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.

FUJI HEAVY INDUSTRIES LTD.

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)	AC
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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
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SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)	SR
EXTERIOR/INTERIOR TRIM	EI
EXTERIOR BODY PANELS	EB
CRUISE CONTROL SYSTEM	CC

G8050GE6

BODY SECTION

AIRBAG SYSTEM (DIAGNOSTICS) AB

CRUISE CONTROL SYSTEM (DIAGNOSTICS) CC

IMMOBILIZER (DIAGNOSTICS) IM

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

AC

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1. General Description S701001

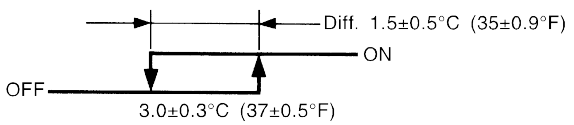
A: SPECIFICATIONS S701001E49

1. HEATER SYSTEM S701001E4901

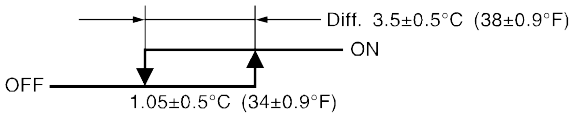
Item		Specifications		Condition
Heating capacity		LHD model	5.1 kW (4,386 kcal/h, 17,404 BTU/h) or more	• Mode selector switch: HEAT • Temperature control switch: FULL HOT • Temperature difference between hot water and inlet air: 65°C (149°F) • Hot water flow rate: 360 ℓ (95.1 US gal, 79.2 Imp gal)/h
		RHD model	4.93 kW (4,240 kcal/h, 16,824 BTU/h) or more	
Air flow rate		LHD model	280 m^3 (9,887 cu ft)/h	Heat mode (FRESH), FULL HOT at 12.5 V
		RHD model	300 m^3 (10,593 cu ft)/h	
Max air flow rate		LHD model	480 m^3 (16,949 cu ft)/h	• Temperature control switch: FULL COLD • Blower fan speed: 4th position • Mode selector lever: RECIRC
		RHD model	460 m^3 (16,243 cu ft)/h	
Heater core size (height × length × width)		LHD model	193.5 × 152 × 35.0 mm (7.62 × 5.98 × 1.378 in)	—
		RHD model	161.4 × 176.4 × 32 mm (6.35 × 6.94 × 1.26 in)	
Blower motor	Type	LHD model	Magnet motor 260 W or less	at 12 V
		RHD model	Magnet motor 250 W or less	
	Fan type and size (diameter × width)	LHD model	Sirocco fan type 150 × 75 mm (5.91 × 2.95 in)	—
		RHD model	Sirocco fan type 150 × 75 mm (5.91 × 2.95 in)	

2. A/C SYSTEM S701001E4902

● LHD Model:

Item			Specifications
Type of air conditioner			Reheat air-mix type
Cooling capacity			5.117 kW (4,400 kcal/h, 17,459 BTU/h)
Refrigerant			HFC-134a (CH_2FCF_3) [0.65±0.05 kg (1.43±0.11 lb)]
Compressor		Type	5-vane rotary, fix volume (KC50G)
		Discharge	140 cm^3 (8.54 cu in)/rev
		Max. permissible speed	7,000 rpm
Magnet clutch		Type	Dry, single-disc type
		Power consumption	38 W
		Type of belt	V-Ribbed 4 PK
		Pulley dia. (effective dia.)	125 mm (4.92 in)
		Pulley ratio	1.064
Condenser		Type	Corrugated fin (Multi-flow)
		Core face area	0.255 m^2 (2.74 sq ft)
		Dimensions (W × H × T)	22 × 374 × 683 mm (0.87 × 14.72 × 26.89 in)
		Radiation area	6.52 m^2 (70 sq ft)
Receiver drier		Effective inner capacity	250 cm^3 (15.26 cu in)
Expansion valve		Type	Internal equalizing
Evaporator		Type	Single tank
		Dimensions (W × H × T)	60 × 224 × 235 mm (2.36 × 8.82 × 9.25 in)
Blower fan		Fan type	Sirocco fan
		Outer diameter × width	150 × 75 mm (5.91 × 2.95 in)
		Power consumption	260 W at 12 V
Condenser fan (Sub fan)		Motor type	Magnet
		Power consumption	70 W at 12 V
		Fan outer diameter	320 mm (12.60 in)
Radiator fan (Main fan)		Motor type	Magnet
		Power consumption	70 W at 12 V
		Fan outer diameter	320 mm (12.60 in)
Dual switch (Pressure switch)	Low-pressure switch operating pressure	ON → OFF	177±25 kPa (1.80±0.25 kg/cm^2, 25.6±3.6 psi)
		OFF → ON	Less than 216 kPa (2.2 kg/cm^2, 31 psi)
	High-pressure switch operating pressure	ON → OFF	2,940±200 kPa (29.98±2.04 kg/cm^2, 426.3±29.0 psi)
		DIFF	590±200 kPa (6.02±2.04 kg/cm^2, 85.6±29.0 psi)
Compressor relief valve blow-out pressure			3,600±300 kPa (36.71±3.06 kg/cm^2, 522.0±43.5 psi)
Thermo control amplifier working temperature (Evaporator outlet air)			 S4M0511A

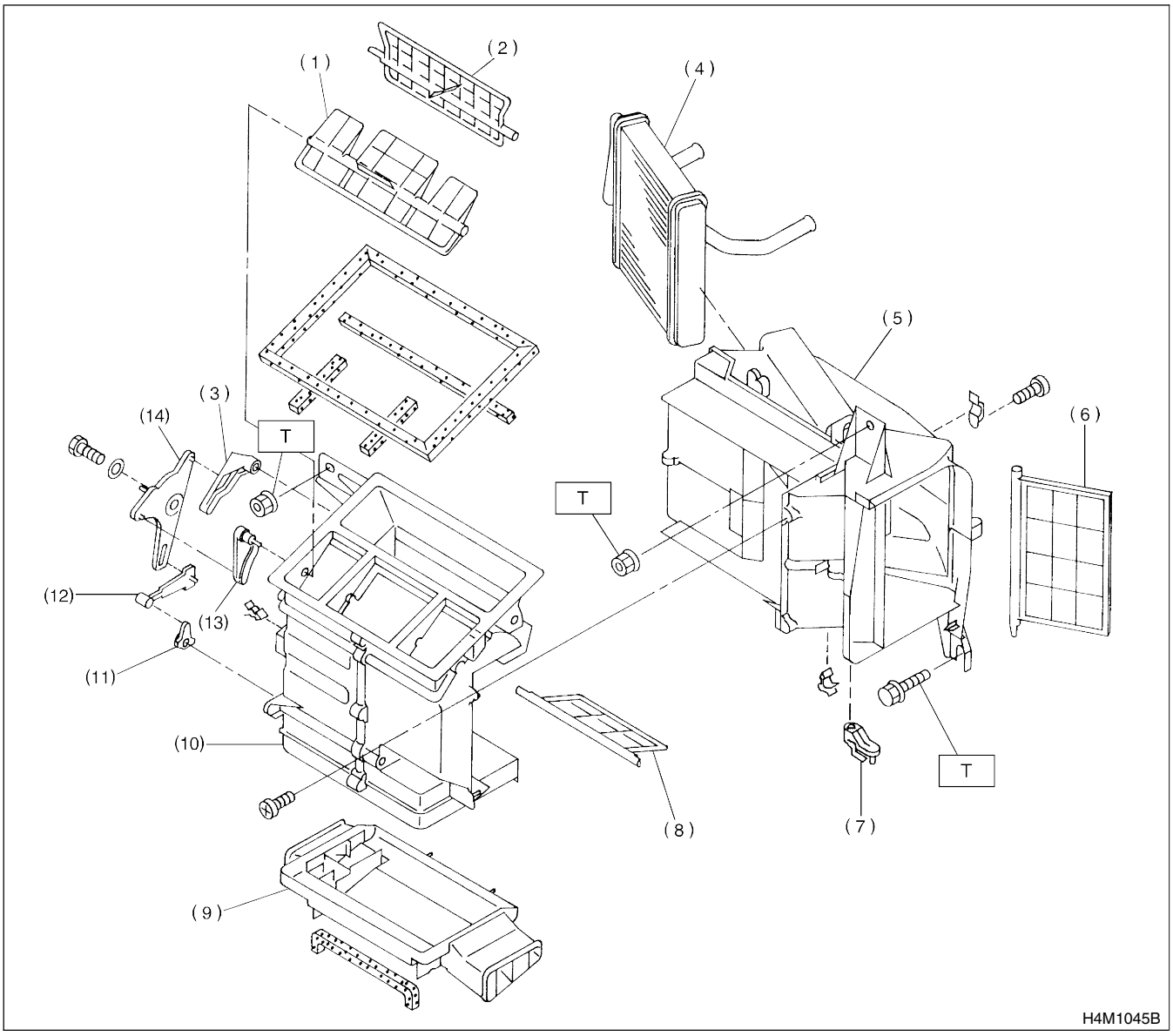
● RHD Model:

Item			Specifications
Type of air conditioner			Reheat air-mix type
Cooling capacity			5.059 kW (4,350 kcal/h, 17,261 BTU/h)
Refrigerant			HFC-134a (CH_2FCF_3) [0.65±0.05 kg (1.43±0.11 lb)]
Compressor		Type	5-vane rotary, fix volume (KC50G)
		Discharge	140 cm^3 (8.54 cu in)/rev
		Max. permissible speed	7,000 rpm
Magnet clutch		Type	Dry, single-disc type
		Power consumption	38 W
		Type of belt	V-Ribbed 4 PK
		Pulley dia. (effective dia.)	125 mm (4.92 in)
		Pulley ratio	1.064
Condenser		Type	Corrugated fin (Multi-flow)
		Core face area	0.231 m^2 (2.48 sq ft)
		Dimensions (W × H × T)	20 × 331 × 698 × mm (0.79 × 13.03 × 27.48 in)
		Radiation area	7.2 m^2 (77 sq ft)
Receiver drier		Effective inner capacity	250 cm^3 (15.26 cu in)
Expansion valve		Type	Internal equalizing
Evaporator		Type	Single tank
		Dimensions (W × H × T)	60 × 224 × 235 mm (2.36 × 8.82 × 9.25 in)
Blower fan		Fan type	Sirocco fan
		Outer diameter × width	150 × 75 mm (5.91 × 2.95 in)
		Power consumption	250 W at 12 V
Condenser fan (Sub fan)		Motor type	Magnet
		Power consumption	70 W at 12 V
		Fan outer diameter	320 mm (12.60 in)
Radiator fan (Main fan)		Motor type	Magnet
		Power consumption	70 W at 12 V
		Fan outer diameter	320 mm (12.60 in)
Dual switch (Pressure switch)	Low-pressure switch operating pressure	ON → OFF	177±25 kPa (1.8±0.25 kg/cm^2, 26±3.6 psi)
		OFF → ON	Less than 216 kPa (2.2 kg/cm^2, 31 psi)
	High-pressure switch operating pressure	ON → OFF	2,650±200 kPa (27.02±2.04 kg/cm^2, 384±29 psi)
		OFF → ON	1,471±200 kPa (15±2.04 kg/cm^2, 213±29 psi)
Compressor relief valve blow-out pressure			3,600±300 kPa (36.71±3.06 kg/cm^2, 522.0±43.5 psi)
Thermo control amplifier working temperature (Evaporator outlet air)			 S4M0275A

B: COMPONENT S701001A05

1. HEATER UNIT S701001A0501

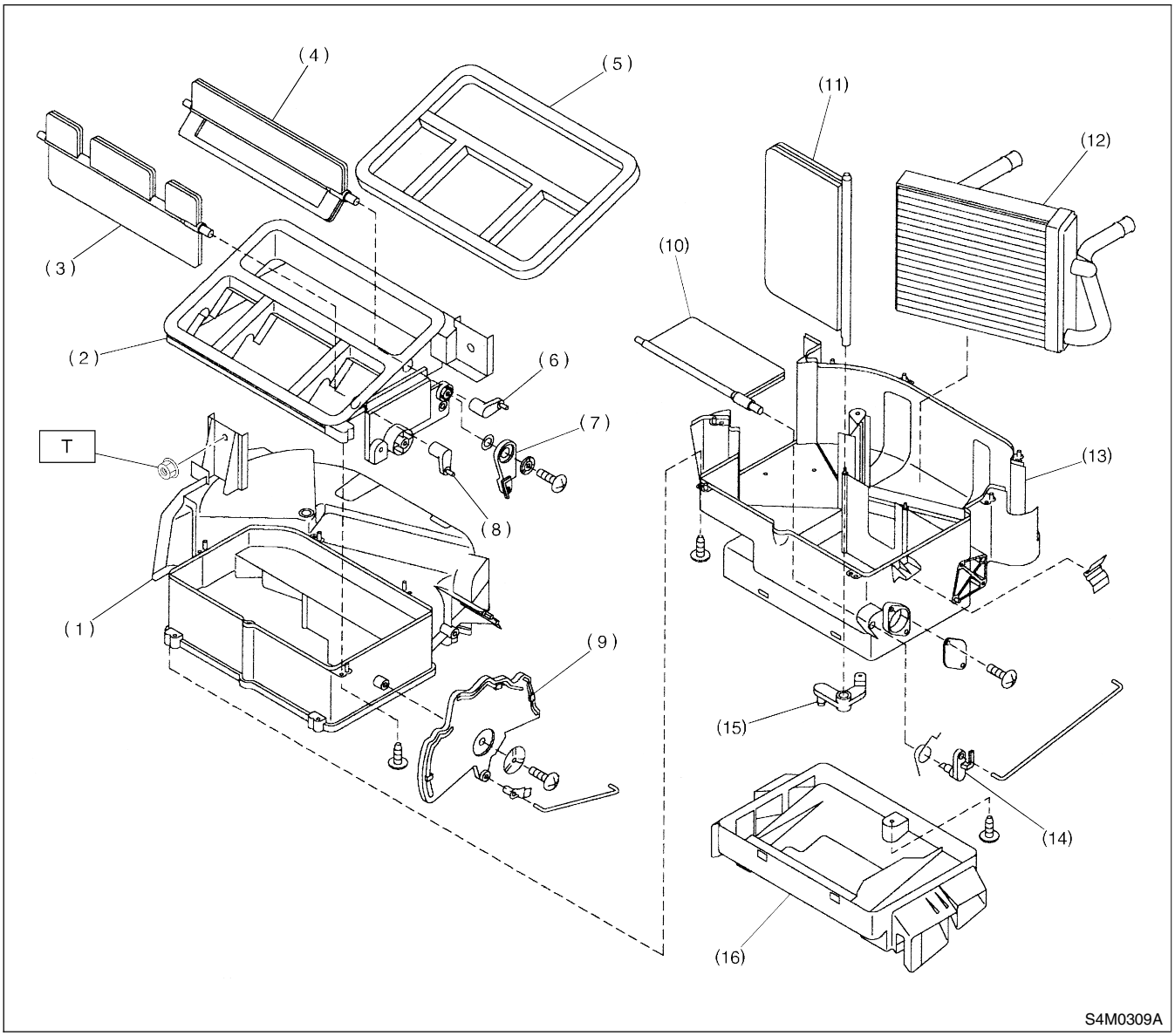
- **LHD Model:**



(1) Vent door
(2) DEF door
(3) DEF lever
(4) Heater core
(5) Heater case FRONT
(6) Mix door
(7) Mix lever
(8) Foot door
(9) Foot duct
(10) Heater case REAR
(11) Foot lever lower
(12) Foot lever upper
(13) Vent lever
(14) Side link

Tightening torque: N·m (kgf-m, ft-lb)
T: 7.35 (0.750, 5.421)

- **RHD Model:**

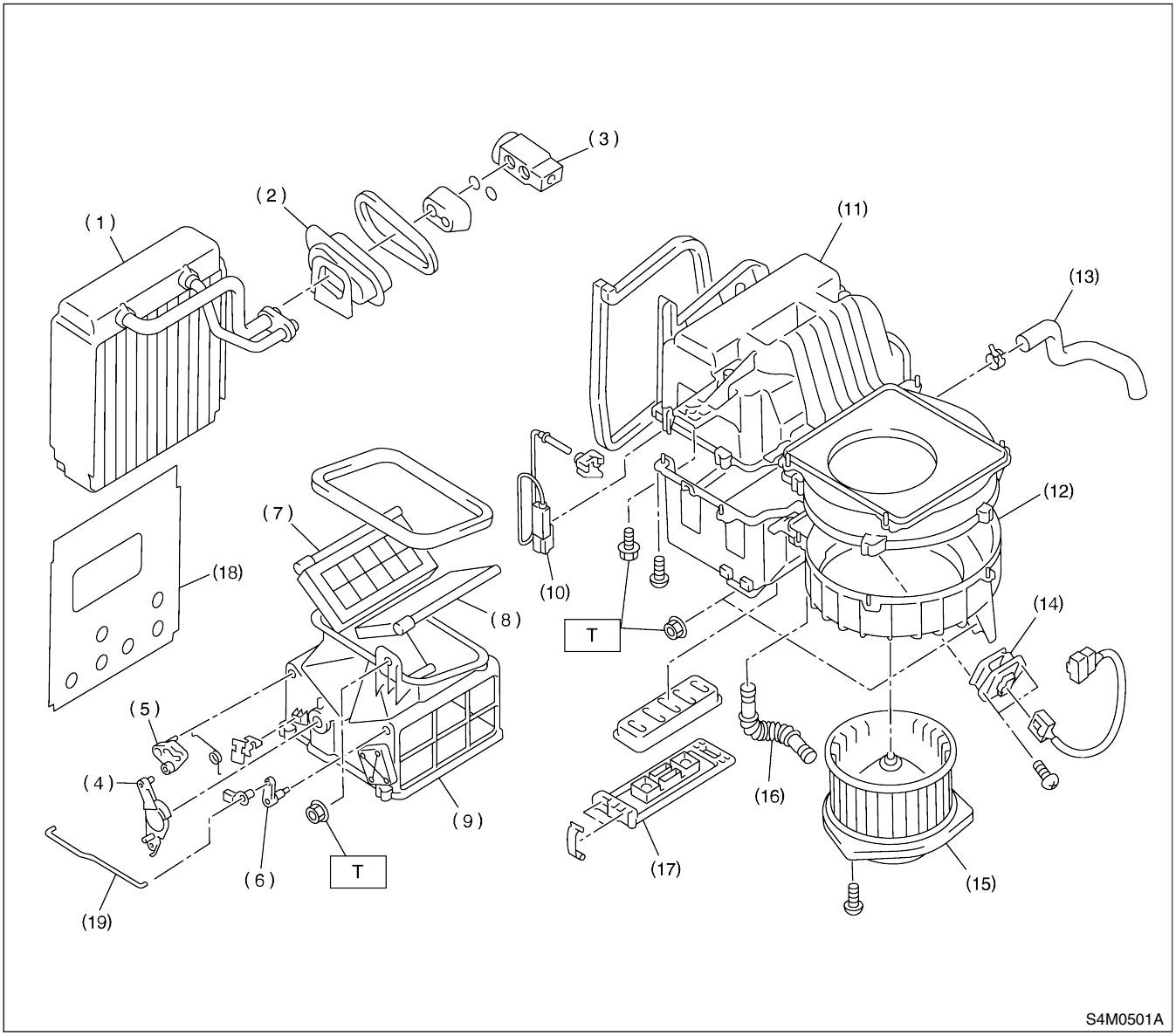


(1) Heater case upper A
(2) Heater case upper B
(3) Vent door
(4) DEF door
(5) Sealing sponge
(6) DEF door lever
(7) DEF door link
(8) Vent door lever
(9) Side link
(10) Foot door
(11) Mix door
(12) Heater core
(13) Heater case lower
(14) Foot door lever
(15) Mix door lever
(16) Foot duct

Tightening torque: N·m (kg-m, ft-lb)
T: 7.35 (0.750, 5.421)

2. INTAKE UNIT WITH EVAPORATOR S701001A0505

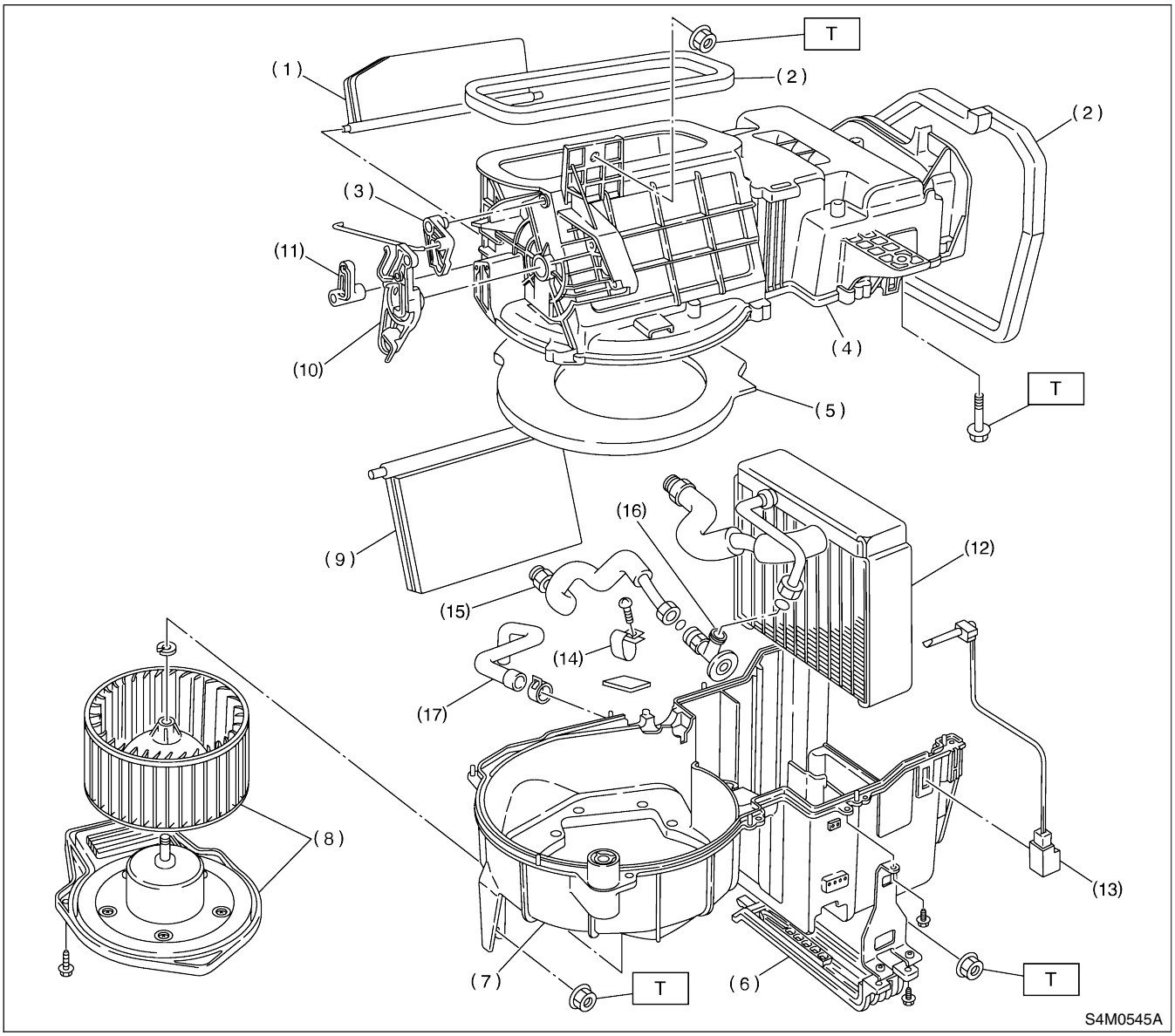
- **LHD Model:**



(1) Evaporator (With A/C model)
(2) Boot
(3) Block expansion valve (With A/C model)
(4) Link
(5) Lever (A)
(6) Lever (B)
(7) Door (A)
(8) Door (B)
(9) Intake unit case inlet
(10) Thermistor (With A/C model)
(11) Intake unit case upper
(12) Intake unit case lower
(13) Drain hose
(14) Resistor
(15) Blower motor ASSY
(16) Aspirator pipe
(17) Cover
(18) Separator
(19) Rod

Tightening torque: N·m (kgf-m, ft-lb)
T: 7.35 (0.750, 5.421)

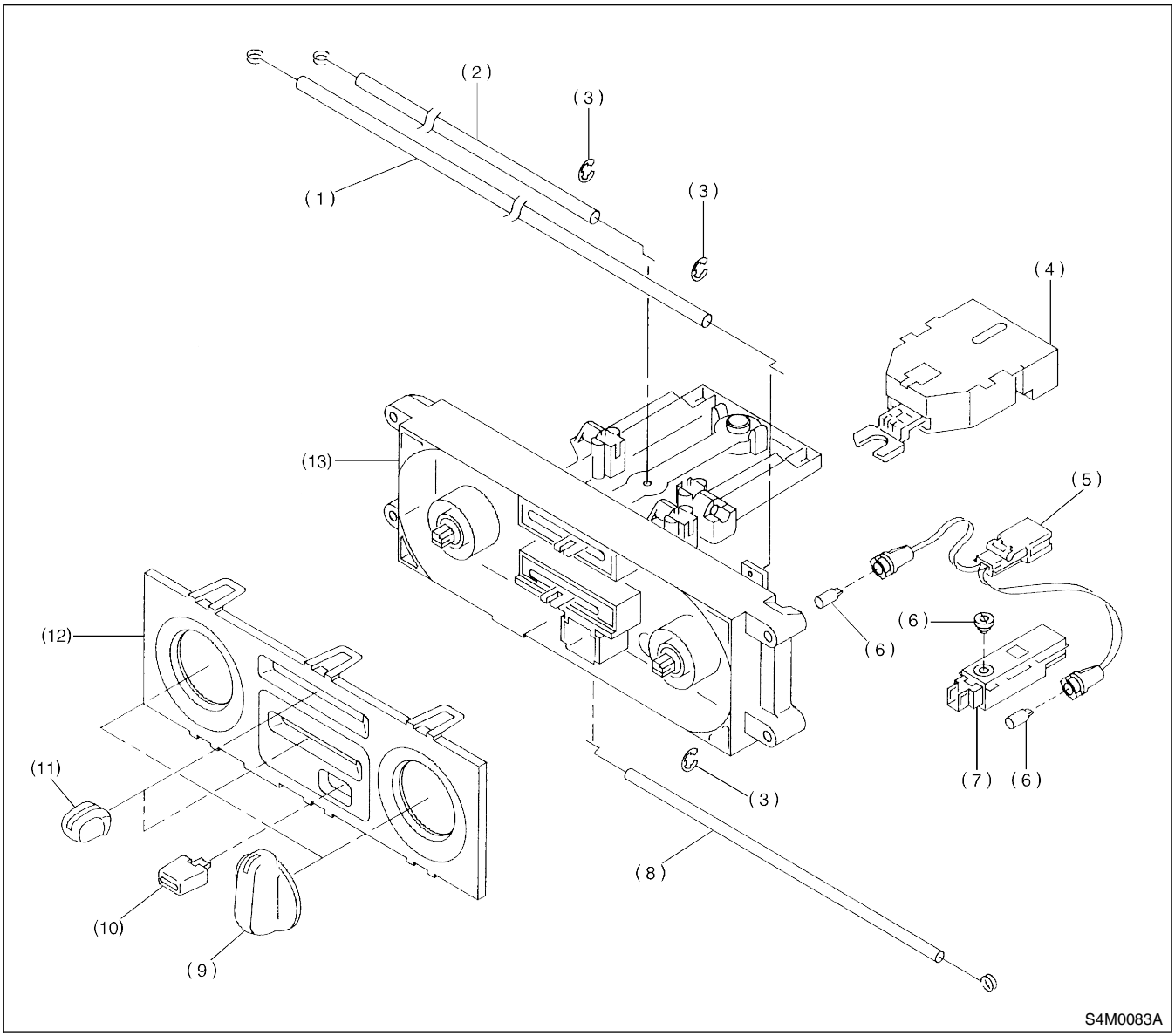
● RHD Model:



(1) Door (A)
(2) Sealing sponge
(3) Door (B) lever
(4) Intake unit case upper
(5) Separator
(6) Cover
(7) Intake unit case lower
(8) Blower motor ASSY
(9) Door (B)
(10) Link
(11) Door (A) lever
(12) Evaporator (With A/C model)
(13) Thermo control amplifier (With A/C model)
(14) Clamp
(15) Pippe (With A/C model)
(16) Expansion valve (With A/C model)
(17) Drain hose

Tightening torque: N·m (kgf-m, ft-lb)
T: 7.35 (0.750, 5.421)

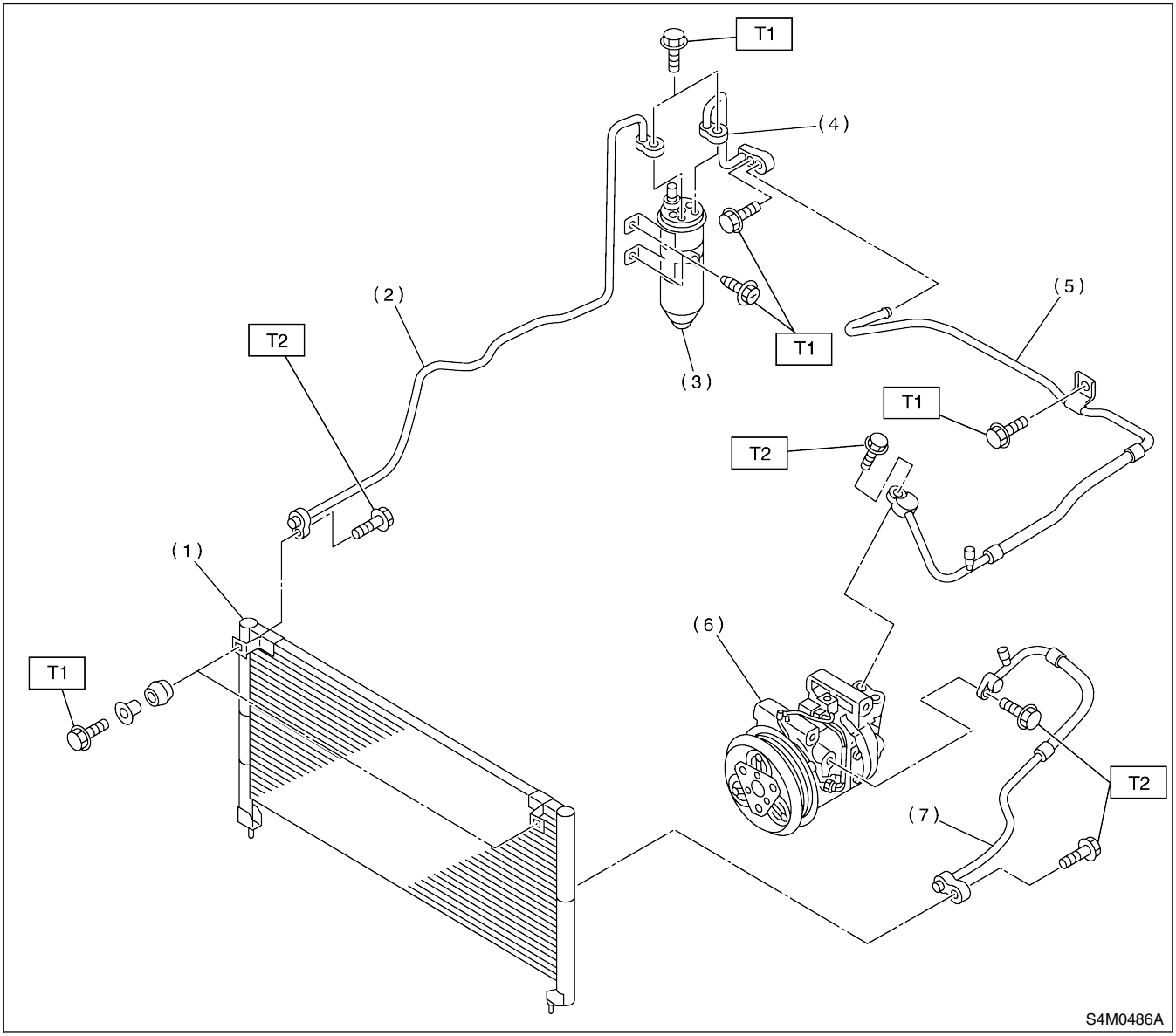
3. CONTROL UNIT S701001A0503



(1) Temperature control cable
(2) Recirc control cable
(3) Clip
(4) Blower switch ASSY
(5) Harness ASSY
(6) Bulb
(7) A/C switch ASSY
(8) Mode control cable
(9) Control dial knob
(10) A/C switch knob
(11) Control lever knob
(12) Plate
(13) Base unit

4. AIR CONDITIONING UNIT S701001A0504

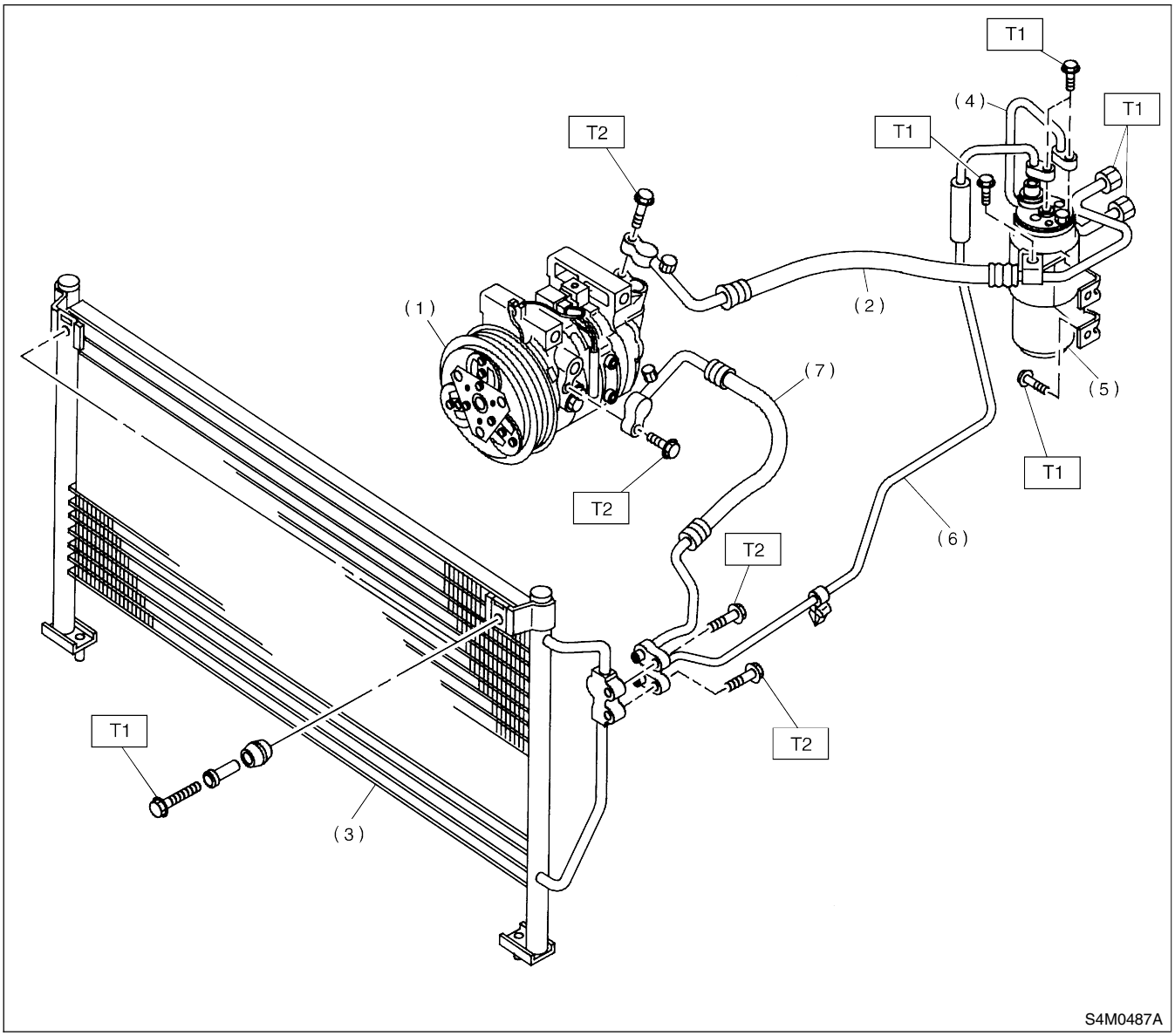
- **LHD Model:**



(1) Condenser
(2) Pipe (From condenser to receiver drier)
(3) Receiver drier
(4) Pipe (From receiver drier to intake unit)
(5) Hose (Low-pressure)
(6) Compressor
(7) Hose (High-pressure)

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.4 (0.75, 5.4)
T2: 15 (1.5, 10.8)

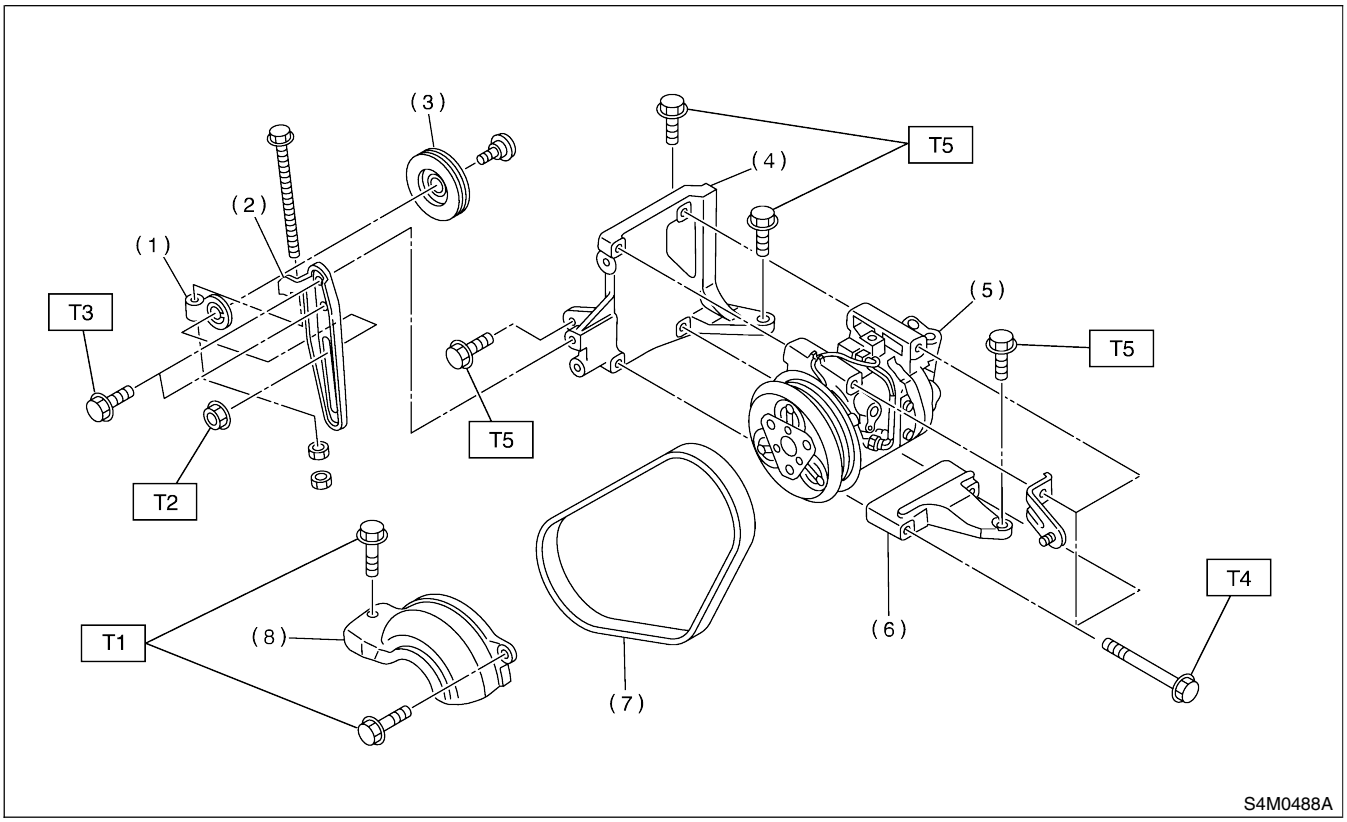
- **RHD Model:**



(1) Compressor
(2) Hose (Low-pressure)
(3) Condenser
(4) Pipe (From receiver drier to intake unit)
(5) Receiver drier
(6) Pipe (From condenser to receiver drier)
(7) Hose (High-pressure)

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.4 (0.75, 5.4)
T2: 15 (1.5, 10.8)

5. COMPRESSOR S701001A0506



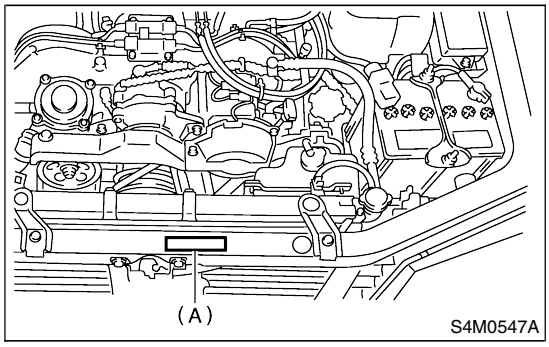
(1) Idler pulley adjuster
(2) Idler pulley bracket
(3) Idler pulley
(4) Compressor bracket upper
(5) Compressor
(6) Compressor bracket lower
(7) V-belt
(8) Compressor belt cover

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.4 (0.75, 5.4)
T2: 23 (2.3, 17)
T3: 23.0 (2.35, 17.0)
T4: 28.9 (2.95, 21.3)
T5: 35 (3.6, 26)

C: CAUTION S701001A03

1. HFC-134a A/C SYSTEM S701001A0301

● Unlike the old conventional HFC-12 system components, the cooling system components for the HFC-134a system such as the refrigerant and compressor oil are incompatible.
● 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 in the vehicle.



2. COMPRESSOR OIL S701001A0302

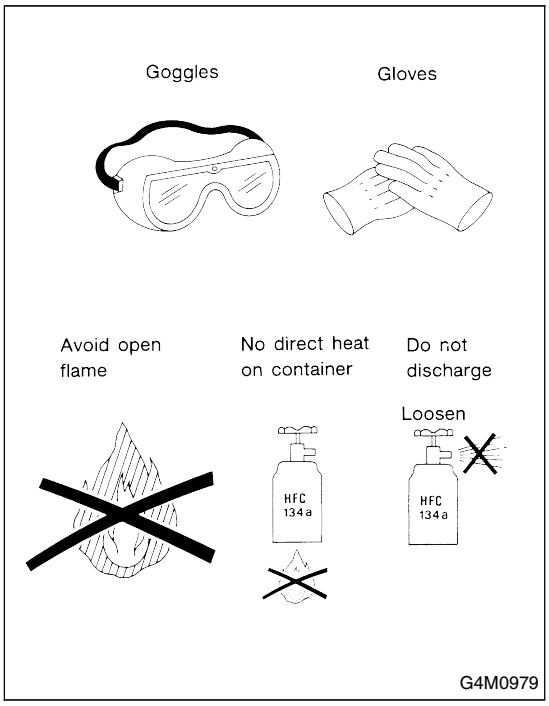
● HFC-134a compressor oil has no compatibility with that for R12 system.
● Use only the manufacturer-authorized compressor oil for the HFC-134a system; only use ZXL200PG.
● Do not mix multiple compressor oils.
If HFC-12 compressor oil is used in a HFC-134a A/C system, the compressor may become stuck 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 HFC-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 the atmosphere using a plug or tape. In order to avoid moisture, store the oil in a container with its cap tightly closed.

3. REFRIGERANT S701001A0303

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

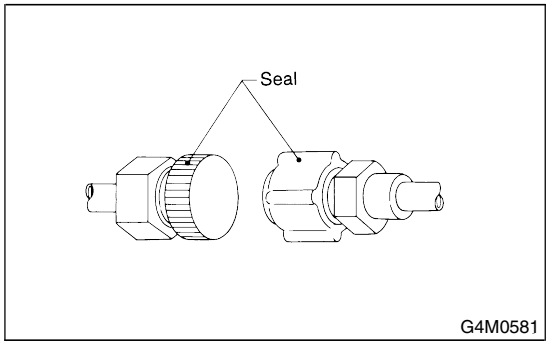
4. HANDLING OF REFRIGERANT S701001A0304

● The refrigerant boils at approx. –30°C (–22°F). When handling it, be sure to wear safety 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 the manifold gauge. The high-pressure gas will back-flow resulting in an explosion of the can.
● The refrigerant is non-toxic and harmless under normal operating circumstance, but it may change to phosgene (a noxious fume) under open flames or high temperatures (caused by a cigarette or heater).
● Provide good ventilation and do not work in a closed area.
● Never perform a gas leak test using a halide torch-type leak tester.
● In order to avoid destroying the ozone layer, prevent HFC-134a from being released into the atmosphere. Using a refrigerant recovery system, discharge and reuse it.

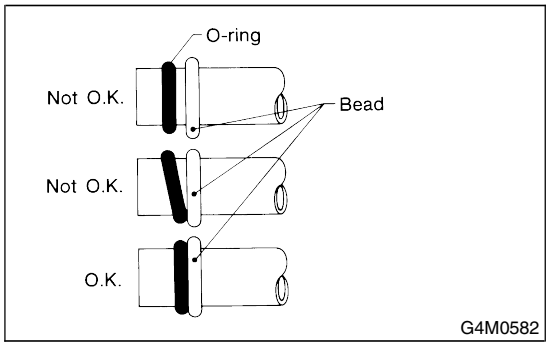


5. O-RING CONNECTIONS S701001A0305

- Use new O-rings.
- In order to keep the O-rings free of lint which will cause a refrigerant gas leak, perform operations without gloves and shop towels.
- Apply the compressor oil to the O-rings to avoid sticking, then install them.
- Use a torque wrench to tighten the O-ring fittings: Over-tightening will damage the 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 contamination from entering.



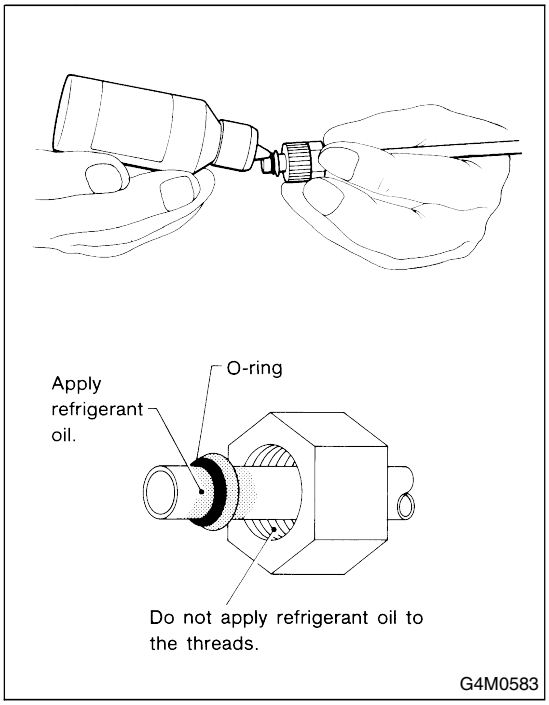
- Visually check the surfaces and mating surfaces of O-rings, threads, and connecting points. If a failure is found, replace the applicable parts.
- Install the O-rings at right angle to the tube beards.



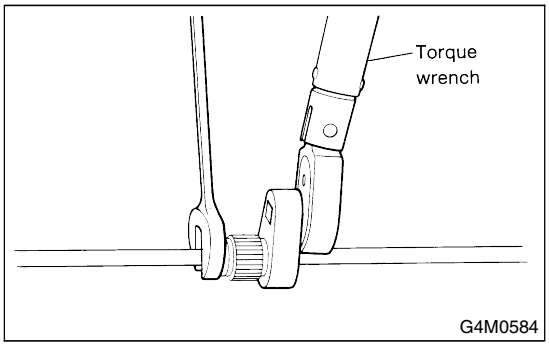
- Use the oil specified in the service manual to lubricate the O-rings.

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

Apply the oil to the area including the O-rings and tube beads.



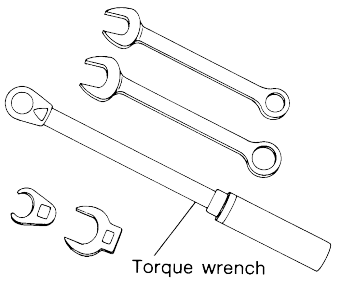
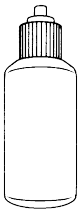
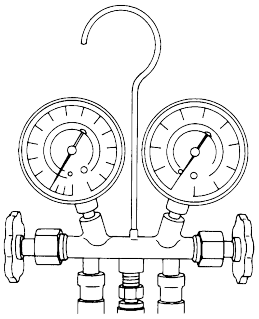
- When connecting hoses or pipes, use 2 wrenches (a torque wrench for tightening). While securing one side with a wrench, tighten the other side to the specified torque with a torque wrench. If only one wrench is used to tighten, the tightening torque will be excessive or insufficient. This may cause a pipe distortion or gas leak, resulting in damage to hoses and pipes.
- After tightening, using a clean shop towel to remove excess 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 retighten the connections, Disconnect the connections, remove the O-rings, and check the O-rings, threads, and connections.

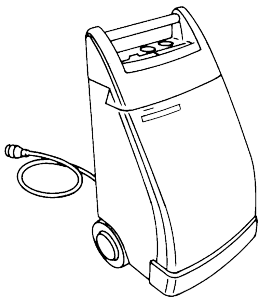
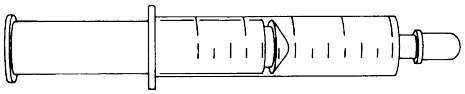
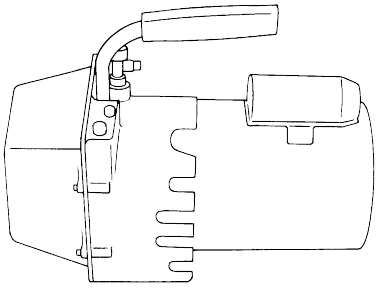
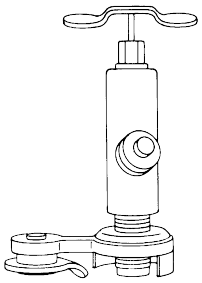


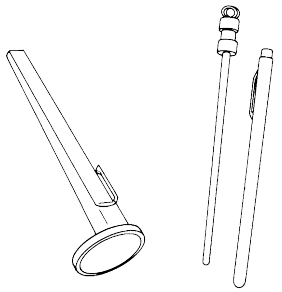
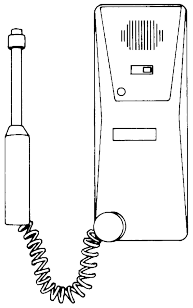
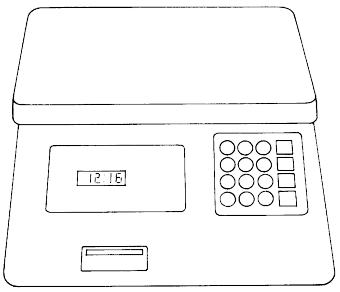
D: PREPARATION TOOL S701001A17

CAUTION:
When working on vehicles with the HFC-134a system, only use HFC-134a specified tools and parts. Do not mix with CFC-12 tools and parts. If HFC-134a and CFC-12 refrigerant or compressor oil is mixed, poor lubrication will result and the compressor itself may be destroyed.
In order to help prevent mixing 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

Tools and Equipment	Description
Wrench Various **WRENCHES** will be required to service any A/C system. A 7 to 40 N·m (0.7 to 4.1 kg-m, 5 to 30 ft-lb) torque wrench with various crowfoot wrenches will be needed. Open end or flare nut wrenches will be needed for back-up on the tube and hose fittings.	 G4M0571
Applicator bottle A small **APPLICATOR BOTTLE** is recommended to apply refrigerant oil to the various parts. They can be obtained at a hardware or drug store.	 G4M0572
Manifold gauge set A **MANIFOLD GAUGE SET** (with hoses) can be obtained from either a commercial refrigeration supply house or from an auto shop equipment supplier.	 G4M0573

Tools and Equipment	Description
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.	 G4M0574
Syringe A graduated plastic **SYRINGE** will be needed to add oil back into the system. The syringe can be found at a pharmacy or drug store.	 G4M0575
Vacuum pump A **VACUUM PUMP** (in good working condition) is necessary, and may be obtained from either a commercial refrigeration supply house or an automotive equipment supplier.	 G4M0576
Can tap A **CAN TAP** for the 397 g (14 oz) can is available from an auto supply store.	 G4M0577

Tools and Equipment	Description
Thermometer Pocket **THERMOMETERS** are available from either industrial hardware store or commercial refrigeration supply houses.	 G4M0578
Electronic leak detector An **ELECTRONIC LEAK DETECTOR** can be obtained from either a specialty tool supply or an A/C equipment supplier.	 G4M0579
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.	 G4M0580

2. Refrigerant Pressure with Manifold Gauge Set S701631

A: OPERATION S701631A16

1) Place the vehicle in the shade and draftless condition.
2) Connect the manifold gauge set.
3) Open the front windows and close all doors.
4) Open the hood.
5) Increase engine rpm to 1,500.
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 kg/cm^2, 18 - 28 psi)
High pressure: 1,471 - 1,667 kPa (15 - 17 kg/cm^2, 213 - 242 psi)
Ambient temperature: 30 - 35 °C (86 - 95 °F)

B: INSPECTION S701631A10

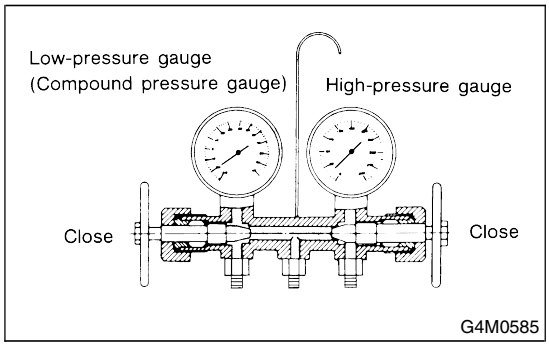
Symptom	Probable cause	Repair order
High-pressure side is unusually high.	• Defective condenser fan motor • Clogged condenser fan • Too much refrigerant • Air inside the system • Defective receiver dryer	• Replace the fan motor. • Clean the condenser fin. • Discharge refrigerant. • Replace the receiver dryer.
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.
Low-pressure side is unusually high.	• Defective compressor • Defective expansion valve • Too much refrigerant	• Replace the compressor. • Replace the expansion valve. • Discharge refigerant.
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 S701291

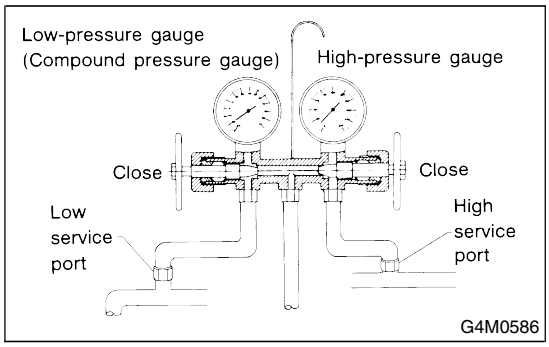
A: OPERATION S701291A16

CAUTION:
• During operation, be sure to wear safety 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) Turn the A/C switch ON.
Leave the engine running for approx. 5 minutes to activate the compressor. Perform the refrigerating cycle with the refrigerant to discharge the compressor oil remaining on the functional parts into the compressor as much as possible.
2) Stop the engine.
3) Close the valves on the low-/high-pressure sides of the manifold gauge set.



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



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

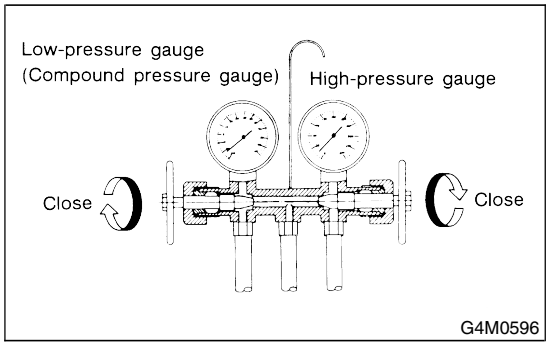
4. Refrigerant Charging Procedure S701292

A: OPERATION S701292A16

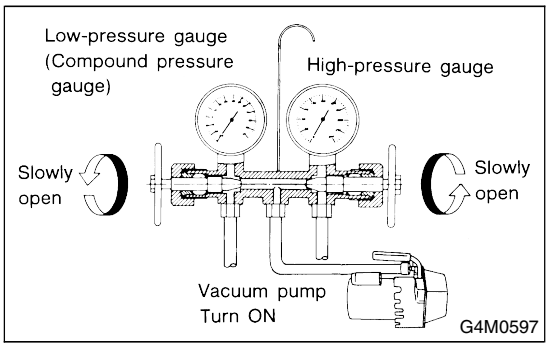
CAUTION:
• During operation, be sure to wear safety goggles and protective gloves.
• Before charging the refrigerant, evacuate the system to remove small amounts of moisture remaining in the system.
The moisture in the system can be completely evacuated only under the minimum vacuum level. The minimum 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)

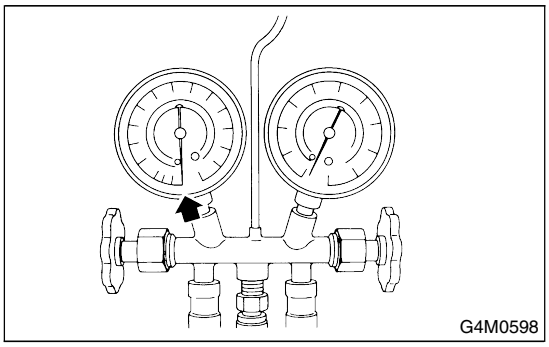
1) Close the valves on low-/high-pressure sides of the manifold gauge.



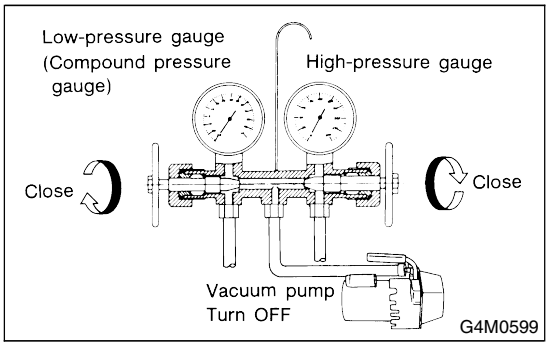
2) Install the low-/high-pressure hoses to the corresponding service ports on the vehicle respectively.
3) Connect the center hose of the manifold gauge set with the vacuum pump.
4) Carefully open the valves on the low-/high-pressure sides to activate the vacuum pump.



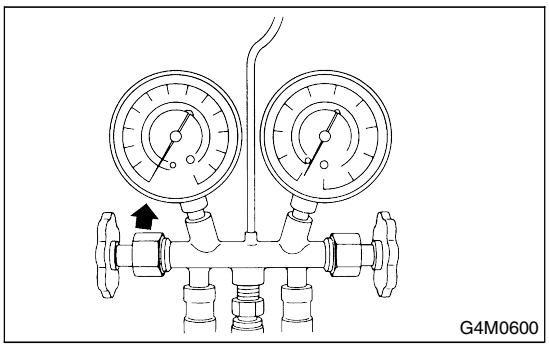
5) After the low-pressure gauge reaches 100.0 kPa (750 mmHg, 29.5 inHg) or higher, evacuate the system for approx. 15 minutes.



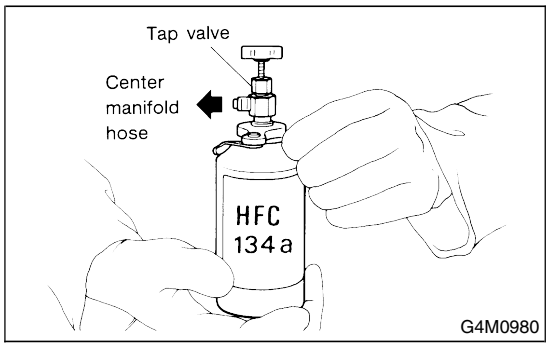
6) After 15 minutes of evacuation, if the reading shows 100.0 kPa (750 mmHg, 29.5 inHg) or higher, close the valves on the both sides to stop the vacuum pump.



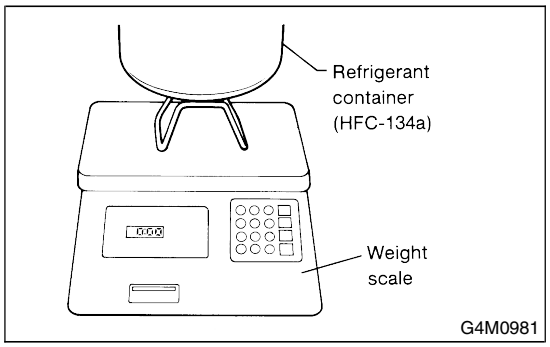
7) Note the low-pressure gauge reading.



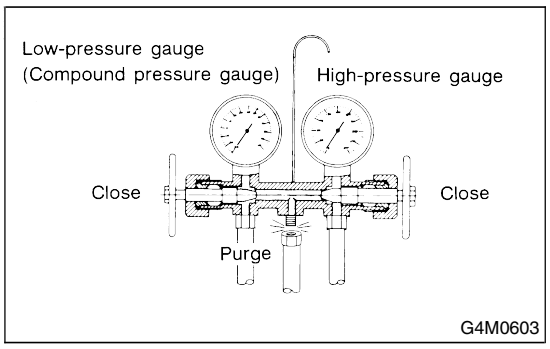
8) Leave it at least 5 minutes, and then check the low-pressure gauge reading for any changes.
When a gauge indicator shows near to zero point, this is a sign of leakage. Check pipe connector points, repair them, make sure there is no leakage by air bleeding.
9) Following the can tap operation manual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



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 weighting scale.

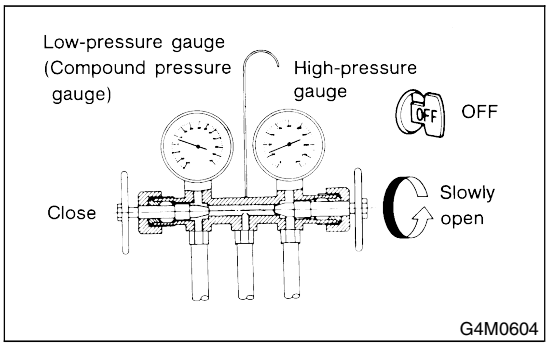


12) Confirm that all the 3 hoses are tightly connected to the manifold gauge set.



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.

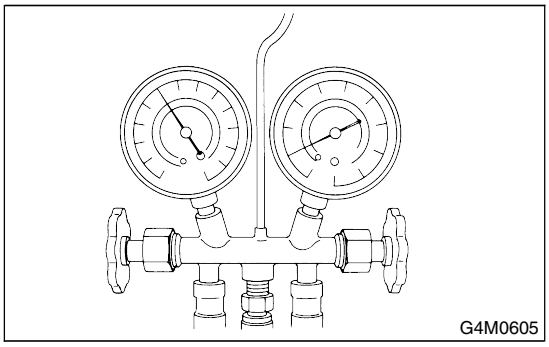


CAUTION:
Never run the engine during charging from the high-pressure side.

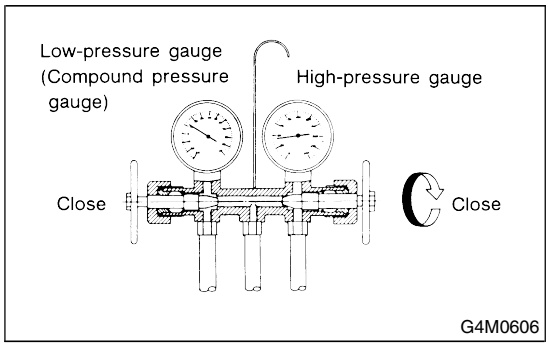
16) Close the high-pressure valve when the low-pressure gauge reaches 98 kPa (1 kg/cm^2, 14 psi).
Using a leak tester, check the system for leaks.
If any leakage is found after the refrigerant recovery is completed, repair the applicable area.
17) After confirming that there are no leaks with the leak test, charge the required amount of refrigerant.

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

18) Close the high-pressure valve when;
- the readings of low- and 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.



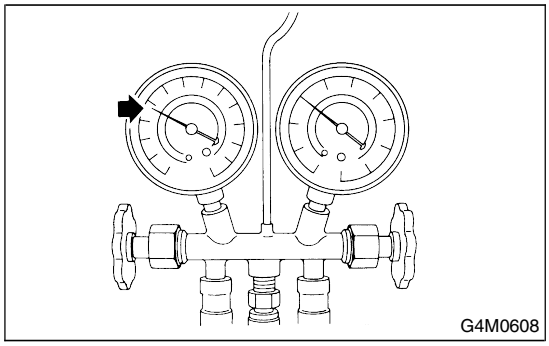
19) If the HFC-134a source is empty, close the high-pressure valve, close the valve on the can tap, and replace the HFC-134a source with a new one to restart the operation.



20) Confirm that both the low- and 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”
- Windows 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.



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

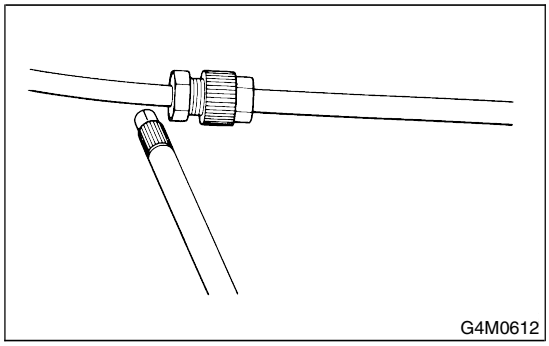
Refrigerant amount		
Refrigerant	Minimum	Maximum
HFC-134a	0.6 kg (1.3 lb)	0.7 kg (1.5 lb)

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

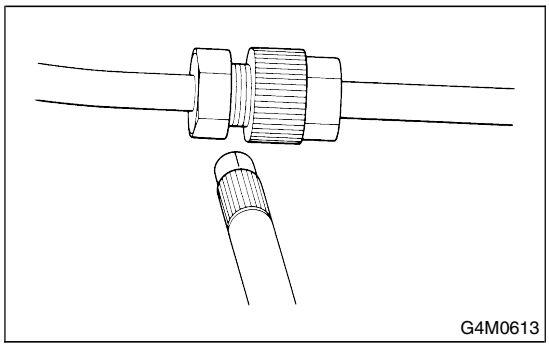
5. Refrigerant Leak Check S701293

A: INSPECTION S701293A10

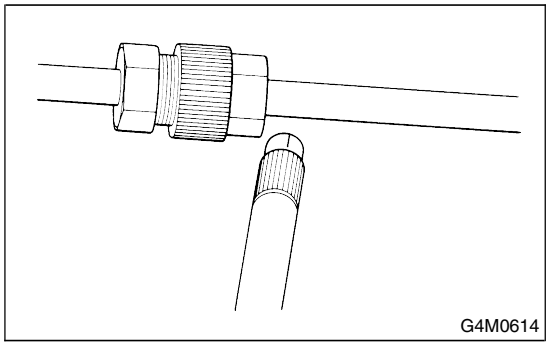
1) Operate the A/C system for approx. 10 minutes, and confirm that the high-side pressure shows at least 690 kPa (7.03 kg/cm^2, 100 psi). Then stop the engine to start the leak test.
2) Starting from the connection between the high-pressure tube and evaporator, check the system for leaks along the high-pressure side through the compressor. The following items must be checked thoroughly.
- Connection between the tube and tube fitting



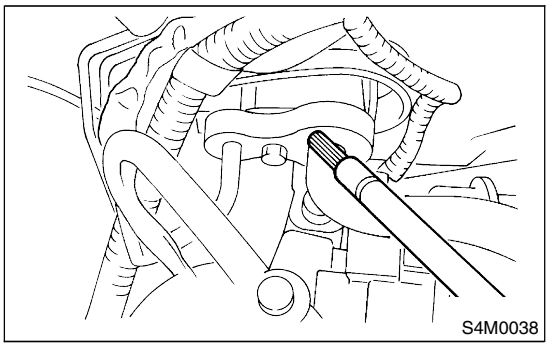
- Connection between 2 parts



- Connection between the tube and nut

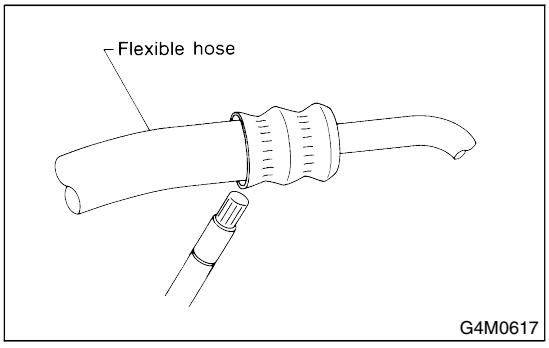


3) Check the joint and seam between the pressure switch (dual switch) and receiver dryer.
4) Check the connections between the condenser and tubes, and welded joints on the condenser.
The leak tester may detect the oil on the condenser fins as a leak.
5) Check the joint between the compressor and hoses.
6) Check the machined area of compressor and other joints on the compressor.
7) Check the thermal limiter (if equipped) on the compressor housing.
8) 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 28 g (1.0 oz) per year. This is not a problem.
9) Starting from the connection between the low-pressure tube and evaporator, check the system for leakage along the high-pressure side through the compressor. The following items must be checked thoroughly.
- Connection between the tube and tube fitting
- Connection between 2 parts
- Connection between the tube and nut



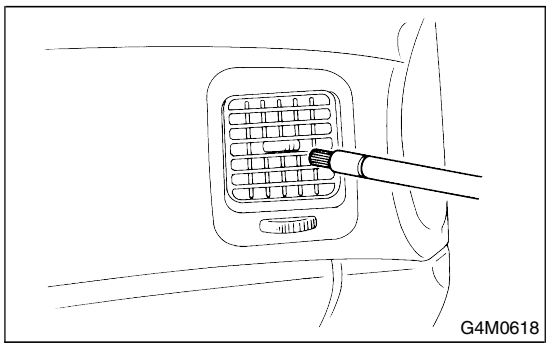
10) Visually check the rubber area of the flexible hose for cracks.
Check the entire length of the flexible hose, especially the connection with the metal hose end.

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

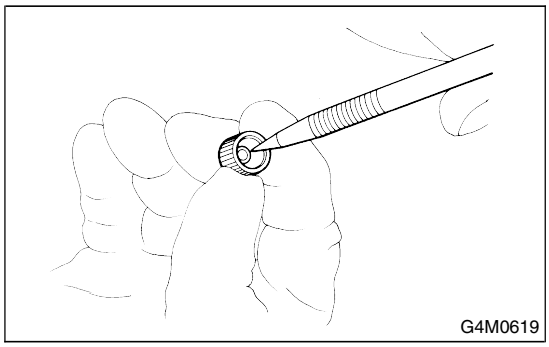


11) Disconnect the drain hose from the evaporator case, and check the hose end for at least 10 seconds.
After the test is finished, reconnect the drain hose.

12) Turn the ignition key to ON position, and run the blower at high speed for 1 minute. Stop the blower to check the ventilation grill on the instrument panel. While moving the tester closer to the grill, run the blower for 1 or 2 seconds, then stop it. Check the grill at that point for at least 10 seconds.


G4M0618

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


G4M0619

6. Compressor Oil S701294

A: OPERATION S701294A16

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

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

B: REPLACEMENT S701294A20

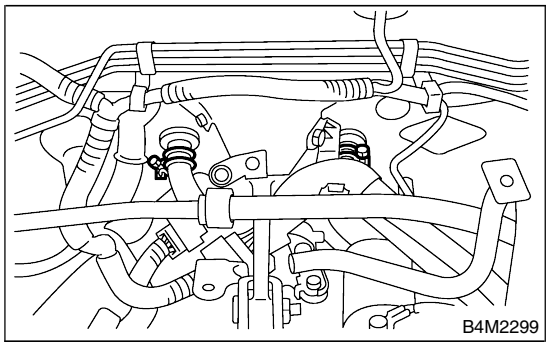
NOTE:
- If a component is replaced, add an appropriate amount of compressor oil.
- When replacing the compressor, the new compressor will already have the specified amount of oil in it. Install the new compressor after removing the same amount of oil that is remaining in the compressor removed.

Replacement parts	Amount of oil replenishment
Evaporator	70 mℓ (2.4 US fl oz, 2.5 Imp fl oz)
Receiver drier	5 mℓ (0.2 US fl oz, 0.2 Imp fl oz)
Condenser	50 mℓ (1.7 US fl oz, 1.8 Imp fl oz)
Hose	50 mℓ (1.7 US fl oz, 1.8 Imp fl oz)

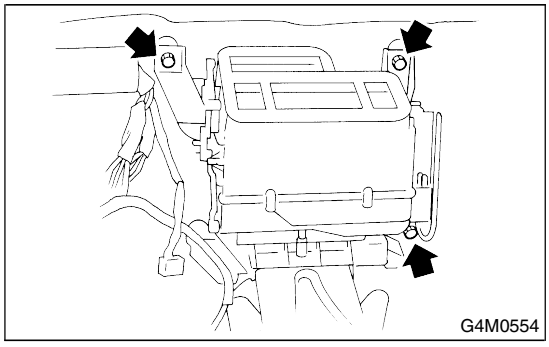
7. Heater Unit S701290

A: REMOVAL S701290A18

1) Disconnect ground cable from battery.
2) Drain engine coolant. <Ref. to CO-14, DRAINING OF ENGINE, REPLACEMENT, Engine Coolant.>
3) Remove air cleaner case. (Non-turbo model) <Ref. to IN(SOHC)-7, REMOVAL, Air Cleaner.>
4) Remove intercooler. (Turbo model) <Ref. to IN(DOHC TURBO)-10, REMOVAL, Intercooler.>
5) Release heater hose clamps in engine compartment to remove the hoses.



6) Remove instrument panel. <Ref. to EI-31 REMOVAL, Instrument Panel Assembly.>
7) Loosen nuts and bolts of support beam to remove support beam.
8) Remove A/C unit. <Ref. to AC-36 REMOVAL, Intake Unit.>
9) Loosen nuts and bolts of heater unit to remove heater unit.



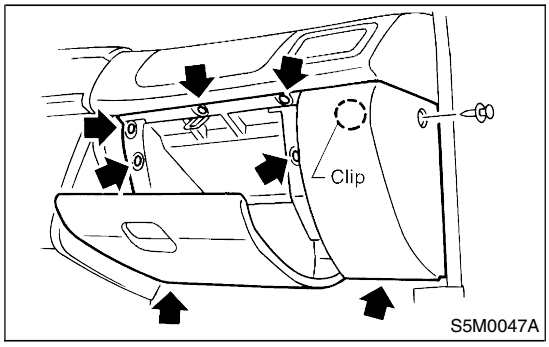
B: INSTALLATION S701290A11

1) Install in the reverse order of removal.
2) Refill engine coolant. <Ref. to CO-14, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

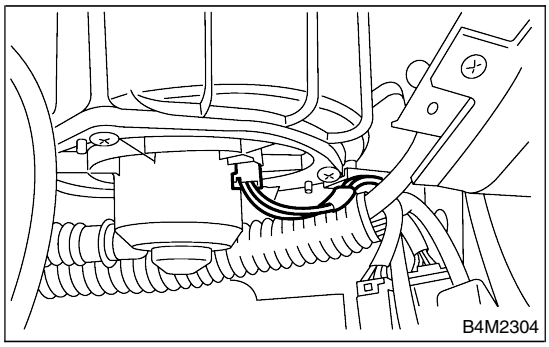
8. Blower Motor Assembly S701295

A: REMOVAL S701295A18

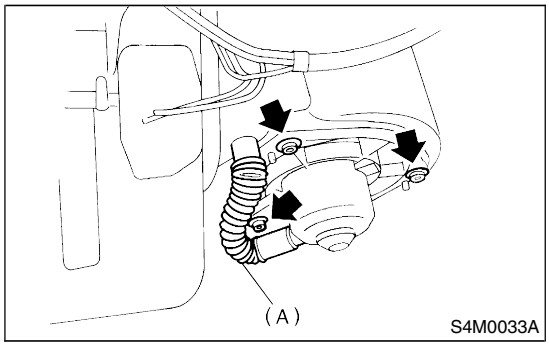
1) Disconnect ground cable from battery.
2) Remove glove box.



3) Disconnect motor connector.



4) Remove 3 screws.
5) Disconnect aspirator pipe (A) and remove blower motor.

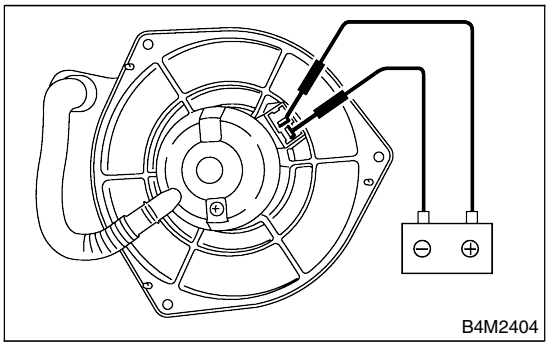


B: INSTALLATION S701295A11

Install in the reverse order of removal.

C: INSPECTION S701295A10

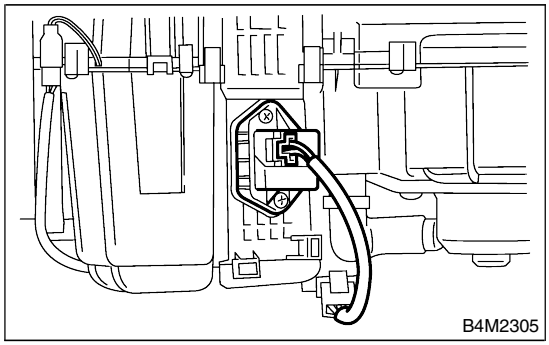
Connect motor connector terminal 1 from the battery to the positive (+) lead and terminal 2 to the negative (–) lead. Make sure the motor runs smoothly.



9. Power Transistor (Heater Blower Resistor) S701553

A: REMOVAL S701553A18

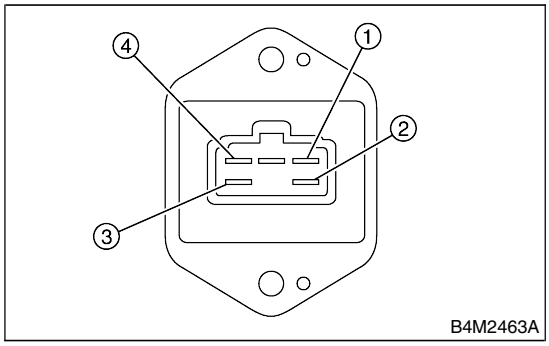
1) Remove glove box. <Ref. to EI-28 REMOVAL, Glove Box.>
2) Disconnect power transistor connector.
3) Loosen 2 screws to remove power transistor.


B4M2305

B: INSTALLATION S701553A11

Install in the reverse order of removal.

C: INSPECTION S701553A10



B4M2463A

Check continuity between connector terminals.

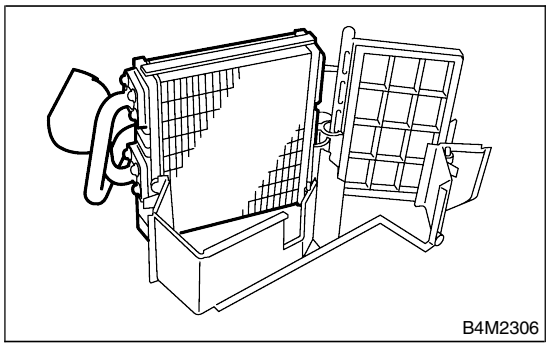
Tester connection	Condition	Specified condition
4 — 3	Constant	Approx. 0.4 Ω
3 — 2	Constant	Approx. 0.7 Ω
2 — 1	Constant	Approx. 1.5 Ω

If NG, replace the blower resistor.

10. Heater Core S701554

A: REMOVAL S701554A18

1) Remove heater unit. <Ref. to AC-26 REMOVAL, Heater Unit.>
2) Remove screws to separate heater unit case.
3) Remove heater core.



B: INSTALLATION S701554A11

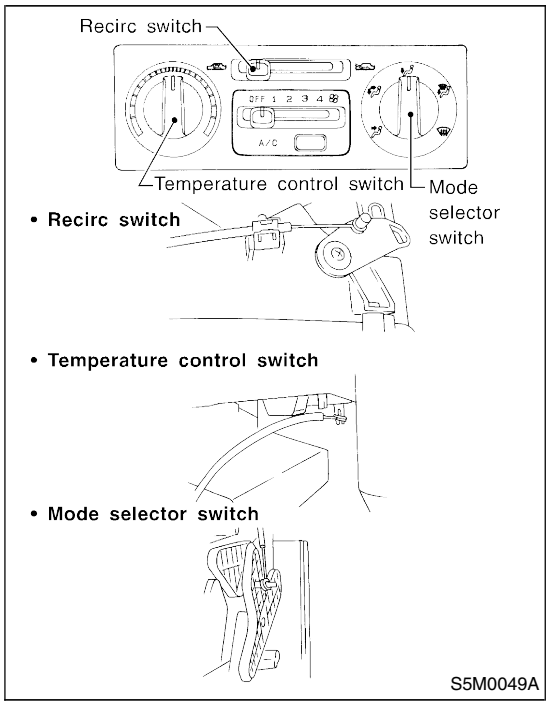
Install in the reverse order of removal.

11. Control Unit S701285

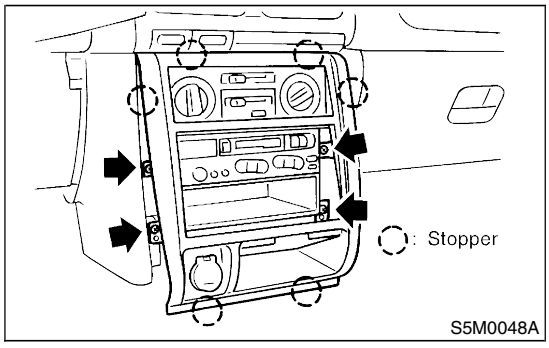
A: REMOVAL S701285A18

1) Disconnect GND cable from battery.
2) Set temperature control switch to “FULL HOT” and mode selector switch to “DEF” position and recirc switch to “FRESH” position.
3) Disconnect temperature control cable and mode door control cable from heater unit then disconnect recirc control cable from intake unit.

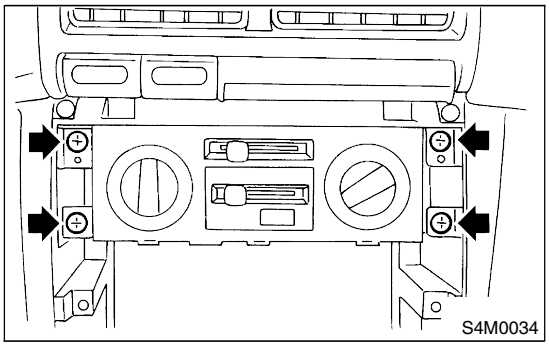
NOTE:
Do not attempt to move links during installation.



4) Remove console box. <Ref. to EI-30 REMOVAL, Console Box.>
5) Remove center panel and then disconnect connector.
6) Remove audio.



7) Remove control unit assembly from center console.



B: INSTALLATION S701285A11

Install in the reverse order of removal.

NOTE:
Before installing control unit, set temperature control switch to “FULL HOT” and mode selector switch to “DEF” position and recirc switch to “FRESH” position.

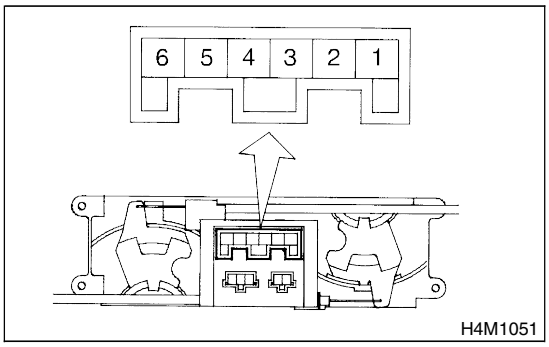
C: INSPECTION S701285A10

1. FAN SWITCH S701285A1003

Check continuity between terminals at each switch position.

Switch position	Terminals					
	1	2	3	4	5	6
1	○				○	○
2	○			○		○
3	○		○			○
4	○	○				○
	IGN					GND

H5M1280A

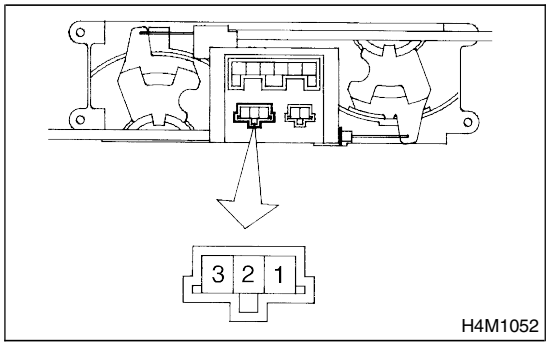


2. A/C SWITCH S701285A1004

Check A/C switch continuity between each terminal.

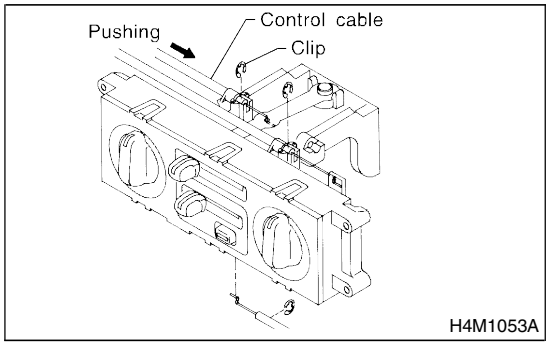
Terminal	Switch ON	Illumi.
1		○
2	○	○
3	○	○

H5M1281A



D: ADJUSTMENT S701285A01

1) Operate temperature control switch to “FULL COLD” and mode selector switch to “VENT” position and recirc switch to “RECIRC” position.
2) Install control cable to lever. While pushing outer cable, secure control cable with clip.



12. Compressor S701281

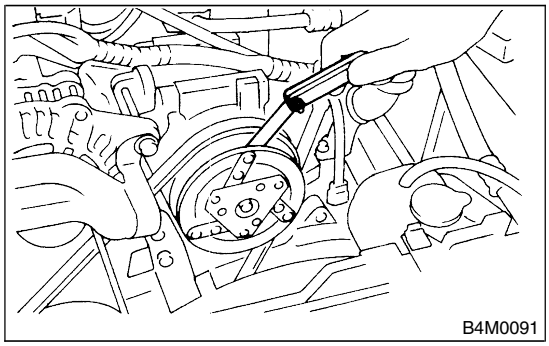
A: INSPECTION S701281A10

1. MAGNETIC CLUTCH CLEARANCE

S701281A1001

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

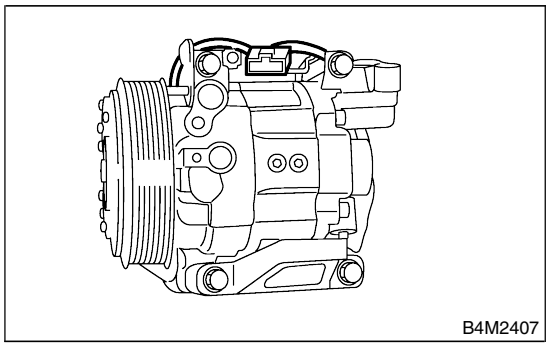
Standard:
0.45±0.15 mm (0.0177±0.0059 in)


B4M0091

2. MAGNETIC CLUTCH OPERATION

S701281A1002

1) Disconnect the compressor connector.
2) Connect the No. 3 terminal of the compressor connector from the battery to the positive (+) lead. Ground the negative (–) lead to the body.

