Ω
	ON	2 and 10	Less than 1 Ω
	Washer ON	2 and 12 12 and 10 2 and 10	Less than 1 Ω

• KA model

	Switch position	Terminal No.	Standard
Front	OFF	3 and 12	Less than 1 Ω
	INT	3 and 12	Less than 1 Ω
	LO	3 and 11	Less than 1 Ω
	HI	2 and 11	Less than 1 Ω
	Washer ON	8 and 17	Less than 1 Ω
Rear (Wagon model)	Washer ON	8 and 16 16 and 18 8 and 18	Less than 1 Ω
	OFF	—	More than 1 MΩ
	INT	8 and 15	Less than 1 Ω
	ON	8 and 18	Less than 1 Ω
	Washer ON	8 and 16 16 and 18 8 and 18	Less than 1 Ω

2) If continuity is not as specified, replace the switch.

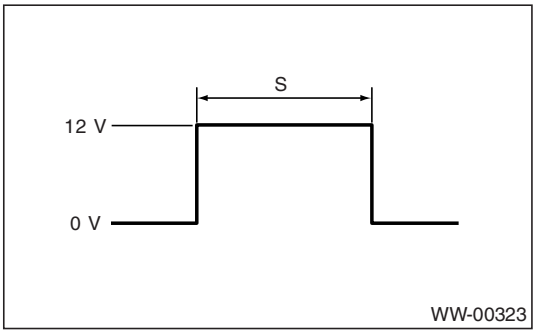
2. FRONT WIPER

1) Check with Subaru Select Monitor.

	Step	Check	Yes	No
1	**CHECK INPUT SIGNAL TO BODY INTEGRATED MODULE.** When the front wiper switch is operated, check the input signal using Subaru Select Monitor. 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON. 3) Select {Integ.unit} from main menu. 4) Select the {Current Data Display & Save}. 5) When the front wiper switch is set to LO or HI, check the input signal.	Is the input signal normal?	End.	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>

2) Intermittent operation inspection
   (1) Turn the wiper switch to INT.
   (2) Adjust the intermittent control switch to MAX.
   (3) Apply the battery voltage to switch terminal No. 16 and 2 (EC, EK, KS and K4 model) or terminal No. 12 and 8 (KA model).
   (4) Measure the voltage between combination switch terminals and measure the intermittent downtime.

Terminal
No. 3 — No. 8:



S: Intermittent downtime (sec.)

Switch position	Vehicle speed (km/h (MPH))	Intermittent downtime (sec.)
MIN.	0 (0)	Approx. 4
	30 (19)	Approx. 1.5
	60 (37)	Approx. 1
MAX.	0 (0)	Approx. 20
	30 (19)	Approx. 18.5
	60 (37)	Approx. 16

3) If operation is not as specified, replace the switch.

3. REAR WIPER

1) Check with Subaru Select Monitor.

	Step	Check	Yes	No
1	**CHECK INPUT OF REAR WIPER SWITCH.** Check the input from body integrated module using Subaru Select Monitor. 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON. 3) Select {Integ.unit} from main menu. 4) Select the {Current Data Display & Save}. 5) Check the input of rear wiper switch.	Is the input normal?	Go to step **2.**	Check the rear wiper switch. <Ref. to WW-8, INSPECTION, Combination Switch (Wiper).>
2	**CHECK OUTPUT OF BODY INTEGRATED MODULE.** When the rear wiper switch is operated, check the output using Subaru Select Monitor. 1) Turn the ignition switch to ON. 2) Operate the rear wiper switch to set to each position of ON and INT. 3) At this time, check the output of body integrated module.	When it is set to ON, is ON output continuously? When it is set to INT, is ON/OFF output repeatedly? (INT OFF time (when vehicle parked): 12 seconds for Wagon)	Check the rear wiper motor. <Ref. to WW-22, INSPECTION, Rear Wiper Motor.>	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>

2) Rear wiper motor circuit check

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY CIRCUIT OF REAR WIPER MOTOR.** 1) Disconnect the harness connector of rear wiper motor. 2) Turn the ignition switch to ACC. 3) Measure the voltage between the rear wiper motor harness connector terminal and chassis ground. ***Connector & terminal*** ***(D43) No. 1 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **2.**	• Check the fuse (No. 23 in fuse & relay box). • Check the fusible link (No. 7 in main fuse box).
2	**CHECK GROUND CIRCUIT OF REAR WIPER MOTOR.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between the rear wiper motor harness connector terminal and chassis ground. ***Connector & terminal*** ***(D43) No. 3 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3.**	Repair the open circuit of rear wiper motor ground circuit.
3	**CHECK HARNESS BETWEEN BODY INTEGRATED MODULE AND REAR WIPER MOTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated module harness connector. 3) Disconnect the harness connector of rear wiper motor. 4) Measure the resistance between the harness connector terminals of body integrated module and rear wiper motor. ***Connector & terminal*** ***(B280) No. 1 — (D43) No. 2:*** ***(B280) No. 8 — (D43) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4.**	Repair the open circuit of harness between body integrated module and rear wiper motor.

	Step	Check	Yes	No
4	**CHECK OPERATION OF REAR WIPER MOTOR.** 1) Remove the rear wiper motor. 2) Check the rear wiper motor. <Ref. to WW-22, INSPECTION, Rear Wiper Motor.>	Does the rear wiper motor rotate normally?	End.	Replace the rear wiper motor.

NOTE:
Rear wiper intermittent time (AT model)

Select lever position (AT model)	Vehicle speed (km/h (MPH))	Intermittent stopping time (sec.)
Rev	—	Continuous operation
Except for reverse mode	80 — (50 —)	3
	50 — 80 (31 — 50)	6
	20 — 50 (12 — 31)	9
	0 — 20 (0 — 12)	12

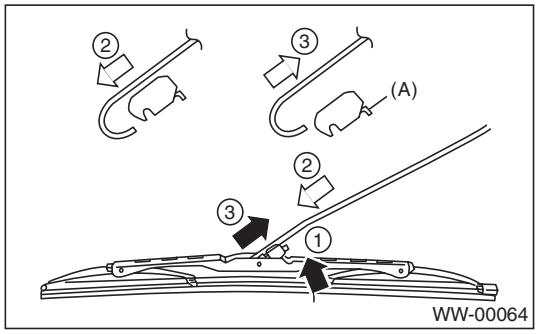
4. Wiper Blade

A: REMOVAL

CAUTION:
When replacing the wiper blade, if standing up the wiper arm, be sure to stand up the driver's side wiper arm first, and then passenger's side wiper arm next. Also, when putting the wiper arms back, be sure to start with passenger's side first, then driver's side next. Doing this in the reverse order may result in damage of passenger's side wiper arm by hitting with driver's side wiper blade.

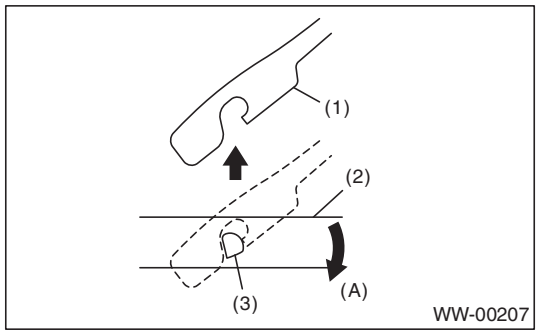
1. FRONT

While pushing the locking clip (A) up, pull out the blade from arm to arrow direction.



2. REAR

Turn the blade in the direction of the arrow (A) and remove it from arm.



(A) Turn the wiper blade.
(1) Wiper arm
(2) Wiper Blade
(3) Installing part of wiper blade

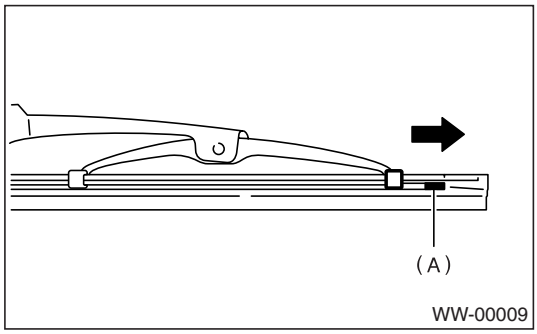
B: INSTALLATION

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

C: DISASSEMBLY

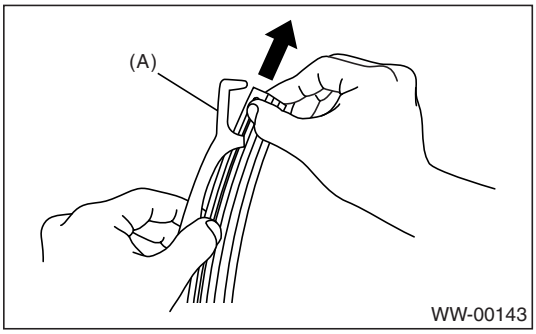
1. METAL TYPE

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



2. RESIN TYPE

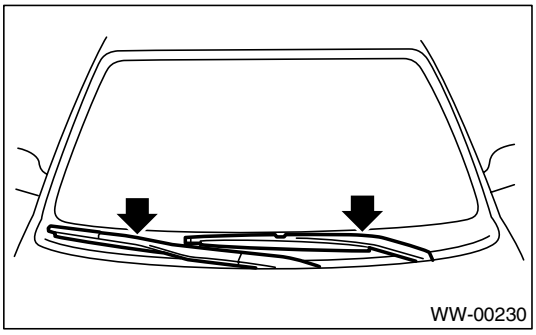
Pull the wiper rubber top slightly from stopper (A) and pull out fully.



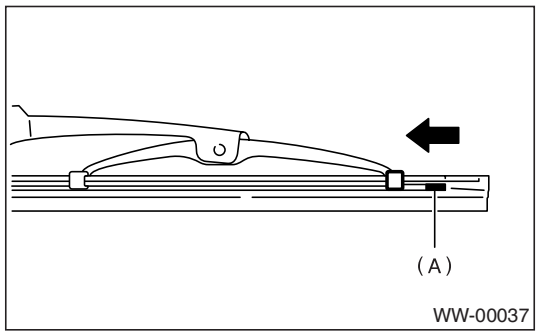
D: ASSEMBLY

1. METAL TYPE

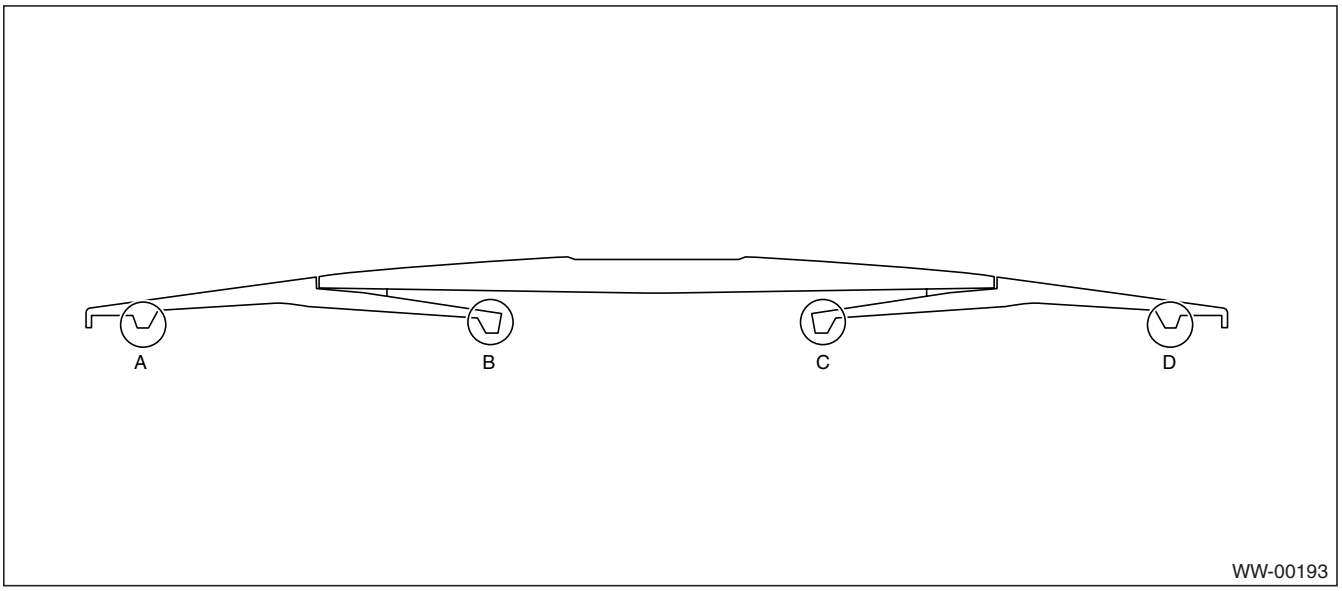
1) Insert the wiper rubber onto blade so that the stopper is in the position shown in the figure.



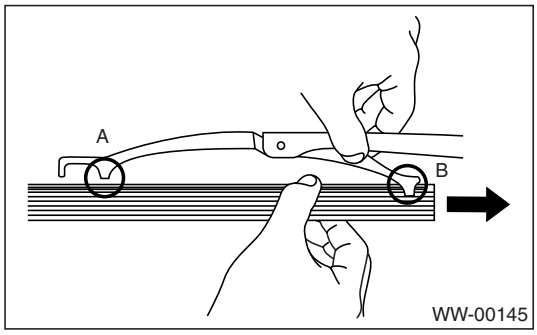
2) Make sure the wiper rubber is securely fastened to the pull stopper (A).



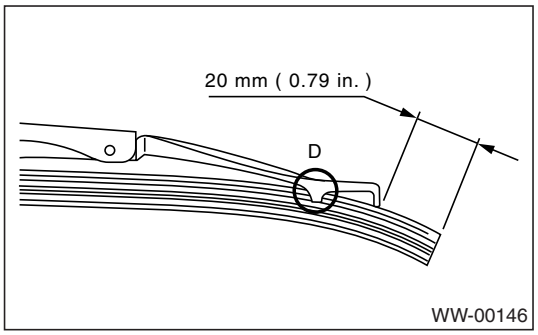
2. RESIN TYPE



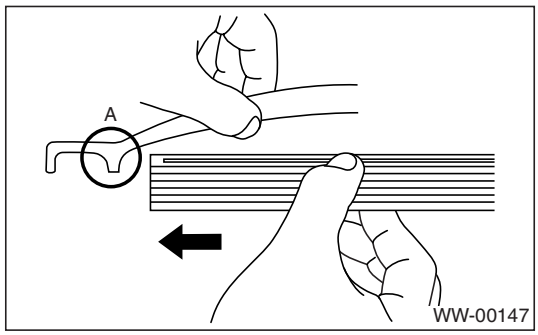
1) Insert the wiper rubber through the claw (B).



2) Insert the wiper rubber until its top end protrudes approx. 20 mm (0.79 in) from stopper (D).



3) Insert the wiper rubber into the claw (A).



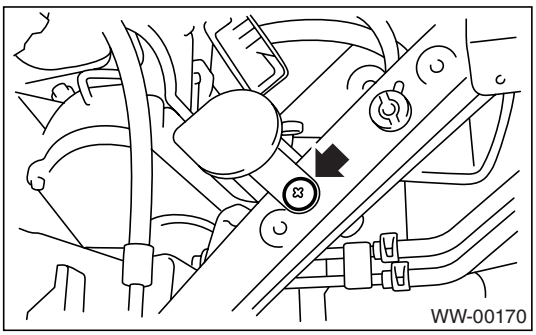
E: INSPECTION

1) When the wiper does not perform well, inspect the followings:
• Make sure the movable part of the wiper blade assembly moves smoothly.
• Make sure the wiper rubber is not deformed or damaged.
2) If damaged, replace with new one.

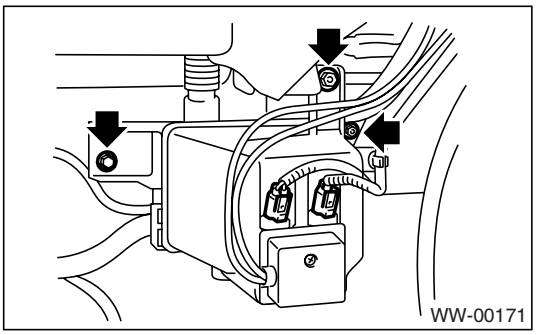
5. Washer Tank and Motor

A: REMOVAL

1) Open the front hood.
2) Disconnect the ground cable from battery.
3) Remove the front bumper. <Ref. to EI-30, REMOVAL, Front Bumper.>
4) Remove the clip holding washer water supply tap.



5) Remove the two bolts and one nut, hose, connector and washer motor cover, and then remove the washer tank.



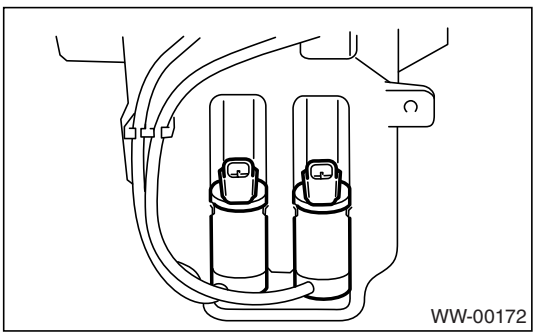
B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
6.0 N·m (0.61 kgf-m, 4.3 ft-lb)

C: DISASSEMBLY

Pull out the washer motor from tank.

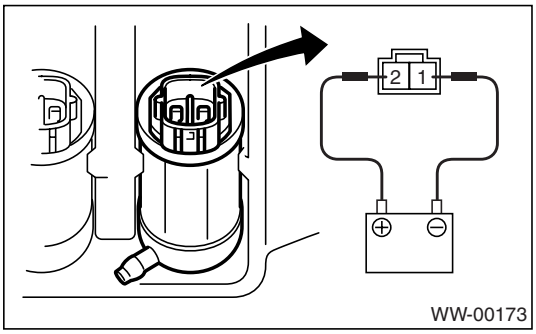


D: ASSEMBLY

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

E: INSPECTION

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

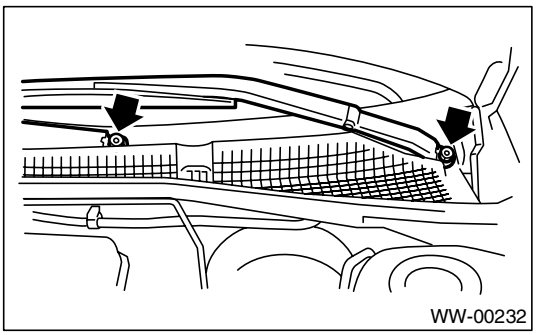


6. Front Wiper Arm

A: REMOVAL

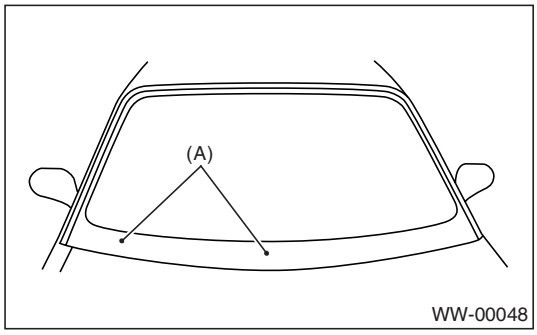
CAUTION:
When standing up the wiper arm, be sure to stand up the driver's side wiper arm first, and then passenger's side wiper arm next. Also, when putting the wiper arms back, be sure to start with passenger's side first, then driver's side next. Doing this in the reverse order may result in damage of passenger's side wiper arm by hitting with driver's side wiper blade.

1) Open the front hood.
2) Remove the cap.
3) Remove the nut to remove wiper arm.



B: INSTALLATION

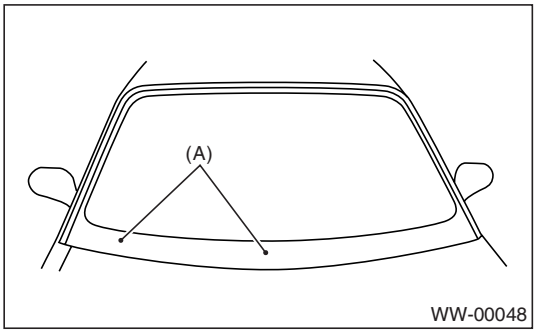
1) Install in the reverse order of removal.
2) Operate the wiper once.
3) Align the wiper blade to ceramic print point mark (A) of front window panel.



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

C: ADJUSTMENT

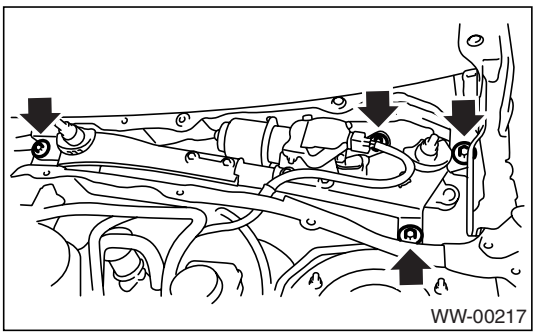
Operate the wiper once. Align the wiper blade to ceramic print point mark (A) of front window panel.



7. Front Wiper Motor and Link

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the cowl panel. <Ref. to EI-39, REMOVAL, Cowl Panel.>
3) Disconnect the connector of wiper motor assembly.
4) Remove the bolt, and then remove the wiper assembly.



NOTE:
Wiper motor and wiper link can not be disassembled, because those are assembly part.

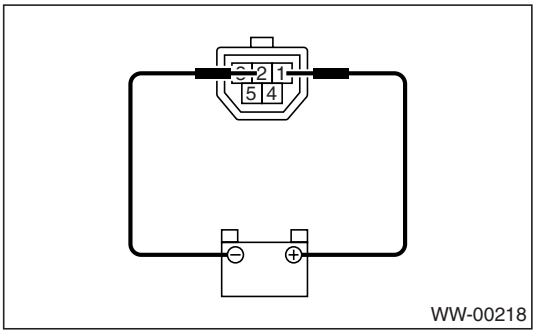
B: INSTALLATION

Install in the reverse order of removal.

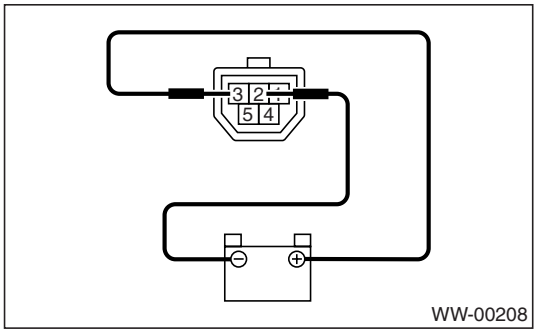
Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to WW-2, FRONT WIPER, COMPONENT, General Description.>

C: INSPECTION

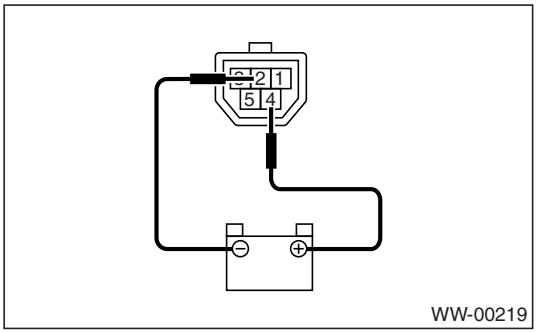
1) When the battery is connected to the terminal of connectors, confirm that the wiper motor operates at low speed.
• LHD model



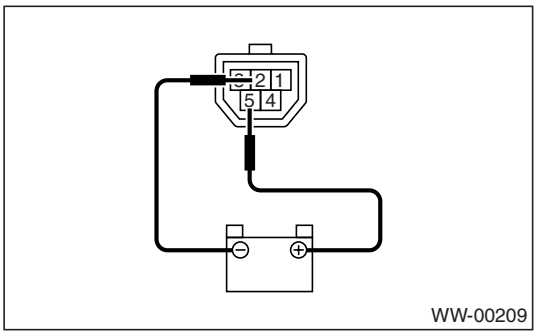
• RHD model



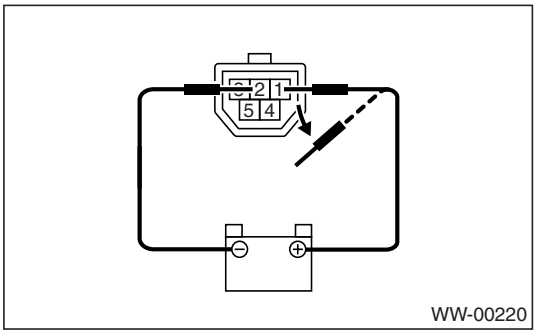
2) When the battery is connected to the terminal of connectors, confirm that the wiper motor operates at high speed.
• LHD model



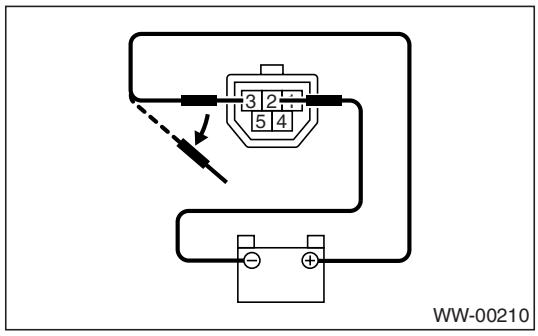
• RHD model



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

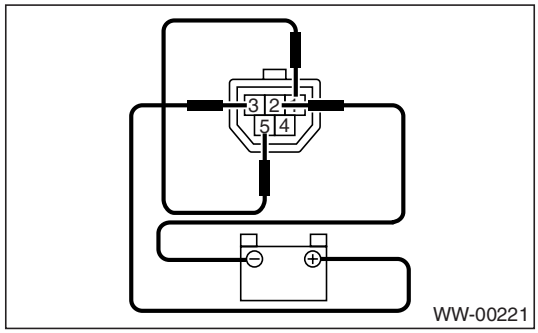


- RHD model

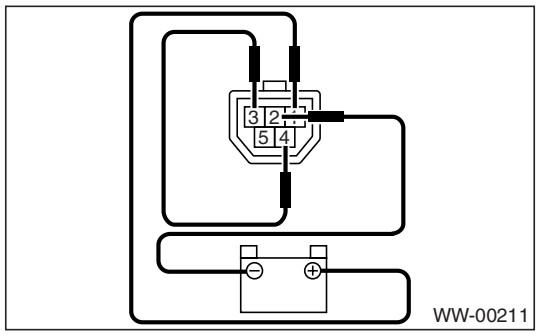


4) Connect the battery and confirm that the wiper motor stops at automatic stop position after the wiper motor operates at low speed again.

- LHD model



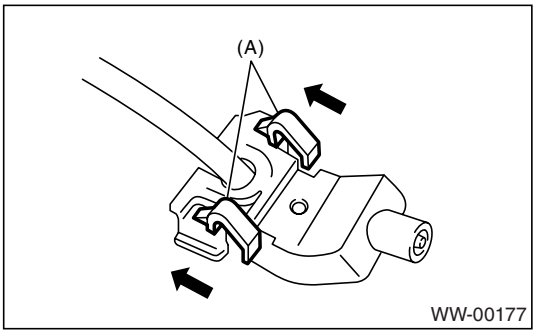
- RHD model



8. Front Washer Nozzle

A: REMOVAL

1) Remove the front hood insulator. <Ref. to EB-13, FRONT HOOD INSULATOR, REMOVAL, Front Hood.>
2) Hold the pawl (A) of washer nozzle toward arrow direction, and remove the washer nozzle.



3) Remove the washer hose from washer nozzle.

B: INSTALLATION

1) Install in the reverse order of removal.
2) Adjust the washer nozzle position. <Ref. to WW-20, ADJUSTMENT, Front Washer Nozzle.>

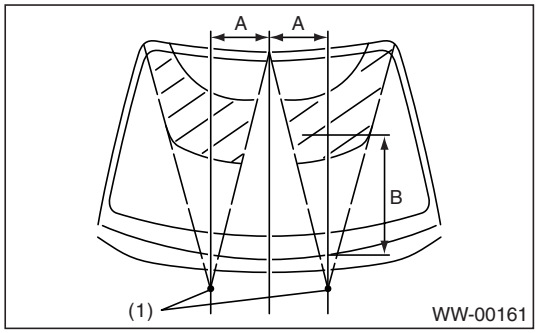
C: INSPECTION

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

D: ADJUSTMENT

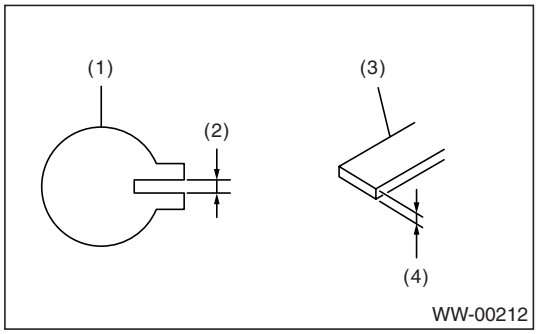
1) Turn the wiper switch to OFF position.
2) While the vehicle is at standstill, adjust the washer injection position as shown in the figure.

Injection position:
A: 250 mm (9.84 in)
B: 435 mm (17.13 in)



(1) Nozzle

Injection angle should be adjusted with 0.5 mm (0.020 in) thickness steel scale. Use maximum thickness of 0.5 mm (0.020 in) steel scale, because the injection slit width of washer nozzle is 0.6 mm (0.024 in). Adjusting with a flat tip driver may damage the injection slit resulting in faulty injection.



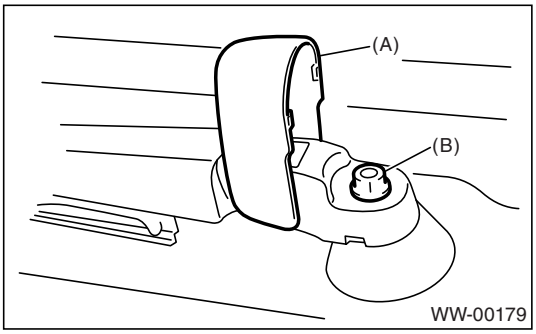
(1) Inside of washer nozzle injection
(2) 0.6 mm (0.024 in)
(3) Steel scale
(4) Max. 0.5 mm (0.020 in)

9. Rear Wiper Arm

A: REMOVAL

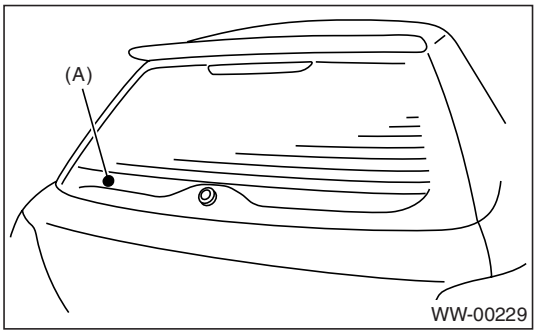
1. WAGON MODEL

1) Detach the wiper arm cover (A).
2) Remove the nut (B) to remove wiper arm.



B: INSTALLATION

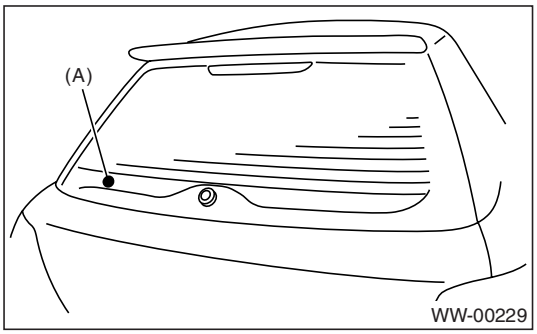
1) Install in the reverse order of removal.
2) Operate the rear wiper once.
3) Align the blade with the marking (A) of glass.



Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to WW-4, REAR WIPER (WAGON MODEL), COMPONENT, General Description.>

C: ADJUSTMENT

1) Operate the rear wiper once.
2) Align the blade with the marking (A) of glass.

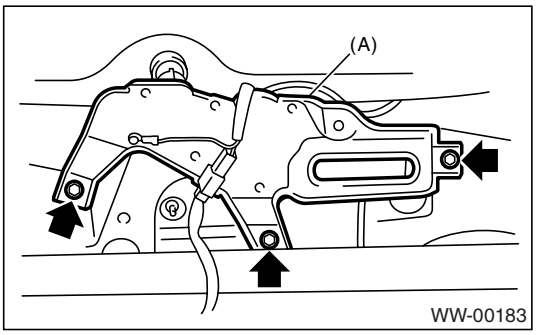


10.Rear Wiper Motor

A: REMOVAL

1. WAGON MODEL

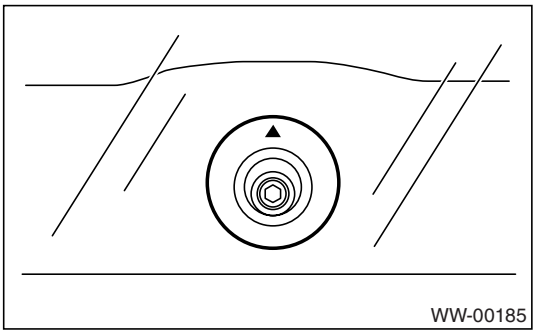
1) Disconnect the ground cable from battery.
2) Remove the rear wiper arm. <Ref. to WW-21, WAGON MODEL, REMOVAL, Rear Wiper Arm.>
3) Remove the rear gate lower trim. <Ref. to EI-69, REMOVAL, Rear Gate Trim.>
4) Disconnect the harness connector of wiper motor assembly.
5) Remove the bolts to remove wiper motor assembly (A).



B: INSTALLATION

1. WAGON MODEL

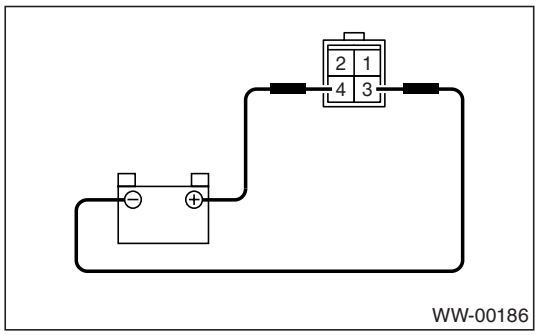
1) Install in the reverse order of removal.
2) Be sure that the pivot cap with the arrow mark facing up, as shown in the figure.



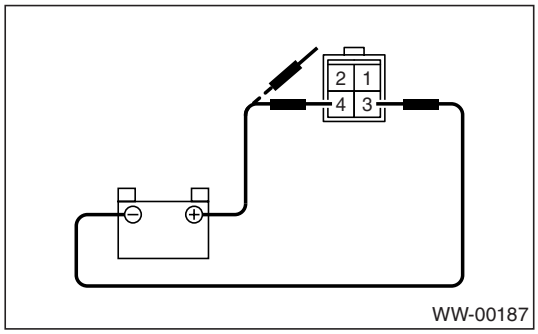
Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to WW-4, REAR WIPER (WAGON MODEL), COMPONENT, General Description.>

C: INSPECTION

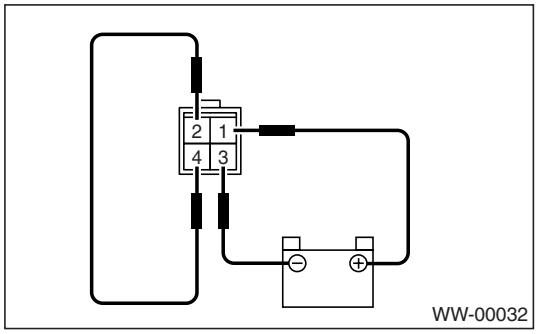
1) Connect the battery to wiper motor connector and confirm that wiper motor operates.



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



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

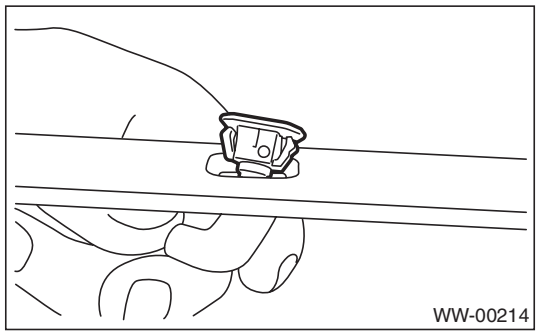


11.Rear Washer

A: REMOVAL

1. WAGON MODEL

1) Detach the roof spoiler. <Ref. to EI-40, REMOVAL, Roof Spoiler.>
2) Remove the washer hose from washer nozzle.
3) Push the pawl of nozzle from the reverse side of roof spoiler with a flat tip screwdriver or equivalent, and remove the washer nozzle.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

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

ENTERTAINMENT

ET

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1. General Description

A: CAUTION

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

B: PREPARATION TOOL

1. GENERAL TOOL

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

2. Audio System

A: WIRING DIAGRAM

<Ref. to WI-280, WIRING DIAGRAM, Audio System.>

B: INSPECTION

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

3. Front Accessory Power Supply Socket System

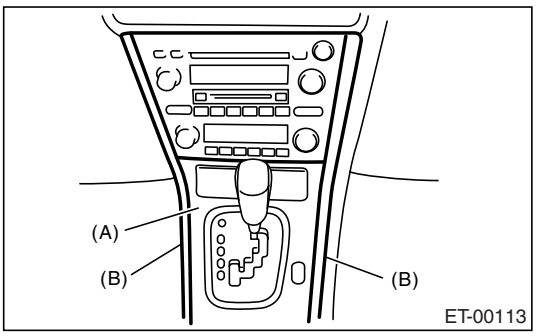
A: WIRING DIAGRAM

<Ref. to WI-288, WIRING DIAGRAM, Front Accessory Power Supply Socket System.>

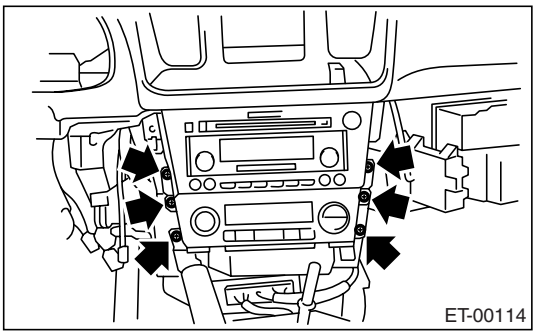
4. Audio

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the console box. <Ref. to EI-53, REMOVAL, Console Box.>
3) Remove the console front panel (A). <Ref. to EI-54, REMOVAL, Center Console.>
4) Remove the console side garnish (B). <Ref. to EI-54, REMOVAL, Center Console.>



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



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

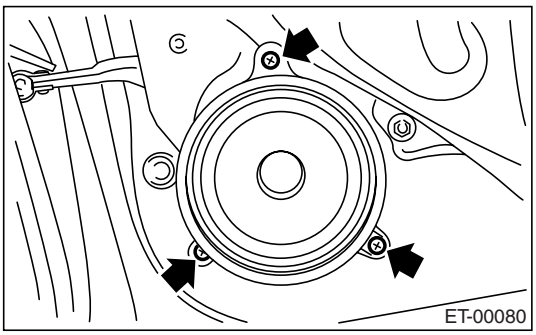
B: INSTALLATION

Install in the reverse order of removal.

5. Front Speaker

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the front speaker mounting screws.



4) Disconnect the harness connector and remove front speaker.

B: INSTALLATION

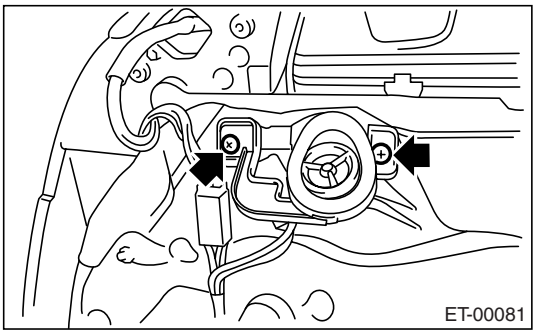
Install in the reverse order of removal.

6. Tweeter

A: REMOVAL

1. MODEL WITH TWEETER

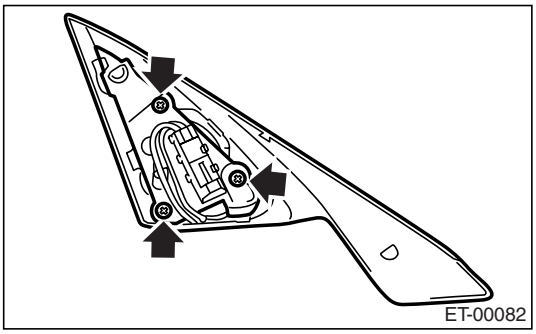
1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the tweeter mounting screws.



4) Disconnect the harness connector and remove tweeter.

2. MODEL WITH MCINTOSH AUDIO SYSTEM

1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the gusset cover. <Ref. to GW-19, REMOVAL, Outer Mirror Assembly.>
4) Disconnect the harness connector and remove tweeter.



B: INSTALLATION

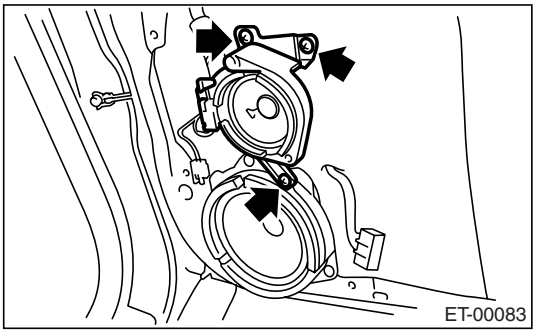
Install in the reverse order of removal.

7. Squawker

A: REMOVAL

NOTE:
Model with McIntosh audio system only.

1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the squawker mounting screws.



4) Disconnect the harness connectors and remove squawker.

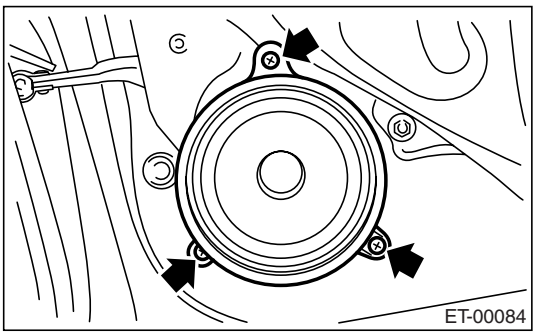
B: INSTALLATION

Install in the reverse order of removal.

8. Rear Speaker

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the rear speaker mounting screws.



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

B: INSTALLATION

Install in the reverse order of removal.

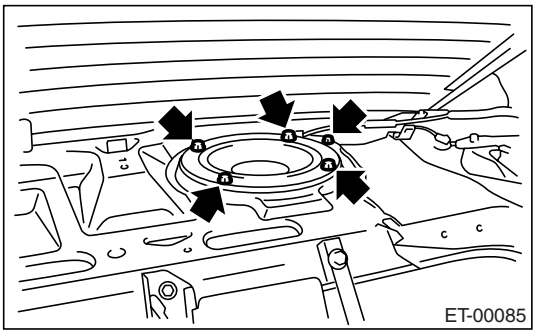
9. Woofer

A: REMOVAL

1. SEDAN MODEL

NOTE:
Model with McIntosh audio system only.

1) Disconnect the ground cable from battery.
2) Remove the rear shelf trim. <Ref. to EI-70, REMOVAL, Rear Shelf Trim.>
3) Remove the woofer mounting screws.

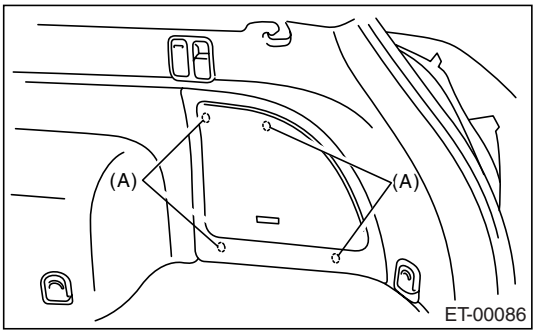


4) Disconnect the harness connector and remove woofer.

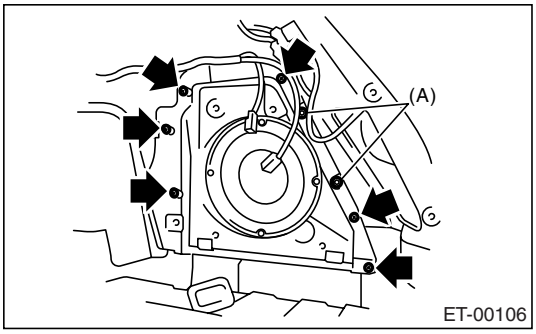
2. WAGON MODEL

NOTE:
Model with McIntosh audio system only.

1) Disconnect the ground cable from battery.
2) Remove the hooks (A) and remove the woofer cover. <Ref. to EI-63, REMOVAL, Rear Quarter Trim.>



3) Remove the quarter lower trim. <Ref. to EI-63, REMOVAL, Rear Quarter Trim.>
4) Remove the woofer bracket mounting clip (A) and screws, and then remove the woofer bracket.



5) Disconnect the harness connector and remove the woofer.

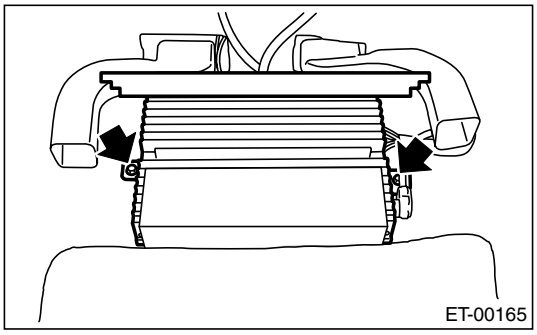
B: INSTALLATION

Install in the reverse order of removal.

10.Power Amplifier

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the passenger's seat. <Ref. to SE-7, REMOVAL, Front Seat.>
3) Disconnect the harness connector.
4) Remove the nuts to remove power amplifier.



B: INSTALLATION

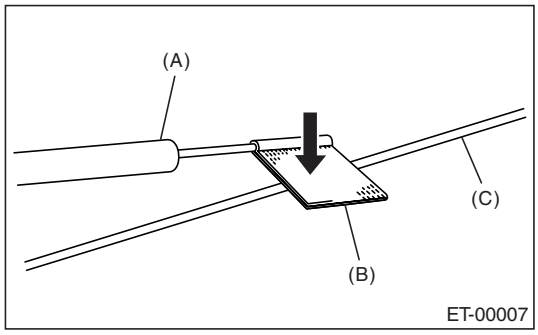
Install in the reverse order of removal.

11.Antenna

A: INSPECTION

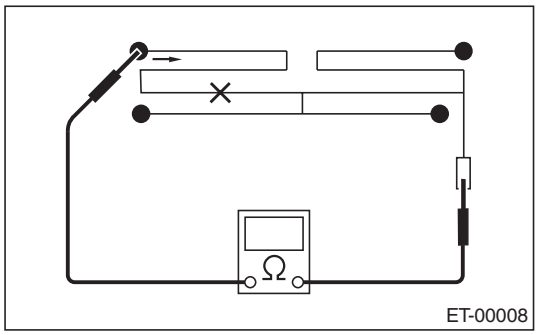
Measure the resistance between antenna terminal and each antenna wire.
If an antenna wire is OK, resistance will be less than 1 Ω. If an antenna wire is broken, resistance will be more than 1 MΩ.

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



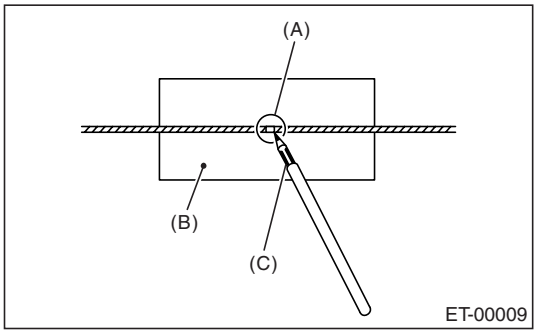
(A) Tester probe
(B) Aluminum foil
(C) Antenna wire

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



B: REPAIR

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



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

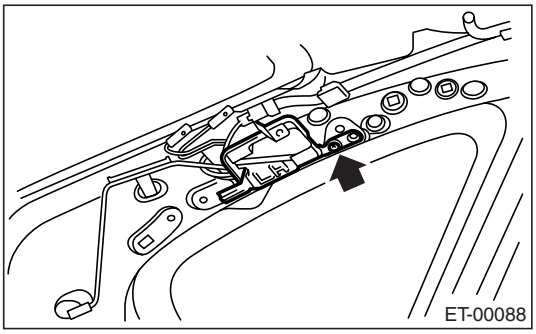
4) Dry out the deposited portion.
5) After repair has been completed, measure the resistance in repaired wire.

12.Antenna Amplifier

A: REMOVAL

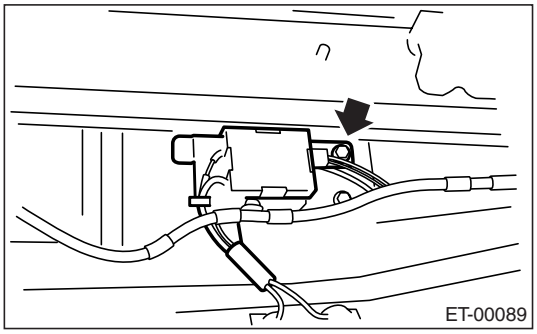
1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear quarter trim. <Ref. to EI-63, SEDAN MODEL (MODEL WITH CURTAIN AIR-BAG), REMOVAL, Rear Quarter Trim.>
3) Disconnect the harness connectors and terminals.
4) Remove the curtain airbag module. <Ref. to AB-20, REMOVAL, Curtain Airbag Module.>
5) Remove the screw and detach antenna amplifier.



2. WAGON MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim. <Ref. to EI-69, REMOVAL, Rear Gate Trim.>
3) Disconnect the harness connectors and terminals.
4) Remove the screw and remove antenna amplifier.



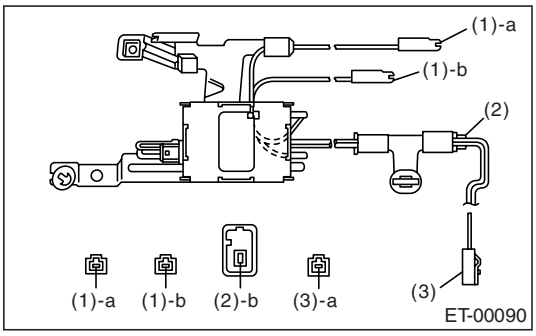
B: INSTALLATION

Install in the reverse order of removal.

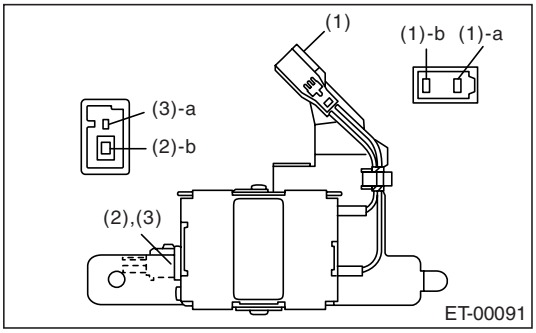
C: INSPECTION

Measure the resistance of antenna amplifier.

- Sedan model



- Wagon model



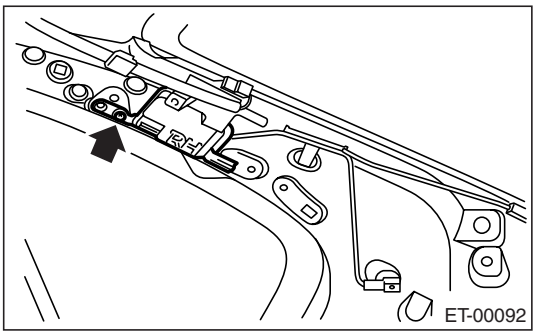
Terminal No.	Standard
(1)-a and Amplifier body	More than 10 kΩ
(1)-b and Amplifier body	More than 10 kΩ
(2)-a and Amplifier body	More than 10 kΩ
(3)-a and Amplifier body	More than 10 kΩ

13.Noise Suppressor

A: REMOVAL

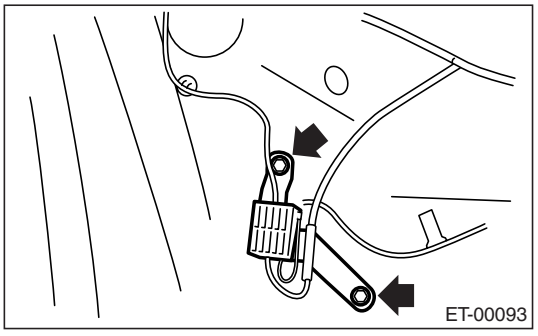
1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear quarter trim. <Ref. to EI-63, SEDAN MODEL (MODEL WITH CURTAIN AIR-BAG), REMOVAL, Rear Quarter Trim.>
3) Remove the curtain airbag module. <Ref. to AB-20, REMOVAL, Curtain Airbag Module.>
4) Disconnect the harness connector from noise suppressor.
5) Remove the harness clip.
6) Remove the screws and remove noise suppressor.



2. WAGON MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim. <Ref. to EI-69, REMOVAL, Rear Gate Trim.>
3) Disconnect the harness connector from noise suppressor.
4) Remove the screws and remove noise suppressor.



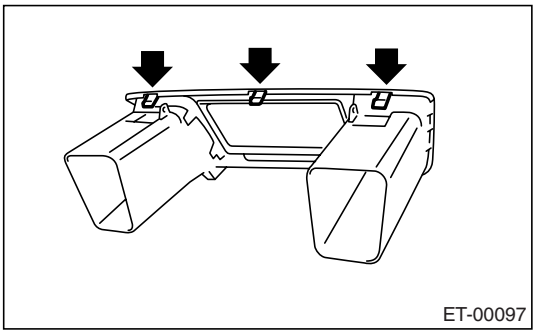
B: INSTALLATION

Install in the reverse order of removal.

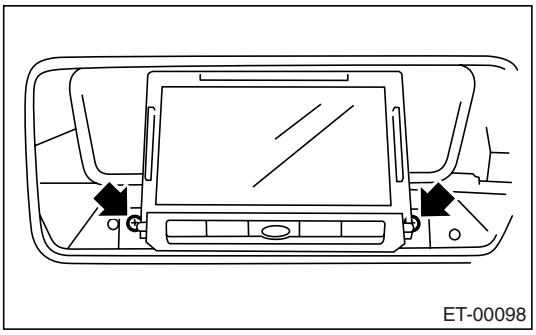
14.Navigation Display

A: REMOVAL

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



3) Remove the display mounting screws.



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

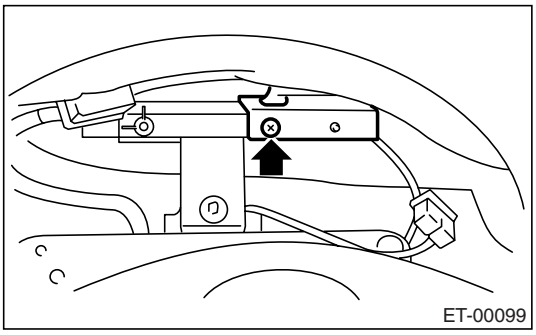
B: INSTALLATION

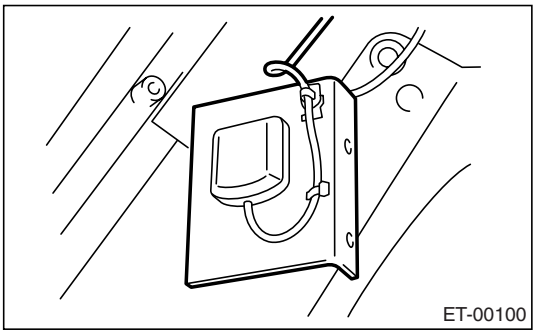
Install in the reverse order of removal.

15.GPS Antenna

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.>
3) Remove the GPS antenna mounting screw, and then remove the GPS antenna.


ET-00099


ET-00100

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

B: INSTALLATION

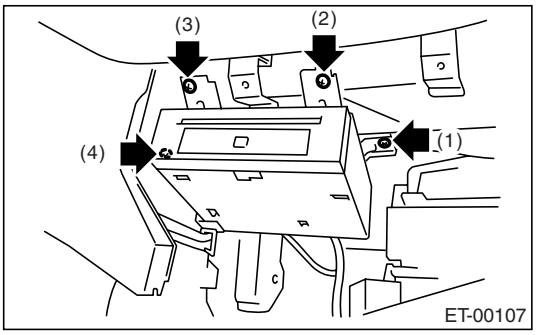
Install in the reverse order of removal.

16.Navigation Body

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-51, REMOVAL, Glove Box.>
3) Remove the navigation body mounting screws in numerical order and pull it out.

NOTE:
To remove the screw (4) easier, move the navigation body after removing the screw (3).



4) Remove the harness connector and antenna cable, and then remove the navigation body.

B: INSTALLATION

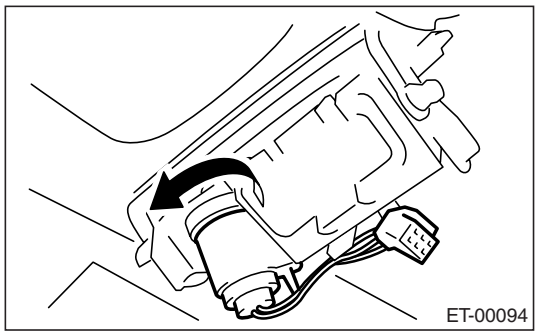
Install in the reverse order of removal.

17. Front Accessory Power Supply Socket

A: REMOVAL

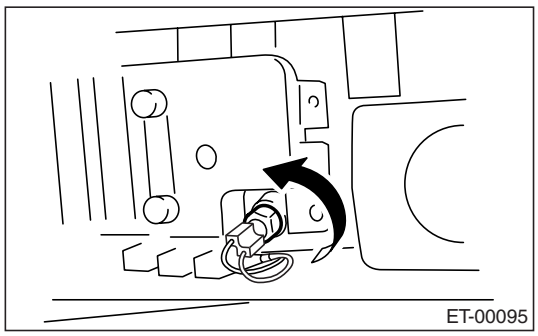
1. FRONT

1) Disconnect the ground cable from battery.
2) Remove the console front panel. <Ref. to EI-54, REMOVAL, Center Console.>
3) Disconnect the harness connector, and remove the accessory power supply socket.



2. REAR

1) Disconnect the ground cable from battery.
2) Remove the console box. <Ref. to EI-53, REMOVAL, Console Box.>
3) Disconnect the harness connector, and remove the accessory power supply socket.



B: INSTALLATION

Install in the reverse order of removal.

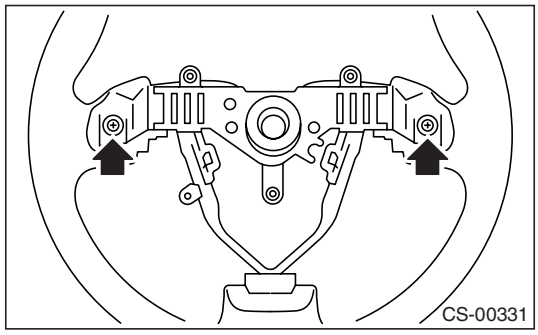
18.Steering Satellite Switch

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Set the tire to the straight-ahead position.
3) Remove the airbag module. <Ref. to AB-16, REMOVAL, Driver's Airbag Module.>

WARNING:
With the airbag module equipped, always refer to "Airbag System" when performing the airbag module repair service. <Ref. to AB-16, INSPECTION, Driver's Airbag Module.>

4) Remove the steering wheel. <Ref. to PS-21, REMOVAL, Steering Wheel.>
5) Remove the cover from steering wheel.
6) Remove each one of satellite switch mounting screw from the LH and RH side.

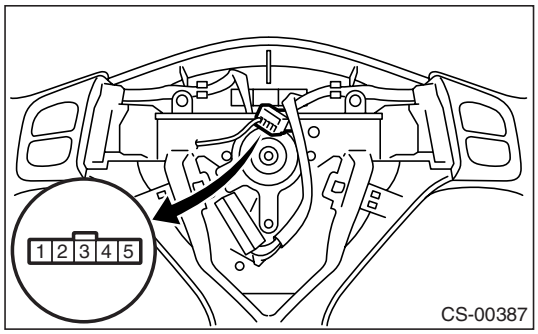


7) Remove the satellite switch.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION



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

COMMUNICATION SYSTEM

COM

Page

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

1. General Description

A: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing audio, 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 the connectors securely during reassembly.
• After reassembly, make sure functional parts operate smoothly.

B: PREPARATION TOOL

1. GENERAL TOOLS

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
TORX® BIT T30	Used for removing and installing driver's air-bag module.

2. Horn System

A: WIRING DIAGRAM

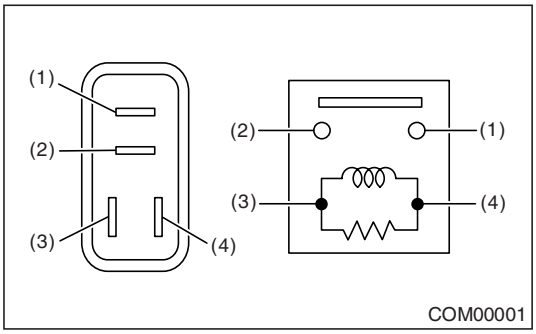
1. HORN

<Ref. to WI-294, WIRING DIAGRAM, Horn System.>

B: INSPECTION

1. HORN RELAY

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

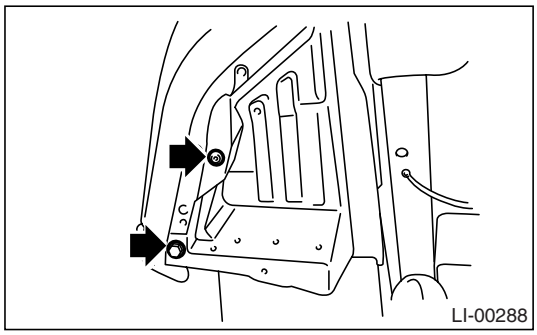


Current	Terminal No.	Standard
Flow	1 and 2	Less than 1 Ω
No Flow		More than 1 MΩ

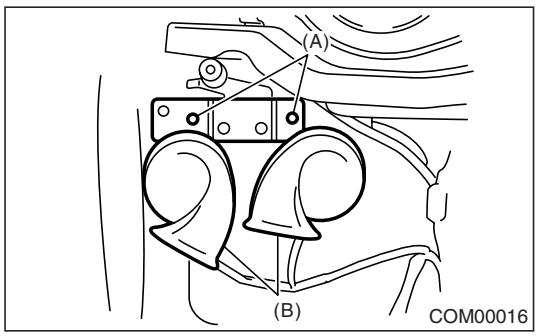
3. Horn

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the two clips and turn up the lower mud guard RH.



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

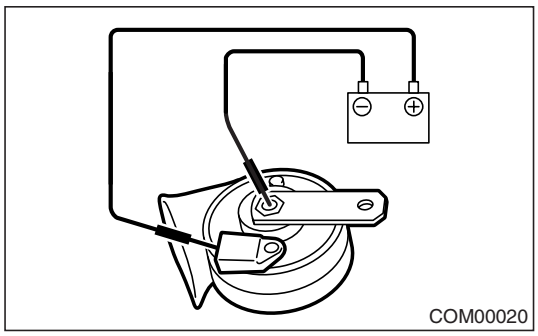


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

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



4. Horn Switch

A: REMOVAL

WARNING:
Before servicing, be sure to read the notes in AB section for proper handling of driver's airbag module. <Ref. to AB-5, CAUTION, General Description.>

NOTE:
Horn switch is a unit with the driver's airbag module.

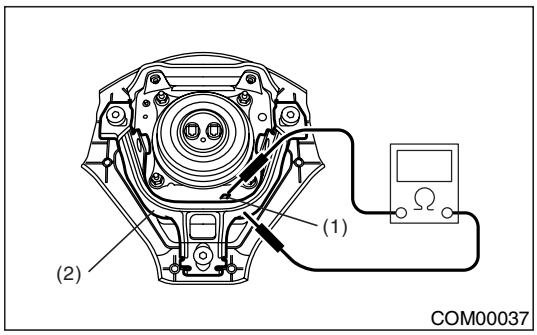
1) Disconnect the ground cable from battery.
2) Remove the driver's airbag module. <Ref. to AB-16, REMOVAL, Driver's Airbag Module.>

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

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



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

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

GLASS/WINDOWS/MIRRORS

GW

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3.	Power Window Control Switch	9
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5.	Front Regulator and Motor Assembly	16
6.	Remote Control Mirror System	17
7.	Scalp Cap	18
8.	Outer Mirror Assembly	19
9.	Outer Mirror	21
10.	Remote Control Mirror Switch	22
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13.	Windshield Glass	27
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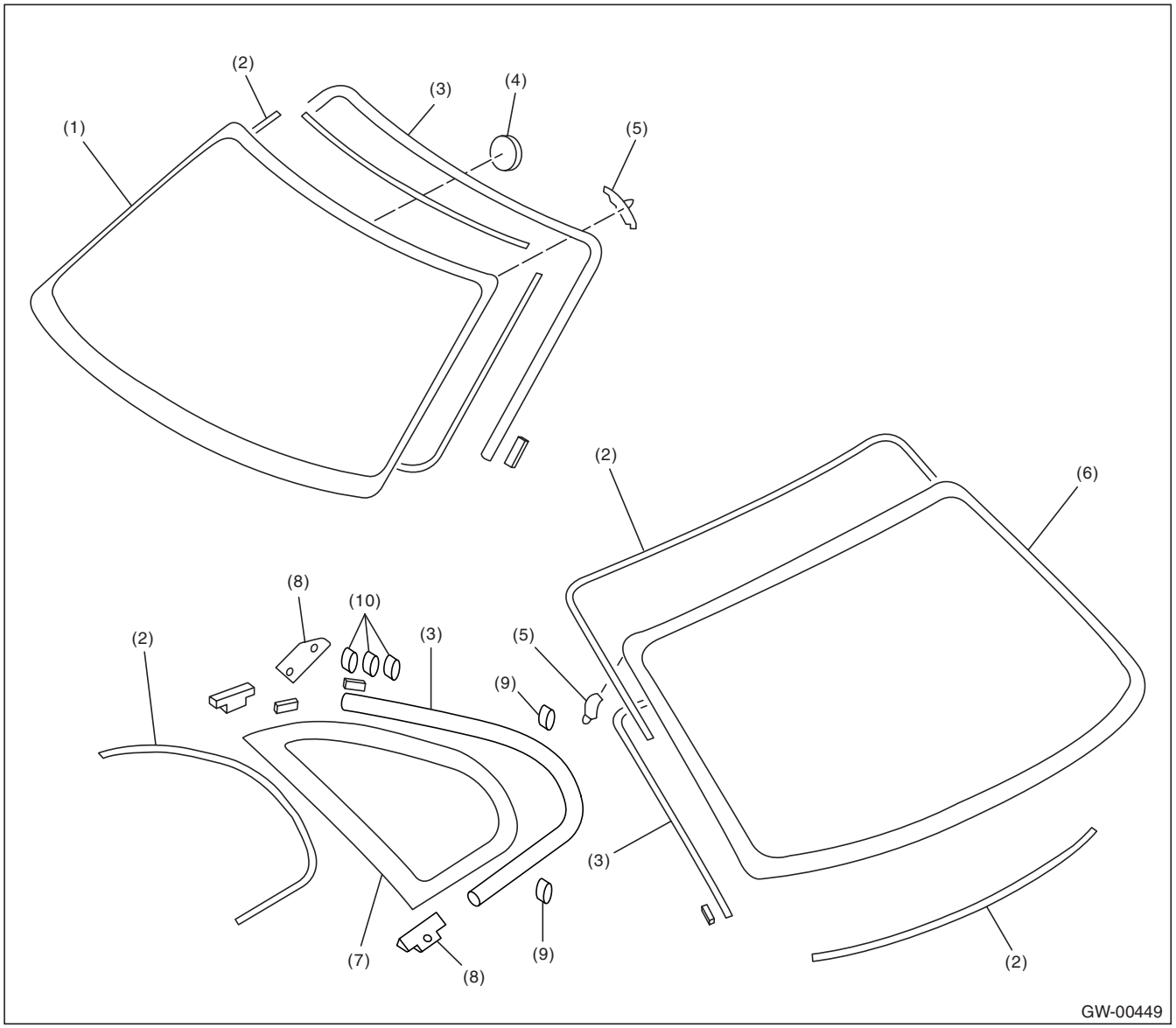
1. General Description

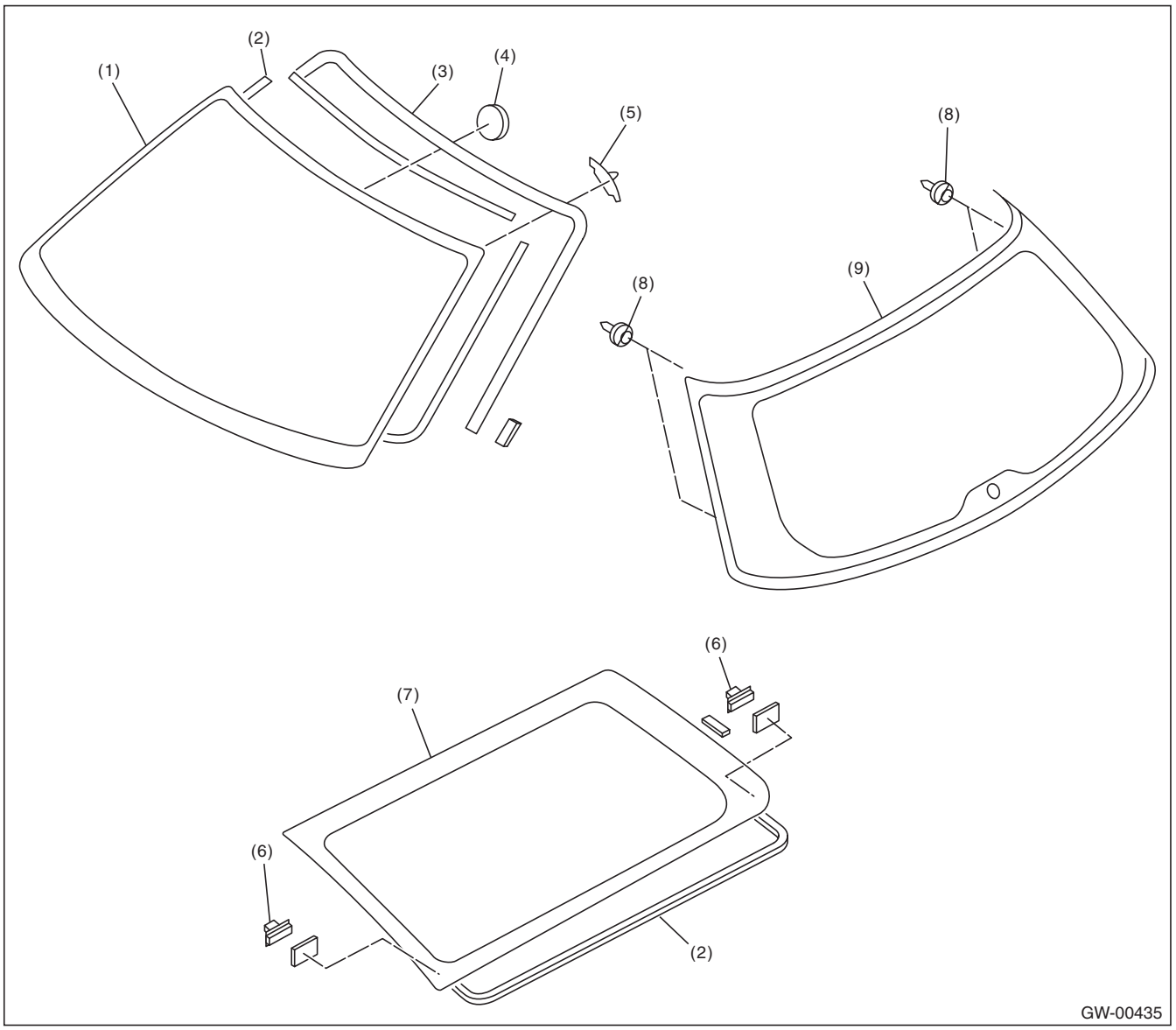
A: COMPONENT

1. FIXED GLASS (SEDAN MODEL)



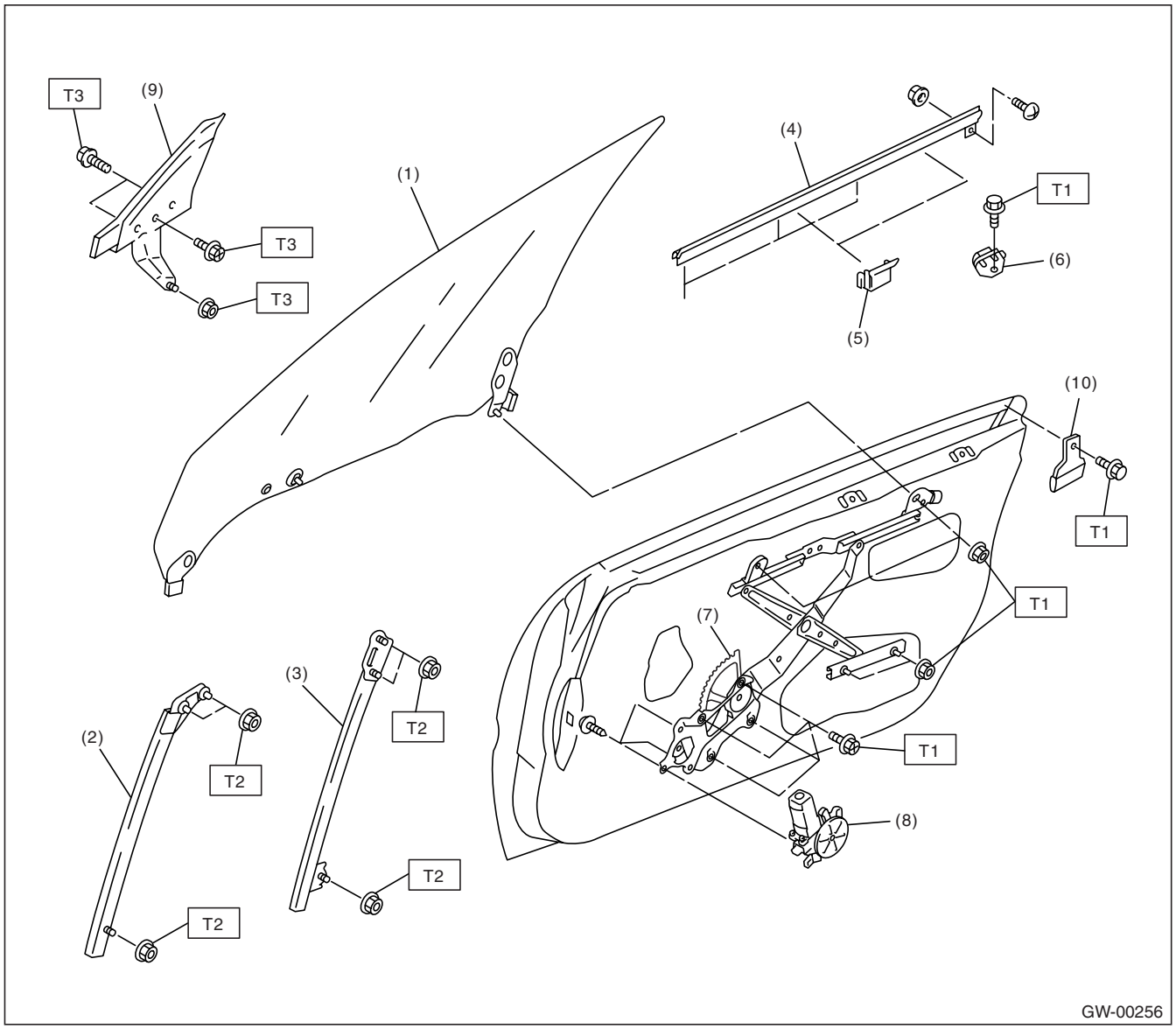
(1) Windshield glass
(2) Dam rubber
(3) Molding
(4) Rearview mirror mount
(5) Locating pin
(6) Rear window glass
(7) Six light glass
(8) Bracket
(9) Clip
(10) Holder

2. FIXED GLASS (WAGON MODEL)



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

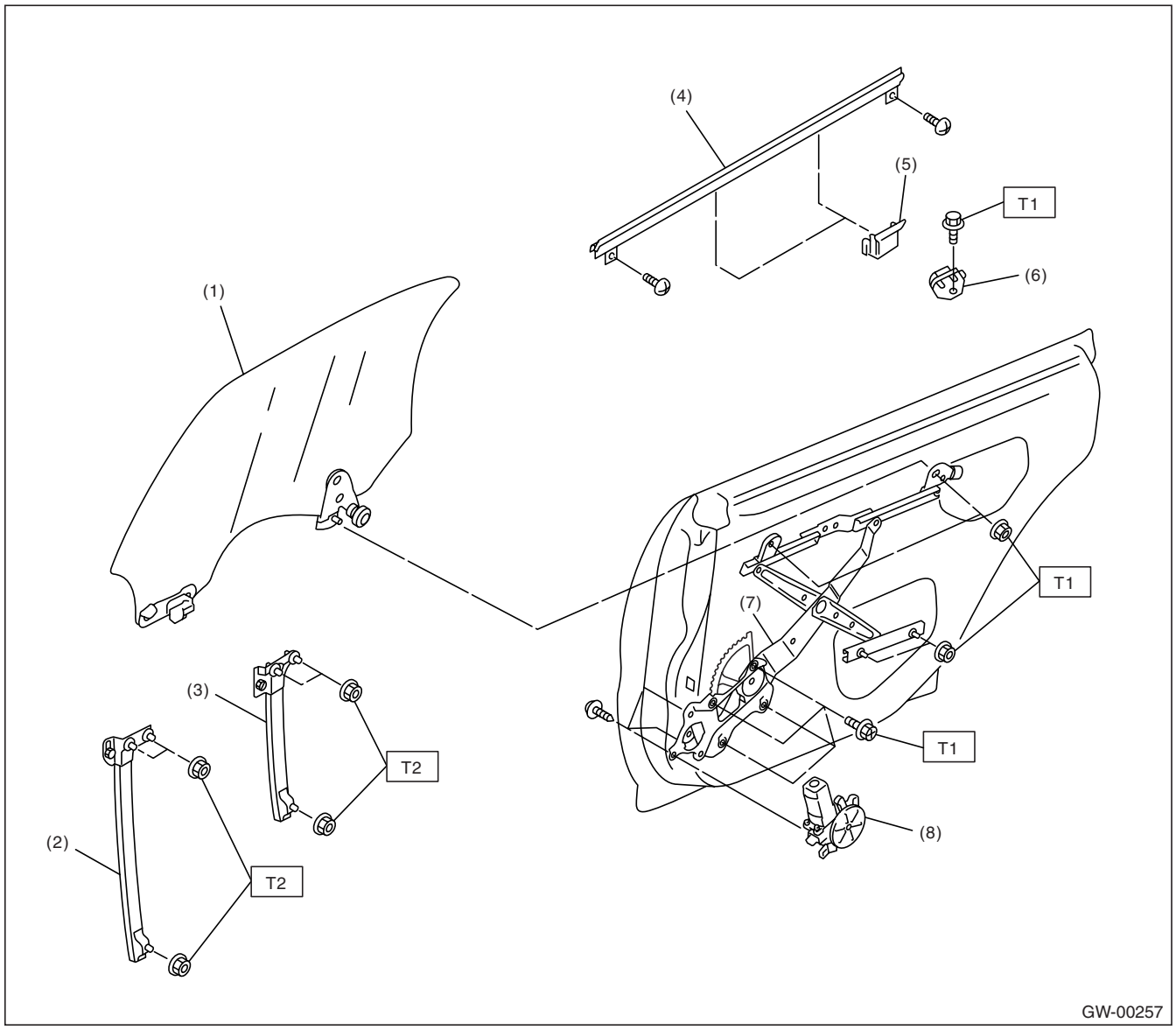
3. FRONT DOOR GLASS



(1)	Glass	(6)	Stabilizer (Inner)
(2)	Door sash (Front)	(7)	Regulator ASSY
(3)	Door sash (Rear)	(8)	Motor ASSY
(4)	Weather strip	(9)	Mirror gusset
(5)	Stabilizer (Outer)	(10)	Guide ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.4 (0.75, 5.5)
T2: 13.7 (1.4, 10.1)
T3: 5.9 (0.60, 4.4)

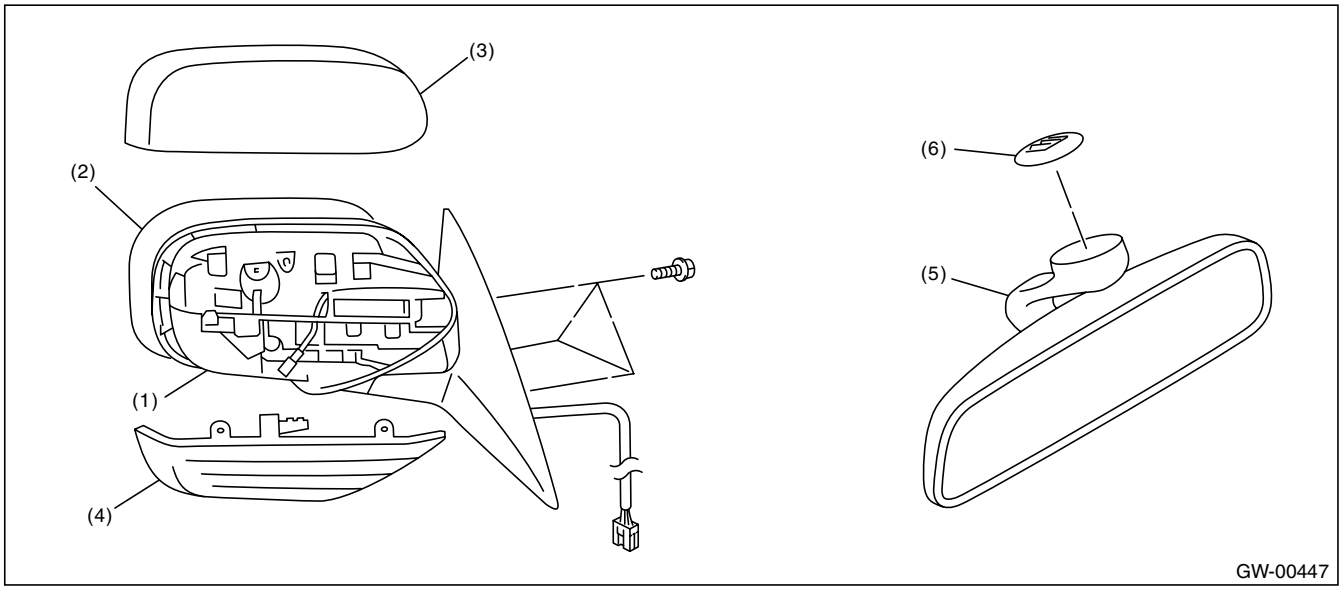
4. REAR DOOR GLASS



(1) Glass
(2) Door sash (Front)
(3) Door sash (Rear)
(4) Weather strip
(5) Stabilizer (Outer)
(6) Stabilizer (Inner)
(7) Regulator ASSY
(8) Motor ASSY

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

5. MIRROR



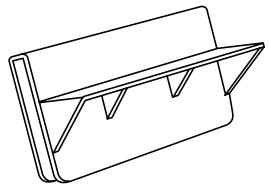
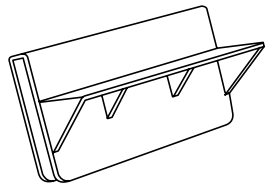
(1) Outer mirror
(2) Mirror
(3) Scalp cap
(4) Side turn signal light
(5) Rearview mirror
(6) Mount

B: CAUTION

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

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST61299AE000	61299AE000	SPACER	Used for adjusting the upper end position of front door glass. (Glass thickness: 5 mm (0.197 in))
 ST61299AE010	61299AE010	SPACER	Used for adjusting the upper end position of rear door glass. (Glass thickness: 4 mm (0.157 in))

2. GENERAL TOOL

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

2. Power Window System

A: WIRING DIAGRAM

<Ref. to WI-295, Power Window System.>

B: INSPECTION

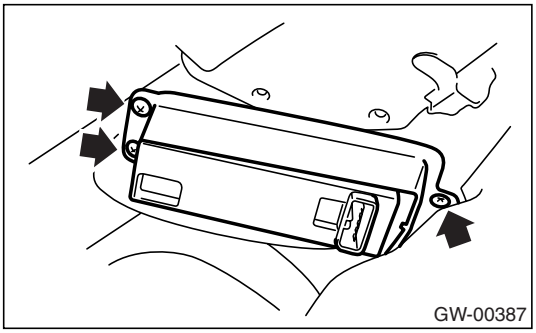
Symptom	Repair order
None of the power window operate.	(1) Fuse (SBF-5) (2) Power window circuit breaker (3) Power window relay (4) Wiring harness (5) Body integrated module
One window does not operate.	(1) Power window main switch (2) Power window sub switch (3) Power window motor (4) Wiring harness
“Window Lock” does not operate.	Power window main switch

3. Power Window Control Switch

A: REMOVAL

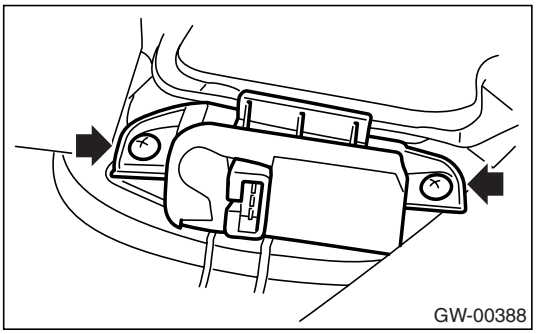
1. MAIN SWITCH

1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Disconnect the harness connector.
4) Remove the screws from the reverse side of front door trim, and remove the power window main switch.



2. SUB SWITCH

1) Disconnect the ground cable from battery.
2) Remove the door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Disconnect the connector.
4) Remove the screws from the reverse side of door trim, and remove the power window sub switch.



B: INSTALLATION

1. MAIN SWITCH

Install in the reverse order of removal.

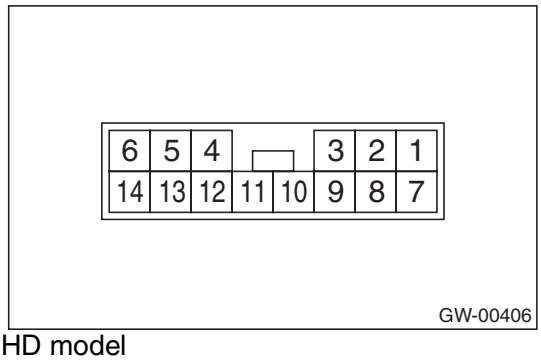
2. SUB SWITCH

Install in the reverse order of removal.

C: INSPECTION

1. MAIN SWITCH

Measure the resistance of switch.



- LHD model

	Switch position	Terminal No.	Standard
Driver's seat	AUTO UP	10 and 2, 7 and 1	Less than 1 Ω
	UP	10 and 2, 7 and 1	Less than 1 Ω
	DOWN	10 and 1, 7 and 2	Less than 1 Ω
	AUTO DOWN	10 and 1, 7 and 2	Less than 1 Ω

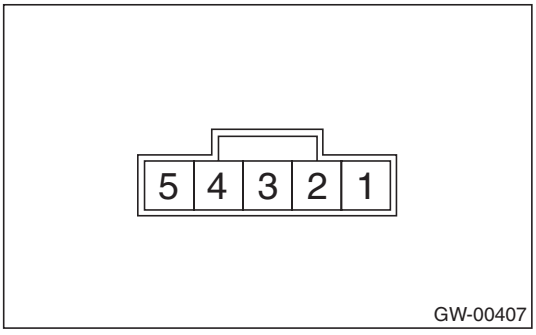
- RHD model

	Switch position	Terminal No.	Standard
Driver's seat	AUTO UP	11 and 1, 14 and 2	Less than 1 Ω
	UP	11 and 1, 14 and 2	Less than 1 Ω
	DOWN	11 and 2, 14 and 1	Less than 1 Ω
	AUTO DOWN	11 and 2, 14 and 1	Less than 1 Ω

Replace the main switch if faulty.

2. SUB SWITCH

Measure the resistance of switch.



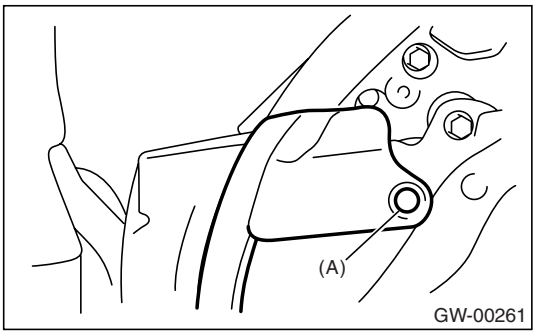
	Switch position	Terminal No.	Standard
Passenger's seat and rear seat	UP	2 and 3, 4 and 5	Less than 1 Ω
	OFF	1 and 2, 4 and 5	Less than 1 Ω
	DOWN	1 and 2, 3 and 4	Less than 1 Ω

Replace the sub switch if faulty.

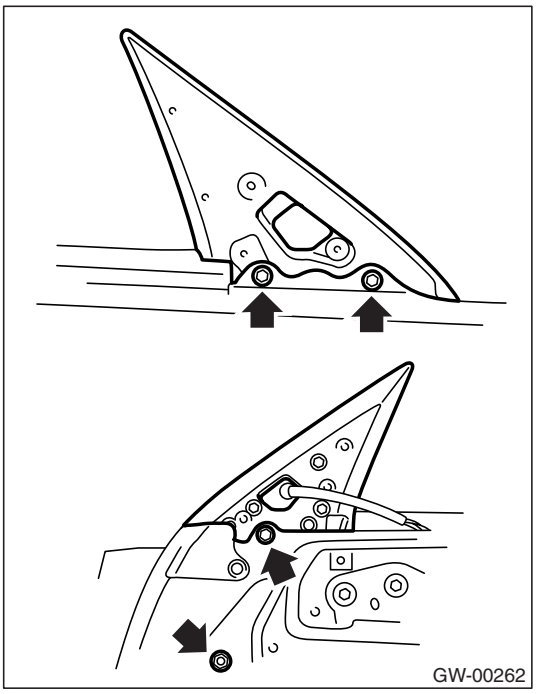
4. Front Door Glass

A: REMOVAL

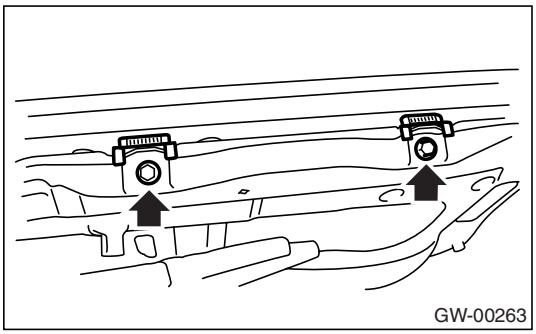
1) Remove the front door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
2) Remove the sealing cover. <Ref. to EB-20, REMOVAL, Front Sealing Cover.>
3) Remove the outer mirror assembly. <Ref. to GW-19, REMOVAL, Outer Mirror Assembly.>
4) Remove the clip (A), and remove the front end of weather strip.



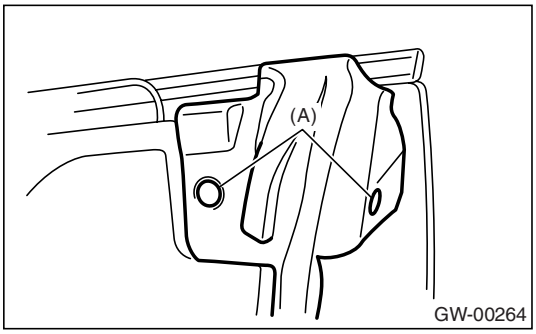
5) Remove the gusset.



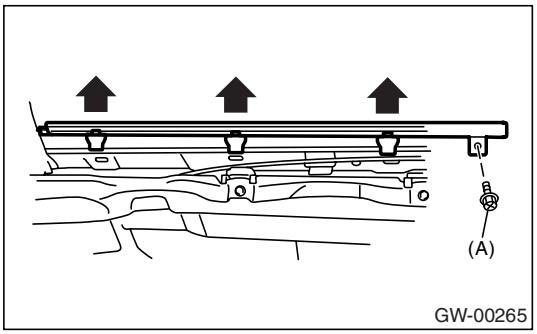
6) Remove the stabilizer.



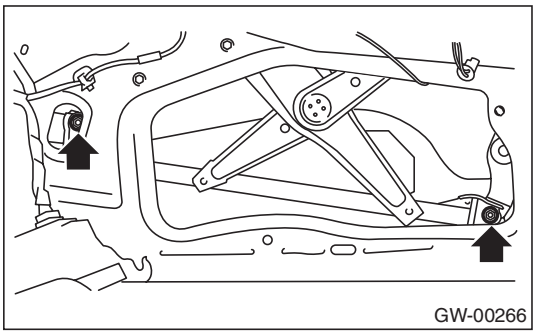
7) Remove the clips (A), and remove the rear end of weather strip.



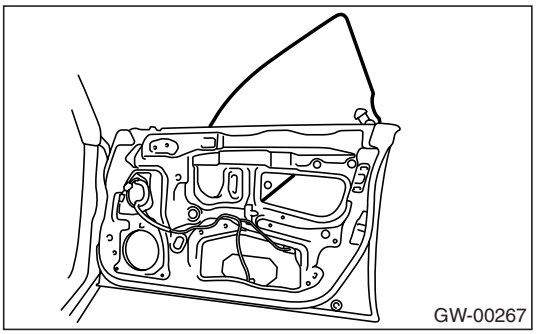
8) Remove the screw (A) from the rear end of weather strip outer to remove weather strip outer.



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



11) Remove the door glass.



CAUTION:
• Since the gear may be disengaged, do not turn regulator in the closing direction after removing glass.
• Avoid impact and damage to the glass.

B: INSTALLATION

1) Install in the reverse order of removal.

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

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

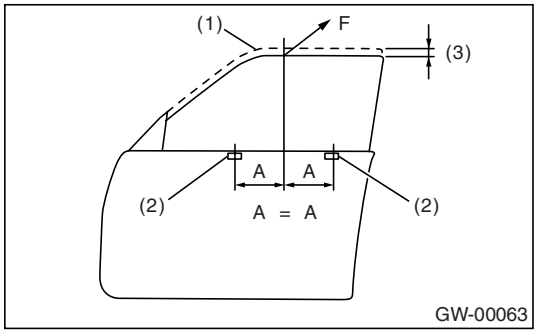
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-4, FRONT DOOR GLASS, COMPONENT, General Description.>

C: ADJUSTMENT

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

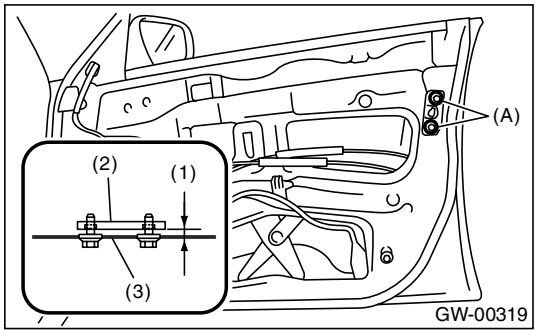
1) Temporarily tighten the adjusting bolt on one side of rear sash at the midpoint of slotted hole in the inner panel.
2) Temporarily tighten the regulator B channel at the top position of slotted hole.

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

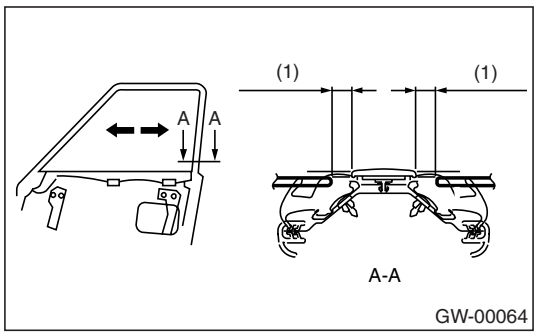


(1) Fully closed position
(2) Stabilizer
(3) 20 — 25 mm (0.78 — 0.98 in)

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

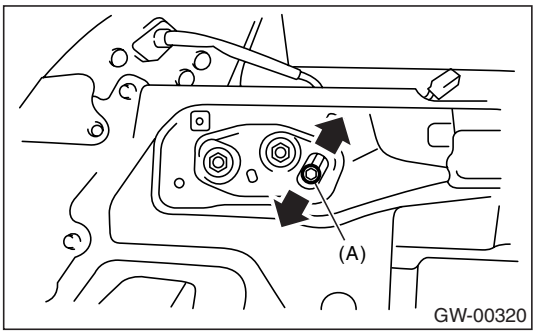


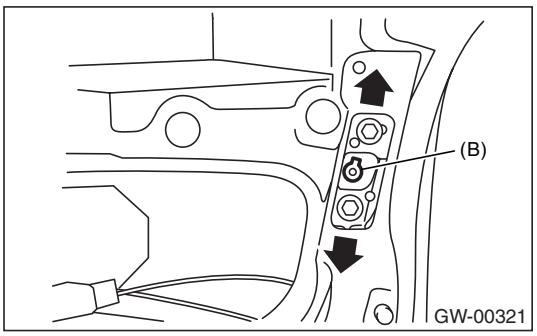
(1) Adjust the lines parallel
(2) Sash
(3) Inner panel



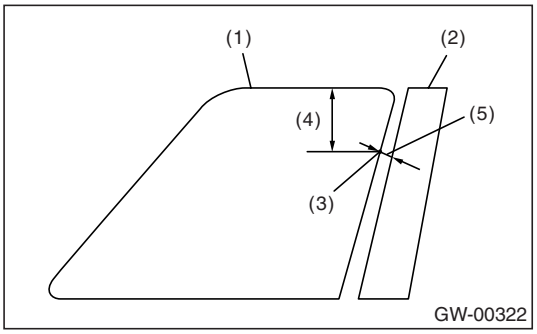
(1) 11 mm (0.433 in)

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



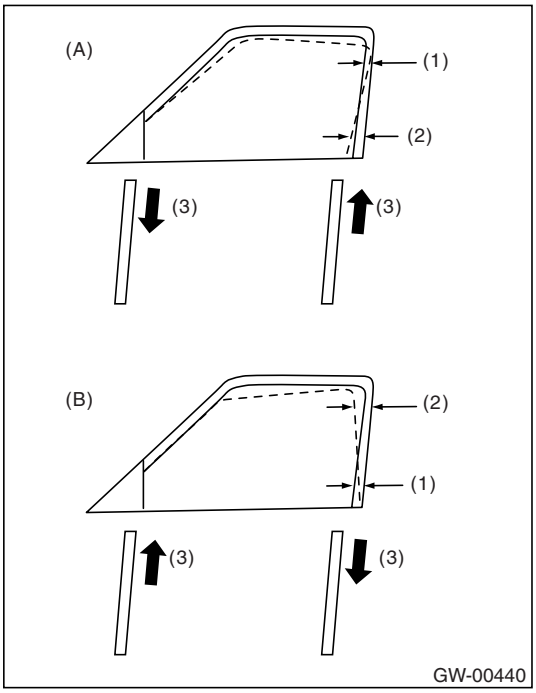


CAUTION:
Measure the clearance from center pillar at more than 50 mm (1.969 in) apart from the upper end of window glass.



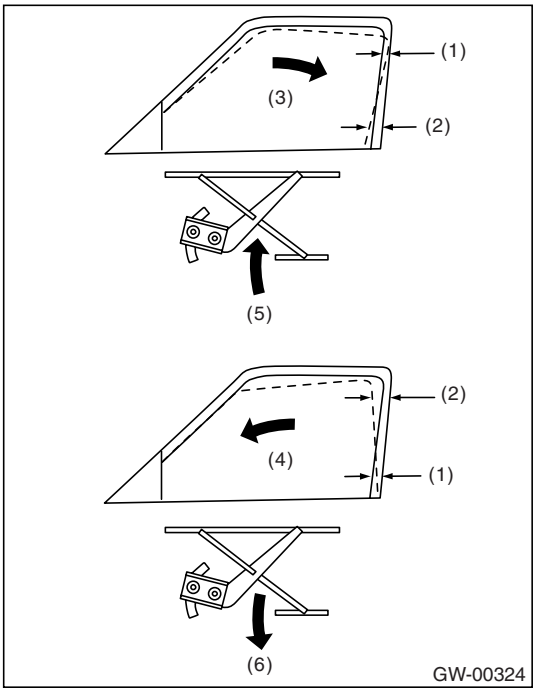
(1) Glass
(2) Center pillar cover
(3) Measuring point
(4) 50 mm (1.969 in)
(5) 11 mm (0.433 in)

6) Adjust so that the clearances at upper and lower ends of center pillar are equal.



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

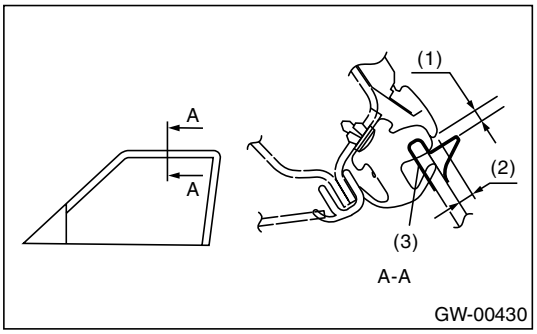
7) After adjusting the clearance from center pillar, move the glass up and down the glass several times to check glass contact condition against stopper when the glass is fully closed. Adjust so that the front and rear stoppers contact simultaneously.



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

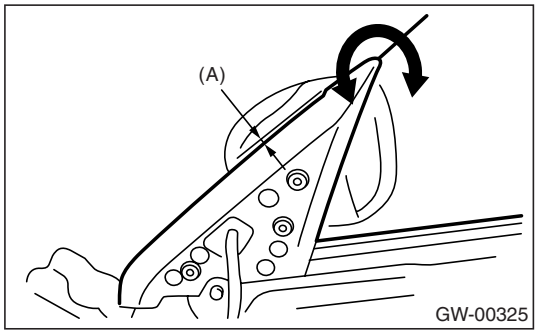
8) To adjust the glass stroke, attach the ST to glass, close the door, and raise the glass to the upper end of it with regulator until the positional relationship between glass and weather strip becomes the value as shown in the figure. Secure the glass so that the upper stopper correctly touches the glass holder.

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



(1) 3.2 — 4.8 mm (0.126 — 0.189 in)
(2) When reusing weather strip: 5.5 mm (0.217 in)
With new weather strip: 3 mm (0.118 in)
(3) ST

To prevent generating wind noise, adjust the glass in the position where tip of gusset is raised up a little.

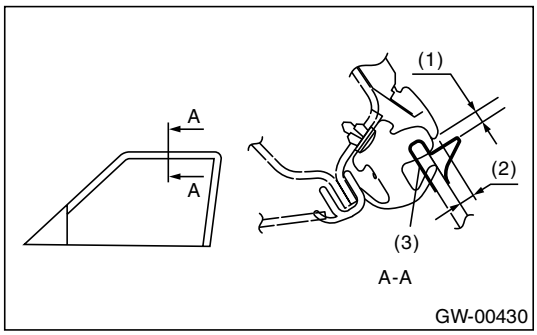


(A) 0 — 1.5 mm (0 — 0.059 in)

9) After stabilizer adjustment, carry out the glass cohesion adjustment. First, visually check the positional relationship between retainer & molding and roof side glass, and then begin with rear sash adjustment. Attach the ST to glass, and adjust the two adjusting bolts alternately step by step to obtain dimensions shown below (cross-section A).

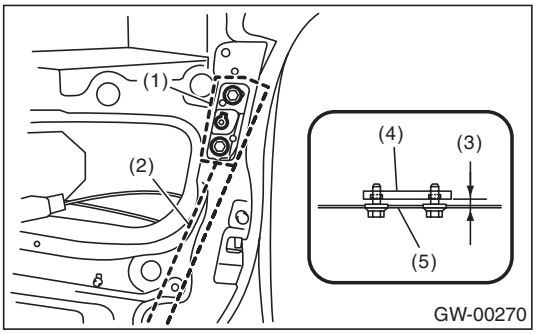
NOTE:
If two nuts are loosened at the same time, the sash will move back and forth.Therefore, while adjusting one nut, secure the other.

10) Make the same adjustment of two adjusting bolts of rear sash.
ST 61299AE000 SPACER (Glass thickness: 5 mm (0.197 in) for front door glass)



(1) 3.2 — 4.8 mm (0.126 — 0.189 in)
(2) When reusing weather strip: 5.5 mm (0.217 in)
With new weather strip: 3 mm (0.118 in)
(3) ST

NOTE:
Do not tilt the sash bracket toward inner panel during adjustment. Otherwise smooth regulator operation cannot be achieved.



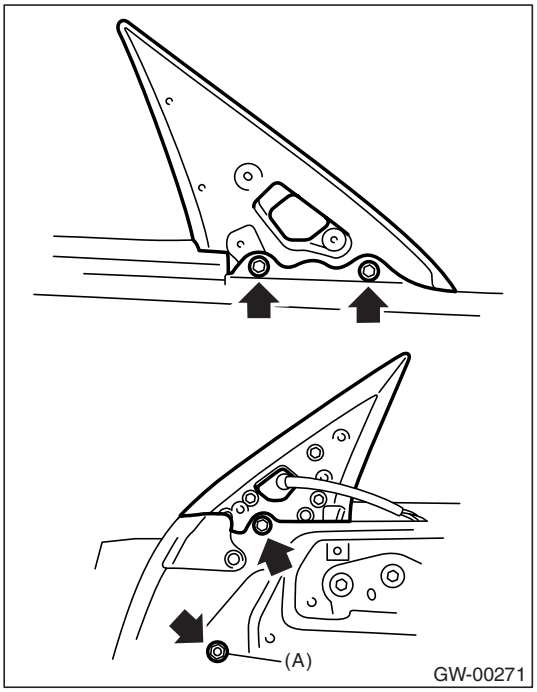
(1) Sash bracket
(2) Rear sash
(3) Adjust the lines parallel
(4) Sash
(5) Inner panel

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

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

12) After adjustments, tighten the nuts.

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

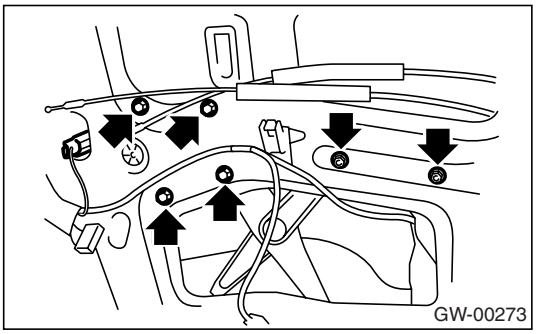


15) After adjustment, tighten the bolts and nuts.

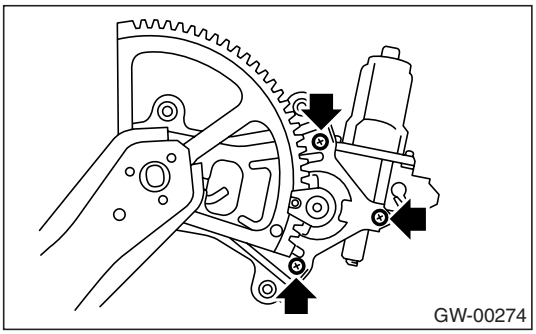
5. Front Regulator and Motor Assembly

A: REMOVAL

1) Remove the door glass. <Ref. to GW-11, REMOVAL, Front Door Glass.>
2) Disconnect the motor connector.
3) Remove the four bolts and two nuts to remove regulator assembly.



4) Remove the screws to remove motor assembly.



NOTE:
When removing the motor assembly, secure the arm correctly. Otherwise the regulator arm moves with the force of balancing spring.

B: INSTALLATION

1) Install in the reverse order of removal.
2) Adjust the front door glass. <Ref. to GW-12, ADJUSTMENT, Front Door Glass.>

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

C: INSPECTION

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

6. Remote Control Mirror System

A: WIRING DIAGRAM

<Ref. to WI-305, Remote Control Mirror System.>

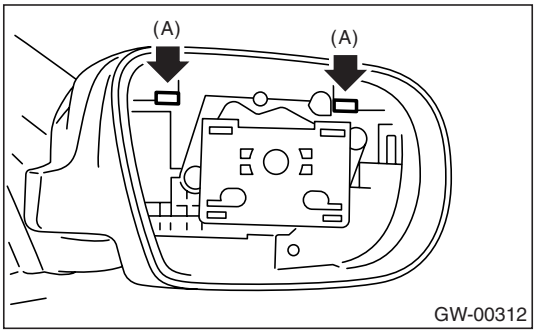
B: INSPECTION

Symptom	Repair order
All the functions do not operate.	(1) Fuse (F/B No. 6) (2) Mirror switch (3) Wiring harness
One side of the mirror motor does not operate.	(1) Mirror switch (2) Mirror motor (3) Wiring harness
Mirror heater does not operate.	(1) Mirror switch (2) Mirror heater (3) Wiring harness

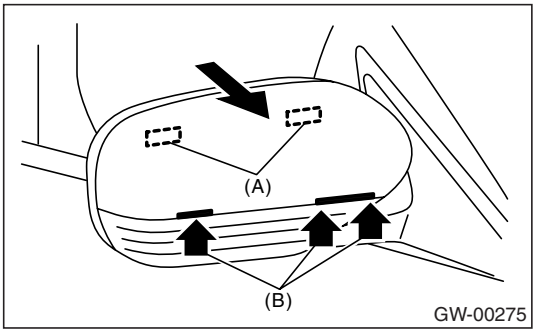
7. Scalp Cap

A: REPLACEMENT

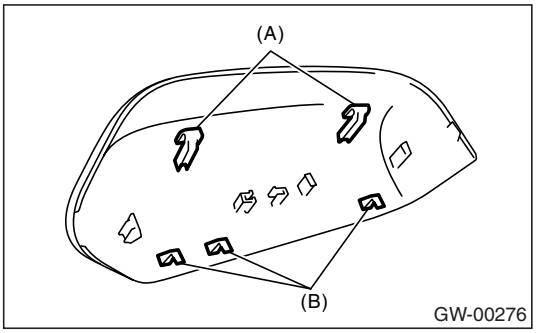
1) Remove the outer mirror. <Ref. to GW-21, REPLACEMENT, Outer Mirror.>
2) Press-in the upper side clips (A) from the inside of door mirror.



3) Pull the scalp cap frontward of door mirror, and remove the upper side clips (A) and lower side hooks (B) to remove scalp cap.



4) Insert the hook (B) of lower portion of scalp cap to door mirror, and push the upper clips (A) in.



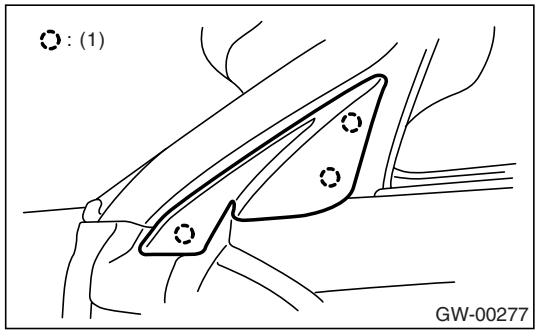
5) Install the scalp cap securely.

CAUTION:
Do not remove the scalp cap forcibly. The lower hooks may be damaged.

8. Outer Mirror Assembly

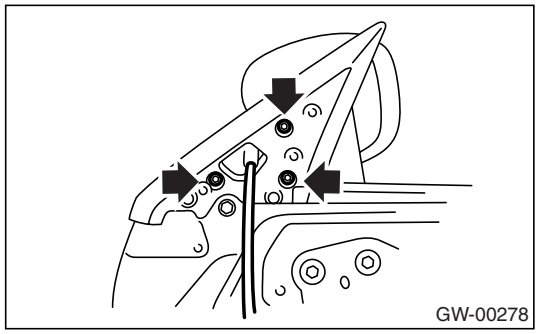
A: REMOVAL

1) Remove the mirror gusset cover.



(1) Hook

2) Remove the door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Disconnect the mirror connector.
4) Remove the screws to remove mirror assembly.



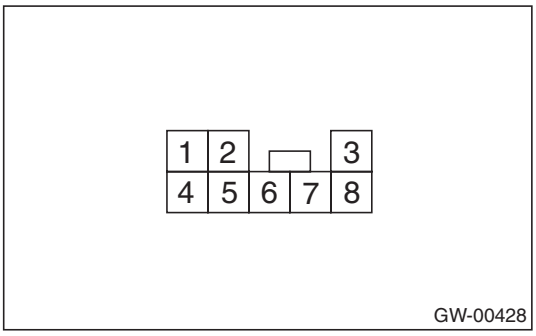
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

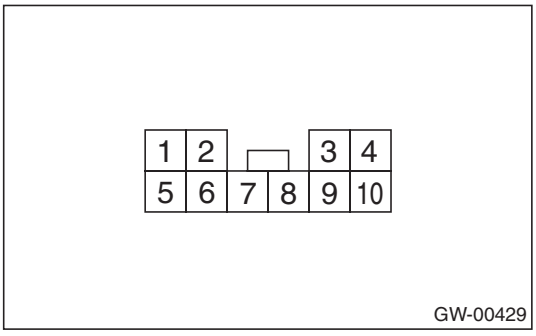
Check that the rearview mirror moves properly when the battery voltage is applied to terminals.

- Model without mirror heater



Switch position	Terminal No.
OFF	—
UP	6 (+) and 3 (–) or 8 (–)
DOWN	3 (+) or 8 (+) and 6 (–)
LEFT	7 (+) and 3 (–) or 8 (–)
RIGHT	3 (+) or 8 (+) and 7 (–)

- Model with mirror heater



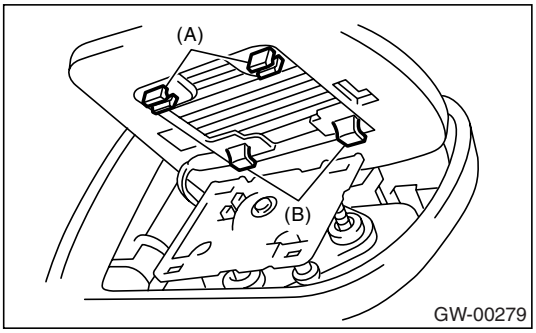
Switch position	Terminal No.
OFF	—
UP	7 (+) and 3 (–) or 9 (–)
DOWN	3 (+) or 9 (+) and 7 (–)
LEFT	8 (+) and 3 (–) or 9 (–)
RIGHT	3 (+) or 9 (+) and 8 (–)

Replace the outer mirror assembly if defective.

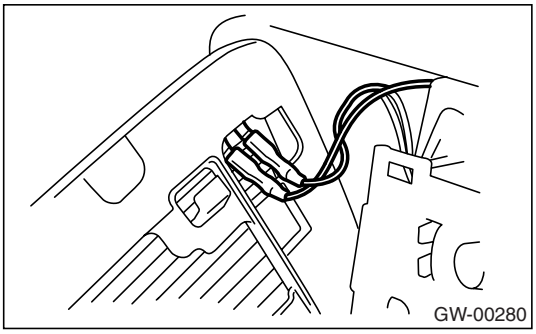
9. Outer Mirror

A: REPLACEMENT

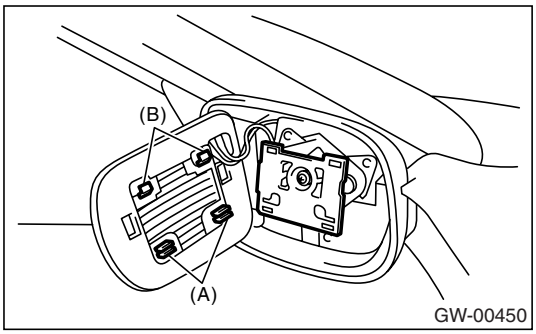
1) Face the mirror upward.
2) Use a flat tip screwdriver to remove clip (A).
3) Lift the lower mirror up to remove hooks (B).



4) Disconnect the mirror heater connector from mirror edge.(Model with mirror heater)



5) Catch the hooks (B) and install clips (A).

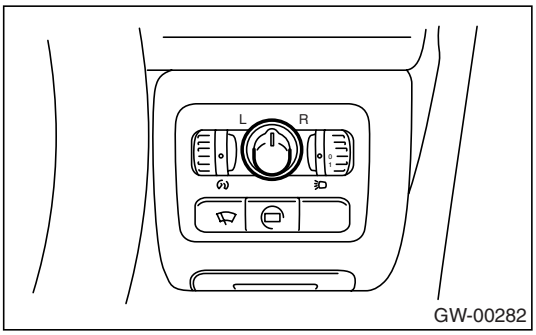


CAUTION:
• When removing the mirror, be careful not to damage the back side of mirror with a flat tip screwdriver.
• When installing the mirror, insert the hook and clip securely.

10. Remote Control Mirror Switch

A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
2) Disconnect the connector.



3) Remove the remote control mirror switch from instrument panel lower cover.

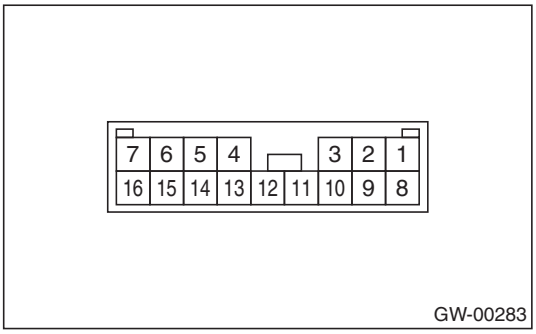
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. REMOTE CONTROL MIRROR SWITCH

Move the remote control mirror switch to each position and check continuity between terminals.



- Change over switch R

Switch position	Terminal No.	Standard
OFF	—	More than 1 MΩ
UP	10 and 12, 15 and 14	Less than 1 Ω
DOWN	10 and 15, 12 and 14	Less than 1 Ω
LEFT	10 and 11, 15 and 14	Less than 1 Ω
RIGHT	10 and 15, 11 and 14	Less than 1 Ω

- Change over switch L

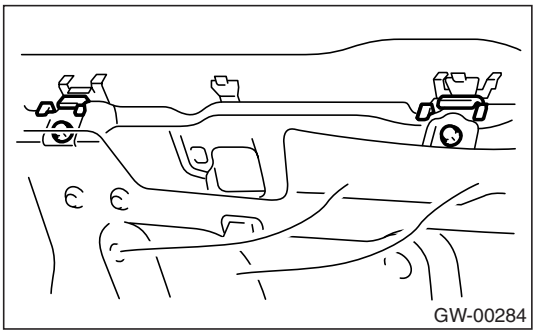
Switch position	Terminal No.	Standard
OFF	—	More than 1 MΩ
UP	10 and 8, 15 and 14	Less than 1 Ω
DOWN	10 and 15, 8 and 14	Less than 1 Ω
LEFT	10 and 9, 15 and 14	Less than 1 Ω
RIGHT	10 and 15, 9 and 14	Less than 1 Ω

Replace the remote control mirror switch if defective.

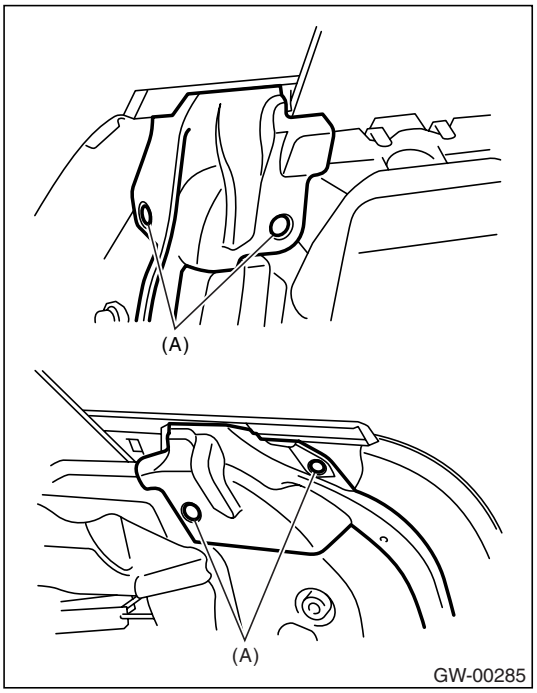
11.Rear Door Glass

A: REMOVAL

1) Remove the rear door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
2) Remove the sealing cover. <Ref. to EB-24, REMOVAL, Rear Sealing Cover.>
3) Remove the stabilizer.

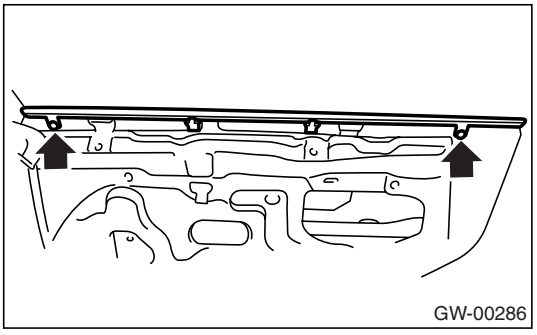

GW-00284

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

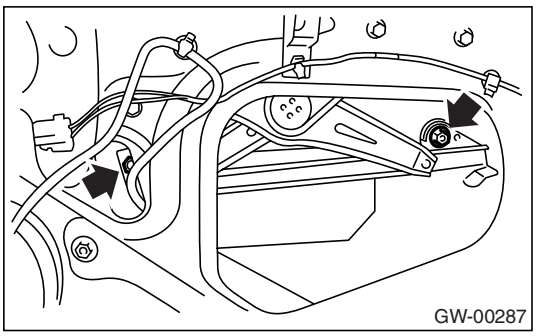


GW-00285

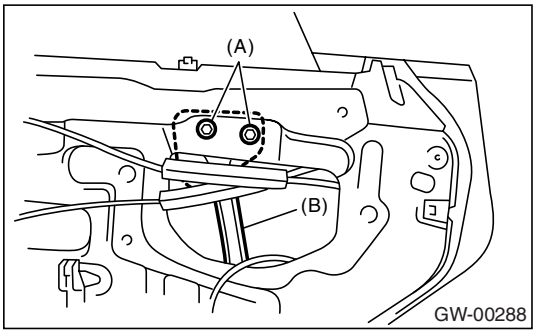
5) Remove the two screws to remove weather strip outer.


GW-00286

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


GW-00287

7) Remove the rear sash retaining nuts (A), and move the rear sash (B) backward.



GW-00288

8) Remove the door glass.

CAUTION:
• Since the gear may be disengaged, do not turn regulator in the closing direction after removing glass.
• Avoid impact and damage to the glass.

B: INSTALLATION

1) Install in the reverse order of removal.

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

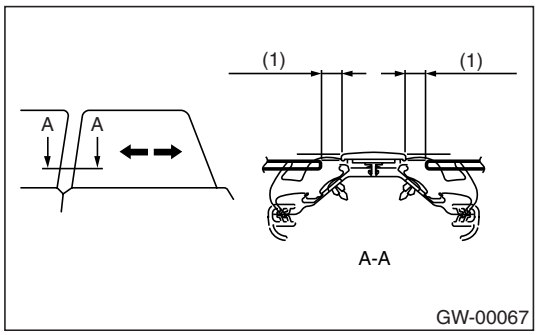
2) Adjust the rear door glass. <Ref. to GW-25, ADJUSTMENT, Rear Door Glass.>

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

C: ADJUSTMENT

NOTE:
The rear door glass, as a rule, should be adjusted in the same manner as front door glass even they are different in dimensions. <Ref. to GW-12, ADJUSTMENT, Front Door Glass.>

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

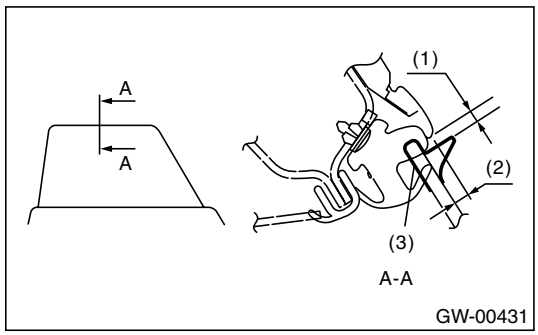


(1) 11 mm (0.433 in)

NOTE:
• If the dimensions are smaller than the given dimensions, glass may get caught in weather strip during lifting/lowering operation and may not be fully open.
• After adjustment, move the glass up and down to ensure it is not caught.

2) Install the ST to glass and adjust the glass adhesion to the value shown.

ST 61299AE010 SPACER (Glass thickness: 4 mm (0.157 in) for rear door glass)



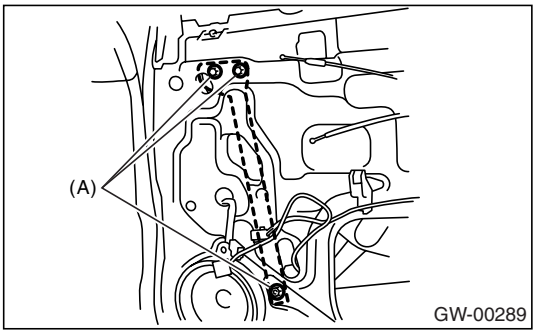
(1) 3.2 — 4.8 mm (0.126 — 0.189 in)
(2) When reusing weather strip: 5.5 mm (0.217 in)
With new weather strip: 5 mm (0.197 in)
(3) ST

NOTE:
• If the rear glass adhesion is higher than necessary, glass may get caught in weather strip of center pillar corner, resulting in early wear of weather strip. Care should be taken for adjustment.
• After adjustment, move the glass up and down to ensure it is not caught.

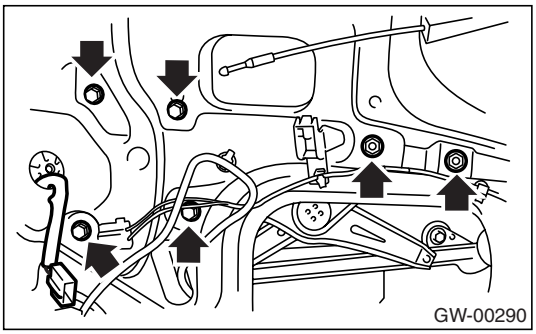
12. Rear Regulator and Motor Assembly

A: REMOVAL

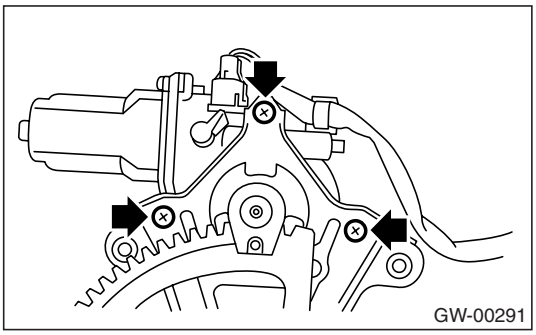
1) Remove the rear door glass. <Ref. to GW-24, REMOVAL, Rear Door Glass.>
2) Remove the nut (A) to remove front sash.



3) Disconnect the motor connector.
4) Remove the four bolts and two nuts to remove regulator assembly.



5) Remove the screws to remove motor assembly.



B: INSTALLATION

1) Install in the reverse order of removal.
2) Adjust the rear door glass. <Ref. to GW-25, ADJUSTMENT, Rear Door Glass.>

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

C: INSPECTION

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

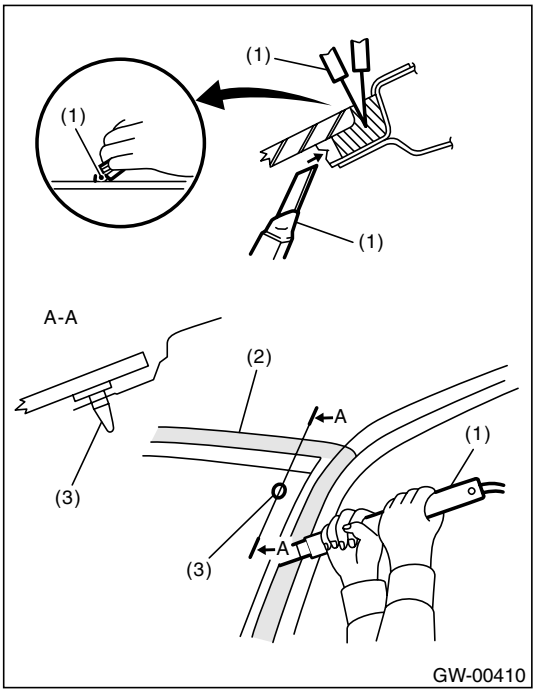
13. Windshield Glass

A: REMOVAL

1. USING WINDSHIELD GLASS KNIFE

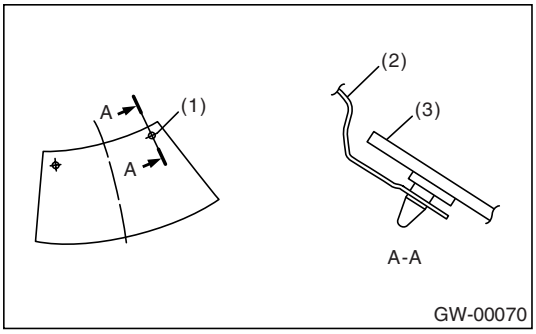
1) Remove the cowl panel. <Ref. to EI-39, REMOVAL, Cowl Panel.>
2) Remove the glass molding.
3) Tape the circumference of windshield glass for protection from the body side.
4) Apply sufficient amount of soapy water to the adhesive part.
5) Insert the windshield glass knife into adhesive part.
6) Holding the knife edge and windshield glass edge at a right angle, cut in the adhesive part with the windshield glass knife in the way to move parallel to the windshield glass edge along the face and edge of windshield glass.

NOTE:
• Do not twist the windshield glass knife.
• Cutting of adhesive part shall be started with wider gap between windshield glass and body.



(1) Windshield glass knife
(2) Tape for protection
(3) Locating pin

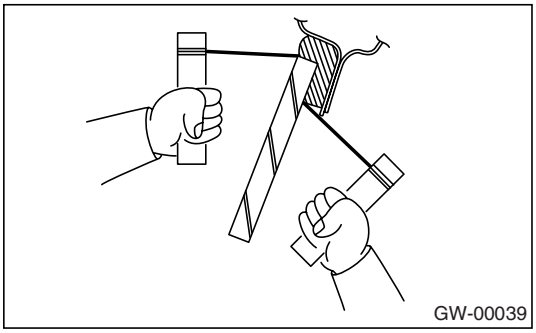
• The locating pins are bonded to the corners of glass. Use piano wire to disconnect the pins.



(1) Locating pin
(2) Body panel
(3) Windshield glass

2. USING PIANO WIRE

1) Remove the cowl panel. <Ref. to EI-39, REMOVAL, Cowl Panel.>
2) Remove the molding.
3) Tape the circumference of windshield glass for protection from the body side.
4) Make a hole in the adhesive part using drill or knife.
5) Pass the piano wire through the hole, and attach both the wire ends securely to pieces of wood.



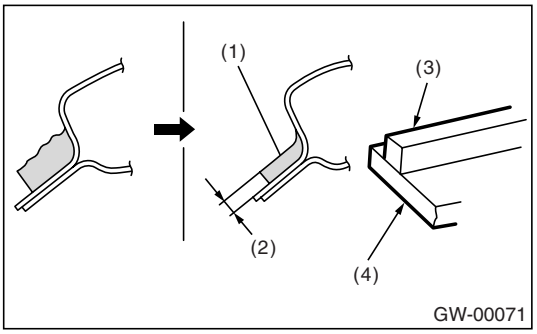
6) Pull the wire ends alternately to cut off the adhesive part.

CAUTION:
• Do not tightly pull the piano wire against the windshield glass edge.
• Be careful not to damage the interior and exterior parts.
• When removal is made for the area close to instrument panel, place a protection plate over it. Pay particular attention to the removal.
• Do not cross piano wires. Otherwise they may be cut.

B: INSTALLATION

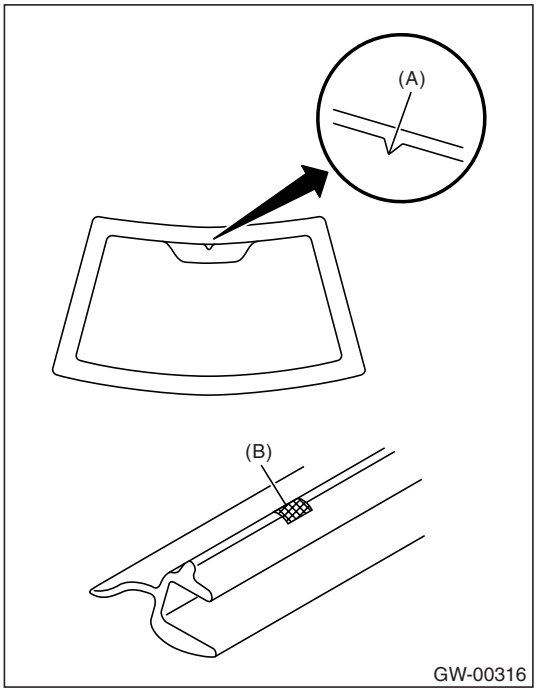
1) Clean the external circumference of windshield glass with alcohol or white gasoline.
2) Remove the adhesive layer on the body using cutter knife to obtain a smooth face of 2 mm (0.08 in) thick.

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



(1) Adhesive
(2) 2 mm (0.08 in)
(3) Dam rubber
(4) Glass

3) Clean the body with alcohol or white gasoline to eliminate cutting powder, dust and dirt completely from body.
4) Install the dam rubber.
5) Fit the mark (B) on molding to the notch (A) of glass side, and install the molding to entire perimeter of glass.



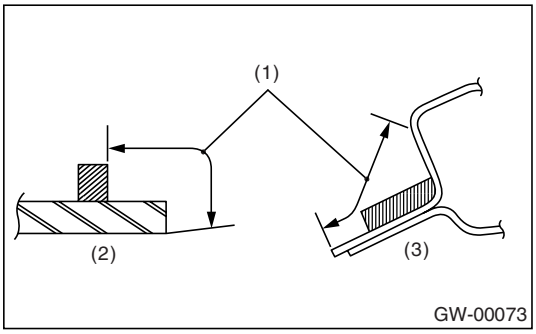
6) Apply two types of primers to the adhesive layer of glass using sponge.

Glass primer:
Dow Automotive's
Betawipe VP 04604
Betaprime 5001

7) Apply primer to the adhesive layer of body.

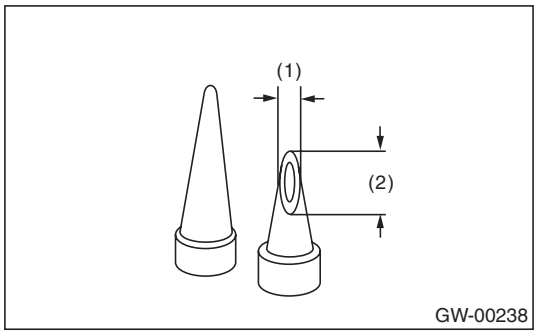
Painted surface primer:
Dow Automotive's
Betaprime 5402

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



(1) Primer application surface
(2) Glass side
(3) Body side

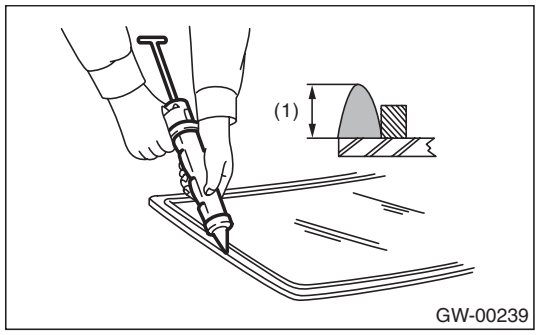
8) Cut off the cartridge nozzle tip as shown and set it in sealant gun.



(1) 10 mm (0.39 in)
(2) 15 mm (0.59 in)

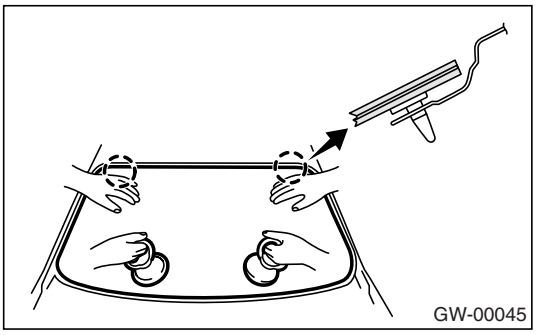
9) Apply adhesive to the glass end surface as shown.

Adhesive:
Dow Automotive's
Gurit-ESSEX Betaseal 1502 or equivalent



(1) 9 — 12 mm (0.35 — 0.47 in)

10) Fit the locating pins using suction rubber cup to install windshield glass.



11) Lightly press the windshield glass for tight fit.
12) Make flush the adhesive surface jutted out using spatula.
13) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When the door is opened/closed after glass bonded, always lower the door glass and then open/close it carefully.
• Move the vehicle slowly.
• For minimum time for drying after bonding and leaving vehicle before driving, follow instructions or instruction manual from the manufacturer of adhesive.

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

NOTE:
When returning the vehicle to the owner, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

15) Install the cowl panel. <Ref. to EI-39, INSTALLATION, Cowl Panel.>

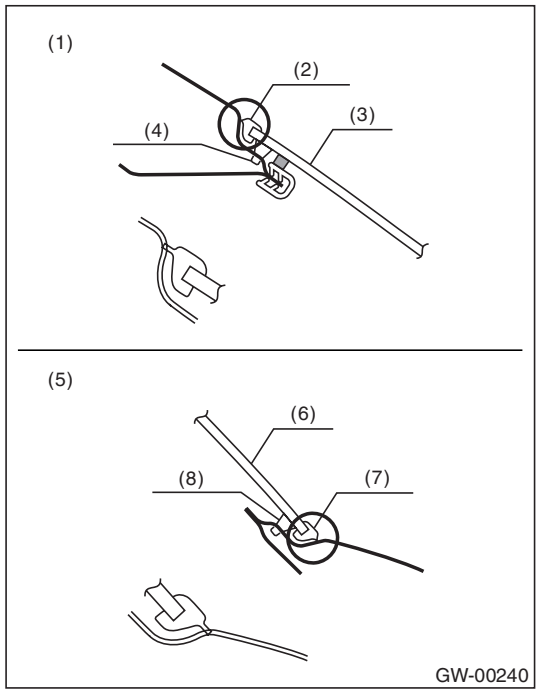
14.Rear Gate Glass

A: REMOVAL

1) Remove the rear wiper motor. <Ref. to WW-22, REMOVAL, Rear Wiper Motor.>
2) Disconnect the connectors from rear defogger terminal.
3) Remove the glass in the same procedure for windshield glass. <Ref. to GW-27, REMOVAL, Windshield Glass.>

B: INSTALLATION

1) Apply adhesive in the same procedure for windshield glass. <Ref. to GW-28, INSTALLATION, Windshield Glass.>
2) Insert the glass clip pin into rear gate hole, push on the area around the clip pin to secure it, and then push lightly all around the area to seal it.
3) About one hour after installation, conduct a leak test.



(1) Upside
(2) Molding
(3) Glass
(4) Adhesive
(5) Downside
(6) Glass
(7) Molding
(8) Adhesive

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

NOTE:
• When the door is opened/closed after glass bonded, always lower the door glass and then open/close it carefully.
• Move the vehicle slowly.
• For minimum time for drying after bonding and leaving vehicle before driving, follow instructions or instruction manual from the manufacturer of adhesive.
• When returning the vehicle to the owner, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

5) Connect the rear defogger terminals.
6) Install the rear wiper. <Ref. to WW-22, INSTALLATION, Rear Wiper Motor.>

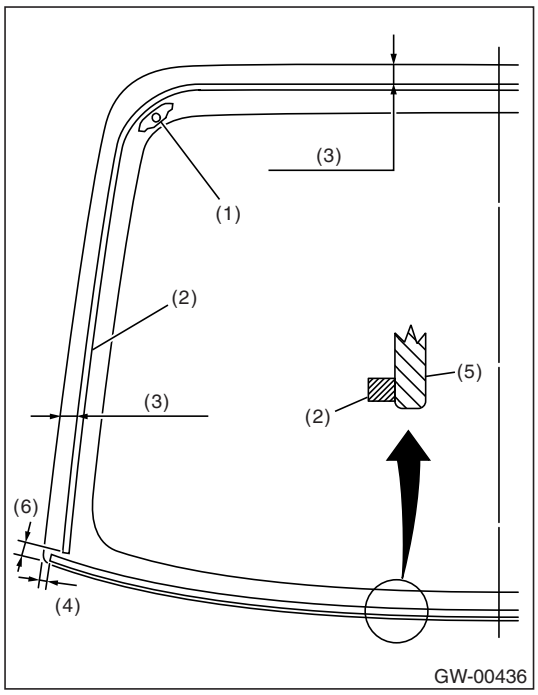
15. Rear Window Glass

A: REMOVAL

1) Disconnect the connectors from rear defogger terminal.
2) Remove the glass in the same procedure for windshield glass. <Ref. to GW-27, REMOVAL, Windshield Glass.>

B: INSTALLATION

1) Bond the dam rubber.



(1) Locating pin (bonded)
(2) Dam rubber
(3) 11 mm (0.433 in)
(4) 4 mm (0.157 in)
(5) Rear window glass
(6) 40 mm (1.575 in)

2) Install the glass in the same procedure as for windshield glass. <Ref. to GW-28, INSTALLATION, Windshield Glass.>
3) Connect the connector to the rear defogger and antenna terminals.
4) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When the door is opened/closed after glass bonded, always lower the door glass and then open/close it carefully.
• Move the vehicle slowly.
• For minimum time for drying after bonding and leaving vehicle before driving, follow instructions or instruction manual from the manufacturer of adhesive.

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

NOTE:
When returning the vehicle to the owner, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

16.Rear Window Defogger System

A: WIRING DIAGRAM

<Ref. to WI-303, Rear Defogger System.>

B: INSPECTION

Symptom	Repair order
Rear window defogger does not operate.	(1) Fuse (M/B No. 10) (F/B No. 22) (2) Rear defogger relay (3) Defogger switch (4) Rear defogger condenser (5) Defogger wire (6) Wiring harness (7) Body integrated module

NOTE:
Rear window defogger system can be customized on the touch panel in center display or Subaru Select Monitor.

System name	Initial setting	Customize setting
Rear window defogger timer	OFF after 15 min.	Repeat 15 min. operation and 2 min. stop.

17.Rear Window Defogger

A: INSPECTION

1. WITH SUBARU SELECT MONITOR

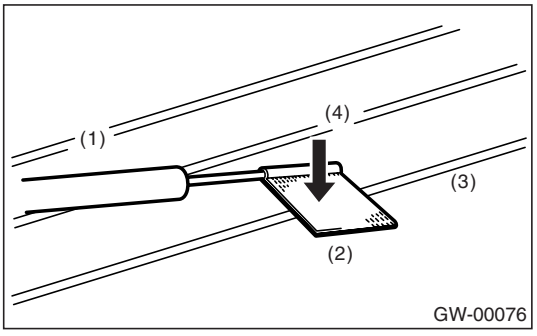
CAUTION:
Check that the rear window defogger timer is in initial setting or customize setting before performing inspection.

	Step	Check	Yes	No
1	**CHECK INPUT SIGNAL TO BODY INTEGRATED MODULE.** Check the input signal when the rear window defogger switch is operated using Subaru Select Monitor. 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON. 3) Select the {Integ. unit} from the «Main Menu». 4) Select the {Current Data Display & Save}. 5) Check the input signal when the rear window defogger switch is set to ON.	Does the rear defogger switch turn to OFF in 15 minutes after set to ON? Or does it repeat 15 minutes operation and 2 minutes stop?	END.	Replace the body integrated module. <Ref. to SL-44, REMOVAL, Body Integrated Module.>

2. HEAT WIRE INSPECTION

CAUTION:
Use a dry and soft cloth when wiping stain off on the glass. Move it along the heat wire to avoid damage to heat wire.

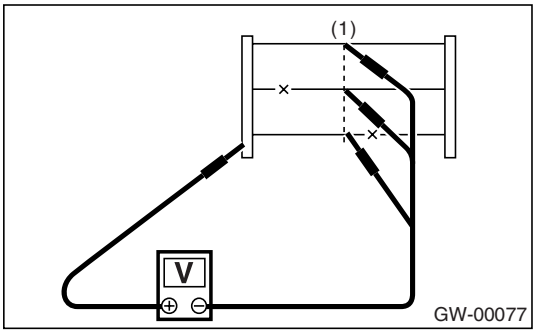
1) Turn the ignition switch to ON.
2) Turn the defogger switch to ON.
3) Wrap the tips of tester probe with aluminum foil to avoid damage to heat wire.



(1) Tester probe
(2) Aluminum foil
(3) Heat wire
(4) Push

4) Measure the voltage at heat wire center with DC voltmeter.

Standard voltage:
Approx. 6 V



(1) Center of heat wire

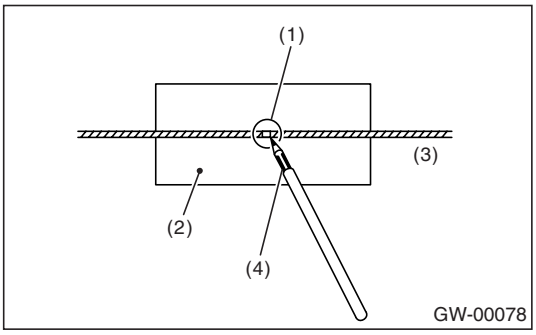
Voltage	Criteria
Approx. 6 V	Normal
Approx. 12 V or 0 V	Open

NOTE:
• If the measured value is 12 volts, heat wire is open between heat wire center and positive (+) terminal of tester probe.
• If zero volt, heat wire is open between wire center and ground.

5) Connect the tester probe of voltmeter positive lead to positive terminal of heat wire, and move the tester probe of negative lead along the heat wire up to the negative terminal end. If voltage changes from zero to several volts while moving the tester probe, heat wire is open at the point where voltage changed.

B: REPAIR

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



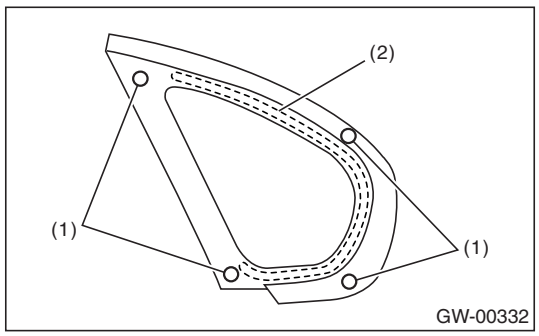
(1) Broken point
(2) Thin film
(3) Broken heat wire
(4) Conductive silver composition (DUPONT No. 4817)

4) After repair, check the heat wire.

18.Rear Quarter Glass

A: REMOVAL

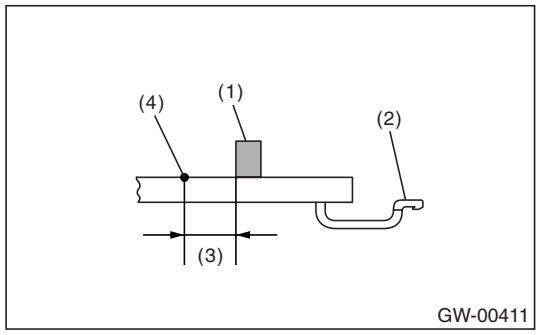
Remove the glass in the same procedure as for windshield glass. <Ref. to GW-27, REMOVAL, Windshield Glass.>



(1) Locating pin
(2) Dam rubber

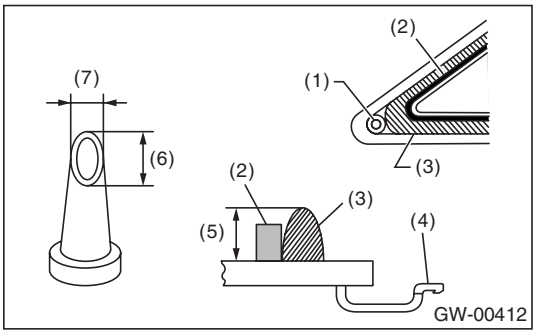
B: INSTALLATION

1) Install the dam rubber.



(1) Dam rubber
(2) Molding
(3) 10.5 mm (0.413 in) (constant)
(4) Ceramic terminal

2) Cut out the nozzle head and apply adhesive to the glass end surface as shown.



(1) Locating pin
(2) Dam rubber
(3) Adhesive
(4) Molding
(5) 8 — 10 mm (0.31 — 0.39 in)
(6) 15 mm (0.59 in)
(7) 10 mm (0.39 in)

3) Install the glass in the same procedure as for windshield glass. <Ref. to GW-28, INSTALLATION, Windshield Glass.>
4) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When the door is opened/closed after glass bonded, always lower the door glass and then open/close it carefully.
• Move the vehicle slowly.
• For minimum time for drying after bonding and leaving vehicle before driving, follow instructions or instruction manual from the manufacturer of adhesive.

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

NOTE:
When returning the vehicle to the owner, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

19.Sun Roof Glass

A: REMOVAL

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

B: INSTALLATION

<Ref. to SR-7, INSTALLATION, Glass Lid.>

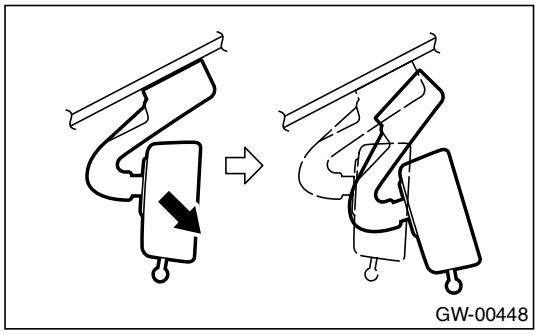
C: ADJUSTMENT

<Ref. to SR-7, ADJUSTMENT, Glass Lid.>

20. Rearview Mirror

A: REMOVAL

1) Pull the mirror 45° downward to remove.



CAUTION:
Be careful not to damage the mirror surface.

2) When the rearview mirror mount is damaged, use a piano wire or spatula to remove.

CAUTION:
Be careful not to damage the windshield glass.

B: INSTALLATION

1) When the rearview mirror mount has been removed, clean the old adhesive, and mate with the windshield glass mark to install.

Adhesive:
REPAIR KIT IN MR (Part No. 65029FC000) or equivalent

2) Rotate the mirror base for 90° clockwise to install.

C: INSPECTION

Check that the mirror is not damaged.
Check that the spring is not damaged.

21.Wiper Deicer System

A: WIRING DIAGRAM

<Ref. to WI-279, Wiper Deicer System.>

B: INSPECTION

Symptom	Repair order
Wiper deicer does not operate.	(1) Fuse (F/B No. 4, 9) (2) Wiper deicer relay (3) Wiper deicer switch (4) Wiring harness (5) Body integrated module

Refer to “Rear Window Defogger” for inspection.
<Ref. to GW-33, INSPECTION, Rear Window Defogger.>

NOTE:
Wiper deicer system can be customized on the touch panel in center display or Subaru Select Monitor.

System name	Initial setting	Customize setting
Wiper deicer timer	OFF after 15 min.	Continuous operation*

*: When one of the following conditions is developed, continuous operation is suspended and turned off after 15 min.
- Ambient temperature at more than 5°C (41°F) continues for 10 sec.
- ECO mode ON of air conditioner continues for 10 sec.
- Malfunction occurs on ambient sensor.
- Vehicle speed below 15 km/h (9 MPH) continues 15 min.
- Malfunction occurs in CAN communication.

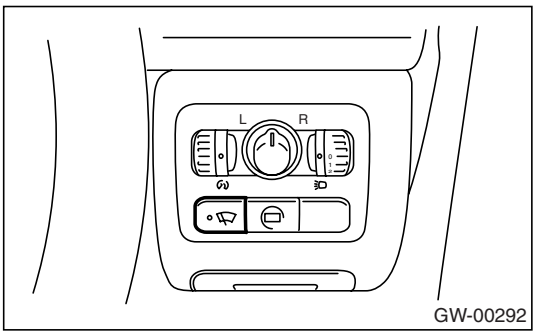
C: REPAIR

Refer to “Rear Window Defogger” for repair.
<Ref. to GW-34, REPAIR, Rear Window Defogger.>

22. Wiper Deicer Switch

A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
2) Disconnect the harness connector and remove wiper deicer switch.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

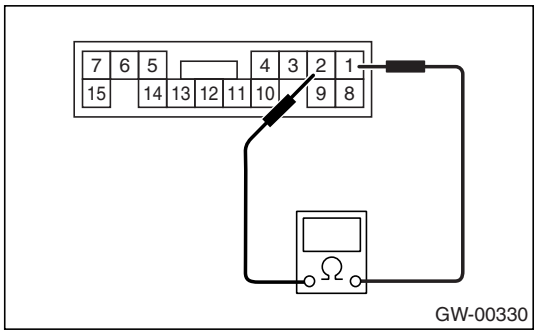
1. WITH SUBARU SELECT MONITOR

CAUTION:
Check whether the wiper deicer timer is in initial setting or customize setting before performing inspection.

	Step	Check	Yes	No
1	**CHECK INPUT SIGNAL TO BODY INTEGRATED MODULE.** Check the input signal when the wiper deicer switch is operated using Subaru Select Monitor. 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON. 3) Select the {Integ. unit} from the «Main Menu». 4) Select the {Current Data Display & Save}. 5) Check the input signal when the wiper deicer switch is set to ON.	After the wiper deicer switch is set to ON, does it turn to OFF in 15 minutes? Or does it operate continuously?	END.	Replace the body integrated module. <Ref. to SL-44, REMOVAL, Body Integrated Module.>

2. CHECK SWITCH

Remove the wiper deicer switch, and measure the switch resistance.



Switch position	Terminal No.	Standard
OFF	1 and 2	More than 1 MΩ
ON		Less than 1 Ω

Replace the wiper deicer switch if faulty.

BODY STRUCTURE

BS

Page
1. General Description 2

1. General Description

A: SPECIFICATION

Refer to “Body repair manual” for body structure, datum points and datum dimensions. <Ref. to Pub No. L0879GJ.>

INSTRUMENTATION/DRIVER INFO

IDI

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1. General Description

A: SPECIFICATION

Combination meter	Speedometer	Stepping motor type
	Tachometer	
	Engine coolant temperature gauge	
	Fuel gauge	
	Malfunction indicator light	LED
	Oil pressure warning light	
	ABS warning light	
	Airbag warning light	
	Seat belt warning light	
	Door open warning light	
	Brake fluid and parking brake warning light	
	Low fuel warning light	
	Charge indicatior light	
	ATF temperature warning light	
	AWD warning light	
	Vehicle dynamics control (VDC) warning light	
	Vehicle dynamics control (VDC) indicator light	
	Turn signal indicator light	
	HI-beam indicator light	
	Immobilizer indicator light	
	Cruise indicator light	
	Cruise set indicator light	
	Front fog light indicator light	
	Rear fog light indicator light	
	AWD LO indicator light	
	SPORT indicator light	
	AT select lever position indicator light	
	Light illumination indicator light	
	Meter illumination light	
	LCD back light	
	Odo/Trip indicator	LCD
	SPORT shift indicator	

B: CAUTION

- Be careful not to damage the meters and instrument panel.
- Be careful not to damage the meter glass.
- Make sure the electrical connector is connected securely.
- After installation, make sure that each meter operates normally.
- Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.
- Do not apply an excessive force on the printed circuit.
- Do not drop or otherwise apply impact.
- When the combination meter of model with immobilizer has been replaced, be sure to perform the registration procedure of immobilizer.

C: PREPARATION TOOL

1. GENERAL TOOL

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

2. Combination Meter System

A: WIRING DIAGRAM

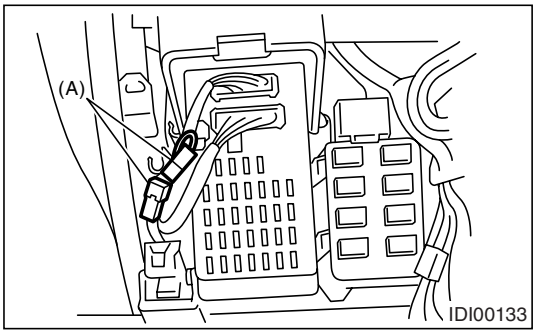
1. COMBINATION METER

<Ref. to WI-307, WIRING DIAGRAM, Combination Meter System.>

B: INSPECTION

1. SELF-DIAGNOSIS

The self-diagnosis (checking of each meter, warning light, indicator, illumination, LCD, buzzer sound) of combination meter can be performed in the following procedure.
1) Connect the diagnostic connector (A) near the fuse & relay box.



2) Turn the ignition switch to ON.
3) While meter indicator needle deflecting, press the odo/trip meter knob twice.

NOTE:
When odo/trip meter knob is pressed only once, display mode is shifted to DTC display mode. <Ref. to IDI-11, DTC DISPLAY MODE, INSPECTION, Combination Meter System.>

When the self-diagnosis function is operated, the checking of warning light, indicator, and LCD display is performed, hereafter, every pressing the odo/trip meter knob, the operation check is performed in the order of meter, illumination and buzzer. <Ref. to IDI-4, LIST OF SELF-DIAGNOSIS MODE OPERATION, INSPECTION, Combination Meter System.> To cancel the self-diagnosis mode, set the ignition switch to OFF or disconnect the diagnosis connector.

NOTE:
When the engine starts during diagnosis, the self-diagnosis mode is not cancelled, however, once the vehicle starts driving, the self-diagnosis mode is cancelled automatically for safety.

2. LIST OF SELF-DIAGNOSIS MODE OPERATION

Speedometer, tachometer, fuel gauge, engine coolant temperature gauge	Microcomputer running type warning light, indicator light	AT select lever position indicator light	Odo/Trip indicator	SPORT shift indicator	Illumination (indicator needle, plate, ring, LCD)	Buzzer (SPORT shift buzzer, speed warning buzzer)
Step 0. Processing to self-diagnosis mode						
Operating initial operation	Initial illuminating	Normal	Normal	Initial illuminating	Initial illuminating	Not beep.
Step 1-1. Check each indication after initial operation						
Repeat the sweep operation (After holding on lowest position for one second, reaches to highest position within 5 seconds, and after holding on highest position for one second, reaches to lowest position within 5 seconds).	Light ON	With the highest brightness, illuminate the position sequentially at a cycle of 1.5 seconds.	Perform the segment check. For the illumination order, refer to the illumination order table.	Perform the segment check. For the illumination order, refer to the illumination order table.	Light at the highest brightness.	Not beep.
Step 1-2. Press the trip knob (trip knob input is not accepted till the meter indicator needle reaches the highest position): sweep complete, AT select lever position indicator display is set						
After completing sweep in step 1-1, back to lowest position.	Light ON	Keep the position indicated when the trip knob is pressed.	Underbar " _ " is displayed.	"1" is displayed.	Light at the highest brightness.	Not beep.
Step 2-1. Press the trip knob, and hold it: Check each meter						
All meters are moved simultaneously in every 0.5 sec. from the lowest position to highest position. Speedometer/ Tachometer: Approx. 5 degrees at every movement. Engine coolant temperature gauge/Fuel gauge: Approx. 2 degrees at every movement.	Light OFF	Keep the position indicated that set in step 1-2.	Display the current meter directing angle on odometer. Ex.) Display "135054" when Speedometer/ Tachometer: 135 degree, Engine coolant temperature gauge/Fuel gauge: 54 degree.	"▼2" is displayed.	Light at the highest brightness.	Not beep.
Step 2-2. Release the trip knob: Specifying the meter directing position						
Stop at directing position when the trip knob is released.	Light OFF	Keep the position indicated that specified at step 1-2.	Display the current meter directing angle on odometer.	"2" is displayed.	Light at the highest brightness.	Not beep.

Speedometer, tachometer, fuel gauge, engine coolant temperature gauge	Microcomputer running type warning light, indicator light	AT select lever position indicator light	Odo/Trip indicator	SPORT shift indicator	Illumination (indicator needle, plate, ring, LCD)	Buzzer (SPORT shift buzzer, speed warning buzzer)
Step 3-1. Press the trip knob, and hold it: Check illumination						
Keep the position that specified at step 2-2.	Light OFF	Varying from the highest brightness (ILL6) to the lowest luminescence (ILL1) every second. After reaching at ILL1, repeat it from ILL6.	Illumination brightness is displayed. (From ILL6 to ILL1)	"▼3" is displayed.	Varying from the highest brightness (ILL6) to the lowest luminescence (ILL1) every second. After reaching at ILL1, repeat it from ILL6.	Not beep.
Step 3-2. Release the trip knob: Specifying the illumination brightness						
Keep the position that specified at step 2-2.	Light OFF	Keep the brightness at the time when the trip knob is released.	Display the brightness at the time when the trip knob is released.	"3" is displayed.	Keep the brightness at the time when the trip knob is released.	Not beep.
Step 4-1. Press the trip knob: Check the beeping of SPORT shift buzzer (AT model)						
All meter indicator needle returns to lowest position.	Light OFF	Light at the highest brightness. Keep the position indicated that set in step 1-2.	Illumination brightness is displayed.	"▲▼8" is displayed. Blinks with buzzer.	Light at the highest brightness.	SPORT shift buzzer beeps.
Step 4-2. Press the trip knob: Check the VDC indicator light (Model with VDC)						
All meter indicator needle returns to lowest position.	VDC warning light and VDC operation indicator light blink.	Light at the highest brightness. Keep the position indicated that set in step 1-2.	Illumination brightness is displayed.	"4" is displayed.	Light at the highest brightness.	Not beep.
Step 4-3. Press the trip knob: Check the speed warning buzzer (KS model)						
Speedometer indicates the vehicle speed, which was detected when the speed warning started.	Light OFF	Light at the highest brightness. Keep the position indicated that set in step 1-2.	Illumination brightness is displayed.	"4" is displayed.	Light at the highest brightness.	Speed warning buzzer beeps.
Step 5. Press the trip knob: Complete the self-diagnosis 1 cycle						
All meter indicator needle returns to lowest position, and go back to step 1 after completion.						

- Illuminating order table

Illuminating order	1	2	3	4	5	6	7	8	9	10	11	Go back to 1 and repeat
Trip meter A/B	AB	A	B	A	B	A	B	A	B	A	B	
Odo/trip meter	8888.8 888888	00000 000000	1111.1 111111	22222 222222	3333.3 333333	44444 444444	5555.5 555555	66666 666666	7777.7 777777	88888 888888	9999.9 999999	
SPORT shift indicator	8	1	2	3	4	5	1	2	3	4	5	
▲ ▼	▲ ▼	▲	▼	▲	▼	▲	▼	▲	▼	▲	▼	
AT select lever position indicator	P	P	R	R	R	N	N	N	D	D	D	
Display time (sec.)	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	

3. SYMPTOM CHART

Symptom	Repair order	Reference
Combination meter assembly does not operate.	(1) Power supply (2) Ground circuit (3) Combination meter	<Ref. to IDI-7, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Combination Meter System.>
Speedometer does not operate.	(1) ABSCM or VDCCM (2) Harness (3) Combination meter	<Ref. to IDI-7, CHECK ABSCM OR VDCCM, INSPECTION, Combination Meter System.>
Tachometer does not operate.	(1) ECM (2) Harness (3) Combination meter	<Ref. to IDI-8, CHECK ENGINE CONTROL MODULE, INSPECTION, Combination Meter System.>
Fuel gauge does not operate.	(1) Communication circuit (2) Fuel level sensor (3) Harness (4) Combination meter	<Ref. to IDI-8, CHECK FUEL LEVEL SENSOR., INSPECTION, Combination Meter System.>
Engine coolant temperature gauge does not operate.	(1) Communication circuit (2) Engine coolant temperature sensor (3) Harness (4) Combination meter	<Ref. to IDI-10, CHECK ENGINE COOLANT TEMPERATURE SENSOR., INSPECTION, Combination Meter System.>
Error display is shown on the odo/trip meter.	Communication circuit	<Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>

CAUTION:
When measuring the voltage and resistance of each control module or sensor, use a tapered pin with a diameter of less than 0.64 mm (0.025 in) in order to avoid poor contact. Do not insert the pin of more than 2 mm (0.08 in) in diameter.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR COMBINATION METER.** 1) Remove the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.> 2) Disconnect the combination meter harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 3, No. 4 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **2.**	Check the harness for open or short between the ignition switch and combination meter.
2	**CHECK POWER SUPPLY FOR COMBINATION METER.** Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 1, No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Check the harness for open or short between the fuse and combination meter.
3	**CHECK GROUND CIRCUIT OF COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Measure the resistance of harness between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 11, No. 12 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair the wiring harness.

5. CHECK ABSCM OR VDCCM

	Step	Check	Yes	No
1	**CHECK VEHICLE SPEED SIGNAL.** 1) Lift up the vehicle and support it with rigid racks. 2) Drive the vehicle faster than 10 km/h (6 MPH). **Warning:** **Be careful not to get caught in the running wheels.** 3) Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 19 (+) — Chassis ground (−):***	Is the voltage less than 1 V ←→ 5 V or more?	Replace the meter case assembly.	Go to step **2.**
2	**CHECK HARNESS BETWEEN ABSCM OR VDCCM AND COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ABSCM or VDCCM and combination meter. 3) Measure the resistance between ABSCM or VDCCM harness connector and combination meter harness connector. ***Connector & terminal*** ***Model without VDC*** ***(B301) No. 23 — (i10) No. 19:*** ***Model with VDC*** ***(B310) No. 36 — (i10) No. 19:***	Is the resistance less than 10 Ω?	Model without VDC: Check the ABSCM. <Ref. to ABS(diag)-2, Basic Diagnostic Procedure.> Model with VDC: Check the VDCCM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Repair the wiring harness.

6. CHECK ENGINE CONTROL MODULE

	Step	Check	Yes	No
1	**CHECK ECM SIGNAL.** 1) Start the engine. 2) Measure the voltage between ECM connector and chassis ground. ***Connector & terminal*** ***2.0 L non-turbo model and 2.5 L KS, KA model*** ***(B135) No. 27 (+) — Chassis ground (–):*** ***2.0 L turbo model, 3.0 L model and 2.5 L EC, K4, EK model*** ***(B134) No. 23 (+) — Chassis ground (–):***	Is the voltage more than 0 ←→ 14 V?	Go to step **2.**	Check the ECM. <Ref. to EN(H4SO 2.0)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H4SO 2.5)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H4DOTC)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.>
2	**CHECK HARNESS BETWEEN COMBINATION METER AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and combination meter. 3) Measure the resistance between ECM harness connector and combination meter harness connector. ***Connector & terminal*** ***2.0 L non-turbo model and 2.5 L KS, KA model*** ***(B135) No. 27 — (i10) No. 20:*** ***2.0 L turbo model, 3.0 L model and 2.5 L EC, K4, EK model*** ***(B134) No. 23 — (i10) No. 20:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair the wiring harness.

7. CHECK FUEL LEVEL SENSOR.

	Step	Check	Yes	No
1	**CHECK COMMUNICATION ERROR DISPLAY.** 1) Set the ignition switch to ON. 2) Check that the error code is displayed in odo/trip meter.	Is the error code “Er xx” displayed in odo/trip meter?	Check the communication circuit. <Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>	Go to step **2.**
2	**CHECK FUEL LEVEL SENSOR.** 1) Remove the fuel level sensor. <Ref. to FU(H4SO 2.0)-49, REMOVAL, Fuel Level Sensor.> <Ref. to FU(H4SO 2.5)-52, REMOVAL, Fuel Level Sensor.> <Ref. to FU(H4DOTC)-50, REMOVAL, Fuel Level Sensor.> <Ref. to FU(H6DO)-50, REMOVAL, Fuel Level Sensor.> 2) Measure the resistance between fuel level sensor terminals when the float is in FULL or EMPTY position. ***Terminals*** ***No. 1 — No. 4:***	Is the resistance 1.0 — 3.0 Ω (FULL) or 31 — 33 Ω (EMPTY)?	Go to step **3.**	Replace the fuel level sensor.

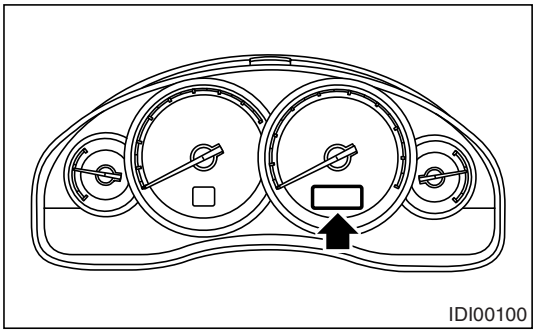
	Step	Check	Yes	No
3	**CHECK FUEL SUB LEVEL SENSOR.** 1) Remove the fuel sub level sensor. <Ref. to FU(H4SO 2.0)-50, REMOVAL, Fuel Sub Level Sensor.> <Ref. to FU(H4SO 2.5)-53, REMOVAL, Fuel Sub Level Sensor.> <Ref. to FU(H4DOTC)-51, REMOVAL, Fuel Sub Level Sensor.> <Ref. to FU(H6DO)-51, REMOVAL, Fuel Sub Level Sensor.> 2) Measure the resistance between fuel sub level sensor terminals when the float is in FULL or EMPTY position. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance 1.0 — 3.0 Ω (FULL) or 61 — 63 Ω (EMPTY)?	Go to step **4.**	Replace the fuel sub level sensor.
4	**CHECK HARNESS BETWEEN FUEL SUB-LEVEL SENSOR AND BODY INTEGRATED MODULE.** 1) Disconnect the connector from body integrated module. 2) Measure the resistance between fuel sub level sensor harness connector terminal and body integrated module harness connector terminal. ***Connector & terminal*** ***(R59) No. 1 — (B281) No. 19:***	Is the resistance less than 10 Ω?	Go to step **5.**	Repair the wiring harness.
5	**CHECK HARNESS BETWEEN FUEL LEVEL SENSOR AND FUEL SUB LEVEL SENSOR.** Measure the resistance between fuel level sensor harness connector terminal and fuel sub level sensor harness connector terminal. ***Connector & terminal*** ***(R58) No. 1 — (R59) No. 2:***	Is the resistance less than 10 Ω?	Go to step **6.**	Repair the wiring harness.
6	**CHECK FUEL LEVEL SENSOR GROUND CIRCUIT.** Measure the resistance between fuel level sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(R58) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair the wiring harness.

8. CHECK ENGINE COOLANT TEMPERATURE SENSOR.

	Step	Check	Yes	No
1	**CHECK COMMUNICATION ERROR DISPLAY.** 1) Set the ignition switch to ON. 2) Check that the error code is displayed in odo/trip meter.	Is the error code “Er xx” displayed in odo/trip meter?	Check the communication circuit. <Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>	Go to step **2.**
2	**CHECK ENGINE COOLANT TEMPERATURE SENSOR.** Check the engine coolant temperature sensor. <Ref. to EN(H4SO 2.0)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H4DOTC)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.>	Is the engine coolant temperature sensor OK?	Replace the meter case assembly.	Replace the engine coolant temperature sensor.

9. COMMUNICATION ERROR DISPLAY

When the following error code is displayed in the odo/trip meter, inspect the communication circuit since the communication malfunction is generated between each control module. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>



Error code	Remarks
Er IU	Malfunction in integrated unit
Er ––	Simultaneous malfunction of high/low speed CAN communication
Er HC	Malfunction of high-speed CAN communication
Er LC	Malfunction of low-speed CAN communication
Er EG	EGI Communication malfunction
Er TC	TCM Communication malfunction
Er Ab	ABSCM/VDCCM Communication malfunction
Er SP	ABSCM/VDCCM DTC information, vehicle speed pulse malfunction
Er SS	Wheel speed data malfunction

10.DTC DISPLAY MODE

When DTC display mode is operated, {ECM}, {TCM}, {ABSCM/VDCCM} is displayed repeatedly in this order by pressing the odo/trip meter button. DTC is displayed in the following table according to type of control module, receiving DTC, DTC detected, No DTC. If CAN communication is broken down, "-----" is displayed.

Control module	Condition	Display
ECM	Receiving DTC	Trip "A" + "P (blinking)"
	DTC detected	Trip "A" + "Pxxxx"
	No DTC	Trip "A" + "P----"
TCM	Receiving DTC	Trip "B" + "P (blinking)"
	DTC detected	Trip "B" + "Pxxxx"
	No DTC	Trip "B" + "P----"
ABSCM/VDCCM	Receiving DTC	Trip "A" + "C (blinking)"
	DTC detected	Trip "A" + "Cxxxx"
	No DTC	Trip "A" + "C----"
When CAN communication is broken down.	—	"-----"

3. Clock System

A: WIRING DIAGRAM

1. CLOCK

<Ref. to WI-311, WIRING DIAGRAM, Clock System.>

B: INSPECTION

1. SYMPTOM CHART

Symptom	Repair order	Reference
No display is shown.	(1) Power supply (2) Clock body	<Ref. to IDI-13, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Clock System.>
Illumination does not illuminate.	(1) Illumination power supply (2) Clock body	<Ref. to IDI-13, CHECK ILLUMINATION CIRCUIT, INSPECTION, Clock System.>
Brightness does not change even when bright switch is pressed.	(1) Bright switch (2) Clock body	<Ref. to IDI-13, CHECK BRIGHT CIRCUIT, INSPECTION, Clock System.>
“Acc” or “ign” is displayed.	ACC or ignition power supply	<Ref. to IDI-14, CHECK ACC OR IGNITION POWER SUPPLY, INSPECTION, Clock System.>
“Err” is displayed in all items.	(1) Communication circuit between combination meter and clock (2) Clock body	<Ref. to IDI-14, CHECK COMMUNICATION CIRCUIT, INSPECTION, Clock System.>
“Err” is displayed when a specified item is selected.	Communication circuit between combination meter and each control module	<Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>

2. CHECK POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK CLOCK POWER SUPPLY.** 1) Disconnect the clock harness connector. 2) Measure the voltage between clock harness connector and chassis ground. ***Connector & terminal*** ***(i59) No. 10 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2.**	Check the harness for open or short between fuse and clock.
2	**CHECK CLOCK GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between clock harness connector and chassis ground. ***Connector & terminal*** ***(i59) No. 6 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the clock body.	Repair the wiring harness.

3. CHECK ILLUMINATION CIRCUIT

	Step	Check	Yes	No
1	**CHECK ILLUMINATION CIRCUIT POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the clock harness connector. 3) Turn the ignition switch and lighting switch to ON. 4) Measure the voltage between clock harness connector and chassis ground. ***Connector & terminal*** ***(i59) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Replace the clock body.	Check the harness for open or short between fuse and clock.

4. CHECK BRIGHT CIRCUIT

	Step	Check	Yes	No
1	**CHECK BRIGHT CIRCUIT POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the clock harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between clock harness connector and chassis ground. ***Connector & terminal*** ***(i59) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Replace the clock body.	Go to step **2.**
2	**CHECK HARNESS BETWEEN CLOCK AND BODY INTEGRATED MODULE.** 1) Turn the ignition switch to OFF. 2) Disconnect harness connector of body integrated module. 3) Measure the resistance between clock harness connector and body integrated module harness connector. ***Connector & terminal*** ***(i59) No. 2 — (i84) No. 30:***	Is the resistance less than 10 Ω?	Replace the body integrated module.	Repair the wiring harness.

5. CHECK ACC OR IGNITION POWER SUPPLY

	Step	Check	Yes	No
1	**CHECK ACC POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the clock harness connector. 3) Turn the ignition switch to ACC. 4) Measure the voltage between clock harness connector and chassis ground. ***Connector & terminal*** ***(i59) No. 9 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2.**	Check the open circuit in harness between fuse and clock.
2	**CHECK THE IGNITION POWER SUPPLY.** 1) Turn the ignition switch to ON. 2) Measure the voltage between clock harness connector and chassis ground. ***Connector & terminal*** ***(i59) No. 8 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Replace the clock body.	Check the open circuit in harness between fuse and clock.

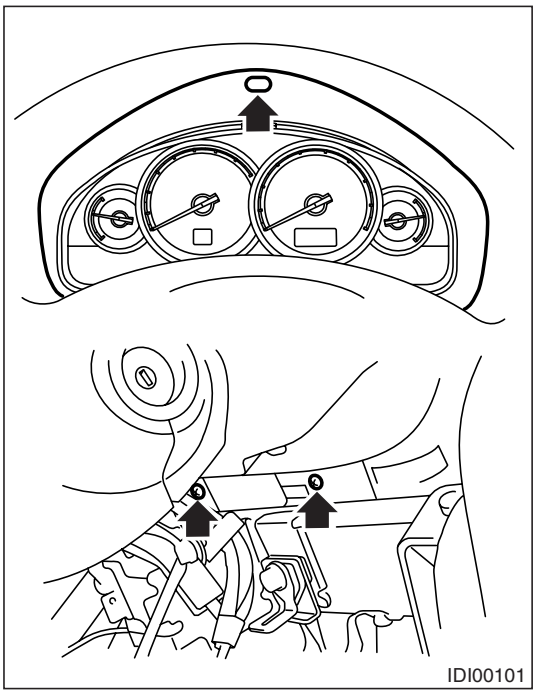
6. CHECK COMMUNICATION CIRCUIT

	Step	Check	Yes	No
1	**CHECK THE HARNESS BETWEEN CLOCK AND COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness of clock and combination meter. 3) Measure the resistance between harness connectors of clock and combination meter. ***Connector & terminal*** ***(i59) No. 5 — (i10) No. 18:***	Is the resistance less than 10 Ω?	Go to step **2.**	Repair the wiring harness.
2	**CHECK COMMUNICATION ERROR DISPLAY.** 1) Connect all the disconnected connectors. 2) Turn the ignition switch to ON. 3) Check that the error code is displayed in odo/trip meter.	Is the error code “Er xx” displayed in odo/trip meter?	Check the communication circuit. <Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>	Replace the clock body.

4. Combination Meter

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Set the tilt steering at the lowest position.
3) Remove the instrument panel under cover and lower cover of driver's seat side. <Ref. to EI-56, REMOVAL, Instrument Panel Assembly.>
4) Remove the screws of combination meter (one for upper side, two for lower side) and pull tilting the meter toward you.



5) Disconnect the connector in the rear side of combination meter to remove meter.

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

B: INSTALLATION

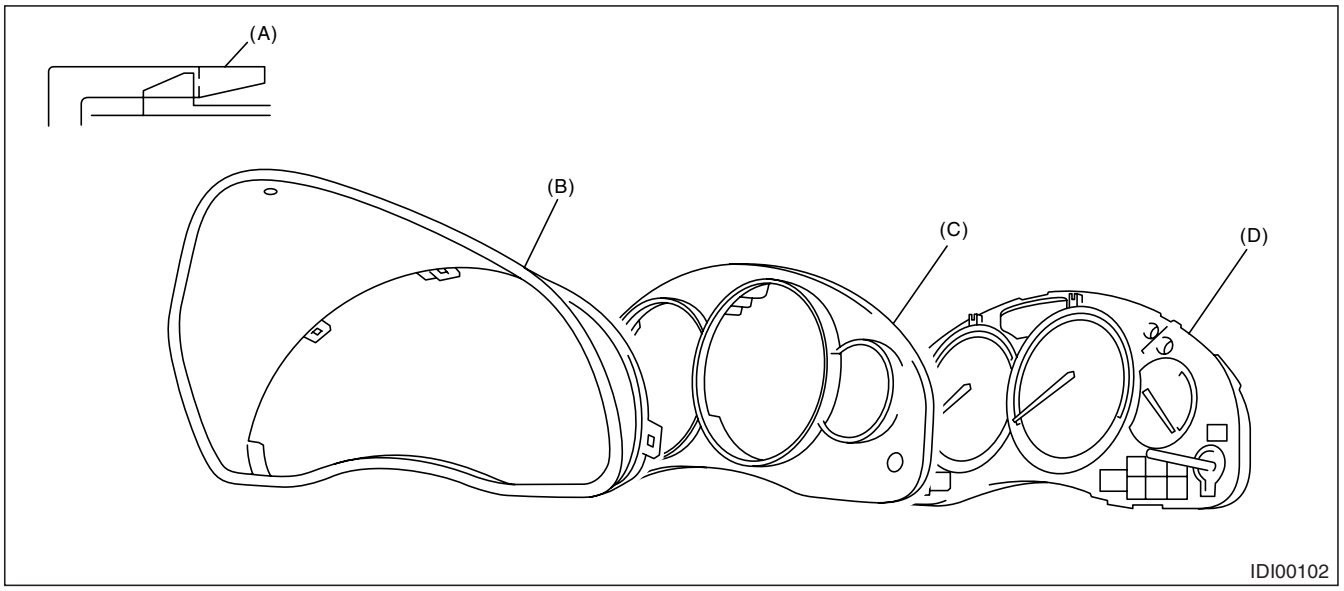
Install in the reverse order of removal.

CAUTION:
• Make sure the electrical connector is connected securely.
• Make sure that each meter operates normally.
• When the combination meter of model with immobilizer has been replaced, be sure to perform the registration procedure of immobilizer.

C: DISASSEMBLY

CAUTION:
- **Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.**
- **Be careful not to apply excessive force to the trip knob.**
- **Be sure not to touch the meter indicator needle.**

Remove the pawl (A), and then detach the meter glass assembly (B) and meter panel assembly (C) from meter case assembly (D).



1. BULB REPLACEMENT

LEDs are used for all of warning lights and indicator lights of combination meters, replace the meter case assembly if faulty.

D: ASSEMBLY

Assemble in the reverse order of disassembly.

5. Speedometer

A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the speedometer alone. (Do not remove the cover on the back side.)

6. Tachometer

A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the tachometer alone. (Do not remove the cover on the back side.)

7. Fuel Gauge

A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the fuel gauge alone. (Do not remove the cover on the back side.)

8. Engine Coolant Temperature Gauge

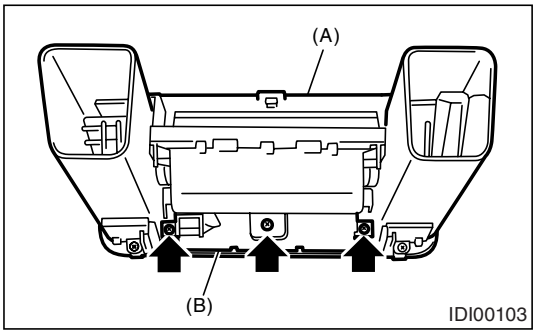
A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the engine coolant temperature gauge alone. (Do not remove the cover on the back side.)

9. Clock

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the center air vent grille. <Ref. to AC-46, REMOVAL, Air Vent Grille.>
3) Loosen the screws, and then remove the clock (B) from center air vent grille (A).



B: INSTALLATION

Install in the reverse order of removal.

SEATS

SE

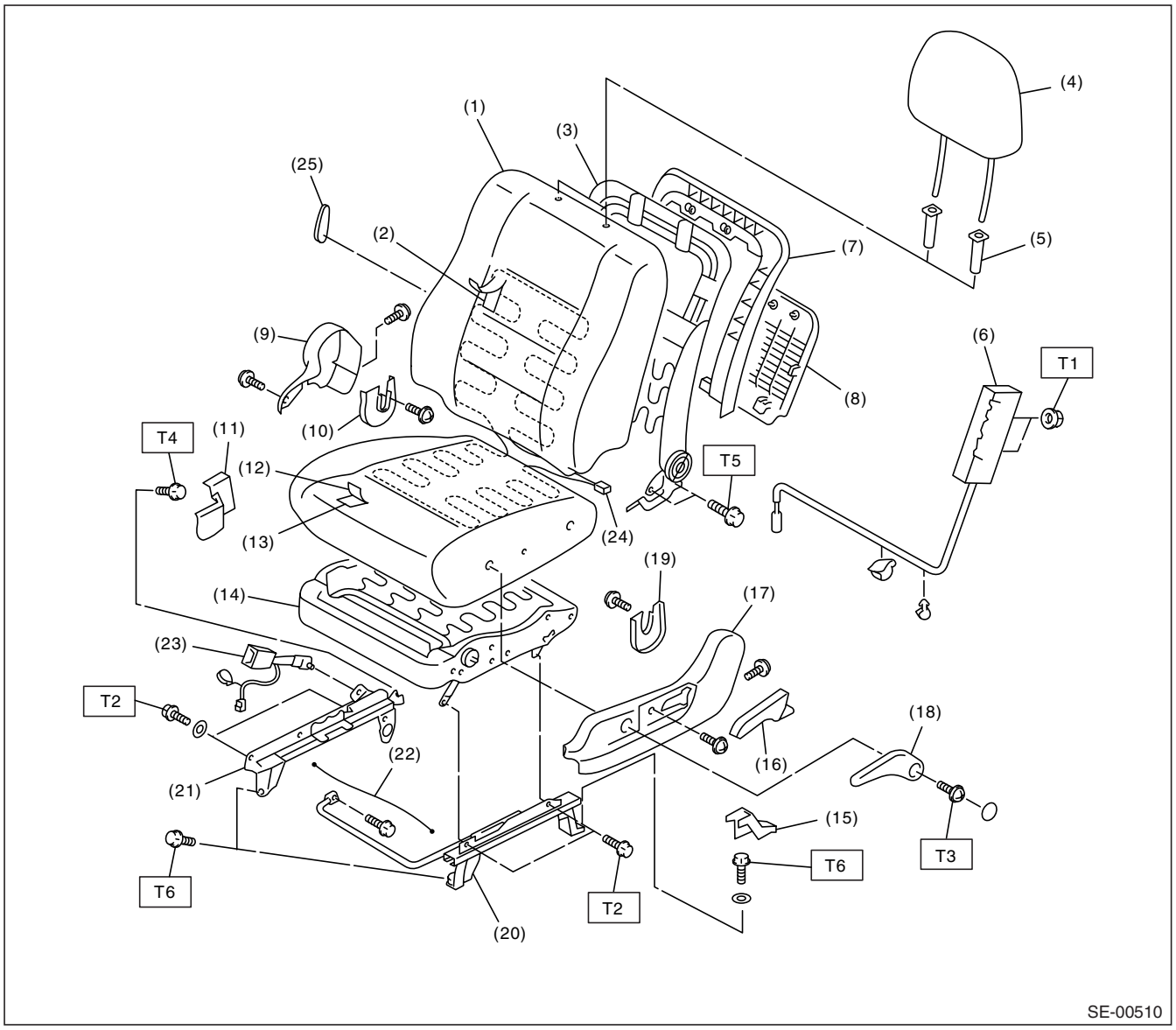
Page

1. General Description 2
2. Front Seat 7
3. Rear Seat 14
4. Seat Heater System 19

1. General Description

A: COMPONENT

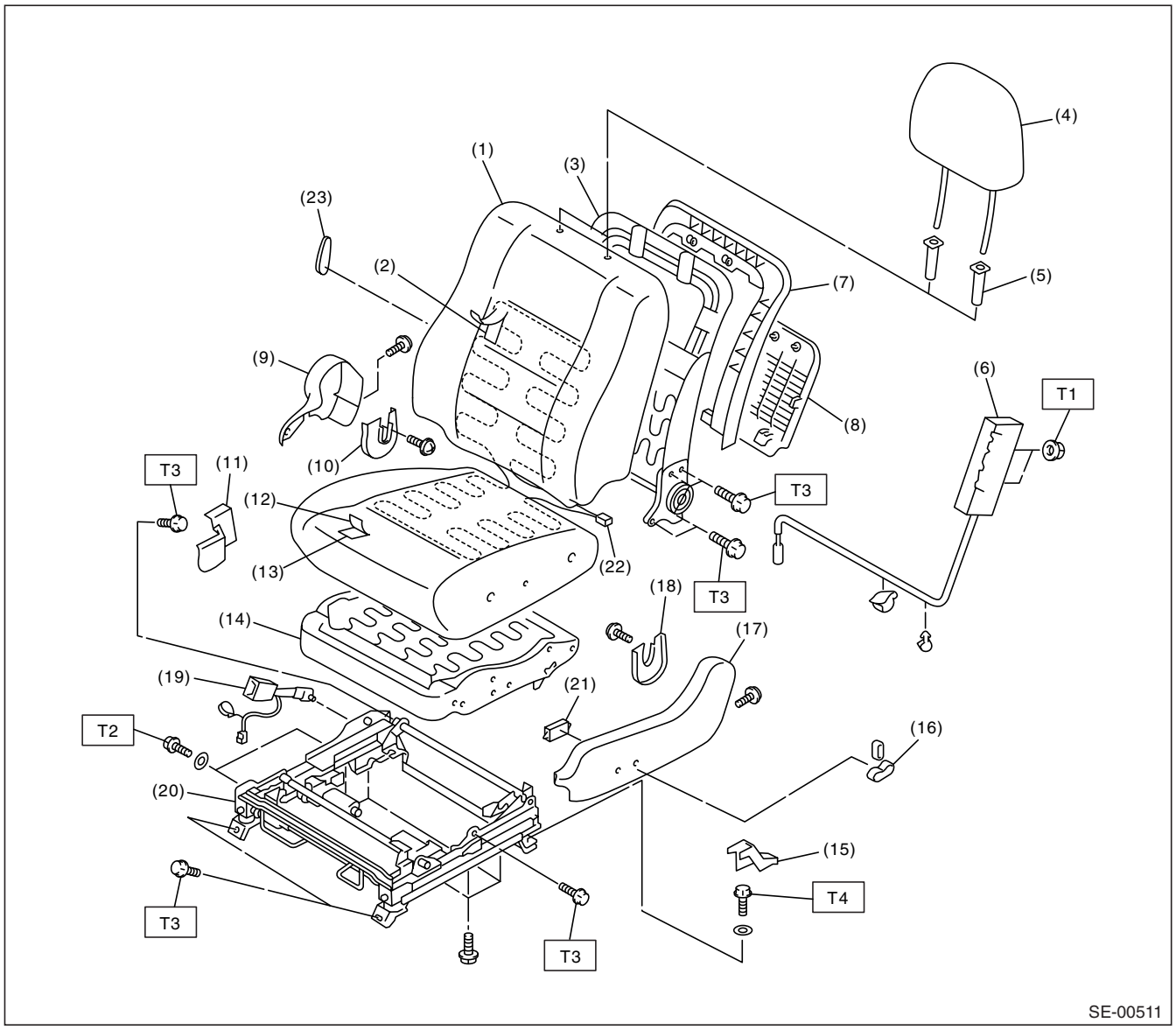
1. FRONT SEAT (MANUAL SEAT)



(1) Backrest cover
(2) Backrest pad
(3) Backrest frame ASSY
(4) Headrest ASSY
(5) Headrest lock bushing
(6) Side airbag module
(7) Cover frame
(8) Backrest back cover
(9) Seat side cover inside
(10) Hinge inner cover LH
(11) Rear bolt cover inside
(12) Seat cushion cover
(13) Seat cushion pad
(14) Seat cushion frame ASSY
(15) Rear bolt cover outside
(16) Reclining lever
(17) Seat side cover outside
(18) Lifter lever
(19) Hinge inner cover LH
(20) Outer slide rail
(21) Inner slide rail
(22) Connecting wire
(23) Inner seat belt ASSY
(24) Seat heater unit
(25) Lumber support lever

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6 (0.61, 4.43)
T2: 10 (1.02, 7.38)
T3: 22 (2.24, 16.2)
T4: 30 (3.06, 22.1)
T5: 52 (5.30, 38.4)
T6: 53 (5.40, 39.1)

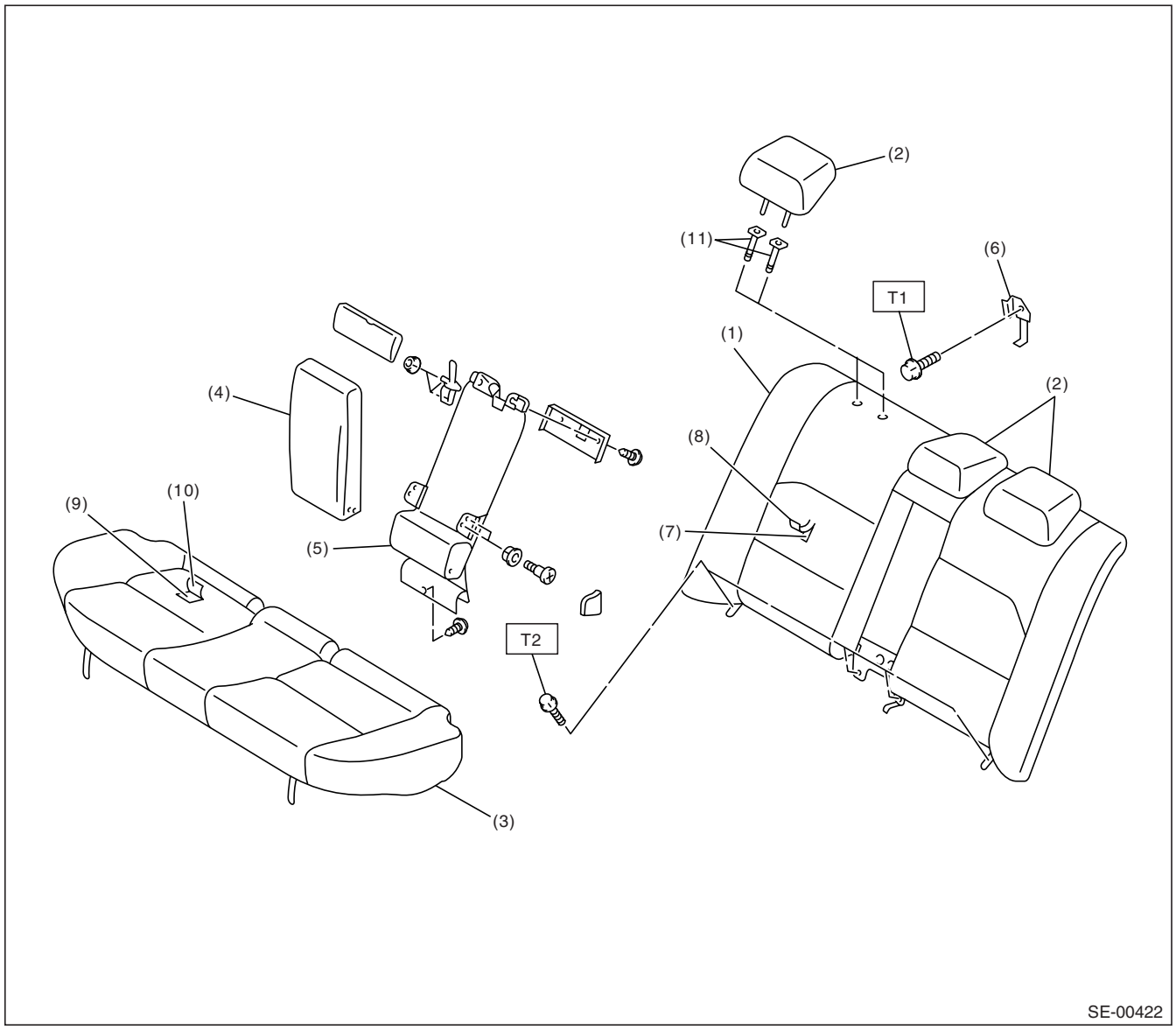
2. FRONT SEAT (POWER SEAT)



(1) Backrest cover
(2) Backrest pad
(3) Backrest frame ASSY
(4) Headrest ASSY
(5) Headrest lock bushing
(6) Side airbag module
(7) Cover frame
(8) Backrest back cover
(9) Seat side cover inside
(10) Hinge inner cover RH
(11) Rear bolt cover inside
(12) Seat cushion cover
(13) Seat cushion pad
(14) Seat cushion frame ASSY
(15) Rear bolt cover outside
(16) Power seat switch knob
(17) Seat side cover outside
(18) Hinge inner cover LH
(19) Inner seat belt ASSY
(20) Slide rail ASSY
(21) Power seat switch unit
(22) Seat heater unit
(23) Lumber support lever

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6 (0.61, 4.43)
T2: 22 (2.24, 16.2)
T3: 52 (5.30, 38.4)
T4: 53 (5.40, 39.1)

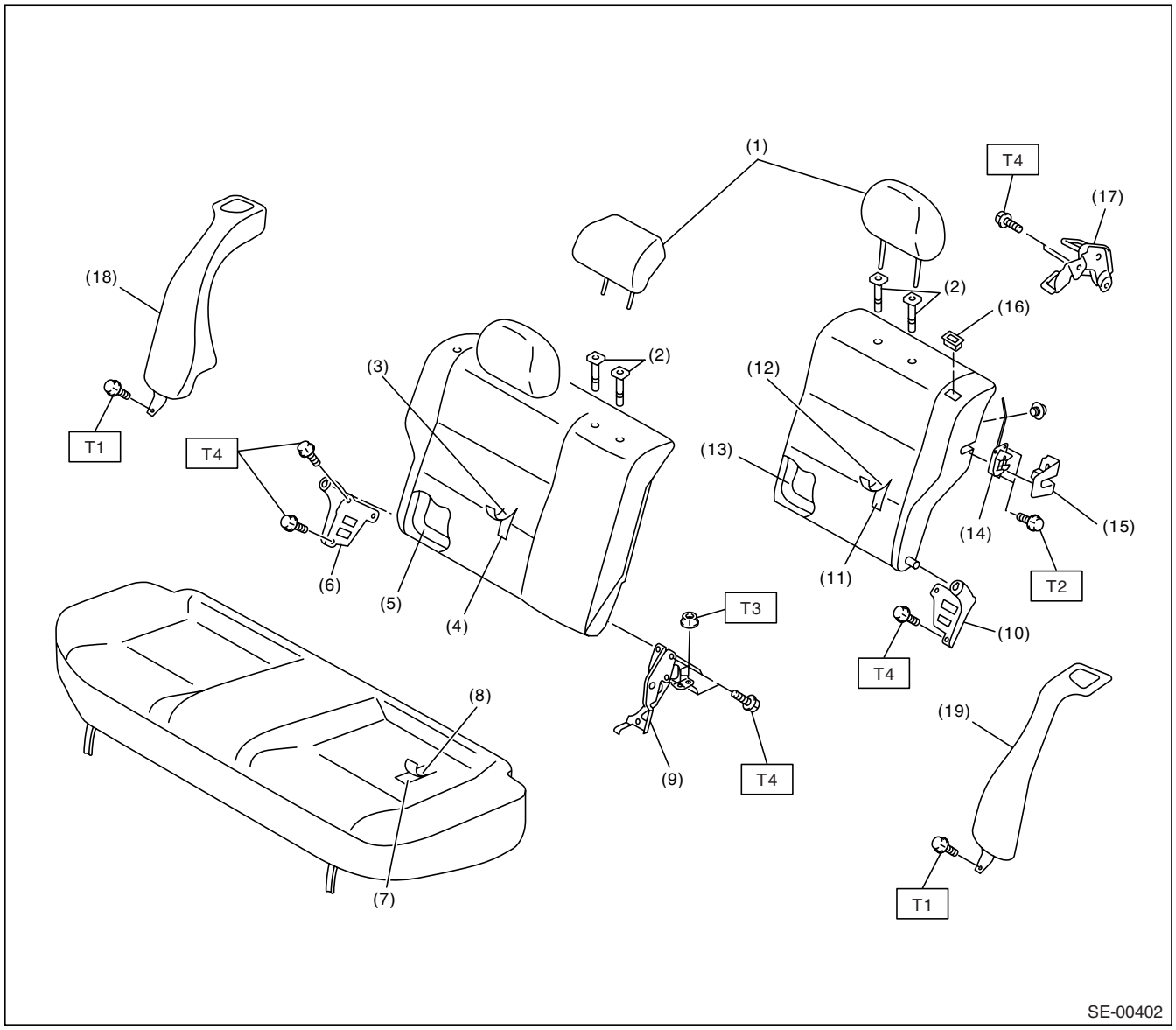
3. REAR SEAT (SEDAN MODEL)



(1) Backrest
(2) Headrest
(3) Cushion
(4) Armrest
(5) Center through frame
(6) Hook
(7) Backrest pad ASSY
(8) Backrest cover ASSY
(9) Rear pad & cushion frame ASSY
(10) Rear cushion cover
(11) Headrest bushing

Tightening torque: N·m (kgf-m, ft-lb)
T1: 10 (1.02, 7.38)
T2: 24.5 (2.5, 18.1)

4. REAR SEAT (WAGON MODEL)



(1) Headrest
(2) Headrest bushing
(3) Backrest cover RH
(4) Backrest pad RH
(5) Backrest frame RH
(6) Hinge ASSY RH
(7) Seat cushion pad
(8) Seat cushion cover
(9) Hinge ASSY center
(10) Hinge ASSY LH
(11) Backrest pad LH
(12) Backrest cover LH
(13) Backrest frame LH
(14) Seat back latch
(15) Seat back latch cover
(16) Holder & button
(17) Striker
(18) Backrest shoulder RH
(19) Backrest shoulder LH

Tightening torque: N·m (kgf-m, ft-lb)
T1: 13.7 (1.40, 10.1)
T2: 22 (2.24, 16.2)
T3: 24.5 (2.5, 18.1)
T4: 33 (3.3, 24.6)

B: CAUTION

When removing the front seat from a vehicle equipped with side airbag, follow cautions given in the airbag section. <Ref. to AB-5, CAUTION, General Description.>

C: PREPARATION TOOL

1. GENERAL TOOL

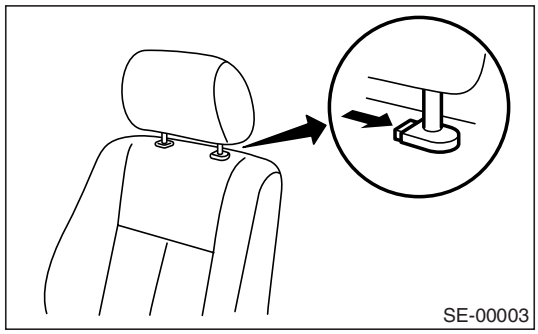
TOOL NAME	REMARKS
Long nose pliers	Used for removing the hog rings.
Hog ring pliers	Used for installing hog rings.
TORX® BIT T50	Used for removing and installing the inner seat belt assembly.

2. Front Seat

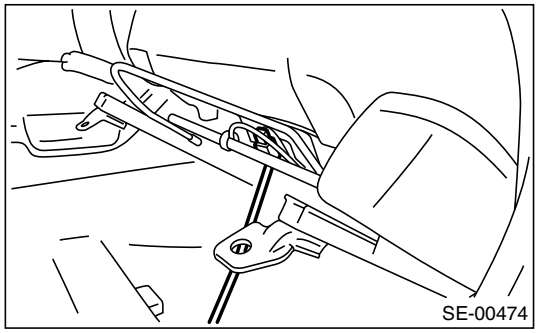
A: REMOVAL

CAUTION:
The airbag system is fitted with a backup power source. After disconnecting the battery ground cable, the airbag may deploy if you do not wait for 20 seconds before starting the repair of airbag system.

1) Remove the headrest with headrest lock button depressed.



2) Tilt forward the backrest, and slide the seat forward.
3) Remove the rear bolt cover, and remove the two bolts at the rear side of slide rail.
4) Slide the seat backward, and remove the two bolts at the front side of slide rail.
5) Remove the battery ground cable, and wait for more than 20 seconds before starting work.
6) Disconnect the connector under the seat.
- Seat belt warning light connector (Driver's side).
- Side airbag connector (Model with side airbag)
- Seat heater connector (Model with seat heater)
- Power seat connector (Model with power seat)

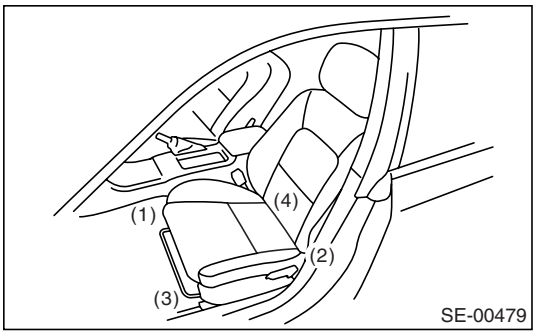


7) Remove the seat from vehicle.

B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Tighten the slide rail installing bolt gradually in several steps to the specified torque in the order as shown in the figure.

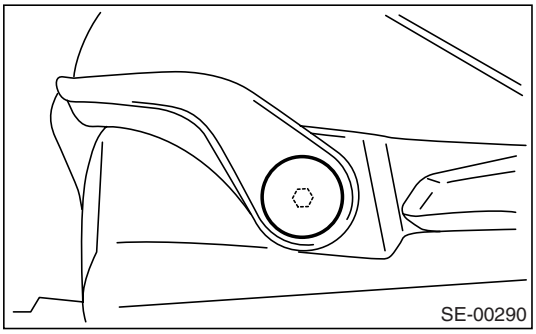


Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-2, COMPONENT, General Description.>

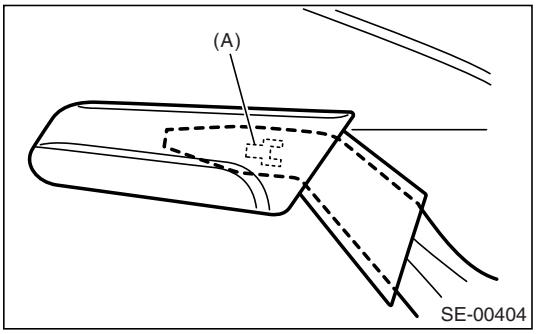
C: DISASSEMBLY

1. MANUAL SEAT

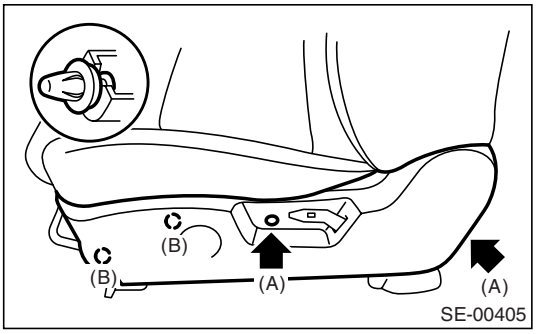
1) Remove the seat from vehicle. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove the seat lifter cover using a flat tip screwdriver, and loosen the inner bolt to remove seat lifter lever.



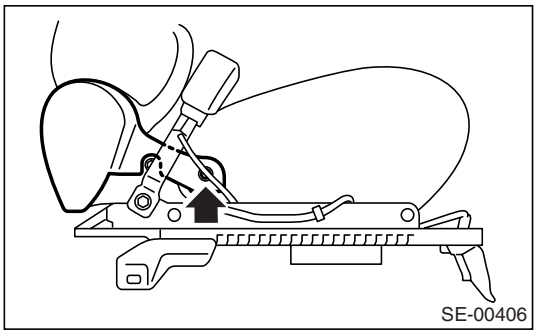
3) Remove the hook (A) and detach reclining lever cover.



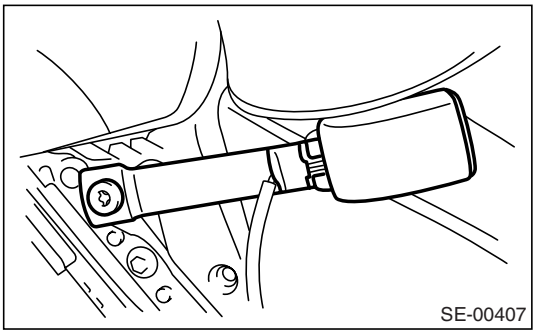
4) Remove the screws (A) and clips (B), and then detach the seat side cover outside.



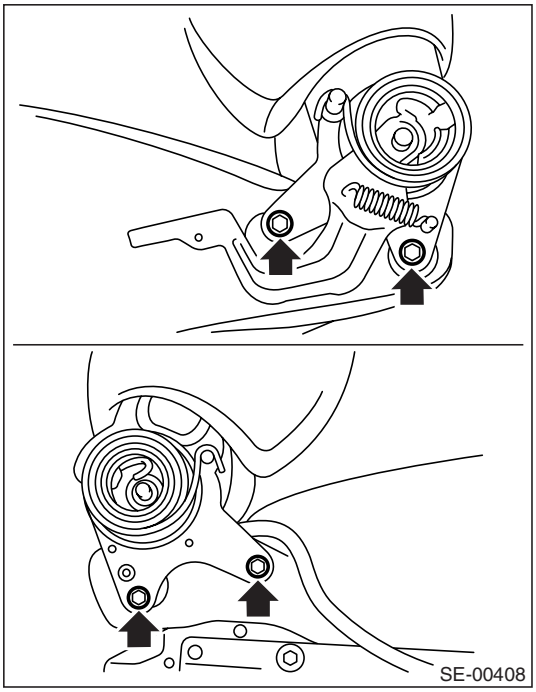
5) Loosen the screw to remove seat side cover inside.



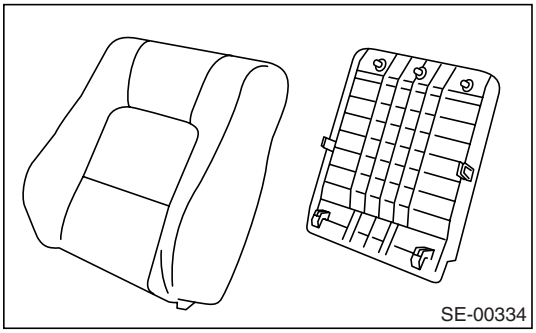
6) Remove the TORX® bolt, and then remove the inner seat belt assembly.



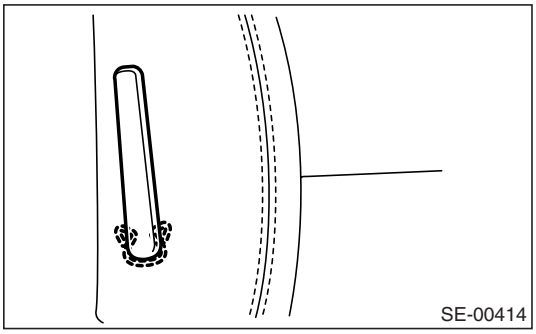
7) Remove the two bolts from each LH and RH side of reclining hinge.



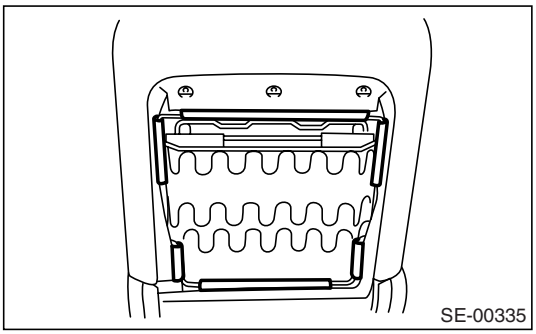
8) Remove the clips and hooks, and then detach the backrest back cover.



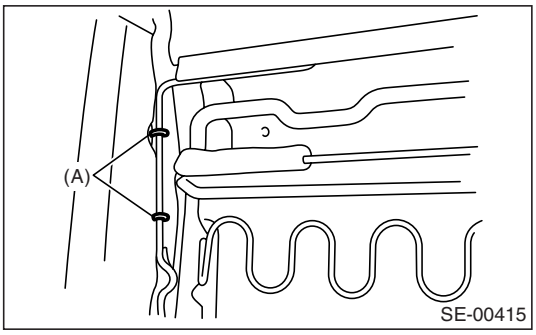
9) Remove the lock clip, and then remove the lumber support lever.



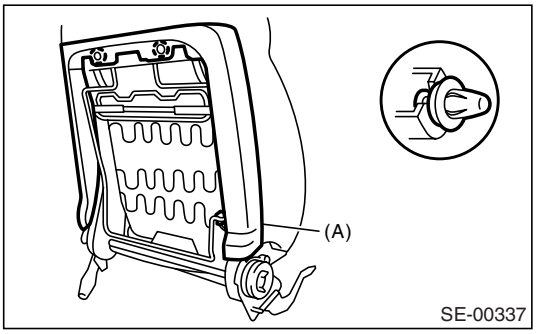
10) Remove the hooks at the rear side of backrest.



NOTE:
For the seat with side airbag, the airbag module installation side is secured with hog rings (A).

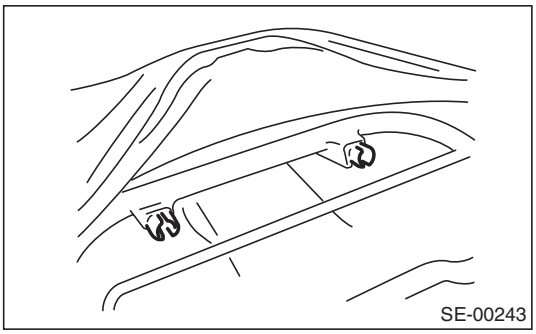


11) Remove the cover frame (A).



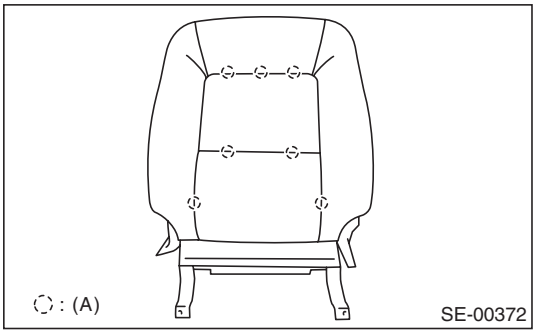
12) Remove the headrest lock bushing.

NOTE:
Push outside to remove it from the inside of seat.

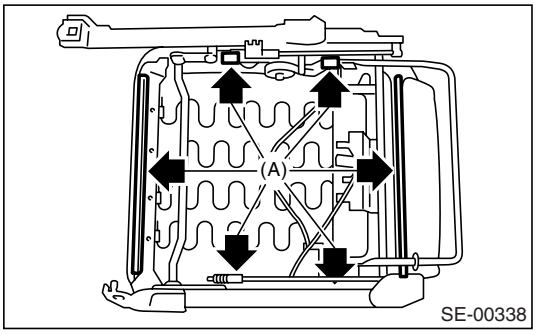


13) Pull out the backrest frame assembly.

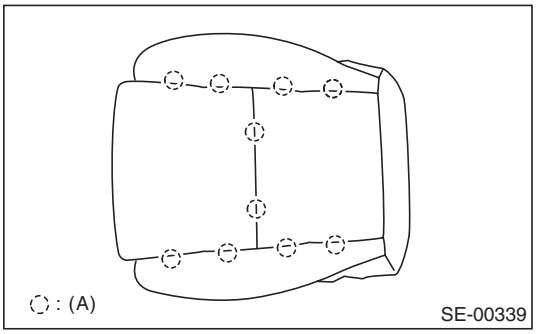
14) Remove the hog rings (A) on the surface side of backrest, and then remove the backrest cover from backrest.



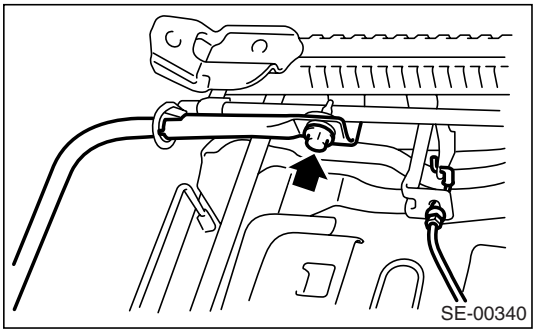
15) Remove the hooks (A), and then remove the seat cushion frame assembly.



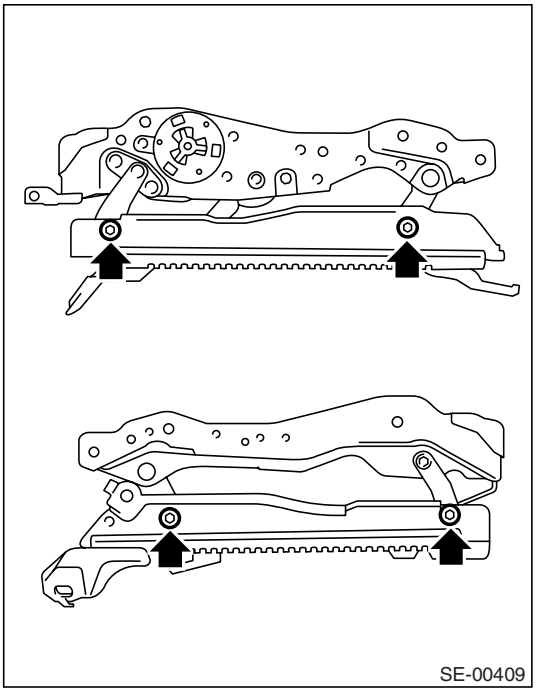
16) Remove the hog rings (A), and then remove the seat cushion cover from seat cushion pad.



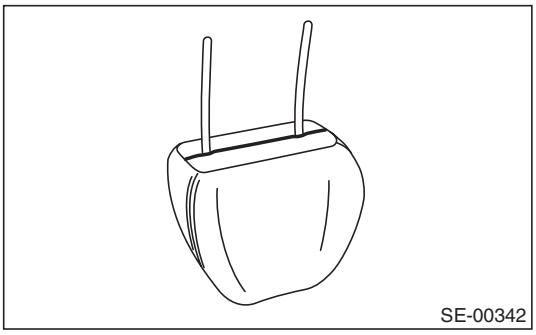
17) Remove the bolt of sliding adjustment bar and connecting wire.



18) Remove the bolts, and then remove the slide rail.

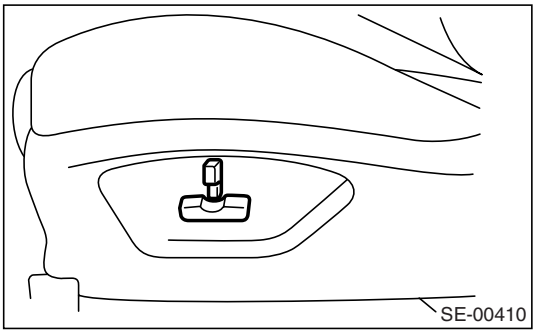


19) Remove the hooks and hog rings at the bottom of headrest, and then remove the headrest cover from headrest.

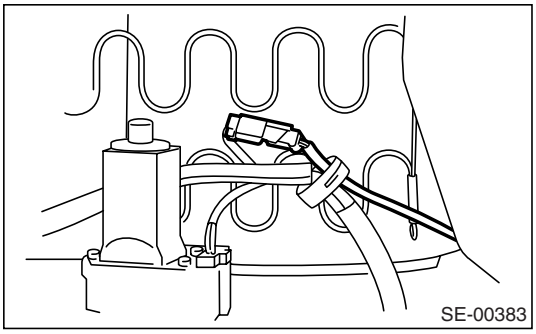


2. POWER SEAT

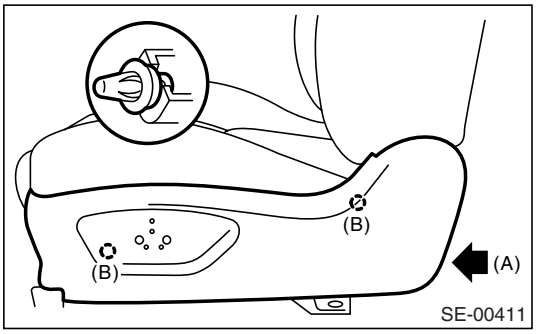
1) Remove the seat from vehicle. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove the power seat switch knob.



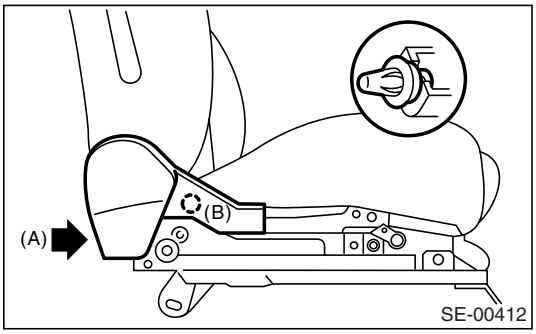
3) Disconnect the connector of reclining motor from the backside of seat cushion.



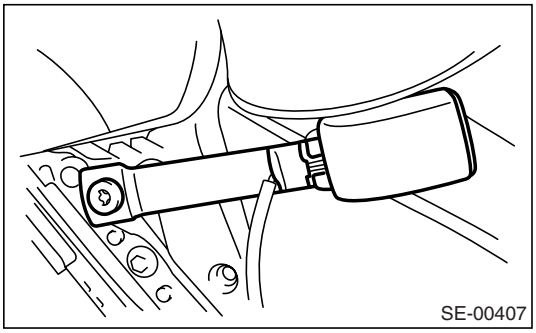
4) Remove the screw (A) and clips (B), and then disconnect the seat switch connector to remove seat side cover outside.



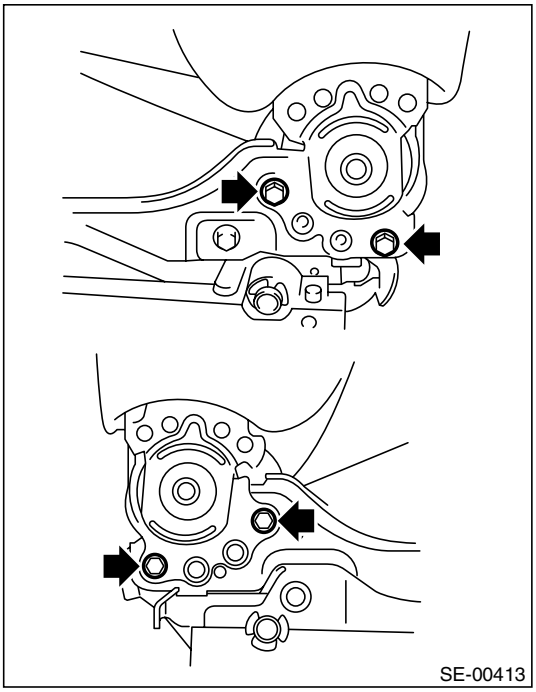
5) Remove the screw (A) and clip (B), and then remove the seat side cover inside.



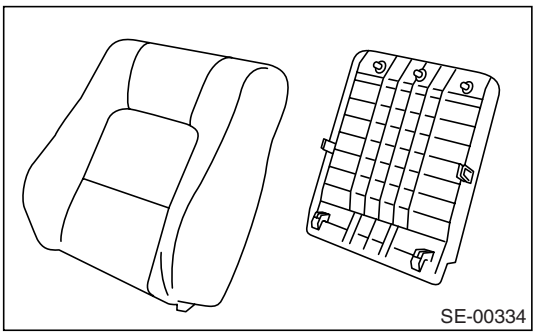
6) Remove the TORX® bolt, and then remove the inner seat belt assembly.



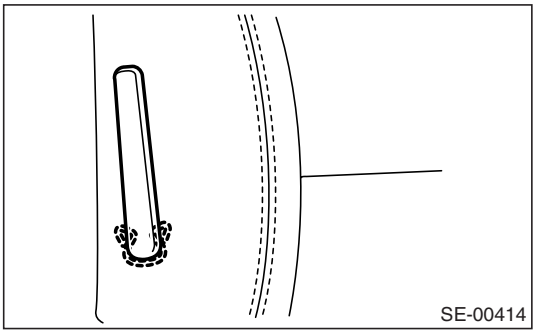
7) Remove the two bolts from each LH and RH side of reclining hinge.



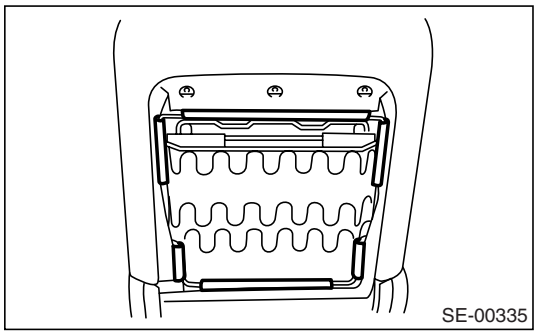
8) Remove the clips and hooks, and then detach the backrest back cover.



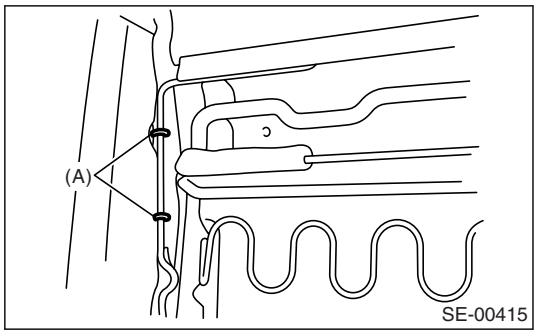
9) Remove the lock clip, and then remove the lumber support lever.



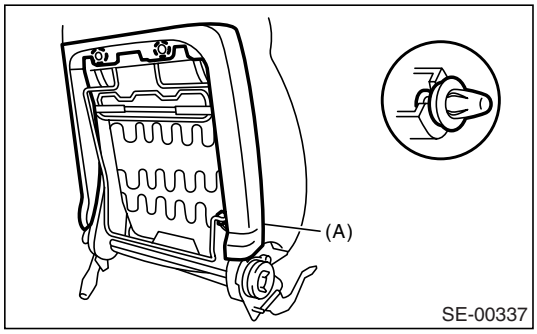
10) Remove the hooks at the rear side of backrest.



NOTE:
For the seat with side airbag, the airbag module installation side is secured with hog rings (A).

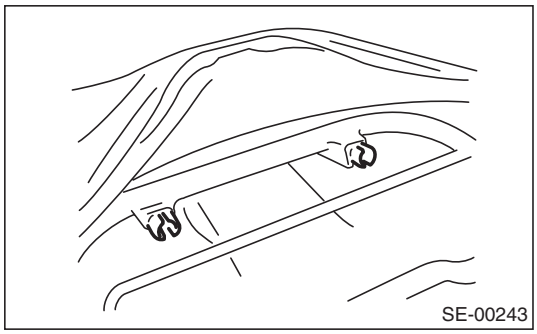


11) Remove the cover frame (A).



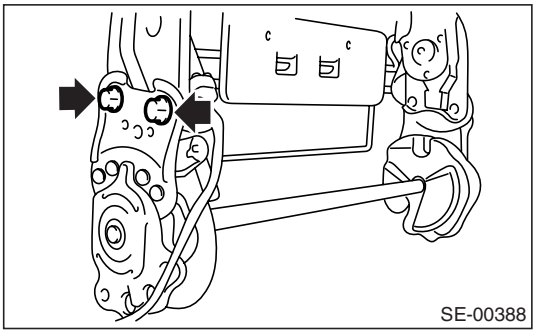
12) Remove the headrest lock bushing.

NOTE:
Push outside to remove it from the inside of seat.

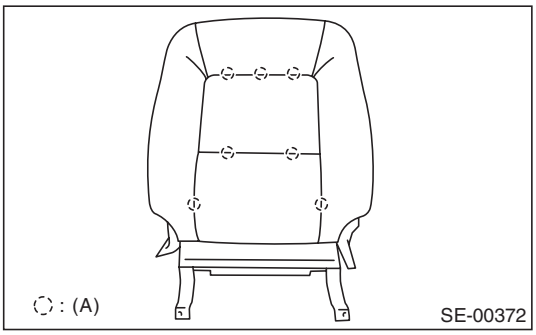


13) Pull out the backrest frame assembly.

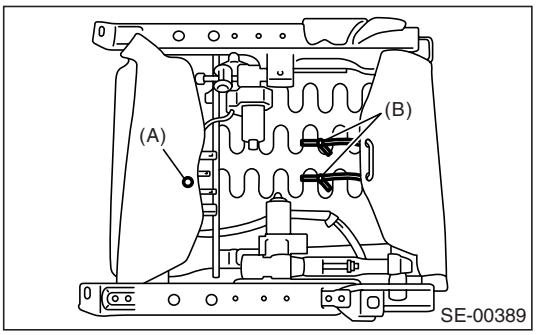
14) Remove the two bolts on each left and right side, and then remove the reclining motor assembly.



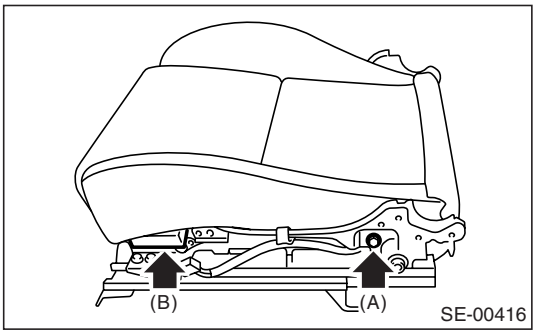
15) Remove the hog rings (A) on the surface side of backrest, and then remove the backrest cover from backrest.



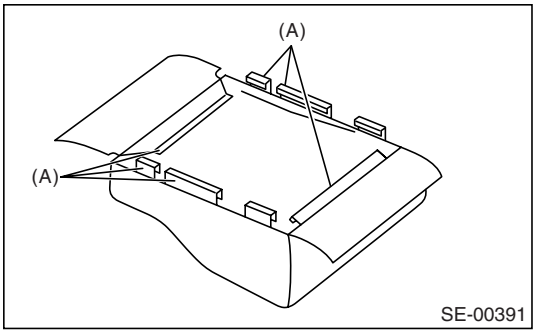
16) Remove the clip (A) and straps (B) on the back of seat cushion.



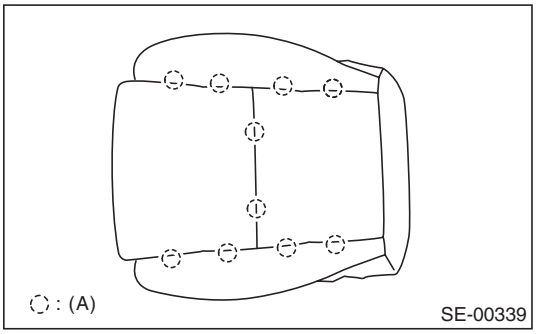
17) Remove the bolt (A) and hook (B) on left and right side, and then remove the seat cushion frame from seat rail assembly.



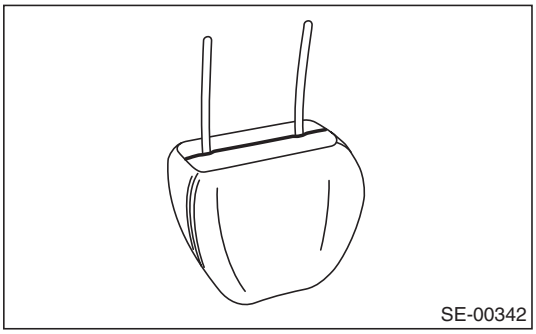
18) Remove the hooks (A), and then remove the seat cushion from seat cushion frame.



19) Remove the hog rings (A), and then remove the seat cushion cover from seat cushion pad.



20) Remove the hooks and hog rings at the bottom of headrest, and then remove the headrest cover from headrest.



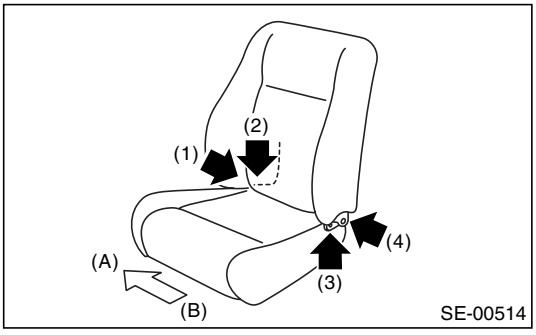
D: ASSEMBLY

CAUTION:
When the backrest cover is not installed securely, the side airbag module may not be deployed properly, therefore keep strictly to the following procedure.
• Be careful not to stain or damage the backrest cover during assembly.
• Always use new hog rings.
• Secure the hog ring using hog ring pliers.
• Install the hog rings to the specified points securely and make sure that no wrinkle or twisting on the backrest cover.

1. MANUAL SEAT

NOTE:
• When installing the inner seat belt assembly, follow the procedure described in “Front Seat Belt”. <Ref. to SB-15, INNER SEAT BELT ASSEMBLY, INSTALLATION, Front Seat Belt.>
• Install the backrest assembly and seat cushion assembly in the following procedure.

1) Temporarily tighten the four reclining hinge bolts.
2) Place the backrest in the most upright position.(For manual seat, ensure the reclining mechanism locked securely.)
3) Tighten the reclining hinge bolts (1) — (4) in two or three steps by gradually increasing the torque until they reach the specified torque.



(A) Vehicle inside
(B) Vehicle outside

4) Assemble in the reverse order of disassembly.

Tightening torque:
Refer to “COMPONENT” of “General Description”. <Ref. to SE-2, COMPONENT, General Description.>

2. POWER SEAT

Assemble in the reverse order of disassembly.

NOTE:
Refer to “MANUAL SEAT” for installation of backrest assembly and seat cushion assembly. <Ref. to SE-13, MANUAL SEAT, ASSEMBLY, Front Seat.>

E: INSPECTION

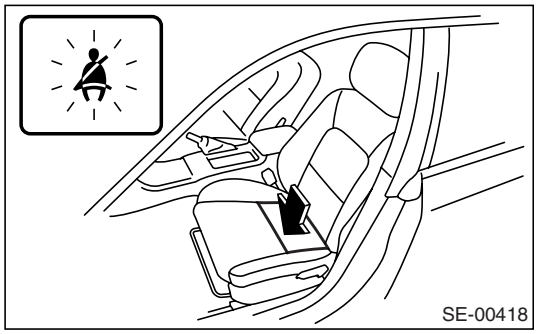
1. SEAT COVER

Check that no tear or fray on the backrest cover and seat cushion cover.

NOTE:
For the model equipped with side airbag, when the door side of backrest cover is torn or frayed, the side airbag may not be deployed properly. Replace it with new one in such a case.

2. SEATING SENSOR

Make sure the passenger’s seat belt warning light illuminates when applying load to the rear surface of passenger’s seat cushion. If not, replace the seat cushion pad with a new one.

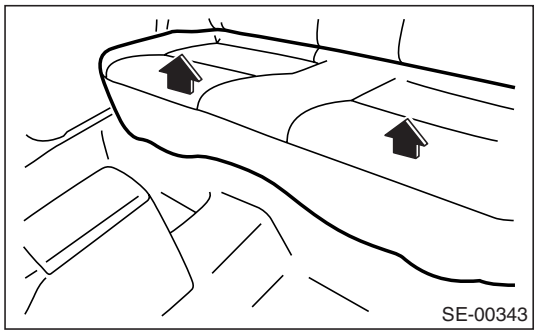


3. Rear Seat

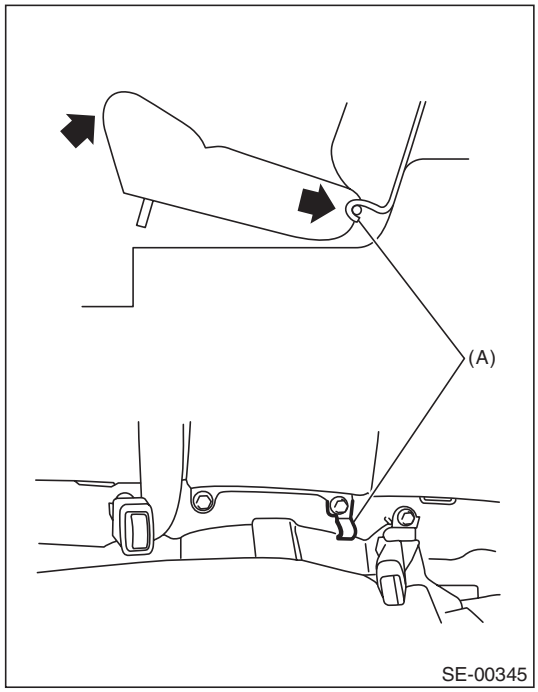
A: REMOVAL

1. SEDAN MODEL

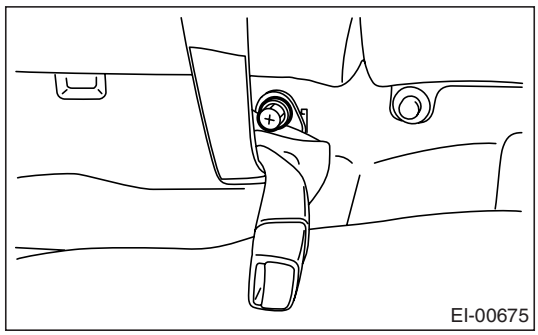
1) Lift up the rear seat cushion and then remove the two hooks.



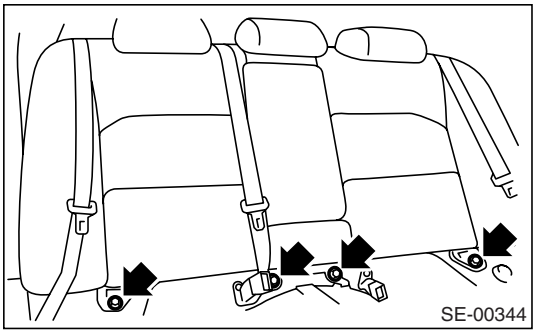
2) Lift up the front side of seat cushion and remove the hook (A) by pushing it backward to detach seat cushion.



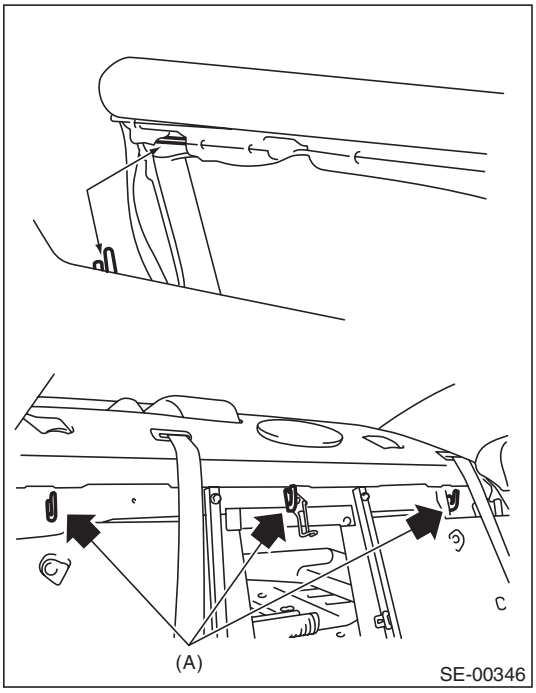
3) Remove the lower anchor bolt of rear center seat belt.



4) Remove the bolt which holds the lower portion of backrest.

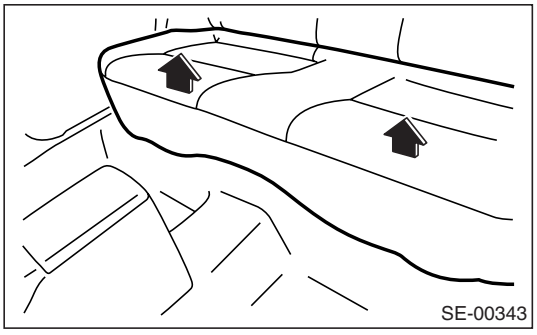


5) Lift up the backrest and remove the anchor part on backrest side from hook (A) on body side to detach it from vehicle.

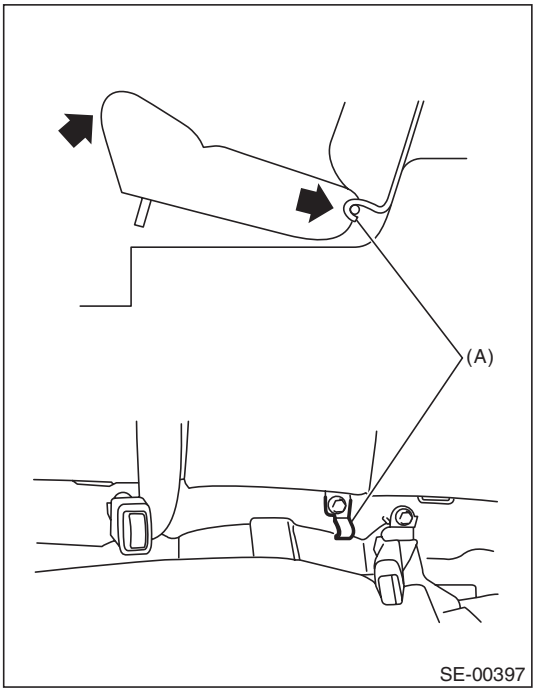


2. WAGON MODEL

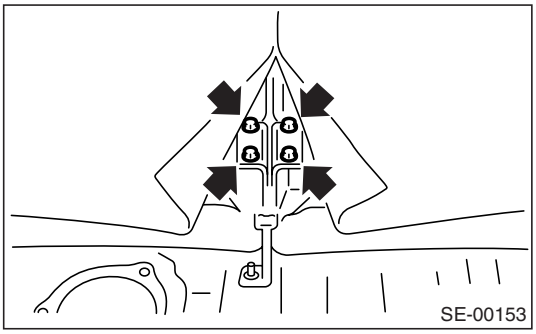
1) Disconnect the battery ground cable.
2) Lift up the rear seat cushion and then remove the two hooks.



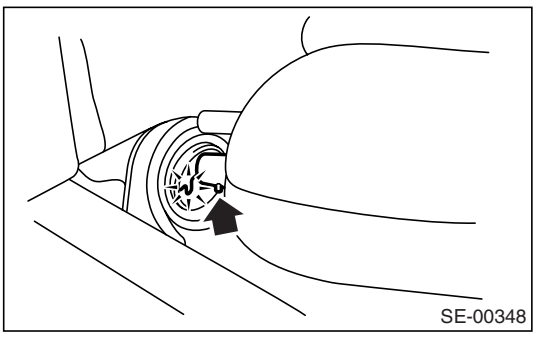
3) Lift up the front side of seat cushion and remove the hook (A) by pushing it backward to detach seat cushion.



4) Remove the headrest and then the tilt backrest forward.
5) Remove the luggage floor box. <Ref. to EI-74, REMOVAL, Luggage Floor Box.>
6) Remove the bolt for hinge assembly center.

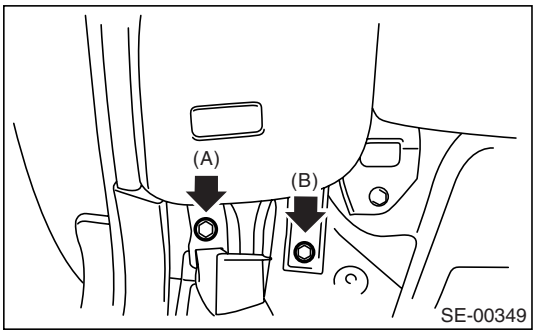


7) Remove the backrest from hinge assembly LH (hinge assembly RH).

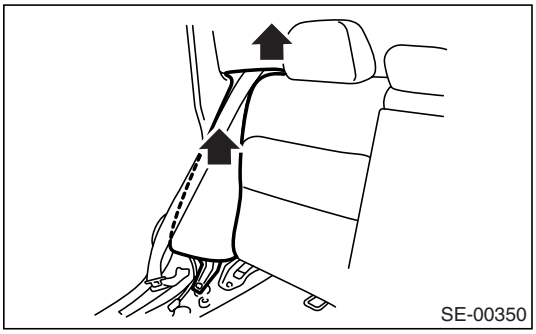


NOTE:
The backrest cannot be removed when the hinge assembly side does not mate with the backrest pin position.

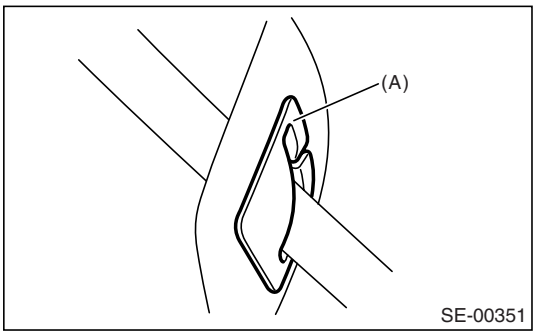
8) Remove lower anchor bolt (A) of outer seat belt and bolt (B) of backrest shoulder.



9) Remove the backrest shoulder while lifting it up.



10) Remove the belt cover (A) from backrest shoulder, and then pull out the seat belt.



B: INSTALLATION

1. SEDAN MODEL

Install in the reverse order of removal.

NOTE:
• After backrest installation, make sure that each seat belt operates normally.
• Make sure that they are secured on each hook of vehicle side.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-4, REAR SEAT (SEDAN MODEL), COMPONENT, General Description.>

2. WAGON MODEL

Install in the reverse order of removal.

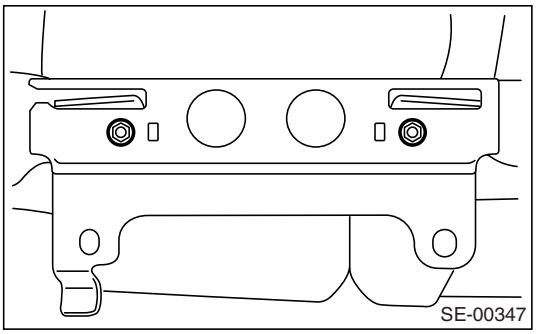
NOTE:
• After backrest installation, make sure that each seat belt operates normally.
• Make sure that they are secured on each hook of vehicle side.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-5, REAR SEAT (WAGON MODEL), COMPONENT, General Description.>

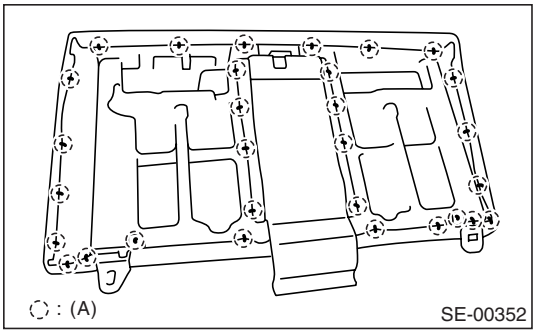
C: DISASSEMBLY

1. SEDAN MODEL

1) Remove the rear seat. <Ref. to SE-14, SEDAN MODEL, REMOVAL, Rear Seat.>
2) Remove the headrest.
3) Remove the nuts, and then detach the trunk through assembly.

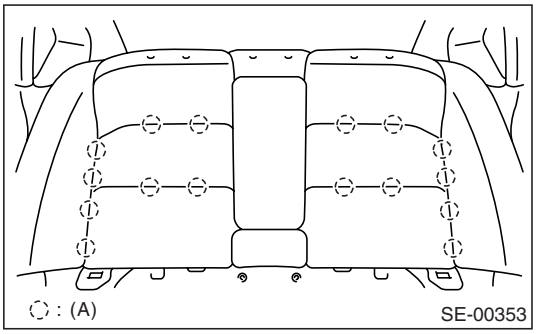

SE-00347

4) Remove the hog rings (A) on the rear side of backrest.



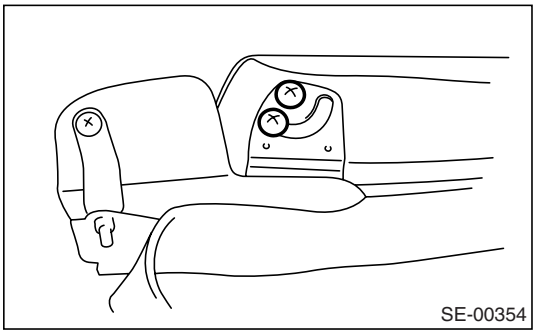
SE-00352

5) Remove the hog rings (A) on the front side of backrest.

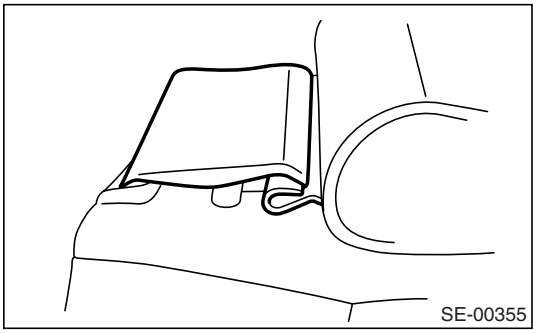


SE-00353

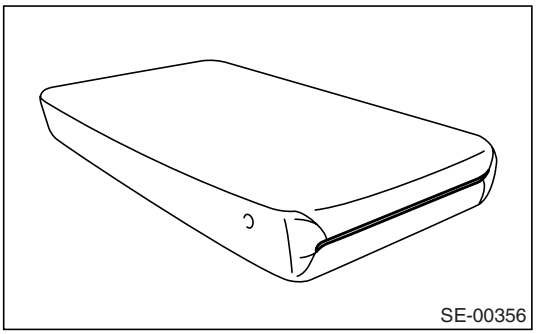
6) Remove both sides of armrest hinge covers, and loosen the screws to remove armrest.


SE-00354

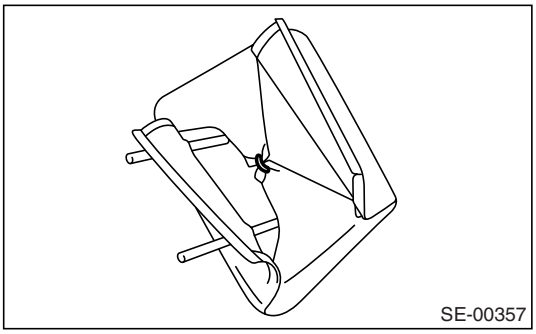
7) Remove the hook and detach center through cover.


SE-00355

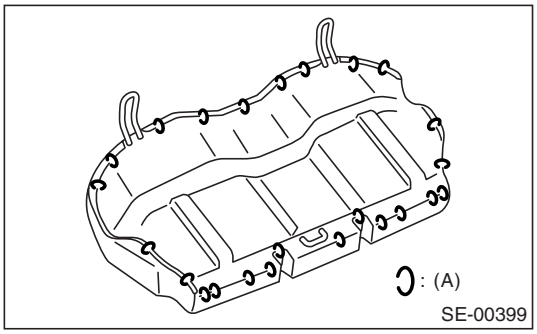
8) Remove the hook and detach armrest cover.



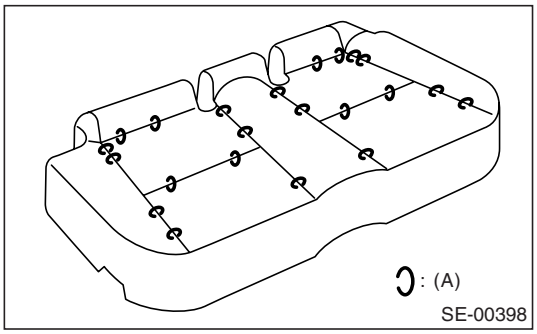
9) Remove the hook and hog rings and detach headrest cover.



10) Remove the hog rings (A) on the rear side of seat cushion.

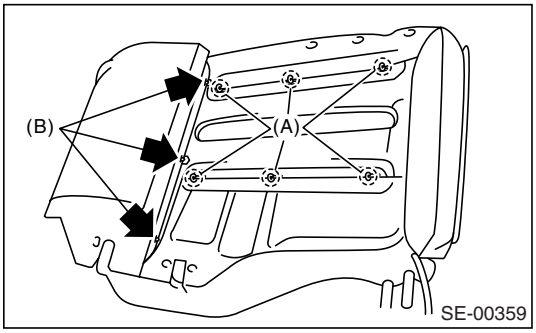


11) Remove the hog rings (A), and then remove the seat cushion cover.

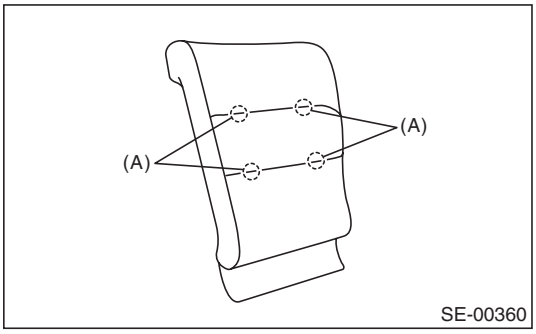


2. WAGON MODEL

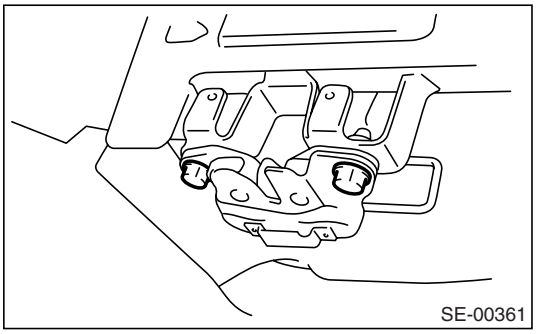
1) Remove the rear seat. <Ref. to SE-14, WAGON MODEL, REMOVAL, Rear Seat.>
2) Remove the hooks at the bottom of backrest assembly LH, and then turn over the backrest cover to remove the hog rings (A) and hooks (B).



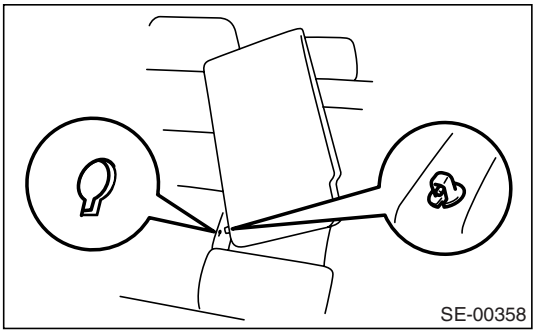
3) Remove the hog rings (A) on the front side of backrest, and then remove the backrest cover.



4) Remove the bolts, and then remove backrest latch.

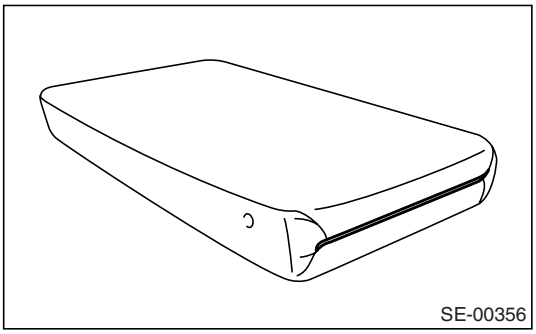


5) Loosen the screws to remove armrest from backrest assembly RH.

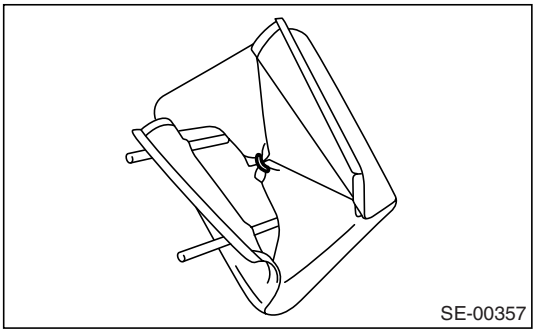


NOTE:
The armrest cannot be removed when the backrest assembly RH side does not mate with the armrest pin position.

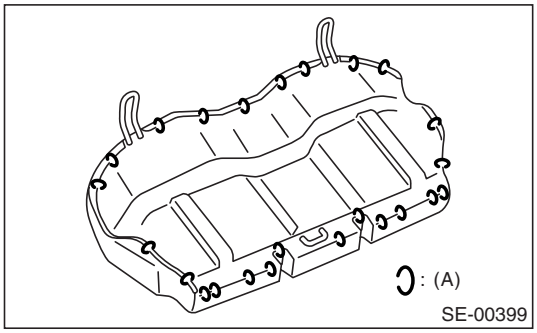
6) After this operation, refer to the step 2) to disassemble the backrest assembly RH
7) Remove the hook and detach armrest cover.



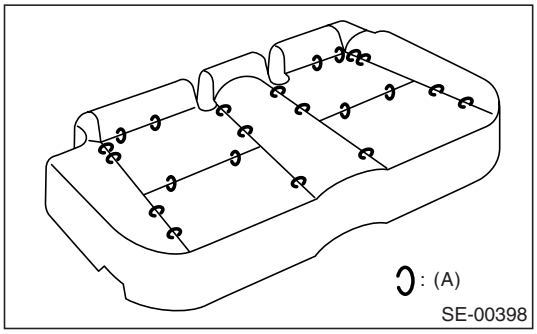
8) Remove the hook and hog rings and detach headrest cover.



9) Remove the hog rings (A) on the rear side of seat cushion.



10) Remove the hog rings (A), and then remove the seat cushion cover.



D: ASSEMBLY

Assemble in the reverse order of disassembly.

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

CAUTION:
- **Always use new hog rings.**
- **Secure the hog ring using hog ring pliers.**
- **Install the hog rings to the specified points securely and make sure that no wrinkle or twisting on the backrest cover.**

E: INSPECTION

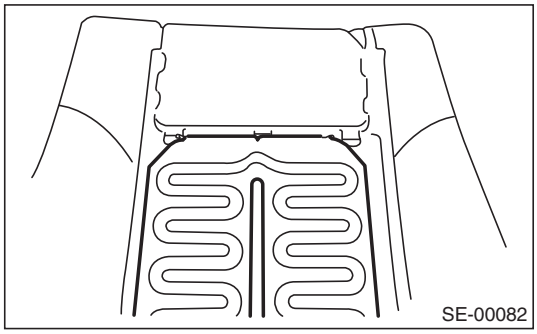
Check that no tear or fray on the seat cover.

4. Seat Heater System

A: REMOVAL

1. SEAT HEATER UNIT

1) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove the backrest cover of front seat and seat cushion cover. <Ref. to SE-7, DISASSEMBLY, Front Seat.>
3) Remove the hog rings, and then remove the seat heater unit.



2. SEAT HEATER SWITCH

1) Remove the console box. <Ref. to EI-53, REMOVAL, Console Box.>
2) Remove the seat heater switch from console box.

B: INSTALLATION

1. SEAT HEATER UNIT

Install in the reverse order of removal.

2. SEAT HEATER SWITCH

Install in the reverse order of removal.