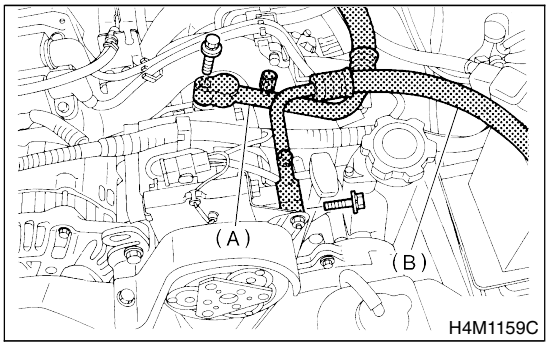

B4M2407

3) Make sure the magnet clutch engages.
If NG, replace the compressor.

B: REMOVAL S701281A18

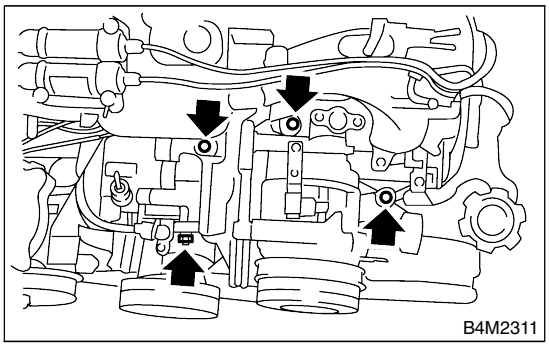
1) Perform oil return operation. <Ref. to AC-25 OPERATION, Compressor Oil.>
2) Turn A/C switch OFF and stop the engine.
3) Using refrigerant recovery system, discharge refrigerant. <Ref. to AC-19 OPERATION, Refrigerant Recovery Procedure.>
4) Disconnect ground cable from battery.
5) Disconnect low-pressure hose (A) and high-pressure hose (B).

CAUTION:
Be careful not to lose O-rings on hose. Immediately seal hose with a plug or vinyl tape to prevent the entry of contamination.

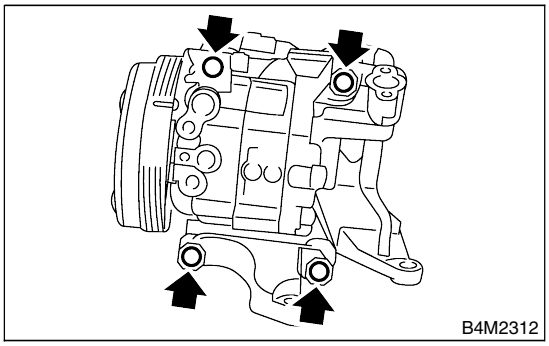


H4M1159C

6) Remove V-belt. (SOHC) <Ref. to ME(SOHC)-42, REMOVAL, V-belt.> or (DOHC TURBO) <Ref. to ME(DOHC TURBO)-44, REMOVAL, V-belt.>
7) Remove generator. <Ref. to SC-12 REMOVAL, Generator.>
8) Disconnect compressor harness from body harness.
9) Remove bolts from compressor bracket.


B4M2311

10) Loosen bolts to remove compressor from bracket.


B4M2312

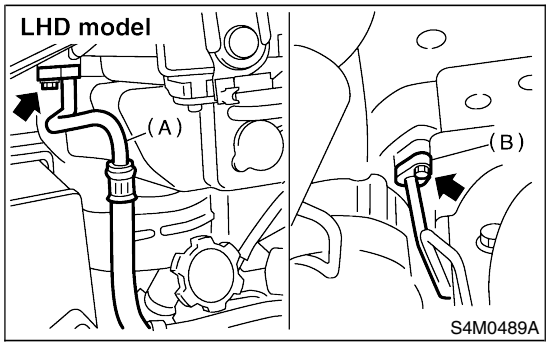
C: INSTALLATION S701281A11

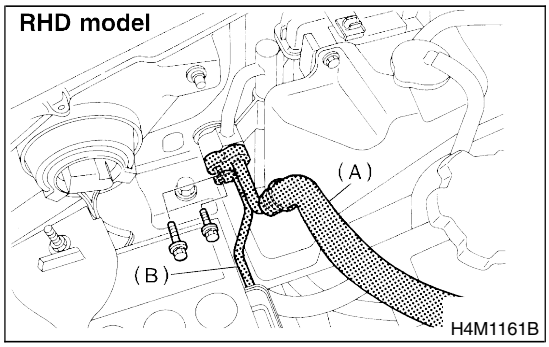
1) Install in the reverse order of removal.
2) Replace O-rings on low-/high-pressure hoses with new ones, then apply compressor oil.
3) When replacing compressor, adjust amount of compressor oil. <Ref. to AC-25 Compressor Oil.>
4) Charge refrigerant. <Ref. to AC-20 OPERATION, Refrigerant Charging Procedure.>

13. Condenser S701282

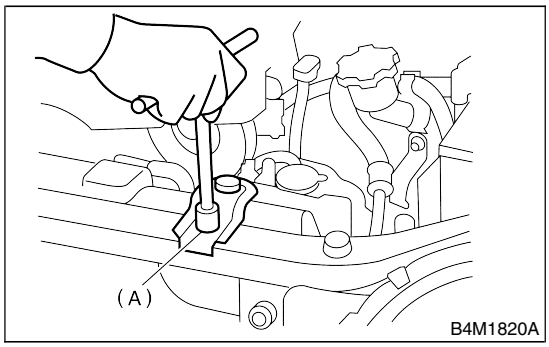
A: REMOVAL S701282A18

1) Using refrigerant recovery system, discharge refrigerant. <Ref. to AC-19 OPERATION, Refrigerant Recovery Procedure.>
2) Disconnect ground cable from battery.
3) Disconnect high-pressure hose (A) and high-pressure pipe (B) from condenser.

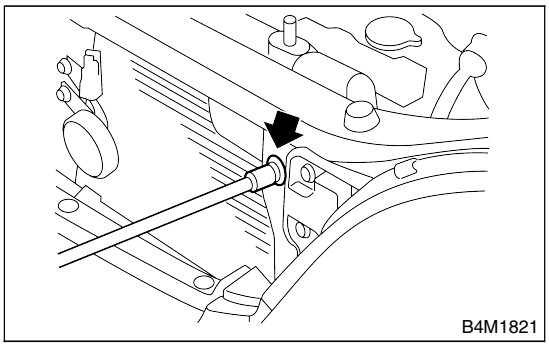




4) Remove radiator bracket (A).



5) Remove 2 bolts. While lifting condenser, pull it out through the space between the radiator and the radiator panel.

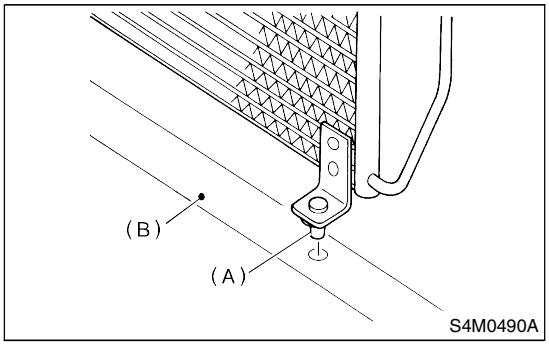


CAUTION:
Be careful not to damage condenser fins. If a damaged fin is found, repair it using a thin screwdriver.
If condenser is replaced, add appropriate amount of compressor oil to the compressor. <Ref. to AC-25 REPLACEMENT, Compressor Oil.>

B: INSTALLATION S701282A11

1) Install in the reverse order of removal.

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



2) Charge refrigerant. <Ref. to AC-20 OPERATION, Refrigerant Charging Procedure.>

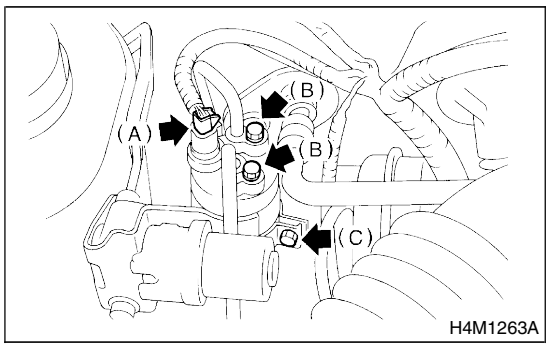
C: INSPECTION S701282A10

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

14. Receiver Drier S701283

A: REMOVAL S701283A18

1) Disconnect ground cable from battery.
2) Using refrigerant recovery system, discharge refrigerant. <Ref. to AC-19 OPERATION, Refrigerant Recovery Procedure.>
3) Disconnect pressure switch harness (A).
4) Disconnect pipe (B).
5) Loosen mounting bolts (C) to remove receiver dryer.



CAUTION:
The receiver drier contains a desiccant. After disconnecting receiver drier, plug it to avoid moisture.
If receiver drier is replaced, add appropriate amount of compressor oil to the compressor. <Ref. to AC-25 REPLACEMENT, Compressor Oil.>

B: INSTALLATION S701283A11

1) Install in the reverse order of removal.

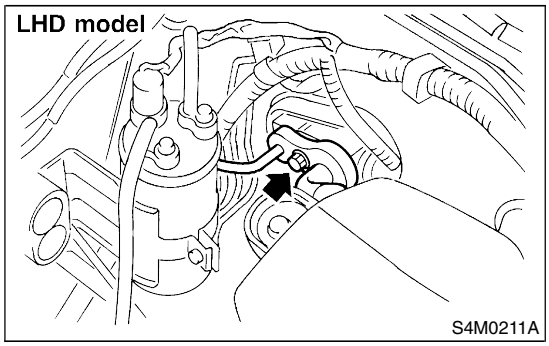
CAUTION:
Replace O-rings with new ones, and apply compressor oil.

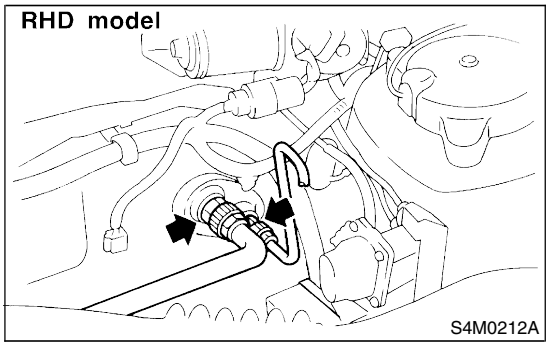
2) Charge refrigerant. <Ref. to AC-20 OPERATION, Refrigerant Charging Procedure.>

15. Intake Unit S701632

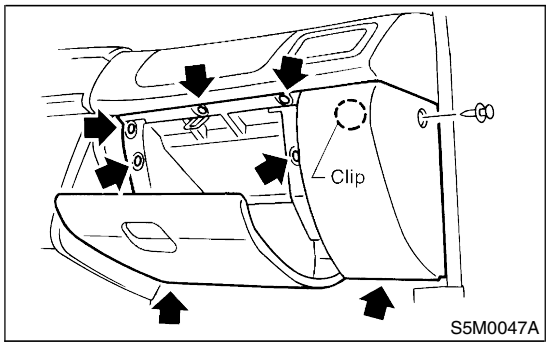
A: REMOVAL S701632A18

1) Using refrigerant recovery system, discharge refrigerant. <Ref. to AC-19 OPERATION, Refrigerant Recovery Procedure.>
2) Disconnect ground cable from battery.
3) LHD: Remove bolt then disconnect discharge pipe and suction pipe.
RHD: Disconnect discharge pipe, suction pipe and grommets.

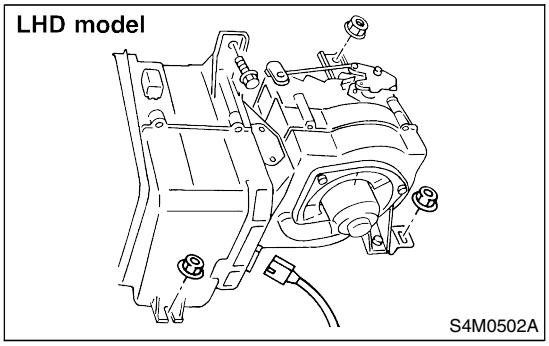


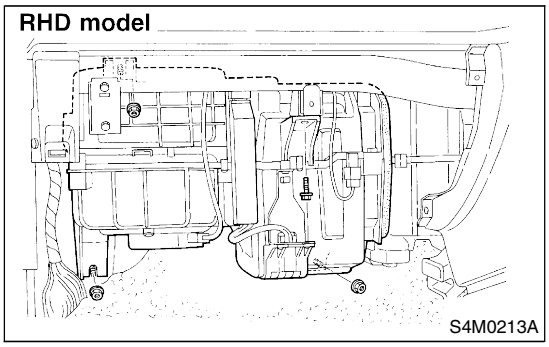


4) Remove glove box.



5) Disconnect the harness connector from intake unit.
6) Disconnect drain hose.
7) Remove intake unit mounting bolt and nut.





B: INSTALLATION S701632A11

1) Install in the reverse order of removal.

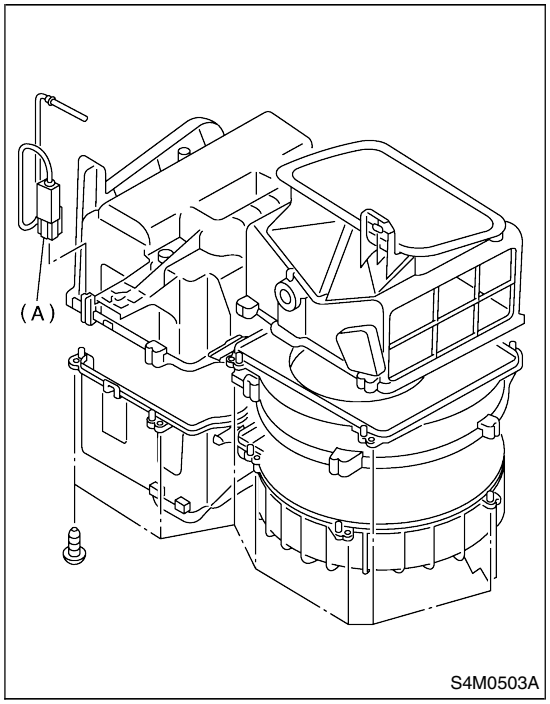
CAUTION:
Replace O-rings with new ones, and apply compressor oil.

2) Charge refrigerant. <Ref. to AC-20 OPERATION, Refrigerant Charging Procedure.>

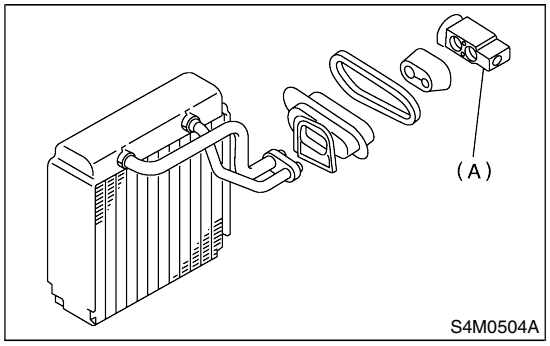
C: DISASSEMBLY S701632A06

1. LHD MODEL S701632A0601

1) Remove thermistor (A) from intake unit case.
2) Remove some screws then separate intake unit case.
3) Remove thermistor from clip with the evaporator.

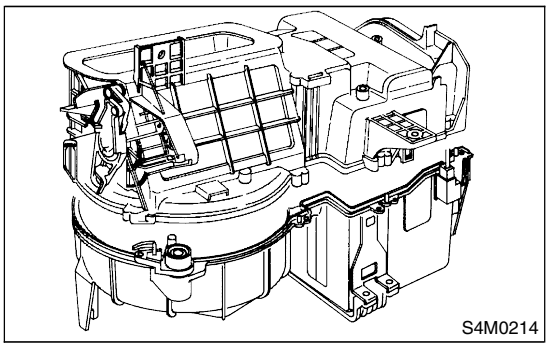


4) Remove the block expansion valve (A) from pipes.

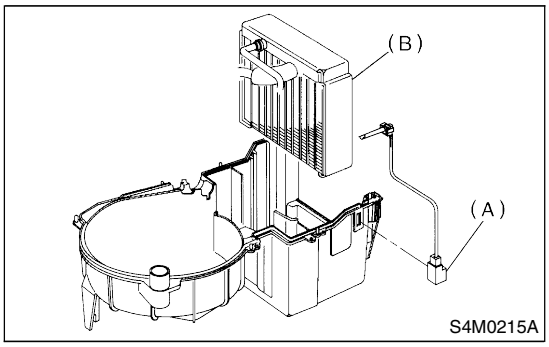


2. RHD MODEL S701632A0602

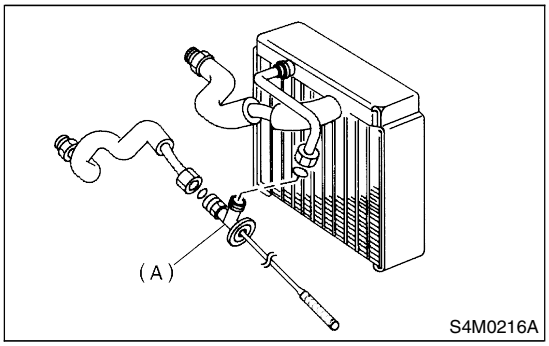
1) Remove some screws, then separate intake unit case.



2) Remove thermostat (A) from lower case and then detach evaporator (B).



3) Disconnect the connection between the expansion valve and pipe from receiver drier.
4) Remove the expansion valve (A) from pipes.



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

D: ASSEMBLY S701632A02

Assemble in the reverse order of disassembly.

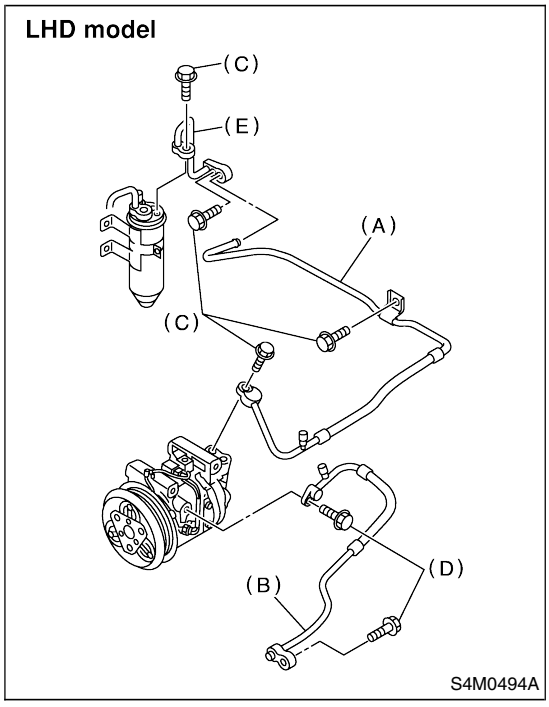
CAUTION:
Replace O-rings with new ones, and then apply compressor oil.

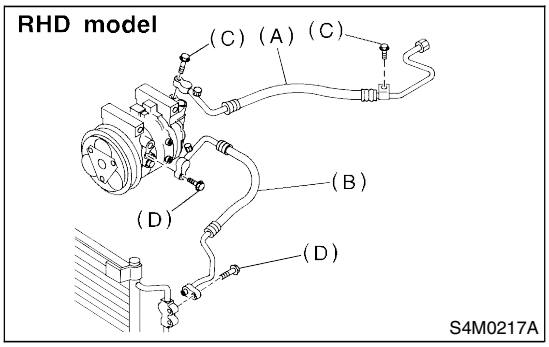
16. Flexible Hose S701286

A: REMOVAL S701286A18

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

1) Disconnect ground cable from battery.
2) Using refrigerant recovery system, discharge refrigerant. <Ref. to AC-19 OPERATION, Refrigerant Recovery Procedure.>
3) Remove hose attaching bolts (C).
4) Disconnect hose from evaporator unit.
5) Disconnect hose from compressor.
6) Remove low-pressure hose (A) from the vehicle.
7) Remove hose attaching bolts (D).
8) Disconnect hose from compressor.
9) Disconnect hose from condenser.
10) Disconnect high-pressure hose (B) from the vehicle.





B: INSTALLATION S701286A11

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

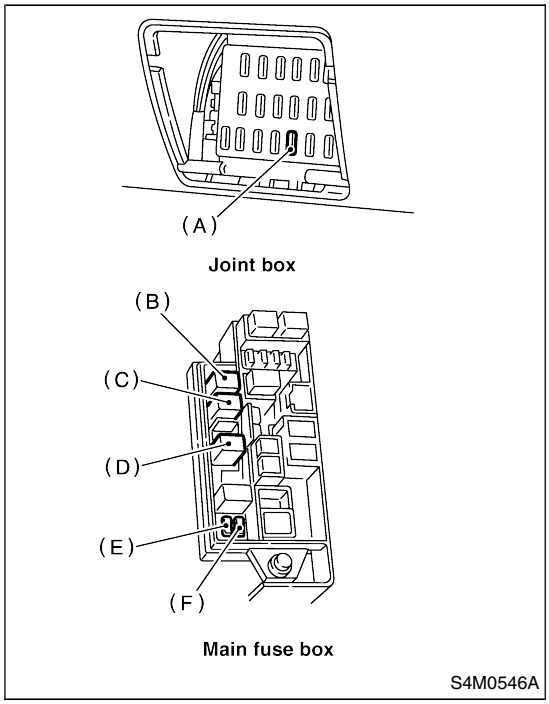
1) Install in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-20 OPERATION, Refrigerant Charging Procedure.>

C: INSPECTION S701286A10

NOTE:
If cracking, damage, or swelling is found on a hose, replace it with a new one.

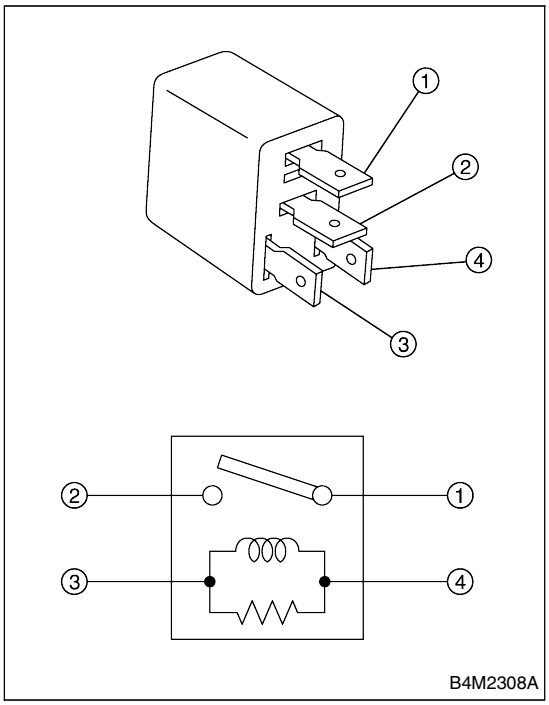
17. Relay and Fuse S701287

A: LOCATION S701287A13



(A) A/C fuse
(B) Main fan relay
(C) Sub fan relay
(D) A/C relay
(E) Main fan fuse
(F) Sub fan fuse

B: INSPECTION S701287A10

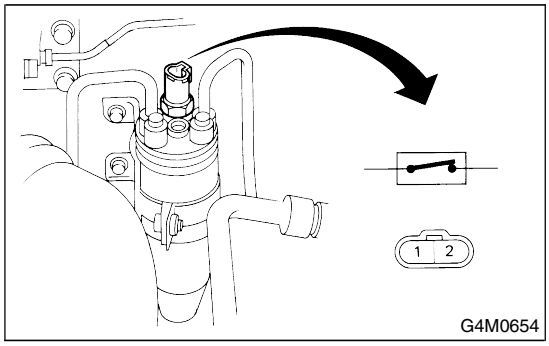


(3) — (4): Continuity exists.
(1) — (2): No continuity
While applying battery voltage to the cable between (3) and (4), check continuity between (1) and (2).
If no continuity exists, replace the relay with a new one.

18. Pressure Switch (Dual Switch) S701555

A: INSPECTION S701555A10

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 the pressure switch.



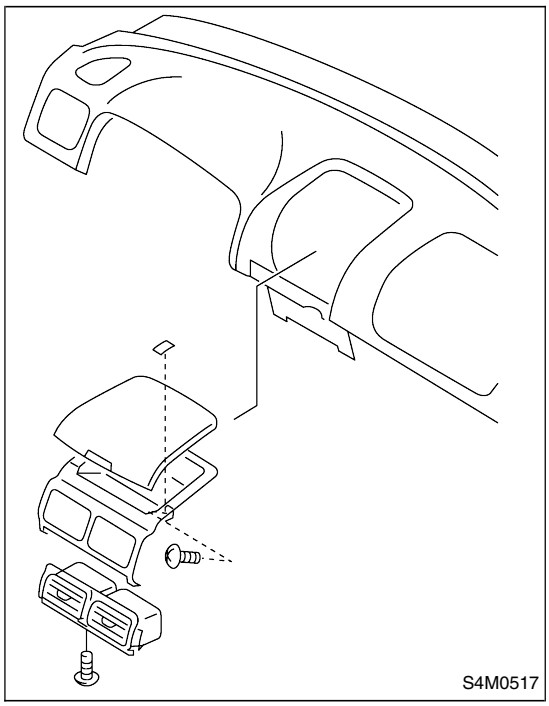
	Terminal	Operation	High-pressure side line pressure
High and low pressure switch	1 — 2	Turns OFF.	Increasing to 2,940±200 kPa (29.98±2.04 kg/cm^2, 426.3±29.0 psi): LHD model 2,650±200 kPa (27.02±2.04 kg/cm^2, 384±29 psi): RHD model
			Decreasing to 177±25 kPa (1.80±0.25 kg/cm^2, 25.6±3.6 psi):
		Turns ON.	Increasing to Less than 216 kPa (2.2 kg/cm^2, 31 psi):
			Decreasing to 2,350±200 kPa (23.97±2.04 kg/cm^2, 341±29 psi): LHD model 1,471±200 kPa (15±2.04 kg/cm^2, 213 ±29 psi): RHD model

19. Air Vent Grille S701284

A: REMOVAL S701284A18

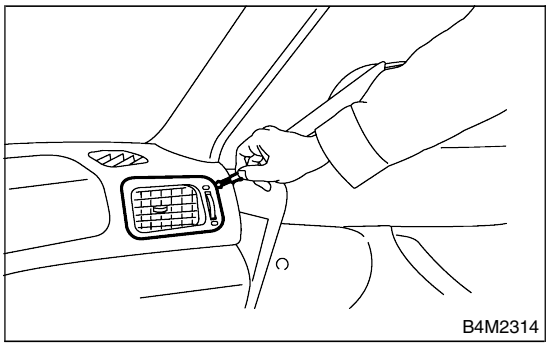
1. CENTER AIR VENT GRILLE S701284A1803

1) Remove center panel.
2) Loosen screw to remove grille.



2. SIDE AIR VENT GRILLE S701284A1804

1) Remove grille using sharp-edged screwdriver.



CAUTION:
Wrap screwdriver with vinyl tape to prevent damage to interior parts.

B: INSTALLATION S701284A11

Install in the reverse order of removal.

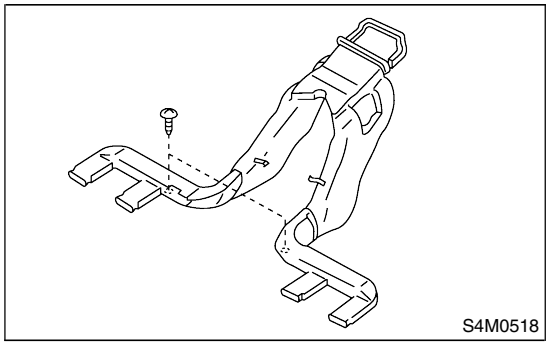
C: INSPECTION S701284A10

The direction and amount of air should be adjusted smoothly.
The adjustment should be kept in each position.

20. Heater Duct S701556

A: REMOVAL S701556A18

1) Remove front seat. <Ref. to SE-5 REMOVAL, Front Seat.>
2) Remove heater unit. <Ref. to AC-26 REMOVAL, Heater Unit.>
3) Remove front side sill cover.
4) Pull off floor mat to remove heater duct.



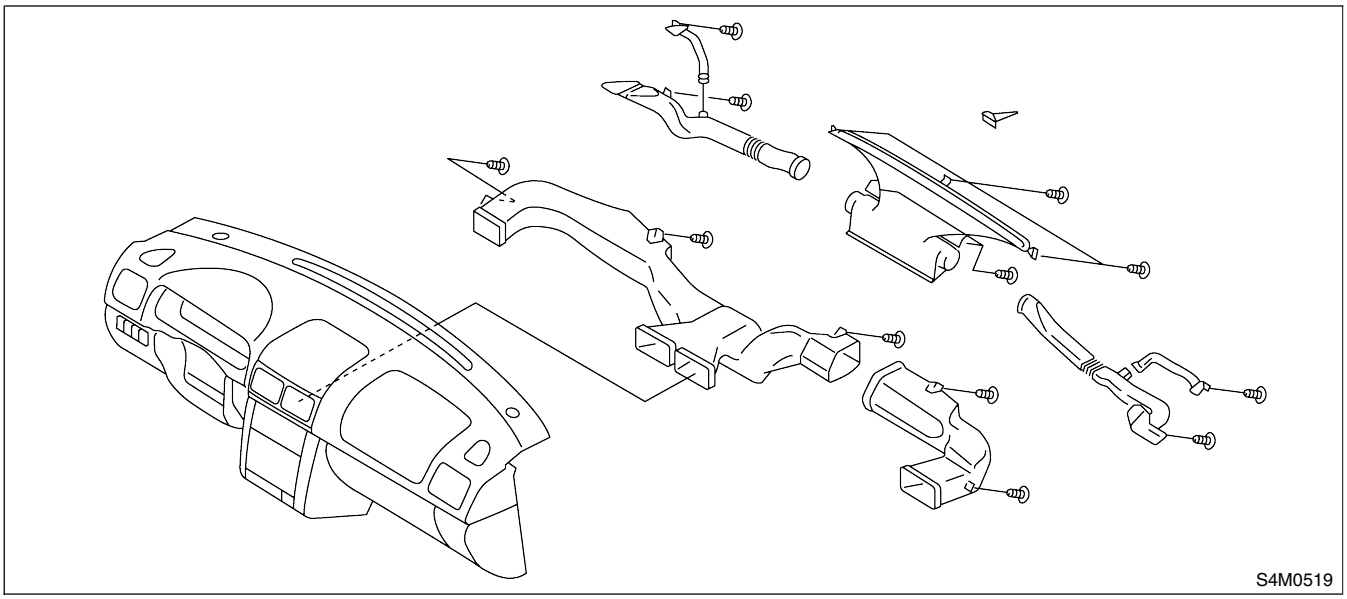
B: INSTALLATION S701556A11

Install in the reverse order of removal.

21. Heater Vent Duct S701557

A: REMOVAL S701557A18

1) Remove instrument panel. <Ref. to EI-31 REMOVAL, Instrument Panel.>
2) Remove screws.
3) Remove heater vent duct.



B: INSTALLATION S701557A11

Install in the reverse order of removal.

22. General Diagnostics S701278

A: INSPECTION S701278A10

Symptom		Repair order
Blower motor	Doesn't move.	Fuse
		Blower motor relay
		Blower motor
		Blower motor resister
		Blower switch
		Wire harness
	Strange noise.	Blower motor
Compressor	Doesn't move.	Refrigerant
		Fuse
		Air conditioning relay
		Magnet clutch
		Compressor
		Pressure switch
		A/C switch
		Blower switch
		Wire harness
	Strange noise	V-Belt
		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
Temperature of air from vents does not change.		Engine coolant
		Mode actuator
		Wire harness
Unable to switch blow vents.		Mode actuator
		Air flow switch
		Wire harness
Unable to switch suction vents.		Air inlet select switch
		FRESH/RECIRC actuator
		Wire harness

AIRBAG SYSTEM

AB

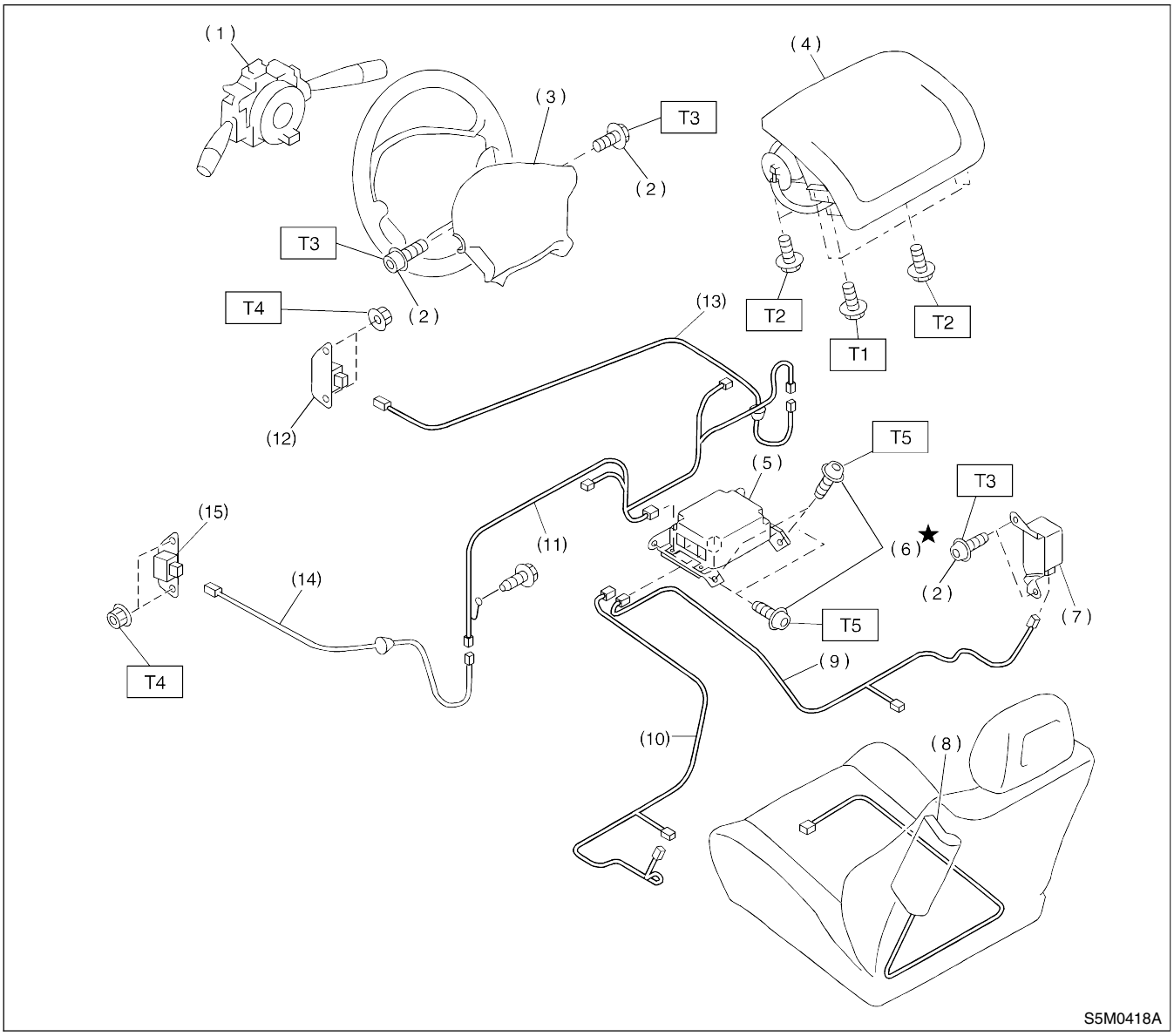
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3. Inspection Locations After a Collision....10
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5. Passenger's Airbag Module....14
6. Side Airbag Module....15
7. Main Harness....16
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1. General Description S802001

A: COMPONENT S802001A05

1. SRS AIRBAG S802001A0501

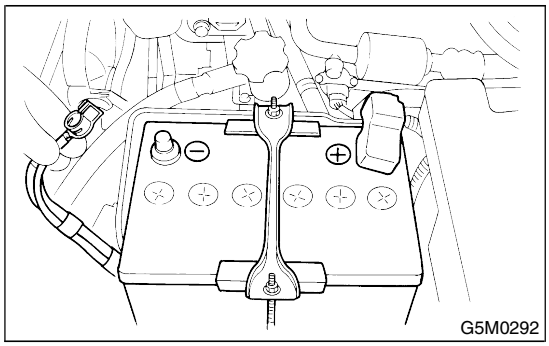


(1) Combination switch ASSY with roll connector
(2) TORX® bolt T30
(3) Airbag module ASSY (Driver)
(4) Airbag module ASSY (Passenger)
(5) Airbag control module
(6) TORX® bolt T40
(7) Side airbag sensor
(8) Side airbag module
(9) Side airbag harness (RH)
(10) Side airbag harness (LH)
(11) Airbag main harness
(12) Front sub sensor (RH)
(13) Front sub sensor harness (RH)
(14) Front sub sensor harness (LH)
(15) Front sub sensor (LH)

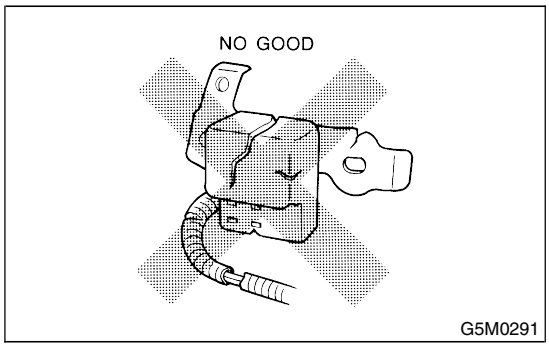
Tightening torque: N·m (kgf-m, ft-lb)
T1: 4.4 (0.45, 3.3)
T2: 7.4 (0.75, 5.4)
T3: 10 (1.0, 7.2)
T4: 20 (2.0, 14.5)
T5: 25 (2.5, 18.1)

B: CAUTION S802001A03

● When servicing a vehicle, be sure to turn the ignition switch OFF, disconnect the ground cable from the 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.

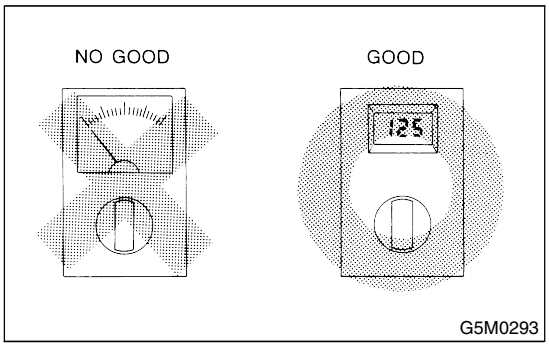

G5M0292

● If sensors, airbag module, airbag control module and harness are deformed or damaged, replace them with new genuine parts.

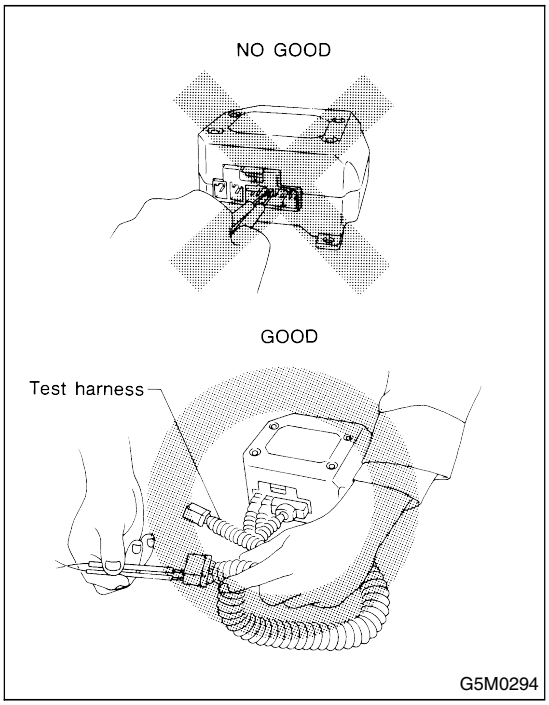


G5M0291

● Do not use the airbag parts from other vehicles. Always replace defective parts with new parts.
● Never re-use a deployed airbag.
● When checking the system, be sure to use a digital circuit tester.
Use of an analog circuit tester may cause the airbag to activate erroneously.
● When checking, use a test harness. Do not directly apply the tester probe to any connector terminal of the airbag.

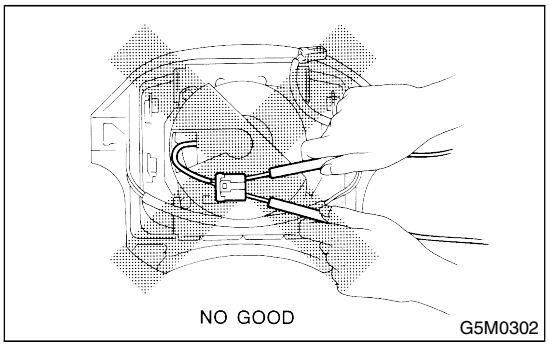


G5M0293



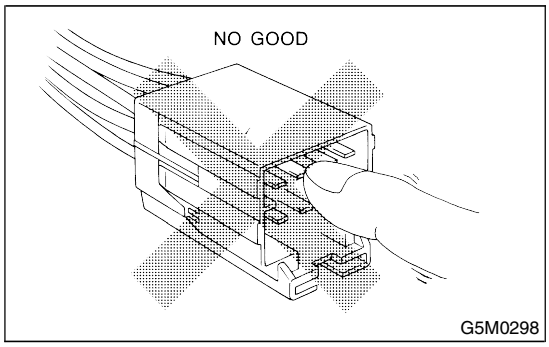
G5M0294

● Do not check continuity of the driver, passenger and side airbag modules.

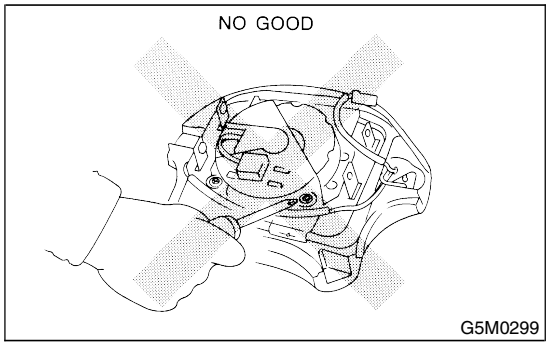


G5M0302

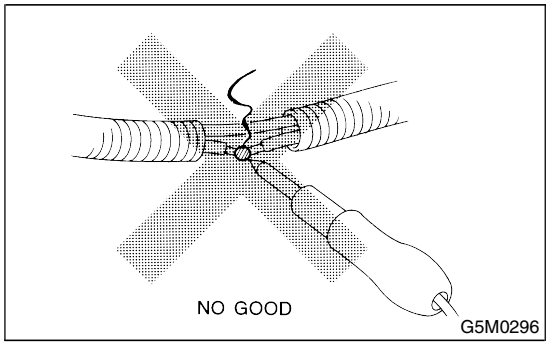
● Do not allow water or oil to come in contact with the connector terminals. Do not touch the connector terminals.



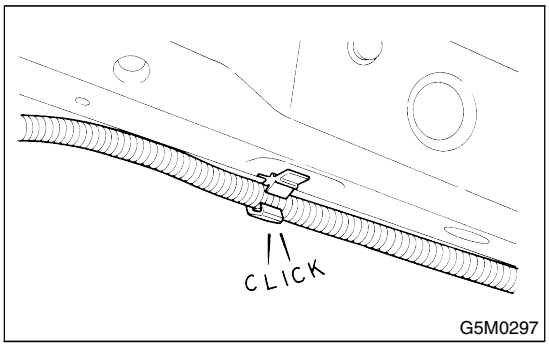
● Either of the airbag modules for driver, passenger or side, must not be disassembled.



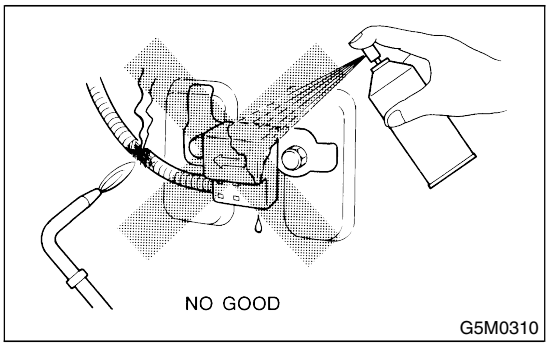
● If any damage, opening, or rust is found on the airbag system wire harness, do not attempt to repair using soldering equipment. Be sure to replace the faulty harness with a new genuine part.



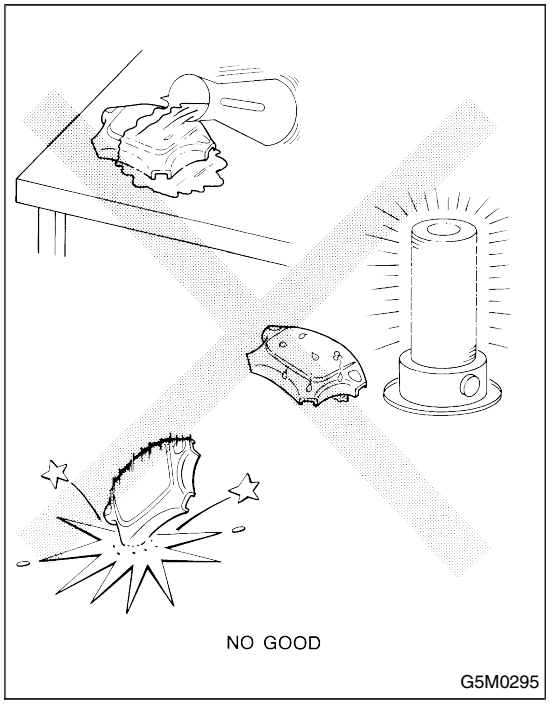
● Install the wire harness securely with the specified clips to avoid interference or tongled up with other parts.



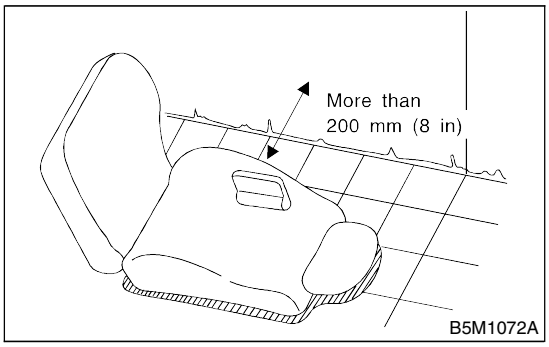
● When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender, and front side frame, remove the front sub sensors and wire harness of the airbag system.
● When painting or performing sheet metal work on the side of the vehicle, including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



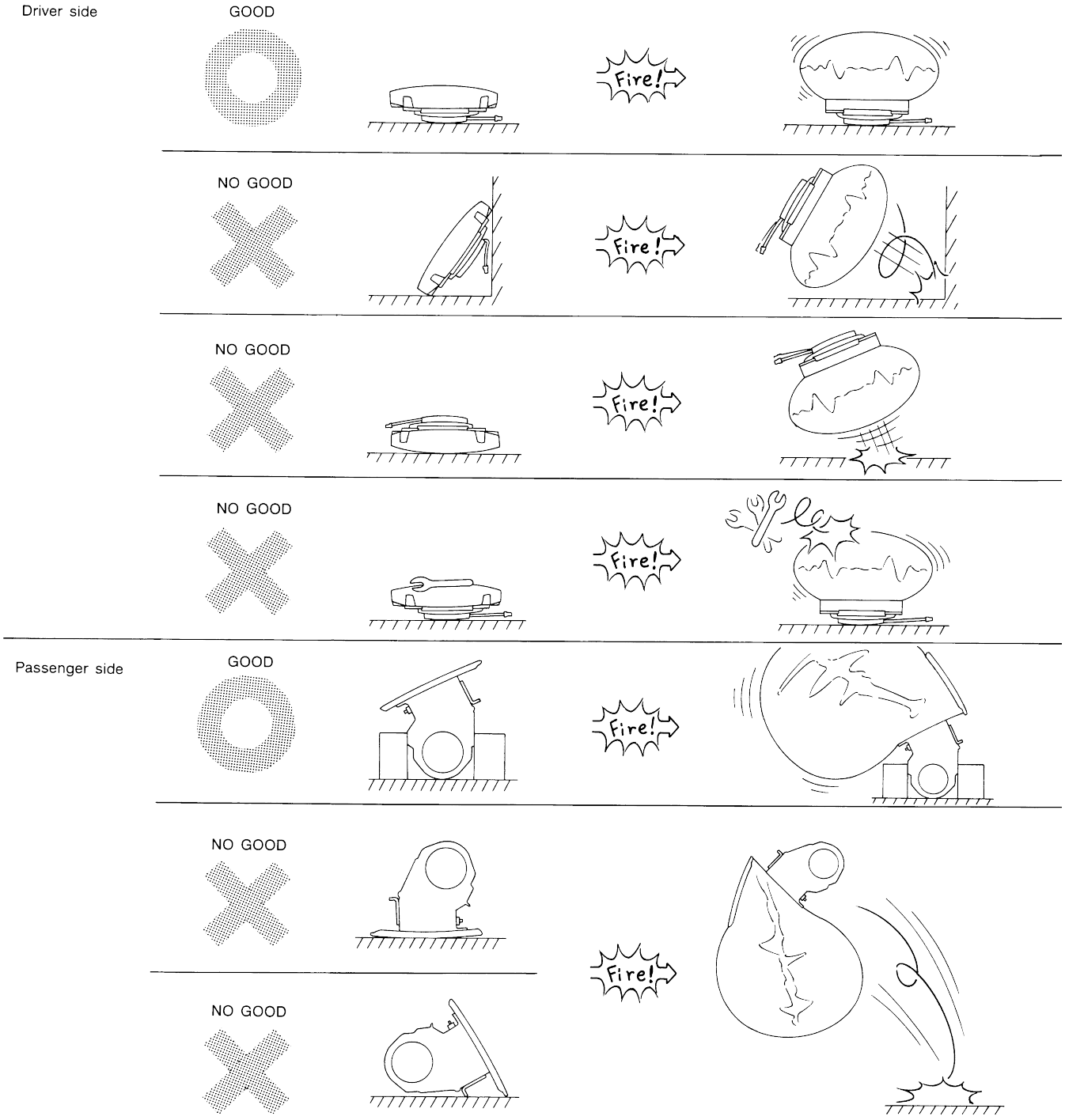
● Do not drop the airbag modulator parts, subject them to high temperature over 93°C (199°F), or let water, oil, or grease get on them; otherwise, the internal parts may be damaged and reliability greatly lowered.



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



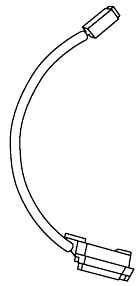
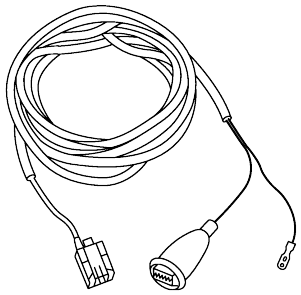
● When storing a removed airbag module, do not place any objects on it or pile airbag modules on top of each other. If the airbag inflates for some reason when it is placed with its pad side facing downward or under any object, a serious accident may result.


Driver side
GOOD
Fire!
NO GOOD
Fire!
NO GOOD
Fire!
NO GOOD
Fire!
Passenger side
GOOD
Fire!
NO GOOD
Fire!
NO GOOD

G5M0604

C: PREPARATION TOOL S802001A17

1. SPECIAL TOOLS S801001A1703

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 B5M1114	98299FC030	DEPLOYMENT ADAPTER A	• Used for deploying the airbag module. • Used with DEPLOYMENT TOOL (98299PA030).
 B5M1115	98299PA030	DEPLOYMENT TOOL	• Used for deploying the airbag module. • Used with DEPLOYMENT ADAPTER A (98299FC030).

2. GENERAL TOOL S802001A1701

TOOL NAME	REMARKS
TORX® T30	Used for removal/installation of drivers airbag module
TORX® T40 (Tamper resistant type)	Used for removal/installation of airbag control module

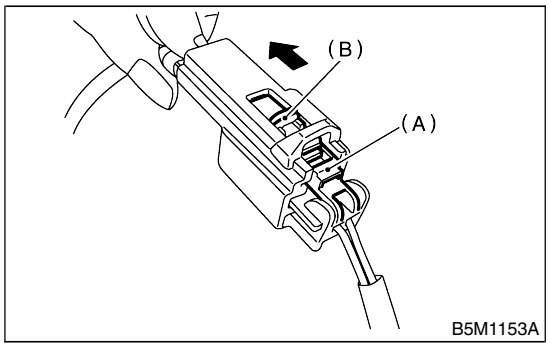
2. Airbag Connector S802659

A: OPERATION S802659A16

1. DRIVER'S AIRBAG, PASSENGER'S AIRBAG, SIDE AIRBAG S802659A1605

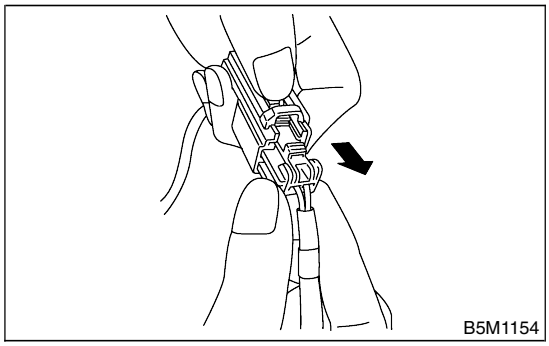
- **How to disconnect:**

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



3) With slide lock (B) pulled, remove lock arm (A) to its original position, and then pull in the direction of the arrow and separate the connector.

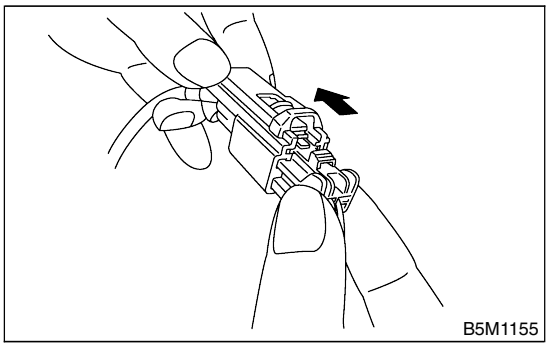
CAUTION:
When pulling, be sure to hold onto the connector and not the wire.



- **How to connect:**

Holding the connector, and push it in carefully until a connecting sound is heard.

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

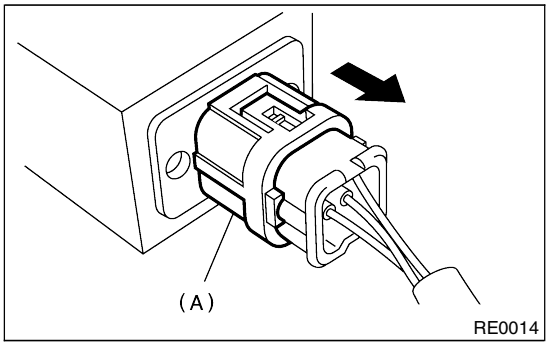


2. FRONT SUB-SENSOR, SIDE AIRBAG SENSOR S802659A1603

- **How to disconnect:**

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

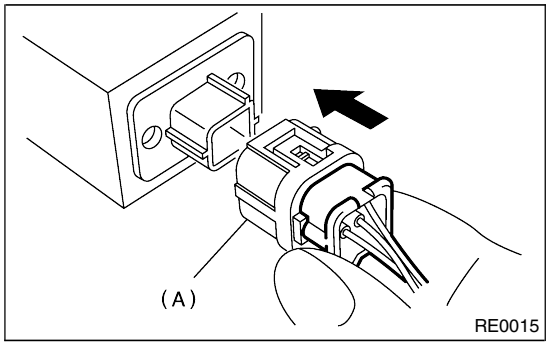
CAUTION:
When pulling, be sure to hold onto the connector and not the wire.



● **How to connect:**

Holding the connector, and push it in carefully until a connecting sound is heard.

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



3. Inspection Locations After a Collision S802306

A: INSPECTION S802306A10

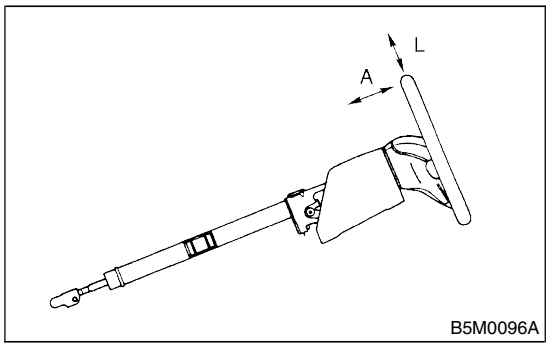
If the vehicle is involved in a collision on any side, even if it is a slight collision, be sure to check the following system parts.

1. AIRBAG MODULE (DRIVER) S802306A1001

1) Check for the following, and replace damaged parts with new parts.
- Airbag module is cracked or deformed.
- Harness and/or connector is cracked, deformed or open. Lead wire is exposed.

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

Deformation limit:
Axial direction play A
Less than 6 mm (0.24 in)
Radial direction play L
Less than 7 mm (0.28 in)



2. AIRBAG MODULE (PASSENGER) S802306A1002

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

3. AIRBAG MODULE (SIDE) S802306A1003

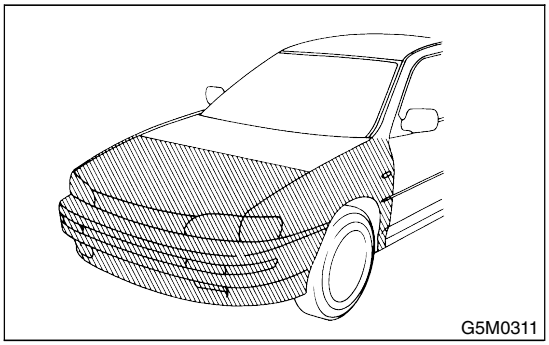
Check for the following, and replace damaged parts with new parts.
- Front seat is damaged or deformed.
- Harness and/or connector is cracked, deformed or open.
- Lead wire is exposed.

4. AIRBAG CONTROL MODULE S802306A1004

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

5. FRONT SUB SENSOR S802306A1005

If the front section of vehicle as shown in the figure is damaged:



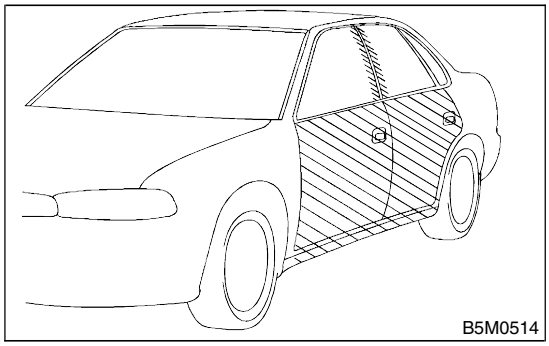
Check for the following, and replace damaged parts with new parts.
- Front sub sensor is cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched or cracked.
- Airbag is deployed.

6. FRONT SUB SENSOR HARNESS S802306A1006

Check for the following, and replace damaged parts with new parts.
- Harness is open, lead wire is exposed, and corrugated tube is noticeably cracked.
- Connector is scratched or cracked.

7. SIDE AIRBAG SENSOR S802306A1007

If the side section of vehicle as shown in the figure is damaged:



Check for the following, and replace damaged parts with new parts.
- Side airbag sensor is cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched or cracked.
- Side airbag is deployed. (operating side)

8. SIDE AIRBAG SENSOR HARNESS

S802306A1008

Check for the following, and replace damaged parts with new parts.
- Harness is open, lead wire is exposed, and corrugated tube is noticeably cracked.
- Connector is scratched or cracked.

9. MAIN HARNESS S802306A1009

Check for the following, and replace damaged parts with new parts.
- Harness is open, lead wire is exposed, and corrugated tube is noticeably cracked.
- Connector is scratched or cracked.

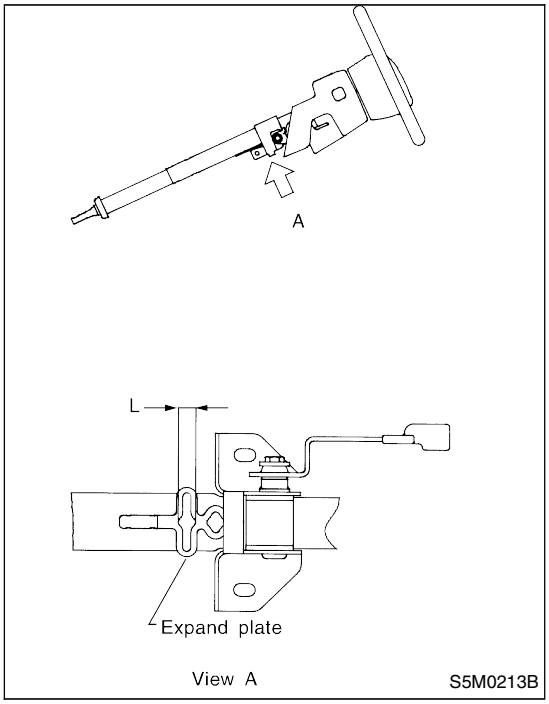
10. ROLL CONNECTOR S802306A1010

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

11. STEERING SHAFT S802306A1011

Check for the following, and replace damaged parts with new parts.
The clearance between capsule (A) and tip of column bracket (B) on steering column upper side should be within specifications.

Specifications:
Clearance of expand plate: L
More than 15 mm (0.59 in)

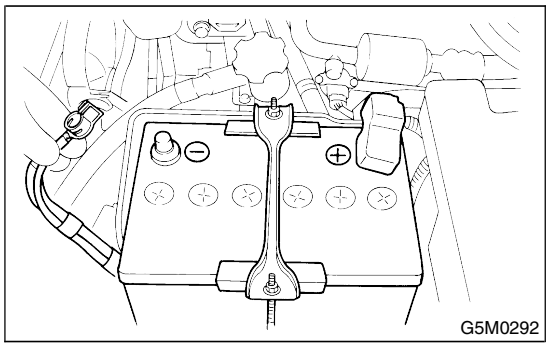


If necessary, replace them with new parts.

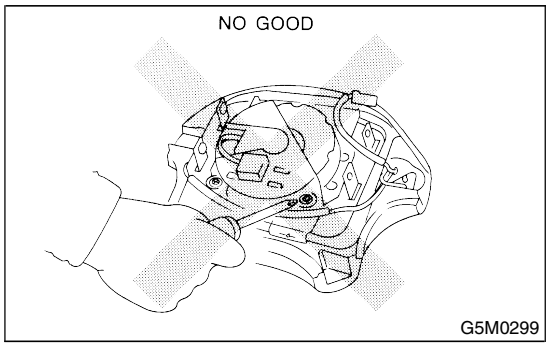
4. Driver's Airbag Module S802307

A: CAUTION S802307A03

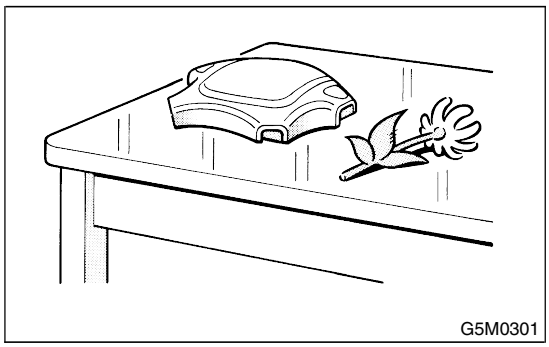
When disconnecting and connecting the airbag connector, be sure to turn the ignition switch OFF, disconnect the ground cable from the battery, and wait for more than 20 seconds before starting work.



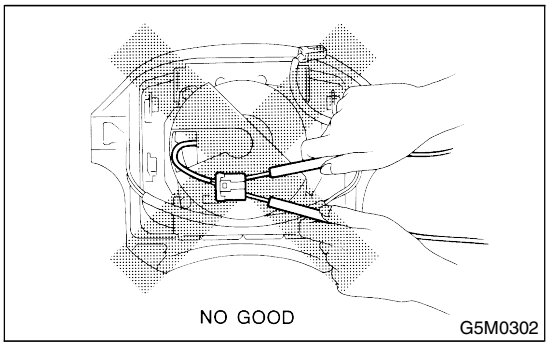
The airbag module (driver, passenger, and side) must not be disassembled.
The airbag module cannot be used again once inflated.



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



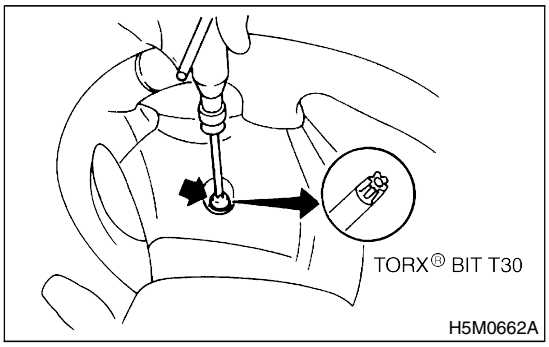
Do not check continuity of the airbag module (driver, passenger, and side).



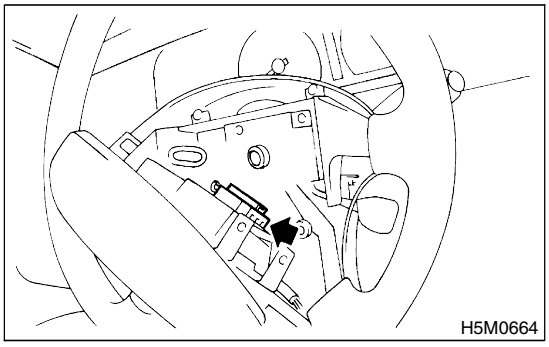
Do not use the airbag system and pretensioners on other vehicles. When replacing parts, be sure to replace them with new parts.

B: REMOVAL S802307A18

1) Position 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 ignition switch OFF.
3) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
4) Using TORX® BIT T30, remove two TORX® bolts on side of steering wheel.



5) Disconnect airbag connector on back of airbag module, and then remove airbag module.



6) Refer to "CAUTION" for handling of a removed airbag module. <Ref. to AB-3 CAUTION, General Description.>

C: INSTALLATION S802307A11

1) Install in the reverse order of removal.

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

D: INSPECTION S802307A10

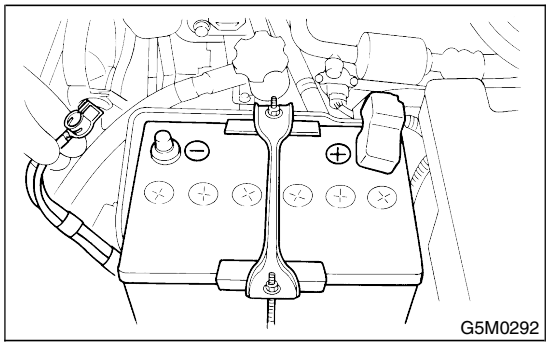
Check for the following, and replace damaged parts with new parts.
● Airbag module, harness, connector, and mounting bracket are damaged.

5. Passenger's Airbag Module

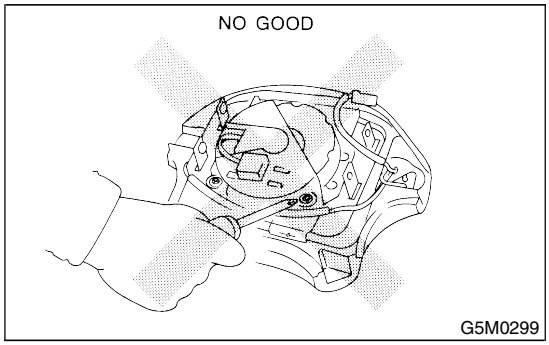
S802308

A: CAUTION S802308A03

When disconnecting and connecting the airbag connector, be sure to turn the ignition switch OFF, disconnect the ground cable from the battery, and wait for more than 20 seconds before starting work.

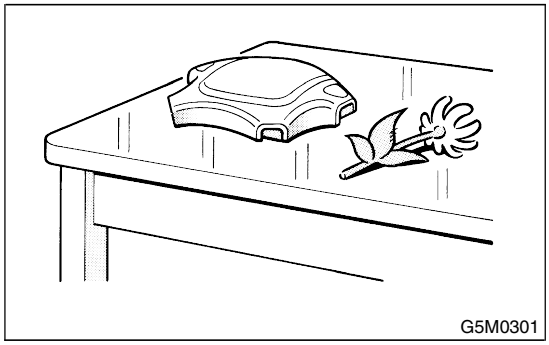

G5M0292

The airbag module (driver, passenger, and side) must not be disassembled.
The airbag module cannot be used again once inflated.

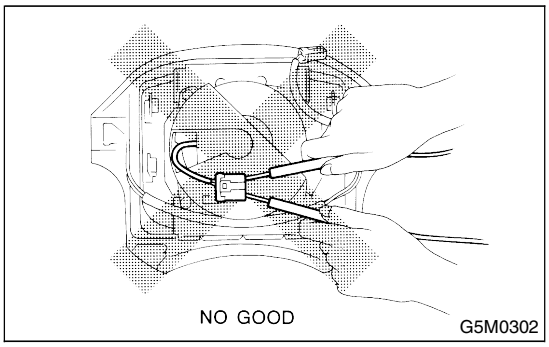


G5M0299

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


G5M0301

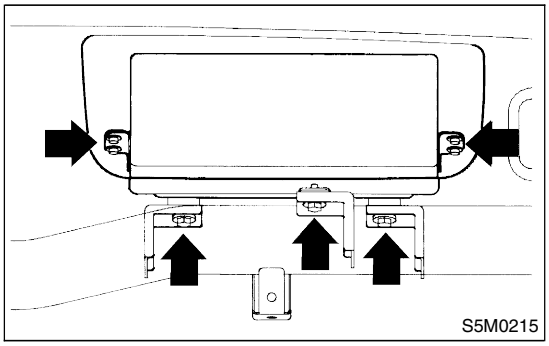
Do not check continuity of the airbag module (driver, passenger, and side) with airbag removed from the vehicle.



G5M0302

B: REMOVAL S802308A18

1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove glove box. <Ref. to EI-28 REMOVAL, Glove Box.>
4) Detach airbag connector from support beam bracket, and then disconnect airbag connector.
5) Remove seven bolts, and then carefully remove airbag module.


S5M0215

6) Refer to "CAUTION" for handling of a removed airbag module. <Ref. to AB-3 CAUTION, General Description.>

C: INSTALLATION S802308A11

Install in the reverse order of removal.

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

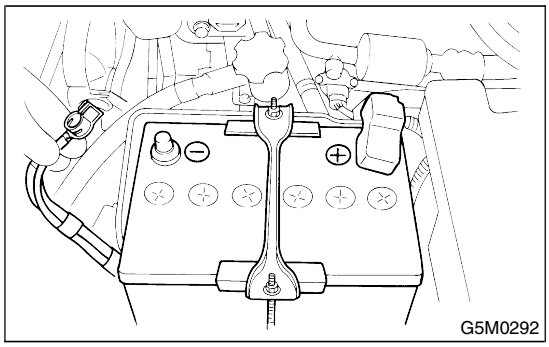
D: INSPECTION S802308A10

Check for the following, and replace damaged parts with new parts.
- Airbag module, harness, connector, and mounting bracket are damaged.

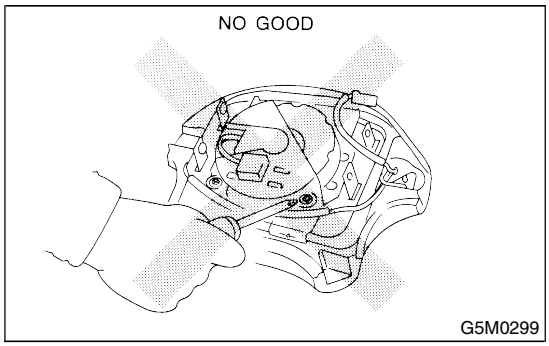
6. Side Airbag Module S802311

A: CAUTION S802311A03

When disconnecting and connecting airbag connector, be sure to turn the ignition switch OFF, disconnect the ground cable from the battery, and wait for more than 20 seconds before starting work.

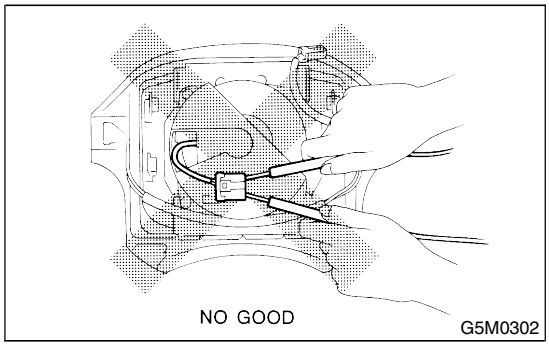

G5M0292

The airbag module (driver, passenger, and side) must not be disassembled.
The airbag module cannot be used again once inflated.



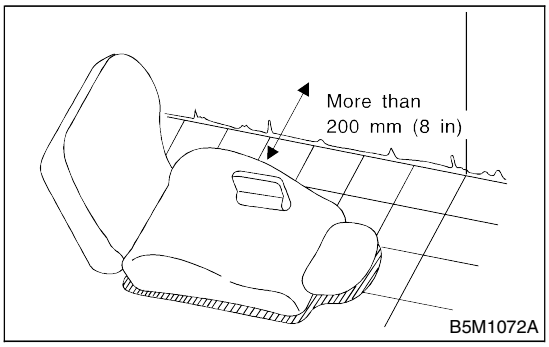
G5M0299

Do not check continuity of the airbag module (driver, passenger, and side) with airbag removed from the vehicle.



G5M0302

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



B5M1072A

B: REMOVAL S802311A18

CAUTION:
• The side airbag module cannot be detached from the front seat assembly.
• When replacing side airbag module, replace front seat assembly.
<Ref. to SE-5 REMOVAL, Front Seat.>

C: INSTALLATION S802311A11

<Ref. to SE-5 INSTALLATION, Front Seat.>

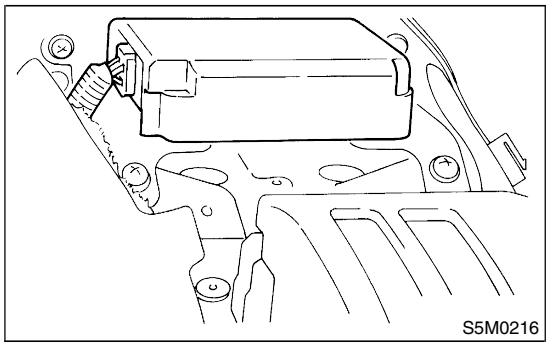
D: INSPECTION S802311A10

Check for the following, and replace damaged parts with new parts.
• Front seat is deformed or damaged.
• Harness and/or connector is cracked, deformed or open.
• Lead wire is exposed.

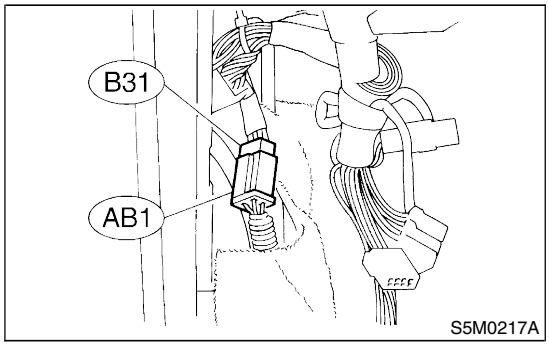
7. Main Harness S802310

A: REMOVAL S802310A18

1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery and wait for at least 20 seconds before starting work.
3) Remove instrument panel. <Ref. to EI-31 REMOVAL, Instrument Panel Assembly.>
4) Disconnect connector from airbag control module.

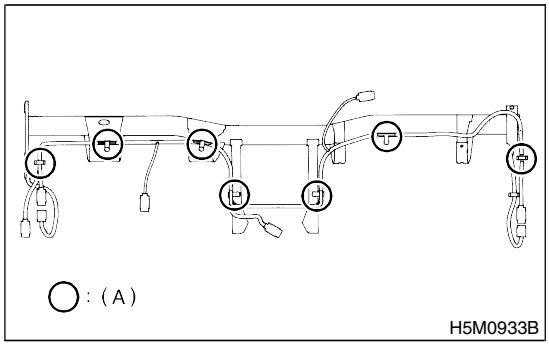

S5M0216

5) Disconnect body harness connector (B31) from airbag connector (ABI) located at front pillar lower (driver side).



S5M0217A

6) Disconnect front sub sensor connector (yellow) from airbag main harness located at front pillar (both sides).
7) Detach clips (A) from steering support beam, and remove main harness.



H5M0933B

B: INSTALLATION S802310A11

Install in the reverse order of removal.

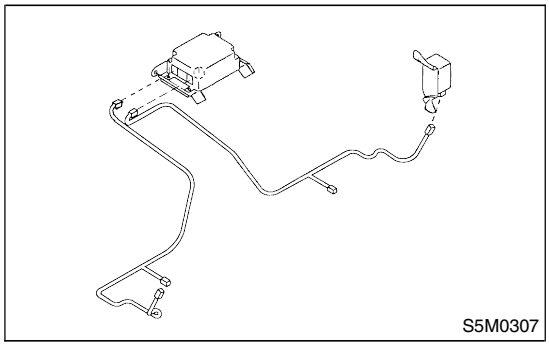
C: INSPECTION S802310A10

Check for the following, and replace damaged parts with new parts.
- Harness and/or connector is damaged.

8. Side Airbag Harness S802309

A: REMOVAL S802309A18

1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove front seat. <Ref. to SE-5 REMOVAL, Front Seat.>
4) Remove console box. <Ref. to EI-30 REMOVAL, Console Box.>
5) Roll up floor mat, and then disconnect two 12-pin yellow connectors from airbag control module.
6) Disconnect connector from side airbag sensor. <Ref. to AB-19 REMOVAL, Side Air Bag Sensor.>
7) Detach clips, and then remove side airbag harness.



B: INSTALLATION S802309A11

Install in the reverse order of removal.

C: INSPECTION S802309A10

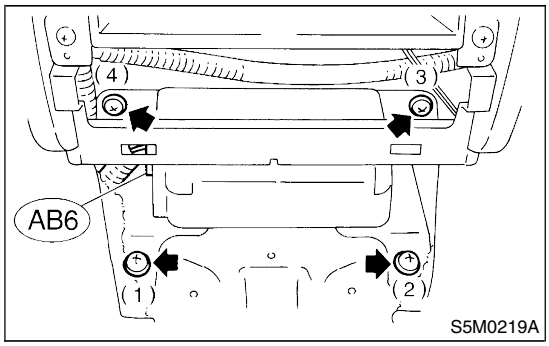
Check for the following, and replace damaged parts with new parts.
- Harness and/or connector is damaged.

9. Airbag Control Module S802302

A: REMOVAL S802302A18

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

1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove console box. <Ref. to EI-30 Removal, CONSOLE BOX.>
4) Disconnect connector from airbag control module.
5) Using T40® TORX bit (Tamper resistant type), remove four TORX® bolts in the order shown in the figure.



B: INSTALLATION S802302A11

CAUTION:
Use new TORX® bolts during installation.
Install in the reverse order of removal.

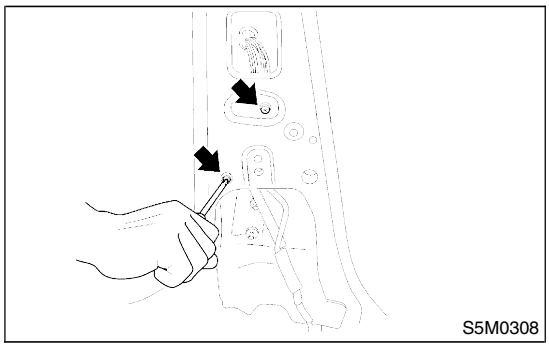
C: INSPECTION S802302A10

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

10. Side Airbag Sensor S802298

A: REMOVAL S802298A18

1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove center pillar lower trim. <Ref. to EI-38, REMOVAL, Lower Inner Trim.>
4) Remove Outer Belt (FRONT). <Ref. to SB-6, OUTER BELT (FRONT), REMOVAL, Front Seat Belt.>
5) Remove two TORX® bolts, and then detach side airbag sensor.



B: INSTALLATION S802298A11

CAUTION:
Use new TORX® nuts during installation.
Install in the reverse order of removal.

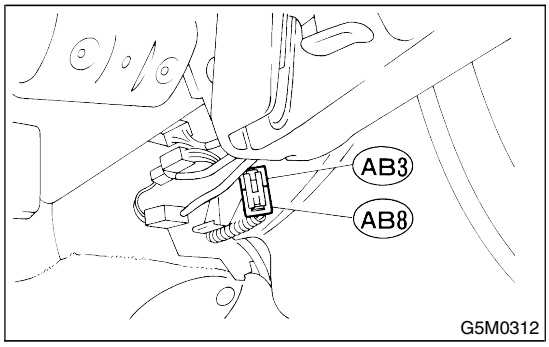
C: INSPECTION S802298A10

Check for the following, and replace damaged parts with new parts.
- Bracket connector for side airbag sensor is damaged.

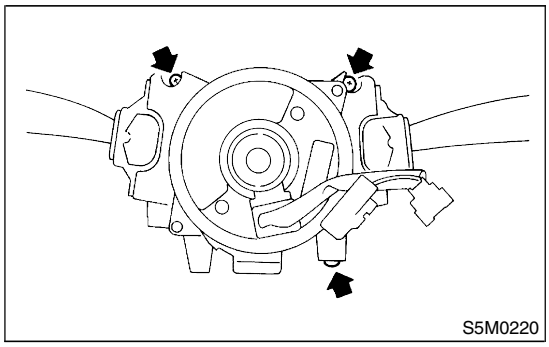
11. Roll Connector S802299

A: REMOVAL S802299A18

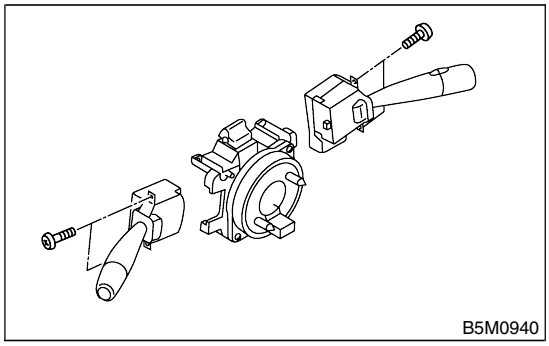
1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove instrument panel lower cover.
4) Disconnect airbag connector (AB3) and (AB8) below steering column.



5) Remove driver's airbag module. <Ref. to AB-12, Driver's Airbag Module.>
6) Remove steering wheel. <Ref. to PS-27, REMOVAL, Steering Wheel.>
7) Remove steering column cover.
8) Remove screws, and then remove combination switch assembly.



9) Remove lighting switch and wiper switch from roll connector.



B: INSTALLATION S802299A11

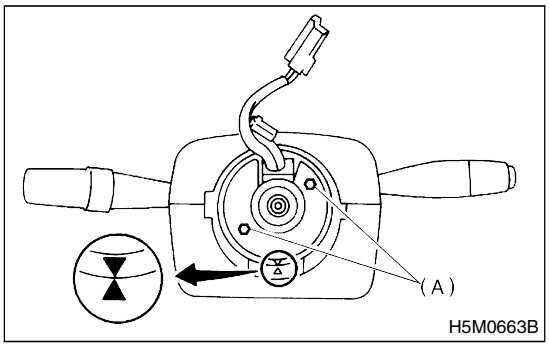
1) Install combination switch assembly and steering column cover in the reverse order of removal.
2) Adjust centering roll connector. <Ref. to AB-20 ADJUSTMENT, Roll Connector.>
3) Install steering wheel and airbag module.

C: INSPECTION S802299A10

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

D: ADJUSTMENT S802299A01

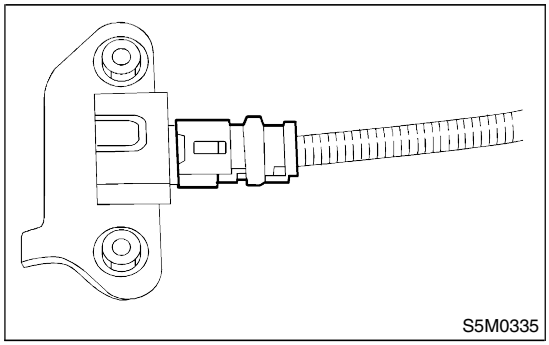
1) Check that front wheels are positioned in straight ahead direction.
2) Turn roll connector pin (A) clockwise until it stops.
3) Turn roll connector pin (A) counterclockwise approximately 2.65 turns until "▲" marks are aligned.



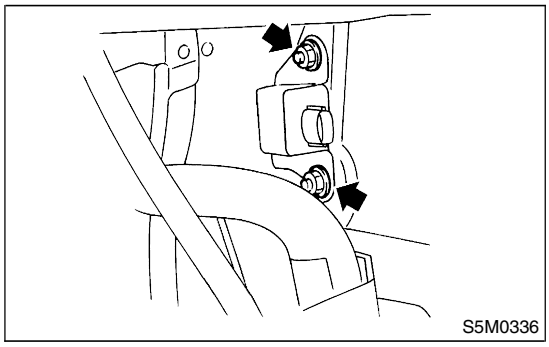
12. Front Sub Sensor S802300

A: REMOVAL S802300A18

1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove front wheel and mud guard. <Ref. to EI-21 REMOVAL, Mud Guard.>
4) Disconnect connector from front sub sensor.


S5M0335

5) Remove front sub sensor.


S5M0336

B: INSTALLATION S802300A11

Install in the reverse order of removal.

C: INSPECTION S802300A10

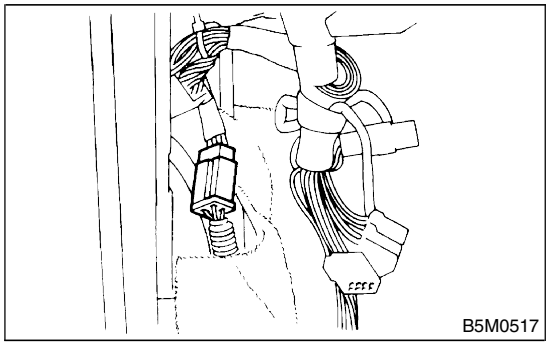
Check for the following, and replace damaged parts with new parts.
● Front sub sensor, mounting bracket, and connector are damaged.

13. Front Sub Sensor Harness

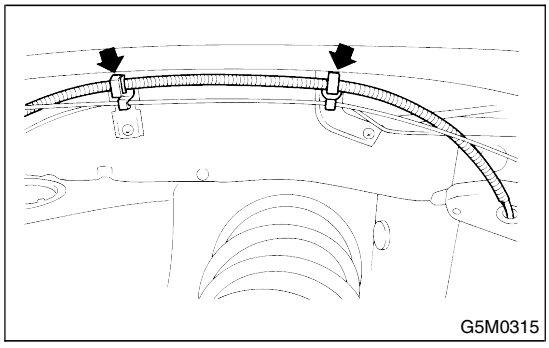
S802572

A: REMOVAL S802572A18

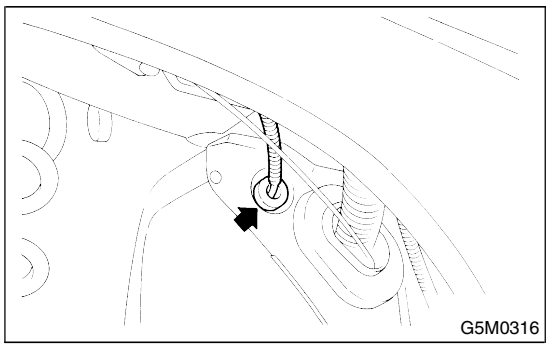
1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove front side sill cover, and then disconnect front sub sensor connector.



4) Disconnect connector from front sub sensor. <Ref. to AB-21 REMOVAL, Front Sub Sensor.>
5) Remove wiring harness clips.



6) Remove grommet, and then detach front sub sensor harness.



B: INSTALLATION S802572A11

Install in the reverse order of removal.

C: INSPECTION S802572A10

Check for the following, and replace damaged parts.
- Harness and/or connector is damaged.