SECURITY AND LOCKS

SL

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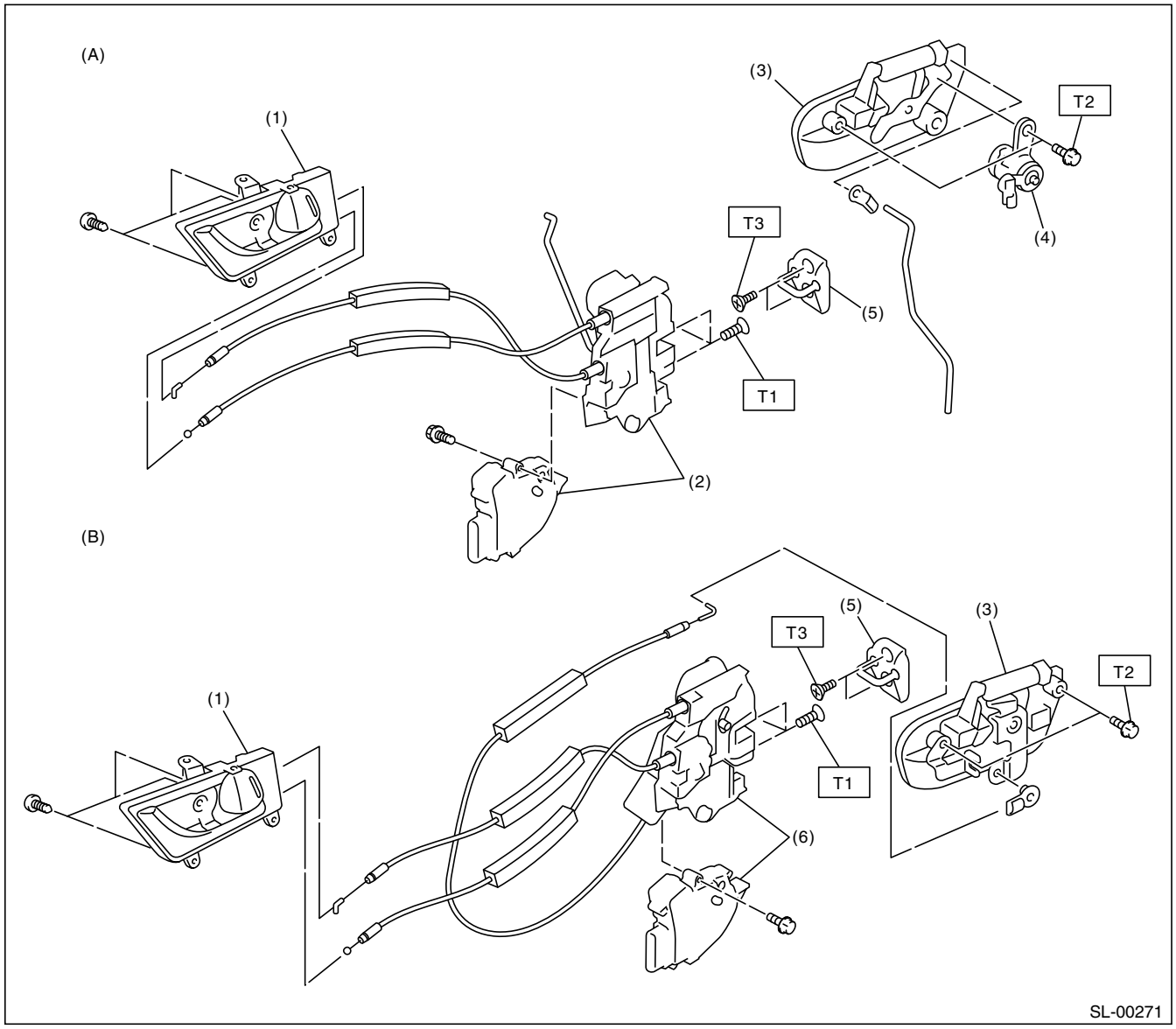
1. General Description

A: COMPONENT

1. DOOR LOCK ASSEMBLY

- Model without double lock

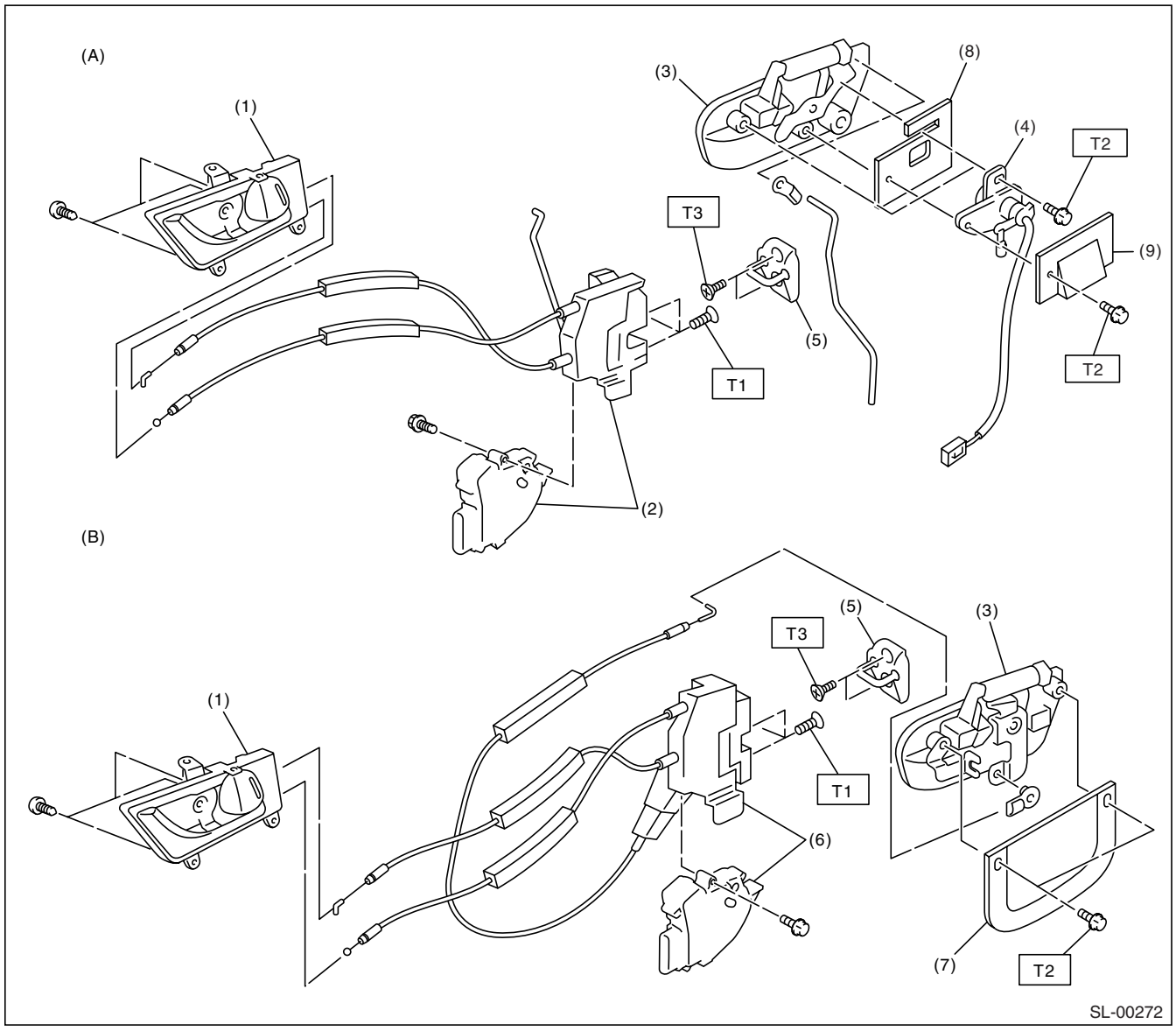


(A) Front
(B) Rear

(1) Inner remote ASSY
(2) Front door latch & door lock actuator ASSY
(3) Door outer handle
(4) Key cylinder
(5) Striker
(6) Rear door latch & door lock actuator ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.5 (0.66, 4.8)
T2: 7.5 (0.76, 5.5)
T3: 18 (1.8, 13.3)

- Model with double lock



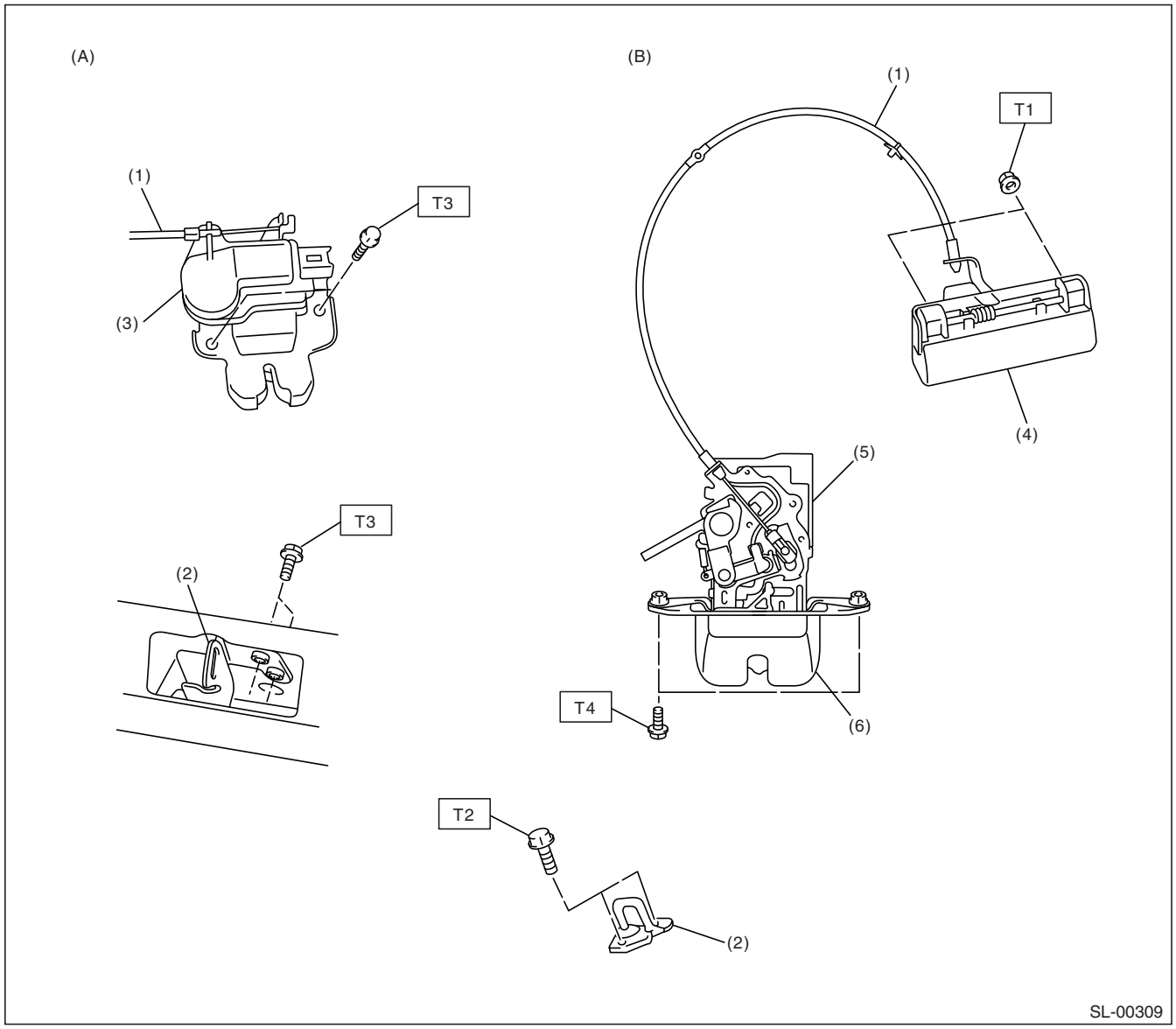
(A) Front
(B) Rear

(1) Inner remote ASSY
(2) Front door latch & door lock actuator ASSY
(3) Door outer handle
(4) Key cylinder (switch)
(5) Striker
(6) Rear door latch & door lock actuator ASSY
(7) Outer handle bracket
(8) Key cylinder cover A
(9) Key cylinder cover B

Tightening torque: N·m (kgf-m, ft-lb)	
T1:	*6.5 (0.66, 4.8)*
T2:	*7.5 (0.76, 5.5)*
T3:	*18 (1.8, 13.3)*

2. TRUNK LID AND REAR GATE LOCK

- Model without double lock

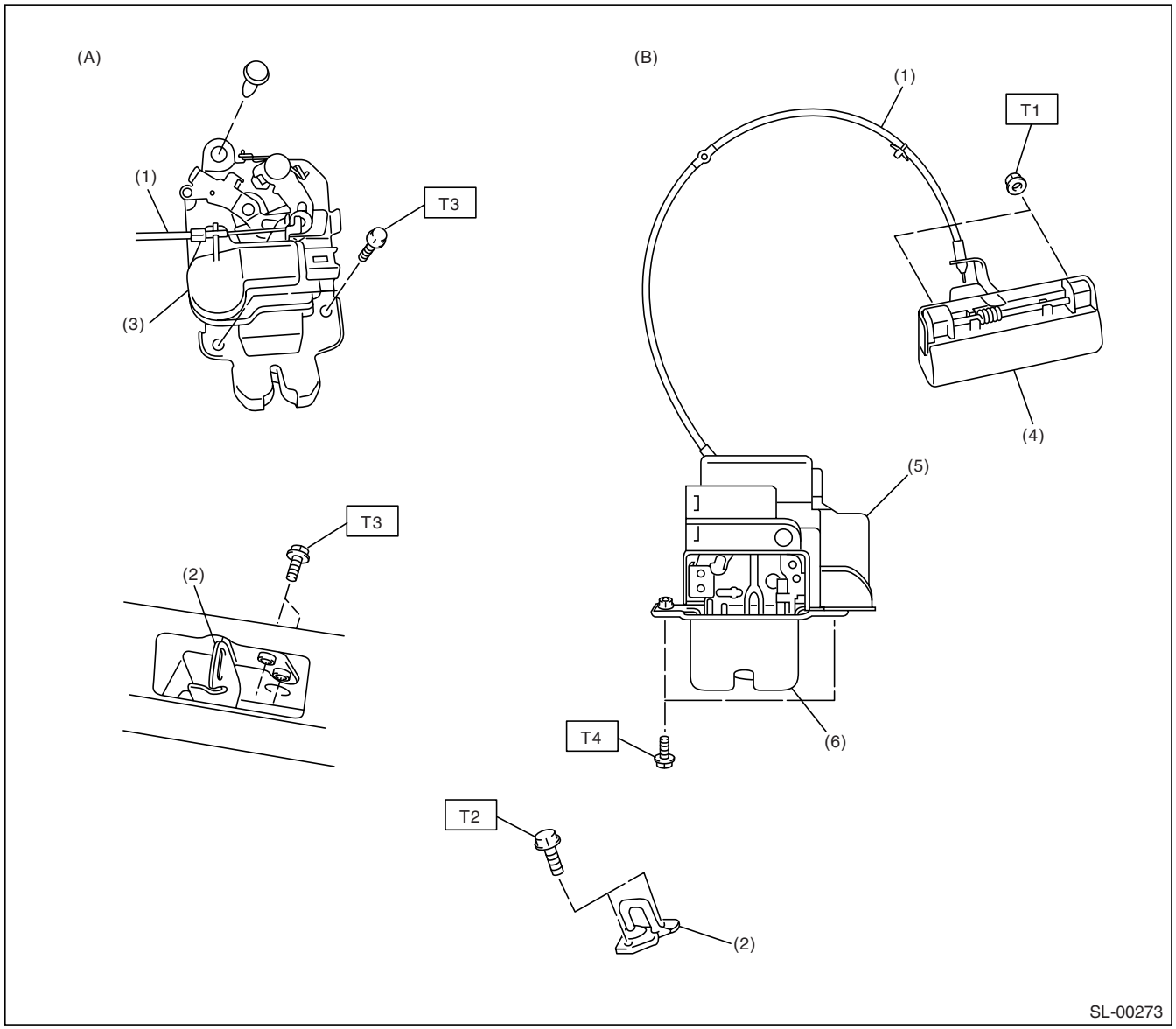


(A) Trunk
(B) Rear gate

(1) Cable
(2) Striker
(3) Trunk lid lock ASSY
(4) Rear gate outer handle
(5) Rear gate actuator
(6) Rear gate latch

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 25 (2.5, 18.4)
T3: 7.35 (0.75, 5.39)
T4: 18 (1.8, 13.3)

- Model with double lock

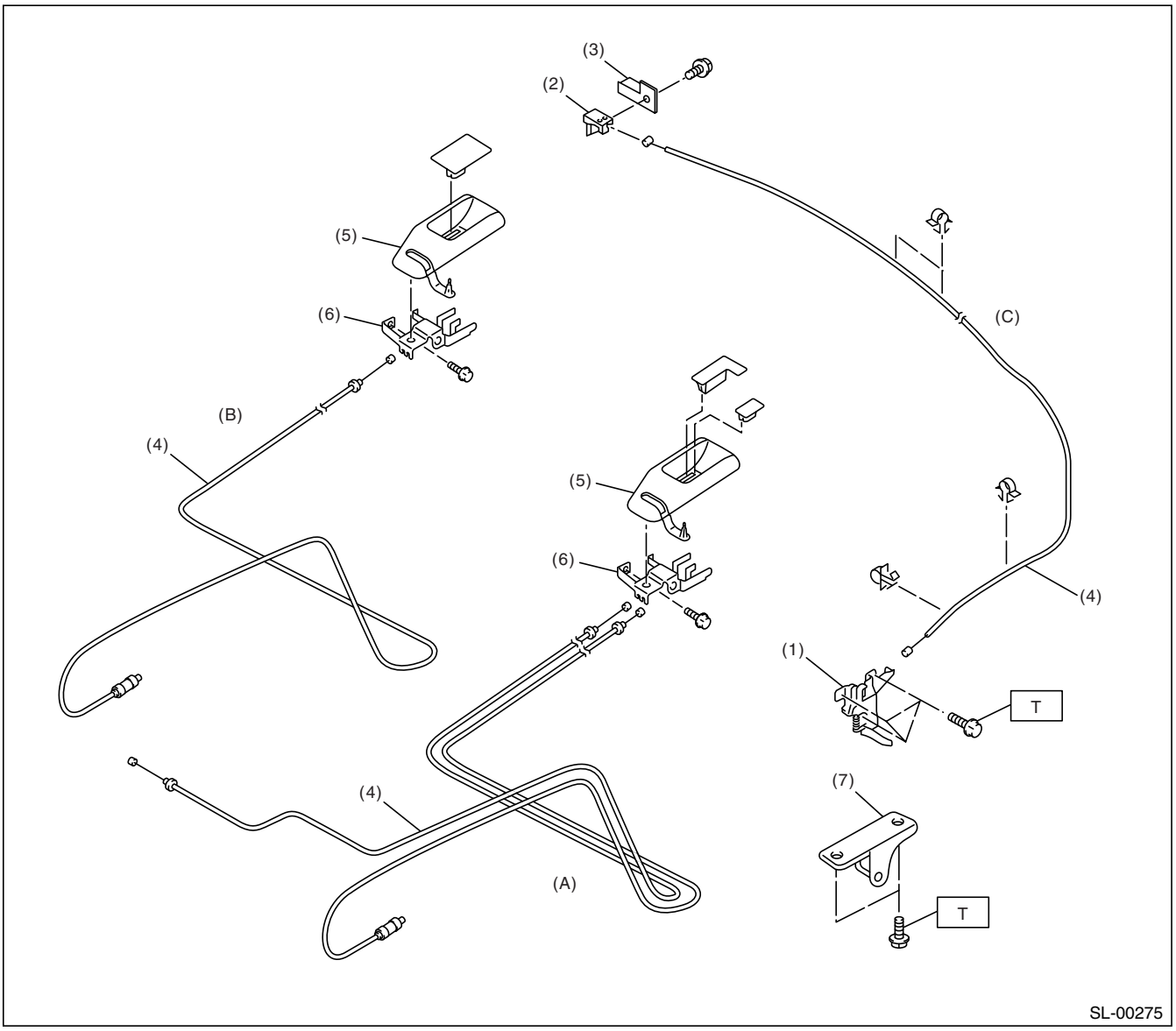


(A) Trunk
(B) Rear gate

(1) Cable
(2) Striker
(3) Trunk lid lock ASSY
(4) Rear gate outer handle
(5) Rear gate actuator
(6) Rear gate latch ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 25 (2.5, 18.4)
T3: 7.35 (0.75, 5.39)
T4: 18 (1.8, 13.3)

3. FRONT HOOD LOCK AND REMOTE OPENERS

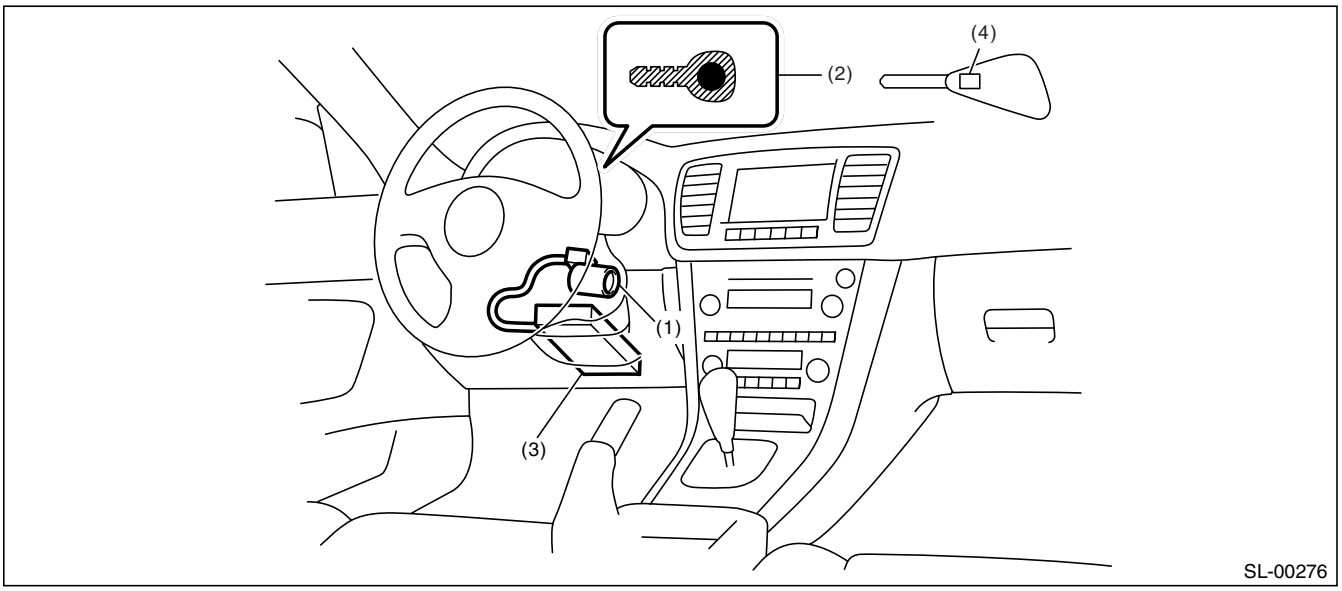


(A) Sedan model
(B) Wagon model
(C) Hood

(1) Front hood lock ASSY
(2) Lever ASSY
(3) Lever ASSY bracket
(4) Cable
(5) Cover
(6) Pull handle ASSY
(7) Striker

Tightening torque: N·m (kgf-m, ft-lb)
T: 33 (3.36, 24.2)

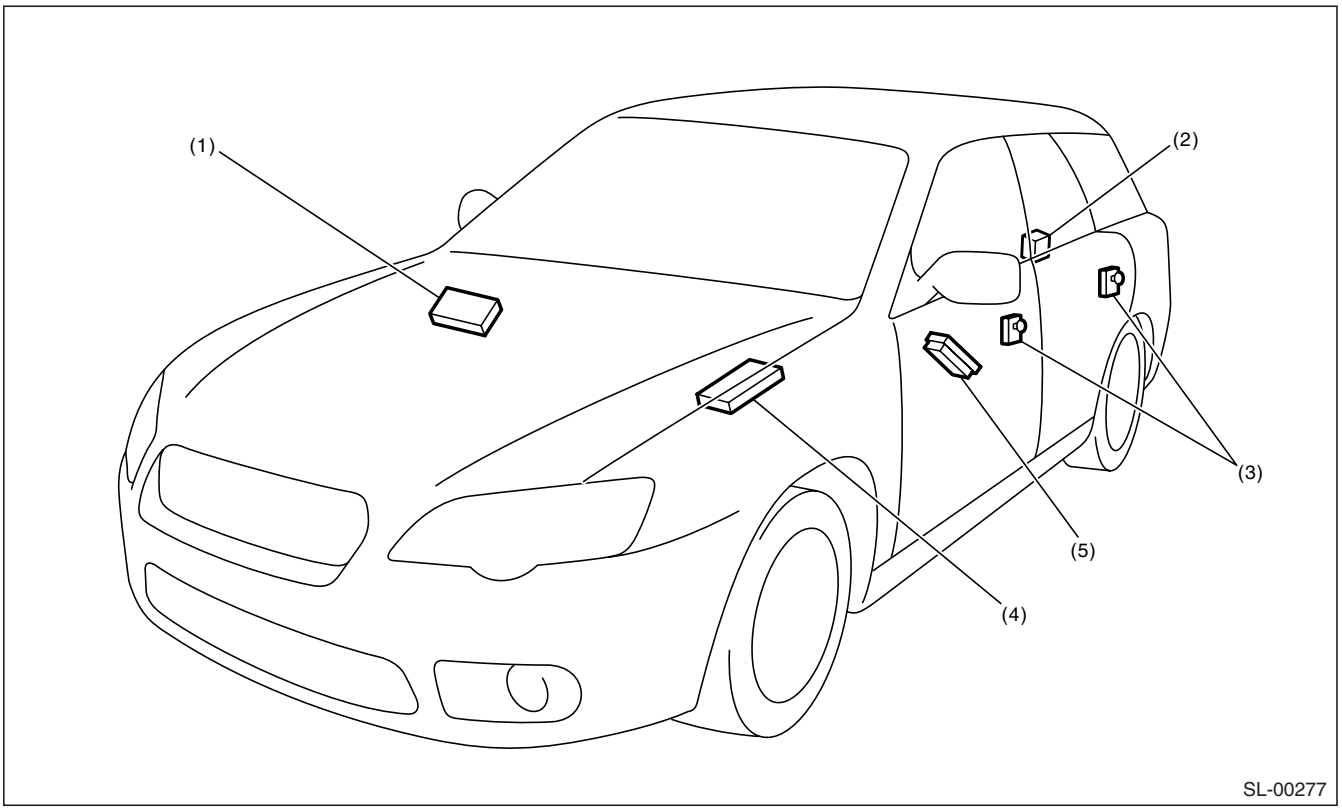
4. IMMOBILIZER SYSTEM



(1) Antenna
(2) Immobilizer indicator light (LED bulb)
(3) Body integrated module
(4) Transponder

NOTE:
Body integrated module location for RHD model is symmetrically opposite.

5. KEYLESS ENTRY SYSTEM



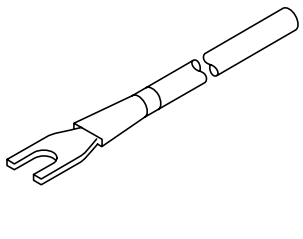
(1) Keyless Entry Control Module
(2) Rear gate latch switch (Wagon)
(3) Door switch
(4) Body integrated module
(5) Power window main switch

B: CAUTION

- Before disassembling or reassembling parts, always disconnect the battery ground cable. When repairing the audio, control module, etc. which are provided with memory functions, record the memory contents before disconnecting the ground cable from battery. Otherwise, these contents are erased upon disconnection.
- Reassemble the parts in the reverse order of disassembly unless otherwise indicated.
- Adjust the parts to the specifications described in this manual if so designated.
- Connect the connectors securely during reassembly.
- After reassembly, ensure the functional parts operate smoothly.
- The 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 the electrical test equipment on these circuits.
- Be careful not to damage the airbag system wiring harness when servicing the ignition key cylinder.

C: PREPARATION TOOL

1. SPECIAL TOOL

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

2. GENERAL TOOL

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

2. Door Lock Control System

A: WIRING DIAGRAM

1. DOOR LOCK CONTROL

<Ref. to WI-319, WIRING DIAGRAM, Keyless Entry System.>

B: INSPECTION

1. SYMPTOM CHART

Symptom	Repair order	Reference
The door lock control system does not operate.	1. Check the fuse.	<Ref. to SL-10, CHECK FUSE, INSPECTION, Door Lock Control System.>
	2. Check the power supply and ground circuit for body integrated module.	<Ref. to SL-11, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.>
	3. Check the door lock switch and circuit.	<Ref. to SL-11, CHECK DOOR LOCK SWITCH, INSPECTION, Door Lock Control System.>
	4. Check the door lock actuator and circuit.	<Ref. to SL-12, CHECK DOOR LOCK ACTUATOR AND CIRCUIT, INSPECTION, Door Lock Control System.>
The door lock switch does not operate.	Check the door lock switch.	<Ref. to SL-11, CHECK DOOR LOCK SWITCH, INSPECTION, Door Lock Control System.>
A specific door lock actuator does not operate.	Check the door lock actuator and circuit.	<Ref. to SL-12, CHECK DOOR LOCK ACTUATOR AND CIRCUIT, INSPECTION, Door Lock Control System.>
The key cylinder lock switch does not operate. (Model with double lock)	Check the key cylinder lock switch and circuit.	<Ref. to SL-13, CHECK KEY CYLINDER LOCK SWITCH AND CIRCUIT, INSPECTION, Door Lock Control System.>
The double lock does not operate. (Model with double lock)	Check the door lock actuator (double lock) and circuit.	<Ref. to SL-13, CHECK DOOR LOCK ACTUATOR (DOUBLE LOCK) AND CIRCUIT, INSPECTION, Door Lock Control System.>

2. CHECK FUSE

	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check the fuse No. 3 (in the fuse and relay box) and No. 7 (in the fuse and relay box).	Is the fuse blown out?	Replace the fuse with a new one.	Check the power supply and ground circuit. <Ref. to SL-11, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.>

3. CHECK POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect the harness connector of body integrated module. 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 34 (+) — Chassis ground (−):*** ***(B281) No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **2.**	Check the harness for open or short circuit between body integrated module and fuse.
2	**CHECK GROUND CIRCUIT.** Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8, 9, 22 — Chassis ground:***	Is the resistance less than 10 Ω?	The power supply and ground circuit are OK.	Repair the harness.

4. CHECK DOOR LOCK SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check the input from door lock switch to body integrated module using Subaru Select Monitor. 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON. 3) Select {Integ · unit} from main menu. 4) Select {Current Data Display & Save}. 5) Check the input to body integrated module by operating the door lock switch.	Is the normal input signal displayed when the door lock switch is moved to LOCK/UNLOCK?	The door lock switch is OK.	Go to step **2.**
2	**CHECK DOOR LOCK SWITCH CIRCUIT.** 1) Disconnect the body integrated module harness connector. 2) Measure the resistance between the harness connector terminal and chassis ground when moving the door lock switch to LOCK. ***Connector & terminal*** ***(i84) No. 15 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3.**	Go to step **4.**
3	**CHECK DOOR LOCK SWITCH CIRCUIT.** Measure the resistance between the harness connector terminal and chassis ground when the door lock switch is moved to UNLOCK. ***Connector & terminal*** ***(i84) No. 29 — Chassis ground:***	Is the resistance less than 10 Ω?	The door lock switch is OK.	Go to step **4.**
4	**CHECK DOOR LOCK SWITCH.** 1) Disconnect the door lock switch harness connector. 2) Measure the resistance between the door lock switch terminals when moving the door lock switch to LOCK. ***Connector & terminal*** ***LHD model:*** ***(D7) No. 4 — No. 7:*** ***RHD model:*** ***(D7) No. 4 — No. 14:***	Is the resistance less than 1 Ω?	Go to step **5.**	Replace the door lock switch.

	Step	Check	Yes	No
5	**CHECK DOOR LOCK SWITCH.** Measure the resistance between the door lock switch terminals when moving the door lock switch to UNLOCK. ***Connector & terminal*** ***LHD model:*** ***(D7) No. 5 — No. 7:*** ***RHD model:*** ***(D7) No. 5 — No. 14:***	Is the resistance less than 1 Ω?	Check the harness for open circuits or shorts between the body integrated module and the door lock switch.	Replace the door lock switch.

5. CHECK DOOR LOCK ACTUATOR AND CIRCUIT

	Step	Check	Yes	No
1	**CHECK OUTPUT SIGNAL.** Measure the voltage between the harness connector terminal and chassis ground of body integrated module when moving the door lock switch to LOCK. ***Connector & terminal*** ***(i84) No. 7 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **2.**	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>
2	**CHECK OUTPUT SIGNAL.** Measure the voltage between the harness connector terminal and chassis ground of body integrated module when moving the door lock switch to UNLOCK. ***Connector & terminal*** ***(i84) No. 8 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>
3	**CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL.** Measure the voltage between the harness connector terminal of power window main switch and chassis ground when moving the door lock switch to LOCK. ***Connector & terminal*** ***(D7) No. 4 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **4.**	Replace the power window main switch. <Ref. to GW-9, Power Window Control Switch.>
4	**CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL.** Measure the voltage between the harness connector terminal of power window main switch and chassis ground when moving the door lock switch to UNLOCK. ***Connector & terminal*** ***(D7) No. 5 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **5.**	Replace the power window main switch. <Ref. to GW-9, Power Window Control Switch.>
5	**CHECK DOOR LOCK ACTUATOR.** Check the door lock actuator. • Front Door Lock Actuator <Ref. to SL-29, Front Door Lock Actuator.> • Rear Door Lock Actuator <Ref. to SL-33, Rear Door Lock Actuator.> • Rear Gate Latch Lock Actuator <Ref. to SL-35, Rear Gate Latch Assembly.>	Is the door lock actuator OK?	Check the harness for open or short circuit between body integrated module and door lock actuator.	Replace the door lock actuator.

6. CHECK KEY CYLINDER LOCK SWITCH AND CIRCUIT

	Step	Check	Yes	No
1	**CHECK KEY CYLINDER LOCK SWITCH CIRCUIT.** 1) Disconnect the body integrated module harness connector. 2) Measure the resistance between harness connector terminal and chassis ground when turning the key cylinder lock switch to LOCK. ***Connector & terminal*** ***(i84) No. 3 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **2.**	Go to step **3.**
2	**CHECK KEY CYLINDER LOCK SWITCH CIRCUIT.** Measure the resistance between harness connector terminal and chassis ground when turning the key cylinder lock switch to UNLOCK. ***Connector & terminal*** ***(i84) No. 12 — Chassis ground:***	Is the resistance less than 10 Ω?	Key cylinder lock switch is OK.	Go to step **3.**
3	**CHECK KEY CYLINDER LOCK SWITCH.** 1) Disconnect the key cylinder lock switch connector. 2) Measure the resistance between key cylinder lock switch terminals when turning the key cylinder lock switch to LOCK. ***Terminals*** ***No. 1 — No. 2***	Is the resistance less than 1 Ω?	Go to step **4.**	Replace the key cylinder lock switch.
4	**CHECK KEY CYLINDER LOCK SWITCH.** Measure the resistance between key cylinder lock switch terminals when turning the key cylinder lock switch to UNLOCK. ***Terminals*** ***No. 2 — No. 3***	Is the resistance less than 1 Ω?	Check the harness for open or short circuits between body integrated module and key cylinder lock switch.	Replace the key cylinder lock switch.

7. CHECK DOOR LOCK ACTUATOR (DOUBLE LOCK) AND CIRCUIT

	Step	Check	Yes	No
1	**CHECK OUTPUT SIGNAL.** Measure the voltage between body integrated module harness connector terminal and chassis ground when turning the key cylinder lock switch to LOCK. ***Connector & terminal*** ***(i84) No. 35 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2.**	Replace the body integrated module.
2	**CHECK OUTPUT SIGNAL.** Measure the voltage between body integrated module harness connector terminal and chassis ground when turning the key cylinder lock switch to UNLOCK. ***Connector & terminal*** ***(i84) No. 35 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3.**	Replace the body integrated module.
3	**CHECK DOOR LOCK ACTUATOR.** Check the door lock actuator. Front door lock actuator: <Ref. to SL-29, Front Door Lock Actuator.> Rear door lock actuator: <Ref. to SL-33, Rear Door Lock Actuator.>	Is the door lock actuator normal?	Check the harness for open or short circuits between body integrated module and door lock actuator.	Replace the door lock actuator.

3. Keyless Entry System

A: WIRING DIAGRAM

1. KEYLESS ENTRY

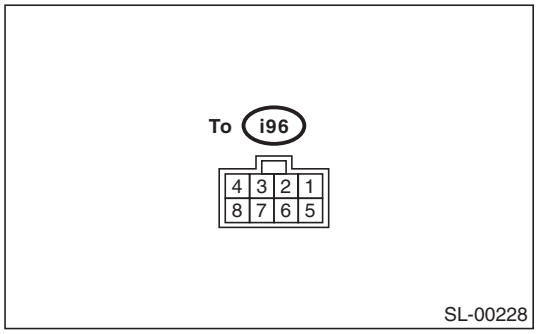
<Ref. to WI-319, WIRING DIAGRAM, Keyless Entry System.>

B: ELECTRICAL SPECIFICATION

1. CUSTOMIZE SETTING OF SELECT UNLOCK

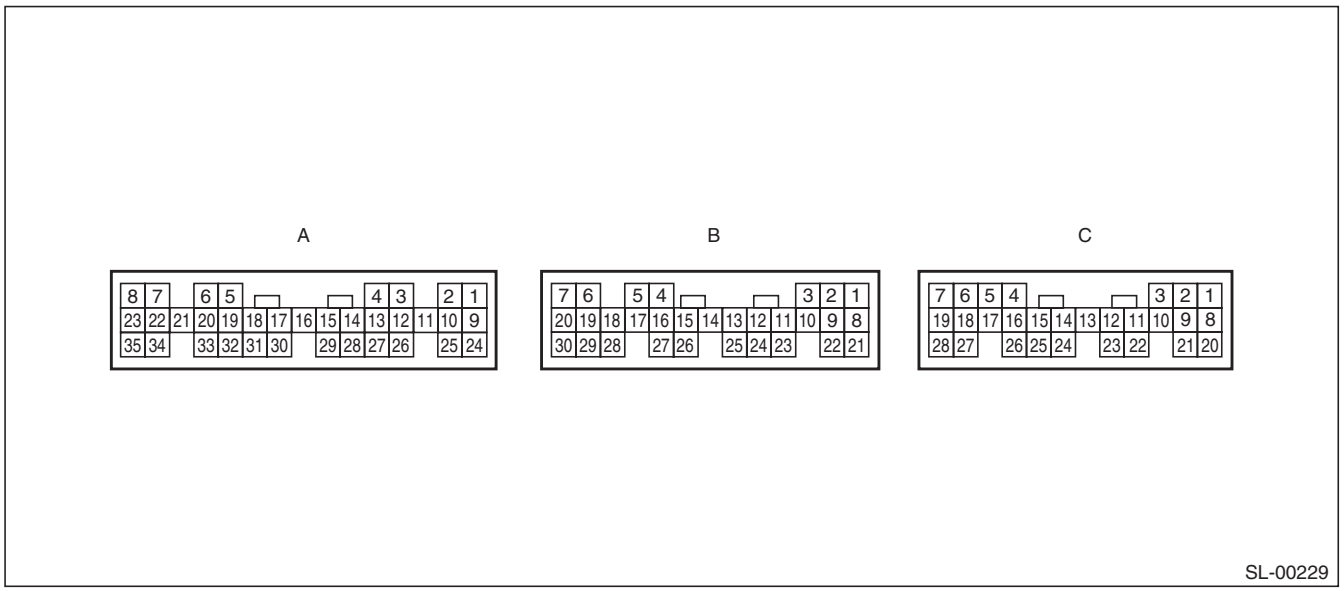
Switching from all door unlock to select unlock, or select unlock to all door unlock are performed with following procedure.
1) Close the driver's door, and then open it.
2) Insert the key to ignition switch, and then turn the ignition switch from OFF to ON for more than 10 times within 15 seconds. Complete the procedure in step 1) through 2) within 45 seconds. When the procedures are completed correctly, the buzzer beeps once. If the buzzer does not beep, repeat the procedures from step 1).
3) Close the driver's door.
4) While depressing the door lock switch to lock side, turn the ignition switch from OFF to ON.
5) While depressing the door lock switch to unlock side, turn the ignition switch from ON to OFF, and then release the door lock switch. Complete the procedure in step 3) through 5) within 30 seconds. When the procedures are completed correctly, the buzzer beeps twice and door lock, unlock operates automatically. When the buzzer does not beep, repeat the procedures from step 1).
6) Remove the key from ignition switch, and then complete the procedure.
7) Operate the key button to check that the setting is changed.

2. KEYLESS ENTRY CONTROL MODULE



Remarks	Terminal No.	Measuring conditions
Body integrated module	3 (OUTPUT)	Battery voltage cannot be measured because of digital signal.
Power supply (Backup)	4	Battery voltage is constantly present.
Ground	7	0 V is constantly present.

3. BODY INTEGRATED MODULE



Remarks	Terminal No.	Measuring conditions
Ignition switch (ON)	A1 (INPUT)	Battery voltage is present when ignition switch is turned ON.
Door and rear gate lock actuator (Model without double lock) Front double lock actuator RH, door and rear gate lock actuator (Model with double lock)	A7 (OUTPUT)	Battery voltage is present when pressing the LOCK button of keyless transmitter.
Door and rear gate lock actuator	A8 (OUTPUT)	Battery voltage is present when pressing the UNLOCK button of keyless transmitter.
Keyless entry control module	A9 (INPUT)	Communication line (Cannot be measured because of digital signal)
Double lock condition detecting switch (Model with double lock)	A16 (OUTPUT)	Battery voltage is present when pressing the LOCK button of keyless transmitter.
Trunk lid switch or rear gate latch switch	A17 (INPUT)	0 V is present when opening the trunk lid or rear gate.
Rear door switch RH	A18 (INPUT)	0 V is present when opening the rear door RH.
Front door switch RH	A19 (INPUT)	0 V is present when opening the front door RH.
Ground	A21	0 V is constantly present.
Trunk lid actuator	A22 (OUTPUT)	Battery voltage is present when pressing the TRUNK button of keyless transmitter.
Front door actuator driver's side (Model without double lock)	A23 (OUTPUT)	Battery voltage is present when pressing the UNLOCK button of keyless transmitter.
Power window main switch (door lock switch)	A26	CAN communication line (Cannot be measured because of digital signal)
	A27	
Rear door switch LH	A31 (INPUT)	0 V is present when opening the rear door LH.
Front door switch LH	A32 (INPUT)	0 V is present when opening the front door LH.
Power supply	A34	Battery voltage is constantly present.
Front double lock actuator RH (Model with double lock)	A35 (OUTPUT)	Battery voltage is present when pressing the LOCK button of keyless transmitter.
Room light	B3 (INPUT)	• 0 V is present when pressing the UNLOCK button of keyless transmitter. • 0 V is present when opening the door.
Power supply	B7	Battery voltage is constantly present.
Turn signal & hazard circuit	B12 (OUTPUT)	0 V is present when pressing the LOCK button or UNLOCK button of keyless transmitter.
Ground	B22	0 V is constantly present.

Remarks	Terminal No.	Measuring conditions
Power supply	C1	Battery voltage is constantly present.
Power supply	C2	Battery voltage is constantly present.
Key warning switch	C7 (INPUT)	Battery voltage is present when inserting the key into ignition switch.
Ground	C8	0 V is constantly present.
Ground	C9	0 V is constantly present.
Registration connector	C22	0 V is present when connecting the registration connector.

C: INSPECTION

1. SYMPTOM CHART

Symptom	Repair order	Reference
None of the functions of keyless entry system operate.	1. Check the keyless transmitter battery.	<Ref. to SL-18, CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Check the fuse.	<Ref. to SL-19, CHECK FUSE, INSPECTION, Keyless Entry System.>
	3. Check the keyless entry control module.	<Ref. to SL-19, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.>
	4. Check the power supply, ground circuit and registration connector circuit for the body integrated module.	<Ref. to SL-20, CHECK BODY INTEGRATED MODULE POWER SUPPLY, GROUND CIRCUIT AND REGISTERED CONNECTOR CIRCUIT, INSPECTION, Keyless Entry System.>
	5. Check the key warning switch.	<Ref. to SL-22, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	6. Check the door switch.	<Ref. to SL-21, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	7. Check the body integrated module.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
The keyless transmitter cannot be registered.	1. Check the keyless transmitter battery.	<Ref. to SL-18, CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Check registration connector circuit.	<Ref. to SL-20, CHECK REGISTRATION CONNECTOR., INSPECTION, Keyless Entry System.>
	3. Check the key warning switch.	<Ref. to SL-22, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	4. Check the door lock switch signal.	<Ref. to SL-24, CHECK DOOR LOCK SWITCH, INSPECTION, Keyless Entry System.>
	5. Check the body integrated module.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>

Symptom	Repair order	Reference
Door lock or unlock does not operate. NOTE: If the door lock control system does not operate when using the door lock switch, check the door lock control system. <Ref. to SL-10, INSPECTION, Door Lock Control System.>	1. Check the keyless transmitter battery.	<Ref. to SL-18, CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Check the keyless entry control module.	<Ref. to SL-19, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.>
	3. Check the key warning switch.	<Ref. to SL-22, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	4. Check the door switch.	<Ref. to SL-21, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	5. Check the body integrated module.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
Trunk lid unlock does not operate. (Sedan model)	1. Check the keyless transmitter battery.	<Ref. to SL-18, CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Check the keyless entry control module.	<Ref. to SL-19, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.>
	3. Check the key warning switch.	<Ref. to SL-22, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	4. Check the trunk lid lock actuator.	<Ref. to SL-24, CHECK TRUNK LID LOCK ACTUATOR, INSPECTION, Keyless Entry System.>
	5. Check the body integrated module.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
Hazard light does not operate.	1. Check the hazard light operation.	<Ref. to SL-23, CHECK HAZARD LIGHT OPERATION, INSPECTION, Keyless Entry System.>
	2. Check the body integrated module.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
Room light does not operate.	1. Check the room light operation.	<Ref. to SL-23, CHECK ROOM LIGHT OPERATION, INSPECTION, Keyless Entry System.>
	2. Check the body integrated module.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
Ignition switch illumination does not operate.	1. Check the ignition switch illumination.	<Ref. to SL-25, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.>
	2. Check the body integrated module.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>

2. CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION

	Step	Check	Yes	No
1	**CHECK KEYLESS TRANSMITTER BATTERY.** 1) Remove the battery from keyless transmitter. <Ref. to SL-45, DISASSEMBLY, Keyless Transmitter.> 2) Check the battery voltage. <Ref. to SL-45, INSPECTION, Keyless Transmitter.>	Is the voltage more than 2.5 V?	Go to step **2.**	Replace the keyless transmitter battery. <Ref. to SL-45, Keyless Transmitter.>
2	**CHECK KEYLESS TRANSMITTER.** Register the keyless transmitter which operates normally on other vehicles to inspection target vehicle. <Ref. to SL-45, REGISTRATION OF KEYLESS TRANSMITTER, REPLACEMENT, Keyless Transmitter.> 1) Close all the doors and rear gate of inspection target vehicle. 2) Using keyless transmitter, lock and unlock the doors and rear gate of inspection target vehicle. 3) Using keyless transmitter, unlock the trank lid of inspection target vehicle. (Sedan model)	Is the inspection target vehicle operates lock, unlock and trank lid unlock normally?	Go to step **3.**	Due to vehicle malfunction, continue the keyless entry system diagnosis.
3	**CHECK KEYLESS TRANSMITTER.** Register the keyless transmitter of inspection target vehicle to another vehicle which operates keyless system normally. <Ref. to SL-45, REGISTRATION OF KEYLESS TRANSMITTER, REPLACEMENT, Keyless Transmitter.>	Is the keyless transmitter registered correctly?	Go to step **4.**	Replace the keyless transmitter. <Ref. to SL-45, REGISTRATION OF KEYLESS TRANSMITTER, REPLACEMENT, Keyless Transmitter.>
4	**CHECK KEYLESS TRANSMITTER.** Check the registered keyless transmitter. 1) Close all the doors and rear gate of the vehicle which operates keyless system normally. 2) Using keyless transmitter, lock and unlock the doors and rear gate of vehicle. 3) Using keyless transmitter, unlock the trank lid of inspection target vehicle. (Sedan model)	Is the vehicle operates lock, unlock and trank lid unlock normally?	Keyless transmitter is normal.	Replace the keyless transmitter. <Ref. to SL-45, REGISTRATION OF KEYLESS TRANSMITTER, REPLACEMENT, Keyless Transmitter.>

CAUTION:
Be sure to reset the keyless transmitter, which is registered from other vehicle to inspection target vehicle, and the vehicle, to which is registered keyless transmitter, to the condition of before inspection. (Register the keyless transmitter to original condition.)

3. CHECK FUSE

	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check the fuse No. 3 (in the fuse and relay box) and No. 7 (in the fuse and relay box).	Is the fuse blown out?	Replace the fuse with a new one.	Check the power supply and ground circuit. <Ref. to SL-20, CHECK BODY INTEGRATED MODULE POWER SUPPLY, GROUND CIRCUIT AND REGISTERED CONNECTOR CIRCUIT, INSPECTION, Keyless Entry System.>

4. CHECK KEYLESS ENTRY CONTROL MODULE

	Step	Check	Yes	No
1	**CHECK DIAGNOSTIC TROUBLE CODE (DTC)** 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON. 3) Select {Integ · unit} from main menu. 4) Select the {Diagnostic Trouble Code}. 5) Check that the DTC is displayed.	Is DTC B0500 “Keyless UART com. Malfunction” displayed?	Go to step **2.**	Keyless entry control module is normal.
2	**CHECK POWER SUPPLY.** 1) Disconnect the keyless entry control module harness connector. 2) Measure the voltage between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(i96) No. 4 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Check the harness for open circuits and shorts between the keyless entry control module and fuse.
3	**CHECK GROUND CIRCUIT.** Measure the resistance between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(i96) No. 7 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4.**	Repair the harness.
4	**CHECK KEYLESS ENTRY CONTROL MODULE CIRCUIT.** 1) Disconnect harness connector of body integrated module. 2) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(i84) No. 9 — (i96) No. 3:***	Is the resistance less than 10 Ω?	Replace the keyless entry control module. <Ref. to SL-43, Keyless Entry Control Unit.>	Repair the harness.

5. CHECK BODY INTEGRATED MODULE POWER SUPPLY, GROUND CIRCUIT AND REGISTERED CONNECTOR CIRCUIT

	Step	Check	Yes	No
1	**CHECK REGISTRATION CONNECTOR INPUT VOLTAGE.** Measure the voltage between the body integrated module harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 22 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **2.**	Check the registration connector for disconnection, and the harness for short.
2	**CHECK POWER SUPPLY OF BODY INTEGRATED MODULE.** 1) Disconnect the harness connector of body integrated module. 2) Measure the voltage between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 7 (+) — Chassis ground (−):*** ***(B281) No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Check the harness for open or short between body integrated module and fuse.
3	**CHECK BODY INTEGRATED MODULE GROUND CIRCUIT.** 1) Disconnect the harness connector of body integrated module. 2) Measure the resistance between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8 — Chassis ground:*** ***(B281) No. 9 — Chassis ground:***	Is the resistance less than 10 Ω?	Check the body integrated module. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Repair the harness.

6. CHECK REGISTRATION CONNECTOR.

	Step	Check	Yes	No
1	**CHECK REGISTRATION CONNECTOR INPUT VOLTAGE.** 1) Disconnect the registration connector. 2) Measure the voltage between the body integrated module harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 22 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **2.**	Repair the harness.
2	**CHECK REGISTRATION CONNECTOR INPUT VOLTAGE.** 1) Connect the registration connector. 2) Measure the voltage between the body integrated module harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 22 (+) — Chassis ground (−):***	Is the voltage 0 V?	Registration connector circuit is OK.	Repair the harness.

7. CHECK DOOR SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR SWITCH CIRCUIT.** Measure the voltage between the body integrated module harness connector terminal and chassis ground. ***Connector & terminal*** ***Front door RH:*** ***LHD model*** ***(i84) No. 32 (+) — Chassis ground (−):*** ***RHD model*** ***(i84) No. 19 (+) — Chassis ground (−):*** ***Front door LH:*** ***LHD model*** ***(i84) No. 19 (+) — Chassis ground (−):*** ***RHD model*** ***(i84) No. 32 (+) — Chassis ground (−):*** ***Rear door RH:*** ***(i84) No. 18 (+) — Chassis ground (−):*** ***Rear door LH:*** ***(i84) No. 31 (+) — Chassis ground (−):*** ***Rear gate:*** ***(i84) No. 17 (+) — Chassis ground (−):***	Is the voltage 0 V when each door or rear gate is opened?	Go to step **2.**	Go to step **3.**
2	**CHECK DOOR SWITCH CIRCUIT.** Measure the voltage between the body integrated module harness connector terminal and chassis ground. ***Connector & terminal*** ***Front door RH:*** ***LHD model*** ***(i84) No. 32 (+) — Chassis ground (−):*** ***RHD model*** ***(i84) No. 19 (+) — Chassis ground (−):*** ***Front door LH:*** ***LHD model*** ***(i84) No. 19 (+) — Chassis ground (−):*** ***RHD model*** ***(i84) No. 32 (+) — Chassis ground (−):*** ***Rear door RH:*** ***(i84) No. 18 (+) — Chassis ground (−):*** ***Rear door LH:*** ***(i84) No. 31 (+) — Chassis ground (−):*** ***Rear gate:*** ***(i84) No. 17 (+) — Chassis ground (−):***	Is the voltage more than 10 V when each door or rear gate is closed?	The door switch is OK.	Go to step **3.**
3	**CHECK DOOR SWITCH.** 1) Disconnect the door switch harness connector. 2) Measure the resistance between door switch terminals. ***Connector & terminal*** ***(R12) Front RH door switch:*** ***(R9) Front LH door switch:*** ***(R16) Rear RH door switch:*** ***(R22) Rear LH door switch:*** ***No. 1 — No. 3:*** ***Rear gate latch switch (Wagon model):*** ***(D46) No. 1 — No. 2:***	Is the resistance more than 1 MΩ when door switch is pushed?	Go to step **4.**	Replace the door switch.

	Step	Check	Yes	No
4	**CHECK DOOR SWITCH.** Measure the resistance between door switch terminals. ***Connector & terminal*** ***(R12) Front RH door switch:*** ***(R9) Front LH door switch:*** ***(R16) Rear RH door switch:*** ***(R22) Rear LH door switch:*** ***No. 1 — No. 3:*** ***Rear gate latch switch (Wagon model):*** ***(D46) No. 1 — No. 2:***	Is the resistance less than 1 Ω when door switch is released?	Check the harness for open or short between body integrated module and door switch.	Replace the door switch.

8. CHECK KEY WARNING SWITCH

	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check the fuse No. 14 (in the main fuse box).	Is the fuse blown out?	Replace the fuse with a new one.	Go to step **2.**
2	**CHECK KEY WARNING SWITCH CIRCUIT.** 1) Disconnect the harness connector of body integrated module. 2) Insert the key into ignition switch. (LOCK position) 3) Measure the voltage between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B281) No. 7 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Go to step **4.**
3	**CHECK KEY WARNING SWITCH CIRCUIT.** 1) Remove the key from ignition switch. 2) Measure the voltage between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B281) No. 7 (+) — Chassis ground (−):***	Is the voltage 0 V?	The key warning switch is OK.	Go to step **4.**
4	**CHECK KEY WARNING SWITCH.** 1) Disconnect the key warning switch harness connector. 2) Insert the key into ignition switch. (LOCK position) 3) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***(B350) No. 3 — No. 4:***	Is the resistance less than 1 Ω?	Go to step **5.**	Replace the key warning switch.
5	**CHECK KEY WARNING SWITCH.** 1) Remove the key from ignition switch. 2) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***(B350) No. 3 — No. 4:***	Is the resistance more than 1 MΩ?	Check the following: • Harness for open circuits and shorts between the key warning switch and fuse • Harness for open or short between the body integrated module and key warning switch	Replace the key warning switch.

9. CHECK ROOM LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK ROOM LIGHT OPERATION.** Make sure the room light illuminates when the room light switch is turned to ON.	Does the room light illuminate?	Go to step **2.**	Check the room light circuit.
2	**CHECK HARNESS BETWEEN ROOM LIGHT AND BODY INTEGRATED MODULE.** 1) Disconnect the body integrated module harness connector and room light harness connector. 2) Measure the resistance between the body integrated module harness connector terminal and room light harness connector terminal. ***Connector & terminal*** ***(B280) No. 3 — (R52) No. 2:***	Is the resistance less than 10 Ω?	The room light operation circuit is OK.	Check the harness for open or short between body integrated module and room light.

10.CHECK HAZARD LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK HAZARD LIGHT OPERATION.** Make sure the hazard light blinks when hazard switch is turned to ON.	Does the hazard light blink?	Go to step **2.**	Check the hazard light circuit.
2	**CHECK OUTPUT TO HAZARD LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the key warning switch harness connector. 3) Connect the Subaru Select Monitor to data link connector. 4) Turn the ignition switch to ON. 5) Select {Integ · unit} from main menu. 6) Select {ECM customizing}. 7) Check {Hazard answer-back setup}, and then switch to ON setting if necessary. 8) Select {Current Data Display & Save}. 9) When operating the LOCK/UNLOCK button of keyless transmitter, check the hazard output signal of body integrated module.	Is output signal present when operating the keyless transmitter LOCK/UNLOCK button?	Go to step **3.**	Check the body integrated module. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
3	**CHECK CIRCUIT OF HAZARD LIGHT.** 1) Disconnect the harness connector of body integrated module. 2) Disconnect the turn signal & hazard unit harness connector. 3) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(B280) No. 12 — (B32) No. 8:***	Is the resistance less than 10 Ω?	Check the body integrated module. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Repair the harness.

11.CHECK TRUNK LID LOCK ACTUATOR

	Step	Check	Yes	No
1	**CHECK TRUNK LID LOCK ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the key warning switch harness connector. 3) Connect the Subaru Select Monitor to data link connector. 4) Turn the ignition switch to ON. 5) Select {Integ · unit} from main menu. 6) Select {Current Data Display & Save}. 7) When operating the TRUNK button of keyless transmitter, check the trunk unlock output signal of body integrated module.	Is output signal present when operating the keyless transmitter TRUNK button?	Go to step **2.**	Check the body integrated module. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
2	**CHECK THE CIRCUIT OF TRUNK LID ACTUATOR.** 1) Disconnect harness connector of body integrated module. 2) Disconnect the trunk lid actuator harness connector. 3) Measure the resistance between harness connectors. ***Connector & terminal*** ***(i84) No. 22 — (R186) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3.**	Repair the harness.
3	**CHECK THE GROUND CIRCUIT OF TRUNK LID ACTUATOR.** 1) Disconnect the trunk lid actuator harness connector. 2) Measure the resistance between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(R186) No. 1 — Chassis ground:***	Is the resistance less than 10 Ω?	Check the trunk lid lock actuator. <Ref. to SL-37, Trunk Lid Lock Assembly.>	Repair the harness.

12.CHECK DOOR LOCK SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check the input signal from door lock switch to body integrated module using Subaru Select Monitor. 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON. 3) Select {Integ · unit} from main menu. 4) Select {Current Data Display & Save}. 5) Check the input signal to body integrated module by operating the door lock switch.	Is the normal input signal displayed when the door lock switch is moved to LOCK/UNLOCK?	The door lock switch is OK.	Go to step **2.**
2	**CHECK DOOR LOCK SWITCH CIRCUIT.** 1) Disconnect the body integrated module harness connector. 2) Measure the resistance between the harness connector terminal and chassis ground when moving the door lock switch to LOCK. ***Connector & terminal*** ***(i84) No. 15 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3.**	Go to step **4.**

	Step	Check	Yes	No
3	**CHECK DOOR LOCK SWITCH CIRCUIT.** Measure the resistance between the harness connector terminal and chassis ground when the door lock switch is moved to UNLOCK. ***Connector & terminal*** ***(i84) No. 29 — Chassis ground:***	Is the resistance less than 10 Ω?	The door lock switch is OK.	Go to step **4.**
4	**CHECK DOOR LOCK SWITCH.** 1) Disconnect the door lock switch harness connector. 2) Measure the resistance between the door lock switch terminals when moving the door lock switch to LOCK. ***Connector & terminal*** ***LHD model:*** ***(D7) No. 4 — No. 7:*** ***RHD model:*** ***(D7) No. 4 — No. 14:***	Is the resistance less than 1 Ω?	Go to step **5.**	Replace the door lock switch.
5	**CHECK DOOR LOCK SWITCH.** Measure the resistance between the door lock switch terminals when moving the door lock switch to UNLOCK. ***Connector & terminal*** ***LHD model:*** ***(D7) No. 5 — No. 7:*** ***RHD model:*** ***(D7) No. 5 — No. 14:***	Is the resistance less than 1 Ω?	Check the harness for open circuits or shorts between the body integrated module and the door lock switch.	Replace the door lock switch.

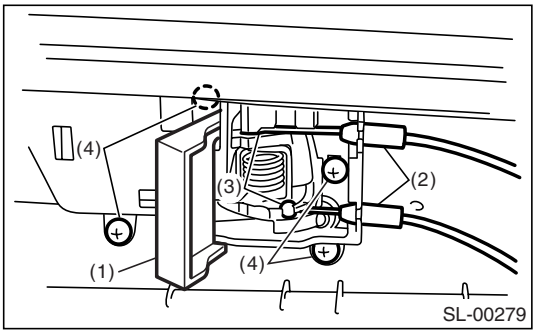
13.CHECK IGNITION SWITCH ILLUMINATION

	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check the fuse No. 14 (in the main fuse box).	Is the fuse blown out?	Replace the fuse with a new one.	Go to step **2.**
2	**CHECK POWER SUPPLY.** 1) Disconnect the ignition switch illumination harness connector. 2) Measure the voltage between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B224) No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Check the harness for open circuits and shorts between the ignition switch illumination and fuse.
3	**CHECK IGNITION SWITCH ILLUMINATION CIRCUIT.** 1) Disconnect the harness connector of body integrated module and ignition switch illumination harness connector. 2) Measure the resistance between body integrated module harness connector terminal and ignition switch illumination harness connector terminal. ***Connector & terminal*** ***(B280) No. 4 — (B224) No. 1:***	Is the resistance less than 10 Ω?	Replace the ignition switch illumination bulb with a new one. <Ref. to LI-40, REMOVAL, Ignition Switch Illumination.>	Check the harness for open circuits and shorts between the body integrated module and ignition switch illumination.

4. Front Inner Remote

A: REMOVAL

1) Remove the door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
2) Remove the back cover (1) of inner remote.
3) Remove the cable (2).
4) Remove the wire end ball (3).
5) Remove the screws (4), and detach the inner remote handle.



B: INSTALLATION

Install in the reverse order of removal.

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

C: INSPECTION

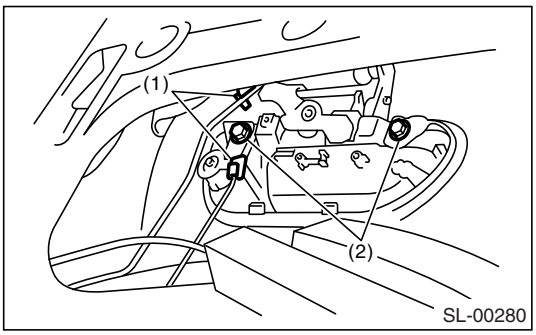
1) Check the door opener and door lock cable for deformation. When it is deformed, straighten it because failure operations may occur. When it is unrepairable, replace the front door latch & door lock actuator assembly.
2) Check the lever, rod and wire for smooth operation.

5. Front Outer Handle

A: REMOVAL

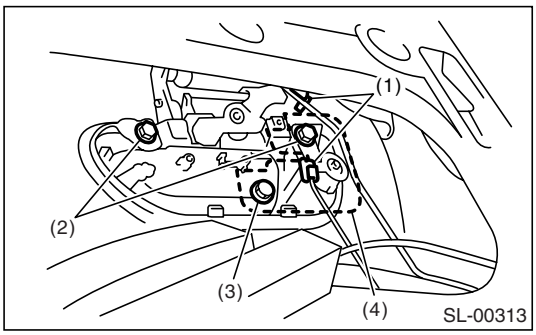
1. MODEL WITHOUT DOUBLE LOCK

1) Raise the front door glass to the top position.
2) Remove the door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the wire from front inner remote. <Ref. to SL-26, REMOVAL, Front Inner Remote.>
4) Remove the sealing cover. <Ref. to EB-20, REMOVAL, Front Sealing Cover.>
5) Remove the rod clamps (1).
6) Remove the bolts (2), and then detach the front outer handle.



2. MODEL WITH DOUBLE LOCK

1) Raise the front door glass to the top position.
2) Remove the door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the wire from front inner remote. <Ref. to SL-26, REMOVAL, Front Inner Remote.>
4) Remove the sealing cover. <Ref. to EB-20, REMOVAL, Front Sealing Cover.>
5) Remove the bolt (3), and then remove the key cylinder cover B (4).
6) Remove the rod clamps (1).
7) Remove the bolt (2), and then remove the key cylinder.
8) Remove the key cylinder cover A, and then detach the front outer handle.



CAUTION:
Do not apply excessive force to remove the handle from door panel. Otherwise door panel may be deformed.

B: INSTALLATION

Install in the reverse order of removal.

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

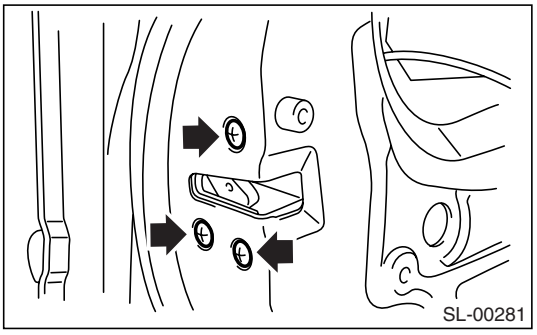
C: INSPECTION

1) Check the rod for deformation.
2) Check the lever and rod for smooth operation.

6. Front Door Latch and Door Lock Actuator Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the wires from front inner remote. <Ref. to SL-26, REMOVAL, Front Inner Remote.>
4) Remove the sealing cover. <Ref. to EB-20, REMOVAL, Front Sealing Cover.>
5) Remove the front door glass. <Ref. to GW-11, REMOVAL, Front Door Glass.>
6) Remove the rear sash. <Ref. to GW-16, REMOVAL, Front Regulator and Motor Assembly.>
7) Remove the key cylinder cover B, and remove the key rod from key cylinder. (Model with double lock)
8) Open the handle rod cover of latch assembly.
9) Remove the three screws.



10) Remove the front door latch & door lock actuator assembly, and disconnect the connector.

B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the lock works correctly after installation.

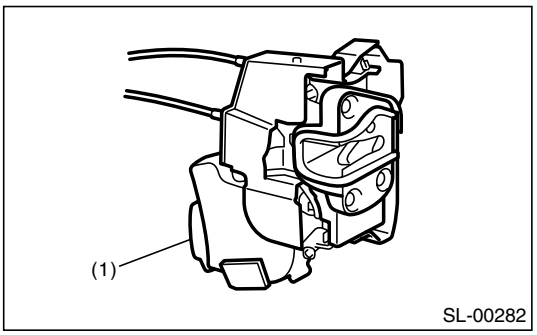
C: INSPECTION

1) Check the rod, door opener and door lock cable for deformation. When it is deformed, straighten it because failure operations may occur. When it is unrepairable, replace the front door latch & door lock actuator assembly.
2) Check the lever, rod and wire for smooth operation.

7. Front Door Lock Actuator

A: REMOVAL

1) Remove the front door latch & door lock actuator assembly. <Ref. to SL-28, REMOVAL, Front Door Latch and Door Lock Actuator Assembly.>
2) Remove the pawl of front door latch security cover, and then remove the cover. (Model without double lock)
3) Remove the screw from the front door latch and door lock actuator, and then remove the door lock actuator. (Model without double lock)



(1) Front door lock actuator

B: INSTALLATION

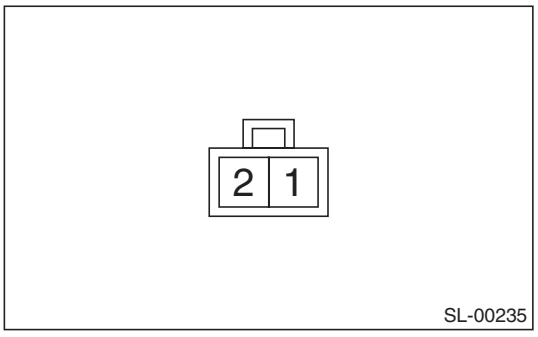
Install in the reverse order of removal.

NOTE:
Make sure the lock works correctly after installation.

C: INSPECTION

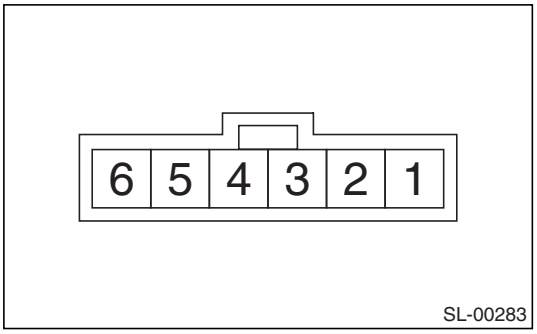
1) Disconnect the door lock actuator harness connector.
2) Connect the battery to door lock actuator terminals.
If defective, replace the door lock actuator.

1. MODEL WITHOUT DOUBLE LOCK



Terminal No.	Actuator operation
No. 2 (+) and No. 1 (–)	Unlocked → Locked
No. 1 (+) and No. 2 (–)	Locked → Unlocked

2. MODEL WITH DOUBLE LOCK



• DOOR ACTUATOR RH

Terminal No.	Actuator operation
No. 5 (+) and No. 1 (–)	Unlocked → Locked
No. 1 (+) and No. 5 (–)	Locked → Unlocked
No. 6 (+) and No. 1 (–)	Double lock released → Double lock set
No. 1 (+) and No. 6 (–)	Double lock set → Double lock released

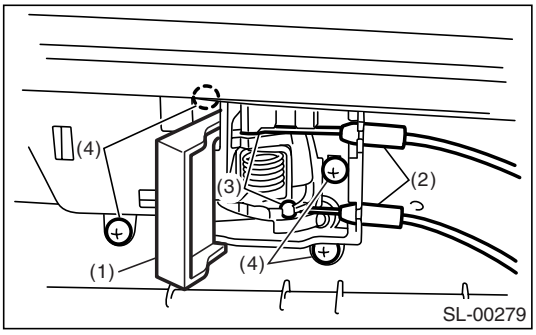
• DOOR ACTUATOR LH

Terminal No.	Actuator operation
No. 2 (+) and No. 6 (–)	Unlocked → Locked
No. 6 (+) and No. 2 (–)	Locked → Unlocked
No. 1 (+) and No. 6 (–)	Double lock released → Double lock set
No. 6 (+) and No. 1 (–)	Double lock set → Double lock released

8. Rear Inner Remote

A: REMOVAL

1) Remove the rear door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
2) Remove the back cover (1) of inner remote.
3) Remove the cable (2).
4) Remove the wire end ball (3).
5) Remove the screws (4), and detach the inner remote handle.



B: INSTALLATION

Install in the reverse order of removal.

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

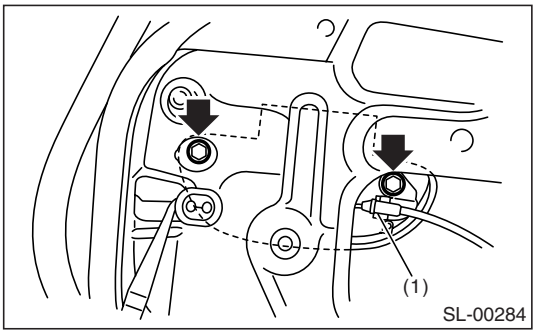
C: INSPECTION

1) Check the door opener and door lock cable for deformation. When it is deformed, straighten it because failure operations may occur. When it is unrepairable, replace the rear door latch & door lock actuator assembly.
2) Check the lever, rod and wire for smooth operation.
3) Check the child safety lock for correct operations.

9. Rear Outer Handle

A: REMOVAL

1) Raise the rear door glass to the top position.
2) Remove the rear door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the sealing cover. <Ref. to EB-24, REMOVAL, Rear Sealing Cover.>
4) Remove the rear door latch assembly. <Ref. to SL-32, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
5) Remove the cable from cable clamp (1).
6) Remove the two bolts.



7) Detach the outer handle bracket. (Model with double lock)
8) Detach the rear outer handle.

CAUTION:
Do not apply excessive force to remove the handle from door panel. Otherwise door panel may be deformed.

B: INSTALLATION

Install in the reverse order of removal.

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

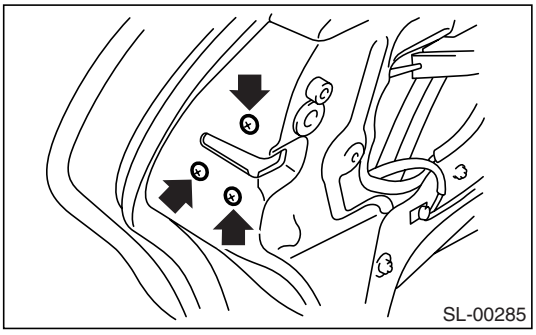
C: INSPECTION

1) Check the cables for deformation. When it is deformed, straighten it because failure operations may occur. When it is unrepairable, replace the rear door latch & door lock actuator assembly.
2) Check the lever and wire for smooth operation.

10. Rear Door Latch and Door Lock Actuator Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the wires from rear inner remote. <Ref. to SL-30, REMOVAL, Rear Inner Remote.>
4) Remove the sealing cover. <Ref. to EB-24, REMOVAL, Rear Sealing Cover.>
5) Remove the rear door glass. <Ref. to GW-24, REMOVAL, Rear Door Glass.>
6) Remove the rear sash. <Ref. to GW-26, REMOVAL, Rear Regulator and Motor Assembly.>
7) Take out the wire from wire clamp of outer handle.
8) Detach the outer handle bracket. (Model with double lock)
9) Remove the three screws.



10) Disconnect the connectors, and then remove the rear door latch & door lock actuator assembly.

B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the lock works correctly after installation.

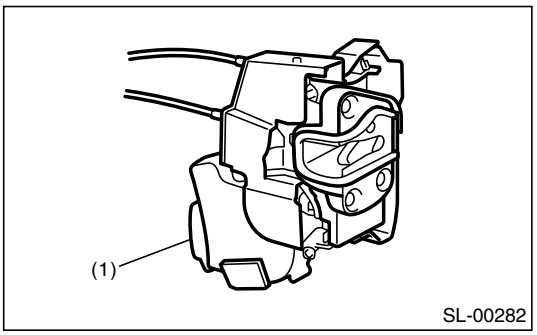
C: INSPECTION

1) Check the cables for deformation. When it is deformed, straighten it because failure operations may occur. When it is unrepairable, replace the rear door latch & door lock actuator assembly.
2) Check the lever and wire for smooth operation.

11.Rear Door Lock Actuator

A: REMOVAL

1) Remove the rear door latch & door lock actuator assembly. <Ref. to SL-32, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
2) Remove the pawl of rear door latch security cover, and then remove the cover. (Model without double lock)
3) Remove the screw from the rear door latch and door lock actuator, and then remove the door lock actuator. (Model without double lock)



(1) Rear door lock actuator

B: INSTALLATION

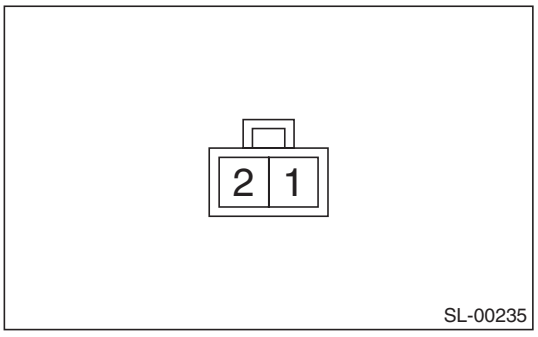
Install in the reverse order of removal.

NOTE:
Make sure the lock works correctly after installation.

C: INSPECTION

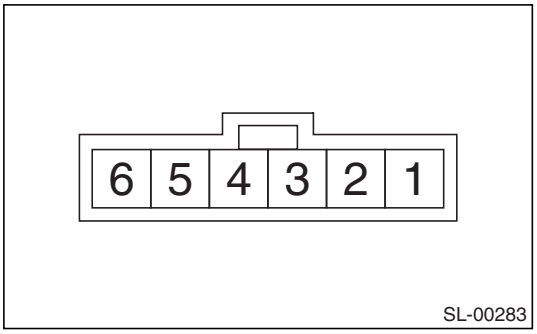
1) Disconnect the door lock actuator harness connector.
2) Connect the battery to door lock actuator terminals.
If defective, replace the door lock actuator.

1. MODEL WITHOUT DOUBLE LOCK



Terminal No.	Actuator operation
No. 2 (+) and No. 1 (–)	Unlocked → Locked
No. 1 (+) and No. 2 (–)	Locked → Unlocked

2. MODEL WITH DOUBLE LOCK



• DOOR ACTUATOR RH

Terminal No.	Actuator operation
No. 5 (+) and No. 1 (–)	Unlocked → Locked
No. 1 (+) and No. 5 (–)	Locked → Unlocked
No. 6 (+) and No. 1 (–)	Double lock released → Double lock set
No. 1 (+) and No. 6 (–)	Double lock set → Double lock released

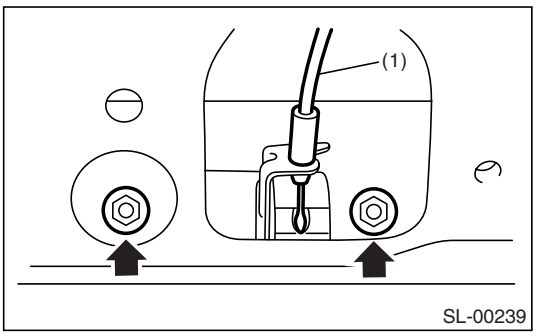
• DOOR ACTUATOR LH

Terminal No.	Actuator operation
No. 2 (+) and No. 6 (–)	Unlocked → Locked
No. 6 (+) and No. 2 (–)	Locked → Unlocked
No. 1 (+) and No. 6 (–)	Double lock released → Double lock set
No. 6 (+) and No. 1 (–)	Double lock set → Double lock released

12.Rear Gate Outer Handle

A: REMOVAL

1) Remove the rear gate trim. <Ref. to EI-69, REMOVAL, Rear Gate Trim.>
2) Remove the rear gate garnish. <Ref. to EI-76, REMOVAL, Rear Gate Garnish.>
3) Remove the two nuts to take out the rear gate outer handle.
4) Remove the cable of rear gate handle.



(1) Cable

B: INSTALLATION

Install in the reverse order of removal.

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

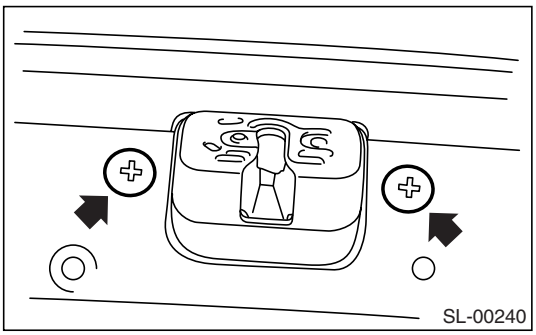
C: INSPECTION

1) Check the cable of rear gate handle for deformation.
2) Check the rear gate outer handle and cable of rear gate handle for smooth operation.

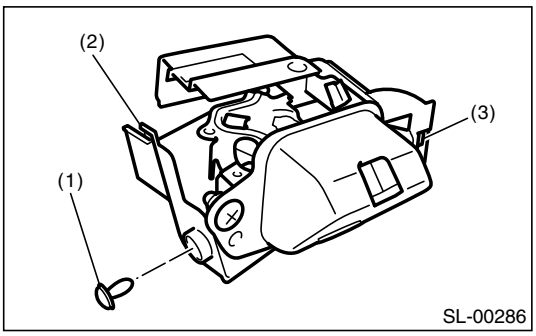
13.Rear Gate Latch Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim. <Ref. to EI-69, REMOVAL, Rear Gate Trim.>
3) Remove the two screws.

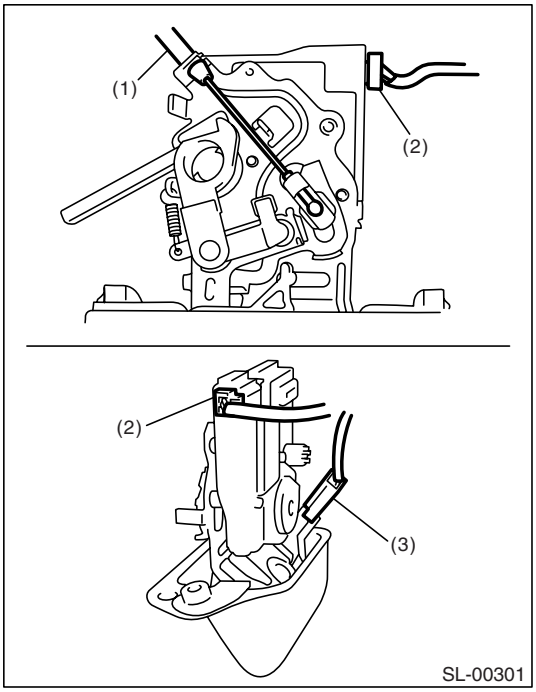


4) Remove the rear gate latch cover. (Model with double lock)



(1) Clip
(2) Claw
(3) Hook

5) Disconnect the each connector and rear gate handle cable.



(1) Cable
(2) Rear gate lock actuator connector
(3) Rear gate latch switch connector

6) Remove the rear gate latch assembly.

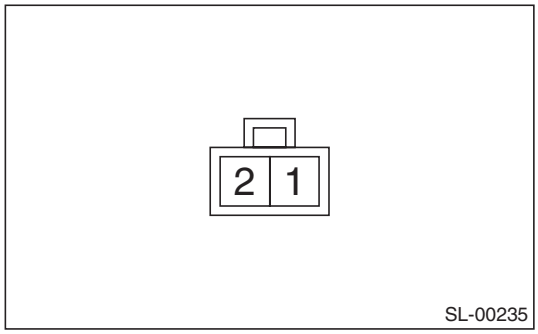
B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the lock works correctly after installation.

C: INSPECTION

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



Terminal No.	Actuator operation
No. 2 (+) and No. 1 (–)	Unlocked → Locked
No. 1 (+) and No. 2 (–)	Locked → Unlocked

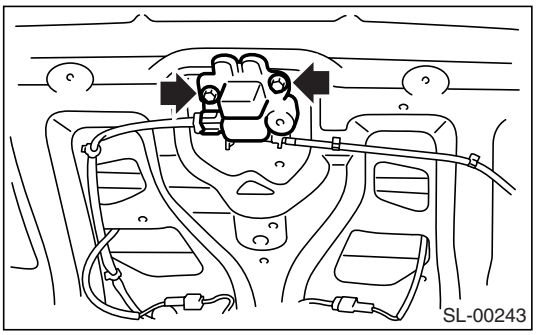
Replace the rear gate latch assembly if faulty.
3) Check the cable of rear gate handle for deformation.
4) Check the lever and cable of rear gate handle for smooth operation.

14.Trunk Lid Lock Assembly

A: REMOVAL

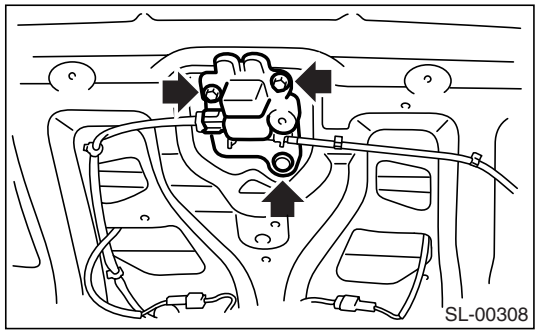
1. MODEL WITHOUT DOUBLE LOCK

1) Disconnect the connectors and remove the cable of trunk opener.
2) Remove the two bolts to remove trunk lid lock assembly.



2. MODEL WITH DOUBLE LOCK

1) Disconnect the connectors and remove the cable of trunk opener.
2) Remove the two bolts and clip to remove trunk lid lock assembly.



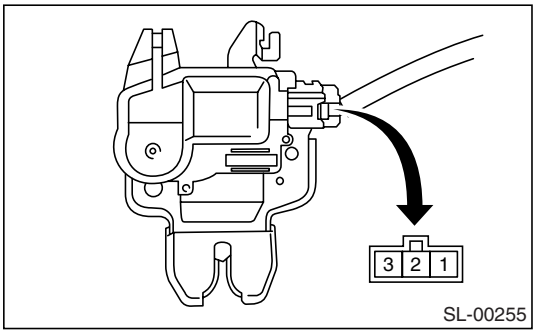
B: INSTALLATION

Install in the reverse order of removal.

NOTE:
- Apply grease to the movable part.
- Make sure the lock works correctly after installation.

C: INSPECTION

1) Disconnect the trunk lid actuator harness connector.
2) Connect the battery to trunk lid actuator terminals.



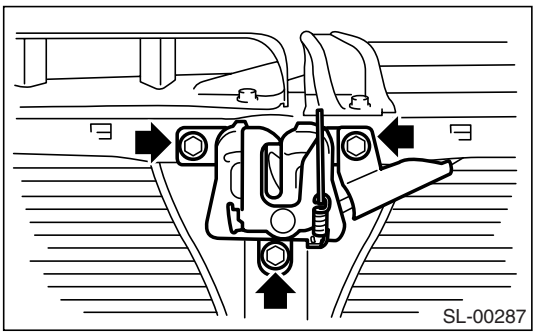
Terminal No.	Actuator operation
No. 2 (+) and No. 1 (–)	Locked → Unlocked

If defective, replace the trunk lid actuator.
3) Check the striker for deformation or abnormal wear.
4) Check the safety lever for improper movement.
5) Check other levers and the spring for rust formation and unsmooth movement.
6) Check the cable of trunk opener for smooth operation.

15.Front Hood Lock Assembly

A: REMOVAL

1) Open the front hood.
2) Remove the bolts, and then detach the front hood lock assembly.
3) Remove the cable from lock assembly.



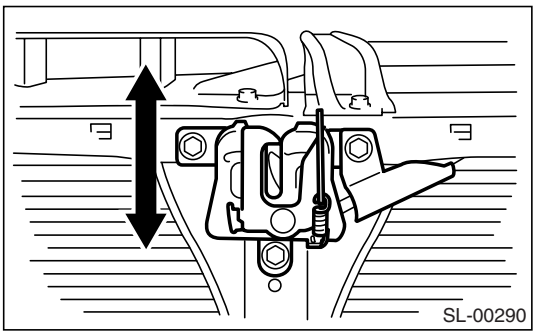
B: INSTALLATION

Install in the reverse order of removal.

NOTE:
- Apply grease to the movable part.
- Make sure the cable works correctly after installation.

C: ADJUSTMENT

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



D: INSPECTION

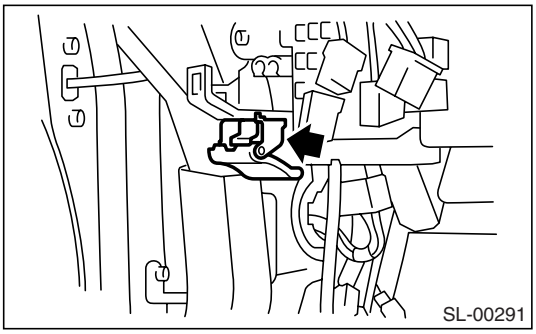
1) Check the striker for deformation or abnormal wear.
2) Check the safety lever for improper movement.
3) Check other levers and the spring for rust formation and unsmooth movement.

16.Remote Openers

A: REMOVAL

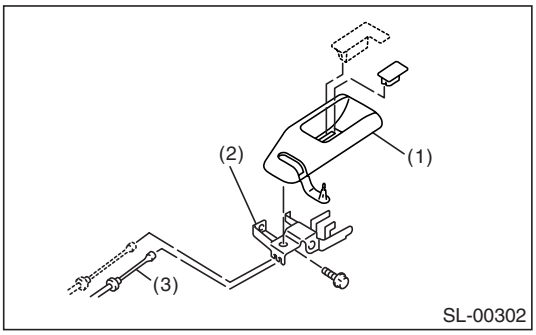
1. FRONT HOOD OPENER

1) Remove the cable from hood lock.
2) Remove the bolt, and then detach the opener lever.



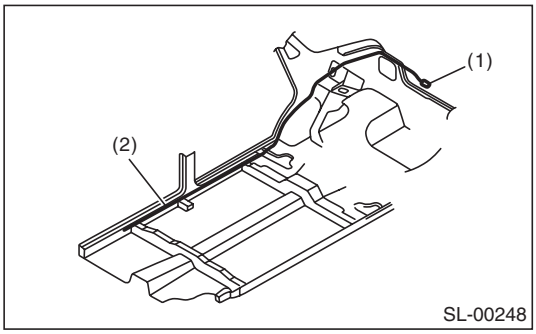
2. TRUNK LID OPENER

1) Remove the rear seat. <Ref. to SE-14, REMOVAL, Rear Seat.>
2) Remove the center pillar lower trim, side sill cover, rear pillar lower trim and floor mat on the driver's side. Remove the clip holding cable.
3) Remove the bolt, and then detach the opener pull handle.



(1) Cover
(2) Pull handle ASSY
(3) Cable

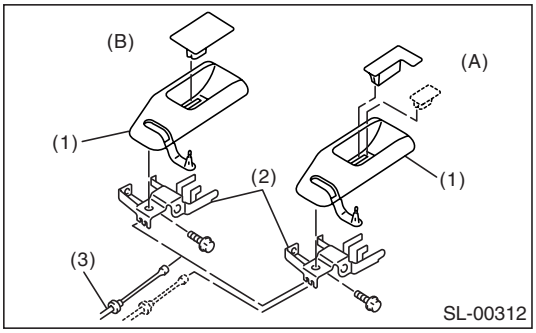
4) Remove the cable from opener pull handle.
5) Remove the trunk lid lock assembly from trunk lid.
6) Remove the cable from trunk lid lock assembly.



(1) Trunk lid lock ASSY
(2) Cable

3. FUEL FLAP OPENER

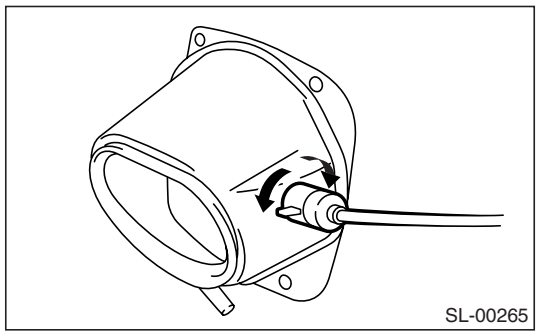
1) Remove the rear seat. <Ref. to SE-14, REMOVAL, Rear Seat.>
2) Remove the center pillar lower trim, side sill cover, rear pillar lower trim and floor mat on the driver's side. Remove the clip holding cable.
3) Remove the bolt, and then detach the opener pull handle.



(A) Sedan model
(B) Wagon model
(1) Cover
(2) Pull handle ASSY
(3) Cable

4) Remove the cable from opener pull handle.
5) Remove the rear quarter trim RH. <Ref. to EI-63, REMOVAL, Rear Quarter Trim.>

6) Rotate the fuel lock inside of the quarter panel to 90° and remove. (Either right or left turn)



B: INSTALLATION

1. FRONT HOOD OPENER

Install in the reverse order of removal.

2. TRUNK LID OPENER

Install in the reverse order of removal.

3. FUEL FLAP OPENER

Install in the reverse order of removal.

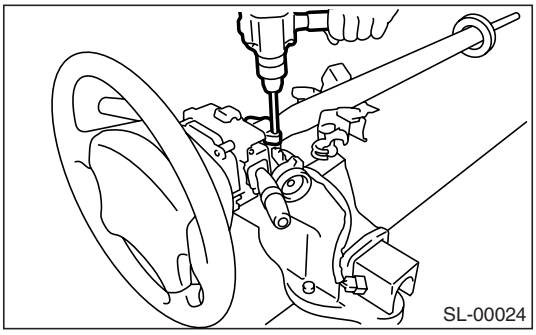
C: INSPECTION

Make sure the front hood, trunk lid and fuel filler flap lid smooth operation.

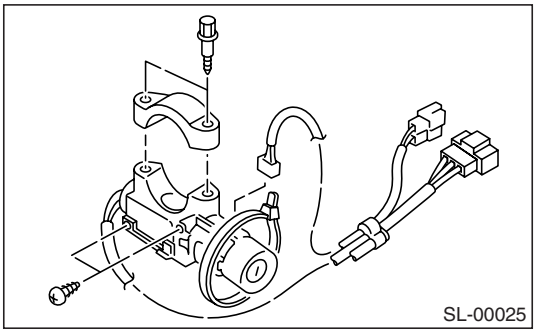
17.Ignition Key Lock

A: REPLACEMENT

1) Disconnect the ground cable from battery.
2) Remove the steering column. <Ref. to PS-24, REMOVAL, Tilt Steering Column.>
3) Secure the steering column in a vise. Remove the bolt with a drill.

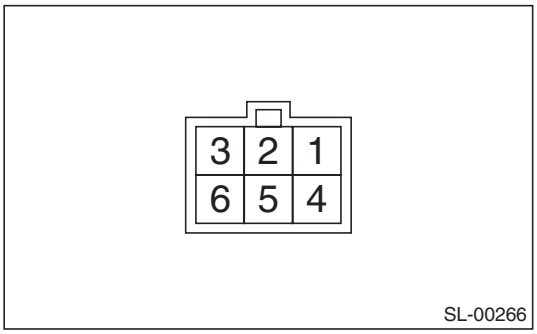


4) Remove the ignition key lock.
5) Using a new bolt, tighten the bolts all the way.



B: INSPECTION

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



Switch position	Terminal No.	Standard
LOCK	—	—
ACC	No. 3 and No. 4	Less than 1 Ω
ON	No. 3 and No. 1 and No. 4 No. 3 and No. 6	Less than 1 Ω
ST	No. 3 and No. 1 No. 3 and No. 2 and No. 6	Less than 1 Ω

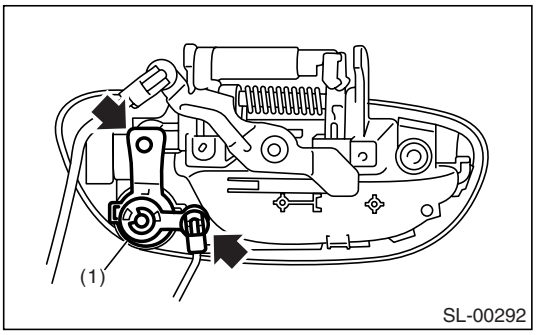
If NG, replace the ignition switch.

18.Key Lock Cylinders

A: REPLACEMENT

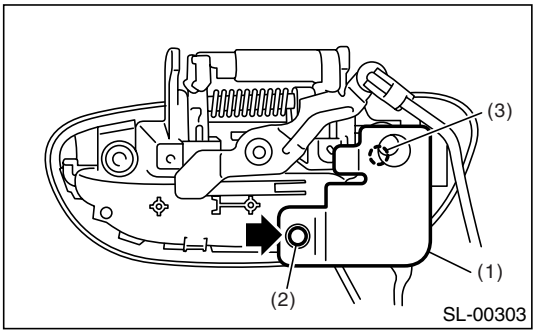
1. MODEL WITHOUT DOUBLE LOCK

1) Raise the front door glass to the top position.
2) Remove the door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the sealing cover.
4) Remove the rod clamp. Remove the bolt. Replace the key cylinder (1).



2. MODEL WITH DOUBLE LOCK

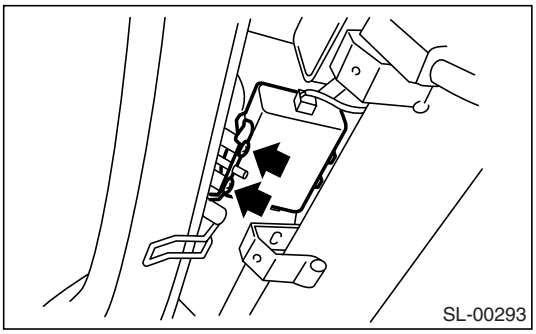
1) Raise the front door glass to the top position.
2) Remove the door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the sealing cover.
4) Remove the bolt (2), and remove the key cylinder cover B (1).
5) Remove the rod clamp. Remove the bolt (3). Replace the key cylinder.



19.Keyless Entry Control Unit

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-51, REMOVAL, Glove Box.>
3) Remove the screw, then remove the keyless entry control module while disconnecting the connector.



B: INSTALLATION

Install in the reverse order of removal.

20. Body Integrated Module

A: REMOVAL

NOTE:
If removing the body integrated module, check the following items.
• If removing the body integrated module, check the current setting and note it. <Ref. to LAN(diag)-17, CONFIRMATION OF CURRENT SETTING, OPERATION, Subaru Select Monitor.>
• When removing the body integrated module, reconfigure the select unlock as necessary. <Ref. to SL-14, CUSTOMIZE SETTING OF SELECT UNLOCK, ELECTRICAL SPECIFICATION, Keyless Entry System.>
If replacing the body integrated module, check the following items.
• For model with immobilizer, prepare new immobilizer key and security ID plate.

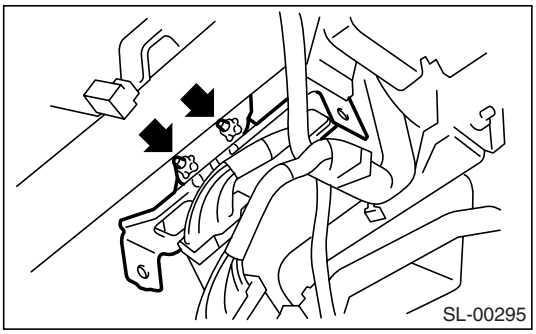
1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower panel on driver's side. <Ref. to EI-56, REMOVAL, Instrument Panel Assembly.>
3) Disconnect the connector of body integrated module.

CAUTION:
Be careful to keep water and other foreign materials away from body integrated module.

4) Remove the body integrated module from the body integrated module mounting bracket using flat tip screwdriver.

CAUTION:
Be careful not to damage the unit when removing it forcibly from the bracket.

5) Remove the clutch pedal stopper arm. (MT model) <Ref. to CL-36, REMOVAL, Clutch Pedal.>
6) Remove two body integrated module bracket mounting bolts, and remove the bracket.



B: INSTALLATION

Install in the reverse order of removal.

NOTE:
• Make sure it comforms to the current setting condition after installation. <Ref. to LAN(diag)-17, CONFIRMATION OF CURRENT SETTING, OPERATION, Subaru Select Monitor.>
• Make a registration of immobilizer for the model with immobilizer. For detailed operation procedure, refer to "IMMOBILIZER TEACHING OPERATION MANUAL".

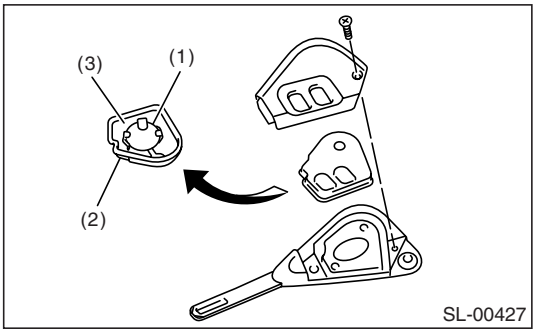
21.Keyless Transmitter

A: DISASSEMBLY

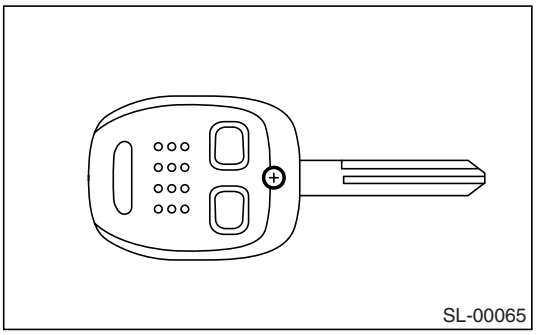
NOTE:
To prevent static electricity damage to the keyless transmitter printed circuit board, touch the steel area of building with hand to discharge static electricity carried on body or clothes before disassembling the keyless transmitter.

1) Remove the screw from keyless transmitter, and remove the keyless transmitter battery (1).
2) Remove the printed board (3) from rubber (2).

- Except for EK model



- EK model



B: ASSEMBLY

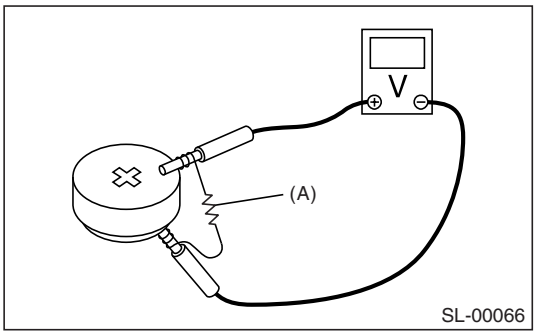
Install in the reverse order of disassembly.

C: INSPECTION

1. KEYLESS TRANSMITTER BATTERY

Measure the voltage between the keyless transmitter battery (+) terminal and (–) terminal.

NOTE:
Battery discharge occurs during the measurement. Complete the measurement within 5 seconds.



(A) Resistance 47 Ω

Tester connection		Standard
(+)	(–)	
Battery Positive terminal	Battery Ground terminal	2.5 — 3.0 V

If NG, replace the battery. (Use CR1620 or equivalent.)

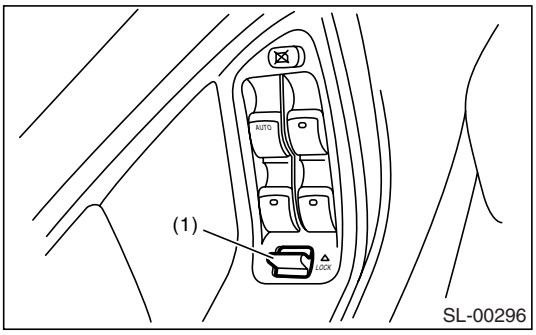
D: REPLACEMENT

1. REGISTRATION OF KEYLESS TRANSMITTER

NOTE:
- A maximum of four keyless transmitter can be registered for each individual vehicle.
- When replacing or adding the keyless transmitter, new registration of keyless transmitter is necessary.
- When replacing the keyless transmitter, registration to immobilizer system is also necessary.

1) Remove the keyless transmitter from the ignition switch.
2) Remove the lower trim cover at driver's side, then connect the registration connectors. (1 pole white connector)

3) Press the door lock switch (1) located under the power window main switch to UNLOCK. (Make sure the room light blinks and buzzer sounds, and then system is in registration mode.)



4) While pressing the door lock switch to UNLOCK, press twice the button of keyless transmitter to be registered.
5) When the registration is completed normally, the door lock actuator will lock → unlock. If the lock → unlock operation is not carried out, repeat the procedure 4).

NOTE:
• When pressing the keyless transmitter button, slowly press for first and second (press longer for second) to check operation of door lock actuator.
• Do not press the button of keyless transmitter more than twice.
• Do not batter the button of keyless transmitter.

6) Repeat the steps 4) if there is an additional keyless transmitter to be registered.
7) Pull out the registration connector, and install the lower trim cover at driver's side.

NOTE:
• The transmitter can be registered only when the door lock switch is remain pushed to UNLOCK.
• Continuing to press the door lock switch to UNLOCK again allows to be registered although the door lock switch is released for once.
• When adding the keyless transmitter, re-registration of keyless transmitter which was already registered is necessary.

2. CLEAR OF KEYLESS TRANSMITTER

1) Remove the keyless transmitter from ignition switch.
2) Remove the lower trim cover at driver's side, then connect the registration connectors. (1 pole white connector)
3) Press the door lock switch located under the power window main switch to LOCK. (Make sure the room light blinks and buzzer sounds, and system becomes in clear mode.)
4) While pressing door lock switch to LOCK, insert and remove the key on ignition switch 10 times within 10 seconds.
5) When the clearing is completed normally, the door lock actuator will lock → unlock. If the lock → unlock operation is not carried out, repeat the procedure 4).
6) Pull out the registration connector, and install the lower trim cover at driver's side.

NOTE:
• The transmitter can be cleared only when the door lock switch is remain pushed to LOCK.
• Continuing to press the door lock switch to LOCK again allows to be cleared although the door lock switch is released for once.
• If changing from registration mode to clear mode, you cannot go to clear mode unless completing the registration mode. The reverse case is same as this.

22.Immobilizer Control Module

A: NOTE

The control of immobilizer system is carried out in body integrated module.

B: REMOVAL

<Ref. to SL-44, REMOVAL, Body Integrated Module.>

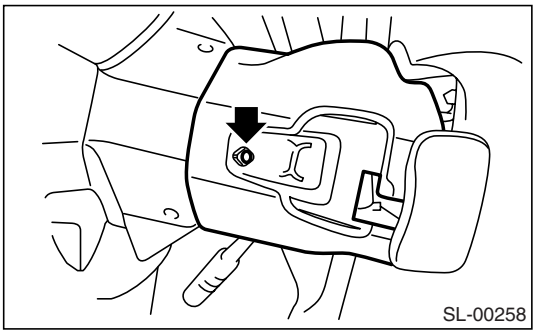
C: INSTALLATION

Install in the reverse order of removal.

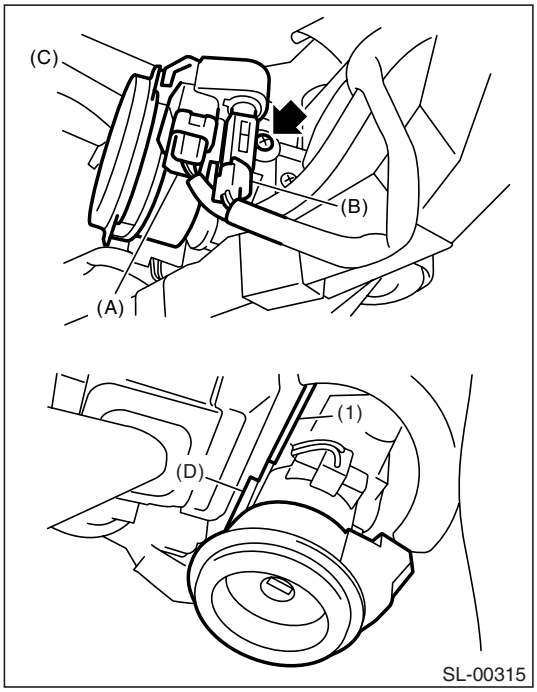
23.Immobilizer Antenna

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the screws, and detach the upper column cover and lower column cover.



3) Remove the instrument panel lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
4) Disconnect the immobilizer antenna connector (A) and ignition switch lighting connector (B).
5) Loosen the screw and release the lock (D) at opposite side using flat-tip screwdriver (1), and then detach the immobilizer antenna (C).



CAUTION:
Do not apply excessive force to remove the immobilizer antenna and lock. Otherwise they may be broken because those parts are the products made of a plastic.

B: INSTALLATION

Install in the reverse order of removal.

SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

SR

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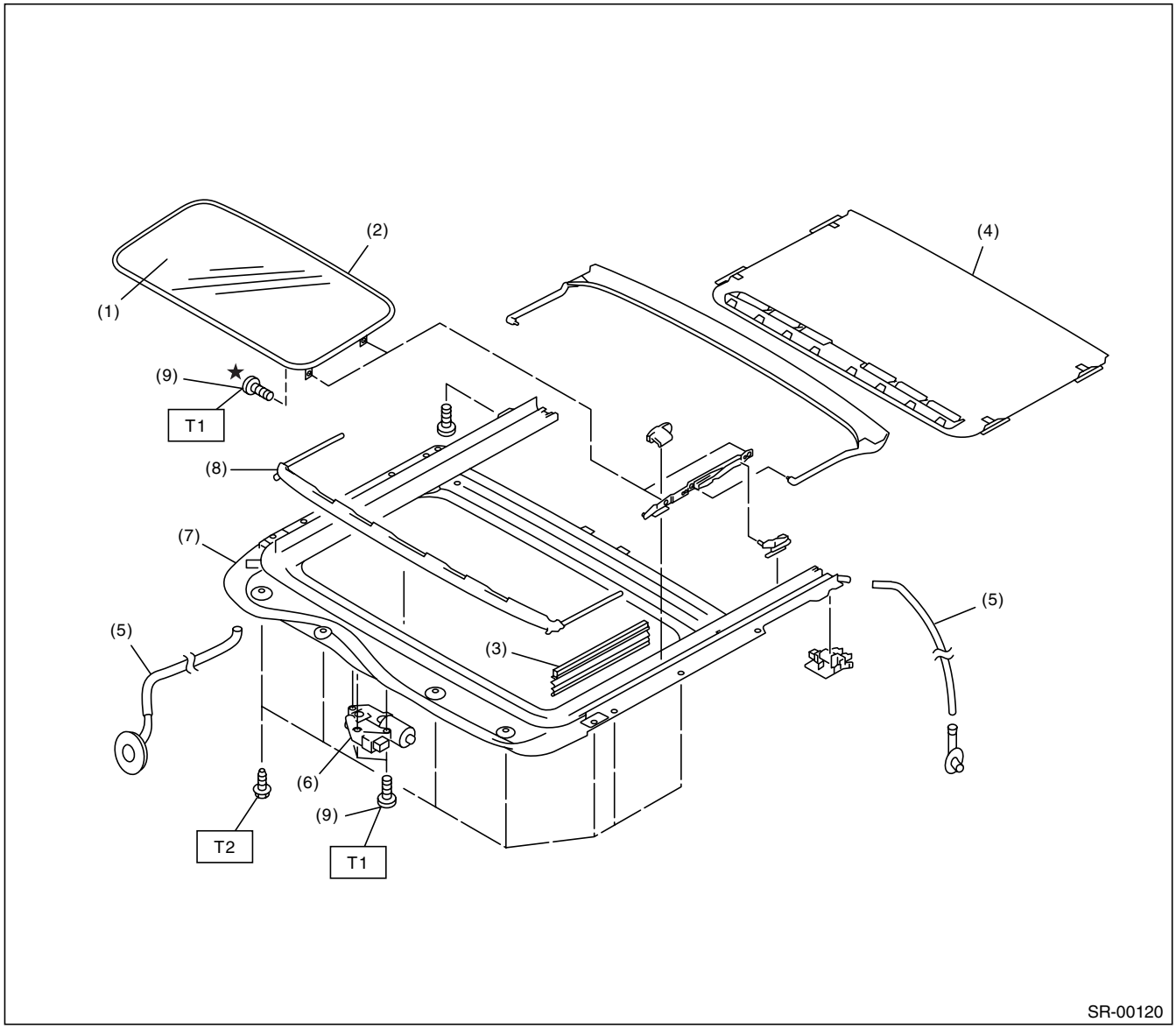
4.	Sunroof Assembly	9
5.	Sunroof Motor	11
6.	Sunroof Switch	14
7.	Sunshade	16

1. General Description

A: COMPONENT

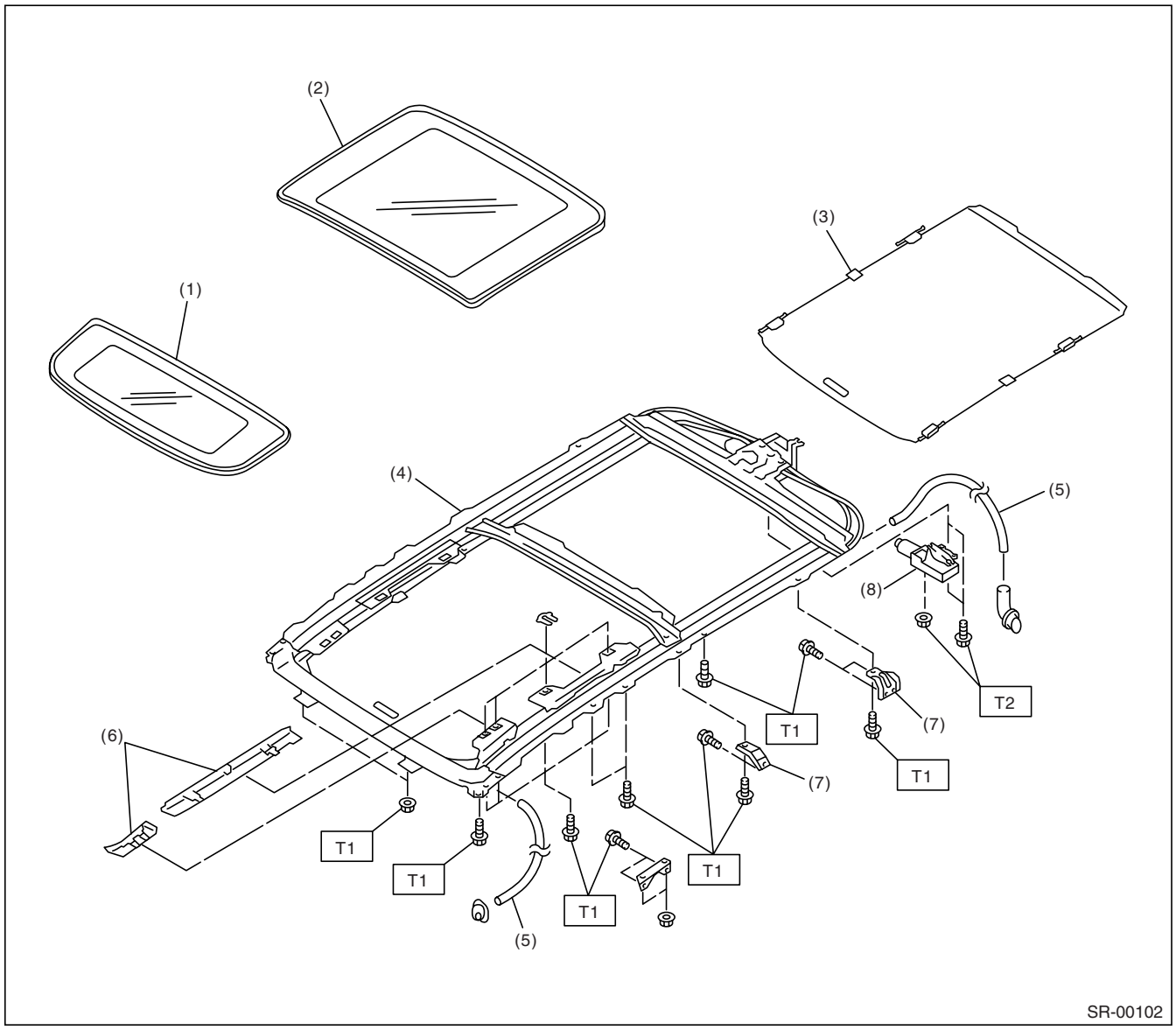
1. SEDAN MODEL



(1) Glass lid
(2) Weatherstrip
(3) Guide rail cover
(4) Sunshade
(5) Drain tube
(6) Motor ASSY
(7) Frame ASSY
(8) Deflector
(9) TORX® bolt

Tightening torque: N·m (kgf-m, ft-lb)
T1: 4.5 (0.46, 3.3)
T2: 6.0 (0.61, 4.3)

2. WAGON MODEL



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

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.3)
T2: 4.5 (0.46, 3.3)

B: CAUTION

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

C: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
TORX® T20	Used for removing and installing sunroof motor, glass lid (Sedan model) and sunshade.

2. Sunroof Control System

A: WIRING DIAGRAM

1. SUNROOF

<Ref. to WI-317, WIRING DIAGRAM, Sunroof Control System.>

B: INSPECTION

Symptom	Inspection order
Water leakage	(1) Check roof panel and glass lid for improper or poor sealing. (2) Check drain tube for clogging. (3) Check sunroof frame seal and body for improper fit.
Booming noise, wind noise and other noise	(1) Check glass lid and roof panel for improper clearance. (2) Check sunshade and roof trim for improper clearance.
Motor noise	(1) Check installing part of motor for looseness. (2) Check gears and bearings for wear. (3) Check cable for wear. (4) Check cable pipe for deformities.
Failure of sunroof (Motor operates properly.)	(1) Check guide rail for foreign particles. (2) Check guide rail for improper installation. (3) Check parts for mutual interference. (4) Check cable slider for improper clinching. (5) Check cable for improper installation.
Motor does not rotate or rotate improperly.	(1) Check fuse for blown out. (2) Check switch for improper function. (3) Check motor for incorrect terminal voltage. (4) Check relay for improper operation. (5) Check poor grounding system. (6) Check harness for open or short and terminals for poor connections.
Failure turn of glass lid	Check guide rail for foreign particles.

- Failure turn of glass lid while driving rough road.

Glass lid has auto-reverse function. When applied above specified force to the glass lid, the lid turns back and stops. When operating the glass lid (open or close) while driving the rough road, the lid judges vibration as a force and may causes failure turns. When the failure turn is occurred, the initialize operation is required with following procedure.

1. INITIALIZE OPERATION (SEDAN MODEL)

1) Tilt up the glass lid.
2) Release the switch once, and press the tilt up switch again for 15 seconds.
3) When the glass lid is raised a little and returned to tilt up position, release the switch for the moment. (Initialization of position detecting function)
4) Keep pressing the tilt up switch within 5 seconds from releasing the switch, glass lid tilts down → slides open → slides close operation automatically. (Time gap of more than 5 seconds will result in cancellation of position detecting function.)
5) Initialize operation is completed.

2. INITIALIZE OPERATION (WAGON MODEL)

1) Apply the force to glass lid in the direction of glass lid open while glass lid (rear) is closing, and then reverse the lid five times in a row.
However, in the following situation, the initialize operation is canceled.
- When the lid is fully closed once during auto-reverse operation five times in a row.
- When the interval of auto-reverse operation is more than 30 seconds once.

2) When the operation of glass lid shift to brink operation*, fully close the lid on switch operation.
3) Initialize operation is completed.
*Brink operation: Although keep pressing the switch, glass lid operates only at a moment when the switch is pressed.

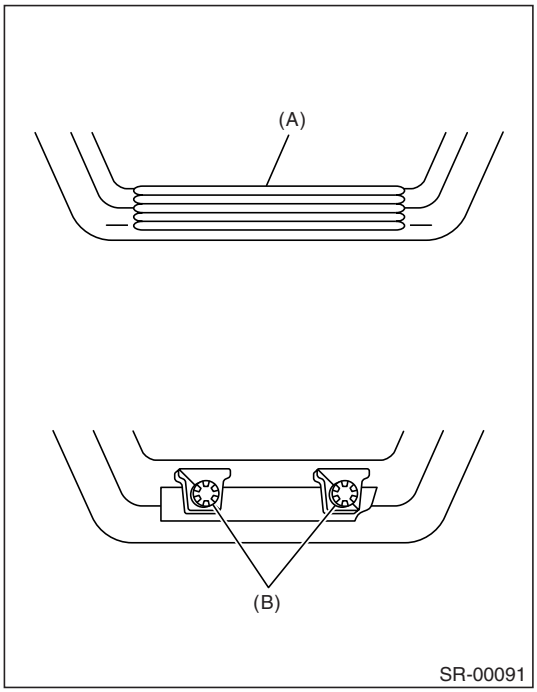
3. Glass Lid

A: REMOVAL

1. SEDAN MODEL

1) Completely close the glass lid, and then open the sunshade.
2) Remove the cover (A), and then remove the TORX® bolts (B).

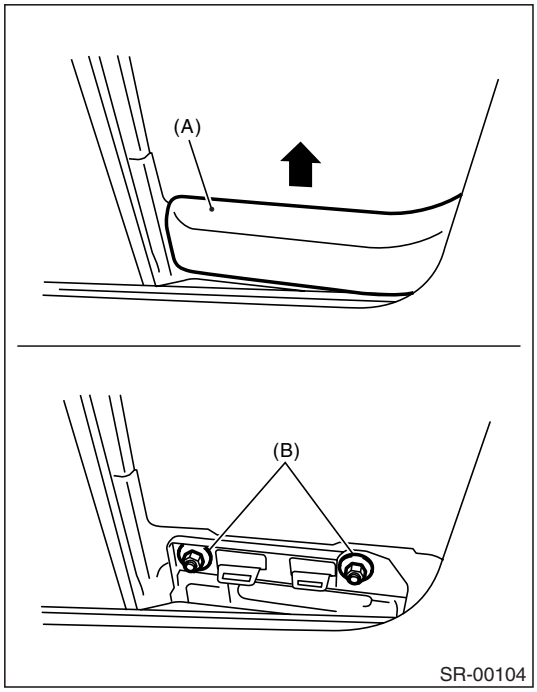
CAUTION:
TORX® bolts are applied with thread locker. If they are removed, replace with new ones.



3) Remove the glass lid carefully.

2. WAGON MODEL (FRONT)

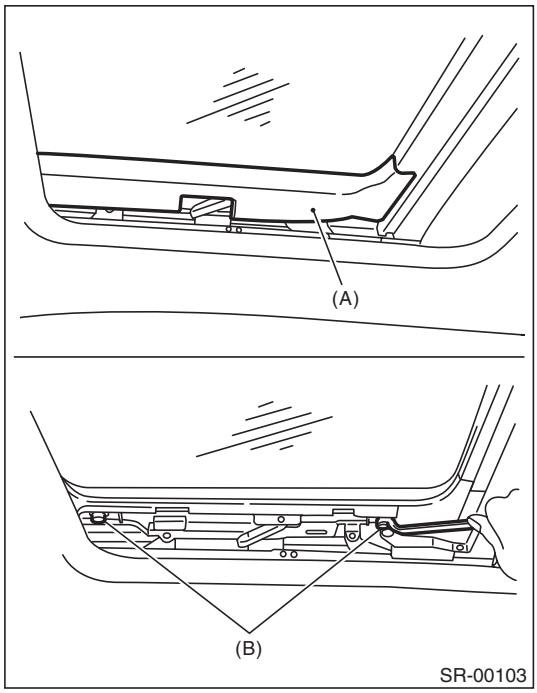
1) Open the sunshade.
2) Pull out the cover (A) toward arrow mark, and then remove the nut (B).



3) Remove the glass lid (front) carefully.

3. WAGON MODEL (REAR)

1) Tilt up the glass lid (front), and then open the sunshade.
2) Remove the cover (A), and then remove the nut (B).



3) Remove the glass lid carefully.

B: INSTALLATION

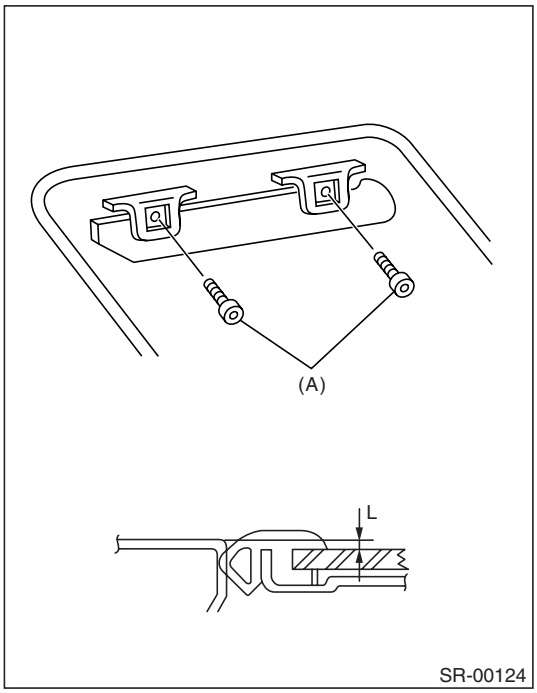
Install in the reverse order of removal.

C: ADJUSTMENT

1. SEDAN MODEL

Loosen the glass lid mounting TORX® bolts (A), and then adjust the height on lid side.

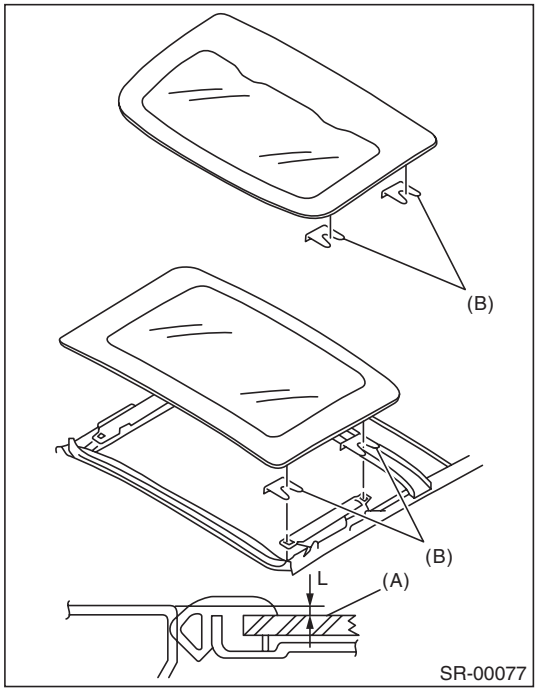
Difference in height between glass lid and roof panel L:
2.0±1.0 mm (0.079±0.039 in)



2. WAGON MODEL

Loosen the glass lid installation nuts, and then adjust the height by adding (max: four pieces) or extracting (min: zero piece) shims (B) (standard: two pieces) which installed between glass lid (A) and body.

Difference in height between glass lid and roof panel L:
2.0±1.0 mm (0.079±0.039 in)

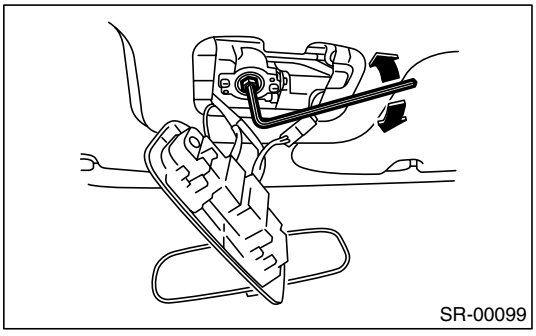


D: FORCED DRIVE

If glass lid dose not operate or is not supplied with power, move the glass lid using the emergency handle (hex wrench)*.
*: Emergency handle (L shape general purpose hexagon wrench)
Sedan model: bolt width 4 mm (0.16 in)
Wagon model: bolt width 5 mm (0.20 in)

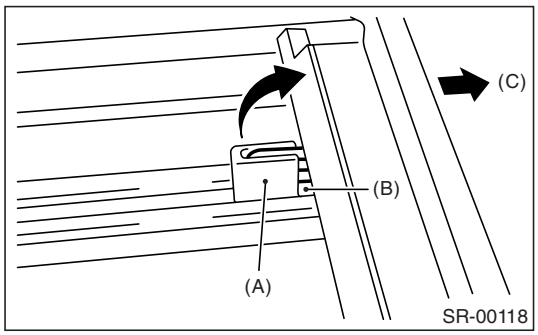
1. SEDAN MODEL

1) Remove the spot map light. <Ref. to LI-34, REMOVAL, Spot Map Light.>
2) Insert the hex wrench securely until it touches the motor shaft edge.
3) Turn the hex wrench, and move the glass lid.
- Turning right, the glass lid open.
- Turning left, the glass lid close.



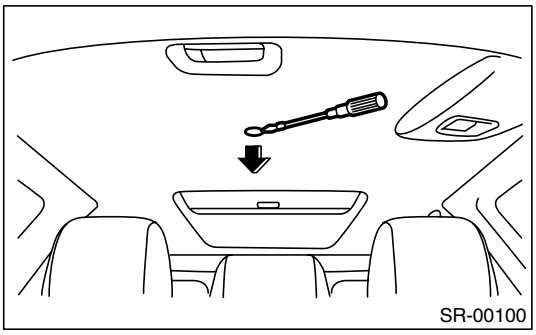
2. WAGON MODEL

1) Slide the slider (A) to vehicle rearward (C), and remove the sun shade from slider by raising the rod (B).

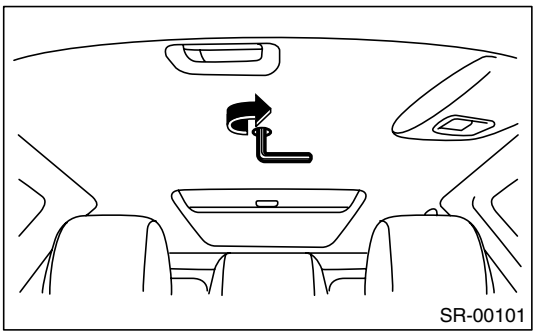


CAUTION:
Be careful not to damage the adjacent parts with rod end when moving the glass lid with emergency handle.

2) Slide the sunshade forward.
3) Remove the plug in the rear side of roof trim.



4) Insert the hex wrench securely until it touches the motor shaft edge.
5) Turn the hex wrench to right, and close the glass lid (front and rear).



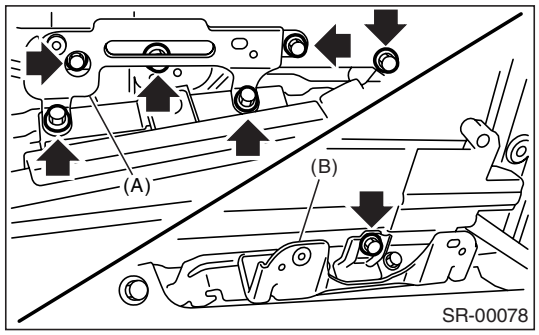
CAUTION:
After forced drive, the initialize operation is required. <Ref. to SR-5, INSPECTION, Sunroof Control System.>

4. Sunroof Assembly

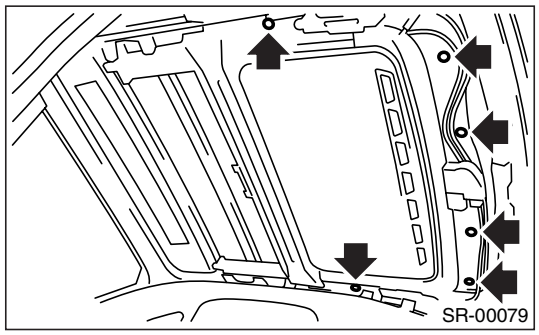
A: REMOVAL

1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the roof trim. <Ref. to EI-67, SEDAN MODEL, REMOVAL, Roof Trim.>
3) Disconnect the harness connector of sunroof motor.
4) Remove the glass lid. <Ref. to SR-6, SEDAN MODEL, REMOVAL, Glass Lid.>
5) Remove the drain tube from frame assembly.
6) Remove the assist rail bracket (front) (A) and sunroof bracket (rear) (B).

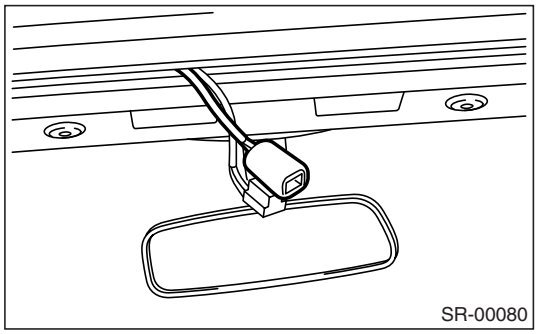


7) Remove the nuts, and then remove the frame assembly.

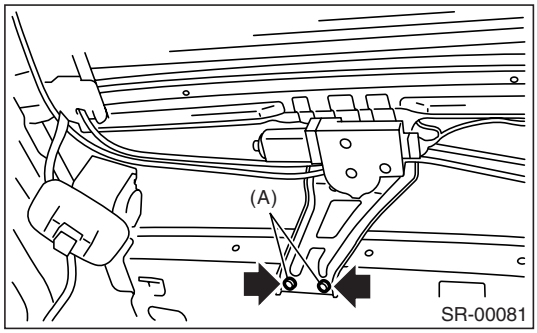


2. WAGON MODEL

1) Disconnect the ground cable from battery.
2) Remove the roof trim. <Ref. to EI-67, WAGON MODEL, REMOVAL, Roof Trim.>
3) Disconnect the harness connector of motor assembly.

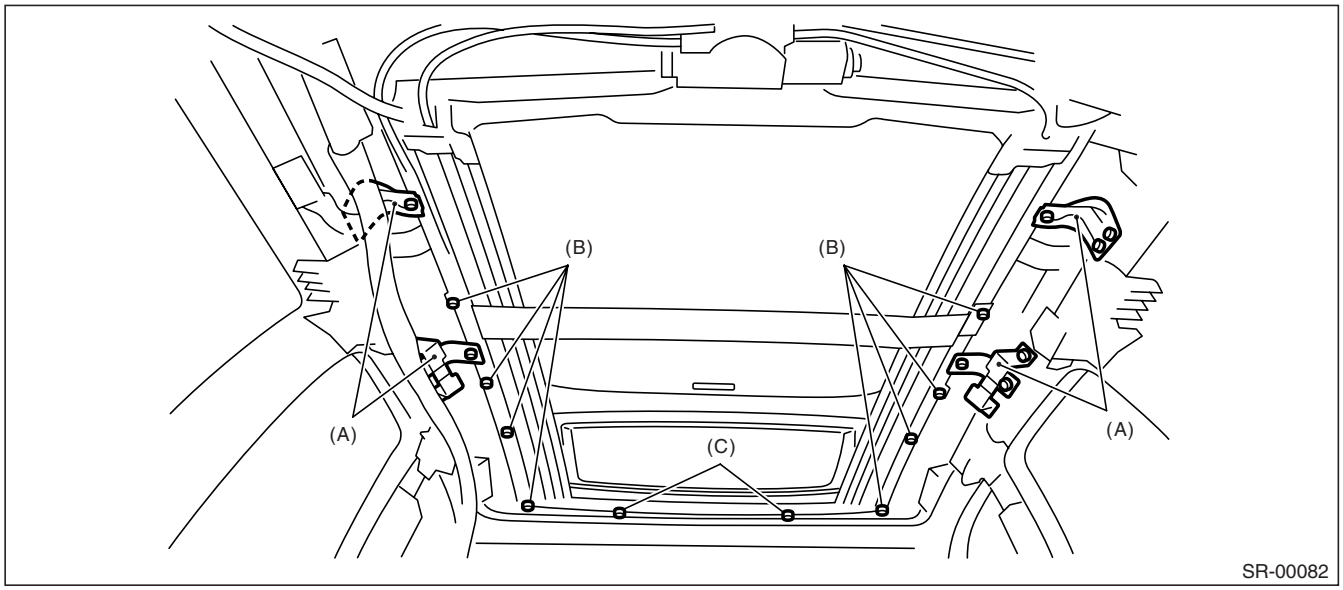


4) Remove the front and rear glass lid. <Ref. to SR-6, WAGON MODEL (FRONT), REMOVAL, Glass Lid.> <Ref. to SR-6, WAGON MODEL (REAR), REMOVAL, Glass Lid.>
5) Remove the installation bolts (A) on rear side frame bracket of frame assembly.



6) Remove the drain tube from frame assembly.
7) Remove the frame bracket (A).

8) Remove the bolts (B) and nuts (C), and then remove the frame assembly.



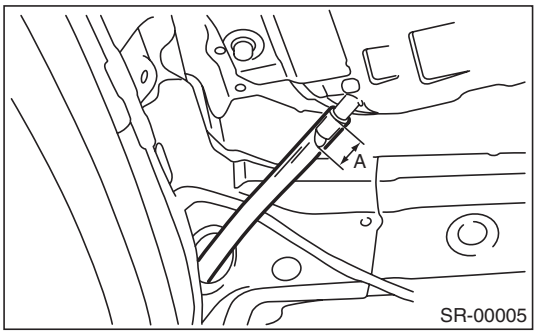
B: INSTALLATION

Install in the reverse order of removal.

CAUTION:
Be careful not to snag the harness.

NOTE:
- Be sure to connect the harness connector.
- When installing the drain tube, insert it securely into drain pipe.

Length A:
15 mm (0.59 in) or more



C: DISASSEMBLY

1) Remove the sunroof motor. <Ref. to SR-11, REMOVAL, Sunroof Motor.>
2) Remove the sunshade. <Ref. to SR-16, REMOVAL, Sunshade.>

D: ASSEMBLY

Install in the reverse order of removal.

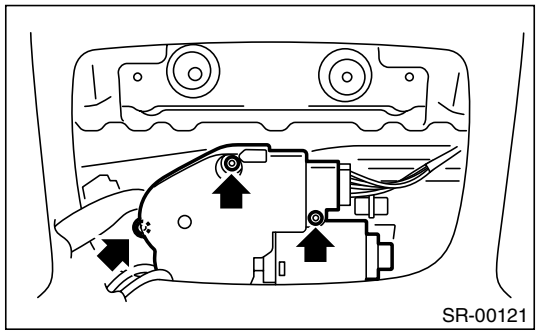
5. Sunroof Motor

A: REMOVAL

CAUTION:
• When removing the clip, use great care not to damage the roof trim.
• Never rotate the sunroof motor after removing it.

1. SEDAN MODEL

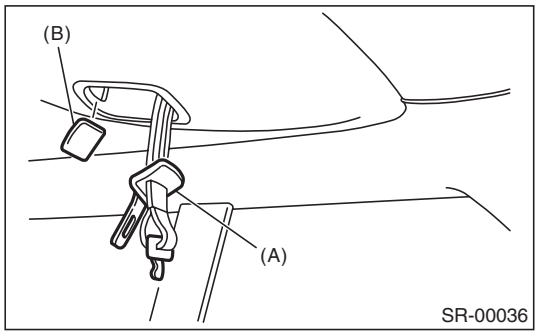
1) Completely close the glass lid.
2) Disconnect the ground cable from battery.
3) Remove the spot map light. <Ref. to LI-34, REMOVAL, Spot Map Light.>
4) Disconnect the harness connector, loosen the TORX® bolts, and then remove the motor assembly.



CAUTION:
When removing the motor assembly, secure the cable wires to prevent moves.

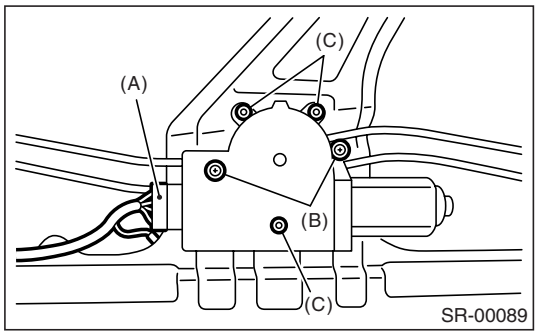
2. WAGON MODEL

1) Fully close the glass lid (front) and glass lid (rear).
2) Disconnect the ground cable from battery.
3) Remove the luggage room light. <Ref. to LI-36, REMOVAL, Luggage Room Light.>
4) Remove the roof trim. <Ref. to EI-67, WAGON MODEL, REMOVAL, Roof Trim.>
5) Pass the seat belt tongue located on center of rear seat through the hole, and then pull it out to the opposite side of trim.



(A) Tongue
(B) Cover

6) Remove the clips, and then drop the rear end of roof trim.
7) Disconnect the harness connector (A), and then remove the motor assembly mounting bolt (B) and nuts (C).

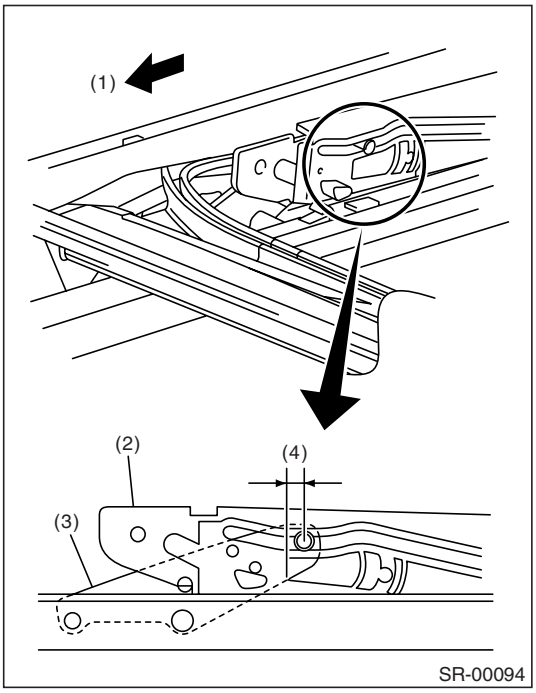


B: INSTALLATION

CAUTION:
When installing the motor assembly, be careful not to move the sunroof cable.

1. SEDAN MODEL

1) Align the coulisse assembly and link assembly in the same position.



(1) Front
(2) Coulisse ASSY
(3) Link ASSY
(4) 4.7 mm (0.185 in)

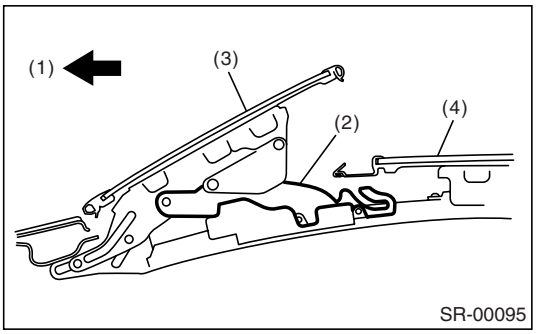
2) Install the motor assembly.
3) Connect the harness connector of motor assembly, and then connect the battery ground cable to battery.
4) Perform the initialize operation of motor.
   (1) Tilt up the glass lid.
   (2) Release the switch once, and press the tilt up switch again for 15 seconds.
   (3) When the glass lid is raised a little and on tilt up position, release the switch for the moment.
   (4) Keep pressing the tilt up switch within 5 seconds from releasing the switch, glass lid tilts down → slides open → slides close operation automatically, and then initialize operation is completed.
5) Check the operation of sunroof with following table.

Operation	Switch position
(1) Glass lid closes completely.	Close
(2) Glass lid tilt up to the top position.	Tilt up
(3) Glass lid closes completely.	Tilt down
(4) Glass lid opens completely.	Open
(5) Glass lid closes 150 mm (5.91 in) away from completely closed position.	Close
(6) Glass lid closes completely.	Close

6) Install the trim in the reverse order of removal.

2. WAGON MODEL

Check that the wedge of glass lid (front) bracket part is contacting in the direction of vehicle front.
At this time, the lid is at fully open position.



(1) Front
(2) Wedge
(3) Glass lid (Front)
(4) Glass lid (Rear)

1) Install the motor assembly.
2) After the installation of motor assembly, check again that the wedge of glass lid (front) bracket part is contacting in the direction of vehicle front.
3) Connect the harness connector of motor assembly, and then connect the battery ground cable to battery.
4) Perform the initialize operation of motor.
• When replacing the motor with a new one, fully close the glass once and perform the initialization of position, because the movement of glass lid shifts to brink operation.
• When reusing the motor, operate the auto-reverse function five times in a row to shifts brink operation, and then perform the initialization of position.
5) Check the operation of sunroof with following table.

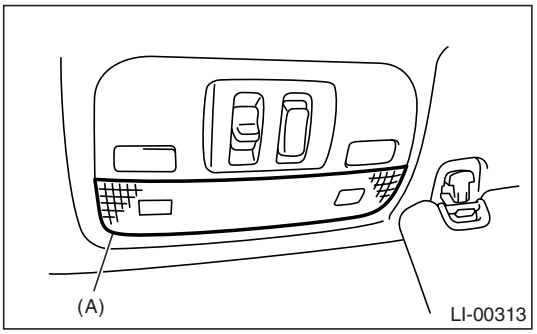
Operation	Switch position
(1) Glass lid (front) and glass lid (rear) closes completely.	Close
(2) Glass lid (front) tilt up to the ventilating position.	Open
(3) Glass lid (front) tilts up to top position, and glass lid (rear) opens near the completely open position.	Open
(4) Glass lid (rear) opens completely.	Open
(5) Glass lid (rear) closes on 150 mm (5.91 in) from rear end of tilted up glass lid (front).	Close
(6) Glass lid (rear) closes completely, and then glass lid (front) tilt down to the ventilating position.	Close
(7) Glass lid (front) lowers, and then glass lid (front) and glass lid (rear) closes completely.	Close

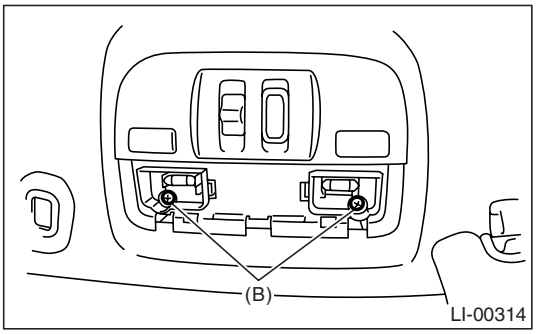
6) Install the trim in the reverse order of removal.

6. Sunroof Switch

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the spot map light lens (A) and sunroof switch mounting screws (B).





3) Disconnect the harness connector, and then remove the sunroof switch.

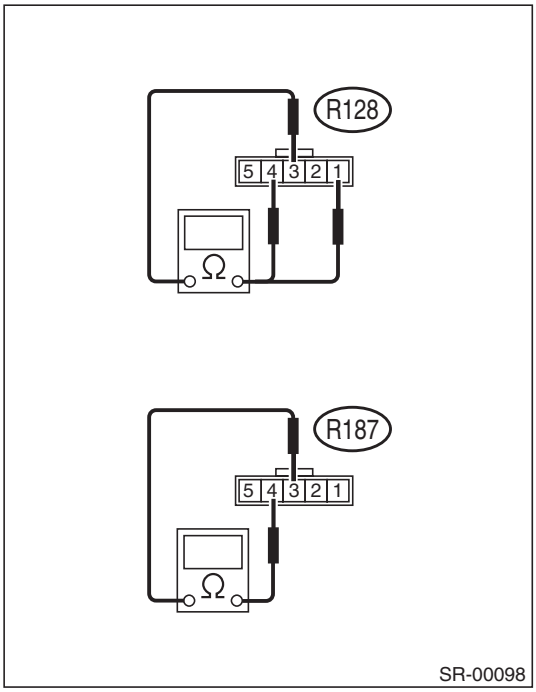
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. SEDAN MODEL

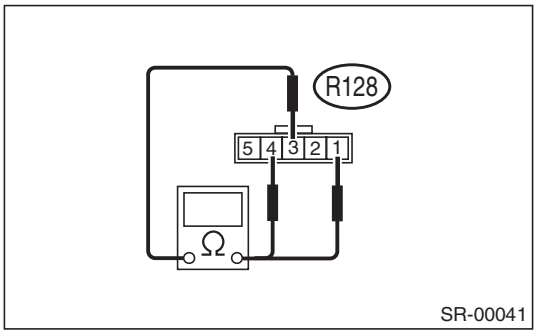
Measure the sunroof switch resistance.



Switch position	Terminal No.	Standard	Connector No.
Open	1 and 3	Less than 1 Ω	R128
Close	3 and 4	Less than 1 Ω	
Tilt up	4 and 5	Less than 1 Ω	R187
Tilt down	3 and 4	Less than 1 Ω	

2. WAGON MODEL

Measure the sunroof switch resistance.