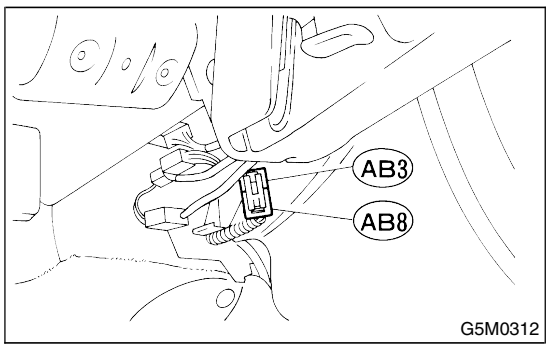
14. Disposal of Airbag Module (Deploying While Installed in Vehicle) S802573

A: OPERATION S802573A16

CAUTION:
- **Do not discard undeployed airbag module because it may cause serious personal injury when accidentally deployed.**
- **As a rule, the airbag module should be deployed while still installed in the vehicle. Do not remove it unless necessary.**
- **Deployment of the airbag module should be done on a flat place free from any possible danger. Avoid deploying outdoors during rainy or windy weather.**
- **Because deploying the airbag module causes 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 from deployment of the airbag module. Therefore, it must be deployed in a well-ventilated place with no fire alarms nearby.**
- **Wear gloves, goggles, and earplugs during this operation. Wash your hands afterwards.**
- **After deployment, the airbag module will be especially hot. Leave it unattended for 40 minutes, and then discard it.**
- **Do not let water get on the deployed airbag module.**
- **Wrap the deployed airbag module in an airtight vinyl bag, and discard it.**
- **If circumstances do not permit airbag module deployment, contact a Subaru dealer.**

1. AIRBAG MODULE (DRIVER) S802573A1601

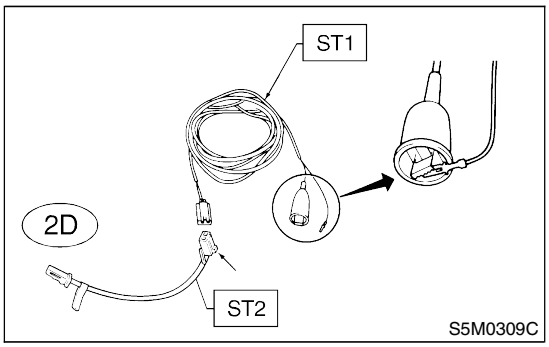
1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove lower cover.
4) Disconnect airbag connector (AB3) and (AB8) below steering column.



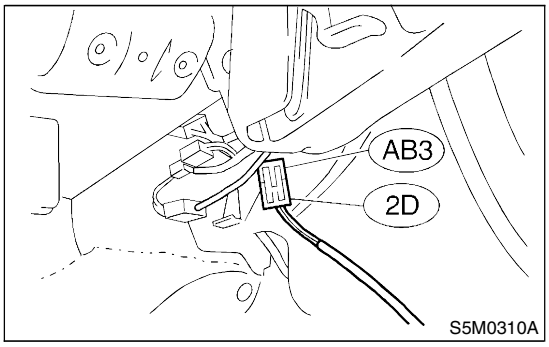
5) Short terminal to alligator clip furnished as deployment tool (ST1).
6) Connect the deployment tool (ST1) and deployment adapter (ST2).

ST1	98299PA030	DEPLOYMENT TOOL A
ST2	98299FC030	DEPLOYMENT ADAPTER

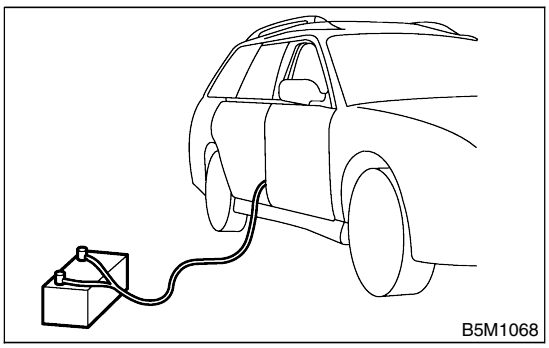
CAUTION:
The deployment tool should be kept shorted until just before deployment of the airbag module.



7) Connect deployment adapter (ST2) connector (2D) to airbag connector (AB3).

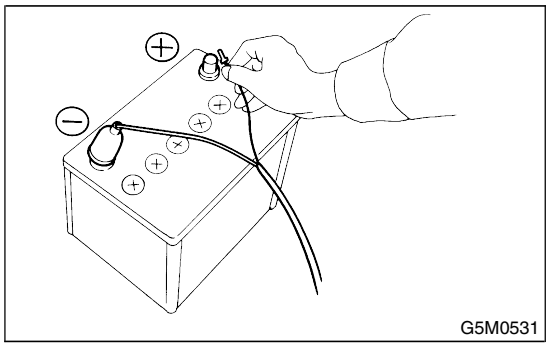


8) Extend the deployment tool to the limit, and make sure that the vehicle is empty. Close all windows, sunroof, and rear gate completely.



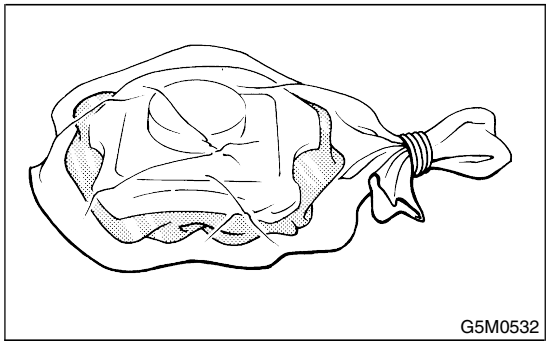
9) Move the battery at least 5 m (16 ft) from vehicle, and secure the nearby area. Connect the deployment tool alligator clip to the battery minus terminal.

10) Connect the other terminal of the deployment tool to the battery plus terminal. Then, deploy the airbag module.



CAUTION:
● After deployment, the airbag module will be especially hot. Leave it unattended for 40 minutes, and then discard it.
● Do not let water get on the deployed airbag module.

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

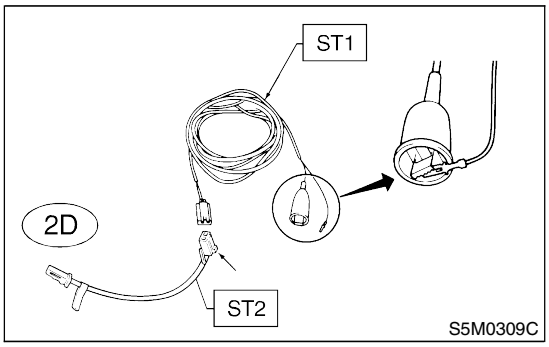


2. AIRBAG MODULE (PASSENGER) S802573A1602

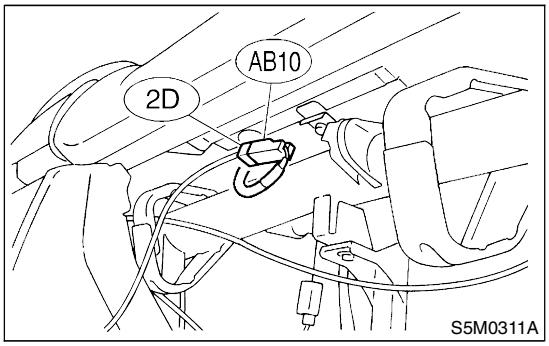
1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove the glove box. <Ref. to EI-28, REMOVAL, Glove Box.>
4) Disconnect airbag connectors (AB9) and (AB10).
5) Short terminal to alligator clip furnished as deployment tool (ST1).
6) Connect the deployment tool (ST1) and deployment adapter (ST2).

ST1	98299PA030	DEPLOYMENT TOOL A
ST2	98299FC030	DEPLOYMENT ADAPTER

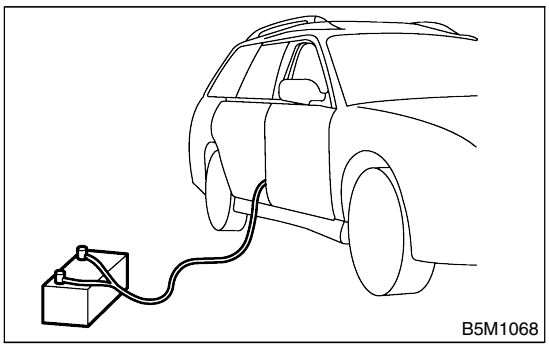
CAUTION:
The deployment tool should be kept shorted until just before deployment of the airbag module.



7) Connect deployment adapter (ST2) connector (2D) to airbag connector (AB10).

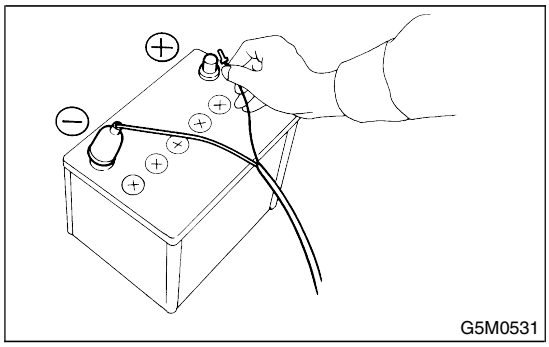


8) Extend the deployment tool to the limit, and make sure that the vehicle is empty. Close all windows, sunroof, and rear gate completely.



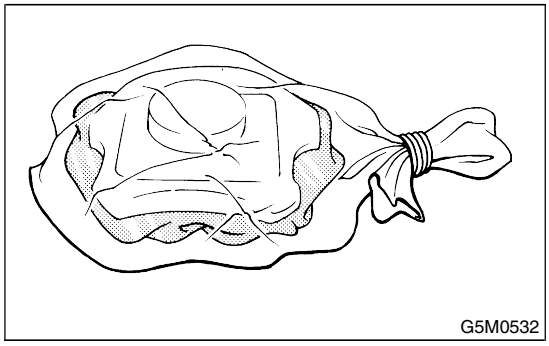
9) Move the battery at least 5 m (16 ft) from vehicle, and secure the nearby area. Connect the deployment tool alligator clip to the battery minus terminal.

10) Connect the other terminal of the deployment tool to the battery plus terminal. Then, deploy the airbag module.



CAUTION:
• After deployment, the airbag module will be especially hot. Leave it unattended for 40 minutes, and then discard it.
• Do not let water get on the deployed airbag module.

11) Remove airbag module. <Ref. to AB-14 Passenger's Airbag Module.>
12) Wrap the deployed airbag module in an airtight vinyl bag, and discard it.

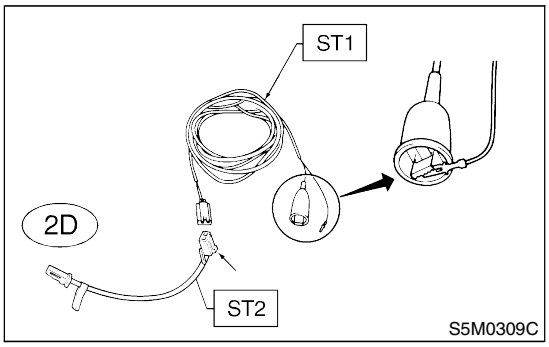


3. AIRBAG MODULE (SIDE) *S802573A1603*

1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Disconnect the side airbag module connector (yellow) under the front seat cushion.
4) Adjust both the front seat and front seat backrest to center positions.
5) Short terminal to alligator clip furnished as deployment tool (ST1).
6) Connect the deployment tool (ST1) and deployment adapter (ST2).

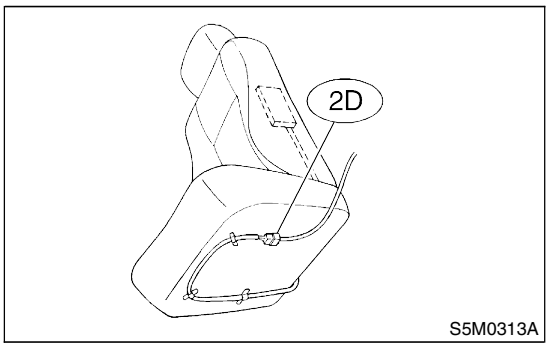
ST1	98299PA030	DEPLOYMENT TOOL A
ST2	98299FC030	DEPLOYMENT ADAPTER

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

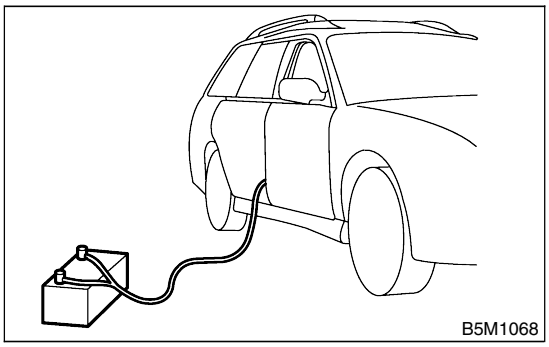


7) Connect deployment adapter (ST2) connector (2D) to side airbag module connector (yellow).

CAUTION:
Do not put any objects on the front seat.

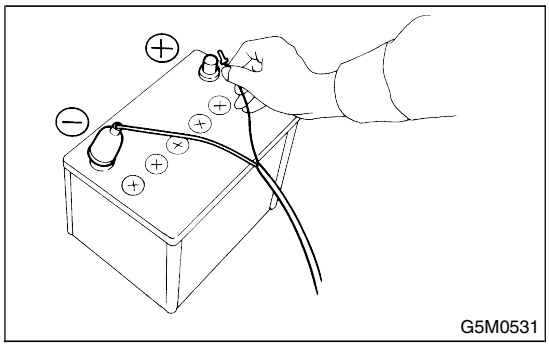


8) Extend the deployment tool to the limit, and make sure that the vehicle is empty. Close all windows, sunroof, and rear gate completely.



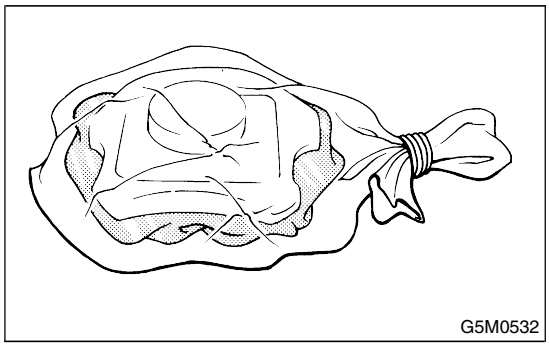
9) Move the battery at least 5 m (16 ft) from vehicle, and secure the nearby area. Connect the deployment tool alligator clip to the battery minus terminal.

10) Connect the other terminal of the deployment tool to the battery plus terminal. Then, deploy the airbag module.



CAUTION:
• After deployment, the airbag module will be especially hot. Leave it unattended for 40 minutes, and then discard it.
• Do not let water get on the deployed airbag module.

11) Remove side airbag module.
12) Wrap the deployed airbag module in an air-tight vinyl bag, and discard it.



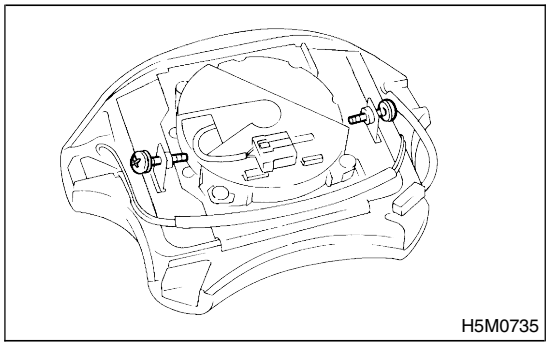
15. Disposal of Airbag Module (Deploying After Removal from Vehicle) S802574

A: OPERATION S802574A16

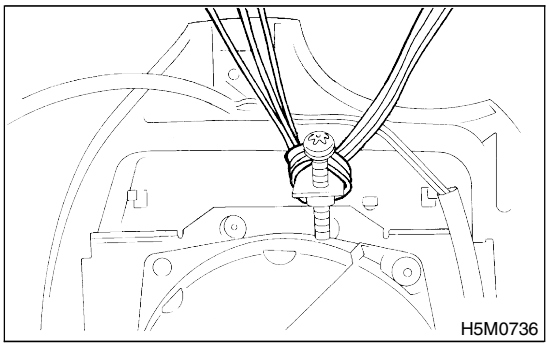
CAUTION:
• Do not discard undeployed airbag module because it may cause serious personal injury when accidentally deployed.
• As a rule, the airbag module should be deployed while still installed in the vehicle. Do not remove it unless necessary.
• Deployment of the airbag module should be done on a flat place free from any possible danger. Avoid deploying outdoors during rainy or windy weather.
• Do not damage the airbag module or drop it.
• Because deploying the airbag module causes 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 from deployment of the airbag module. Therefore, it must be deployed in a well-ventilated place with no fire alarms nearby.
• Wear gloves, goggles, and earplugs during this operation. Wash your hands afterwards.
• After deployment, the airbag module will be especially hot. Leave it unattended for 40 minutes, and then discard it.
• Do not let water get on the deployed airbag module.
• Wrap the deployed airbag module in an airtight vinyl bag, and discard it.
• If circumstances do not permit airbag module deployment, contact a Subaru dealer.

1. AIRBAG MODULE (DRIVER) S802574A1601

1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove airbag module. <Ref. to AB-12 Driver's Airbag Module.>
4) Install the removed bolts to airbag module.


H5M0735

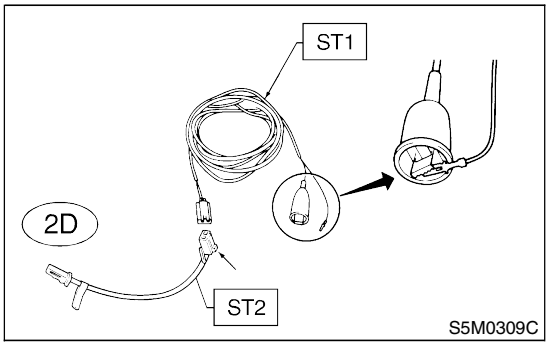
5) Bundle three wire automotive harnesses [each with a sectional area of 1.25 mm^2 (0.00194 sq in) or more], and bind them twofold around the airbag module stay.


H5M0736

6) Short terminal to alligator clip furnished as deployment tool (ST1).
7) Connect the deployment tool (ST1) and deployment adapter (ST2).

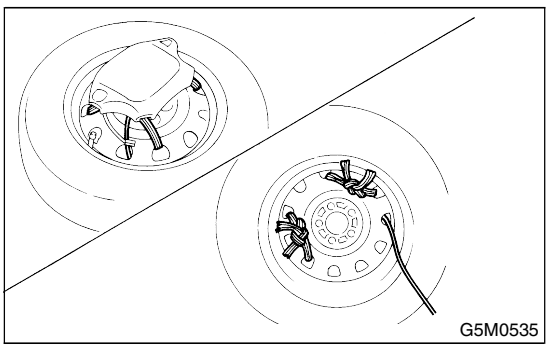
ST1	98299PA030	DEPLOYMENT TOOL A
ST2	98299FC030	DEPLOYMENT ADAPTER

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

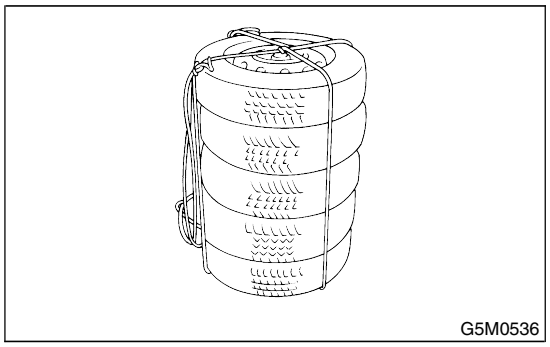


S5M0309C

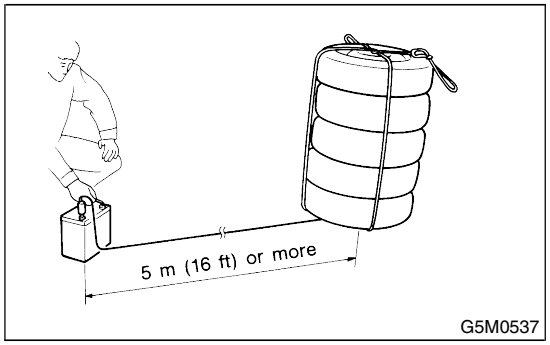
8) Connect deployment adapter (ST2) connector (2D) to airbag module.
9) Install airbag module with pad side facing upward on the wheel with the tire.


G5M0535

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

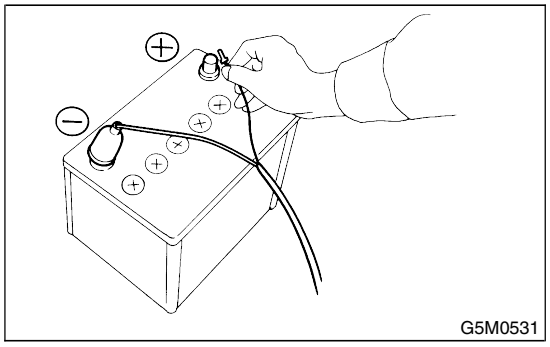

G5M0536

11) 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 minus terminal.



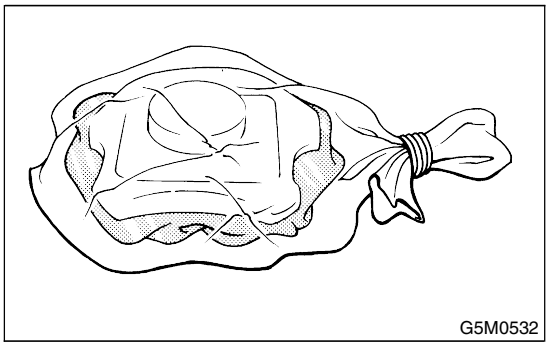
G5M0537

12) Connect the other terminal of the deployment tool to the battery plus terminal. Then, deploy the airbag module.


G5M0531

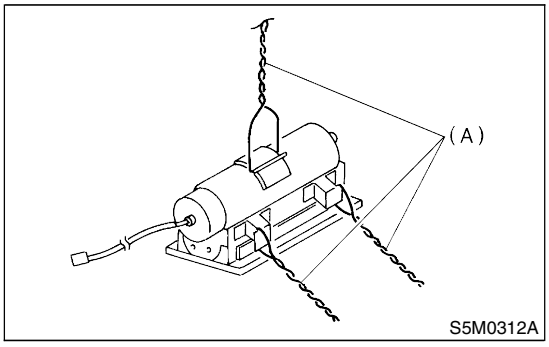
CAUTION:
• After deployment, the airbag module will be especially hot. Leave it unattended for 40 minutes, and then discard it.
• Do not let water get on the deployed airbag module.

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


G5M0532

2. AIRBAG MODULE (PASSENGER) S802574A1602

1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.
3) Remove airbag module. <Ref. to AB-14 Passenger's Airbag Module.>
4) Bundle three wire automotive harnesses [each with a sectional area of 1.25 mm^2 (0.00194 sq in) or more], and route them through the airbag module bracket (A). Then, twist them for added strength.

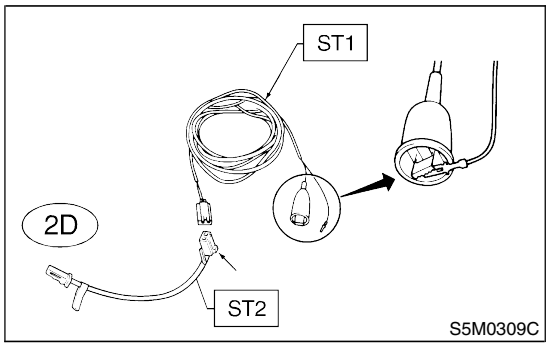


S5M0312A

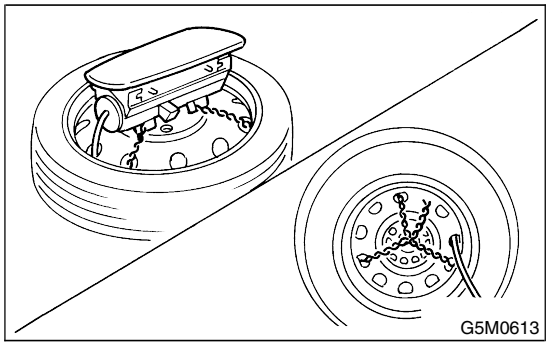
5) Short terminal to alligator clip furnished as deployment tool (ST1).
6) Connect the deployment tool (ST1) and deployment adapter (ST2).

ST1	98299PA030	DEPLOYMENT TOOL A
ST2	98299FC030	DEPLOYMENT ADAPTER

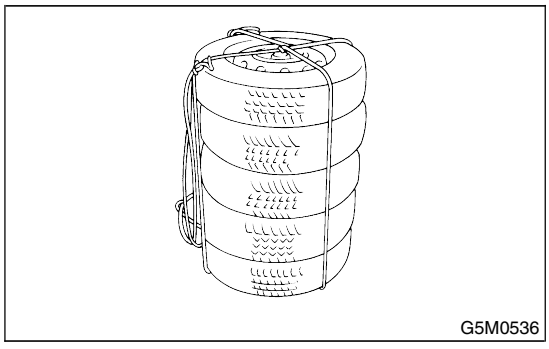
CAUTION:
The deployment tool should be kept shorted until just before deployment of the airbag module.



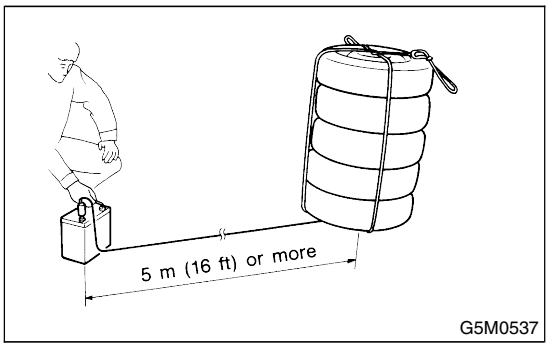
7) Connect deployment adapter (ST2) connector (2D) to airbag module.
8) Install airbag module with pad side facing upward on 14 inch or greater size wheel with the tire.



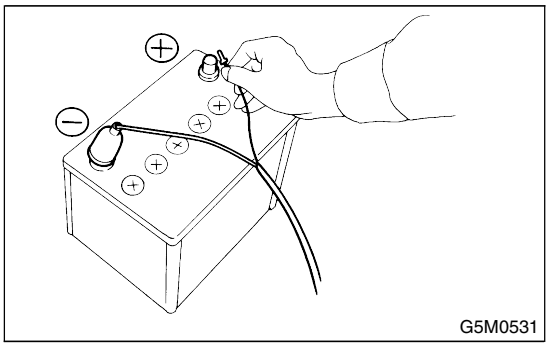
9) Put three tires without the wheel on the tire installed with the airbag module. Put on an additional tire with the wheel on top, and then fasten them tight with rope.



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 minus terminal.

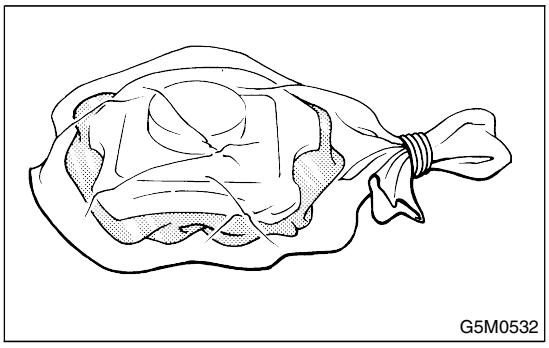


11) Connect the other terminal of the deployment tool to the battery plus terminal. Then, deploy the airbag module.



CAUTION:
- **After deployment, the airbag module will be especially hot. Leave it unattended for 40 minutes, and then discard it.**
- **Do not let water get on the deployed airbag module.**

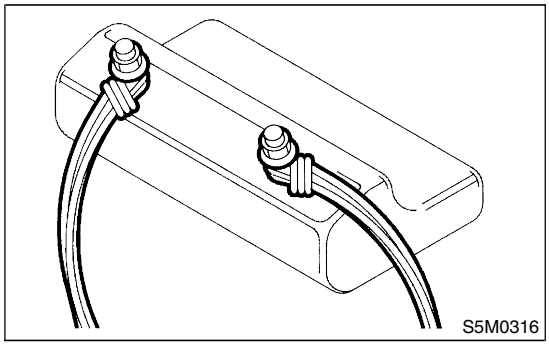
12) Wrap the deployed airbag module in an air-tight vinyl bag, and discard it.



3. AIRBAG MODULE (SIDE) *S802574A1603*

1) Turn ignition switch OFF.
2) Disconnect the ground cable from the battery, and wait for at least 20 seconds before starting work.

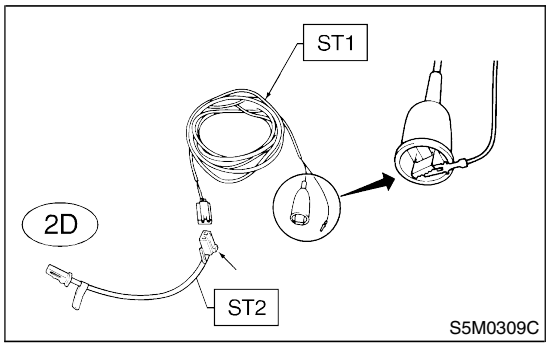
3) Remove front seat. <Ref. to SE-5 REMOVAL, Front Seat.>
4) Remove side airbag module.
5) Install nuts to side airbag module.
6) Bundle three wire automotive harnesses [each with a sectional area of 1.25 mm^2 (0.00194 sq in) or more], and bind them twofold around the airbag module stay.


S5M0316

7) Short terminal to alligator clip furnished as deployment tool (ST1).
8) Connect the deployment tool (ST1) and deployment adapter (ST2).

ST1	98299PA030	DEPLOYMENT TOOL
ST2	98299FC030	DEPLOYMENT ADAPTER A

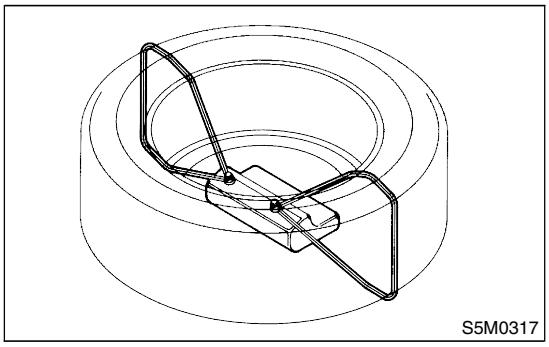
CAUTION:
The deployment tool should be kept shorted until just before deployment of the airbag module.



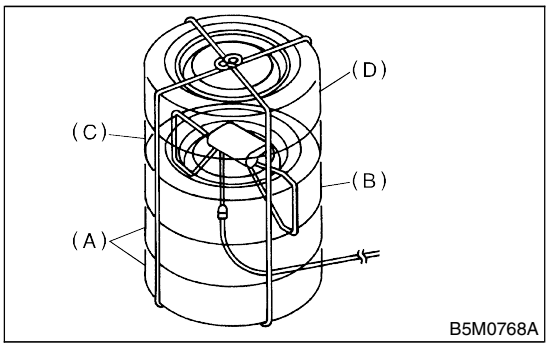
S5M0309C

9) Connect deployment adapter (ST2) connector (2D) to airbag module.

10) Install side airbag module on 14 inch or greater size tire without disk wheel.

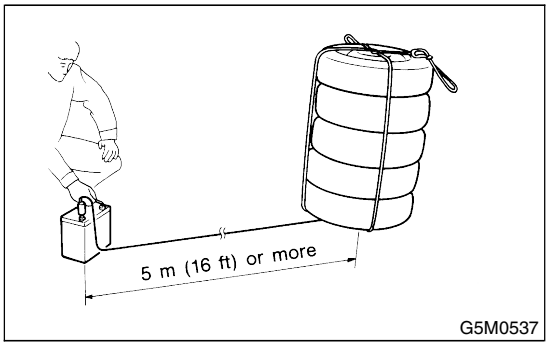

S5M0317

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



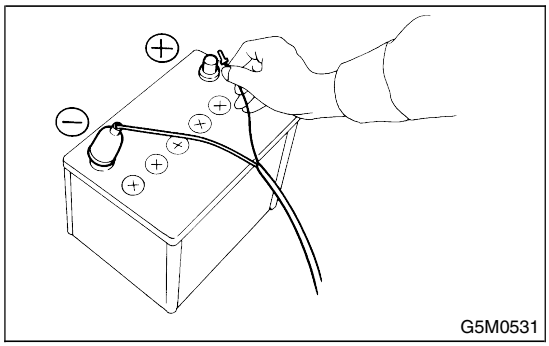
B5M0768A

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



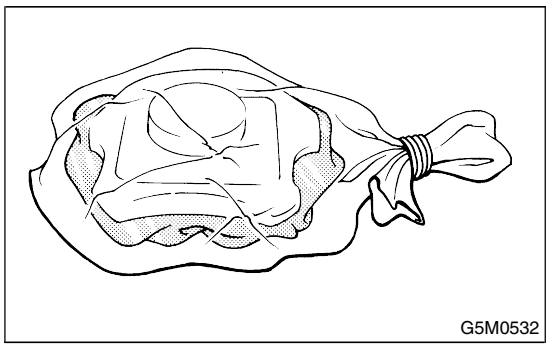
G5M0537

12) Connect the other terminal of the deployment tool to the battery plus terminal. Then, deploy the airbag module.


G5M0531

CAUTION:
• After deployment, the airbag module will be especially hot. Leave it unattended for 40 minutes, and then discard it.
• Do not let water get on the deployed airbag module.

13) Wrap the deployed airbag module in an air-tight vinyl bag, and discard it.


G5M0532

MEMO:

SEAT BELT SYSTEM

SB

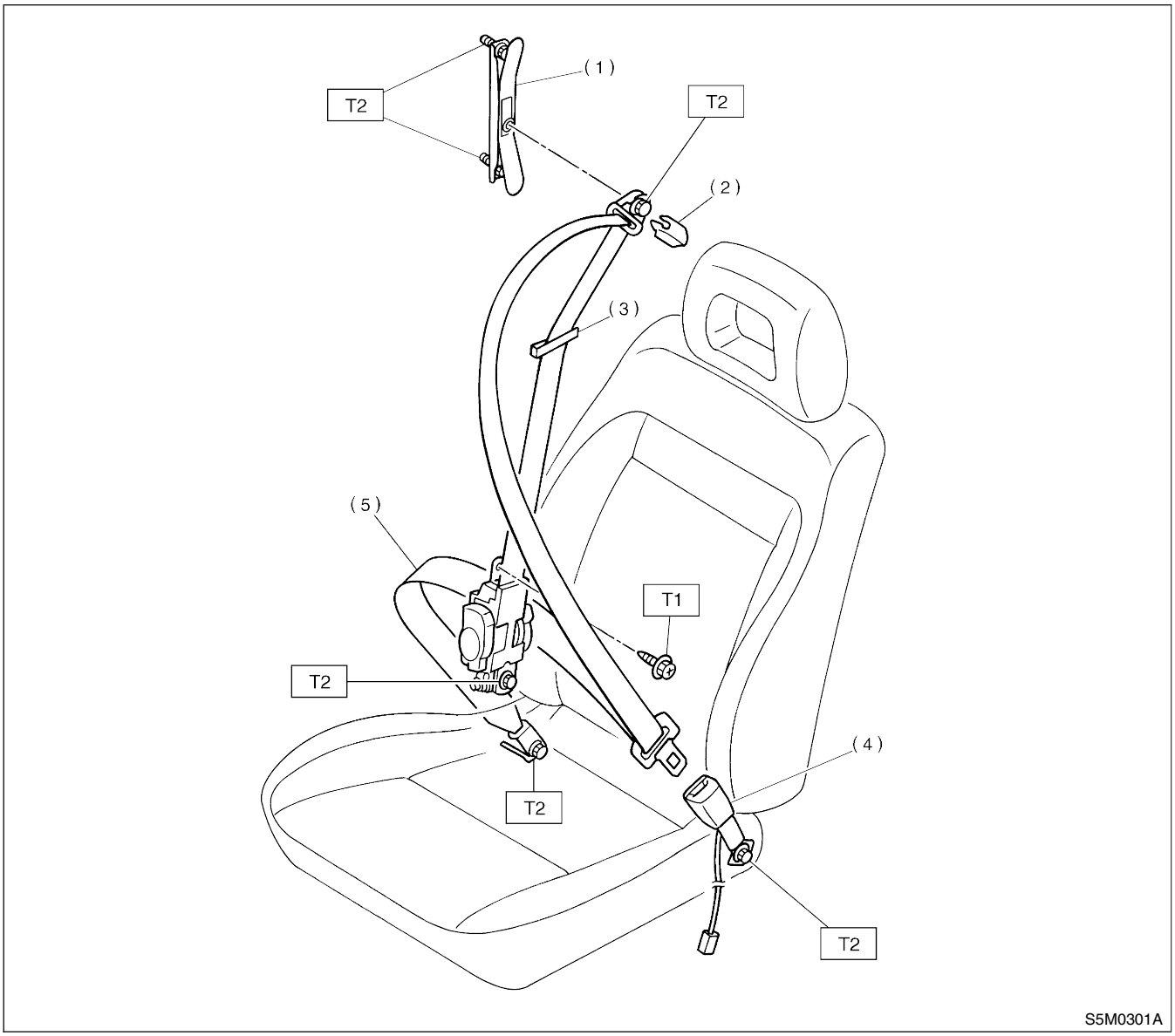
Page

1. General Description....2
2. Inspection Locations After a Collision 5
3. Front Seat Belt....6
4. Rear Seat Belt....8
5. Disposal of Pretensioner....10

1. General Description S801001

A: COMPONENT S801001A05

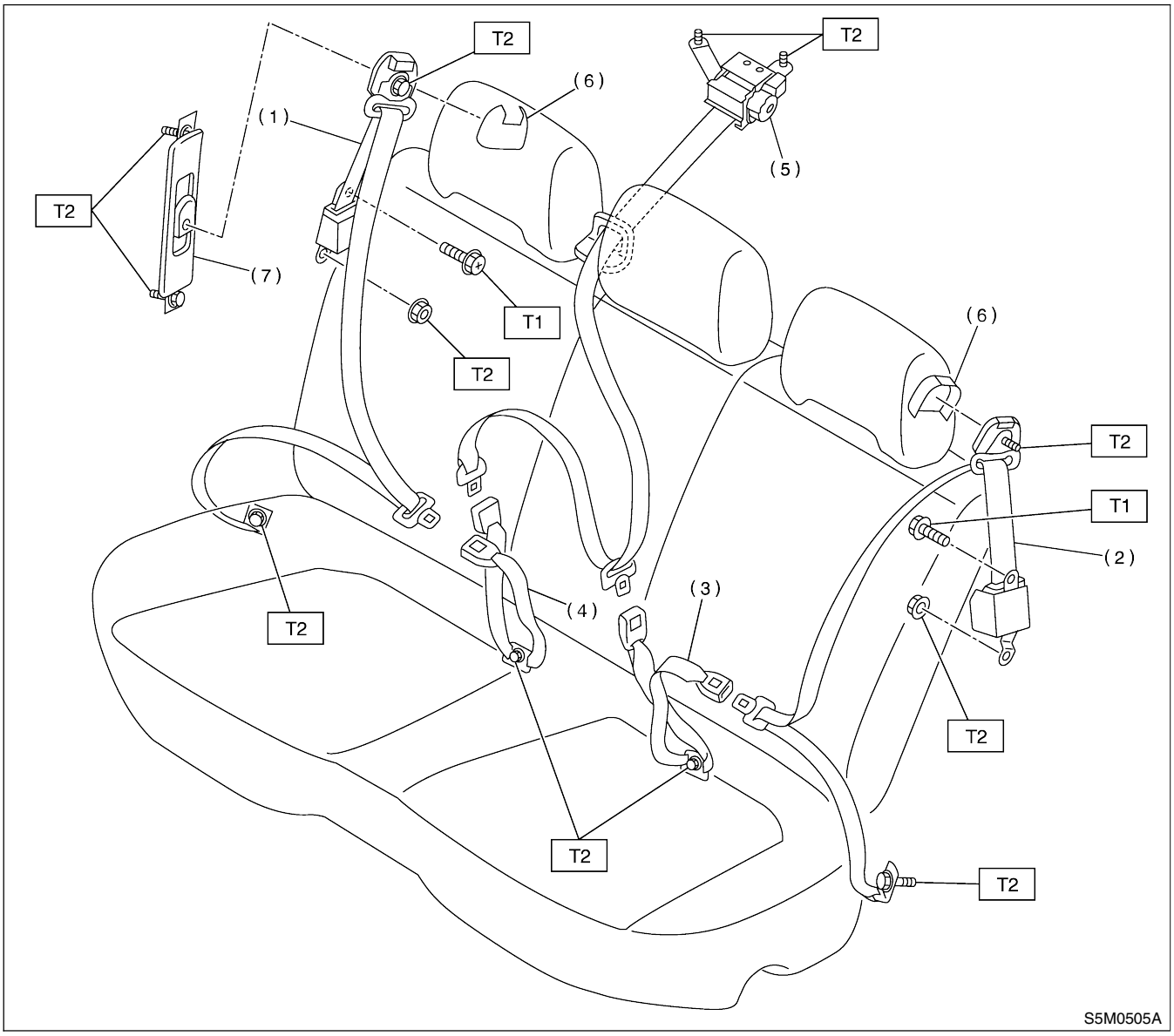
1. FRONT SEAT BELT S801001A0501



(1) Adjuster anchor ASSY
(2) Anchor cover
(3) Webbing guide
(4) Inner belt ASSY
(5) Outer belt ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 30 (3.1, 22)

2. REAR SEAT BELT S801001A0504

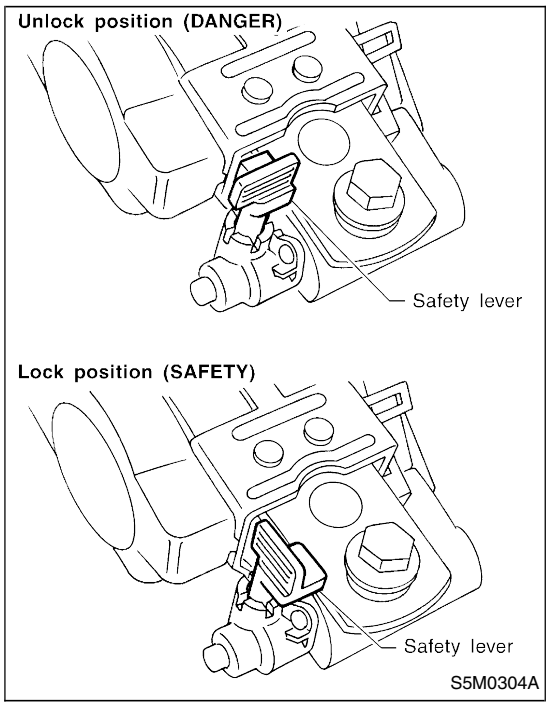


(1) Outer seat belt RH
(2) Outer seat belt LH
(3) Inner seat belt LH
(4) Inner seat belt RH
(5) Outer seat belt CENTER
(6) Anchor cover
(7) Adjustable anchor ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 30 (3.1, 22)

B: CAUTION S801001A03

● Before removing pretensioner, be sure to rotate while pulling the safety lever to the right until it stops to set the lock position.



● 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 disassemble or attempt to repair the pretensioner. If it is dented, cracked, or deformed, replace it with a new one.
● Do not use the pretensioner parts from other vehicles. Always replace parts with new parts
● When handling a seat belt with a deployed pretensioner, wear gloves and goggles. Wash your hands afterwards.
● Do not re-use a seat belt with a deployed pretensioner again.
● Be sure to deploy pretensioner before disposal. <Ref. to SB-10 OPERATION Disposal of 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.

2. Inspection Locations After a Collision S801306

A: INSPECTION S801306A10

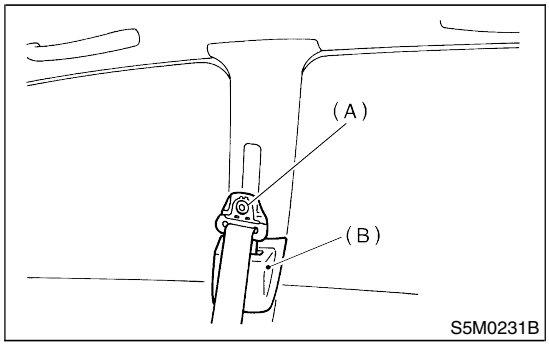
Check for the following, and then replace with new parts if necessary.
- Center pillar lower garnish is discolored or cracked.
- Wire harness and/or connector is damaged.

3. Front Seat Belt S801303

A: REMOVAL S801303A18

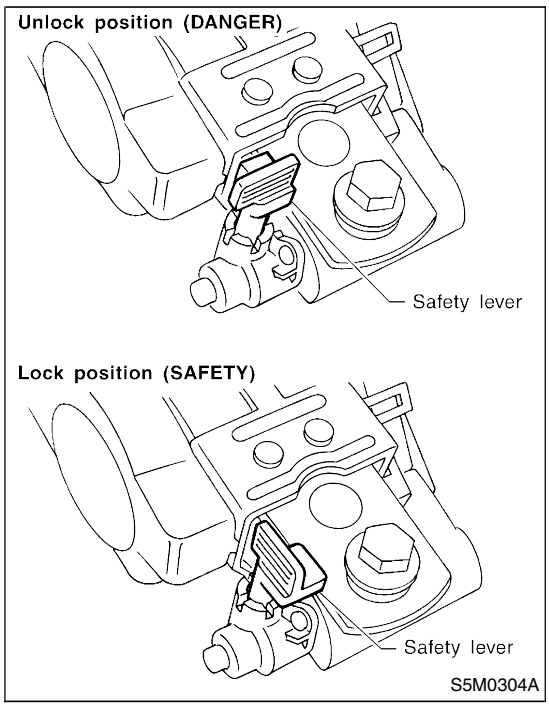
1. OUTER BELT (FRONT) S801303A1807

1) Fold backrest all the way forward, and then move front seat all the way forward.
2) Remove anchor cover and shoulder anchor bolt (A).
3) Remove center pillar cover (B) and center pillar lower trim. <Ref. to EI-38 REMOVAL, Lower Inner Trim.>

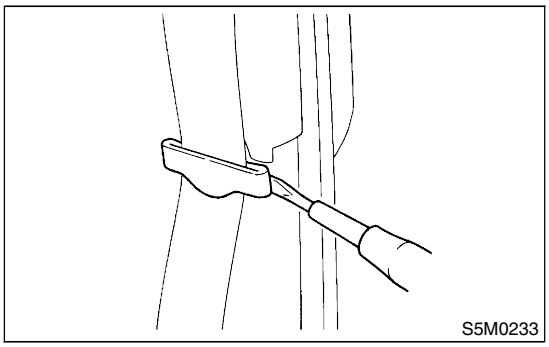


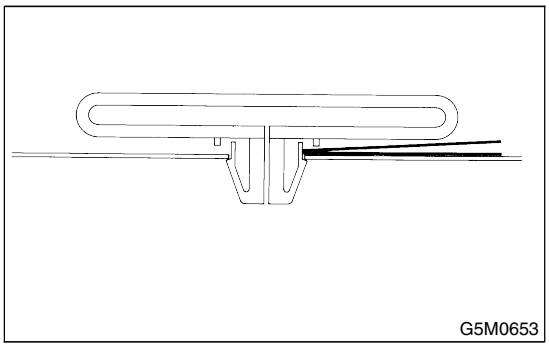
4) Rotate while pulling the safety lever to the right until it stops, then set the lock position.

CAUTION:
Once undeployed pretensioner has been removed from the vehicle body, do not move the safety lever until re-installation.

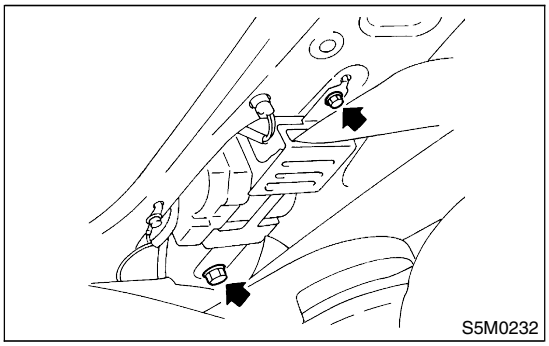


5) Remove webbing guide.





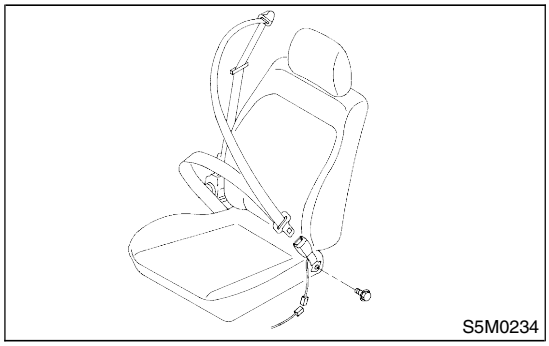
6) Remove lap anchor bolt.
7) Remove belt retractor and outer belt.



CAUTION:
• Do not drop or apply any impact to pretensioner.
• Pretensioner and bracket should be treated as an assembly. Do not attempt to disassemble it.

2. INNER BELT (FRONT) S801303A1802

1) Disconnect connector.
2) Remove anchor bolt, and then detach inner belt.


S5M0234

B: INSTALLATION S801303A11

1. OUTER BELT (FRONT) S801303A1107

Install in the reverse order of removal.

CAUTION:
● The parts on left and right are not identical. Before installation, make sure that the correct part is used.
● Be careful not to twist belts during installation.

2. INNER BELT (FRONT) S801303A1102

Install in the reverse order of removal.

C: INSPECTION S801303A10

1. OUTER BELT (FRONT) S801303A1005

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

2. INNER BELT (FRONT) S801303A1002

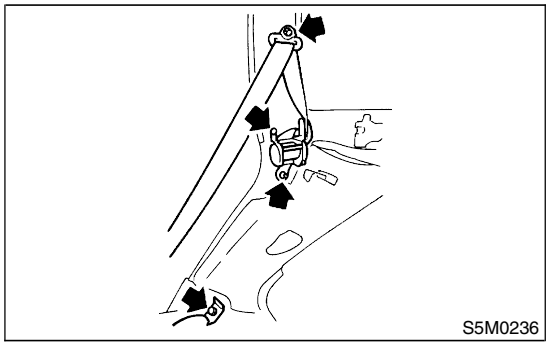
Check for the following, and replace with new parts if necessary.
● Inner belt is deformed or damaged.
● Seat belt buckle is engaged improperly.

4. Rear Seat Belt S801304

A: REMOVAL S801304A18

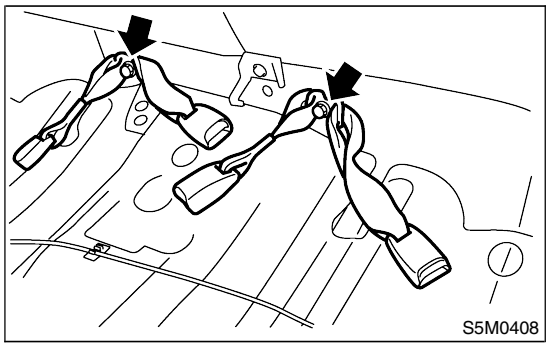
1. OUTER BELT SIDE S801304A1809

1) Remove rear seat. <Ref. to SE-6 REMOVAL, Rear Seat.>
2) Remove side sill rear upper cover. <Ref. to EI-38 REMOVAL, Lower Inner Trim.>
3) Remove quarter trim. <Ref. to EI-39 REMOVAL, Rear Quarter Trim.>
4) Remove bolts, then detach outer belt side.



2. INNER BELT S801304A1810

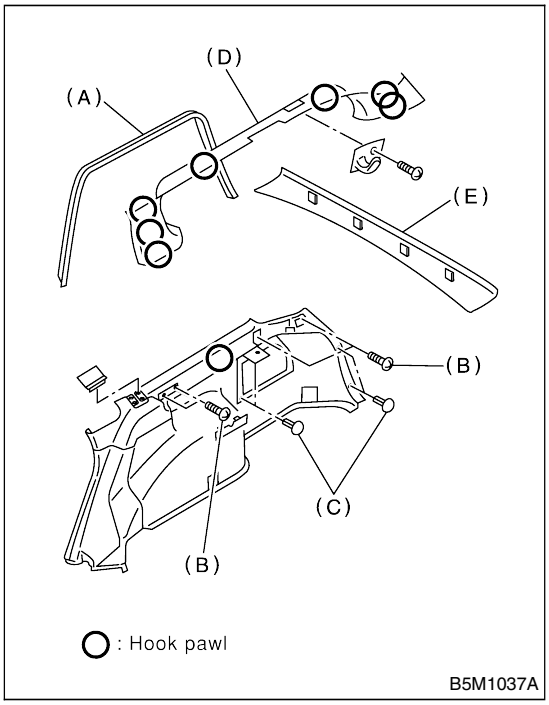
1) Remove the rear cushion. <Ref. to SE-6 REMOVAL, Rear Seat.>
2) Remove bolts, and then detach inner belt.



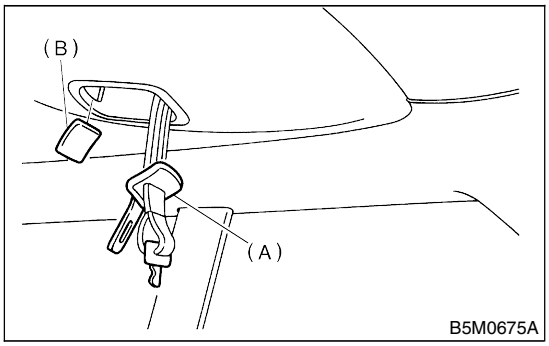
3. OUTER BELT CENTER S801304A1811

CAUTION:
When removing clip, use great care not to damage the roof trim.

1) Remove rear rail trim (I).
2) Remove strut cover (J).
3) Remove rear outer belt side anchor bolt.
4) Remove caps and screws then remove rear quarter upper trim (H).

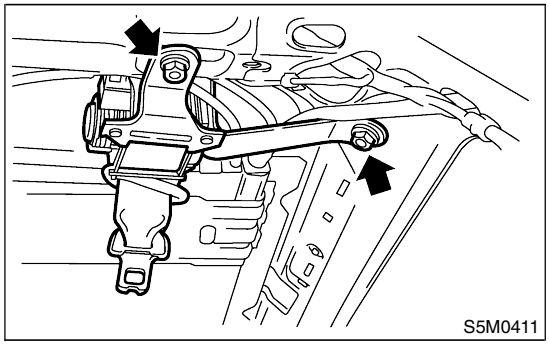


5) Remove cover (B) while detaching snap lock carefully. Put the outer belt center tongue (A) out to the other side of the trim through the hole.



6) Remove clips and hang down rear end of roof trim.

7) Disconnect harness and connector, and then remove outer belt center assembly.



B: INSTALLATION S801304A11

1. OUTER BELT SIDE S801304A1109

Install in the reverse order of removal.

CAUTION:
● During installation, make sure that seat belts are not twisted.
● After installation, make sure that seat belts can be smoothly extended and wound.

2. OUTER BELT CENTER S801304A1110

Install in the reverse order of removal.

CAUTION:
● During installation, make sure that seat belts are not twisted.
● After installation, make sure that seat belts can be smoothly extended and wound.

3. INNER BELT S801304A1111

Install in the reverse order of removal.

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

C: INSPECTION S801304A10

1. OUTER BELT SIDE S801304A1009

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

2. OUTER BELT CENTER S801304A1010

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

3. INNER BELT S801304A1011

Check for the following, and replace with new parts if necessary.
● Inner belt is deformed or damaged.
● Seat belt buckle is engaged improperly.

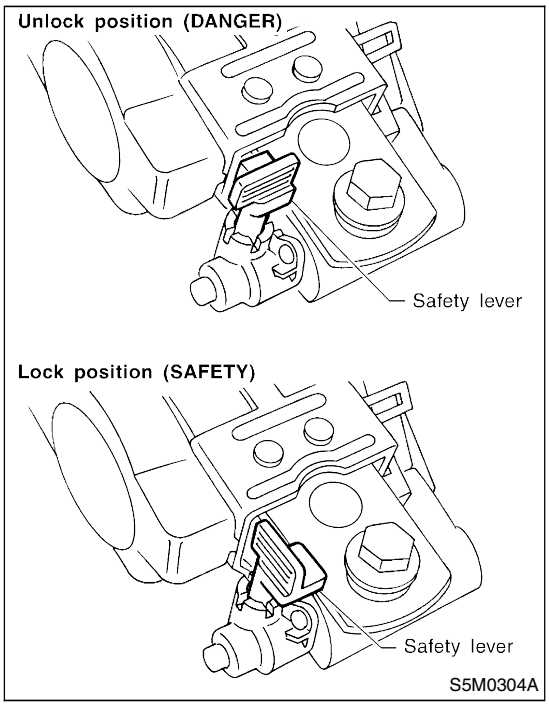
5. Disposal of Pretensioner S801305

A: CAUTION S801305A03

- Do not discard undeployed pretensioners, because they 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.
- Do not drop or damage pretensioner.
- Because deploying the pretensioners causes a high-explosive noise, be sure to warn people in the area, and do not allow anyone within a 5-meter (16 ft) radius of the disposal site.
- Some smoke will be emitted after deployment of the pretensioners. Therefore, it must be deployed in a well-ventilated area with no smoke alarms nearby.
- Wear gloves, goggles, and earplugs during this operation. Wash your hands afterwards.
- After deployment, the pretensioner is especially hot. Leave it unattended for 40 minutes, and then discard it.
- Do not let water get on the deployed pretensioner.
- Wrap the deployed the pretensioner in an air-tight vinyl bag, and then discard it.

B: OPERATION S801305A16

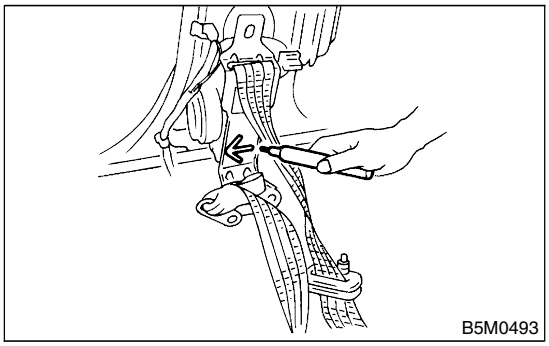
1) Rotate while pulling the safety lever to the right until it stops, then set the lock position.



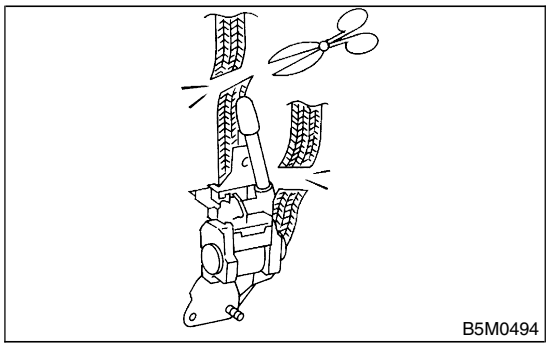
2) Remove outer belt (FRONT). <Ref. to SB-6 OUTER BELT (FRONT), REMOVAL, Front Seat Belt.>

3) Mark an arrow on pretensioner which indicates vehicle front.

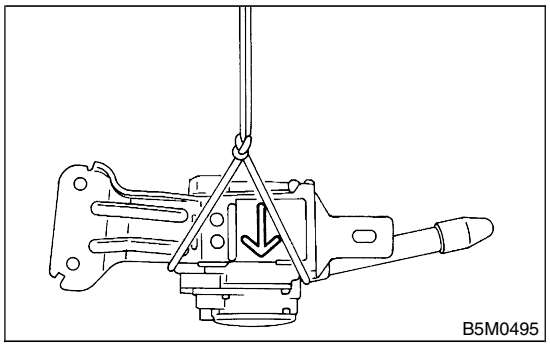
WARNING:
Never move the safety lever of pretensioner until instructed to do so.



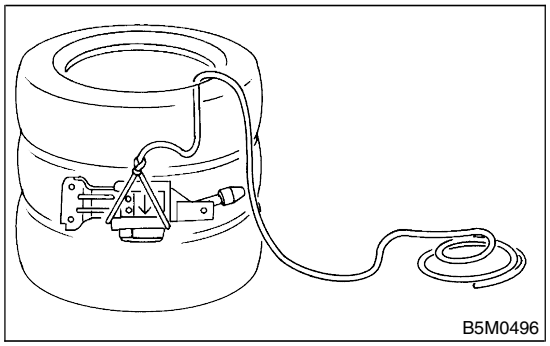
4) Cut the webbing of the pretensioner.



5) Tie the pretensioner with a rope of a minimum 6 m (20 ft) so that the arrow on the pretensioner faces downward.

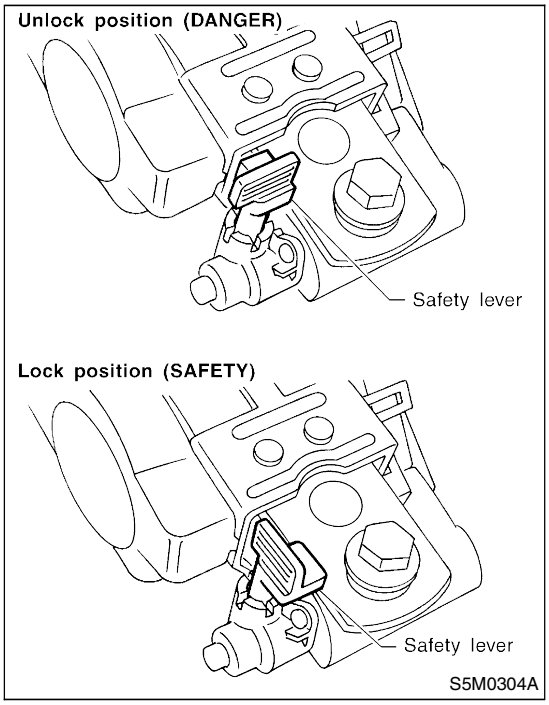


6) Pile three tires without disc wheels on a flat and rigid floor. Softly place the pretensioner in the tires with the arrow facing downward.



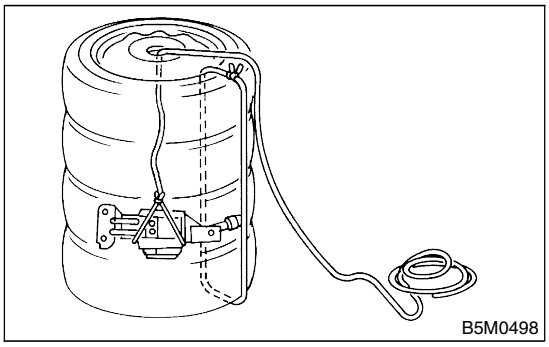
7) Rotate while pulling the safety lever to the left until it stops, then set the unlock position.

CAUTION:
Pay careful attention not to apply impact to the pretensioner with its safety system unlocked. It may deploy even with a slight impact.



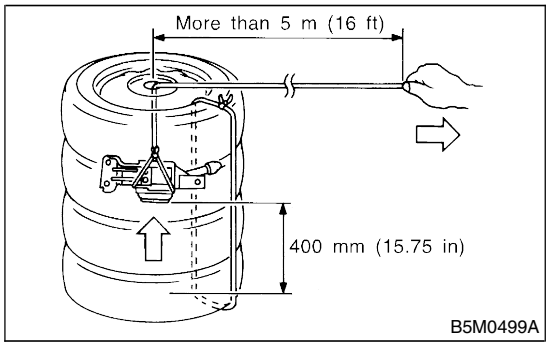
8) Put a tire with disk wheel on the three tires so that the rope comes out of the wheel center as shown in the figure. Then, fix the four tires with another rope.

WARNING:
Pay careful attention not to apply impact to the pretensioner with its safety system unlocked. It may deploy even with a slight impact.



9) Pull the rope on the pretensioner from a minimum 5 m (16 ft) away from the tires so that the pretensioner is lifted a minimum 400 mm (15.75 in) from the floor.

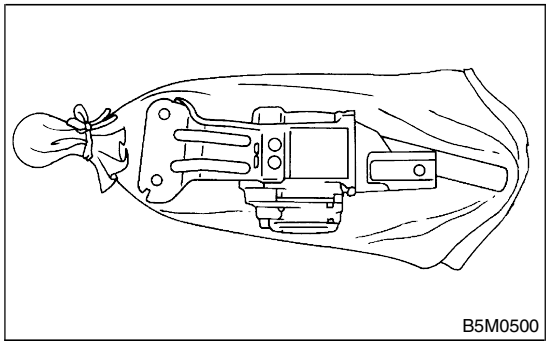
CAUTION:
Before pulling the rope, confirm the safety in the working area, and inform the people around you of the deployment.



10) Release the rope to drop the pretensioner so that the pretensioner is deployed by impact.

CAUTION:
• The pretensioner may not deploy if the safety system is locked completely or it falls in a direction different from the one shown by the arrow. In this case, repeat the procedure from the beginning paying attention not to apply impact to the pretensioner.
• After deployment, the pretensioner is extremely hot. Leave it unattended for 40 minutes.
• Do not let water get on the deployed pretensioner.

11) Wrap the deployed pretensioner in an airtight vinyl bag and discard it.



LIGHTING SYSTEM

LI

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1. General Description S914001

A: SPECIFICATIONS S914001E49

Headlight		12 V — 60 W/55 W (Halogen)
Front turn signal light		12 V — 21 W
Side turn signal light		12 V — 5 W
Parking light		12 V — 5 W
Front fog light		12 V — 51 W
Rear fog light		12 V — 21 W
Rear combination light	Tail/Stop light	12 V — 5/21 W
	Turn signal light	12 V — 21 W
	Back-up light	12 V — 16 W
License plate light		12 V — 5 W
High-mounted stop light		12 V — 10 W
Room light		12 V — 8 W
Spot light		12 V — 8 W
Luggage room light		12 V — 5 W

B: PRECAUTIONS S914001E59

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

WARNING:

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

C: PREPARATION TOOL S914001A17

1. GENERAL TOOLS S914001A1701

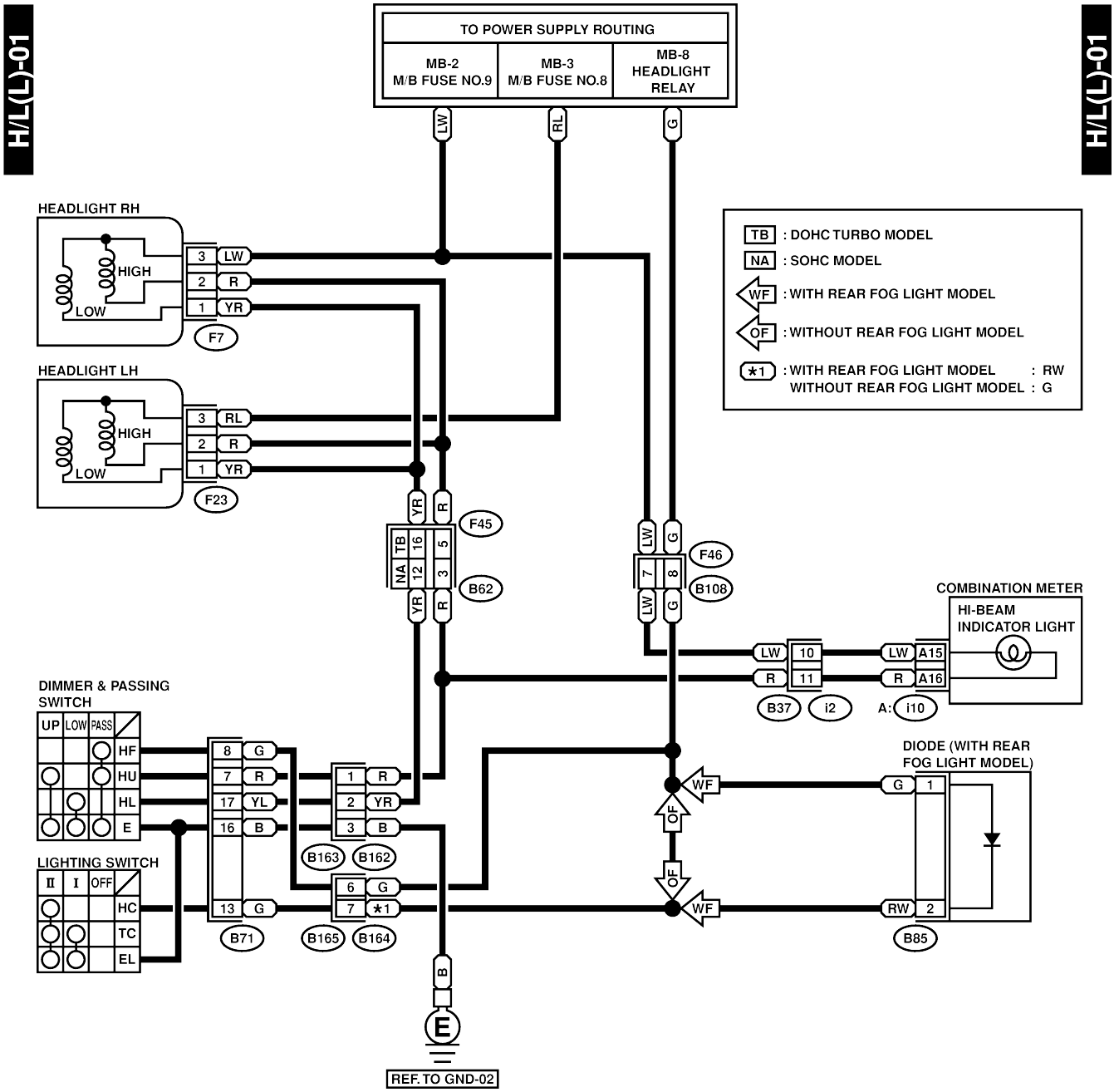
TOOL NAME	REMARKS
Circuit Tester	Used for measuring resistance and voltage.

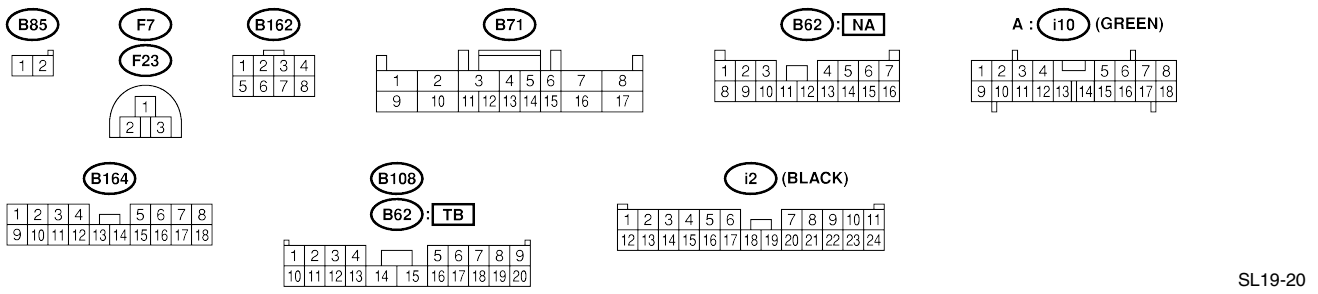
MEMO:

2. Headlight and Tail Light System S914415

A: SCHEMATIC S914415A21

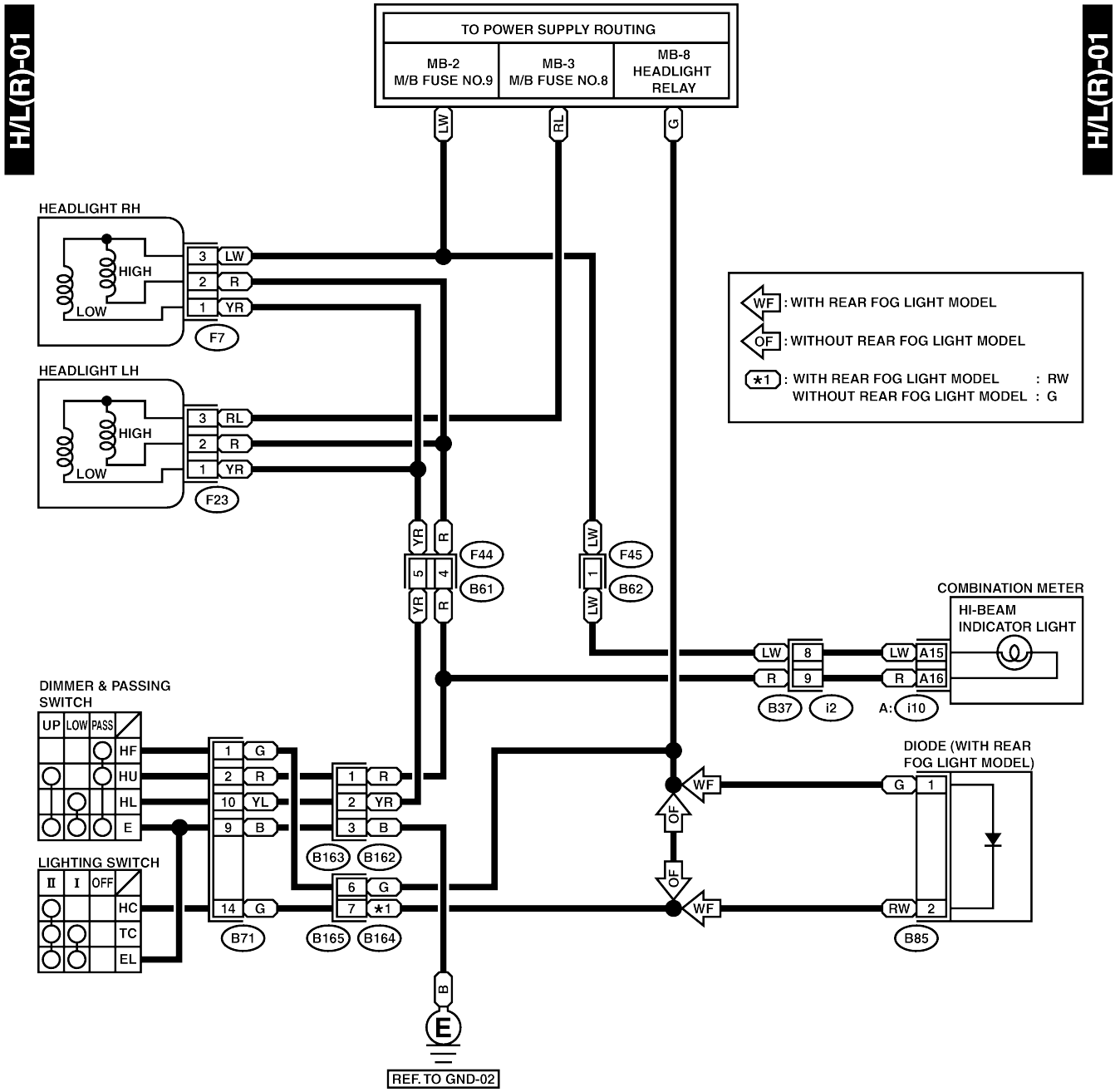
1. HEADLIGHT LHD MODEL S914415A2104

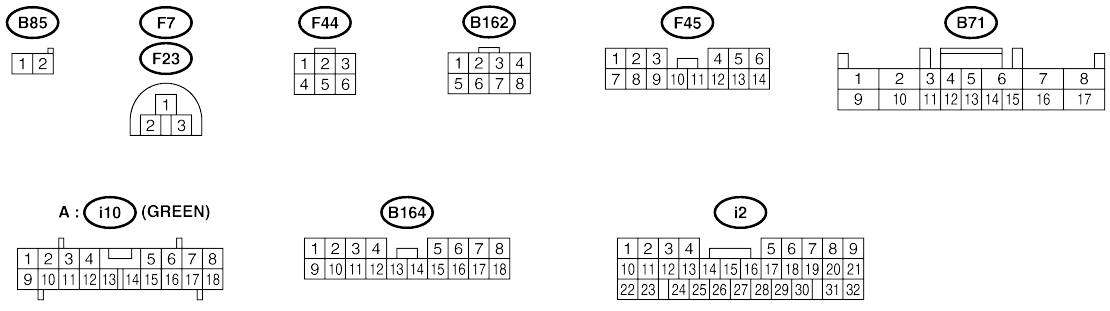




SL19-20

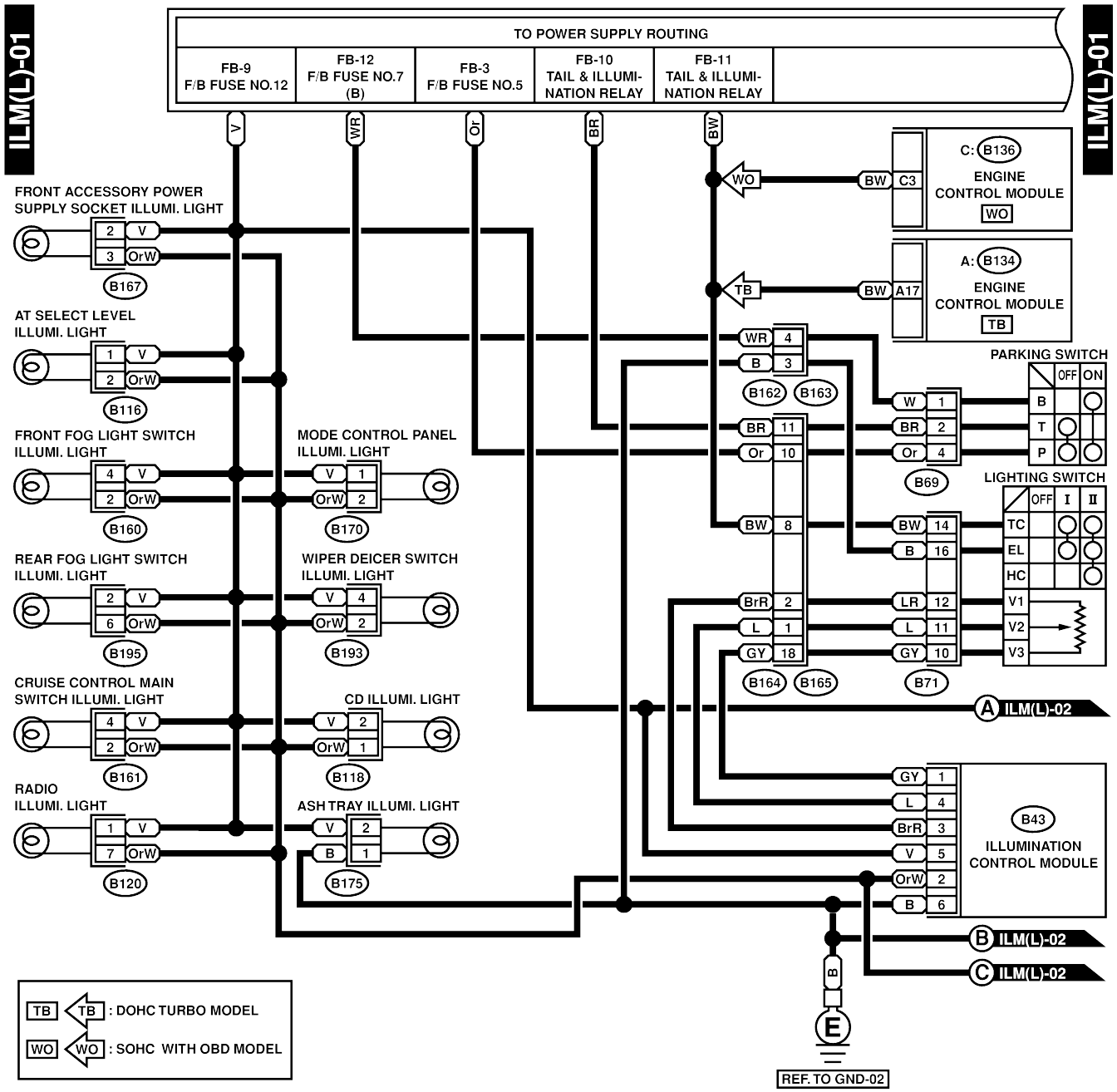
2. HEADLIGHT RHD MODEL S914415A2105

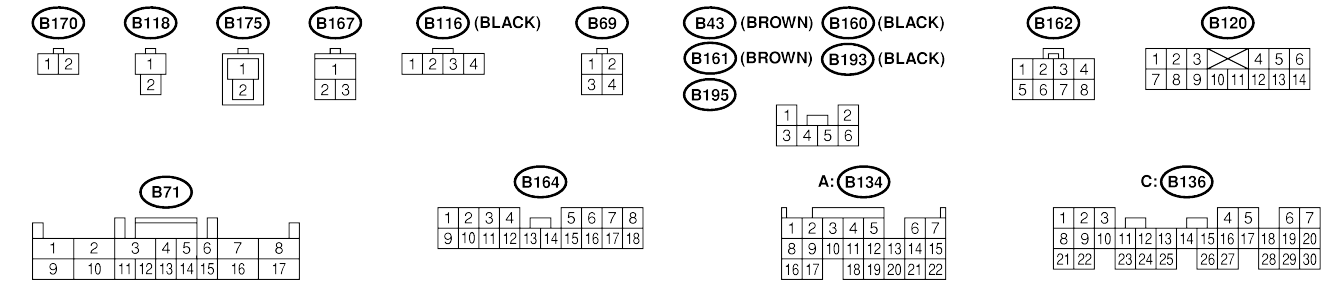




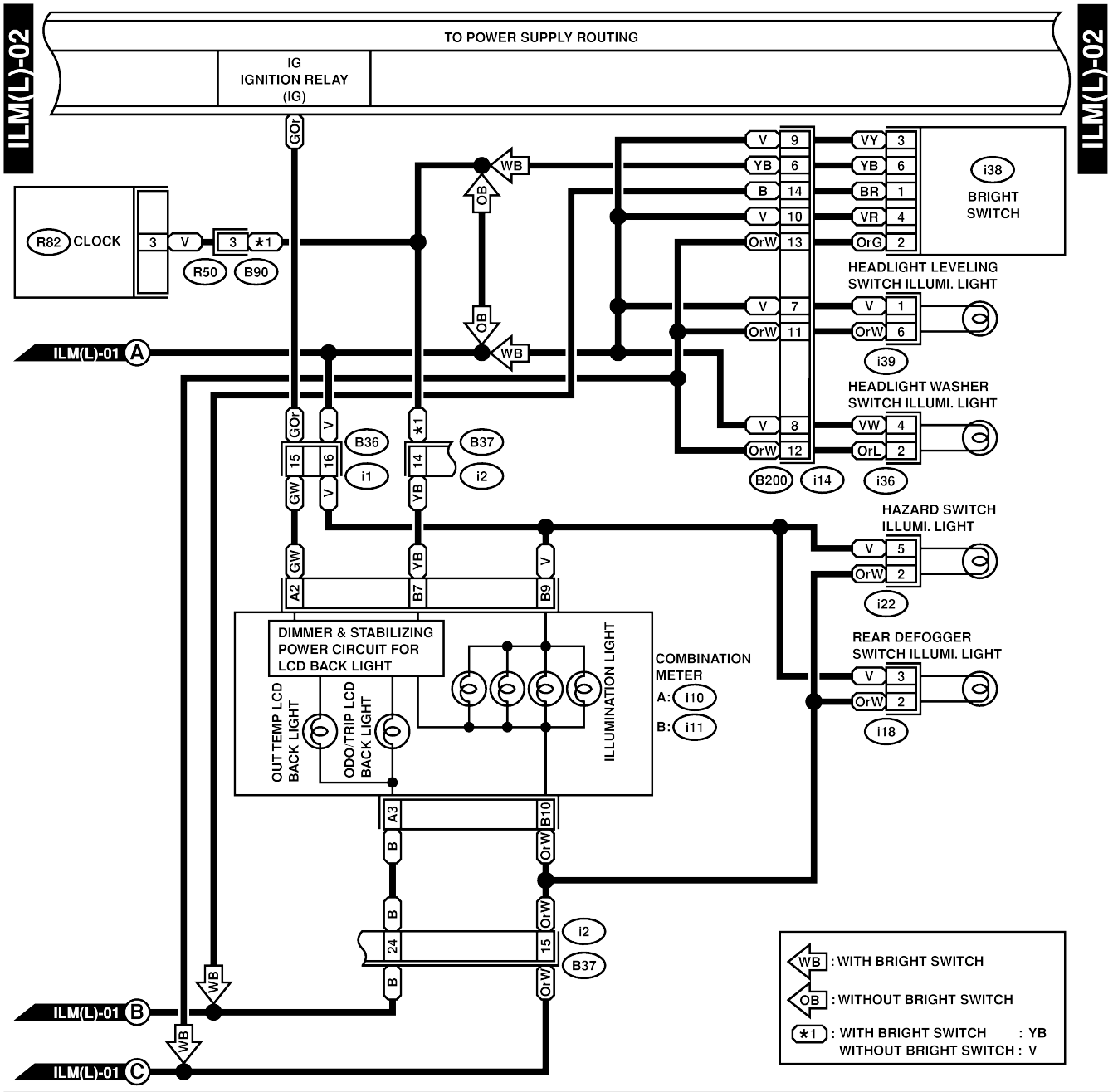
SR19-20

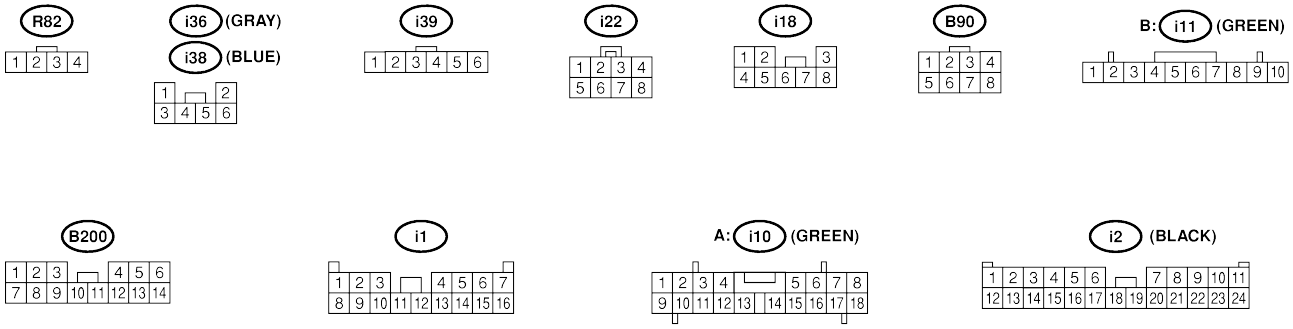
3. CLEARANCE LIGHT AND ILLUMINATION LIGHT LHD MODEL S914415A2106