Switch position	Terminal No.	Standard
Open	1 and 3	Less than 1 Ω
Close	3 and 4	Less than 1 Ω

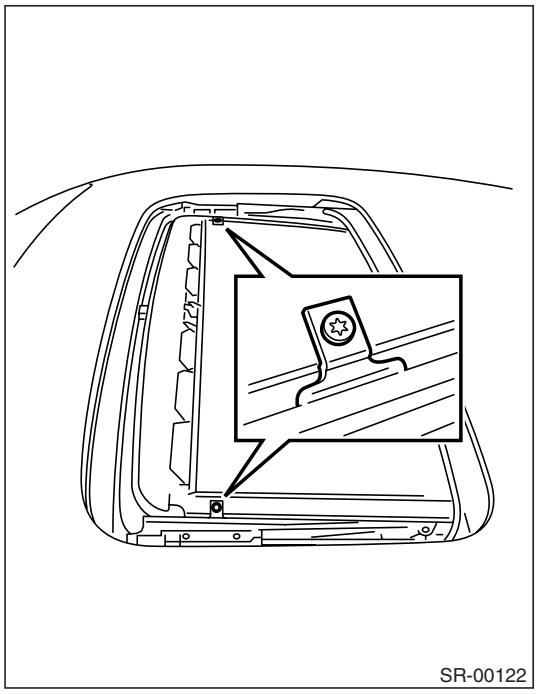
NOTE:
If glass lid does not operate or is not supplied with power, move the glass lid using the emergency handle (hex wrench). <Ref. to SR-7, FORCED DRIVE, Glass Lid.>

7. Sunshade

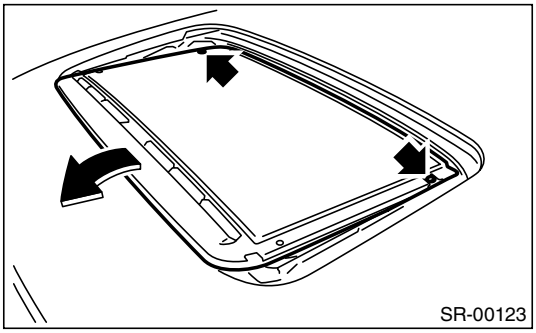
A: REMOVAL

1. SEDAN MODEL

1) Remove the glass lid. <Ref. to SR-6, SEDAN MODEL, REMOVAL, Glass Lid.>
2) Loosen the TORX® bolts, and remove sunshade bracket (front).

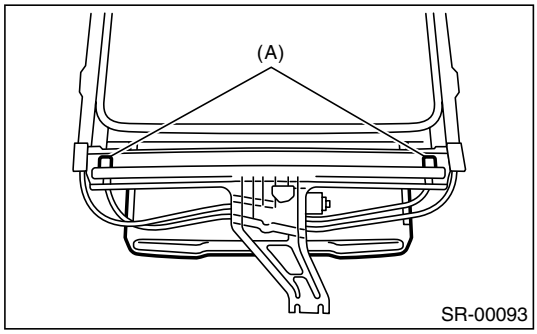


3) Pull out the sunshade until sunshade bracket (rear) is shown, loosen the TORX® bolts, and remove sunshade.

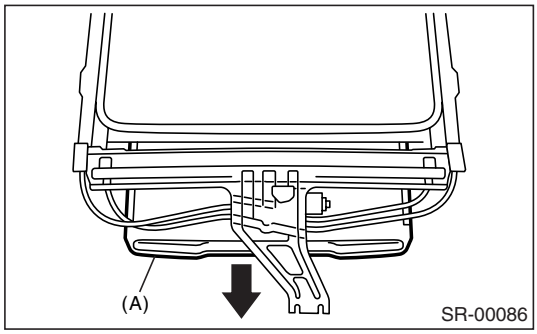


2. WAGON MODEL

1) Remove the frame assembly.
2) Remove the shade stopper (A) of sunshade.



3) Pull out the sunshade (A) from sunroof frame.



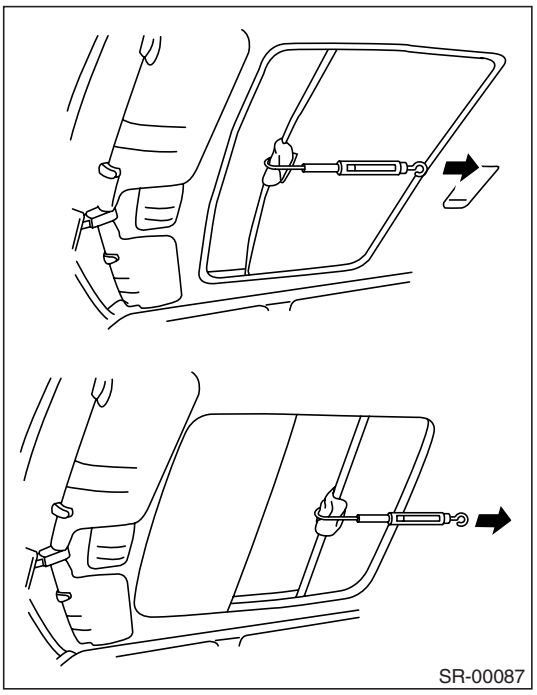
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. CHECK FOR MOVING LOAD OF SUNSHADE

1) Attach a spring balance to sunshade edge using a cloth.



2) Pull the spring balance to measure moving load of the sunshade.

Moving load of sunshade:
Specification
18.0±5.0 N (1.8±0.5 kgf, 13±3.7 lbf)

NOTE:
Moving load is larger at the beginning of pulling a spring balance, so take a spring balance reading while sunshade sliding smoothly.

3) If moving load exceeds specifications, check the glass lid, sunshade and frame assembly for improper installation.

EXTERIOR/INTERIOR TRIM

EI

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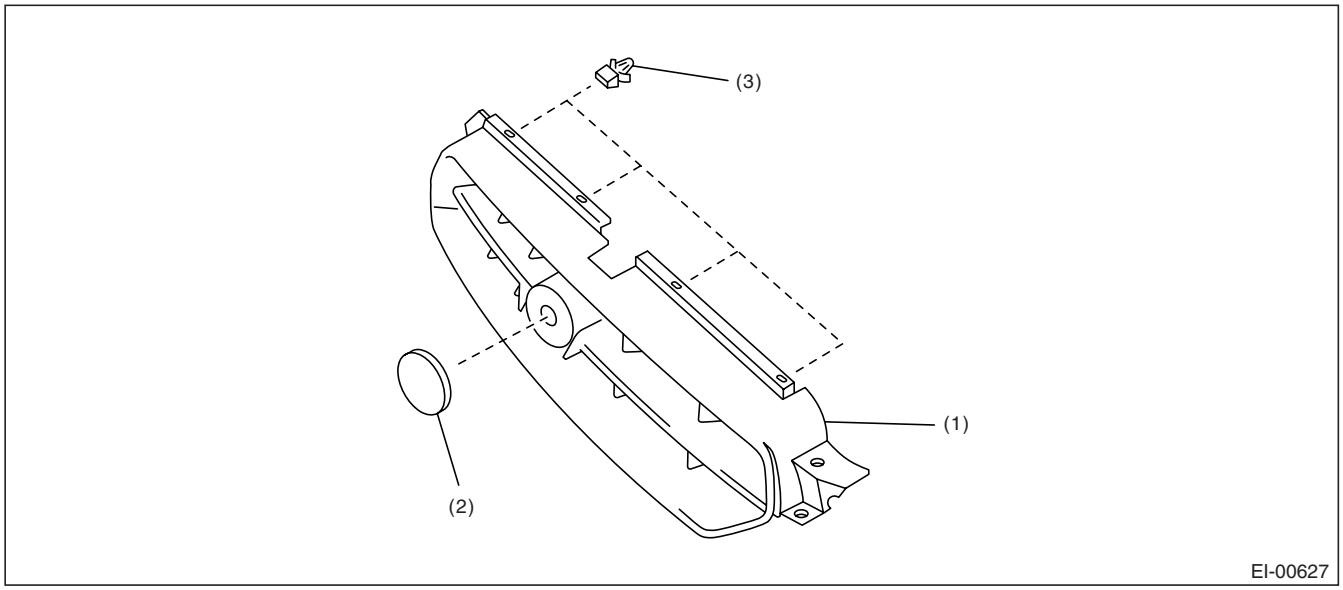
1. General Description

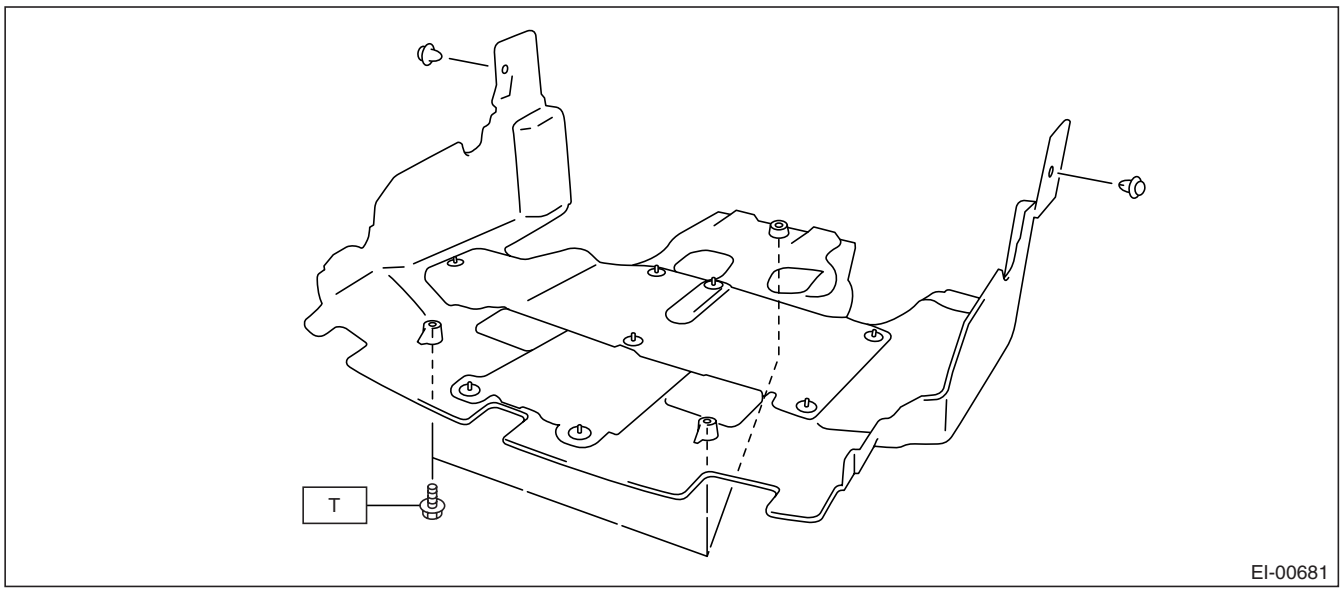
A: COMPONENT

1. FRONT GRILLE



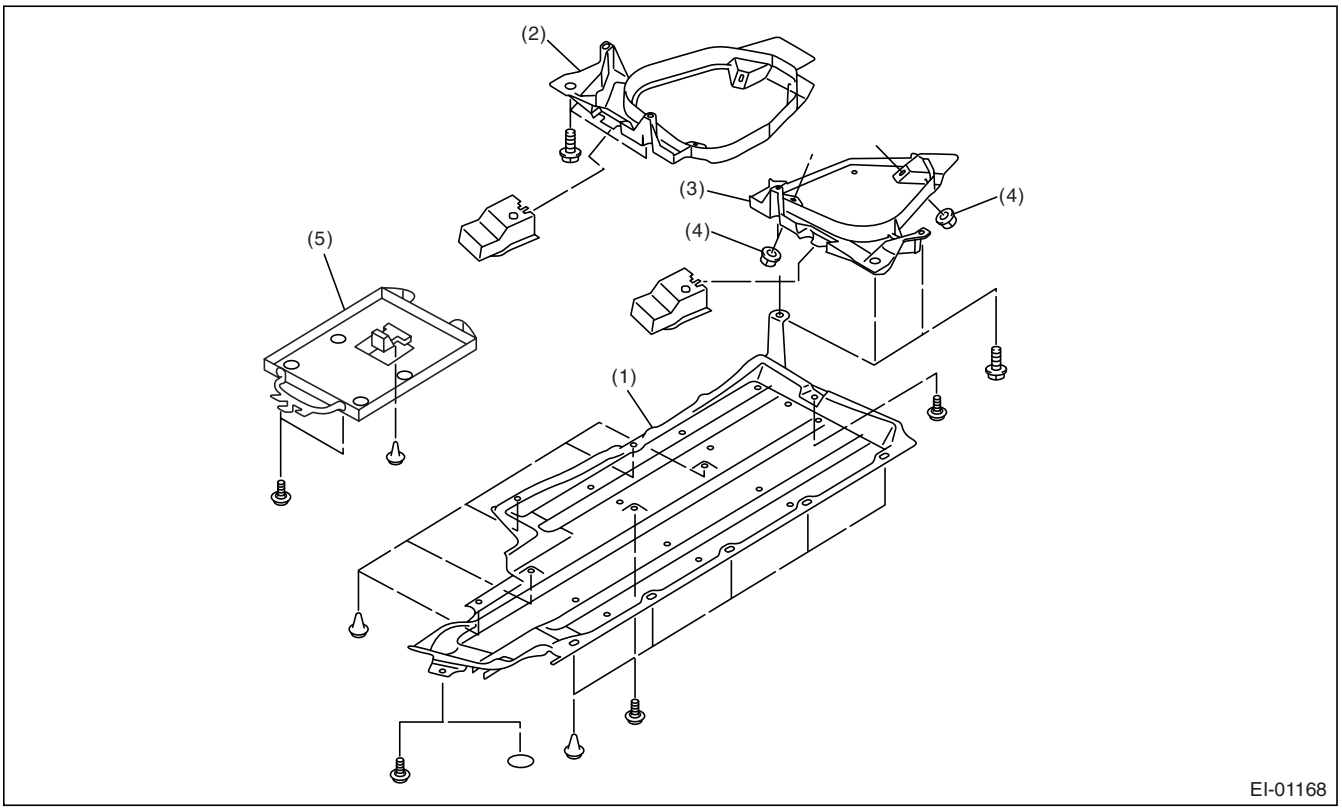
(1) Front grille (2) Front grille emblem (3) Front grille clip

2. UNDER COVER



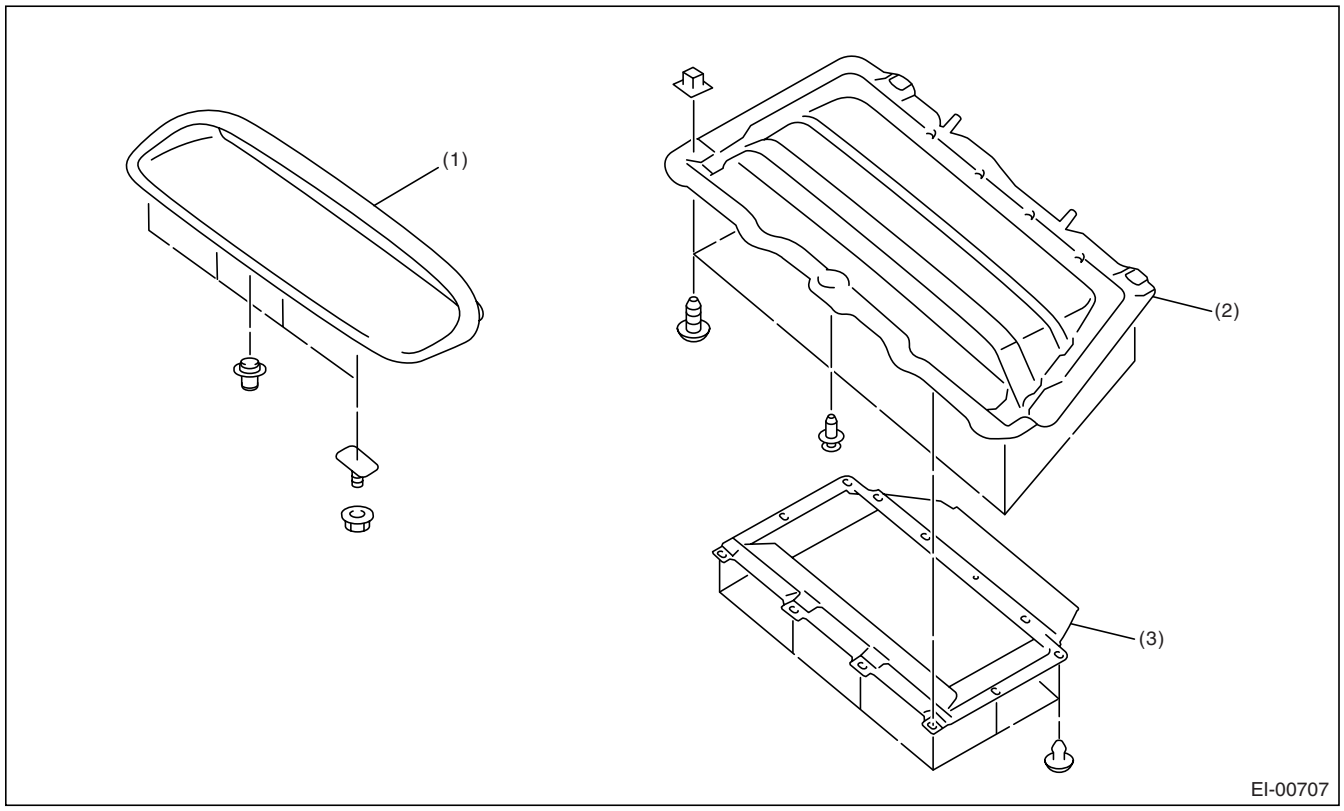
Tightening torque: N·m (kgf-m, ft-lb)
T: 14 (1.42, 10.3)

3. UNDER PROTECTOR



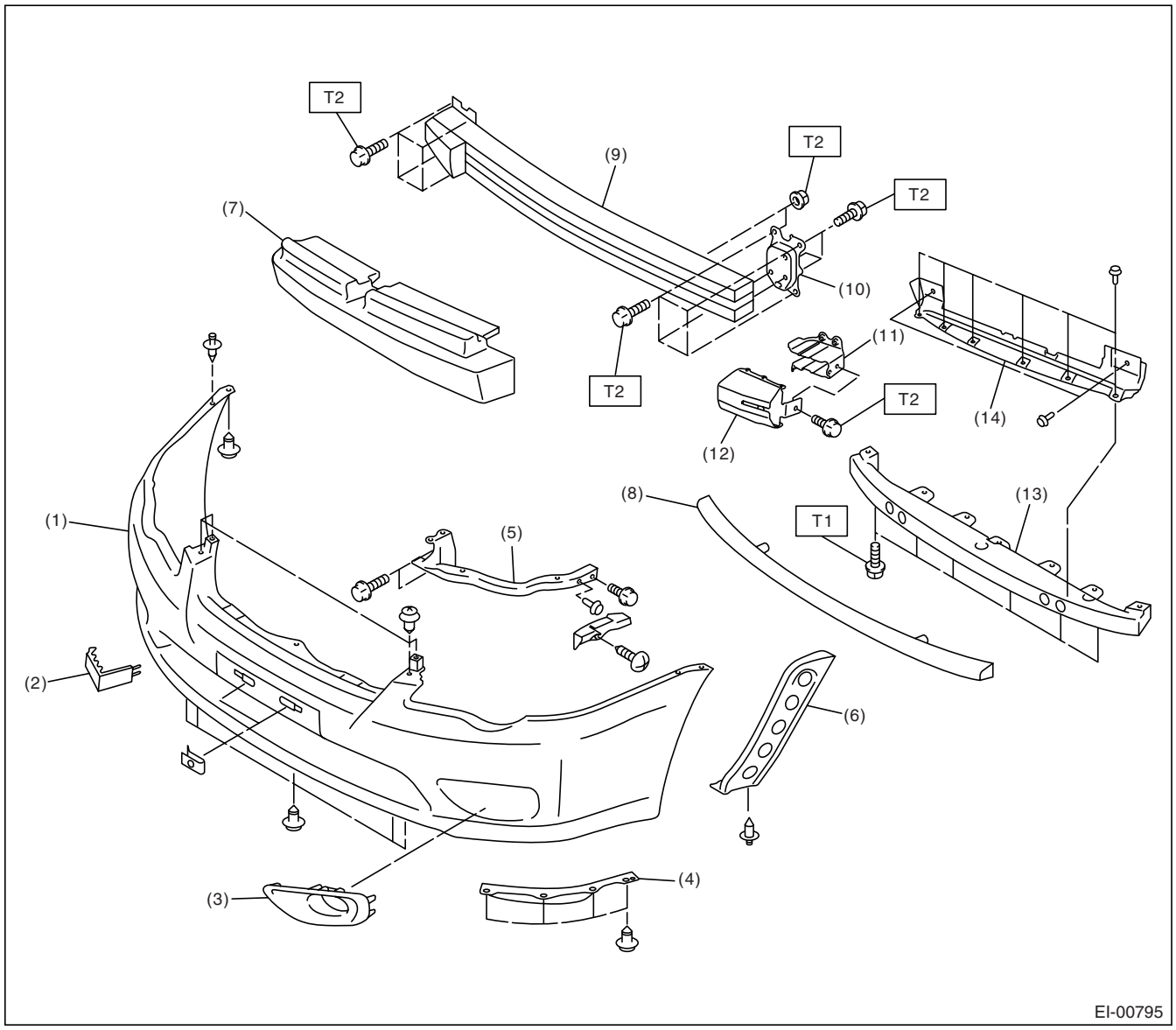
(1) Floor under protector
(2) Fuel tank protector RH
(3) Fuel tank protector LH
(4) Plastic nut
(5) Transmission under cover (6MT model)

4. FRONT HOOD GRILLE



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

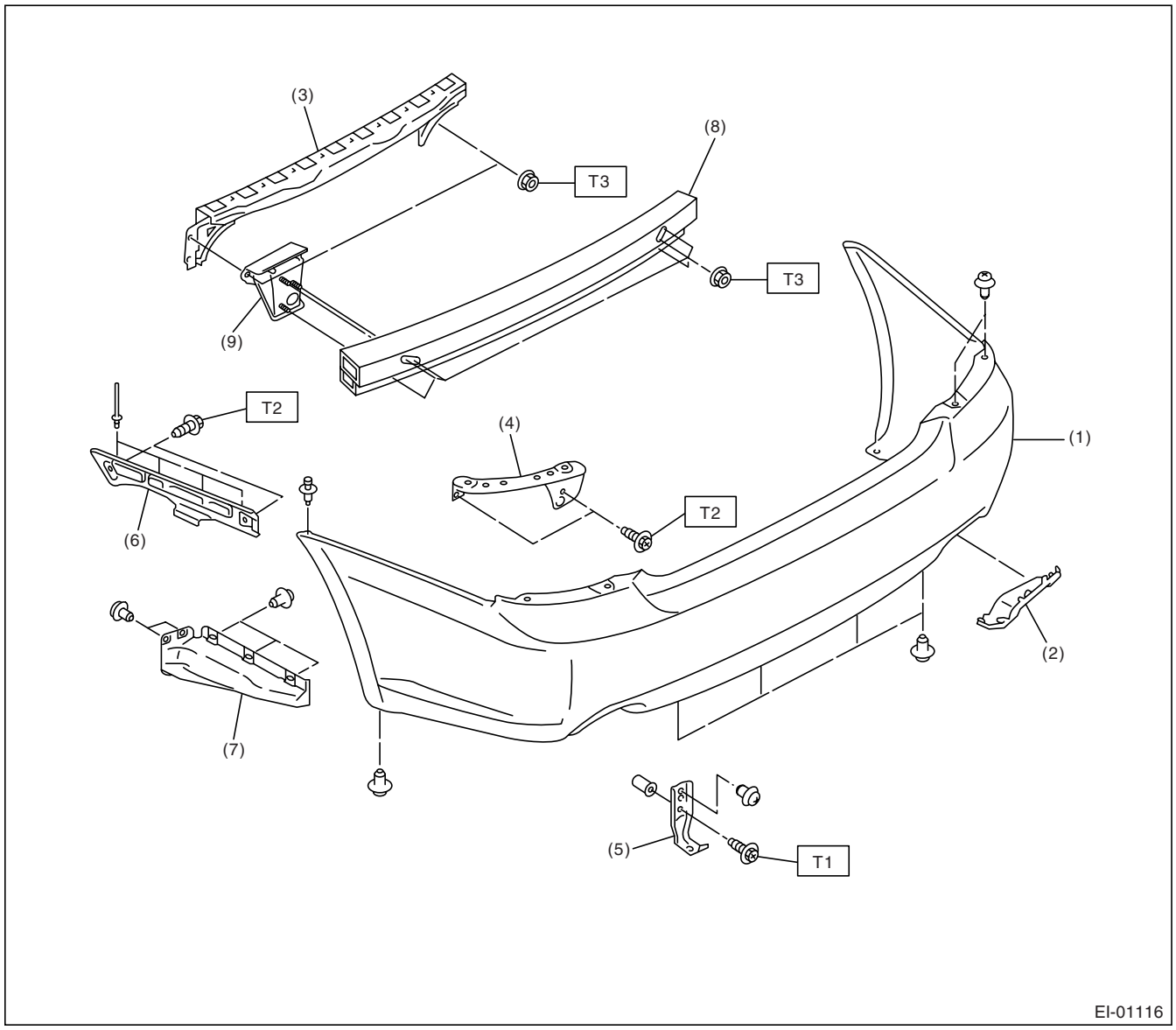
5. FRONT BUMPER



(1) Bumper face
(2) Towing hook cover
(3) Fog light cover
(4) Lower side bracket
(5) Upper bracket
(6) Side bracket
(7) Energy absorber foam upper
(8) Energy absorber foam lower
(9) Main beam reinforcement
(10) Main beam bracket
(11) Bracket support
(12) Energy absorber side
(13) Lower center bracket
(14) Radiator guide

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

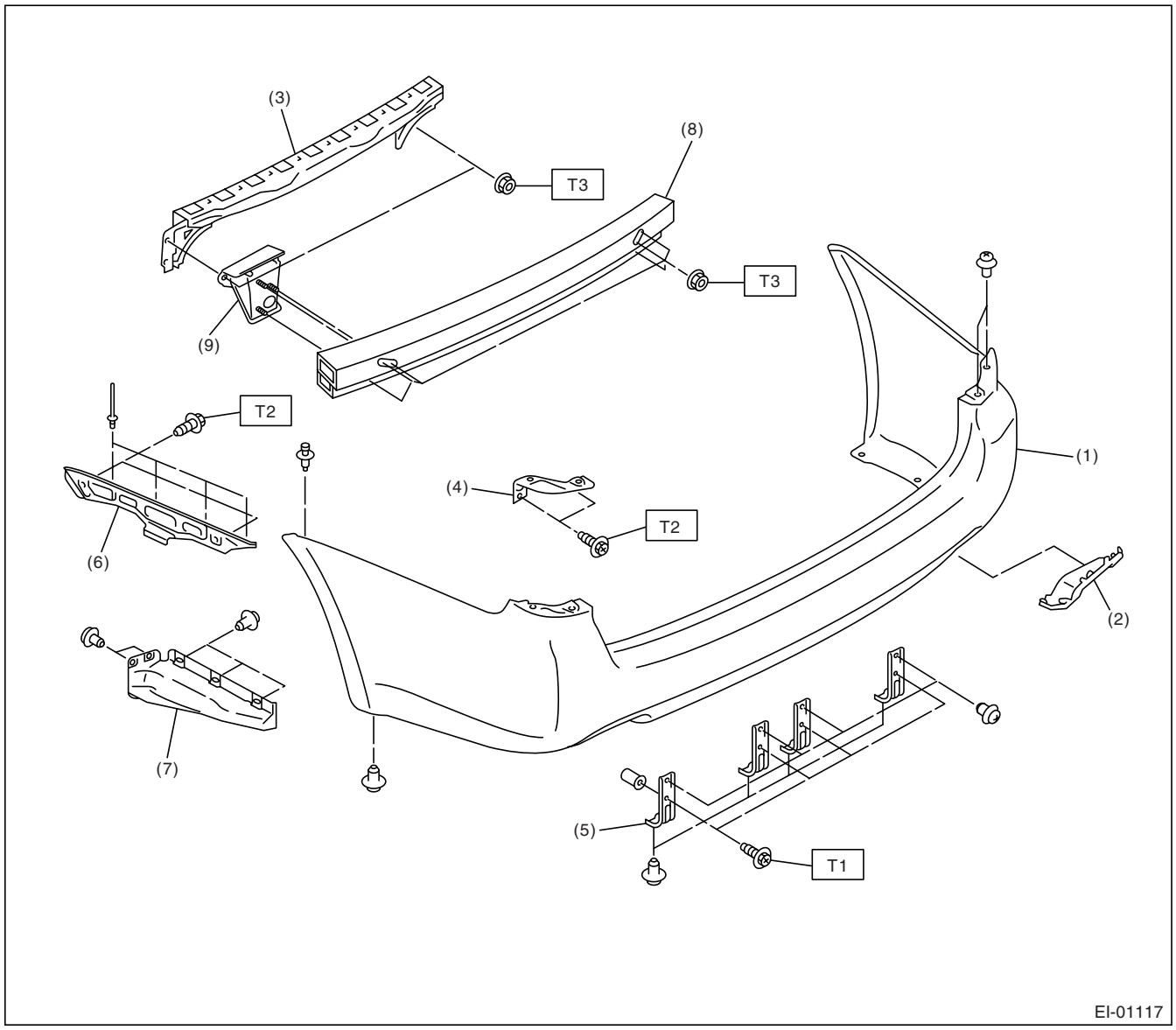
6. REAR BUMPER (SEDAN MODEL)



(1) Bumper face
(2) Exhaust end cover
(3) Beam upper rear
(4) Bracket corner
(5) Lower bracket
(6) Bumper side support upper
(7) Bumper side support lower
(8) Beam main reinforcement
(9) Bumper beam bracket

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

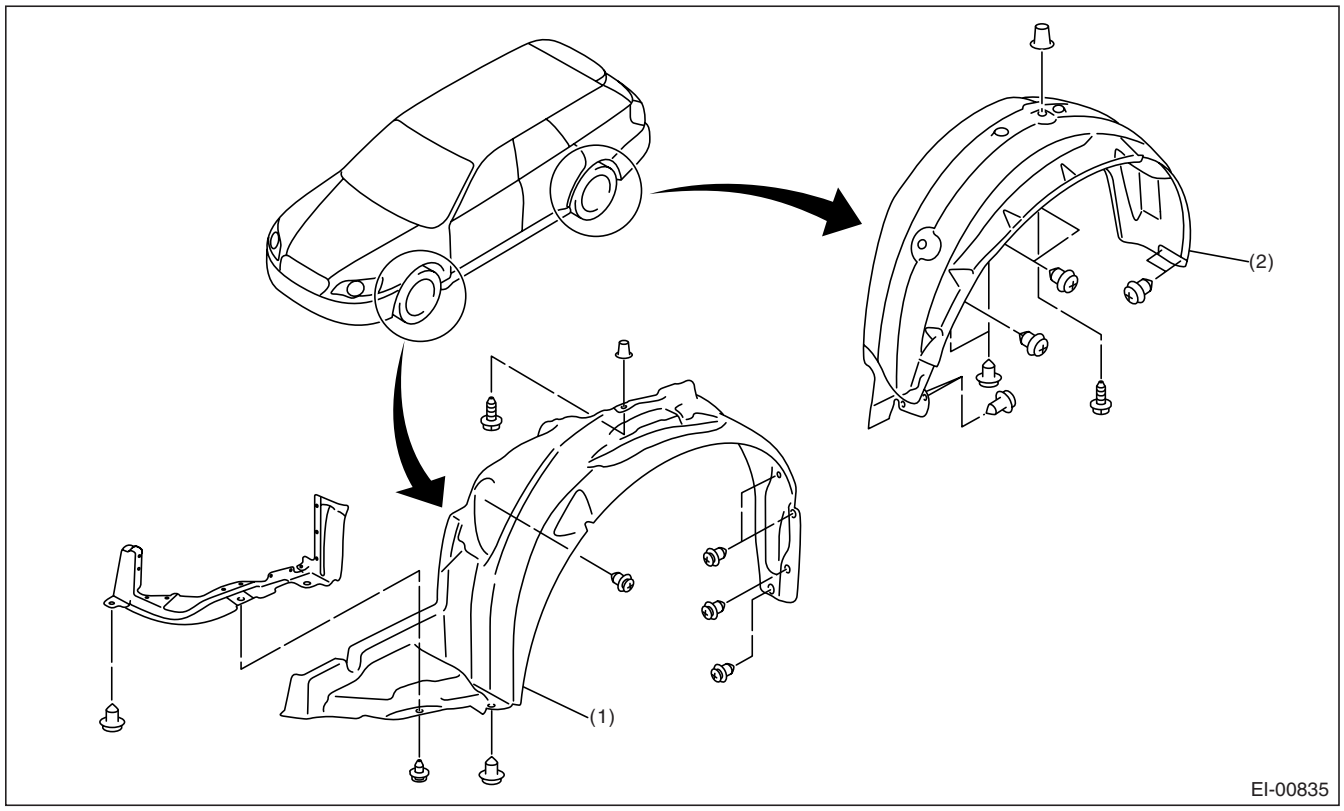
7. REAR BUMPER (WAGON MODEL)



(1) Bumper face
(2) Exhaust end cover
(3) Beam upper rear
(4) Bracket corner
(5) Lower bracket
(6) Bumper side support upper
(7) Bumper side support lower
(8) Beam main reinforcement
(9) Bumper beam bracket

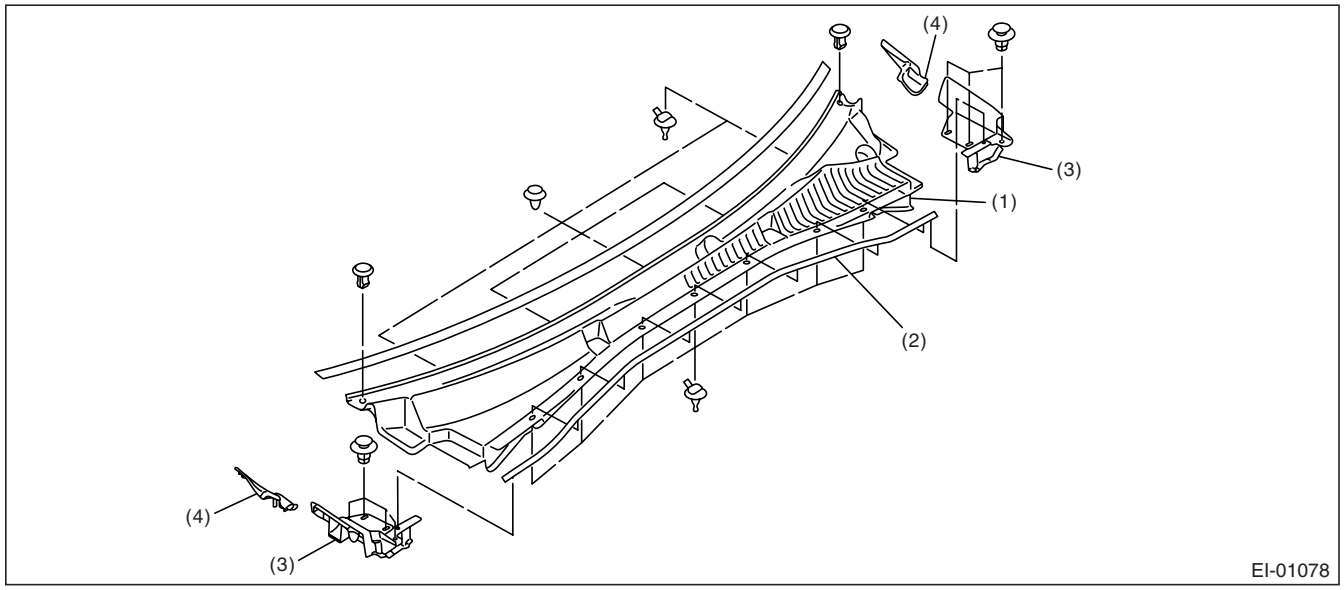
Tightening torque: N·m (kgf-m, ft-lb)
T1: 2 (0.2, 14.8)
T2: 7.5 (0.77, 5.53)
T3: 33 (3.4, 24)

8. MUD GUARD



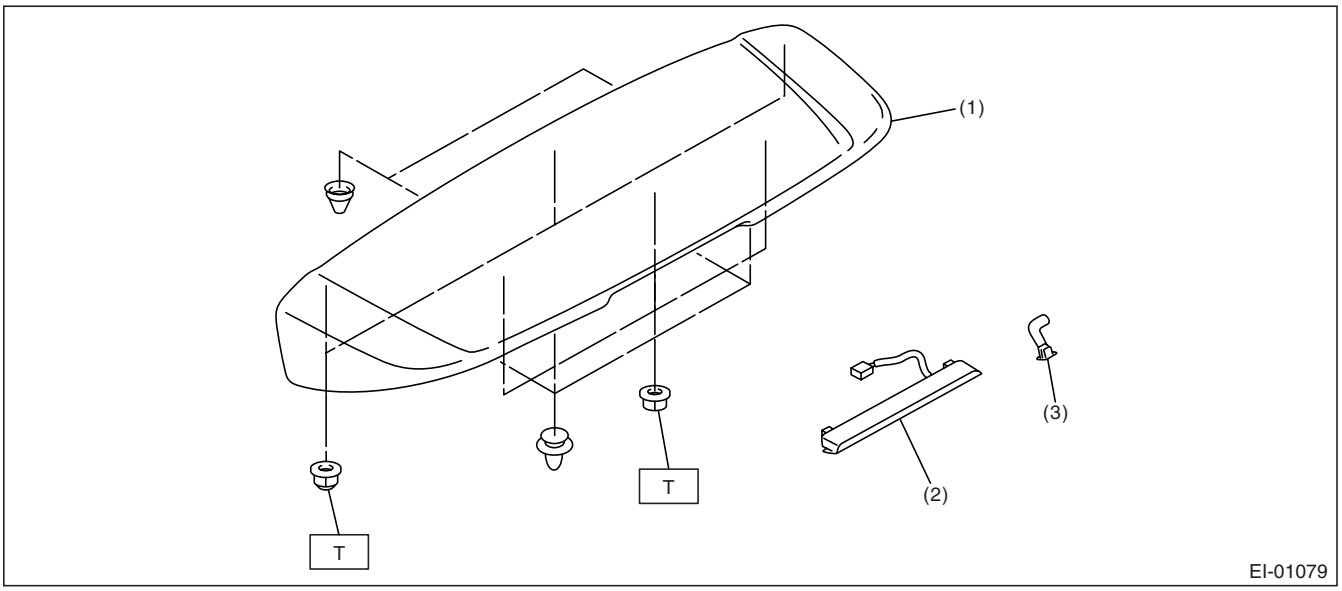
(1) Front mud guard
(2) Rear mud guard

9. COWL PANEL



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

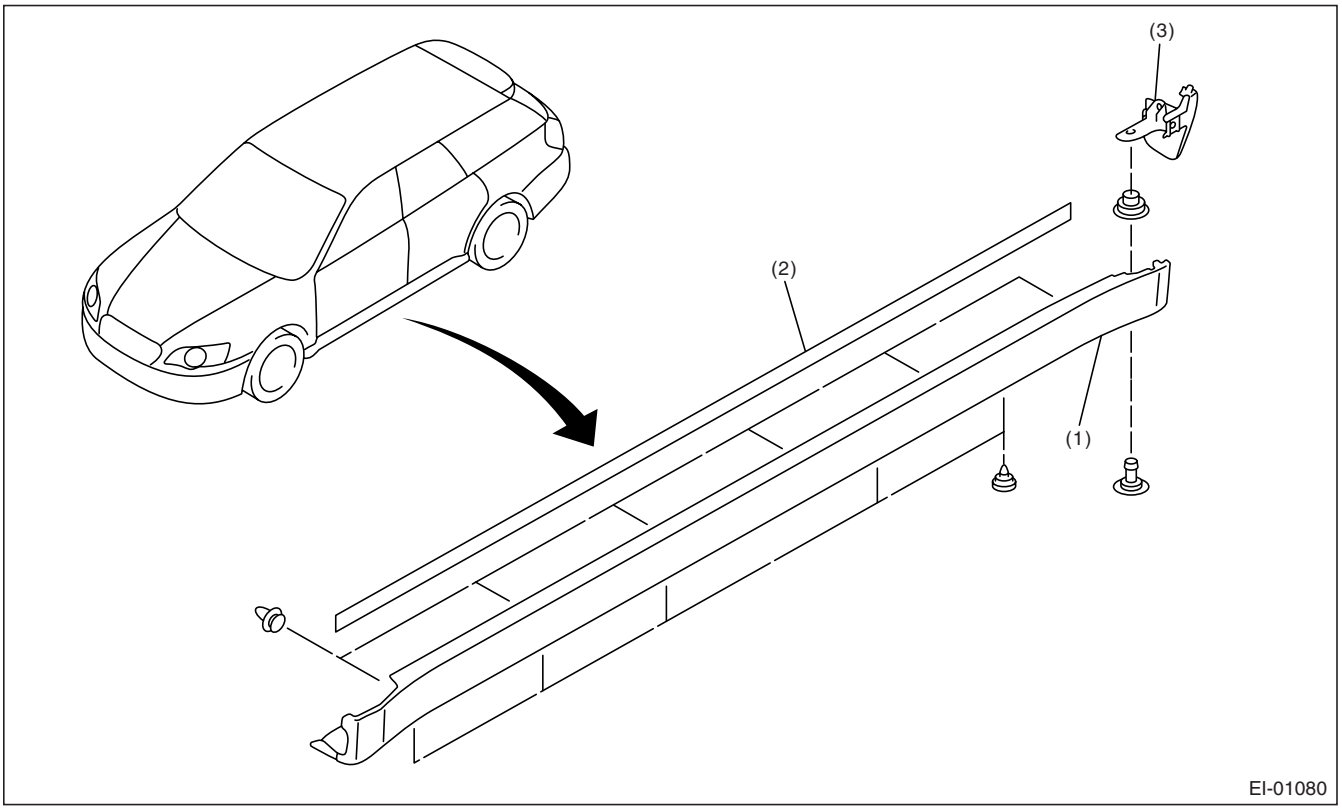
10.ROOF SPOILER



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

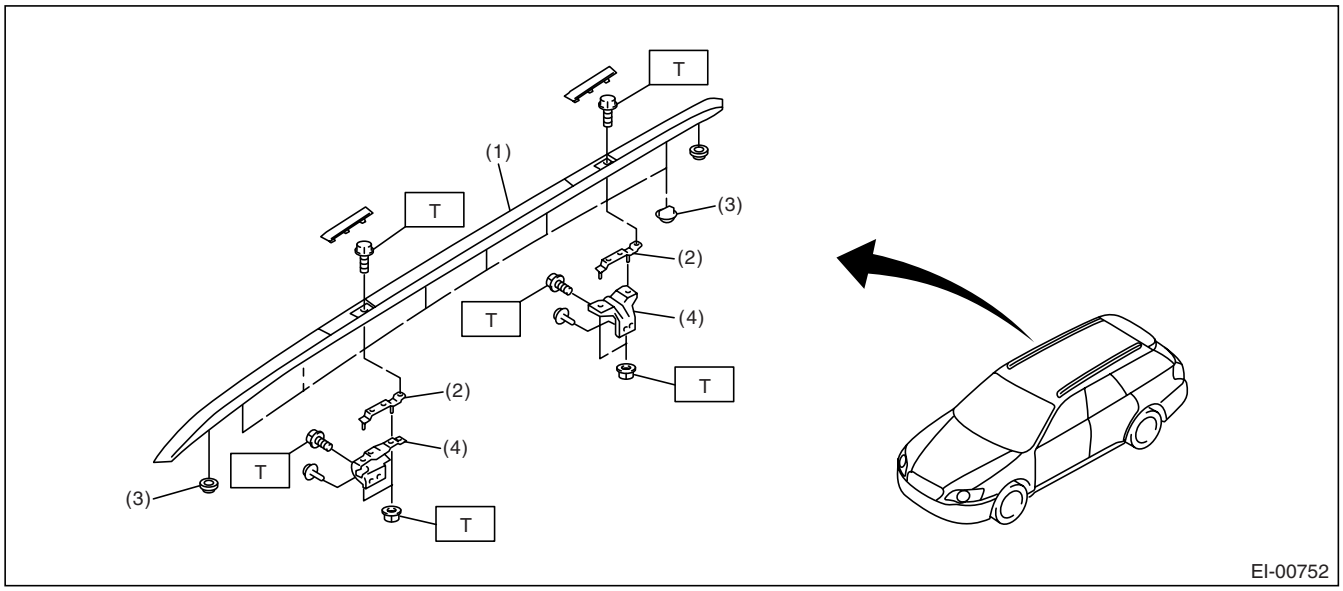
Tightening torque: N·m (kgf-m, ft-lb)
T: 4.5 (0.46, 3.32)

11.SIDE SILL SPOILER



(1) Side sill spoiler
(2) Packing
(3) Side sill end

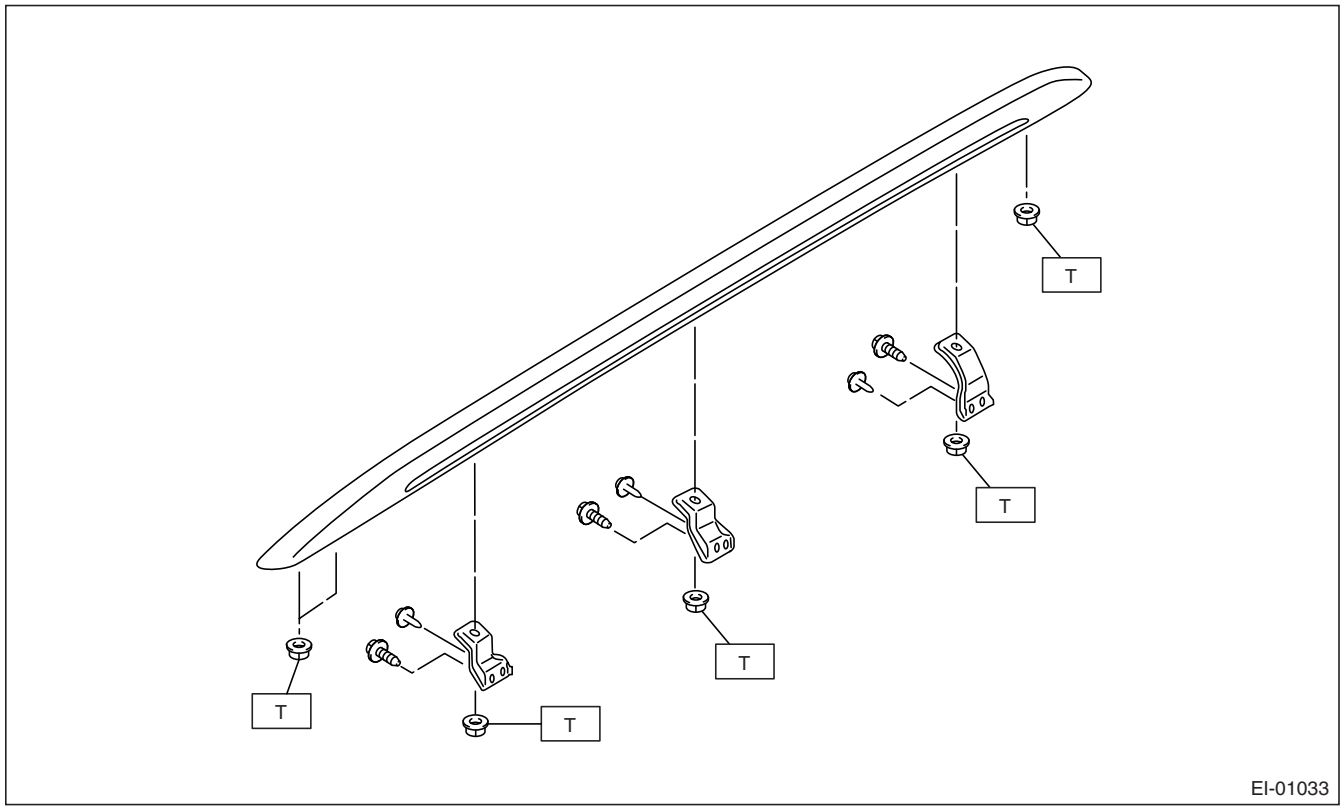
12.ROOF MOLDING



(1) Roof molding
(2) Roof carrier attachment
(3) Clip
(4) Roof carrier attachment bracket

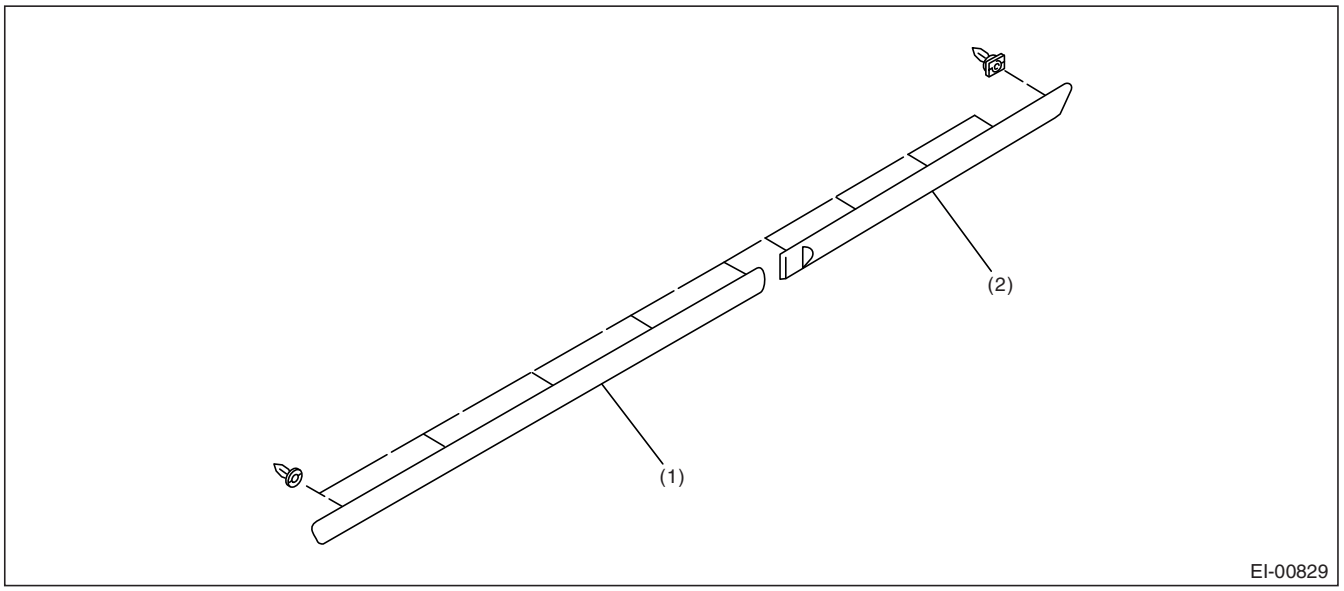
Tightening torque: N·m (kgf-m, ft-lb)
T: 4.5 (0.46, 3.32)

13.ROOF RAIL



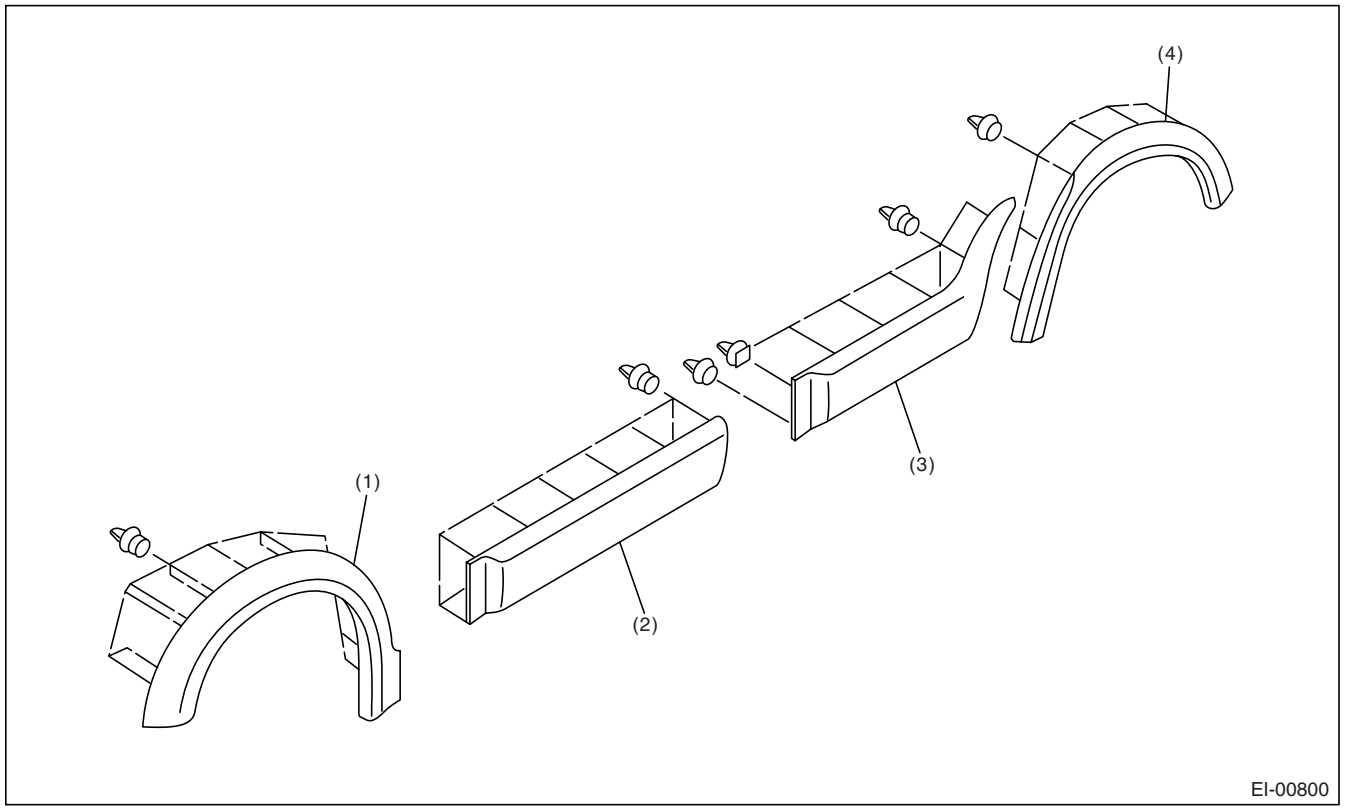
Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.77, 5.53)

14.SIDE PROTECTOR



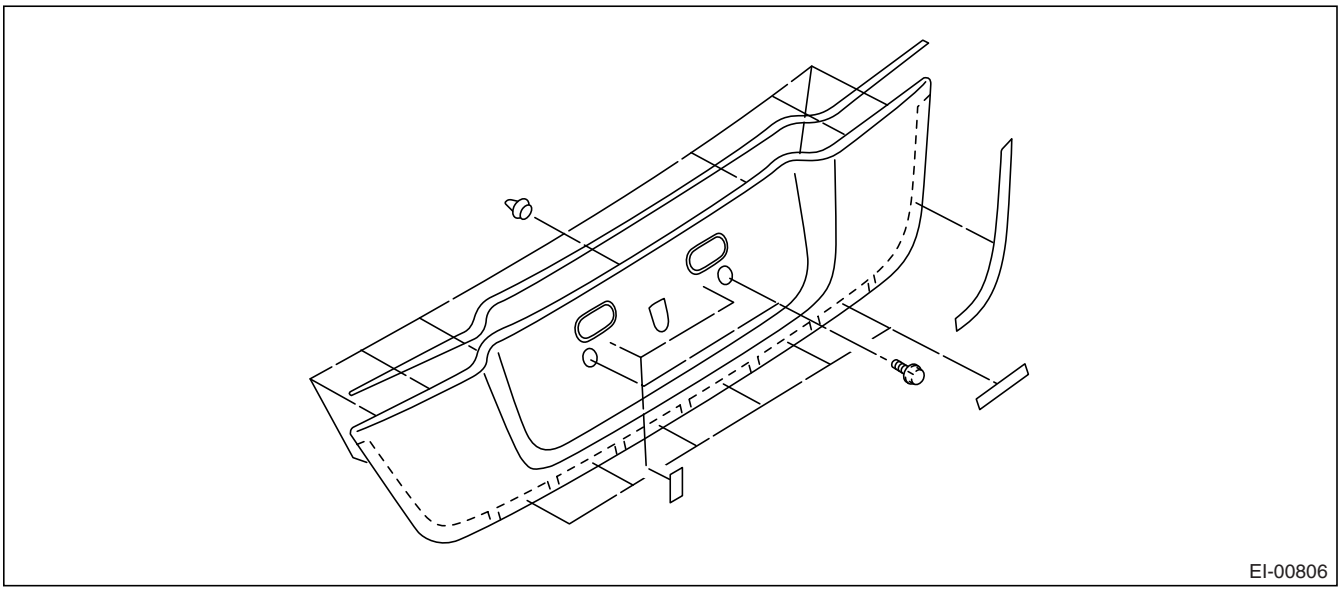
(1) Front door protector
(2) Rear door protector

15.SIDE GARNISH

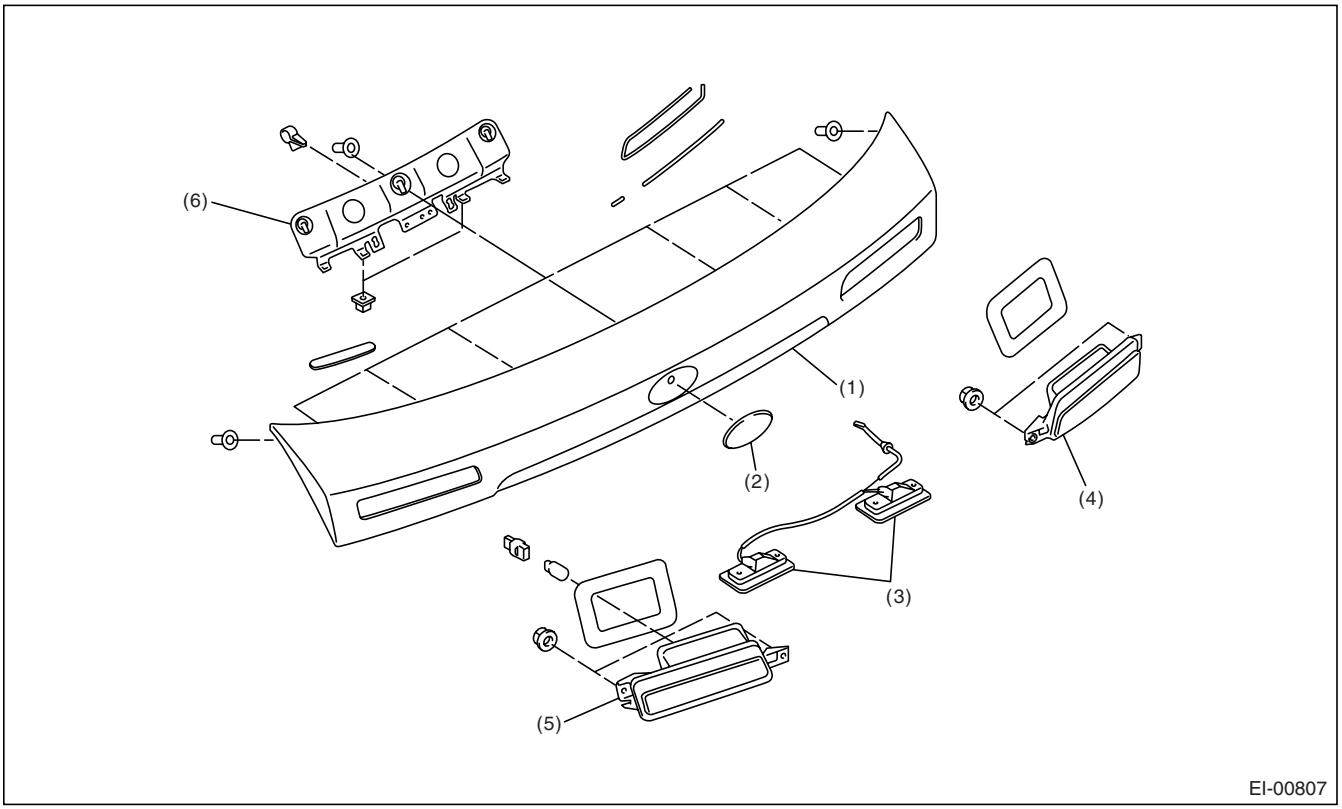


(1) Front fender garnish
(2) Front door garnish
(3) Rear door garnish
(4) Rear quarter garnish

16.TRUNK LID GARNISH

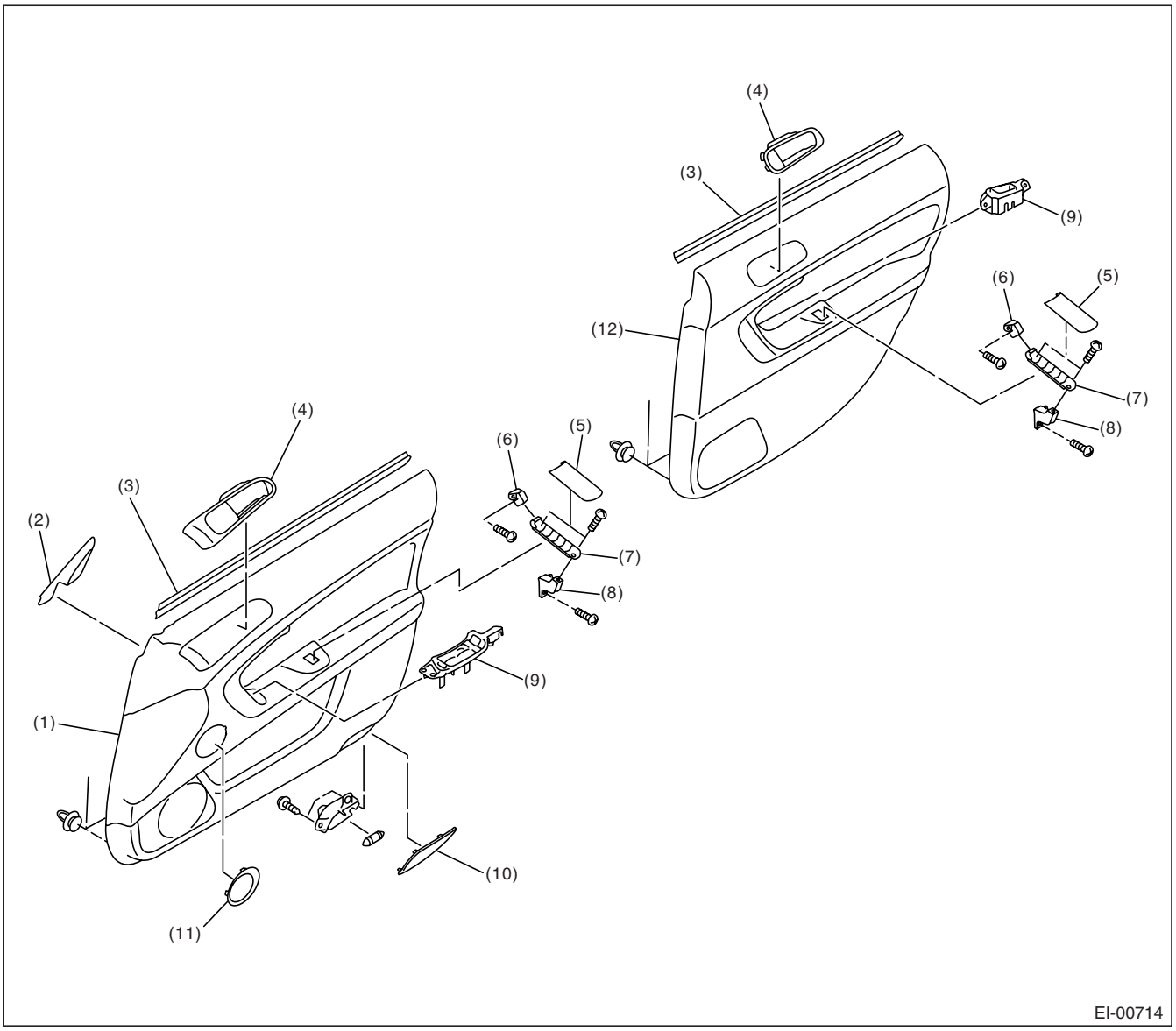


17.REAR GATE GARNISH



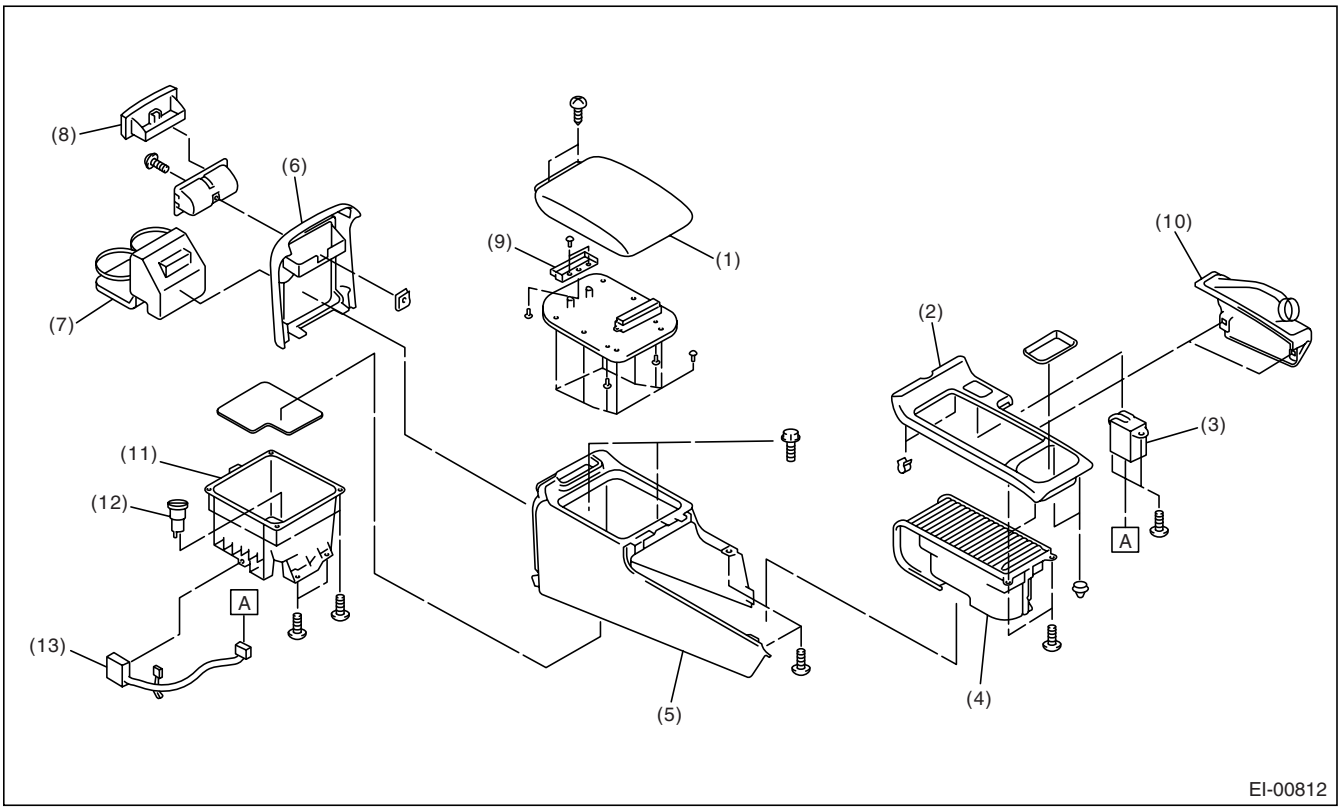
(1) Rear gate garnish
(2) Ornament
(3) License plate light
(4) Rear fog light (Model with rear fog light) or Back-up light (Model without rear fog light)
(5) Back-up light
(6) License plate light bracket

18.DOOR TRIM



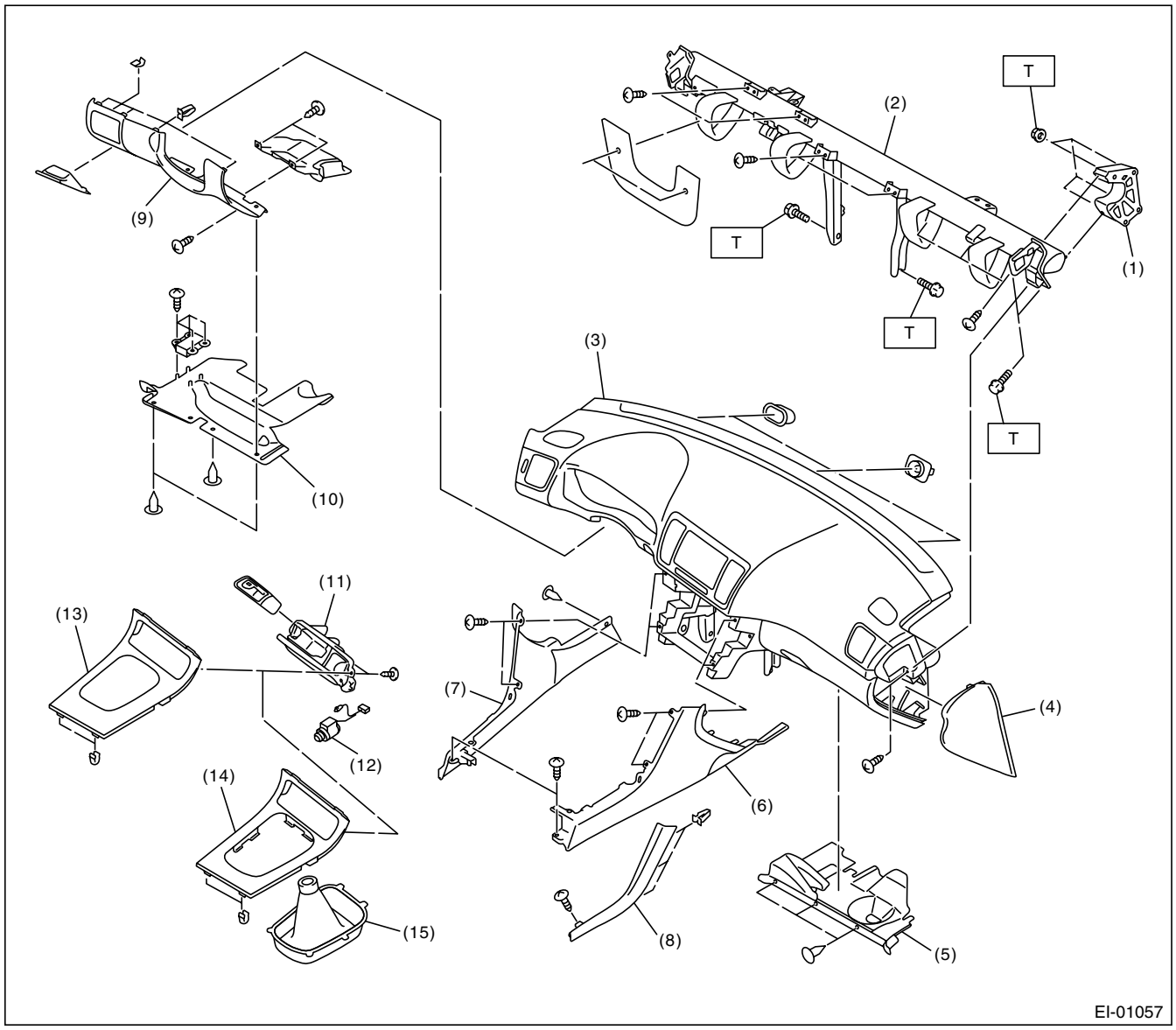
(1) Front door trim
(2) Gusset cover
(3) Upper weather strip
(4) Inner remote cover
(5) Door grip
(6) Door grip bracket upper
(7) Door grip frame
(8) Door grip bracket lower
(9) Power window switch
(10) Step light cover
(11) Speaker cover
(12) Rear door trim

19.CONSOLE BOX



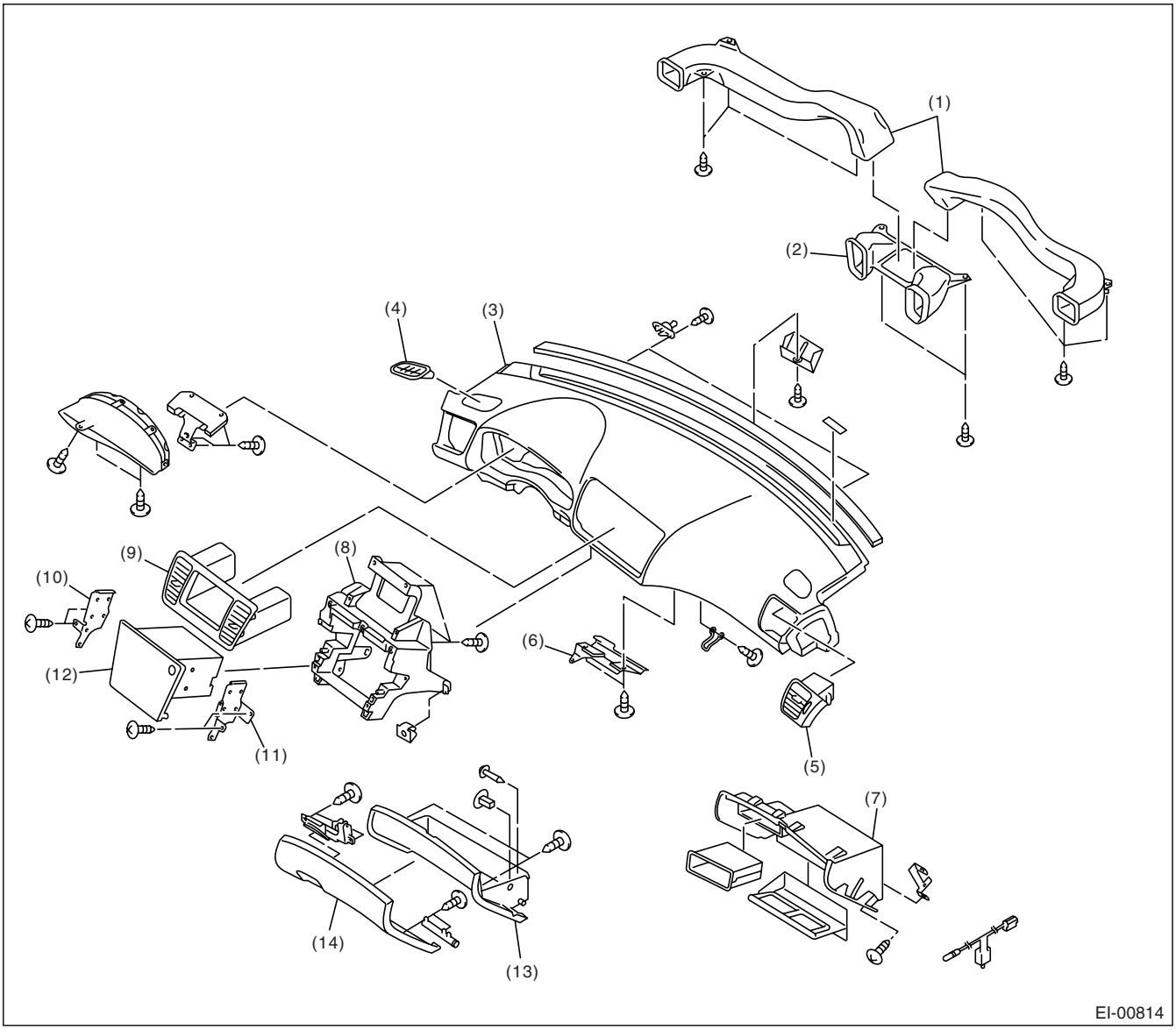
(1) Upper lid
(2) Console cover
(3) Seat heater switch
(4) Front cup holder
(5) Console box outer
(6) Rear lid
(7) Rear cup holder
(8) Ash tray
(9) Lid hinge
(10) Parking brake lever boot
(11) Console pocket
(12) Front accessory power supply socket
(13) Console box harness

20.INSTRUMENT PANEL



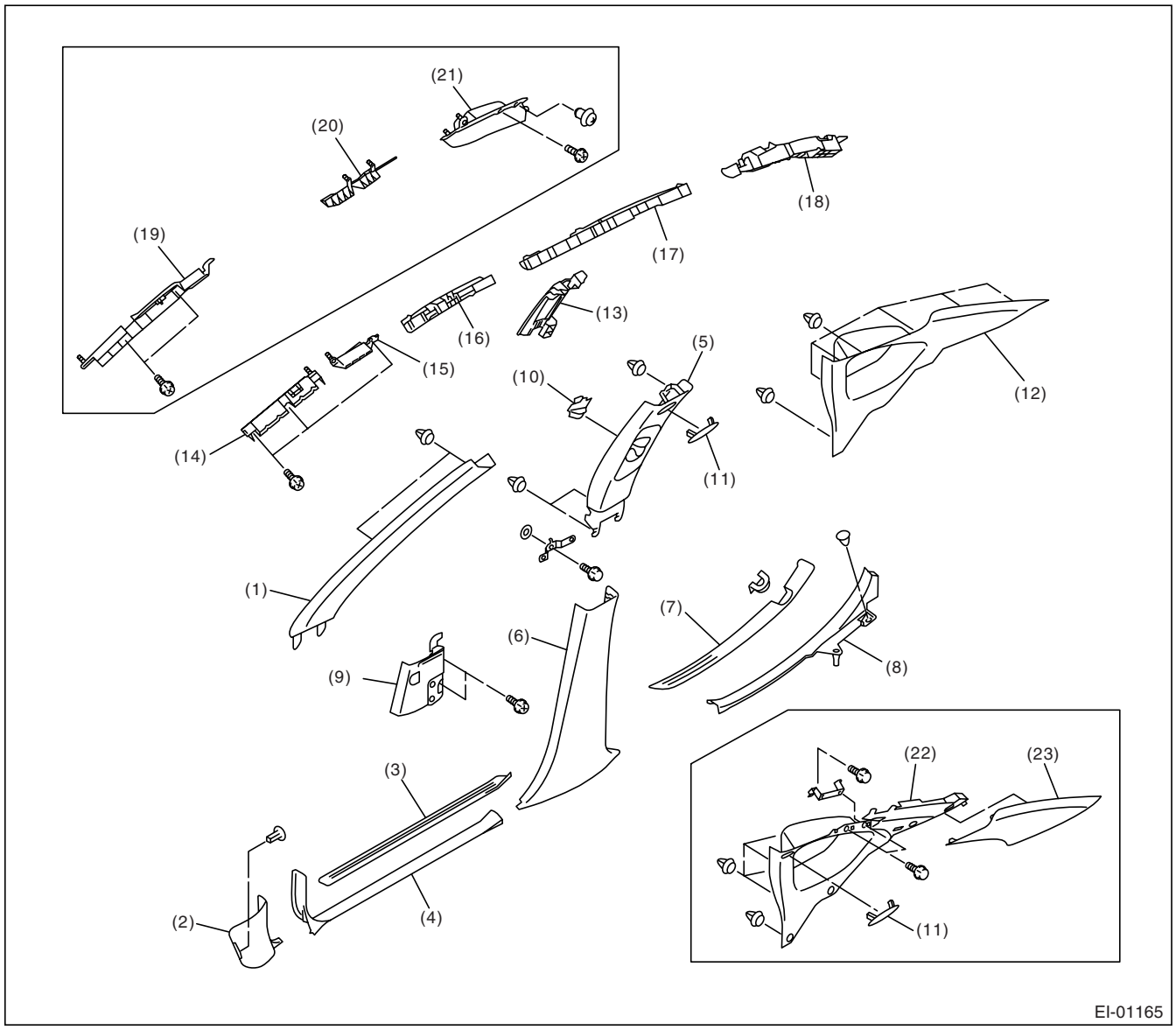
(1) Steering support beam bracket
(2) Steering support beam
(3) Instrument panel pad & frame ASSY
(4) Instrument panel side cover
(5) Glove box lower cover
(6) Console side panel RH
(7) Console side panel LH
(8) Console side garnish
(9) Instrument panel lower cover upper
(10) Instrument panel lower cover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

Tightening torque: N·m (kgf-m, ft-lb)
T: 25 (25.5, 18.4)



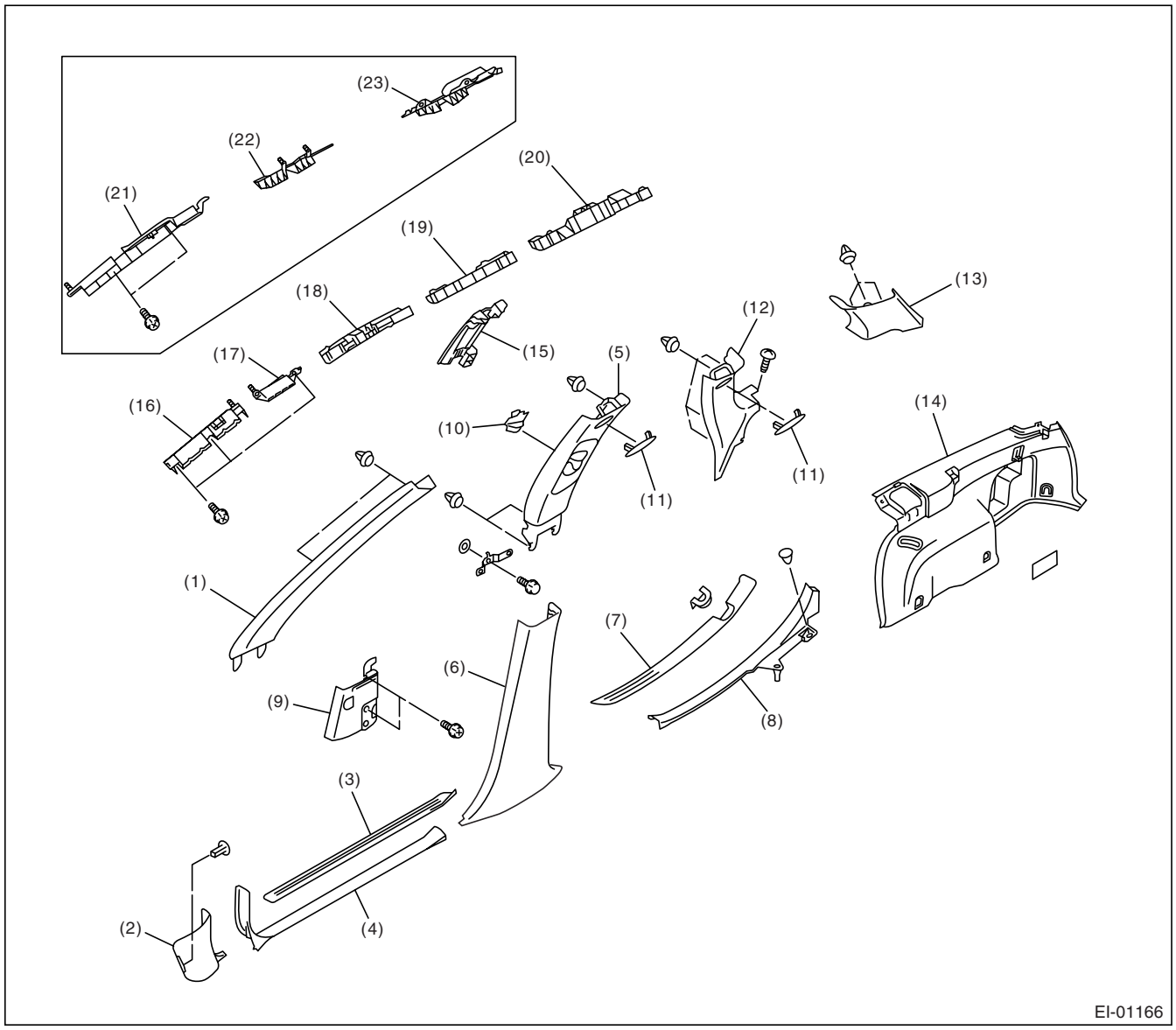
(1) Air vent side duct
(2) Air vent center duct
(3) Instrument panel pad & frame
(4) Air vent defroster grille
(5) Air vent side grille
(6) Navigation unit bracket (Model with navigation system)
(7) Glove box panel
(8) Center console frame
(9) Air vent center grille
(10) Audio bracket (LH)
(11) Audio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

21.INNER TRIM (SEDAN MODEL)



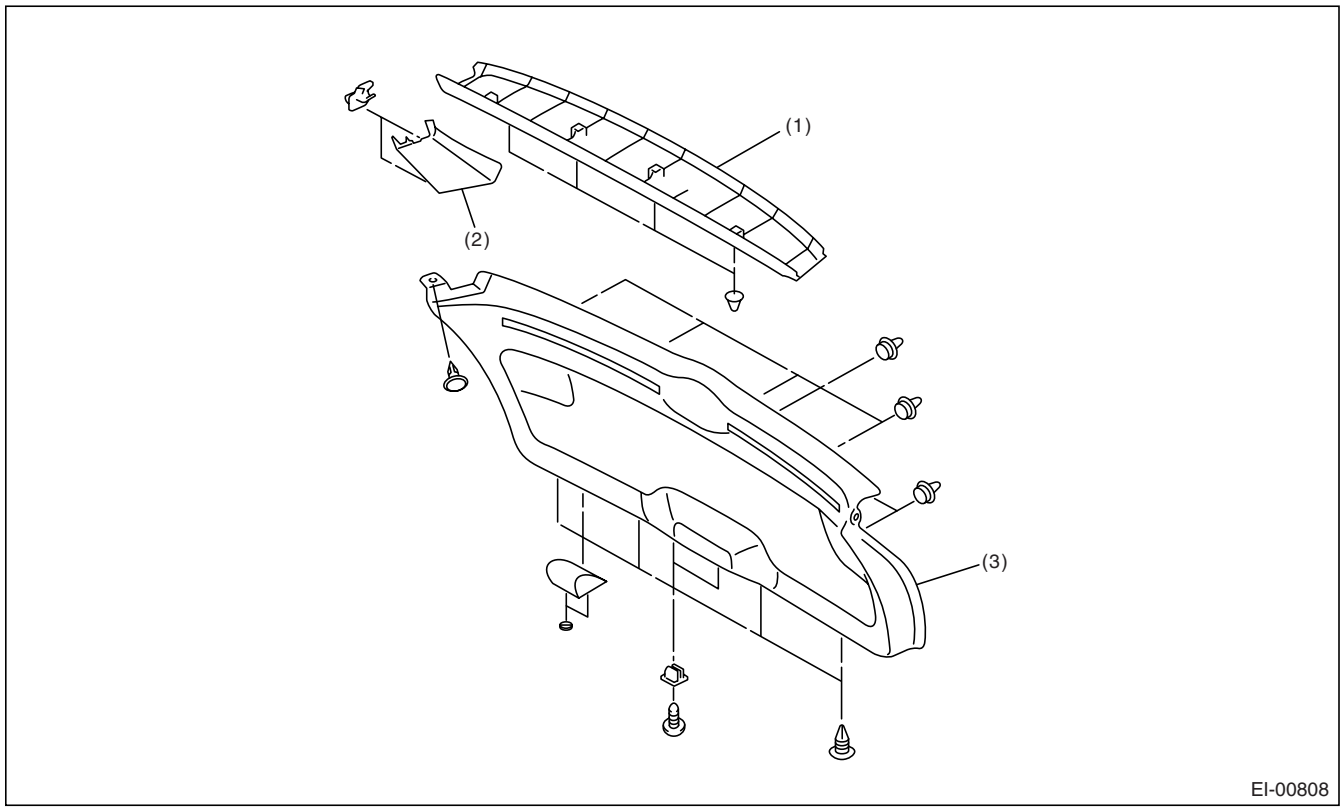
(1) Front pillar upper trim
(2) Front pillar lower trim
(3) Front outside scuff plate
(4) Front inside scuff plate
(5) Center pillar upper trim
(6) Center pillar lower trim
(7) Rear outside scuff plate
(8) Rear inside scuff plate
(9) Center pillar inner protector lower
(10) Seat belt shoulder anchor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

22.INNER TRIM (WAGON MODEL)



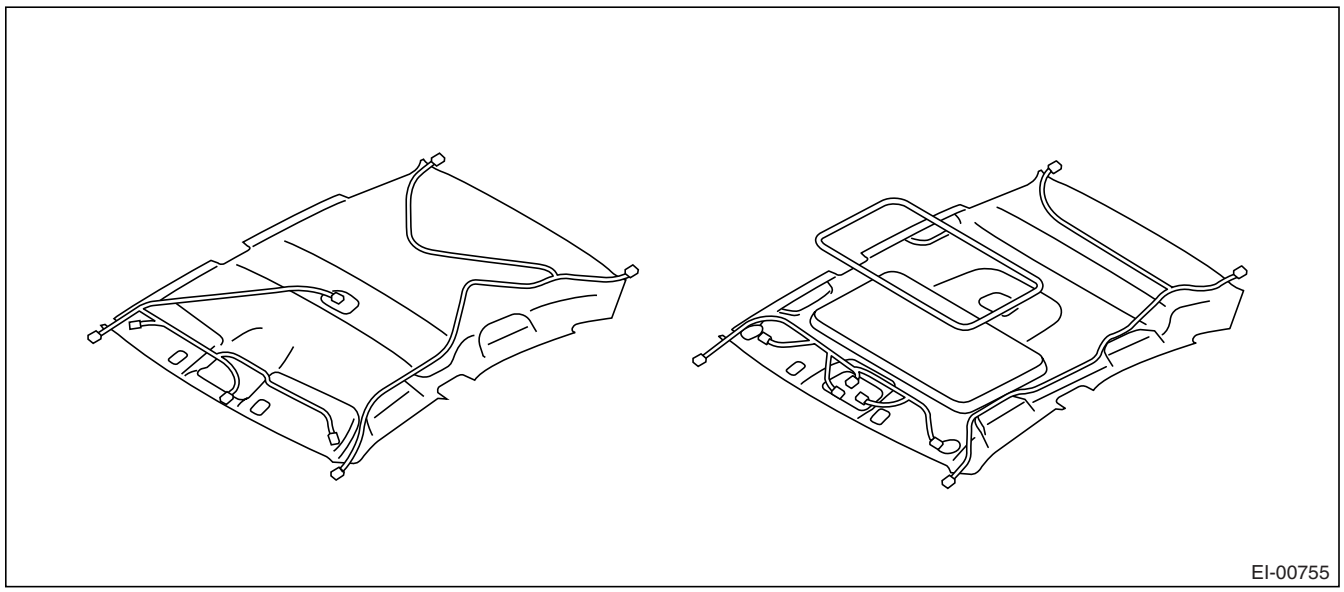
(1) Front pillar upper trim
(2) Front pillar lower trim
(3) Front outside scuff plate
(4) Front inside scuff plate
(5) Center pillar upper trim
(6) Center pillar lower trim
(7) Rear outside scuff plate
(8) Rear inside scuff plate
(9) Center pillar inner protector lower
(10) Seat belt shoulder anchor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

23.REAR GATE TRIM

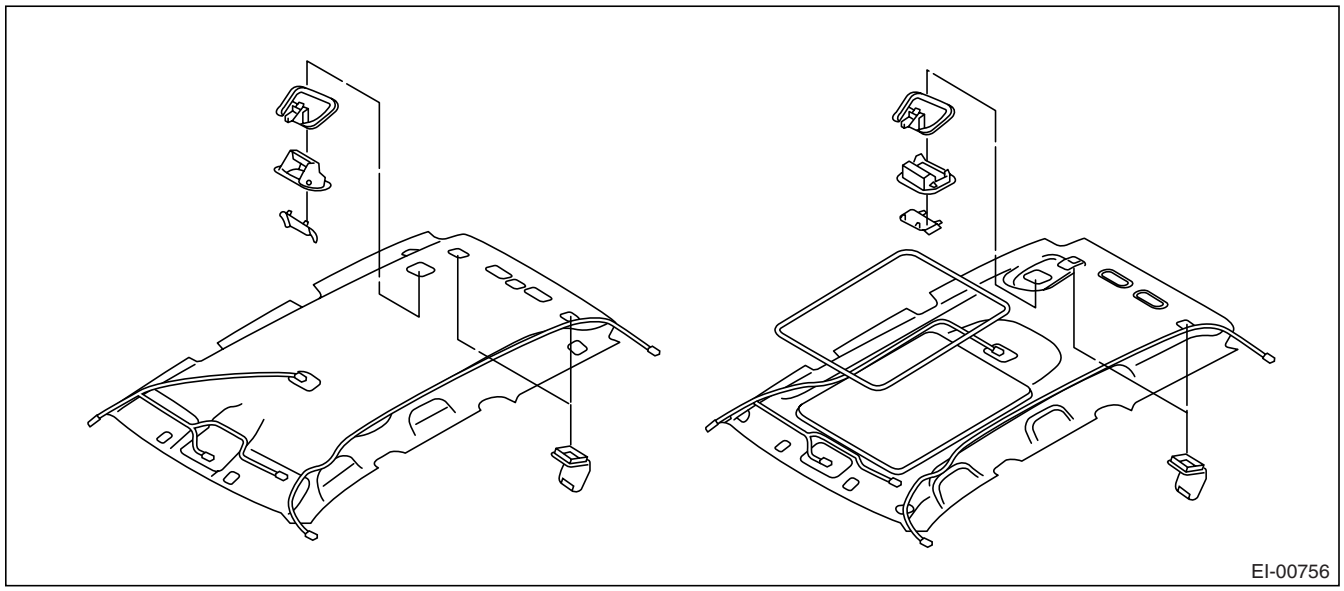


(1) Rear gate panel upper trim (2) Rear gate panel pillar trim (3) Rear gate panel lower trim

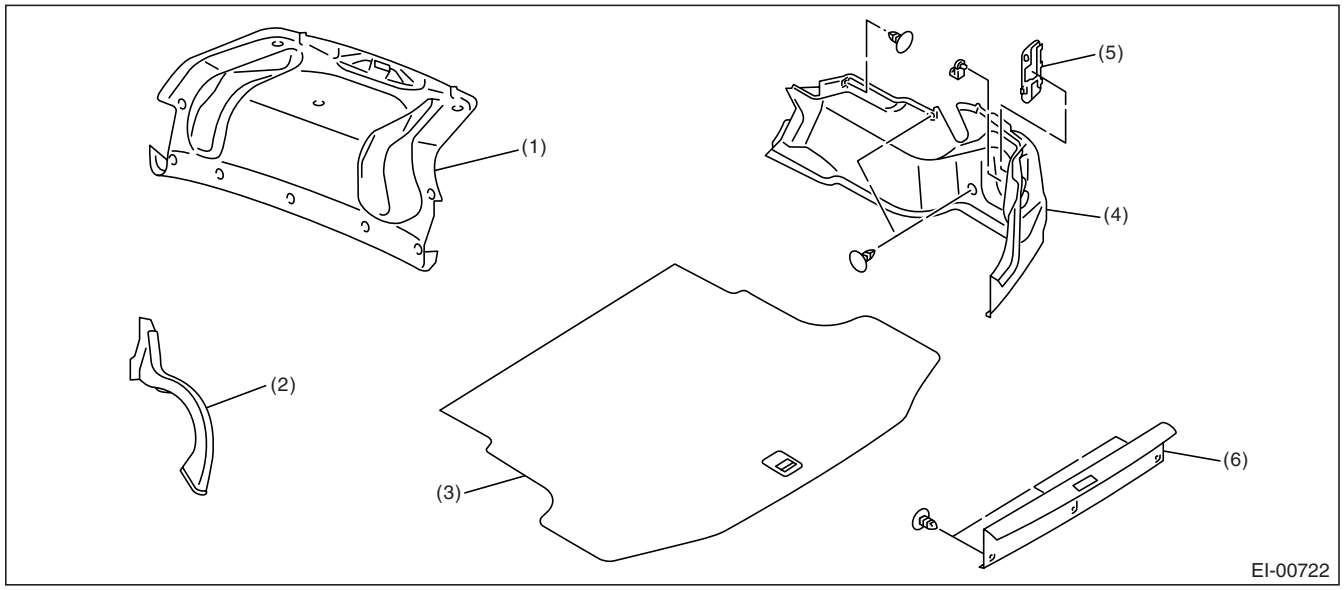
24.ROOF TRIM (SEDAN MODEL)



25.ROOF TRIM (WAGON MODEL)

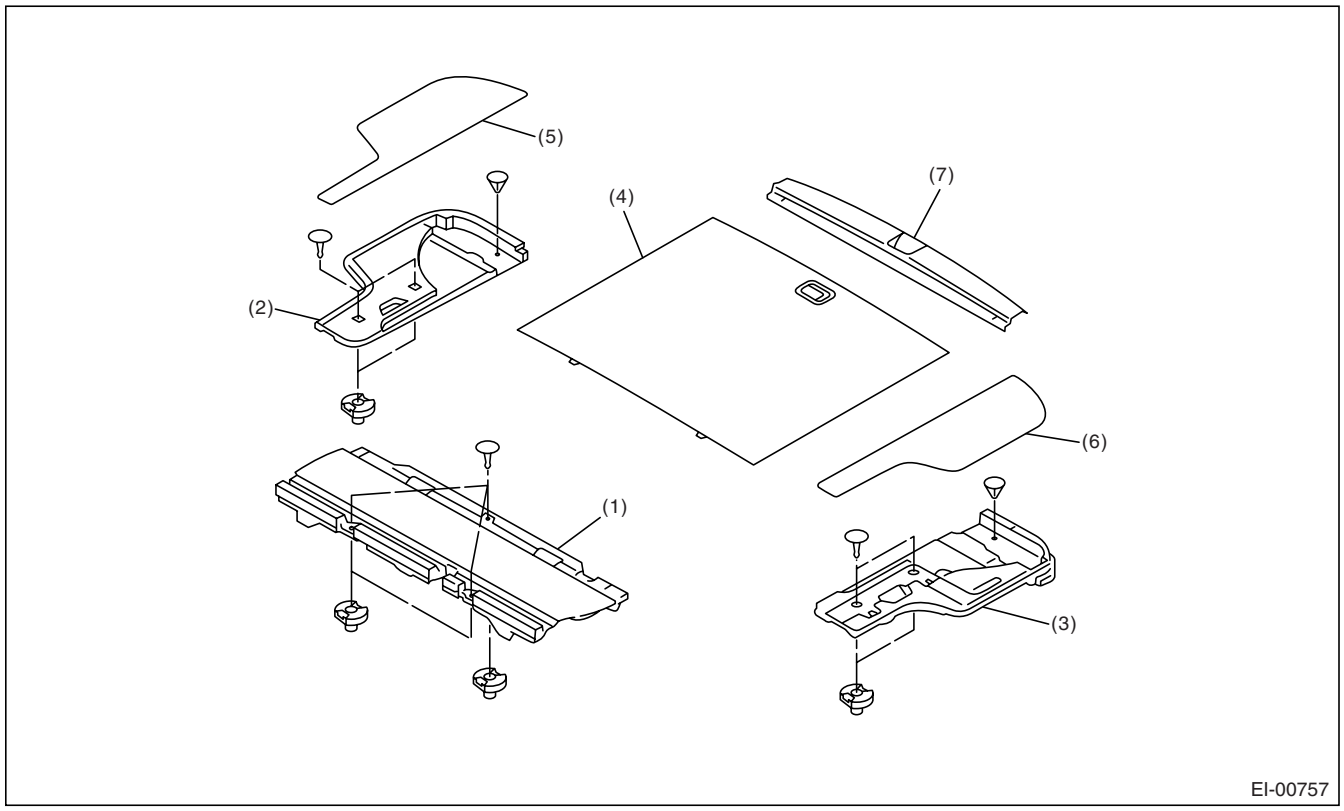


26.TRUNK ROOM TRIM



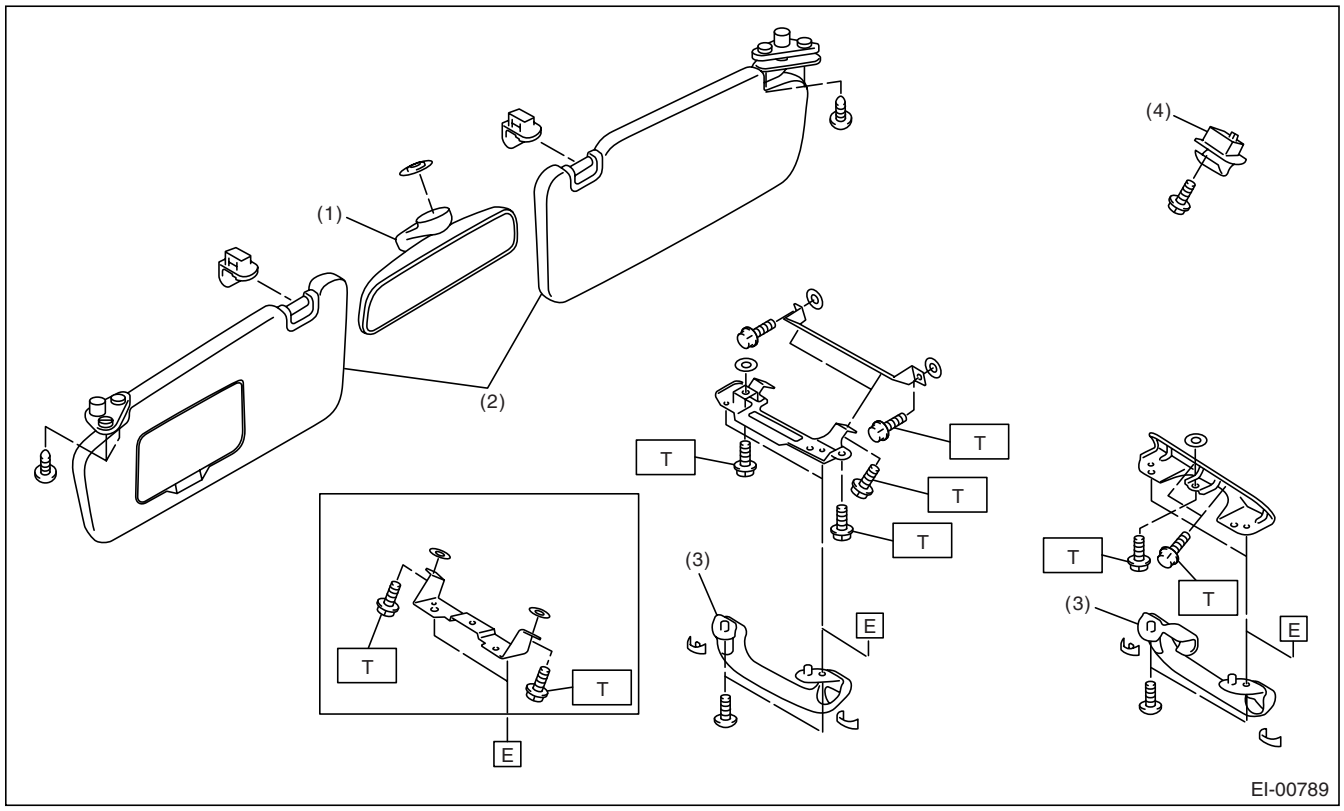
(1) Trunk lid trim
(2) Trunk lid arm cover
(3) Trunk room mat
(4) Trunk side trim
(5) Combination light cover
(6) Trunk room end cover

27.LUGGAGE FLOOR MAT



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

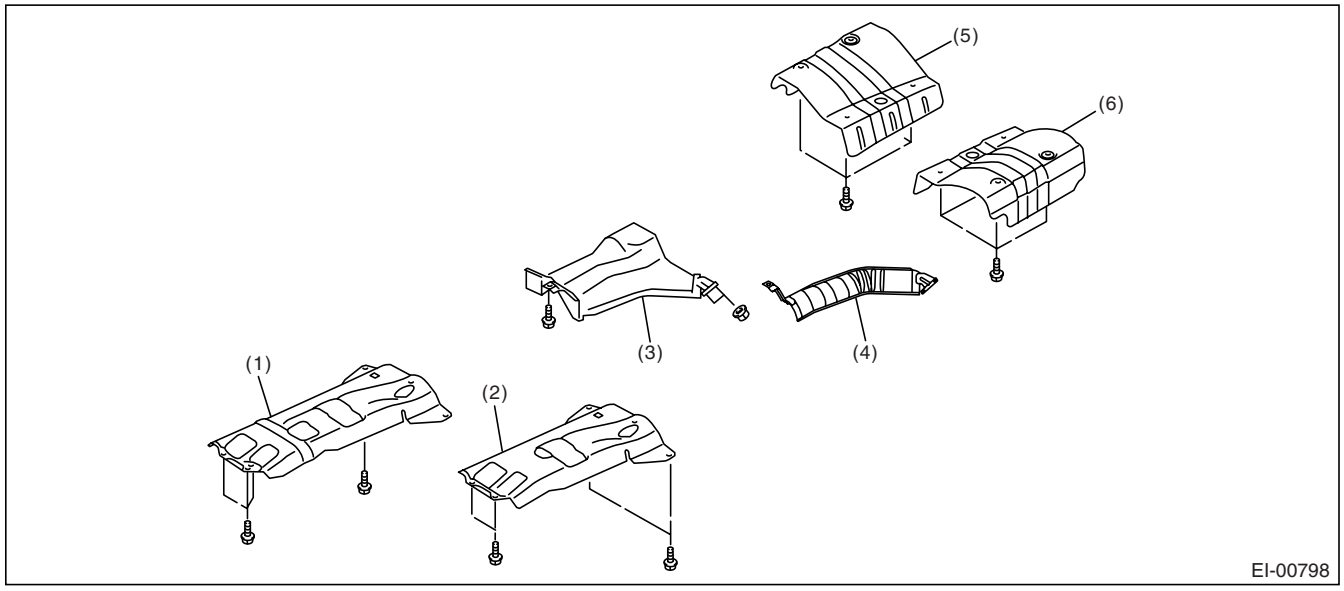
28.ROOM INNER PARTS



(1) Room mirror
(2) Sun visor
(3) Assist grip
(4) Coat hook (Wagon model)

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

29.HEAT SHIELD COVER



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

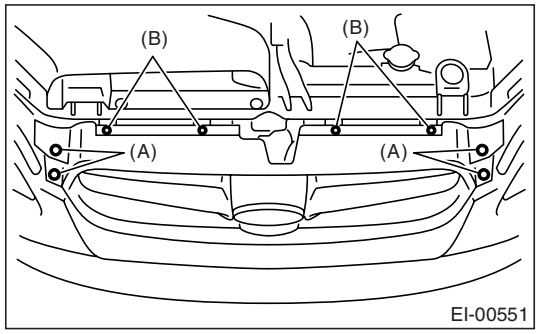
B: PREPARATION TOOL

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

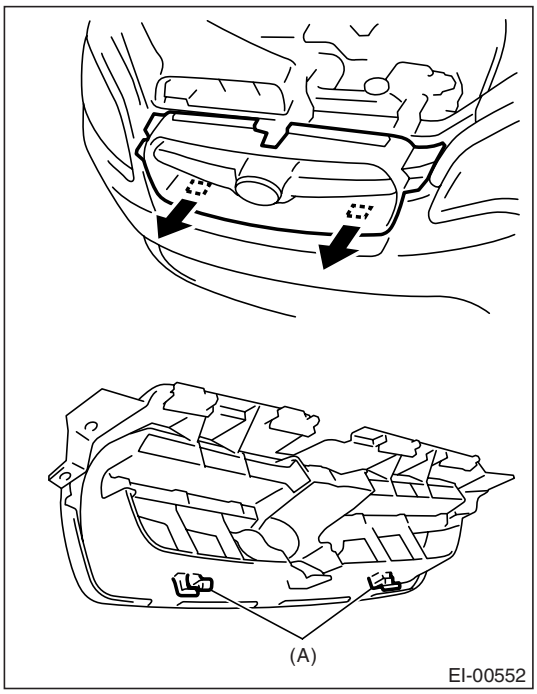
2. Front Grille

A: REMOVAL

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



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



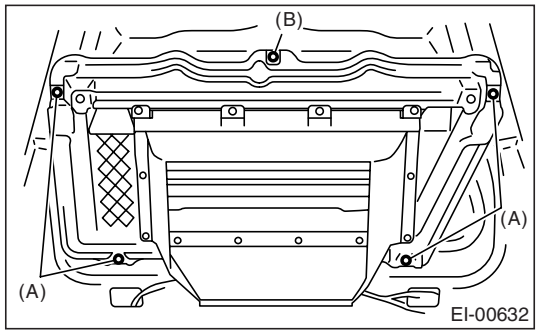
B: INSTALLATION

Install in the reverse order of removal.

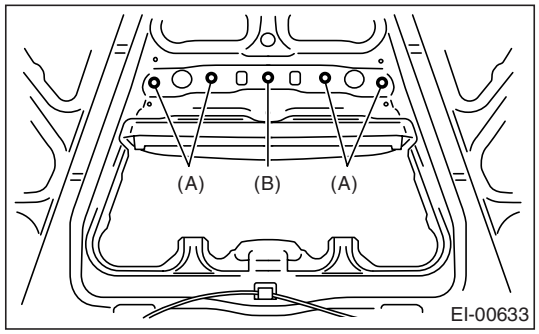
3. Front Hood Grille

A: REMOVAL

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

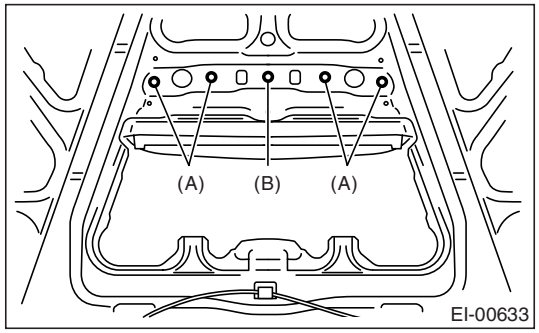


4) Loosen the nuts (A), remove the clip (B), and then remove the front hood grille.



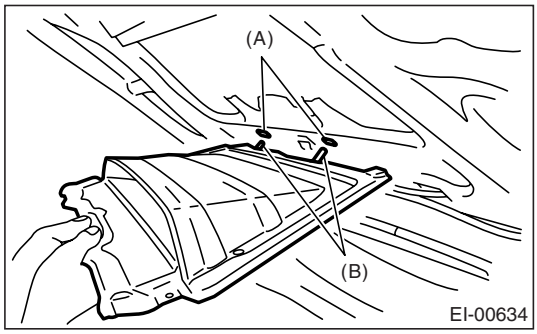
B: INSTALLATION

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

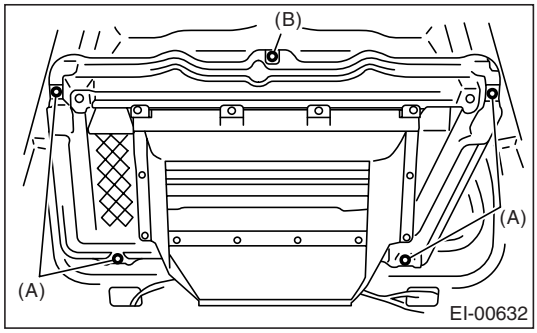


Tightening torque:
4.5 N·m (0.46 kgf-m, 3.32 ft-lb)

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



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

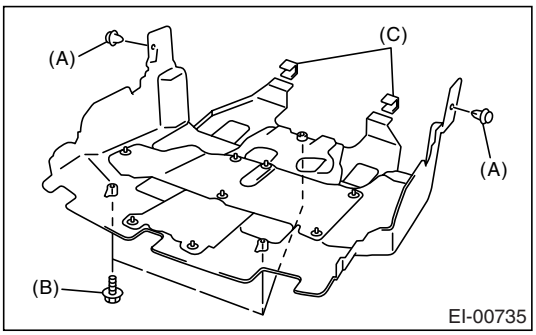


4. Front Under Cover

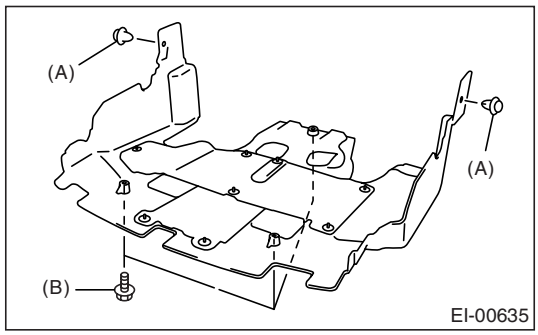
A: REMOVAL

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

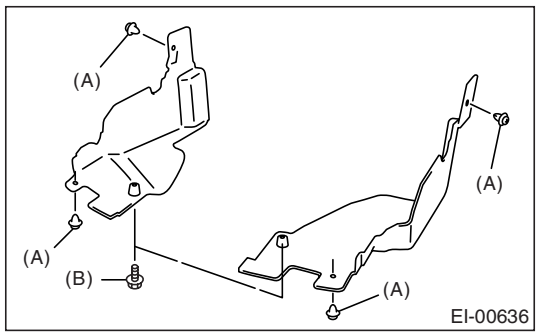
- Large type (Turbo model)



- Large type (DOHC non-turbo model)



- Small type (SOHC non-turbo model)



B: INSTALLATION

Install in the reverse order of removal.

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

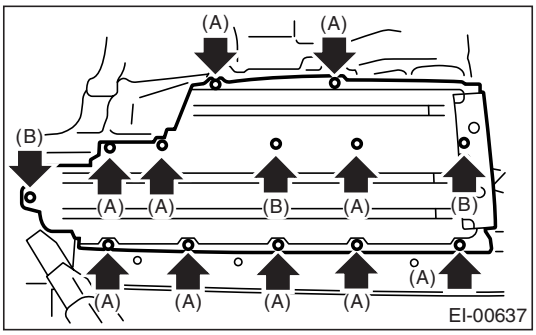
5. Floor Under Protector

A: REMOVAL

1) Lift-up the vehicle.

NOTE:
Plate type lift can not be used.

2) Remove the push turn clips (A) and bolts (B), and remove the floor under protector.



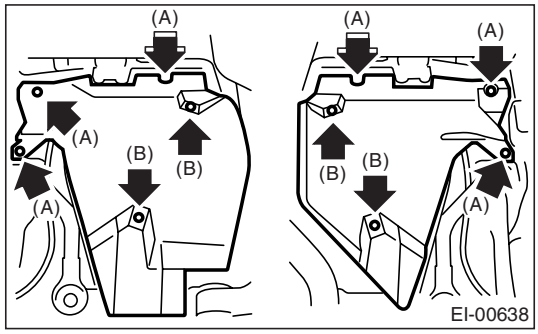
B: INSTALLATION

Install in the reverse order of removal.

6. Fuel Tank Protector

A: REMOVAL

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



B: INSTALLATION

Install in the reverse order of removal.

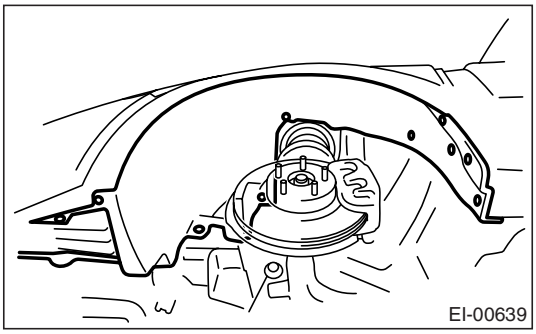
Tightening torque:
Bolt
17.5 N·m (1.78 kgf-m, 12.9 ft-lb)

7. Mud Guard

A: REMOVAL

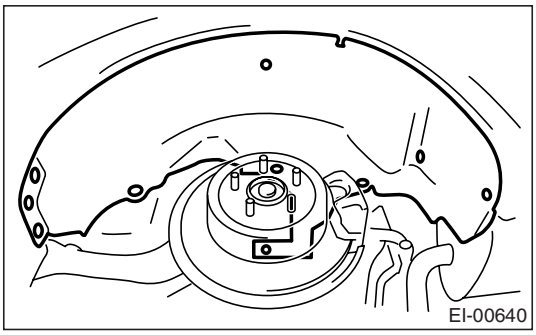
1. FRONT MUD GUARD

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



2. REAR MUD GUARD

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



B: INSTALLATION

1. FRONT MUD GUARD

Install in the reverse order of removal.

2. REAR MUD GUARD

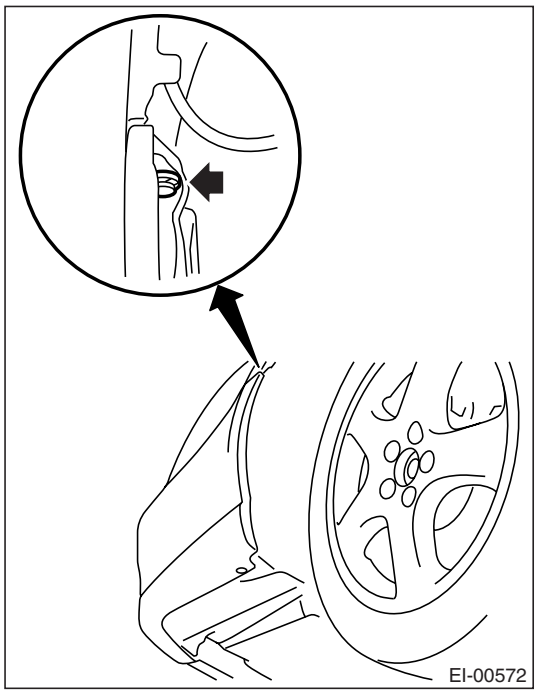
Install in the reverse order of removal.

8. Front Bumper

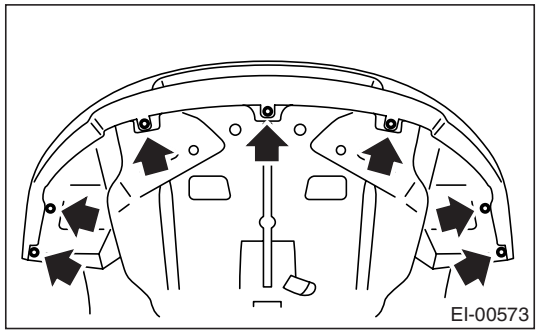
A: REMOVAL

1. FRONT BUMPER FACE

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


EI-00572

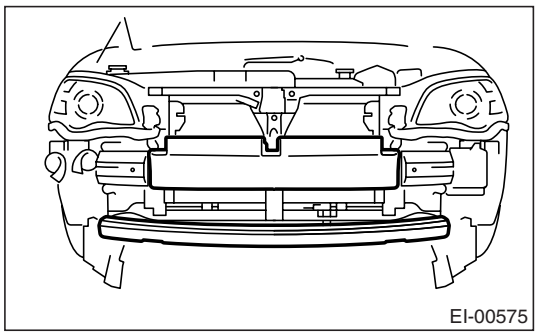
4) Remove the clips at the lower side of bumper.


EI-00573

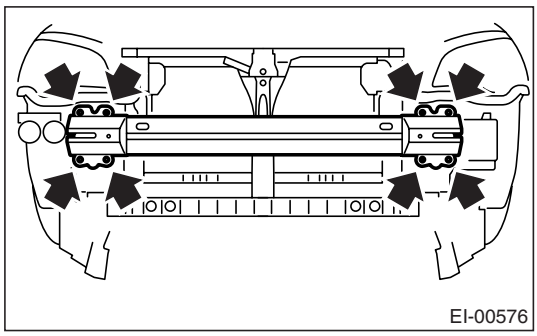
5) Disconnect the fog light connector. (Model with fog light)
6) Remove the bumper from vehicle body.
7) Remove the fog light from bumper face. <Ref. to LI-21, REMOVAL, Front Fog Light Assembly.>

2. FRONT BUMPER BEAM ASSEMBLY

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

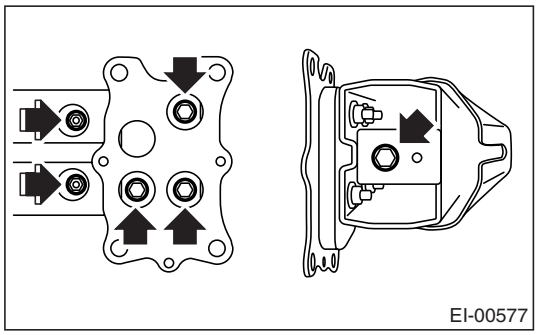

EI-00575

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

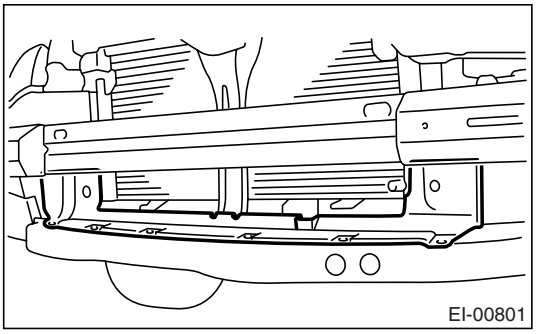

EI-00576

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

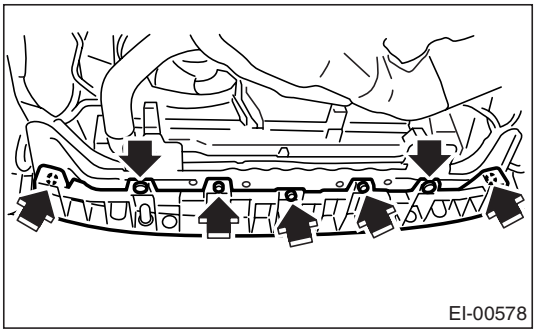
6) Remove the bolts and nuts to disassemble bumper beam.


EI-00577

7) Remove the clips, and remove the radiator guide.


EI-00801

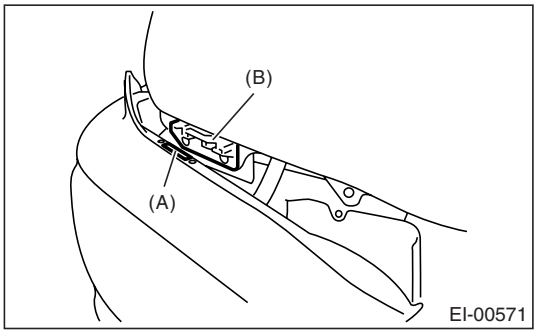
8) Remove the bolts and clips, and remove the bumper lower center bracket.


EI-00578

B: INSTALLATION

1. FRONT BUMPER FACE

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



EI-00571

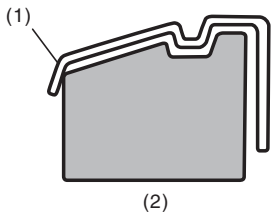
2. FRONT BUMPER BEAM ASSEMBLY

Install in the reverse order of removal.

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

C: REPAIR

1. COATING METHOD FOR PP BUMPER

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

2. REPAIR INSTRUCTIONS FOR COLORED PP BUMPER

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

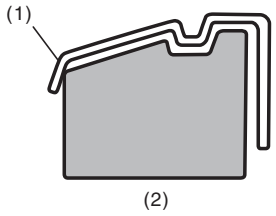
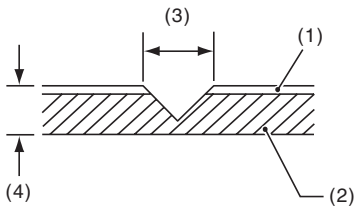
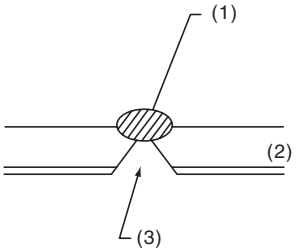
1) Minor damage of only a change in luster of the bumper caused by a light touch
Almost restorable.

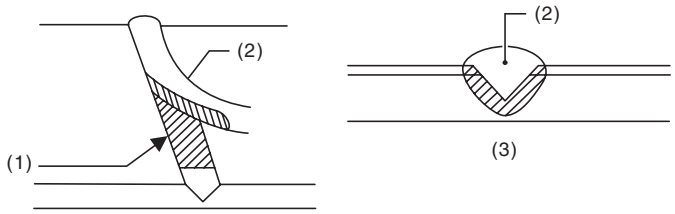
<table>
<tr><th>Process No.</th><th>Process name</th><th colspan="2">Job contents</th></tr>
<tr><td>1</td><td>Cleaning</td><td colspan="2">Clean the area to be repaired using water.</td></tr>
<tr><td>2</td><td>Sanding</td><td colspan="2">Grind the repairing area with #500 sand paper in a “feathering” 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 process as for the resin section or process No. 18 and subsequent in the 3) section, depending on the degree and nature of damage.</td></tr>
<tr><td>Polish the waxed area with a clean cloth after 5 to 10 minutes.</td></tr>
</table>

2) Deep damage caused by scratching with fences
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>

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

Process No.	Process name	Job contents	
1	Bumper removal	Remove the bumper as required.	
2	Removal of parts	Remove the parts built into bumper as required.	
3	Bumper placement	Place the bumper on a paint worktable as required. It is recommended to use the paint worktable conforming to internal shape of bumper.	 EI-00234 (1) Bumper (2) Bumper cross-section view
4	Surface preparation	Remove dust, oil, etc. from areas to be repaired and surrounding areas, using a suitable solvent (NRM No. 900 Precleno, white gasoline, or alcohol, etc.)	
5	Cutting	If 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 base surface. Then, bevel or “vee-out” the affected area using a knife or grinder.	 EI-00235 (1) Paint surface (2) PP base surface (3) 20 — 30 mm (0.79 — 1.18 in) (4) 3 mm (0.12 in)
6	Sanding (I)	Grind beveled surface with sand paper (#40 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. Temporarily spot-weld the side, using a PP welding rod and heater gun.	 EI-00236 (1) Welded point (Use heater gun and PP welding rod) (2) PP base surface (3) Beveled section NOTE: • Do not melt welding rod until it flows out. This results in reduced strength. • Leave the welded spot unattended until it cools completely.

<table>
<tr><th>Process No.</th><th>Process name</th><th>Job contents</th></tr>
<tr><td rowspan="2">9</td><td rowspan="2">Welding</td><td>Using a heater gun and PP welding rod, weld the beveled spot while melting both the rod and damaged area.</td></tr>
<tr><td> 

EI-00237
(1) Welding rod
(2) Melt hatched area
(3) Cross-section view
NOTE:
• Melt the areas indicated by hatched area.
• Do not melt the welding rod until it flows out, in order to provide strength.
• Always keep the heater gun 1 to 2 cm (0.4 to 0.8 in) away from the welding spot.
• Leave the welded spot unattended until it cools completely.</td></tr>
<tr><td rowspan="3">10</td><td rowspan="3">Sanding (II)</td><td>Remove excess part of the 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.</td></tr>
<tr><td>
EI-00042</td></tr>
<tr><td>Sand the welded spot smooth with #240 sand paper.</td></tr>
<tr><td>11</td><td>Masking</td><td>Mask the black substrate part using masking tape.
Recommended masking tape: Nichiban No. 533 or equivalent</td></tr>
<tr><td>12</td><td>Cleaning/ degreasing</td><td>Completely clean the entire coated area, using solvent similar to that used in Process No. 4.</td></tr>
<tr><td>13</td><td>Primer coating</td><td>Apply a coat of primer to the repaired surface and its surrounding area. Mask these areas, if necessary.
Recommended primer: Mp/ 364 PP Primer
NOTE:
Be sure to apply coat of primer at a spraying pressure of 245 — 343 kPa (2.5 — 3.5 kgf/cm^2, 36 — 50 psi) with a spray gun.</td></tr>
<tr><td>14</td><td>Leave unattended</td><td>Leave the repaired area unattended at 20°C (68°F) for 10 to 15 minutes until primer is half-dry.
NOTE:
If dirt or dust comes in contact with the coated area, wipe it off with a cloth with alcohol. (Do not use thinner. The coated area may be melt.)</td></tr>
<tr><td>15</td><td>Primer surfacer coating</td><td>Apply primer surfacer to the repaired area two to three times at an interval of 3 to 5 minutes.
Recommended surfacer:
• UPS 300 Flex Primer
• No. 303 UPS 300 Exclusive hardener
• NPS 725 Exclusive Reducer (thinner)
• Mixing ratio:
2:1 (UPS 300:No. 303)
• Viscosity: 12 — 14 sec. /20°C (68°F)
• Coating film thickness: 40 — 50 μ</td></tr>
</table>

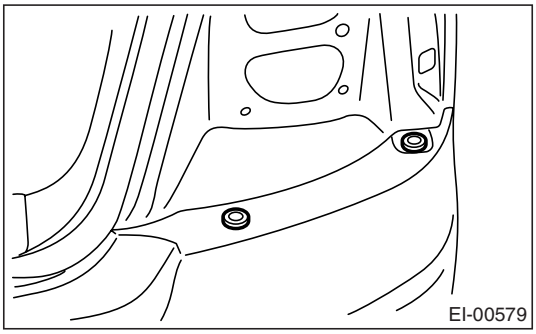
Process No.	Process name	Job contents	
16	Drying	Allow the coated surface to dry for 20 minutes at 20°C (68°F) or 30 minutes at 60°C (140°F).	
17	Sanding (III)	Sand the coated surface and its surrounding area using #400 sand paper and water.	
18	Cleaning/ degreasing	Same as Process No. 12.	
19	Top coat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

9. Rear Bumper

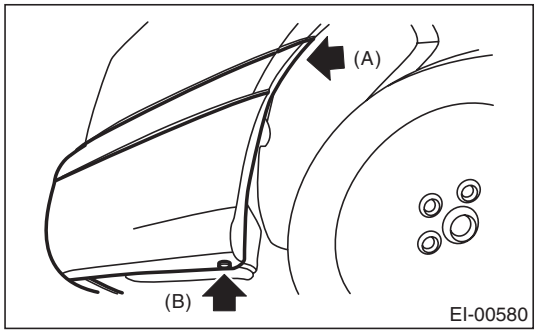
A: REMOVAL

1. REAR BUMPER FACE

1) Disconnect the ground cable from battery.
2) Remove the rear combination light assembly. <Ref. to LI-25, REMOVAL, Rear Combination Light Assembly.>
3) Remove the two clips.

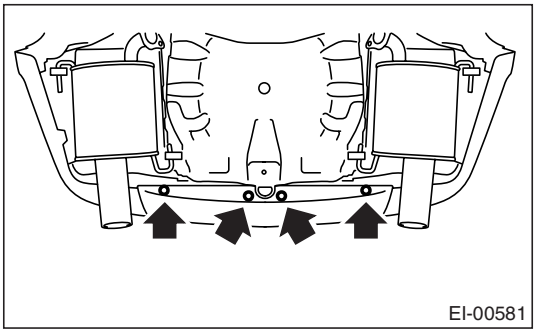

EI-00579

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



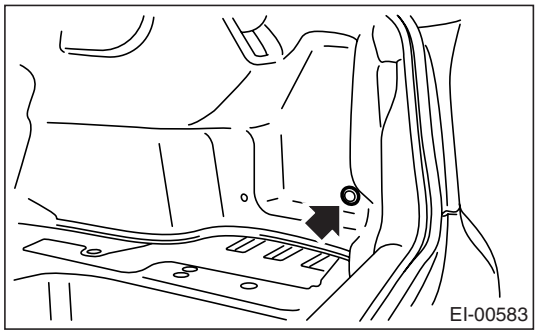
EI-00580

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

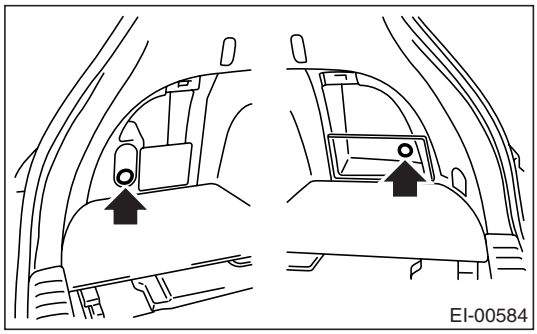

EI-00581

6) Remove the service hole cover, and remove the bolt.

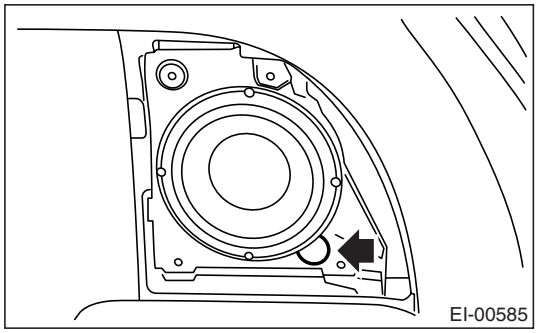
- Sedan model: trunk side trim


EI-00583

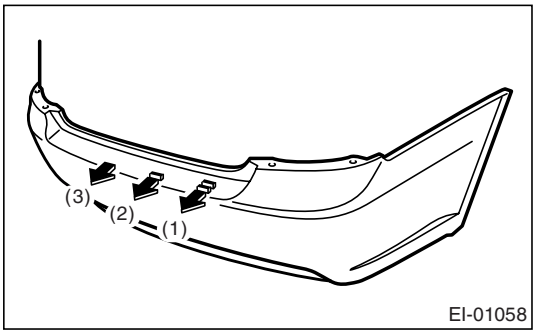
- Wagon model: rear quarter lower trim


EI-00584

NOTE:
For model with woofer, remove the woofer cover.


EI-00585

7) Remove the rear bumper from vehicle body.

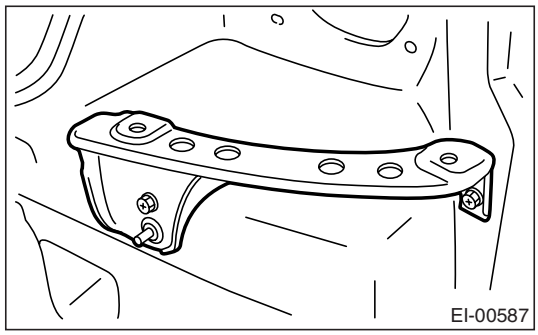


EI-01058

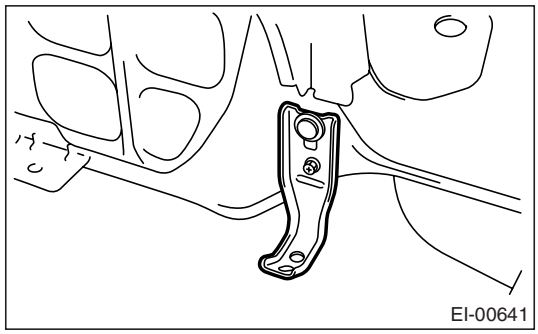
NOTE:
- Do not pull with a excessive force. Otherwise the bracket installation area may be damaged.
- It is easier to remove the bracket by removing the fitting parts between bumper face and bracket from the end in order.

2. REAR BUMPER BRACKET

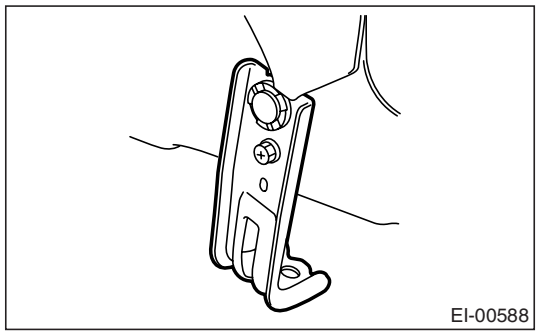
1) Remove the rear bumper face from vehicle body.
2) Remove the rear bumper bracket corner from vehicle body. (both sides)



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

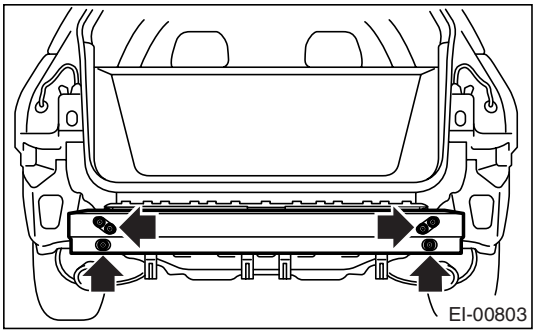


- Wagon model: 4 places

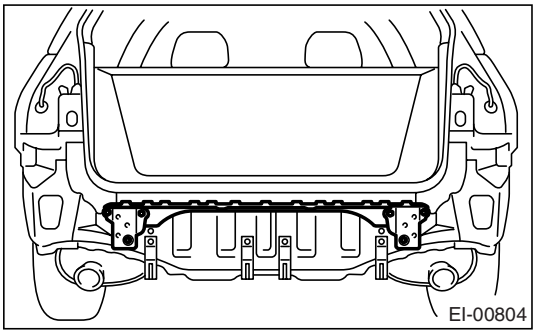


3. FRONT BUMPER BEAM ASSEMBLY

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



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



B: INSTALLATION

1. REAR BUMPER FACE

1) Install the beam upper rear to vehicle body.
2) Install the rear bumper face to vehicle body.

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

3) Install in the reverse order of removal.

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

2. REAR BUMPER BRACKET

Install in the reverse order of removal.

3. FRONT BUMPER BEAM ASSEMBLY

Install in the reverse order of removal.

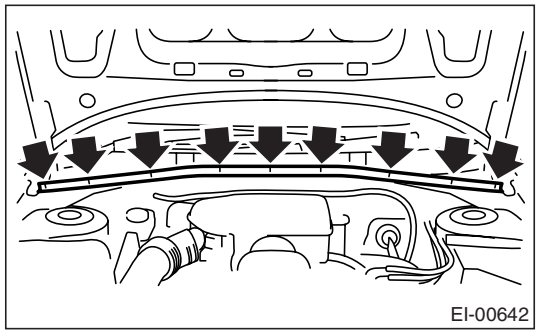
C: REPAIR

Refer to the description for front bumper repair. <Ref. to EI-30, REMOVAL, Front Bumper.>

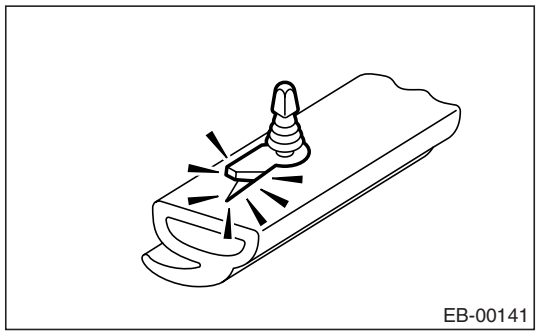
10.Cowl Panel

A: REMOVAL

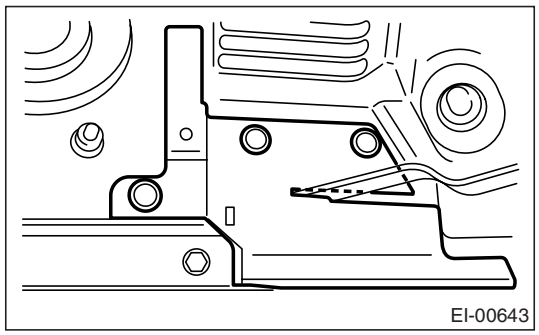
1) Open the front hood.
2) Remove the wiper arm. <Ref. to WW-17, REMOVAL, Front Wiper Arm.>
3) Remove the weather strip clips to remove weather strip.


EI-00642

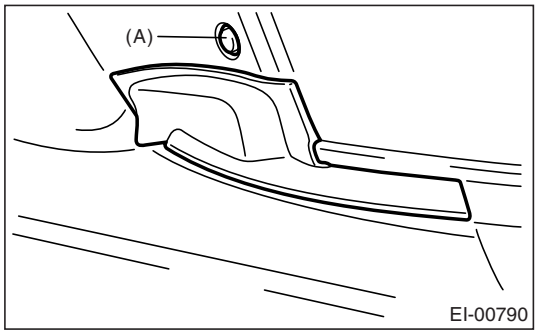
NOTE:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use a clip remover to remove.


EB-00141

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

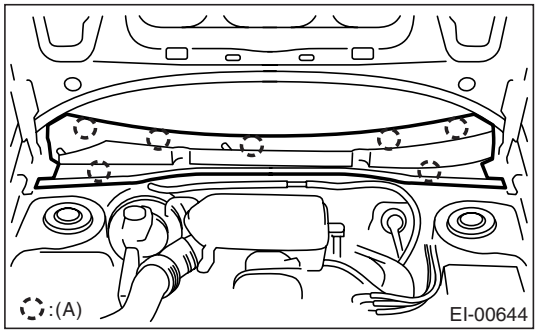

EI-00643

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



EI-00790

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



EI-00644

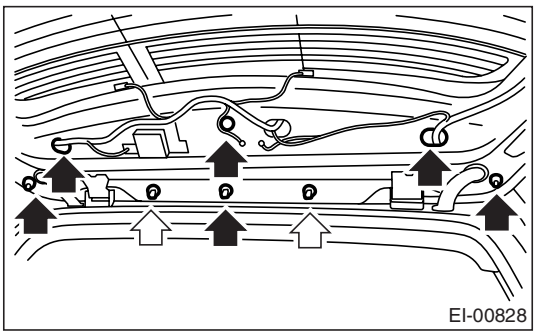
B: INSTALLATION

Install in the reverse order of removal.

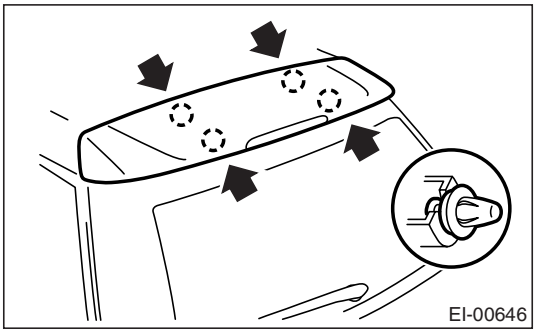
11.Roof Spoiler

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim. <Ref. to EI-69, REMOVAL, Rear Gate Trim.>
3) Disconnect the connector of high-mounted stop light and the washer hose of rear washer.
4) Remove the nuts and plastic caps.



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



B: INSTALLATION

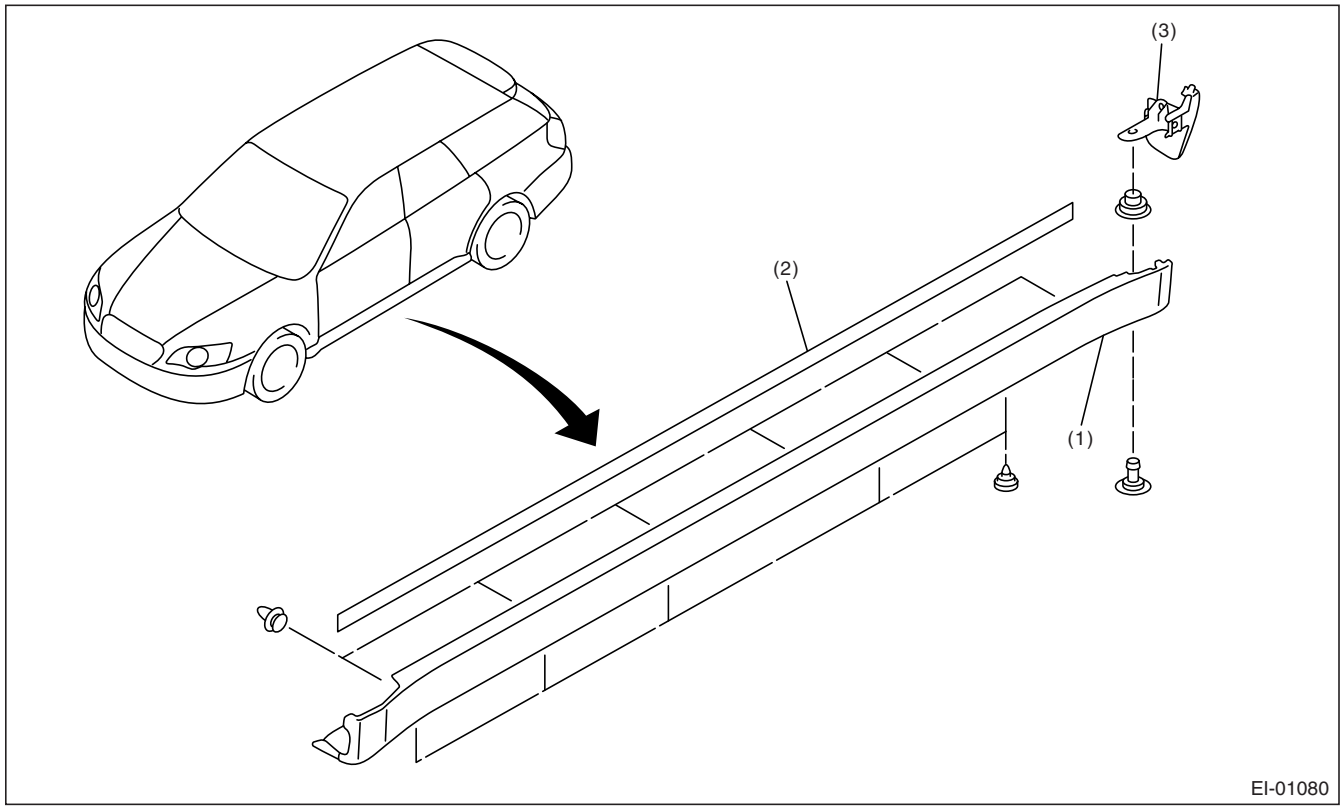
Install in the reverse order of removal.

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

12.Side Sill Spoiler

A: REMOVAL

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

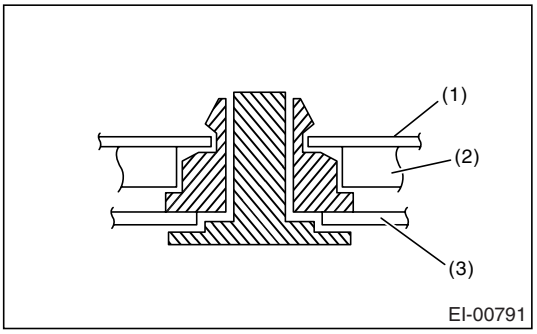


(1) Side sill spoiler (2) Packing (3) Side sill end

B: INSTALLATION

Install in the reverse order of removal.

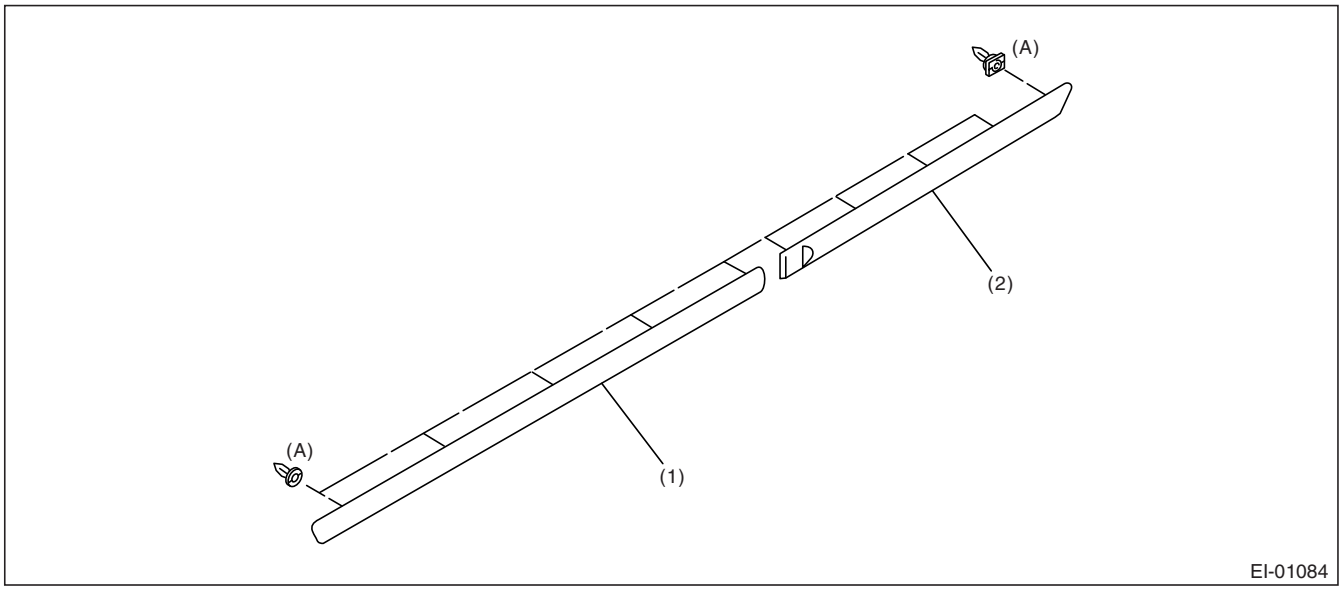
NOTE:
For the rearmost clip securing side sill spoiler, install through the side sill end.



(1) Vehicle body
(2) Side sill end
(3) Side sill spoiler

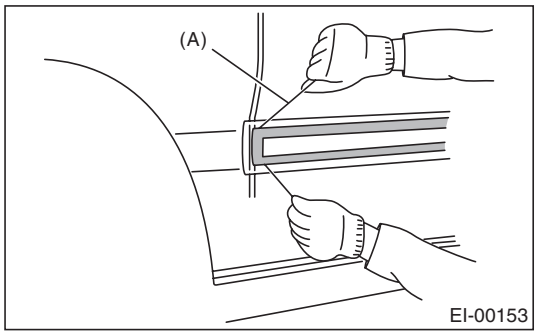
13.Side Protector

A: REMOVAL



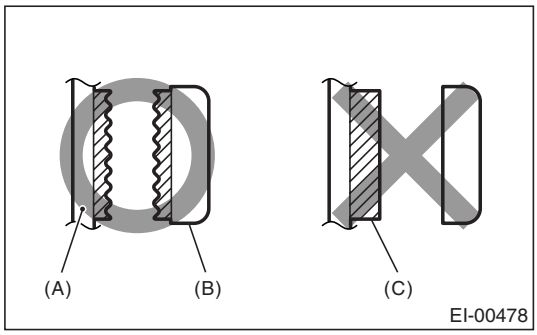
(1) Front door protector (2) Rear door protector (A) White clip

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



NOTE:
• To optimize the effect of solvent, slide the thread along body without removing the double-sided tape on the surface of body and spoiler.
• If it is difficult to remove the double-sided tape, warm it up to approx. 40°C (104°F).

• If the double-sided tape remains thick on the surface due to interfacial peeling, apply solvent after slicing off the double-sided tape using a cutter.



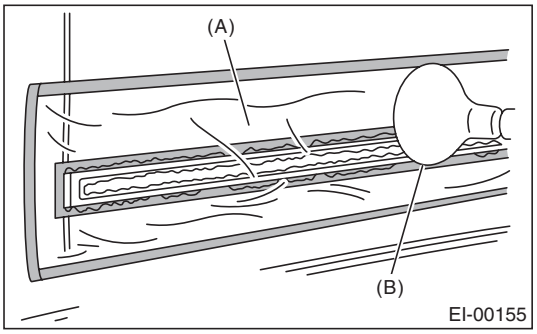
(A) Panel
(B) Side protector
(C) Double-sided tape

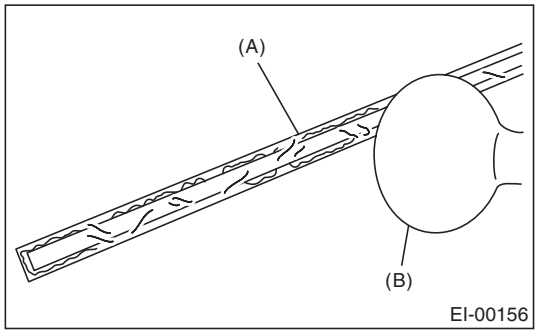
2) Apply masking tape around the double-sided tape remaining on the surface of body or spoiler.
3) Apply solvent uniformly on the double-sided tape using a brush.

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

Solvent:
3M 8907 or equivalent

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



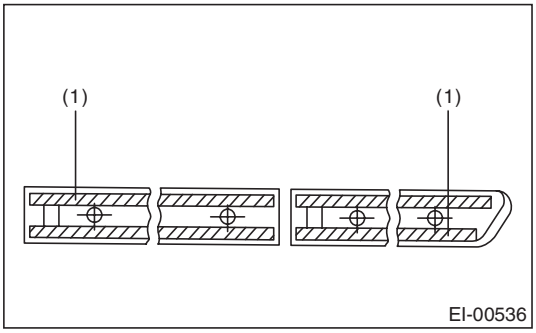


CAUTION:
Do not heat the double-sided tape until the surface becomes white and excessively dried.

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

B: INSTALLATION

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



(1) Double-sided tape: thickness 1.2 mm (0.047 in), width 5 mm (0.197 in)

Primer:
3M K-500 or equivalent

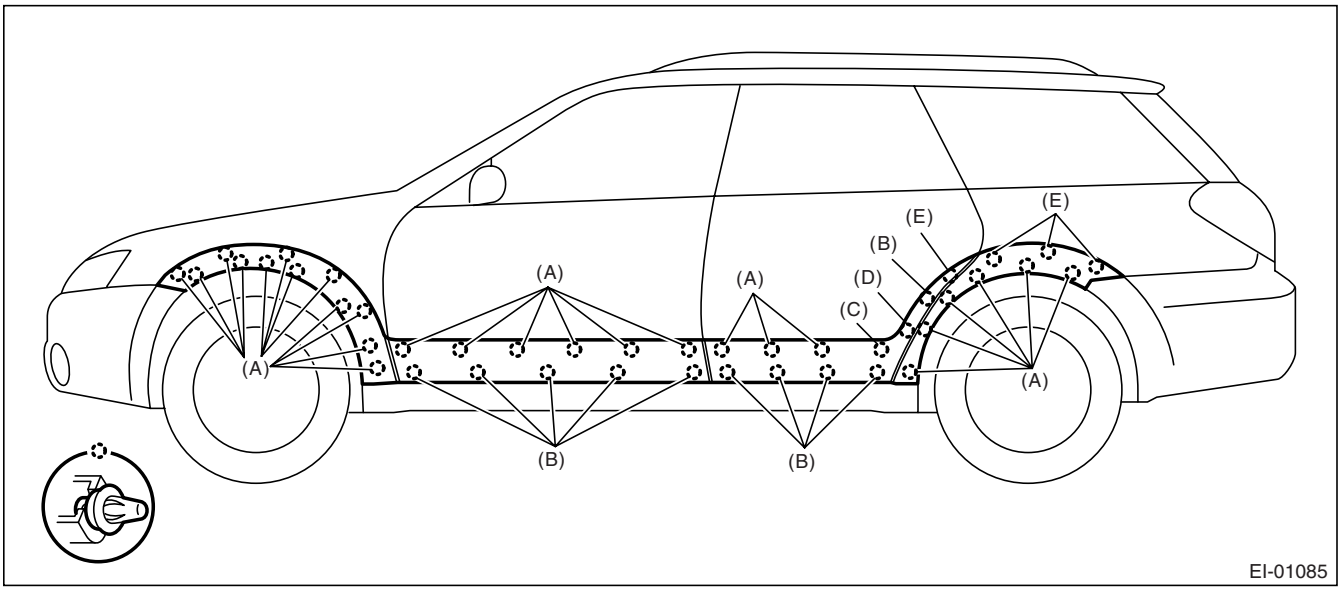
Double-sided tape:
3M 5531-5 or equivalent

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

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

14.Side Garnish

A: REMOVAL



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

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

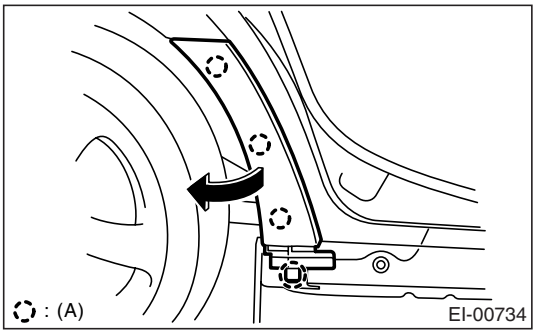
B: INSTALLATION

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

15.Rear Quarter Protector

A: REMOVAL

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



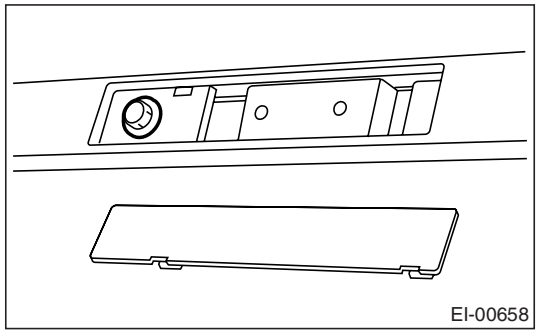
B: INSTALLATION

Install in the reverse order of removal.

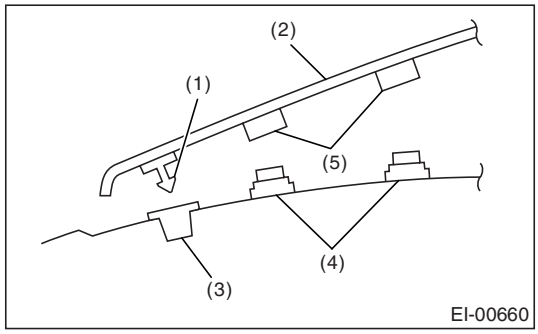
16.Roof Molding

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the roof carrier attachment cover, and remove the bolts. (2 places for each side)

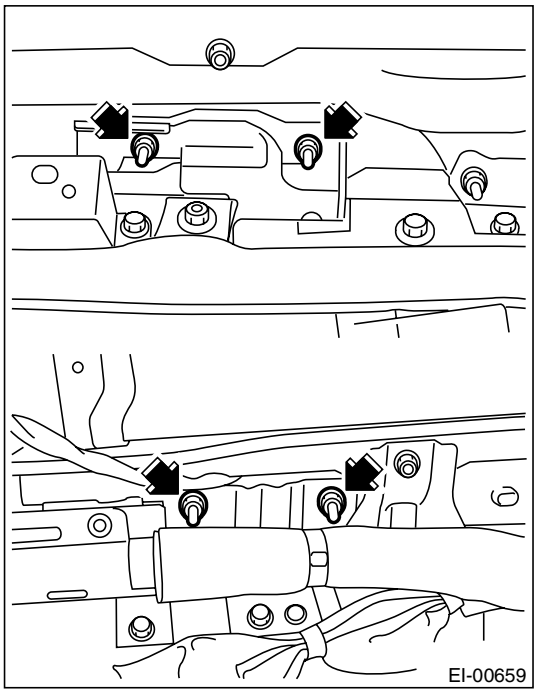


3) Pull the roof molding upward, and remove it from vehicle body.



(1) Locating pin
(2) Roof molding
(3) Cap
(4) Clip
(5) Grommet

4) Remove the roof trim. <Ref. to EI-67, REMOVAL, Roof Trim.>
5) Remove the nuts, and remove the roof carrier attachment.



B: INSTALLATION

Install in the reverse order of removal.

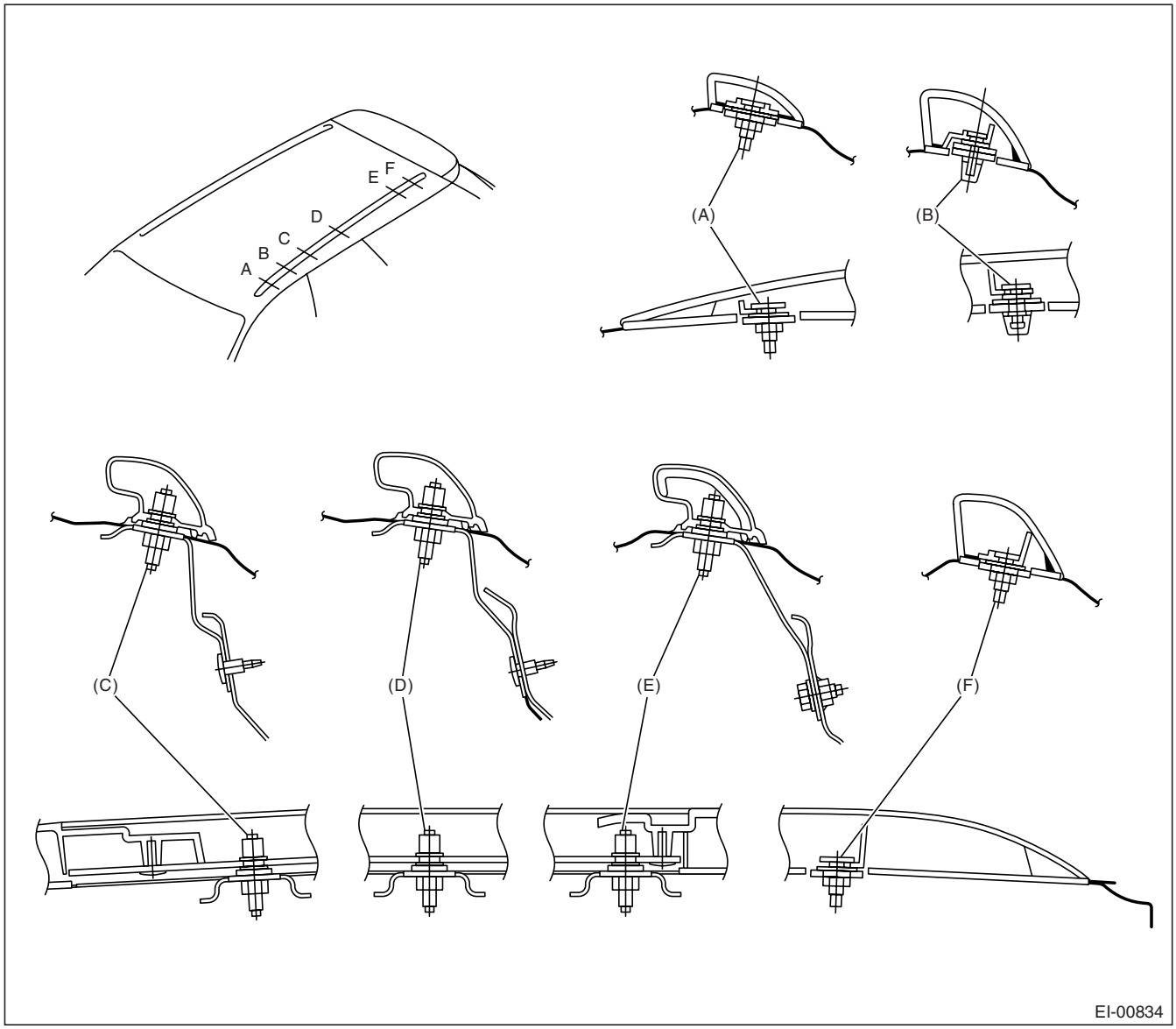
CAUTION:
Replace the clip with new one when the broken pin grommet is found during the removal of roof molding. When the body side cap or clip is damaged, or the roof molding is lifted or peeled from body, be sure to repair them correctly, because those troubles may cause water leakage.

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

17.Roof Rail

A: REMOVAL

1) Remove the roof trim. <Ref. to EI-67, REMOVAL, Roof Trim.>
2) Remove the five installing nuts.



B: INSTALLATION

Install in the reverse order of removal.

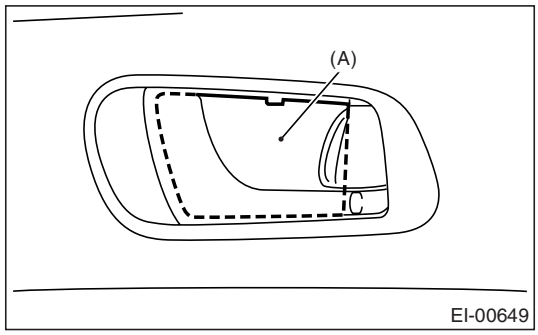
CAUTION:
When removing or installing the roof rail, be careful not to scratch the body panel with the stud bolt of roof rail.

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

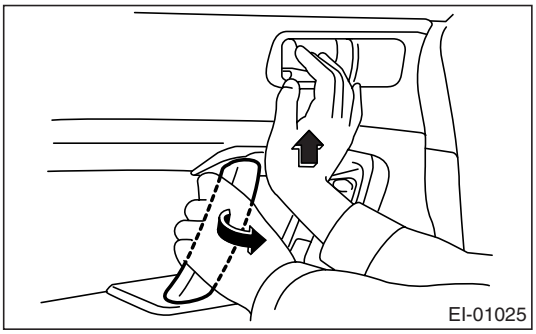
18.Door Trim

A: REMOVAL

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

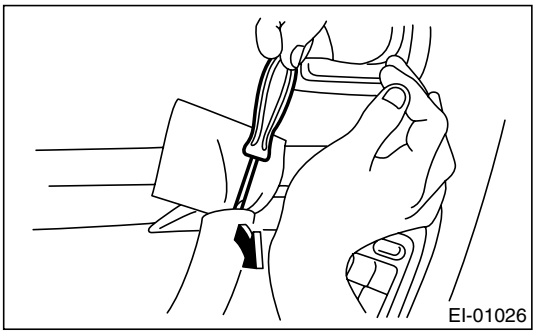


3) Push the root of hand grip upward, and remove the hand grip cover by twisting it to the vehicle frontward direction.

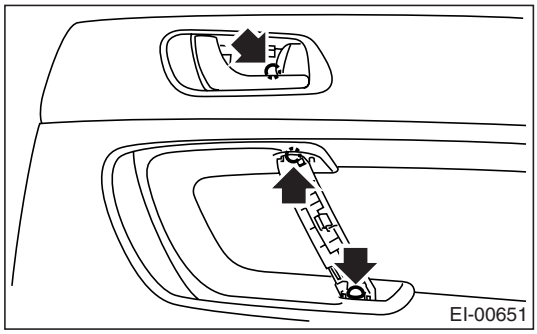


LH SIDE Counterclockwise
RH SIDE Clockwise

NOTE:
If the above procedure does not work, use a flat-tip screw driver to pry out the upper side of hand grip cover to remove, with the protection tape attached to both the door trim and flat-tip screwdriver.

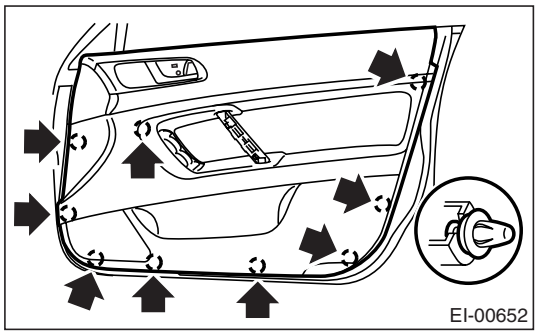


4) Loosen the screws.

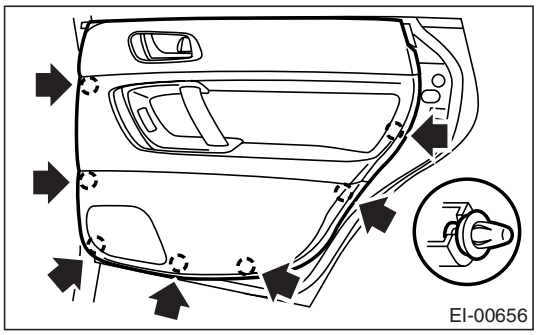


5) Remove the clips, and disconnect each connector and wire to remove door trim.

- Front door trim



- Rear door trim

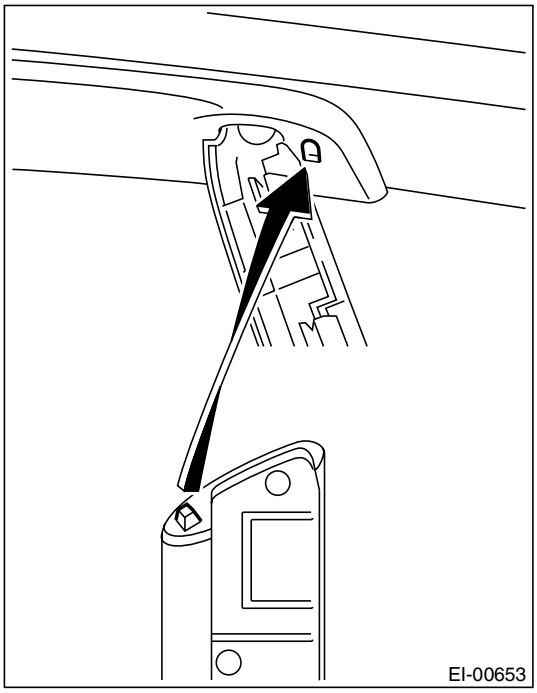


B: INSTALLATION

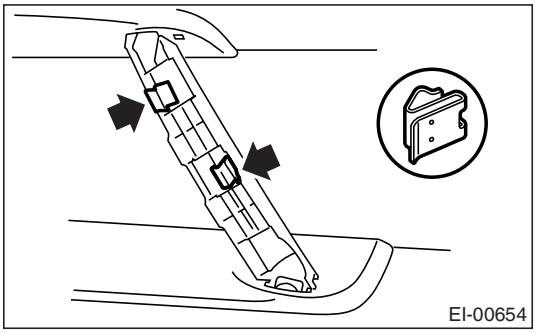
Install in the reverse order of removal.

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

• Hand grip cover (front and rear door)
Convex upward

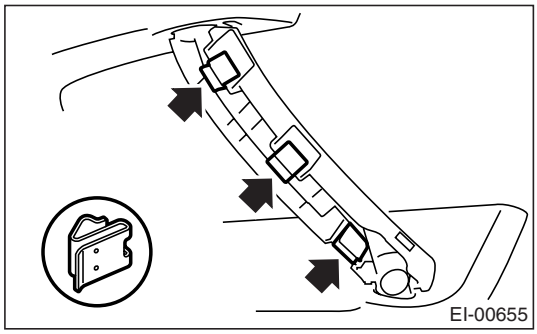


• Bottom clip of the front door faces the opposite direction.



• Lower side of the hand grip cover for front door has pawl.

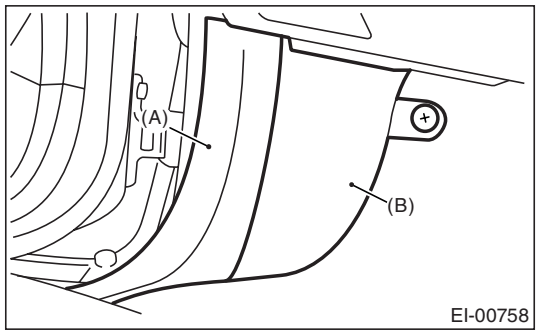
• The lowest clip of rear door faces the opposite direction.



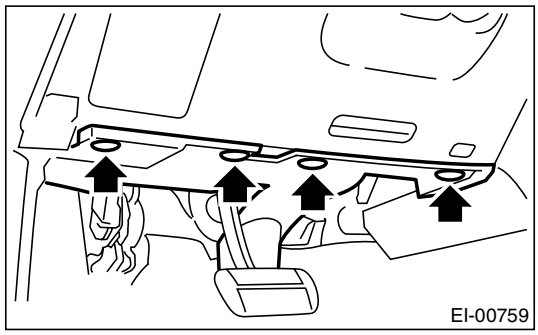
19.Instrument Panel Lower Cover

A: REMOVAL

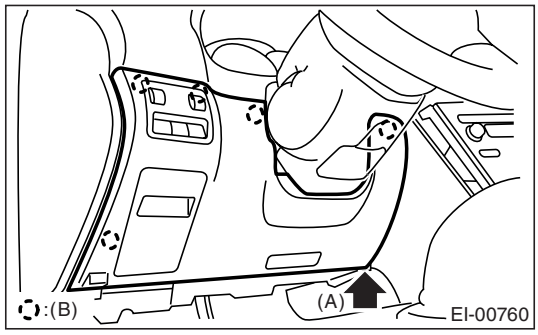
1) Disconnect the ground cable from battery.
2) Remove the front door inside scuff plate (A) and front pillar lower trim (B) in the driver's side. <Ref. to EI-60, REMOVAL, Lower Inner Trim.>



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



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



(B) Clip

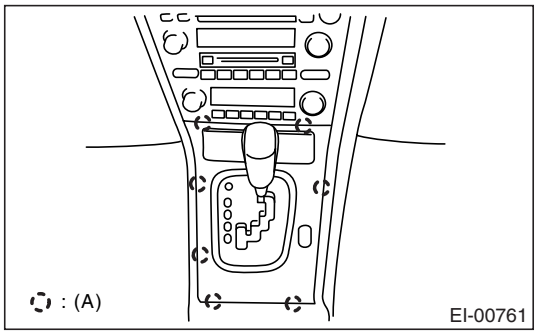
B: INSTALLATION

Install in the reverse order of removal.

20.Glove Box

A: REMOVAL

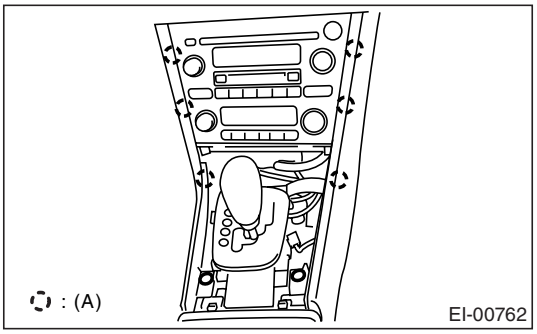
1) Disconnect the ground cable from battery.
2) Remove the console box. <Ref. to EI-53, REMOVAL, Console Box.>
3) Remove the console front panel.



(A) Hook

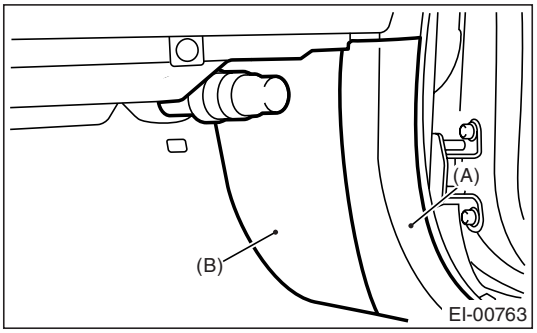
NOTE:
For AT model, remove the ring indicator.
For MT model, remove the shift knob.

4) Remove the console side garnish.

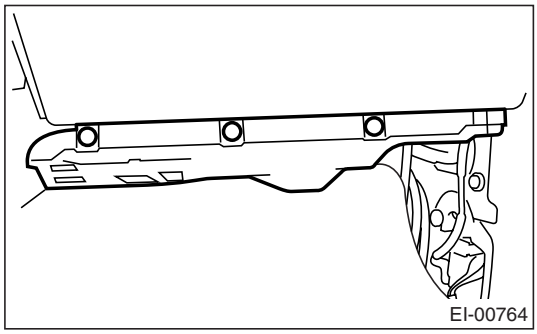


(A) Hook

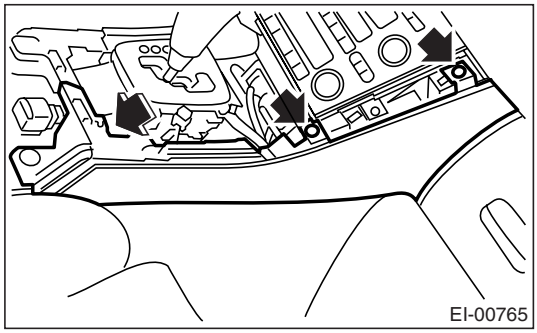
5) Remove the front inside scuff plate (A) and front pillar lower trim (B). <Ref. to EI-60, REMOVAL, Lower Inner Trim.>



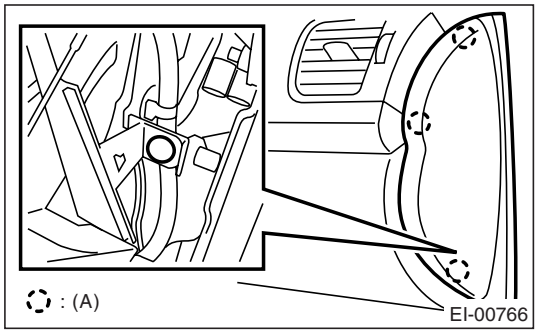
6) Remove the clip, and remove the glove box lower cover.



7) Remove the console side panel.

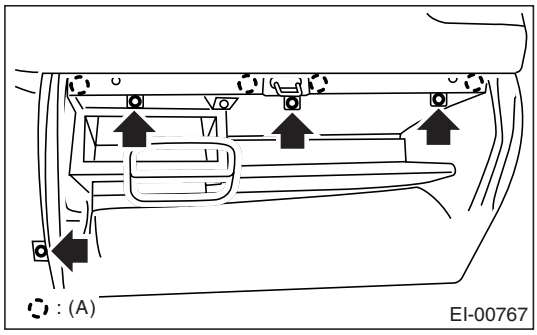


8) Remove the instrument panel side cover, and remove the clips.



(A) Clip

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



(A) Clip

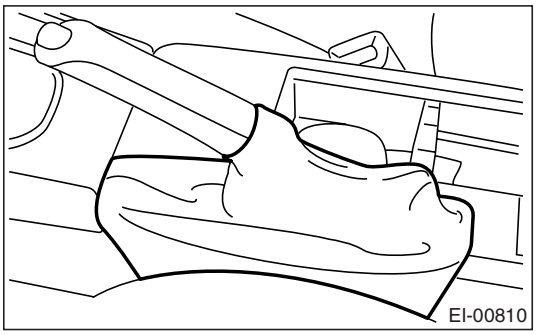
B: INSTALLATION

Install in the reverse order of removal.

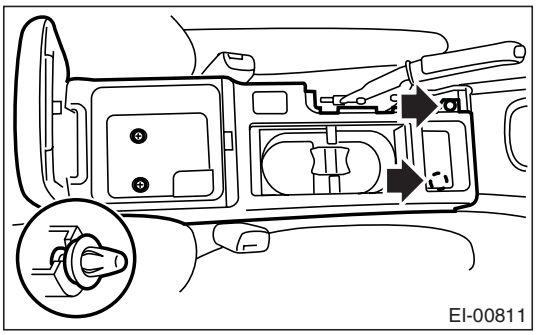
21.Console Box

A: REMOVAL

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



3) Remove the bolts and clips.



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

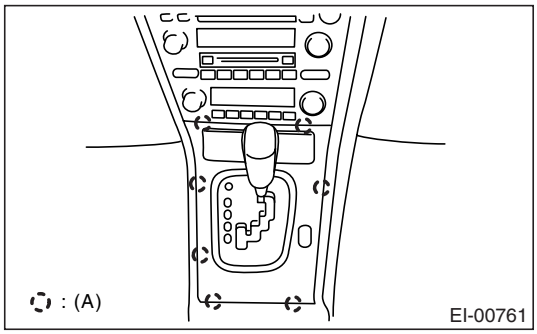
B: INSTALLATION

Install in the reverse order of removal.

22.Center Console

A: REMOVAL

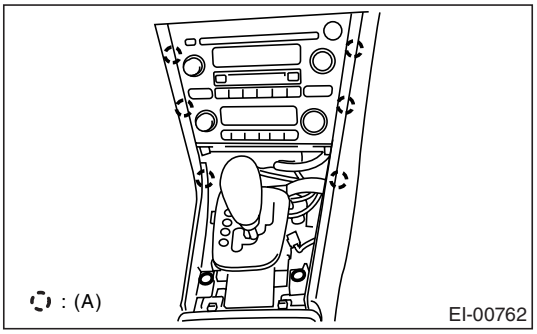
1) Disconnect the ground cable from battery.
2) Remove the console box. <Ref. to EI-53, REMOVAL, Console Box.>
3) Remove the console front panel.



(A) Hook

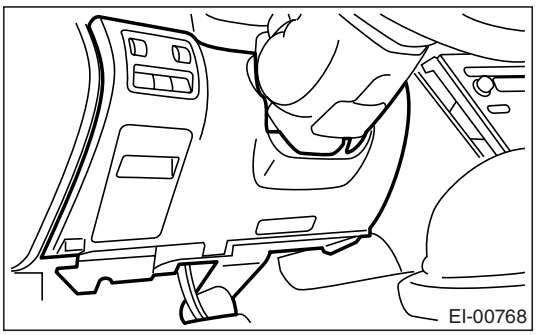
NOTE:
For AT model, remove the ring indicator.
For MT model, remove the shift knob.

4) Loosen the screw, remove the hooks, and remove the console side garnish.

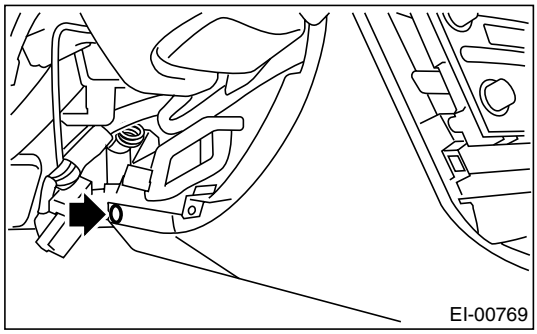


(A) Hook

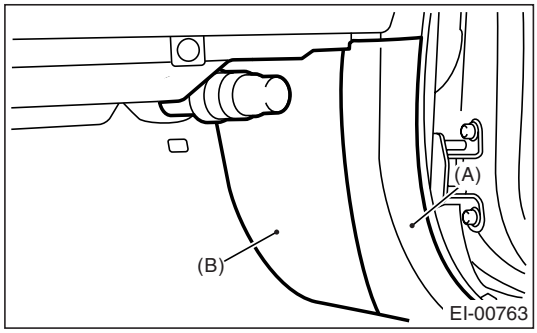
5) Remove the instrument panel lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>



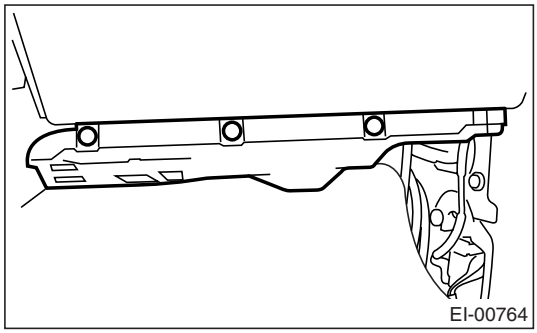
6) Remove the clip at the console side panel tip.



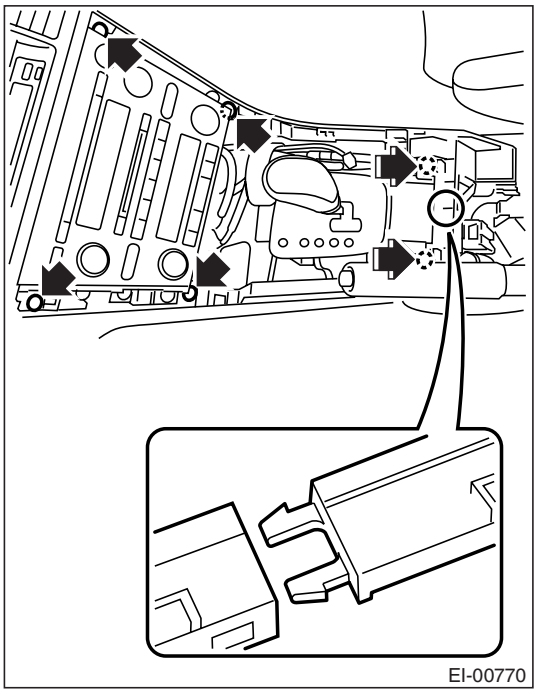
7) Remove the front door inside scuff plate (A) and front pillar lower trim (B) in the passenger's side. <Ref. to EI-60, REMOVAL, Lower Inner Trim.>



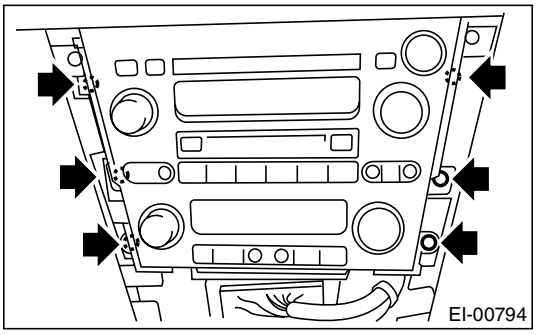
8) Remove the clips, and remove the glove box lower cover.



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



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



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

B: INSTALLATION

Install in the reverse order of removal.

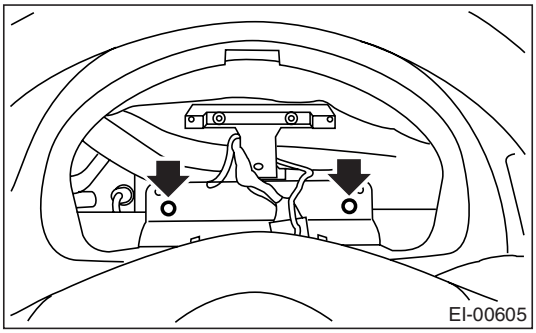
23.Instrument Panel Assembly

A: REMOVAL

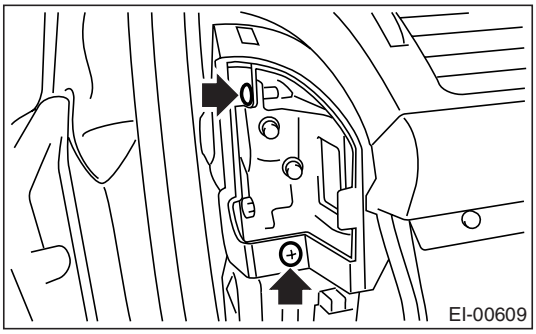
1. INSTRUMENT PANEL (EXCLUDING STEERING SUPPORT BEAM)

CAUTION:
Be careful to the harness of airbag system when servicing the instrument panel. Damage may cause the system malfunction.

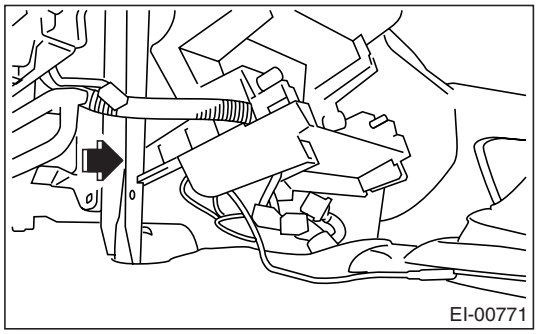
1) Disconnect the ground cable from battery.
2) Remove the front pillar upper trim. <Ref. to EI-62, REMOVAL, Upper Inner Trim.>
3) Remove the console box. <Ref. to EI-53, REMOVAL, Console Box.>
4) Remove the center console. <Ref. to EI-54, REMOVAL, Center Console.>
5) Remove the instrument panel lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
6) Remove the glove box. <Ref. to EI-51, REMOVAL, Glove Box.>
7) Remove the combination meter assembly. <Ref. to IDI-15, REMOVAL, Combination Meter.>
8) Remove the screws.


EI-00605

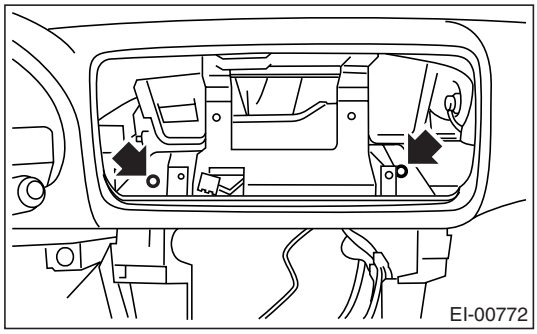
9) Remove the driver's side instrument panel side cover, and remove the screws.


EI-00609

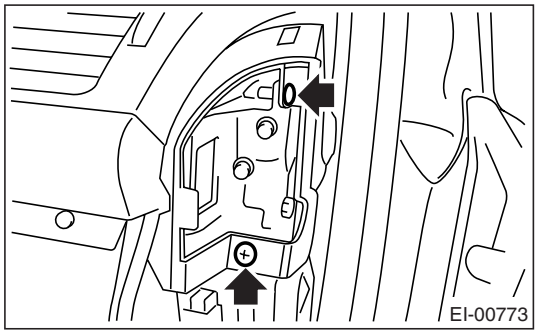
10) Remove the screw in the side face of center console.


EI-00771

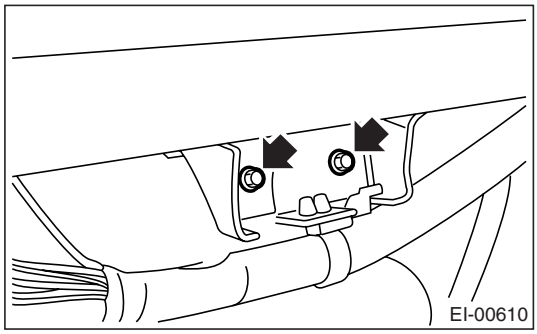
11) Remove the center air vent grille of instrument panel. <Ref. to AC-46, CENTER GRILLE, REMOVAL, Air Vent Grille.>
12) Remove the screws.


EI-00772

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


EI-00773

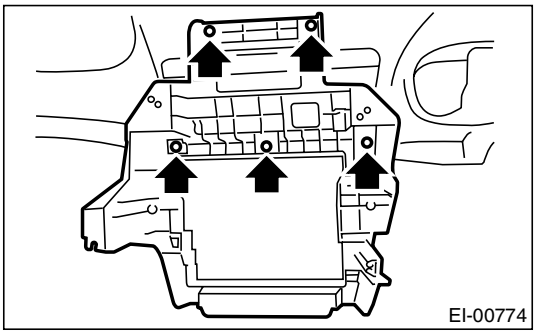
14) Remove the bolts securing passenger's airbag module to steering support beam.


EI-00610

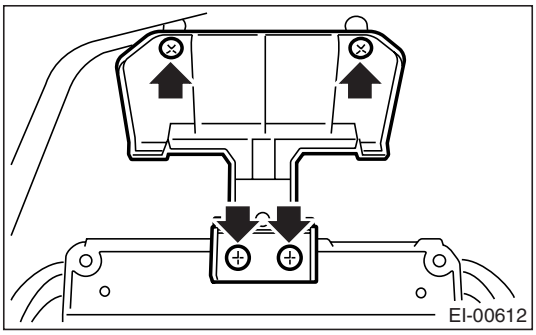
15) Disconnect the connectors, and remove the instrument panel from vehicle body.

NOTE:
• If necessary, make matching marks for easy reassembly.
• When storing the removed instrument panel, be sure to prepare a table or the like to put instrument panel on to prevent damage.

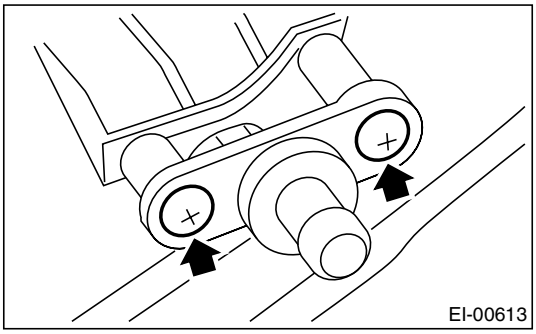
16) Remove the side air vent grille. <Ref. to AC-46, REMOVAL, Air Vent Grille.>
17) Remove the heater vent duct. <Ref. to AC-48, REMOVAL, Heater Vent Duct.>
18) Loosen the screws to remove center console frame.


EI-00774

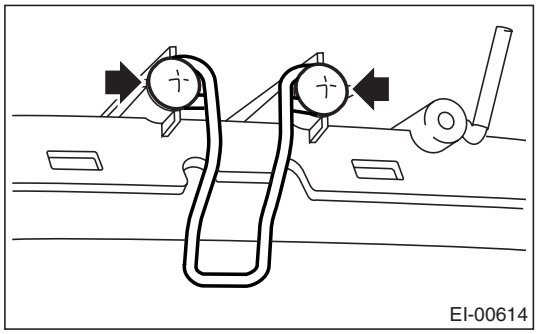
19) Loosen the screws to remove meter bracket.


EI-00612

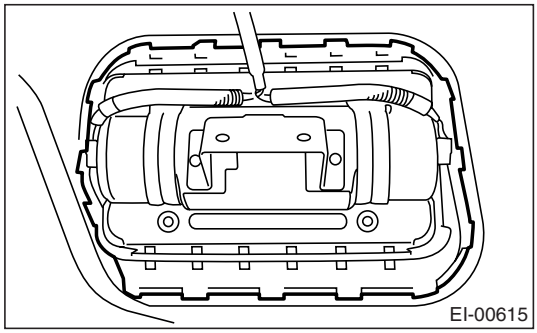
20) Loosen the screws to remove instrument panel matching pins.


EI-00613

21) Loosen the screws to remove glove box striker.


EI-00614

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

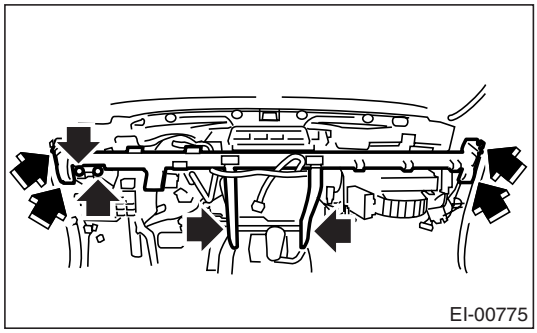

EI-00615

2. STEERING SUPPORT BEAM

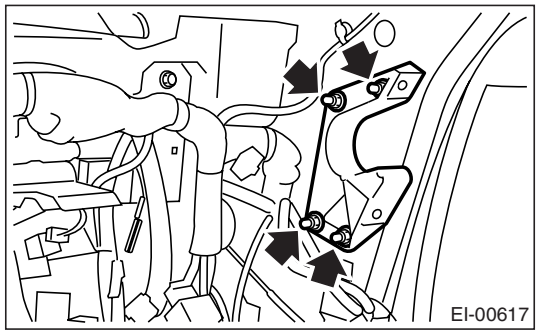
1) Remove the instrument panel. <Ref. to EI-56, INSTRUMENT PANEL (EXCLUDING STEERING SUPPORT BEAM), REMOVAL, Instrument Panel Assembly.>
2) Remove the steering shaft assembly. <Ref. to PS-24, REMOVAL, Tilt Steering Column.>
3) Remove each harness clip, and remove the harness from steering support beam.

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

4) Remove the bolts and remove steering support beam.


EI-00775

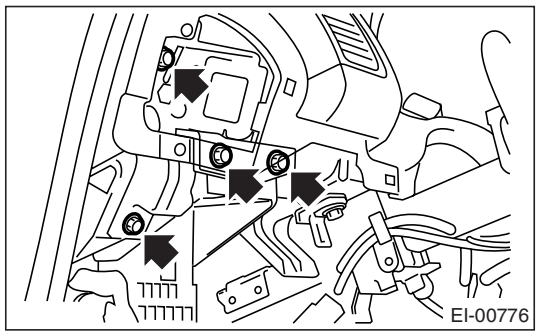
5) Remove the steering support beam bracket.



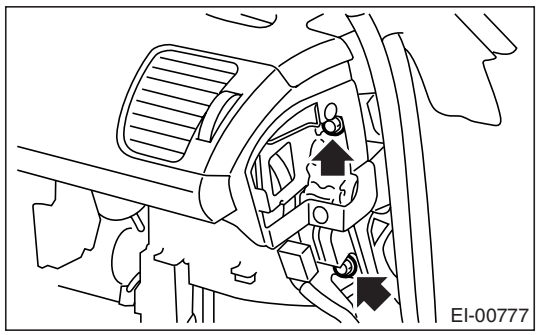
3. INSTRUMENT PANEL ASSEMBLY (INCLUDING STEERING SUPPORT BEAM)

CAUTION:
Be careful to the harness of airbag system when servicing the instrument panel. Damage may cause the system malfunction.

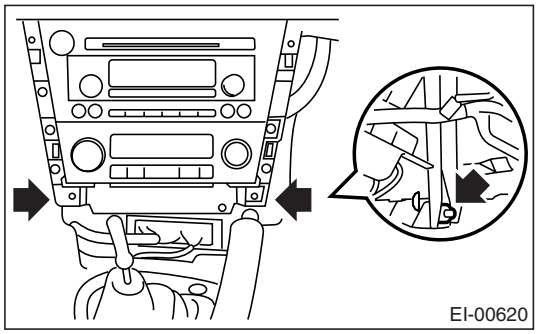
1) Remove the front pillar upper trim. <Ref. to EI-62, REMOVAL, Upper Inner Trim.>
2) Remove the center console. <Ref. to EI-54, REMOVAL, Center Console.>
3) Remove the instrument panel lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.>
4) Remove the glove box. <Ref. to EI-51, REMOVAL, Glove Box.>
5) Remove the steering shaft assembly. <Ref. to PS-24, REMOVAL, Tilt Steering Column.>
6) Remove the driver's side instrument panel side cover, and remove the bolts.



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



8) Loosen the bolts on the center console side.



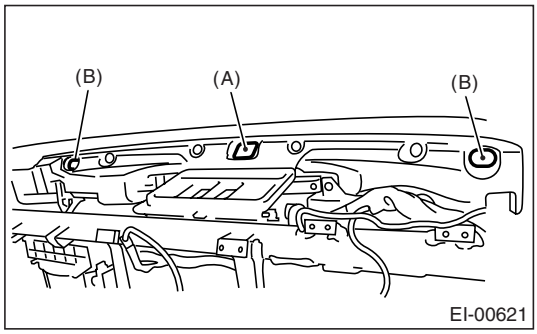
9) Disconnect each connector, and remove the instrument assembly.

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

B: INSTALLATION

1. INSTRUMENT PANEL (EXCLUDING STEERING SUPPORT BEAM)

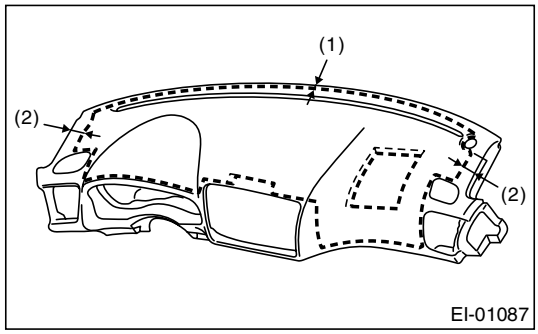
1) Insert the matching pins (three places) on the instrument panel tip into the grommet (A) and (B) on the body panel side.



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

NOTE:
How to install insulator and pad;
• Adhesive
Use polyurethane adhesive. When assembling the instrument panel assembly, wait until the adhesive has evaporated to prevent filling of the smell in the compartment.
• Double-sided tape
Use commercial double-sided tape. (Use double-sided adhesive tape having extra-strength.)

• Location



(1) 10 mm (0.39 in)
(2) 40 mm (1.57 in)

Make clearance for 10 mm from instrument panel front edge, and 40 mm from both side edges when taping.

2. STEERING SUPPORT BEAM

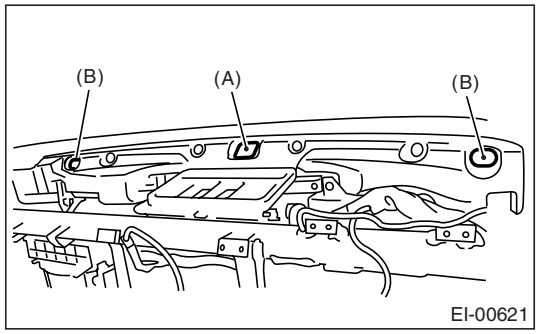
1) Temporarily tighten the steering support beam with bolt, and then route the harness.
2) Make sure that there is no mutual interference in each pedal, and then tighten each bolt.

Tightening torque:
25 N·m (25.5 kgf-m, 18.4 ft-lb)

3) Install in the reverse order of removal.

3. INSTRUMENT PANEL ASSEMBLY (INCLUDING STEERING SUPPORT BEAM)

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



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

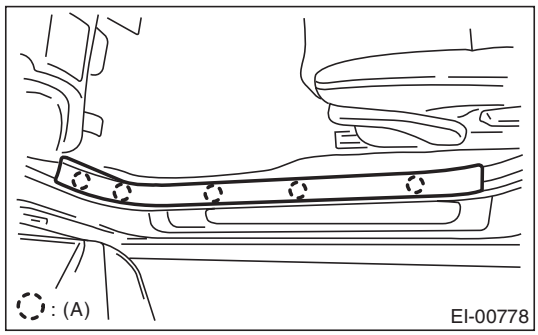
Tightening torque:
25 N·m (25.5 kgf-m, 18.4 ft-lb)

5) Install in the reverse order of removal.

24. Lower Inner Trim

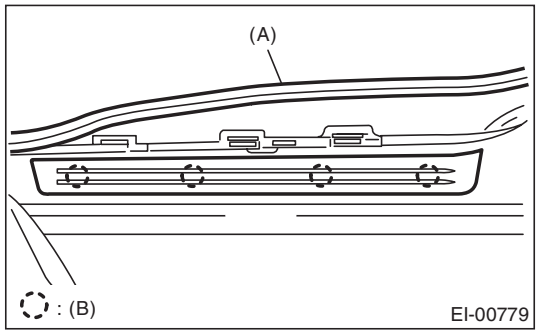
A: REMOVAL

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



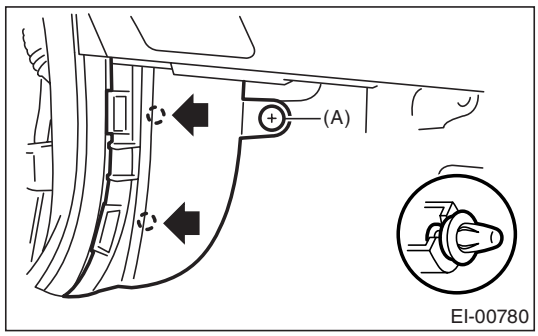
(A) Hook

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



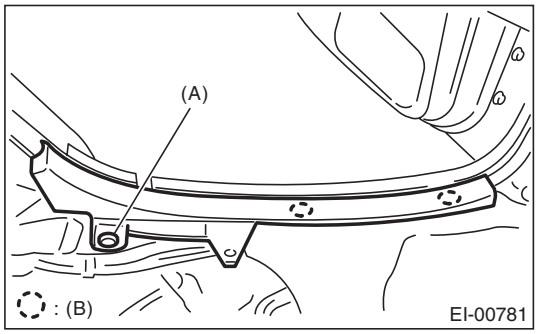
(B) Clip

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



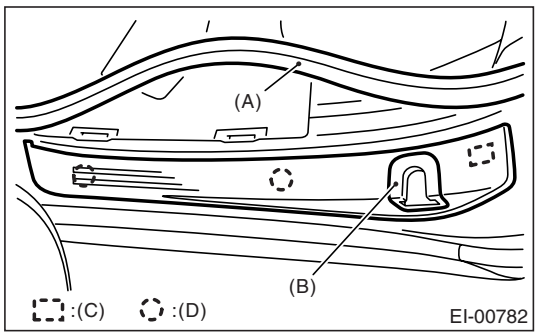
4) Remove the rear seat cushion. <Ref. to SE-14, REMOVAL, Rear Seat.>

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



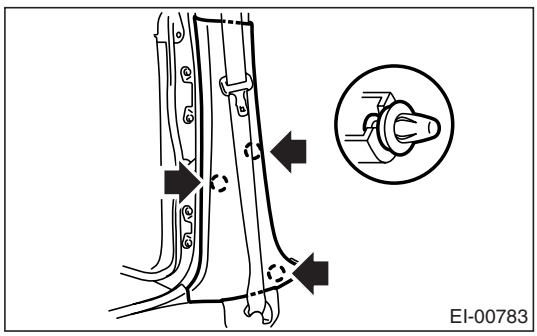
(B) Hook

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

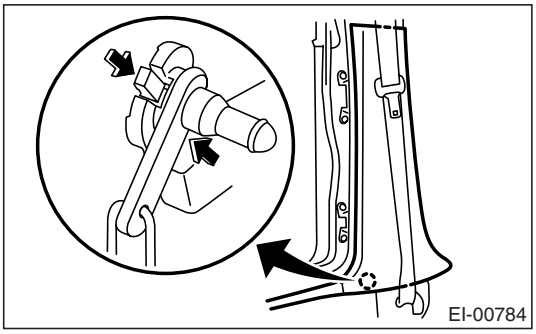


(C) Hook with plate clip
(D) Clip

7) Remove the clips of center pillar lower trim.



8) Remove the center pillar lower trim while pushing the pawl part on the upper and lower side of dropout prevention clip.



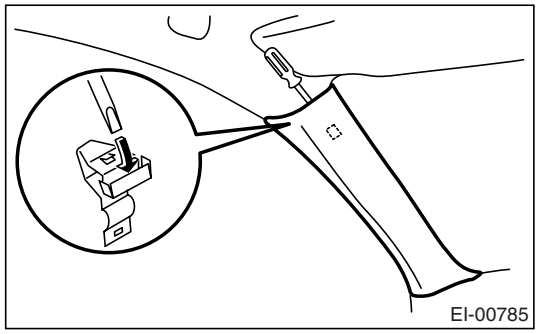
B: INSTALLATION

Install in the reverse order of removal.

25.Upper Inner Trim

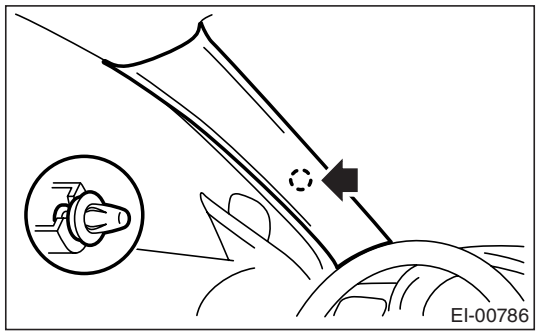
A: REMOVAL

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



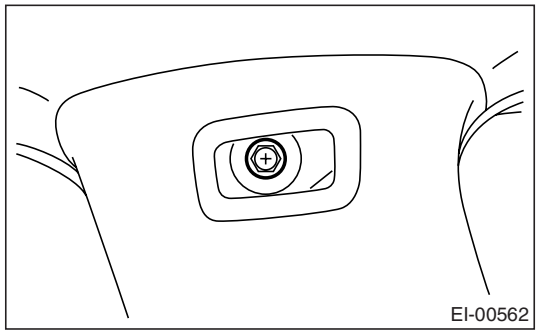
CAUTION:
When the metal clip has been removed or damaged, replace both of the trim and metal clips with new ones.

2) Remove the front pillar upper trim.

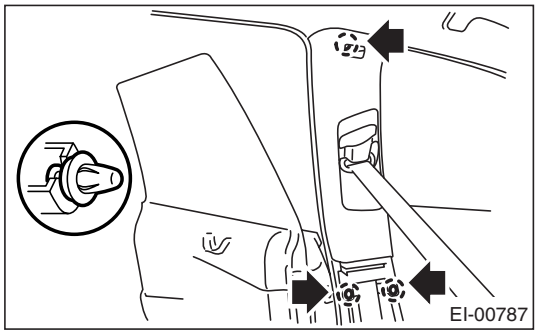


3) Remove the front inside scuff plate, rear inside scuff plate and center pillar lower trim. <Ref. to EI-60, REMOVAL, Lower Inner Trim.>

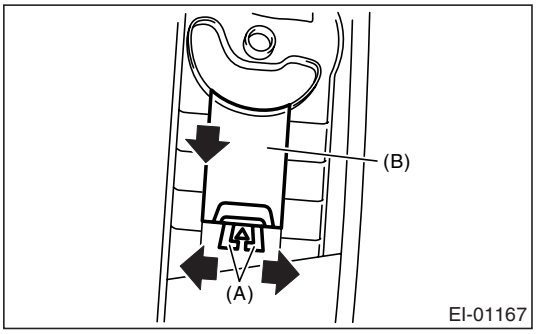
4) Remove the cap on the upper side of pillar trim, and remove the bolt inside. (Model with curtain airbag)



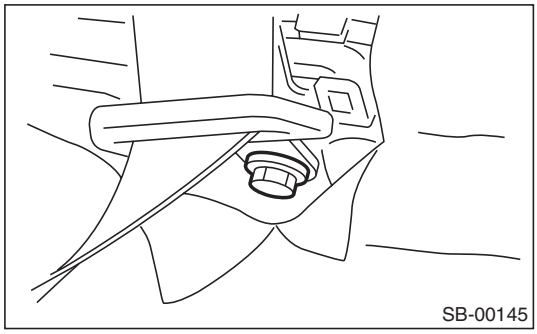
5) Remove the center pillar upper trim.



6) For driver's side, push the claw (A) in the backside of center pillar upper trim to both right and left side, and lower the mini slider (B) into the direction of arrow.



7) Remove the seat belt lower anchor bolt or lap seat belt pretensioner (Model with lap seat belt pretensioner), and pull out the seat belt from center pillar upper trim.



B: INSTALLATION

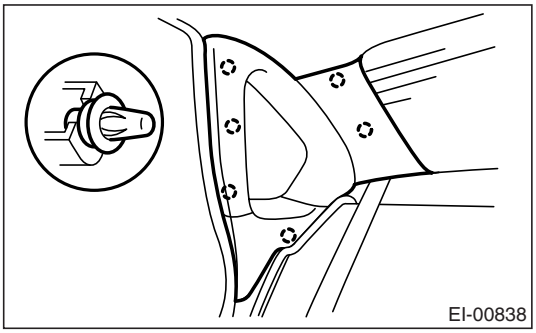
Install in the reverse order of removal.

26. Rear Quarter Trim

A: REMOVAL

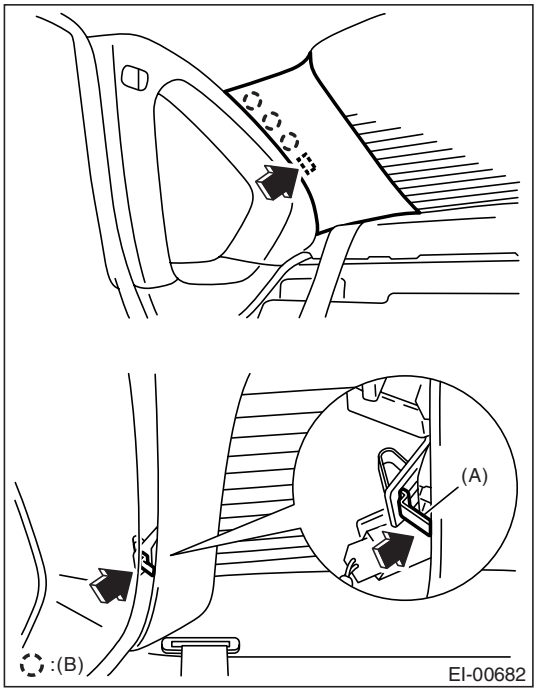
1. SEDAN MODEL (MODEL WITHOUT CURTAIN AIRBAG)

1) Remove the rear seat. <Ref. to SE-14, SEDAN MODEL, REMOVAL, Rear Seat.>
2) Remove rear quarter trim.



2. SEDAN MODEL (MODEL WITH CURTAIN AIRBAG)

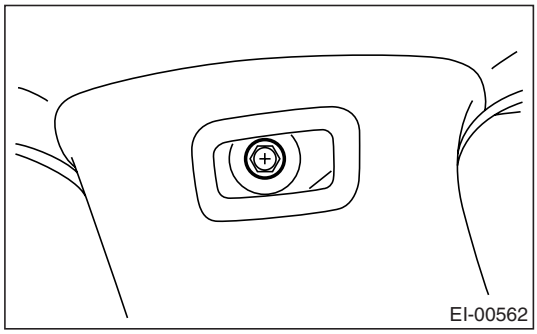
1) Remove the rear seat. <Ref. to SE-14, SEDAN MODEL, REMOVAL, Rear Seat.>
2) Turn over the trim, and remove the quarter trim rear by pressing the claw (A) of metal clip using flat tip screwdriver or the like.



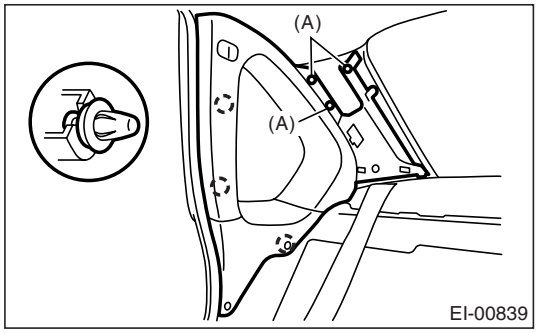
(B) Hook

CAUTION:
When the metal clip has been removed or damaged, replace both of the trim and metal clips with new ones.

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

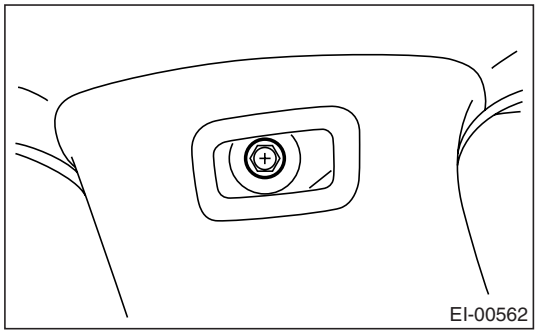


4) Remove the bolts (A), and remove the quarter trim (front).

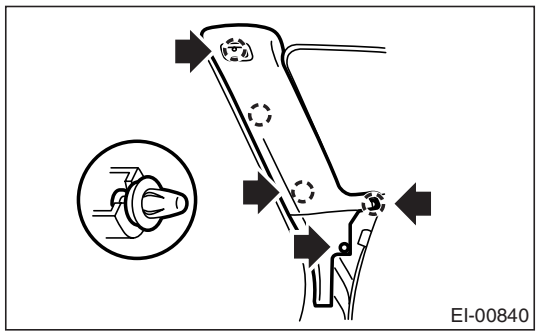


3. WAGON MODEL

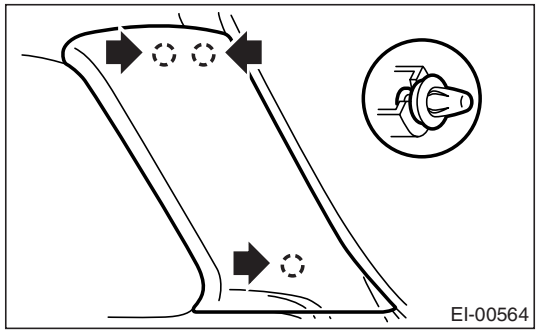
1) Remove the rear seat cushion and backrest shoulder. <Ref. to SE-14, WAGON MODEL, REMOVAL, Rear Seat.>
2) Remove the cap on the upper side of pillar trim, and remove the bolt inside. (Model with curtain airbag)



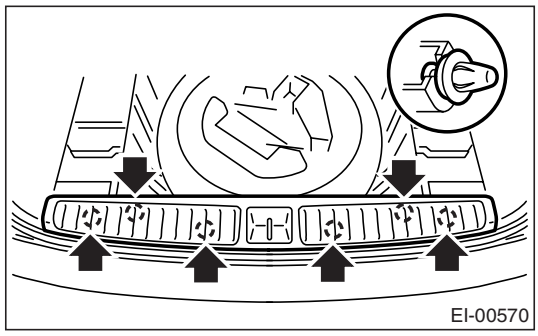
3) Remove the clip, and remove the quarter front pillar trim.



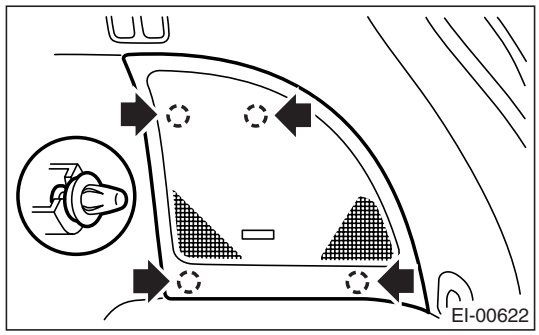
4) Remove the quarter rear pillar trim.



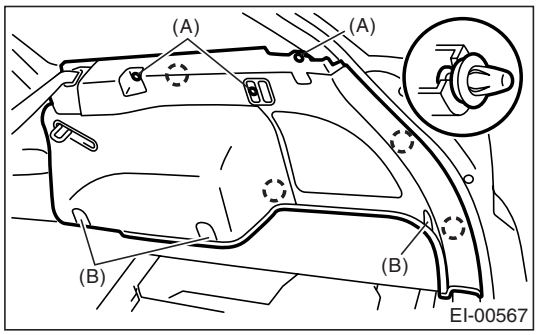
5) Remove the luggage floor box. <Ref. to EI-74, REMOVAL, Luggage Floor Box.>
6) Remove the luggage floor end cover.



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



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



NOTE:
• Remove the screw cover on the tonneau cover installing part.
• Pull out the shopping bag hook, and remove the screw on the back.

B: INSTALLATION

1. SEDAN MODEL

Install in the reverse order of removal.

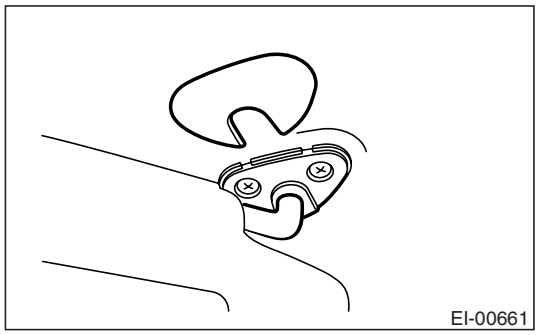
2. WAGON MODEL

Install in the reverse order of removal.

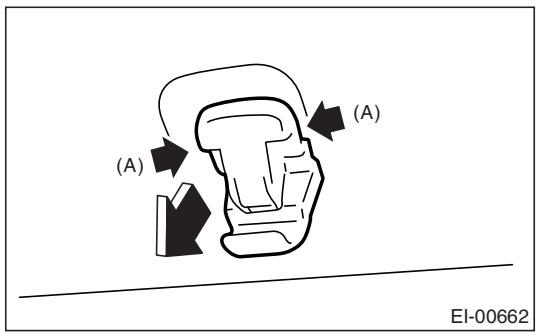
27.Sun Visor

A: REMOVAL

1) Remove the cover, loosen the mounting screws, and remove the sun visor.



2) Remove the connector. (Model with vanity mirror light)
3) While pressing the (A) on the both side using flat tip screwdriver, pull the sun visor hook to remove it.



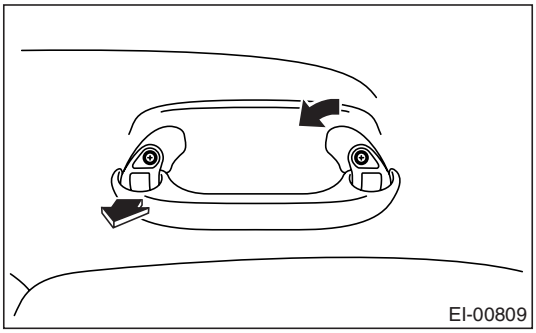
B: INSTALLATION

Install in the reverse order of removal.

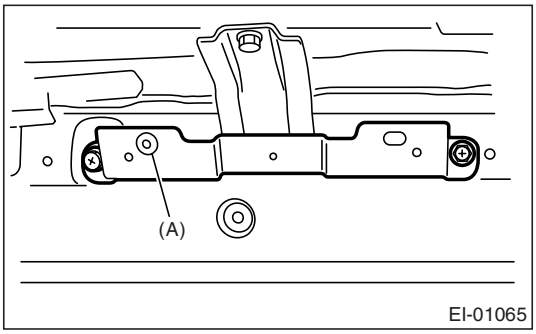
28. Assist Grip

A: REMOVAL

1) Remove the screw cover, and remove the screw inside.
2) Pull the left side of assist grip toward you, and rotate the right side of it counterclockwise to remove.



3) Remove the roof trim. <Ref. to EI-67, REMOVAL, Roof Trim.>
4) Remove the bolts, and remove the assist grip bracket.



(A) Grommet

B: INSTALLATION

Install in the reverse order of removal.

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

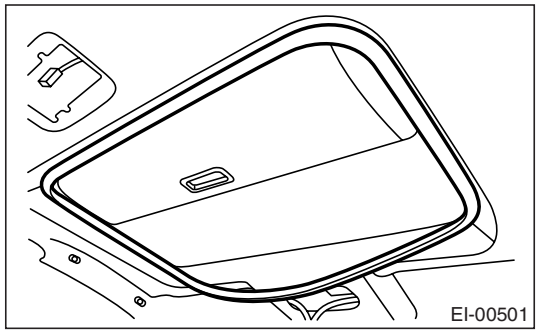
CAUTION:
Be sure to install the grommet to assist grip bracket.
When the assist grip is installed with no grommet, it may cause the faulty returning.

29.Roof Trim

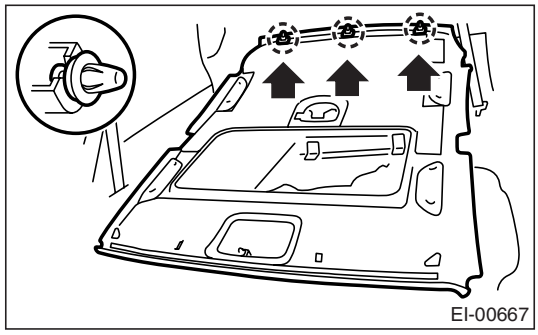
A: REMOVAL

1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
3) Remove the rear seat. <Ref. to SE-14, REMOVAL, Rear Seat.>
4) Remove the console box. <Ref. to EI-53, REMOVAL, Console Box.>
5) Remove the center console. <Ref. to EI-54, REMOVAL, Center Console.>
6) Remove the select lever. (AT model)
<Ref. to CS-22, REMOVAL, Select Lever.>
7) Remove the spot map light. <Ref. to LI-34, REMOVAL, Spot Map Light.>
8) Remove the room light. <Ref. to LI-35, REMOVAL, Room Light.>
9) Remove the sun visor. <Ref. to EI-65, REMOVAL, Sun Visor.>
10) Remove the assist grip. <Ref. to EI-66, REMOVAL, Assist Grip.>
11) Remove the upper inner trim. <Ref. to EI-62, REMOVAL, Upper Inner Trim.>
12) Remove the rear quarter trim. <Ref. to EI-63, SEDAN MODEL (MODEL WITH CURTAIN AIRBAG), REMOVAL, Rear Quarter Trim.>
13) Remove the sunroof opening trim. (Model with sunroof)


EI-00501

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

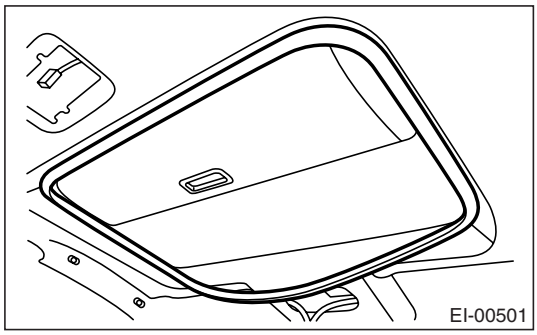

EI-00667

2. WAGON MODEL

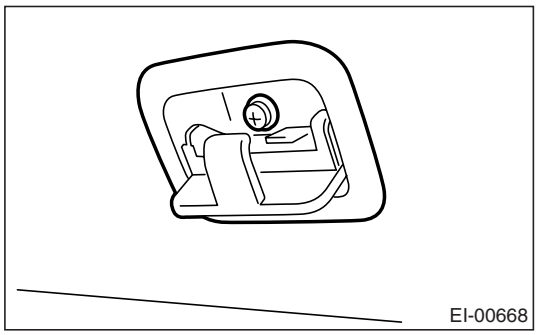
1) Disconnect the ground cable from battery.
2) Remove the spot map light. <Ref. to LI-34, REMOVAL, Spot Map Light.>
3) Remove the room light. <Ref. to LI-35, REMOVAL, Room Light.>
4) Remove the luggage room light. <Ref. to LI-36, REMOVAL, Luggage Room Light.>
5) Remove the sun visor. <Ref. to EI-65, REMOVAL, Sun Visor.>
6) Remove the assist grip. <Ref. to EI-66, REMOVAL, Assist Grip.>
7) Remove the upper inner trim. <Ref. to EI-62, REMOVAL, Upper Inner Trim.>
8) Remove the rear quarter trim. <Ref. to EI-63, WAGON MODEL, REMOVAL, Rear Quarter Trim.>

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

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

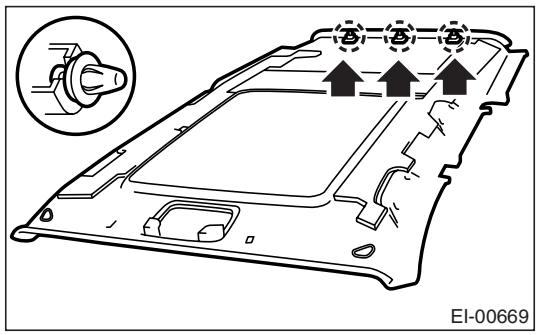

EI-00501

10) Remove the coat hook.


EI-00668

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

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



B: INSTALLATION

1. SEDAN MODEL

Install in the reverse order of removal.

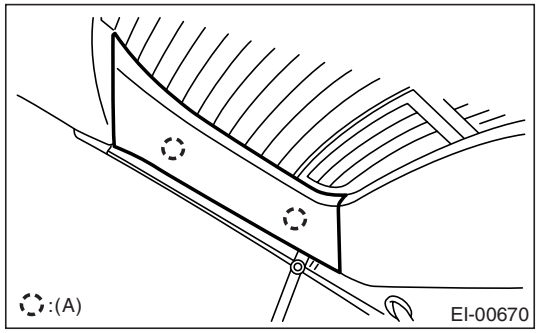
2. WAGON MODEL

Install in the reverse order of removal.

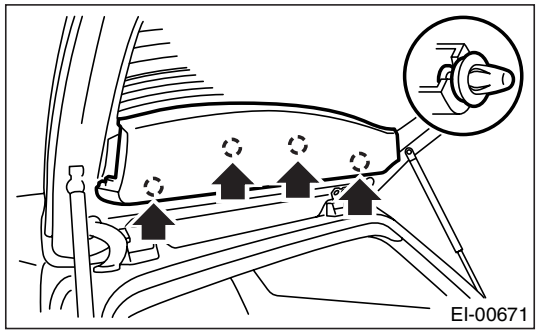
30. Rear Gate Trim

A: REMOVAL

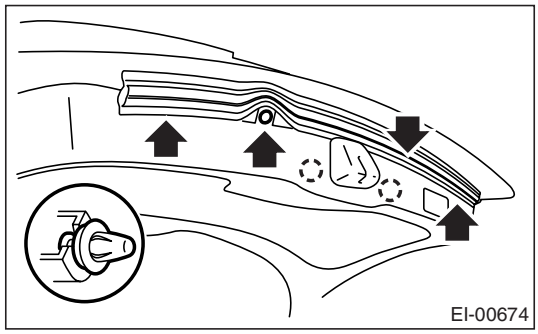
1) Remove the clips (A), and remove the rear gate pillar trim.



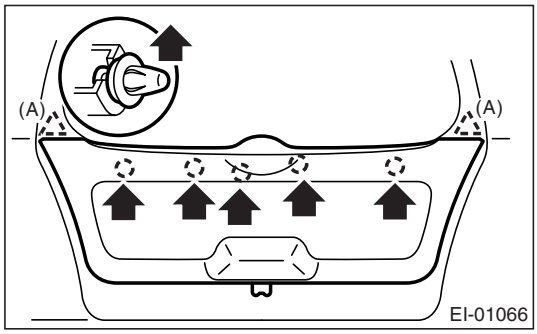
2) Remove the clips, and detach the rear gate upper trim.



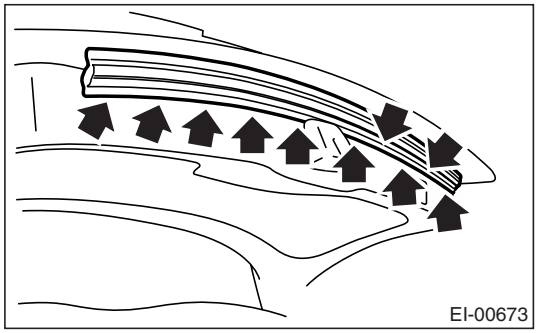
3) Remove the cover in the inner handle, and loosen the inside screw.
4) Turn over the weather strip, and remove the clips.



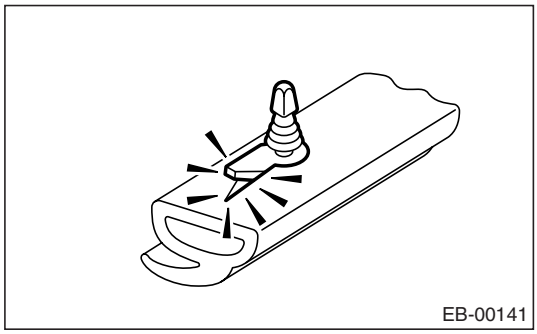
5) Remove the clips (A), and remove the rear gate lower trim.



6) Remove the rear gate weather strip.



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



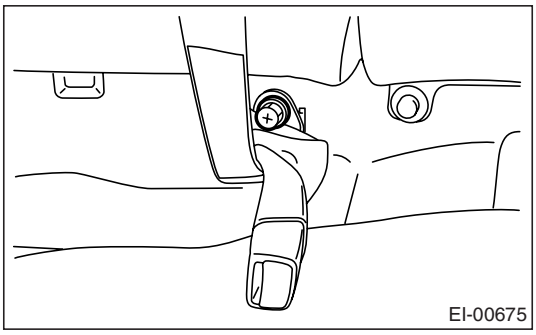
B: INSTALLATION

Install in the reverse order of removal.

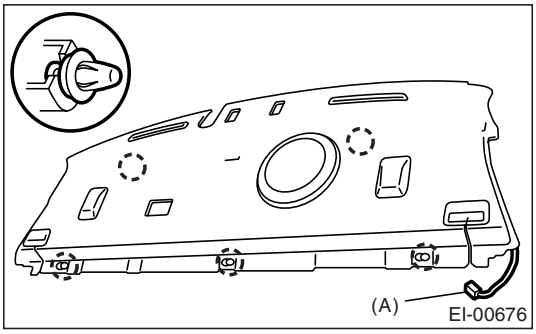
31.Rear Shelf Trim

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear quarter trim. <Ref. to EI-63, SEDAN MODEL (MODEL WITH CURTAIN AIR-BAG), REMOVAL, Rear Quarter Trim.>
3) Remove the high-mounted stop light. <Ref. to LI-33, REMOVAL, High-mounted Stop Light.>
4) Remove the rear seat cushion. <Ref. to SE-14, WAGON MODEL, REMOVAL, Rear Seat.>
5) Remove the lower anchor bolt of rear center seat belt.



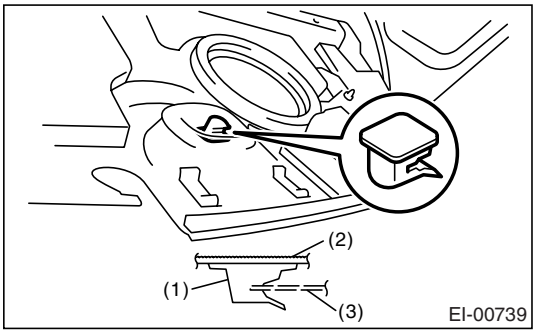
6) Disconnect the high-mounted stop light harness connector (A), remove the five clips, and then remove the rear shelf trim with pulling it frontward.



B: INSTALLATION

Install in the reverse order of removal.

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



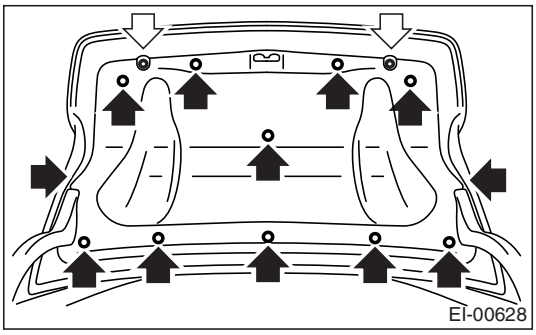
(1) Hook
(2) Rear shelf trim
(3) Vehicle body panel

32.Trunk Room Trim

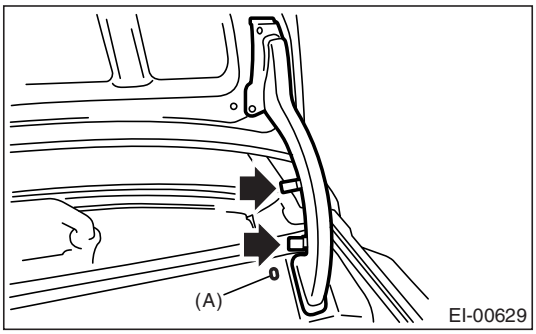
A: REMOVAL

1. TRUNK LID TRIM

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

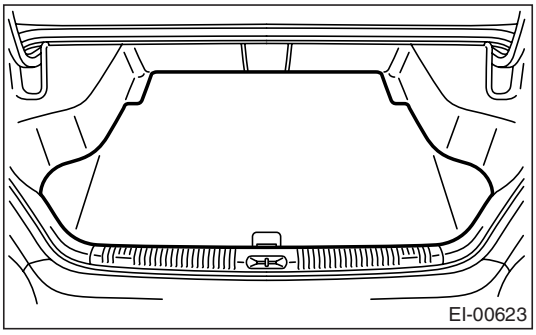


2) Remove the clip (A) of trunk side trim, and then remove the trunk lid arm cover.

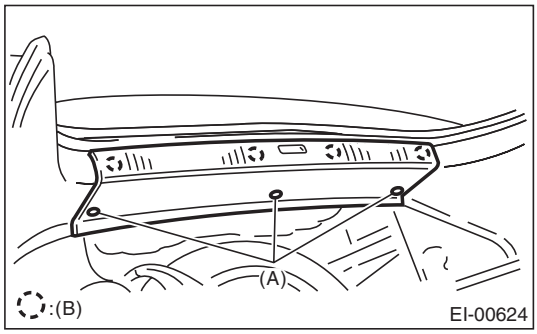


2. TRUNK ROOM TRIM

1) Remove the trunk room mat.

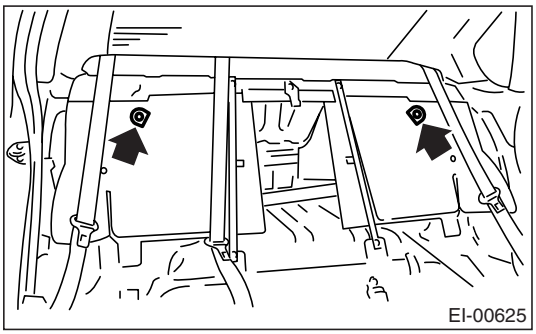


2) Remove the trim clips (A), and remove the trunk room end cover.

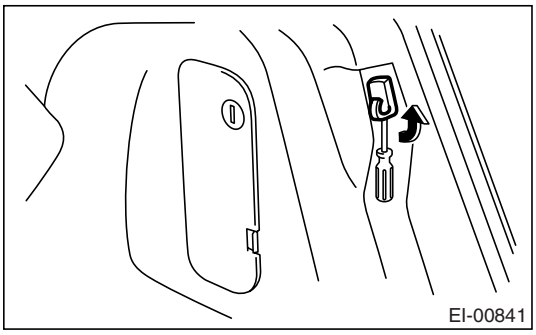


(B) Clip

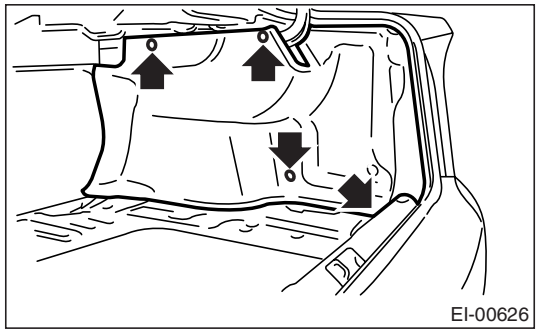
3) Remove the rear seat backrest, and then remove the trim clips at the front side of trunk side trim. <Ref. to SE-14, WAGON MODEL, REMOVAL, Rear Seat.>



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



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



B: INSTALLATION

1. TRUNK LID TRIM

Install in the reverse order of removal.

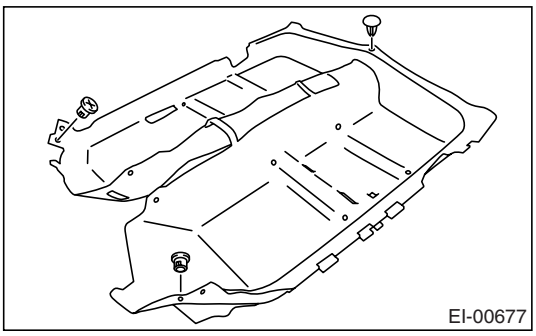
2. TRUNK ROOM TRIM

Install in the reverse order of removal.

33. Floor Mat

A: REMOVAL

1) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove the rear seat cushion. <Ref. to SE-14, REMOVAL, Rear Seat.>
3) Remove the console box. <Ref. to EI-53, Console Box.>
4) Remove the console side panel. <Ref. to EI-54, REMOVAL, Center Console.>
5) Remove the lower inner trim. <Ref. to EI-60, REMOVAL, Lower Inner Trim.>
6) Remove the footrest. (MT model)
7) Remove the clips from floor mat.
8) Remove the mat hook on both side.
9) Remove the mat from toe board area.
10) Remove the mat from rear heater duct.
11) Roll the mat, and then open the rear door to take it out.


EI-00677

B: INSTALLATION

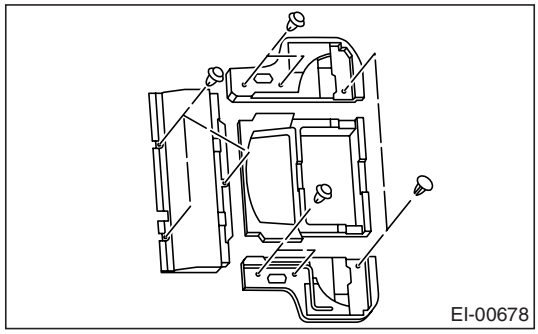
Install in the reverse order of removal.

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

34.Luggage Floor Box

A: REMOVAL

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



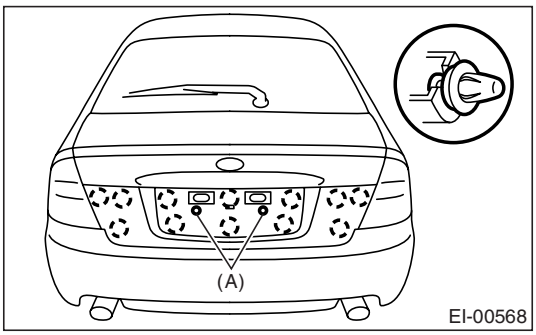
B: INSTALLATION

Install in the reverse order of removal.

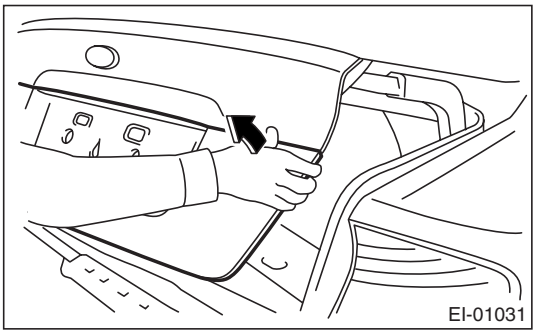
35.Trunk Lid Garnish

A: REMOVAL

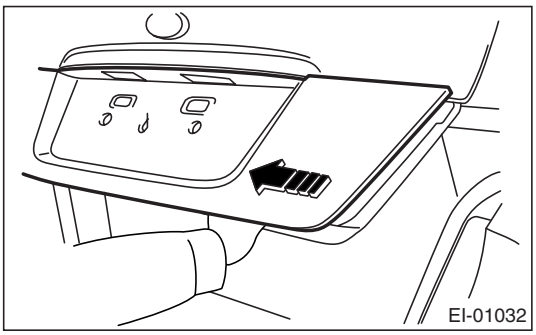
1) Remove the license plate, and loosen the bolts (A).



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



3) Remove the trunk lid garnish in the order from the end of it, by accessing it through the gap between trunk lid garnish and trunk lid panel.



B: INSTALLATION

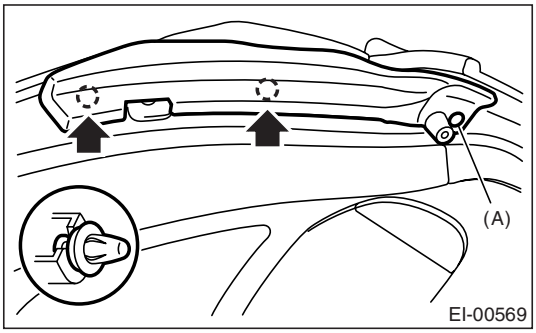
Install in the reverse order of removal.

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

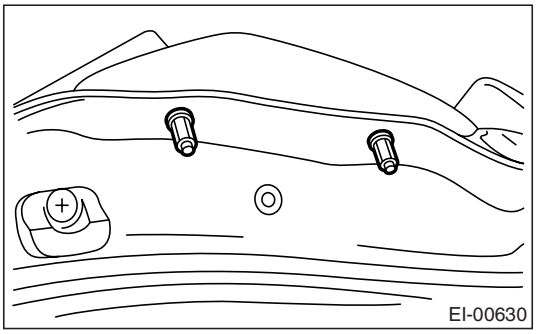
36.Rear Gate Garnish

A: REMOVAL

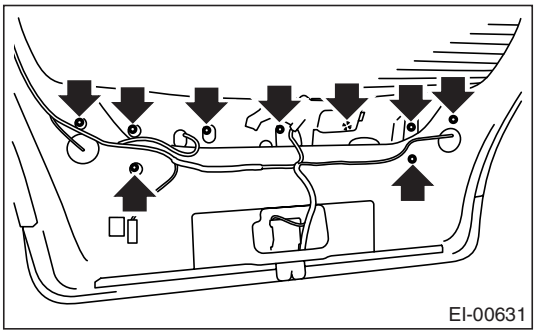
1) Remove the rear gate trim. <Ref. to EI-69, REMOVAL, Rear Gate Trim.>
2) Remove the clips (A), and remove the rear gate panel side cover.



3) Remove the hexagon cap nuts.



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



B: INSTALLATION

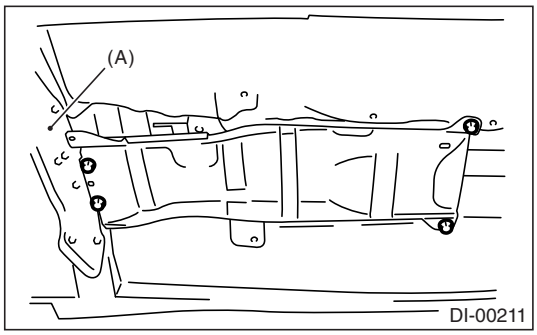
Install in the reverse order of removal.

37.Heat Shield Cover

A: REMOVAL

1. FRONT HEAT SHIELD COVER

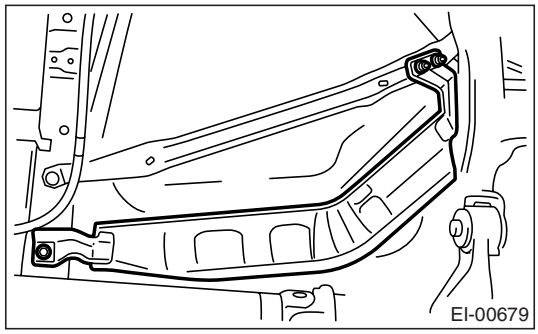
Remove the four bolts to remove front heat shield cover.



(A) Transmission mounting

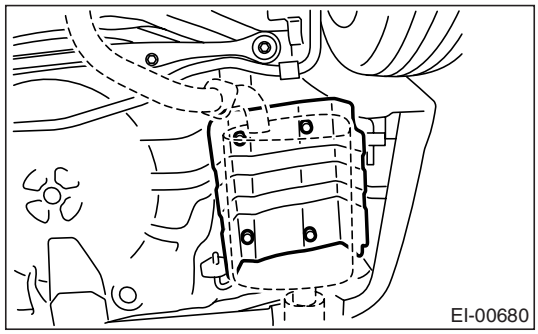
2. CENTER HEAT SHIELD COVER

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



3. REAR HEAT SHIELD COVER

1) Remove the muffler. <Ref. to EX(H4SO 2.0)-12, REMOVAL, Muffler.> <Ref. to EX(H4DOTC)-12, REMOVAL, Muffler.>
2) Remove the four bolts to remove rear heat shield cover.



B: INSTALLATION

Install in the reverse order of removal.

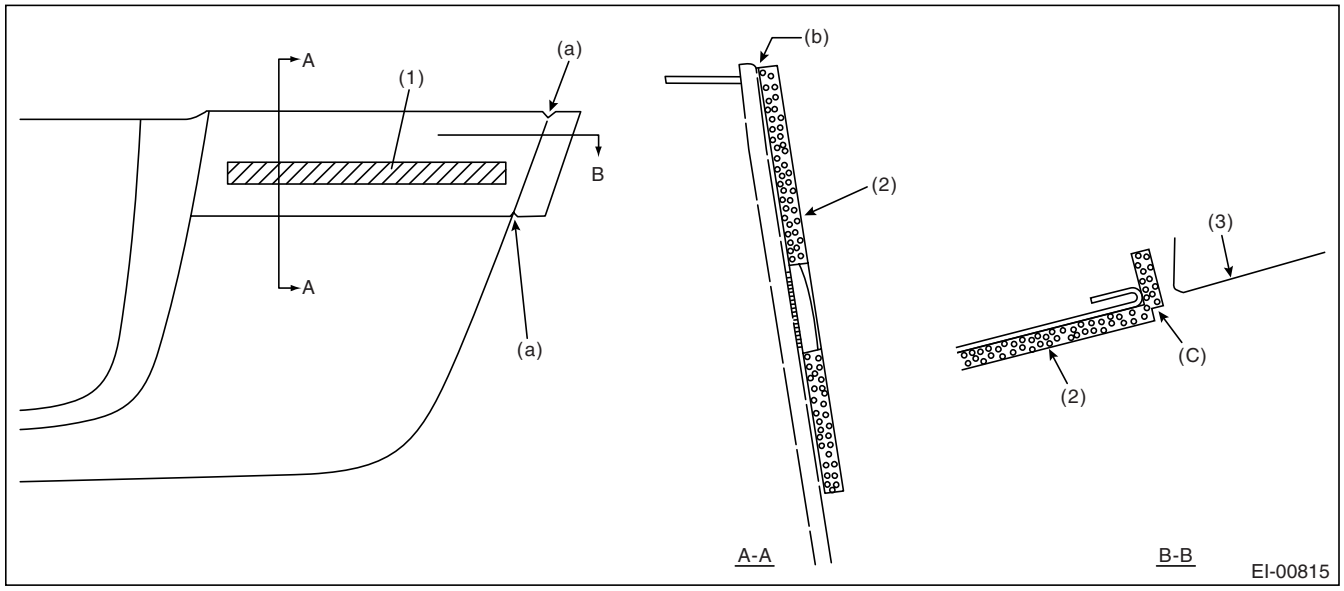
38.Ornament

A: INSTALLATION

1. LETTER MARK

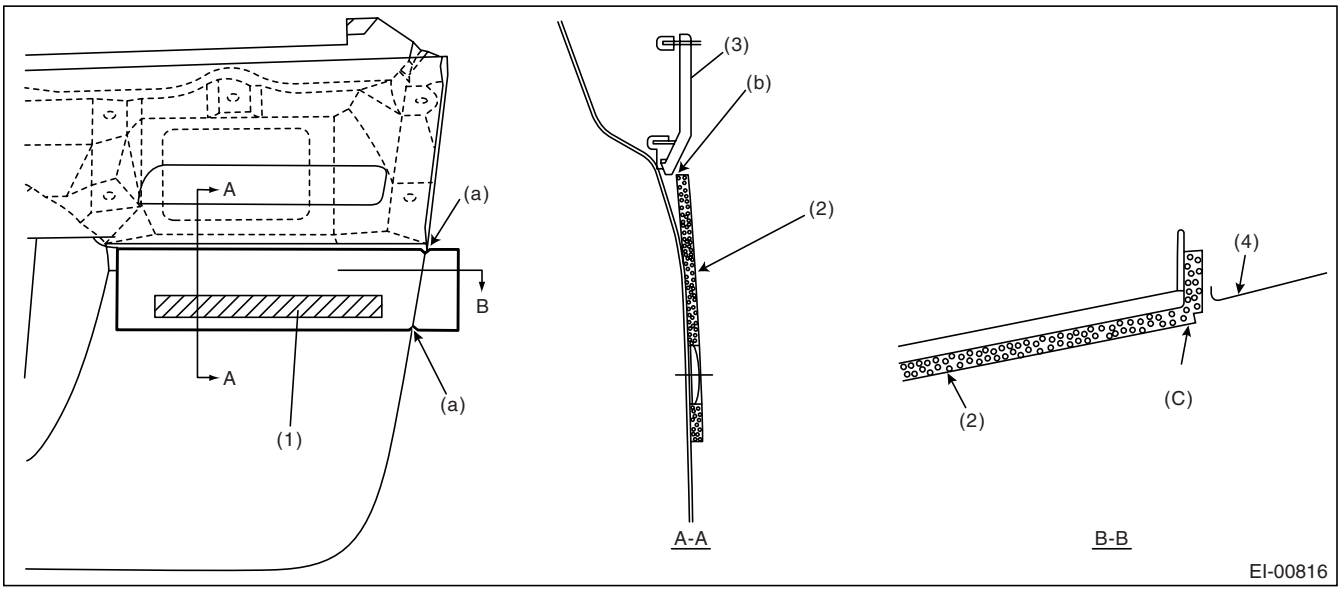
Adhere the letter mark with the following dimensions.

- Sedan model



(a) Apply the apply tape with aligning its cut out to the end of trunk lid garnish.
(b) Apply the apply tape with aligning it to R stop on the top end of trunk lid garnish.
(C) Align the slit of apply tape to panel end.
(1) Letter mark
(2) Apply tape
(3) Rear combination light

- Wagon model



(a) Apply the apply tape with aligning its cut out to the end of rear gate panel.
(b) Apply the apply tape with aligning it to the outer bottom end of rear gate garnish.
(C) Align the slit of apply tape to panel end.
(1) Letter mark
(3) Rear gate garnish
(4) Rear combination light
(2) Apply tape

EXTERIOR BODY PANELS

EB

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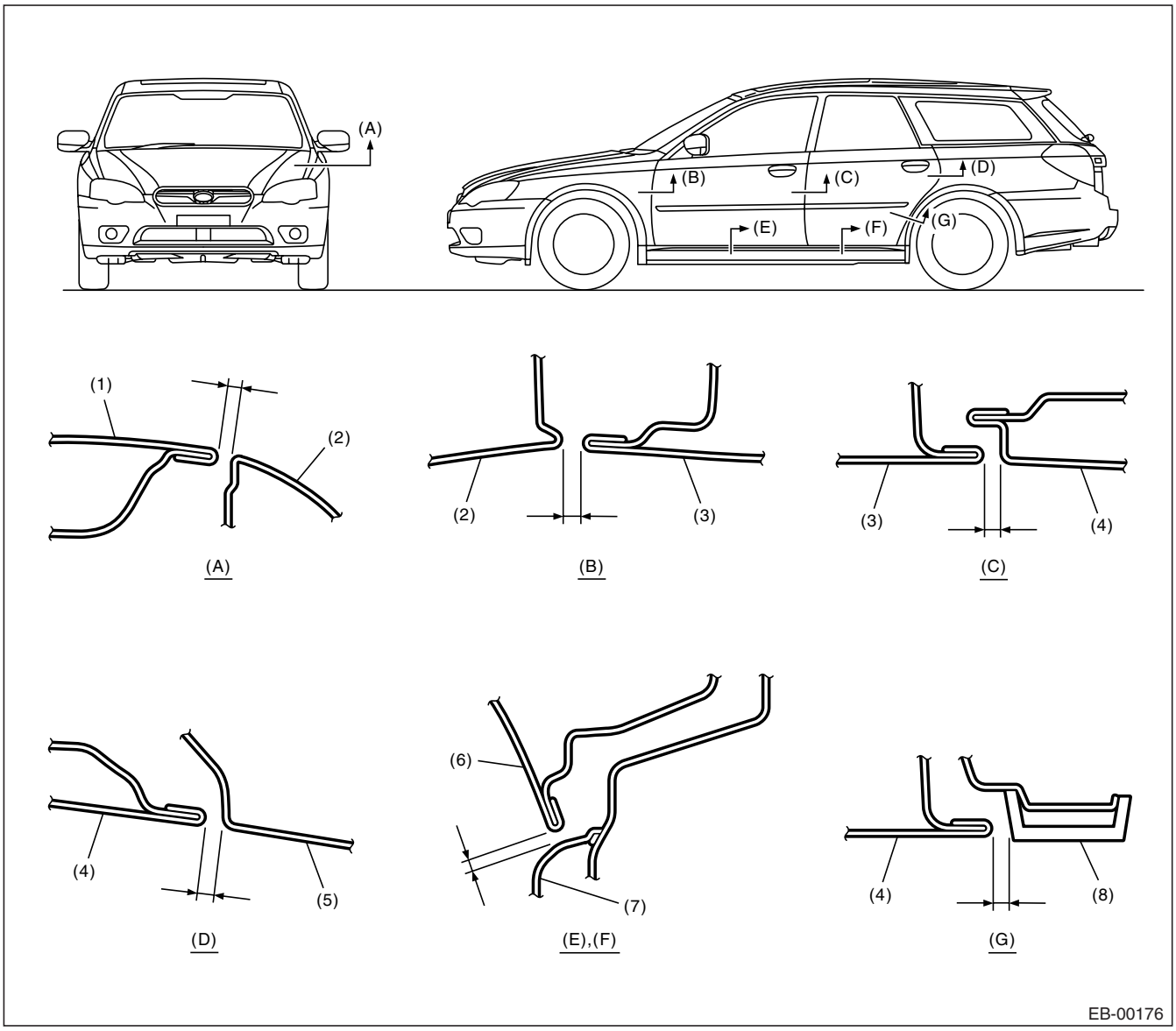
5.	Front Sealing Cover	20
6.	Rear Door	21
7.	Rear Sealing Cover	24
8.	Trunk Lid	25
9.	Rear Gate	27

1. General Description

A: SPECIFICATION

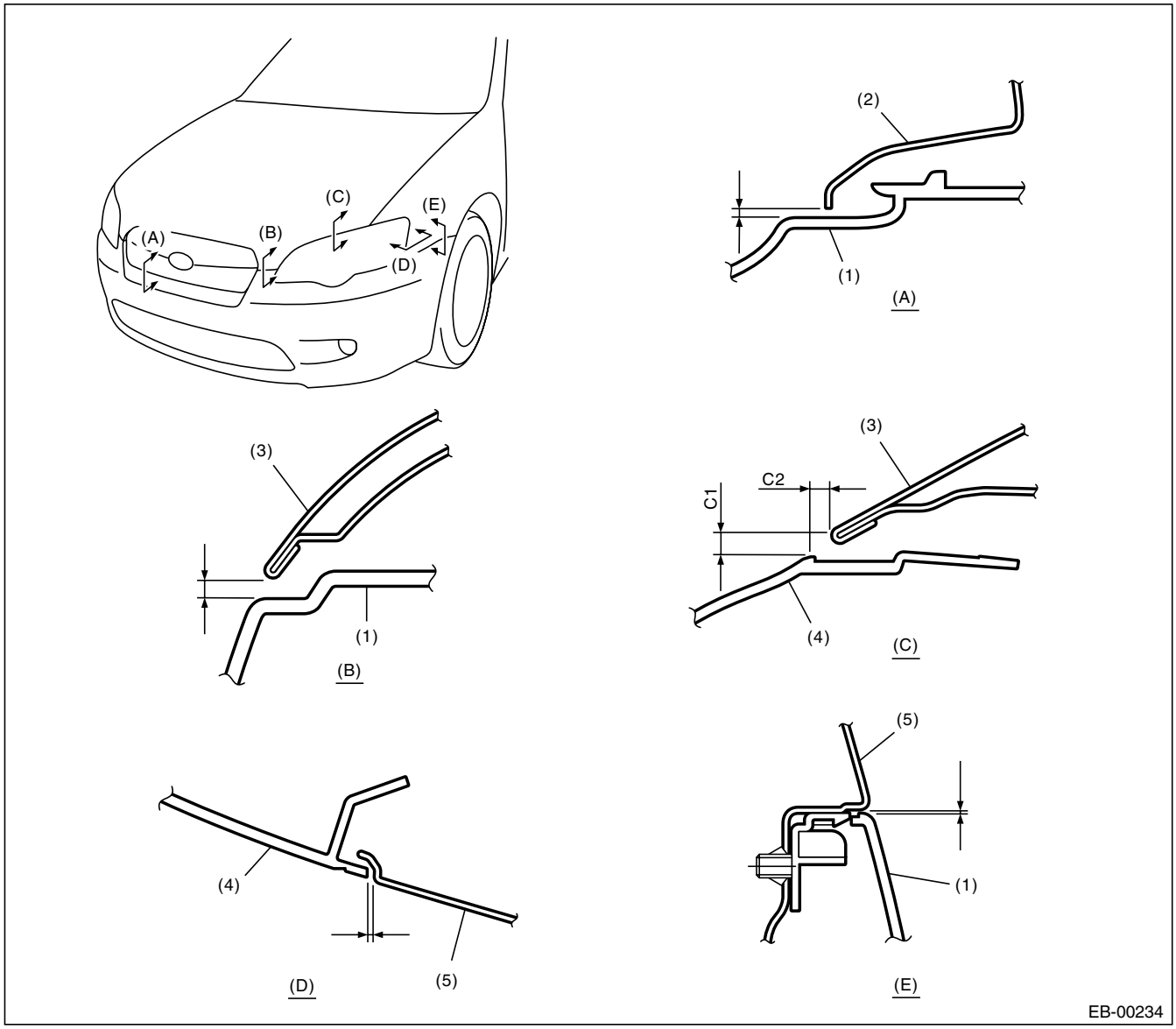
1. SIDE



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

Section	Part	Specification
(A)	Front hood panel to Front fender panel	3.5±1.0 mm (0.14±0.04 in)
(B)	Front fender panel to Front door panel	4.65±1.0 mm (0.18±0.04 in)
(C)	Front door panel to Rear door panel	5.1±1.0 mm (0.20±0.04 in)
(D)	Rear door panel to Rear quarter panel	4.6±1.0 mm (0.18±0.04 in)
(E), (F)	Door panel to Side sill	6.0±1.0 mm (0.24±0.04 in)
(G)	Rear door panel to Rear quarter lower protector	5.0±1.0 mm (0.20±0.04 in)

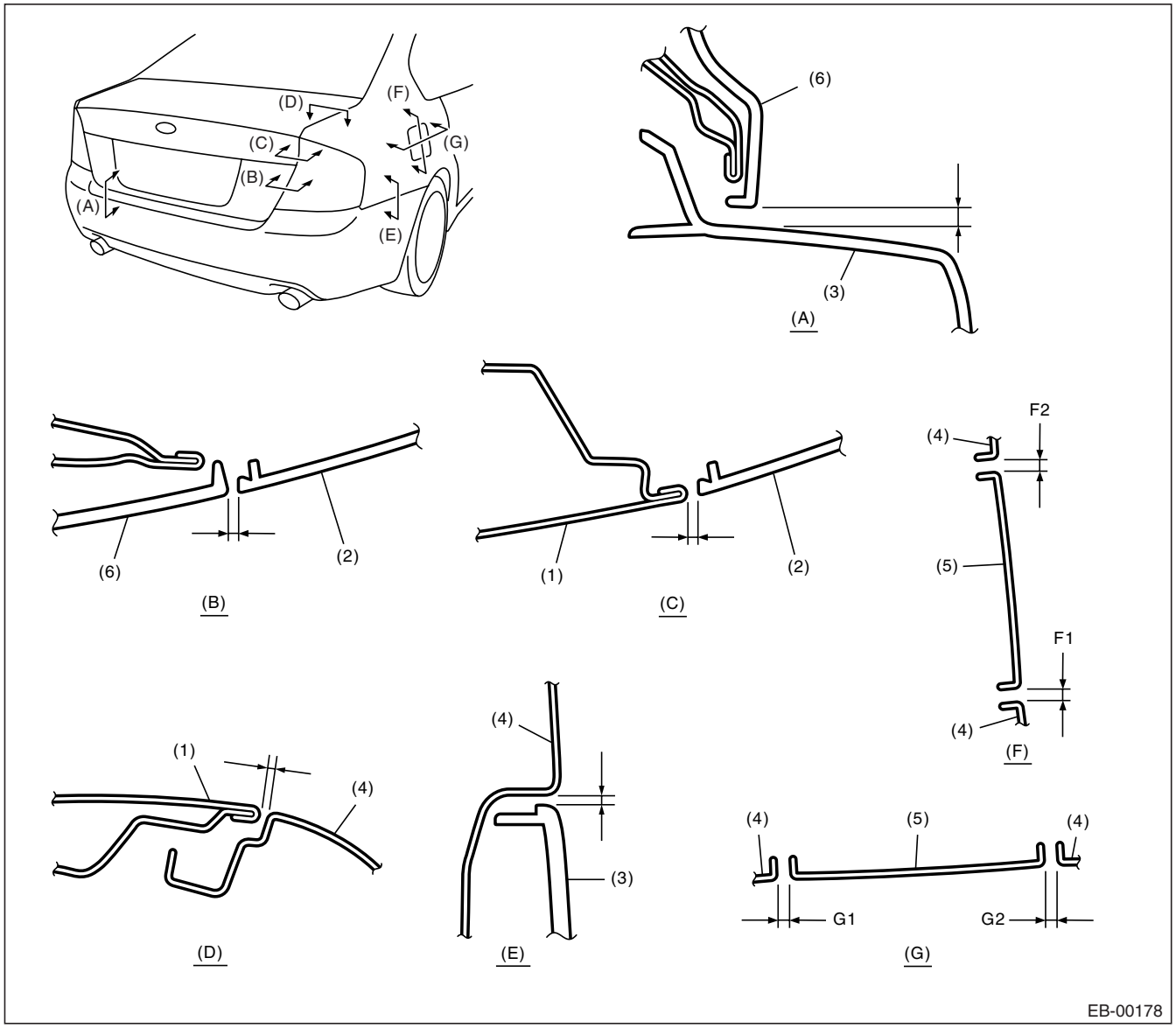
2. FRONT



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

Section	Part	Specification
(A)	Front bumper to Front grille (Longitudinal direction)	1.0±0.7 mm (0.04±0.03 in)
(B)	Front hood panel to Front bumper	4.0 — 6.0 mm (0.16 — 0.24 in)
(C)	Front hood panel to Headlight	C1: 6.0±1.0 mm (0.24±0.04 in) C2: 5.0±1.0 mm (0.20±0.04 in)
(D)	Front fender panel to Headlight	1.0±1.0 mm (0.04±0.04 in)
(E)	Front fender panel to Front bumper	1.0±0.7 mm (0.04±0.03 in)

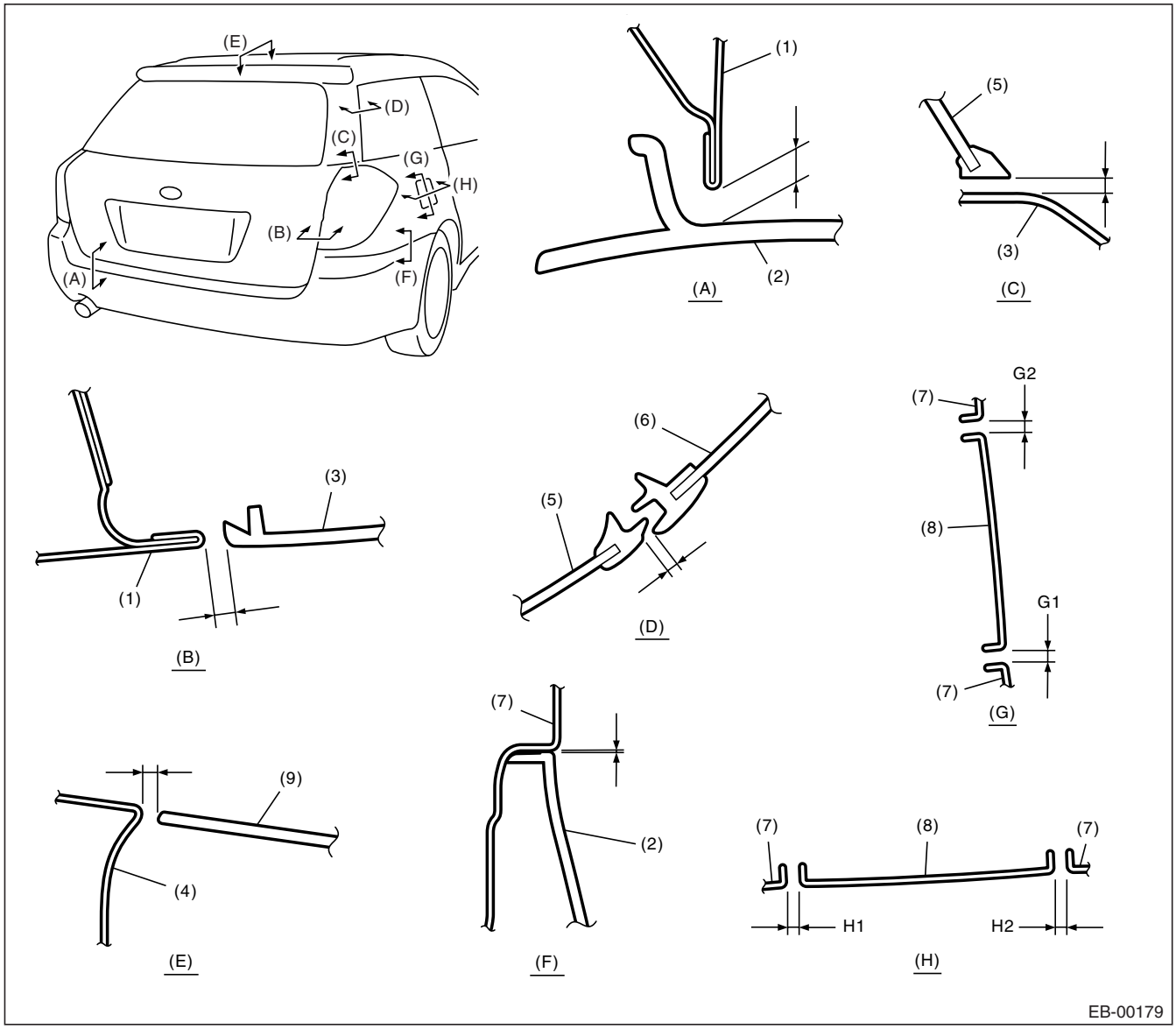
3. REAR (SEDAN MODEL)



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

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

4. REAR (WAGON MODEL)

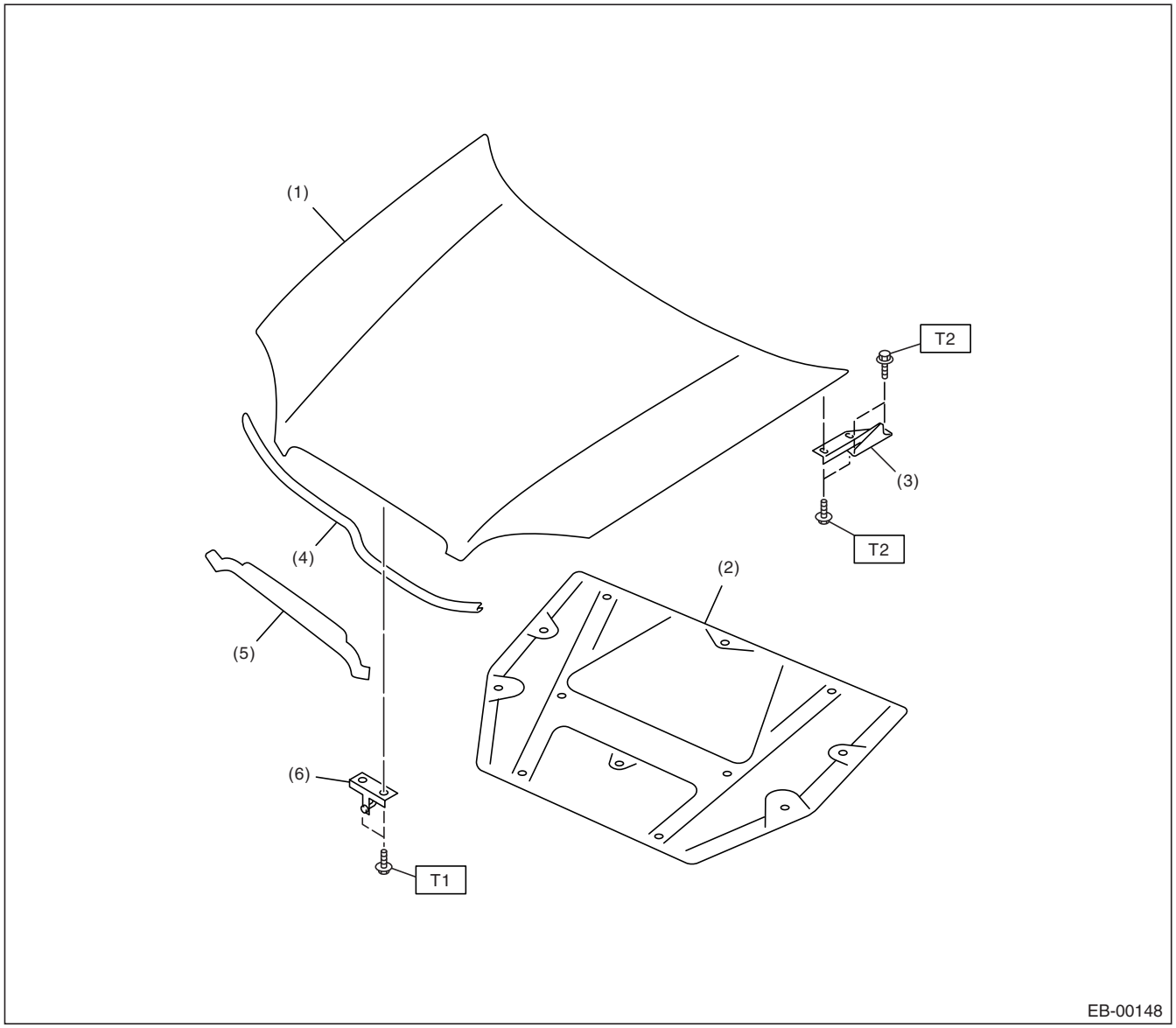


(1) Rear gate panel
(2) Rear bumper
(3) Rear combination light
(4) Roof panel
(5) Rear gate glass
(6) Door quarter glass
(7) Rear fender panel
(8) Fuel filler flap lid
(9) Roof spoiler

Section	Part	Specification
(A)	Rear gate panel to Rear bumper	8.0±1.0 mm (0.31±0.04 in)
(B)	Rear gate panel to Rear combination light	5.0±1.0 mm (0.20±0.04 in)
(C)	Rear gate glass to Rear combination light	5.5±1.0 mm (0.22±0.04 in)
(D)	Rear gate glass to Rear quarter glass	4.0±1.5 mm (0.16±0.06 in)
(E)	Roof panel to Roof spoiler	5.5±1.0 mm (0.22±0.04 in)
(F)	Rear fender panel to Rear bumper	1.0±0.7 mm (0.04±0.03 in)
(G)	Rear fender panel to Fuel filler flap lid (Longitudinal direction)	G1: 3.7±0.5 mm (0.15±0.02 in) G2: 3.4±0.5 mm (0.13±0.02 in)
(H)	Rear fender panel to Fuel filler flap lid (Lateral direction)	H1, H2: 3.5±0.5 mm (0.14±0.02 in)

B: COMPONENT

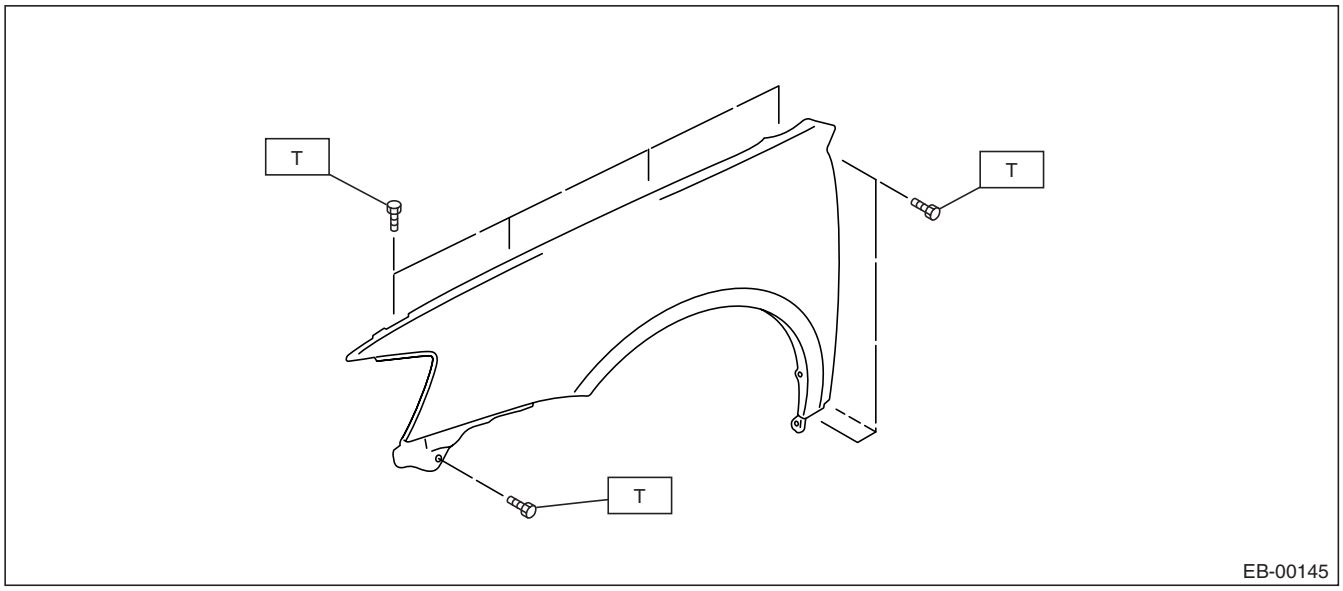
1. FRONT HOOD



(1)	Front hood panel	(4)	Intake duct weather strip
(2)	Front hood insulator	(5)	Front hood weather strip
(3)	Front hood hinge	(6)	Front hood striker

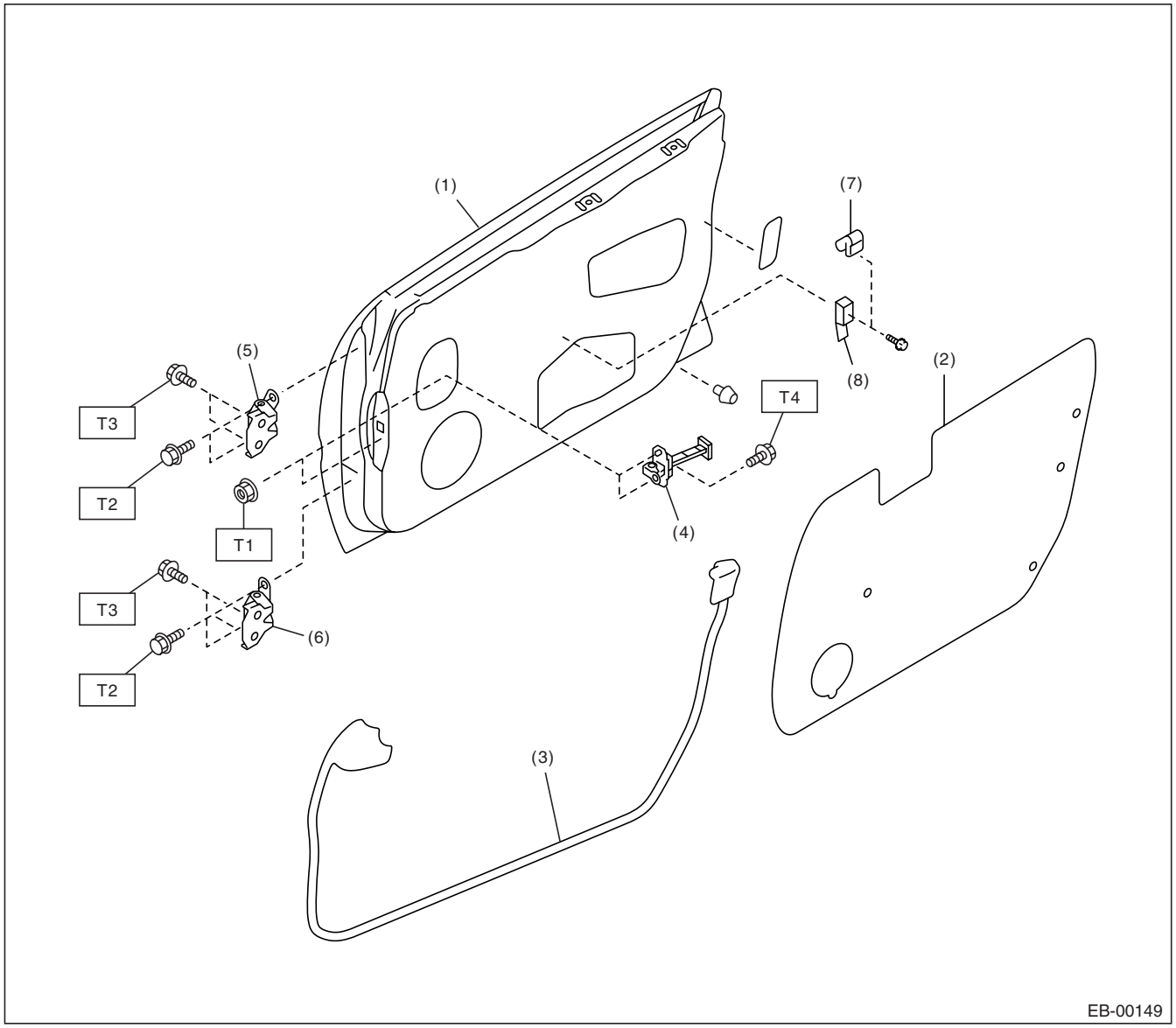
Tightening torque: N·m (kgf-m, ft-lb)
T1: 33 (3.4, 24.5)
T2: 24.5 (2.5, 18.1)

2. FRONT FENDER PANEL



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

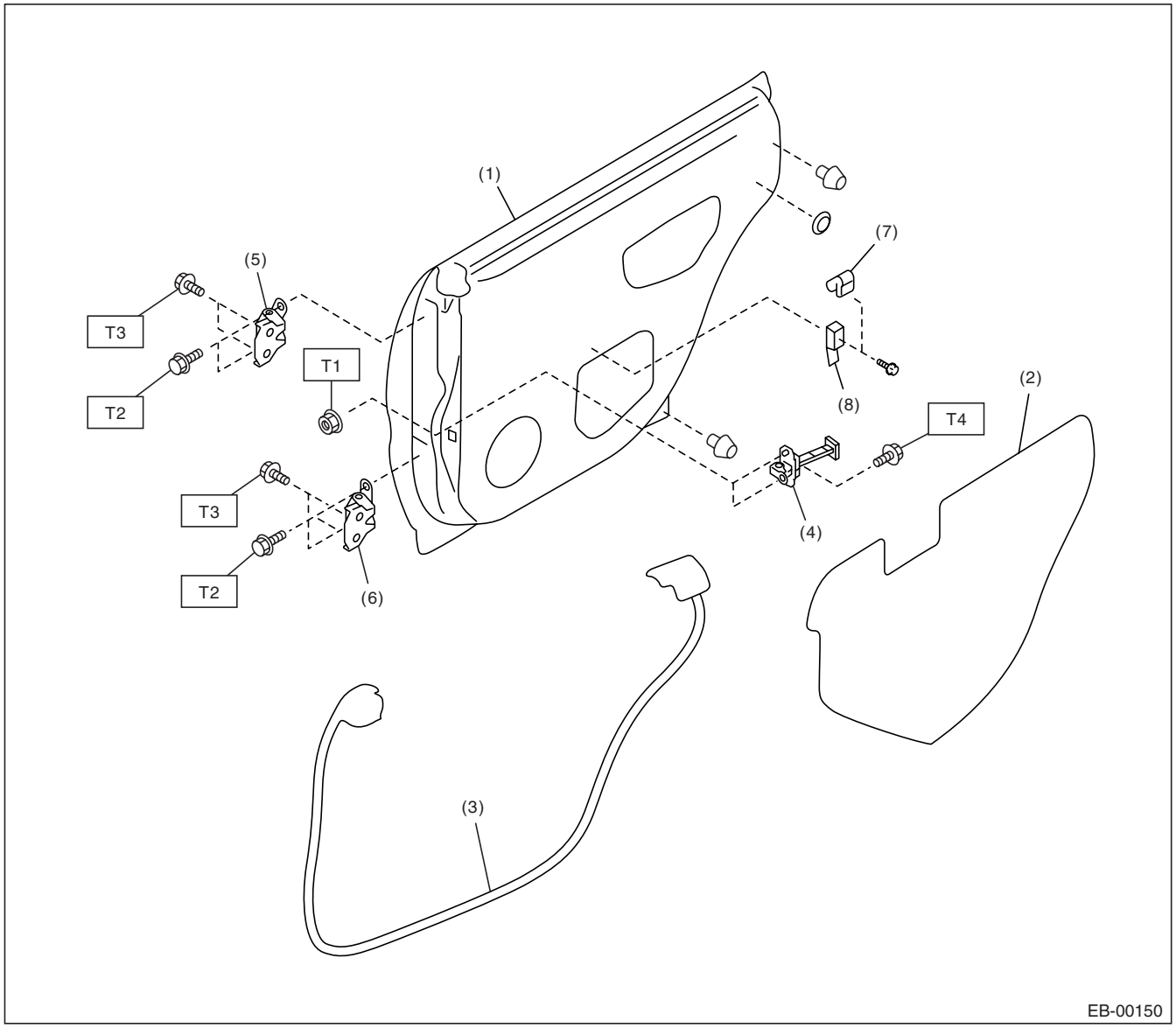
3. FRONT DOOR PANEL



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

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

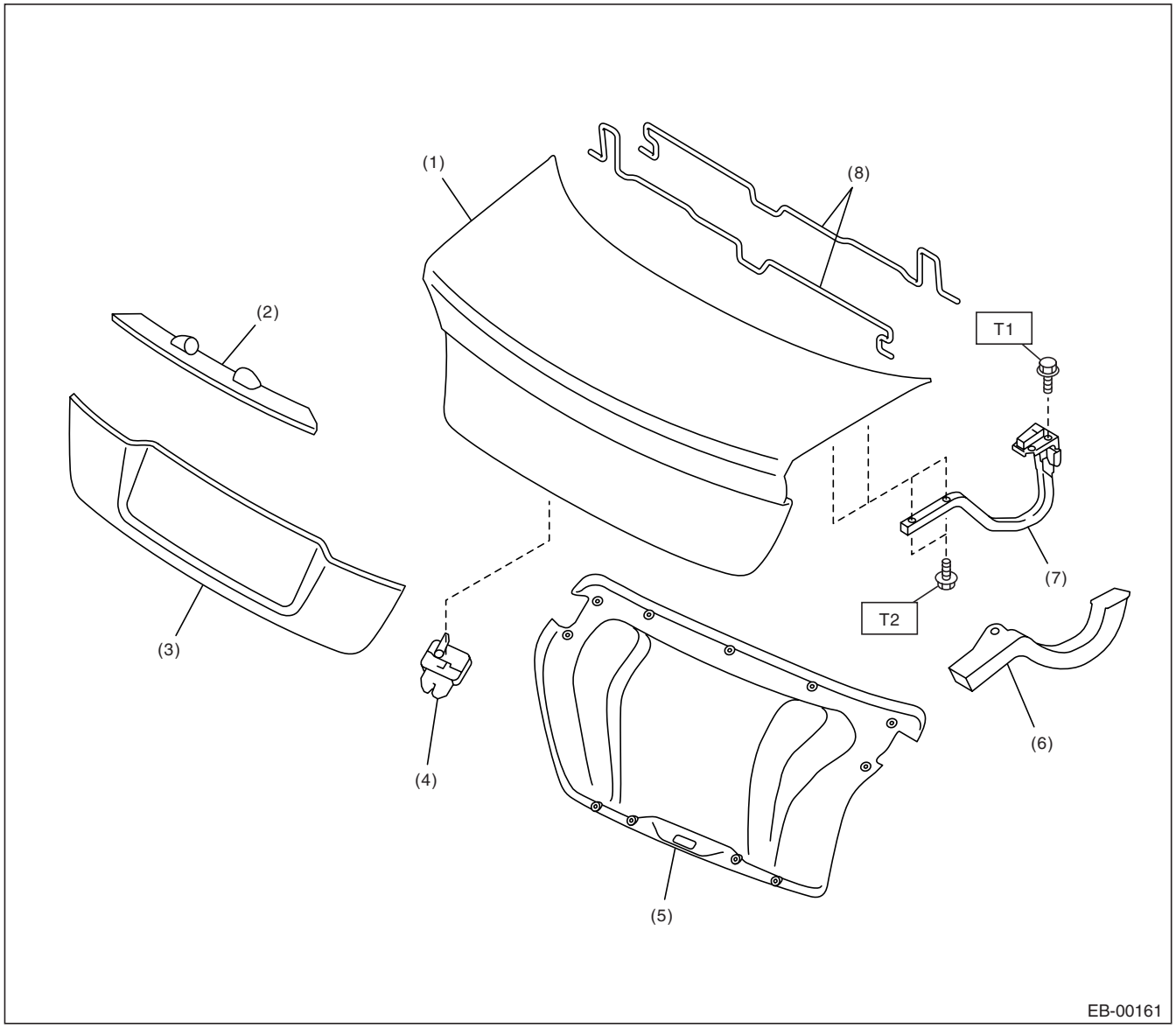
4. REAR DOOR PANEL



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

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

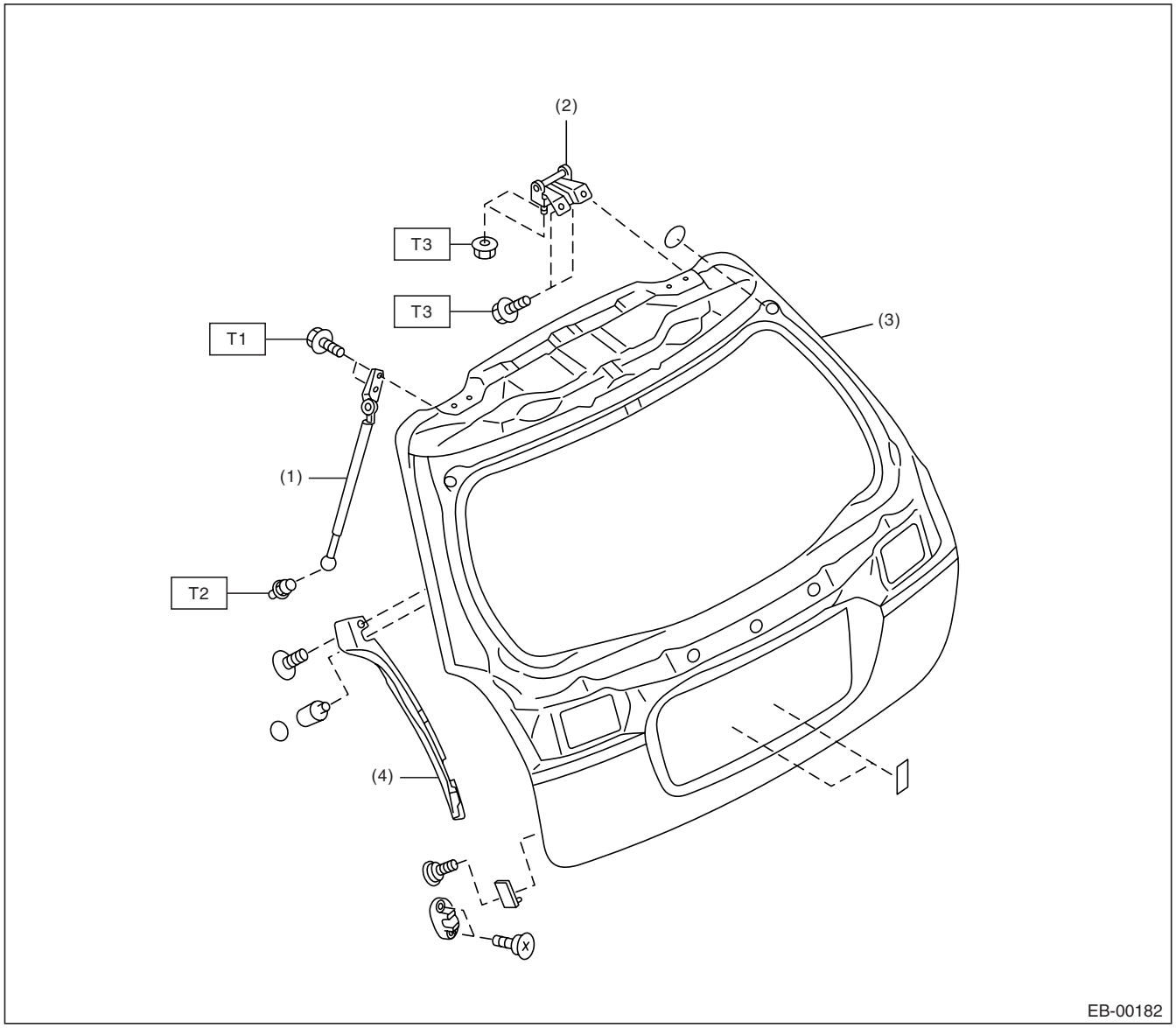
5. TRUNK LID PANEL



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

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

6. REAR GATE PANEL



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

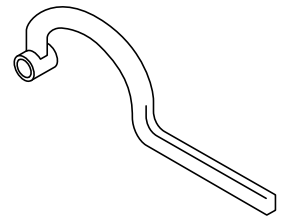
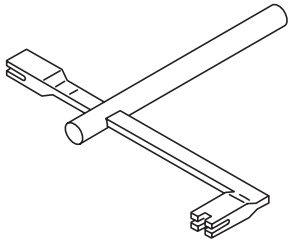
Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.77, 5.53)
T2: 14.0 (1.43, 10.3)
T3: 25.0 (2.6, 18.4)

C: CAUTION

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

D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-925610000	925610000	WRENCH	Used for removing and installing door hinge.
 ST-927780000	927780000	REMOVER	Used for removing and installing trunk torsion bar.