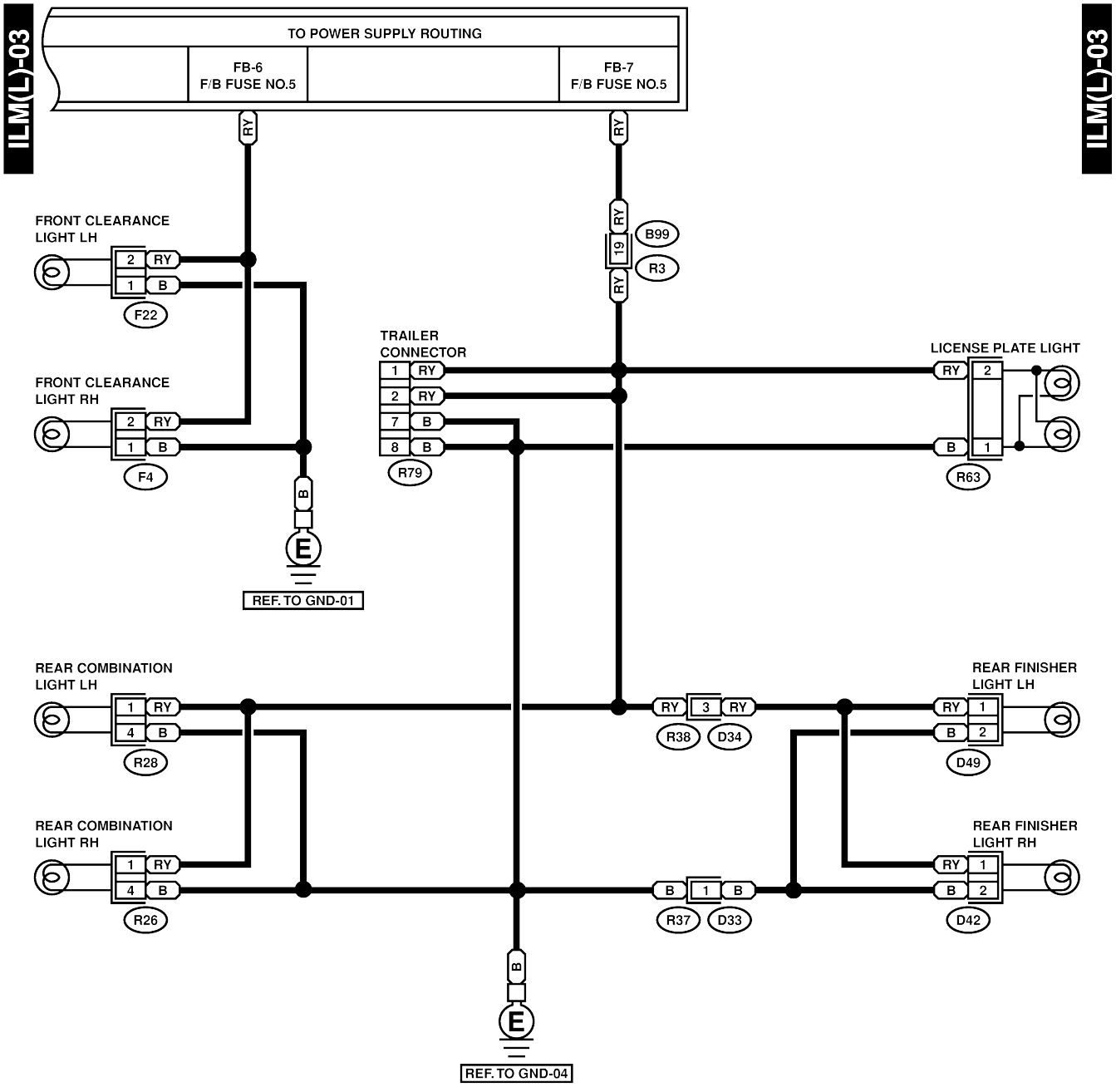
SL21-20A

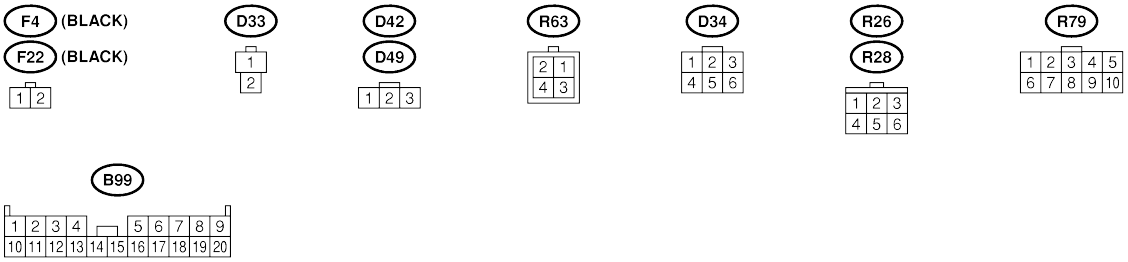

ILM(L)-02
TO POWER SUPPLY ROUTING
IG
IGNITION RELAY
(IG)
ILM(L)-02
R82 CLOCK
R50
B90
ILM(L)-01 A
ILM(L)-01 B
ILM(L)-01 C
B36
B37
i1
i2
B200
i14
i36
i38
BRIGHT SWITCH
HEADLIGHT LEVELING SWITCH ILLUMI. LIGHT
i39
HEADLIGHT WASHER SWITCH ILLUMI. LIGHT
HAZARD SWITCH ILLUMI. LIGHT
i22
REAR DEFOGGER SWITCH ILLUMI. LIGHT
i18
DIMMER & STABILIZING POWER CIRCUIT FOR LCD BACK LIGHT
OUT TEMP LCD BACK LIGHT
ODO/TRIP LCD BACK LIGHT
ILLUMINATION LIGHT
COMBINATION METER
A: i10
B: i11
WB : WITH BRIGHT SWITCH
OB : WITHOUT BRIGHT SWITCH
*1 : WITH BRIGHT SWITCH : YB
WITHOUT BRIGHT SWITCH : V


R82
i36 (GRAY)
i38 (BLUE)
i39
i22
i18
B90
B: i11 (GREEN)
B200
i1
A: i10 (GREEN)
i2 (BLACK)

SL21-20B

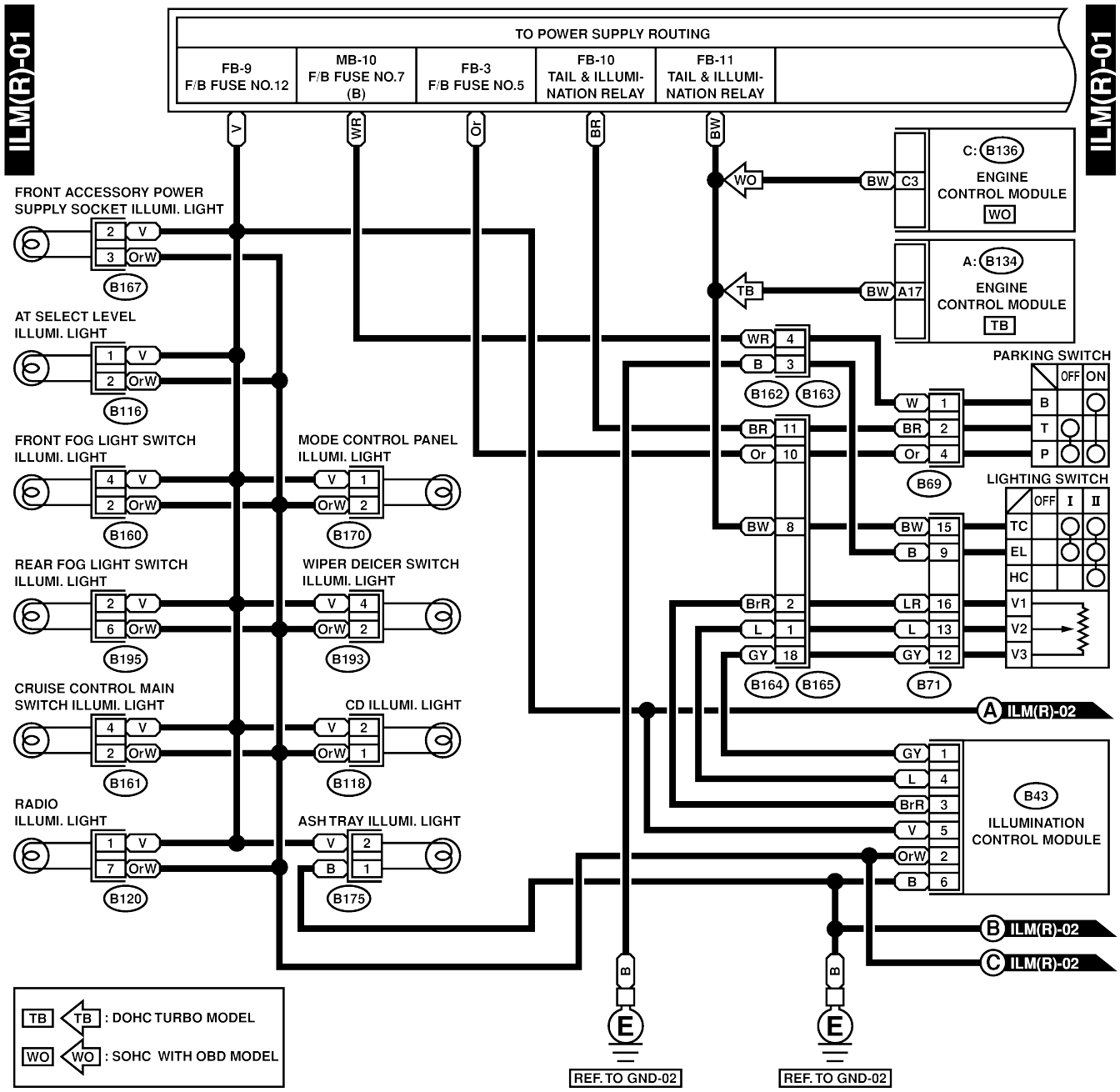
HEADLIGHT AND TAIL LIGHT SYSTEM

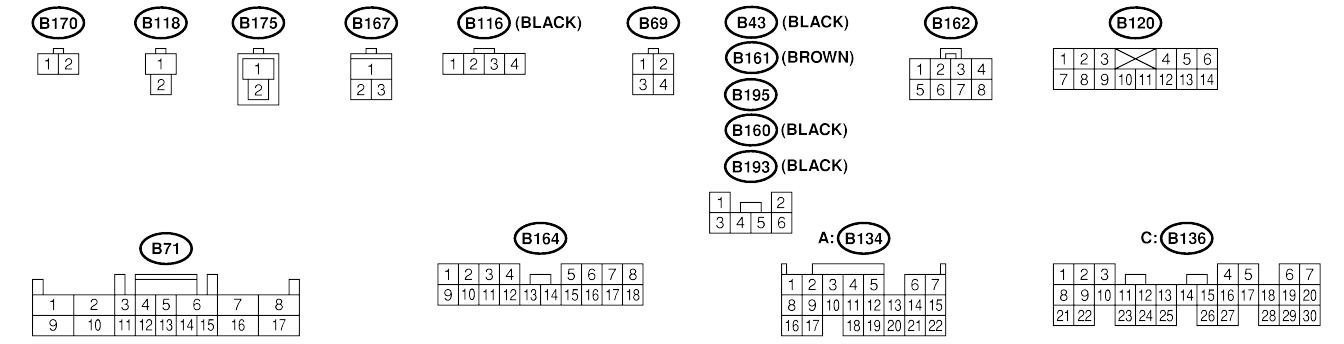




SL21-20C

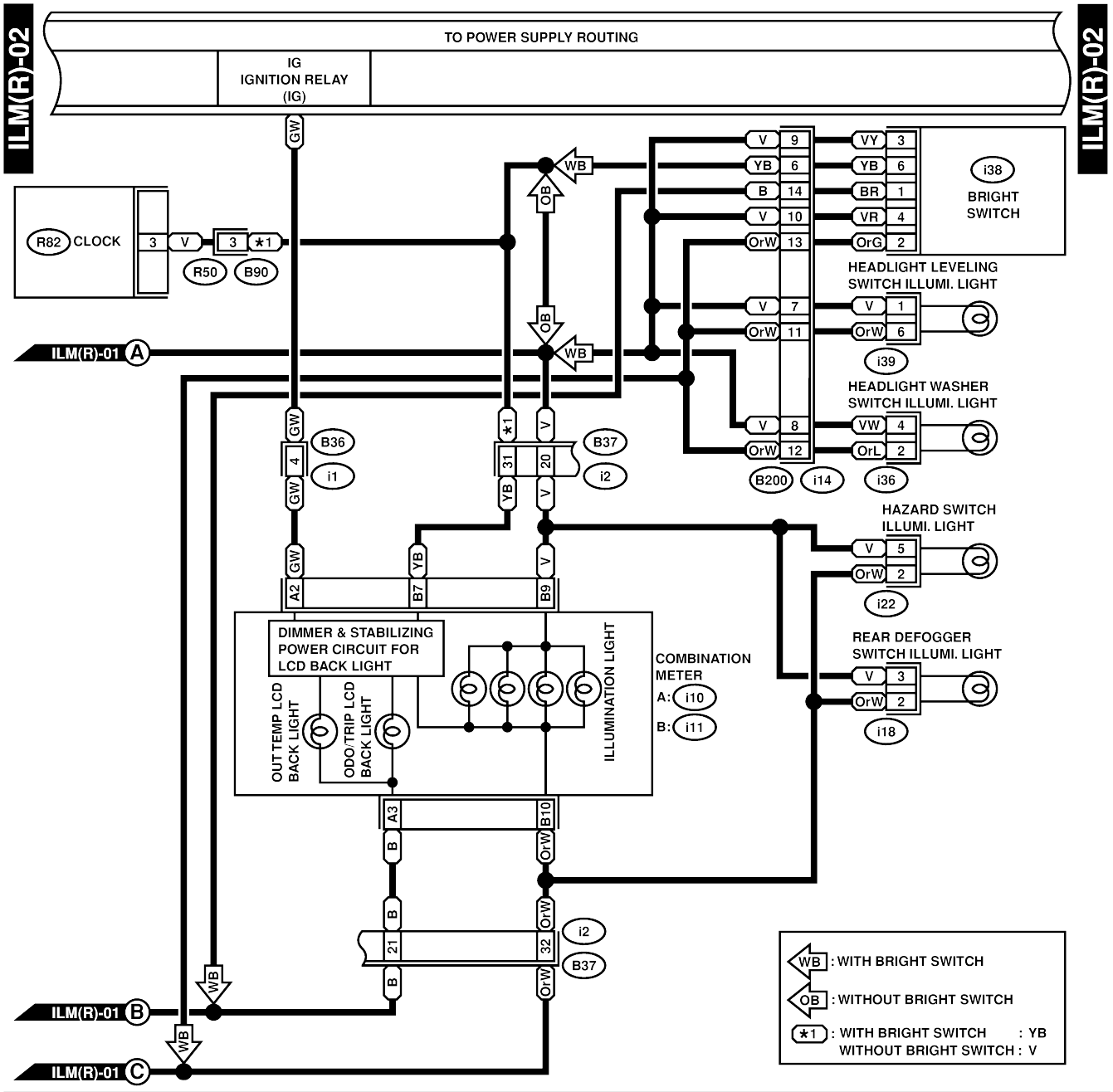
4. CLEARANCE LIGHT AND ILLUMINATION LIGHT RHD MODEL S914415A2107

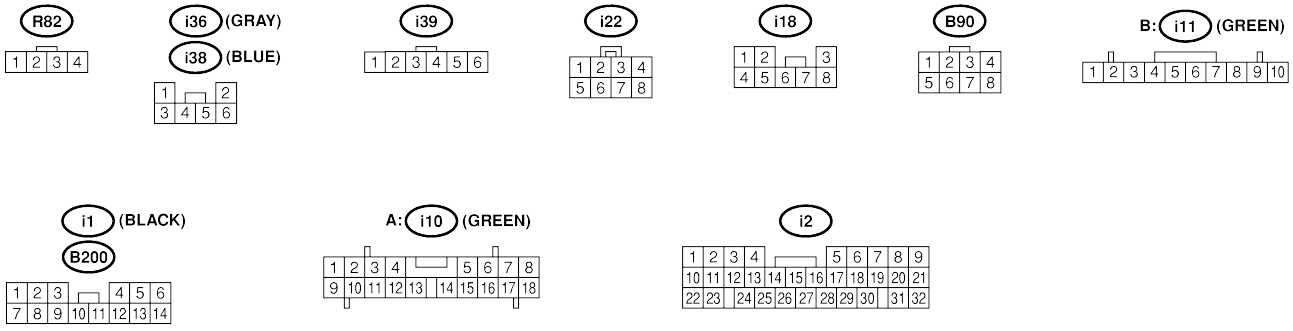




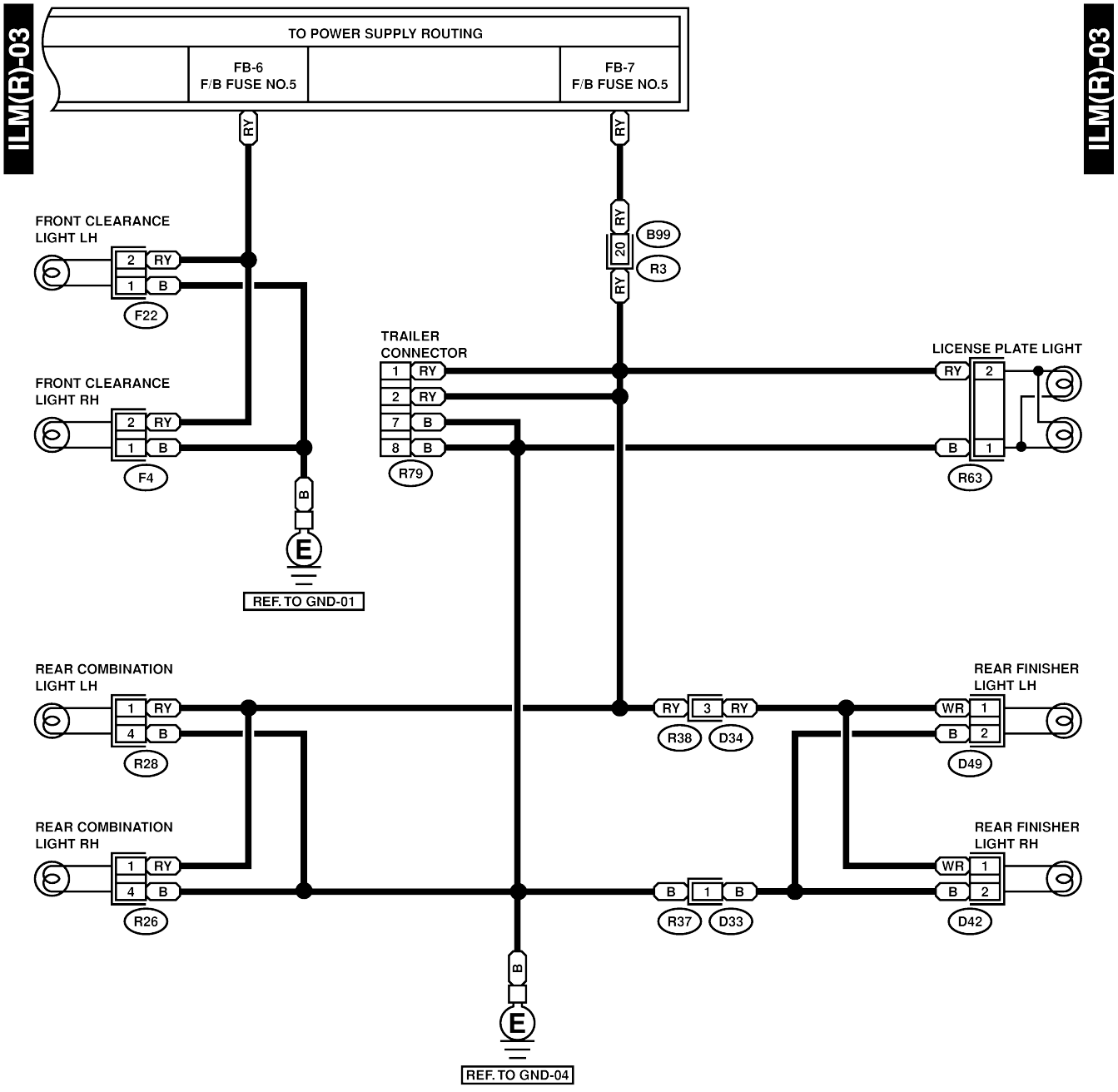
SR21-20A

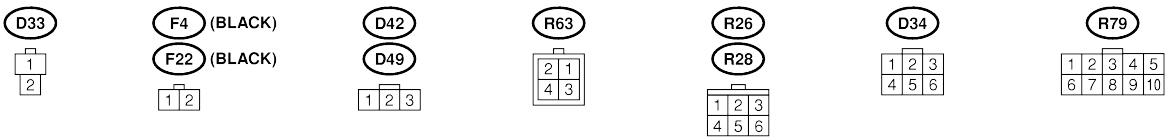
HEADLIGHT AND TAIL LIGHT SYSTEM

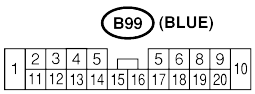




SR21-20B


ILM(R)-03
ILM(R)-03
TO POWER SUPPLY ROUTING
FB-6
F/B FUSE NO.5
FB-7
F/B FUSE NO.5
RY
FRONT CLEARANCE
LIGHT LH
2 RY
1 B
F22
FRONT CLEARANCE
LIGHT RH
2 RY
1 B
F4
B
E
REF. TO GND-01
RY
20
B99
R3
TRAILER
CONNECTOR
1 RY
2 RY
7 B
8 B
R79
LICENSE PLATE LIGHT
RY 2
B 1
R63
REAR COMBINATION
LIGHT LH
1 RY
4 B
R28
RY 3 RY
R38 D34
REAR FINISHER
LIGHT LH
WR 1
B 2
D49
REAR COMBINATION
LIGHT RH
1 RY
4 B
R26
B 1 B
R37 D33
REAR FINISHER
LIGHT RH
WR 1
B 2
D42
B
E
REF. TO GND-04


D33
F4 (BLACK)
F22 (BLACK)
D42
D49
R63
R26
R28
D34
R79


B99 (BLUE)

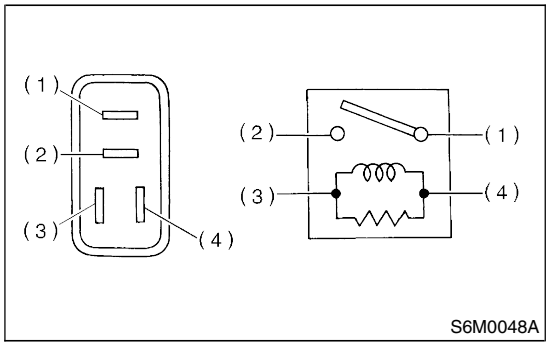
SR21-20C

B: INSPECTION S914415A10

1. HEADLIGHT RELAY S914415A1001

Check continuity between terminals when terminal No. 4 is connected to battery and terminal No. 3 is grounded.

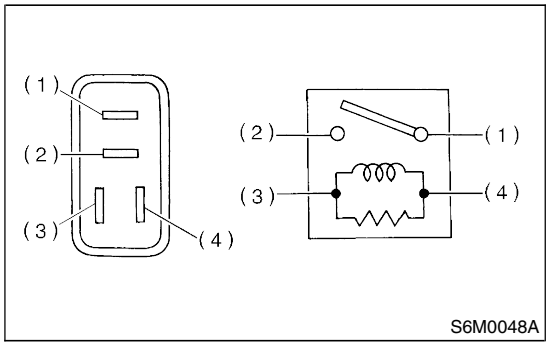
When current flows.	Between terminals No. 1 and No. 2	Continuity exists.
When current does not flow.	Between terminals No. 1 and No. 2	Continuity does not exist.
	Between terminals No. 3 and No. 4	Continuity exists.



2. TAIL AND ILLUMINATION RELAY S914415A1002

Check continuity between terminals (indicated in table below) when terminal No. 4 is connected to battery and terminal No. 3 is grounded.

When current flows.	Between terminals No. 1 and No. 2	Continuity exists.
When current does not flow.	Between terminals No. 1 and No. 2	Continuity does not exist.
	Between terminals No. 3 and No. 4	Continuity exists.

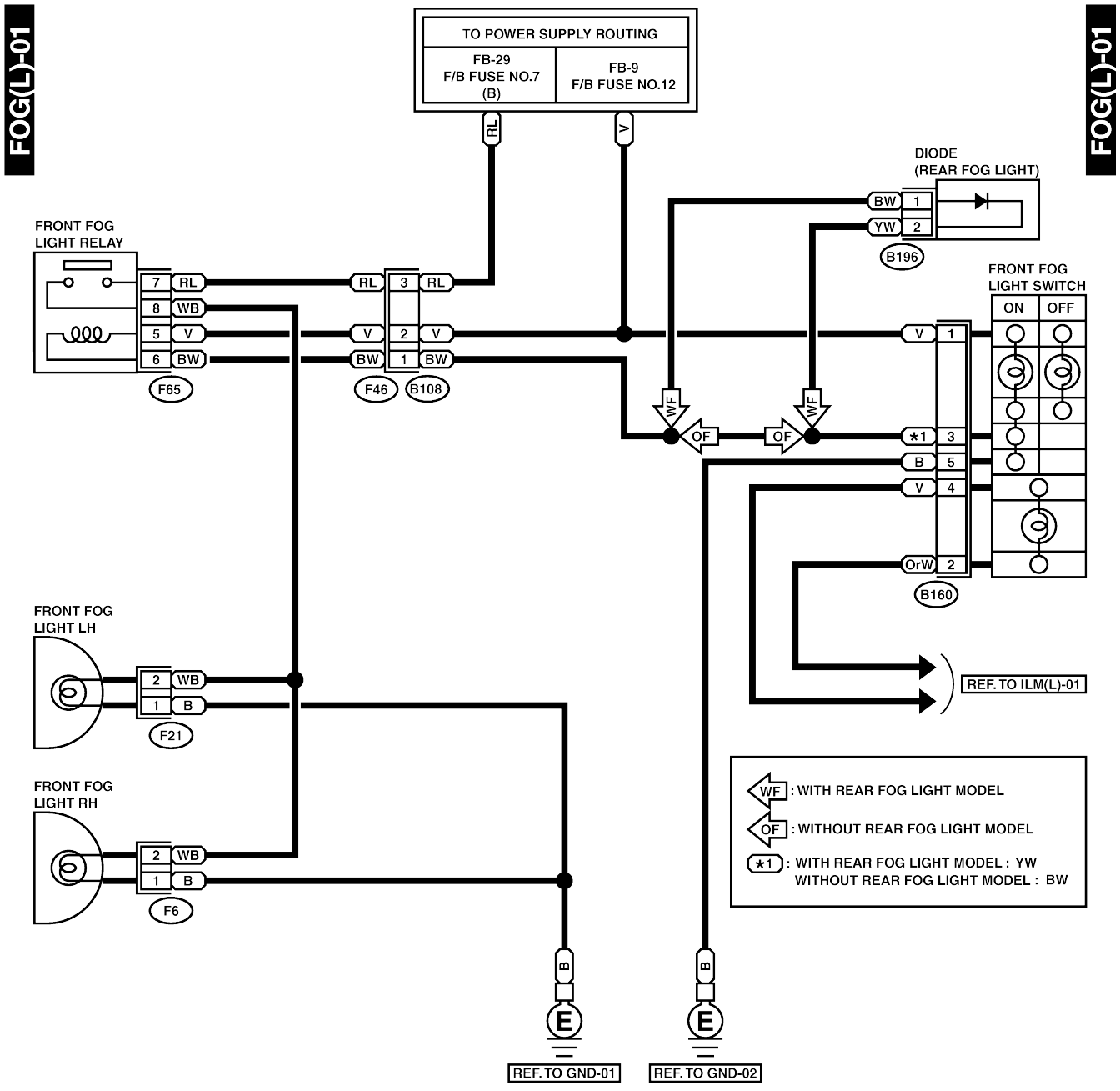


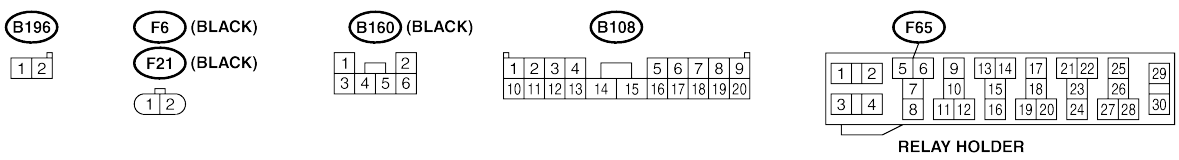
MEMO:

3. Front Fog Light System S914473

A: SCHEMATIC S914473A21

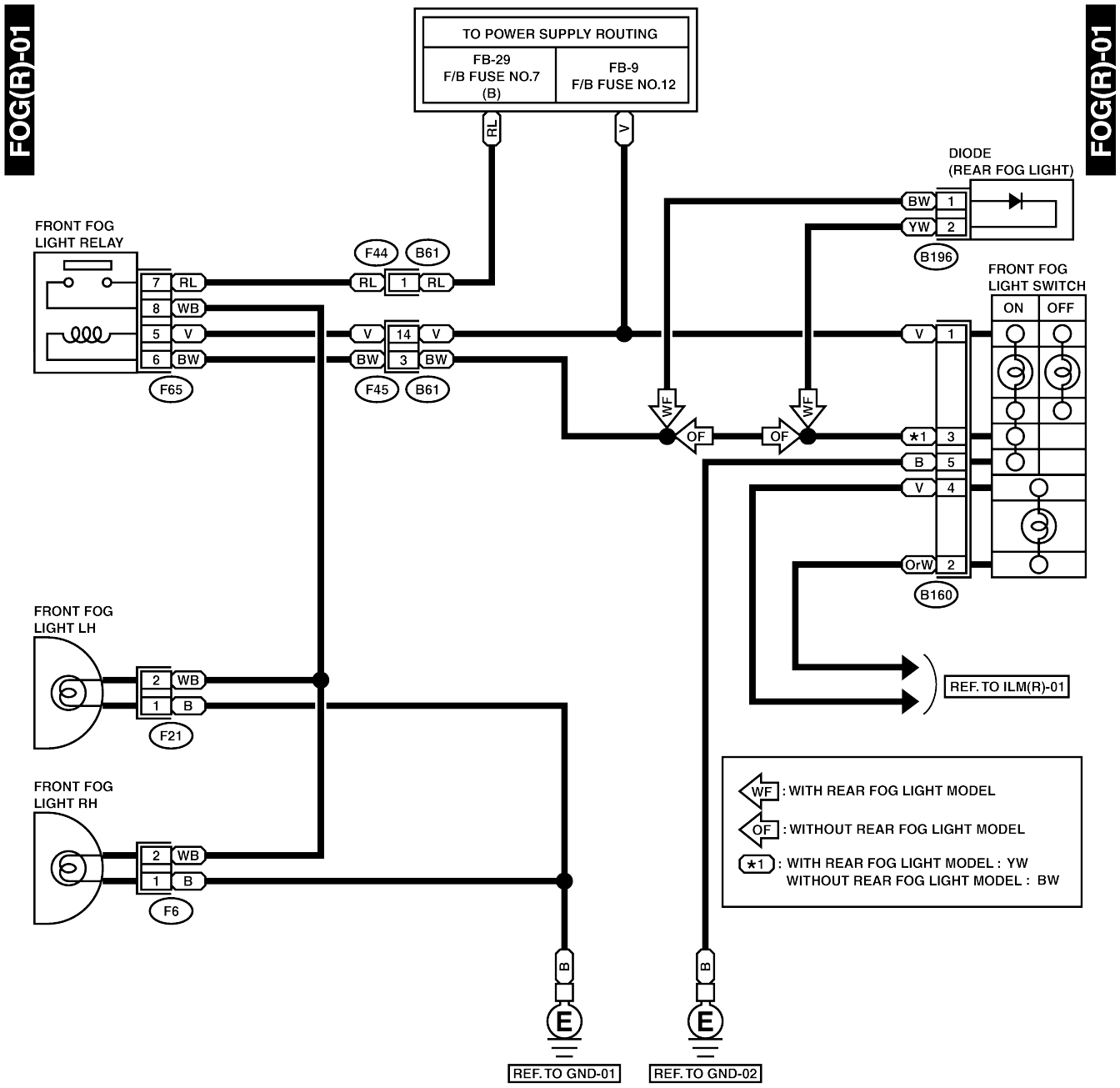
1. FRONT FOG LIGHT LHD MODEL S914473A2105

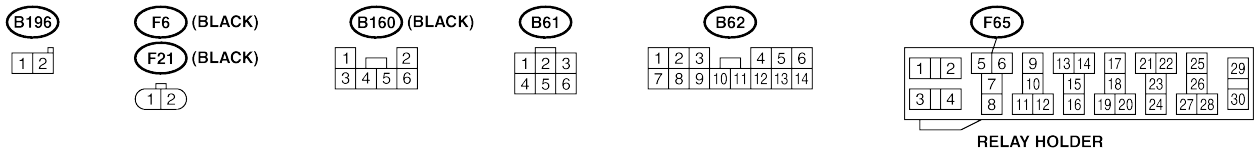




SL22-20

2. FRONT FOG LIGHT RHD MODEL S914473A2106

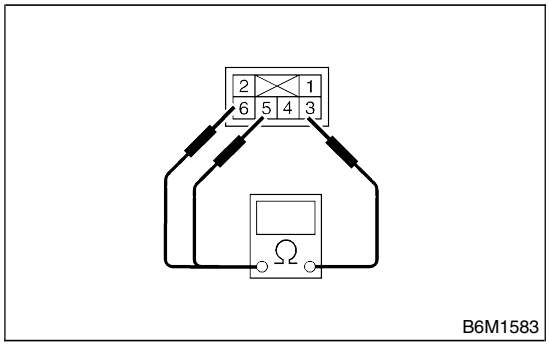




SR22-20

B: INSPECTION S914473A10

1. FRONT FOG LIGHT SWITCH S914473A1001



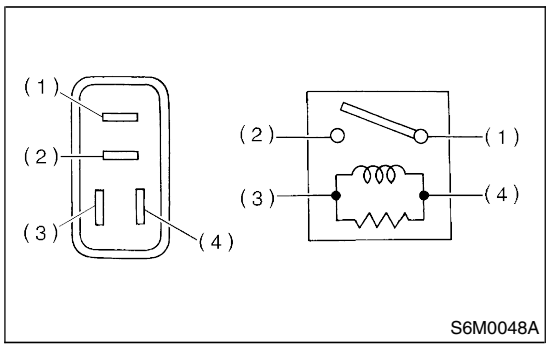
Check continuity between terminals when operating the switch.

Switch position	Tester connection	Specified condition
OFF	—	No continuity
ON	3 - 5 - 6	Continuity

2. FRONT FOG LIGHT RELAY S914473A1002

Check continuity between terminals (indicated in table below) when terminal No. 4 is connected to battery and terminal No. 3 is grounded.

When current flows.	Between terminals No. 1 and No. 2	Continuity exists.
When current does not flow.	Between terminals No. 1 and No. 2	Continuity does not exist.
	Between terminals No. 3 and No. 4	Continuity exists.

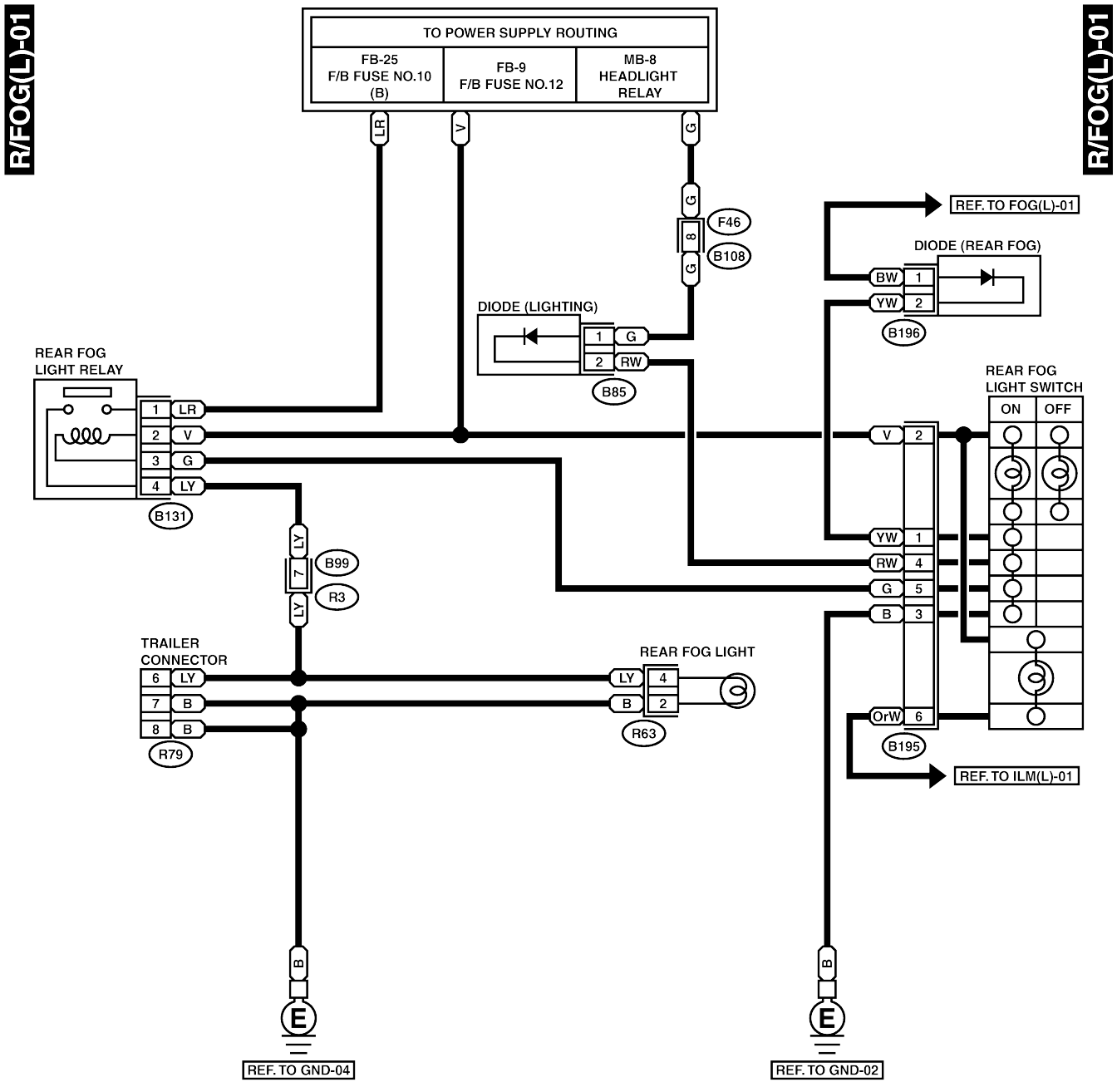


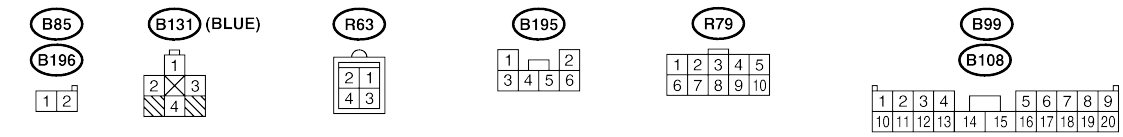
MEMO:

4. Rear Fog Light System S914476

A: SCHEMATIC S914476A21

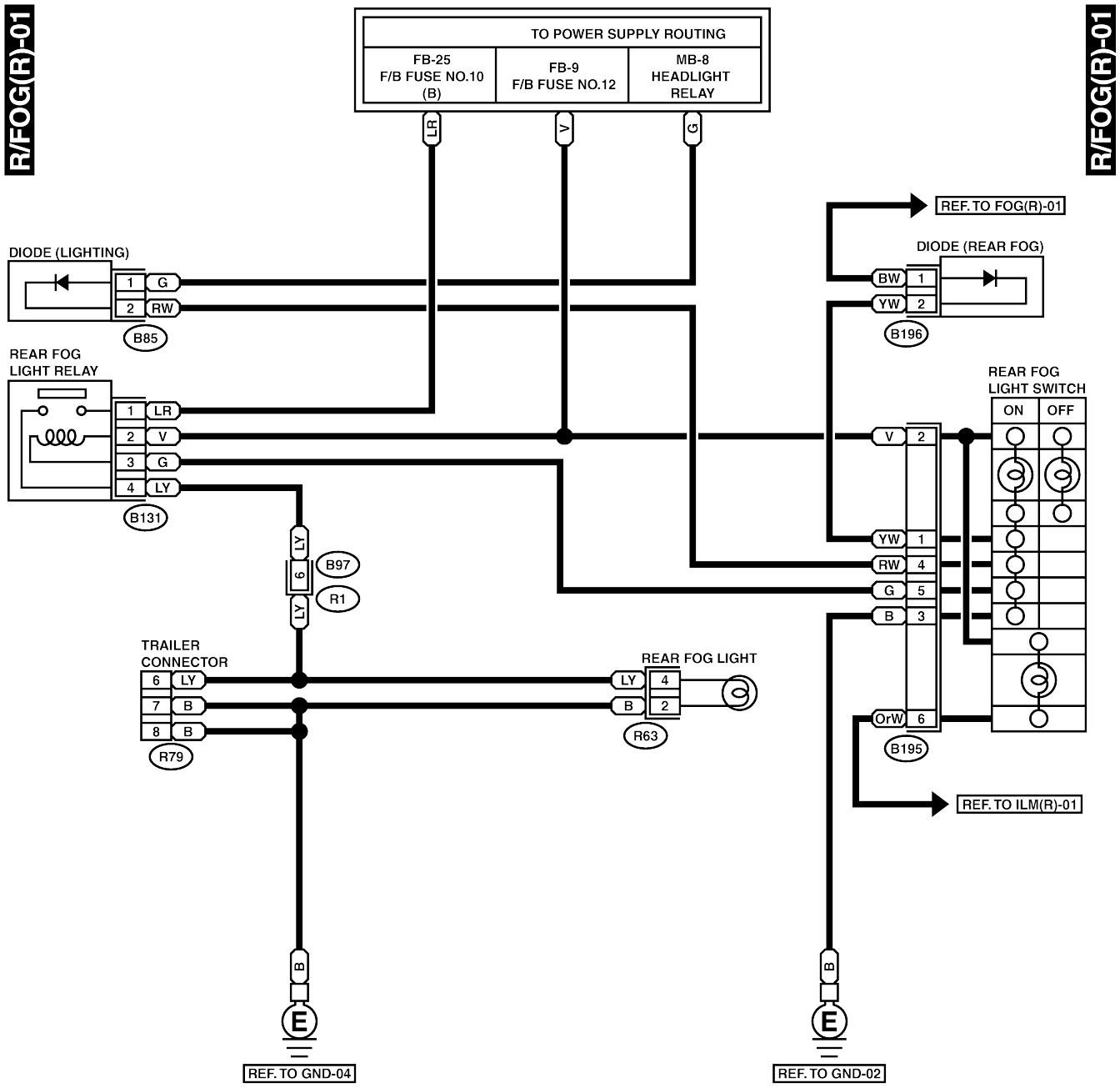
1. REAR FOG LIGHT LHD MODEL S914476A2102

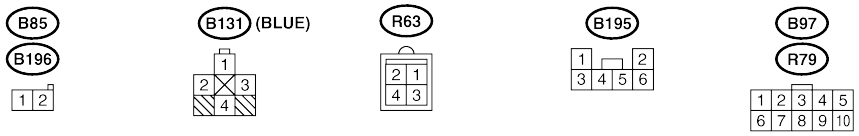




SL30-20

2. REAR FOG LIGHT RHD MODEL S914476A2103





SR30-20

B: INSPECTION S914476A10

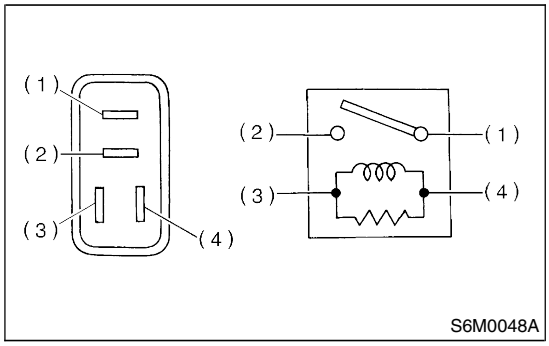
1. REAR FOG LIGHT SWITCH S914476A1001

1) Turn ignition switch ON.
2) Turn on the headlight or front fog light.
3) Push the rear fog light switch and check if the rear fog light turns on.

2. REAR FOG LIGHT RELAY S914476A1002

Check continuity between terminals (indicated in table below) when terminal No. 4 is connected to battery and terminal No. 3 is grounded.

When current flows.	Between terminals No. 1 and No. 2	Continuity exists.
When current does not flow.	Between terminals No. 1 and No. 2	Continuity does not exist.
	Between terminals No. 3 and No. 4	Continuity exists.

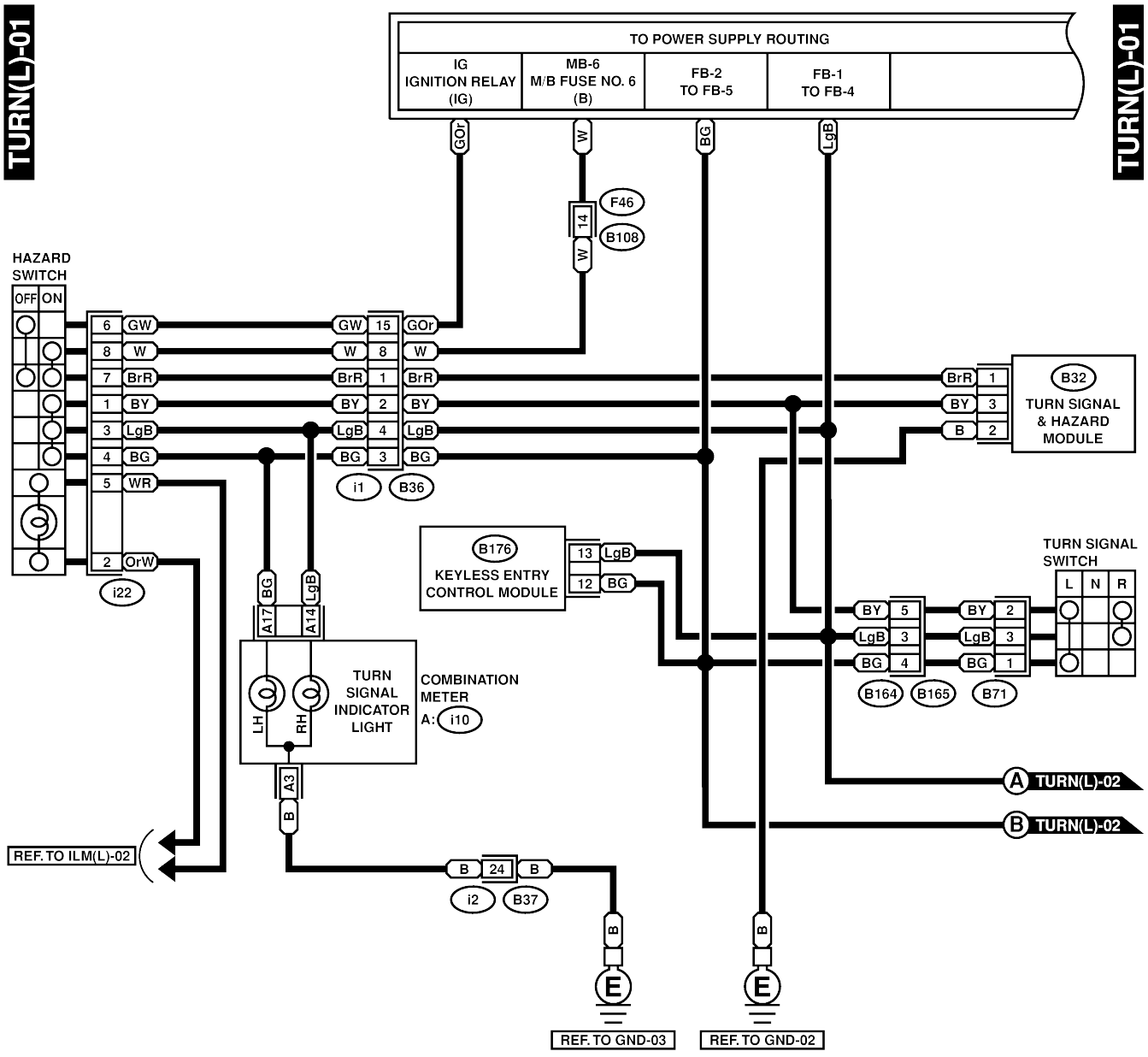


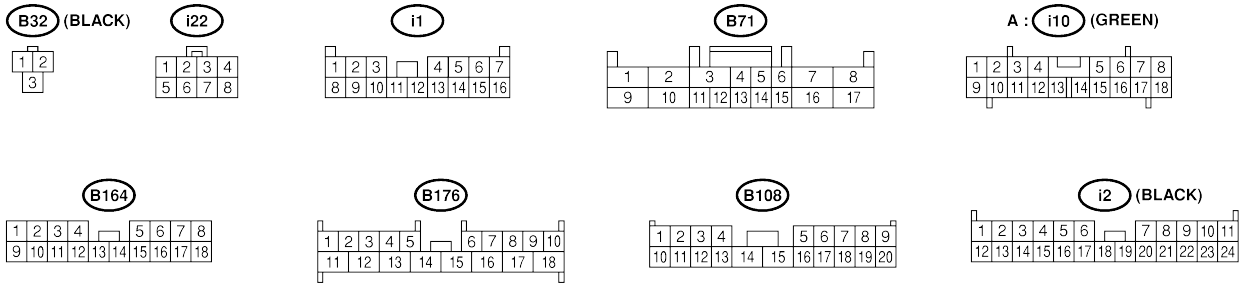
MEMO:

5. Turn Signal and Hazard Light System S914481

A: SCHEMATIC S914481A21

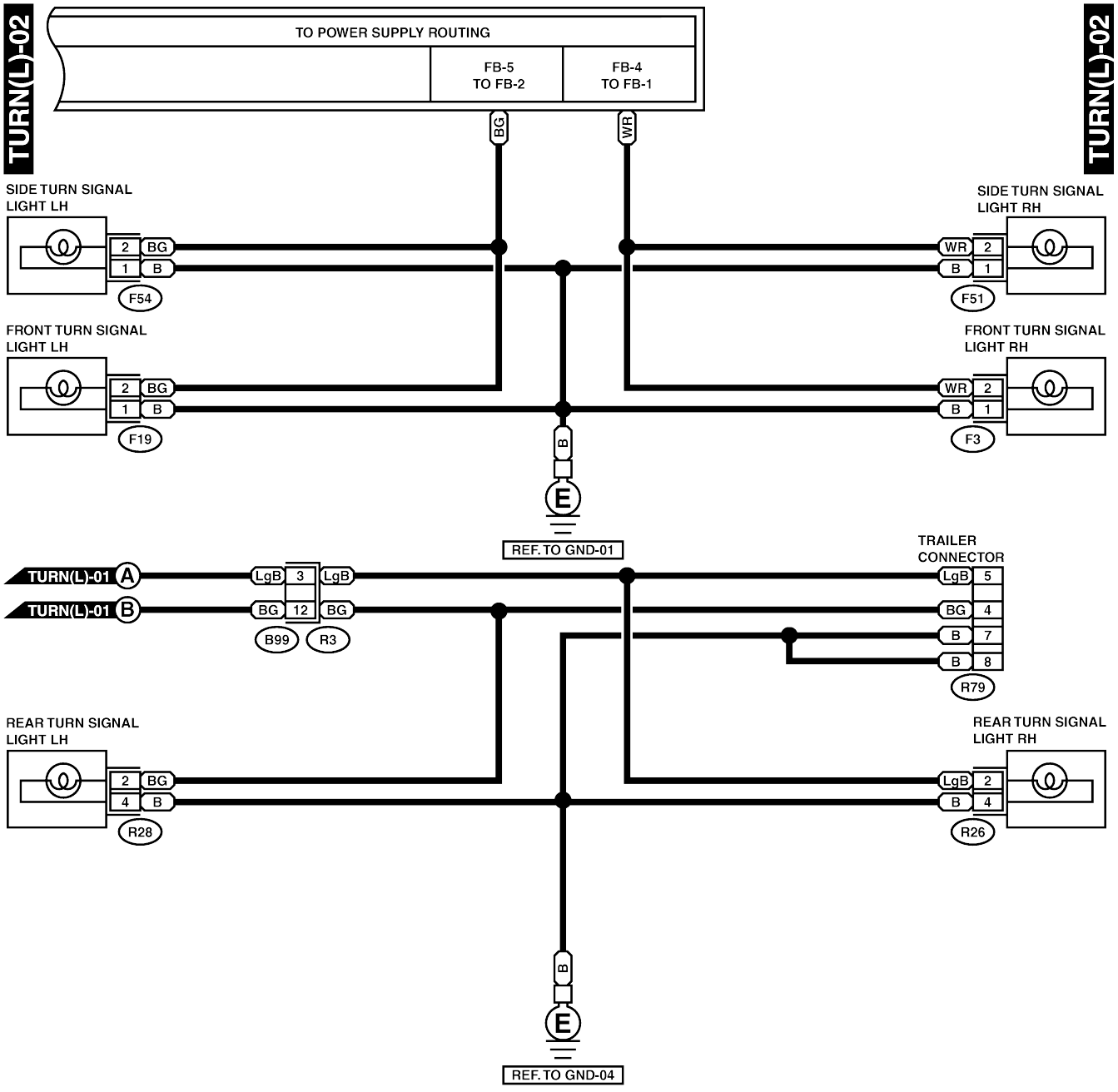
1. TURN SIGNAL LIGHT AND HAZARD LIGHT LHD MODEL S914481A2102





SL26-20A

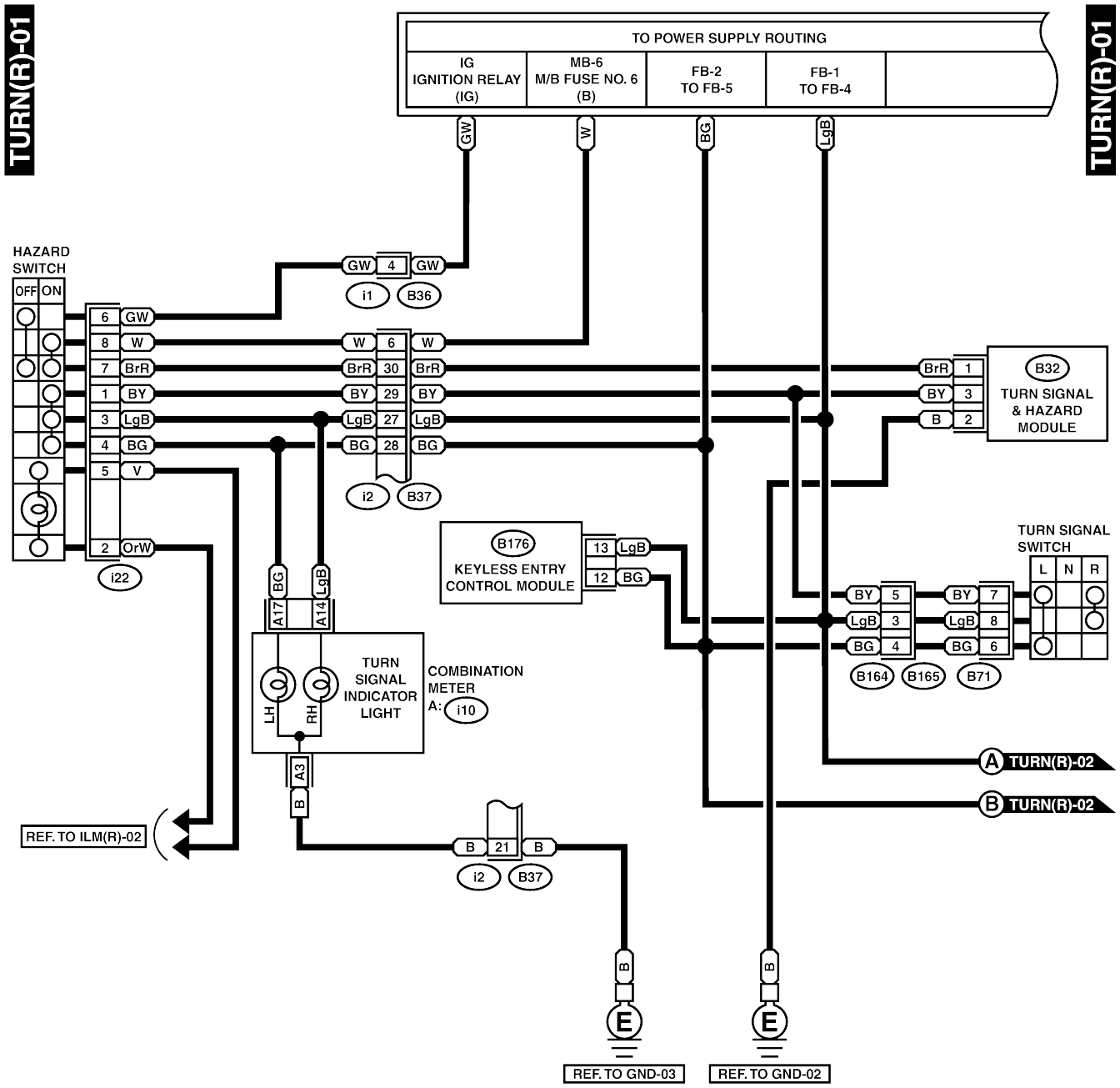
TURN SIGNAL AND HAZARD LIGHT SYSTEM

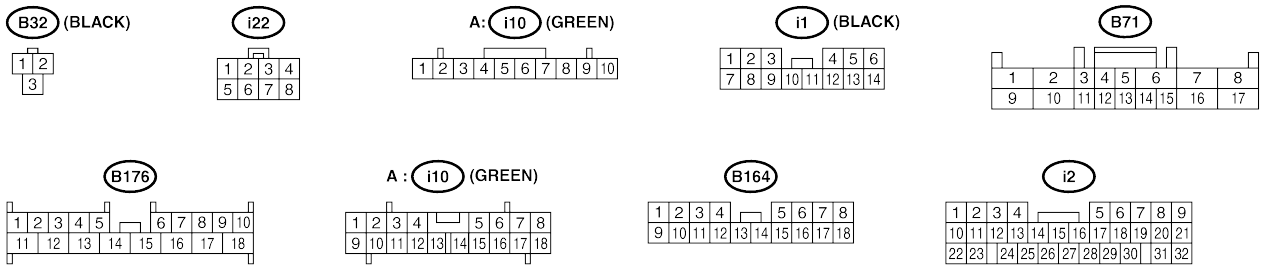




SL26-20B

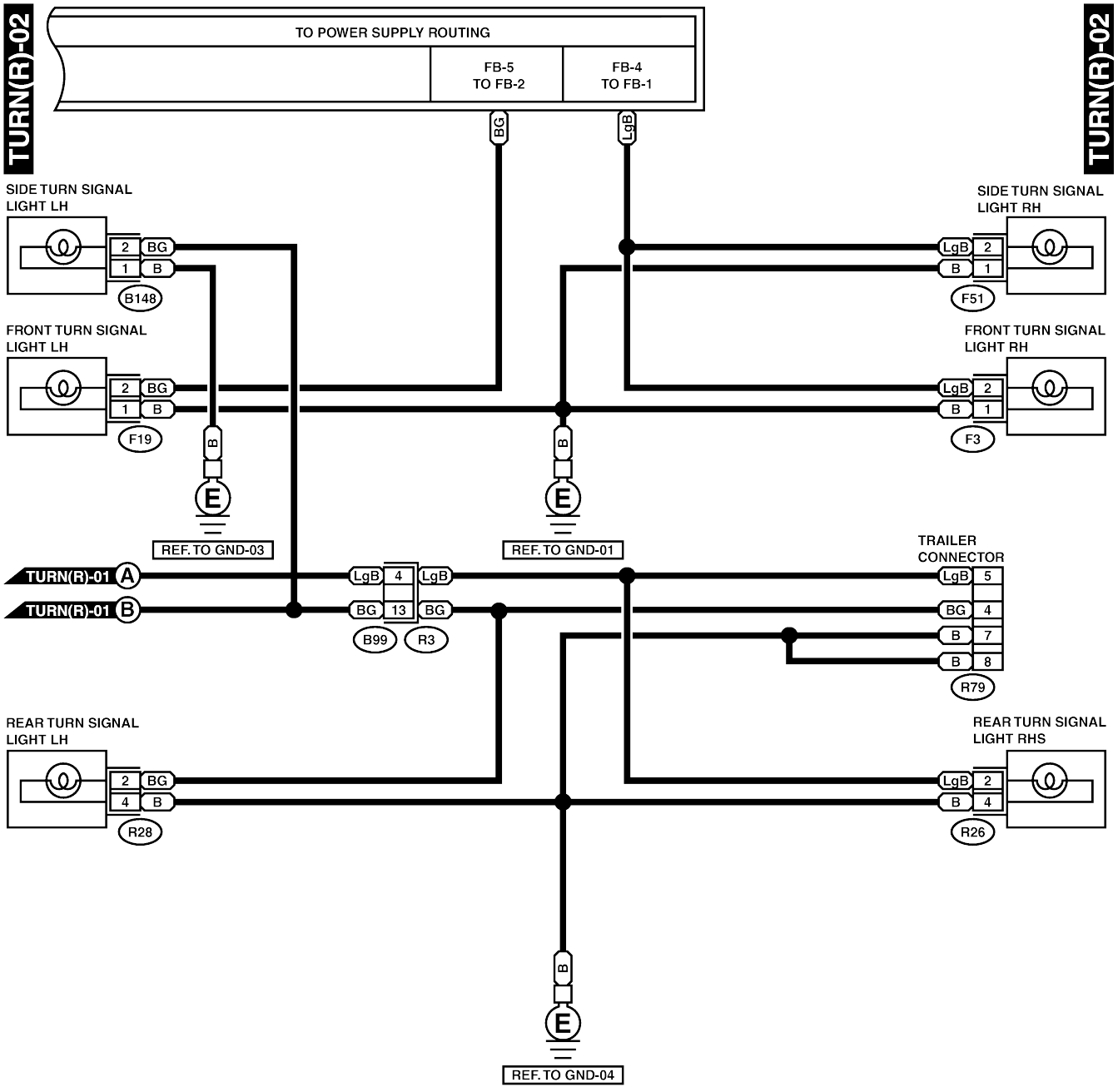
2. TURN SIGNAL LIGHT AND HAZARD LIGHT RHD MODEL S914481A2103

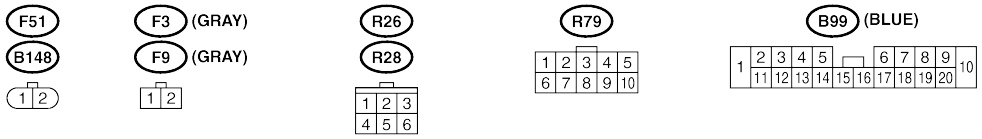




SR26-20A

TURN SIGNAL AND HAZARD LIGHT SYSTEM





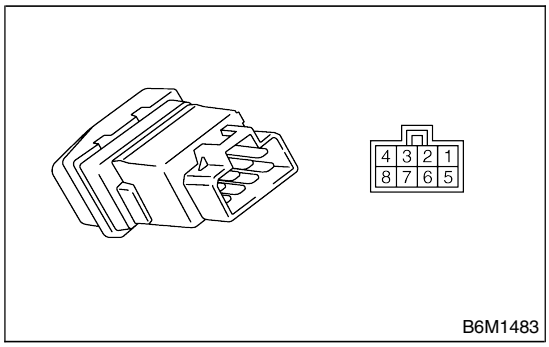
SR26-20B

B: INSPECTION S914481A10

1. TURN SIGNAL SWITCH S914481A1001

<Ref. to LI-40 REMOVAL, Combination Switch (Light).>

2. HAZARD SWITCH S914481A1002

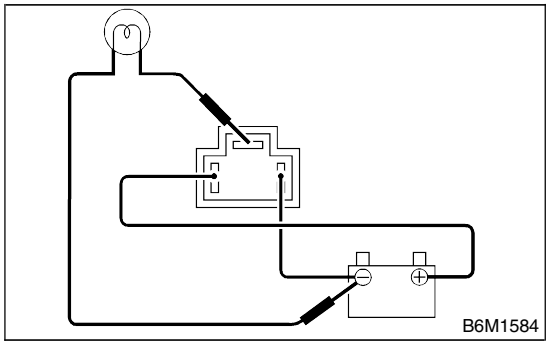


Check continuity between terminals when operating the switch.

Switch position	Tester connection	Specified condition
OFF	6 - 7	Continuity
ON	1 - 3 - 4, 7 - 8	Continuity

3. TURN SIGNAL & HAZARD MODULE

S914481A1003

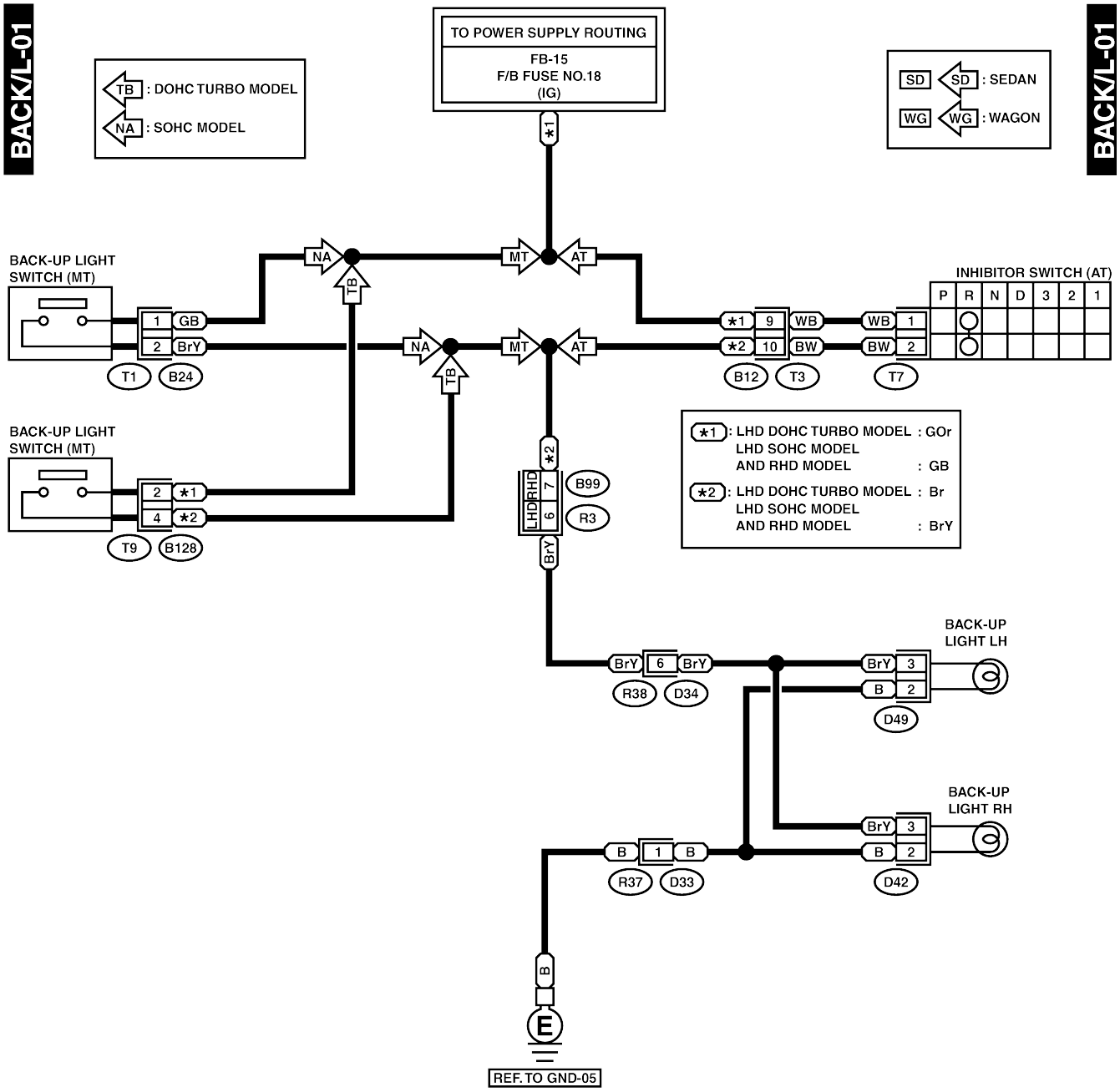


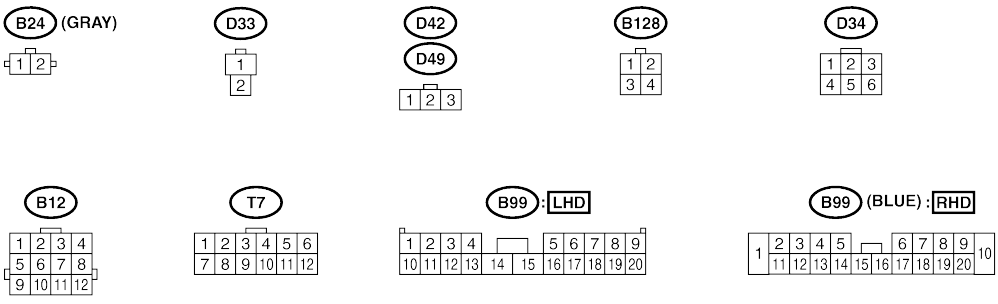
Connect battery and turn signal light bulb to the module, as shown in the figure. The module is properly functioning if it blinks when power is supplied to the circuit.

6. Back-up Light System S914414

A: SCHEMATIC S914414A21

1. BACK-UP LIGHT S914414A2101





SG29-20

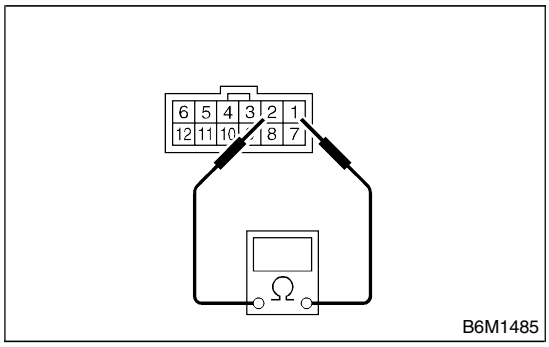
B: INSPECTION S914414A10

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

Check continuity between terminals.

Switch position	Tester connection	Specified condition
When shift lever is set in reverse position	Turbo engine model: 2 - 4 Non-turbo engine model: 1 - 2	Continuity
Other positions		No continuity

2. INHIBITOR SWITCH (A/T) S914414A1002



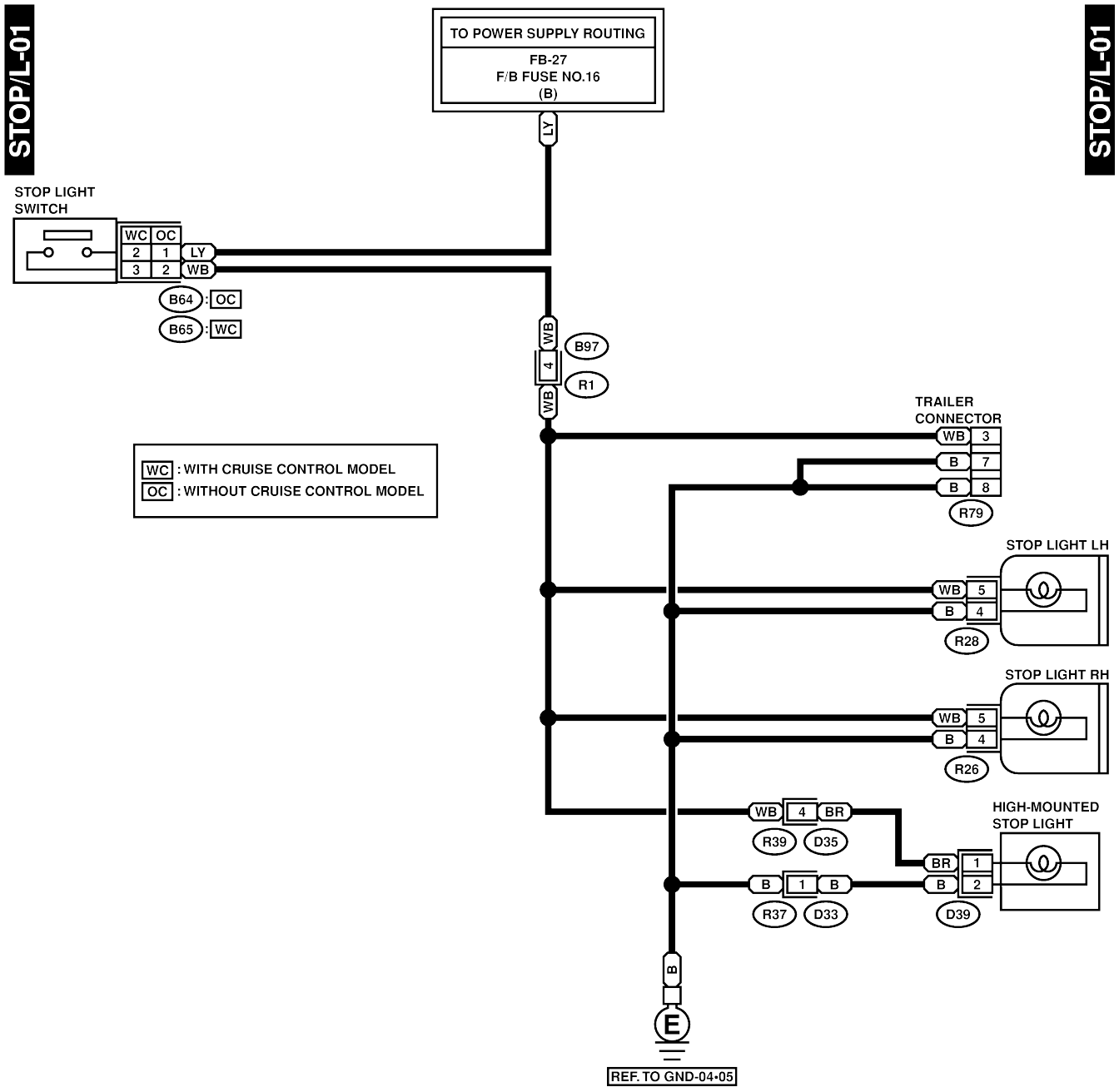
Check continuity between terminals.

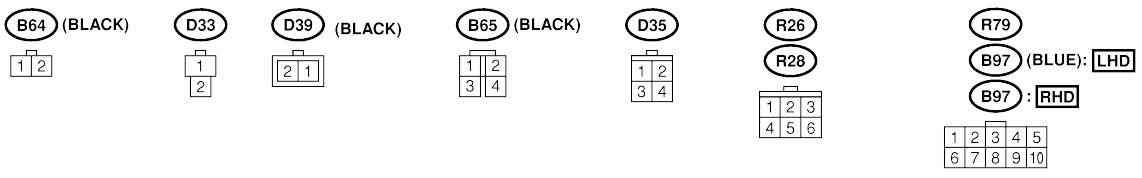
Switch position	Tester connection	Specified condition
When select lever is set in “R” position	1 - 2	Continuity
Other positions		No continuity

7. Stop Light System S914417

A: SCHEMATIC S914417A21

1. STOP LIGHT S914417A2103

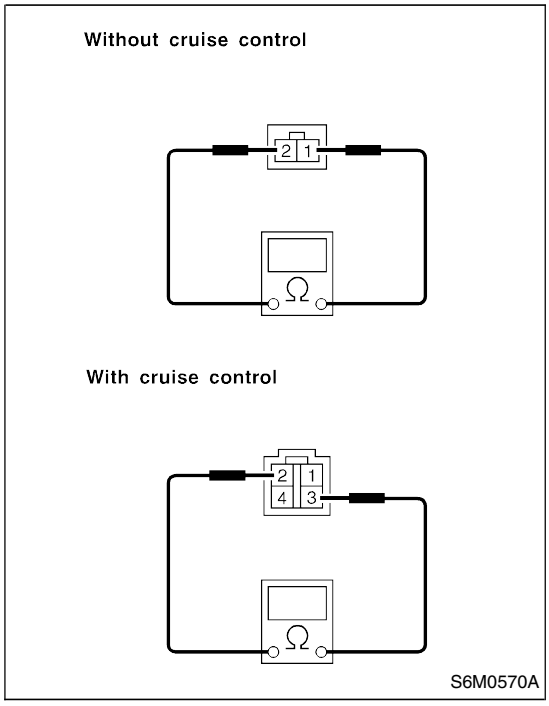




SG25-20

B: INSPECTION S914417A10

1. STOP LIGHT SWITCH S914417A1001



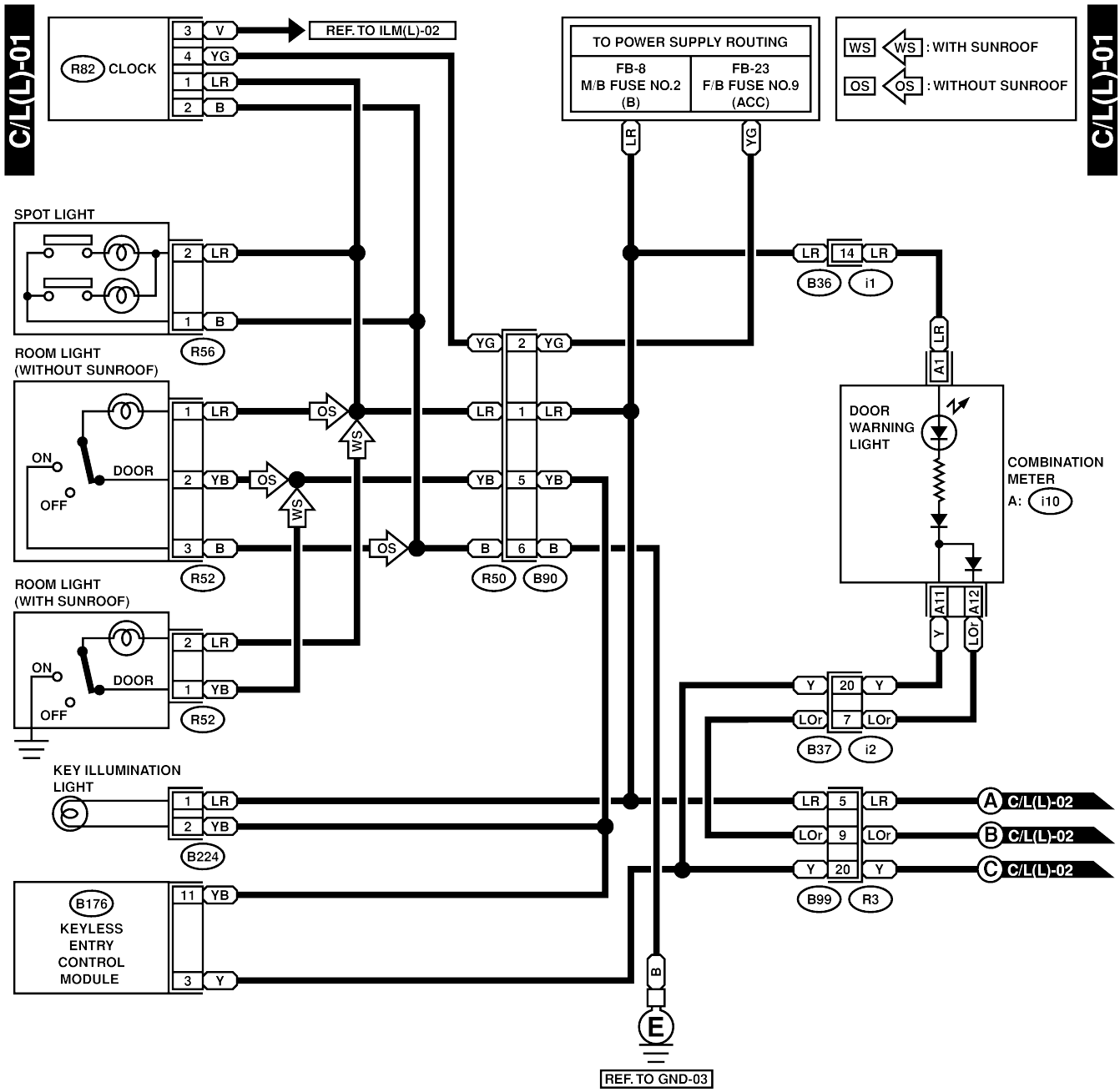
Check continuity between terminals.

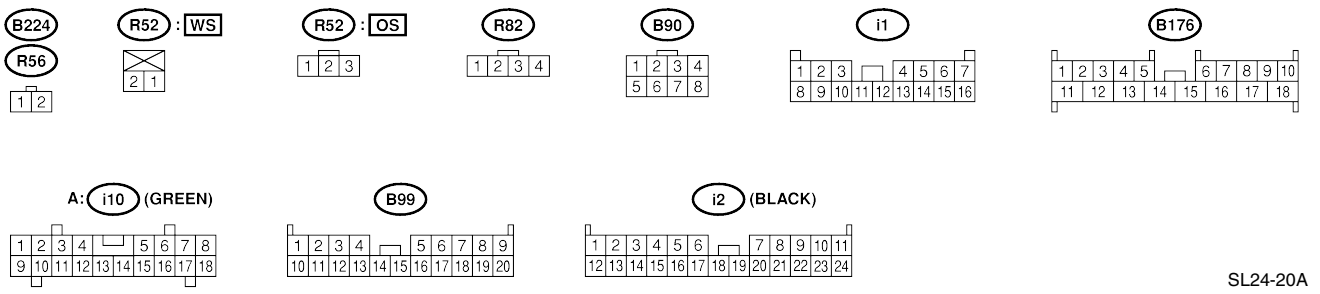
Switch position	Tester connection	Specified condition
When brake pedal is depressed	1 - 2: Without cruise control 2 - 3: With cruise control	Continuity
When brake pedal is released		No continuity

8. Interior Light System S914418

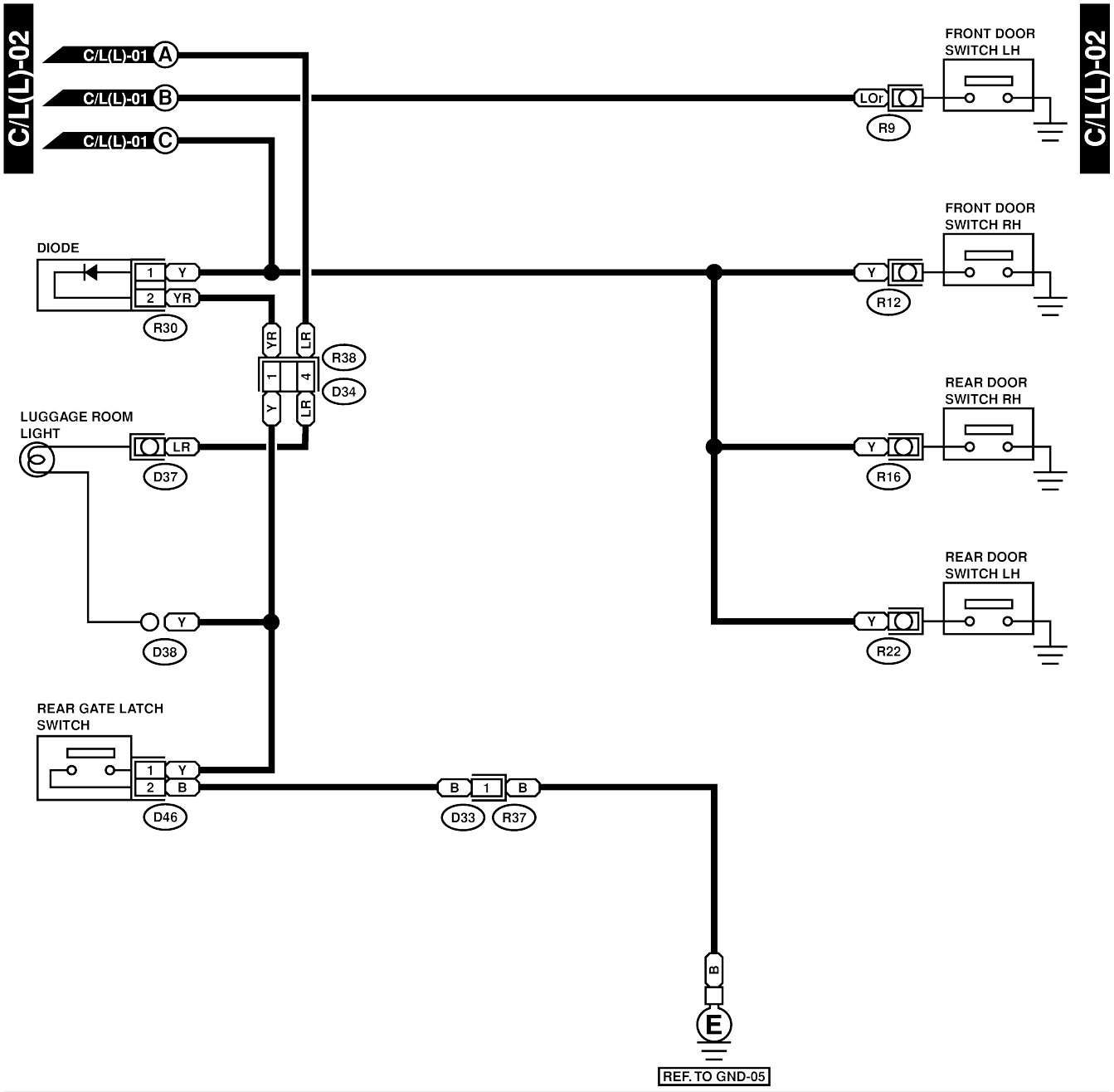
A: SCHEMATIC S914418A21

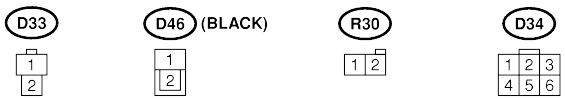
1. INTERIOR LIGHT LHD MODEL S914418A2102





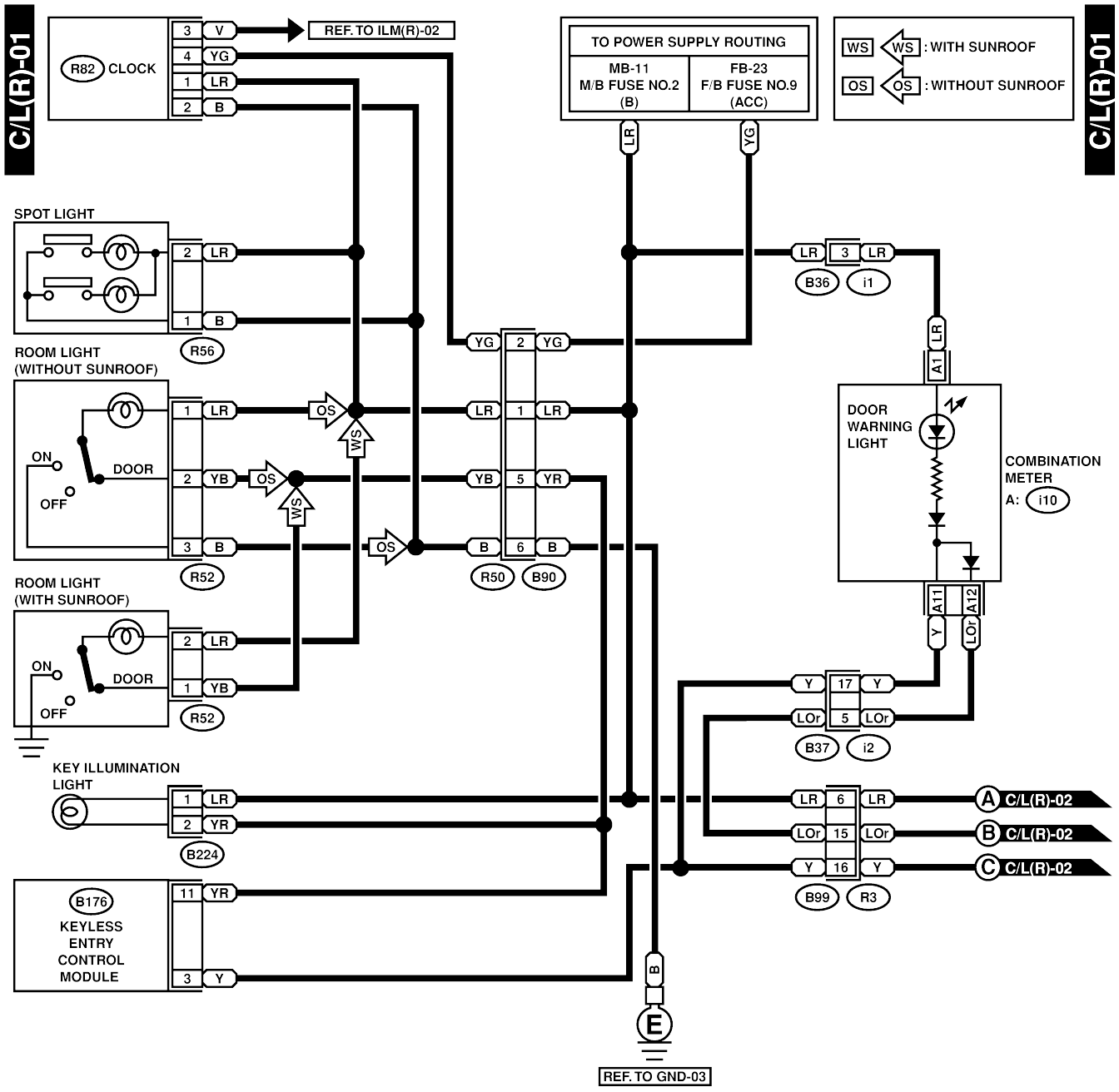
SL24-20A

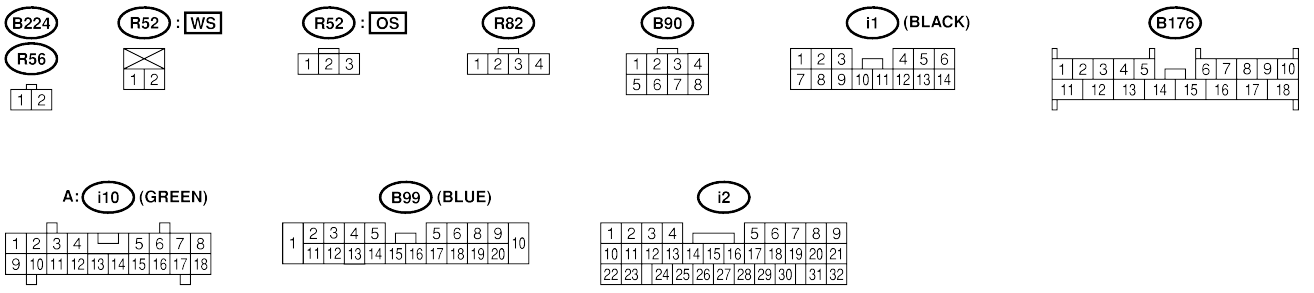

C/L(L)-02
C/L(L)-01 A
C/L(L)-01 B
C/L(L)-01 C
C/L(L)-02
FRONT DOOR SWITCH LH
LOr
R9
FRONT DOOR SWITCH RH
Y
R12
REAR DOOR SWITCH RH
Y
R16
REAR DOOR SWITCH LH
Y
R22
DIODE
1
2
Y
YR
R30
YR
LR
R38
1
4
D34
Y
LR
LUGGAGE ROOM LIGHT
LR
D37
Y
D38
REAR GATE LATCH SWITCH
1
2
Y
B
D46
B
1
B
D33
R37
B
E
REF. TO GND-05


D33
1
2
D46 (BLACK)
1
2
R30
1 2
D34
1 2 3
4 5 6

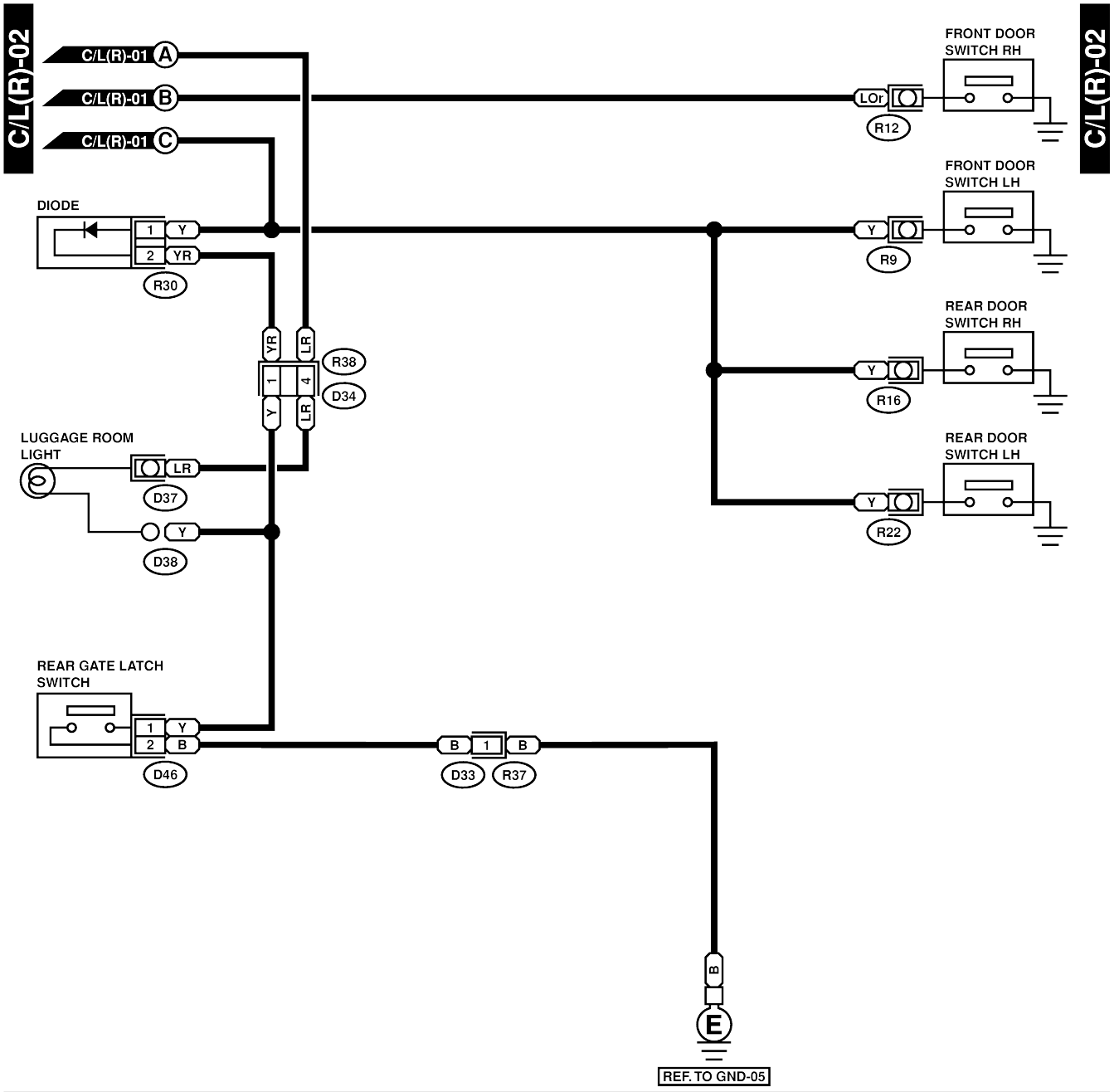
SL24-20B

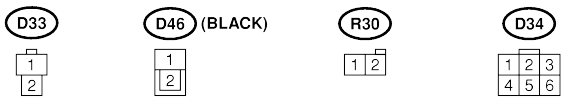
2. INTERIOR LIGHT RHD MODEL S914418A2103





SR24-20A


C/L(R)-02
C/L(R)-01 A
C/L(R)-01 B
C/L(R)-01 C
C/L(R)-02
FRONT DOOR SWITCH RH
LOr
R12
FRONT DOOR SWITCH LH
Y
R9
REAR DOOR SWITCH RH
Y
R16
REAR DOOR SWITCH LH
Y
R22
DIODE
1 Y
2 YR
R30
YR
LR
R38
1
4
D34
Y
LR
LUGGAGE ROOM LIGHT
LR
D37
Y
D38
REAR GATE LATCH SWITCH
1 Y
2 B
D46
B 1 B
D33
R37
B
E
REF. TO GND-05


D33
1
2
D46 (BLACK)
1
2
R30
1 2
D34
1 2 3
4 5 6

SR24-20B

B: INSPECTION S914418A10

1. DOOR SWITCH S914418A1001

Check continuity between terminals.