2. GENERAL TOOL

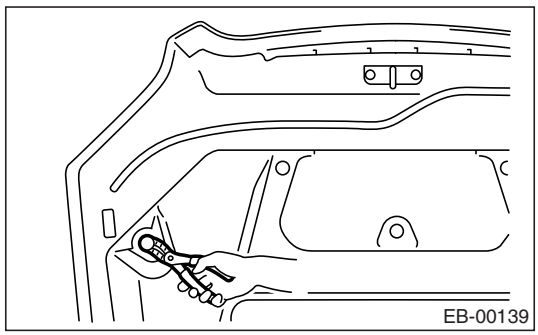
TOOL NAME	REMARKS
Support jack	Used for supporting door panel.
Clip remover	Used for removing various types of clips.

2. Front Hood

A: REMOVAL

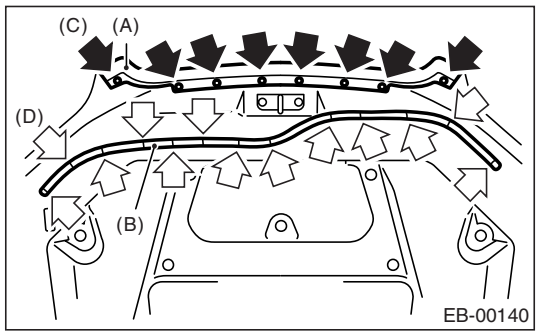
1. FRONT HOOD INSULATOR

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



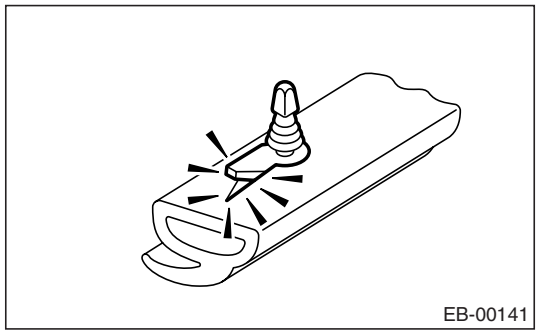
2. FRONT HOOD WEATHER STRIP

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



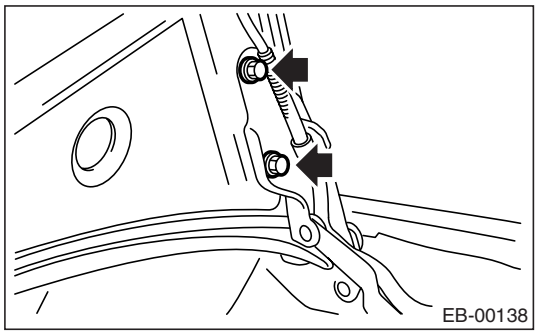
(C) Clip
(D) Weather strip clip

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

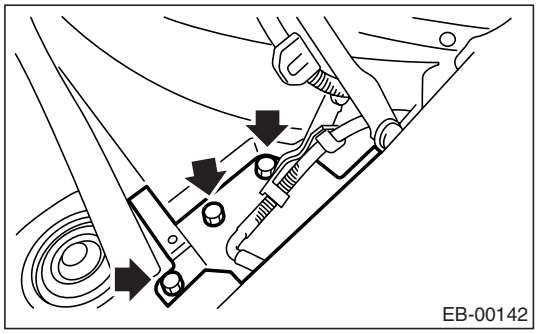


3. FRONT HOOD HINGE

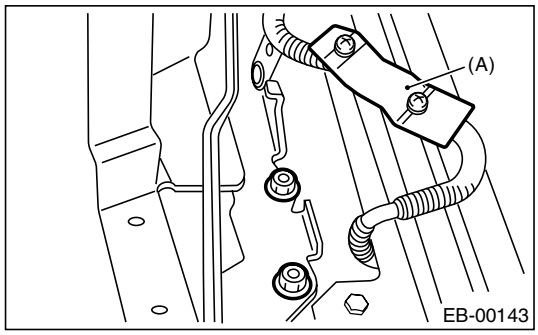
1) Remove the bolts, and remove the front hood panel. <Ref. to EB-14, FRONT HOOD PANEL, REMOVAL, Front Hood.>



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

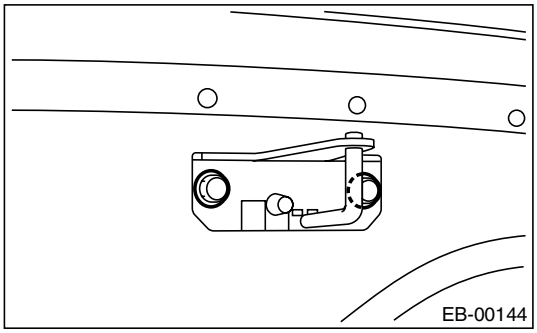


3) Remove the clamp (A) of the window washer hose, and remove bolt of the front hood hinge.



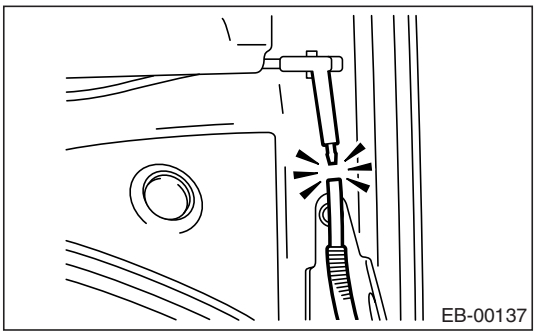
4. FRONT HOOD STRIKER

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

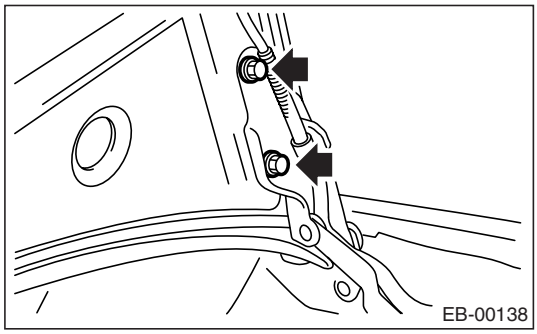


5. FRONT HOOD PANEL

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



2) Remove the front hood insulator.
<Ref. to EB-13, FRONT HOOD INSULATOR, REMOVAL, Front Hood.>
3) Remove the front hood weather strip.
<Ref. to EB-13, FRONT HOOD WEATHER STRIP, REMOVAL, Front Hood.>
4) Remove the front hood striker.
<Ref. to EB-14, FRONT HOOD STRIKER, REMOVAL, Front Hood.>
5) Remove the front hood duct. (Turbo model)
<Ref. to EI-25, REMOVAL, Front Hood Grille.>
6) Remove the window washer hose and nozzle.
<Ref. to WW-20, REMOVAL, Front Washer Nozzle.>
7) Remove the bolts, and remove the front hood panel from front hood hinge.



B: INSTALLATION

1. FRONT HOOD INSULATOR

Install in the reverse order of removal.

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

2. FRONT HOOD WEATHER STRIP

Install in the reverse order of removal.

3. FRONT HOOD HINGE

Install in the reverse order of removal.

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

4. FRONT HOOD STRIKER

Install in the reverse order of removal.

Tightening torque:
33.0 N·m (3.4 kgf-m, 24.5 ft-lb)

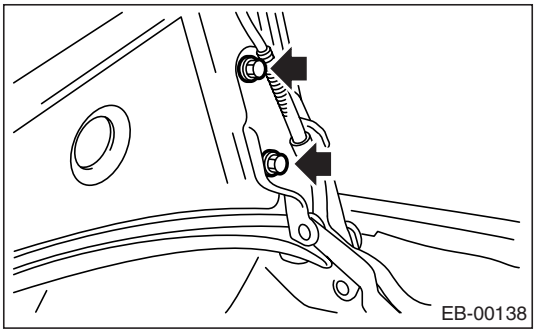
5. FRONT HOOD PANEL

Install in the reverse order of removal.

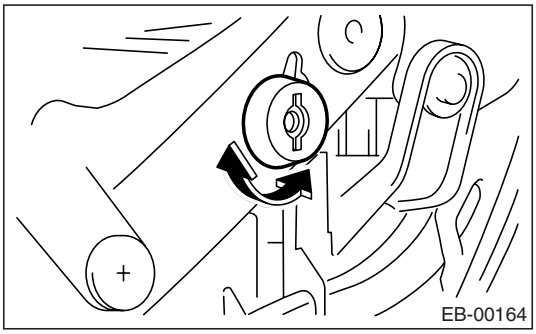
Tightening torque:
24.5 N·m (2.5 kgf-m, 18.1 ft-lb)

C: ADJUSTMENT

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



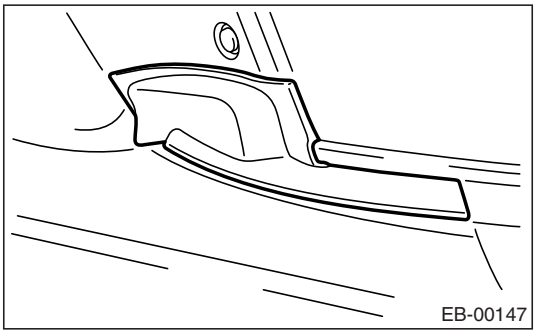
3) Adjust the height at the front end of hood. <Ref. to SL-38, ADJUSTMENT, Front Hood Lock Assembly.>
4) Rotate the hood buffer to adjust lateral height.



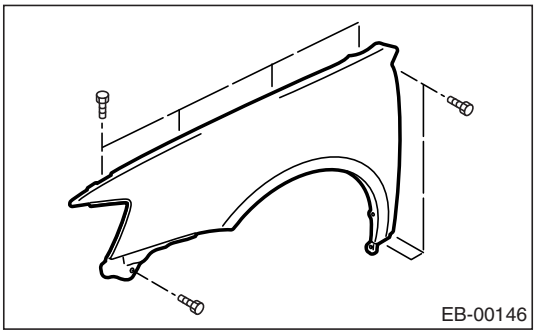
3. Front Fender

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the side sill spoilers. <Ref. to EI-41, REMOVAL, Side Sill Spoiler.>
3) Remove the front grille. <Ref. to EI-24, REMOVAL, Front Grille.>
4) Remove the front bumper face. <Ref. to EI-30, REMOVAL, Front Bumper.>
5) Remove the headlight assembly. <Ref. to LI-14, REMOVAL, Headlight Assembly.>
6) Remove the mud guard. <Ref. to EI-29, REMOVAL, Mud Guard.>
7) Remove the cowl side panel.



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



B: INSTALLATION

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

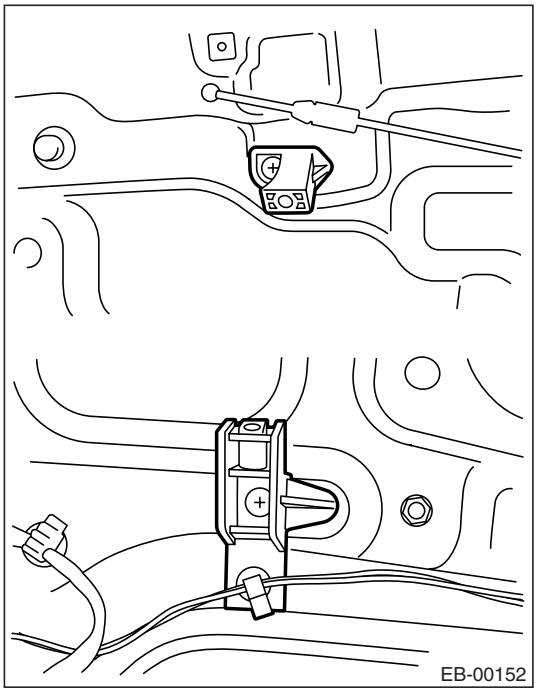
Tightening torque:
7.4 N·m (0.75 kgf-m, 5.5 ft-lb)

4. Front Door

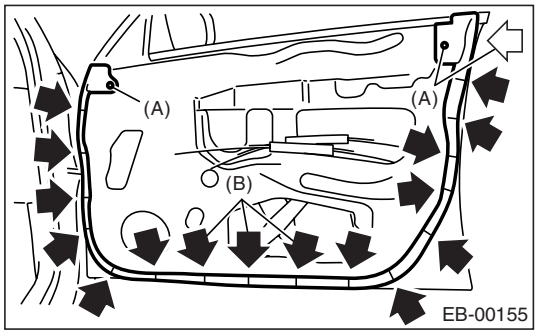
A: REMOVAL

1. FRONT DOOR PANEL

1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the outer mirror assembly. <Ref. to GW-19, REMOVAL, Outer Mirror Assembly.>
4) Remove the front door speaker. <Ref. to ET-6, REMOVAL, Front Speaker.>
5) Pull back the sealing cover. <Ref. to EB-20, REMOVAL, Front Sealing Cover.>
6) Remove the gusset and front door glass. <Ref. to GW-11, REMOVAL, Front Door Glass.>
7) Remove the door sash and front door regulator and motor. <Ref. to GW-16, REMOVAL, Front Regulator and Motor Assembly.>
8) Remove the front door latch assembly. <Ref. to SL-28, REMOVAL, Front Door Latch and Door Lock Actuator Assembly.>
9) Remove the front outer handle. <Ref. to SL-27, REMOVAL, Front Outer Handle.>
10) Remove the screw to remove the door trim bracket.

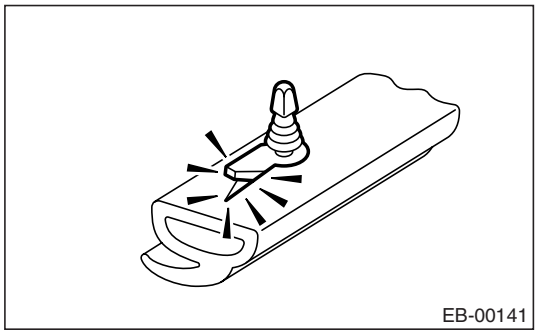


11) Remove the front door weather strip.

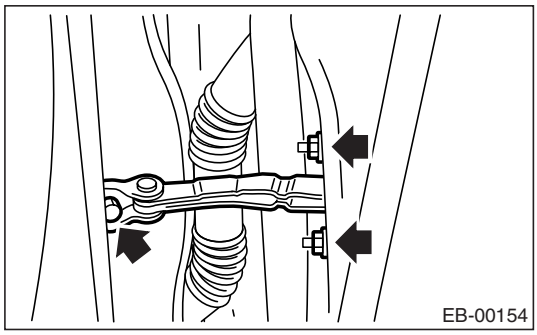


(A) Pin clip
(B) Weather strip clip

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



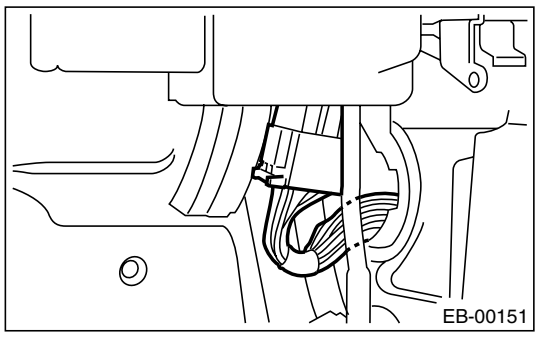
12) Remove the bolts and nuts to remove the door checker.



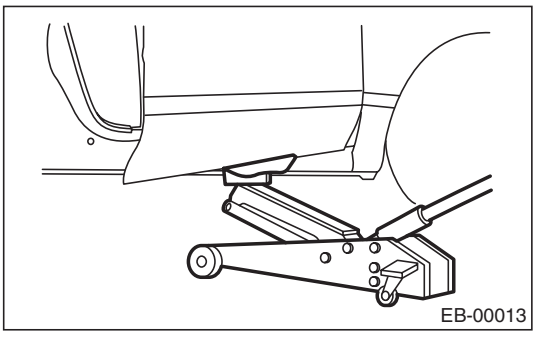
13) Remove the front door. <Ref. to EB-18, FRONT DOOR ASSEMBLY, REMOVAL, Front Door.>

2. FRONT DOOR ASSEMBLY

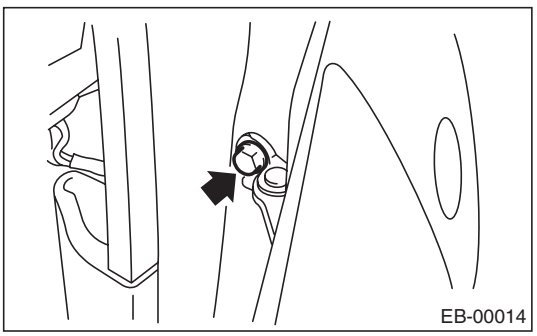
1) Disconnect the ground cable from battery.
2) Remove the front pillar lower trim. <Ref. to EI-60, REMOVAL, Lower Inner Trim.>
3) Remove the instrument panel lower cover or glove box lower cover. <Ref. to EI-50, REMOVAL, Instrument Panel Lower Cover.> or <Ref. to EI-51, REMOVAL, Glove Box.>
4) Disconnect the connector of door harness from body harness.


EB-00151

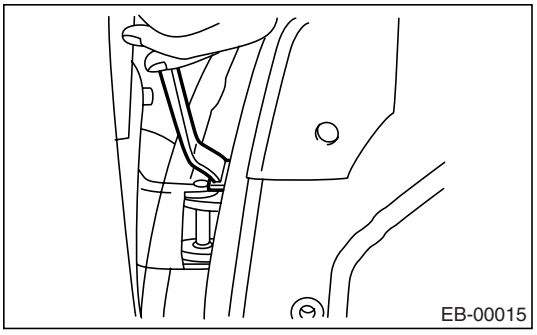
5) Put a wooden block on jack and place jack under the front door. Support the door with a jack to protect it from damage.


EB-00013

6) Remove the bolt from the door checker.


EB-00014

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


EB-00015

8) Remove the door hinge from vehicle.

B: INSTALLATION

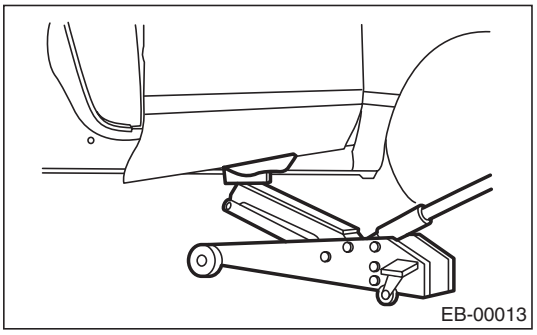
1. FRONT DOOR PANEL

Install in the reverse order of removal.

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

2. FRONT DOOR ASSEMBLY

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

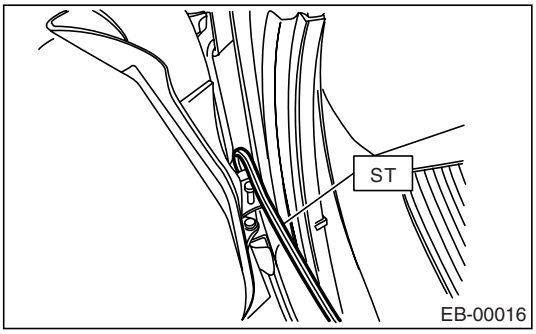

EB-00013

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

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

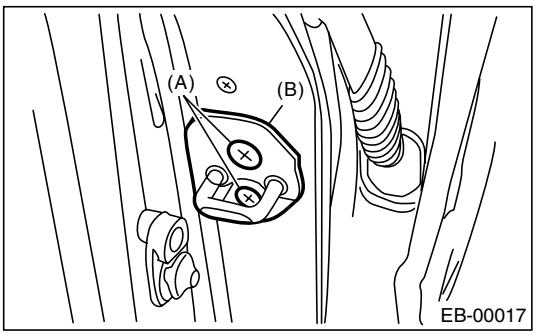
C: ADJUSTMENT

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



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

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

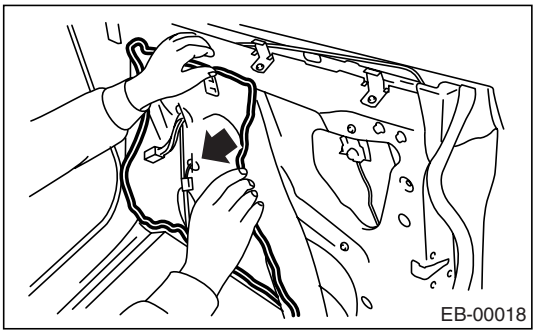


5. Front Sealing Cover

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the front speaker. <Ref. to ET-6, REMOVAL, Front Speaker.>
4) Pull back the sealing cover.

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



B: INSTALLATION

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

Butyl tape:
3M8626 or equivalent

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

C: INSPECTION

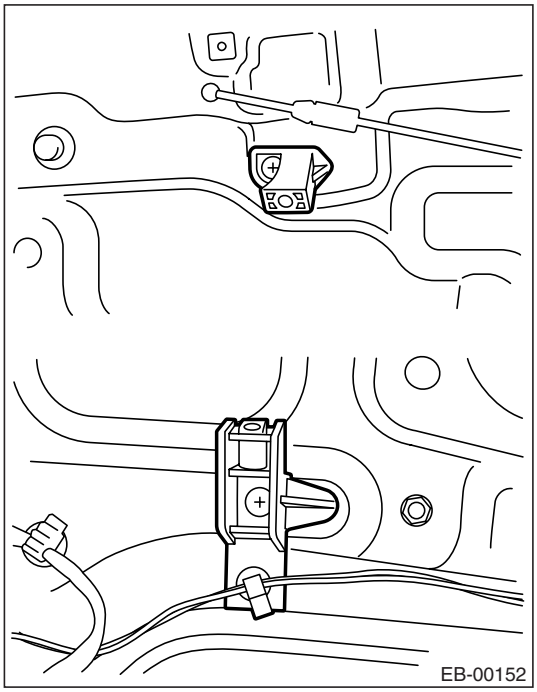
If the sealing cover gets damaged, replace it with a new one.

6. Rear Door

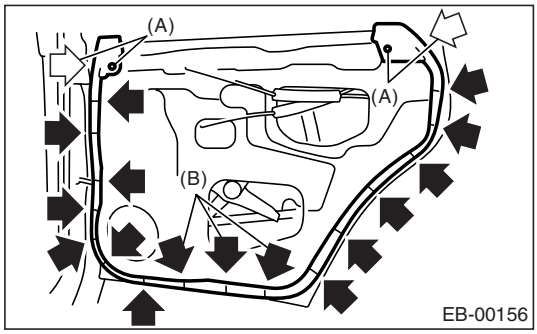
A: REMOVAL

1. REAR DOOR PANEL

1) Disconnect the ground cable from battery.
2) Remove the rear door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Remove the rear speaker. <Ref. to ET-9, REMOVAL, Rear Speaker.>
4) Pull back the sealing cover. <Ref. to EB-24, REMOVAL, Rear Sealing Cover.>
5) Remove the rear door glass. <Ref. to GW-24, REMOVAL, Rear Door Glass.>
6) Remove the door sash and rear door regulator and motor assembly. <Ref. to GW-26, REMOVAL, Rear Regulator and Motor Assembly.>
7) Remove the rear door latch. <Ref. to SL-32, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
8) Remove the rear outer handle. <Ref. to SL-31, REMOVAL, Rear Outer Handle.>
9) Remove the screw to remove the door trim bracket.


EB-00152

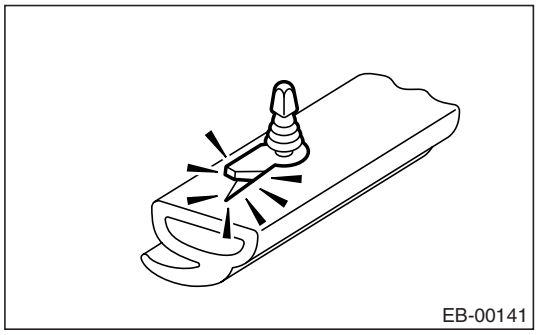
10) Remove the rear door inner weather strip.



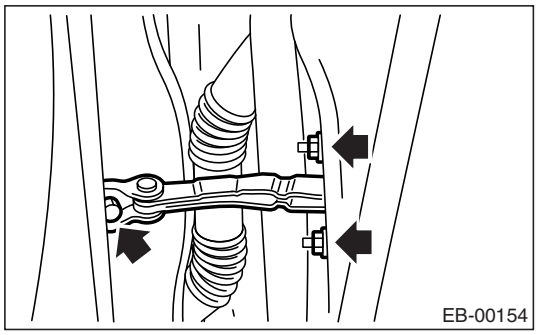
EB-00156

(A) Pin clip
(B) Weather strip clip

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


EB-00141

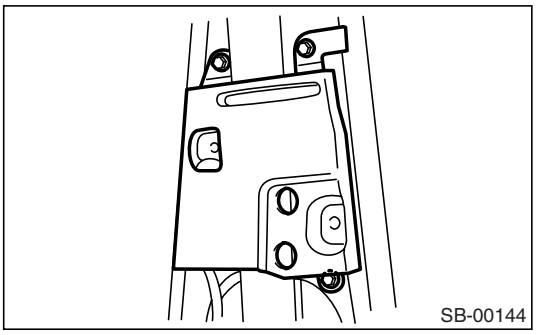
11) Remove the bolts and nuts to remove the door checker.


EB-00154

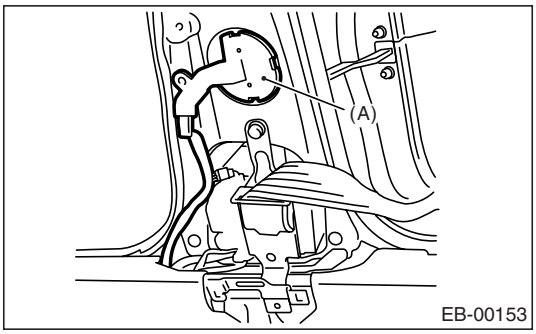
12) Remove the rear door. <Ref. to EB-22, REAR DOOR ASSEMBLY, REMOVAL, Rear Door.>

2. REAR DOOR ASSEMBLY

1) Disconnect the ground cable from battery.
2) Remove the center pillar lower trim. <Ref. to EI-60, REMOVAL, Lower Inner Trim.>
3) Remove the center pillar inner protector lower.

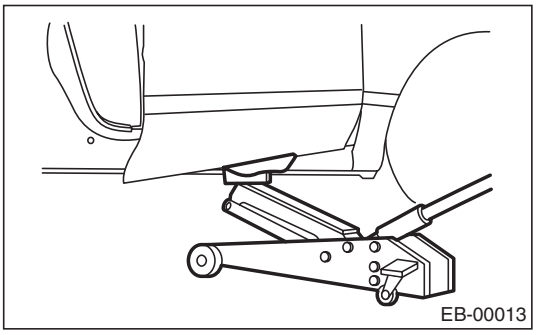

SB-00144

4) Remove the harness holder (A), and disconnect the door harness connector inside pillar.

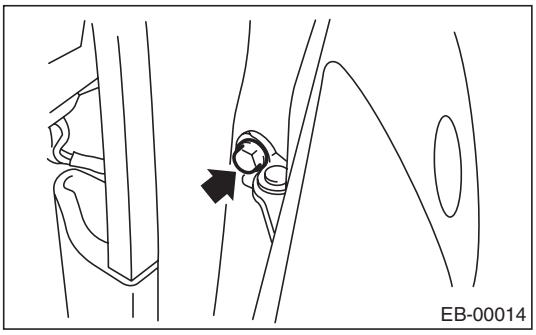


EB-00153

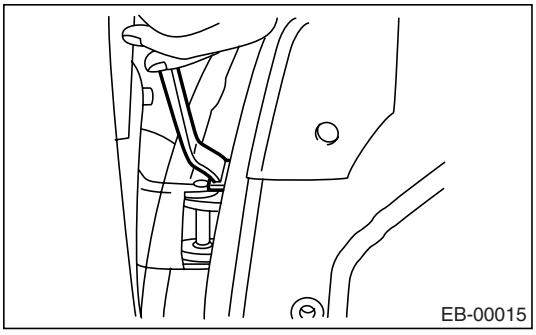
5) Put a wooden block on jack and place jack under the rear door. Support the rear door with the jack to protect it from damage.


EB-00013

6) Remove the bolt from the door checker.


EB-00014

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


EB-00015

8) Remove the door hinge from vehicle.

B: INSTALLATION

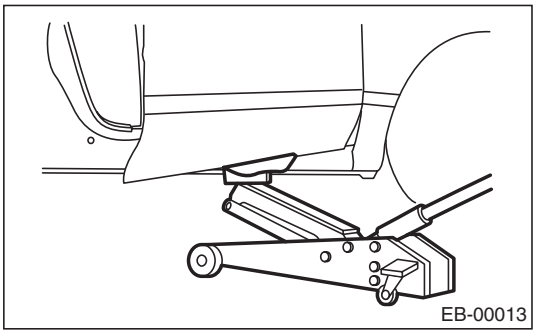
1. REAR DOOR PANEL

Install in the reverse order of removal.

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

2. REAR DOOR ASSEMBLY

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

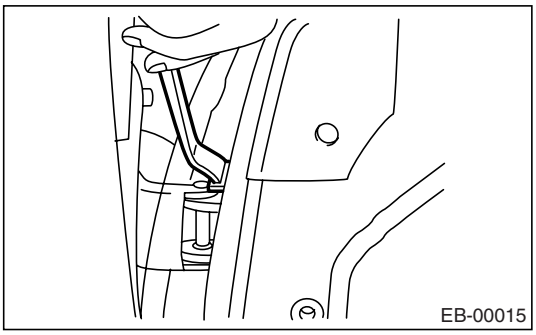

EB-00013

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

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

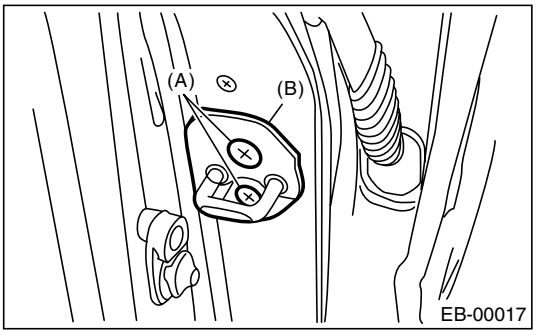
C: ADJUSTMENT

1) Open the rear door, loosen the door-side bolts of upper and lower hinges to align the position of rear door panel longitudinally and laterally.



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

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

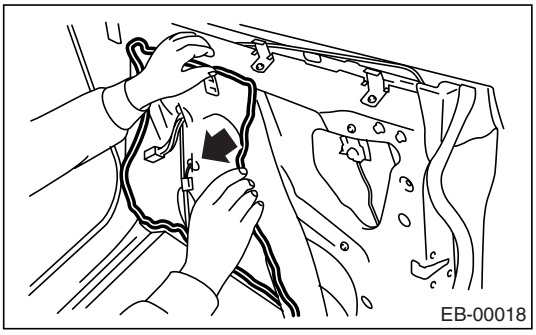


7. Rear Sealing Cover

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear door trim. <Ref. to EI-48, REMOVAL, Door Trim.>
3) Pull back the sealing cover.

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



B: INSTALLATION

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

Butyl tape:
3M8626 or equivalent

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

C: INSPECTION

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

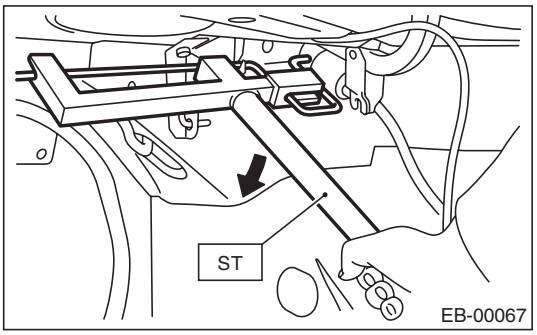
8. Trunk Lid

A: REMOVAL

1. TORSION BAR

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

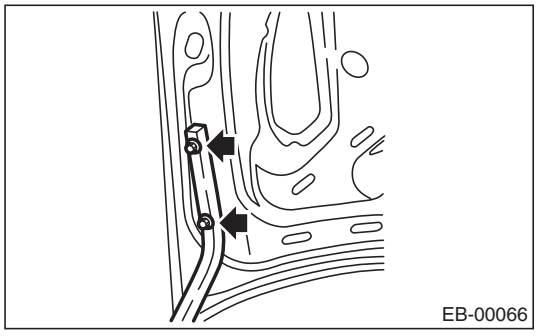
CAUTION:
During removal and installation, carefully handle the torsion bar, because it will generate reactive force.



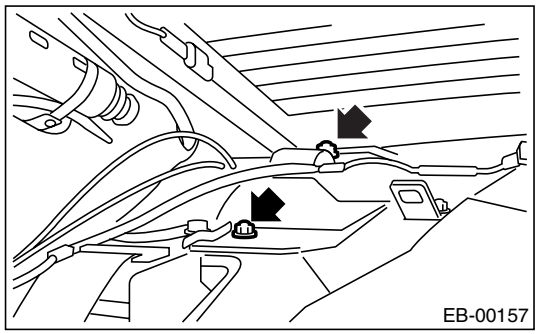
3) Remove the right/left torsion bars.

2. TRUNK LID ARM

1) Disconnect the ground cable from battery.
2) Open the trunk lid to remove the trunk lid trim, trunk lid arm cover and trunk room trim. <Ref. to EI-71, TRUNK ROOM TRIM, REMOVAL, Trunk Room Trim.>
3) Disconnect the trunk lid release cable. <Ref. to SL-37, REMOVAL, Trunk Lid Lock Assembly.>
4) Disconnect each connector, and remove the harness clip.
5) Remove the trunk lid mounting bolts to remove the trunk lid panel from trunk lid arm.

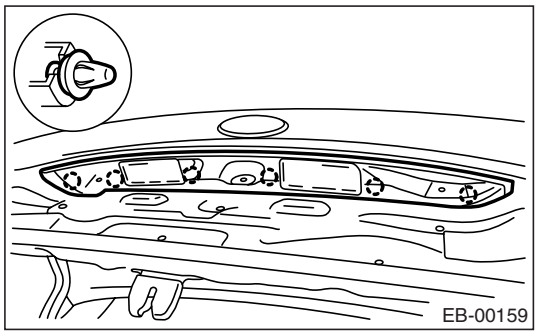


6) Remove the torsion bar from the trunk lid hinge link. <Ref. to EB-25, TORSION BAR, REMOVAL, Trunk Lid.>
7) Remove the rear shelf trim. <Ref. to EI-70, REMOVAL, Rear Shelf Trim.>
8) Remove the bolts to remove the trunk lid arm.

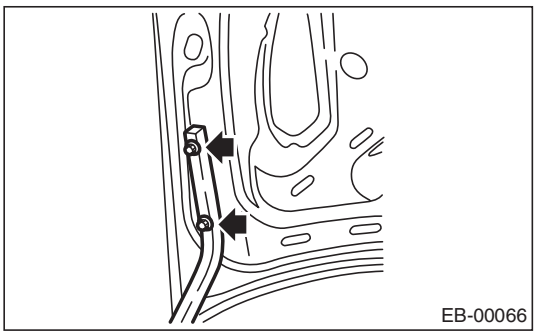


3. TRUNK LID PANEL

1) Disconnect the ground cable from battery.
2) Open the trunk lid to remove the trunk lid trim and trunk lid arm cover. <Ref. to EI-71, TRUNK ROOM TRIM, REMOVAL, Trunk Room Trim.>
3) Disconnect the connector to remove the trunk lid harness.
4) Remove the trunk lid lock assembly. <Ref. to SL-37, REMOVAL, Trunk Lid Lock Assembly.>
5) Remove the trunk lid garnish. <Ref. to EI-75, REMOVAL, Trunk Lid Garnish.>
6) Remove the license plate light cover.



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



B: INSTALLATION

1. TORSION BAR

1) Install in the reverse order of removal.
2) Apply grease to the rotating area of hinges and of torsion bar.

2. TRUNK LID ARM

Install in the reverse order of removal.

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

3. TRUNK LID PANEL

1) Install in the reverse order of removal.
2) Install with attention to make uniform clearance around the trunk lid panel. For the dimension of clearance, refer to "SPECIFICATIONS" in "General Description". <Ref. to EB-2, SPECIFICATION, General Description.>

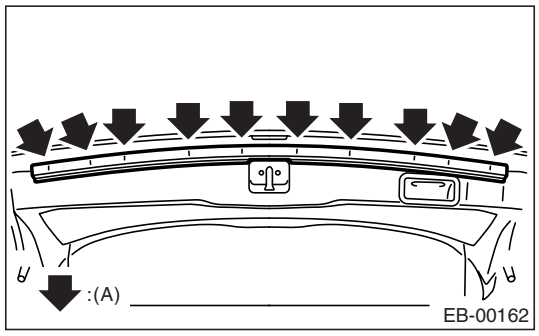
Tightening torque:
14 N·m (1.43 kgf-m, 10.3 ft-lb)

9. Rear Gate

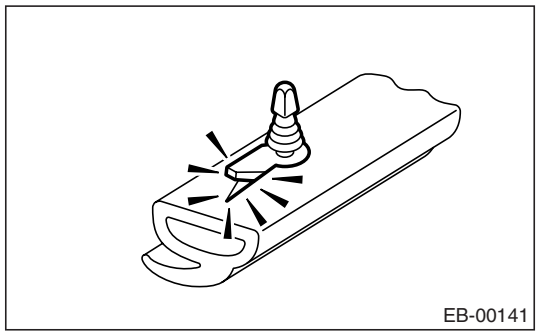
A: REMOVAL

1. REAR GATE PANEL

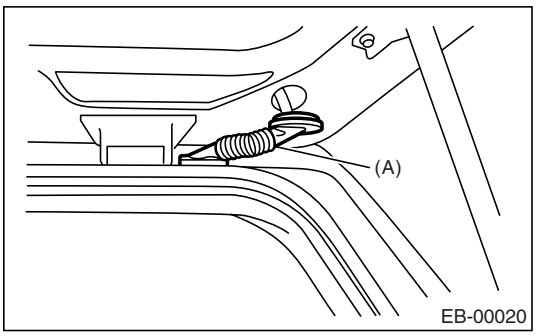
1) Disconnect the ground cable from battery.
2) Open the rear gate.
3) Remove the rear gate trim. <Ref. to EI-69, REMOVAL, Rear Gate Trim.>
4) Remove the rear gate garnish. <Ref. to EI-76, REMOVAL, Rear Gate Garnish.>
5) Remove the rear wiper arm. <Ref. to WW-21, REMOVAL, Rear Wiper Arm.>
6) Remove the rear wiper motor. <Ref. to WW-22, WAGON MODEL, REMOVAL, Rear Wiper Motor.>
7) Remove the rear gate outer handle. <Ref. to SL-34, REMOVAL, Rear Gate Outer Handle.>
8) Remove the rear gate latch assembly. <Ref. to SL-35, REMOVAL, Rear Gate Latch Assembly.>
9) Detach the roof spoiler. <Ref. to EI-40, REMOVAL, Roof Spoiler.>
10) Remove harness clip of each connector from the rear gate panel.
11) Remove the weather strip clips (A), and remove the rear gate panel weather strip.



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

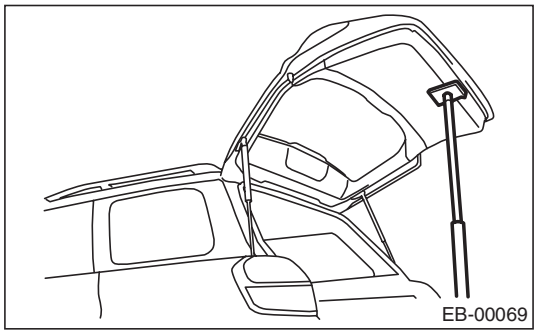


12) Remove the rubber duct (A) connection, and pull out the harness and washer hose from the rear gate.

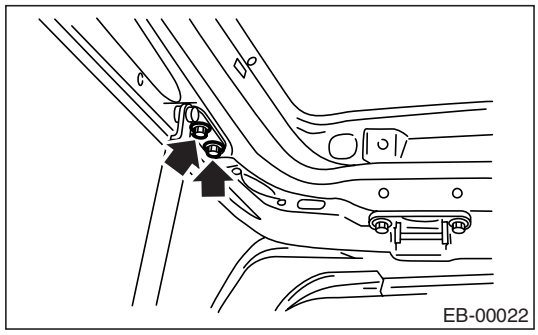


13) Before removing the rear gate damper stay, prevent the rear gate from closing using prop or the like.

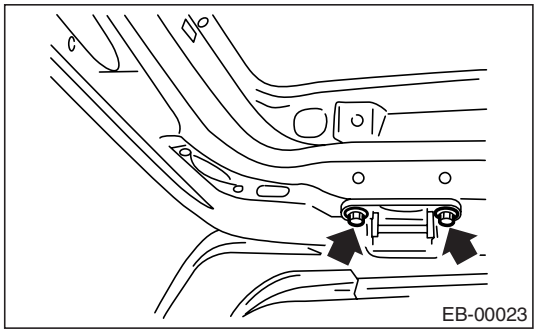
CAUTION:
If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.



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



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


EB-00023

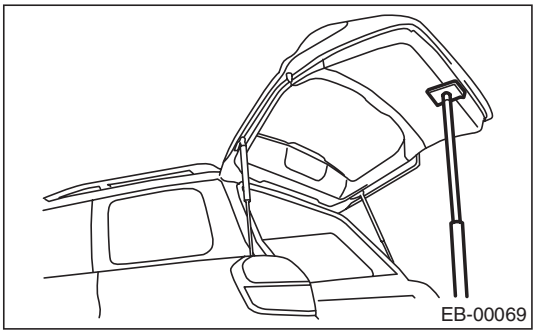
16) Remove the rear gate hinge from vehicle.

2. REAR GATE DAMPER STAY

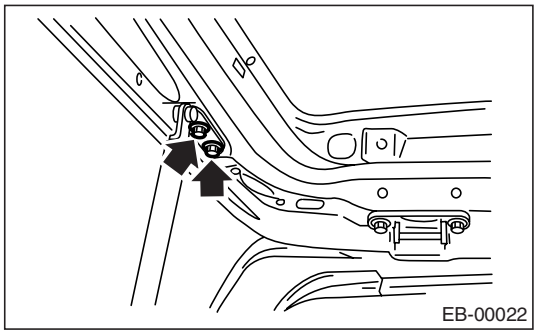
CAUTION:
• Do not damage piston rods and oil seals.
• Never disassemble cylinders: They contain gas.

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

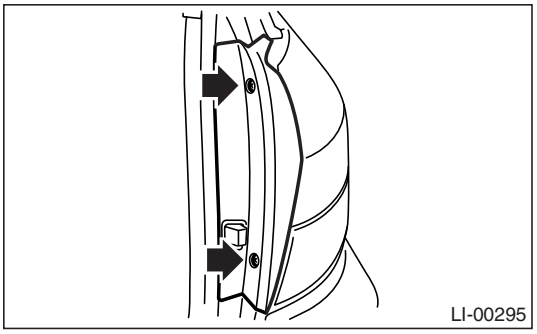
CAUTION:
If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.


EB-00069

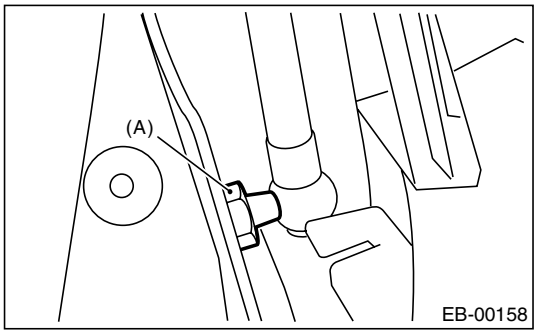
3) Remove the mounting bolts of rear gate damper stay.


EB-00022

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


LI-00295

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



EB-00158

B: INSTALLATION

1. REAR GATE PANEL

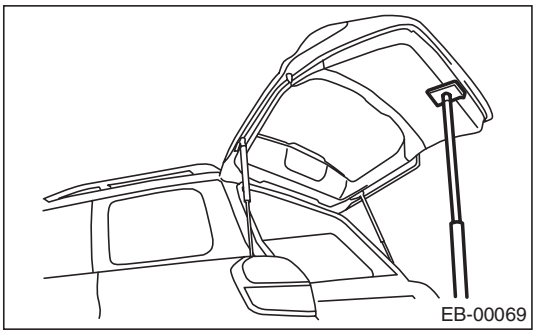
1) Install in the reverse order of removal.
2) Install with attention to make uniform clearance between rear gate panel and body. For the dimension of clearance, refer to “SPECIFICATIONS” in “General Description”. <Ref. to EB-2, SPECIFICATION, General Description.>

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

2. REAR GATE DAMPER STAY

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

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



2) Install in the reverse order of removal.

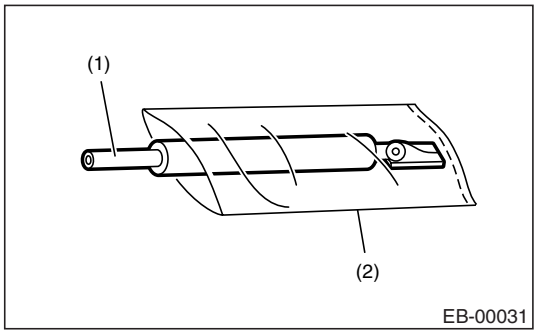
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EB-11, REAR GATE PANEL, COMPONENT, General Description.>

C: DISPOSAL

1. REAR GATE DAMPER STAY

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

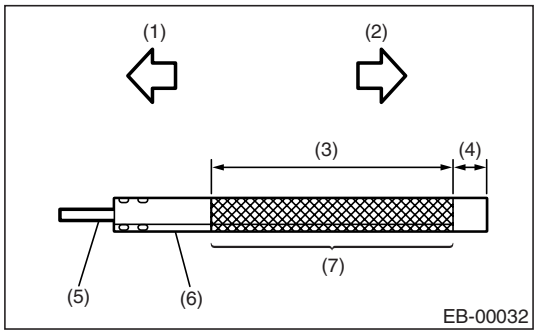
1) Cover with a vinyl sack as shown in the figure.



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

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

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



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

CRUISE CONTROL SYSTEM

CC

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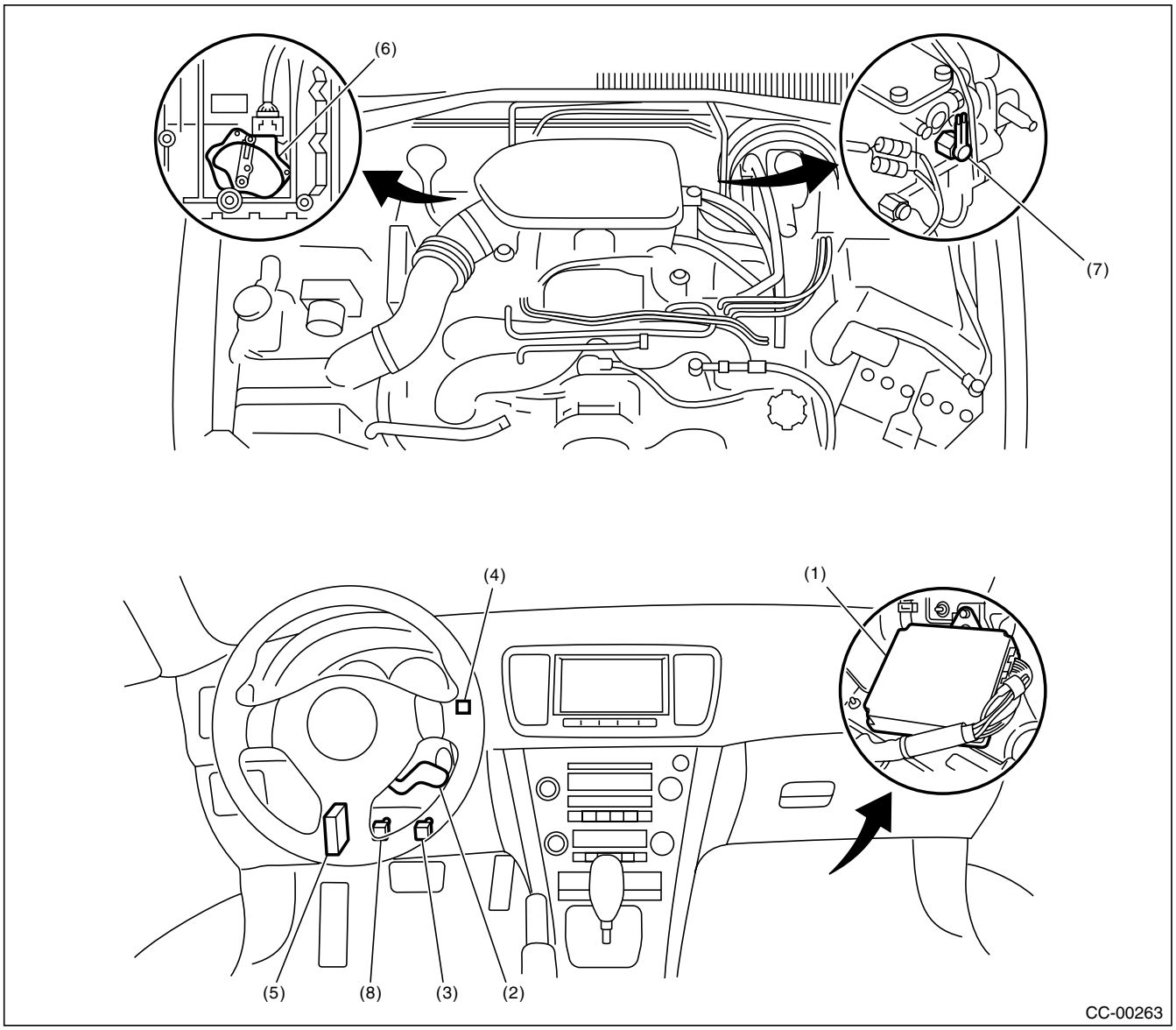
1. General Description 2
2. Cruise Control Unit 4
3. Cruise Control Command Switch 5
4. Stop Light & Brake Switch 6
5. Clutch Switch 7
6. Inhibitor Switch 8
7. Neutral Position Switch 9

1. General Description

A: COMPONENT



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

B: CAUTION

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

C: PREPARATION TOOL

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

2. Cruise Control Unit

A: NOTE

The control of cruise control system is carried out in Engine control module (ECM).

B: REMOVAL

<Ref. to FU(H4SO 2.0)-34, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, REMOVAL, Engine Control Module (ECM).>

C: INSTALLATION

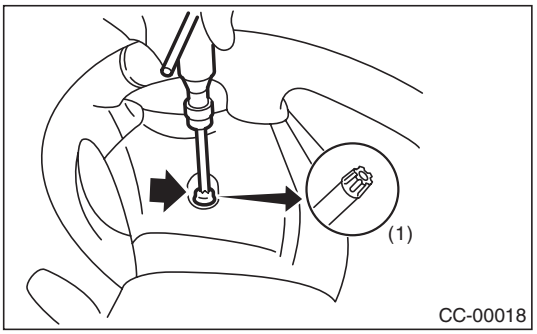
<Ref. to FU(H4SO 2.0)-34, INSTALLATION, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, INSTALLATION, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, INSTALLATION, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, INSTALLATION, Engine Control Module (ECM).>

3. Cruise Control Command Switch

A: REMOVAL

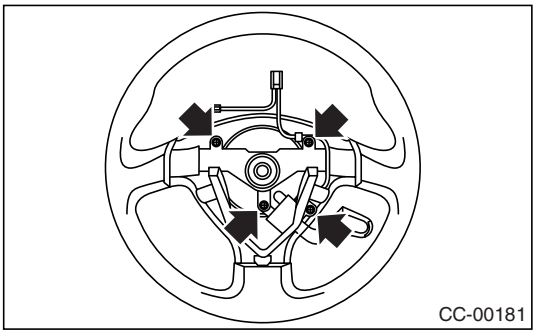
WARNING:
Before servicing, be sure to read the notes in the "AB" section for proper handling of the driver's airbag module. <Ref. to AB-5, CAUTION, General Description.>

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

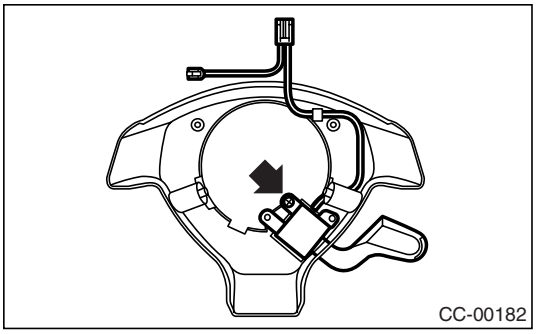


(1) TORX® BIT T30

5) Disconnect the airbag module connector on back of the airbag module. <Ref. to AB-11, PROCEDURE, Airbag Connector.>
6) Remove the steering wheel. <Ref. to PS-21, REMOVAL, Steering Wheel.>
7) Remove the four screws to remove the lower cover from steering wheel.



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

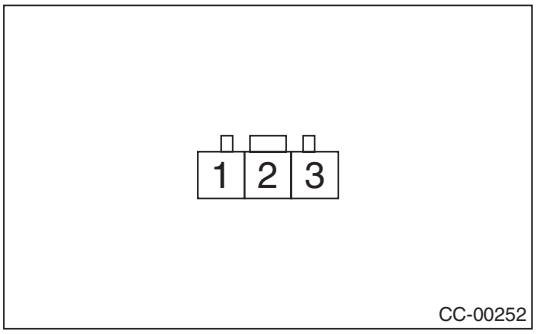


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the cruise control command switch resistance.



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

If NG, replace the cruise control command switch.

4. Stop Light & Brake Switch

A: REMOVAL

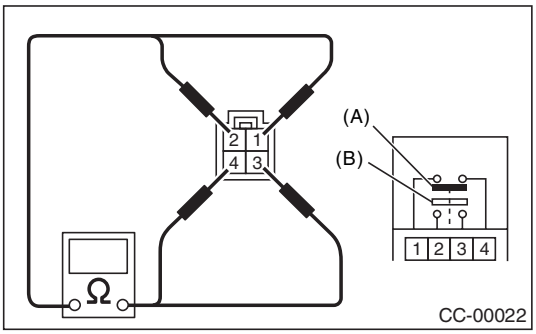
1) Disconnect the ground cable from battery.
2) Disconnect the connector from stop light & brake switch, and then remove the switch. <Ref. to BR-45, REMOVAL, Stop Light Switch.>

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

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



Switch	Pedal	Terminal No.	Standard
Brake	Released	1 and 4	Less than 1 Ω
	Depressed	1 and 4	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 the stop light & brake switch.

5. Clutch Switch

A: REMOVAL

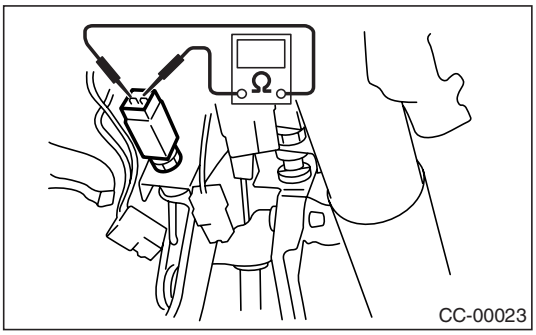
1) Disconnect the ground cable from battery.
2) Disconnect the connector from clutch switch, and then remove the switch. <Ref. to CL-37, DISASSEMBLY, Clutch Pedal.>

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the clutch switch resistance.



Switch	Pedal	Terminal No.	Standard
Clutch	Released	1 and 2	Less than 1 Ω
	Depressed	1 and 2	More than 1 MΩ

If NG, replace the clutch switch.

6. Inhibitor Switch

A: REMOVAL

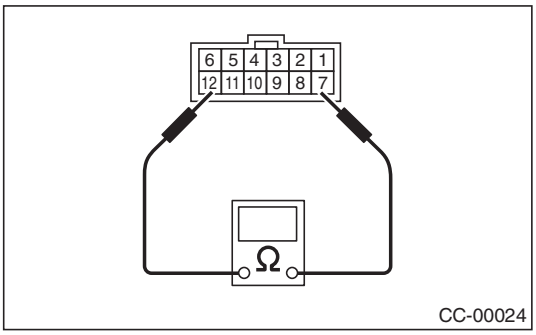
1) Disconnect the ground cable from battery.
2) Disconnect the connector from inhibitor switch, and then remove the switch. <Ref. to 4AT-52, REMOVAL, Inhibitor Switch.>

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the 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 the inhibitor switch.

7. Neutral Position Switch

A: REMOVAL

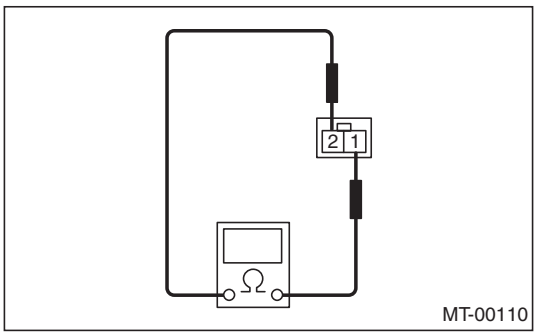
1) Disconnect the ground cable from battery.
2) Disconnect the connector from neutral position switch, and then remove the switch. <Ref. to 5MT-40, BACK-UP LIGHT SWITCH AND NEUTRAL POSITION SWITCH, REMOVAL, Switches and Harness.>

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the neutral position switch resistance.



Gear shift position	Terminal No.	Standard
Neutral position	1 and 2	Less than 1 Ω
Other positions		More than 1 MΩ

If NG, replace the neutral position switch.

CRUISE CONTROL SYSTEM (DIAGNOSTICS) CC(diag)

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8. Diagnostic Procedure with Diagnostic Trouble Code (DTC) 15

1. Basic Diagnostic Procedure

A: PROCEDURE

	Step	Check	Yes	No
1	**CHECK MALFUNCTION INDICATOR LIGHT.** Ensure the malfunction indicator light illuminates.	Does the malfunction indicator light illuminate?	Go to step **5.**	Go to step **2.**
2	**CHECK CRUISE INDICATOR LIGHT.** Ensure the cruise indicator light blinks.	Does the cruise indicator light blink?	Go to step **5.**	Go to step **3.**
3	**CHECK CRUISE CONTROL MAIN SWITCH OPERATION.** Check the cruise control main switch operation. (Ensure the cruise indicator light illuminates.)	Is the cruise control main switch turned ON? (Does the cruise indicator light illuminate?)	Go to step **4.**	Go to phenomenon 1. <Ref. to CC(diag)-10, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
4	**CHECK CRUISE CONTROL SET OPERATION.** Check the cruise control set operation.	Can the cruise control be set while driving at more than 40 km/h (25 MPH)?	Go to step **6.**	Go to step **5.**
5	**PERFORM CRUISE CONTROL CANCEL CONDITIONS DIAGNOSIS.** Perform the cruise cancel conditions diagnosis.	Is DTC displayed?	Go to “List of Diagnostic Trouble Code (DTC)”. <Ref. to CC(diag)-12, List of Diagnostic Trouble Code (DTC).>	Go to phenomenon 2. <Ref. to CC(diag)-10, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
6	**CHECK CRUISE SET INDICATOR LIGHT.** Ensure the cruise set indicator light illuminates.	Does the cruise set indicator light illuminate?	Go to step **7.**	Go to phenomenon 3. <Ref. to CC(diag)-10, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
7	**CHECK VEHICLE SPEED IS HELD WITHIN SET SPEED.** Make sure the vehicle speed is held within set speed.	Is vehicle speed held within set speed ±3 km/h (±2 MPH)? (Make an inspection on a level road.)	Go to step **8.**	Go to phenomenon 4. <Ref. to CC(diag)-10, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
8	**CHECK RESUME/ACCEL OPERATION.** Check the RESUME/ACCEL switch operation.	Does the vehicle speed increase or return to set speed after RESUME/ACCEL switch has been pressed?	Go to step **9.**	Go to phenomenon 5. <Ref. to CC(diag)-10, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

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

2. General Description

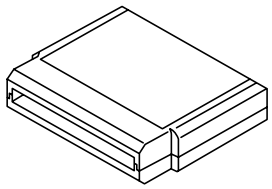
A: CAUTION

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

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

B: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST18482AA000	18482AA000 (Newly adapted tool)	CARTRIDGE	Troubleshooting for electrical system
ST22771AA030	22771AA030	SUBARU SELECT MONITOR KIT	Troubleshooting for electrical system • English: 22771AA030 (Without printer) • German: 22771AA070 (Without printer) • French: 22771AA080 (Without printer) • Spanish: 22771AA090 (Without printer)

2. GENERAL TOOL

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

C: INSPECTION

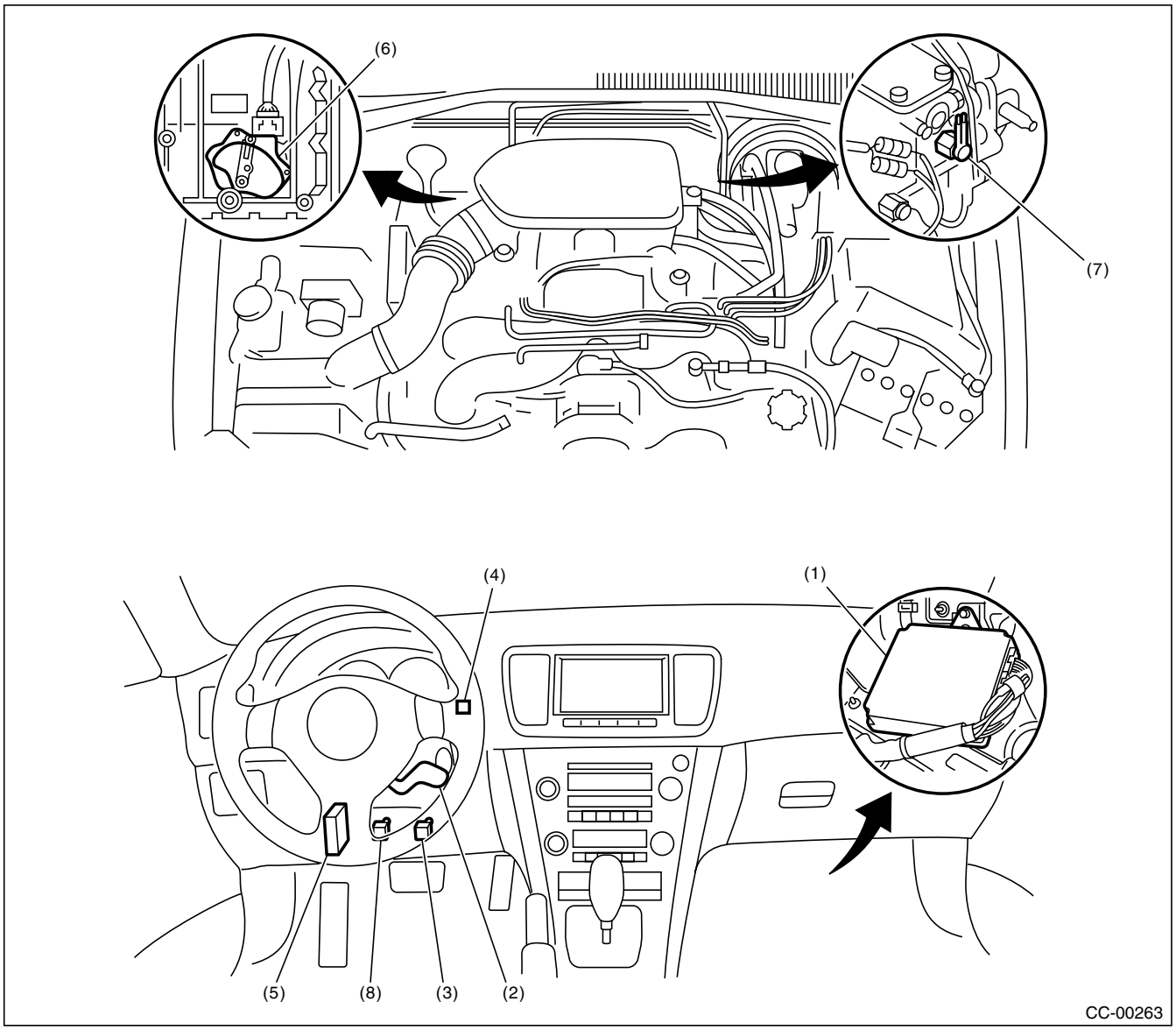
Measure the battery voltage and specific gravity of electrolyte.

Standard voltage:
12 V or more

Specific gravity:
1.260 or more

3. Electrical Component Location

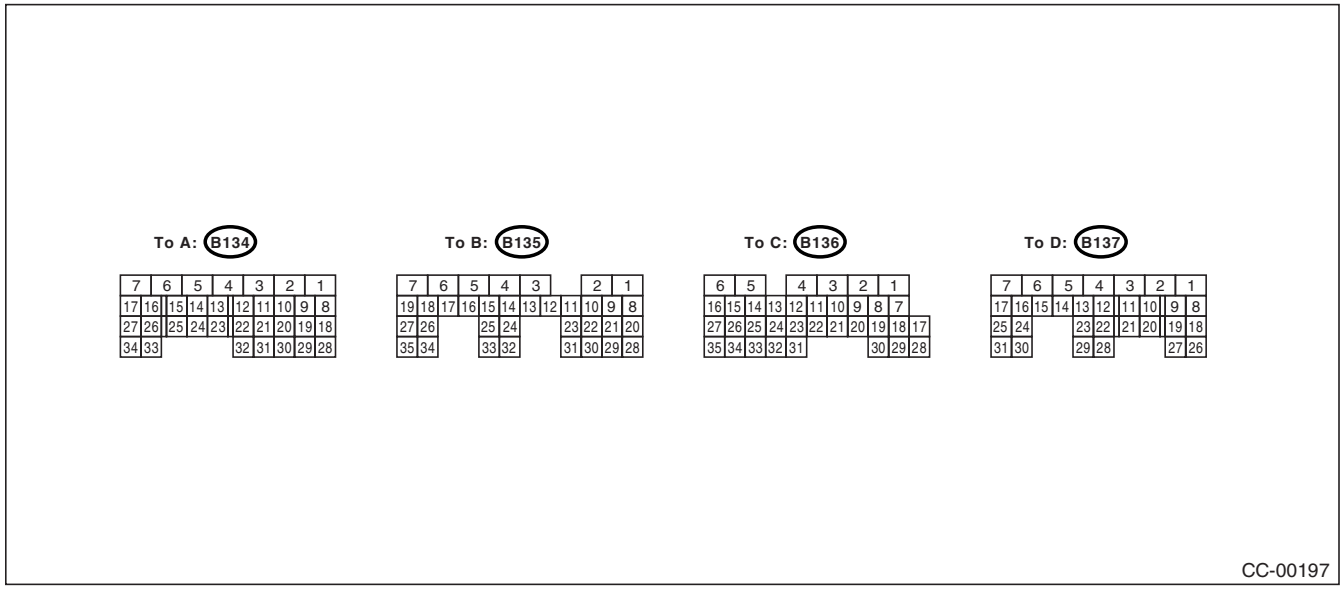
A: LOCATION



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

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

A: ELECTRICAL SPECIFICATION



- 2.0 L turbo model, 3.0 L model, 2.5 L EC, K4 and EK model

Content		Terminal No.	Measurement Condition and I/O Signal (Idling with ignition ON: Except cruise set light)
Main power supply	VB (CONTROL 1) VB (CONTROL 2)	B6 B5	• Battery voltage is present when the main power is turned ON. • "0 V" voltage is present when the main power is turned OFF.
Command Switch		C11	• "0 V" voltage is present when the command switch is turned to CANCEL position. • "Approx. 1 V" voltage is present when the command switch is turned to SET/COAST position. • "Approx. 3 V" voltage is present when the command switch is turned to RESUME/ACCEL position. • "Approx. 4 V" voltage is present when the command switch is released.
Brake switch 1 (Brake switch)		C9	• Battery voltage is present when the brake pedal is released. • "0 V" voltage is present when the brake pedal is depressed.
Brake switch 2 (Stop light switch)		C8	• Battery voltage is present when the brake pedal is depressed. • "0 V" voltage is present when the brake pedal is released.
Main switch		C7	• "0 V" voltage is present while the main switch is pressed or turned ON. • Battery voltage is present when the main switch is turned OFF.
Ground	GND (CONTROL 1) GND (CONTROL 2)	D2 D1	—
Ignition switch		D14	• Battery voltage is present when the ignition switch is turned ON. • "0 V" voltage is present when the ignition switch is turned OFF.
Clutch switch (MT model)		C10	• "0 V" voltage is present when the clutch pedal is depressed. • Battery voltage is present when the clutch pedal is released.
Neutral position switch (MT model)		D9	• "0 V" voltage is present when the shift lever is set in any position except neutral. • "Approx. 5 V" voltage is present when the shift lever is set in neutral position.
Neutral signal (AT model)		D9	• "Approx. 5 V" voltage (4AT model) or battery voltage (5AT model) is present when the shift lever is set in any position except "P" or "N". • "0 V" voltage is present when the shift lever is set in "P" or "N" position.

• 2.0 L non-turbo model, 2.5 L KS, KA model

Content		Terminal No.	Measurement Condition and I/O Signal (Idling with ignition ON: Except cruise set light)
Main power supply	VB (CONTROL 1) VB (CONTROL 2)	C3 C4	• Battery voltage is present when the main power is turned ON. • "0 V" voltage is present when the main power is turned OFF.
Command Switch		C21	• "0 V" voltage is present when the command switch is turned to CANCEL position. • "Approx. 1 V" voltage is present when the command switch is turned to SET/COAST position. • "Approx. 3 V" voltage is present when the command switch is turned to RESUME/ACCEL position. • "Approx. 4 V" voltage is present when the command switch is released.
Brake switch 1 (Brake switch)		D12	• Battery voltage is present when the brake pedal is released. • "0 V" voltage is present when the brake pedal is depressed.
Brake switch 2 (Stop light switch)		D13	• Battery voltage is present when the brake pedal is depressed. • "0 V" voltage is present when the brake pedal is released.
Main switch		D14	• "0 V" voltage is present while the main switch is pressed or turned ON. • Battery voltage is present when the main switch is turned OFF.
Ground	GND (CONTROL 1) GND (CONTROL 2)	C5 C6	—
Ignition switch		B13	• Battery voltage is present when the ignition switch is turned ON. • "0 V" voltage is present when the ignition switch is turned OFF.
Clutch switch (MT model)		D22	• "0 V" voltage is present when the clutch pedal is depressed. • Battery voltage is present when the clutch pedal is released.
Neutral position switch (MT model)		B12	• "0 V" voltage is present when the shift lever is set in any position except neutral. • "Approx. 5 V" voltage is present when the shift lever is set in neutral position.
Neutral signal (AT model)		B12	• "Approx. 5 V" voltage is present when the shift lever is set in any position except "P" or "N". • "0 V" voltage is present when the shift lever is set in "P" or "N" position.

B: WIRING DIAGRAM

<Ref. to WI-213, WIRING DIAGRAM, Cruise Control System.>

5. Subaru Select Monitor

A: OPERATION

1. GENERAL DESCRIPTION

For the on-board diagnosis function of the cruise control system, use Subaru Select Monitor.
The on-board diagnosis function operates under two categories, which are used depending on the type of problems;

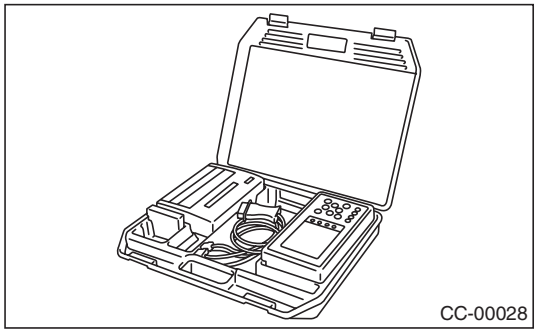
1) Cruise Control Cancel Conditions Diagnosis
   (1) This category of diagnosis requires actual vehicle driving in order to determine the cause, as when cruise speed is cancelled during driving although cruise cancel condition is not entered.
   (2) Cruise control memory in ECM stores the cancel condition (Code No.) which occurred during driving. When there are 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 control main switch is turned OFF.

2) Real-time Diagnosis
Real-time diagnosis function is used to determine whether or not the input signal system is in good order, according to the signal emitted from switches, sensors, etc.
   (1) Vehicle cannot be driven at cruise speed when problem occurs in the cruise control system or its associated circuits.
   (2) Monitor the signal conditions from switches and sensors.

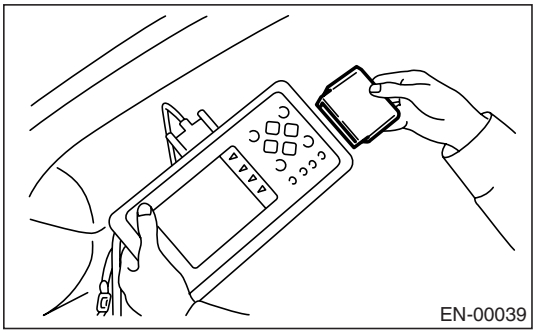
2. CRUISE CONTROL CANCEL CONDITIONS DIAGNOSIS

1) Prepare the Subaru Select Monitor kit.

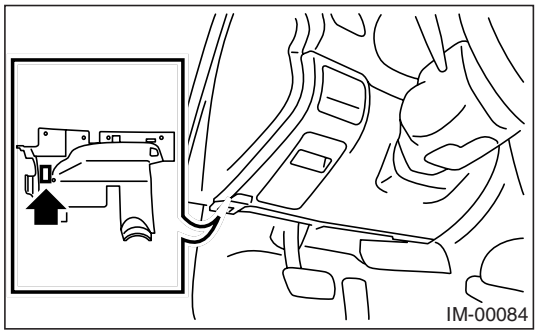


2) Connect the diagnosis cable to Subaru Select Monitor.

3) Insert the cartridge to Subaru Select Monitor. <Ref. to CC(diag)-4, SPECIAL TOOL, PREPARATION TOOL, General Description.>

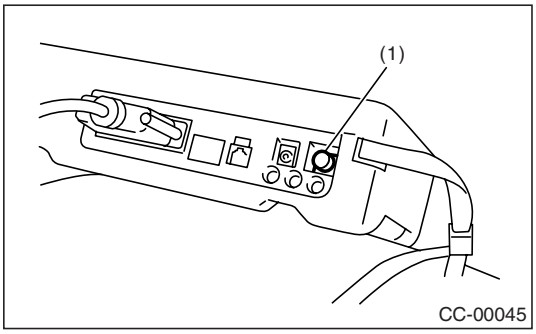


4) Connect the Subaru Select Monitor to data link connector.
   (1) Data link connector is located in the lower portion of instrument panel (on the driver's side).



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

5) Start the engine and turn the cruise control main switch to ON.
6) Turn the Subaru Select Monitor power switch to ON.



(1) Power switch

7) On the « Main Menu» display screen, select the {Each System Check} and press the [YES] key.
On the system selection display screen, select the {Engine} and press the [YES] key. Press the [YES] key after the information of engine type is displayed.
8) Drive vehicle at least 40 km/h (25 MPH) with cruise speed set.

9) If the cruise speed is canceled by itself (without doing any cancel operations), DTC will display on the screen when selecting the {Check Cancel Code} and pressing the [YES] key on the engine malfunction diagnosis display screen.

CAUTION:
• When performing diagnostics, observe the legal speed of the road.
• DTC will also displayed when cruise control cancel is effected by driver. Do not confuse.
• Put a co-worker in the vehicle to assist the diagnosis during driving.

NOTE:
DTC will be cleared by turning ignition switch or cruise control main switch to OFF.

3. REAL-TIME DIAGNOSIS

1) Connect the Subaru Select Monitor.
2) Turn the ignition switch and cruise control main switch to ON.
3) Turn the Subaru Select Monitor power 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 {Engine} and press the [YES] key.
6) Press the [YES] key after the information of engine type is displayed.
7) On the «Cruise Control Diagnosis» display screen, select the {Current Data Display/Save}, and then press the [YES] key.
8) Make sure that normal indication is displayed when operated as follows:
• Depress/release the brake pedal. (Stop light switch and brake switch turn ON.)
• Turn the main switch to ON.
• Turn the “CANCEL” switch to ON.
• Turn ON the “SET/COAST” switch.
• Turn ON the “RESUME/ACCEL” switch.
• Depress or release the clutch pedal.
• Place the shift lever in any position except neutral.

NOTE:
• For details concerning operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.
• For DTC, refer to “List of Diagnostic Trouble Code (DTC)”. <Ref. to CC(diag)-12, List of Diagnostic Trouble Code (DTC).>

6. Diagnostics with Phenomenon

A: DIAGNOSTIC PROCEDURE WITH PHENOMENON

Phenomenon		Checking item	Reference
1	Cruise control main switch is not turned to ON. (Cruise indicator light does not illuminate.)	(1) Check the cruise indicator light.	<Ref. to CC(diag)-11, CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT., Diagnostics with Phenomenon.>
		(2) Check the cruise control command switch.	<Ref. to CC(diag)-15, DTC 11, 15, 21 AND 24 CRUISE CONTROL COMMAND SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2	Cruise control cannot be set.	(1) Check the cruise control command switch.	<Ref. to CC(diag)-15, DTC 11, 15, 21 AND 24 CRUISE CONTROL COMMAND SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(2) Check the stop light switch and brake switch.	<Ref. to CC(diag)-18, DTC 12 AND 25 STOP LIGHT SWITCH AND BRAKE SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(3) Check the clutch switch.	<Ref. to CC(diag)-21, DTC 13 CLUTCH SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(4) Check the neutral position switch.	<Ref. to CC(diag)-24, DTC 14 NEUTRAL POSITION SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(5) Check the vehicle speed sensor.	<Ref. to CC(diag)-32, DTC 22 AND 32 VEHICLE SPEED SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
3	Cruise set indicator light does not illuminate.	Check the cruise set indicator light.	<Ref. to CC(diag)-11, CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT., Diagnostics with Phenomenon.>
4	Vehicle speed is not held within set speed ±3 km/h (±2 MPH).	Inspect the vehicle speed sensor.	<Ref. to CC(diag)-32, DTC 22 AND 32 VEHICLE SPEED SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
5	Vehicle speed does not increase or does not return to set speed after RESUME/ ACCEL switch has been pressed.	Check the RESUME/ACCEL switch.	<Ref. to CC(diag)-15, DTC 11, 15, 21 AND 24 CRUISE CONTROL COMMAND SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
6	Vehicle speed does not decrease after SET/COAST switch has been pressed.	Check the SET/COAST switch.	<Ref. to CC(diag)-15, DTC 11, 15, 21 AND 24 CRUISE CONTROL COMMAND SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
7	Cruise control is not released after CANCEL switch has been pressed.	Check the CANCEL switch.	<Ref. to CC(diag)-15, DTC 11, 15, 21 AND 24 CRUISE CONTROL COMMAND SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
8	Cruise control is not released after brake pedal has been depressed.	Check the stop light switch and brake switch.	<Ref. to CC(diag)-18, DTC 12 AND 25 STOP LIGHT SWITCH AND BRAKE SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
9	Cruise control is not released after shifting to the neutral position.	Check the neutral position switch.	<Ref. to CC(diag)-24, DTC 14 NEUTRAL POSITION SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
10	Cruise control is not released after clutch pedal has been depressed.	Check the clutch switch.	<Ref. to CC(diag)-21, DTC 13 CLUTCH SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

B: CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT.

TROUBLE SYMPTOM:

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

	Step	Check	Yes	No
1	**CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT.** 1) Perform the self-diagnosis for combination meter. <Ref. to IDI-3, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.> 2) Check the cruise indicator light and cruise set indicator light illuminate.	Does the cruise indicator light and cruise set indicator light illuminate?	Go to step **2.**	Replace the meter case assembly. <Ref. to IDI-15, Combination Meter.>
2	**CHECK LAN COMMUNICATION CIRCUIT ERROR DISPLAY.** 1) Turn the ignition switch to ON again after completing self-diagnosis. 2) Check that communication error is displayed on the odo/trip meter in combination meter.	Is the error code “Er xx” displayed on odo/trip meter?	Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>

7. List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Contents of diagnosis	Reference
11	Main switch	Main switch of cruise control command switch is turned to OFF, and then the cruise control is released.	This DTC is indicated without operating the main switch. <Ref. to CC(diag)-15, DTC 11, 15, 21 AND 24 CRUISE CONTROL COMMAND SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
12	Stop and brake switch	Stop light switch or brake switch is turned to ON, and then the cruise control is released.	This DTC is indicated without depressing the brake pedal. <Ref. to CC(diag)-18, DTC 12 AND 25 STOP LIGHT SWITCH AND BRAKE SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
13	Clutch switch	Clutch switch is turned to ON, and then the cruise control is released.	This DTC is indicated without depressing the clutch pedal. <Ref. to CC(diag)-21, DTC 13 CLUTCH SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
14	Neutral position switch	Neutral position switch is turned to ON, and then the cruise control is released.	This DTC is indicated without shifting to neutral position. <Ref. to CC(diag)-24, DTC 14 NEUTRAL POSITION SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
15	Cancel switch	Cancel switch is turned to ON, and then the cruise control is released.	This DTC is indicated without operating the cancel switch. <Ref. to CC(diag)-15, DTC 11, 15, 21 AND 24 CRUISE CONTROL COMMAND SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
16	Ignition switch	Ignition switch is turned to OFF, and then the cruise control is released.	This DTC is indicated without operating the ignition switch. <Ref. to CC(diag)-29, DTC 16 IGNITION SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Contents of diagnosis	Reference
21	Cruise Control Switch Malfunction When Ignition Switch Is Turned To ON	When the ignition switch is turned to ON, each switch of cruise control command switch is already turned to ON.	This DTC is indicated without operating the main switch. <Ref. to CC(diag)-15, DTC 11, 15, 21 AND 24 CRUISE CONTROL COMMAND SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
22	Vehicle Speed Variation Malfunction	Malfunction of vehicle speed signal variation is detected.	<Ref. to CC(diag)-32, DTC 22 AND 32 VEHICLE SPEED SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
23	Engine Related Sensor Malfunction	Malfunction related to engine is detected.	<Ref. to EN(H4SO 2.0)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H4SO 2.5)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H4DOTC)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.>
24	Cruise Control Related Switch Malfunction	Command switch malfunction is detected. (When the switch is being pressed ON for an abnormal period of time (about two minutes), open circuit is detected.)	This DTC is indicated with normal operation. <Ref. to CC(diag)-15, DTC 11, 15, 21 AND 24 CRUISE CONTROL COMMAND SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
25	Brake Switch Input Circuit Malfunction	Malfunction of brake switch input circuit in ECM is detected.	<Ref. to CC(diag)-18, DTC 12 AND 25 STOP LIGHT SWITCH AND BRAKE SWITCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
26	Engine speed signal	• Abnormal increase of engine speed is detected. • Gear is placed in Neutral, 1st or Reverse positions.	Cruise in more than 2nd shift position.
32	Out of Vehicle Speed of Cruise Control Operation	• Controlled vehicle speed decreased under the limit during cruising. • Set operation was performed out of vehicle speed available for setting. • Resume operation was performed without memorized vehicle speed.	This DTC is displayed though the vehicle speed is increased to the speed available for cruise set and set operation was performed again. <Ref. to CC(diag)-32, DTC 22 AND 32 VEHICLE SPEED SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

List of Diagnostic Trouble Code (DTC)

DTC	Item	Contents of diagnosis	Reference
33	WAIT is prohibited after operating accelerator pedal.	Controlled vehicle speed increased above the limit during cruising.	This DTC is displayed when driving at higher speed than appropriate cruise control speed. In this case, lower the vehicle speed to the speed available for cruise set, and perform cruise set operation again.
34	Prohibited when accelerator pedal position large is continued.	The vehicle has been driven at higher speed than set vehicle speed for an abnormal period of time (about 10 minutes) during cruise driving.	This DTC is displayed when driving for a long period of time at higher speed than appropriate cruise set vehicle speed by operating accelerator pedal. In this case, release the cruise set.
35	Prohibited when vehicle speed feedback unavailable.	Set vehicle speed cannot keep because of some reasons (steep uphill, parking brake, abnormal decrease of engine output, etc.) during cruise driving.	This DTC is displayed when driving condition is not suitable for cruise control. Perform cruise set operation again after eliminating the estimated cause.
41	VDC/TCS operation	Vehicle dynamics control (VDC) or TCS is operated during cruise driving or cruise setting.	This DTC is displayed when driving condition is not suitable for cruise control. Perform cruise set operation again after eliminating the estimated cause.
42	High speed CAN communication malfunction	High speed CAN communication malfunction is detected during cruise driving or cruise setting.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
43	ABS/VDC malfunction	ABS or vehicle dynamics control (VDC) system malfunction is detected during cruise driving or cruise setting.	<Ref. to ABS(diag)-2, Basic Diagnostic Procedure.> or <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>
44	Body integrated module malfunction	Body integrated module system malfunction is detected during cruise driving or cruise setting.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
45	Meter malfunction	Combination meter malfunction is detected during cruise driving or cruise setting.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>

8. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

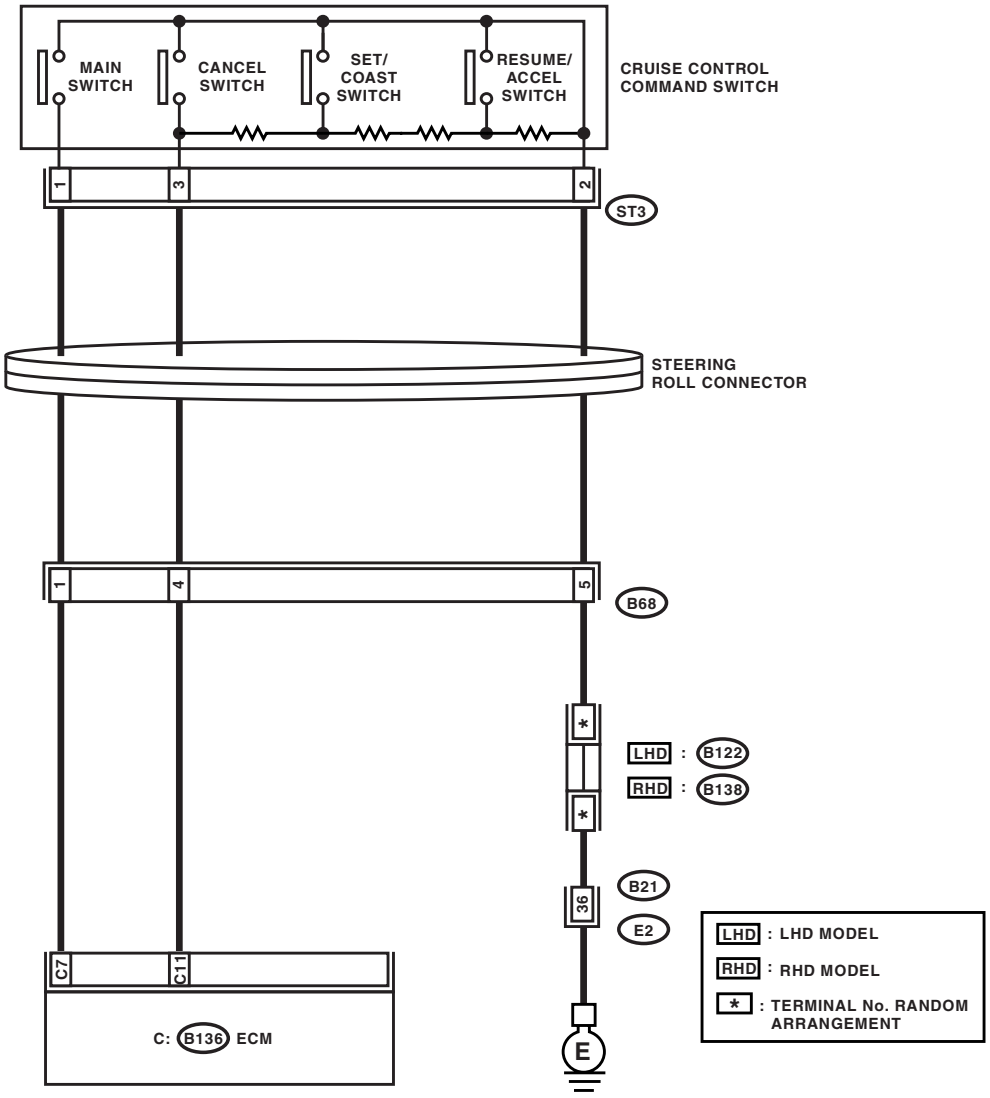
A: DTC 11, 15, 21 AND 24 CRUISE CONTROL COMMAND SWITCH

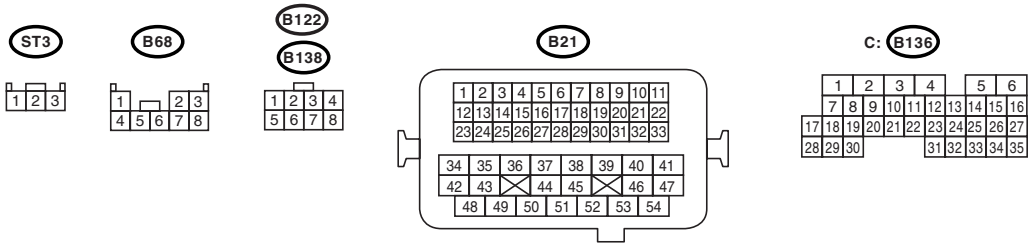
TROUBLE SYMPTOM:

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

WIRING DIAGRAM:

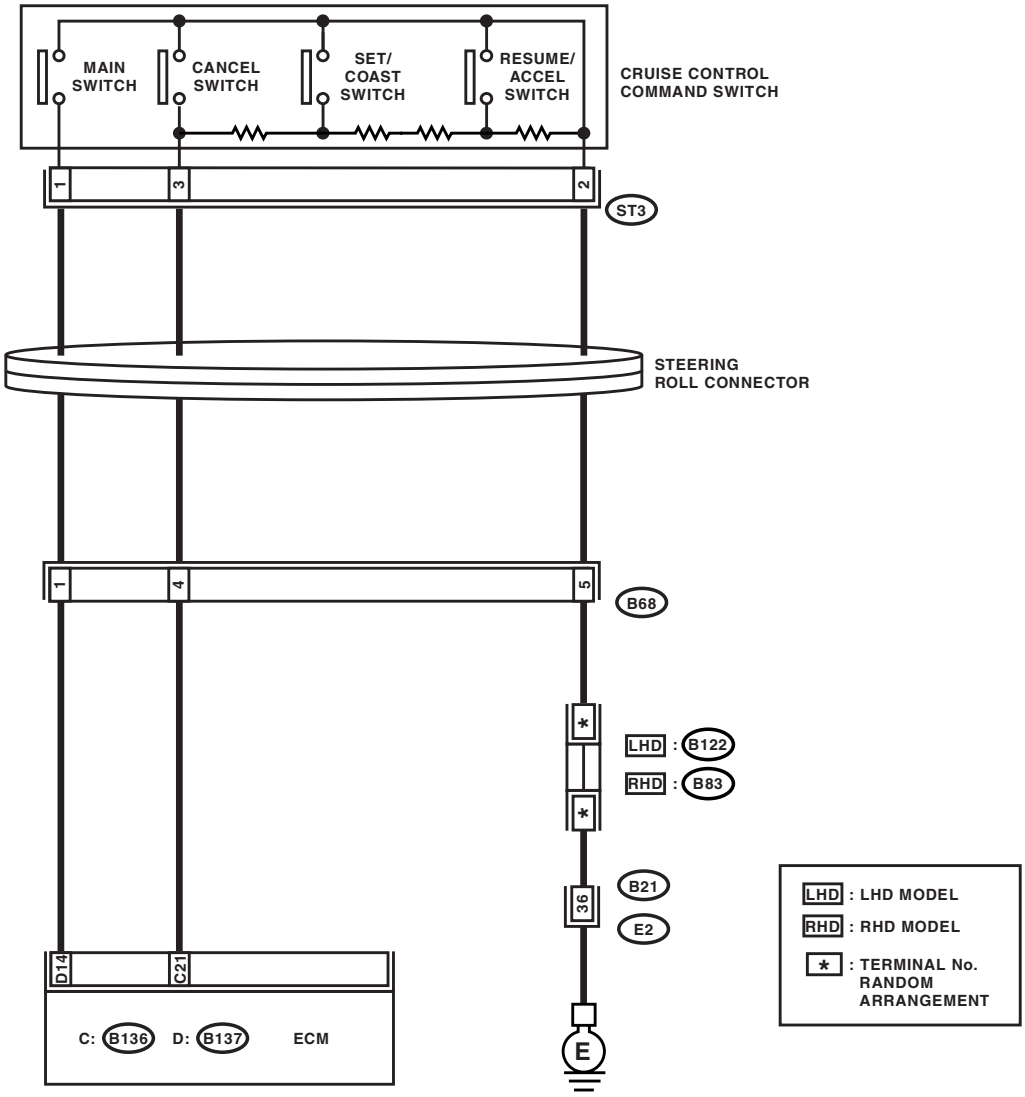
- 2.0 L turbo model, 3.0 L model, 2.5 L EC, K4 and EK model

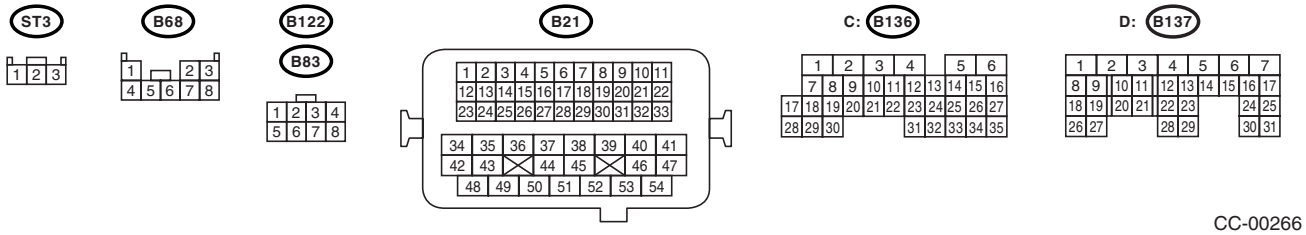




CC-00265

- 2.0 L non-turbo model, 2.5 L KS, KA model





CC-00266

	Step	Check	Yes	No
1	**CHECK CRUISE CONTROL COMMAND SWITCH.** 1) Remove the driver's airbag module. <Ref. to AB-16, REMOVAL, Driver's Airbag Module.> 2) Disconnect the harness connector of cruise control command switch. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(ST3) No. 1 (+) — Chassis ground (−):*** ***(ST3) No. 3 (+) — Chassis ground (−):***	Is the voltage more than 5 V?	Go to step **2.**	Check the harness for open or short circuit between cruise control command switch and ECM.
2	**INSPECTION FOR CANCEL SWITCH.** 1) Turn the ignition switch to OFF. 2) Remove the cruise control command switch. <Ref. to CC-5, REMOVAL, Cruise Control Command Switch.> 3) Measure the resistance between switch terminals when CANCEL switch is pressed and not pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance less than 1 Ω when CANCEL switch is pressed? Is the resistance approx. 4 kΩ when CANCEL switch is not pressed?	Go to step **3.**	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>
3	**CHECK SET/COAST SWITCH.** Measure the resistance between switch terminals when SET/COAST switch is pressed and not pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 250 Ω when SET/COAST switch is pressed? Is the resistance approx. 4 kΩ when SET/COAST switch is not pressed?	Go to step **4.**	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>
4	**CHECK RESUME/ACCEL SWITCH CIRCUIT.** Measure the resistance between switch terminals when RESUME/ACCEL switch is pressed and not pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 1500 Ω when RESUME/ACCEL switch is pressed? Is the resistance approx. 4 kΩ when RESUME/ACCEL switch is not pressed?	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>

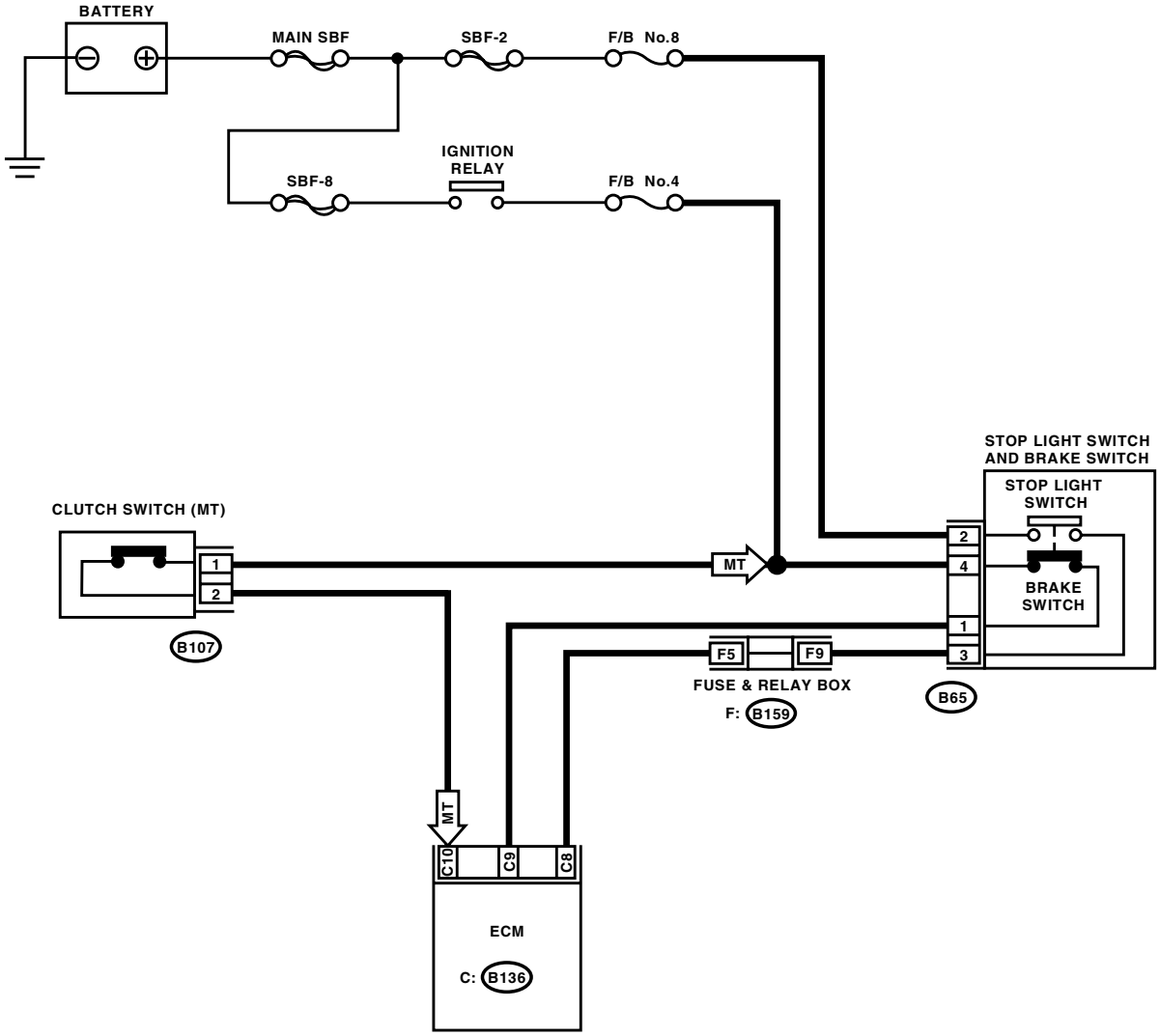
B: DTC 12 AND 25 STOP LIGHT SWITCH AND BRAKE SWITCH

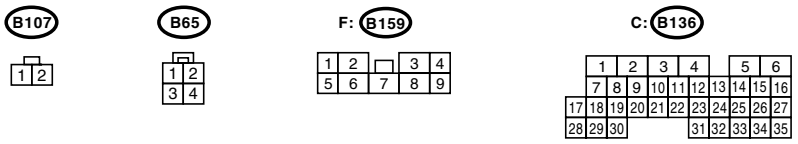
TROUBLE SYMPTOM:

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

WIRING DIAGRAM:

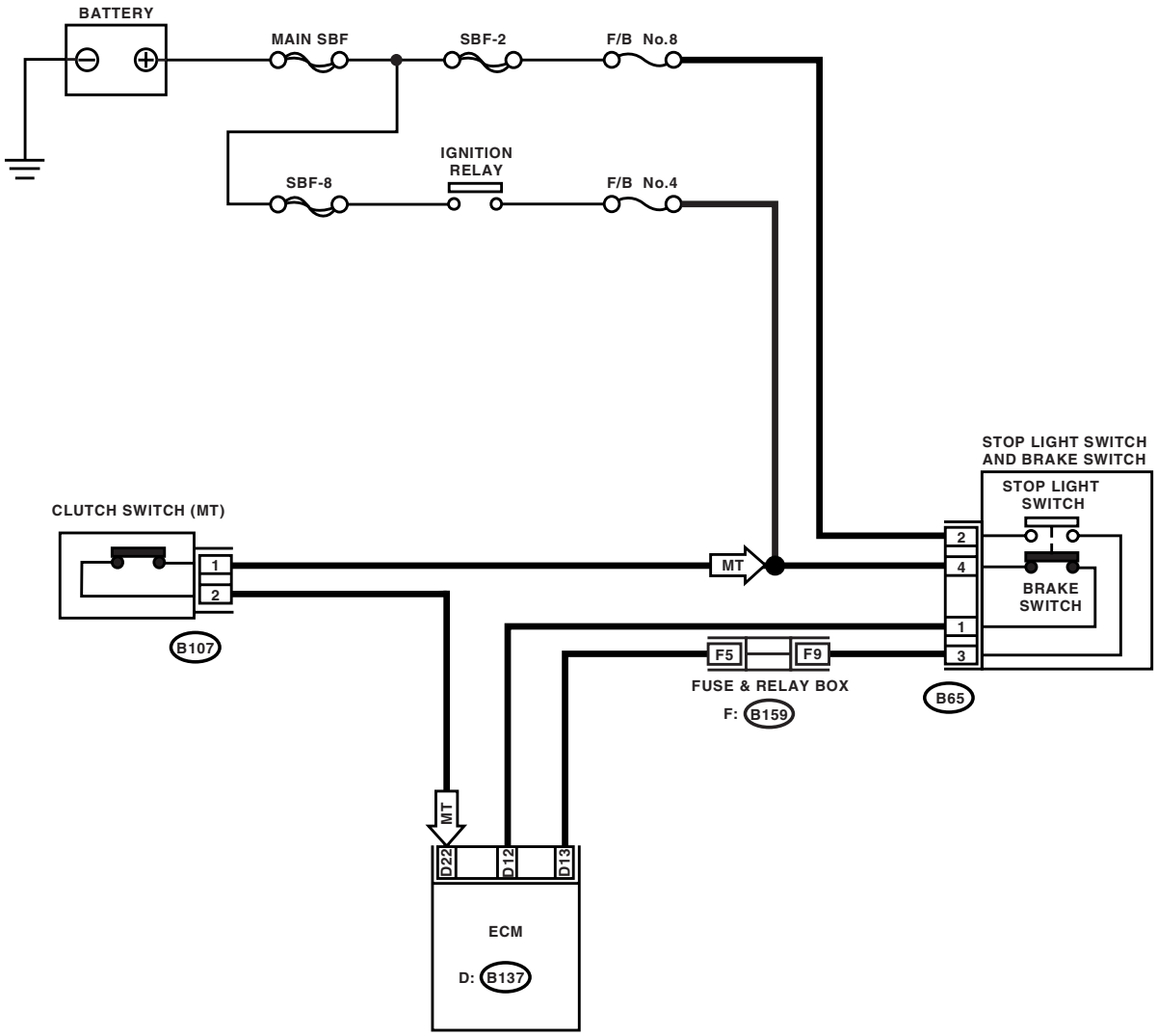
- 2.0 L turbo model, 3.0 L model, 2.5 L EC, K4 and EK model

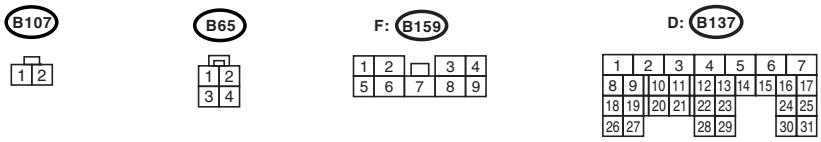




CC-00362

- 2.0 L non-turbo model, 2.5 L for KS, KA model





CC-00363

	Step	Check	Yes	No
1	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the stop light switch and brake switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **2.**	• Check fuse No. 8 (in fuse & relay box). • Check the harness for open or short between stop light/brake switch and fuse & relay box.
2	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 4 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	• Check fuse No. 4 (in fuse & relay box). • Check the harness for open or short between stop light/brake switch and fuse & relay box.
3	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of ECM. 3) Measure the resistance between ECM harness connector terminal and stop light switch and brake switch harness connector terminal. ***Connector & terminal*** ***2.0 L turbo model, 3.0 L model, 2.5 L EC, K4 and EK model:*** ***(B136) No. 8 — (B65) No. 3:*** ***(B136) No. 9 — (B65) No. 1:*** ***2.0 L non-turbo model, 2.5 L KS, KA model:*** ***(B137) No. 13 — (B65) No. 3:*** ***(B137) No. 12 — (B65) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4.**	Repair the harness.
4	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH.** Remove and check the stop light switch and brake switch. <Ref. to CC-6, Stop Light & Brake Switch.>	Are the stop light switch and brake switch OK?	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>	Replace the stop light switch and brake switch.

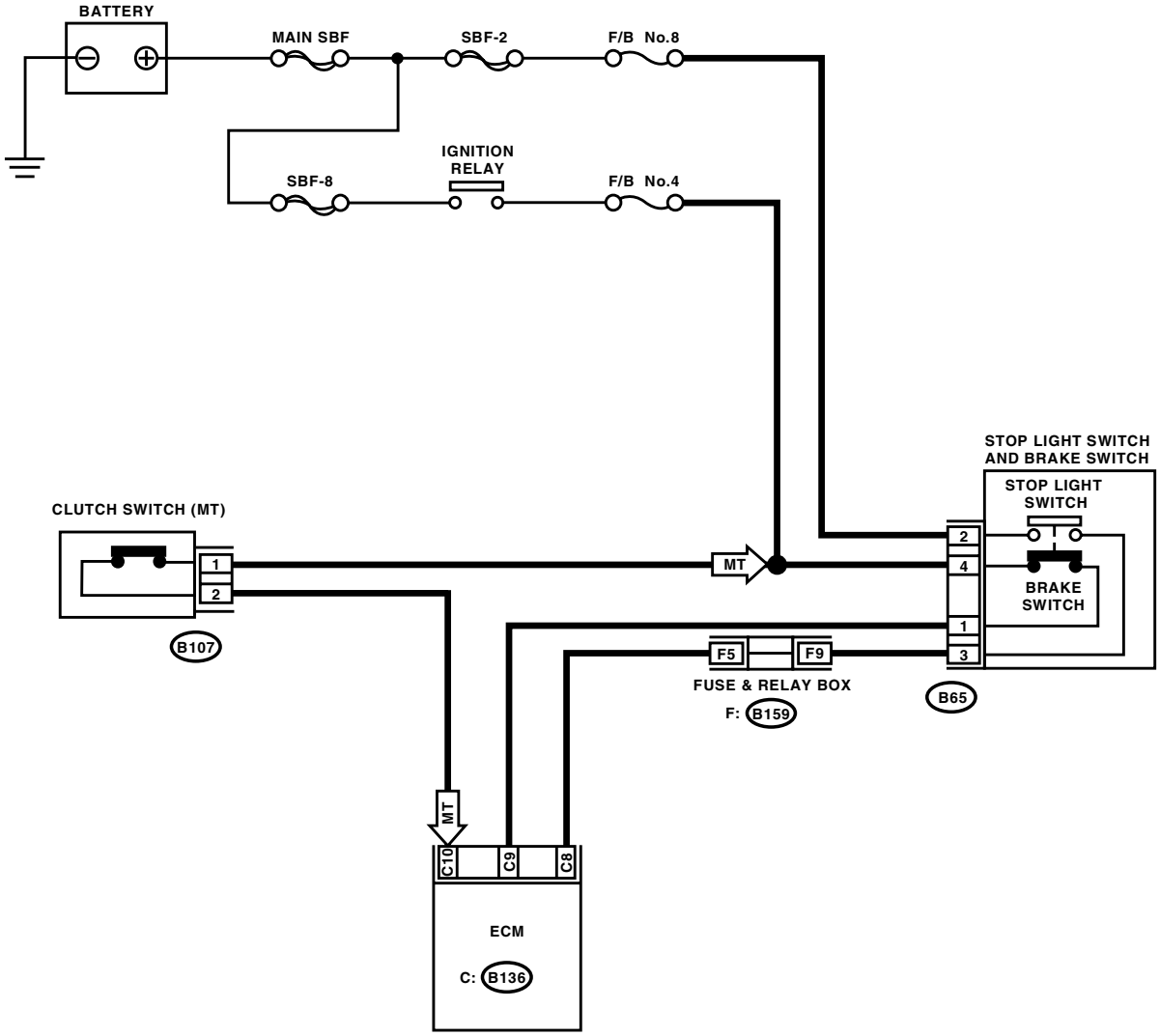
C: DTC 13 CLUTCH SWITCH

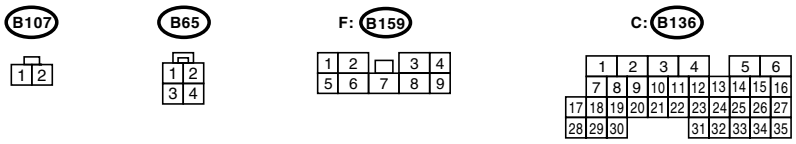
TROUBLE SYMPTOM:

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

WIRING DIAGRAM:

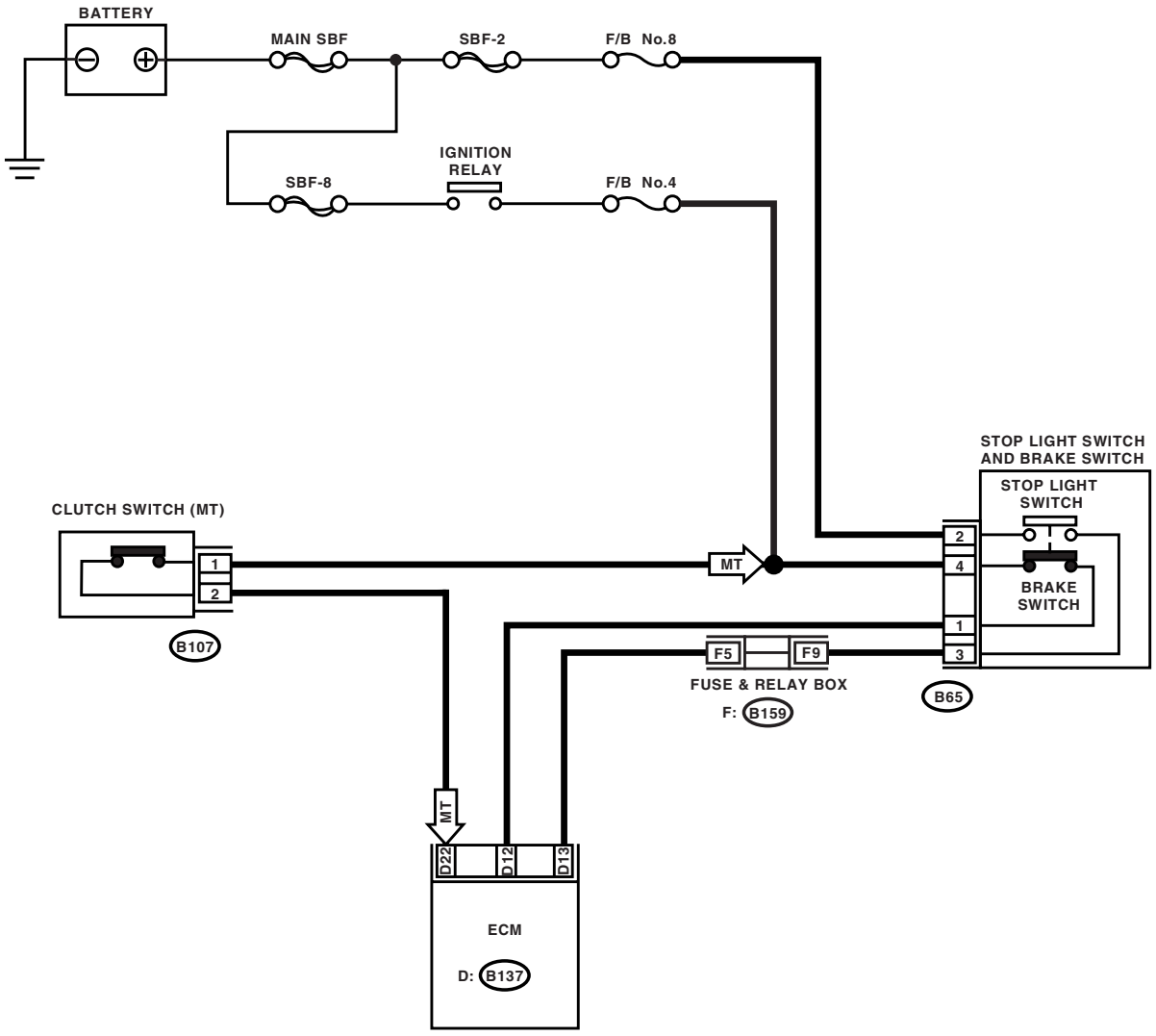
- 2.5 L EC, K4 and EK model

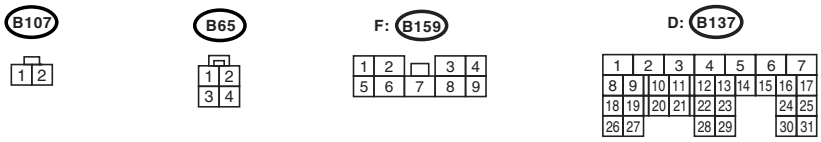




CC-00362

- 2.0 L non-turbo model, 2.5 L KS, KA model





CC-00363

	Step	Check	Yes	No
1	**CHECK CLUTCH SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the clutch switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B107) No. 1 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **2.**	• Check fuse No. 4 (in fuse & relay box). • Check the harness for open or short between clutch switch and fuse & relay box.
2	**CHECK CLUTCH SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM harness connector. 3) Measure the resistance between clutch switch harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***2.5 L EC, K4 and EK model:*** ***(B107) No. 2 — (B136) No. 10:*** ***2.0 L non-turbo model, 2.5 L KS, KA model:*** ***(B107) No. 2 — (B137) No. 22:***	Is the resistance less than 10 Ω?	Go to step **3.**	Repair the harness.
3	**CHECK CLUTCH SWITCH.** Remove and check the clutch switch. <Ref. to CC-7, Clutch Switch.>	Is the clutch switch OK?	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).>	Replace the clutch switch.