Switch position	Tester connection	Specified condition
When door is open.	1 - ground	Continuity
When door is closed.		No continuity

2. REAR GATE LATCH SWITCH S914418A1002

Check continuity between terminals.

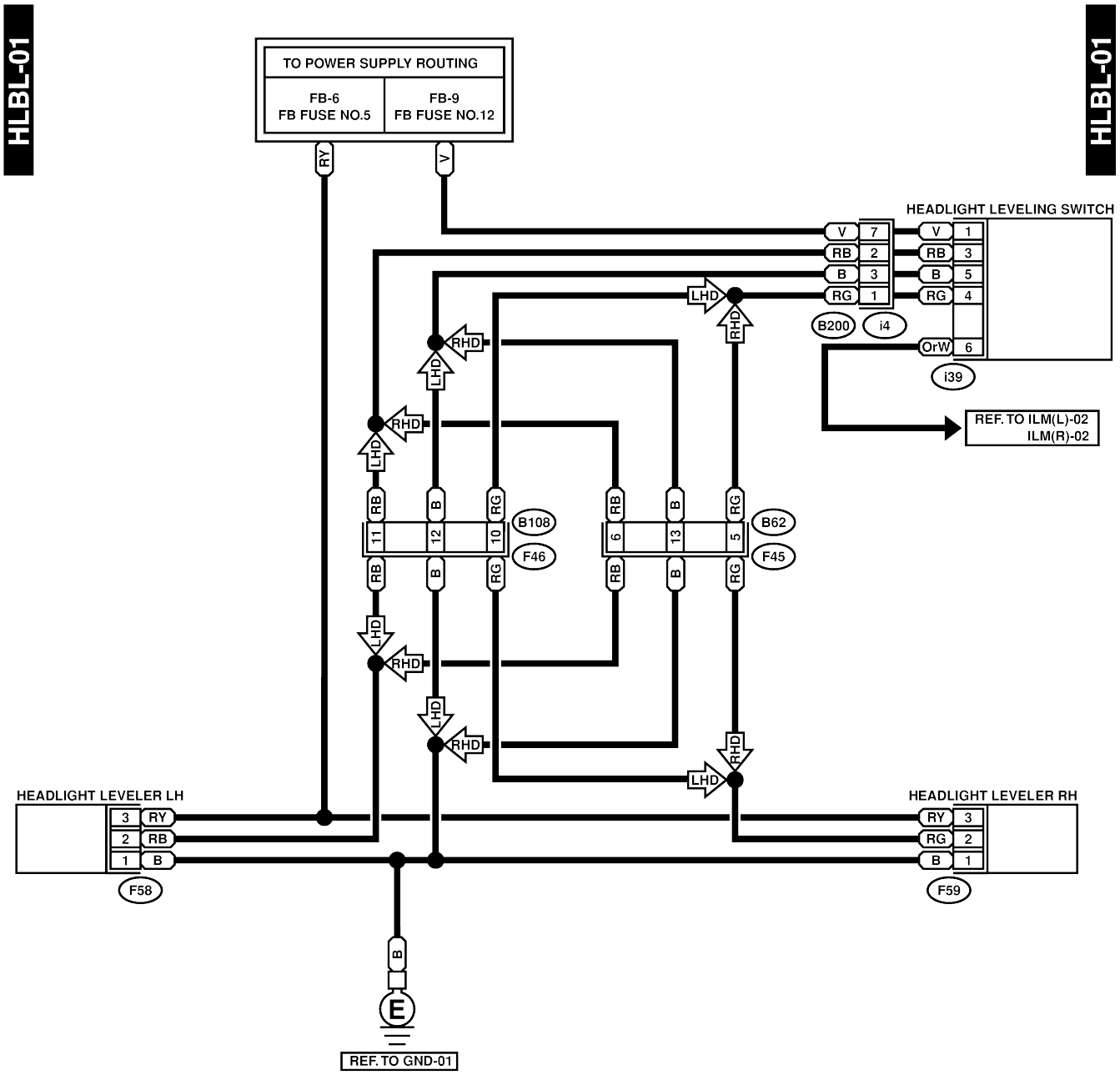
Switch position	Tester connection	Specified condition
When rear gate is open.	1 - 2	Continuity
When rear gate is closed.		No continuity

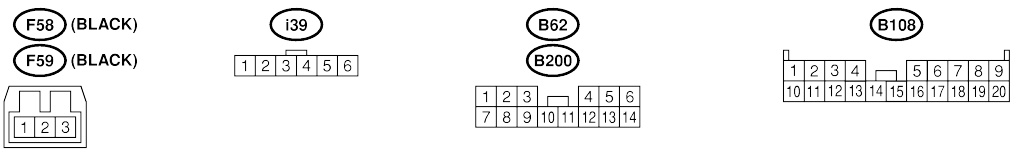
MEMO:

9. Headlight Beam Leveler System S914493

A: SCHEMATIC S914493A21

1. HEADLIGHT BEAM LEVELER S914493A2101





SG83-20

B: INSPECTION S914493A10

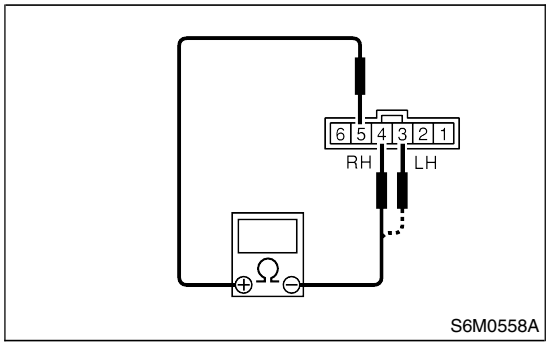
1. HEADLIGHT BEAM LEVELER ACTUATOR S914493A1001

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

S914493A1002

Measure the resistance between headlight beam leveler switch terminals at each switch position.



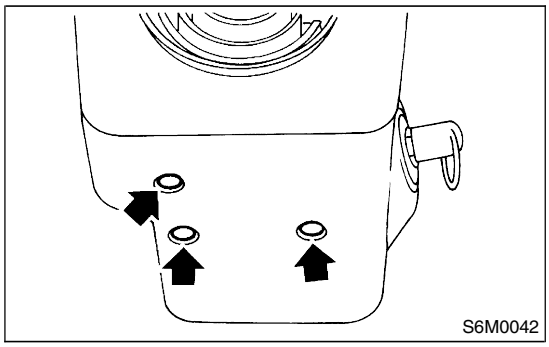
Switch position	Resistance
0	2.7 kΩ
1	1.2 kΩ
2	750 Ω
3	350 Ω
4	120 Ω
5	1 - 10 Ω

10. Combination Switch (Light)

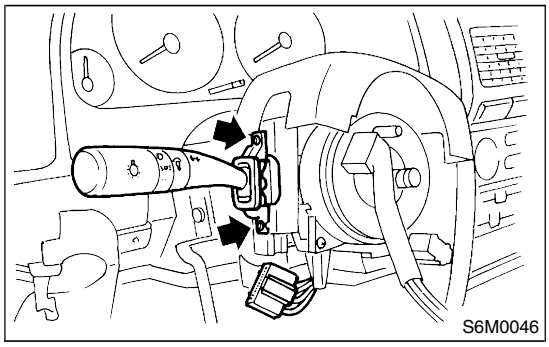
S914411

A: REMOVAL S914411A18

1) Remove instrument panel lower cover. <Ref. to EI-31 REMOVAL, Instrument Panel Assembly.>
2) Remove screws which secure upper column cover to lower column cover.



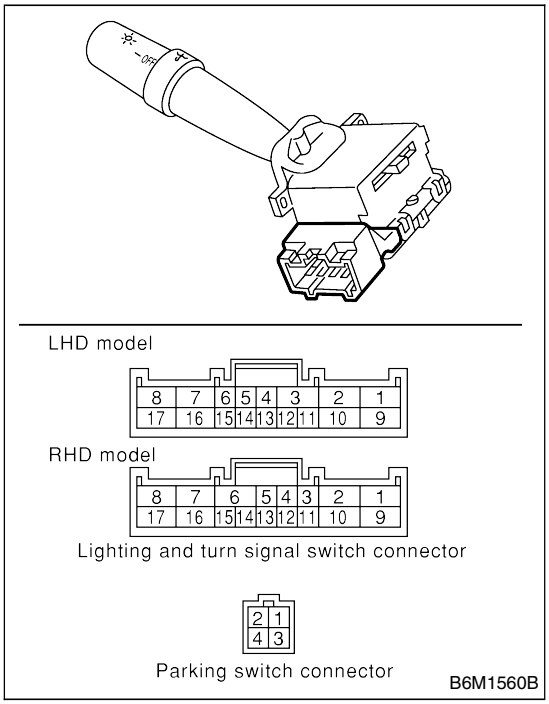
3) Disconnect connector from combination switch.
4) Remove screws which secure switch and remove switch.



B: INSTALLATION S914411A11

Install in the reverse order of removal.

C: INSPECTION S914411A10



Move combination switch to respective positions and check continuity between terminals.

1. LIGHTING SWITCH S914411A1001

LHD model:

Switch position	Tester connection	Specified condition
OFF	—	No continuity
Tail	14 - 16	Continuity
Head	13 - 14 - 16	Continuity

RHD model:

Switch position	Tester connection	Specified condition
OFF	—	No continuity
Tail	9 - 15	Continuity
Head	9 - 14 - 15	Continuity

2. DIMMER AND PASSING SWITCH S914411A1002

LHD model:

Switch position	Tester connection	Specified condition
Passing	7 - 8 - 16	Continuity
Low beam	16 - 17	Continuity
High beam	7 - 16	Continuity

RHD model:

Switch position	Tester connection	Specified condition
Passing	1 - 2 - 9	Continuity
Low beam	9 - 10	Continuity
High beam	2 - 9	Continuity

3. TURN SIGNAL SWITCH S914411A1003

LHD model:

Switch position	Tester connection	Specified condition
Left	1 - 2	Continuity
Neutral	—	No continuity
Right	2 - 3	Continuity

RHD model:

Switch position	Tester connection	Specified condition
Left	6 - 7	Continuity
Neutral	—	No continuity
Right	7 - 8	Continuity

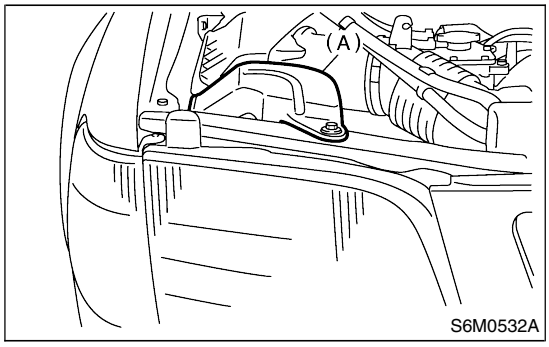
4. PARKING SWITCH S914411A1004

Switch position	Tester connection	Specified condition
OFF	2 - 4	Continuity
ON	1 - 4	Continuity

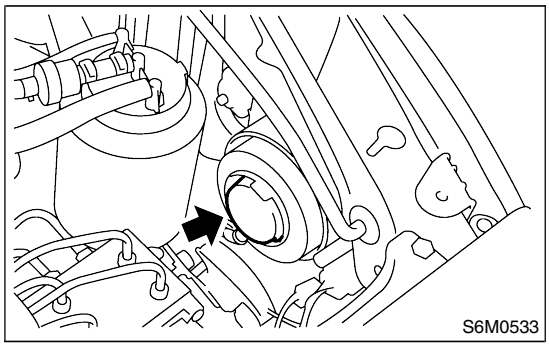
11. Headlight Assembly S914409

A: REMOVAL S914409A18

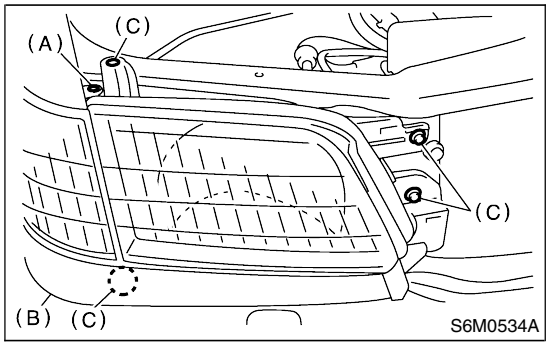
1) Remove duct (A) (when right side headlight is removed).



2) Disconnect headlight bulb connector.



3) Remove front grille. <Ref. to EI-10 REMOVAL, Front Grille.>
4) Remove screw (A) then remove front turn signal light while disconnecting connector.
5) Remove extension (B). <Ref. to EI-12, REMOVAL, Front Bumper.>
6) Remove bolts (C) which secure headlight and remove headlight.



B: INSTALLATION S914409A11

Install in the reverse order of removal.

C: ADJUSTMENT S914409A01

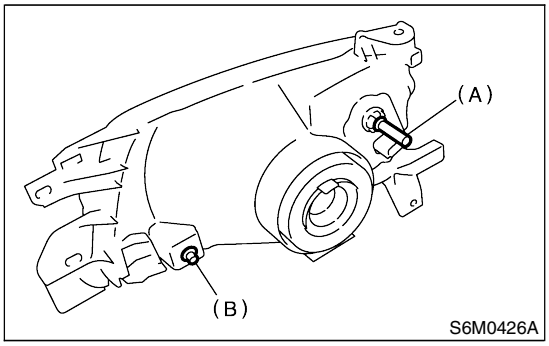
1. HEADLIGHT AIMING S914409A0101

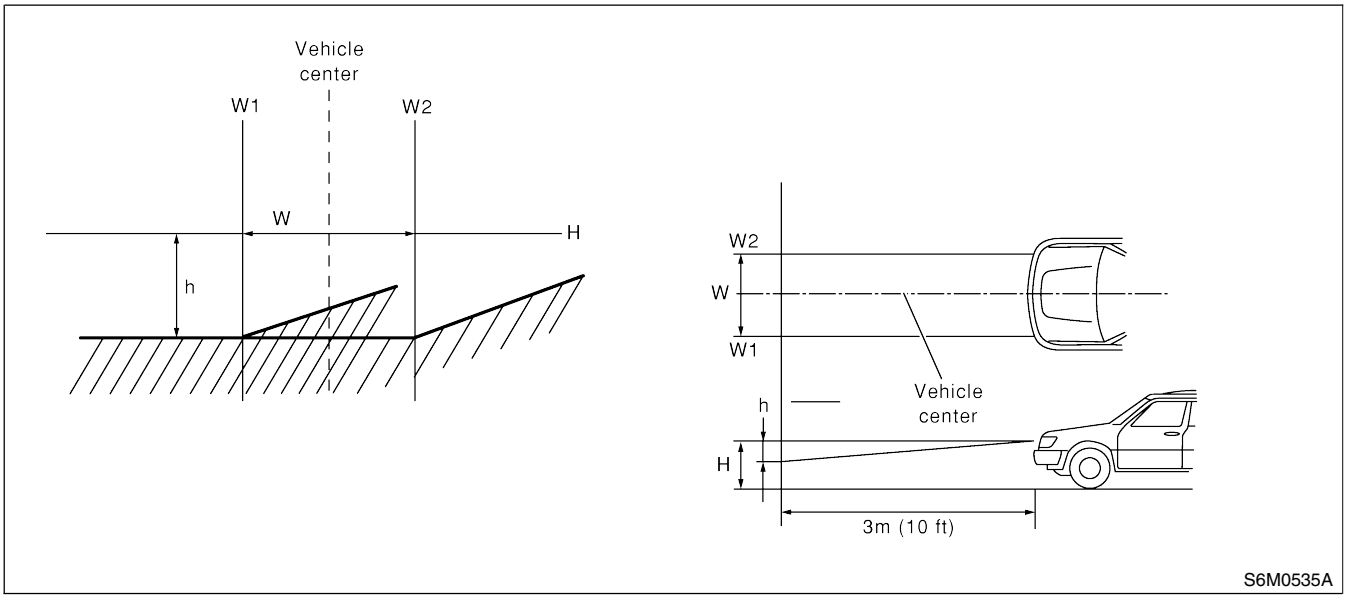
CAUTION:
Turn off the light before adjusting headlight aiming. If the light is necessary to check aiming, do not turn on for more than two minutes.

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

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

NOTE:
- Set the headlight leveler switch to "0" position.
- Adjust vertical aim (A) first, then horizontal aim (B).





This illustration is for LHD model.
The pattern for RHD model is symmetrically opposite.

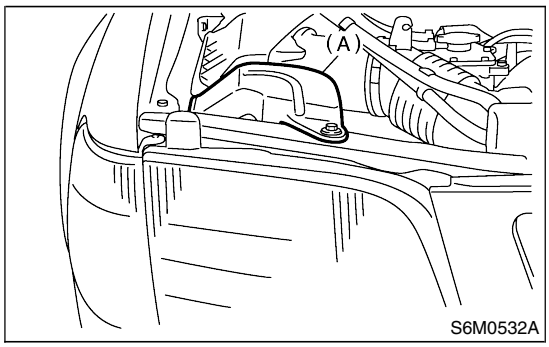
W mm (in)	H mm (in)		h mm (in) at 3 m (10 ft)
	Non-turbo model	Turbo model	
1,090 (42.91)	710 (27.95)	697 (27.44)	30 (1.18)

12. Headlight Bulb S914410

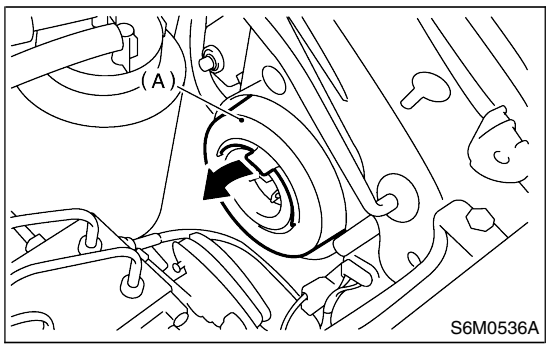
A: REMOVAL S914410A18

CAUTION:
● Because the tungsten halogen bulb operates at a high temperature, dirt and oil on the bulb surface reduces the bulb's service life. Hold the flange portion when replacing the bulb. Never touch the glass portion.
● Do not leave the headlight without a bulb for a long time. Dust, moisture, etc. entering the headlight may affect its the performance.

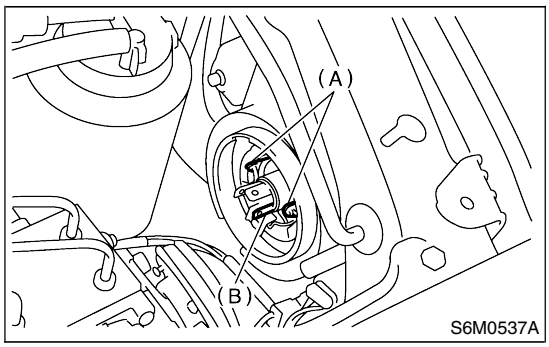
1) Remove duct (A) (when right side headlight is removed).



2) Disconnect headlight bulb connector.
3) Remove back cover (A).



4) Push to remove spring retainer (A) and then detach headlight bulb (B).



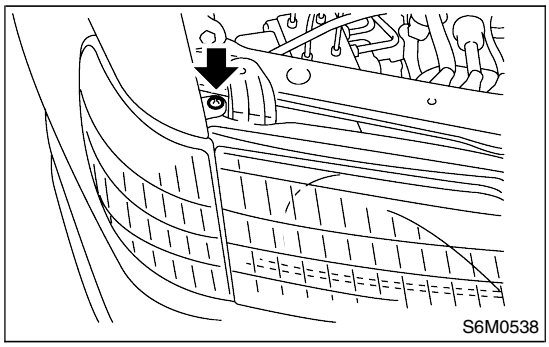
B: INSTALLATION S914410A11

Install in the reverse order of removal.

13. Front Turn Signal Light Assembly S914408

A: REMOVAL S914408A18

1) Remove screw and disconnect connector, and then detach front turn signal light assembly.



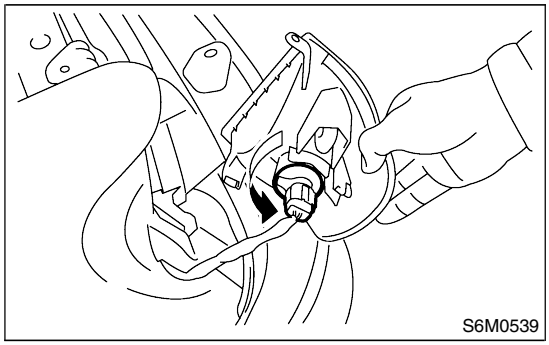
B: INSTALLATION S914408A11

Install in the reverse order of removal.

14. Front Turn Signal Light Bulb S914412

A: REMOVAL S914412A18

1) Remove front turn signal light assembly. <Ref. to LI-45, REMOVAL, Front Turn Signal Light Assembly.>
2) Turn the socket and remove the bulb.



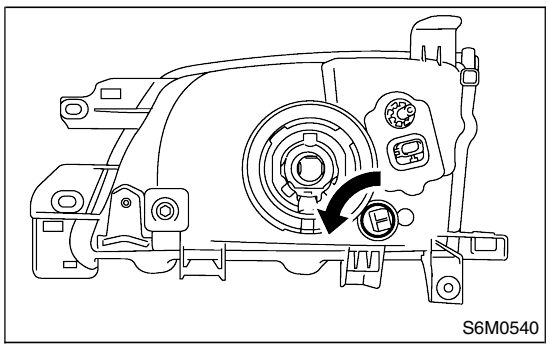
B: INSTALLATION S914412A11

Install in the reverse order of removal.

15. Parking Light Bulb S914419

A: REMOVAL S914419A18

1) Remove headlight assembly. <Ref. to LI-42 REMOVAL, Headlight Assembly.>
2) Turn the socket and remove the bulb.



B: INSTALLATION S914419A11

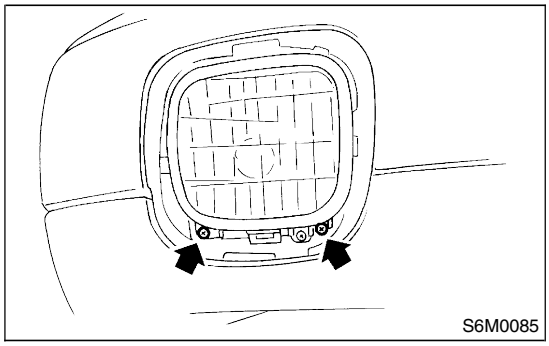
Install in the reverse order of removal.

16. Front Fog Light Assembly

S914427

A: REMOVAL S914427A18

1) Remove the two screws, then draw out the front fog light from front bumper.



2) Disconnect the connector.

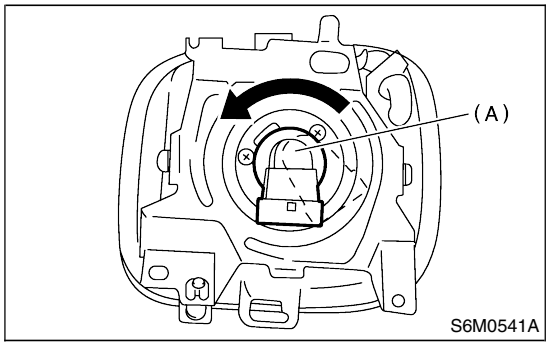
B: INSTALLATION S914427A11

Install in the reverse order of removal.

17. Front Fog Light Bulb S914428

A: REMOVAL S914428A18

1) Remove front fog light assembly. <Ref. to LI-48 REMOVAL, Front Fog Light Assembly.>
2) Remove front fog light bulb (A).



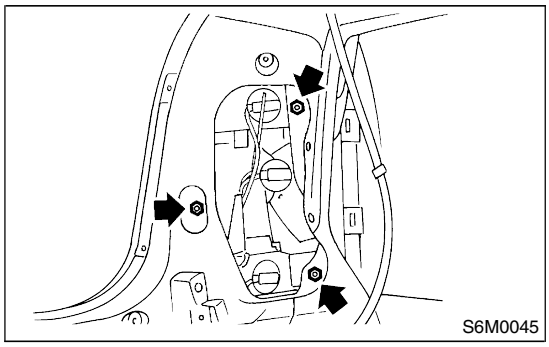
B: INSTALLATION S914428A11

Install in the reverse order of removal.

18. Rear Combination Light Assembly S914426

A: REMOVAL S914426A18

1) Remove rear quarter upper and lower trim. <Ref. to EI-39 REMOVAL, Rear Quarter Trim.>
2) Remove nuts and disconnect connector.



3) Attach adhesive cloth tape to body area around rear combination light.
4) Using a standard screwdriver, carefully pry rear combination light off.

CAUTION:
• Do not pry on the rear combination light forcefully as this may scratch the vehicle body.

B: INSTALLATION S914426A11

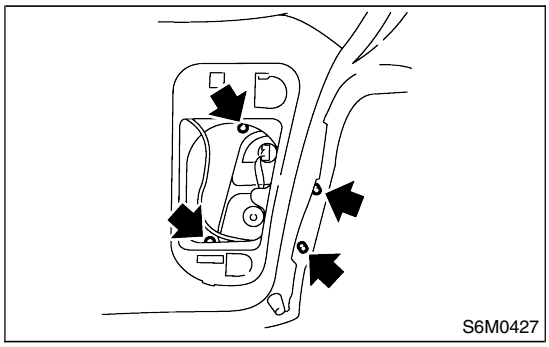
Install in the reverse order of removal.

CAUTION:
• Remove all traces of adhesive tape from body before installation.
• Attach butyl rubber tape to back of rear combination light before installing rear combination light on body for sealing purposes.

19. Rear Finisher Light Assembly S914429

A: REMOVAL S914429A18

1) Remove rear gate trim access hole cover.
2) Remove the four nuts.



3) Detach rear finisher light while disconnecting connector.
4) Install in the reverse order of removal.

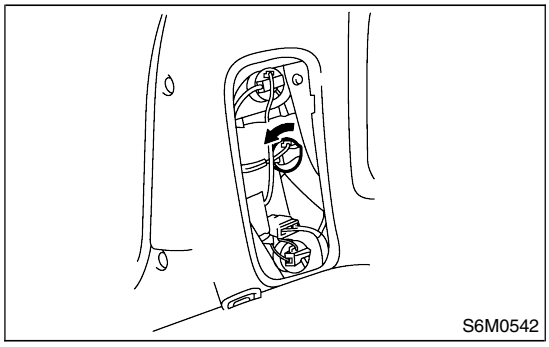
B: INSTALLATION S914429A11

Install in the reverse order of removal.

20. Brake/Tail Light Bulb S914430

A: REMOVAL S914430A18

1) Remove rear combination light cover.
2) Turn the socket and remove the bulb.



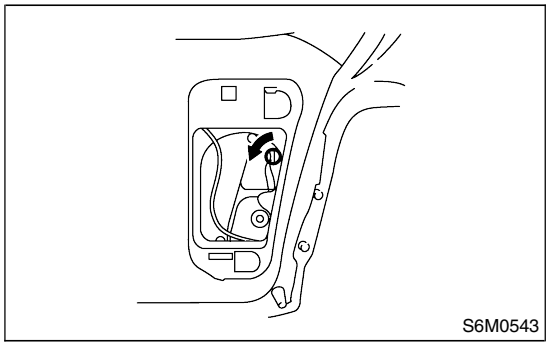
B: INSTALLATION S914430A11

Install in the reverse order of removal.

21. Back-up Light Bulb S914424

A: REMOVAL S914424A18

1) Remove rear gate trim access hole cover.
2) Turn the socket and remove the bulb.



B: INSTALLATION S914424A11

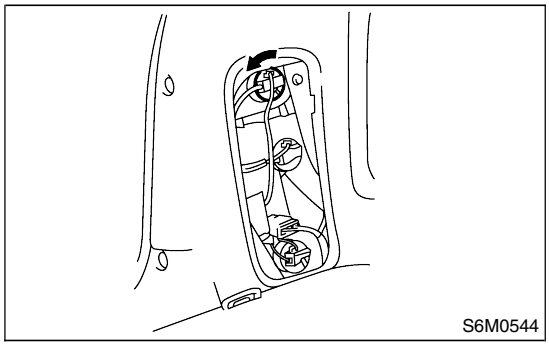
Install in the reverse order of removal.

22. Rear Turn Signal Light Bulb

S914421

A: REMOVAL S914421A18

1) Remove rear combination light cover.
2) Turn the socket and remove the bulb.



B: INSTALLATION S914421A11

Install in the reverse order of removal.

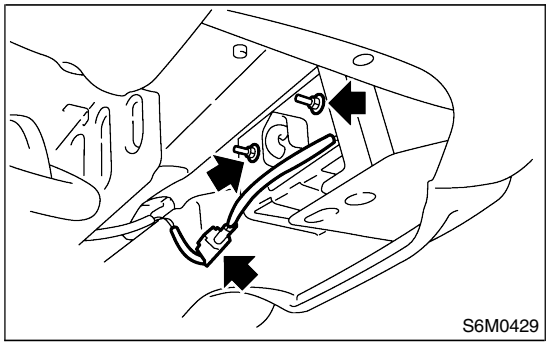
23. Rear Fog Light Assembly

S914422

A: REMOVAL S914422A18

1) Disconnect connector from rear fog light.
2) Remove nuts and then detach rear fog light.

NOTE:
Take out rear fog light by pulling out it from behind the bumper.



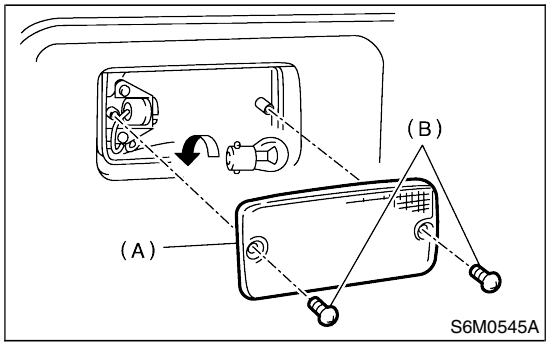
B: INSTALLATION S914422A11

Install in the reverse order of removal.

24. Rear Fog Light Bulb S914423

A: REMOVAL S914423A18

1) Remove screw (A) and rear fog light lens (B).



2) Remove the bulb.

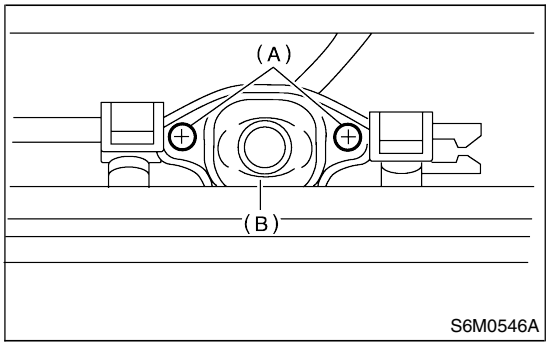
B: INSTALLATION S914423A11

Install in the reverse order of removal.

25. License Plate Light S914420

A: REMOVAL S914420A18

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



2) Remove the bulb.

B: INSTALLATION S914420A11

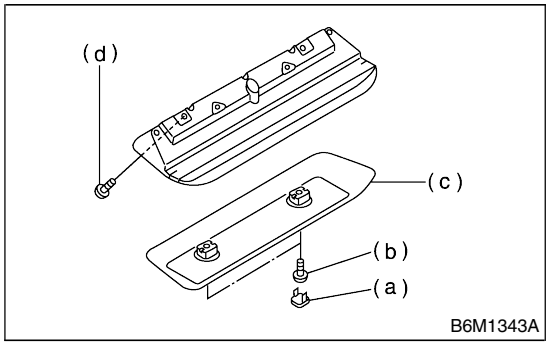
Install in the reverse order of removal.

26. High-mounted Stop Light

S914425

A: REMOVAL S914425A18

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



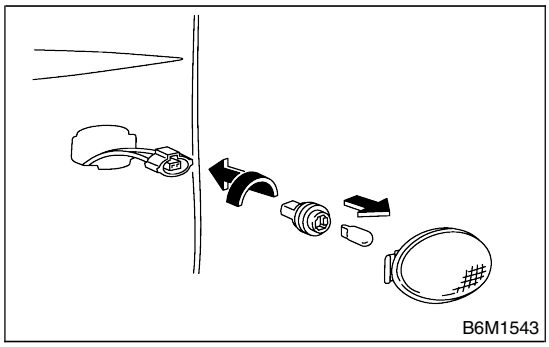
B: INSTALLATION S914425A11

Install in the reverse order of removal.

27. Side Turn Signal Light S914407

A: REMOVAL S914407A18

1) Pull out the light from body while pushing it in direction of vehicle front.
2) Disconnect harness connector and remove the light.



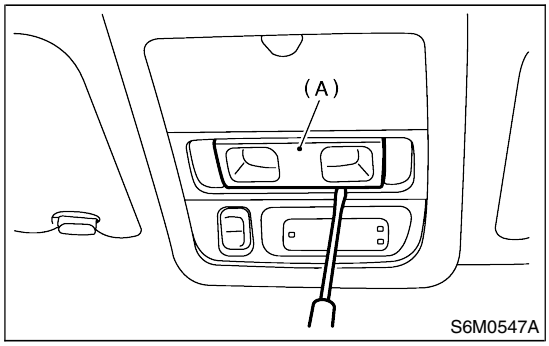
B: INSTALLATION S914407A11

Install in the reverse order of removal.

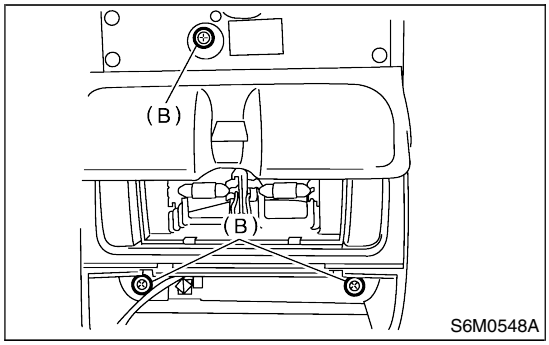
28. Spot Light S914398

A: REMOVAL S914398A18

1) Remove spot light lens (A).



2) Remove sunroof switch. <Ref. to SR-12, REMOVAL, Sunroof Switch.>
3) Remove spot light mounting screw (B).



4) Disconnect harness connectors and remove spot light.

B: INSTALLATION S914398A11

Install in the reverse order of removal.

C: INSPECTION S914398A10

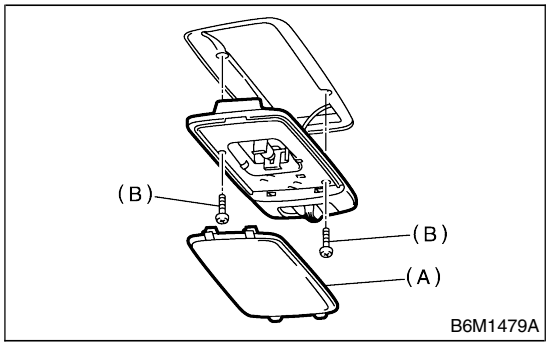
Check continuity between terminals.

Switch position	Tester connection	Specified condition
OFF	—	No continuity
ON	1 - 2	Continuity

29. Room Light S914397

A: REMOVAL S914397A18

1) Remove lens (A) and room light mounting screws (B).

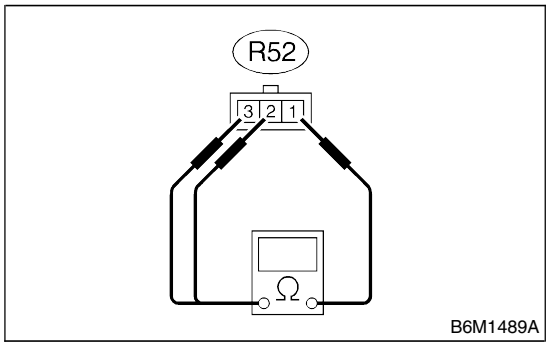


2) Disconnect harness connectors and remove the light.

B: INSTALLATION S914397A11

Install in the reverse order of removal.

C: INSPECTION S914397A10



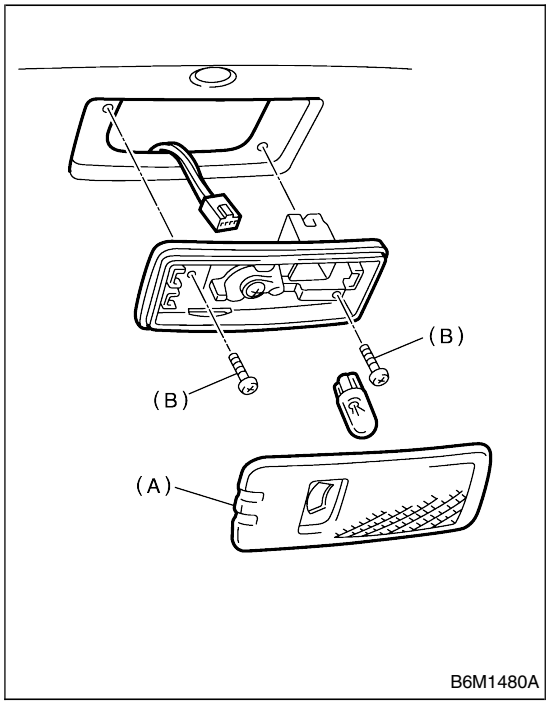
Check continuity between terminals.

Switch position	Tester connection	Specified condition
OFF	—	No continuity
ON	1 - 3	Continuity
DOOR	1 - 2	Continuity

30. Luggage Room Light S914399

A: REMOVAL S914399A18

1) Remove lens (A) and luggage room light mounting screws (B).

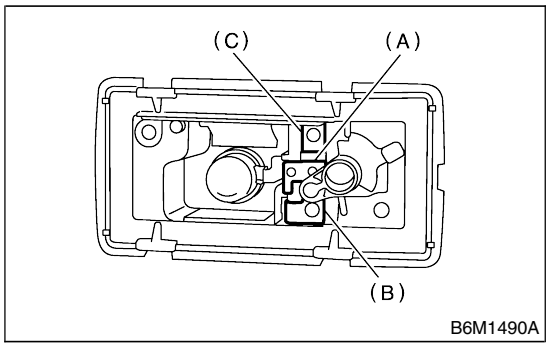


2) Disconnect harness connectors and remove luggage room light.

B: INSTALLATION S914399A11

Install in the reverse order of removal.

C: INSPECTION S914399A10



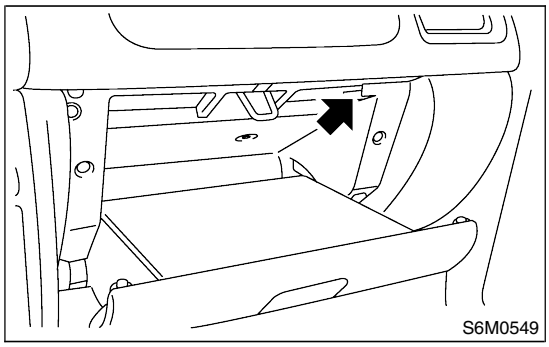
Turn the switch each position and check continuity between terminals.

Switch position	Tester connection	Specified condition
OFF	—	No continuity
ON	(A) - (C)	Continuity
DOOR	(A) - (B)	Continuity

31. Glove Box Light S914396

A: REMOVAL S914396A18

1) Remove glove box. <Ref. to EI-28 REMOVAL, Glove Box.>
2) Disconnect harness connector.
3) Remove glove box light.



B: INSTALLATION S914396A11

Install in the reverse order of removal.

MEMO:

WIPER AND WASHER SYSTEMS

WW

		Page
1.	General Description	2
2.	Wiper and Washer System	6
3.	Combination Switch (Wiper)	10
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5.	Washer Tank and Motor	13
6.	Front Wiper Arm	14
7.	Front Wiper Motor and Link	15
8.	Front Washer	17
9.	Rear Wiper Arm	19
10.	Rear Wiper Motor	20
11.	Rear Washer	21
12.	Wiper Control Relay	23
13.	Headlight Washer	24

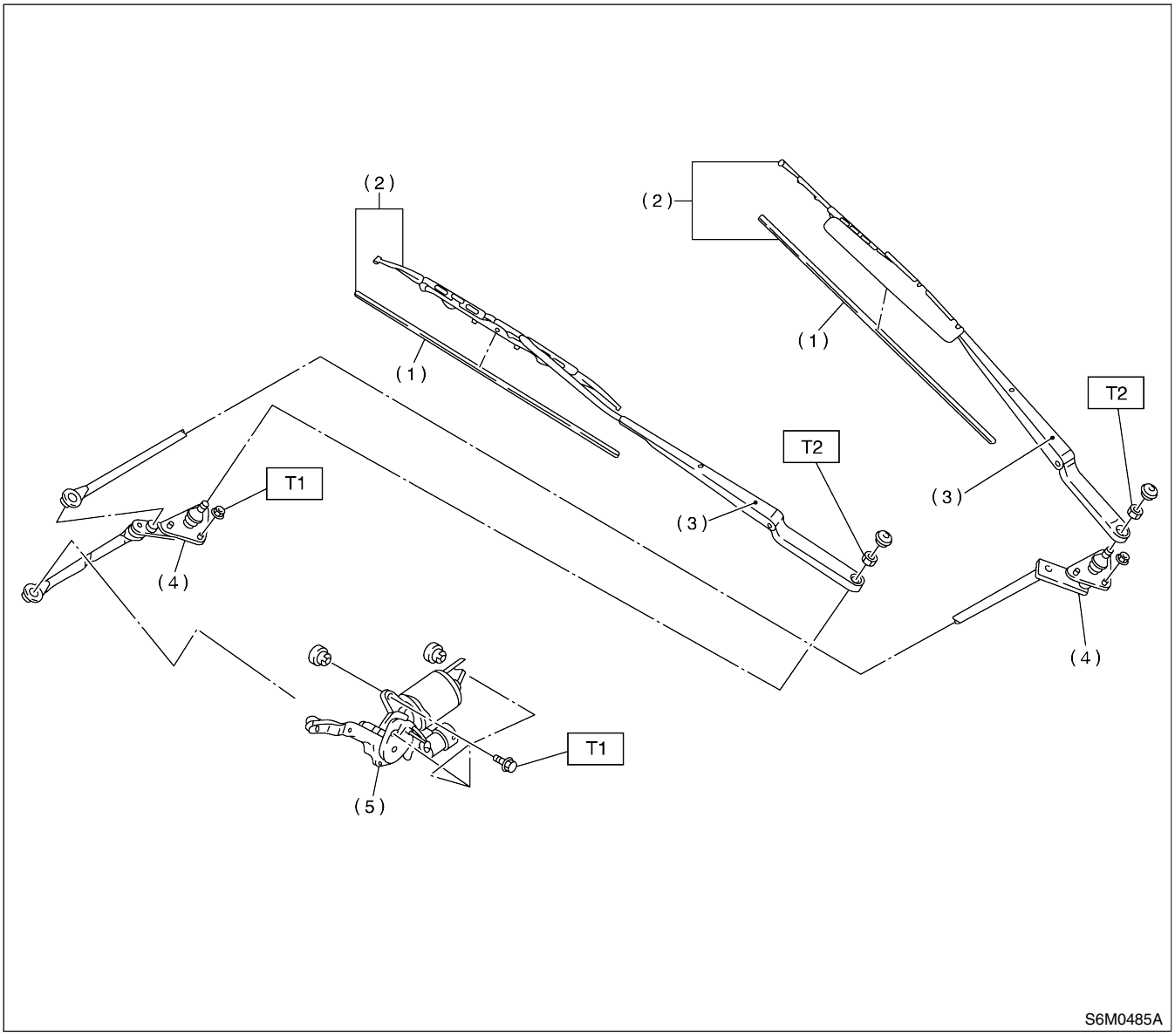
1. General Description S902001

A: SPECIFICATIONS S902001E49

Front wiper motor	Input	12 V — 54 W or less
Rear wiper motor	Input	12 V — 42 W or less
Front washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less
Rear washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less

B: COMPONENT S902001A05

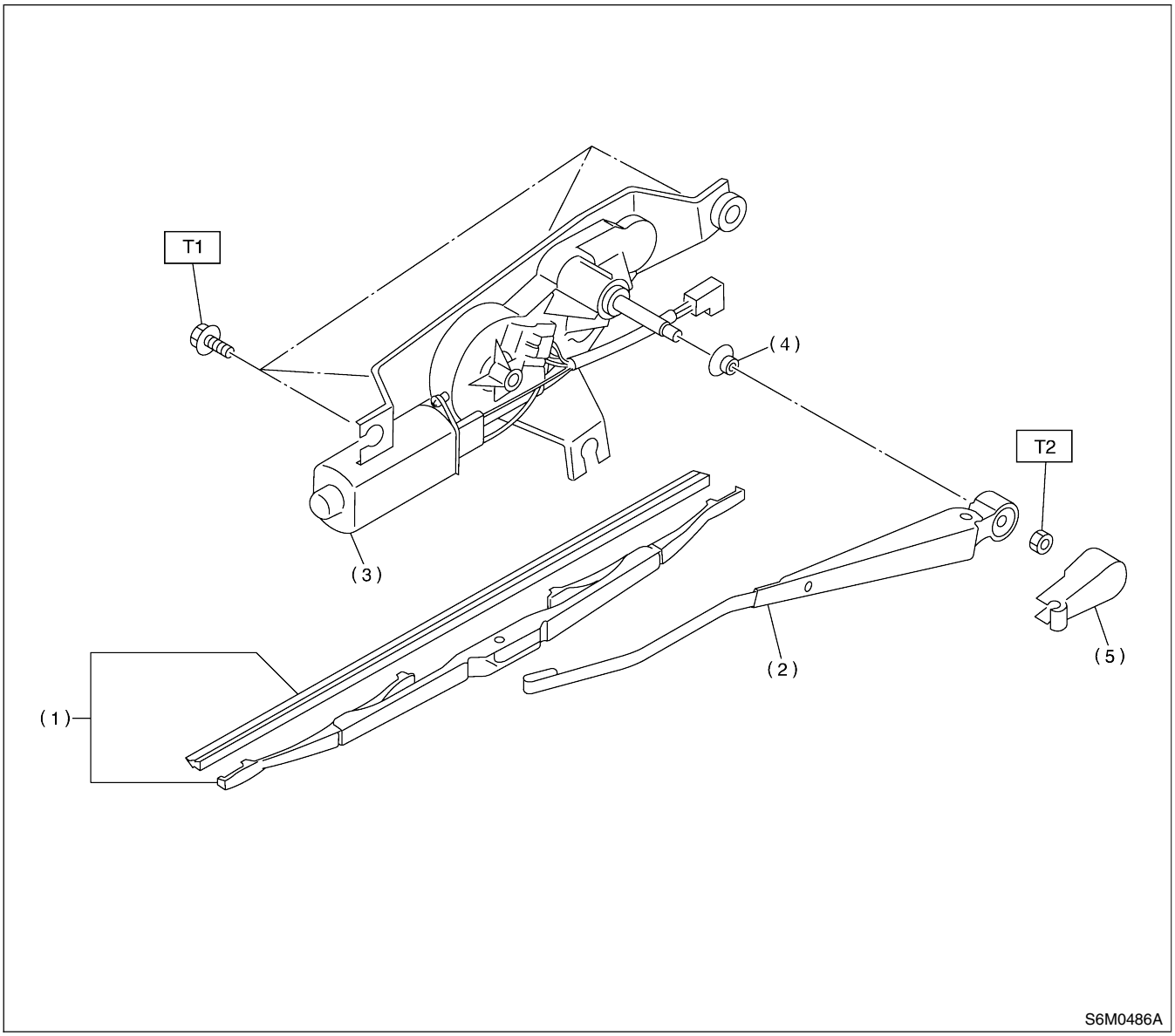
1. FRONT WIPER S902001A0501



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

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.0 (0.61, 4.4)
T2: 20 (2.0, 14.5)

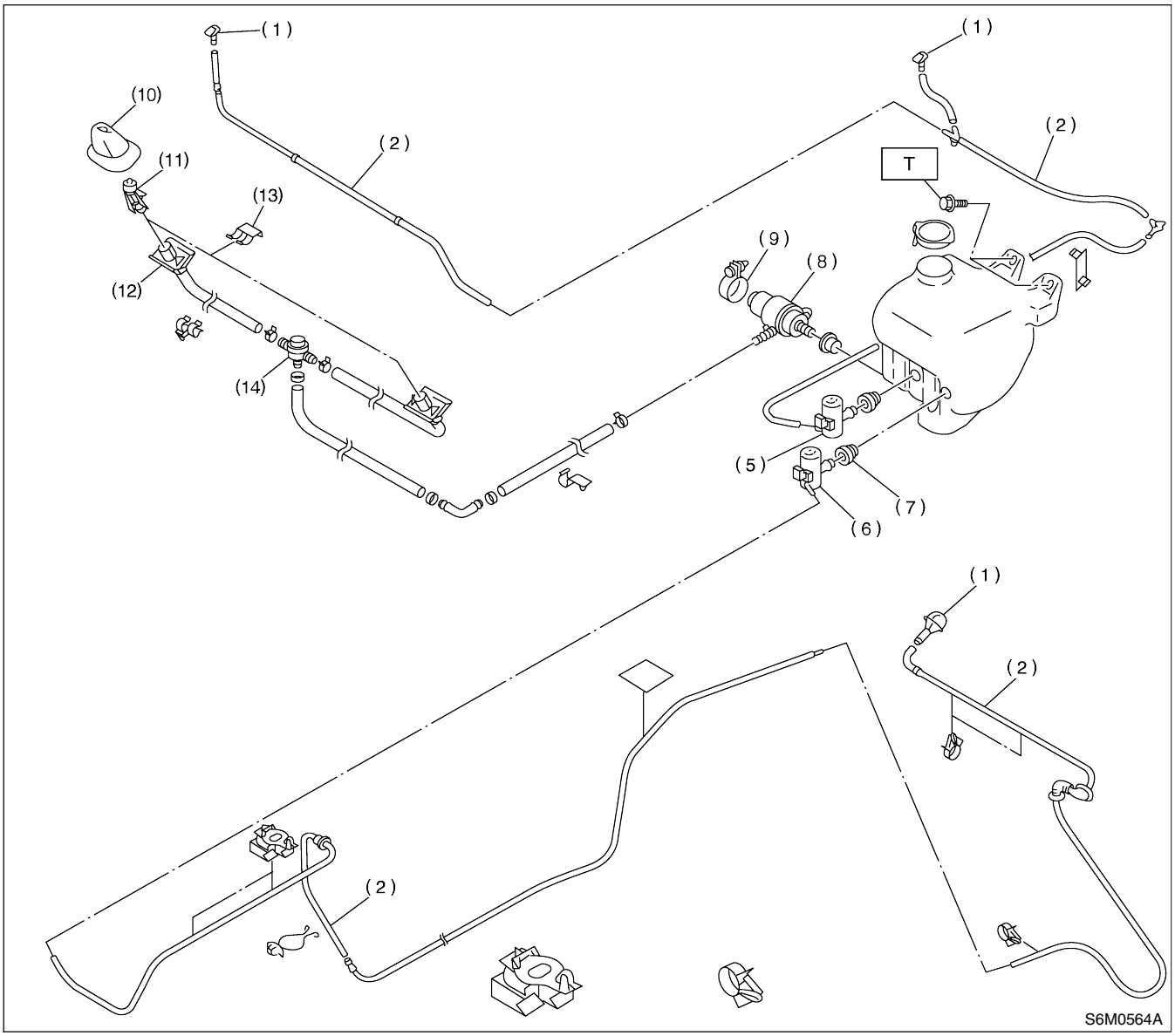
2. REAR WIPER S902001A0502



(1) Wiper blade ASSY
(2) Wiper arm
(3) Wiper motor
(4) Pivot cap
(5) Wiper arm cover

Tightening torque: N·m (kgf-m, ft-lb)
T1: 5.9 (0.6, 4.3)
T2: 7.8 (0.8, 5.6)

3. WASHER TANK S902001A0503



(1) Washer nozzle
(2) Washer hose
(3) Washer tank
(4) Washer tank cap
(5) Front washer motor
(6) Rear washer motor
(7) Grommet
(8) Headlight washer motor
(9) Motor bracket
(10) Headlight washer case
(11) Headlight washer upper nozzle
(12) Headlight washer lower nozzle
(13) Clip
(14) Joint valve

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

C: CAUTION S902001A03

- Reconnect connectors and hoses securely.

After reconnecting, confirm that each function operates normally.

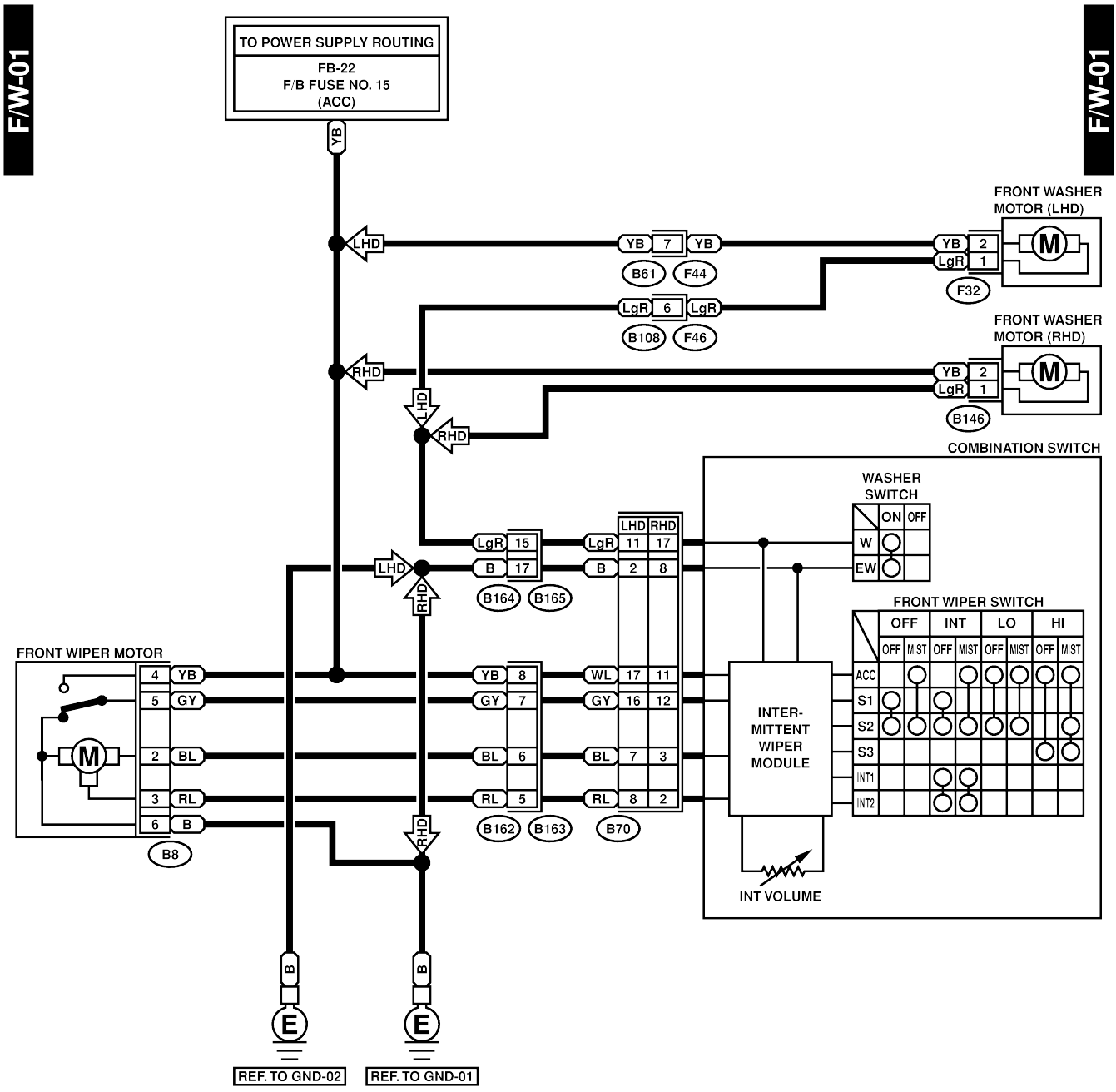
- Be careful that wire harnesses of airbag system pass near electrical parts and switches.
- Wire harnesses and connectors of all airbag system are yellow color. Do not use a tester on these circuits.
- Care must be taken when installing the piping hose so that no bending, jamming, etc. are caused.
-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

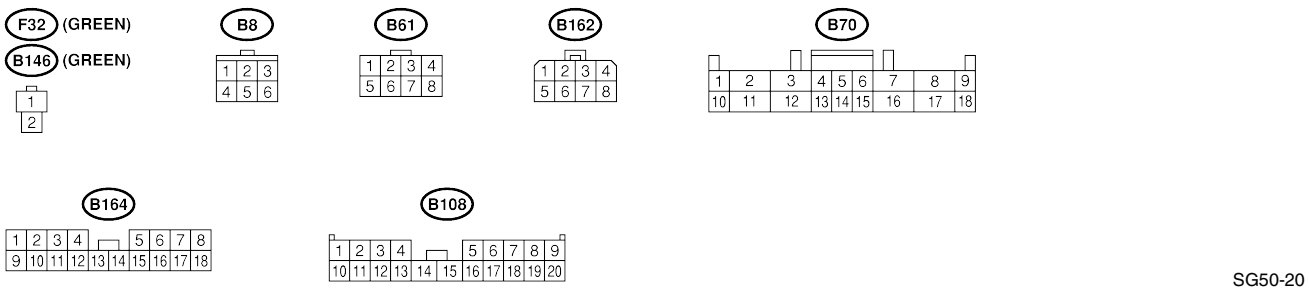
MEMO:

2. Wiper and Washer System S902394

A: SCHEMATIC S902394A21

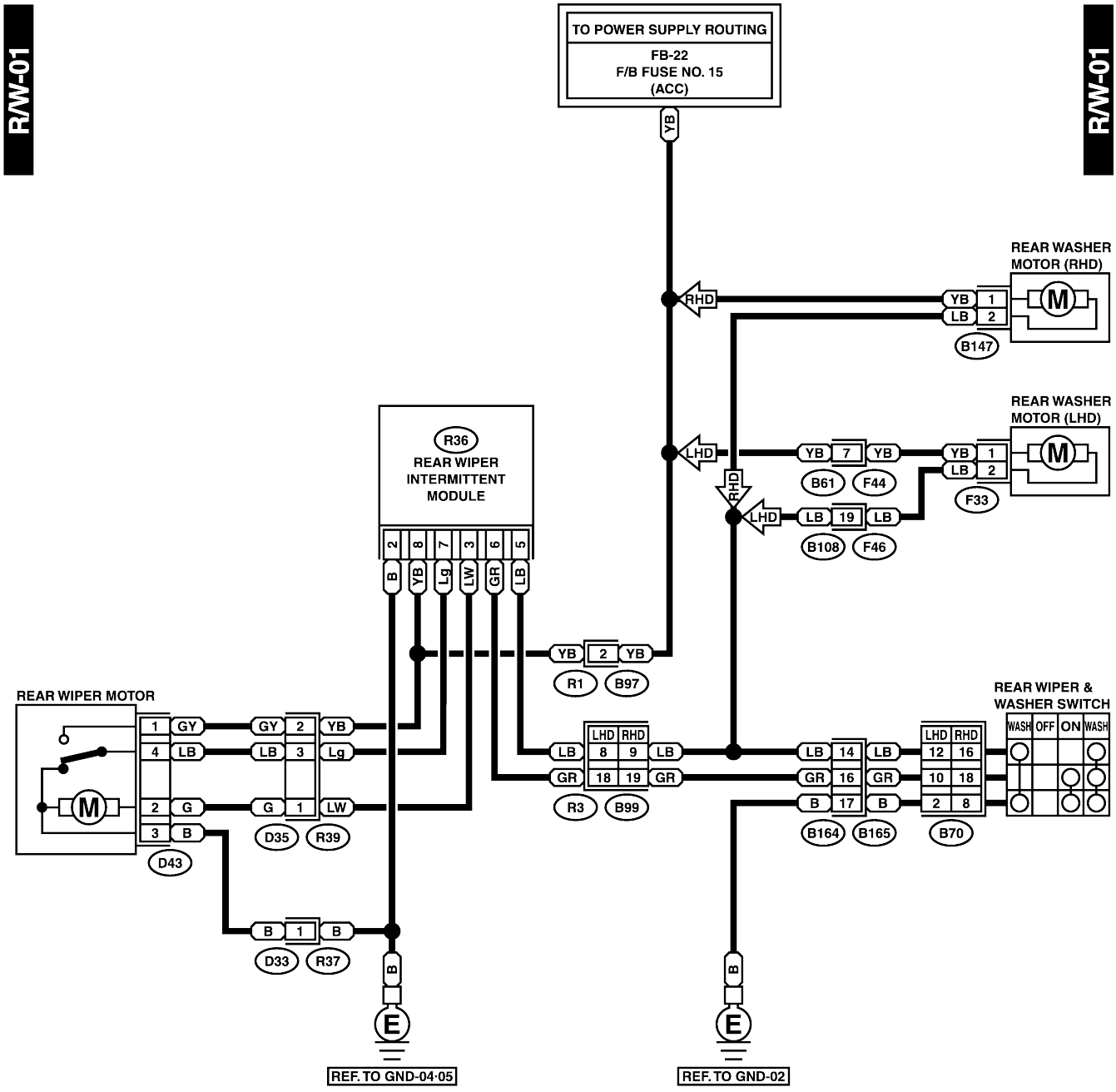
1. WIPER AND WASHER (FRONT) S902394A2101

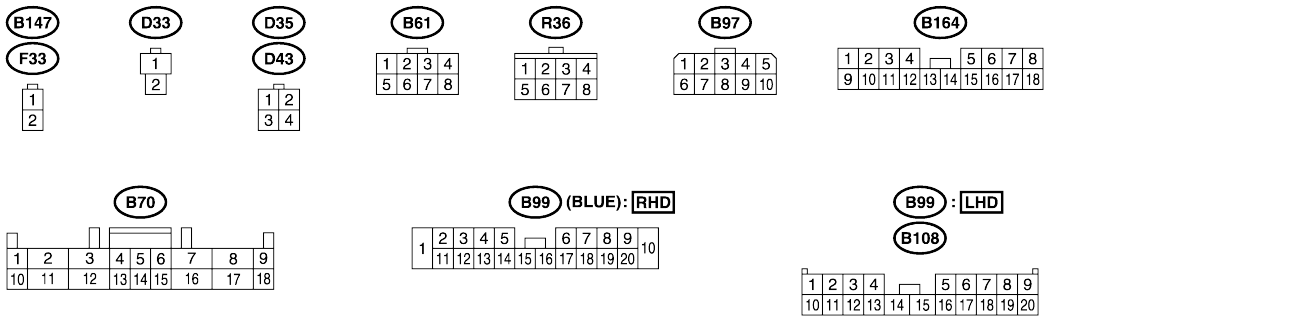




SG50-20

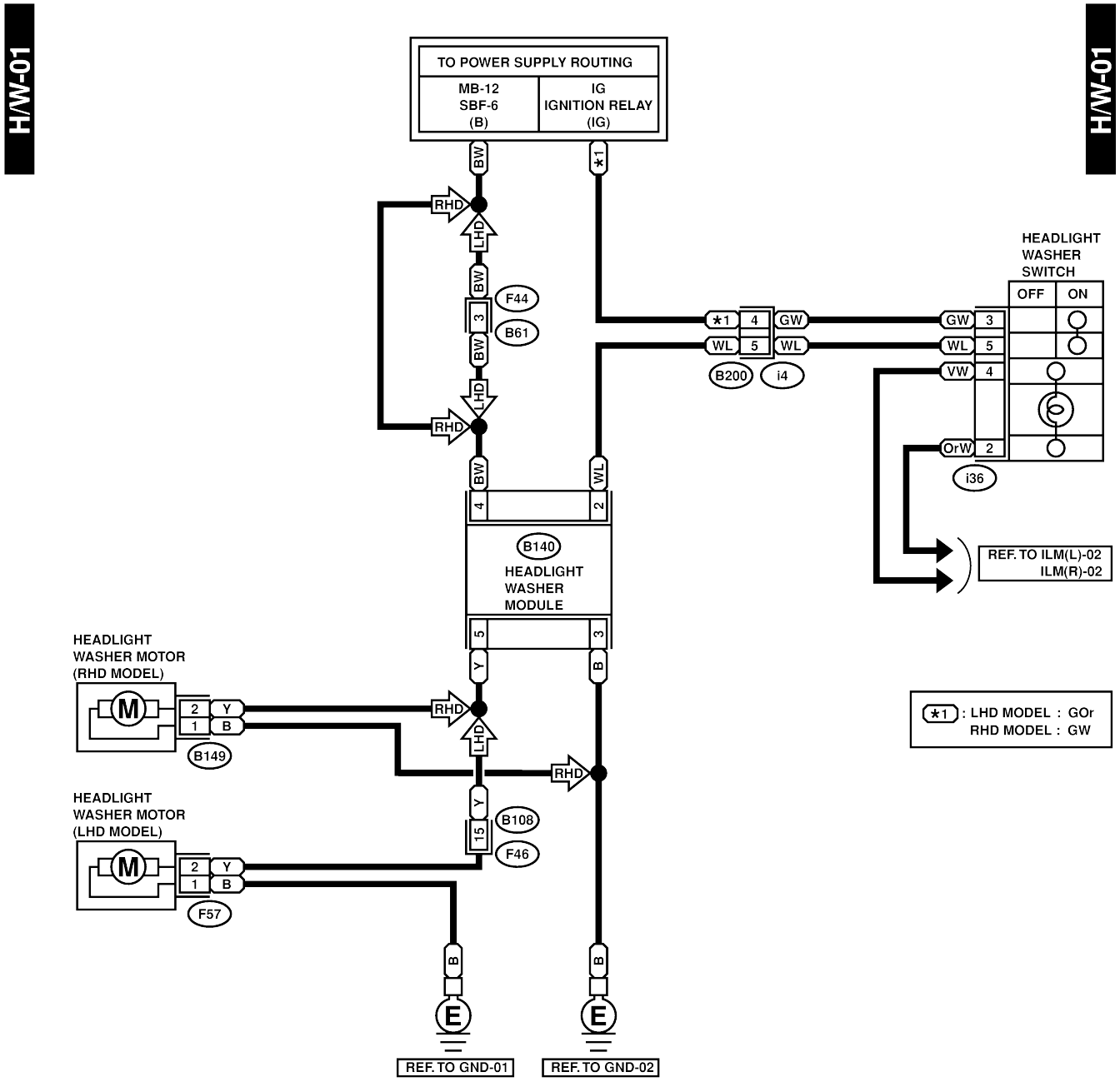
2. WIPER AND WASHER (REAR) S902394A2102

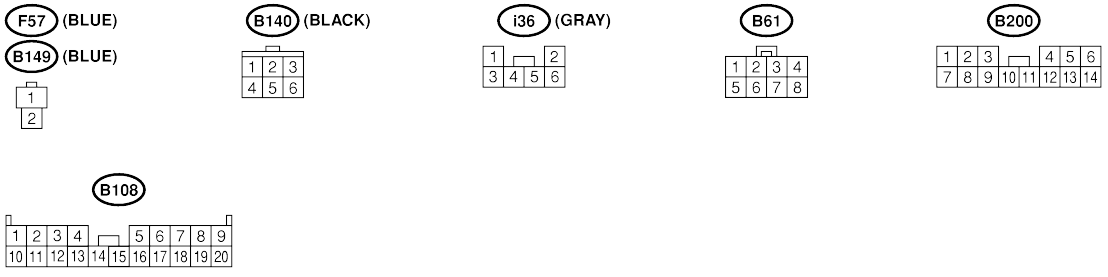




SG51-20

3. HEADLIGHT WASHER S902394A2107





SG53-20

B: INSPECTION S902394A10

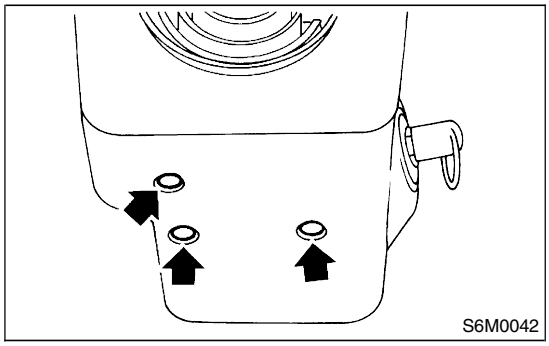
Symptom	Repair order
Wiper and washers do not operate.	(1) Wiper fuse (F/B No. 14, 15) (2) Combination switch (3) Wiper motor (4) Wire harness
Wipers do not operate in LO or HI.	(1) Combination switch (2) Wiper motor (3) Wire harness
Wipers do not operate in INT.	(1) Combination switch (2) Wiper motor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

3. Combination Switch (Wiper)

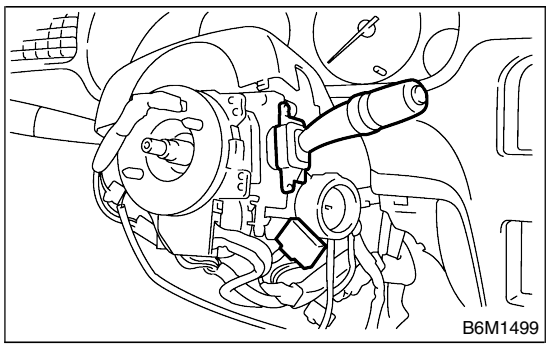
S902395

A: REMOVAL S902395A18

1) Loosen screw to remove a steering column cover.



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

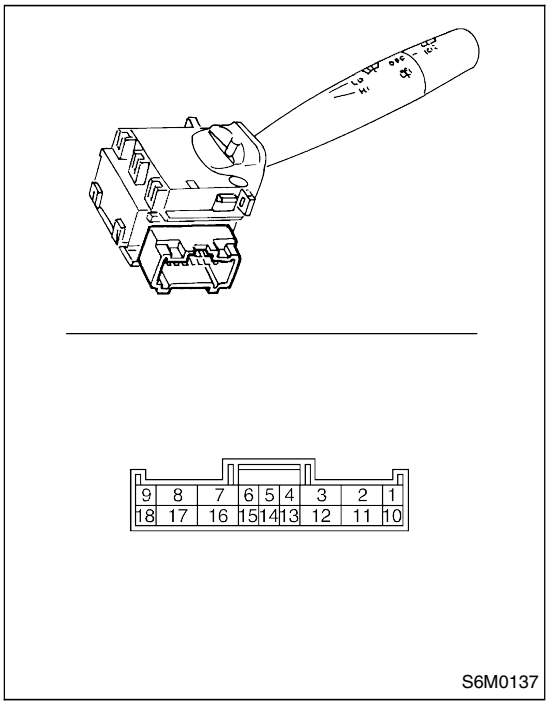


B: INSTALLATION S902395A11

Install in the reverse order of removal.

C: INSPECTION S902395A10

- Inspect the continuity between each connector terminal.



LHD model:

	Switch position	Test connection	Specified condition
FRONT	OFF	7 — 16	Continuity
	INT	7 — 16	Continuity
	LO	7 — 17	Continuity
	HI	8 — 17	Continuity
	Washer ON	2 — 11	Continuity
REAR	Washer ON	2 — 10 — 12	Continuity
	OFF	—	No continuity
	ON	2 — 10	Continuity
	Washer ON	2 — 10 — 12	Continuity

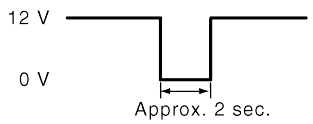
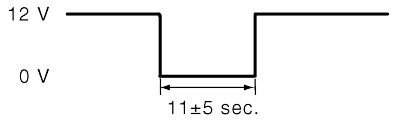
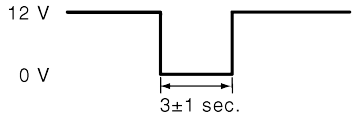
If continuity is not as specified, replace the switch.

RHD model:

	Switch position	Test connection	Specified condition
FRONT	OFF	3 — 12	Continuity
	INT	3 — 12	Continuity
	LO	3 — 11	Continuity
	HI	2 — 11	Continuity
	Washer ON	8 — 17	Continuity
REAR	Washer ON	8 — 16 — 18	Continuity
	OFF	—	No continuity
	ON	8 — 18	Continuity
	Washer ON	8 — 16 — 18	Continuity

If continuity is not as specified, replace the switch.

● Intermittent operation inspection
1) Turn the wiper switch to INT.
2) Adjust the intermittent control switch to MAX.
3) Apply battery voltage to switch terminals 16 and 2, and inspect the voltage of terminals 7 and 2. (Measure the voltage from after the second time the wiper stops.)

Switch position	Voltage
MIN.	
MAX.	
Non variable type	

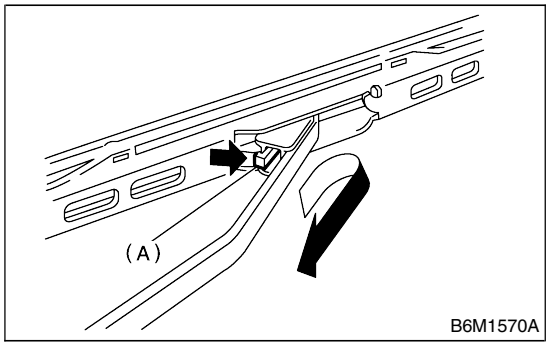
B6M1465A

If operation is not as specified, replace the switch.

4. Wiper Blade S902392

A: REMOVAL S902392A18

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

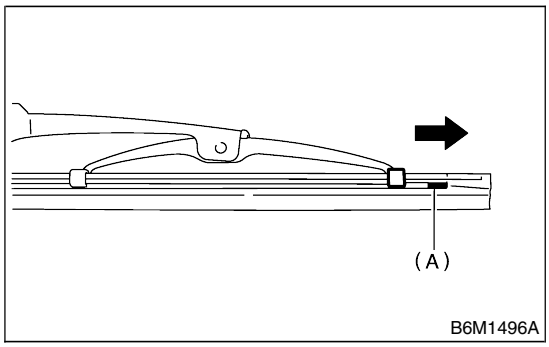


B: INSTALLATION S902392A11

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

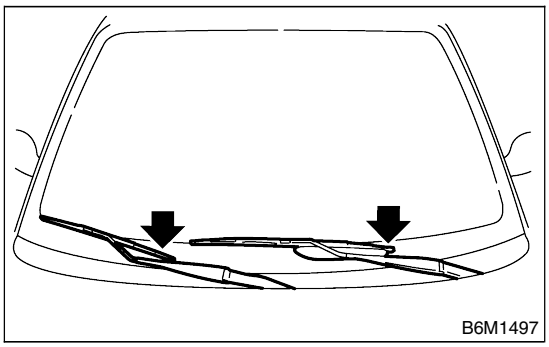
C: DISASSEMBLY S902392A06

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

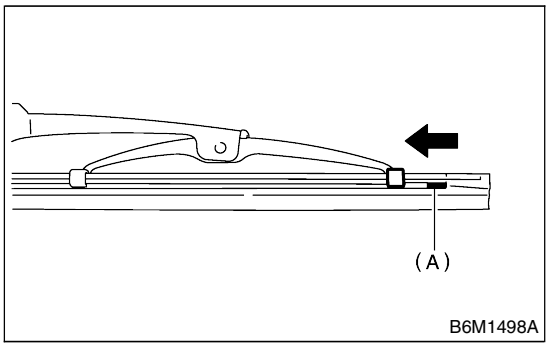


D: ASSEMBLY S902392A02

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



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



E: INSPECTION S902392A10

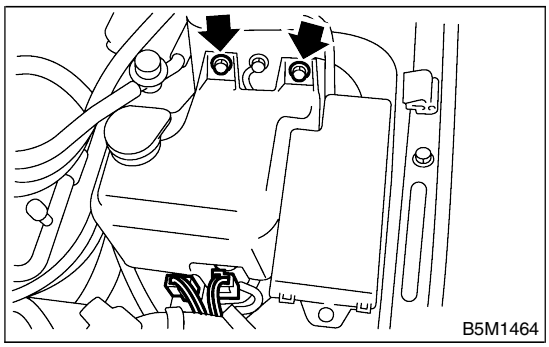
1) When the wiper does not perform well, inspect the following:
- Make sure the movable part of the blade assembly moves smoothly.
- Make sure the wiper rubber is not deformed or damaged.

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

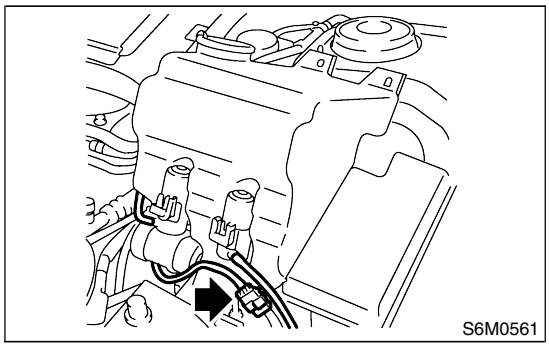
5. Washer Tank and Motor S902405

A: REMOVAL S902405A18

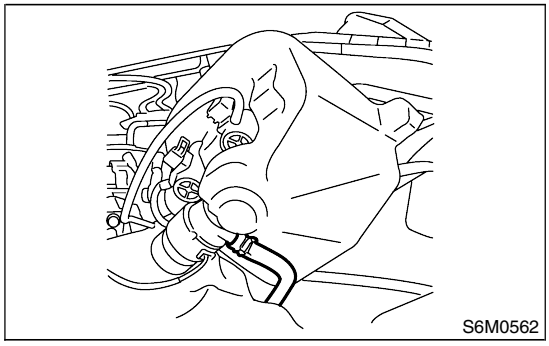
1) Disconnect the ground cable from the battery.
2) Remove the two bolts, and then disconnect the connectors from washer motors.



3) Lift the washer tank, and then disconnect the connector from headlight washer motor. Disconnect washer hoses.



4) Disconnect the washer hose from the motor, and then detach the washer tank.

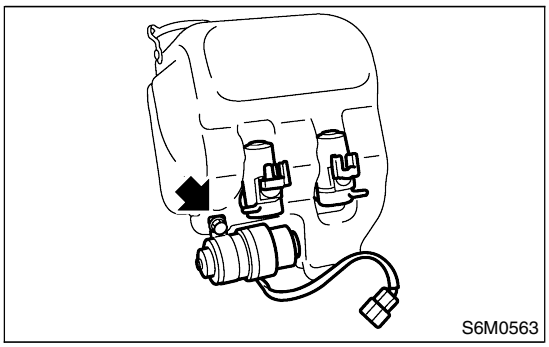


B: INSTALLATION S902405A11

Install in the reverse order of removal.

C: DISASSEMBLY S902405A06

Remove bolt, and then pull out washer motor from tank.

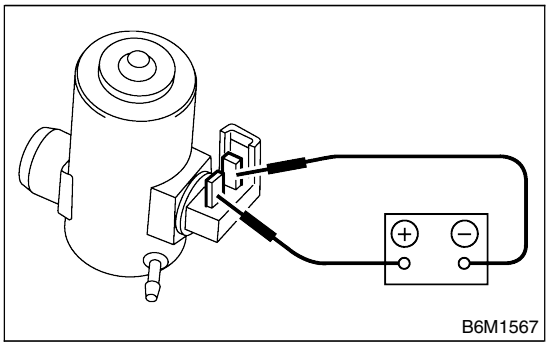


D: ASSEMBLY S902405A02

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

E: INSPECTION S902405A10

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

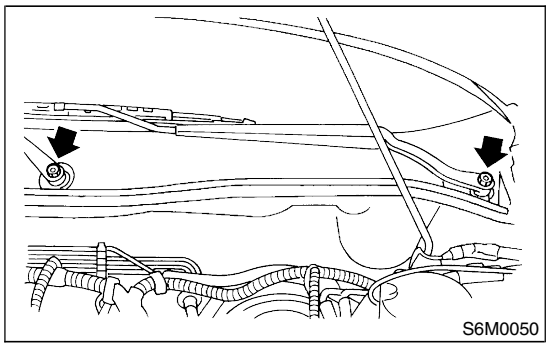


6. Front Wiper Arm S902404

A: REMOVAL S902404A18

NOTE:
The positions for RHD model are symmetrically opposite.

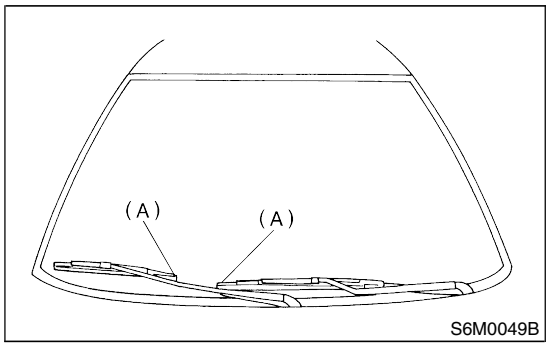
1) Open hood.
2) Remove cap.
3) Loosen nut to remove wiper arm.


S6M0050

B: INSTALLATION S902404A11

NOTE:
The positions for RHD model are symmetrically opposite.