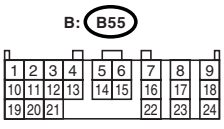
D: DTC 14 NEUTRAL POSITION SWITCH

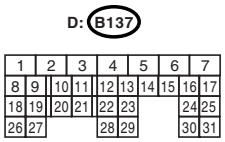
TROUBLE SYMPTOM:

Cruise control cannot be set.

WIRING DIAGRAM:

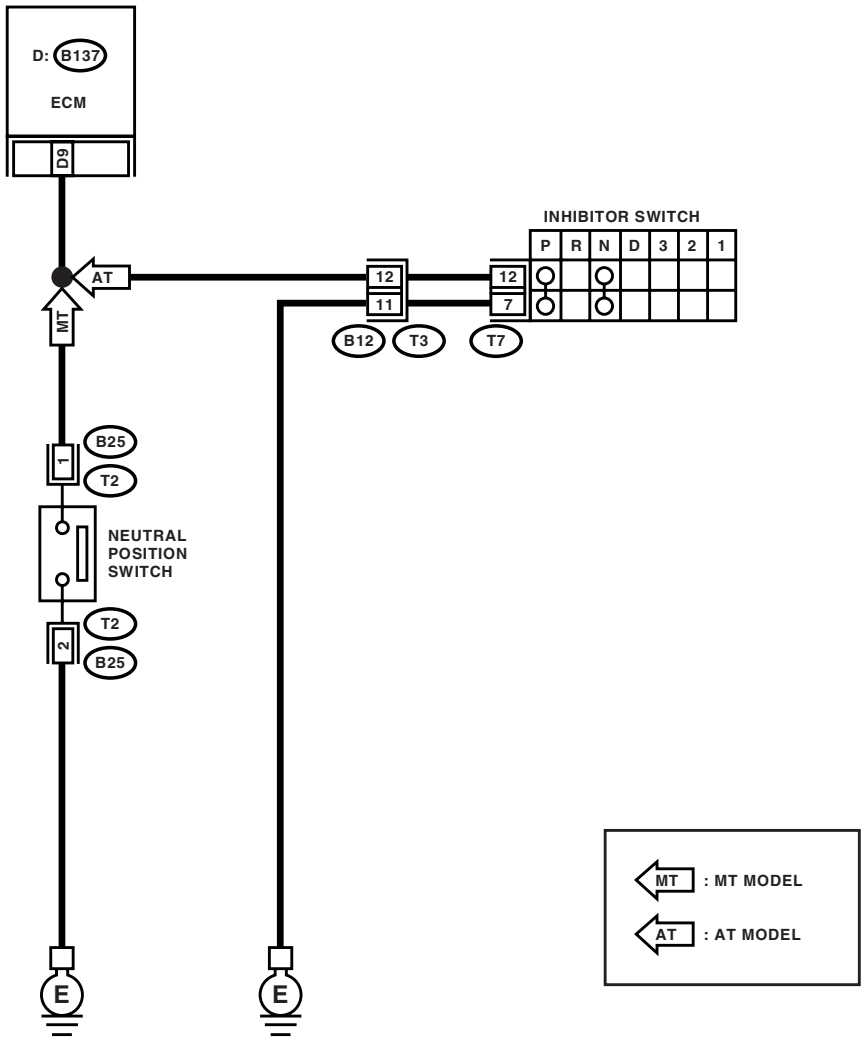
- 2.0 L turbo model, 3.0 L model

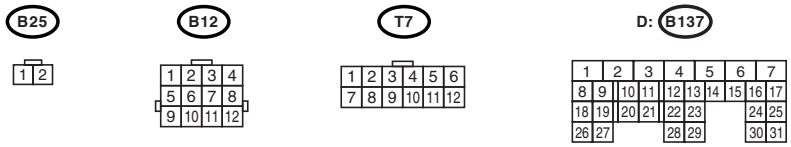




CC-00219

- 2.5 L EC, K4 and EK model

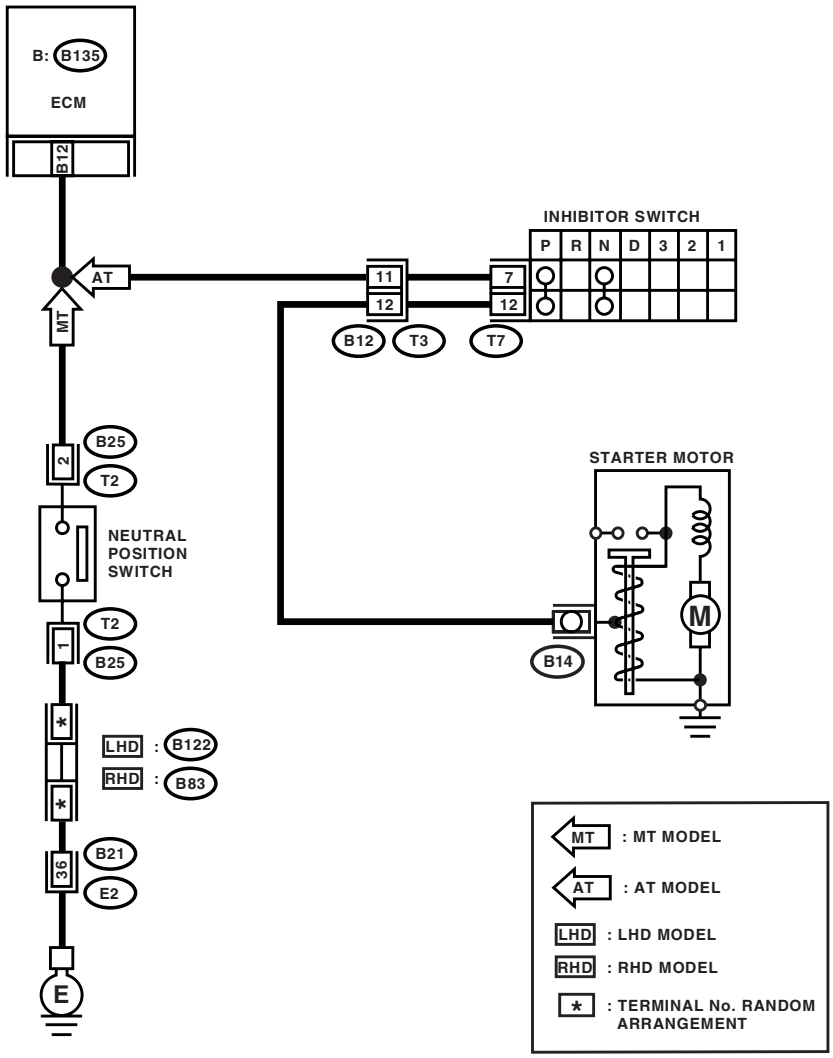


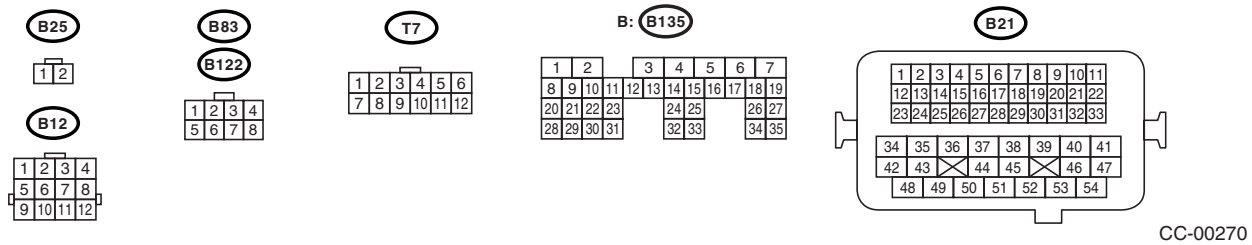


CC-00269

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

- 2.0 L non-turbo model, 2.5 L KS, KA model





CC-00270

	Step	Check	Yes	No
1	**CHECK VEHICLE FOR SPECIFICATION.** Check the vehicle for destination and specification.	Is the vehicle turbo model or 3.0 L model?	Go to step **2.**	Go to step **5.**
2	**CHECK NEUTRAL POSITION SWITCH.** 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch and Subaru Select Monitor switch to ON. 3) Select {Engine} from the main menu. 4) Then, select {Current Data Display & Save}. 5) Check the neutral position switch signal by shifting the select lever to "P" or "N" range.	Is ON displayed in the Subaru Select Monitor when the select lever is in "P" or "N" range? Or is OFF displayed in the Subaru Select Monitor when the select lever is in other than "P" or "N" range?	Replace the ECM. <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>	Go to step **3.**
3	**CHECK TCM OUTPUT VOLTAGE.** 1) Turn the ignition switch to ON. 2) Measure the voltage between TCM harness connector terminal and chassis ground. ***Connector & terminal*** ***(B55) No. 19 (+) — Chassis ground (−):***	Is the voltage more than 10 V when the select lever is in other than "P" or "N" range? Or is the voltage less than 1 V when the select lever is in "P" or "N" range?	Go to step **4.**	Inspect the TCM. <Ref. to 5AT(diag)-2, Basic Diagnostic Procedure.>
4	**CHECK HARNESS BETWEEN TCM AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from TCM and ECM. 3) Measure the resistance between TCM harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***(B137) No. 9 — (B55) No. 19:***	Is the resistance less than 10 Ω?	Replace the ECM. <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>	Repair the wiring harness.
5	**CHECK TRANSMISSION TYPE.**	Is the transmission type AT?	Go to step **6.**	Go to step **9.**
6	**CHECK INHIBITOR SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the inhibitor switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***2.5 L EC, K4 and EK model:*** ***(T7) No. 12 (+) — Chassis ground (−):*** ***2.0 L non-turbo model, 2.5 L KS, KA model:*** ***(T7) No. 7 (+) — Chassis ground (−):***	Is the voltage approx. 5 V?	Go to step **7.**	Check the harness for open or short between inhibitor switch and ECM.
7	**CHECK INHIBITOR SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the starter motor harness connector. 3) Measure the resistance between inhibitor switch harness connector terminal and chassis ground. ***Connector & terminal*** ***2.5 L EC, K4 and EK model:*** ***(T7) No. 7 — Chassis ground:*** ***2.0 L non-turbo model, 2.5 L KS, KA model:*** ***(T7) No. 12 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **8.**	Repair the harness.

	Step	Check	Yes	No
8	**CHECK INHIBITOR SWITCH.** Remove and check the inhibitor switch. <Ref. to CC-8, Inhibitor Switch.>	Is the inhibitor switch OK?	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).>	Replace the inhibitor switch.
9	**CHECK NEUTRAL POSITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the neutral position switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***2.5 L EC, K4 and EK model:*** ***(B25) No. 1 (+) — Chassis ground (−):*** ***2.0 L non-turbo model, 2.5 L KS, KA model:*** ***(B25) No. 2 (+) — Chassis ground (−):***	Is the voltage approx. 5 V?	Go to step **10.**	Check the harness for open or short between neutral position switch and ECM.
10	**CHECK NEUTRAL POSITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between neutral position switch harness connector terminal and chassis ground. ***Connector & terminal*** ***2.5 L EC, K4 and EK model:*** ***(B25) No. 2 — Chassis ground:*** ***2.0 L non-turbo model, 2.5 L KS, KA model:*** ***(B25) No. 1 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **11.**	Repair the harness.
11	**CHECK NEUTRAL POSITION SWITCH.** Remove and check the neutral position switch. <Ref. to CC-9, Neutral Position Switch.>	Is the neutral position switch OK?	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).>	Replace the neutral position switch.

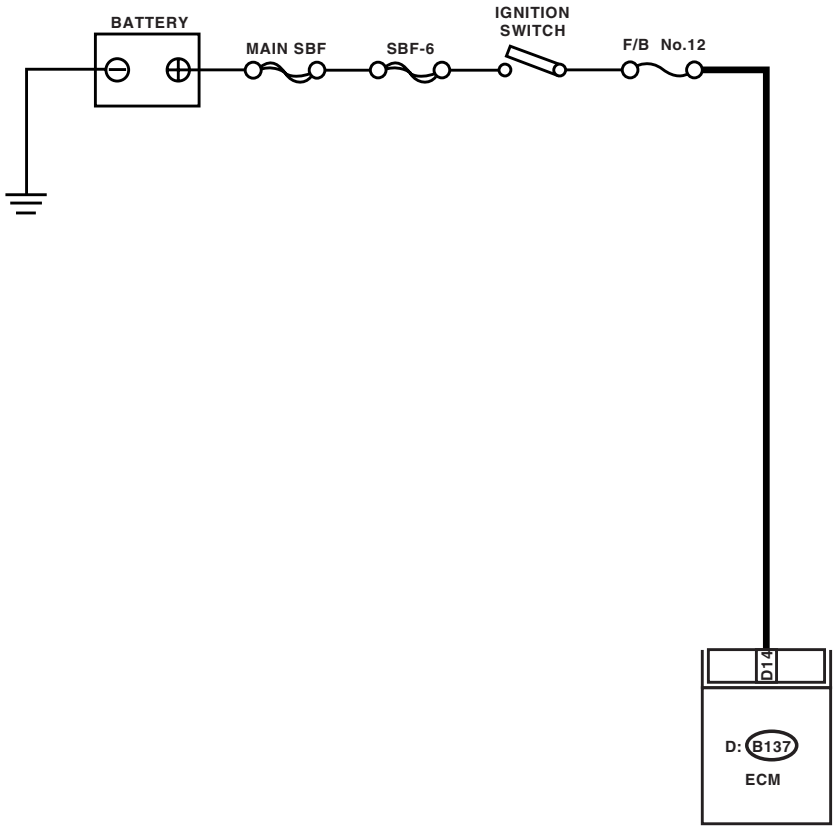
E: DTC 16 IGNITION SWITCH

TROUBLE SYMPTOM:

Cruise control cannot be set.

WIRING DIAGRAM:

- 2.0 L turbo model, 3.0 L model, 2.5 L EC, K4 and EK model

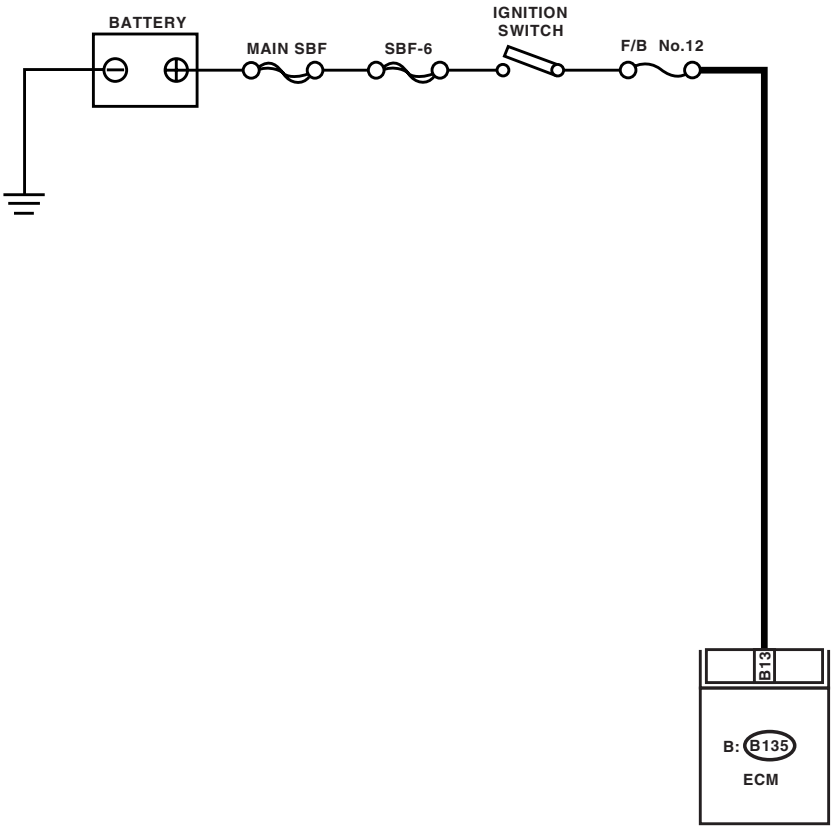


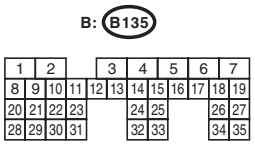
D: B137

1	2	3	4	5	6	7
8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25
26	27	28	29	30	31

CC-00364

- 2.0 L non-turbo model, 2.5 L KS, KA model





CC-00365

	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***2.0 L turbo model, 3.0 L model, 2.5 L EC, K4 and EK model:*** ***(B137) No. 14 (+) — Chassis ground (–):*** ***2.0 L non-turbo model, 2.5 L KS, KA model:*** ***(B135) No. 13 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Check poor contact in ECM connector.	• Check fuse No. 12 (in fuse & relay box). • Check the harness for open or short circuit between ignition switch and ECM.

F: DTC 22 AND 32 VEHICLE SPEED SENSOR

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

	Step	Check	Yes	No
1	**CHECK ABS WARNING LIGHT.** 1) Turn the ignition switch to ON. 2) After the combination meter initial operation is completed, confirm that the ABS warning light continues to illuminate.	Does the ABS warning light continue to illuminate?	Check ABSCM or VDCCM <Ref. to ABS(diag)-2, Basic Diagnostic Procedure.> or <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Go to step **2.**
2	**CHECK LAN COMMUNICATION CIRCUIT ERROR DISPLAY.** Check that the communication error is displayed on the odo/trip meter in combination meter.	Is the error code “Er xx” displayed on odo/trip meter?	Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>

IMMOBILIZER (DIAGNOSTICS)

IM(diag)

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1. Basic Diagnostic Procedure

A: PROCEDURE

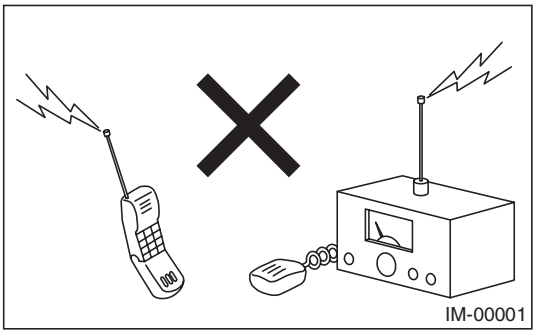
	Step	Check	Yes	No
1	**CHECK IMMOBILIZER INDICATOR LIGHT.** 1) Turn the ignition switch to “OFF” or “ACC”. 2) Wait for 60 seconds or more.	Does the immobilizer indicator light blink?	Go to step **2.**	Check immobilizer indicator light circuit. <Ref. to IM(diag)-11, CHECK IMMOBILIZER INDICATOR CIRCUIT, INSPECTION, Diagnostics Chart for Immobilizer Indicator Light.>
2	**CHECK KEY SWITCH.** Remove the key from ignition switch.	Does the immobilizer indicator light blink within 1 second after removing ignition key?	Go to step **3.**	Check the key switch circuit. <Ref. to IM(diag)-13, CHECK KEY SWITCH CIRCUIT., INSPECTION, Diagnostics Chart for Immobilizer Indicator Light.>
3	**CHECK IMMOBILIZER INDICATOR LIGHT.** Turn the ignition switch to ON.	Does the immobilizer indicator light off?	Go to step **6.**	Go to step **4.**
4	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the starter operate?	Go to step **5.**	Go to step **8.**
5	**CHECK IMMOBILIZER INDICATOR LIGHT.** Turn the ignition switch to ON.	Does the immobilizer indicator light blink?	Check the LAN communication system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Re-register all the keys registered with the vehicle, Go to step **3.** (Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.)
6	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the starter operate?	Go to step **7.**	Check the LAN communication system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
7	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the engine start?	Immobilizer system is OK.	Check DTC display (ECM). Go to step **9.**
8	**CHECK DTC (BODY INTEGRATED MODULE).** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. <Ref. to LAN(diag)-14, OPERATION, Subaru Select Monitor.> 3) Turn the ignition switch and Subaru Select Monitor power switch to ON. 4) Read the DTC using Subaru Select Monitor.	Is DTC displayed on the Subaru Select Monitor?	Go to step **10.**	Check the connection of immobilizer antenna and combination meter, and then register all the keys registered with the vehicle, Go to step **3.** (Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.)

	Step	Check	Yes	No
9	**CHECK DTC (ECM).** Read the DTC using Subaru Select Monitor.	Is DTC displayed on the Subaru Select Monitor?	Go to step **10.**	Check the connection of ECM, and then register all the keys registered with the vehicle, Go to step **3.** (Refer to "IMMOBILIZER TEACHING OPERATION MANUAL".)
10	**PERFORM DIAGNOSIS.** 1) Inspect using the "Diagnostic Procedure with Diagnostic Trouble Code (DTC)". <Ref. to IM(diag)-17, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> 2) Repair the trouble cause. 3) Perform the clear memory mode. 4) Read DTC again.	Is DTC displayed on the Subaru Select Monitor?	Inspect using the "Diagnostic Procedure with Diagnostic Trouble Code (DTC)". <Ref. to IM(diag)-17, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

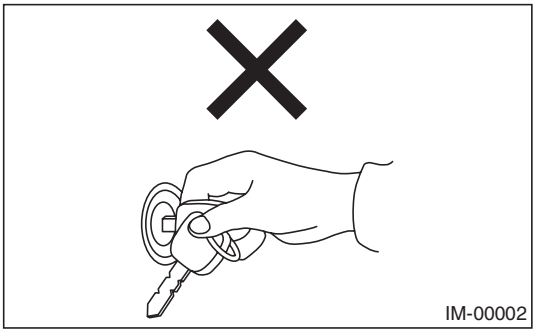
2. General Description

A: CAUTION

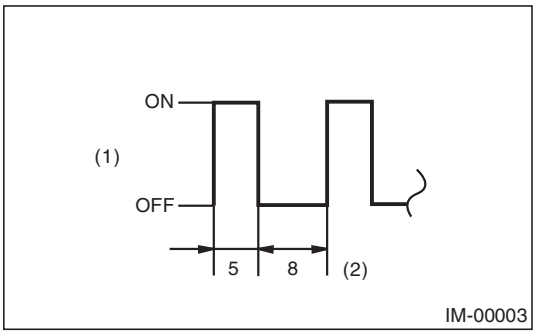
CAUTION:
• All airbag system wiring harnesses and connectors are yellow. Do not use the electrical test equipment on these circuits.
• Be careful not to damage the airbag system wiring harness.
• While diagnostic items are being checked, do not operate radios, portable telephones, etc. which emit electromagnetic waves near or inside the vehicle.



• When turning the ignition switch to ON or OFF while diagnostic items are being checked, do not allow keys with different ID codes close to the ignition switch. If the ignition key is in a key holder, remove it from the holder before carrying out diagnosis.



• When repeatedly turning the ignition switch to ON or OFF while diagnostic items are being checked, it should be switched in cycles of "ON" for at least 5 seconds → "OFF" for at least 8 seconds.

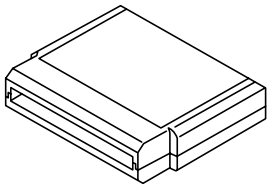


(1) Ignition switch position
(2) Sec.

• If the engine fails to start with a registered ignition key, detach the ignition key from ignition switch and wait for approx. 1 second until immobilizer indicator light begins to flash. And then start the engine again.
• Before checking the diagnostic items, obtain all keys for the vehicle to be checked possessed by owner.
• If the immobilizer indicator light blinks regardless of ON/OFF of ignition switch when the ignition key is inserted, perform the registration again. Refer to "IMMOBILIZER TEACHING OPERATION MANUAL".

B: PREPARATION TOOL

1. SPECIAL TOOL

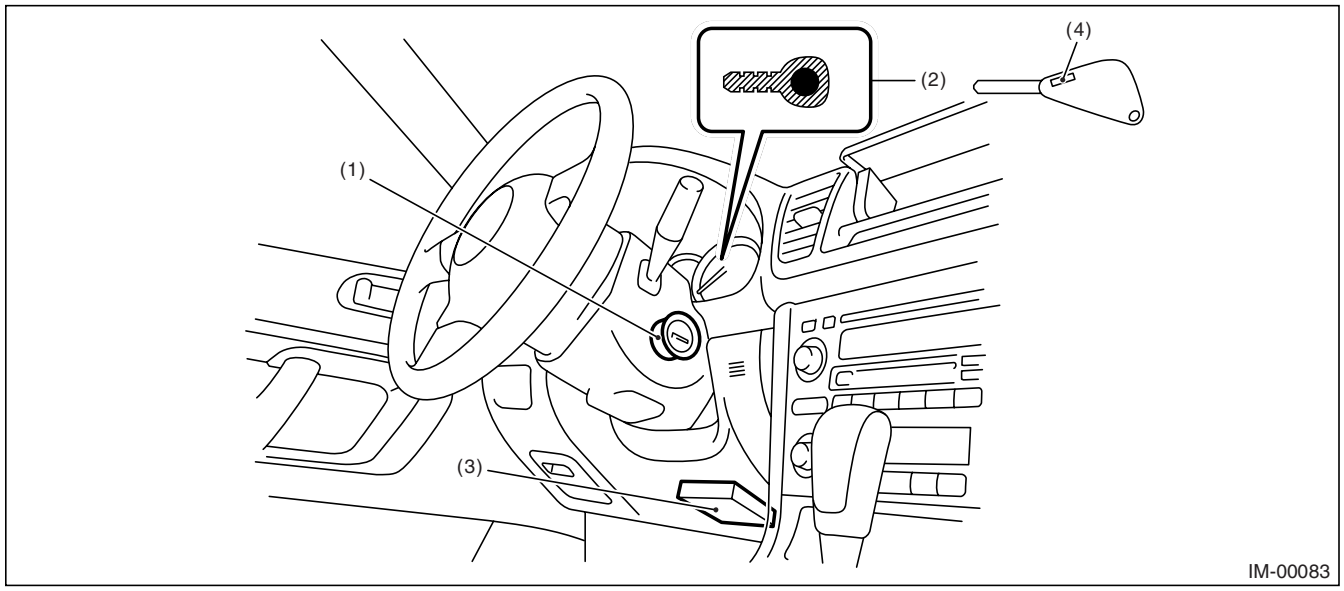
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST18482AA000	18482AA000 (Newly adopted tool)	CARTRIDGE	Troubleshooting for electrical system.
ST22771AA030	22771AA030	SUBARU SELECT MONITOR KIT	Troubleshooting for electrical system. • English: 22771AA030 (Without printer) • German: 22771AA070 (Without printer) • French: 22771AA080 (Without printer) • Spanish: 22771AA090 (Without printer)

2. GENERAL TOOL

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

3. Electrical Component Location

A: LOCATION



(1) Antenna
(2) Immobilizer indicator light (LED bulb)
(3) Body integrated module
(4) Transponder

NOTE:
Body integrated module location for RHD model is symmetrically opposite.

4. Immobilizer Control Module I/O Signal

A: WIRING DIAGRAM

1. IMMOBILIZER

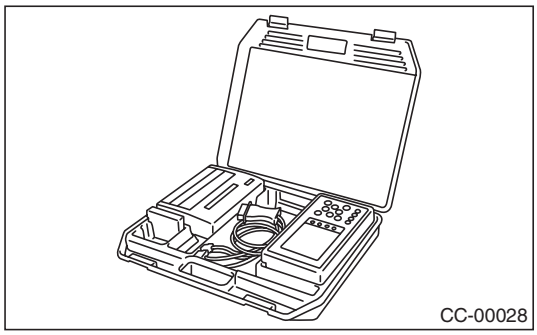
<Ref. to WI-211, WIRING DIAGRAM, Immobilizer System.>

5. Subaru Select Monitor

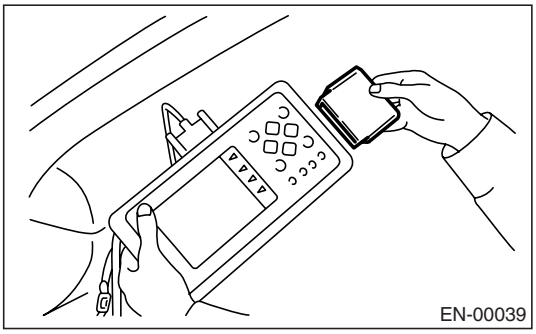
A: OPERATION

1. HOW TO USE SUBARU SELECT MONITOR

1) Prepare the Subaru Select Monitor kit.

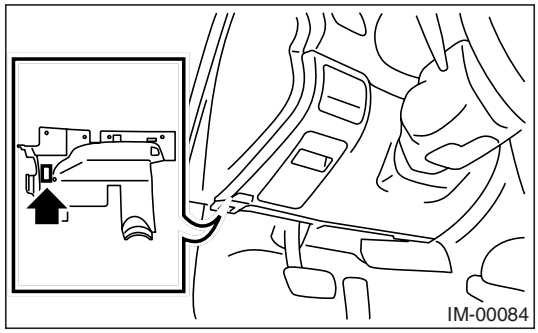


2) Connect the diagnosis cable to Subaru Select Monitor.
3) Insert the cartridge to Subaru Select Monitor.



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

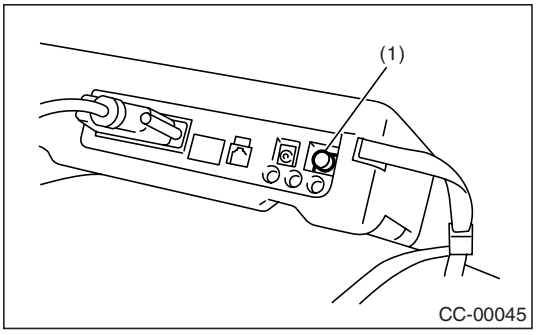
(1) Data link connector is located in the lower portion of the instrument panel (on the driver's side).



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

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

5) Turn the ignition switch to ON (engine OFF), and the Subaru Select Monitor power switch to ON.



(1) Power switch

6) Using the Subaru Select Monitor, call up DTC and various data, then record them.

2. READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE AND BODY INTEGRATED MODULE

Refer to Read Diagnostic Trouble Code for information about how to indicate DTC. <Ref. to IM(diag)-9, Read Diagnostic Trouble Code (DTC).>

3. COMMUNICATION LINE CHECK

NOTE:
The communication line between ECM and body integrated module can be checked in “System Operation Check Mode”. This is referred to as “Communication line check”.

1) Connect the Subaru Select Monitor.
2) On the “System operation check mode” display, select the {security system}.
3) Start the communication line check.
4) Is “Communication Line not Shorted” displayed on screen?
If displayed, go to step 5).
If “NO”, go to step 6).
5) After diagnostic results, it is determined that the circuit is not shorted. Finish the communication line check.
6) If a problem is detected, repair the trouble cause. <Ref. to IM(diag)-21, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

6. Read Diagnostic Trouble Code (DTC)

A: OPERATION

1. ENGINE ECM

1) On the “Main Menu” display screen, select the {Each System Check} and press the [YES] key.
2) On the “System Selection Menu” display screen, select the {Engine Control System} and press the [YES] key.
3) Press the [YES] key after the information of engine type is displayed.
4) On the “Engine Diagnosis” display screen, select the {Diagnostic Code(s) Display}, and then press the [YES] key.
5) On the “Diagnostic Code(s) Display” display screen, select the {Current Diagnostic Code(s)} or {History Diagnostic Code(s)}, and then press the [YES] key.

NOTE:
• For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.
• For detailed concerning DTC, refer to the List of DTC. <Ref. to IM(diag)-15, LIST, List of Diagnostic Trouble Code (DTC).>

2. BODY INTEGRATED MODULE

1) On the “Main Menu” display screen, select the {Each System Check} and press the [YES] key.
2) On the “System Selection Menu” display screen, select the {Integ. unit mode} and press the [YES] key.
3) Press the [YES] key after the {Integ. unit mode} is displayed.
4) On the “Integ. unit mode failure diag” display screen, select the {Diagnostic Code(s) Display} and press the [YES] key.

NOTE:
• For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.
• For detailed concerning DTC, refer to the List of DTC. <Ref. to IM(diag)-15, LIST, List of Diagnostic Trouble Code (DTC).>

7. Clear Memory Mode

A: OPERATION

1. ENGINE ECM

1) On the “Main Menu” display screen, select the {Each System Check} and press the [YES] key.
2) On the “System Selection Menu” display screen, select the {Engine Control System} and press the [YES] key.
3) Press the [YES] key after the information of engine type is displayed.
4) On the “Engine Diagnosis” display screen, select the {Clear Memory} and press the [YES] key.
5) When the “Done” are shown on the display screen, turn the Subaru Select Monitor and ignition switch to OFF.

NOTE:
• After the memory has been cleared, the idle air control solenoid valve must be initialized. To execute this procedure, turn the ignition switch to ON. Wait for 3 seconds before starting the engine.
• For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.

2. BODY INTEGRATED MODULE

1) On the “Main Menu” display screen, select the {Each System Check} and press the [YES] key.
2) On the “System Selection Menu” display screen, select the {Integ. unit mode} and press the [YES] key.
3) Press the [YES] key after the {Integ. unit mode} is displayed.
4) On the “Integ. unit mode failure diag” display screen, select the {Clear Memory} and press the [YES] key.
5) When the “Done” are shown on the display screen, turn the Subaru Select Monitor and ignition switch to OFF.

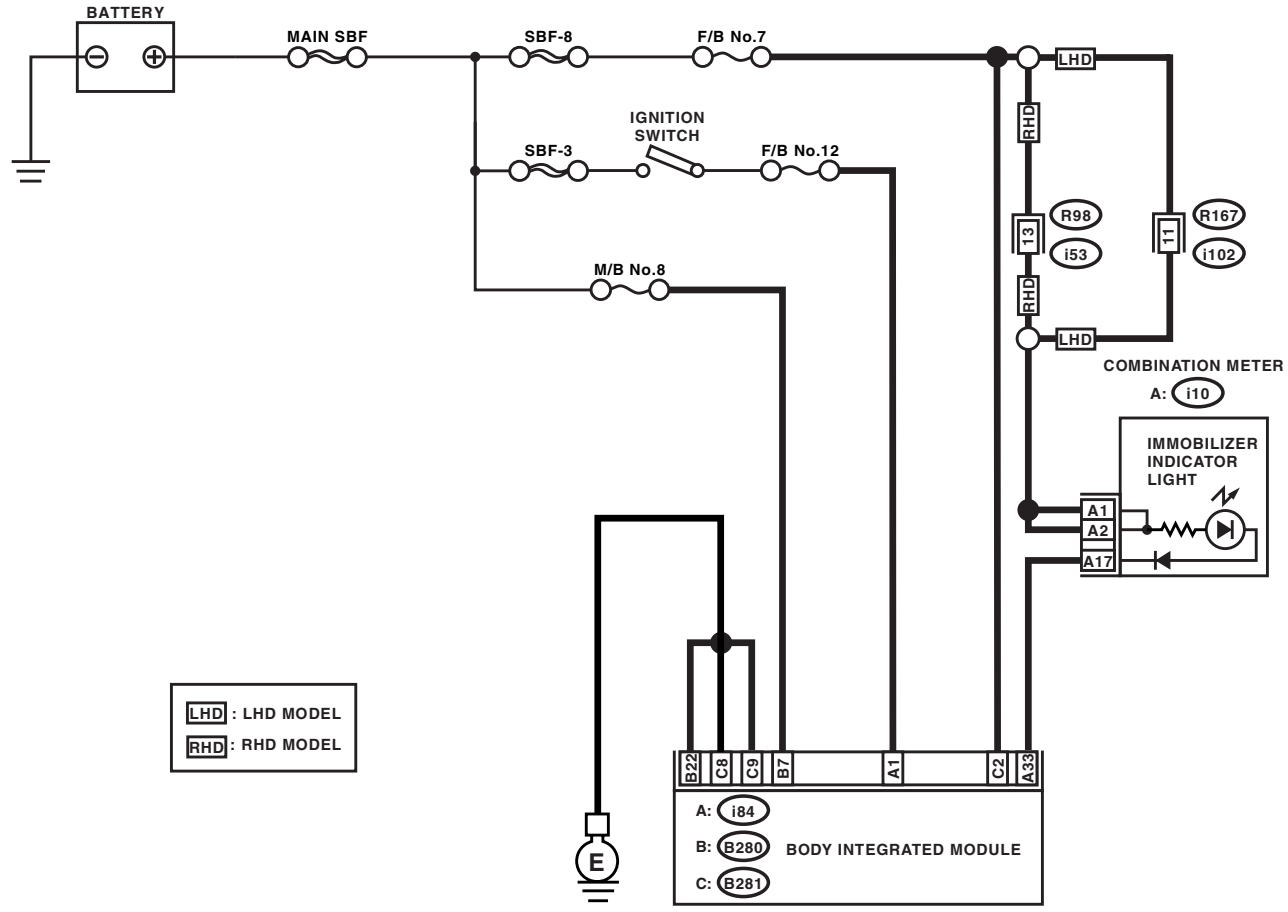
NOTE:
For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.

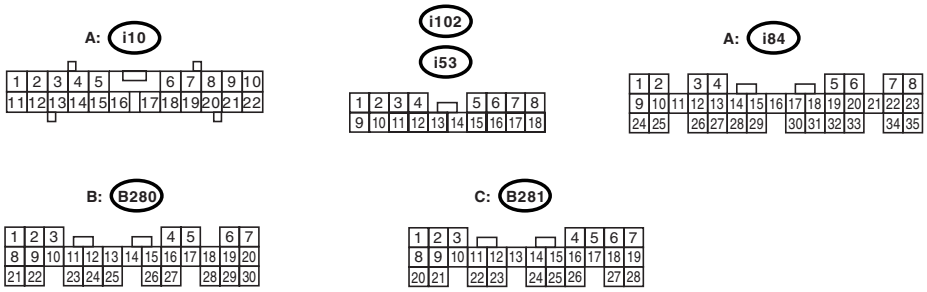
8. Diagnostics Chart for Immobilizer Indicator Light

A: INSPECTION

1. CHECK IMMOBILIZER INDICATOR CIRCUIT

WIRING DIAGRAM:





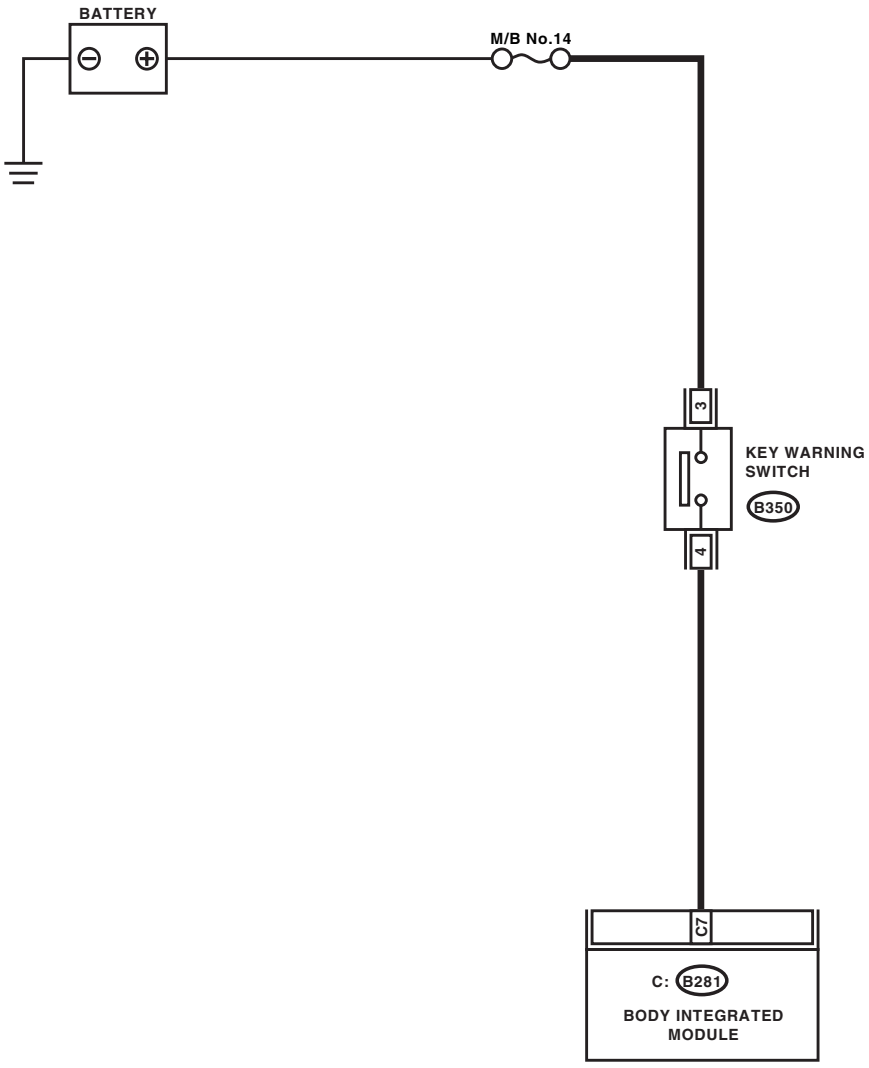
IM-00138

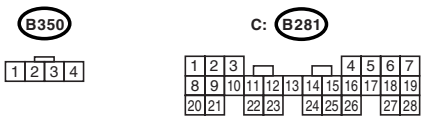
Diagnostics Chart for Immobilizer Indicator Light

	Step	Check	Yes	No
1	**CHECK IMMOBILIZER INDICATOR LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from body integrated module. 3) Connect the resistor (100 Ω) between body integrated module harness connector terminal (i84) No. 33 and chassis ground.	Does the immobilizer indicator light illuminate?	Go to step **2.**	Go to step **5.**
2	**CHECK BODY INTEGRATED MODULE GROUND CIRCUIT.** Measure the resistance between body integrated module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8, No. 9 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3.**	Repair the open circuit of body integrated module ground circuit.
3	**CHECK BODY INTEGRATED MODULE IGNITION CIRCUIT.** 1) Turn the ignition switch to ON. (engine OFF) 2) Measure the voltage between body integrated module harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **4.**	Check the harness for open or short circuit between body integrated module and ignition switch.
4	**CHECK BODY INTEGRATED MODULE POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the voltage between body integrated module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 7 (+) — Chassis ground (−):*** ***(B281) No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Replace the body integrated module <Ref. to SL-44, Body Integrated Module.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to "IMMOBILIZER TEACHING OPERATION MANUAL".	Check the harness for open or short circuit between body integrated module and fuse.
5	**CHECK COMBINATION METER CIRCUIT.** 1) Remove the combination meter. <Ref. to IDI-15, Combination Meter.> 2) Measure the voltage between the combination meter harness connector terminal and chassis ground. ***Connector & terminal*** ***(i10) No. 1, No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **6.**	Check the harness for open or short circuit between combination meter and fuse.
6	**CHECK COMBINATION METER CIRCUIT.** Measure the resistance between body integrated module harness connector terminal and combination meter harness connector terminal. ***Connector & terminal*** ***(i84) No. 33 — (i10) No. 17:***	Is the resistance less than 10 Ω?	LED bulb malfunction. Replace the combination meter case assembly. <Ref. to IDI-16, DISASSEMBLY, Combination Meter.>	Repair the harness or connector.

2. CHECK KEY SWITCH CIRCUIT.

WIRING DIAGRAM:





IM-00078

Diagnostics Chart for Immobilizer Indicator Light

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the harness connector from key warning switch. 2) Turn the ignition switch to “ACC” or “LOCK” (with key inserted). 3) Measure the voltage between key warning switch harness connector terminal and chassis ground. ***Connector & terminal*** ***(B350) No. 3 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **2.**	Check the harness for open or short circuit between key warning switch and fuse.
2	**CHECK KEY WARNING SWITCH.** 1) Insert the ignition key to ignition switch. (OFF or ACC) 2) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***No. 3 — No. 4:***	Is the resistance less than 1 Ω?	Go to step **3.**	Replace the key warning switch.
3	**CHECK KEY WARNING SWITCH.** 1) Remove the ignition key from ignition switch. 2) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***No. 3 — No. 4:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the key warning switch.
4	**CHECK HARNESS BETWEEN KEY WARNING SWITCH AND BODY INTEGRATED MODULE.** 1) Disconnect the harness connector from key warning switch. 2) Disconnect the harness connector from body integrated module. 3) Measure the resistance between key warning switch harness connector terminal and body integrated module harness connector terminal. ***Connector & terminal*** ***(B350) No. 4 — (B281) No. 7:***	Is the resistance less than 10 Ω?	Replace the body integrated module <Ref. to SL-44, Body Integrated Module.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.	Repair the harness between key warning switch and body integrated module.

9. List of Diagnostic Trouble Code (DTC)

A: LIST

1. ENGINE ECM

DTC	Item	Contents of diagnosis	Index No.
P0513	Incorrect Immobilizer Key	Incorrect immobilizer key (Use of unregistered key in body integrated module)	<Ref. to IM(diag)-17, DTC P0513 INCORRECT IMMOBILIZER KEY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1570	Antenna	Faulty antenna	<Ref. to IM(diag)-18, DTC P1570 ANTENNA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1571	Reference Code Incompatibility	Reference code incompatibility between body integrated module and ECM	<Ref. to IM(diag)-20, DTC P1571 REFERENCE CODE INCOMPATIBILITY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1572	EGI — Immobilizer Communication (Except Antenna Circuit)	Communication failure between body integrated module and ECM	<Ref. to IM(diag)-21, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1574	Key — Immobilizer Communication	Failure of body integrated module to verify key (transponder) ID code	<Ref. to IM(diag)-24, DTC P1574 KEY COMMUNICATION FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1576	EGI Control Module EEPROM	ECM malfunctioning	<Ref. to IM(diag)-25, DTC P1576 EGI CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1577	IMM Control Module EEPROM	Defective body integrated module	<Ref. to IM(diag)-25, DTC P1577 IMM CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1578	Meter Failure	Reference code incompatibility between body integrated module and combination meter	<Ref. to IM(diag)-25, DTC P1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

NOTE:
Perform the engine DTC when the DTC except for immobilizer DTC is detected. <Ref. to EN(H4SO 2.0)(diag)-64, List of Diagnostic Trouble Code (DTC).> <Ref. to EN(H4SO 2.5)(diag)-69, List of Diagnostic Trouble Code (DTC).> <Ref. to EN(H4DOTC)(diag)-62, List of Diagnostic Trouble Code (DTC).> <Ref. to EN(H6DO)(diag)-66, List of Diagnostic Trouble Code (DTC).>

2. BODY INTEGRATED MODULE

DTC	Item	Contents of diagnosis	Index No.	Relation between ECM and DTC
B0401	M collation NG	Reference code incompatibility between body integrated module and combination meter	<Ref. to IM(diag)-25, DTC P1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	P1578
B0402	Immobilizer Key collation NG	• Incorrect immobilizer key (Use of unregistered key in body integrated module) • Faulty antenna	<Ref. to IM(diag)-17, DTC P0513 INCORRECT IMMOBILIZER KEY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to IM(diag)-18, DTC P1570 ANTENNA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> or <Ref. to IM(diag)-24, DTC P1574 KEY COMMUNICATION FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	• P0513 • P1570 • P1574
B0403	E/G request NG	Communication failure between body integrated module and ECM	<Ref. to IM(diag)-21, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	P1572

NOTE:
• Immobilizer system of 2.5 L EC, EK model and 3.0 L model perform the starter relay control. When the body integrated module detect the inconformity of reference code, immediately out put the starter relay cut signal to ECM, and then ECM stop the starter relay operation. In this case, engine does not start, and DTC is not recorded in ECM. Check that the engine does not start on the DTC of body integrated module.
• DTC B0402 is recorded as freeze frame data when the ignition switch is turned to OFF. When trying to start the engine with unregistered immobilizer key, DTC is not displayed on Subaru Select Monitor immediately. Turn the ignition switch to OFF once and turn to ON again before checking DTC. At this time (when turning the ignition switch to ON again), be careful that the DTC is displayed as freeze frame data even with the registered immobilizer key.

10. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC P0513 INCORRECT IMMOBILIZER KEY

DTC DETECTING CONDITION:

Incorrect immobilizer key (Use of unregistered key in body integrated module)

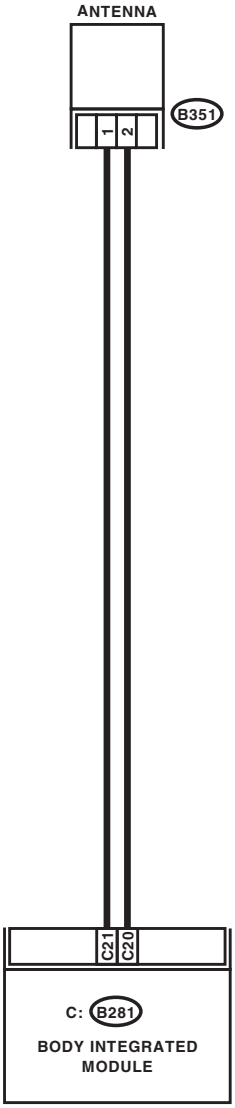
	Step	Check	Yes	No
1	**PERFORM TEACHING OPERATION ON IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.	Is the teaching operation for all keys completed?	Finish the diagnosis.	Replace the ignition keys (including transponder) which cannot be registered. Go to step **2.**
2	**PERFORM TEACHING OPERATION ON IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.	Is the teaching operation for all keys completed?	Finish the diagnosis.	Replace the body integrated module <Ref. to SL-44, Body Integrated Module.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.

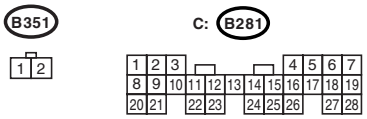
B: DTC P1570 ANTENNA

DTC DETECTING CONDITION:

Faulty antenna

WIRING DIAGRAM:





IM-00079

	Step	Check	Yes	No
1	**CHECK ANTENNA CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from antenna. <Ref. to SL-48, Immobilizer Antenna.> 3) Measure the resistance of antenna circuit. ***Connector & terminal*** ***(B351) No. 1 — No. 2:***	Is the resistance less than 10 Ω?	Go to step **2.**	Replace the antenna. <Ref. to SL-48, Immobilizer Antenna.>
2	**CHECK ANTENNA CIRCUIT.** 1) Disconnect the harness connector from body integrated module. 2) Measure the resistance between harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 21 — Chassis ground:***	Is the resistance less than 10 Ω?	Repair the harness.	Go to step **3.**
3	**CHECK ANTENNA CIRCUIT.** Measure the resistance between harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 20 — Chassis ground:***	Is the resistance less than 10 Ω?	Repair the harness.	Go to step **4.**
4	**CHECK ANTENNA CIRCUIT.** 1) Turn the ignition switch to ON. (Engine OFF) 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 21 (+) — Chassis ground (−):***	Is the voltage 0 V?	Go to step **5.**	Repair the harness.
5	**CHECK ANTENNA CIRCUIT.** Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 20 (+) — Chassis ground (−):***	Is the voltage 0 V?	Go to step **6.**	Repair the harness between body integrated module and antenna, because there is short circuit with battery voltage line or ignition switch “ON” line.
6	**CHECK BODY INTEGRATED MODULE FUNCTION.** 1) Turn the ignition switch to OFF. 2) Connect the harness connector to body integrated module. 3) Insert the key to ignition switch, and measure the changes in voltage between antenna harness connectors. ***Connector & terminal*** ***(B281) No. 20 (+) — Chassis ground (−):***	Is the voltage −30 to 30 V? (Approx. 0.1 second after inserting the key) Is the voltage 0 V? (Approx. 1 second after inserting the key)	Go to step **7.**	Replace the body integrated module <Ref. to SL-44, Body Integrated Module.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.

	Step	Check	Yes	No
7	**CHECK IGNITION KEY (TRANSPONDER).** 1) Remove the key from ignition switch. 2) Start the engine using other key which is already registered.	Does the engine start?	Replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.	Replace the body integrated module <Ref. to SL-44, Body Integrated Module.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.

C: DTC P1571 REFERENCE CODE INCOMPATIBILITY

DTC DETECTING CONDITION:

Reference code incompatibility between body integrated module and ECM

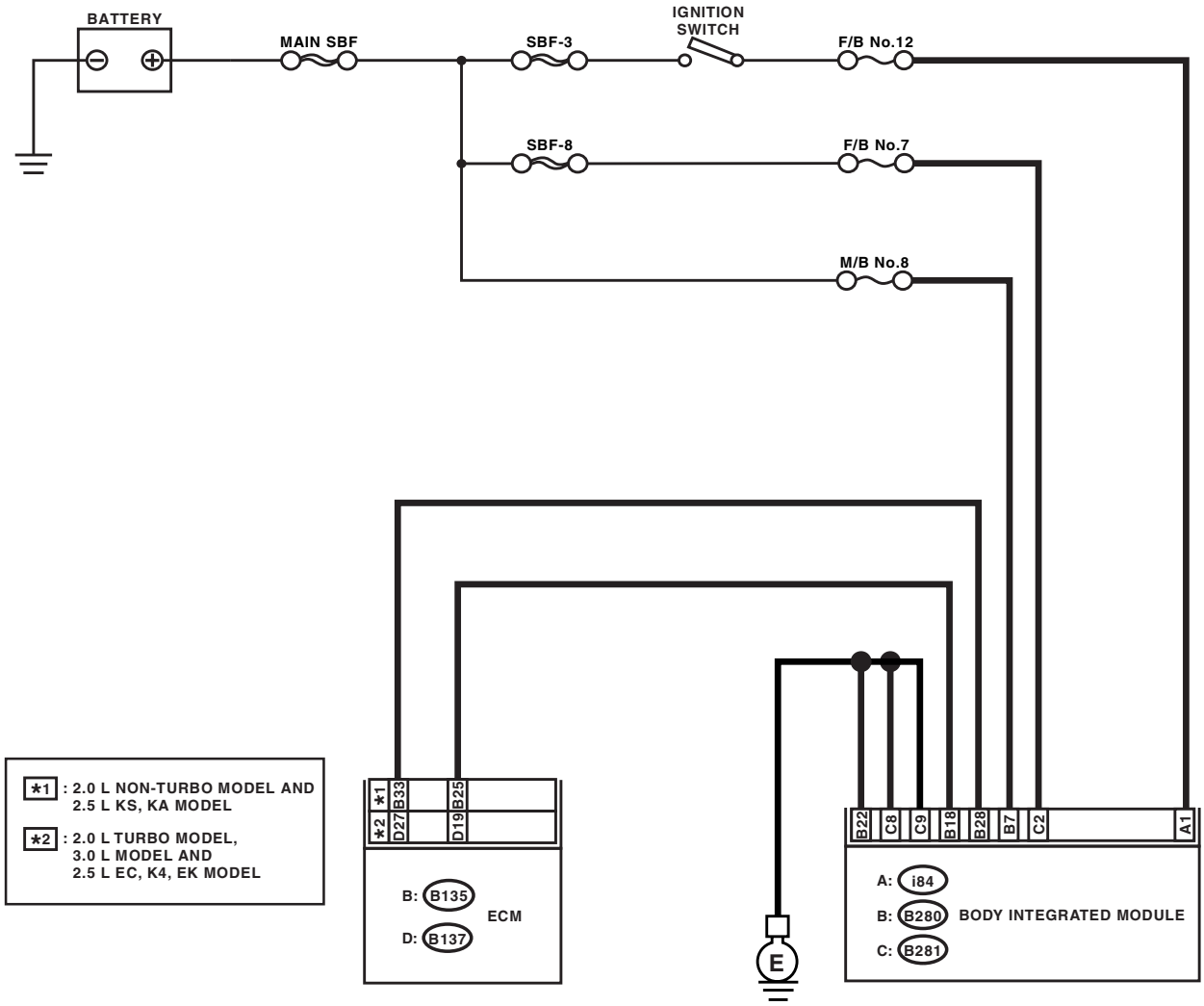
	Step	Check	Yes	No
1	**PERFORM TEACHING OPERATION ON IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.	Is the teaching operation for all keys completed?	Finish the diagnosis.	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).> Replace the body integrated module <Ref. to SL-44, Body Integrated Module.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.

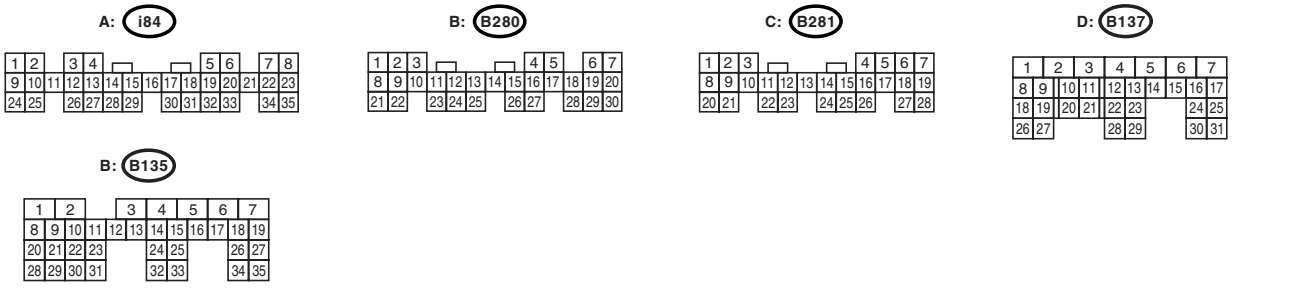
D: DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)

DTC DETECTING CONDITION:

Communication failure between body integrated module and ECM

WIRING DIAGRAM:





IM-00139

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED MODULE POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from body integrated module. 3) Measure the voltage between body integrated module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 7 (+) — Chassis ground (−):*** ***(B281) No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **2.**	Check the harness for open or short circuit between body integrated module and fuse.
2	**CHECK BODY INTEGRATED MODULE POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. (engine OFF) 2) Measure the voltage between body integrated module harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Check the harness for open or short circuit between body integrated module and ignition switch.
3	**CHECK BODY INTEGRATED MODULE GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between body integrated module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8, No. 9 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4.**	Repair the open circuit of body integrated module ground circuit.
4	**CHECK HARNESS BETWEEN BODY INTEGRATED MODULE AND ECM.** 1) Disconnect the harness connector from body integrated module and ECM. 2) Measure the resistance between body integrated module harness connector terminal and ECM connector terminal. ***Connector & terminal*** ***2.0 L non-turbo model and 2.5 L KS, KA model*** ***(B280) No. 18 — (B135) No. 25:*** ***2.0 L turbo model, 3.0 L model and 2.5 L EC, K4, EK model*** ***(B280) No. 18 — (B137) No. 19:***	Is the resistance less than 10 Ω?	Go to step **5.**	Repair the open circuit of harness between body integrated module and ECM.
5	**CHECK HARNESS BETWEEN BODY INTEGRATED MODULE AND ECM.** Measure the resistance between body integrated module harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***2.0 L non-turbo model and 2.5 L KS, KA model*** ***(B280) No. 28 — (B135) No. 33:*** ***2.0 L turbo model, 3.0 L model and 2.5 L EC, K4, EK model*** ***(B280) No. 28 — (B137) No. 27:***	Is the resistance less than 10 Ω?	Go to step **6.**	Repair the open circuit of harness between body integrated module and ECM.

	Step	Check	Yes	No
6	**CHECK HARNESS OF COMMUNICATION LINE.** 1) Turn the ignition switch to ON. (Engine OFF) 2) Measure the voltage between body integrated module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 18, No. 28 (+) — Chassis ground (−):***	Is the voltage 0 V?	Go to step **7.**	Repair the harness between body integrated module and ECM, because there is short circuit with battery voltage line or ignition switch "ON" line.
7	**CHECK HARNESS OF COMMUNICATION LINE.** Measure the voltage between harness connector terminal and engine ground. ***Connector & terminal*** ***2.0 L non-turbo model and 2.5 L KS, KA model*** ***(B135) No. 25, 33 (+) — Engine ground (−):*** ***2.0 L turbo model, 3.0 L model and 2.5 L EC, K4, EK model*** ***(B137) No. 19, 27 (+) — Engine ground (−):***	Is the voltage 0 V?	Go to step **8.**	Repair the harness between body integrated module and ECM, because there is short circuit with battery voltage line or ignition switch "ON" line.
8	**CHECK ECM BY COMMUNICATION LINE CHECK.** 1) Connect the harness connector to ECM. 2) Disconnect the harness connector from body integrated module. 3) Start the communication line check. <Ref. to IM(diag)-8, COMMUNICATION LINE CHECK, OPERATION, Subaru Select Monitor.>	Does "Communication Line not Shorted" appear on the screen?	Replace the body integrated module <Ref. to SL-44, Body Integrated Module.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to "IMMOBILIZER TEACHING OPERATION MANUAL".	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).> Perform the registration procedure next. Refer to "IMMOBILIZER TEACHING OPERATION MANUAL".

E: DTC P1574 KEY COMMUNICATION FAILURE

DTC DETECTING CONDITION:

Failure of body integrated module to verify key (transponder) ID code

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED MODULE FUNCTION.** Insert the key to ignition switch (LOCK position), and measure the changes in voltage between antenna connectors. ***Connector & terminal*** ***(B351) No. 1 (+) — Chassis ground (−):***	Is the voltage −30 to 30 V? (Approx. 0.1 second after inserting the key) Is the voltage 0 V? (Approx. 1 second after inserting the key)	Go to step **2.**	Replace the body integrated module <Ref. to SL-44, Body Integrated Module.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to "IMMOBILIZER TEACHING OPERATION MANUAL".
2	**CHECK IGNITION KEY (TRANSPONDER).** 1) Remove the key from ignition switch. 2) Start the engine using other key which is already registered.	Does the engine start?	Replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to "IMMOBILIZER TEACHING OPERATION MANUAL".	Replace the body integrated module <Ref. to SL-44, Body Integrated Module.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to "IMMOBILIZER TEACHING OPERATION MANUAL".

F: DTC P1576 EGI CONTROL MODULE EEPROM

DTC DETECTING CONDITION:
ECM malfunctioning

1. REPLACE ECM.

Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>
Perform the registration procedure next. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.

G: DTC P1577 IMM CONTROL MODULE EEPROM

DTC DETECTING CONDITION:
Body integrated module malfunctioning

1. REPLACE BODY INTEGRATED MODULE

Replace the body integrated module <Ref. to SL-44, Body Integrated Module.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.

H: DTC P1578 METER FAILURE

DTC DETECTING CONDITION:
Reference code incompatibility between body integrated module and combination meter

1. CHECK LAN COMMUNICATION SYSTEM

Inspect LAN communication system in the following situation. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
- DTC of body integrated module B0300, B0301, B0302, B0111 or B0321 is displayed.
- “Er IU” or “Er LC” is displayed in odo/trip meter on combination meter.

2. REPLACE COMBINATION METER.

Perform the registration of immobilizer, (refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.) and the registration is completed normally, then if the engine does not start, replace the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.> Execute the registration procedure of all immobilizer part (combination meter and etc.) next. Refer to “IMMOBILIZER TEACHING OPERATION MANUAL”.

NOTE:
- When the combination meter has been replaced, be sure to perform the registration procedure of immobilizer.
- Engine may not start when the combination meter which removed from the model with immobilizer to the model without immobilizer. When installed wrong one, correct with the following procedure.
  (1) Turn the ignition switch to OFF.
  (2) Put back the combination meter. (Install the combination meter for the model without immobilizer.)
  (3) Disconnect the ground cable from battery, and reconnect one minute later.
  (4) Turn the ignition switch to START, and check that the engine starts.
- When the combination meter and body integrated module are replaced at a time, the registration procedure cannot be performed. In this case, it is necessary to write an ID newly to body integrated module.

LAN SYSTEM (DIAGNOSTICS)

LAN(diag)

		Page
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1. Basic Diagnostic Procedure

A: PROCEDURE

1. WITH SUBARU SELECT MONITOR

CAUTION:
• Subaru Select Monitor is required for reading DTC, performing diagnosis and reading current data.
• Remove foreign matters (dust, water, oil, etc.) from the body integrated module connector during removal and installation.
• For the model with immobilizer, registration of immobilizer may be needed after the replacement of controller, etc. For detailed procedure, refer to "IMMOBILIZER TEACHING OPERATION MANUAL".

NOTE:
• To check harness for broken wires or short circuits, shake trouble spot or connector.
• Check List for Interview <Ref. to LAN(diag)-3, Check List for Interview.>

	Step	Check	Yes	No
1	**CHECK PRE-INSPECTION.** 1) Ask the customer when and how the trouble occurred using interview check list. <Ref. to LAN(diag)-3, Check List for Interview.> 2) Check the display of communication error. (Combination meter, odo/trip meter)	Is communication error displayed?	Go to step **3.**	Go to step **2.**
2	**BASIC INSPECTION** Check the components which might affect body control. <Ref. to LAN(diag)-5, INSPECTION, General Description.>	Is the component that might influence the body control problem normal?	Go to step **3.**	Repair or replace each component.
3	**CHECK DTC.** 1) Read the DTC. <Ref. to LAN(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> NOTE: If the communication function of the Subaru Select Monitor cannot be executed normally, check the communication circuit. <Ref. to LAN(diag)-30, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> 2) Record all DTCs and freeze frame data.	Is DTC displayed on Subaru Select Monitor?	Go to step **5.**	Go to step **4.**
4	**PERFORM GENERAL DIAGNOSTICS.** Inspect using "General Diagnostics Table". <Ref. to LAN(diag)-83, General Diagnostic Table.>	Is result of inspection OK?	LAN system is normal.	Go to step **5.**
5	**PERFORM DIAGNOSIS.** 1) Correct the cause of trouble. 2) Perform clear memory mode. <Ref. to LAN(diag)-20, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.> 3) Read the DTC. <Ref. to LAN(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC displayed on Subaru Select Monitor?	Repeat step 5 until DTC is not shown.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Inspect the following items about the vehicle's state.

1. DISPLAY OF COMMUNICATION ERROR

Communication error is displayed in odo/trip meter.	When and how often are they displayed? ❑ Always ❑ Sometimes ❑ Only once
	Which communication error is displayed? (Record them all) ❑ Er IU (Fail in the body integrated module) ❑ Er HC (Fail of high-speed CAN) ❑ Er LC (Fail of low-speed CAN) ❑ Er — (Fails of both high-speed and low-speed CAN) ❑ Er EG (Fail of EGI communication counter) ❑ Er TC (Fail of TCM communication counter) ❑ Er Ab (Fail of vehicle dynamics control (VDC)/ABS communication counter)
Ignition key position	❑ OFF ❑ ACC ❑ ON (before starting engine) ❑ START ❑ ON (after engine starting, engine is running) ❑ ON (after engine starting, engine is at a standstill)
Timing	❑ Immediately after turning the ignition to ON ❑ Immediately after turning the ignition to START

2. DISPLAY IN COMBINATION METER

Display in combination meter	a) Display of engine coolant temperature gauge	❑ OK / ❑ NG
	b) Display of fuel gauge	❑ OK / ❑ NG
Center display	c) Display of ambient temperature	❑ OK / ❑ NG
Display of other indicators	d) Malfunction indicator light	❑ ON / ❑ OFF
	e) SPORT indicator light (AT warning light)	❑ ON / ❑ OFF
	f) ABS warning light/Vehicle dynamics control (VDC) warning light	❑ ON / ❑ OFF
	g) Immobilizer indicator light	❑ ON / ❑ Blink / ❑ OFF
	h) Seat belt warning light (Driver's seat)	❑ ON / ❑ OFF
	i) Seat belt warning light (Passenger's seat)	❑ ON / ❑ OFF

Check List for Interview

3. SYMPTOMS

Behavior of vehicle	a) Illumination volume control does not function.	❑ Yes / ❑ No
	b) Rear wiper does not operate.	❑ Yes / ❑ No
	c) Wiper deicer does not operate.	❑ Yes / ❑ No
	d) Rear defogger does not operate.	❑ Yes / ❑ No
	e) Door lock does not operate.	❑ Yes / ❑ No
	f) Trunk/rear gate lock does not operate.	❑ Yes / ❑ No
	g) Driver's door lock does not operate.	❑ Yes / ❑ No
	h) Shift lock does not operate.	❑ Yes / ❑ No
	i) Rear fog light does not come on.	❑ Yes / ❑ No
	j) Double lock does not operate. (EK model)	❑ Yes / ❑ No
	k) Heater cock valve does not operate.	❑ Yes / ❑ No
	l) Key illumination blinks.	❑ Yes / ❑ No

4. CONDITIONS UNDER WHICH TROUBLE OCCURS

Driving condition	❑ At standstill (While idling)			
	❑ When the vehicle is running	Vehicle speed	km/h (MPH)	
	❑ When accelerating	Acceleration	km/h (MPH) to	km/h (MPH)
	❑ Decelerating (With braking)	Deceleration	km/h (MPH) to	km/h (MPH)
	❑ Decelerating (Without braking)	Deceleration	km/h (MPH) to	km/h (MPH)
	❑ Flat road ❑ Uphill ❑ Downhill ❑ Gravel road ❑ Bumpy road ❑ Snowy road			
	Does it occur when operating any part? Operated part: Trouble symptom:			
	Are other troubles occurred? From where: Trouble symptom:			

3. General Description

A: CAUTION

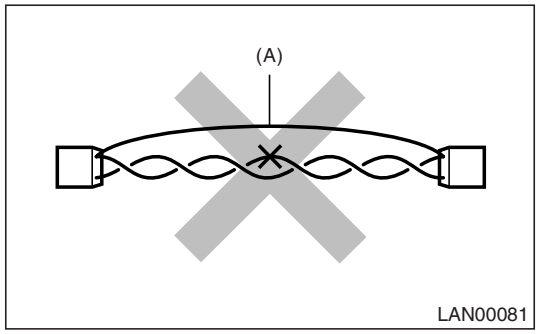
1. SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG"

Airbag system wiring harness is routed near the body integrated module and twisted pair line.

CAUTION:
• All airbag system wiring harness and connectors are colored yellow. Do not use the electrical test equipment on these circuits.
• Be careful not to damage the airbag system wiring harness when servicing the body integrated module and LAN system.

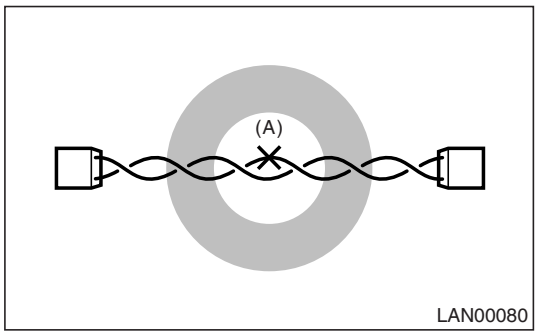
2. LAN SYSTEM

• Bus line of LAN system is twisted pair line. Be careful not to bypass or partly unbind the twisted pair line.
• Do not make clearance between bus lines (CAN High, CAN Low).
• Difference of bus line length should be within 10 cm (3.94 in).
• Fray near the connector should be within 8 cm (3.14 in).



(A) Bypass wire connection

• If the characteristic of twisted pair line is changed, it may extremely weaken against the noise.
• When repairing the harness, connect the wires using soldering and protect it with insulating tape, etc.



(A) Soldering and protection with insulating tape

B: INSPECTION

Before performing diagnostics, check the following items which might affect body integrated module malfunctions.
1) Measure the battery voltage and check electrolyte.

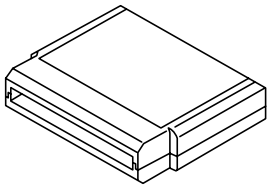
Standard voltage: 12 V or more

Specific gravity: 1.260 or more

2) Check the fuse condition.
Make sure that ampere of the fuse is setting value, and it is not blown out.
3) Check the connecting condition of harness and harness connector.
4) Confirm settings of body integrated module are corresponded to vehicle equipment. <Ref. to LAN(diag)-18, REGISTRATION BODY INTEGRATED MODULE (EQUIPMENT SETTING), OPERATION, Subaru Select Monitor.>
5) Confirm setting are corresponded to vehicle equipment by function setting (ECM customizing) of body integrated module. <Ref. to LAN(diag)-20, FREEZE FRAME DATA, OPERATION, Subaru Select Monitor.>
6) Confirm "Factory initial setting" of body integrated module registrations is "Market".
7) Confirm key illumination does not blink with ignition switch turned to ON.

C: PREPARATION TOOL

1. SPECIAL TOOL

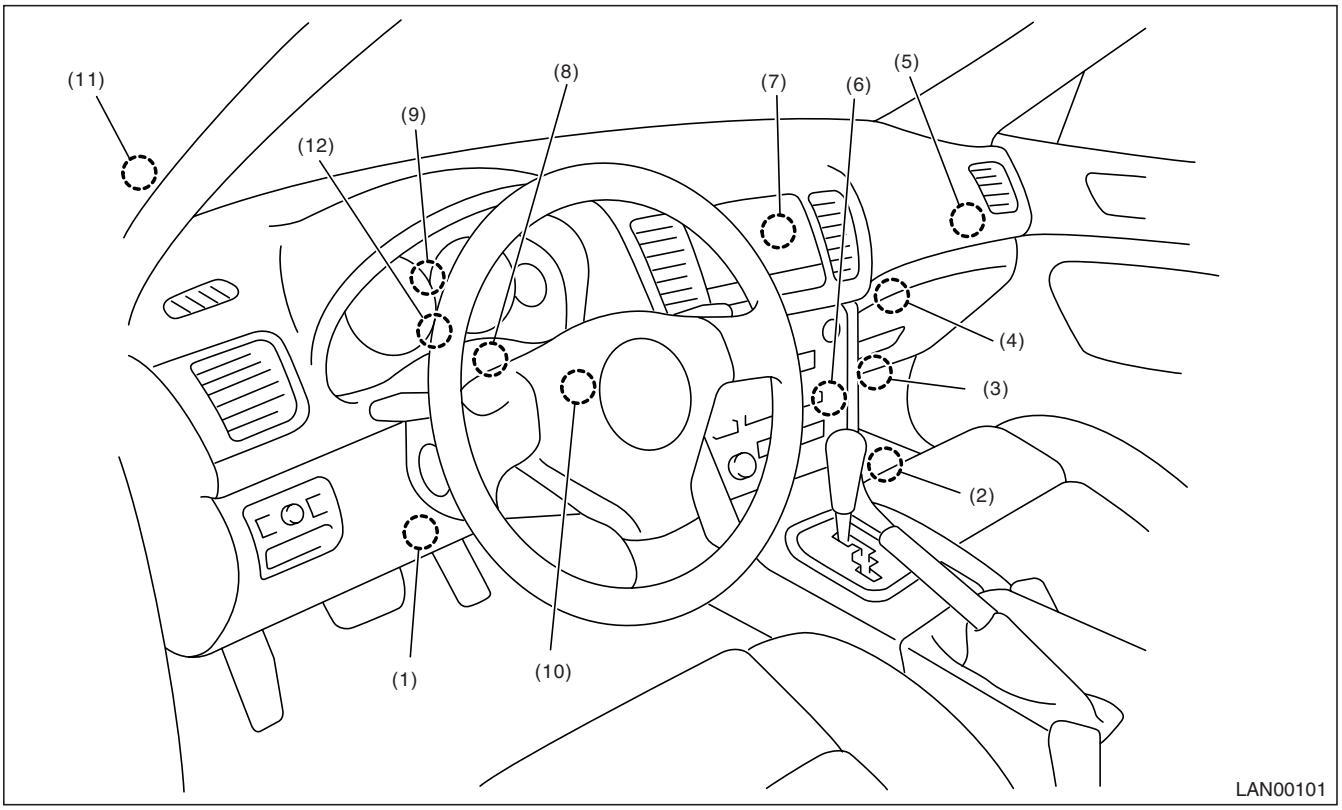
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST18482AA000	18482AA000 (Newly adopted tool)	CARTRIDGE	Troubleshooting for electrical system.
ST22771AA030	22771AA030	SUBARU SELECT MONITOR KIT	Troubleshooting for electrical system. • English: 22771AA030 (Without printer) • German: 22771AA070 (Without printer) • French: 22771AA080 (Without printer) • Spanish: 22771AA090 (Without printer)

2. GENERAL TOOL

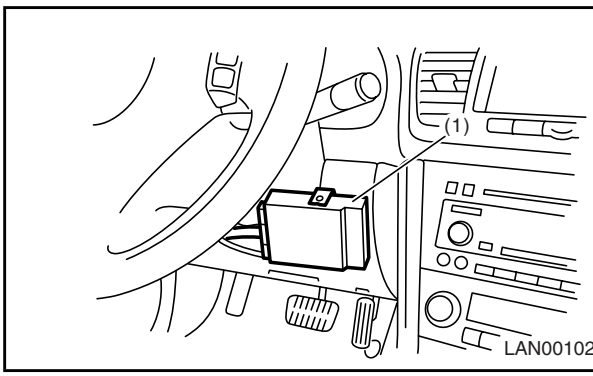
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

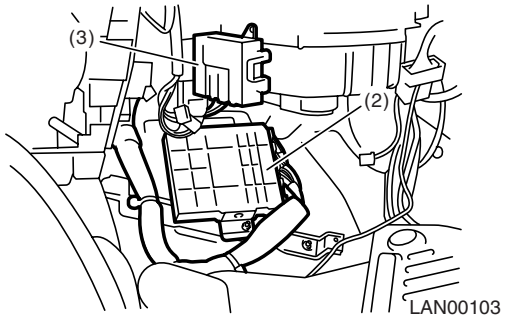
4. Electrical Component Location

A: LOCATION

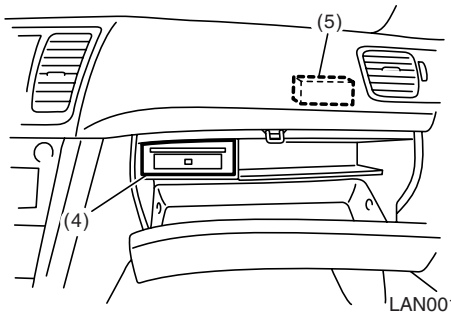


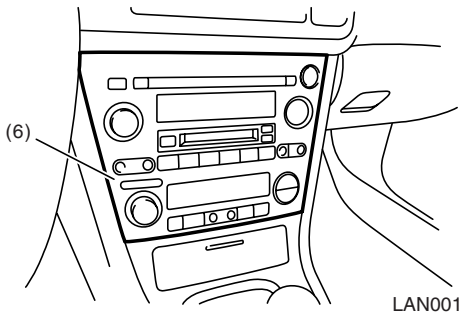
(1) Body integrated module
(2) Engine control module (ECM)
(3) Auto A/C control module
(4) Navigation module
(5) Keyless entry control module (Antenna)
(6) A/C control panel
(7) Center display
(8) Transmission control module (TCM)
(9) Combination meter
(10) Steering angle sensor
(11) ABSCM&H/U or VDCCM&H/U (in engine compartment)
(12) Odo/trip meter

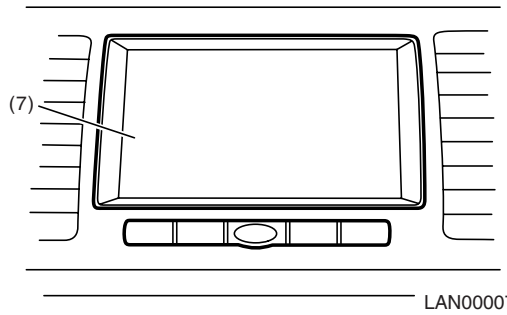


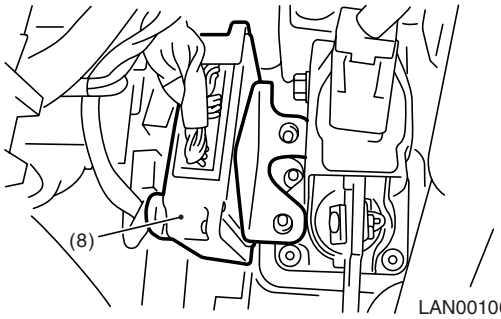


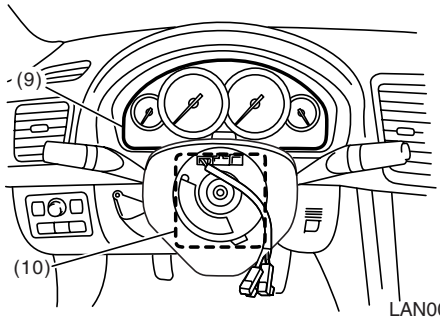
Electrical Component Location

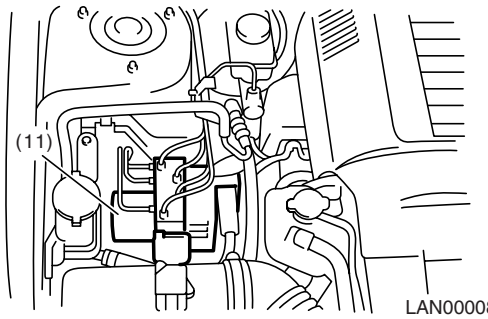


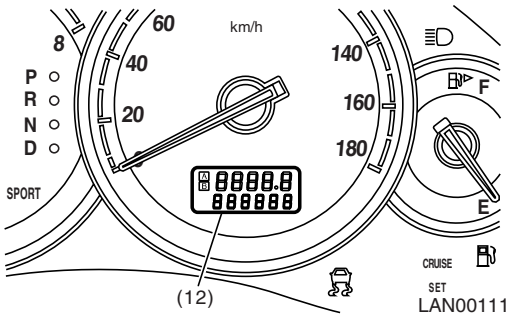








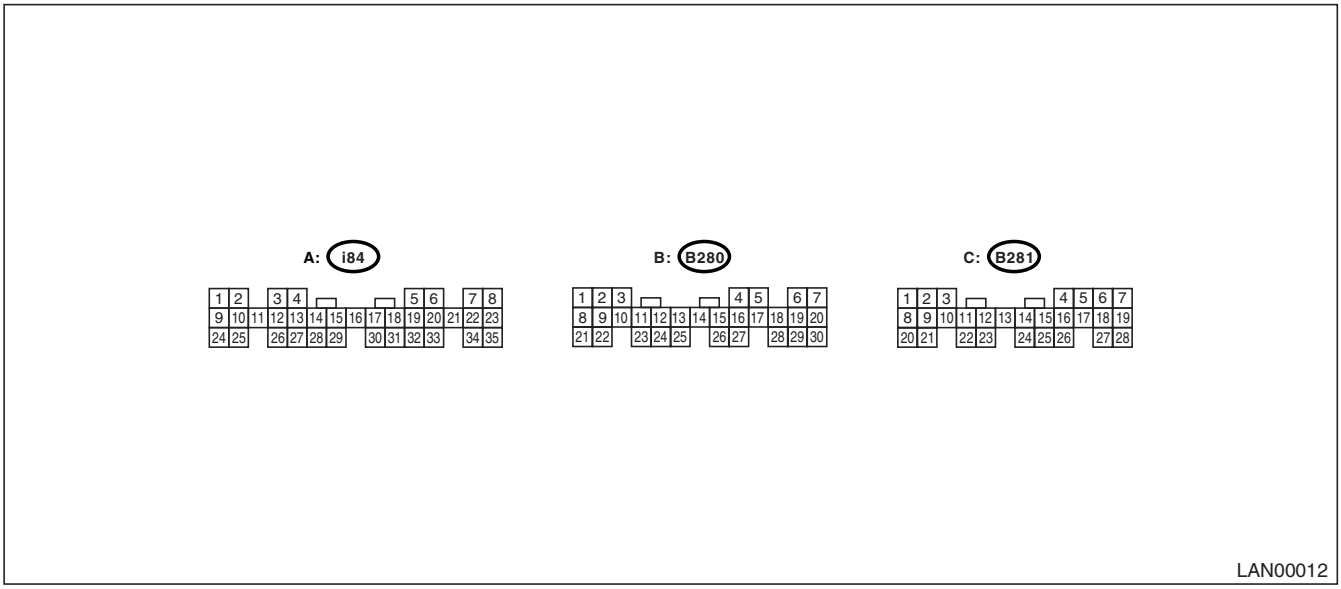




SUBARU.

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Description	Connector No.	Terminal No.	Signal (V or Ω)	NOTE
			Ignition switch ON (engine OFF)	
System control power supply	B281	C2	10 — 13 V	Always
Back-up power supply	B280	B7	10 — 13 V	Always
Ignition power supply	i84	A1	10 — 13 V	Ignition ON
ACC power supply	i84	A24	10 — 13 V	ACC ON
Ground	i84	A21	Less than 1 Ω	Always
	B281	C9		
	B281	C8		
	B280	B22		
Key warning switch	B281	C7	10 — 13 V	When ignition key inserted
Stop light switch	B281	C23	10 — 13 V	When brake pedal depressed
Illumination volume (Vi1)	i84	A10	4.5 — 5.5 V	Small light ON
Illumination volume (Vi2)	i84	A2	0.5 — 4.5 V	—
Illumination volume (Vi3)	i84	A25	Less than 1 Ω	Ground circuit
Illumination output	i84	A5	10 — 13 V	Small light ON
Front fog light input	B281	C17	10 — 13 V	Front fog light ON
Rear fog light input	B281	C4	10 — 13 V	Small light ON Front fog light ON Rear fog light ON
Rear fog light output	B280	B13	10 — 13 V	Rear fog light ON
Headlight input	B281	C16	10 — 13 V	Headlight ON (Both Hi and Lo)
Door switch input Driver's seat	i84	A19	Less than 1 V (10 — 13 V at OFF)	Driver's door open (ON)
Door switch input Passenger's	i84	A32	Less than 1 V (10 — 13 V at OFF)	Passenger's door open (ON)
Door switch input Rear RH seat	i84	A18	Less than 1 V (10 — 13 V at OFF)	Rear RH door open (ON)

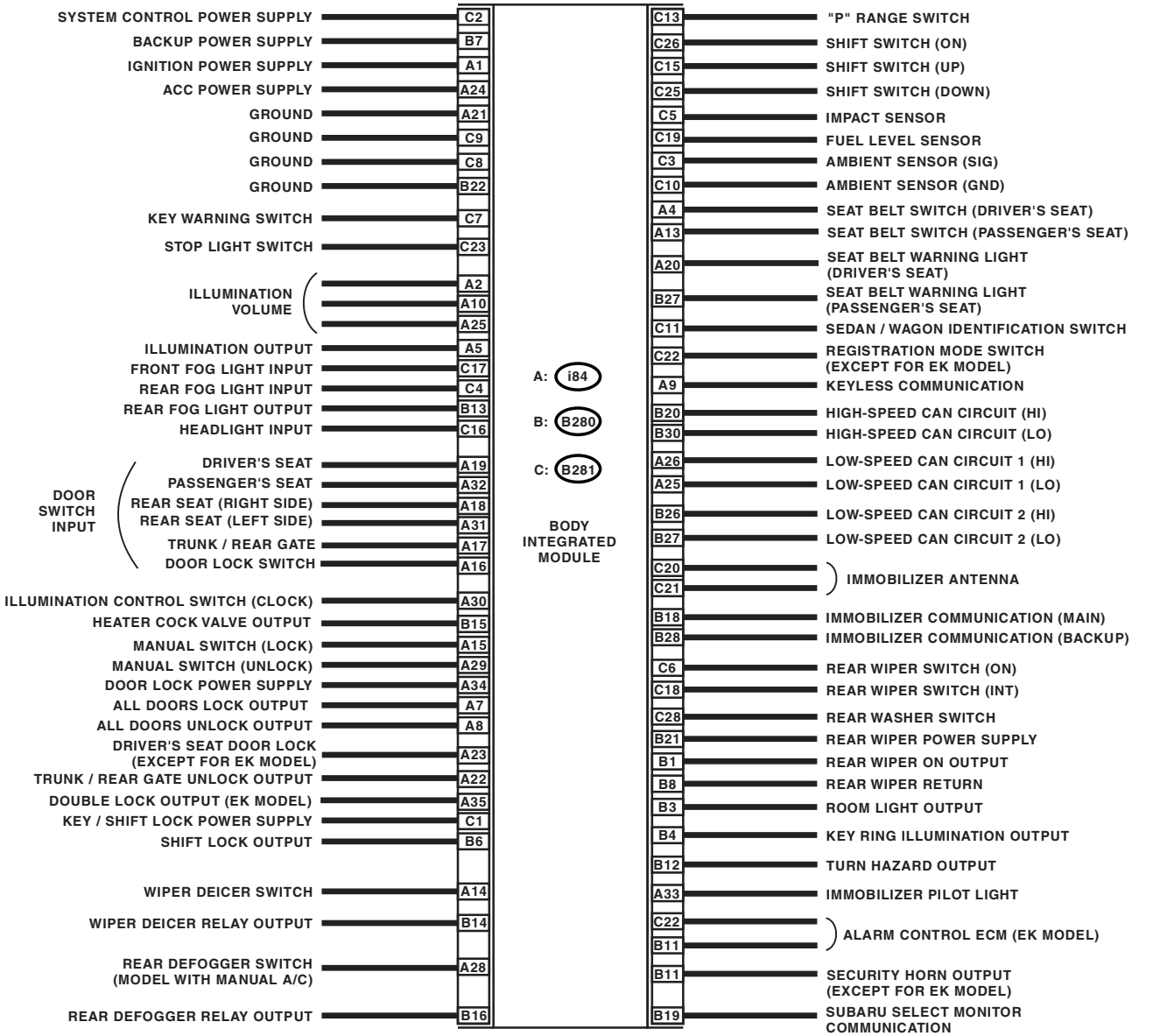
Control Module I/O Signal

Description	Connector No.	Terminal No.	Signal (V or Ω)	NOTE
			Ignition switch ON (engine OFF)	
Door switch input Rear LH seat	i84	A31	Less than 1 V (10 — 13 V at OFF)	Rear LH door open (ON)
Door switch Trunk/Rear gate	i84	A17	Less than 1 V (10 — 13 V at OFF)	Trunk/Rear gate open (ON)
Door lock switch	i84	A16	Less than 1 Ω	All doors are locked
Illumination control switch	i84	A30	10 — 13 (at dimmer ON)	Extinct the clock and audio illumination
Heater cock valve output	B280	B15	Less than 1 Ω	When heater cock valve operates
Manual switch (LOCK)	i84	A15	Less than 1 Ω	Door lock switch ON
Manual switch (UNLOCK)	i84	A29	Less than 1 Ω	Door lock switch ON
Door lock power supply	i84	A34	10 — 13 V	
All door lock output	i84	A7	10 — 13 V	Manual, door key switch ON
All door UNLOCK output	i84	A8	10 — 13 V	Manual, door key switch ON
Driver's door lock (Except for EK model)	i84	A23	Less than 1 Ω	When driver's door is unlocked
Trunk/Rear gate UNLOCK output	i84	A22	10 — 13 V	When the trunk open signal received with keyless entry (Sedan model)
Double lock output (EK model)	i84	A35	Less than 1 Ω	When double lock operates
Key/shift lock power supply	B281	C1	10 — 13 V	
Shift lock output	B280	B6	10 — 13 V	Ignition switch ON, at "P" range, foot brake ON
Wiper deicer switch	i84	A14	Less than 1 Ω	Wiper deicer switch ON
Wiper deicer relay output	B280	B14	Less than 1 Ω	Wiper deicer relay ON
Rear defogger switch	i84	A28	Less than 1 Ω	Rear defogger switch ON
Rear defogger relay output	B281	B16	Less than 1 Ω	Rear defogger relay ON
Shift switch (ON)	B281	C26	Less than 1 Ω	At Manual mode
Shift switch (UP)	B281	C15	Less than 1 Ω	At Manual mode UP
Shift switch (DOWN)	B281	C25	Less than 1 Ω	At Manual mode DOWN
"P" range switch	B281	C13	Less than 1 Ω	
Impact sensor	B281	C5	Less than 1 Ω	Impact sensor ON (Model with immobilizer)
Fuel level sensor	B281	C19	0 — 102.3 Ω	
Ambient sensor	B281	C3	0.5 — 4.5 V	SIG
	B281	C10	Less than 1 Ω	GND
Seat belt switch (driver's seat)	i84	A4	Less than 1 Ω	Driver's seat belt worn
Seat belt switch (passenger's seat)	i84	A13	Less than 1 Ω	Passenger's seat belt worn
Seat belt warning light (driver's seat)	i84	A20	Less than 1 Ω	Driver's seat belt worn
Seat belt warning light (passenger's seat)	B281	C24	Less than 1 Ω	Passenger's seat belt worn
Sedan/Wagon identification switch	B281	C11	Sedan 10 — 13 V Wagon 0 — 5 V	
Rear wiper switch (ON)	B281	C6	Less than 1 Ω	Rear wiper switch ON

Control Module I/O Signal

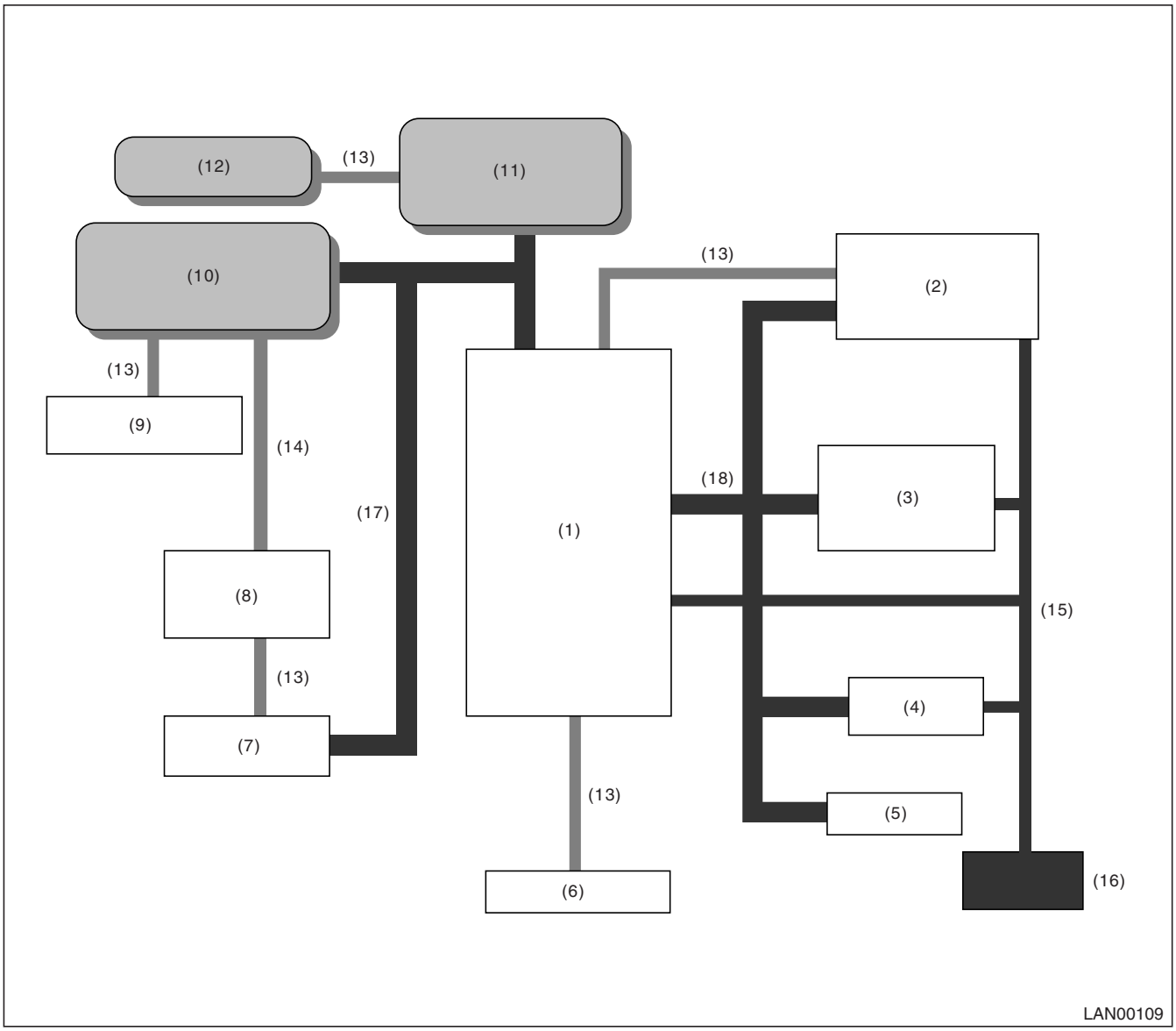
Description	Connector No.	Terminal No.	Signal (V or Ω)	NOTE
			Ignition switch ON (engine OFF)	
Rear wiper switch (INT)	B281	C18	Less than 1 Ω	Rear wiper switch ON
Rear washer switch	B281	C27	Less than 1 Ω	Rear washer switch ON
Rear wiper power supply	B280	B21	10 — 13 V	
Rear wiper ON output	B280	B1	10 — 13 V	Rear wiper switch ON
Rear wiper return	B280	B8	Less than 1 Ω B1 — B8 less than 1 Ω	At wiper reversing
Room light output	B280	B3	Less than 1 Ω	When LOCK, UNLOCK with keyless entry
Key ring illumination output	B280	B4	Less than 1 Ω	Ignition key removed, driver's door open
Turn hazard output	B280	B12	Less than 1 Ω	When operating keyless entry answer back
Immobilizer pilot light	i84	A33	Less than 1 Ω	At ignition key removed, immobilizer operating
Alarm control ECM (EK model)	B280	B11	Serial communication	
Security horn output (Except for EK model)	B280	B11	Less than 1 Ω	At security horn output
Keyless communication	i84	A9	2 — 10 V	At keyless entry signal received
High-speed CAN circuit (Hi)	B280	B20	Between B20 — B30 Serial communication	At communicating (sending and receiving)
High-speed CAN circuit (Lo)	B280	B30		
Low-speed CAN circuit 1 (Hi)	i84	A26	Between A25 — A26 Serial communication	At communicating (sending and receiving)
Low-speed CAN circuit 1 (Lo)	i84	A25		
Low-speed CAN circuit 2 (Hi)	B280	B26	Between B25 — B27 Serial communication	At communicating (sending and receiving) (Model with auto A/C)
Low-speed CAN circuit 2 (Lo)	B280	B27		
Immobilizer antenna	B281	C20 — C21	Serial communication	
Immobilizer communication (Main)	B280	B18 (Back-up B28)	Serial communication	
Subaru Select Monitor communication	B280	B19	Serial communication	

B: WIRING DIAGRAM



LAN00180

C: LAN SYSTEM



(1) Body integrated module
(2) ECM
(3) TCM
(4) VDC/ABSCM
(5) Steering angle sensor
(6) Keyless entry receiver
(7) A/C control module
(8) Audio-A/C control panel
(9) Navigation system
(10) Center display
(11) Combination meter
(12) Clock
(13) Exclusive communication line
(14) IE-Bus (AV)
(15) Subaru Select Monitor communication line
(16) Subaru Select Monitor
(17) Low speed CAN (Body control)
(18) High speed CAN (Driving control)

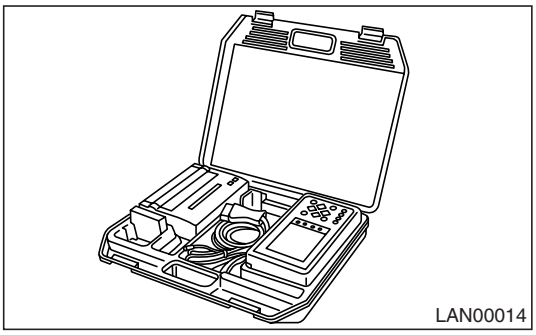
6. Subaru Select Monitor

A: OPERATION

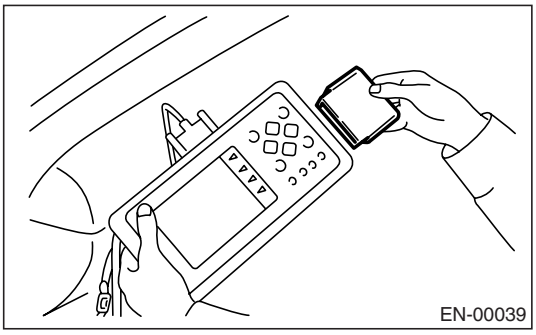
1. READ DIAGNOSTIC TROUBLE CODE (DTC)

NOTE:
• DTC is displayed in the sequence of inputting. (When inputting two DTCs or more simultaneously, they are displayed in the sequence of priority.)
• When two DTCs or more are displayed, perform the diagnosis of top of them.

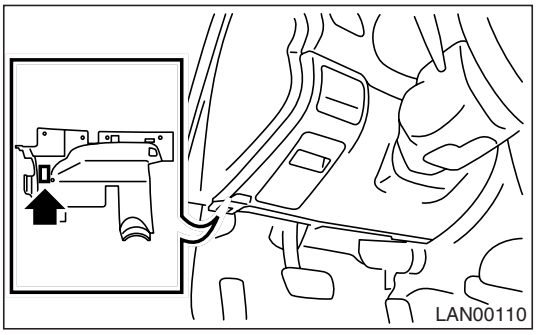
1) Prepare the Subaru Select Monitor kit.



2) Connect the diagnosis cable to Subaru Select Monitor.
3) Insert the cartridge to Subaru Select Monitor. <Ref. to LAN(diag)-6, SPECIAL TOOL, PREPARATION TOOL, General Description.>

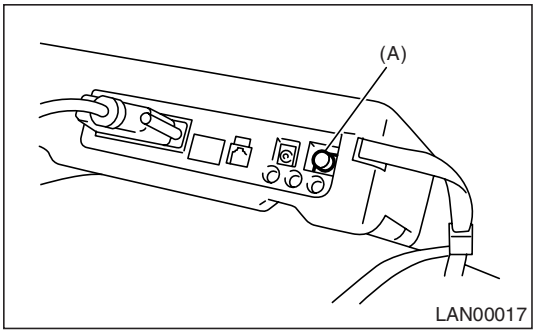


4) Connect the Subaru Select Monitor to data link connector.
Data link connector is located in the lower portion of instrument panel (on the driver's side).



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

5) Turn the ignition switch to ON (engine OFF), and turn the Subaru Select Monitor power switch to ON.



(A) Power switch

6) On the “Main Menu” display screen, select the {Each System Check} and press the [YES] key.
7) On the “System Selection Menu” display screen, select the {Integ. unit mode} and press the [YES] key.
8) On the “Integ. unit mode failure diag” display screen, select the {Diagnostic Code(s) Display} and press the [YES] key.

NOTE:
• For details concerning operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.
• For details concerning DTCs, refer to the List of Diagnostic Trouble Code (DTC). <Ref. to LAN(diag)-28, List of Diagnostic Trouble Code (DTC).>

2. READ CURRENT DATA

1) On the “Main Menu” display screen, select the {Each System Check} and press the [YES] key.
2) On the “System Selection Menu” display screen, select the {Integ. unit mode} and press the [YES] key.
3) On the “Integ. unit mode failure diag” display screen, select the {Current Data Display & Save} and press the [YES] key.
4) On the “Current Data Display & Save” display screen, select the {12 Data Display} and press the [YES] key.
5) Using the scroll key, scroll the display screen up or down until the desired data is shown.
• A support list contains both of analog and digital data, and they are shown in the following table.

3. DISPLAY OF ANALOG DATA

Items to be displayed	Unit of measure	NOTE
BATT Voltage (Control)	10 — 15 V	—
BATT Voltage (BACK UP)	10 — 15 V	—
IG power supply voltage	10 — 15 V	—
ACC voltage	10 — 15 V	—
Illumination VR voltage	0 — 5 V	—
Illumi. output d-ratio	0 — 100%	—
ambient temp sensor V	0 — 5 V	—
Ambient temperature	–40 — 87.5°C	—
Fuel level voltage	0 — 8 V	—
Fuel level resistance	0 — 102.3 Ω	CAN communication input value
key-lock solenoid V	6 — 12 V	—
number of regist.	0 — 4	—
Front Wheel Speed	km/h	—
VDC/ABS latest f-code	DTC display	It is normal when DTC is not been input even if this code is displayed.
Blower fan levels	0 — 2 levels	0: OFF, 1: Low, 2: 2 levels or more
Fuel level resistance2	0 — 102.3 Ω	Output value for OBD diagnosis
Fuel consumption	cc/s	—
Coolant Temp.	–40 — 130°C	—
Vehicle lateral G	m/s^2	—
SPORT Shift Stages	0 — 7 levels	(0: light OFF, 6: fail, 7: ATF temperature High/Low)
Shift Position	0 — 7 levels	(8 is no input)
Off delay time	OFF, Short, Normal, Long	—
Auto lock time	20, 30, 40, 50, 60 seconds	—

4. DISPLAY OF ON/OFF DATA

Items to be displayed	Unit of measure
key-lock warning SW	ON/OFF
Stop Light Switch	ON/OFF
Front fog lamp SW input	ON/OFF
Rear fog lamp SW input	ON/OFF
lighting SW input	ON/OFF
Door key-lock SW input	ON/OFF
Door unlock SW input	ON/OFF
Driver's door SW input	ON/OFF
P-door SW input	ON/OFF
Rear right door SW input	ON/OFF
Rear left door SW input	ON/OFF
R Gate SW input	ON/OFF
Manual lock SW input	ON/OFF
Manual unlock SW input	ON/OFF
Lock SW (front hood)	ON/OFF
Bright SW input	ON/OFF
Tiptronic Mode Switch	ON/OFF
TIP UPSW input	ON/OFF
TIP DOWN SW input	ON/OFF
P SW	ON/OFF
R wiper ON SW input	ON/OFF
R wiper INT SW input	ON/OFF
R washer SW input	ON/OFF
wiper deicer SW input	ON/OFF
Rear Defogger SW	ON/OFF
Driver's Seat SW input	ON/OFF
P seatbelt SW input	ON/OFF
Fr wiper input	ON/OFF
Registration SW input	ON/OFF
Identification SW input	ON/OFF
Rr defogger output	ON/OFF
lock actuat. LOCK output	ON/OFF
All seat UNLOCK output	ON/OFF
D-seat UNLOCK output	ON/OFF
R gate/trunk UNLK output	ON/OFF
Double lock output	ON/OFF
R wiper output	ON/OFF
Shift Lock Solenoid	ON/OFF
Key locking output	ON/OFF
wiper deicer SW input	ON/OFF
Starter cutting output	ON/OFF
Hazard Output	ON/OFF
Keyless Buzzer Output	ON/OFF
Horn Output	ON/OFF
Siren Output	ON/OFF
D-belt warning light O/P	ON/OFF
P-belt warning light O/P	ON/OFF
Illumination lamp O/P	ON/OFF
Room lamp output	ON/OFF
key illumi. lamp o/p	ON/OFF

Items to be displayed	Unit of measure
R fog lamp output	ON/OFF
R fog lamp monitor	ON/OFF
Immobilizer lamp output	ON/OFF
Keyless operation 1	Registration/Normal
Keyless operation 2	Clear/Normal
CC Main Lamp	On/Off
CC Set Lamp	On/Off
SPORT Lamp	On/Off
SPORT Blink	Blink/Off
ATF Temperature Lamp	On/Off
ATF Blink	Blink/Off
Tire diameter abnormal 1	On/Off
Tire diameter abnormal 2	Blink/Off
SPORT Shift (UP)	UP/OFF
SPORT Shift (DOWN)	DOWN/OFF
SPORT Shift (buzzer 1)	ON/OFF
SPORT Shift (buzzer 2)	ON/OFF
ABS/VDC Judging	ABS/VDC
ADA Existence Judging	Yes/No
Small light SW	ON/OFF
Headlight	ON/OFF
Headlight HI	ON/OFF
Turn signal LH	ON/OFF
Turn signal RH	ON/OFF
Rr Defogger SW	ON/OFF
Australia Judging Flag	Australia/Others
Tire 18inch flag	18 in/others
Number of cylinders	4 cylinders/6 cylinders
Cam shaft specification	SOHC/DOHC
Turbo	Turbo/Non-turbo
E/G displacement (2.5L)	2.5 L/ OFF
E/G displacement (3.0L)	3.0 L/ OFF
AT Vehicle ID Signal	AT model/MT model
E/G cooling fan	ON/OFF
Heater cock valve output	ON/OFF
Power window (Up)	ON/OFF
Power window (Down)	ON/OFF
Keyless buzzer	ON/OFF
Bright Request	ON/OFF
P/W ECM Failure	NG/OK
Keyless Hook SW	ON/OFF
Door lock SW (Open)	ON/OFF
Door lock SW (Close)	ON/OFF
Door Key SW (Open)	ON/OFF
Door Key SW (Close)	ON/OFF
Under hook registration	ON/OFF
Hook registration end	ON/OFF
Unlock request	ON/OFF
Center display failure	OK/NG
NAVI Failure	OK/NG

Items to be displayed	Unit of measure
IE Bus failure	Can not use
Auto A/C failure	OK/NG
EBD Warning Light	OK/OFF
ABS Warning Light	OK/OFF
VDC OFF flag	ON/OFF
VDC/ABS OK B	OK/NG
VDC/ABS condition	0 — 4
Destinat.	0 — 16
Touch SW	0 — 64

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

5. CONFIRMATION OF CURRENT SETTING

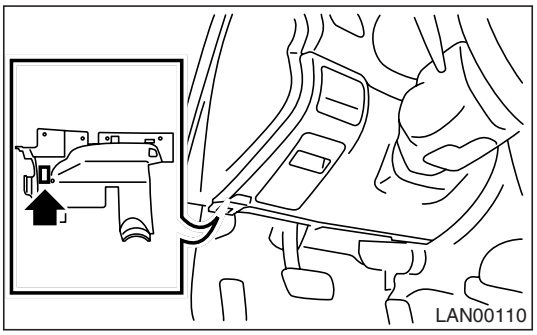
1) On the “Main Menu” display screen, select the {Each System Check} and press the [YES] key.
2) On the “System Selection Menu” display screen, select the {Integ. unit mode} and press the [YES] key.
3) On the “Integ. unit mode failure diag” display screen, select the {Current Data Display & Save} and press the [YES] key.
4) On the “Current Data Display & Save” display screen, select the {12 Data Display} and press the [YES] key.
5) Using the scroll key, scroll the display screen up or down until the desired data is shown.
6) Display the following items and record the settings.
Required items for new registration (Except for system not equipped)

Item	Item to confirm				Remarks
Key No. to register	1	2	3	4	Registered ID type
Off delay	OFF	Long	Normal	Short	Setting for lighting off time
Auto-lock	60, 50, 40, 30, 20		OFF		(Unit sec.)
Rr defogger op. mode	Normal		Continuous		
Wiper deicer op. mode	Normal		Continuous		Optional setting
Security Alarm Setup	ON		OFF		
Impact Sensor Setup	ON		OFF		Optional setting
Alarm monitor delay setting	ON		OFF		
Lockout prevention	ON		OFF		
Impact sensor	Yes		No		Optional setting
Siren setting	Yes		No		Optional setting
Answer-back buzzer setup	ON		OFF		Not equipped
Hazard answer-back setup	ON		OFF		
Automatic locking setup	ON		OFF		
Ans.-back Buzzer	Yes		No		Not equipped
Auto locking	Yes		No		
Door open warning (prevention of battery run-out)	Yes		No		
A/C ECM setting	Yes		No		Model with auto A/C
P/W ECM setting	Yes		No		Not equipped
Center display failure	Yes		No		Model with center display
Wiper deicer	Yes		No		Optional setting
Rear fog light setting	Yes		No		Optional setting
Factory initial setting	Factory		Market		Not change to Factory mode
Security setting (Specified security setting)	Yes		No		Operate the selected security set. (EK model)

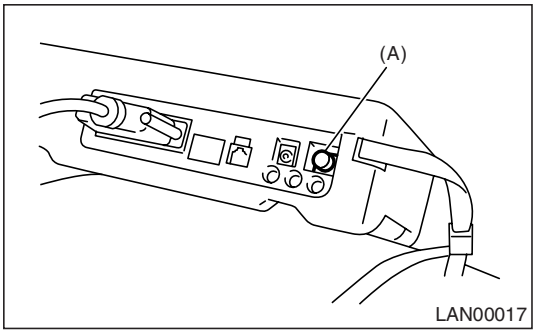
6. REGISTRATION BODY INTEGRATED MODULE (EQUIPMENT SETTING)

CAUTION:
Body integrated module is core of LAN system, and also can select the function of all vehicle system control. It is possible to control the original functions of vehicle when registrations of body integrated module and function setting are corresponded to vehicle equipment.
If registrations and function setting are different from vehicle equipment, vehicle system does not operate normally and diagnosis cannot be performed correctly. Pay attention to items below.
• Be sure to correspond registrations and function settings to vehicle equipment.
• Do not change the settings of vehicle improperly.
• Confirm key illumination does not blink or "Factory initial setting" of body integrated module registrations is "Market". If "Factory initial setting" is set to "Factory", key illumination blinks with ignition key turned to ON to give warning of unconfirmed settings.
• Key illumination does not blink with ignition switch turned to ON and go off with door closed.
• Be sure to register immobilizer if body integrated module is replaced with a new one. (Model with immobilizer)
• Make a registration of immobilizer when the parts related to immobilizer have been replaced. Refer to "IMMOBILIZER TEACHING OPERATION MANUAL".

1) Turn the ignition switch to OFF.
2) Connect the Subaru Select Monitor to data link connector.



3) Turn the ignition switch to ON and the Subaru Select Monitor power switch to ON.



(A) Power switch

4) On the "Main Menu" display screen, select the {Each System Check} and press the [YES] key.
5) On the "Each System Check" display screen, select the {Integ. unit mode} and then select the "ECM customizing".

6) Change the setting with UP/DOWN key and press the [YES] key.
• List of body integrated module registration item

NOTE:
Setting is different depending on grade of vehicle.

Data	Initial setting	Registration	Remarks
A/C ECM setting	OFF	ON	Illumination control does not operate if A/C ECM setting is set to “OFF” in case of model with auto A/C.
		OFF	If A/C ECM setting is set to “ON” in case of model without auto A/C, illumination change to night illumination and it is difficult to be recognized.
P/W ECM setting	OFF	ON	Be sure to set P/W ECM setting to “OFF”.
		OFF	
Center display failure (OP)	OFF	ON	Information may not be displayed on center display if Center display failure is set to “OFF” in case of model with center display.
		OFF	
Wiperdeicer (OP)	OFF	ON	ON signal does not output with operation of wiper deicer switch if Wiperdeicer is set to “OFF” in model with wiper deicer.
		OFF	
Rear fog light setting (OP)	OFF	ON	Vehicle is controlled in rear fog light equipped mode.
		OFF	Vehicle is controlled in rear fog light no-equipped mode. (Be sure to set to “OFF” in model without rear fog light.)
Factory initial setting (Reset of body integrated module)	Factory	Factory (Reset)	If Factory initial setting is set to “Factory”, registrations of items above is changed to “OFF”. Be sure to set to “Market”.
		Market (Settlement)	

CAUTION:
• It is possible to control the original functions of vehicle when registrations of body integrated module and function setting are corresponded to vehicle equipment.
• When body integrated module is new one or “Factory” mode, key illumination blinks to show equipment settings does not completed.
• Be sure not to change Factory initial setting except installation of new body integrated module.

NOTE:
“Factory” mode:
• Body integrated module has not been set yet. It can be recognized by key illumination blinking with ignition switch turned to ON.
• All body integrated modules as part for repair are set to “Factory” mode. When replacing a body integrated module, be sure to perform the registration operation.
“Market” mode:
• Each settings of body integrated module have been set. It can be recognized by key ring illumination operating simultaneously with room light and turning off with ignition switch turned to ON.

7) Perform the Factory setting. On the “ECM customizing” display screen of Subaru Select Monitor, select the {Factory initial setting} and press the [YES] key.
8) Change the mode from Factory into Market.
9) Replace the immobilizer cartridge, and register the immobilizer key. (Model with immobilizer)
10) Perform the registration according to the procedures of “IMMOBILIZER TEACHING OPERATION MANUAL”.
11) When key registration is completed, “Do you want to register remote engine start?” is displayed. Press the [NO] key to finish the registration.
12) Perform the function setting (ECM customizing).
<Ref. to LAN(diag)-21, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>

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

7. CLEAR MEMORY MODE

1) On the “Main Menu” display screen, select the {2. Each System Check} and press the [YES] key.
2) On the “System Selection Menu” display screen, select the {Integ. unit mode} and press the [YES] key.
3) Press the [YES] key after the information of body integrated module type is displayed.
4) On the “Integ. unit mode failure diag” display screen, select the {Clear Memory} and press the [YES] key.

Display	Contents to be monitored
Clear memory?	Clear function of DTC and freeze frame data

5) When the “Done” are shown on the display screen, turn the ignition switch to OFF.

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

8. FREEZE FRAME DATA

NOTE:
• Data stored at the time of trouble occurrence is shown on display.
• Freeze frame data will be memorized maximum to 20.
• If freeze frame data is not stored in memory correctly (caused by low power supply of body integrated module), DTC will be displayed with “?” on the head of it in the Subaru Select Monitor display. This shows it may be an unreliable reading.

9. FUNCTION SETTING (ECM CUSTOMIZING)

1) On the “Main Menu” display screen, select the {Each System Check} and press the [YES] key.
2) On the “System Selection Menu” display screen, select the {Integ. unit mode} and press the [YES] key.
3) On the “Integ. unit mode failure diag” display screen, select the {ECM customizing} and press the [YES] key.
4) Change the setting with UP/DOWN key and press the [YES] key.

- List of function setting item (ECM customizing)

No.	Data	Initial setting value	Customize setting	Remarks	
1	Off delay time	Normal		Delay time below can be selected by setting.	
				After door closed	After key unlock
			OFF	0 sec.	0 sec.
			Short	3 sec.	10 sec.
			Normal	5 sec.	20 sec.
			Long	8 sec.	30 sec.
2	Auto lock time	30 sec.	0 — 60 seconds	Workable when Auto locking is set to “ON” and Automatic locking setup is “ON”. Time can be changed by 10 seconds: 0 (OFF) — 60 (maximum).	
3	Rr defogger op. mode	15 min.	15 min.	Rear defogger stops in 15 minutes automatically after switch is turned to ON.	
			Continuous	Rear defogger repeats active condition for 15 minutes and inactive condition for 2 minutes until switch is turned to OFF.	
4	Wiper deicer op. mode	15 min.	15 min.	Rear defogger stops in 15 minutes automatically after switch is turned to ON.	
			Continuous	Rear defogger repeats active condition for 15 minutes and inactive condition for 2 minutes until switch is turned to OFF.	
5	Security Alarm Setup	OFF	ON	Security alarm (hazard, horn or siren) in active condition	
			OFF	Security alarm in inactive condition	
6	Impact Sensor Setup	OFF	ON	Workable when Impact Sensor Setup is set to “ON” Impact sensor in active condition	
			OFF	Impact sensor in inactive condition (Set Impact Sensor Setup of model without impact sensor to “OFF”.)	
7	Alarm monitor delay setting	ON		After doors are locked by keyless entry system operated, Alarm monitor starts in following time.	
			ON	Delay time is 30 seconds.	
			OFF	Delay time is 0 seconds.	
8	Lockout prevention	ON	ON	Lockout prevention in inactive condition (Lockout prevention does not operate if safety knob is locked by hand.)	
			OFF	Lockout prevention in inactive condition	
9	Impact sensor (OP)	OFF	ON	Vehicle is controlled in impact sensor equipped mode. (Set impact sensor to “OFF” in model without impact sensor. If impact sensor is set to “ON”, hazard, horn or siren operate after doors are locked by keyless entry system operated (Alarm monitor starting).)	
			OFF	Vehicle is controlled in impact sensor no-equipped mode.	
10	Siren setting (OP)	OFF	ON	Siren sounds when alarm operates. (Set siren setting to “OFF” in model without siren. Horn does not sound if siren setting is set to “ON”.)	
			OFF	Horn sounds when alarm operates.	
11	Answer-back buzzer setup	ON	ON	Workable when answer-back buzzer setup is set to “ON”. When lock/unlock is selected by keyless entry system operated, answer-back buzzer sounds.	
			OFF	When lock/unlock is selected by keyless entry system operated, answer-back buzzer does not sound.	

No.	Data	Initial setting value	Customize setting	Remarks
12	Hazard answer-back setup	ON	ON	Workable when hazard answer-back setup is set to “ON”. When lock/unlock is selected by keyless entry system operated, hazard answer-back buzzer operates.
			OFF	When lock/unlock is selected by keyless entry system operated, hazard answer-back does not operate.
13	Automatic locking setup	ON	ON	Workable when Automatic locking setup is set to “ON”. Automatic locking operates.
			OFF	Automatic locking does not operate.
14	Ans.-back Buzzer	ON	ON	Vehicle is controlled in answer-back buzzer equipped mode.
			OFF	Vehicle is controlled in answer-back buzzer non-equipped mode. (Set Ans.-back Buzzer to “OFF” in model without answer back buzzer.)
15	Auto locking	ON	ON	Vehicle is controlled in auto locking equipped mode.
			OFF	Vehicle is controlled in auto locking non-equipped mode. (Set Auto locking to “OFF” in model without auto locking.)
16	Initial Keyless Setting	—	—	—
			Execution	Settings of keyless entry system are initialized. (No. 2: 30 sec., No. 11: ON, No. 12: ON, No. 13: ON, No. 14: ON)
17	Initial button setting	—	—	—
			Execution	Settings of each function are initialized. (No. 1: Normal, No. 3: 15 min., No. 4: 15 min., No. 8: ON)
18	Initial Security setting	—	—	—
			Execution	Settings of security system are initialized. (No. 5: OFF, No. 6: OFF, No. 7: ON, No. 10: OFF)
19	Passive Alarm (Not used)	OFF	ON	Applicable to North America model (If Passive Alarm is set to “ON”, nothing operates and there is no negative effect.)
			OFF	
20	Door open warning (prevention of battery run-out)	OFF	ON	If detecting door open for 30 minutes, room light, key illumination and door warning light are turned off to prevent battery run-out.
			OFF	Room light, key illumination and door warning light is not turned off.
21	(Specification) Security setup		ON	Operate the selected security set. (EK model)
			OFF	Normally in active condition

5) After setting, make sure that vehicle equipment is same as the setting changed in the {Current Data Display & Save}.

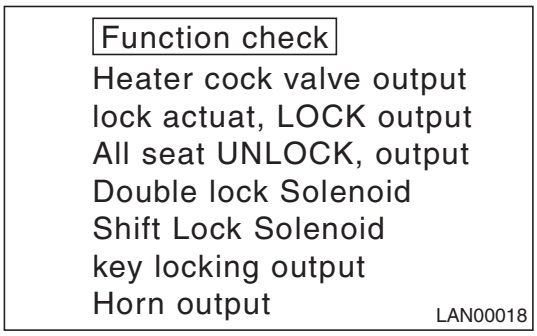
CAUTION:
- **It is possible to control the original functions of vehicle when settings above are corresponded to vehicle equipment.**
- **Do not change the settings except for setting above during operation of equipment setting.**
- **Be sure not to change Factory initial setting except installation of new body integrated module.**

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

10.FUNCTION CHECK

In order to check the body integrated module function, inspect the body integrated module and actuator using Subaru Select Monitor without operating switches.

1) On the “Main Menu” display screen, select the {Each System Check} and press the [YES] key.
2) On the “System Selection Menu” display screen, select the {Integ. unit mode} and press the [YES] key.
3) On the “Integ. unit mode failure diag” display screen, select the {System Operation Check Mode} and press the [YES] key.
4) Select the item to be operated on the “System Operation Check Mode” display screen with “UP/Down key”, and press the [YES] key.



5) Pressing [YES] starts, [NO] cancels the operation and [YES] returns to the System Operation Check Mode display screen.

NOTE:
If not equipped (based on area or condition), process will not go on.

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

1. WITHOUT SUBARU SELECT MONITOR

NOTE:
Use the Subaru Select Monitor, because DTCs can not be read out.

2. WITH SUBARU SELECT MONITOR

For details concerning DTC reading procedure, refer to “Subaru Select Monitor”. <Ref. to LAN(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>

8. Clear Memory Mode

A: OPERATION

1. WITHOUT SUBARU SELECT MONITOR

NOTE:
Use the Subaru Select Monitor for Clear Memory Mode.

2. WITH SUBARU SELECT MONITOR

For details concerning DTC clear operation, refer to the “Subaru Select Monitor”. <Ref. to LAN(diag)-20, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.>

9. Read Current Data

A: OPERATION

1) On the “Main Menu” display screen, select the {Each System Check} and press the [YES] key.
2) On the “System Selection Menu” display screen, select the {Integ. unit mode} and press the [YES] key.
3) On the “Integ. unit mode failure diag” display screen, select the {Current Data Display & Save} and press the [YES] key.
4) On the “Data Display Menu” screen, select the {12 Data Display} and press the [YES] key.
5) Using the scroll key, scroll the display screen up or down until the desired data is shown.
<Ref. to LAN(diag)-15, DISPLAY OF ANALOG DATA, OPERATION, Subaru Select Monitor.> <Ref. to LAN(diag)-16, DISPLAY OF ON/OFF DATA, OPERATION, Subaru Select Monitor.> <Ref. to LAN(diag)-17, CONFIRMATION OF CURRENT SETTING, OPERATION, Subaru Select Monitor.>

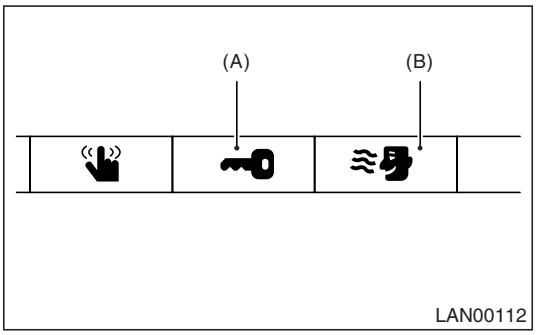
10.Function Setting (Customize)

A: OPERATION

1. WITHOUT SUBARU SELECT MONITOR

NOTE:
Applied to the Model with center display.

1) Display the information screen with pressing the “INFO” switch of center display.
2) Select “SET” on the touch panel at the right top of center display screen.
3) Select the item from “A: Keyless entry” or “B: Various setup” on the touch panel.



4) Change the setting on the touch panel which contains item to be changed.
5) Return to the information display screen and complete it.

Function setting item list

Item	Setting
Keyless	Auto lock
	Auto lock time setting
	Answerback hazard
Each function	Room light delay time
	Anti-lock out
	Rear defogger
	Wiper deicer

2. WITH SUBARU SELECT MONITOR

For detailed procedures of function setting (ECM customizing), refer to “SUBARU SELECT MONITOR”. <Ref. to LAN(diag)-21, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>

11.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Contents of diagnosis	NOTE
None	Communication for initializing impossible	Open or short in Subaru Select Monitor communication line	<Ref. to LAN(diag)-30, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
None	Diagnostic Trouble Code (DTC) is not stored.	Internal error of combination meter	<Ref. to LAN(diag)-33, DIAGNOSTIC TROUBLE CODE (DTC) IS NOT STORED, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0100	Integ. unit system error	Body integrated module internal error	<Ref. to LAN(diag)-33, DTC B0100 INTEG. UNIT SYSTEM ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0101	BATT p/supply malfunction cont.	Open or short in battery power supply control circuit	<Ref. to LAN(diag)-34, DTC B0101 BATT P/SUPPLY MALFUNCTION CONT., Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0102	BATT p/supply malfunction cont.	Open or short in battery power backup circuit	<Ref. to LAN(diag)-36, DTC B0102 BATT P/SUPPLY MALFUNCTION CONT., Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0103	Ignition power failure	Open or short in IGN power supply circuit	<Ref. to LAN(diag)-38, DTC B0103 IGNITION POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0104	ACC power failure	Open or short in ACC power supply circuit	<Ref. to LAN(diag)-40, DTC B0104 ACC POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0106	Shift lock circuit failure	Ground short of shift lock circuit	<Ref. to LAN(diag)-42, DTC B0106 SHIFT LOCK CIRCUIT FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0107	R fog lamp circuit failure	Ground short of rear fog circuit	<Ref. to LAN(diag)-44, DTC B0107 R FOG LAMP CIRCUIT FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0201	CAN-HS counter abnormal	Malfunction of high-speed CAN communication	<Ref. to LAN(diag)-46, DTC B0201 CAN-HS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0202	CAN-HS bus off	Any unit is cut communication.	<Ref. to LAN(diag)-50, DTC B0202 CAN-HS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0211	CAN-HS ECM data abnormal	Received error data from ECM.	<Ref. to LAN(diag)-54, DTC B0211 CAN-HS ECM DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0212	CAN-HS TCM data abnormal	Received error data from TCM.	<Ref. to LAN(diag)-56, DTC B0212 CAN-HS TCM DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0213	CAN-HS VDC/ABS data abnormal	Received error data from VDC/ABS unit.	<Ref. to LAN(diag)-57, DTC B0213 CAN-HS VDC/ABS DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0221	CAN-HS ECM no-receive data	Not received error data from ECM.	<Ref. to LAN(diag)-59, DTC B0221 CAN-HS ECM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0222	CAN-HS TCM no-receive data	Not received error data from TCM.	<Ref. to LAN(diag)-63, DTC B0222 CAN-HS TCM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0223	CAN-HS VDC/ABS no-receive data	Not received error data from VDC/ABS unit.	<Ref. to LAN(diag)-65, DTC B0223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

List of Diagnostic Trouble Code (DTC)

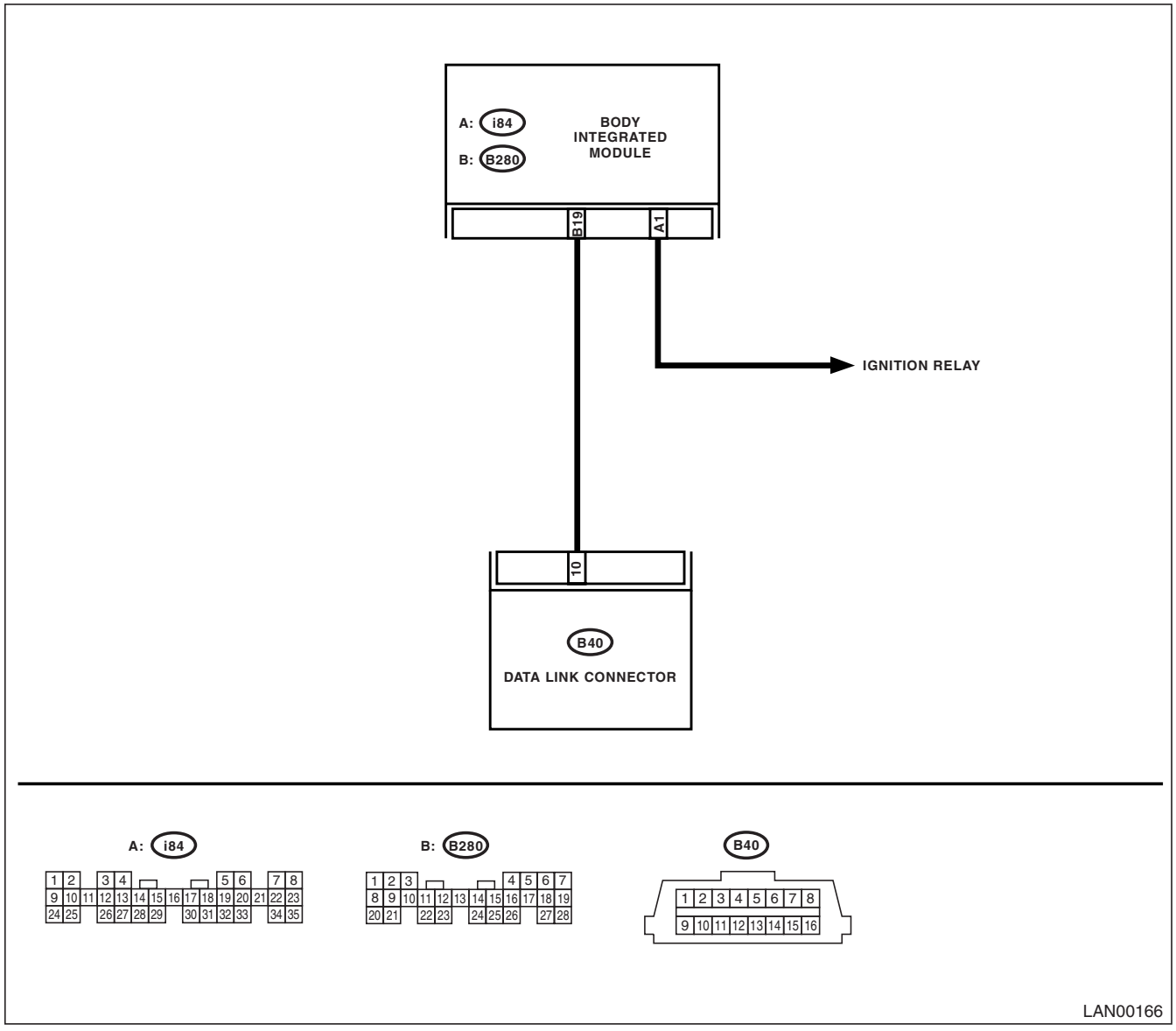
DTC	Item	Contents of diagnosis	NOTE
B0300	CAN-LS malfunction	Open or short in low-speed CAN circuit, on each side or both sides.	<Ref. to LAN(diag)-67, DTC B0300 CAN-LS MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0301	CAN-LS counter abnormal	Malfunction of low-speed CAN communication	<Ref. to LAN(diag)-70, DTC B0301 CAN-LS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0302	CAN-LS bus off	Any unit is cut communication.	<Ref. to LAN(diag)-74, DTC B0302 CAN-LS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0311	CAN-LS meter unit data abnormal	Received error data from meter.	<Ref. to LAN(diag)-77, DTC B0311 CAN-LS METER UNIT DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0313	CAN-LS monitor data abnormal	Received error data from monitor unit.	<Ref. to LAN(diag)-78, DTC B0313 CAN-LS MONITOR DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0321	CAN-LS meter no-receive data	Not received error data from meter.	<Ref. to LAN(diag)-79, DTC B0321 CAN-LS METER NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B0401	M collation NG	Malfunction related immobilizer	<Ref. to IM(diag)-15, List of Diagnostic Trouble Code (DTC).>
B0402	Immobilizer Key collation NG	Malfunction related immobilizer	<Ref. to IM(diag)-15, List of Diagnostic Trouble Code (DTC).>
B0403	E/G request NG	Malfunction related immobilizer	<Ref. to IM(diag)-15, List of Diagnostic Trouble Code (DTC).>
B0500	Keyless UART com. malfunction	Open or short circuit in keyless UART circuit	<Ref. to LAN(diag)-81, DTC B0500 KEYLESS UART COM. MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

12.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: COMMUNICATION FOR INITIALIZING IMPOSSIBLE

NOTE:
- DTC is displayed in the sequence of the amount of counter numbers.
- When more than two DTCs are displayed, perform the diagnosis of top of them.

DIAGNOSIS:
Subaru Select Monitor communication line is open or shorted.
TROUBLE SYMPTOM:
Not communicable with Subaru Select Monitor.
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH.**	Is the ignition switch ON?	Go to step **2.**	Turn the ignition switch to ON, and select Integ. unit mode using Subaru Select Monitor.
2	**CHECK BATTERY.** 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage more than 11 V?	Go to step **3.**	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.**	Is there poor contact at battery terminal?	Repair or tighten the battery terminal.	Go to step **4.**
4	**CHECK COMMUNICATION OF SUBARU SELECT MONITOR.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other systems can be executed normally.	Are system and model year displayed?	Go to step **7.**	Go to step **5.**
5	**CHECK COMMUNICATION OF SUBARU SELECT MONITOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated module connector. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems can be executed normally.	Are system and model year displayed?	Go to step **7.**	Go to step **6.**
6	**CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL UNIT AND SUBARU SELECT MONITOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated module connector. 3) Measure the resistance between data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 10 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **7.**	Repair the harness and connector between each control unit and Subaru Select Monitor.
7	**CHECK OUTPUT SIGNAL TO BODY INTEGRATED MODULE.** 1) Turn the ignition switch to ON. 2) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B40) No. 10 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Go to step **8.**	Repair the harness and connector between each control unit and Subaru Select Monitor.
8	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED MODULE AND DATA LINK CONNECTOR.** Measure the resistance between body integrated module connector and data link connector. ***Connector & terminal*** ***(B40) No. 10 — (B280) No. 19:***	Is the resistance less than 1 Ω?	Go to step **9.**	Repair the harness and connector between body integrated module and Subaru Select Monitor.
9	**CHECK INSTALLATION OF BODY INTEGRATED MODULE CONNECTOR.** Turn the ignition switch to OFF.	Is the body integrated module connector inserted into body integrated module until the clamp locks onto it?	Go to step **10.**	Insert the body integrated module connector into body integrated module.

	Step	Check	Yes	No
10	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON (engine OFF). 2) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **11.**	Repair the open circuit of harness between the body integrated module and battery.
11	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED MODULE AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated module. 3) Measure the harness resistance between the body integrated module and chassis ground. ***Connector & terminal*** ***(B280) No. 19 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **12.**	Repair the poor contact of harness between the body integrated module and ground.
12	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact at control unit ground and Subaru Select Monitor?	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>	Repair the poor contact connector.

CAUTION:
When replacing body integrated module on the model with immobilizer system, refer to "IMMOBILIZER TEACHING OPERATION MANUAL".

B: DIAGNOSTIC TROUBLE CODE (DTC) IS NOT STORED

DIAGNOSIS:
Defective combination meter
TROUBLE SYMPTOM:
- Communication error in odo/trip meter is not cleared.
- "No trouble code" is displayed on Subaru Select Monitor.

NOTE:
If DTC is not displayed on Subaru Select Monitor, LAN communication System should be OK.

	Step	Check	Yes	No
1	**CHECK COMMUNICATION ERROR WITH COMBINATION METER.** Turn the ignition switch to ON.	Is communication error displayed?	Check the DTC.	Go to step **2.**
2	**CHECK COMBINATION METER.** Perform the self-diagnosis of combination meter.	Is combination meter OK?	Go to step **3.**	Replace the combination meter. <Ref. to IDI-15, Combination Meter.>
3	**CHECK BODY INTEGRATED MODULE.** 1) Display the current data of ECM using Subaru Select Monitor. 2) Check data of "body integrated module data received".	Is the "Yes" displayed?	Go to step **4.**	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>
4	**CHECK BODY INTEGRATED MODULE.** 1) Display the current data of ECM using Subaru Select Monitor. 2) Check data of "body integrated module counter update".	Is the "Yes" displayed?	Repair the poor contact in connector.	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>

C: DTC B0100 INTEG. UNIT SYSTEM ERROR

DTC DETECTING CONDITION:
System error in body integrated module
TROUBLE SYMPTOM:
- Check light comes on in the combination meter, and displays communication error "Er IU".
- LAN communication immobilizer function may not be executed normally.

	Step	Check	Yes	No
1	**CHECK DTC.**	Is DTC concerning ECM displayed?	Go to step **2.**	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>
2	**CHECK DTC CONCERNING ECM.**	Is output DTC on ECM concerning CAN communication error?	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>	Perform the diagnosis according to DTC concerning ECM.

D: DTC B0101 BATT P/SUPPLY MALFUNCTION CONT.

DTC DETECTING CONDITION:

Battery power supply control circuit is open or shorted.

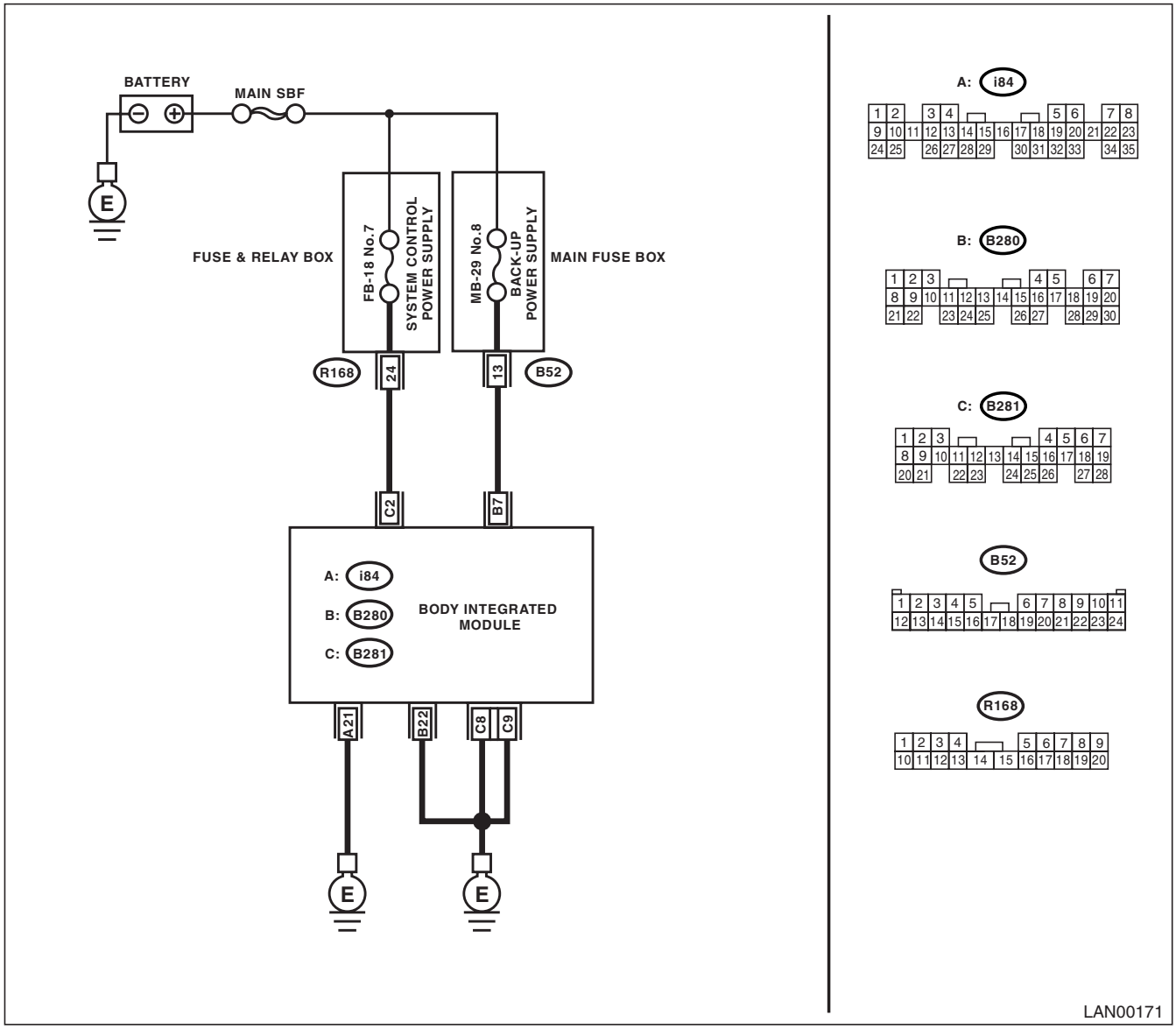
TROUBLE SYMPTOM:

No malfunction occurs because the back-up power supply is activated.

NOTE:

When “B0102 BATT p/supply (backup) malfunction” are output at the same time, all the function of body integrated module may not operate.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse (No. 7).	Is the fuse blown out?	Replace the fuse (No. 7). If the replaced fuse has blown out easily, repair the short circuit of harness between fuse (No. 7) and body integrated module.	Go to step **2.**
2	**CONTINUITY CHECK OF WIRING HARNESS.** 1) Disconnect the connector from body integrated module. 2) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B281) No. 2 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Repair the harness for open or shorted circuit between body integrated module and fuse.
3	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in body integrated module connector?	Repair the poor contact connector.	Go to step **4.**
4	**CHECK BODY INTEGRATED MODULE HARNESS.** 1) Connect all the connectors. 2) Perform the clear memory mode. 3) Read DTC.	Is the same DTC displayed on Subaru Select Monitor?	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>	Temporary poor contact occurs.

E: DTC B0102 BATT P/SUPPLY MALFUNCTION CONT.

DTC DETECTING CONDITION:

Battery power backup circuit is open or shorted.

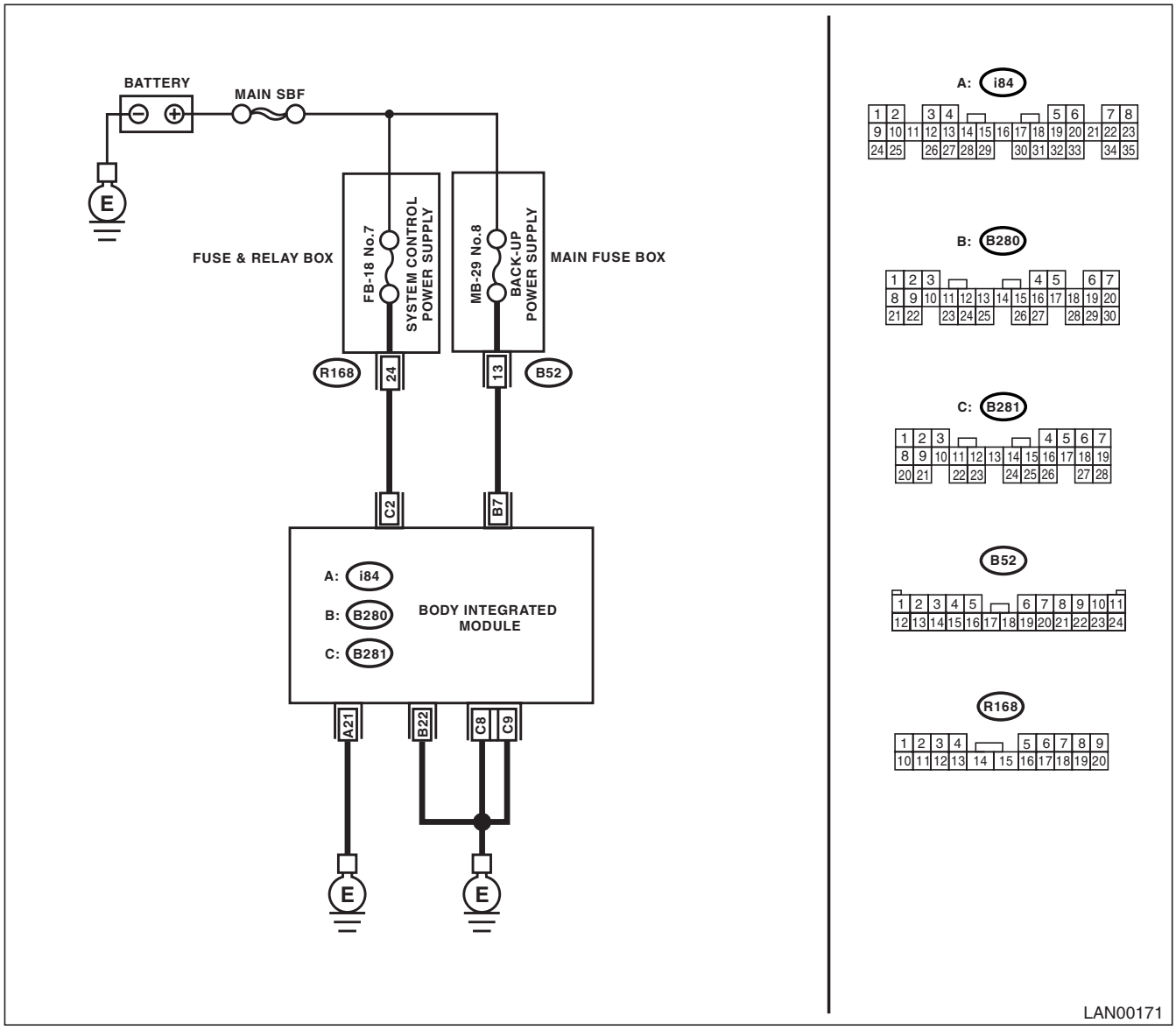
TROUBLE SYMPTOM:

- Malfunction indicator light may illuminates.
- Keyless entry, room light and key illumination do not operate.
- “En IU” may display in combination meter.

NOTE:

When some B0101 BATT p/supply malfunction cont. are output at the same time, all function of body integrated module may not function.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse (No. 8).	Is the fuse blown out?	Replace the fuse (No. 8). If the replaced fuse has blown out easily, repair the short circuit of harness between fuse (No. 8) and body integrated module.	Go to step **2.**
2	**CONTINUITY CHECK OF WIRING HARNESS.** 1) Disconnect the connector from body integrated module. 2) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 7 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Repair the harness for open or shorted circuit between body integrated module and fuse.
3	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in body integrated module connector?	Repair the poor contact connector.	Go to step **4.**
4	**CHECK BODY INTEGRATED MODULE HARNESS.** 1) Connect all the connectors. 2) Perform the clear memory mode. 3) Read DTC.	Is the same DTC displayed on Subaru Select Monitor?	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>	Temporary poor contact occurs.

F: DTC B0103 IGNITION POWER FAILURE

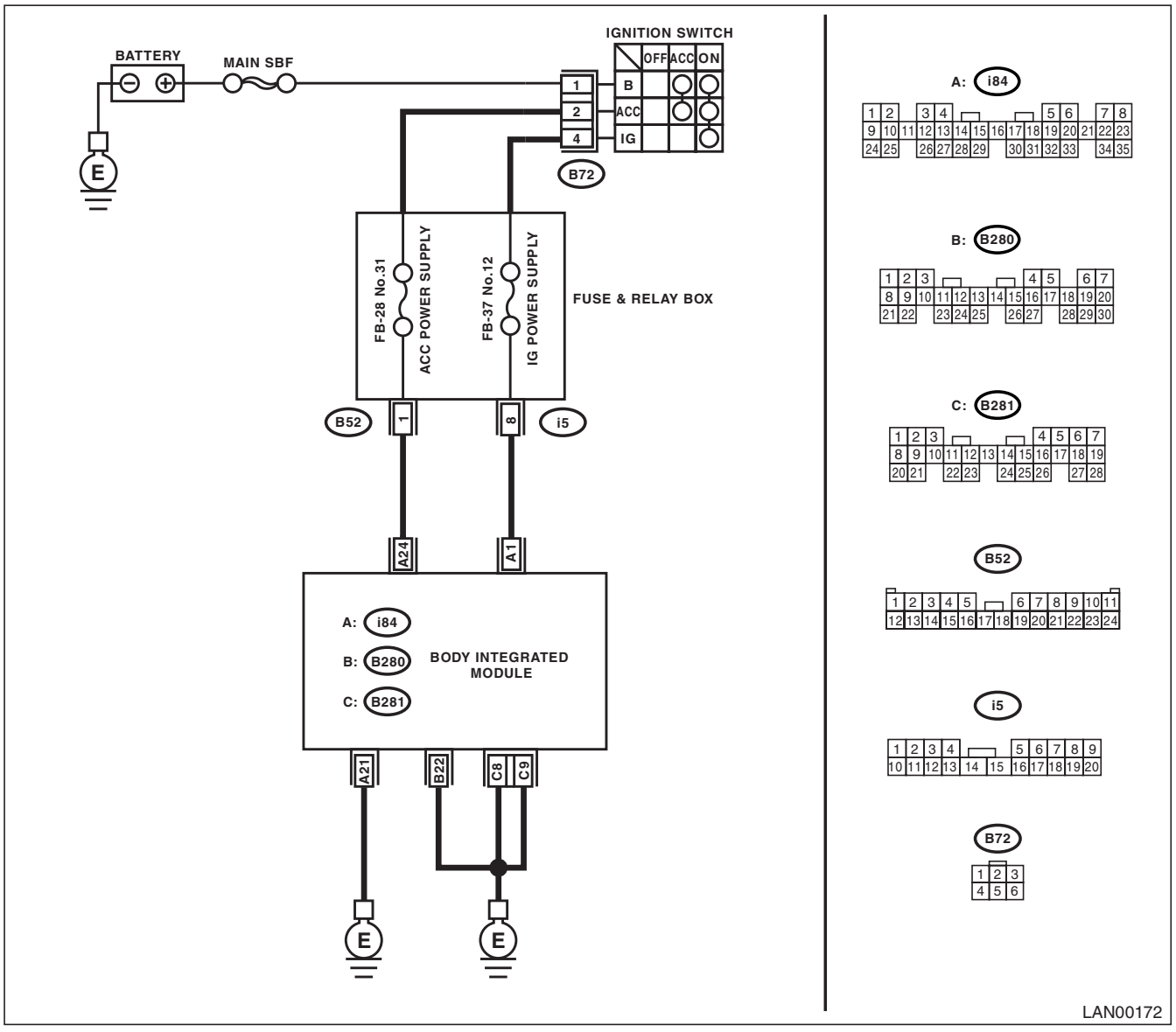
DTC DETECTING CONDITION:

IGN power supply circuit is open or shorted.

TROUBLE SYMPTOM:

Symptoms such as illuminating the malfunction indicator light or high speed CAN error display “Er HC” may occur.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse (No. 12).	Is the fuse blown out?	Replace the fuse (No. 12). If the replaced fuse has blown out easily, repair the short circuit of harness between fuse (No. 12) and body integrated module.	Go to step **2.**
2	**CONTINUITY CHECK OF WIRING HARNESS.** 1) Disconnect the connector from body integrated module. 2) Turn the ignition switch to ON. 3) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Repair the harness for open or shorted circuit between body integrated module and fuse.
3	**CHECK POOR CONTACT IN CONNECTOR.**	Is there poor contact in body integrated module connector?	Repair the poor contact connector.	Go to step **4.**
4	**CHECK BODY INTEGRATED MODULE HARNESS.** 1) Connect all the connectors. 2) Perform the clear memory mode. 3) Read DTC.	Is the same DTC displayed on Subaru Select Monitor?	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>	Temporary poor contact occurs.

G: DTC B0104 ACC POWER FAILURE

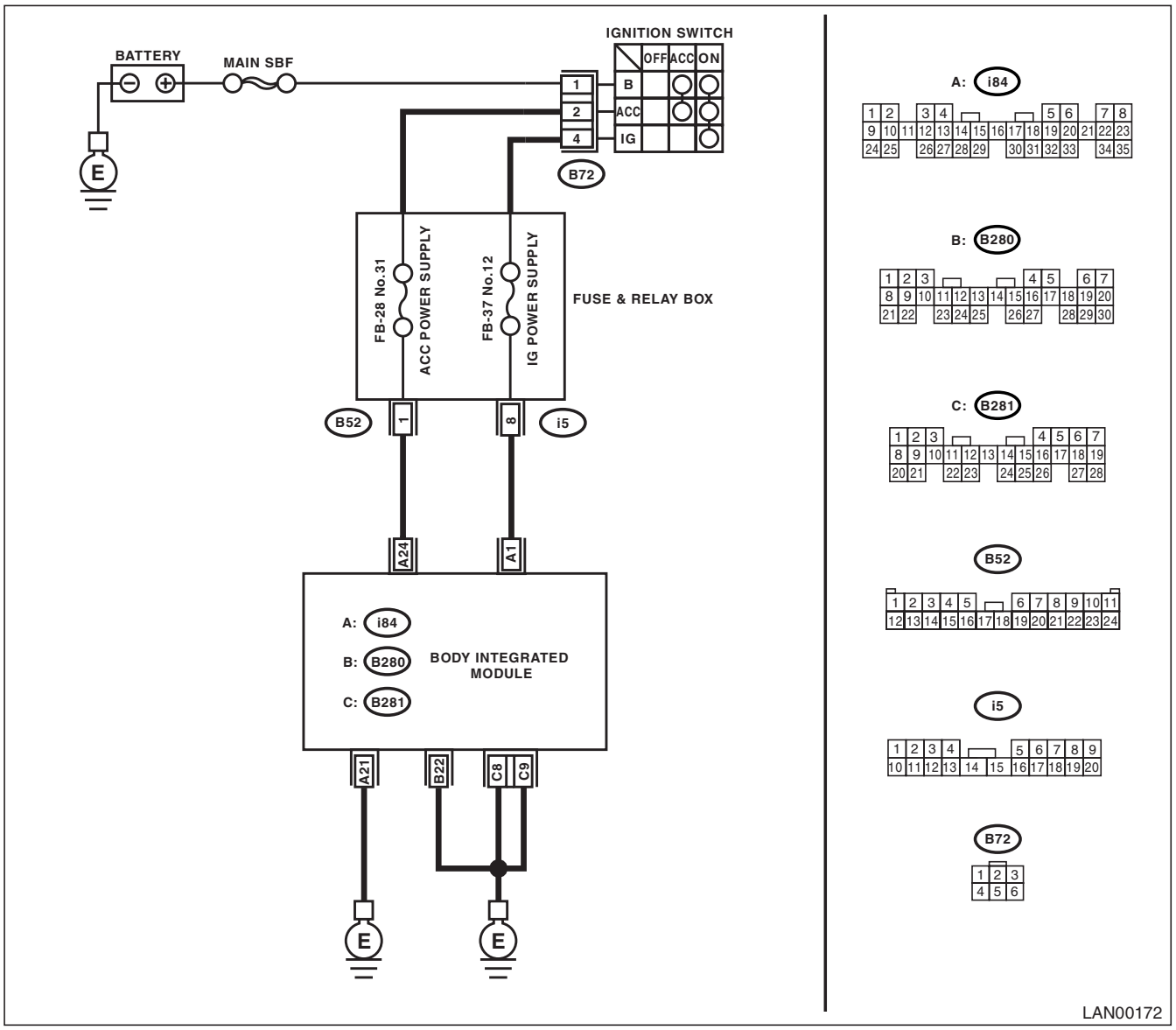
DTC DETECTING CONDITION:

ACC power supply circuit is open or shorted.

TROUBLE SYMPTOM:

Rear wiper may not operate at ACC position.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse (No. 31).	Is the fuse blown out?	Replace the fuse (No. 31). If the replaced fuse has blown out easily, repair the short circuit of harness between fuse (No. 31) and body integrated module.	Go to step **2.**
2	**CONTINUITY CHECK OF WIRING HARNESS.** 1) Disconnect the connector from body integrated module. 2) Turn the ignition switch to ACC or ON. 3) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(i84) No. 24 (+) — Chassis ground (−):***	Is the voltage more than 10 V?	Go to step **3.**	Repair the harness for open or shorted circuit between body integrated module and fuse.
3	**CHECK POOR CONTACT IN CONNECTOR.**	Is there poor contact in body integrated module connector?	Repair the poor contact connector.	Go to step **4.**
4	**CHECK BODY INTEGRATED MODULE HARNESS.** 1) Connect all the connectors. 2) Perform the clear memory mode. 3) Read DTC.	Is DTC displayed on Subaru Select Monitor?	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>	Temporary poor contact occurs.

H: DTC B0106 SHIFT LOCK CIRCUIT FAILURE

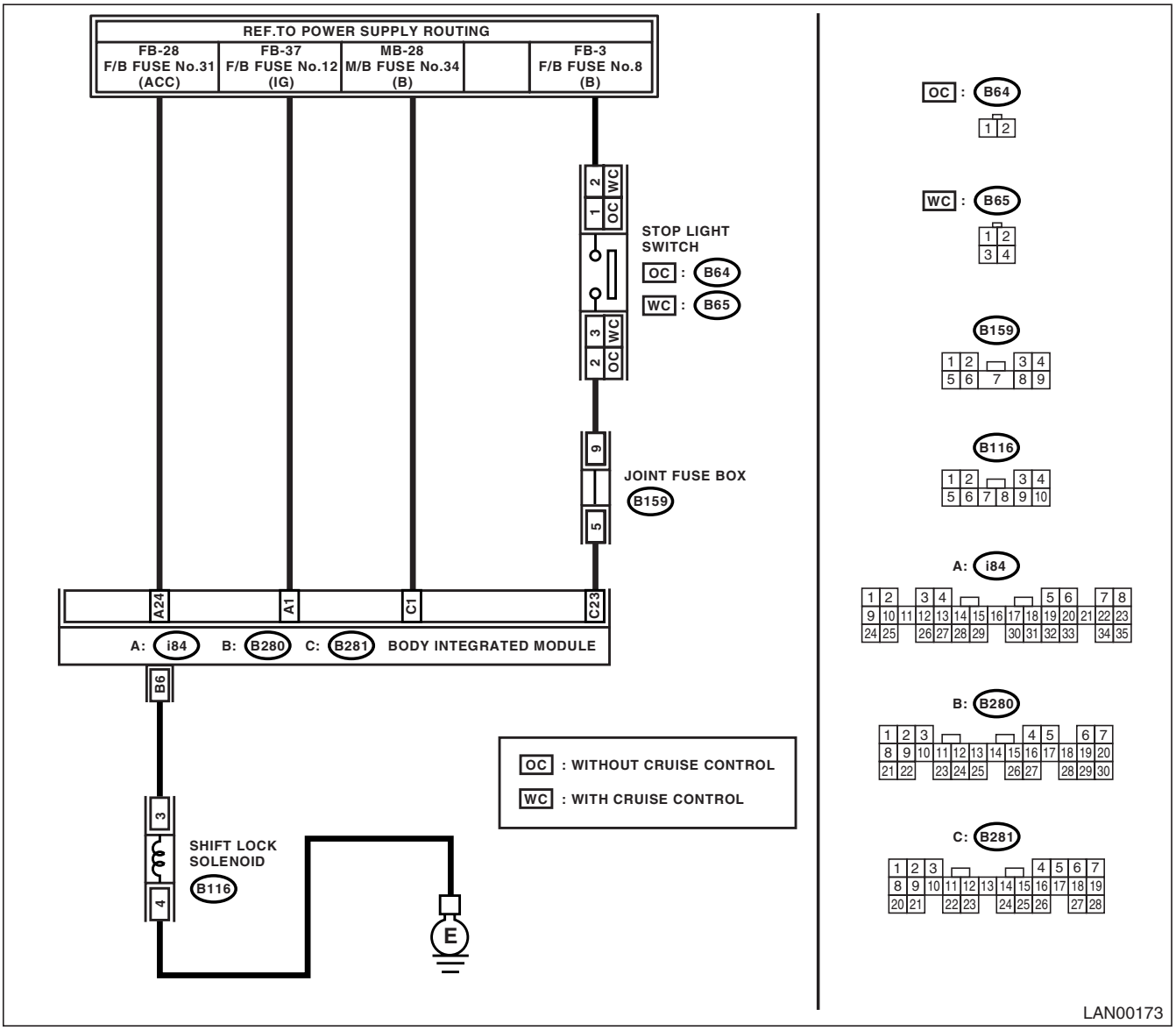
DTC DETECTING CONDITION:

Shift lock circuit is ground shorted.

TROUBLE SYMPTOM:

Key interlock does not unlock or lock.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 6 — Chassis ground:***	Is the resistance 10 — 30 Ω?	Go to step **5.**	Go to step **2.**
2	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Disconnect the shift lock solenoid connector. 3) Measure the resistance between body integrated module connector and shift lock solenoid connector. ***Connector & terminal*** ***(B280) No. 6 — (B116) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3.**	Repair or replace the open or short circuit of harness.
3	**CHECK SHIFT LOCK SOLENOID.** 1) Disconnect the shift lock solenoid connector. 2) Measure the internal resistance of shift lock solenoid. ***Connector & terminal*** ***(B116) No. 3 — No. 4:***	Is the resistance 10 — 30 Ω?	Go to step **4.**	Replace the shift lock solenoid.
4	**CHECK GROUND CIRCUIT.** 1) Disconnect the shift lock solenoid connector. 2) Measure the resistance between shift lock solenoid connector and chassis ground. ***Connector & terminal*** ***(B116) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Temporary poor contact occurs. Check the connection of each terminals, and then repair them if necessary.	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>
5	**CHECK HARNESS.** 1) Disconnect both the body integrated module connector and shift lock solenoid connector (B116). 2) Measure the resistance between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 6 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>	Repair or replace the short circuit of harness.

I: DTC B0107 R FOG LAMP CIRCUIT FAILURE

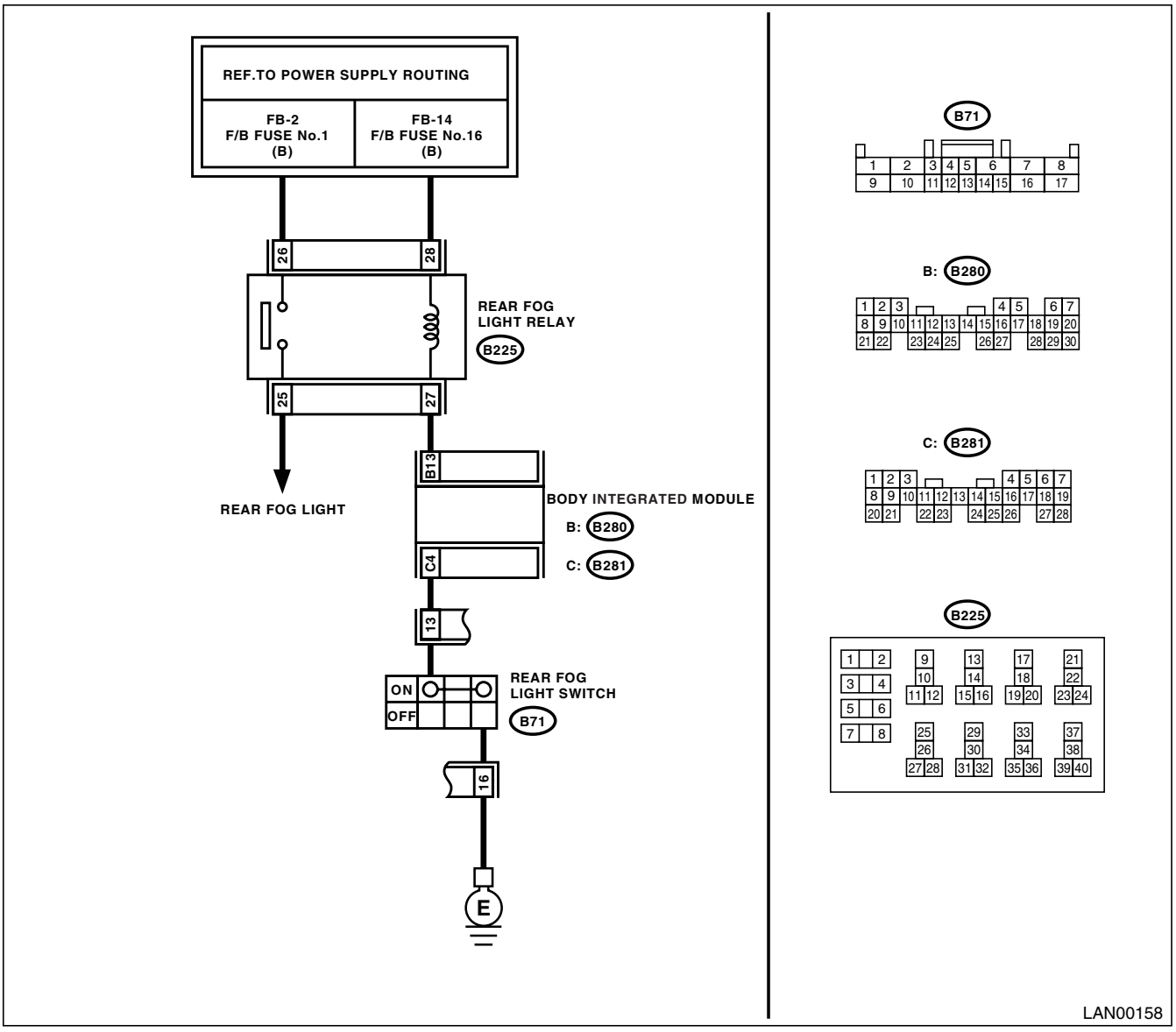
DTC DETECTING CONDITION:

Rear fog input/output circuits are ground shorted.

TROUBLE SYMPTOM:

- Rear fog light does not come on or go off.
- Indicator in the combination meter may not go off.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 13 (+) — Chassis ground (−):***	Is the voltage 10 — 13 V?	Temporary poor contact.	Go to step **2.**
2	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Disconnect the rear fog light relay. 3) Measure the resistance between body integrated module connector and rear fog light relay connector. ***Connector & terminal*** ***(B280) No. 13 — (B225) No. 27:***	Is the resistance less than 1 Ω?	Go to step **3.**	Repair the open or short circuit of harness.
3	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Disconnect the rear fog light relay. 3) Measure the resistance between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 13 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>	Repair or replace the short circuit of harness.

J: DTC B0201 CAN-HS COUNTER ABNORMAL

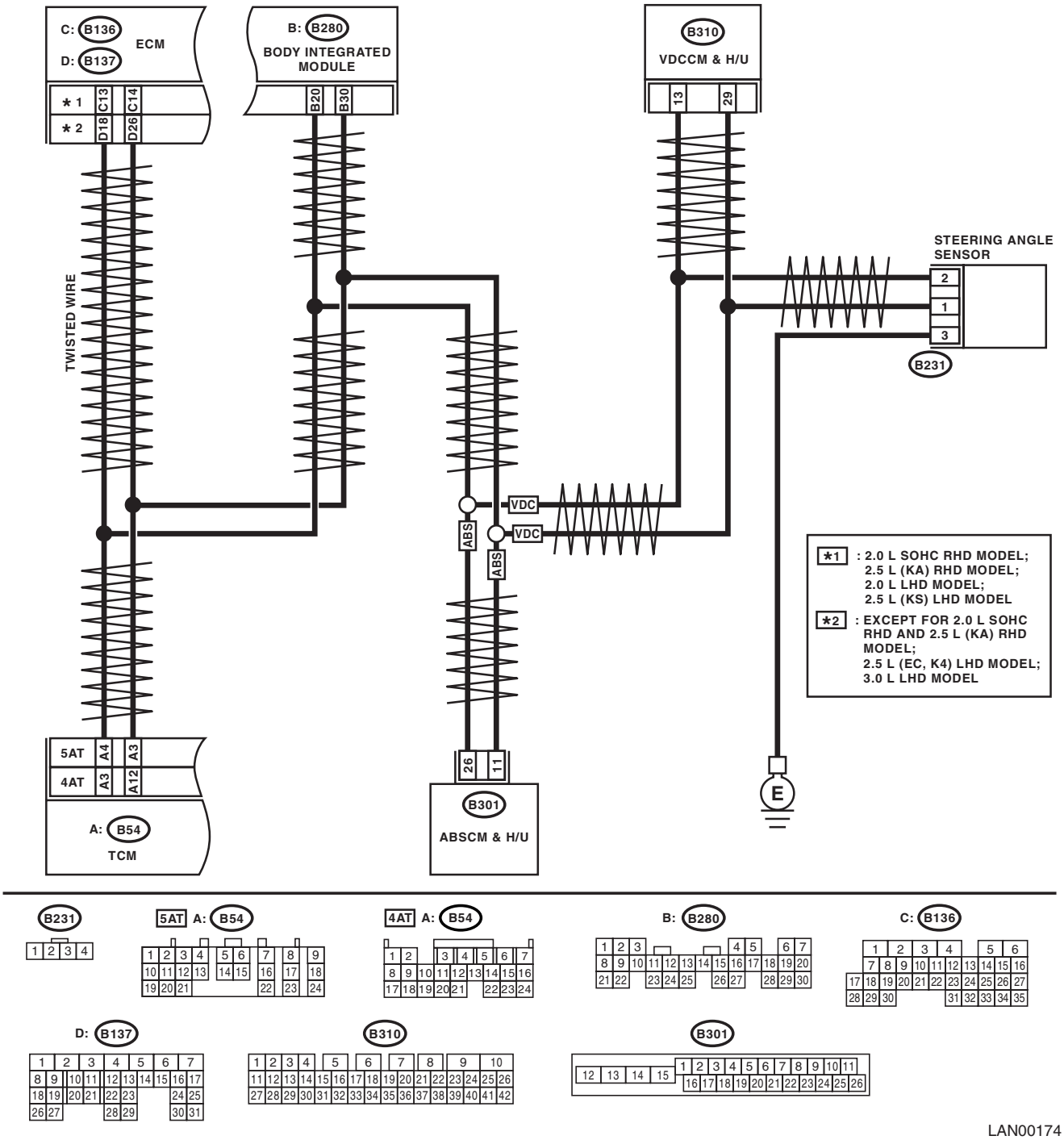
DTC DETECTING CONDITION:

High speed CAN communication of body integrated module which monitor the error data and non-received data are faulty.

TROUBLE SYMPTOM:

- "Er HC" is displayed in odo/trip meter.
- Malfunction indicator light illuminates.

WIRING DIAGRAM:



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	Step	Check	Yes	No
1	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance 55 — 65 Ω?	Go to step **5.**	Go to step **2.**
2	**CHECK HARNESS.** Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance less than 10 Ω?	Go to step **14.**	Go to step **3.**
3	**CHECK HARNESS.** Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance 110 — 130 Ω?	Go to step **15.**	Go to step **4.**
4	**CHECK HARNESS.** Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance more than 30 MΩ?	Repair or replace the short circuit of harness of body integrated module.	Go to step **5.**
5	**CHECK HARNESS.** Measure the harness resistance between the body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 20 — Chassis ground:***	Is the resistance less than 10 Ω?	Repair or replace the ground short circuit of harness.	Go to step **6.**
6	**CHECK HARNESS.** Measure the harness resistance between the body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 30 — Chassis ground:***	Is the resistance less than 10 Ω?	Repair or replace the ground short circuit of harness.	Go to step **7.**
7	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 20 (+) — Chassis ground (−):***	Is the voltage more than 6 V?	Go to step **18.**	Go to step **8.**
8	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 30 (+) — Chassis ground (−):***	Is the voltage more than 6 V?	Go to step **19.**	Go to step **9.**
9	**CHECK CONTROL MODULE (EXCEPT FOR VDC MODEL, GO TO NEXT).** 1) Connect the body integrated module connector. 2) Perform the clear memory mode. 3) Disconnect the steering angle sensor connector (B231), and read the DTC. <Ref. to LAN(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC B0201 displayed on Subaru Select Monitor?	Go to step **10.**	Replace the steering angle sensor. <Ref. to VDC-17, REPLACEMENT, Steering Angle Sensor.>

	Step	Check	Yes	No
10	**CHECK CONTROL MODULE (EXCEPT FOR AT MODEL, GO TO NEXT).** 1) Connect the steering angle sensor connector. 2) Perform the clear memory mode. 3) Disconnect the TCM connector (B54), and read the DTC.	Is DTC B0201 displayed on Subaru Select Monitor?	Go to step **11.**	Replace the TCM. <Ref. to 5AT-61, REMOVAL, Transmission Control Module (TCM).>
11	**CHECK CONTROL MODULE.** 1) Connect the TCM connector. 2) Perform the clear memory mode. 3) Disconnect the VDC/ABS connector (B310 or B301), and read the DTC.	Is DTC B0201 displayed on Subaru Select Monitor?	Go to step **12.**	Replace the VDC/ABSCM. <Ref. to VDC-7, REMOVAL, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).> <Ref. to ABS-6, REMOVAL, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>
12	**CHECK ECM.** 1) Connect all the control module connectors. 2) Check the data of “Integ. unit data received” on the current data display of ECM.	Is the “Yes” displayed?	Go to step **13.**	Replace the body integrated module. <Ref. to SL-44, REMOVAL, Body Integrated Module.>
13	**CHECK BODY INTEGRATED MODULE.** Check the data of “body integrated module counter update” on ECM data display using Subaru Select Monitor.	Is the “Yes” displayed?	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, REMOVAL, Engine Control Module (ECM).>	Replace the body integrated module. <Ref. to SL-44, REMOVAL, Body Integrated Module.>
14	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connector terminals. 3) Disconnect the connectors of each control unit. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is there any control module which its resistance changes from less than 10 Ω?	Replace the control module which its resistance changes.	Repair or replace the short circuit of the harness.

	Step	Check	Yes	No
15	**CHECK HARNESS.** 1) Disconnect the VDC/ABSCM connector. 2) Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance more than 30 MΩ?	Replace the VDC/ABSCM. <Ref. to VDC-7, REMOVAL, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).> <Ref. to ABS-6, REMOVAL, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step **16.**
16	**CHECK HARNESS.** 1) Connect the VDC/ABSCM connector, and disconnect the ECM connector (B136 or B137). 2) Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance more than 30 MΩ?	Replace the ECM.	Go to step **17.**
17	**CHECK HARNESS.** 1) Disconnect all the control module (body integrated module, ECM, TCM, VDC/ABS and steering angle sensor). 2) Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance more than 30 MΩ?	Temporary poor contact occurs.	Repair or replace the short circuit of the harness.
18	**CHECK HARNESS.** 1) Measure the voltage between body integrated module connector terminals. 2) Turn the ignition switch to ON, and disconnect the unit connectors in order. (TCM: B54, VDC/ABS: B310, B301, ECM: B137, B136, Steering angle sensor: B231) ***Connector & terminal*** ***(B280) No. 20 (+) — Chassis ground (−):***	When disconnecting, is there any module which its voltage decreases from 6 V or more?	Replace the module which its voltage changes.	Repair or replace the short circuit of the harness.
19	**CHECK HARNESS.** 1) Measure the voltage between body integrated module connector terminals. 2) Turn the ignition switch to ON, and disconnect the unit connectors in order. (TCM: B54, VDC/ABS: B310, B301, ECM: B137, B136, Steering angle sensor: B231) ***Connector & terminal*** ***(B280) No. 30 (+) — Chassis ground (−):***	When disconnecting, is there any module which its voltage decreases from 6 V or more?	Replace the module which its voltage changes.	Repair or replace the short circuit of the harness.

K: DTC B0202 CAN-HS BUS OFF

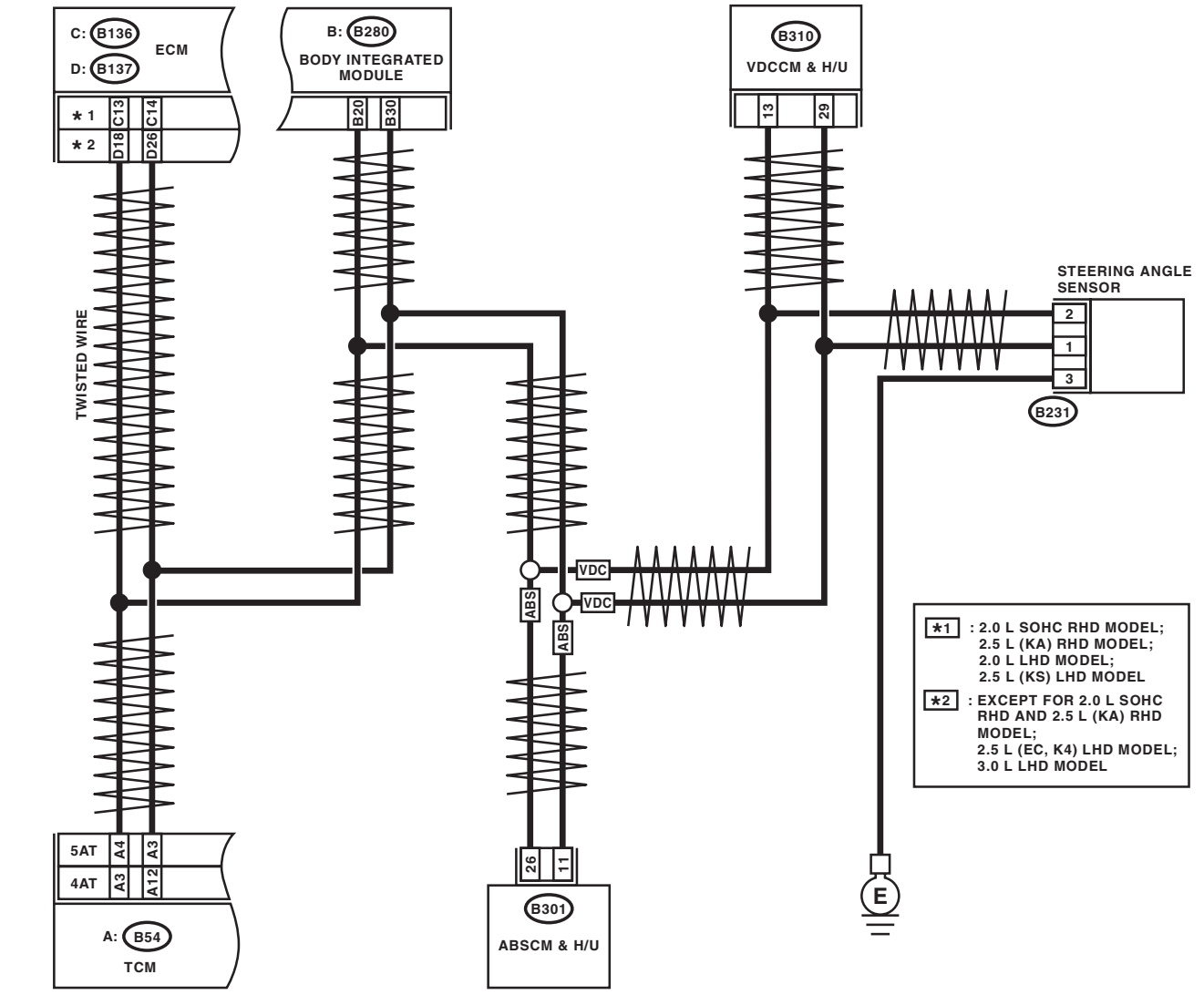
DTC DETECTING CONDITION:

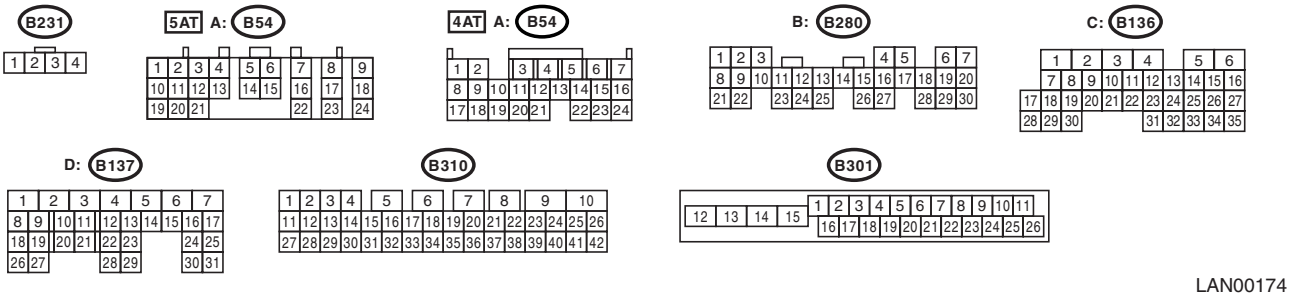
- Find the unit or CAN line in which trouble occurs, and repair and replace it.
- Not received data and error data may be detected at the same time.

TROUBLE SYMPTOM:

"Er HC" is displayed in odo/trip meter.

WIRING DIAGRAM:





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	Step	Check	Yes	No
1	**CHECK TCM.** 1) Disconnect the TCM connector (B54). 2) Perform the clear memory of body integrated module. <Ref. to LAN(diag)-20, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.> 3) Read DTC of body integrated module.	Is DTC B0202 displayed on Subaru Select Monitor?	Go to step **2.**	Replace the TCM. <Ref. to 4AT-142, Transmission Control Device.> <Ref. to 5AT-61, Transmission Control Module (TCM).>
2	**CHECK STEERING ANGLE SENSOR.** 1) Disconnect the steering angle sensor connector (B231). 2) Perform the clear memory mode of body integrated module. <Ref. to LAN(diag)-20, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.> 3) Read DTC of body integrated module.	Is DTC B0202 displayed on Subaru Select Monitor?	Go to step **3.**	Replace the steering angle sensor. <Ref. to VDC-17, REPLACEMENT, Steering Angle Sensor.>
3	**CHECK BODY INTEGRATED MODULE.** 1) Disconnect the body integrated module connector (B280). 2) Read the data between VDC/ABSCM and ECM. Check item: • Engine speed • Average front wheel speed (value on constant driving)	Engine speed, front wheel speed is correctly communicated. (Appears same value)	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>	Go to step **4.**
4	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance 55 — 65 Ω?	Go to step **10.**	Go to step **5.**
5	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance 115 — 125 Ω?	Go to step **7.**	Go to step **6.**
6	**CHECK HARNESS.** 1) Disconnect the harness connector of body integrated module. 2) Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance more than 30 MΩ?	Open harness on related line of body integrated module. Repair or replace the open circuit of harness.	Go to step **7.**
7	**CHECK HARNESS.** 1) Disconnect the VDC/ABSCM connector. 2) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***ABS*** ***(B301) No. 11 — No. 26:*** ***VDC*** ***(B310) No. 13 — No. 29:***	Is the resistance 115 — 125 Ω?	Go to step **8.**	Go to step **9.**

	Step	Check	Yes	No
8	**CHECK VDC/ABSCM.** 1) Disconnect the VDC/ABSCM connector. 2) Measure the resistance between VDC/ABSCM terminals. ***Terminals*** ***ABS*** ***No. 11 — No. 26:*** ***VDC*** ***No. 13 — No. 29:***	Is the resistance 115 — 125 Ω?	Go to step **9.**	Open harness in end resistance of VDC/ABSCM. Replace the VDC/ABSCM. <Ref. to ABS-6, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).> <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
9	**CHECK ECM.** 1) Disconnect the ECM connector. 2) Measure the resistance between ECM terminals. ***Terminals*** ***2.0 L SOHC RHD model, 2.5 L (KA) RHD model, 2.0 L LHD model and 2.5 L (KS) LHD model*** ***(B136) No. 13 — No. 14:*** ***Except for 2.0 L SOHC RHD and 2.5 L (KA) RHD model, 2.5 L (EC, K4) LHD model, 3.0 L LHD model*** ***(B137) No. 18 — No. 26:***	Is the resistance 115 — 125 Ω?	Repair or replace the open circuit of harness connector.	Open harness in end resistance of ECM. Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>
10	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 20 — Chassis ground:*** ***(B280) No. 30 — Chassis ground:***	Is the resistance less than 10 Ω?	Repair or replace the ground short circuit of the harness.	Go to step **11.**
11	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 20 (+) — Chassis ground (−):*** ***(B280) No. 30 (+) — Chassis ground (−):***	Is the voltage more than 6 V?	Repair or replace the short circuit of harness.	Go to step **12.**
12	**CHECK DTC.** Read the DTC of ECM using Subaru Select Monitor. <Ref. to EN(H4SO 2.0)(diag)-25, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> <Ref. to EN(H4DOTC)(diag)-24, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.>	Is DTC other than “CAN communication” displayed on Subaru Select Monitor?	Perform the diagnosis according to DTC.	Go to step **13.**

	Step	Check	Yes	No
13	**CHECK DTC.** Read the DTC of VDC/ABSCM using Subaru Select Monitor. <Ref. to ABS(diag)-15, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> <Ref. to VDC(diag)-16, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC other than "CAN communication" displayed on Subaru Select Monitor?	Perform the diagnosis according to DTC.	Go to step **14.**
14	**CHECK DTC.** Read the DTC of TCM using Subaru Select Monitor. <Ref. to 4AT(diag)-16, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> <Ref. to 5AT(diag)-17, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC other than "CAN communication" displayed on Subaru Select Monitor?	Perform the diagnosis according to DTC.	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>

L: DTC B0211 CAN-HS ECM DATA ABNORMAL

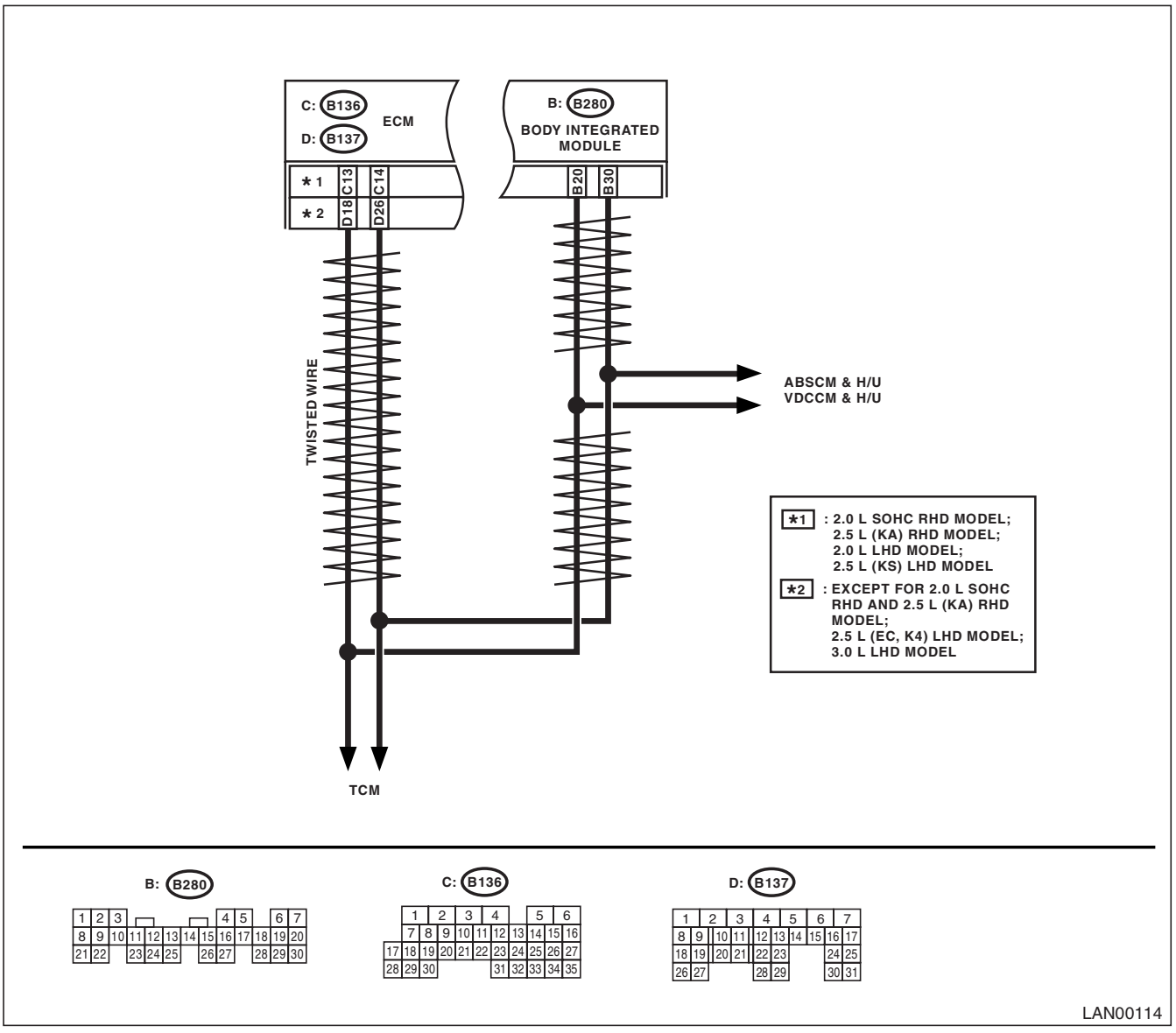
DTC DETECTING CONDITION:

Defective data from ECM.

TROUBLE SYMPTOM:

“Er HC” or “Er EG” is displayed in odo/trip meter.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK ECM.** Read the DTC of ECM using Subaru Select Monitor.	Is DTC other than “CAN communication” displayed on Subaru Select Monitor?	Perform the diagnosis according to DTC.	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>

M: DTC B0212 CAN-HS TCM DATA ABNORMAL

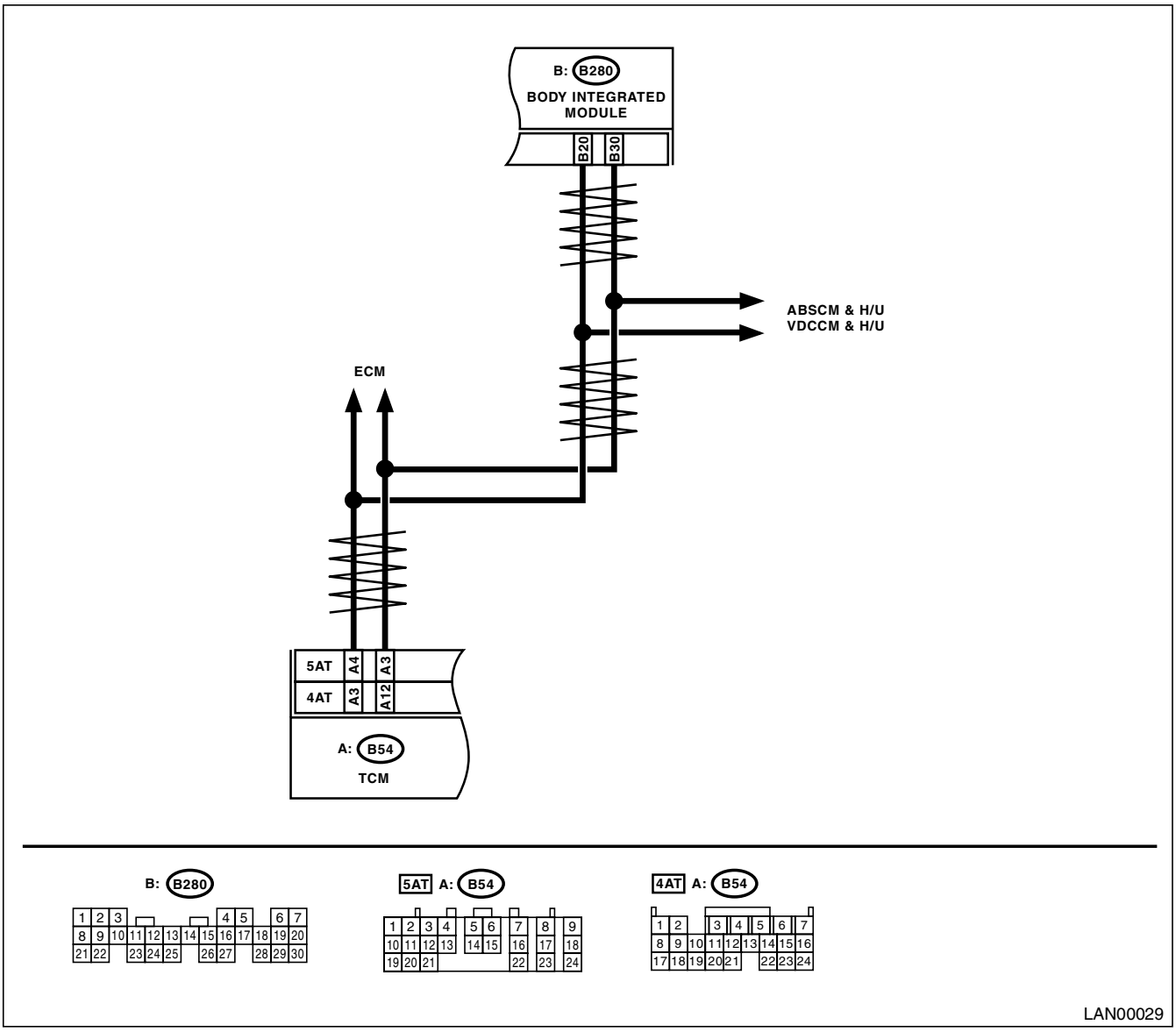
DTC DETECTING CONDITION:

TCM has error, harness between the main harness splice and TCM is open or shorted, connectors are not connected securely, or the terminal has poor caulking.

TROUBLE SYMPTOM:

- SPORT indicator light blinks.
- “Er HC” or “Er tC” is displayed in odo/trip meter.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK TCM.** Read the DTC of TCM using Subaru Select Monitor. <Ref. to 4AT(diag)-16, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> <Ref. to 5AT(diag)-17, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC other than “CAN communication” displayed on Subaru Select Monitor?	Perform the diagnosis according to DTC.	Replace the TCM. <Ref. to 4AT-66, Transmission Control Module (TCM).> <Ref. to 5AT-61, Transmission Control Module (TCM).>

N: DTC B0213 CAN-HS VDC/ABS DATA ABNORMAL

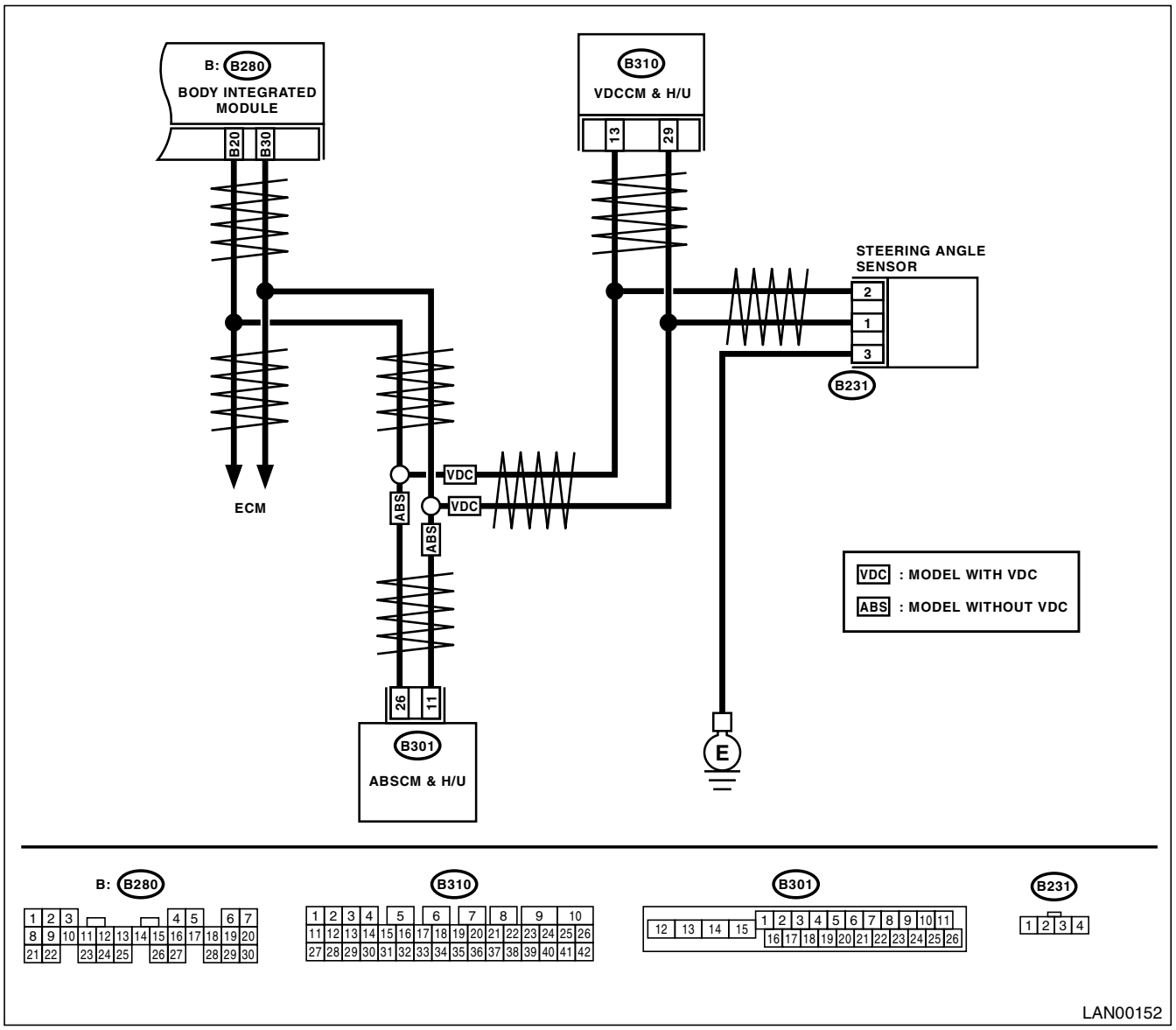
DTC DETECTING CONDITION:

VDC/ABSCM body error, or the main harness is open or short, the connector is not connected securely and the terminal has poor caulking.

TROUBLE SYMPTOM:

- ABS warning light and VDC warning light come on.
- “Er HC” or “Er Ab” is displayed in odo/trip meter.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK VDC/ABSCM.** Read the DTC of VDC/ABSCM using Subaru Select Monitor.	Is DTC other than “CAN communication” displayed on Subaru Select Monitor?	Perform the diagnosis according to DTC.	Replace the VDC/ABSCM. <Ref. to ABS-6, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).> <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>

O: DTC B0221 CAN-HS ECM NO-RECEIVE DATA

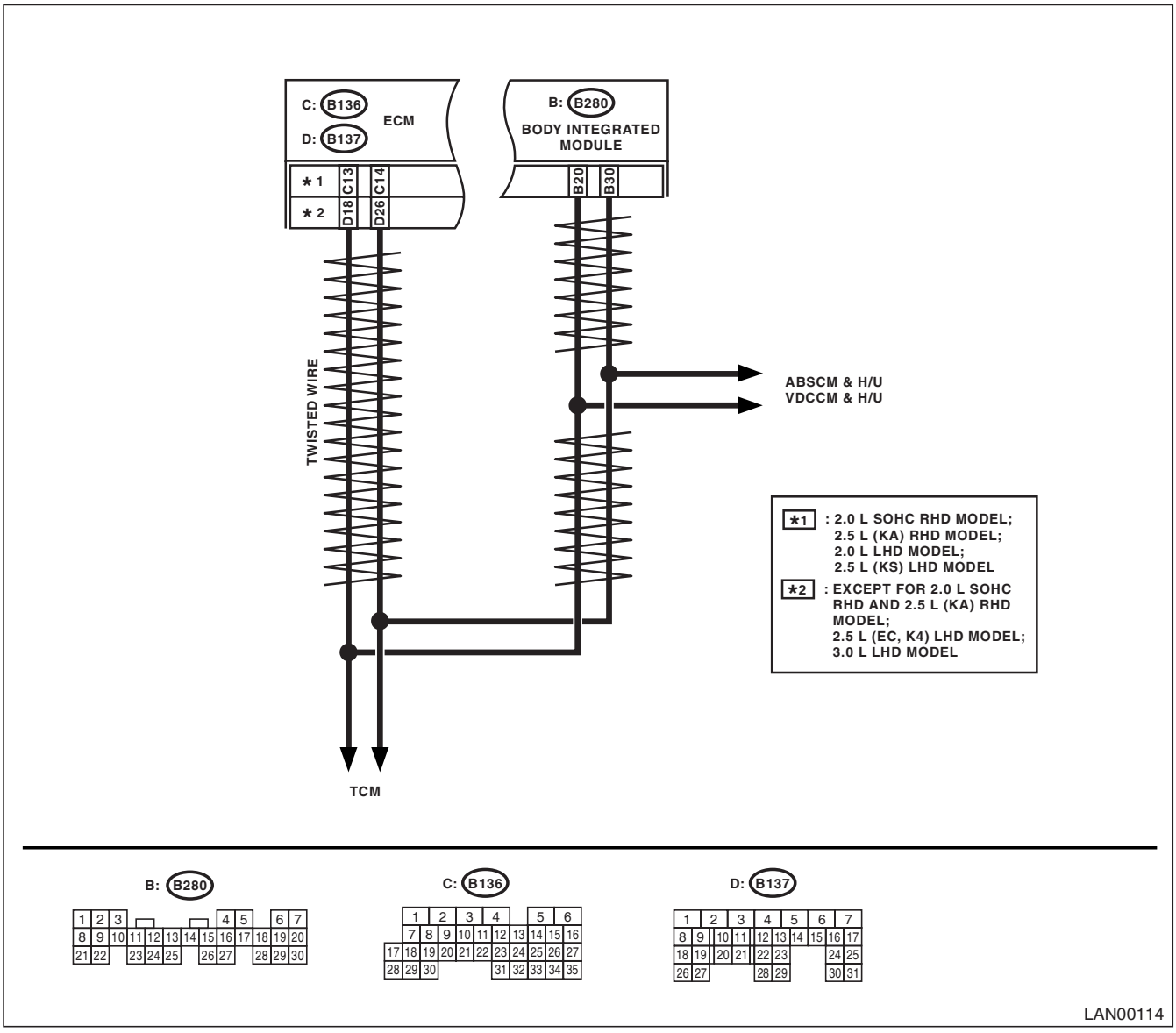
DTC DETECTING CONDITION:

Defective ECM. (If error is in the main harness, DTC P0600 High-speed CAN circuit is input simultaneously.)

TROUBLE SYMPTOM:

- Malfunction indicator light illuminates.
- "Er HC" is displayed in odo/trip meter.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connectors. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance 55 — 65 Ω?	Read the DTC of ECM. Perform the diagnosis according to DTC. <Ref. to EN(H4SO 2.0)(diag)-25, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> <Ref. to EN(H4SO 2.5)(diag)-25, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> <Ref. to EN(H4DOTC)(diag)-24, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> <Ref. to EN(H6DO)(diag)-26, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.>	Go to step **2.**
2	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connectors. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance 115 — 125 Ω?	Go to step **3.**	∞ Ω Related line of body integrated module is open when. Repair or replace the open circuit of harness.

	Step	Check	Yes	No
3	**CHECK HARNESS.** 1) Disconnect the ECM connector. 2) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***2.0 L SOHC RHD model, 2.5 L (KA) RHD model, 2.0 L LHD model and 2.5 L (KS) LHD model*** ***(B136) No. 13 — No. 14:*** ***Except for 2.0 L SOHC RHD and 2.5 L (KA) RHD model, 2.5 L (EC, K4) LHD model, 3.0 L LHD model*** ***(B137) No. 18 — No. 26:***	Is the resistance 115 — 125 Ω?	Go to step **4.**	Go to step **5.**
4	**CHECK ECM.** 1) Disconnect the ECM connector. 2) Measure the resistance between ECM terminals. ***Terminals*** ***2.0 L SOHC RHD model, 2.5 L (KA) RHD model, 2.0 L LHD model and 2.5 L (KS) LHD model*** ***(B136) No. 13 — No. 14:*** ***Except for 2.0 L SOHC RHD and 2.5 L (KA) RHD model, 2.5 L (EC, K4) LHD model, 3.0 L LHD model*** ***(B137) No. 18 — No. 26:***	Is the resistance 115 — 125 Ω?	Read the DTC of ECM. Perform the diagnosis according to DTC. <Ref. to EN(H4SO 2.0)(diag)-25, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> <Ref. to EN(H4SO 2.5)(diag)-25, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> <Ref. to EN(H4DOTC)(diag)-24, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> <Ref. to EN(H6DO)(diag)-26, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.>	End resistance is open. Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4SO 2.5)-37, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-34, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>

	Step	Check	Yes	No
5	**CHECK HARNESS.** 1) Disconnect the ECM connector. 2) Measure the resistance between ECM connector and chassis ground. ***Connector & terminal*** ***2.0 L SOHC RHD model, 2.5 L (KA) RHD model, 2.0 L LHD model and 2.5 L (KS) LHD model*** ***(B136) No. 13 — Chassis ground:*** ***(B136) No. 14 — Chassis ground:*** ***Except for 2.0 L SOHC RHD and 2.5 L (KA) RHD model, 2.5 L (EC, K4) LHD model, 3.0 L LHD model*** ***(B137) No. 18 — Chassis ground:*** ***(B137) No. 26 — Chassis ground:***	Is the resistance less than 10 Ω?	Repair or replace the short circuit of harness.	Go to step **6.**
6	**CHECK HARNESS.** 1) Disconnect the body integrated module (B280), ECM (B136, B137), TCM (B54), ABS (B301)/VDC (B310) CM connectors. 2) Measure the input voltage between body integrated module connector and chassis ground while turning the ignition switch to ON. ***Connector & terminal*** ***(B280) No. 20 (+) — Chassis ground (−):*** ***(B280) No. 30 (+) — Chassis ground (−):***	Is the voltage more than 6 V?	Repair or replace the short circuit of the harness.	Read the DTC of ECM. Perform the diagnosis according to DTC. <Ref. to EN(H4SO 2.0)(diag)-25, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> <Ref. to EN(H4SO 2.5)(diag)-25, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> <Ref. to EN(H4DOTC)(diag)-24, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> <Ref. to EN(H6DO)(diag)-26, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.>

P: DTC B0222 CAN-HS TCM NO-RECEIVE DATA

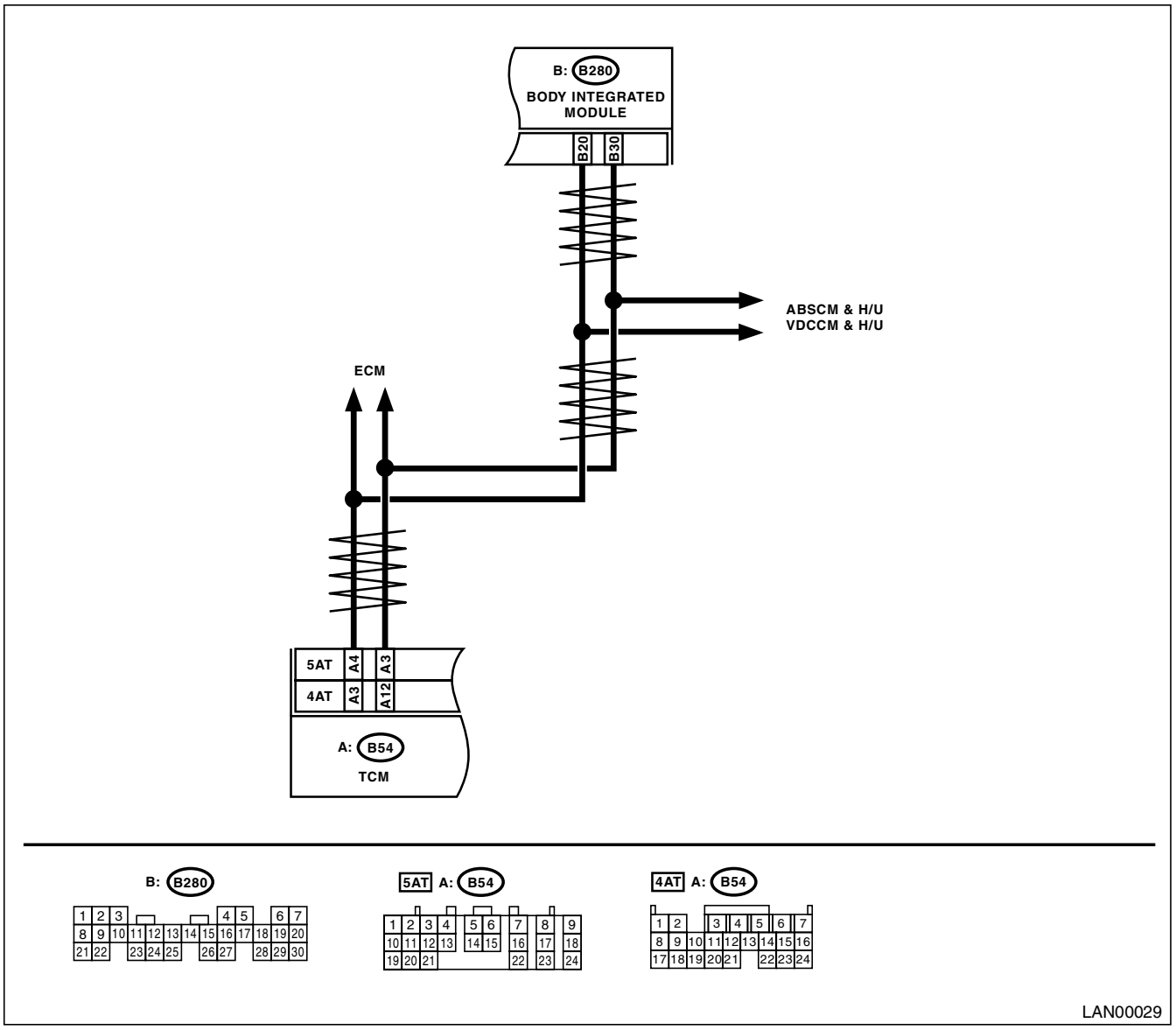
DTC DETECTING CONDITION:

TCM has error, harness between the main harness splice and TCM is open or shorted, connectors are not connected securely, or the terminal has poor caulking.

TROUBLE SYMPTOM:

- SPORT indicator light illuminates.
- “Er HC” is displayed in odo/trip meter.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK HARNESS.** 1) Disconnect the TCM connector. 2) Measure the resistance between TCM connector terminals. ***Connector & terminal*** ***4AT model*** ***(B54) No. 3 — No. 12:*** ***5AT model*** ***(B54) No. 3 — No. 4:***	Is the resistance ∞ Ω?	Open harness in related lines of TCM. Repair or replace the open circuit of harness.	Go to step **2.**
2	**CHECK TCM.** Read the DTC of TCM using Subaru Select Monitor. <Ref. to 4AT(diag)-16, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> <Ref. to 5AT(diag)-17, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC other than "CAN communication" displayed on Subaru Select Monitor?	Perform the diagnosis according to DTC.	Replace the TCM. <Ref. to 4AT-66, Transmission Control Module (TCM).> <Ref. to 5AT-61, Transmission Control Module (TCM).>

Q: DTC B0223 CAN-HS VDC/ABS NO-RECEIVE DATA

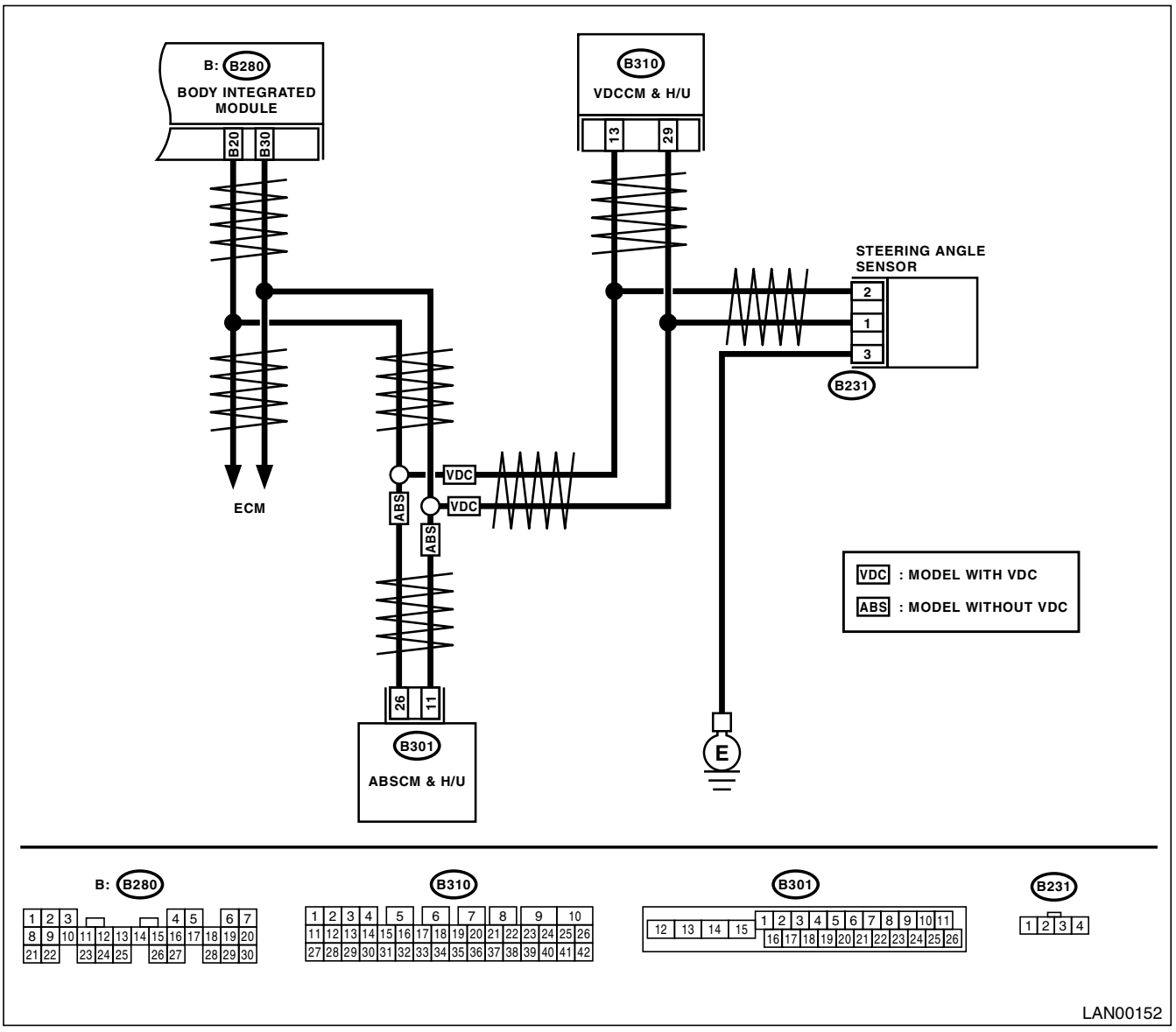
DTC DETECTING CONDITION:

Defective VDC/ABSCM. (If error is in the main harness, DTC P0600 High-speed CAN circuit is input at the same time.)

TROUBLE SYMPTOM:

- ABS warning light and VDC warning light come on.
- "Er HC" is displayed in odo/trip meter.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance 55 — 65 Ω?	Read the DTC of VDC/ABSCM, and perform the diagnosis according to DTC.	Go to step **2.**

	Step	Check	Yes	No
2	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connector terminals. ***Connector & terminal*** ***(B280) No. 20 — No. 30:***	Is the resistance 115 — 125 Ω?	Go to step **5.**	Go to step **3.**
3	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the resistance between body integrated module connector and chassis ground. ***Connector & terminal*** ***(B280) No. 20 — Chassis ground:*** ***(B280) No. 30 — Chassis ground:***	Is the resistance ∞ Ω?	Open harness on related line of body integrated module. Repair or replace the open circuit of harness.	Go to step **4.**
4	**CHECK HARNESS.** 1) Disconnect the body integrated module connector. 2) Measure the voltage between body integrated module connector and chassis ground. (Ignition switch ON) ***Connector & terminal*** ***(B280) No. 20 (+) — Chassis ground (−):*** ***(B280) No. 30 (+) — Chassis ground (−):***	Is the voltage more than 6 V?	Repair or replace the short circuit of harness.	Go to step **5.**
5	**CHECK END RESISTANCE.** 1) Disconnect the VDC/ABSCM harness connector. 2) Measure the resistance between VDC/ABSCM connector terminals. ***Connector & terminal*** ***ABS*** ***(B301) No. 11 — No. 26:*** ***VDC*** ***(B310) No. 13 — No. 29:***	Is the resistance 115 — 125 Ω?	Go to step **6.**	End resistance is open. Replace the VDC/ABSCM. <Ref. to ABS-6, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).> <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
6	**CHECK HARNESS.** 1) Disconnect the body integrated module connector and VDC/ABSCM connector. 2) Measure the resistance between body integrated module connector and VDC/ABSCM connector terminals. ***Connector & terminal*** ***ABS*** ***(B301) No. 11 — (B280) No. 30:*** ***(B301) No. 26 — (B280) No. 20:*** ***VDC*** ***(B310) No. 13 — (B280) No. 20:*** ***(B310) No. 29 — (B280) No. 30:***	Is the resistance less than 10 Ω?	Go to step **7.**	Main wiring harness is open. Repair or replace the open circuit of harness.
7	**CHECK ABS/VDC CM.** 1) Connect all the connectors. 2) Read the DTC of VDC/ABSCM using Subaru Select Monitor.	Is DTC other than “CAN communication” displayed on Subaru Select Monitor?	Perform the diagnosis according to DTC concerning VDC/ABSCM.	Temporary poor contact occurs. Check the connecting condition of connector and terminals.

R: DTC B0300 CAN-LS MALFUNCTION

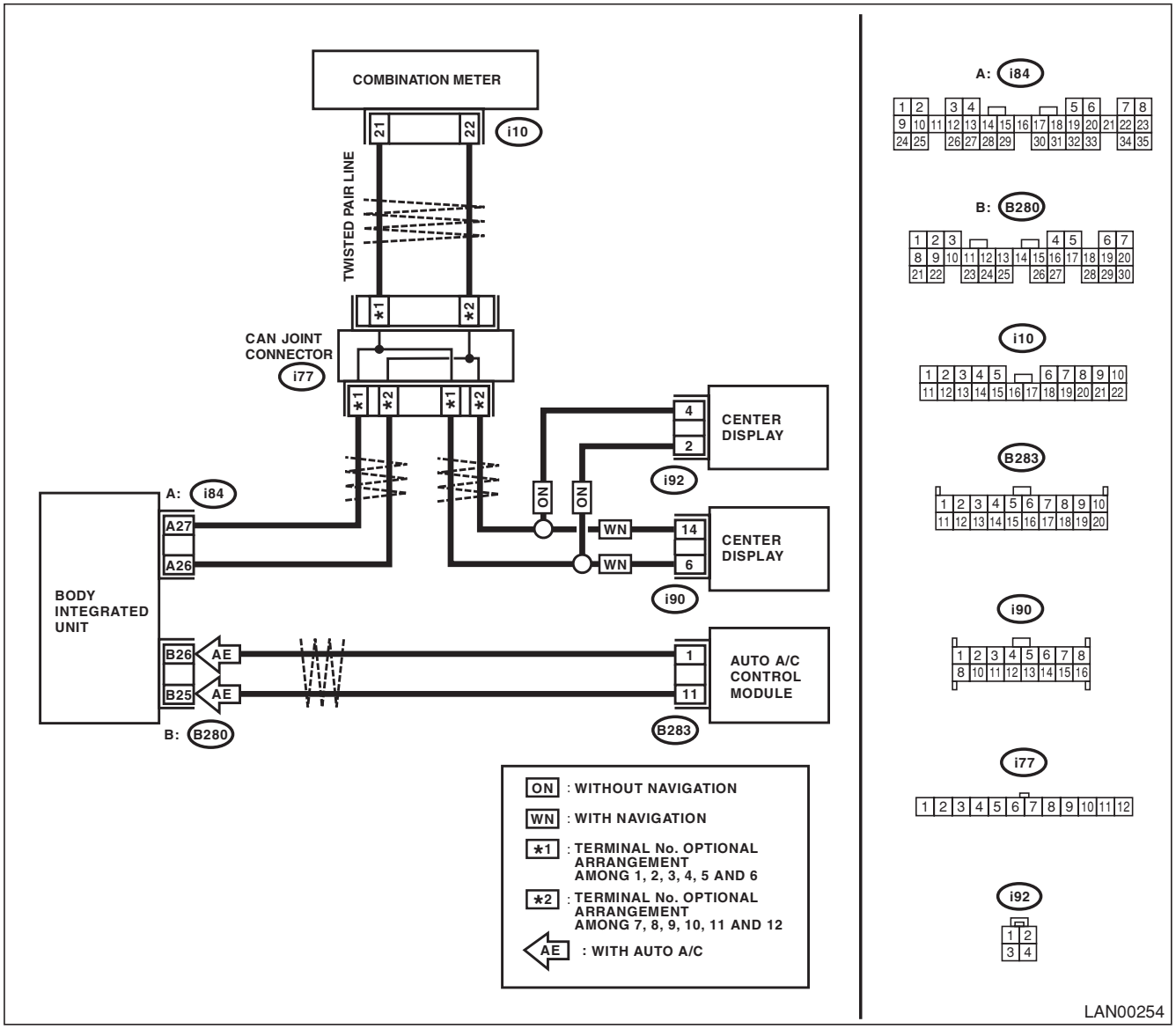
DTC DETECTING CONDITION:

Either end of low-speed CAN communication line is open or shorted, the connector is not connected properly, or the terminal has poor crimping.

TROUBLE SYMPTOM:

"Er LC" is displayed in odo/trip meter, but communicating function is OK.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is there any DTC other than B0300?	Perform the diagnosis according to other DTC.	Go to step **2.**
2	**CHECK DTC.** Check the DTC displayed in the body integrated unit.	Is the DTC displayed currently malfunctioning?	Check the connection of harness connector. Go to step **3.**	Go to step **3.**
3	**CHECK DTC.** Turn the ignition switch to OFF and read the DTC again.	Is B0300 currently malfunctioning?	Go to step **4.**	Temporary poor contact occurs.

	Step	Check	Yes	No
4	**CHECK CURRENT DATA.** Connect the Subaru Select Monitor and display current data of the body integrated unit (auto A/C fail).	Is OK displayed?	Go to step **5.**	Perform auto A/C self-diagnosis. <Ref. to AC(diag)-10, OPERATION, Diagnostic Chart for Self-Diagnosis.>
5	**CHECK AUTO A/C ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto A/C ECM connector (B283). 3) Turn the ignition switch to ON and read the DTC.	Does B0300 disappear?	Go to step **6.**	Go to step **7.**
6	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280) and auto A/C control module connector (B283). 2) Check for open and short circuits between body integrated unit connector and auto A/C control module connector. ***Connector & terminal*** ***(B283) No. 1 — (B280) No. 26:*** ***(B283) No. 11 — (B280) No. 25:***	Is the harness in normal condition?	Replace the auto A/C ECM. <Ref. to AC-33, REMOVAL, Control Unit (Auto A/C Model).>	Repair or replace the open or short circuit of harness.
7	**CHECK CURRENT DATA.** Connect the Subaru Select Monitor and display current data of the body integrated unit (meter fail).	Is OK displayed?	Go to step **8.**	Replace the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.>
8	**CHECK COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the combination meter connector. 3) Turn the ignition switch to ON.	Is B0300 detected?	Go to step **10.**	Go to step **9.**
9	**CHECK HARNESS.** 1) Disconnect the combination meter connector (i10). 2) Check for open and short circuits between the body integrated unit and combination meter connectors. ***Connector & terminal*** ***(i10) No. 21 — (i84) No. 27:*** ***(i10) No. 22 — (i84) No. 26:***	Is the harness in normal condition?	Replace the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.>	Repair or replace the open or short circuit of harness.
10	**CHECK HARNESS.** 1) Disconnect the CAN junction connector (i77) and the body integrated unit connector (i84). 2) Measure the resistance between connector terminals. ***Connector & terminal*** ***(i84) No. 27 — (i77) No. 1 — 6:*** ***(i84) No. 26 — (i77) No. 7 — 12:*** NOTE: The junction connector of i77 is in user defined alignment.	Is the resistance less than 10Ω?	Go to step **11.**	Repair the short circuit of harness or replace harness.

	Step	Check	Yes	No
11	**CHECK HARNESS.** 1) Disconnect the combination meter connector. 2) Measure the resistance between the junction connector and the combination meter connector. ***Connector & terminal*** ***(i10) No. 21 — (i77) No. 1 — 6:*** ***(i10) No. 22 — (i77) No. 7 — 12:*** NOTE: The junction connector of i77 are in user defined alignment.	Is the resistance less than 10Ω?	Go to step **12.**	Repair the open circuit of harness or replace harness.
12	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280) and auto A/C control module connector (B283). 2) Measure the resistance between body integrated unit connector and auto A/C control module connector. ***Connector & terminal*** ***(B283) No. 1 — (B280) No. 26:*** ***(B283) No. 11 — (B280) No. 25:***	Is the resistance less than 10Ω?	Go to step **13.**	Repair the open circuit of harness or replace harness.
13	**CHECK HARNESS.** 1) Connect the junction connector. 2) Measure the resistance between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(B280) No. 25 — Chassis ground:*** ***(B280) No. 26 — Chassis ground:*** ***(i84) No. 26 — Chassis ground:*** ***(i84) No. 27 — Chassis ground:***	Is the resistance less than 10Ω?	Repair the short circuit of harness or replace harness.	Go to step **14.**
14	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(B280) No. 25 (+) — Chassis ground(−):*** ***(B280) No. 26 (+) — Chassis ground(−):*** ***(i84) No. 26 (+) — Chassis ground(−):*** ***(i84) No. 27 (+) — Chassis ground(−):***	Is the voltage 6 V or more?	Repair the short circuit of harness or replace harness.	Replace the body integrated unit. <Ref. to SL-44, REMOVAL, Body Integrated Module.>

S: DTC B0301 CAN-LS COUNTER ABNORMAL

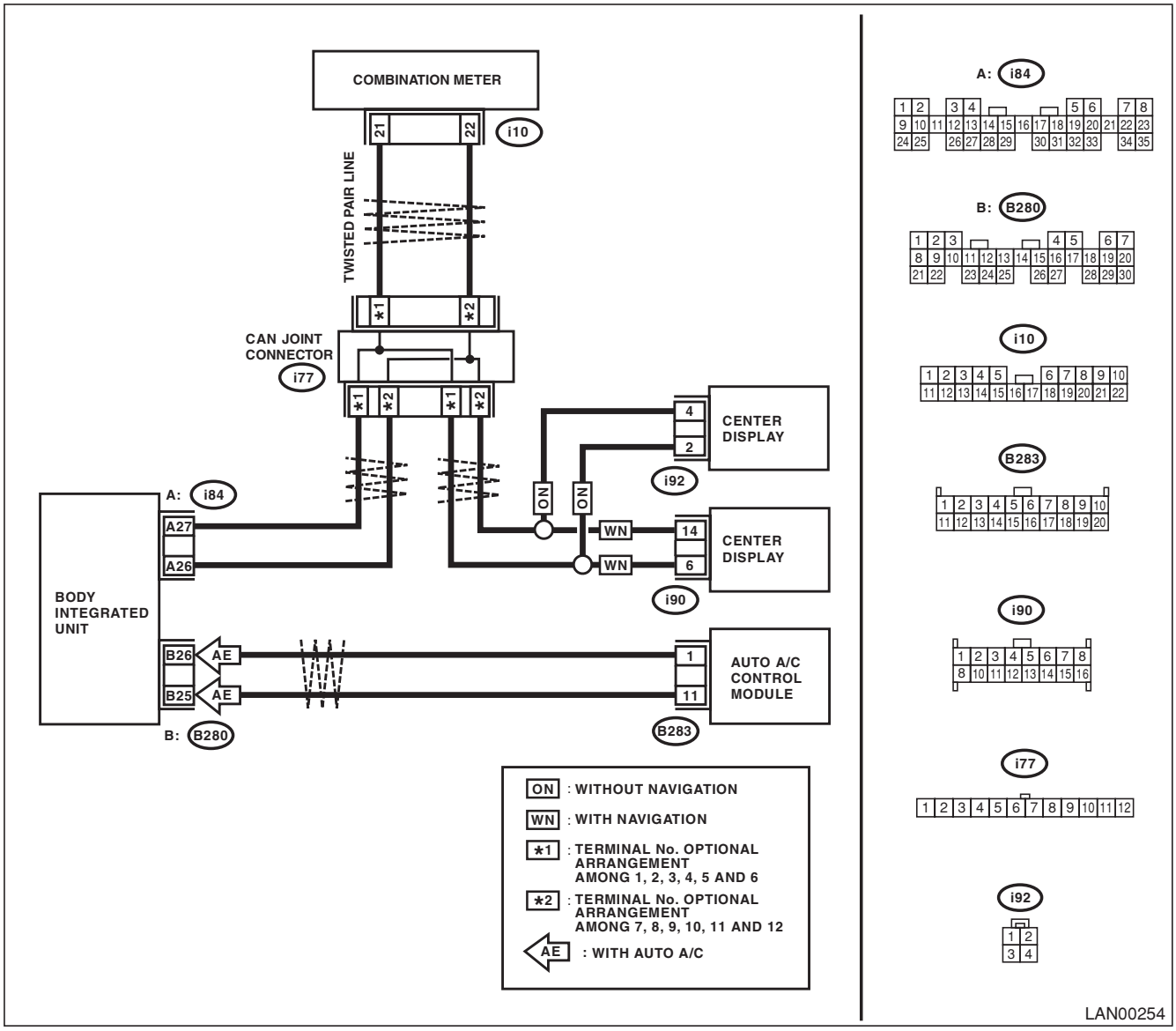
DTC DETECTING CONDITION:

Find the unit in which trouble occurs and open or short CAN line, and repair and replace them.
(Free running counter error may be detected at the same time from the unit in which the malfunction occurs.)

TROUBLE SYMPTOM:

"Er LC" is displayed in odo/trip meter.

WIRNG DIAGRAM:



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is there any DTC other than B0301?	Perform the diagnosis according to other DTC.	Go to step **2.**
2	**CHECK DTC.** Check the DTC displayed in the body integrated unit.	Is the DTC displayed currently malfunctioning?	Check the connection of harness connector. Go to step **3.**	Go to step **3.**
3	**CHECK DTC.** Turn the ignition switch to OFF and read the DTC again.	Is B0301 currently malfunctioning?	Go to step **4.**	Temporary poor contact occurs.

	Step	Check	Yes	No
4	**CHECK CURRENT DATA.** Connect the Subaru Select Monitor and display current data of the body integrated unit (auto A/C fail).	Is OK displayed?	Go to step **5.**	Perform auto A/C self-diagnosis. <Ref. to AC(diag)-10, OPERATION, Diagnostic Chart for Self-Diagnosis.>
5	**CHECK AUTO A/C ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto A/C ECM connector. 3) Turn the ignition switch to ON.	Does the communications error display disappear?	Go to step **6.**	Go to step **7.**
6	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280) and auto A/C control module connector (B283). 2) Check for open and short circuits between body integrated unit connector and auto A/C control module connector. ***Connector & terminal*** ***(B283) No. 1 — (B280) No. 26:*** ***(B283) No. 11— (B280) No. 25:***	Is the harness in normal condition?	Replace the auto A/C ECM. <Ref. to AC-33, REMOVAL, Control Unit (Auto A/C Model).>	Repair or replace the open or short circuit of harness.
7	**CHECK CURRENT DATA.** Connect the Subaru Select Monitor and display current data of the body integrated unit (meter fail).	Is OK displayed?	Go to step **8.**	Replace the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.>
8	**CHECK COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the combination meter connector. 3) Turn the ignition switch to ON.	Is B0301 detected?	Go to step **9.**	Replace the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.>
9	**CHECK HARNESS.** 1) Disconnect the combination meter connector (i10). 2) Check for open and short circuits between the body integrated unit and combination meter connectors. ***Connector & terminal*** ***(i10) No. 21 — (i84) No. 27:*** ***(i10) No. 22 — (i84) No. 26:***	Is the harness in normal condition?	Go to step **10.**	Repair or replace the open or short circuit of harness.
10	**CHECK CURRENT DATA.** Check the current data of the body integrated unit (center display fail).	Is OK displayed?	Go to step **11.**	Repair or replace the center display. <Ref. to ET-15, REMOVAL, Navigation Display.>
11	**CHECK CENTER DISPLAY.** 1) Turn the ignition switch to OFF. 2) Disconnect the center display connector (i90 or i92). 3) Turn the ignition switch to ON.	Does B0300 disappear?	Go to step **12.**	Go to step **13.**

	Step	Check	Yes	No
12	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280) and the center display connector (i90 or i92). 2) Check for open and short circuits between the body integrated unit connector and the center display connector. ***Connector & terminal*** ***Model with navigation*** ***(i90) No. 6 — (i84) No. 26:*** ***(i90) No. 14 — (i84) No. 27:*** ***Model without navigation*** ***(i92) No. 2 — (i84) No. 26:*** ***(i92) No. 4 — (i84) No. 27:***	Is the harness in normal condition?	Replace the center display. <Ref. to ET-15, REMOVAL, Navigation Display.>	Repair or replace the open or short circuit of harness.
13	**CHECK AUTO A/C CONTROL MODULE.** 1) Display the current data of body integrated unit using Subaru Select Monitor. 2) Display the number of blower fan levels in the analog data. 3) Read the data display when the number of blower fan levels is changed on air conditioner control part.	Does the data display change?	Go to step **14.**	Go to step **15.**
14	**CHECK COMBINATION METER.** 1) Display the current data of body integrated unit using Subaru Select Monitor. 2) Display the number of blower fan levels in the analog data. 3) Read the display of data and combination meter when each door is opened/closed.	Do the body integrated unit data indicator and combination meter indicator change according to operation?	Go to step **15.**	Go to step **16.**
15	**CHECK AUTO A/C CONTROL MODULE HARNESS.** 1) Disconnect the auto A/C control module connector. 2) Disconnect the body integrated unit connector. 3) Measure the resistance between the body integrated unit and auto A/C control module harness. ***Connector & terminal*** ***(B280) No. 26 — (B283) No. 1:*** ***(B280) No. 25 — (B283) No. 11:***	Is the resistance less than 10Ω?	Go to step **17.**	Repair the open circuit of harness or replace harness.
16	**CHECK COMBINATION METER HARNESS.** 1) Disconnect the combination meter connector. 2) Disconnect the body integrated unit connector. 3) Measure the resistance between the body integrated unit and combination meter connector. ***Connector & terminal*** ***(i84) No. 27 — (i10) No. 21:*** ***(i84) No. 26 — (i10) No. 22:***	Is the resistance less than 10Ω?	Go to step **18.**	Repair the open circuit of harness or replace harness.
17	**CHECK AUTO A/C CONTROL MODULE.** Perform auto A/C control module self-diagnosis. <Ref. to AC(diag)-13, A/C CONTROL SYSTEM SELF-DIAGNOSIS, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Is the self-diagnosis OK?	Go to step **18.**	Replace the auto A/C control module. <Ref. to AC-33, REMOVAL, Control Unit (Auto A/C Model).>

	Step	Check	Yes	No
18	**CHECK COMBINATION METER.** Perform self-diagnosis for the combination meter system. <Ref. to IDI-3, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.>	Is the self-diagnosis OK?	Go to step **19.**	Replace the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.>
19	**CHECK THE BODY INTEGRATED UNIT.** Read the data of “body integrated unit data received” on ECM data display using Subaru Select Monitor.	Is “Yes” displayed?	Go to step **20.**	Replace the body integrated unit. <Ref. to SL-44, REMOVAL, Body Integrated Module.>
20	**CHECK THE BODY INTEGRATED UNIT.** Read the data of “body integrated unit counter update” on ECM data display using Subaru Select Monitor.	Is “Yes” displayed?	Temporary poor contact occurs. Check the connection of connector.	Replace the body integrated unit. <Ref. to SL-44, REMOVAL, Body Integrated Module.>

T: DTC B0302 CAN-LS BUS OFF

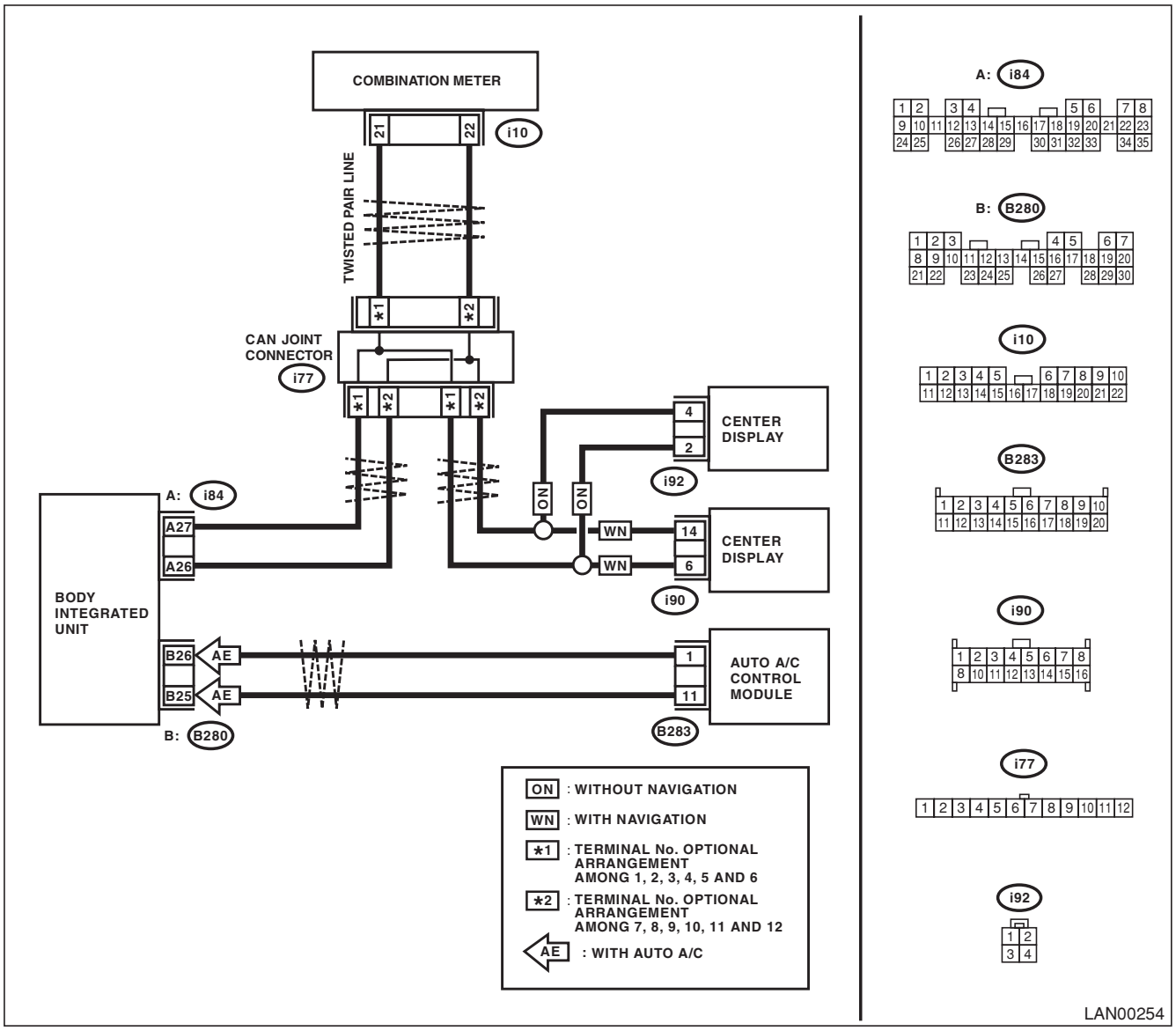
DTC DETECTING CONDITION:

Because of a lot of error data occurred, some units have been disconnected not to affect other units. Communication failure from the unit in which error is occurred is input at the same time.

TROUBLE SYMPTOM:

"Er LC" is displayed in odo/trip meter.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is there any DTC other than B0302?	Perform the diagnosis according to other DTC.	Go to step **2.**
2	**CHECK DTC.** Check the DTC displayed in the body integrated unit.	Is the DTC displayed currently malfunctioning?	Check the connection of harness connector. Go to step **3.**	Go to step **3.**
3	**CHECK DTC.** Turn the ignition switch to OFF and read the DTC again.	Is B0302 currently malfunctioning?	Go to step **4.**	Temporary poor contact occurs.

	Step	Check	Yes	No
4	**CHECK CURRENT DATA.** Connect the Subaru Select Monitor and display current data of the body integrated unit (auto A/C fail).	Is OK displayed?	Go to step **5.**	Perform auto A/C self-diagnosis. <Ref. to AC(diag)-10, OPERATION, Diagnostic Chart for Self-Diagnosis.>
5	**CHECK AUTO A/C ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto A/C ECM connector. 3) Turn the ignition switch to ON.	Does B0302 disappear?	Go to step **6.**	Go to step **7.**
6	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280) and auto A/C control module connector (B283). 2) Check for open and short circuits between body integrated unit connector and auto A/C control module connector. ***Connector & terminal*** ***(B283) No. 1 — (B280) No. 26:*** ***(B283) No. 11— (B280) No. 25:***	Is the harness in normal condition?	Replace the auto A/C ECM. <Ref. to AC-33, REMOVAL, Control Unit (Auto A/C Model).>	Repair or replace the open or short circuit of harness.
7	**CHECK CURRENT DATA.** Connect the Subaru Select Monitor and display current data of the body integrated unit (meter fail).	Is OK displayed?	Go to step **8.**	Replace the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.>
8	**CHECK COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the combination meter connector. 3) Turn the ignition switch to ON.	Is B0302 detected?	Go to step **9.**	Replace the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.>
9	**CHECK HARNESS.** 1) Disconnect the combination meter connector (i10). 2) Check for open and short circuits between the body integrated unit and combination meter connectors. ***Connector & terminal*** ***(i10) No. 21 — (i84) No. 27:*** ***(i10) No. 22 — (i84) No. 26:***	Is the harness in normal condition?	Go to step **10.**	Repair or replace the open or short circuit of harness.
10	**CHECK CURRENT DATA.** Check the current data of the body integrated unit (center display fail).	Is OK displayed?	Go to step **11.**	Repair or replace the center display. <Ref. to ET-15, REMOVAL, Navigation Display.>
11	**CHECK CENTER DISPLAY.** 1) Turn the ignition switch to OFF. 2) Disconnect the center display connector (i90 or i92). 3) Turn the ignition switch to ON.	Does B0302 disappear?	Go to step **12.**	Go to step **13.**

	Step	Check	Yes	No
12	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280) and the center display connector (i90 or i92). 2) Check for open and short circuits between the body integrated unit connector and the center display connector. ***Connector & terminal*** ***Model with navigation*** ***(i90) No. 6 — (i84) No. 26:*** ***(i90) No. 14 — (i84) No. 27:*** ***Model without navigation*** ***(i92) No. 2 — (i84) No. 26:*** ***(i92) No. 4 — (i84) No. 27:***	Is the harness in normal condition?	Replace the center display. <Ref. to ET-15, REMOVAL, Navigation Display.>	Repair or replace the open or short circuit of harness.
13	**CHECK COMBINATION METER.** 1) Display the current data of body integrated unit using Subaru Select Monitor. 2) Display the door switch in analog data. 3) Read the display of data and combination meter when each door is opened/closed.	Do the body integrated unit data indicator and combination meter indicator change according to operation?	Go to step **14.**	Go to step **15.**
14	**CHECK AUTO A/C CONTROL MODULE HARNESS.** 1) Disconnect the auto A/C control module connector. 2) Disconnect the body integrated unit connector. 3) Measure the resistance between the body integrated unit and auto A/C control module harness. ***Connector & terminal*** ***(B280) No. 26 — (B283) No. 1:*** ***(B280) No. 25 — (B283) No. 11:***	Is the resistance less than 10Ω?	Go to step **15.**	Repair the open circuit of harness or replace harness.
15	**CHECK COMBINATION METER HARNESS.** 1) Disconnect the combination meter connector. 2) Disconnect the body integrated unit connector. 3) Measure the resistance between the body integrated unit and combination meter connector. ***Connector & terminal*** ***(i84) No. 27 — (i10) No. 21:*** ***(i84) No. 26 — (i10) No. 22:***	Is the resistance less than 10Ω?	Go to step **16.**	Repair the open circuit of harness or replace harness.
16	**CHECK AUTO A/C CONTROL MODULE.** Perform auto A/C control module self-diagnosis. <Ref. to AC(diag)-13, A/C CONTROL SYSTEM SELF-DIAGNOSIS, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Is the self-diagnosis OK?	Go to step **17.**	Replace the auto A/C control module. <Ref. to AC-33, REMOVAL, Control Unit (Auto A/C Model).>
17	**CHECK COMBINATION METER.** Perform self-diagnosis for the combination meter system. <Ref. to IDI-3, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.>	Is the self-diagnosis OK?	Replace the body integrated unit. <Ref. to SL-44, REMOVAL, Body Integrated Module.>	Replace the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.>

U: DTC B0311 CAN-LS METER UNIT DATA ABNORMAL

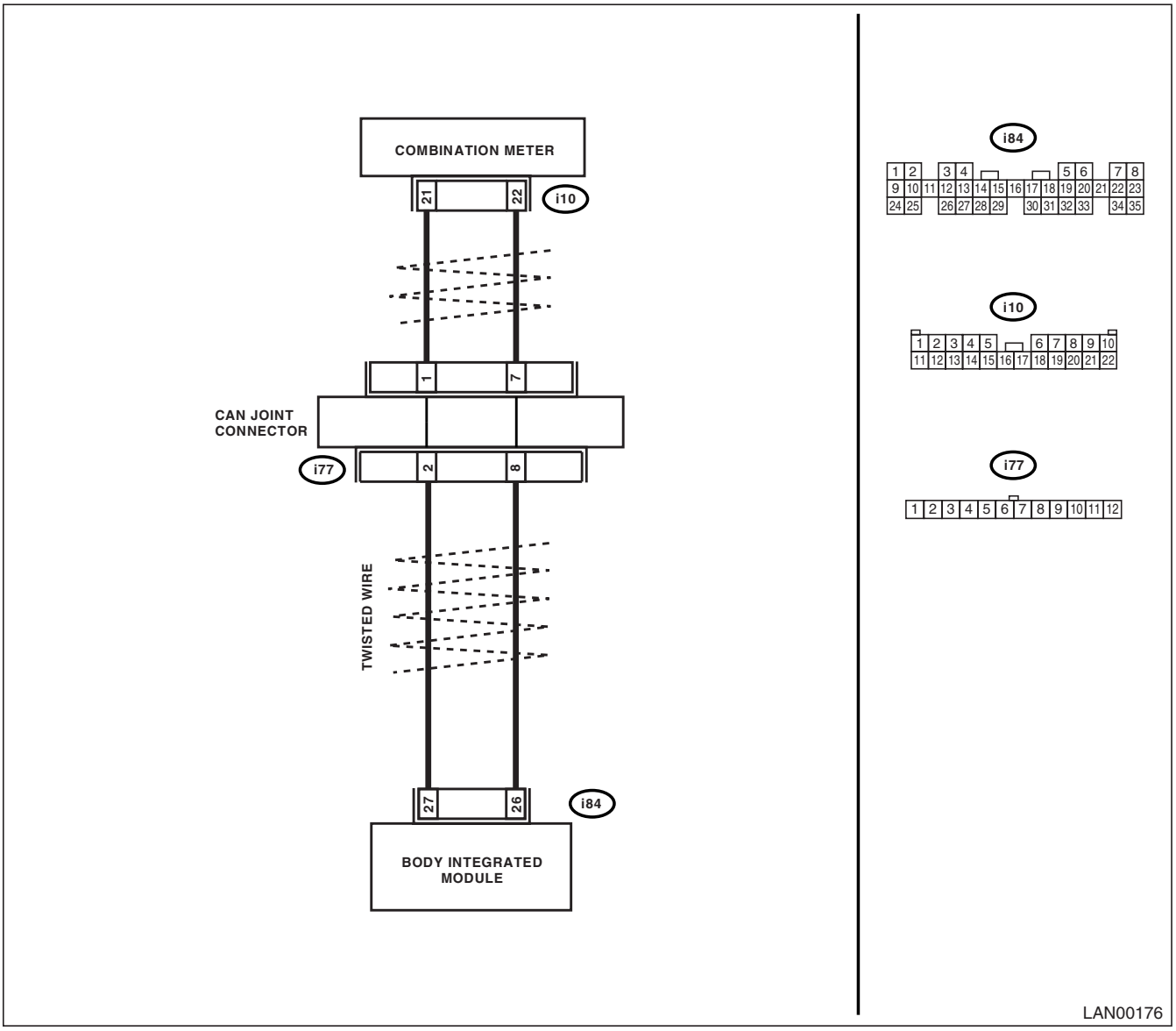
DTC DETECTING CONDITION:

Combination meter error, or harness between the main harness splice and combination meter is open or shorted, the connector is not connected securely and the terminal has poor caulking.

TROUBLE SYMPTOM:

"Er Lc" is displayed in odo/trip meter.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK COMBINATION METER.** Perform the self-diagnosis for combination meter. <Ref. to IDI-3, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.>	Is the self-diagnosis OK?	Read the DTC again, and then perform the diagnosis according to DTC displayed on the top.	Replace the combination meter. <Ref. to IDI-15, Combination Meter.>

V: DTC B0313 CAN-LS MONITOR DATA ABNORMAL

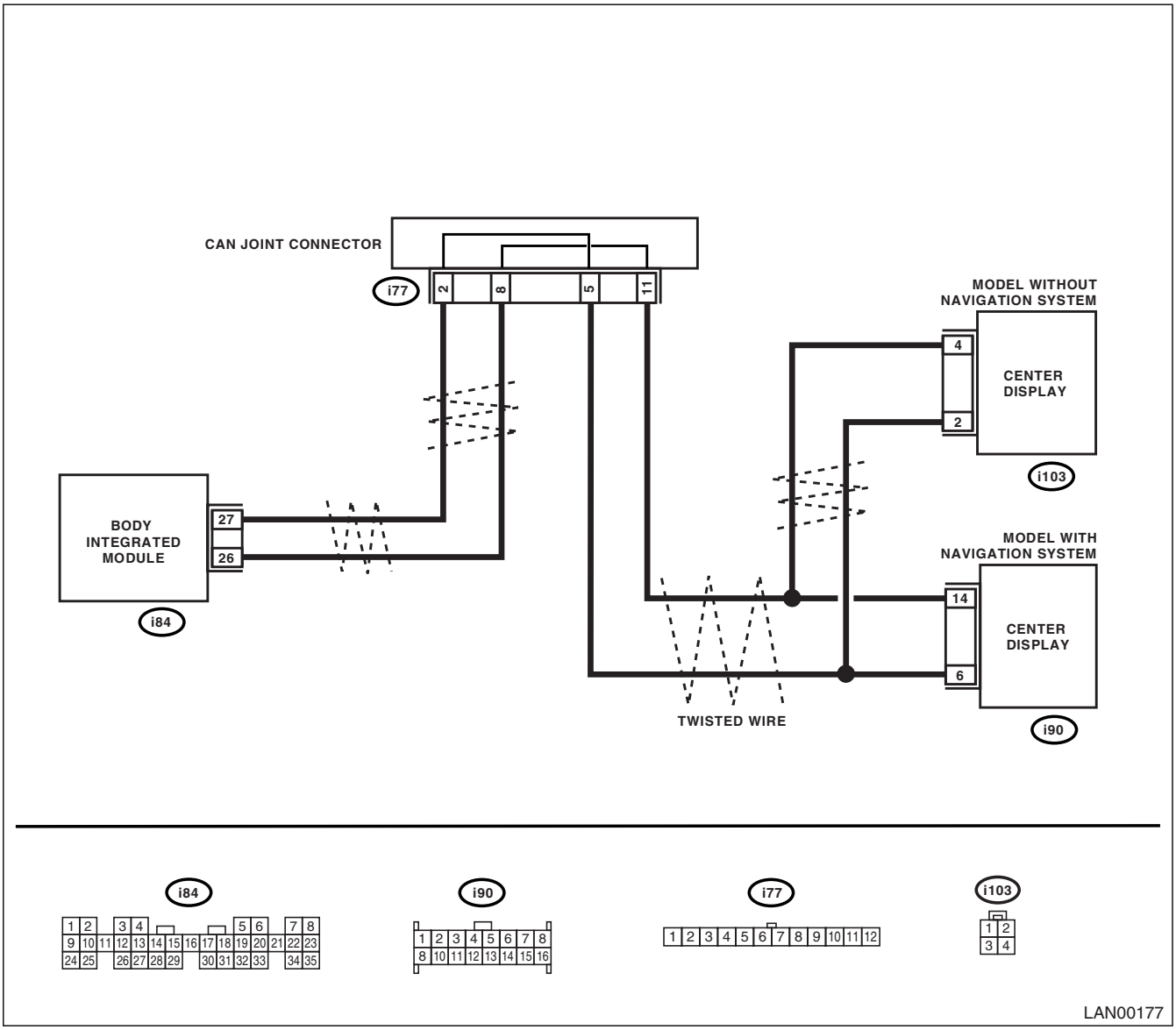
DTC DETECTING CONDITION:

Center display unit error, or harness between the main harness splice and center display unit is open or shorted, the connector is not connected securely and the terminal has poor caulking.

TROUBLE SYMPTOM:

"Er LC" is displayed in odo/trip meter.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CENTER DISPLAY.** 1) Display the current data of body integrated module using Subaru Select Monitor. 2) Read the fail display of center display.	Is the center display fail OK?	Go to step **2.**	Replace the center display.
2	**CHECK NAVIGATION.** 1) Display the current data of body integrated module using Subaru Select Monitor. 2) Read the display of NAVI fail.	Is the NAVI fail OK?	Replace the center display.	Repair the navigation module.

W: DTC B0321 CAN-LS METER NO-RECEIVE DATA

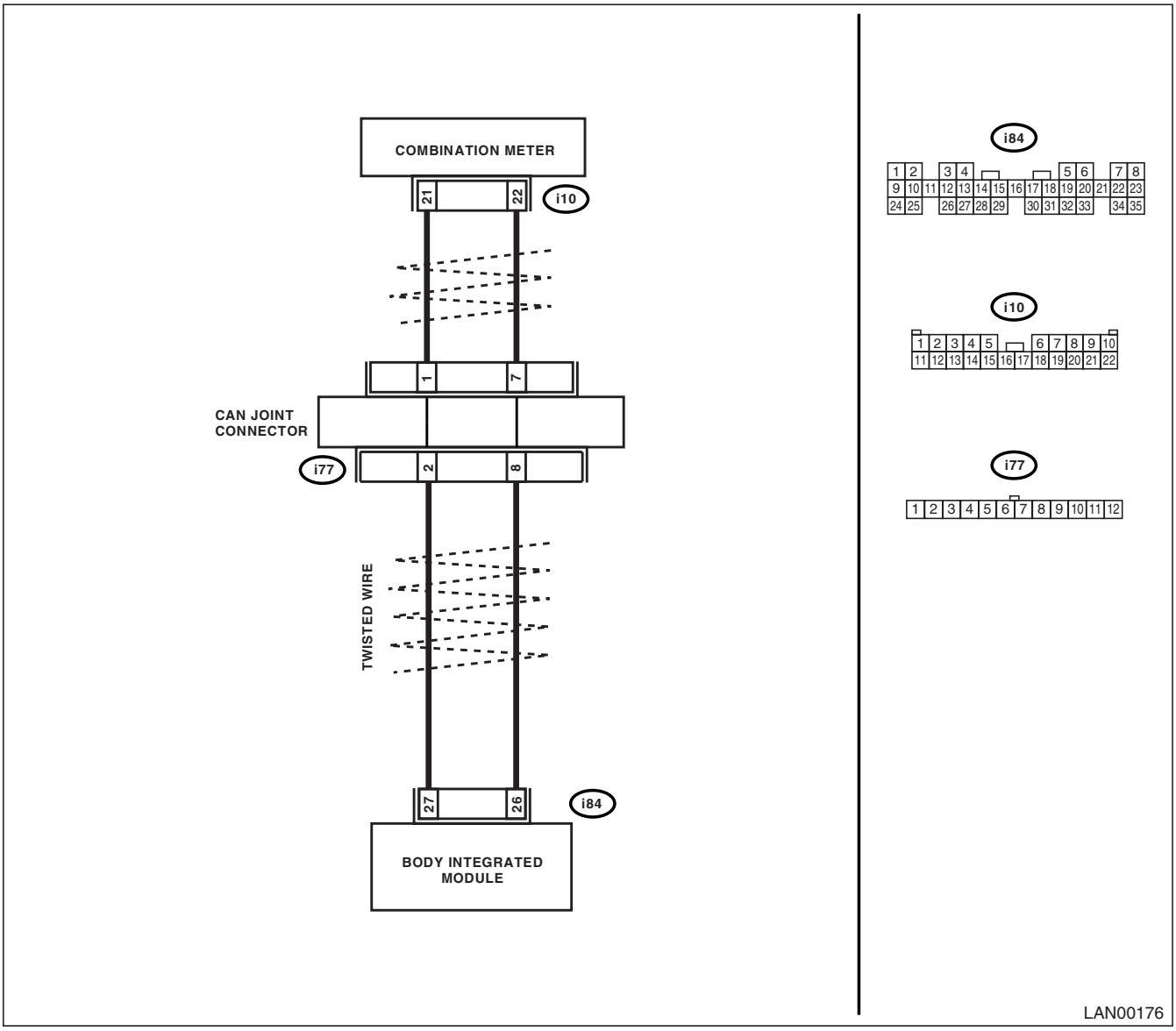
DTC DETECTING CONDITION:

Combination meter unit error, or harness between the main harness splice and combination meter unit is open or shorted, the connector is not connected securely and the terminal has poor caulking.

TROUBLE SYMPTOM:

Fail mode occurs because the data is not received from combination meter unit.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK COMMUNICATION LINE.** 1) Warm up the engine. 2) Compare the data of body integrated module and combination meter using Subaru Select Monitor. Check item: • Engine speed • Each door switch • P switch	Is the data displayed same?	Go to step **2.**	Perform the self-diagnosis for combination meter. <Ref. to IDI-3, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.>
2	**CHECK HARNESS.** 1) Disconnect the body integrated module connector and combination meter connector. 2) Measure the resistance between body integrated module connector and combination meter connector. ***Connector & terminal*** ***(i10) No. 21 — (i84) No. 27:*** ***(i10) No. 22 — (i84) No. 26:***	Is the resistance less than 10 Ω?	Go to step **4.**	Go to step **3.**
3	**CHECK HARNESS.** 1) Disconnect the CAN joint connector with connector of unit disconnected. 2) Measure the resistance between body integrated module connector and CAN joint connector. ***Connector & terminal*** ***(i10) No. 21 — (i77) No. 1:*** ***(i10) No. 26 — (i77) No. 7:*** ***(i84) No. 27 — (i77) No. 2:*** ***(i84) No. 26 — (i77) No. 8:***	Is the resistance less than 10 Ω?	Go to step **4.**	Repair or replace the open circuit of harness.
4	**CHECK HARNESS.** Measure the resistance between CAN joint connector and chassis ground. ***Connector & terminal*** ***(i77) No. 1 — Chassis ground:*** ***(i77) No. 7 — Chassis ground:*** ***(i77) No. 2 — Chassis ground:*** ***(i77) No. 8 — Chassis ground:***	Is the resistance less than 10 Ω?	Repair or replace the short circuit of harness.	Go to step **5.**
5	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between CAN joint connector and chassis ground. ***Connector & terminal*** ***(i77) No. 1 (+) — Chassis ground (–):*** ***(i77) No. 7 (+) — Chassis ground (–):*** ***(i77) No. 2 (+) — Chassis ground (–):*** ***(i77) No. 8 (+) — Chassis ground (–):***	Is the voltage more than 6 V?	Repair or replace the short circuit of harness.	Go to step **6.**
6	**CHECK COMBINATION METER.** Perform the self-diagnosis for combination meter. <Ref. to IDI-3, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.>	Is the self-diagnosis OK?	Temporary poor contact occurs.	Check the connection of connector. Replace the combination meter. <Ref. to IDI-15, Combination Meter.>

X: DTC B0500 KEYLESS UART COM. MALFUNCTION

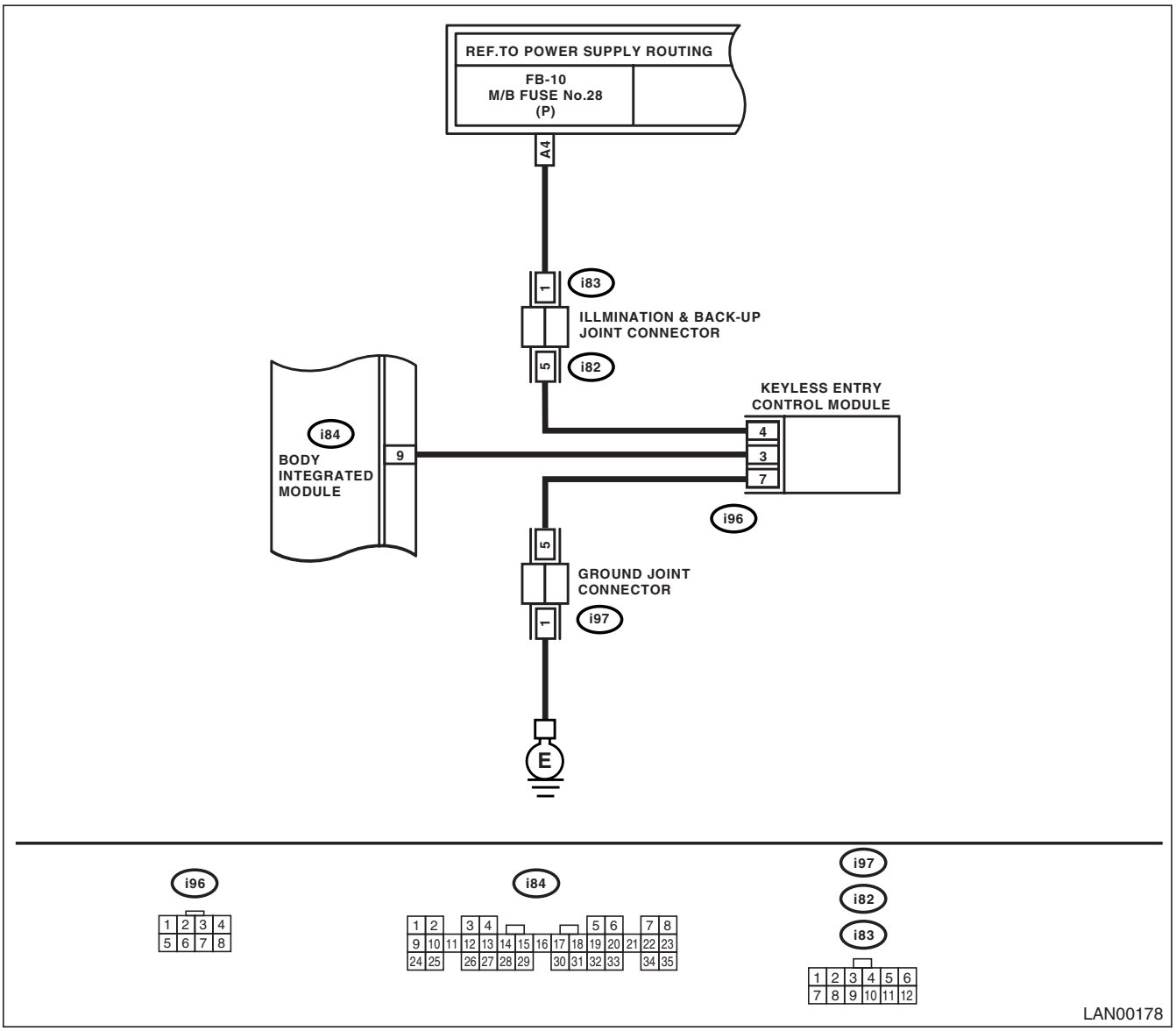
DTC DETECTING CONDITION:

UART between the keyless control unit and body integrated module is open or shorted, or the connector is not connected securely and the terminal has poor caulking.

TROUBLE SYMPTOM:

Door lock does not operate with keyless.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK HARNESS.** 1) Disconnect the body integrated module connector and keyless entry control module connector. 2) Measure the resistance between body integrated module connector and keyless entry control module connector. ***Connector & terminal*** ***(i84) No. 9 — (i96) No. 3:***	Is the resistance less than 10 Ω?	Go to step **2.**	Repair or replace the open circuit of harness.
2	**CHECK HARNESS.** Measure the resistance between body integrated module connector and chassis ground. ***Connector & terminal*** ***(i84) No. 9 — Chassis ground:***	Is the resistance less than 1 MΩ?	Repair or replace the short circuit of harness.	Go to step **3.**
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between body integrated module connector and chassis ground. ***Connector & terminal*** ***(i84) No. 9 (+) — Chassis ground (−):***	Is the voltage more than 6 V?	Repair or replace the short circuit of harness.	Go to step **4.**
4	**OPERATION CHECK.** Check the door lock operation when the doors LOCK/UNLOCK using manual LOCK switch.	Does it operate on switch operation?	Go to step **5.**	Replace the body integrated module. <Ref. to SL-44, Body Integrated Module.>
5	**OPERATION CHECK.** 1) Disconnect the key warning switch connector (B350). 2) Close all the doors, and then perform the LOCK/UNLOCK operation on keyless entry operation.	Does it operate?	Check key warning switch.	Replace the keyless entry control module. <Ref. to SL-43, Keyless Entry Control Unit.>

13.General Diagnostic Table

A: INSPECTION

Read the DTC or inspect and diagnose the following data in the current data display using Subaru Select Monitor.

1. LAN SYSTEM

Item	Operation	Criterion		NOTE
		YES	NO	
Diagnostic code	DTC is not displayed when inspecting all DTCs.	DTC is not displayed.	Perform the diagnosis according to DTC.	—
Engine coolant temperature	Check the current data display of ECM, TCM and body integrated module. Three data value are the same.	Same values	Inspect LAN system.	If engine coolant temperature sensor is not OK, inspect the sensor circuit.
R defogger SW	It turns to ON when pressing switch. (Low-speed CAN is OK)	Turns to ON.	Inspect rear defogger switch.	Rear defogger switch is connected with Low-speed CAN.
R defogger output	When switch input, it is output.	Output	Replace the body integrated module.	If not operate with output, check the rear defogger relay.
Door lock SW	When locked with door lock switch, it turns to ON.	Turns to ON.	Inspect door lock switch.	Door lock switch is connected with Low-speed CAN.
Door lock actuator	When locked with door lock switch, it is output.	Output	Replace the body integrated module.	—

2. BODY INTEGRATED MODULE

Item	Operation	Criterion		NOTE
		YES	NO	
Illumination VR power supply	Operate the illumination volume, illumination light is controlled according to the change of voltage on data display.	Illumination light is controlled with changing of data.	Inspect the illumination volume.	—
Fuel level resistance	Check the fuel level resistance and fuel level resistance 2. Both resistances are same.	Same values	Inspect the body integrated module.	Compare the input and output values of body integrated module.
R fog light input	When turned rear fog light switch to ON, data display turns to ON.	Turns to ON.	Inspect the rear fog light switch.	—
R fog light output	When turned rear fog light switch to ON, output turns to ON.	Turns to ON.	Inspect the body integrated module.	If not operate with output turned to ON, check the rear fog light relay.
R wiper SW input	When rear wiper SW to ON, data display turns to ON.	Turns to ON.	Inspect the rear wiper switch.	—
R wiper output	When rear wiper switch to ON, output signal turns to ON.	Turns to ON.	Replace the body integrated module.	If not operate with output turned to ON, check the rear wiper motor.
Keyless Entry	Keyless entry LOCK/UNLOCK the doors.	Operate	Inspect the keyless antenna.	If the antenna is OK, replace the body integrated module.
Brake SW	When brake pedal is depressed, it turns to ON.	Turns to ON.	Inspect the brake switch.	—
Shift lock solenoid	The shift lock releases when depressing the brake pedal.	Released	Inspect the shift lock.	—
Body integrated module registration function setting	Does Vehicle equipment correspond to setting values?	Correspondence	Reconfigure the values according to vehicle equipment.	—
Customize	When changing customize setting, the registration completes correctly.	Registered	Inspect the body integrated module.	—
Manual mode	Switch the shift (UP/DOWN) on Manual mode. Indicator is changed in 1 — 2.	Change	Inspect the shift lever.	—
Function check	Each checking item operate correctly. (Except for not equipped)	Operate	Inspect for non-functional actuator.	—
Security	After locking with keyless entry system and open the door, the security system operates and the horn sounds.	Horn sounds. (Security system operates.)	Inspect the security system.	—