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

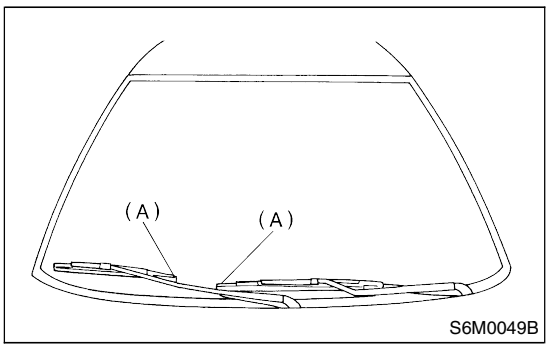


S6M0049B

C: ADJUSTMENT S902404A01

NOTE:
The positions for RHD model are symmetrically opposite.

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



S6M0049B

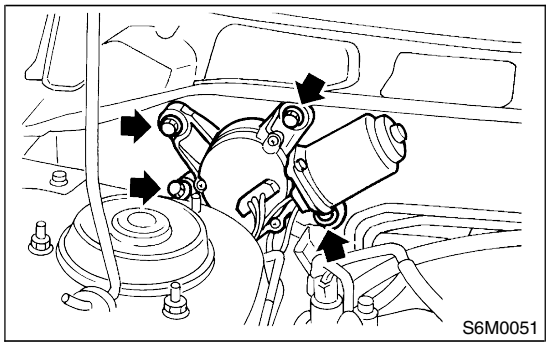
7. Front Wiper Motor and Link

S902406

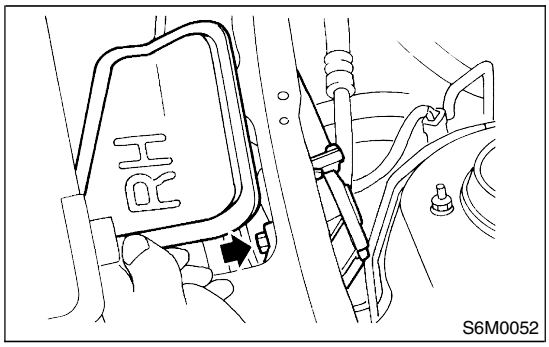
A: REMOVAL S902406A18

NOTE:
The positions for RHD model are symmetrically opposite.

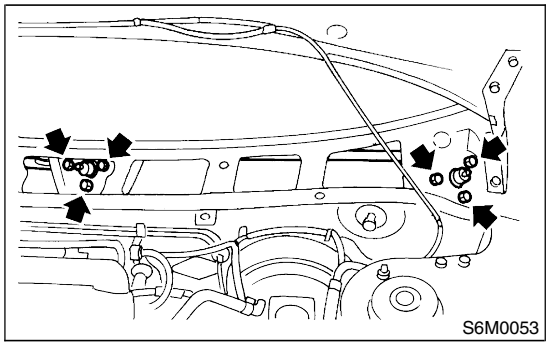
1) Remove cowl panel. <Ref. to EI-25 REMOVAL, Cowl Panel.>
2) Disconnect connector of motor, and remove motor attaching bolts.


S6M0051

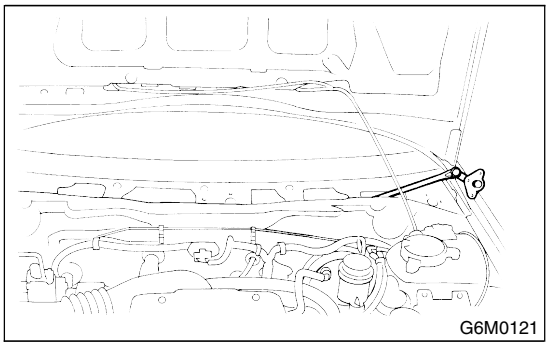
3) Remove cowl cover, and remove the motor link nut on the back side of the motor.


S6M0052

4) Remove bolts which secure sleeve unit.


S6M0053

5) Remove wiper link from service hole in front panel.

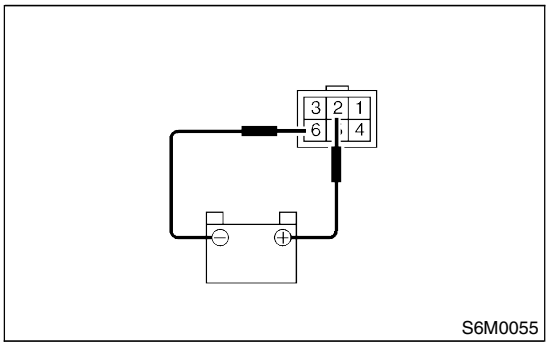

G6M0121

B: INSTALLATION S902406A11

Install in the reverse order of removal.

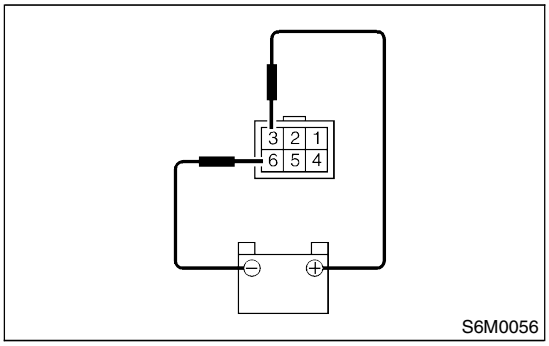
C: INSPECTION S902406A10

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



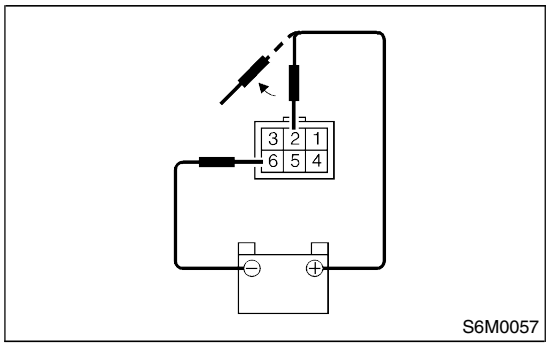
S6M0055

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

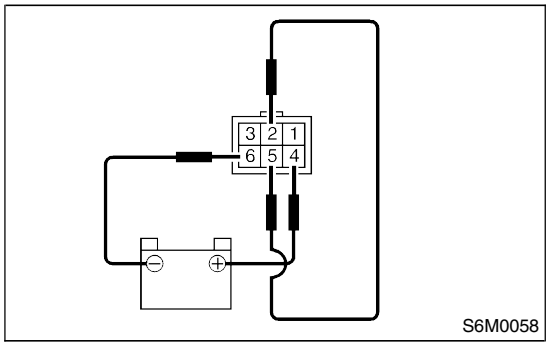


S6M0056

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

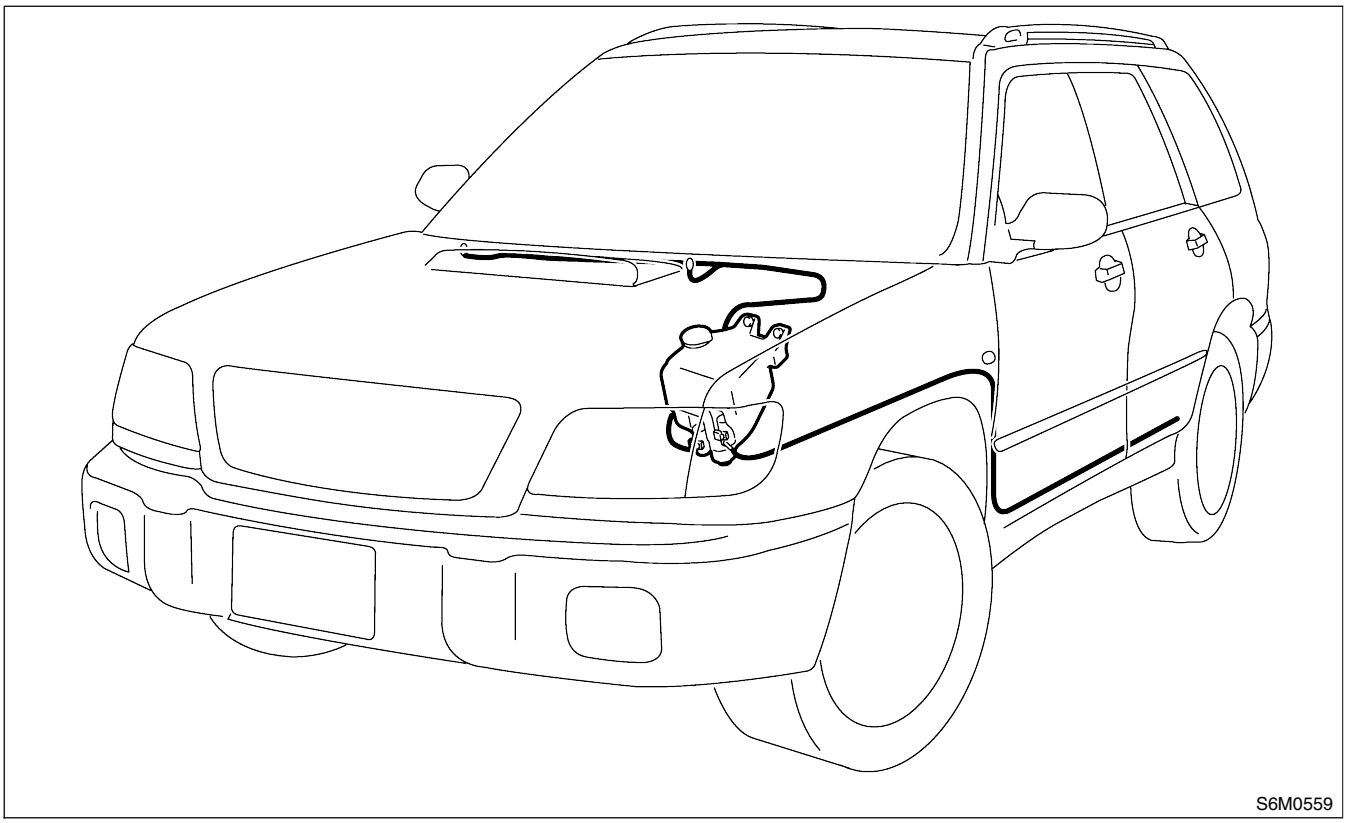


4) Connect battery and confirm that motor stops at automatic stop position after motor operates at low speed again.



8. Front Washer S902401

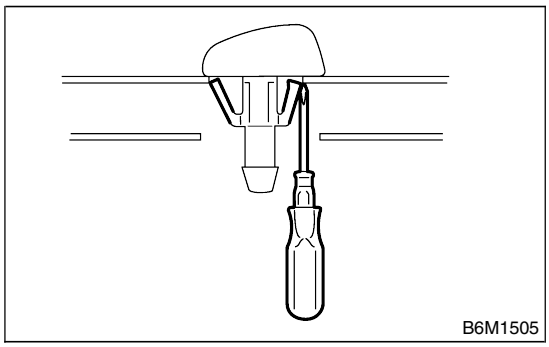
A: LOCATION S902401A13



B: REMOVAL S902401A18

1. NOZZLE S902401A1801

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



C: INSTALLATION S902401A11

1. NOZZLE S902401A1101

1) Install in the reverse order of removal.
2) Adjust the position of the washer liquid sprayer. <Ref. to WW-18 ADJUSTMENT, Front Washer.>

D: INSPECTION S902401A10

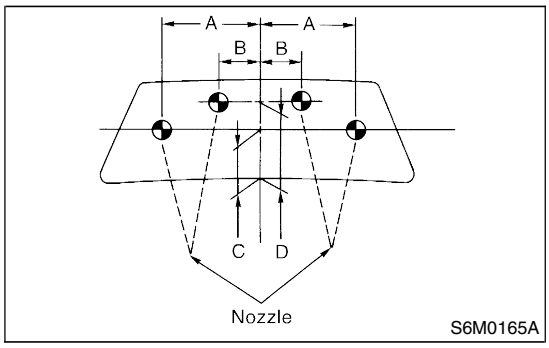
- Make sure the nozzle and hose are not clogged.
- Make sure the hose is not bent.

E: ADJUSTMENT S902401A01

NOTE:
Adjustment positions for left-handed vehicle. Carry out left-right symmetry for adjustment positions for right-handed vehicle.

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

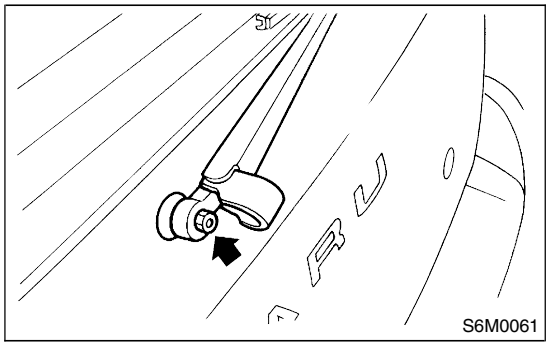
Injection position:
A: 410 mm (16.14 in)
B: 150 mm (5.91 in)
C: 370 mm (14.57 in)
D: 530 mm (20.87 in)



9. Rear Wiper Arm S902402

A: REMOVAL S902402A18

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



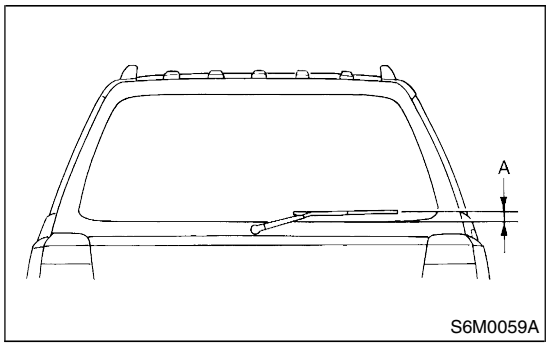
B: INSTALLATION S902402A11

1) Install in the reverse order of removal.
2) Adjust the position of the wiper blade. <Ref. to WW-19, ADJUSTMENT, Rear Wiper Arm.>

C: ADJUSTMENT S902402A01

1) Operate rear wiper once.
2) Adjust wiper blade to original position as shown in figure.

Original position:
A: 30±5 mm (1.18±0.20 in)

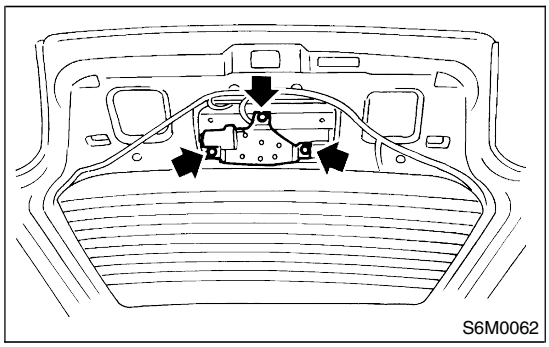


10. Rear Wiper Motor S902532

A: REMOVAL S902532A18

1) Remove rear wiper arm.
<Ref. to WW-19, REMOVAL, Rear Wiper Arm.>
2) Remove rear gate lower trim. <Ref. to EI-42 REMOVAL, Rear Gate Trim.>
3) Unclip clip of harness and disconnect connector of wiper motor.
4) Loosen bolts to remove wiper motor assembly.

CAUTION:
Be careful not to damage O-ring when removing wiper motor assembly.

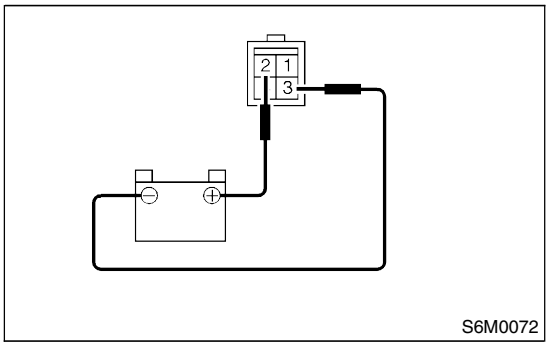

S6M0062

B: INSTALLATION S902532A11

1) Install in the reverse order of removal.

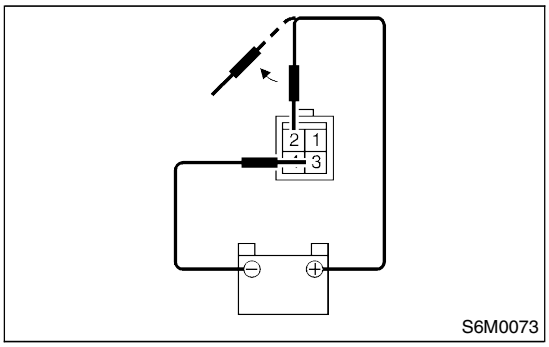
C: INSPECTION S902532A10

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



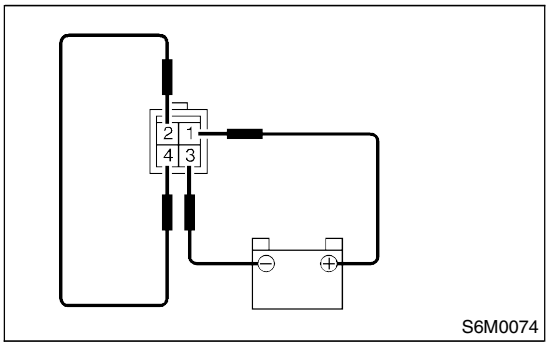
S6M0072

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



S6M0073

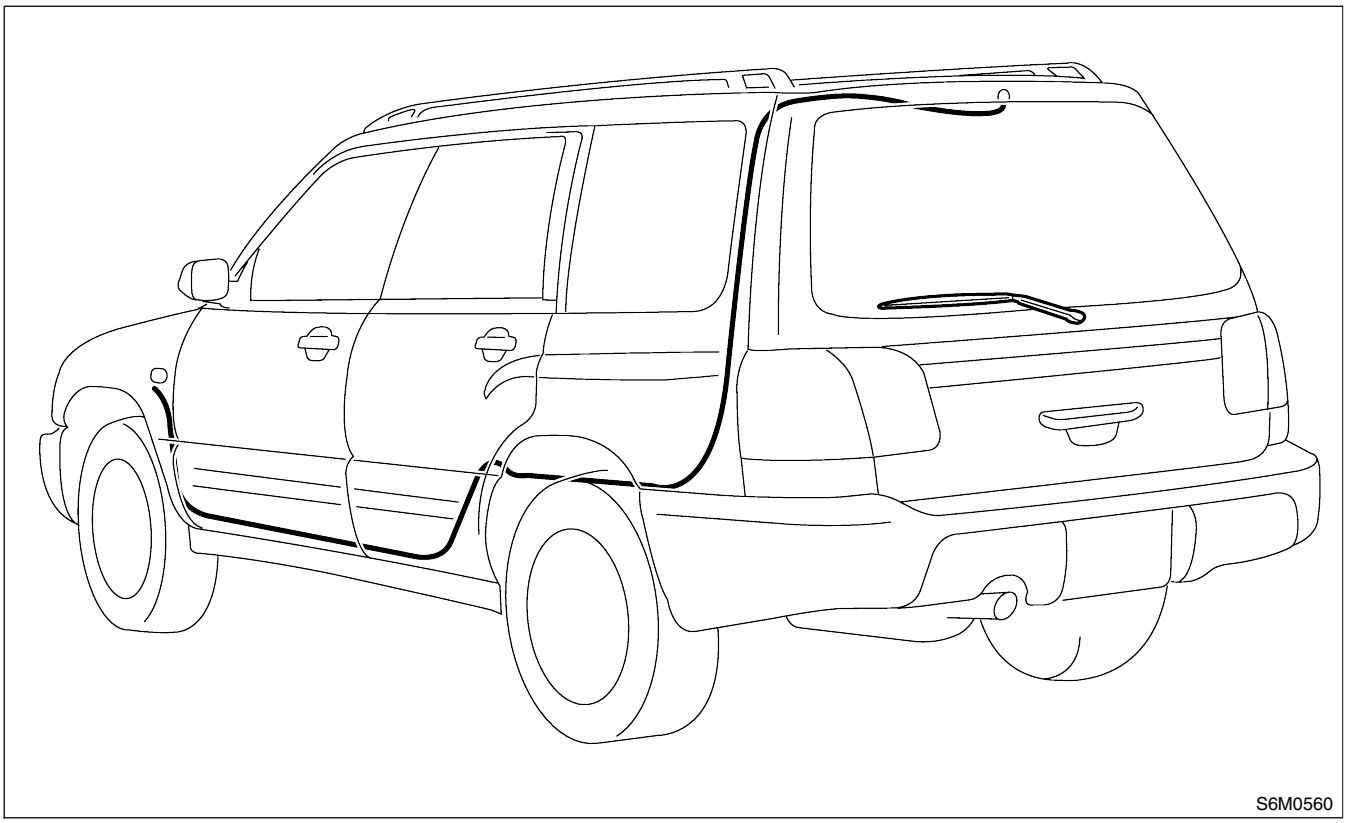
3) Connect battery and confirm that motor stops at automatic stop position after motor operates at low speed again.



S6M0074

11. Rear Washer S902400

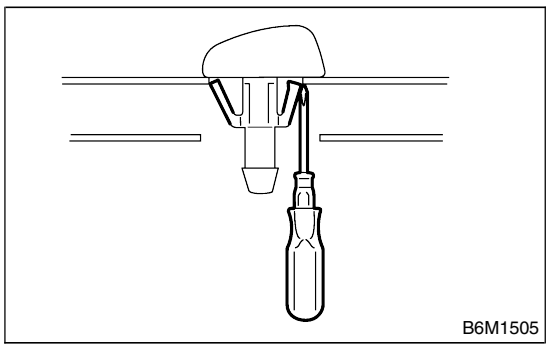
A: LOCATION S902400A13



B: REMOVAL S902400A18

1. NOZZLE S902400A1801

1) Remove the high-mount stop light. <Ref. to LI-58 REMOVAL, High Mount Stop Light.>
2) Remove the washer hose from the washer nozzle.
3) Open the clips on the underside of the hood with a thin screwdriver or other tool, and remove the washer nozzle.



C: INSTALLATION S902400A11

1. NOZZLE S902400A1101

1) Install in the reverse order of removal.
2) Adjust the position of the washer liquid sprayer. <Ref. to WW-22 ADJUSTMENT, Rear Washer.>

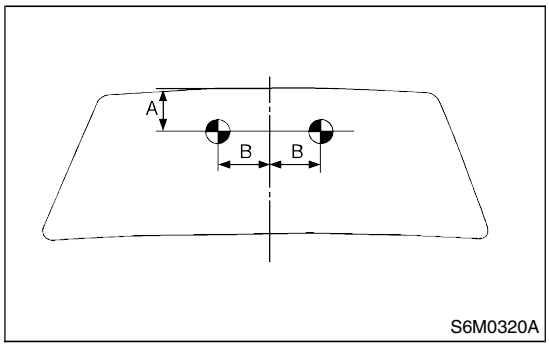
D: INSPECTION S902400A10

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

E: ADJUSTMENT S902400A01

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

Injection position:
A: 60 mm (2.36 in)
B: 60 mm (2.36 in)

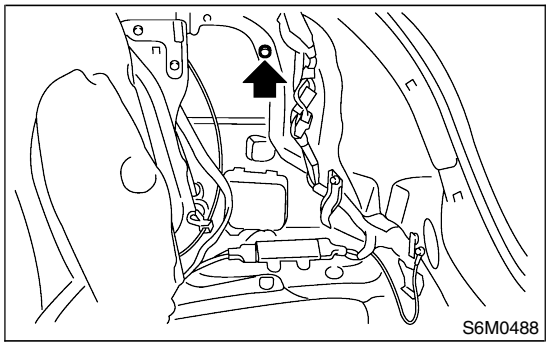


12. Wiper Control Relay S902403

A: REMOVAL S902403A18

1. WAGON S902403A1801

1) Remove right quarter lower trim.<Ref. to EI-39 REMOVAL, Rear Quarter Trim.>
2) Remove quarter pocket.
3) Loosen nut to remove control unit.


S6M0488

B: INSTALLATION S902403A11

1. WAGON S902403A1101

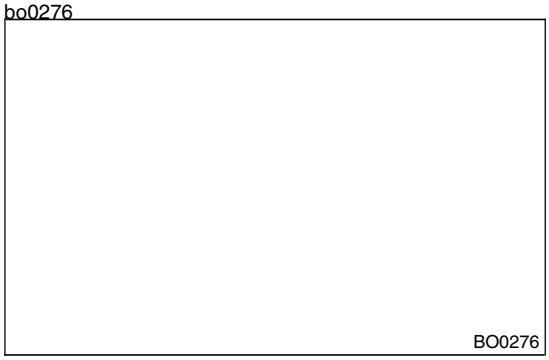
Install in the reverse order of removal.

C: INSPECTION S902403A10

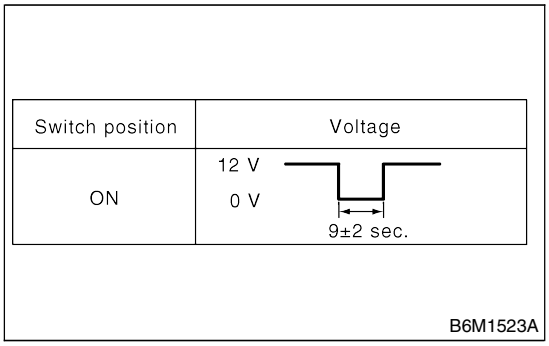
1. WAGON S902403A1001

1) Disconnect the connector from the wiper control relay.
2) Connect the positive (+) lead from the battery to terminal 8 and the negative (–) lead to terminal 6. Connect the positive (+) lead from the voltmeter to terminal 3 and negative lead to ground.

bo0276


BO0276

3) Measure the voltage when the wiper relay is operated.



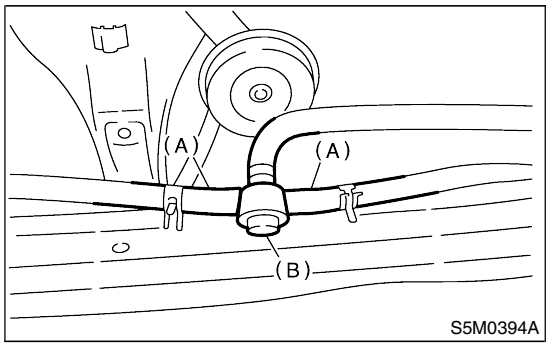
If operation is not as specified, replace the switch.

13. Headlight Washer S902736

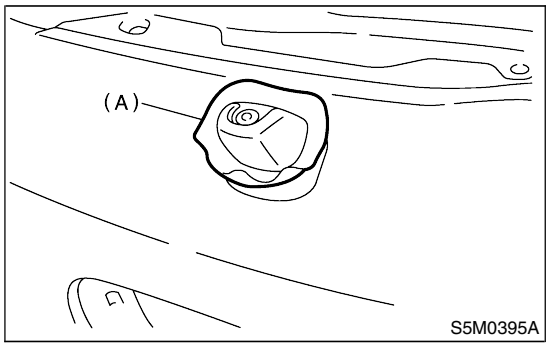
A: REMOVAL S902736A18

1) Disconnect the ground cable from the battery.
2) Remove the front grille. <Ref. to EI-10, REMOVAL, Front Grille.>
3) Draw out headlight washer hose.
4) Disconnect hose (A) from valve (B).

NOTE:
Washer fluid may drain from valve. Put a pan under the valve, then disconnect valve from hose while pinching the hose edge.

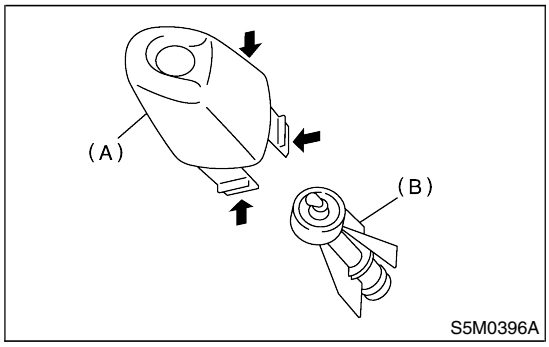


5) Remove nozzle cover (A).



6) Push the three pawls to remove outer nozzle (A). Then, pull out inner nozzle (B).

NOTE:
Before pushing the outer nozzle pawls, cover the bumper to avoid scratches.



B: INSTALLATION S902736A11

Install in the reverse order of removal.

ENTERTAINMENT

ET

		Page
1.	General Description	2
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7.	Rear Speaker	13
8.	Antenna	14
9.	Antenna Amplifier	15
10.	Cigarette Lighter	16
11.	Accessory Power Socket	17

1. General Description S901001

A: CAUTION S901001A03

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

B: PREPARATION TOOL S901001A17

1. GENERAL TOOLS S901001A1701

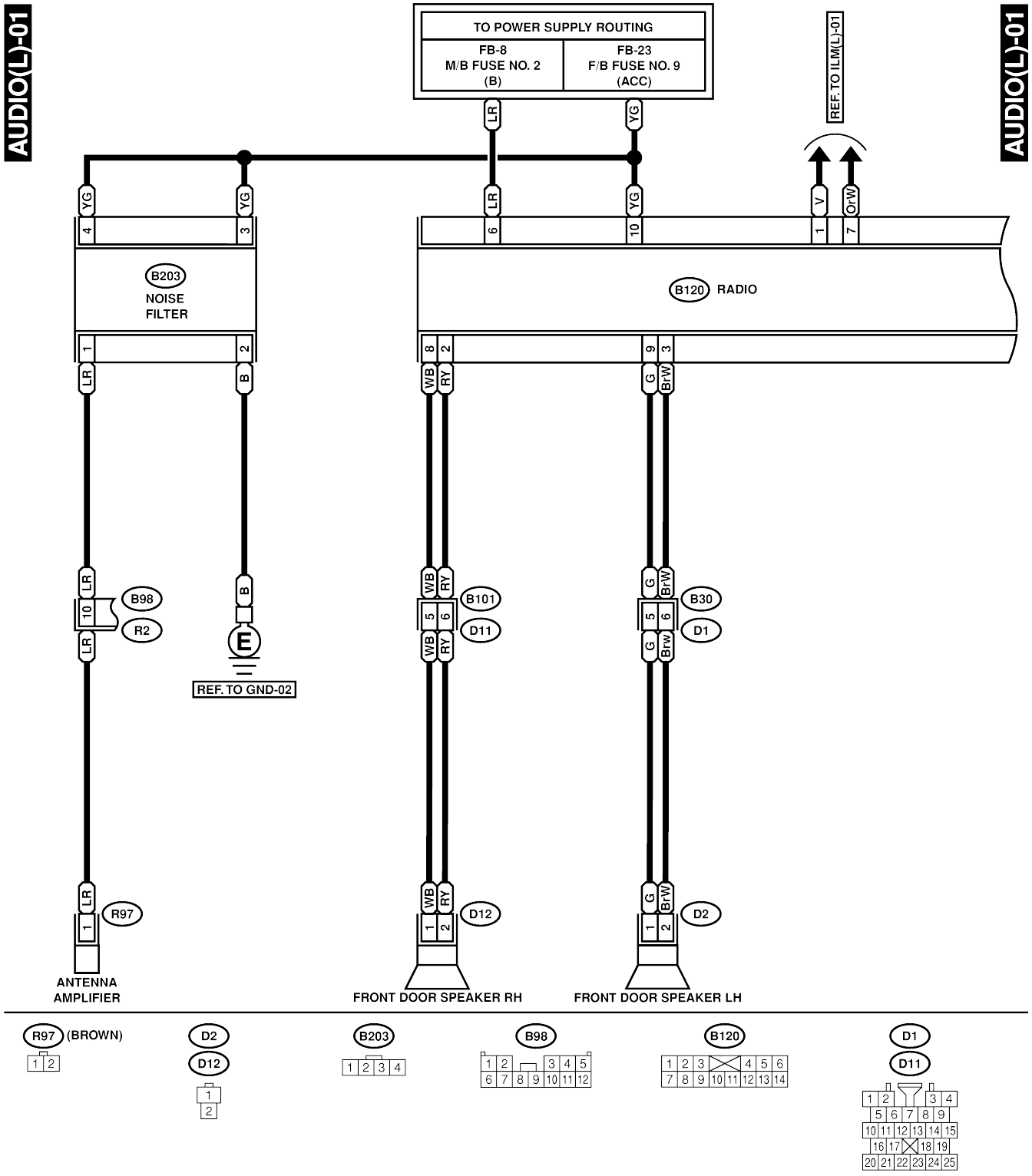
TOOL NAME	REMARKS
Circuit Tester	Used for measuring resistance and voltage.
Conductive Silver Composition (DUPONT NO. 4817 or equivalent)	Used for repairing antenna wire.

MEMO:

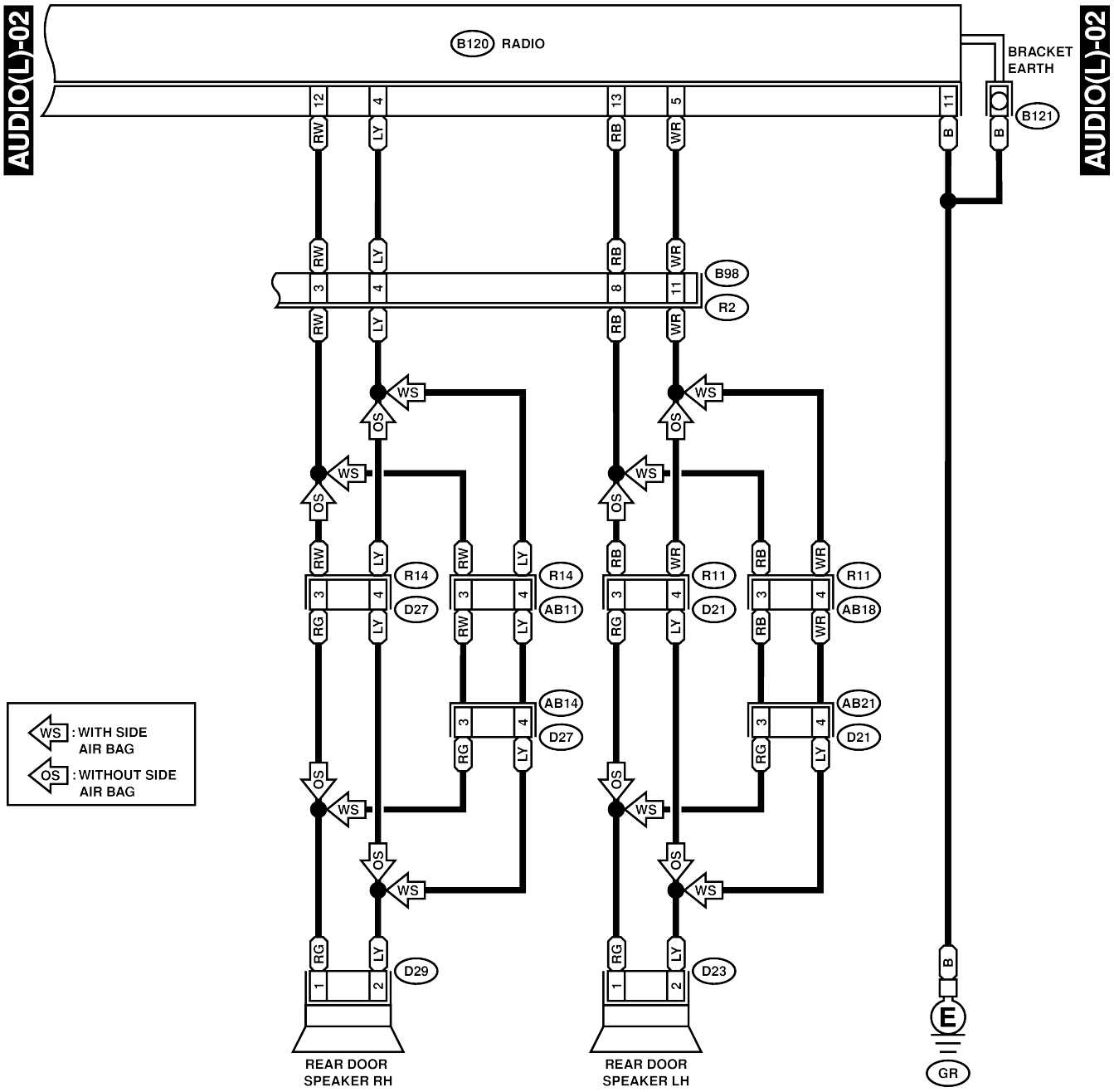
2. Radio System S901467

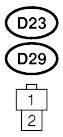
A: SCHEMATIC S901467A21

1. RADIO LHD MODEL S901467A2103

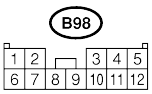


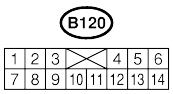
SL76-20A


AUDIO(L)-02
B120 RADIO
BRACKET EARTH
B121
AUDIO(L)-02
B98
R2
WS : WITH SIDE AIR BAG
OS : WITHOUT SIDE AIR BAG
R14
D27
AB11
AB14
R11
D21
AB18
AB21
D29
D23
REAR DOOR SPEAKER RH
REAR DOOR SPEAKER LH
GR


D23
D29

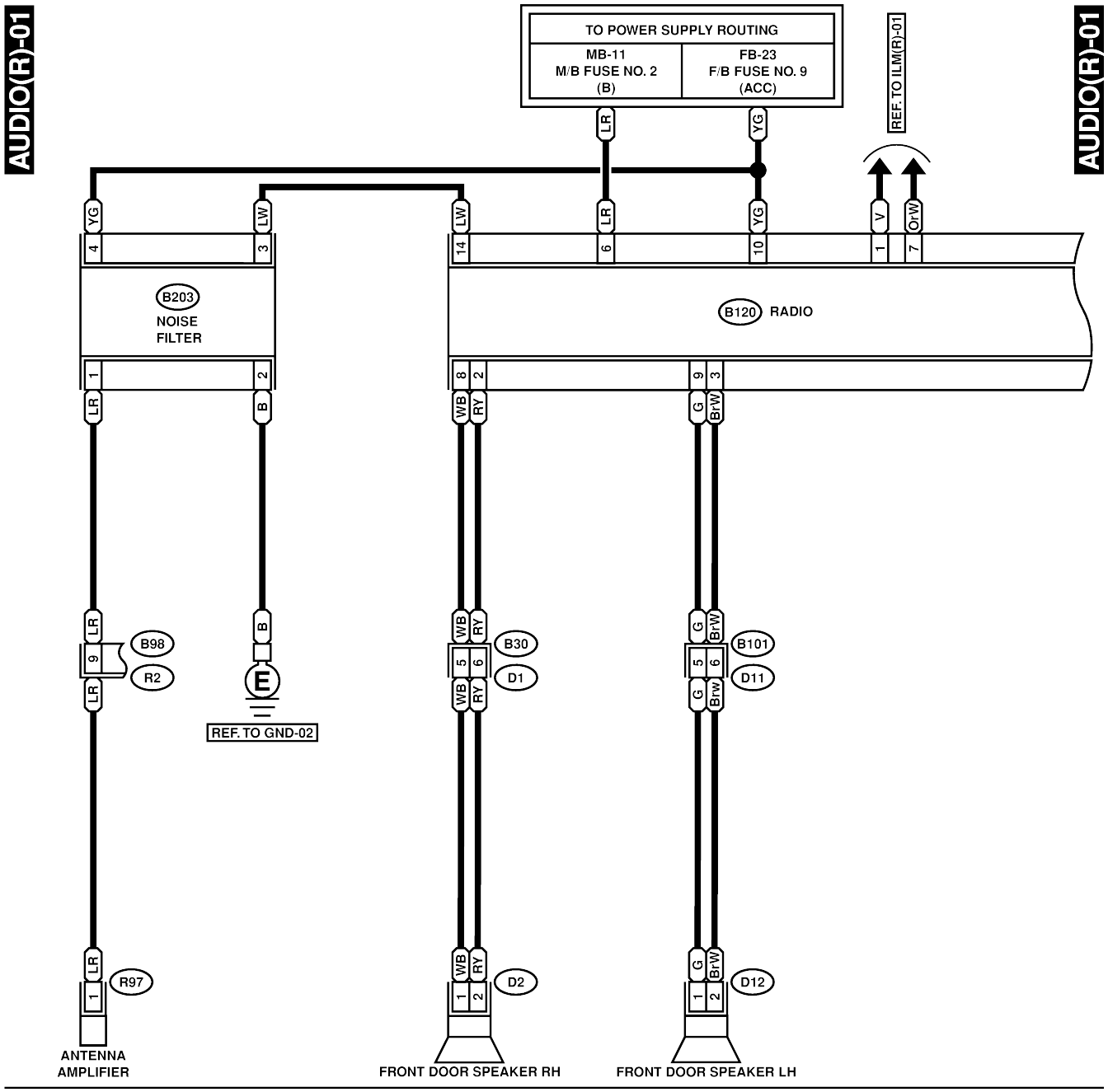

D21
D27
AB11
AB18


B98

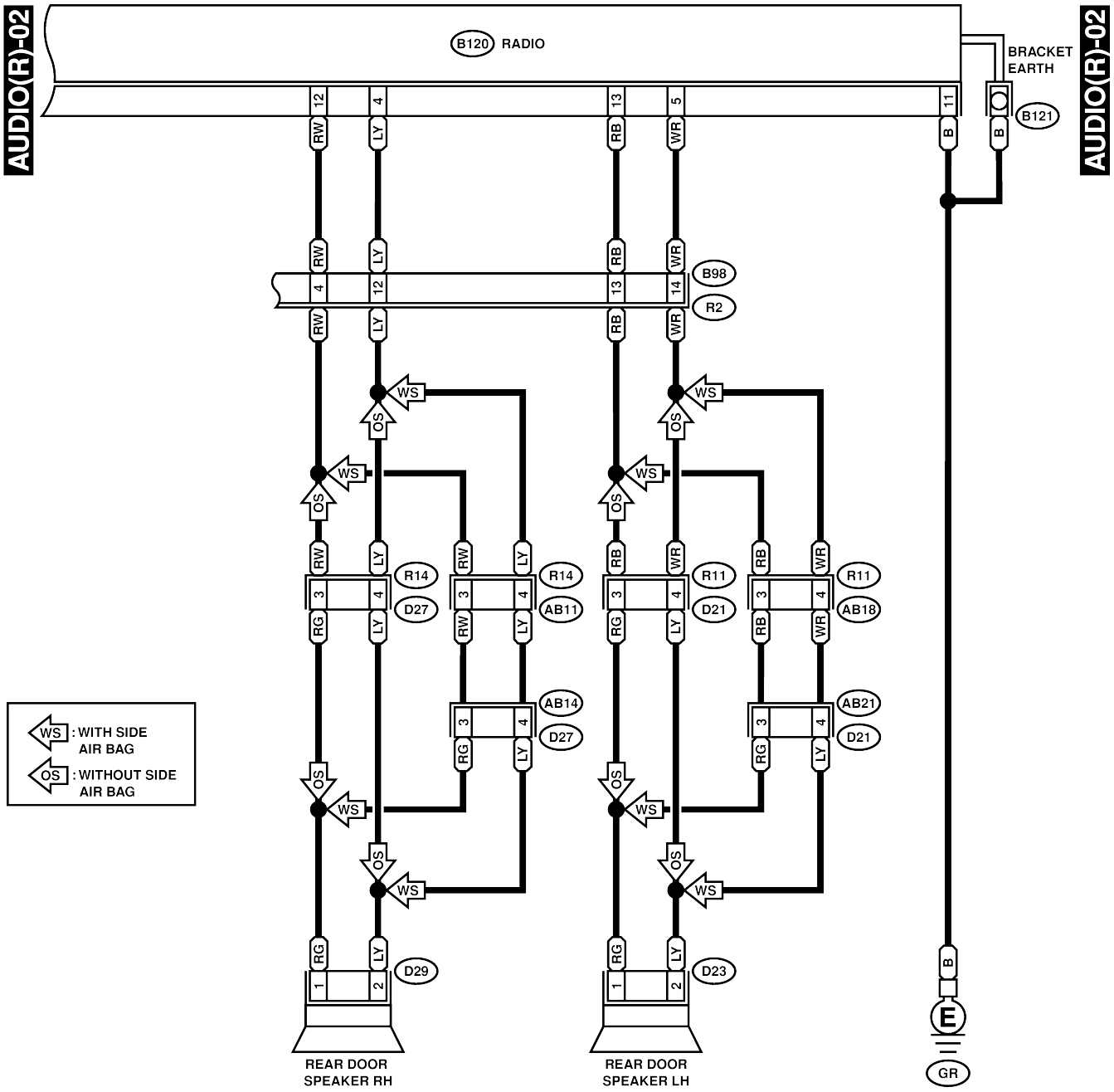

B120

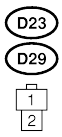
SL76-20B

2. RADIO RHD MODEL S901467A2104

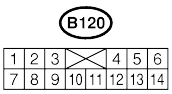


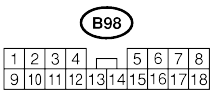
SR76-20A


AUDIO(R)-02
AUDIO(R)-02
B120 RADIO
BRACKET EARTH
B121
B98
R2
WS : WITH SIDE AIR BAG
OS : WITHOUT SIDE AIR BAG
R14
D27
AB11
AB14
R11
D21
AB18
AB21
D29
D23
REAR DOOR SPEAKER RH
REAR DOOR SPEAKER LH
GR


D23
D29


D21
D27
AB11
AB18


B120


B98

SR76-20B

B: INSPECTION S901467A10

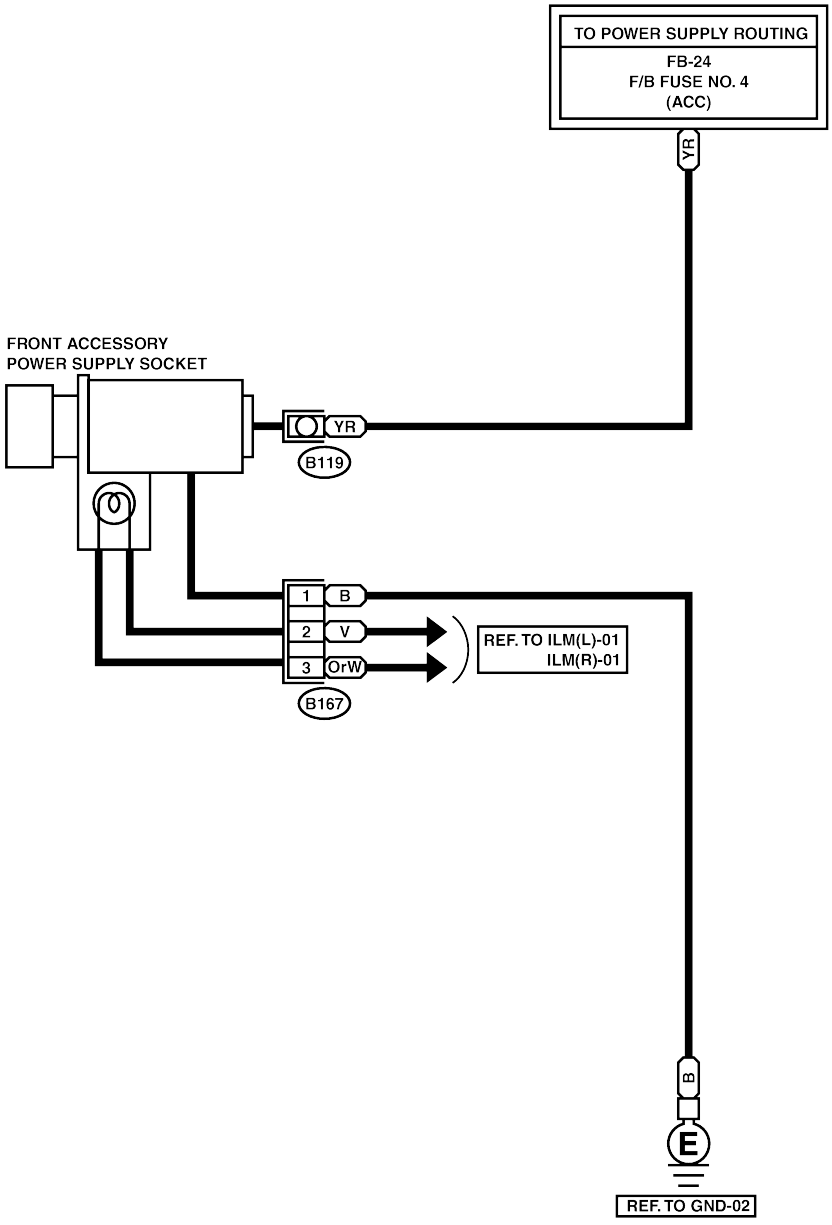
Symptom	Repair order
No power coming in (No display and no sound from speakers)	(1) Check fuse and power supply for radio. (2) Check radio ground. (3) Remove radio for repair.
A specific speaker does not operate.	(1) Check speaker. (2) Check output circuit between radio and speaker.
Radio generates noise with engine running	(1) Check radio ground. (2) Check generator. (3) Check ignition coil. (4) Remove radio for repair.
AM and FM modes are weak or noisy	(1) Check antenna. (2) Check antenna amplifier. (3) Check radio ground. (4) Remove radio for repair.

3. Cigarette Lighter System S901494

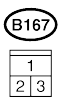
A: SCHEMATIC S901494A21

1. CIGARETTE LIGHTER S901494A2101

FAPS-01



FAPS-01

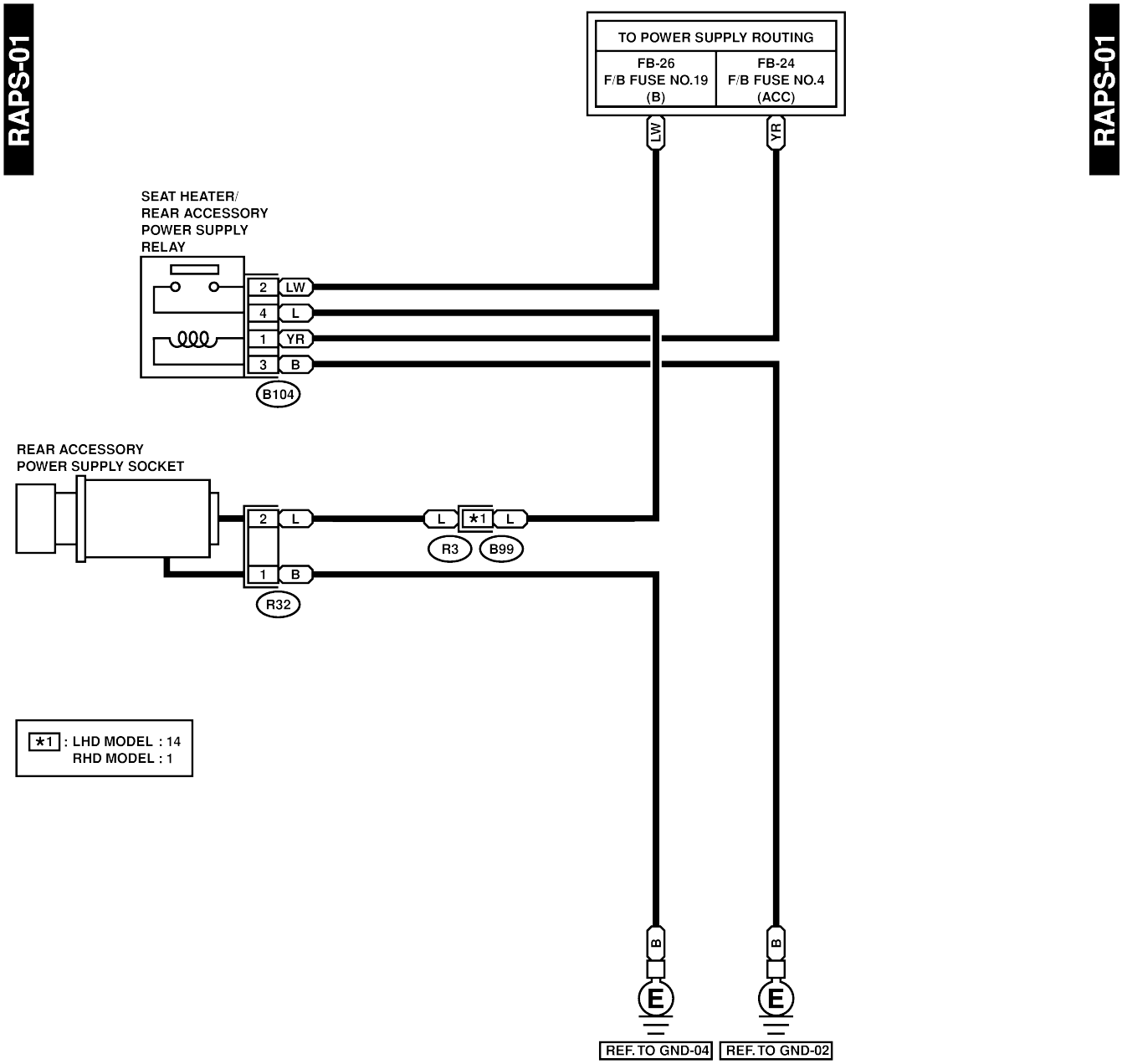


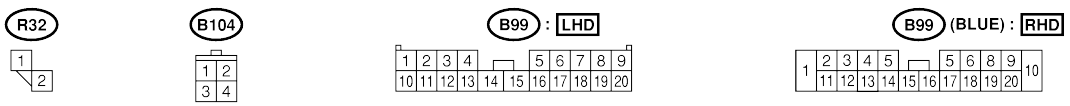
SG97-20

4. Accessory Power Socket System S901785

A: SCHEMATIC S901785A21

1. ACCESSORY POWER SOCKET S901785A2101



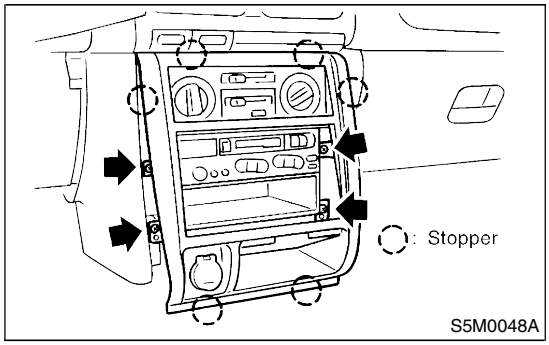


SG90-20

5. Radio Body S901469

A: REMOVAL S901469A18

1) Remove console box. <Ref. to EI-30 REMOVAL, Console Box.>
2) Remove AT cover (AT model).
3) Remove center panel.
4) Remove fitting screws, and slightly pull radio out from center console.



5) Disconnect electric connectors and antenna feeder cord.

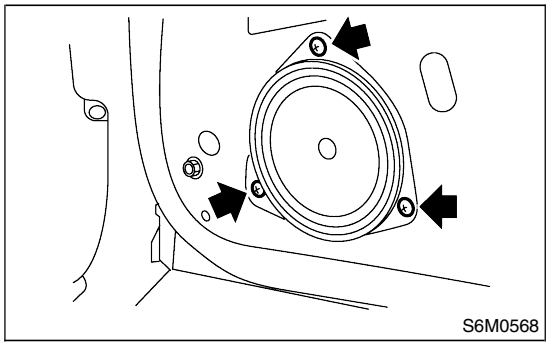
B: INSTALLATION S901469A11

Install in the reverse order of removal.

6. Front Speaker S901466

A: REMOVAL S901466A18

1) Remove front door trim. <Ref. to EI-26 REMOVAL, Front Door Trim.>
2) Remove front speaker mounting screws.



3) Disconnect harness connector and remove front speaker.

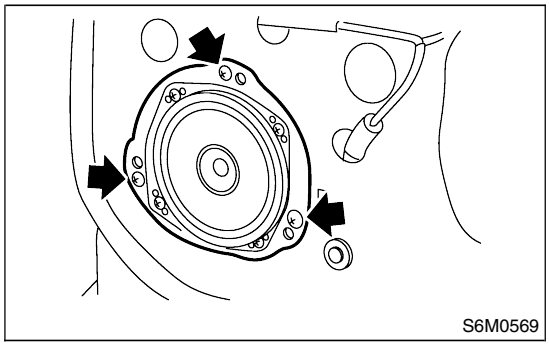
B: INSTALLATION S901466A11

Install in the reverse order of removal.

7. Rear Speaker S901470

A: REMOVAL S901470A18

1) Remove rear door trim. <Ref. to EI-27> REMOVAL, Rear Door Trim.
2) Remove rear speaker mounting screws.



3) Disconnect harness connector and remove rear speaker.

B: INSTALLATION S901470A11

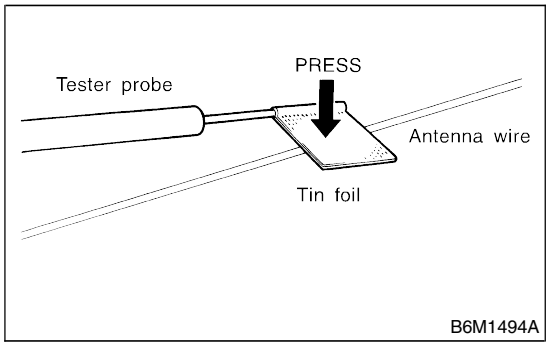
Install in the reverse order of removal.

8. Antenna S901463

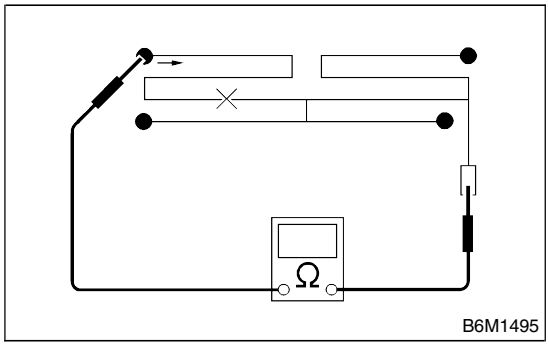
A: INSPECTION S901463A10

Check continuity between antenna terminal and each antenna wire.
If an antenna wire is OK, continuity should exist. If an antenna wire is broken, no continuity should exist.

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

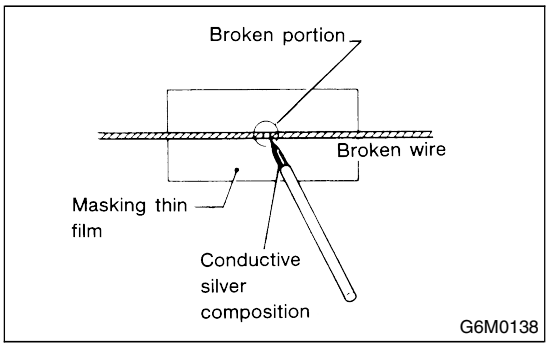


To locate the broken point, move the probe along the antenna wire.



B: REPAIR S901463A19

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

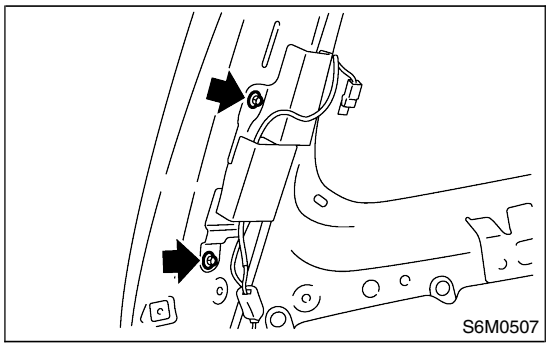


4) Dry out the deposited portion.
5) After repair has been completed, check repaired wire for continuity.

9. Antenna Amplifier S901460

A: REMOVAL S901460A18

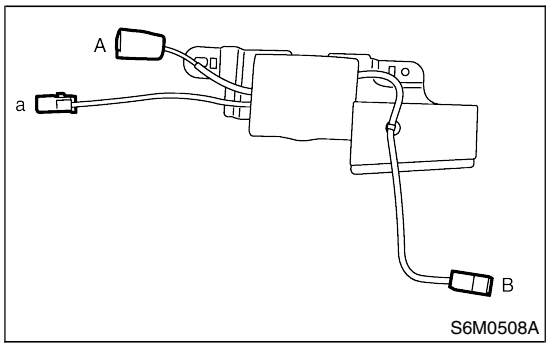
1) Remove rear quarter lower trim. <Ref. to EI-39 REMOVAL, Rear Quarter Trim.>
2) Disconnect harness connector and terminal.
3) Remove mounting screw and detach antenna amplifier.



B: INSTALLATION S901460A11

Install in the reverse order of removal.

C: INSPECTION S901460A10



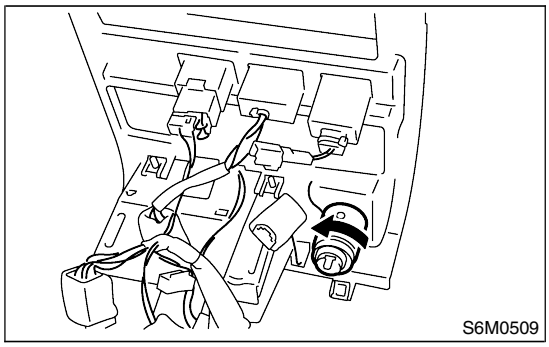
Measure resistance between terminal and amplifier body.

Tester connection	Resistance
A — Amplifier	More than 100 kΩ
B — Amplifier	More than 100 kΩ
a — Amplifier	More than 100 kΩ

10. Cigarette Lighter S901461

A: REMOVAL S901461A18

1) Remove center panel. <Ref. to ET-11 REMOVAL, Radio Body.>
2) Disconnect harness connectors and remove cigarette lighter.



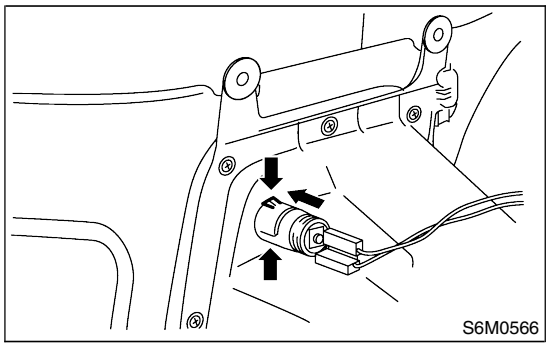
B: INSTALLATION S901461A11

Install in the reverse order of removal.

11. Accessory Power Socket S901786

A: REMOVAL S901786A18

1) Remove rear quarter lower trim. <Ref. to EI-39, REMOVAL, Rear Quarter Trim.>
2) Disconnect harness connectors and remove accessory power socket.



B: INSTALLATION S901786A11

Install in the reverse order of removal.

MEMO:

COMMUNICATION SYSTEM

COM

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1. General Description....2
2. Horn System....3
3. Horn....5
4. Horn Switch....6

1. General Description S904001

A: PREPARATION TOOL S904001A17

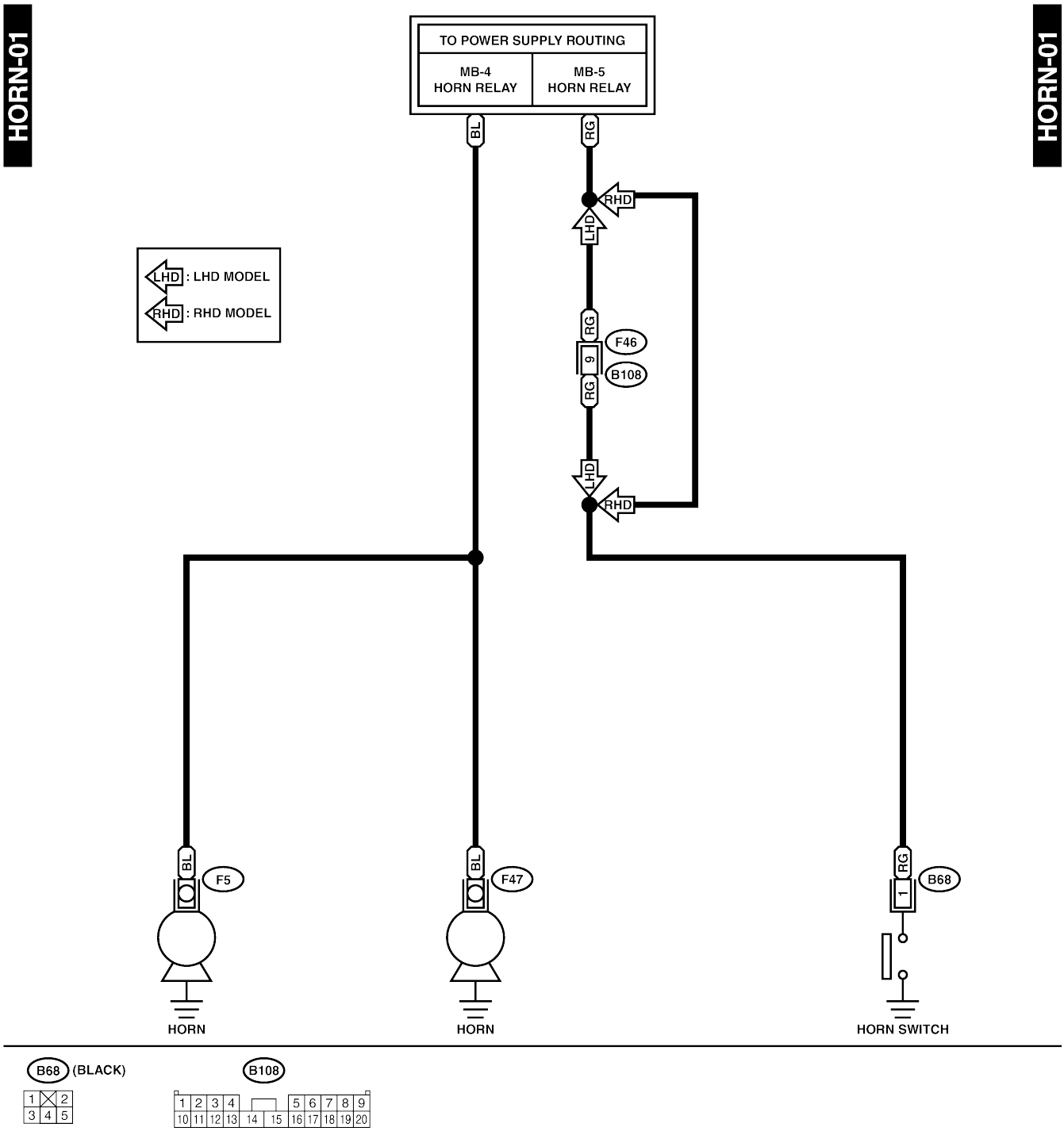
1. GENERAL TOOLS S904001A1701

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

2. Horn System S904436

A: SCHEMATIC S904436A21

1. HORN S904436A2101



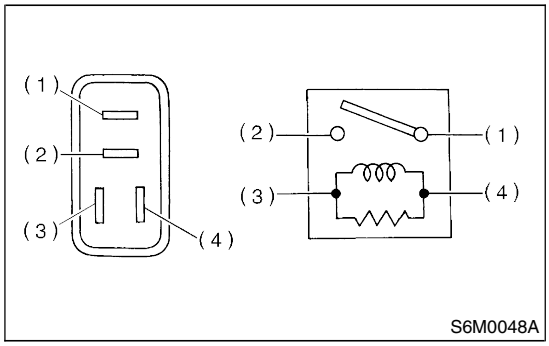
SG74-20

B: INSPECTION S904436A10

1. HORN RELAY S904436A1001

Check continuity between terminals (indicated in table below) when terminal No. 4 is connected to battery and terminal No. 3 is grounded.

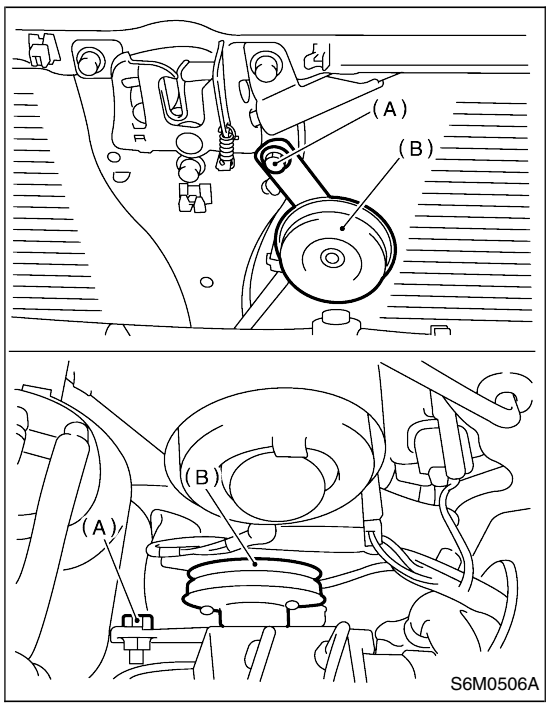
When current flows.	Between terminals No. 1 and No. 2	Continuity exists.
When current does not flow.	Between terminals No. 1 and No. 2	Continuity does not exist.
	Between terminals No. 3 and No. 4	Continuity exists.



3. Horn S904437

A: REMOVAL S904437A18

1) Remove horn bracket mounting bolt (A).
2) Disconnect harness connector and remove horn assembly (B).

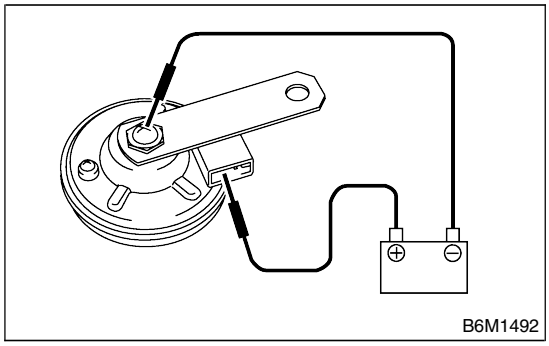


B: INSTALLATION S904437A11

Install in the reverse order of removal.

C: INSPECTION S904437A10

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

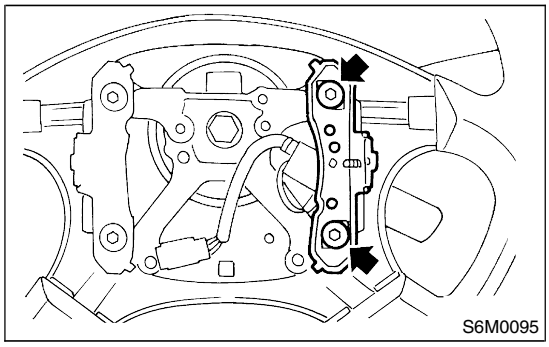


4. Horn Switch S904434

A: REMOVAL S904434A18

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

1) Remove the driver's airbag module. <Ref. to AB-12 Driver's Airbag Module.>
2) Remove horn switch from steering wheel as shown.

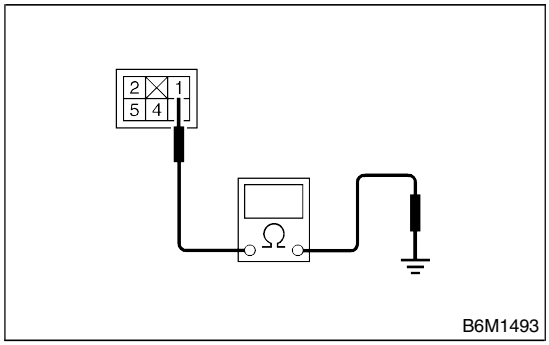


B: INSTALLATION S904434A11

Install in the reverse order of removal.

C: INSPECTION S904434A10

Check continuity between terminals.



Switch position	Tester connection	Specified condition
When horn switch is pushed.	1—Body ground	Continuity
When horn switch is not pushed.		No continuity

GLASS/WINDOWS/MIRRORS

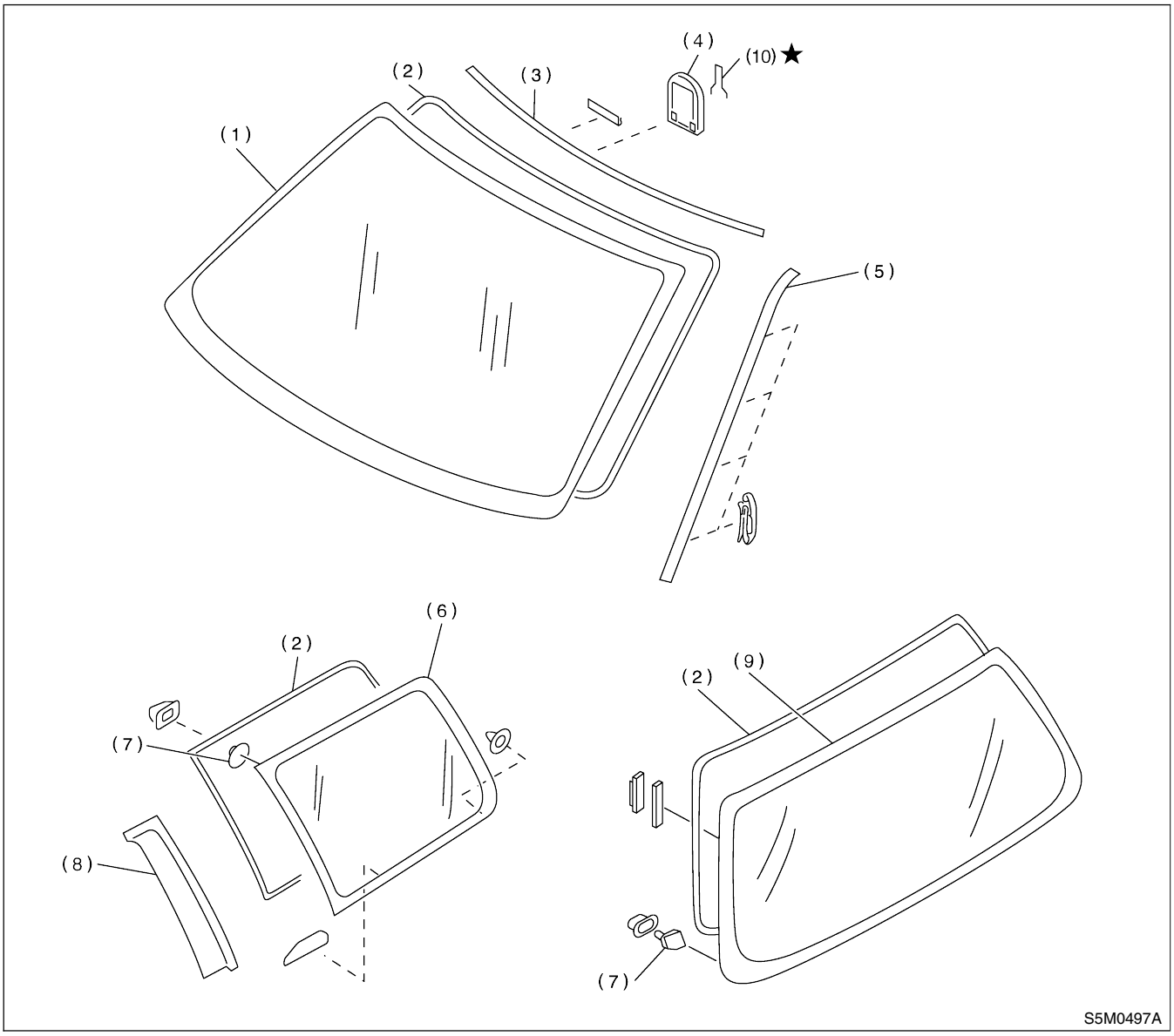
GW

		Page
1.	General Description	2
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3.	Rear Window Defogger System	19
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5.	Remote Control Mirror System	25
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19.	Outer Mirror	51
20.	Remote Control Mirror Switch	52
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22.	Wiper Deicer Switch	55

1. General Description S905001

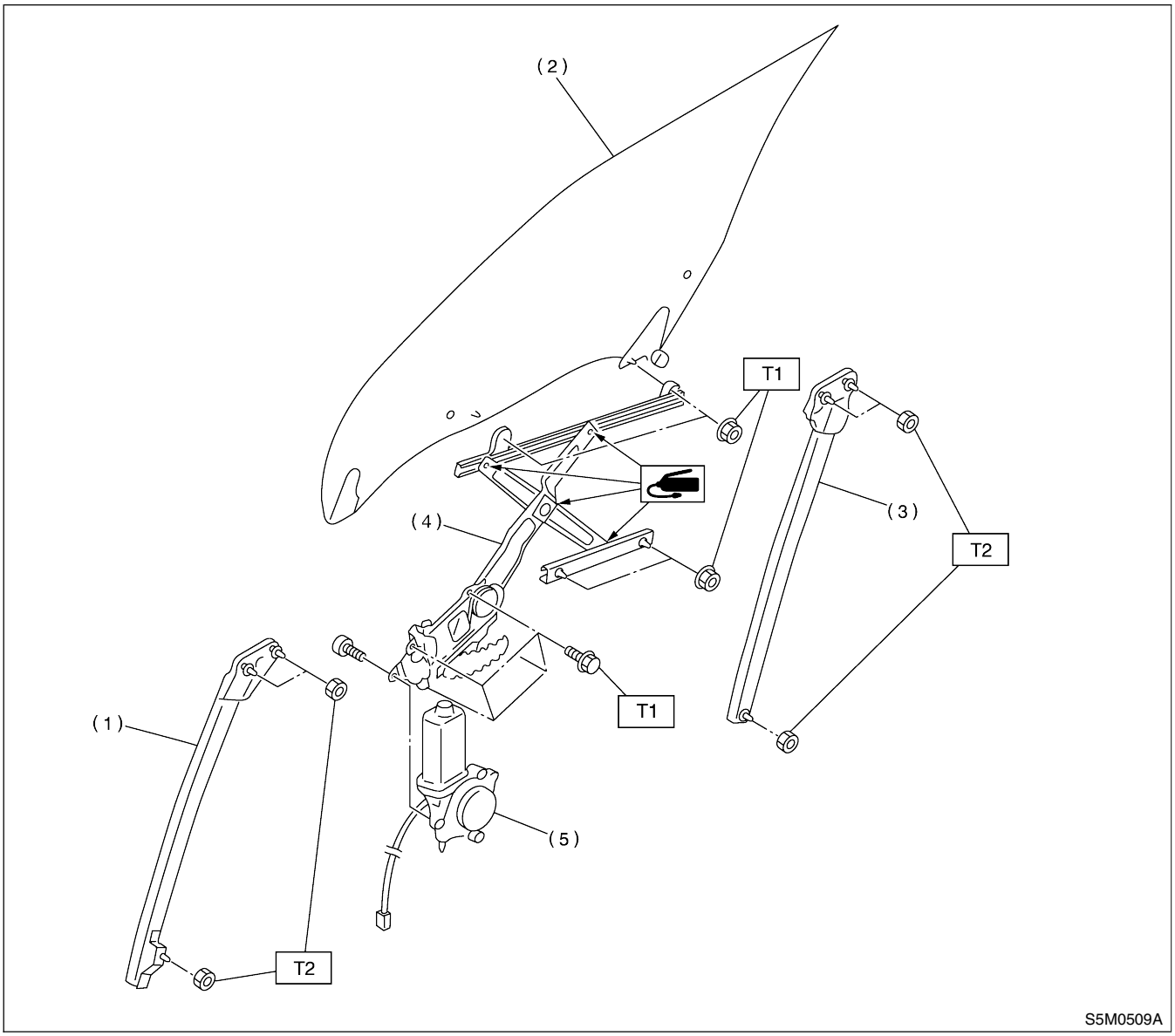
A: COMPONENT S905001A05

1. FIXED GLASS S905001A0506



(1) Windshield glass
(2) Dam rubber
(3) Molding
(4) Rearview mirror mount
(5) Side molding
(6) Rear quarter glass
(7) Locate pin
(8) Rear quarter garnish
(9) Rear gate glass
(10) Spring

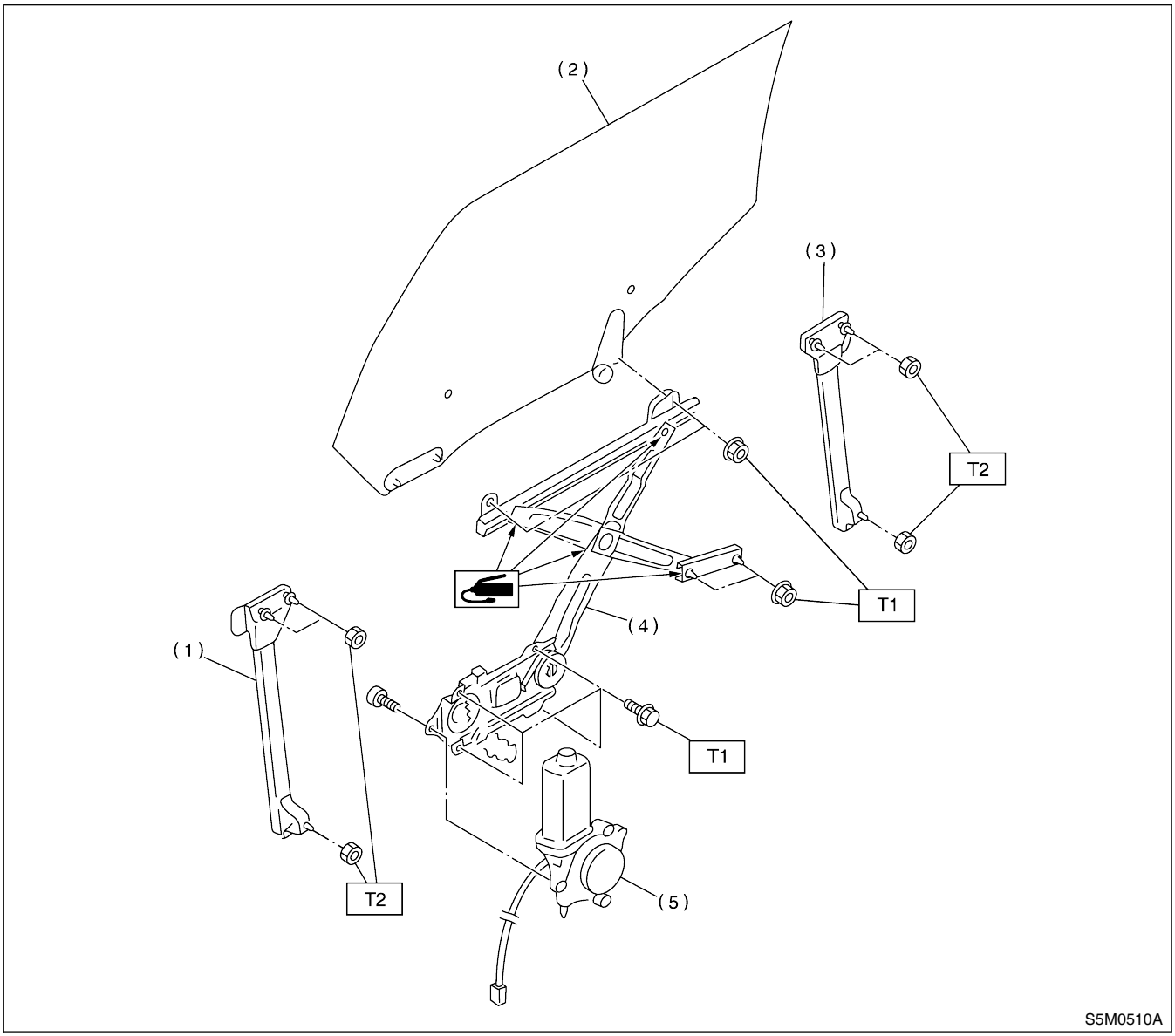
2. FRONT DOOR GLASS S905001A0503



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

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

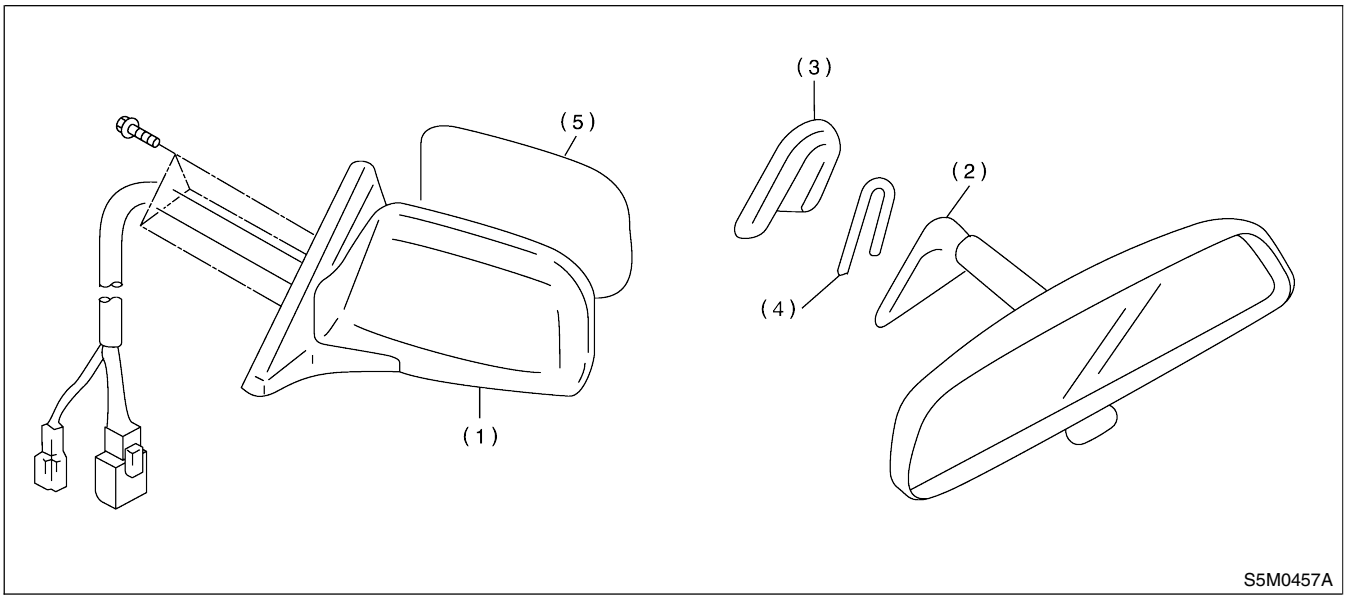
3. REAR DOOR GLASS S905001A0504



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

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

4. MIRRORS S905001A0505



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

B: CAUTION S905001A03

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

C: PREPARATION TOOL S905001A17

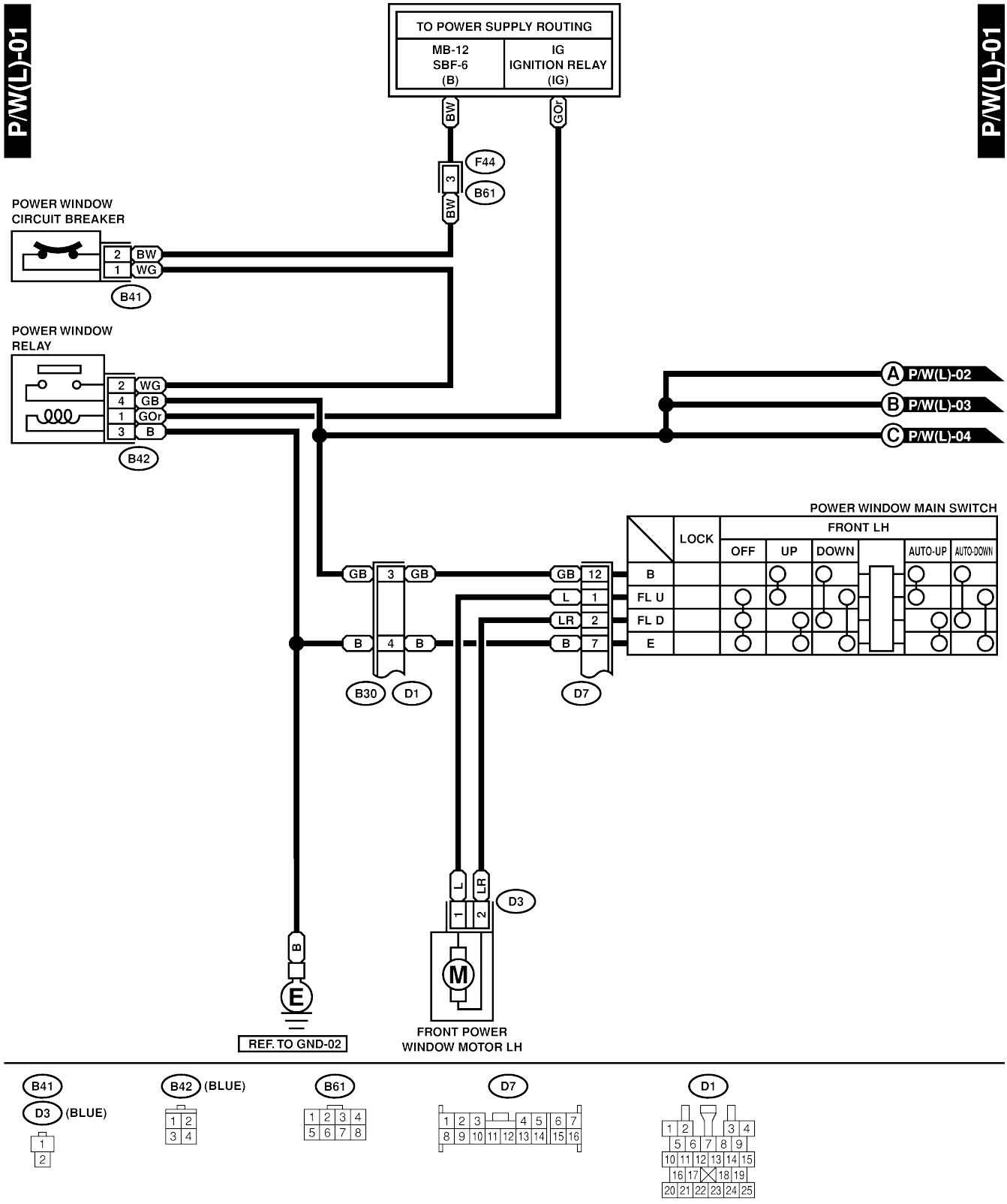
TOOL NAME	REMARKS
Circuit Tester	Used for checking voltage and continuity.
Piano Wire	Used for window glass removal.
Windshield Knife	Used for window glass removal.

2. Power Window System S905456

A: SCHEMATIC S905456A21

POWER WINDOW SYSTEM

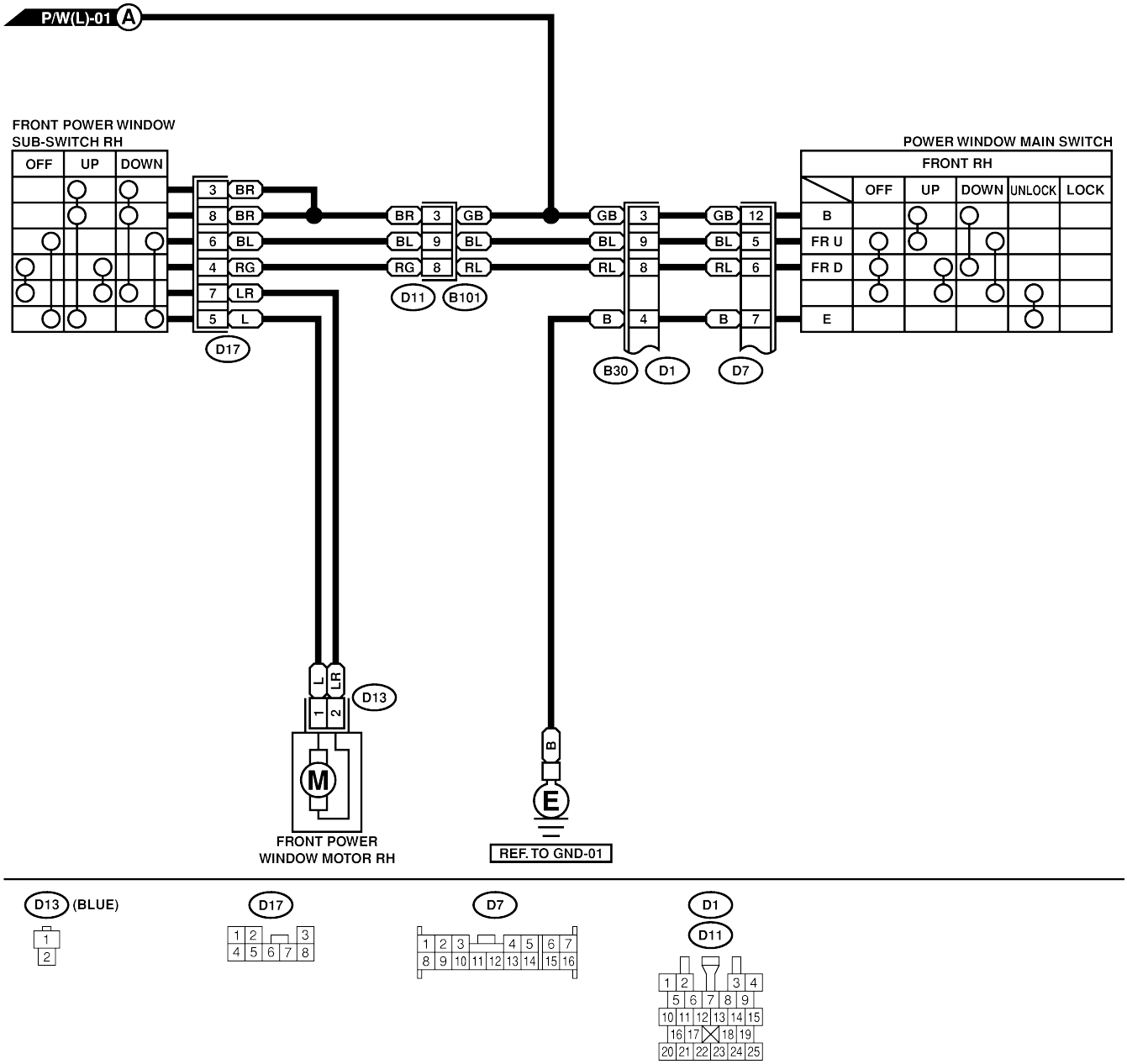
1. POWER WINDOW LHD MODEL S905456A2101



SL70-20A

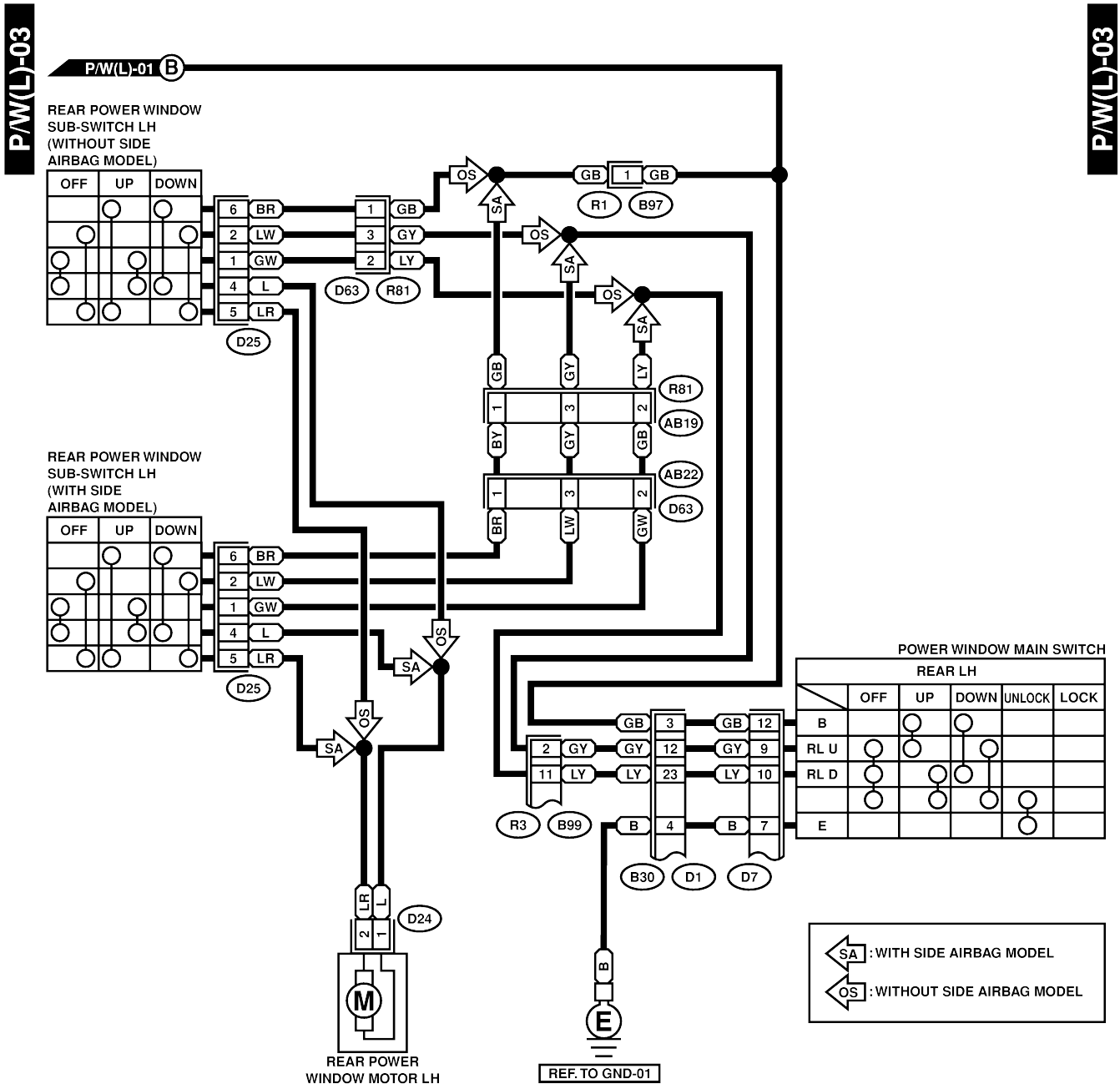
P/W(L)-02

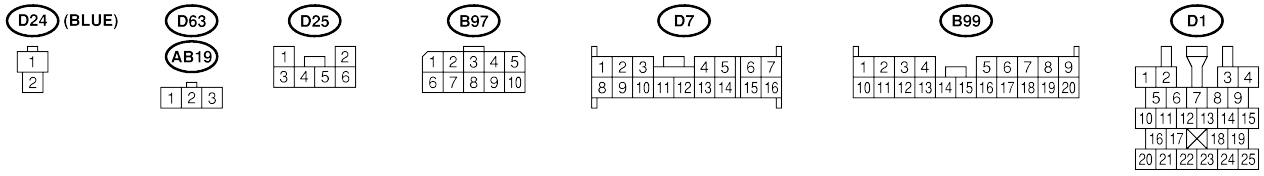
P/W(L)-02



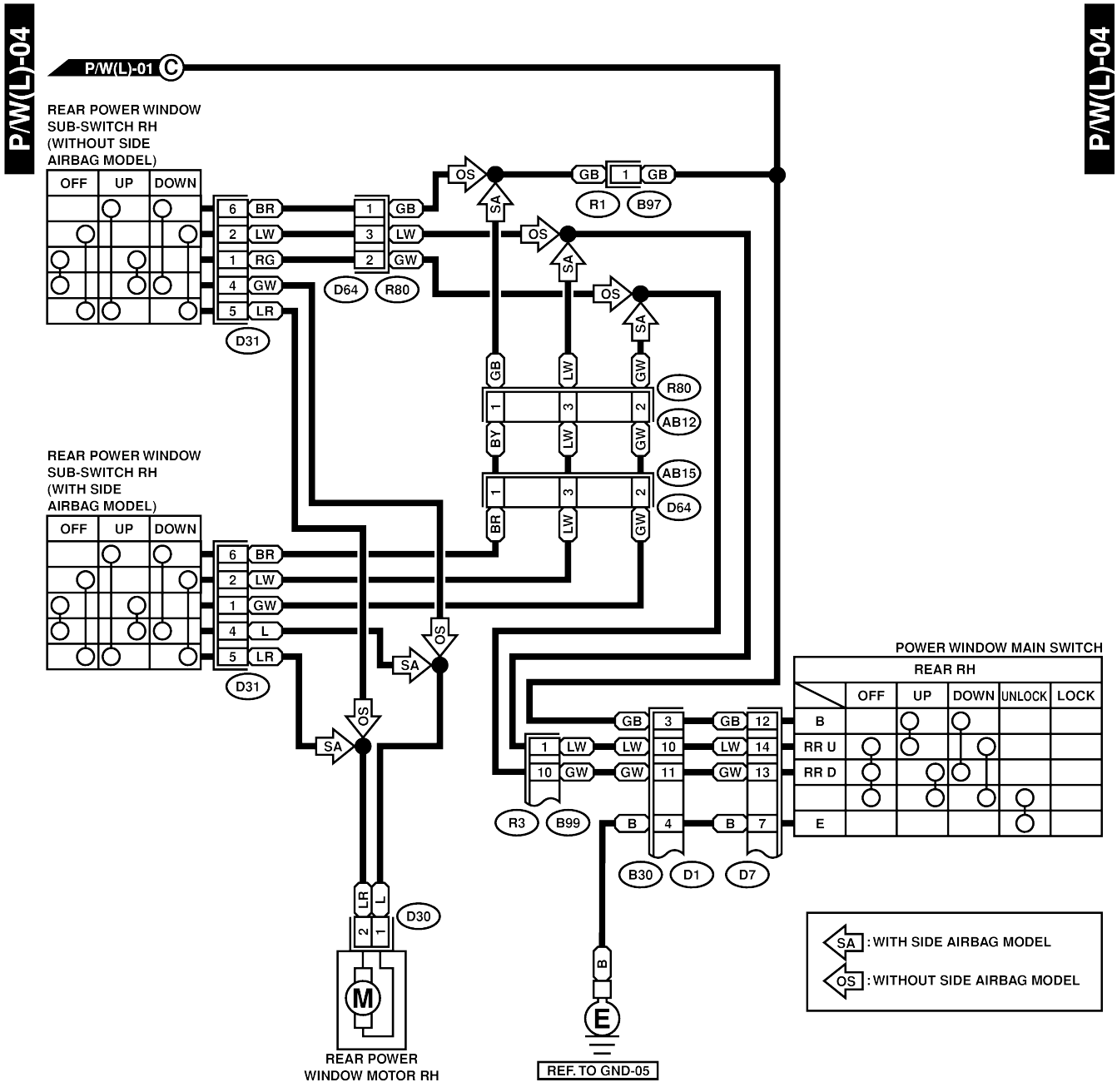
SL70-20B

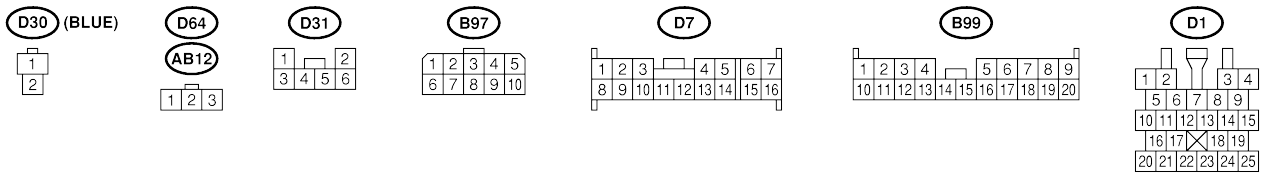
POWER WINDOW SYSTEM





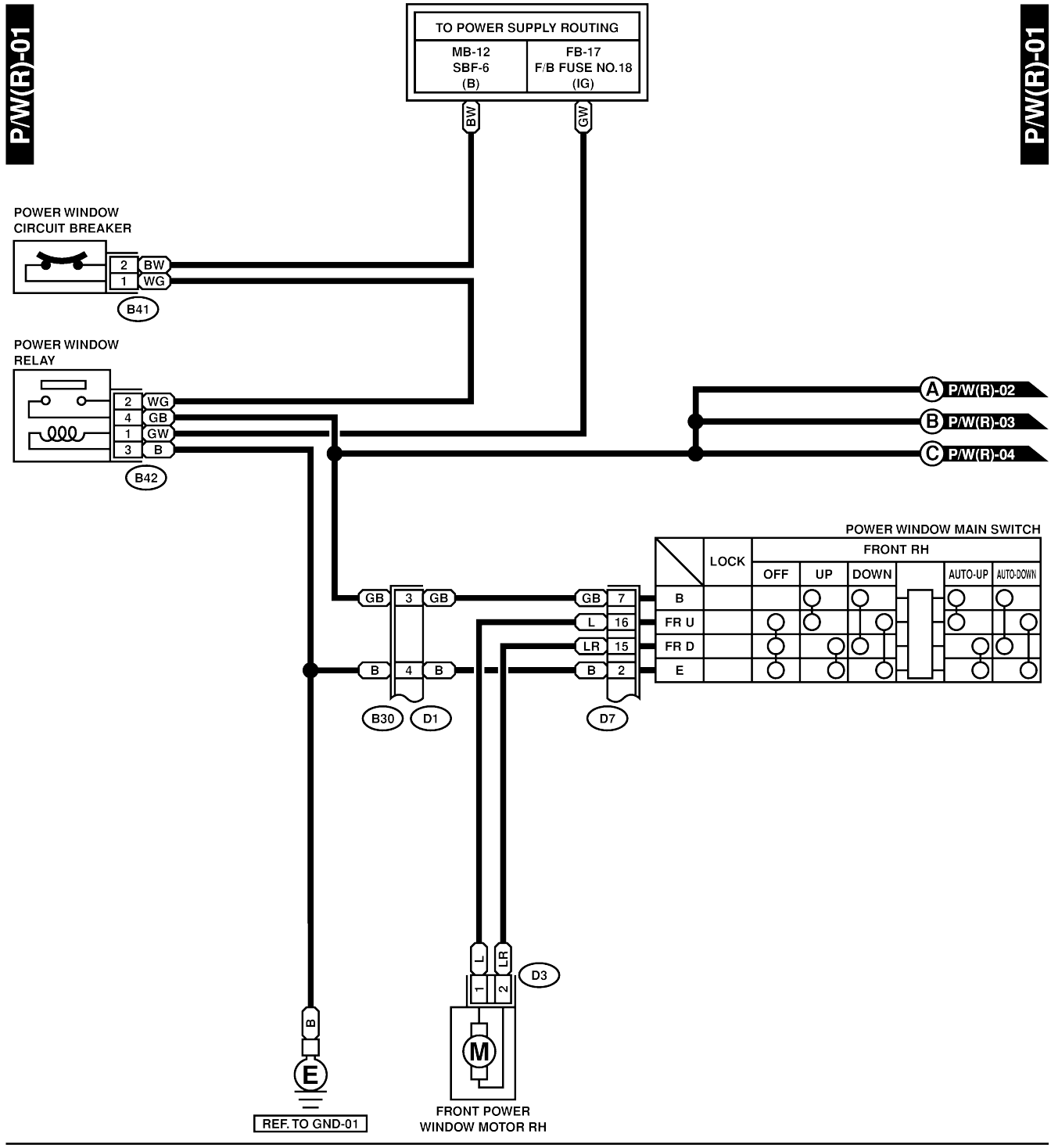
SL70-20C

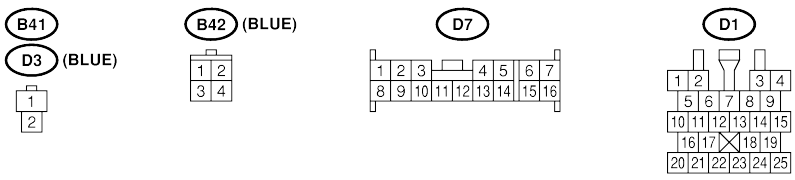

P/W(L)-04
P/W(L)-04
P/W(L)-01 C
REAR POWER WINDOW SUB-SWITCH RH (WITHOUT SIDE AIRBAG MODEL)
OFF UP DOWN
6 BR
2 LW
1 RG
4 GW
5 LR
D31
1 GB
3 LW
2 GW
D64
R80
OS
SA
GB 1 GB
R1
B97
REAR POWER WINDOW SUB-SWITCH RH (WITH SIDE AIRBAG MODEL)
OFF UP DOWN
6 BR
2 LW
1 GW
4 L
5 LR
D31
GB LW GW
BY LW GW
BR LW GW
R80
AB12
AB15
D64
POWER WINDOW MAIN SWITCH
REAR RH
OFF UP DOWN UNLOCK LOCK
B
RR U
RR D
E
1 LW
10 GW
GB 3
LW 10
GW 11
GB 12
LW 14
GW 13
R3
B99
B 4
B 7
B30
D1
D7
LR
L
2
1
D30
M
REAR POWER WINDOW MOTOR RH
B
E
REF. TO GND-05
SA : WITH SIDE AIRBAG MODEL
OS : WITHOUT SIDE AIRBAG MODEL


D30 (BLUE)
D64
AB12
D31
B97
D7
B99
D1

SL70-20D

2. POWER WINDOW RHD MODEL S905456A2102

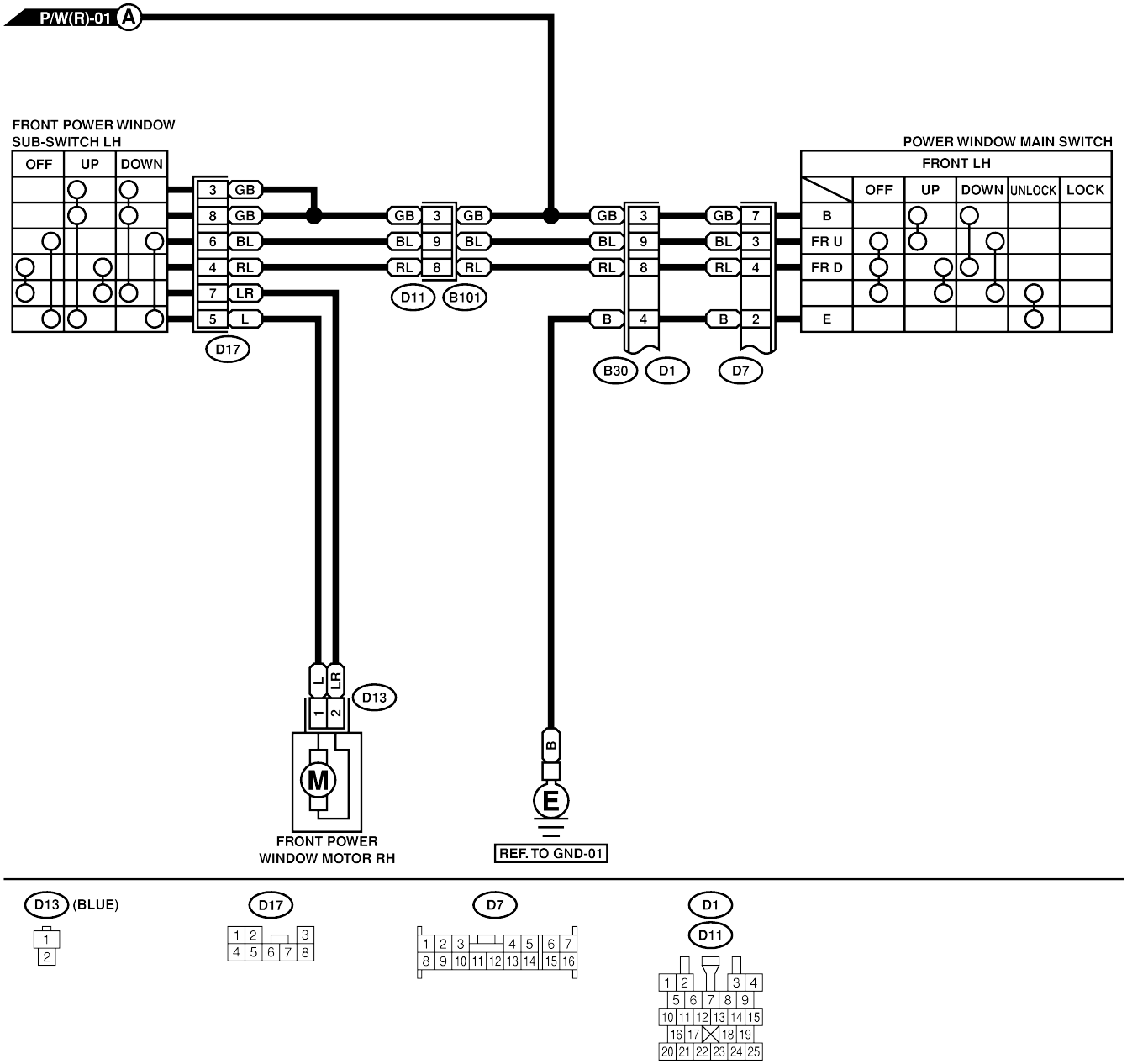




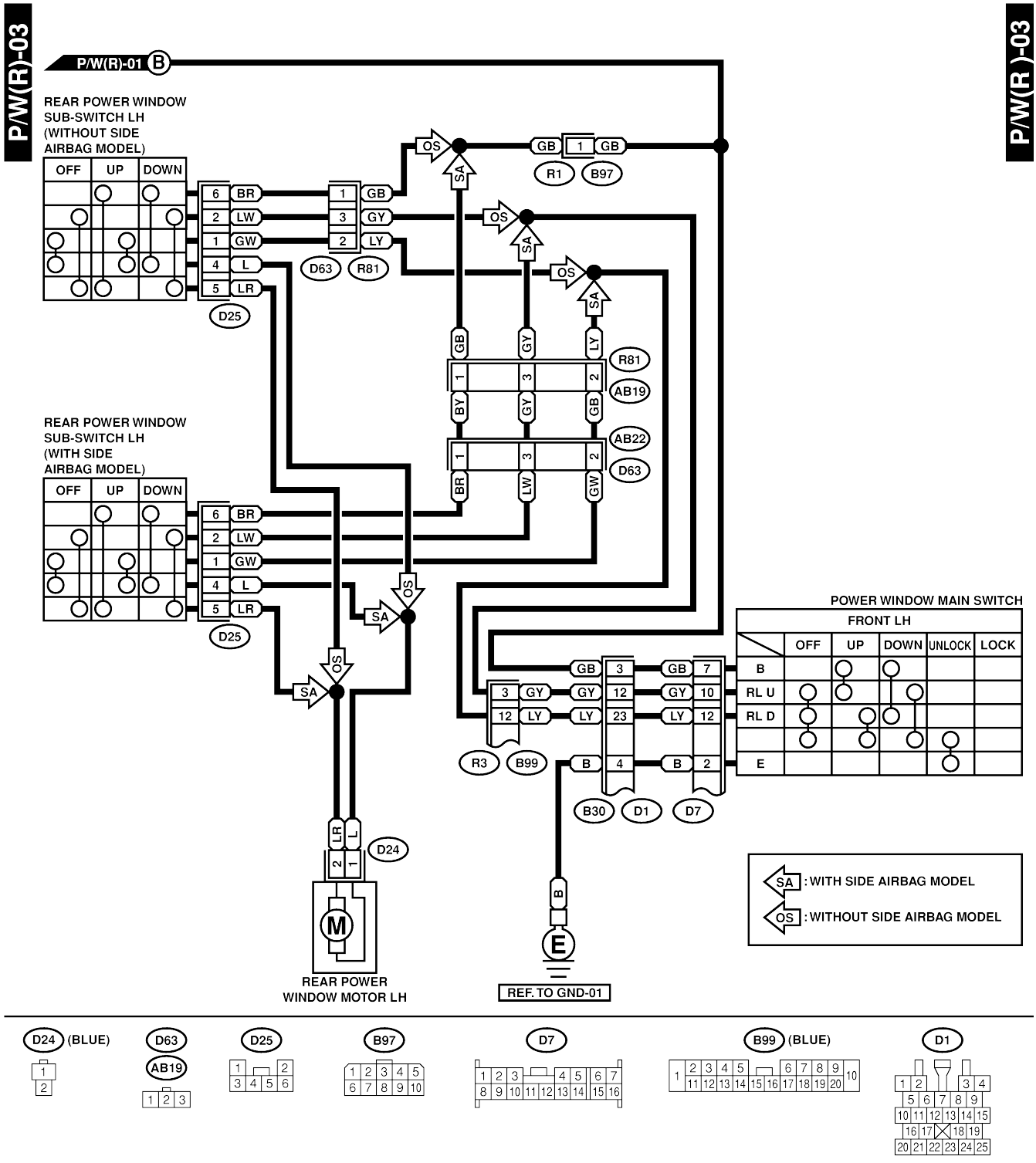
SR70-20A

P/W(R)-02

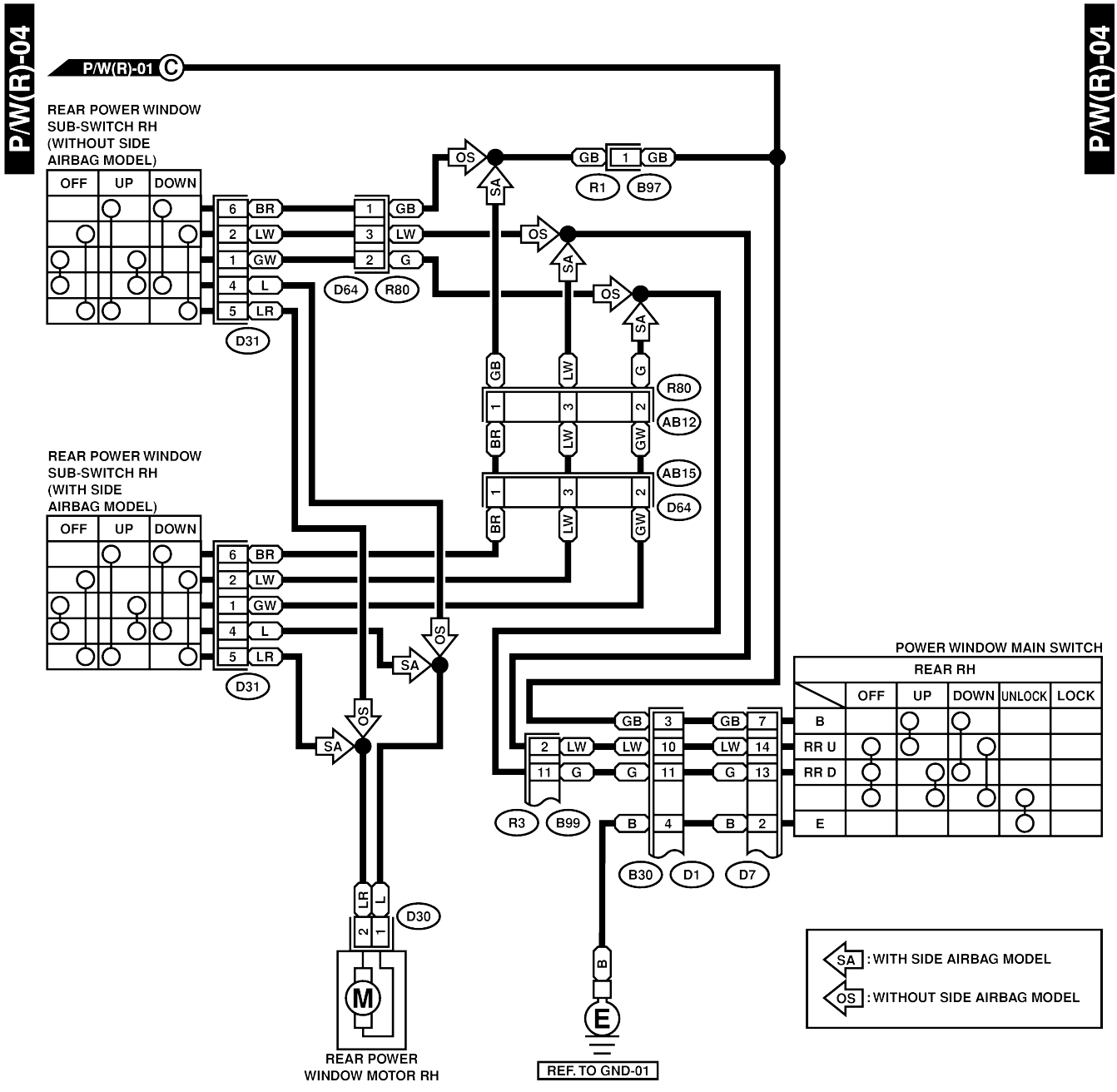
P/W(R)-02

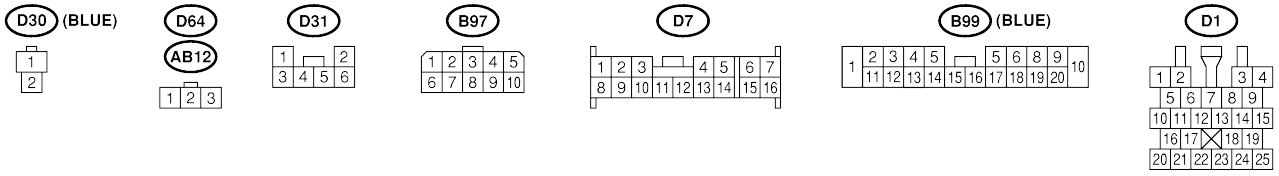


SR70-20B


P/W(R)-03
P/W(R)-01 B
REAR POWER WINDOW SUB-SWITCH LH (WITHOUT SIDE AIRBAG MODEL)
OFF UP DOWN
6 BR
2 LW
1 GW
4 L
5 LR
D25
1 GB
3 GY
2 LY
D63 R81
OS SA
GB 1 GB
R1 B97
R81
AB19
AB22
D63
REAR POWER WINDOW SUB-SWITCH LH (WITH SIDE AIRBAG MODEL)
POWER WINDOW MAIN SWITCH
FRONT LH
OFF UP DOWN UNLOCK LOCK
B
RL U
RL D
E
GB 3 GB 7
3 GY GY 12 GY 10
12 LY LY 23 LY 12
B 4 B 2
R3 B99
B30 D1 D7
LR L
2 1
D24
M
REAR POWER WINDOW MOTOR LH
B
E
REF. TO GND-01
SA : WITH SIDE AIRBAG MODEL
OS : WITHOUT SIDE AIRBAG MODEL
D24 (BLUE)
D63
AB19
D25
B97
D7
B99 (BLUE)
D1

SR70-20C


P/W(R)-04
P/W(R)-04
P/W(R)-01 C
REAR POWER WINDOW SUB-SWITCH RH (WITHOUT SIDE AIRBAG MODEL)
OFF UP DOWN
6 BR
2 LW
1 GW
4 L
5 LR
D31
OS
SA
GB 1 GB
R1 B97
1 GB
3 LW
2 G
D64 R80
R80
AB12
AB15
D64
REAR POWER WINDOW SUB-SWITCH RH (WITH SIDE AIRBAG MODEL)
POWER WINDOW MAIN SWITCH
REAR RH
OFF UP DOWN UNLOCK LOCK
B
RR U
RR D
E
GB 3 GB 7
2 LW LW 10 LW 14
11 G G 11 G 13
R3 B99
B 4 B 2
B30 D1 D7
LR L
2 1
D30
M
REAR POWER WINDOW MOTOR RH
B
E
REF. TO GND-01
SA : WITH SIDE AIRBAG MODEL
OS : WITHOUT SIDE AIRBAG MODEL


D30 (BLUE)
D64
AB12
D31
B97
D7
B99 (BLUE)
D1

SR70-20D

B: INSPECTION S905456A10

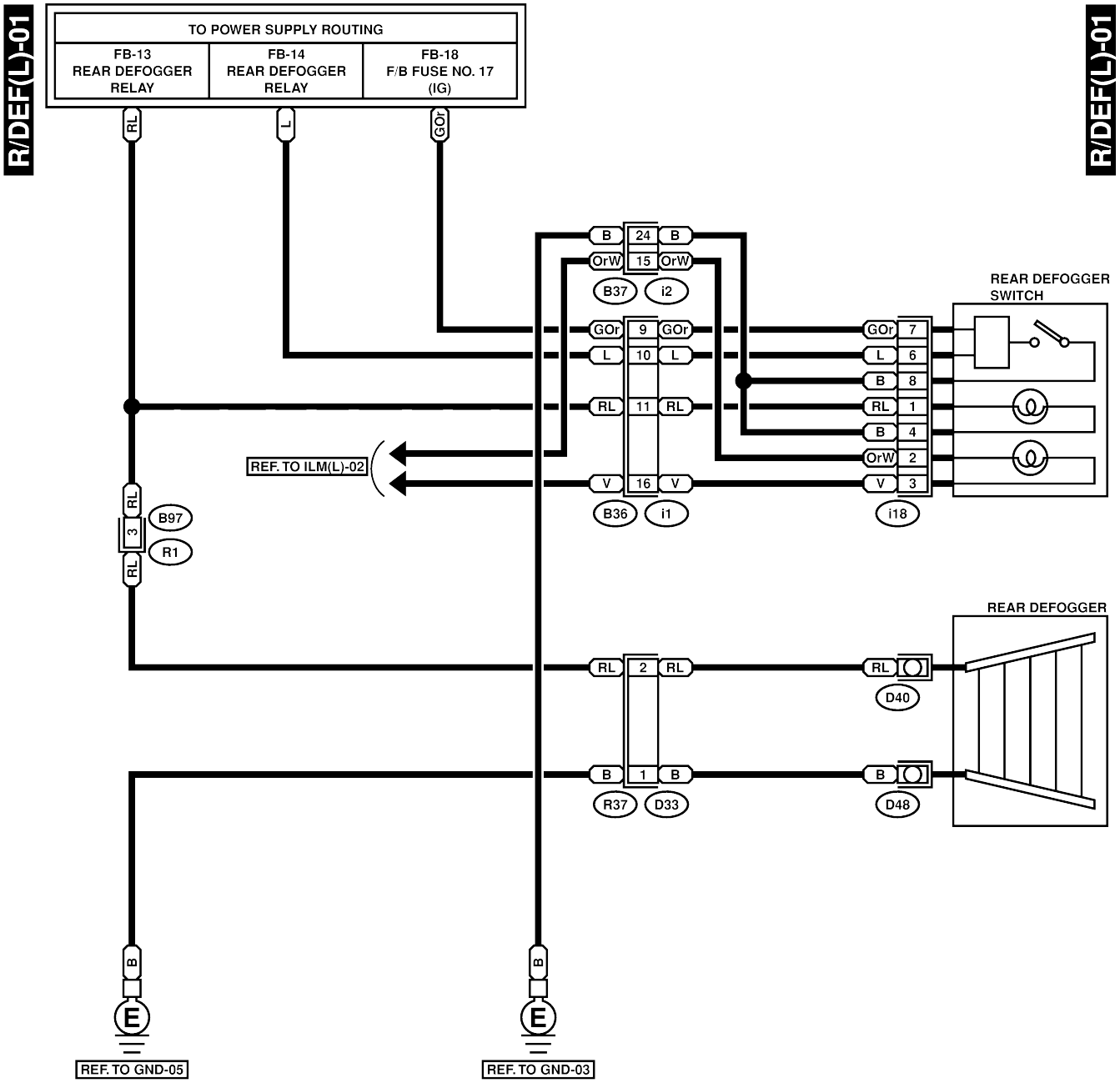
Symptom	Repair order
All power windows does not operate.	(1) Fuse (SBF-6) (F/B No. 18) (2) Power window circuit breaker (3) Power window relay (4) Wire harness
One window does not operate.	(1) Power window main switch (2) Power window sub switch (3) Power window motor (4) Wire harness
“Window Lock” does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

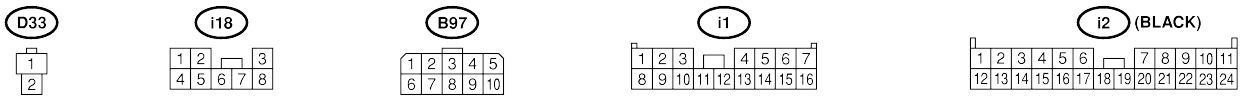
3. Rear Window Defogger System S905455

A: SCHEMATIC S905455A21

REAR WINDOW DEFOGGER SYSTEM

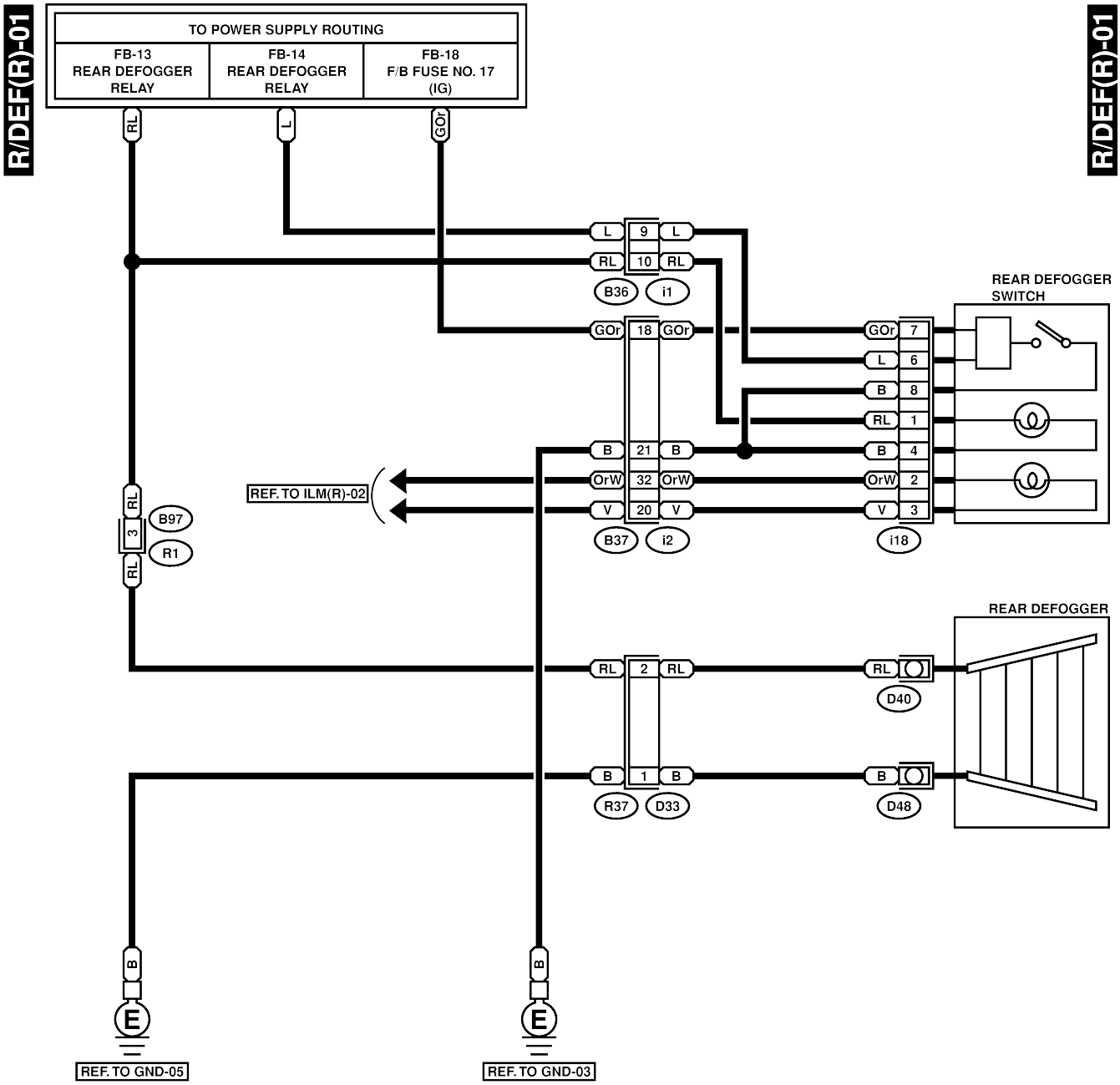
1. REAR WINDOW DEFOGGER LHD MODEL S905455A2102

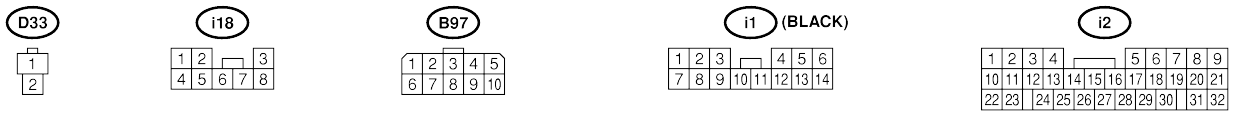




SL52-20

2. REAR WINDOW DEFOGGER RHD MODEL S905455A2103





SR52-20

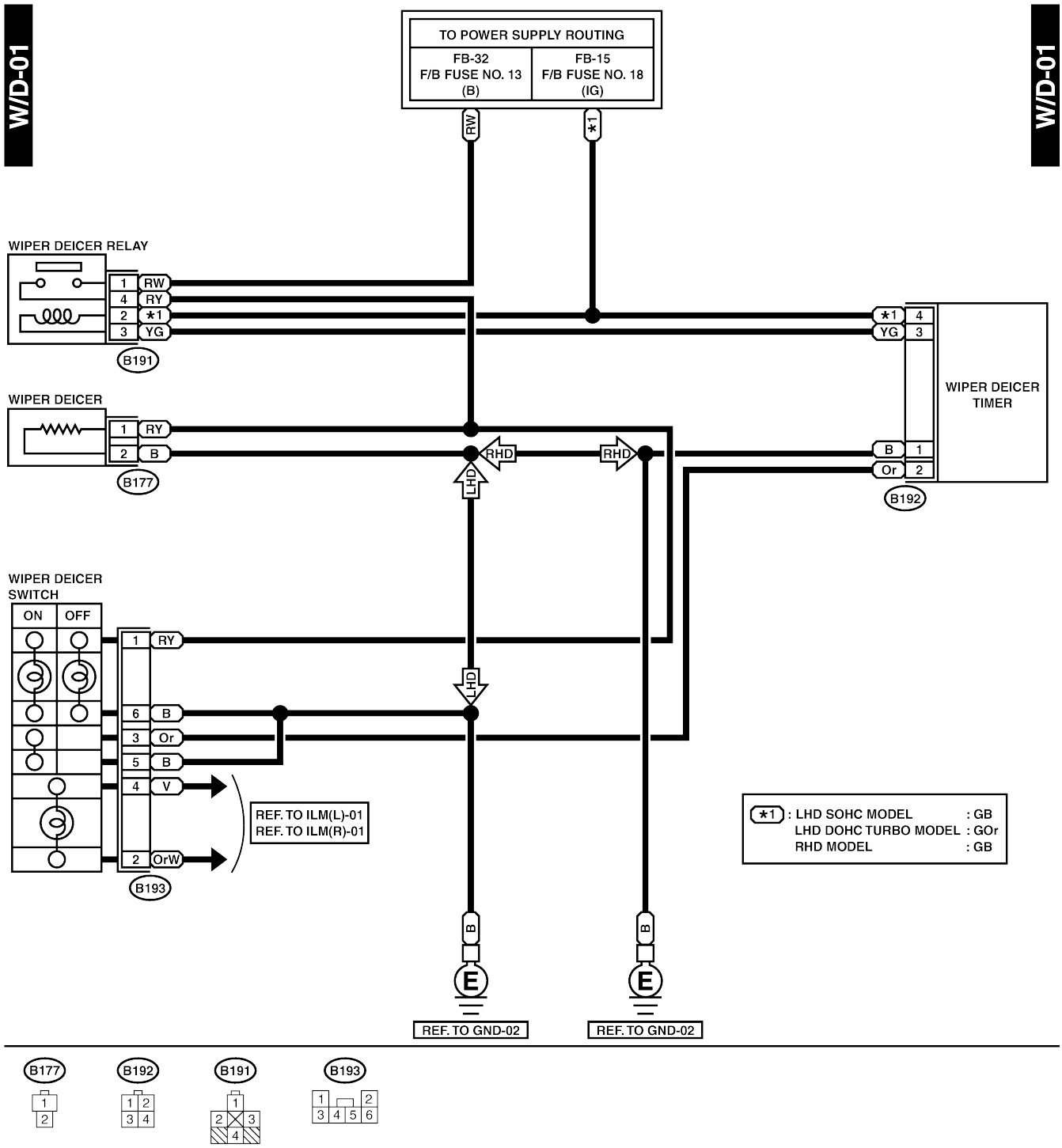
B: INSPECTION S905455A10

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

4. Windshield Wiper Deicer System S905457

A: SCHEMATIC S905457A21

1. WINDSHIELD WIPER DEICER S905457A2101



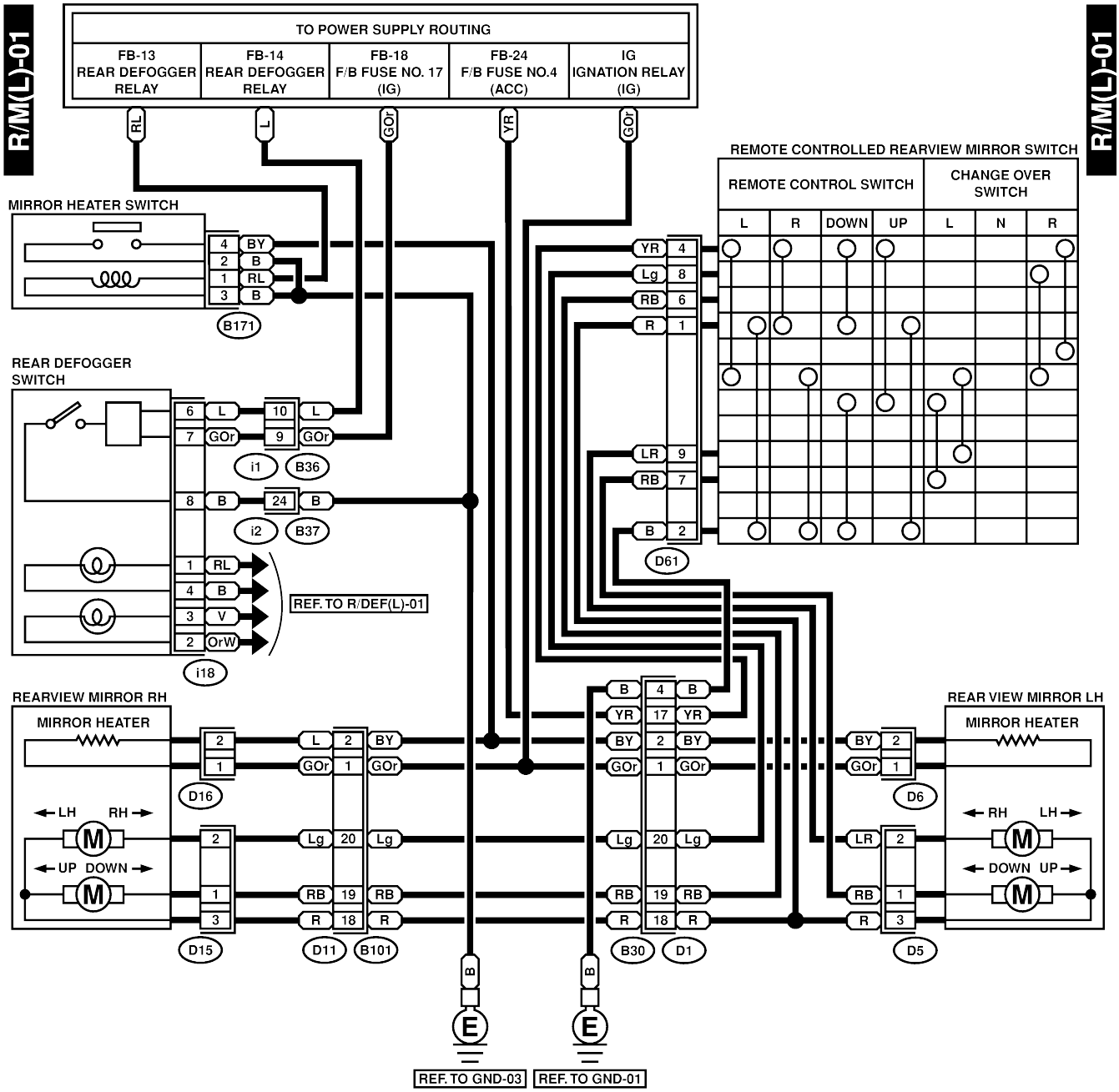
B: INSPECTION S905457A10

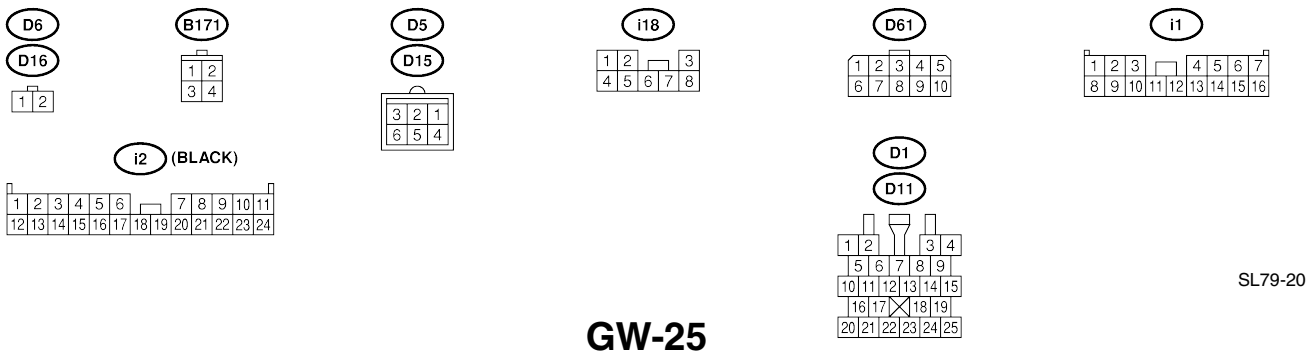
Symptom	Repair order
Wiper deicer does not operate.	(1) Fuse (F/B No. 18, 19) (2) Wiper deicer relay (3) Wiper deicer switch (4) Wire harness

5. Remote Control Mirror System S905458

A: SCHEMATIC S905458A21

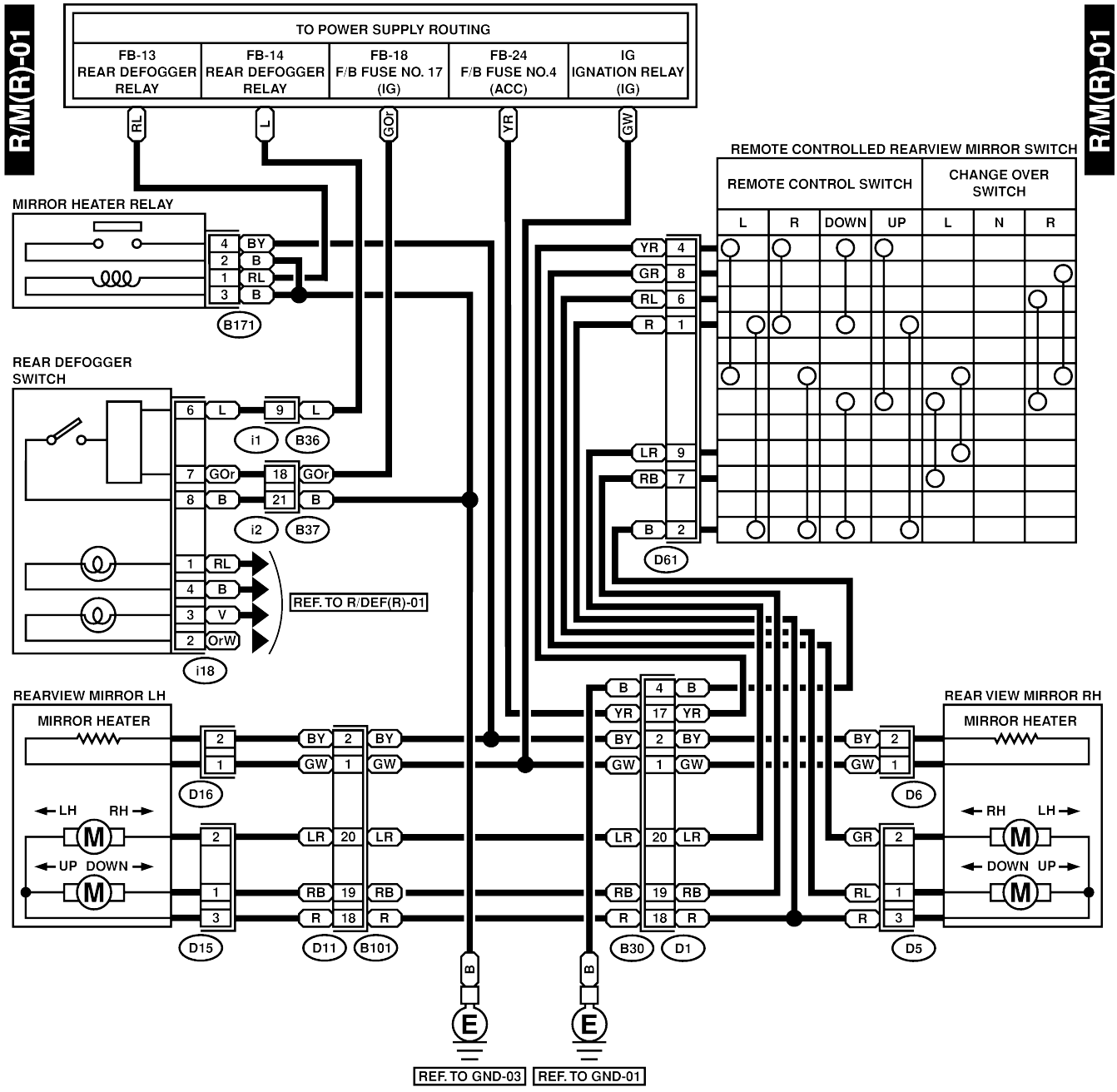
1. REMOTE CONTROL MIRROR LHD MODEL S905458A2102

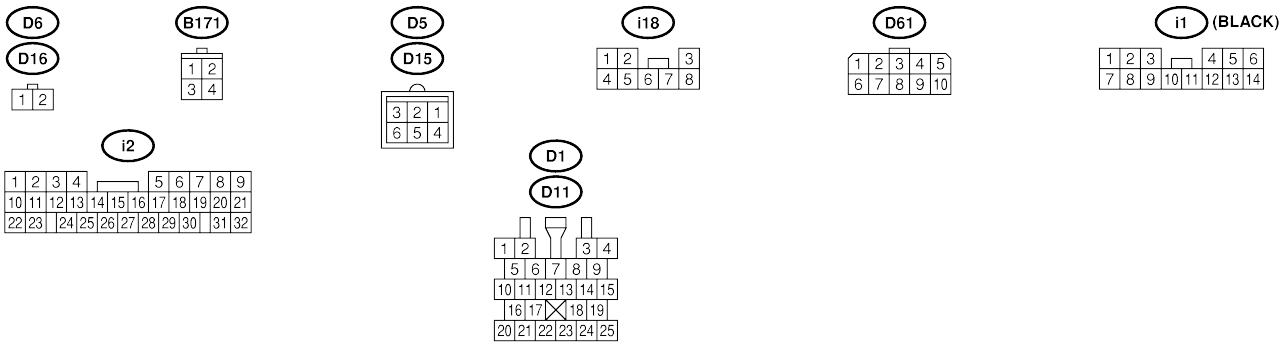




SL79-20

2. REMOTE CONTROL MIRROR RHD MODEL S905458A2103





SR79-20

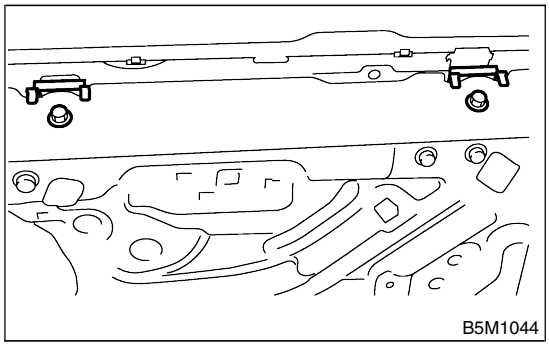
B: INSPECTION S905458A10

Symptom	Repair order
All function does not operate.	(1) Fuse (F/B No. 4) (2) Mirror switch (3) Wire harness
One side of the mirror motor does not operate.	(1) Mirror switch (2) Mirror motor (3) Wire harness
Mirror heater does not operate.	(1) Mirror switch (2) Mirror heater (3) Wire harness

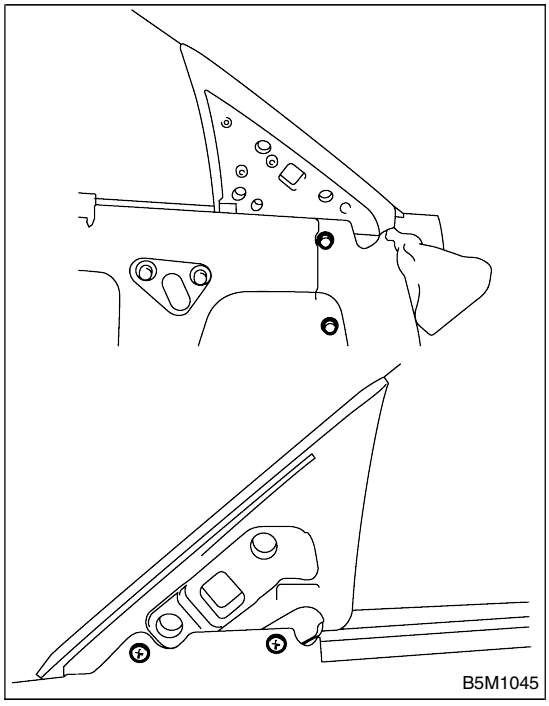
6. Front Door Glass S905452

A: REMOVAL S905452A18

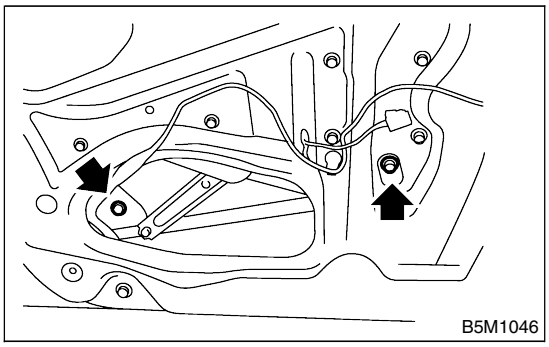
1) Remove door trim. <Ref. to EI-26, REMOVAL, Front Door Trim.>
2) Remove sealing cover. <Ref. to EB-13, REMOVAL, Front Sealing Cover.>
3) Remove inner remote. <Ref. to SL-27, REMOVAL, Front Inner Remote.>
4) Remove inner stabilizer.


B5M1044

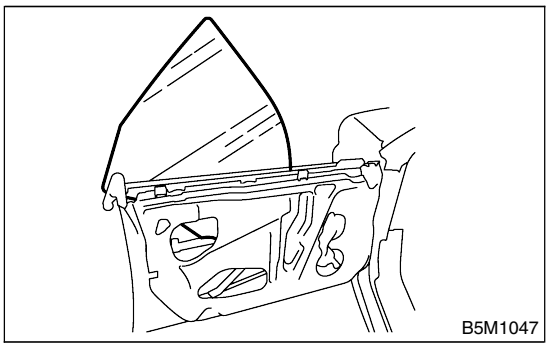
5) Remove outer mirror. <Ref. to GW-49, REMOVAL, Outer Mirror Assembly.>
6) Remove gusset.


B5M1045

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


B5M1046

8) Take out glass door panel upward.


B5M1047

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

B: INSTALLATION S905452A11

1) Install in the reverse order of removal.

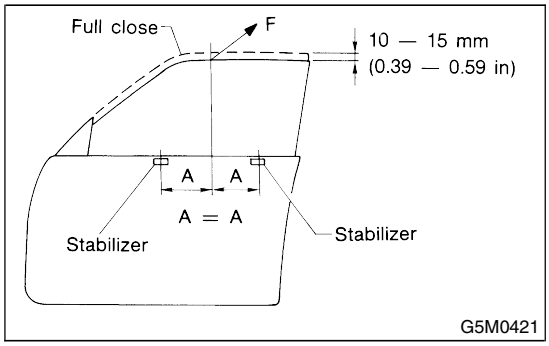
CAUTION:
Make sure that glass stay is placed securely in sash.

2) Adjust front door glass. <Ref. to GW-29, ADJUSTMENT, Front Door Glass.>

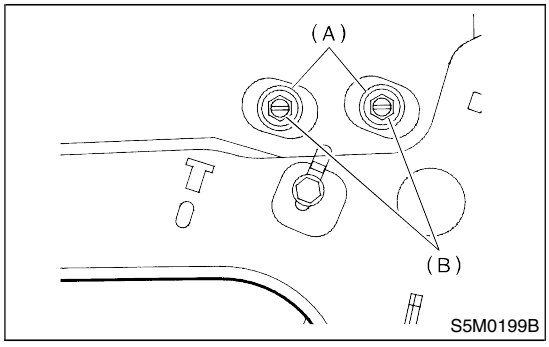
C: ADJUSTMENT S905452A01

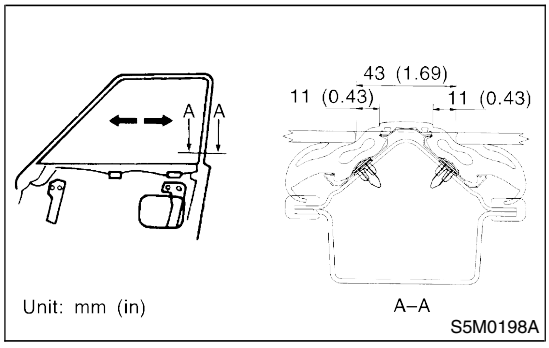
NOTE:
Before adjustment, ensure that all adjusting bolts of stabilizer, upper stopper, and sash are loose and door glass is raised so that it is in contact with weatherstrip.

1) Temporarily tighten one adjusting bolt on one side of rear sash at the midpoint of slotted hole in the inner panel.
2) Temporarily tighten regulator B-channel in a position slightly lower than midpoint of slotted hole.
3) Lower door glass 10 to 15 mm (0.39 to 0.59 in) from fully closed position. While applying outward pressure of 45.0±4.9 N (4.59±0.50 kgf, 10.12±1.10 lb) (F) to upper edge of glass above midpoint of two outer stabilizers, press inner stabilizer until it just touches the glass, then secure it.

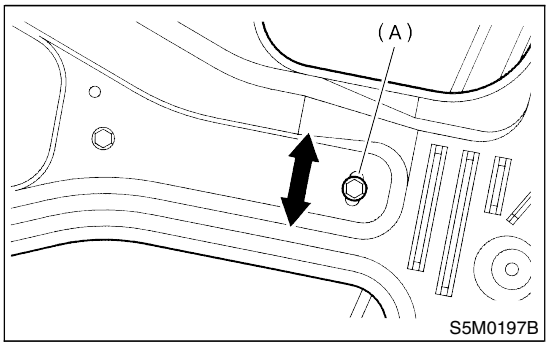


4) For adjustment of clearance between front and rear glasses, loosen nuts (A), and move glass sash back and forward until clearance becomes the value shown.

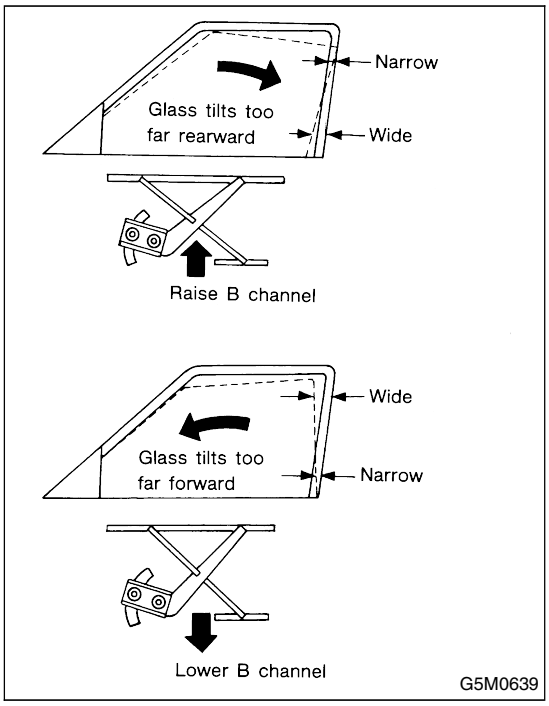




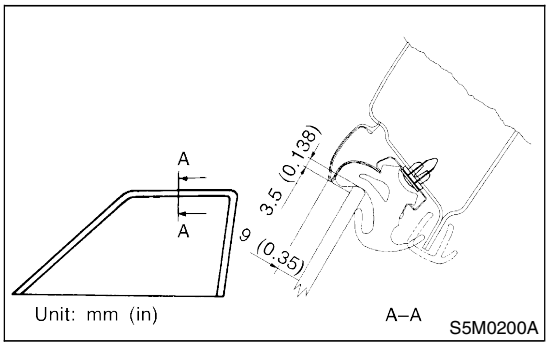
5) For adjustment of upper and lower ends of center pillar, loosen adjusting nut (A).



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



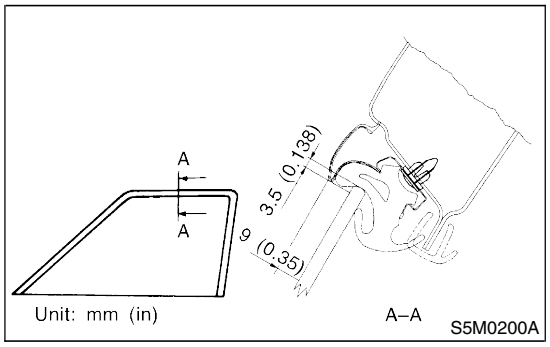
7) For glass stroke adjustment, close door, raise glass until positional relationship between glass and weatherstrip becomes as shown. And secure the glass so that upper stopper lightly touches the glass holder.



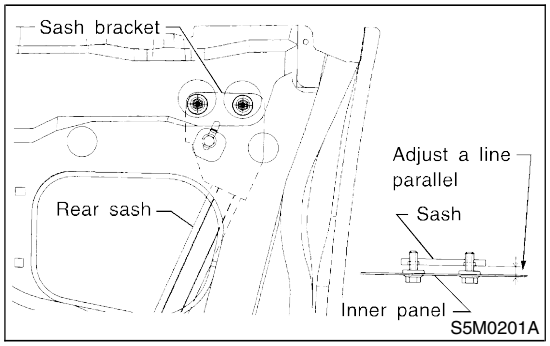
8) After stabilizer adjustment, carry out glass crimp adjustment. First, visually ensure positional relationship between retainer & molding and glass of the roof side, and then begin with rear sash adjustment. Adjust two adjusting bolts alternately step by step to obtain dimensions shown below (cross-section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

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

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



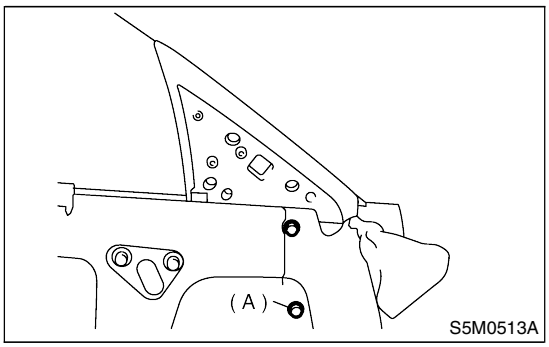
CAUTION:
Do not tilt sash bracket to inner panel during adjustment. Otherwise smooth regulator operation cannot be achieved.



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

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

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

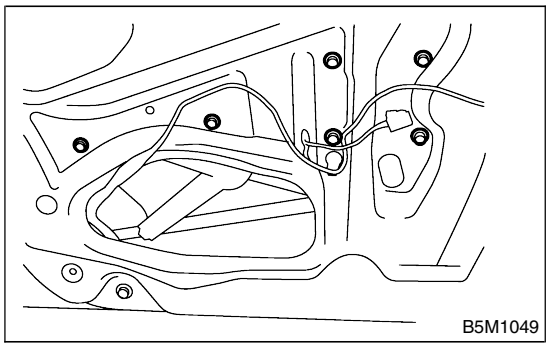


14) After adjustment, tighten bolts and nuts.

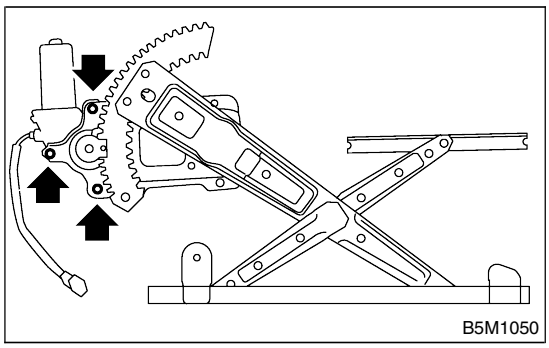
7. Front Regulator and Motor Assembly S905449

A: REMOVAL S905449A18

1) Remove door trim. <Ref. to EI-26, REMOVAL, Front Door Trim.>
2) Remove sealing cover. <Ref. to EB-13, REMOVAL, Front Sealing Cover.>
3) Remove inner remote. <Ref. to SL-27, REMOVAL, Front Inner Remote.>
4) Remove door glass. <Ref. to GW-28, REMOVAL, Front Door Glass.>
5) Disconnect electrical connector.
6) Loosen four bolts and two nuts to pull out regulator assembly.


B5M1049

7) Loosen screws to remove motor assembly.


B5M1050

B: INSTALLATION S905449A11

1) Install in the reverse order of removal.
2) Adjust front door glass. <Ref. to GW-29, ADJUSTMENT, Front Door Glass.>

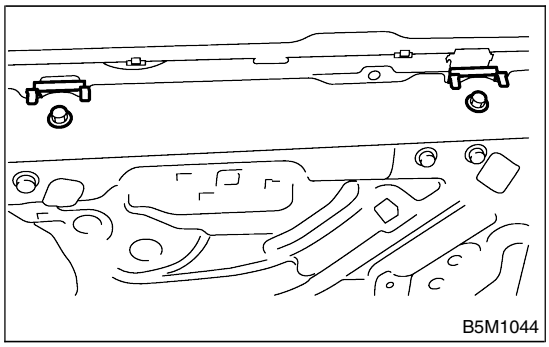
C: INSPECTION S905449A10

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

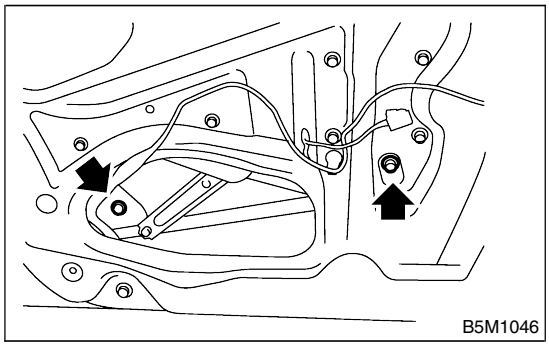
8. Rear Door Glass S905450

A: REMOVAL S905450A18

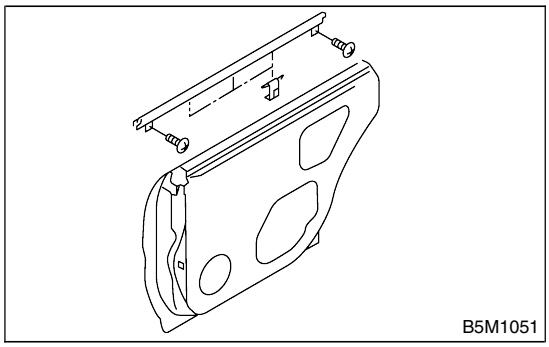
1) Remove door trim. <Ref. to EI-27, REMOVAL, Rear Door Trim.>
2) Remove sealing cover. <Ref. to EB-16, REMOVAL, Rear Sealing Cover.>
3) Remove stabilizer.


B5M1044

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


B5M1046

5) Loosen two screws to remove weatherstrip.


B5M1051

6) Pull out glass.

CAUTION:
Avoid impact and damage to the glass.

B: INSTALLATION S905450A11

1) Install in the reverse order of removal.

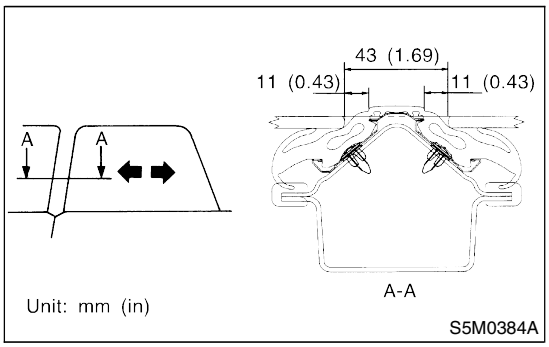
CAUTION:
Make sure that glass stay is placed securely in sash.

2) Adjust rear door glass. <Ref. to GW-32, ADJUSTMENT, Rear Door Glass.>

C: ADJUSTMENT S905450A01

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

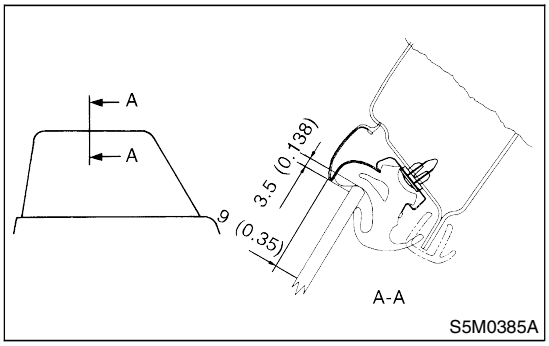
1) Adjust glass position using the following dimensions as a guide line.



S5M0384A

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

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



S5M0385A

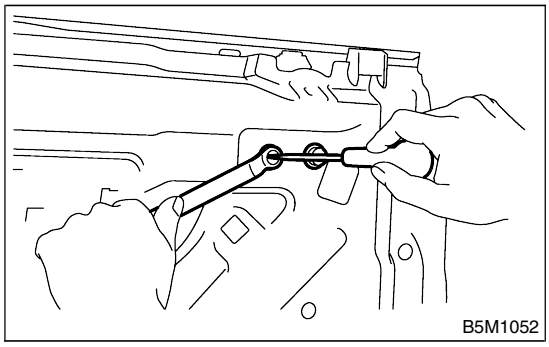
CAUTION:
• If crimp of rear glass is higher than necessary, glass may get caught in weatherstrip of center pillar corner, resulting in early

wear of weatherstrip. Be careful when adjusting.
• After adjustment, move glass up and down to check whether it is caught.

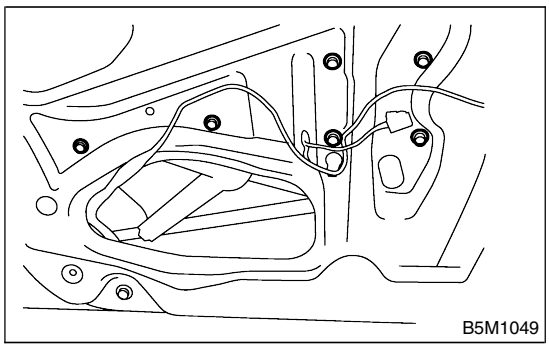
9. Rear Regulator and Motor Assembly S905451

A: REMOVAL S905451A18

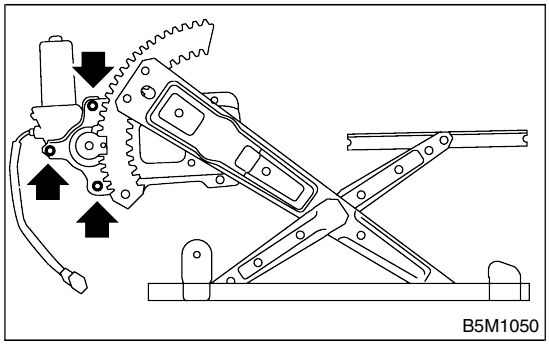
1) Remove door trim. <Ref. to EI-27, REMOVAL, Rear Door Trim.>
2) Remove sealing cover. <Ref. to EB-16, REMOVAL, Rear Sealing Cover.>
3) Remove door glass. <Ref. to GW-32, REMOVAL, Rear Door Glass.>
4) Secure bolts using screwdriver to remove front sash adjusting nut.


B5M1052

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


B5M1049

8) Loosen screws to remove motor assembly.


B5M1050

B: INSTALLATION S905451A11

1) Install in the reverse order of removal.
2) Adjust rear door glass. <Ref. to GW-32, ADJUSTMENT, Rear Door Glass.>

C: INSPECTION S905451A10

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

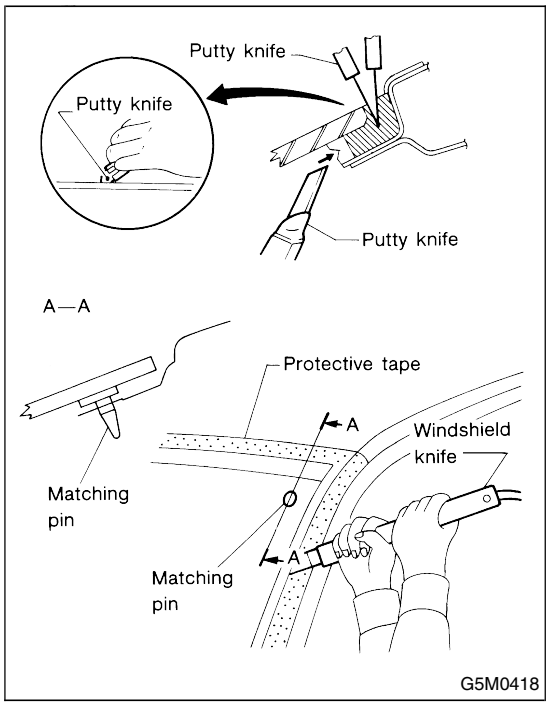
10. Windshield Glass S905448

A: REMOVAL S905448A18

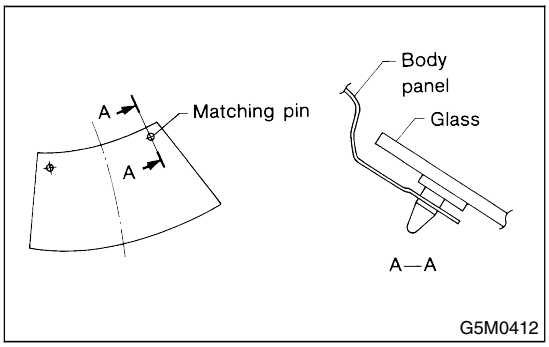
1. USING WINDSHIELD KNIFE S905448A1801

1) Remove cowl panel. <Ref. to EI-25, REMOVAL, Cowl Panel.>
2) Remove front side molding and upper front molding.
3) Tape body side of the circumference of windshield glass for protection.
4) Apply sufficient amount of soapy water to adhesive layer.
5) Insert windshield knife into the adhesive layer.
6) While holding the knife edge and windshield glass edge at a right angle, move windshield knife in parallel to windshield glass edge along face and edge of windshield glass to cut the adhesive layer.

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

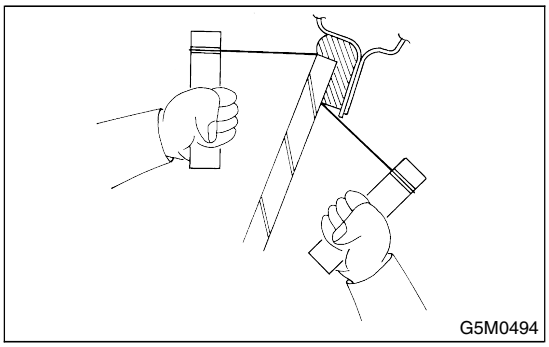


NOTE:
Because matching pins are bonded to the corners of glass, use piano wire to cut the pin.



2. USING PIANO WIRE S905448A1802

1) Remove cowl panel. <Ref. to EI-25, REMOVAL, Cowl Panel.>
2) Remove roof molding and upper front molding.
3) Tape the body side of the circumference of windshield glass for protection.
4) Make a hole in adhesive layer using drill or knife.
5) Pass piano wire through the hole, and attach securely both the wire ends to pieces of wood.



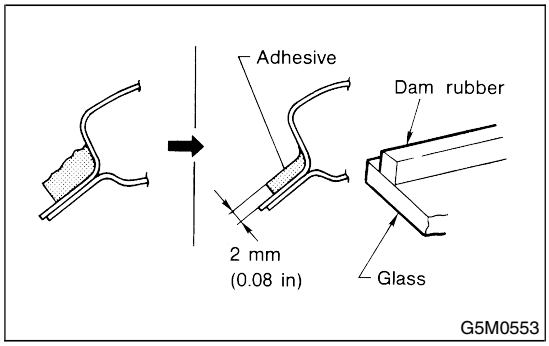
6) Pull the wire ends alternately to cut off the adhesive layer.

CAUTION:
- **Do not tightly pull the piano wire against the windshield glass edge.**
- **Be careful not to damage interior and exterior parts.**
- **When removal is made with area close to instrument panel, place a protection plate over it. Pay particular attention to the removal.**
- **Do not cross piano wires. Otherwise they may be cut.**

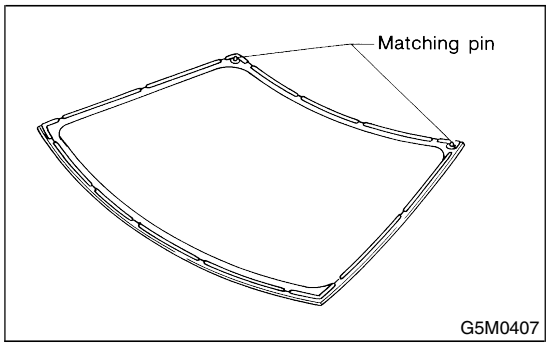
B: INSTALLATION S905448A11

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

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

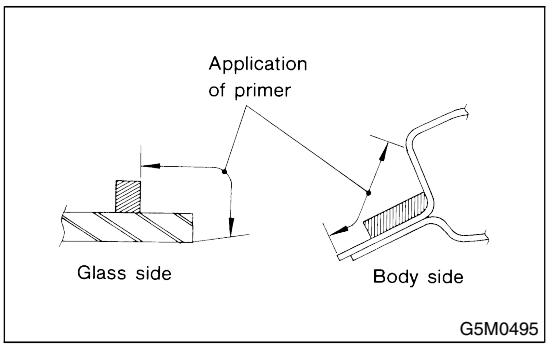


3) Clean body with alcohol or white gasoline to remove thoroughly chips, dusts, and dirts from body face.
4) Place glass on body.
5) Adjust glass position to make uniform clearance between body and glass in four corners.
6) Place matching pins and body on glass.

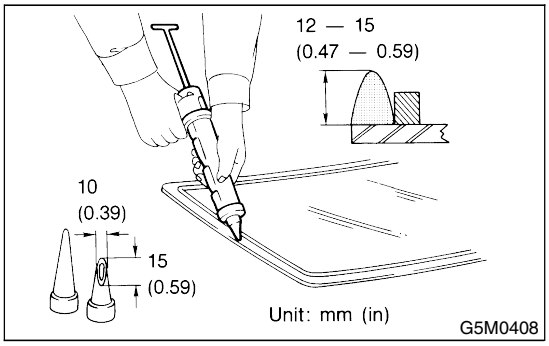


7) Remove glass from body.
8) Apply primer to adhesive layer of glass using sponge.
9) Apply primer to adhesive layer of body.

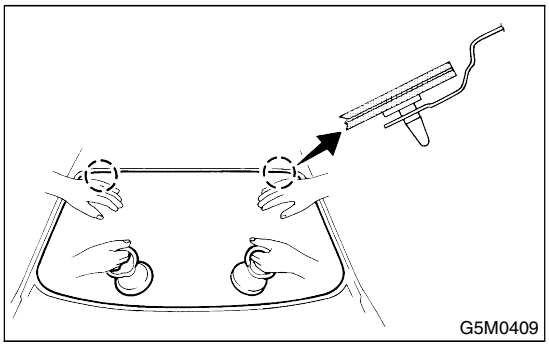
CAUTION:
- **Primer once attached to the painted surface of the body and internal trim is hard to wipe off. Mask the circumference of such areas.**
- **Let primer dry for about ten minutes before installing the glass.**
- **Do not touch surface coated with primer.**



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

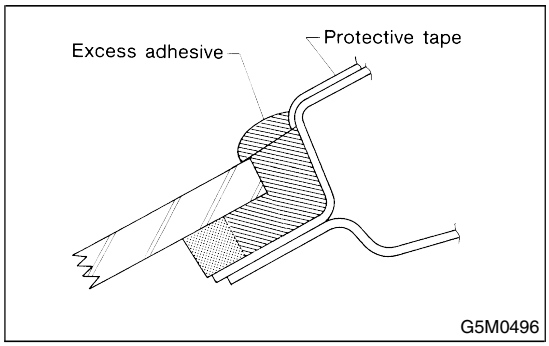


11) Apply adhesive to glass end surface as shown.
12) Fit matching pins using suction rubber cup to install windshield glass.

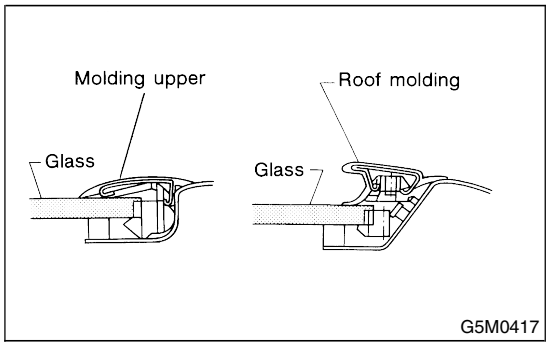


13) Lightly press windshield glass for tight fit.

14) Remove adhesive overflowing from outside of glass until it becomes level with outer height of glass. Then, add adhesive to portions that need it, and clean with alcohol or white gasoline.



15) First, press-fit upper front window molding and last, roof molding.



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

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

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

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

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

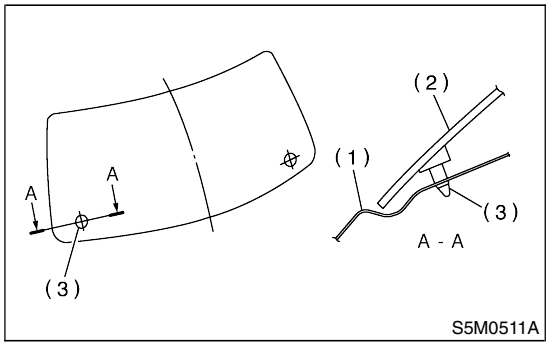
18) Install cowl panel. <Ref. to EI-25, INSTALLATION, Cowl Panel.>

11. Rear Gate Glass S905376

A: REMOVAL S905376A18

1) Remove real wiper motor. <Ref. to WW-20, REMOVAL, Rear Wiper Motor.>
2) Remove electrical connector from rear defogger terminal.
3) Remove glass in the same procedure as for windshield glass. <Ref. to GW-35, REMOVAL, Windshield Glass.>

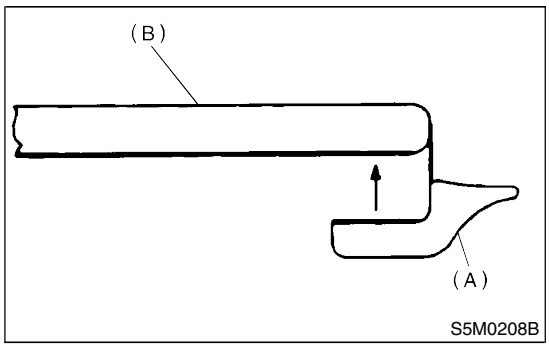
NOTE:
A matching pin is cemented to corners of the glass on the compartment side. Use a piano wire when cutting each pin.



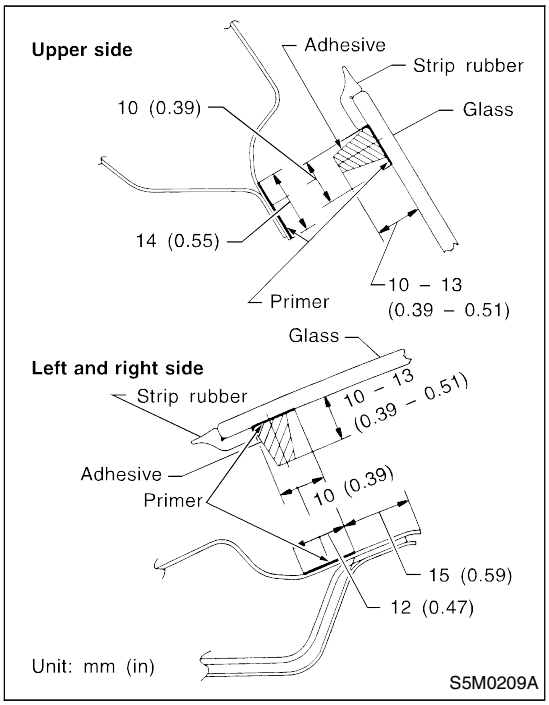
(1) Body panel
(2) Glass
(3) Matching pin

B: INSTALLATION S905376A11

1) Install a new rubber strip (A) by aligning it with the end of the rear gate glass (B).



2) Install glass in the same procedure as for windshield glass. <Ref. to GW-36, INSTALLATION, Windshield Glass.>



3) About one hour after installation, conduct a leak test.

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

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

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

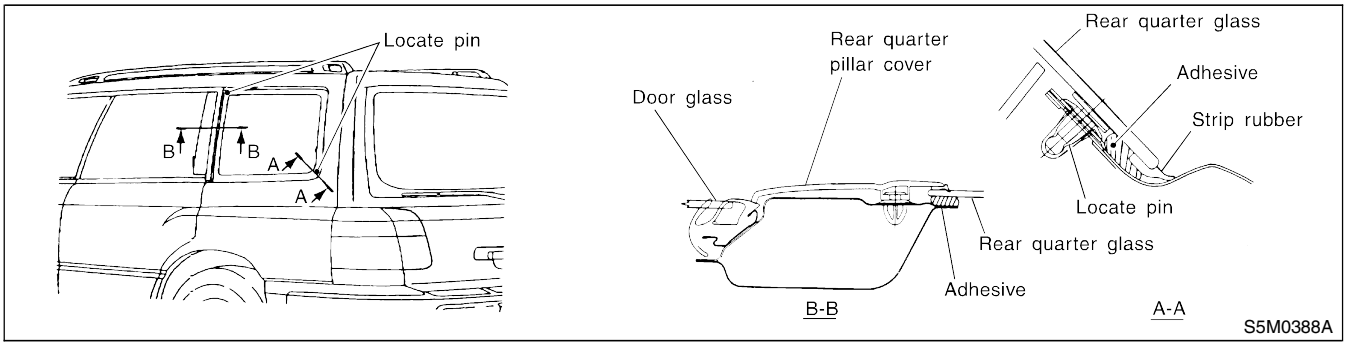
CAUTION:
When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

5) Connect rear defogger terminals.
6) Install rear wiper. <Ref. to WW-20, INSTALLATION, Rear Wiper Motor.>

12. Rear Quarter Glass S905453

A: REMOVAL S905453A18

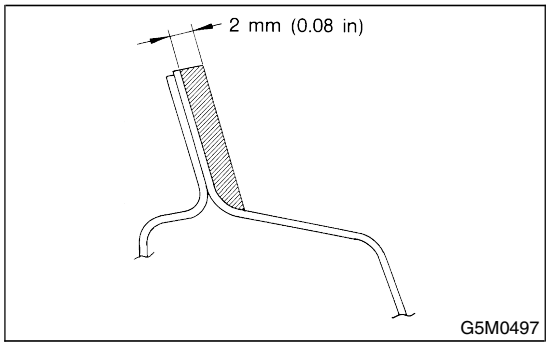
1) Remove rear quarter molding on corner.
2) Remove glass in the same procedure as for windshield glass. <Ref. to GW-35, REMOVAL, Windshield.>



B: INSTALLATION S905453A11

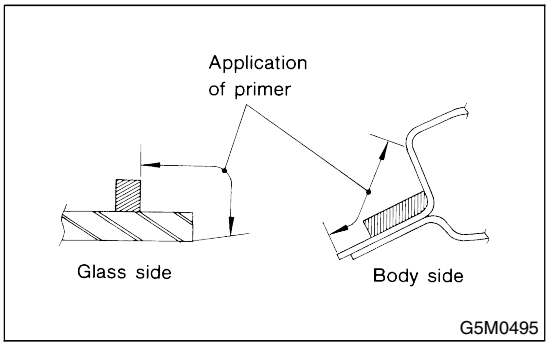
1) Using a putty knife, etc., cut layer of adhesive stick firmly to body and finish it into a smooth surface of about 2 mm (0.08 in) in thickness.

CAUTION:
Be careful not to damage body finish.

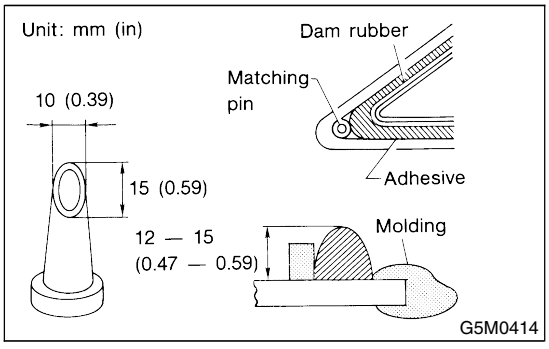


2) Remove chips, dirt and dust from body surface.
3) Clean body wall surface and upper surface of adhesive layer with a solvent such as alcohol or white gasoline.
4) Remove dirt and dust from surface of glass to be adhered.
5) Clean surface of glass to be adhered with alcohol or white gasoline.
6) Using a sponge, apply primer to surface of glass to be adhered.
7) Apply primer to surface of body to be adhered.

CAUTION:
• If primer has dropped on body finish, it is hard to wipe it off. So protect with masking.
• Primer must not project from black frame of glass.
• After applying primer, let it dry naturally for about 10 minutes.

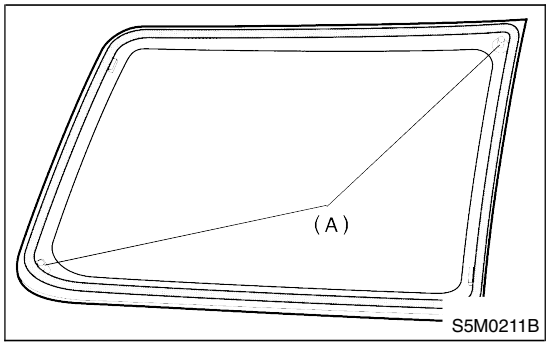


8) Cut nozzle tip as shown in the figure.



9) Open cartridge and put it into a gun with nozzle attached.
10) Apply adhesive uniformly to all sides of adhesion surface while operating gun along glass end face.
11) Hold glass with rubber suction cups.

12) Mount glass on body with matching pins (A) aligned.



13) Attach quickly and press all sides lightly.

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

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

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

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

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

13. Roof Window Glass S905339

A: REMOVAL S905339A18

<Ref. to SR-7, REMOVAL, Sunroof Lid.>

B: INSTALLATION S905339A11

<Ref. to SR-7, INSTALLATION, Sunroof Lid.>

C: ADJUSTMENT S905339A01

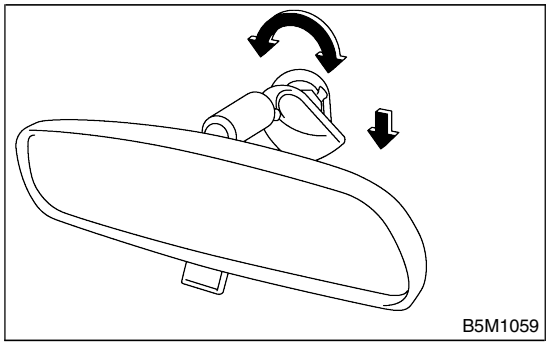
<Ref. to SR-7, ADJUSTMENT, Sunroof Lid.>

14. Inner Rearview Mirror S905340

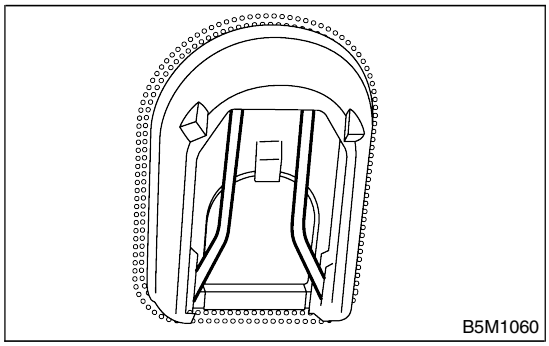
A: REMOVAL S905340A18

NOTE:
The spring cannot be reused. Prepare a new spring before removal.

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



2) Remove spring from mirror base.



CAUTION:
Be careful not to damage the mirror surface.

B: INSTALLATION S905340A11

Install in the reverse order of removal.

C: INSPECTION S905340A10

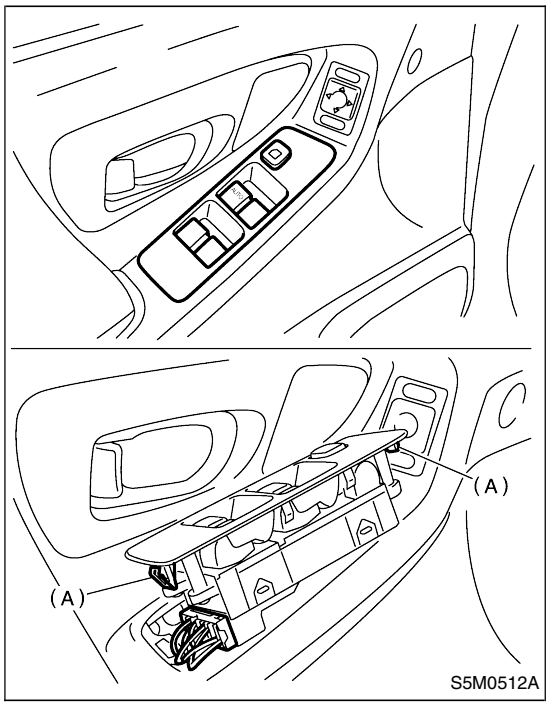
Do not let mirror be damaged.

15. Power Window Control Switch S905621

A: REMOVAL S903621A18

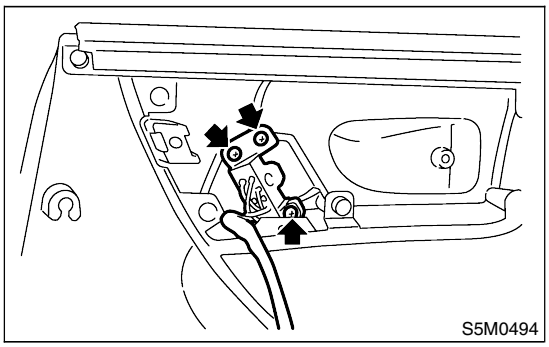
1. MAIN SWITCH S903621A1801

1) Release two hooks (A) of switch panel to remove power window main switch.
2) Disconnect electrical connector from power window main switch.



2. SUB-SWITCH S903621A1802

1) Remove door trim. <Ref. to EI-27, REMOVAL, Rear Door Trim.>
2) Remove screws and sub-switch.



B: INSTALLATION S903621A11

1. MAIN SWITCH S903621A1101

Install in the reverse order of removal.

2. SUB-SWITCH S903621A1102

Install in the reverse order of removal.

C: INSPECTION S903621A10

1. MAIN SWITCH (LHD MODEL) S903621A1003

Check continuity between connector terminals.
Driver's switch:

Switch position	Tester connection	Specified condition
AUTO UP	12 — 1, 2 — 7	Continuity
UP	12 — 1, 2 — 7	Continuity
OFF	1 — 2 — 7	Continuity
DOWN	12 — 2, 1 —7	Continuity
AUTO DOWN	12 — 2, 1 —7	Continuity

Front passenger's switch:

Switch position	Tester connection	Specified condition
UP	12 — 5, 6 — 7	Continuity
OFF	5 — 6 — 7	Continuity
DOWN	12 — 6, 5 — 7	Continuity

Rear left switch:

Switch position	Tester connection	Specified condition
UP	12 — 9, 10 — 7	Continuity
OFF	9 — 10 — 7	Continuity
DOWN	12 — 10, 9 — 7	Continuity

Rear right switch:

Switch position	Tester connection	Specified condition
UP	12 — 14, 13 — 7	Continuity
OFF	14 — 13 — 7	Continuity
DOWN	12 — 13, 14 — 7	Continuity

If NG, replace the main switch.

2. MAIN SWITCH (RHD MODEL) S903621A1004

Check continuity between connector terminals.
Driver's switch:

Switch position	Tester connection	Specified condition
AUTO UP	7 — 16, 15 — 2	Continuity
UP	7 — 16, 15 — 2	Continuity
OFF	16 — 15 — 2	Continuity
DOWN	7 — 15, 16 —2	Continuity
AUTO DOWN	7 — 15, 16 —2	Continuity

Front passenger's switch:

Switch position	Tester connection	Specified condition
UP	7 — 3, 4 — 2	Continuity
OFF	3 — 4 — 2	Continuity
DOWN	7 — 4, 3 — 2	Continuity

Rear left switch:

Switch position	Tester connection	Specified condition
UP	7 — 10, 12 — 2	Continuity
OFF	10 — 12 — 2	Continuity
DOWN	7 — 12, 10 — 2	Continuity

Rear right switch:

Switch position	Tester connection	Specified condition
UP	7 — 14, 13 — 12	Continuity
OFF	14 — 13 — 2	Continuity
DOWN	7 — 13, 14 — 2	Continuity

If NG, replace the main switch.

3. SUB-SWITCH (FRONT) S903621A1005

Check continuity between connector terminals.
Front passenger's door switch:

Switch position	Tester connection	Specified condition
UP	8 — 3 — 5, 4 — 7	Continuity
OFF	4 — 7, 6 — 5	Continuity
DOWN	8 — 3 — 7, 6 — 5	Continuity

If NG, replace the sub-switch.

4. SUB-SWITCH (REAR) S903621A1006

Check continuity between connector terminals.
Rear door switch:

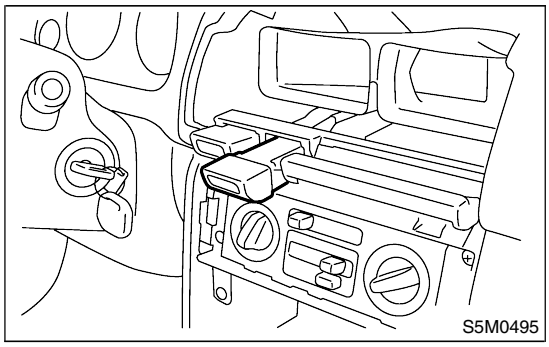
Switch position	Tester connection	Specified condition
UP	6 — 5, 1 — 4	Continuity
OFF	1 — 4, 2 — 5	Continuity
DOWN	6 — 4, 2 — 5	Continuity

If NG, replace the sub-switch.

16. Rear Window Defogger Switch S905559

A: REMOVAL S905559A18

1) Remove center air vent grille. <Ref. to AC-41, REMOVAL, Air Vent Grille.>
2) Pull out switch and disconnect the connector.



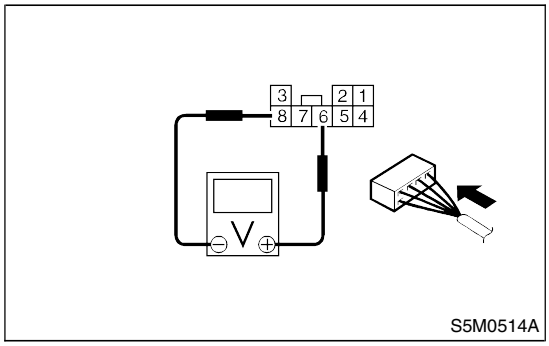
B: INSTALLATION S905559A11

Install in the reverse order of removal.

C: INSPECTION S905559A10

1) Turn ignition switch ON.
2) Check continuity between terminals on the wire harness side with connectors connected.

Connector & terminal
(i18) No. 6 (+) — No. 8 (–):



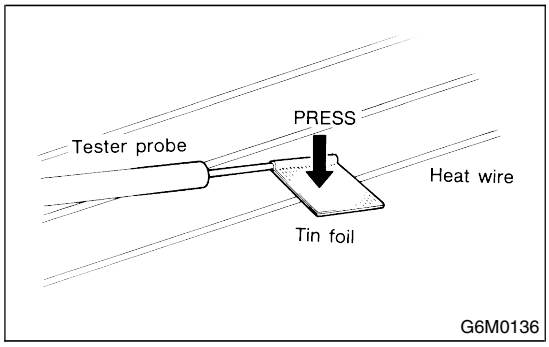
IGN SW	Switch position	Tester connection	Specified condition
ON	OFF	(i18)6 — (i18)8	10V — 14V
ON	ON	6 — 8	0V

17. Rear Window Defogger S905341

A: INSPECTION S905341A10

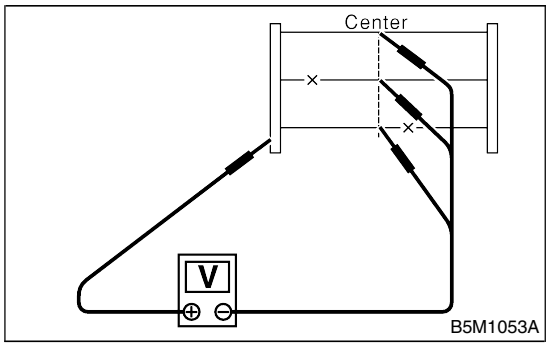
CAUTION:
When wiping stain on glass off with cloth, use a dry and soft cloth and move it in the direction of the heat wire extension to avoid damage to the heat wire.

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



4) Measure voltage at wire center with DC voltmeter.

Standard voltage:
Approx. 6 volts



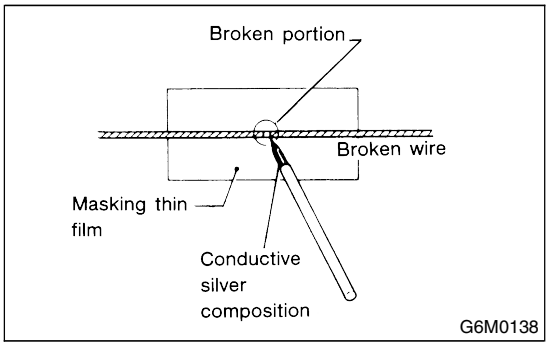
Voltage	Criteria
Approx. 6 V	OK
Approx. 12 V or 0 V	Broken

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

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

B: REPAIR S905341A11

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

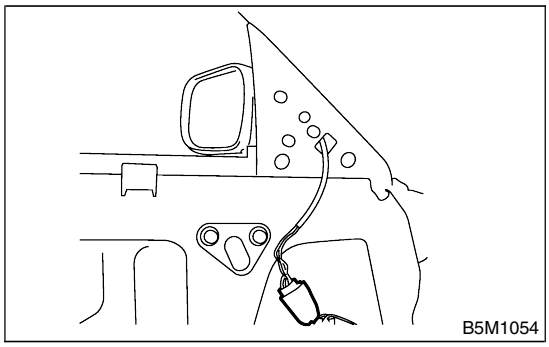


4) After repair, check wire.

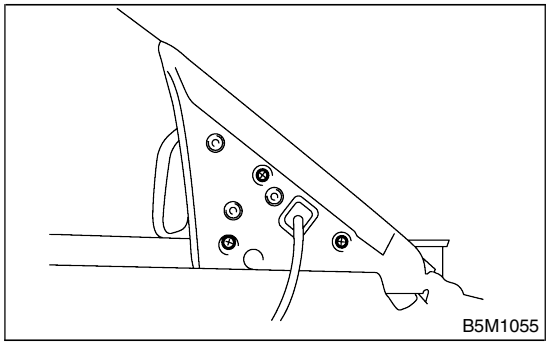
18. Outer Mirror Assembly S905338

A: REMOVAL S905338A18

1) Remove door trim. <Ref. to EI-26, REMOVAL, Front Door Trim.>
2) Pull off sealing cover to disconnect mirror electrical connector.



3) Loosen screws to remove mirror assembly.



B: INSTALLATION S905338A11

Install in the reverse order of removal.

C: INSPECTION S905338A10

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

Mirror heater not-equipped model:

Switch position	Terminal connection
OFF	—
UP	1 (+) — 3 (–)
DOWN	3 (+) — 1 (–)
LEFT	2 (+) — 3 (–)
RIGHT	3 (+) — 2 (–)

If NG, replace the mirror.

Mirror heater equipped model:

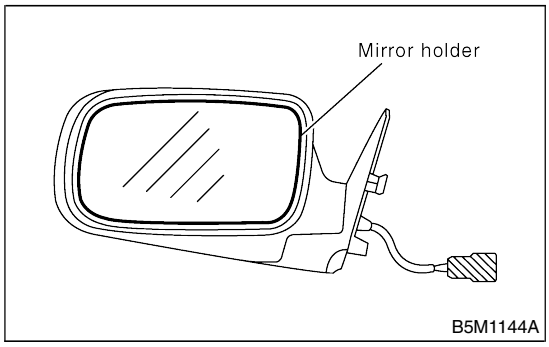
Switch position	Terminal connection
OFF	—
UP	2 (+) — 4 (–)
DOWN	4 (+) — 2 (–)
LEFT	3 (+) — 4 (–)
RIGHT	4 (+) — 3 (–)

If NG, replace the mirror.

19. Outer Mirror S905658

A: REPLACEMENT S905658A20

1) Remove the door mirror assembly. <Ref. to GW-49, REMOVAL, Outer Mirror Assembly.>
2) Warm the area around the mirror holder with a hair drier until the edges of the mirror holder become soft (about 2 or 3 minutes with a 1,000 W drier.)
3) Use a flat-bladed screwdriver without sharp edges to lift the mirror out of the mirror holder. (Also remove the connector from the back of mirrors with heaters.)



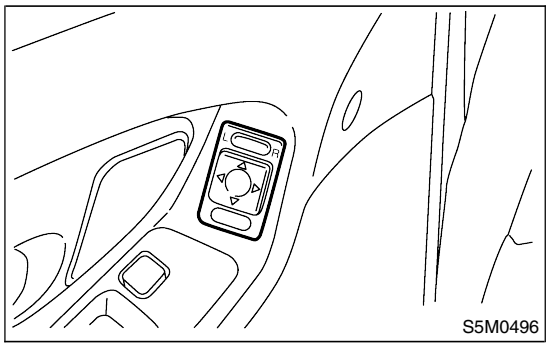
4) Warm the area around the mirror holder with a hair drier until the edges of the mirror holder become soft (about 2 or 3 minutes with a 1,000 W drier.)
5) Remove the backing of the new two-sided tape, and push the mirror in to install it.

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

20. Remote Control Mirror Switch S905342

A: REMOVAL S905342A18

Using a thin flat-bladed screwdriver, remove the switch and disconnect the connector.

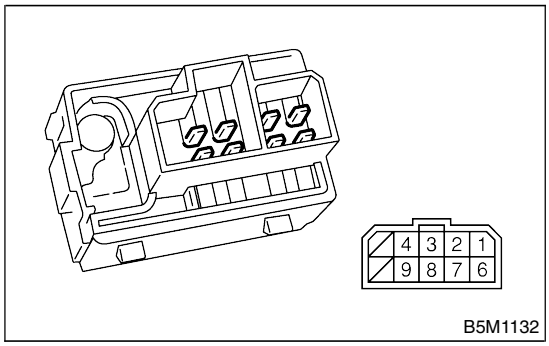


B: INSTALLATION S905342A11

Install in the reverse order of removal.

C: INSPECTION S905342A10

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



Change over switch left position:

Switch position	Tester connection	Specified condition
NEUTRAL	All terminals	No continuity
UP	7 — 4, 2 — 1	Continuity
DOWN	7 — 2, 4 — 1	Continuity
LEFT	9 — 4, 2 — 1	Continuity
RIGHT	9 — 2, 4 — 1	Continuity

Change over switch right position:

Switch position	Tester connection	Specified condition
NEUTRAL	All terminals	No continuity
UP	6 — 4, 2 — 1	Continuity
DOWN	6 — 2, 4 — 1	Continuity
LEFT	8 — 4, 2 — 1	Continuity
RIGHT	8 — 2, 4 — 1	Continuity

If NG, replace the switch.

21. Wiper Deicer S905622

A: INSPECTION S905622A10

Refer to INSPECTION under Rear Window Defogger. <Ref. to GW-48, INSPECTION, Rear Window Defogger.>

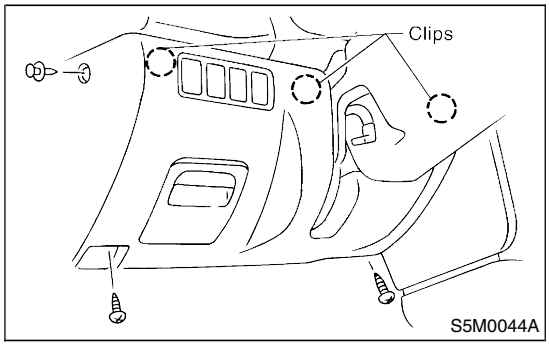
B: REPAIR S905622A11

Refer to REPAIR under Rear Window Defogger. <Ref. to GW-48, REPAIR, Rear Window Defogger.

22. Wiper Deicer Switch S905623

A: REMOVAL S905623A18

1) Remove lower cover.
2) Disconnect the connector and remove the switch.



B: INSTALLATION S905623A11

Install in the reverse order of removal.

C: INSPECTION S905623A10

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

Switch position	Tester connection	Specified condition
OFF	—	No continuity
ON	3 — 5	Continuity

If NG, replace the switch.

MEMO:

BODY STRUCTURE

BS

Page

1. General Description....2
2. Datum Points....3
3. Datum Dimensions....15

1. General Description S906001

A: PREPARATION TOOL S906001A17

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

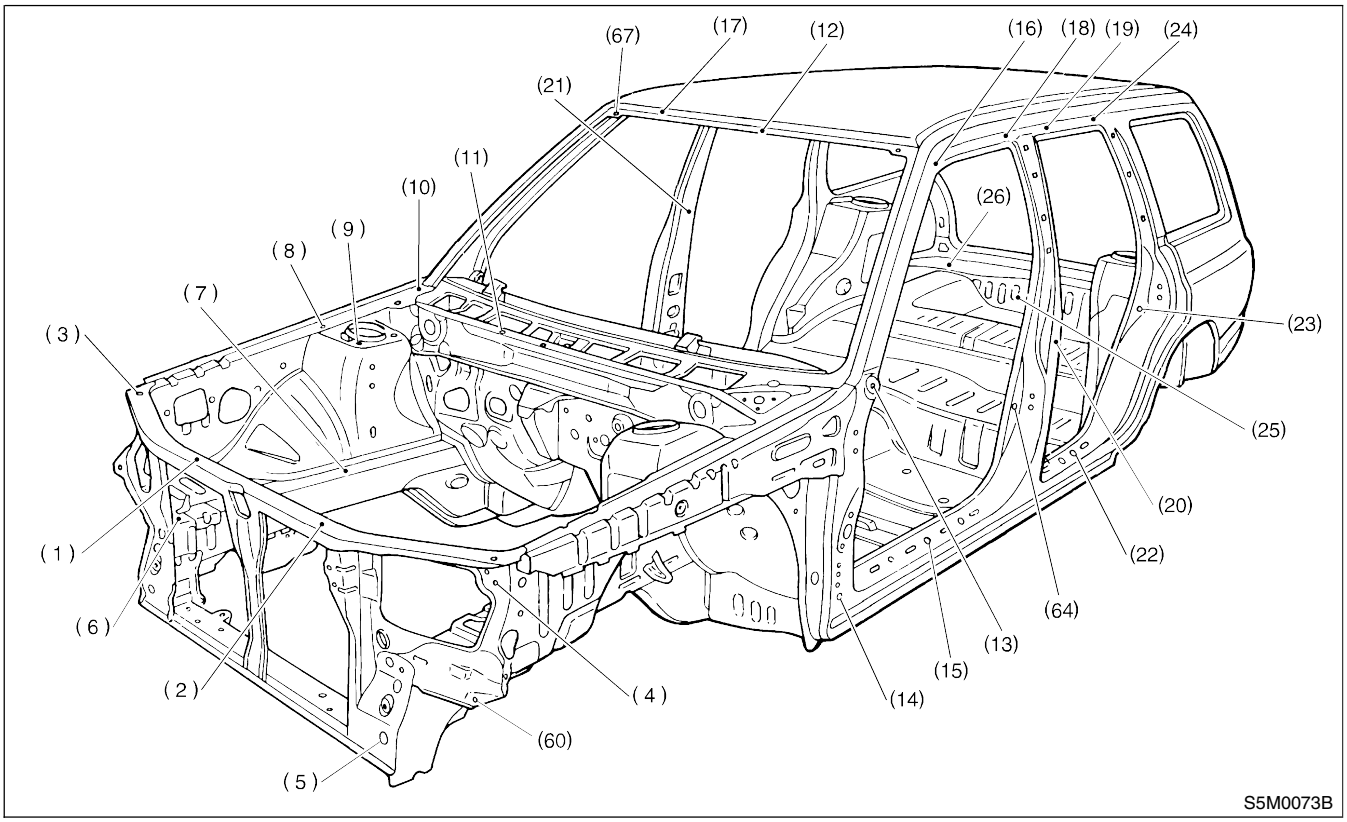
2. Datum Points S906540

A: LOCATION S906540A13

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

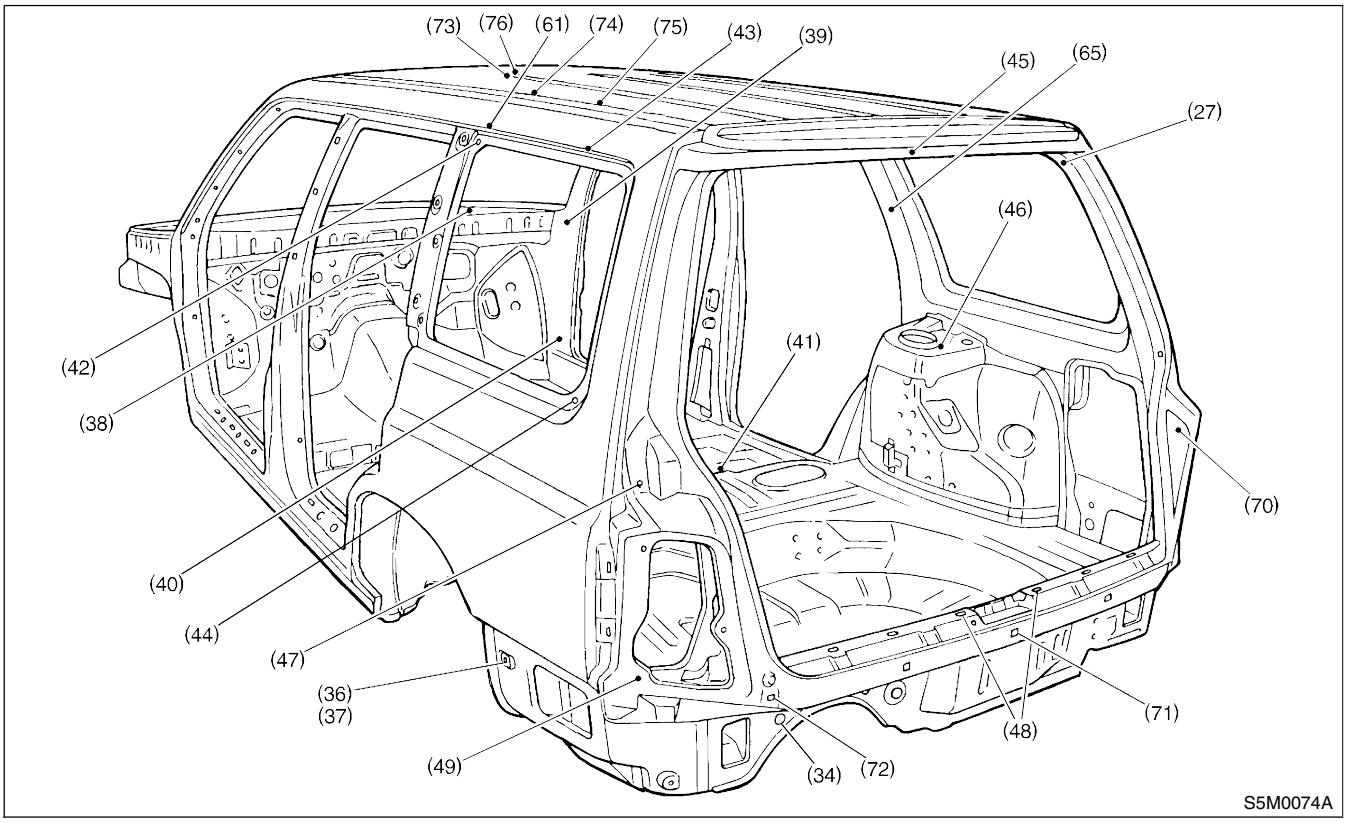
DATUM POINTS

1. ROOM SECTION S906540A1301



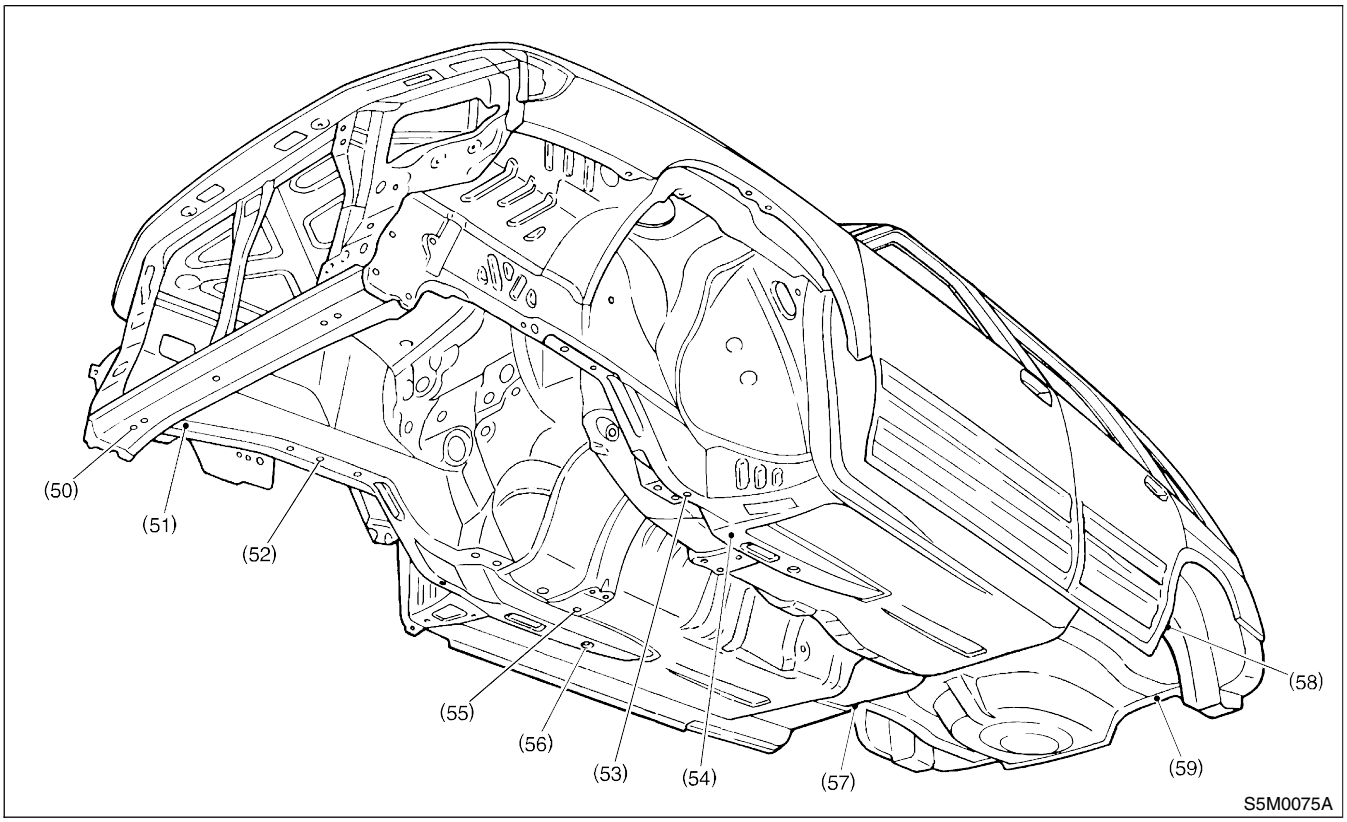
(1) Radiator panel (UPR) repair bolt hole M8 (Right)
(2) Radiator panel (UPR) repair bolt hole M8 (Left)
(3) Fender attaching bolt hole M6 (Symmetrical)
(4) Repair locator 8 mm (0.31 in) dia. (Symmetrical)
(5) Radiator panel side gauge hole 24 mm (0.94 in) dia. (Symmetrical)
(6) Front bumper mounting hole 14 × 16 mm (0.55 × 0.63 in) dia. (Symmetrical)
(7) Front crossmember attaching bolt hole 12.4 mm (0.488 in) dia. (Symmetrical)
(8) Fender attaching bolt hole M6 (Symmetrical)
(9) Front strut mounting hole 9.5 mm (0.374 in) dia. (Symmetrical)
(10) Hood hinge attaching bolt hole M8 (Symmetrical)
(11) Cowl panel mounting hole 6 mm (0.24 in) dia. (Symmetrical)
(12) Roof inner trim attaching bolt hole 8 mm (0.31 in) dia.
(13) Fender attaching bolt hole M6 (Symmetrical)
(14) Front pillar gauge hole 20 mm (0.79 in) dia. (Symmetrical)
(15) Wax coat hole 20 mm (0.79 in) dia. (Symmetrical)
(16) Retainer attaching square hole 7 mm (0.28 in) (Symmetrical)
(17) Sun visor attaching hole 17 mm (0.67 in) dia. (Symmetrical)
(18) Retainer attaching square hole 7 mm (0.28 in) (Symmetrical)
(19) Retainer attaching square hole 7 mm (0.28 in) (Symmetrical)
(20) Center pillar gauge hole 12 mm (0.47 in) dia. (Symmetrical)
(21) Belt anchor attaching bolt hole 11.1 mm (7/16 in) dia. (Symmetrical)
(22) Wax coat hole, 20 mm (0.79 in) dia. (Symmetrical)
(23) Rear door switch attaching hole 20 mm (0.79 in) dia. (Symmetrical)
(24) Retainer attaching square hole 7 mm (0.28 in) (Symmetrical)
(25) Spare tire attaching bolt hole M8
(26) Air draw hole 7 mm (0.28 in) dia. (Symmetrical)
(60) Fender attaching bolt hole M6 (Symmetrical)
(64) Door switch attaching hole 13.5 mm (0.531 in) dia. (Symmetrical)
(67) Front glass attaching hole Right 6.5 mm (0.256 in) dia. Left 6.5 × 10 mm (0.256 × 0.39 in) dia.

2. REAR SECTION S906540A1302



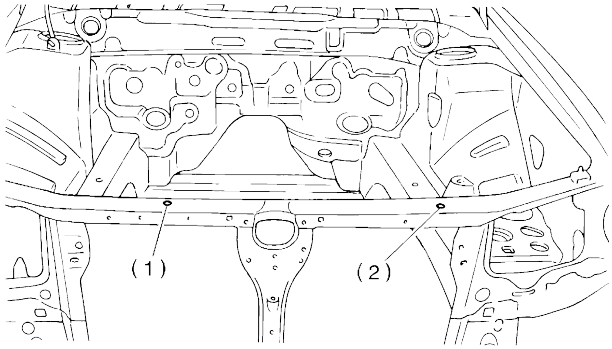
(27) Rear pillar (Inner) harness and hose clip attaching hole 7 mm (0.28 in) dia. (Symmetrical)
(34) Rear skirt gauge hole 20 mm (0.79 in) dia. (Symmetrical)
(36) Rear quarter bumper side gauge hole 20 mm (0.79 in) dia. (Left)
(37) Rear quarter bumper side gauge hole 20 mm (0.79 in) dia. (Right)
(38) Instrument panel attaching square hole 22 × 34.5 mm (0.87 × 1.358 in) (Right)
(39) Steering support beam attaching bolt hole M8 (Symmetrical)
(40) Front pillar (Inner) gauge hole 10 mm (0.39 in) dia. (Symmetrical)
(41) Floor mat attaching clip hole 8 mm (0.31 in) dia. (Symmetrical)
(42) Rear quarter glass attaching hole 8 × 15 mm (0.31 × 0.59 in) dia. (Symmetrical)
(43) Pad attaching square hole 9 mm (0.35 in) dia. (Symmetrical)
(44) Rear quarter glass attaching hole 8 mm (0.31 in) dia. (Symmetrical)
(45) Rear locator hollow 4 mm (0.16 in) dia.
(46) Rear strut mounting hole 10 mm (0.39 in) dia. (Symmetrical)
(47) Rear gate stay attaching bolt hole M8 (Symmetrical)
(48) Inner trim clip attaching hole 8 × 20 mm (0.31 × 0.79 in) dia. (Symmetrical)
(49) Rear combination light mounting hole 8 mm (0.31 in) dia. (Symmetrical)
(61) Side rail (Inner) gauge hole 10 mm (0.39 in) dia. (Symmetrical)
(65) Repair location hole 12 mm (0.47 in) dia. (Symmetrical)
(70) Buffer attaching hole M6 (Symmetrical)
(71) Bumper face attaching square hole 8 × 9 mm (0.31 × 0.35 in)
(72) Bumper face attaching square hole 8 × 9 mm (0.31 × 0.35 in) (Symmetrical)
(73) Head console bracket gauge hole 8 mm (0.31 in) dia.
(74) Inner system carrier attaching bolt hole 8 mm (0.31 in) (Symmetrical)
(75) Inner system carrier attaching bolt hole 8 mm (0.31 in) (Symmetrical)
(76) Head console bracket gauge hole 8 mm (0.31 in) dia.

3. UNDERBODY SECTION S906540A1303

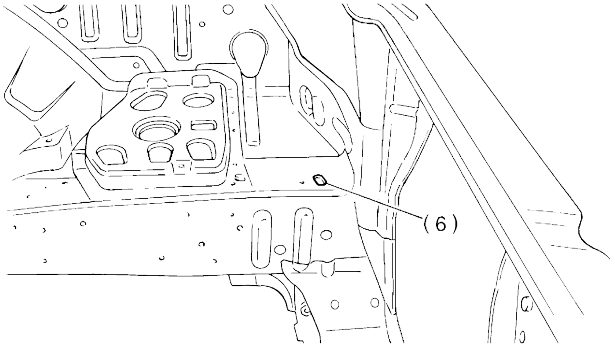


(50) Radiator panel (LWR) frame gauge hole 15 mm (0.59 in) dia. (Symmetrical)
(51) Front side frame gauge hole 20 mm (0.79 in) dia. (Symmetrical)
(52) Front crossmember attaching hole 12.4 mm (0.488 in) dia. (Symmetrical)
(53) Front suspension attaching bolt hole M14
(54) Side frame gauge hole 20 mm (0.79 in) dia. (Symmetrical)
(55) Repair location hole 12 mm (0.47 in) dia. (Symmetrical)
(56) Side frame gauge hole 15 mm (0.59 in) dia. (Symmetrical)
(57) Rear differential attaching bolt hole M12 (Symmetrical)
(58) Rear suspension attaching bolt hole M12 (Symmetrical)
(59) Rear side frame gauge hole 15 mm (0.59 in) dia. (Symmetrical)

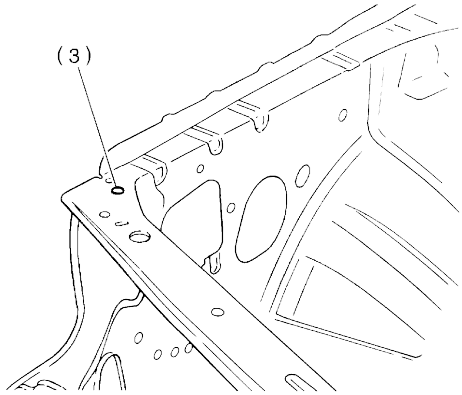
DATUM POINTS



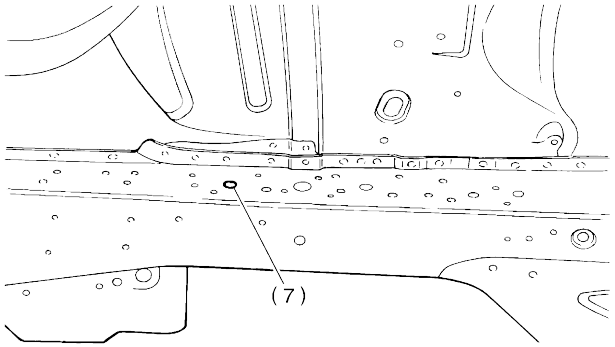
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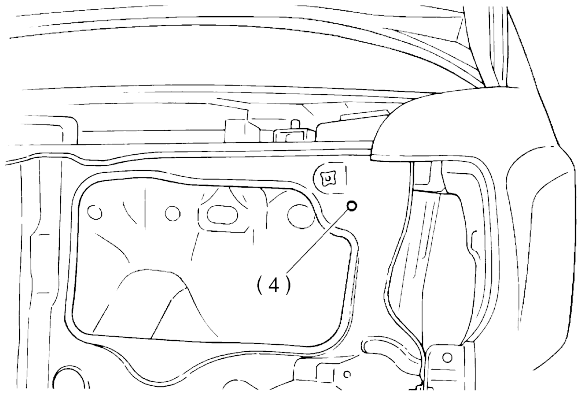
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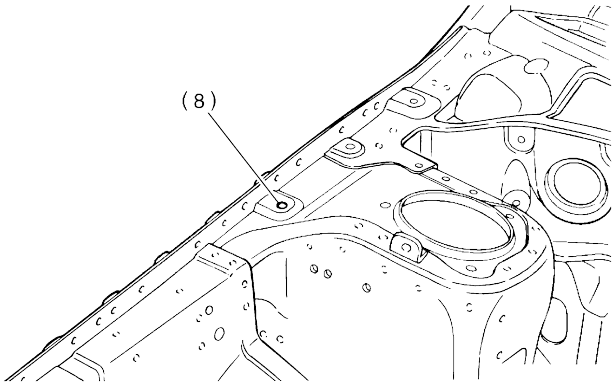
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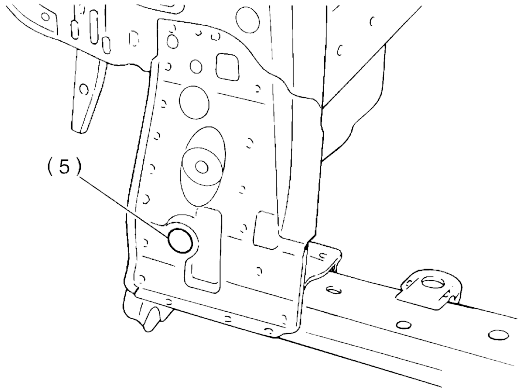
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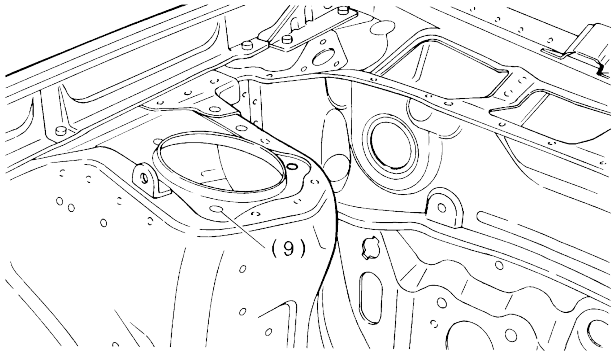
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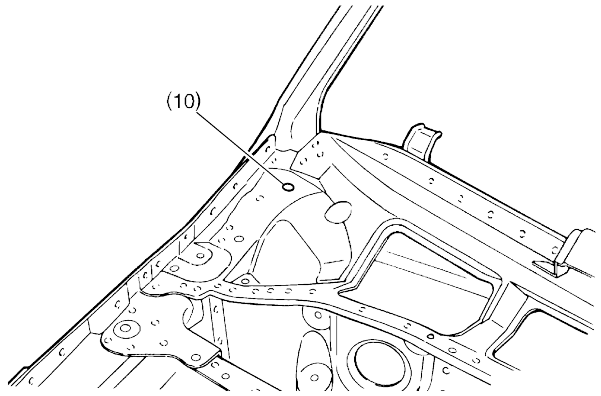


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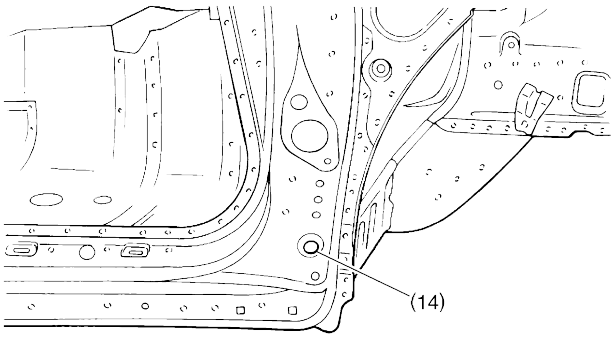


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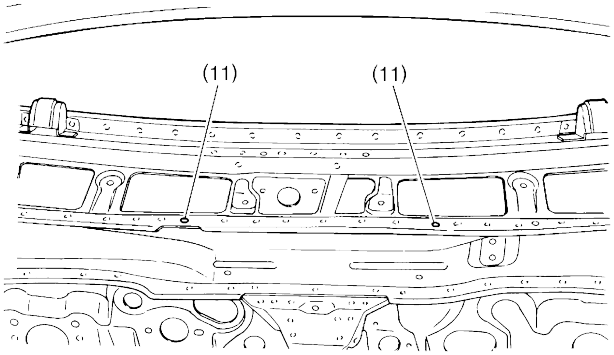
DATUM POINTS



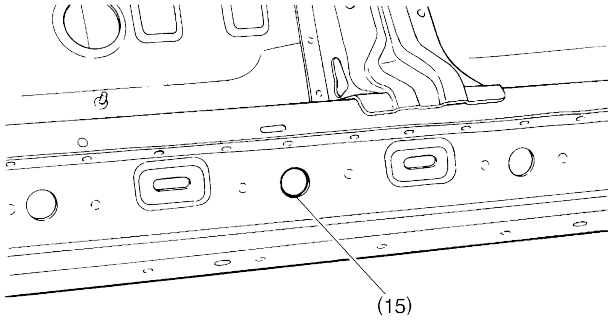
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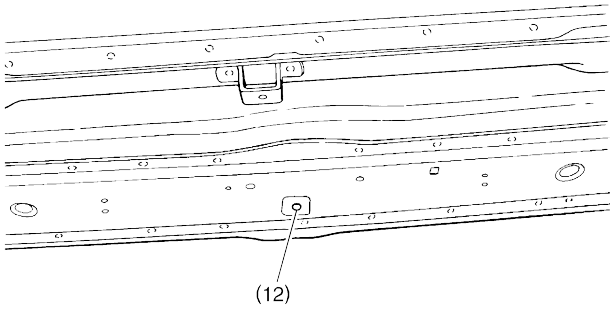
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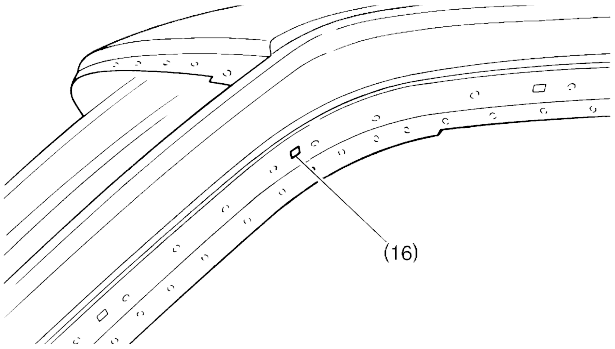
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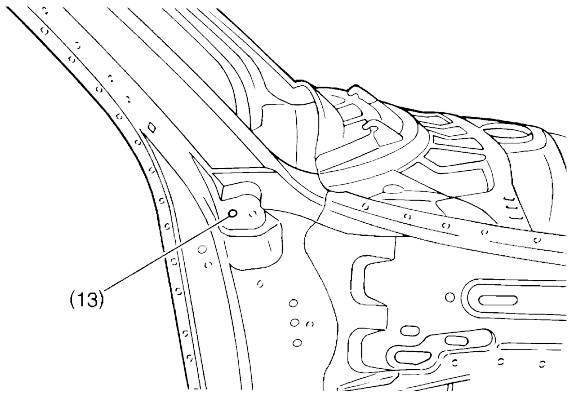
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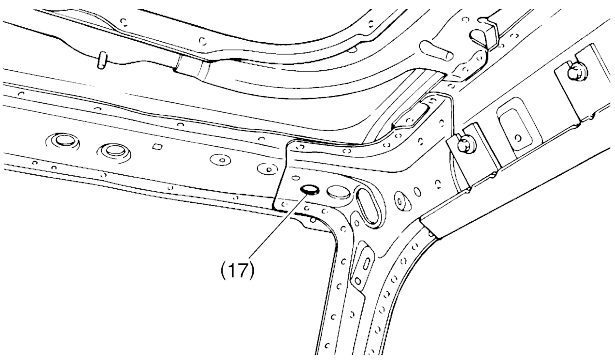
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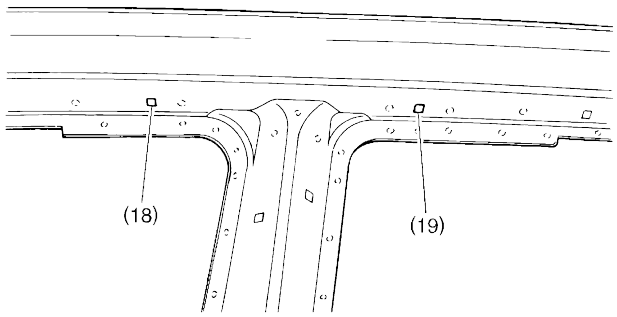


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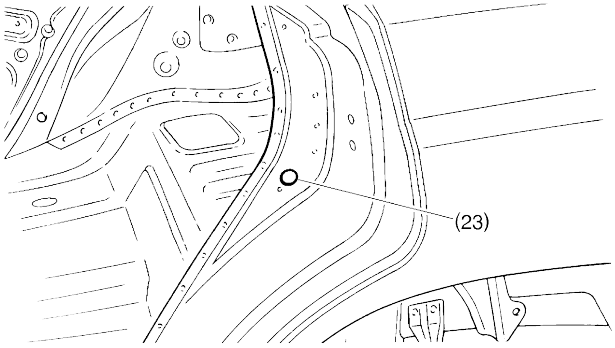


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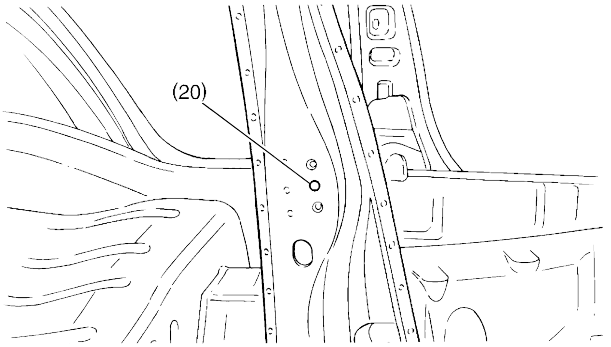
DATUM POINTS



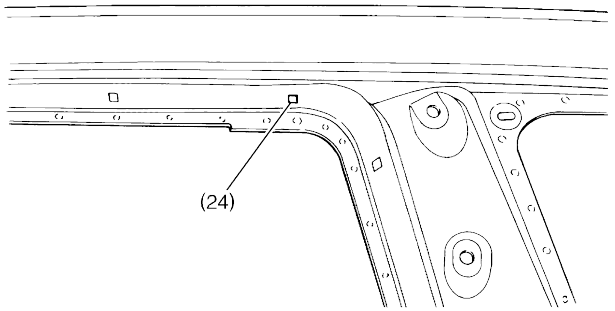
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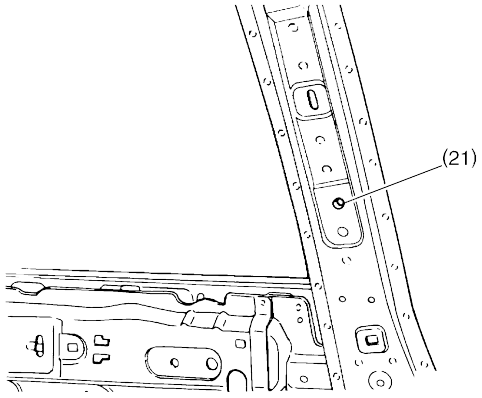
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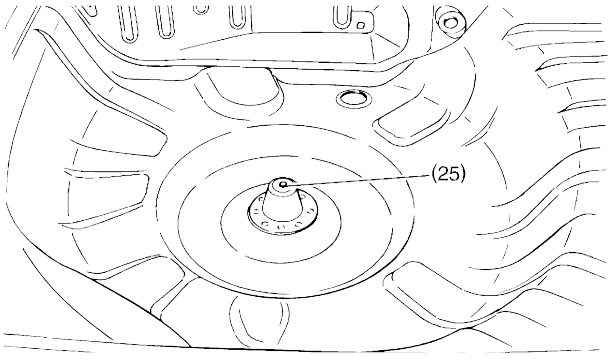
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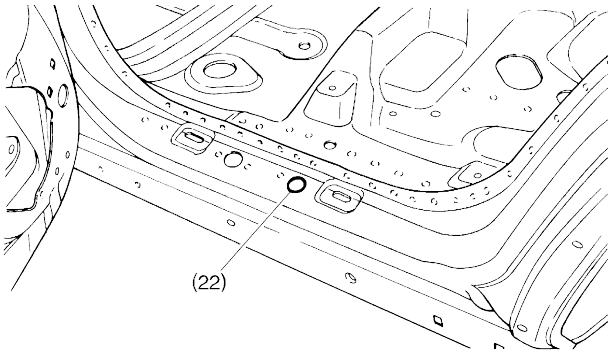
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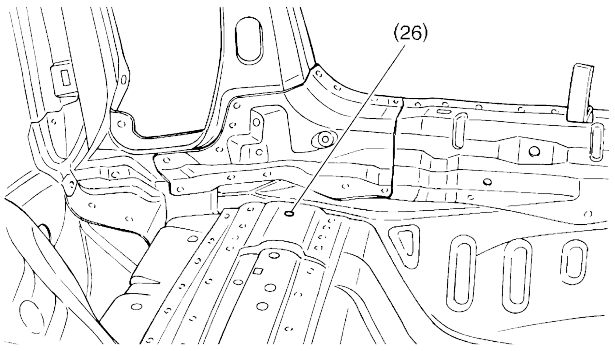
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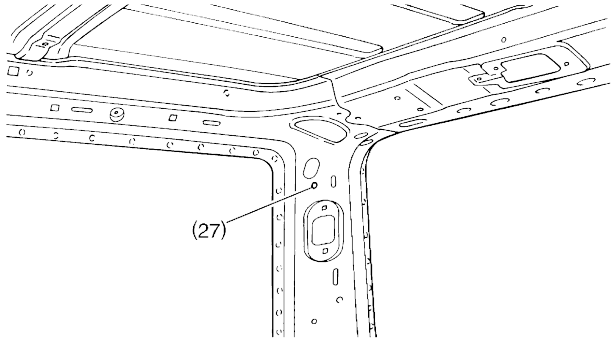


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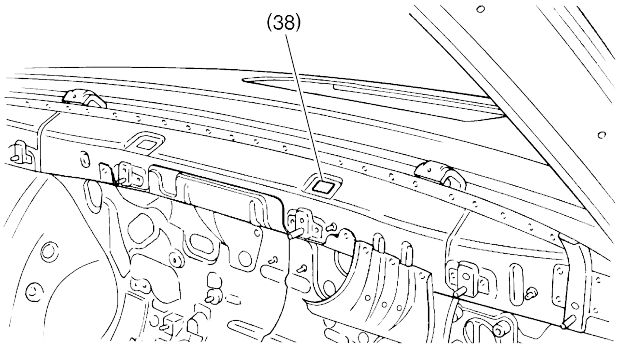


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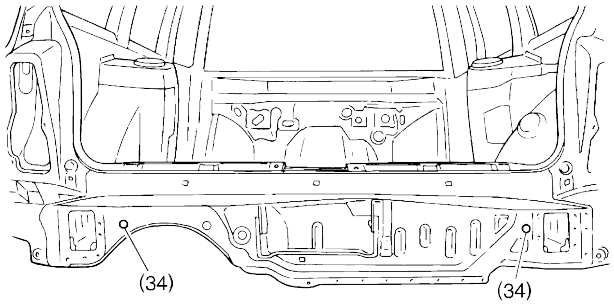
DATUM POINTS



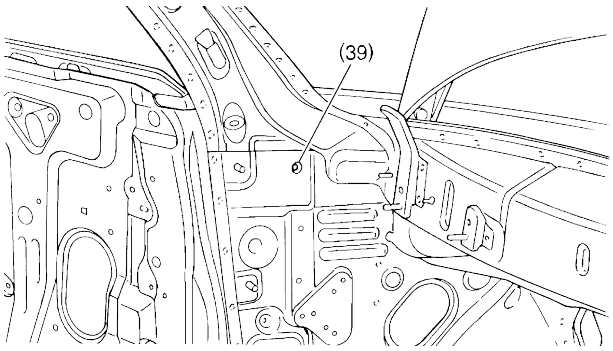
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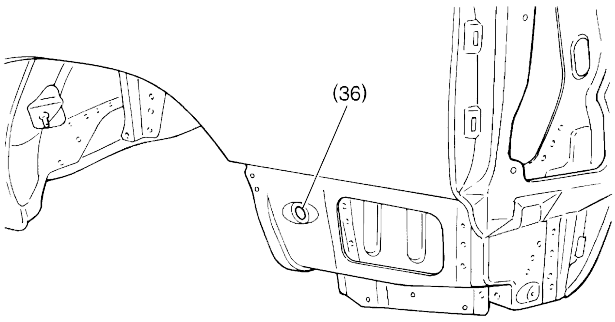
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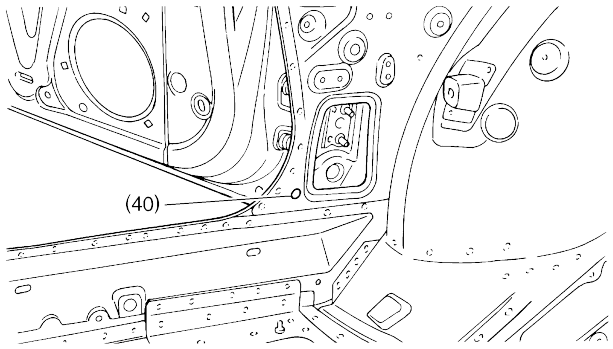
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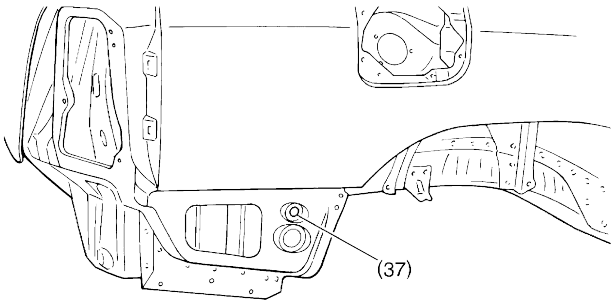
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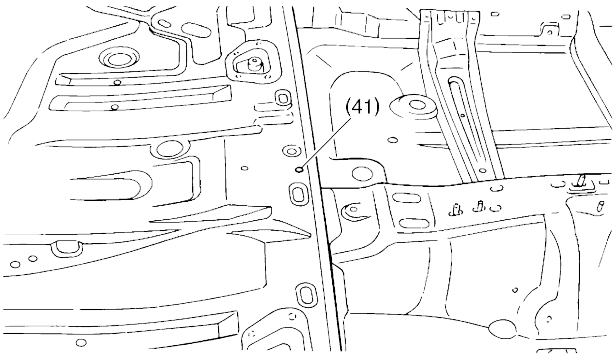
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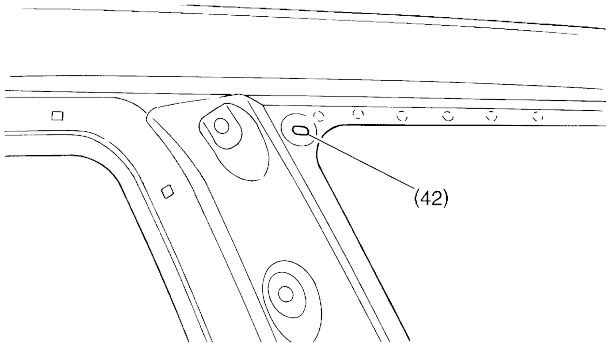


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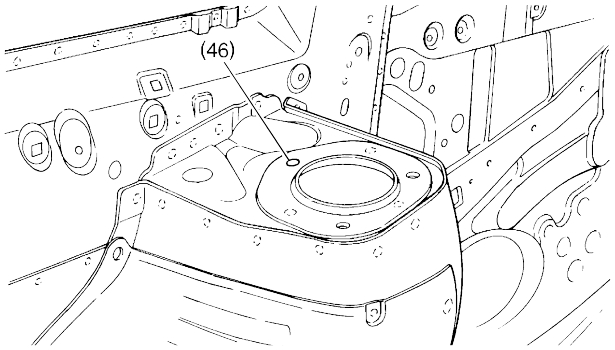


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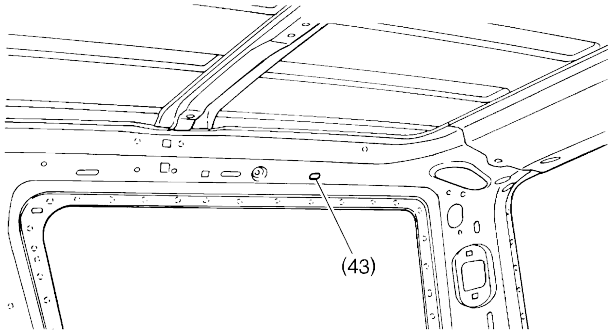
DATUM POINTS



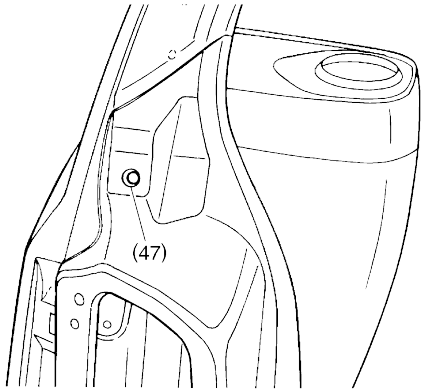
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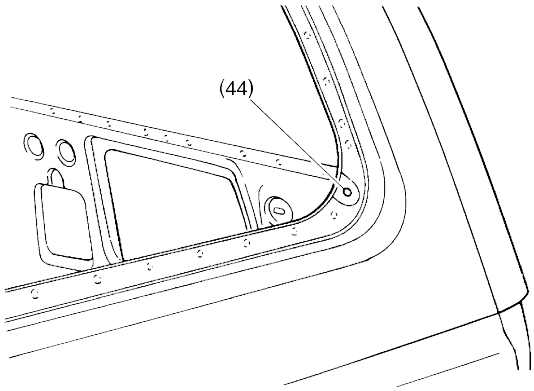
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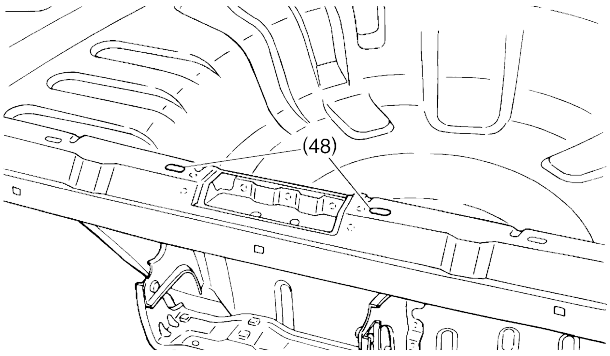
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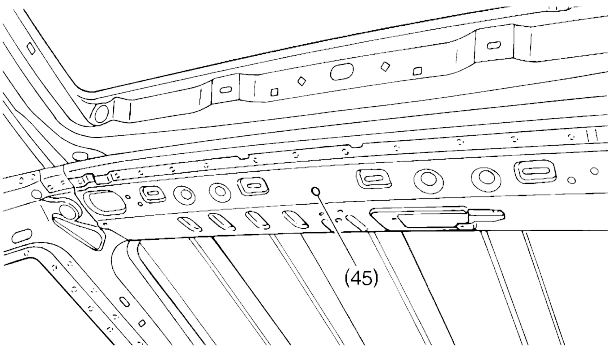
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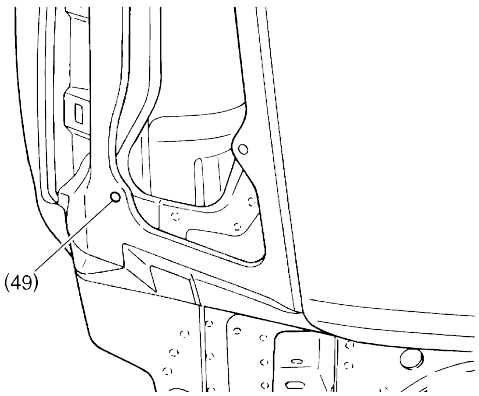
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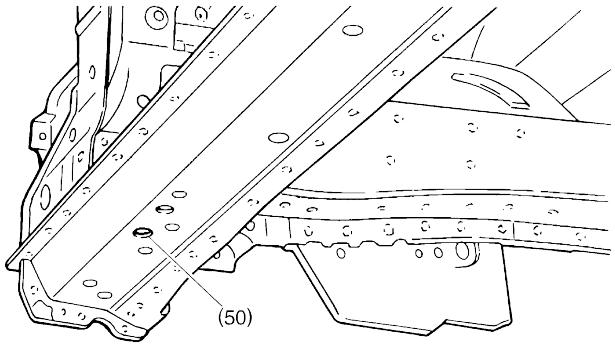


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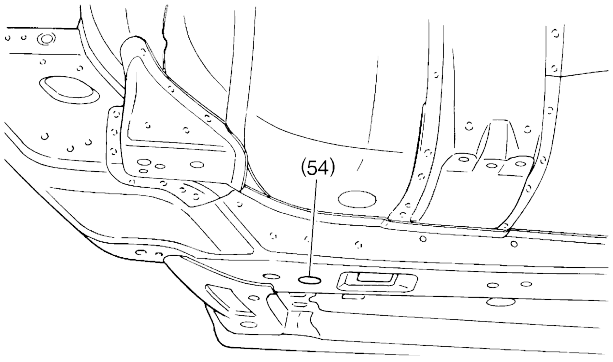


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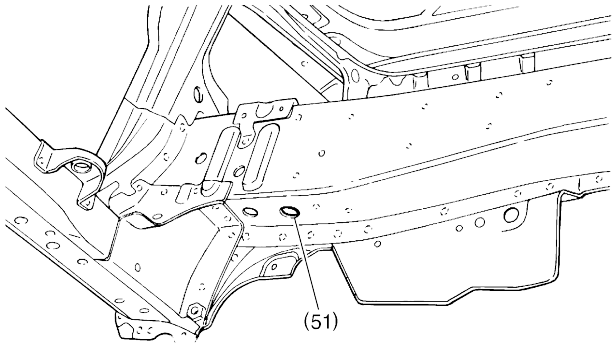
DATUM POINTS



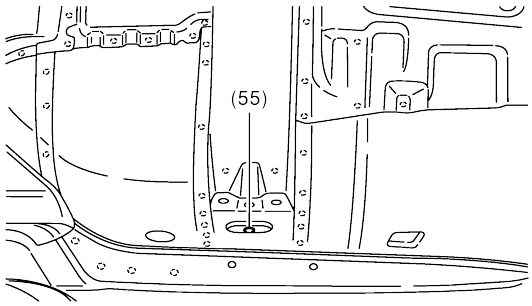
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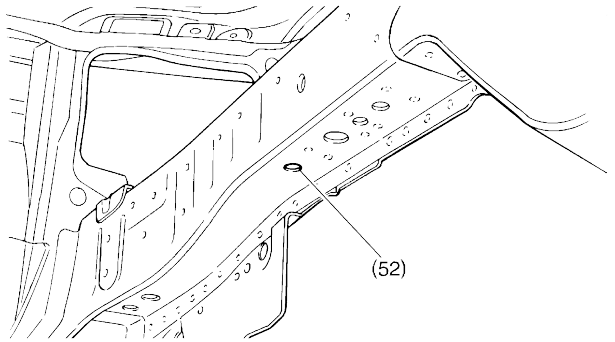
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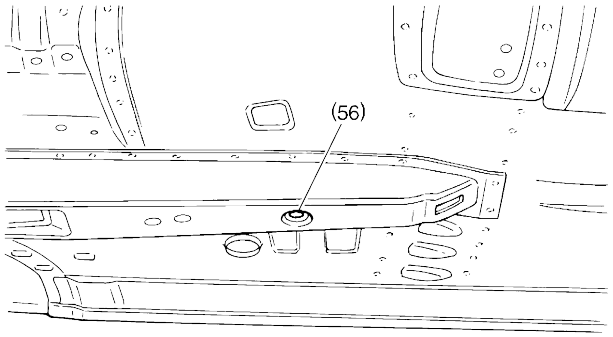
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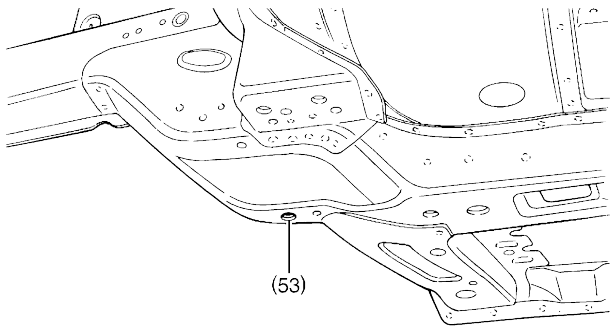
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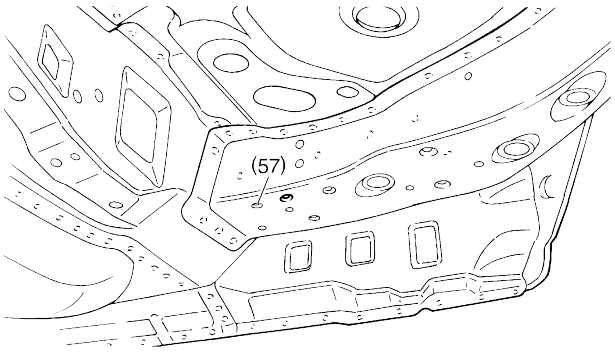
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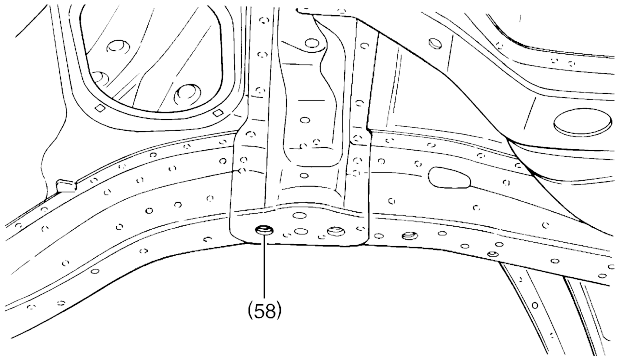


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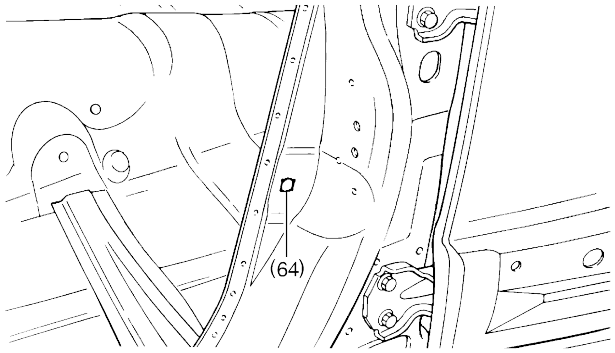


S5M0123B

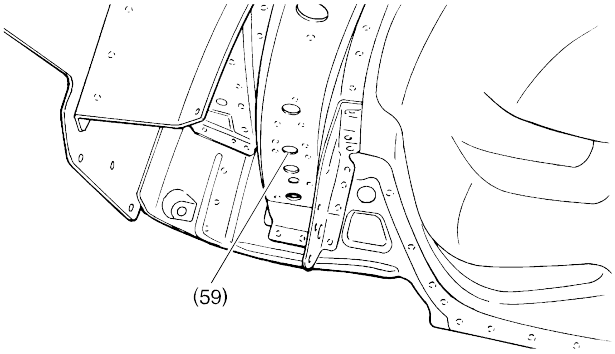
DATUM POINTS



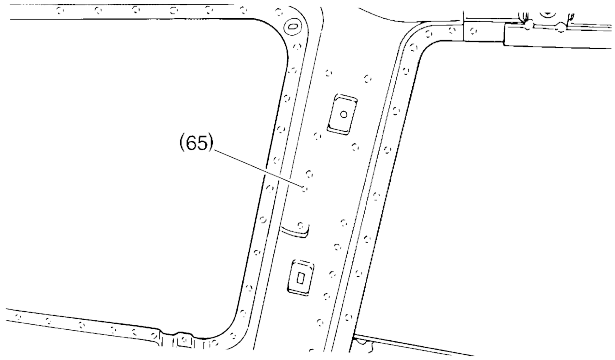
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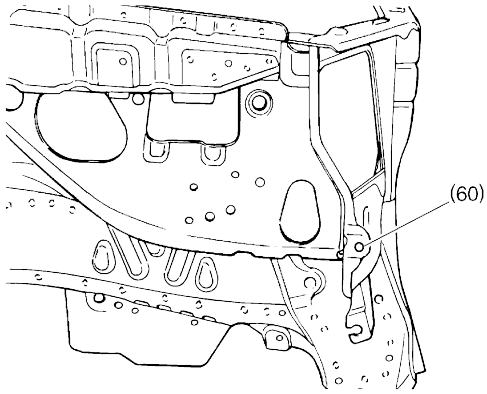
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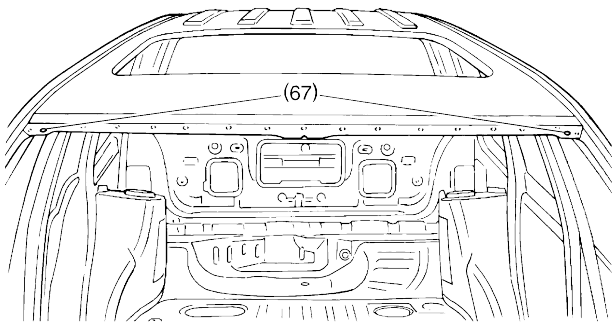
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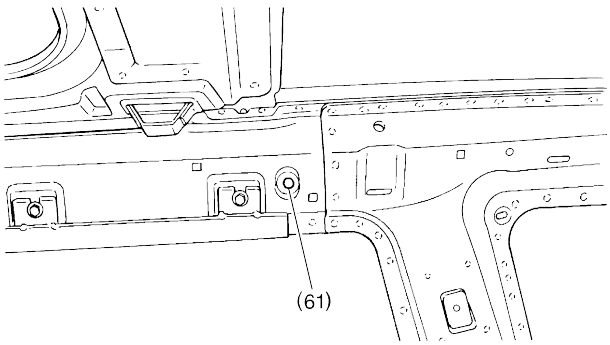
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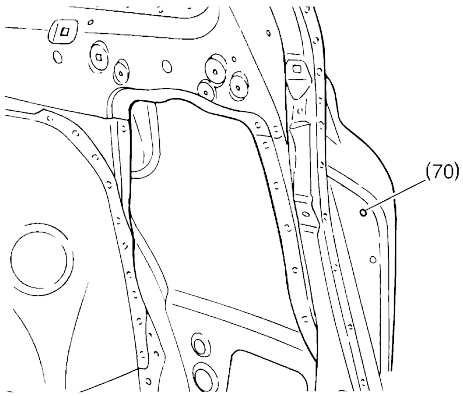
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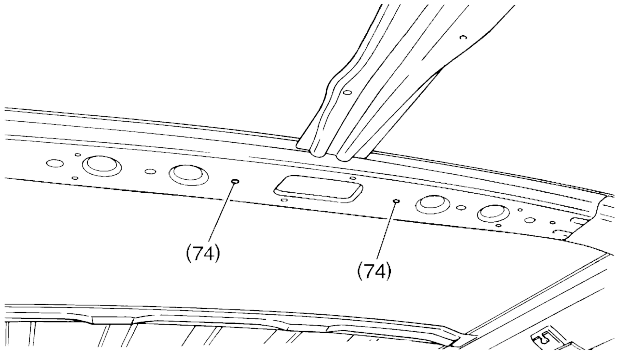


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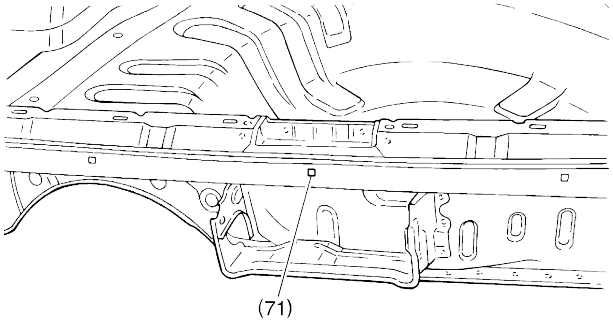


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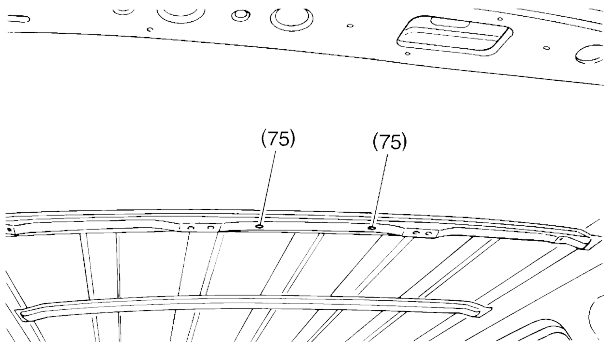
DATUM POINTS



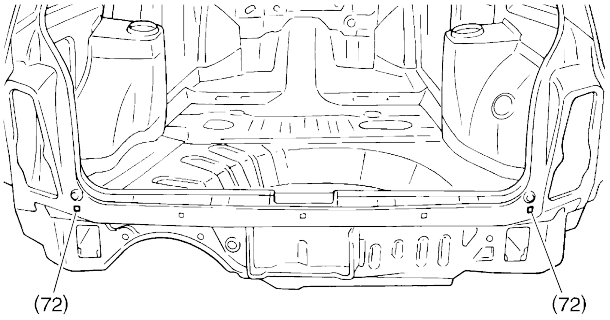
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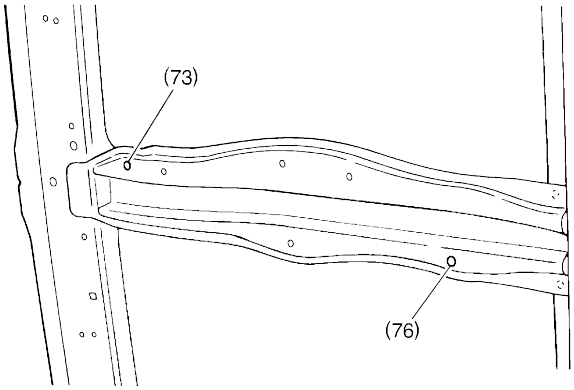
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S5M0134A



S5M0135A



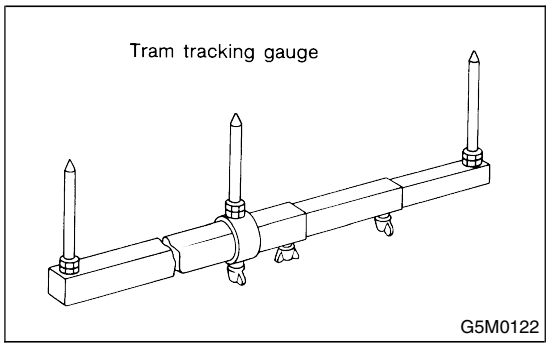
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3. Datum Dimensions S906337

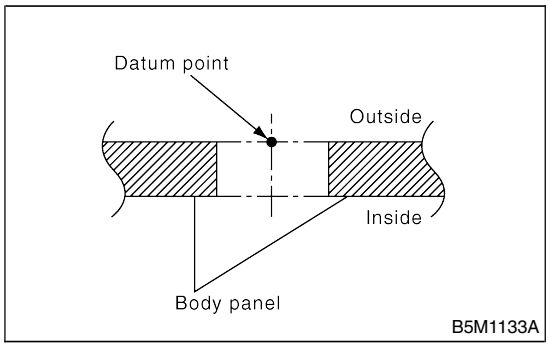
A: MEASUREMENT S906337A14

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

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

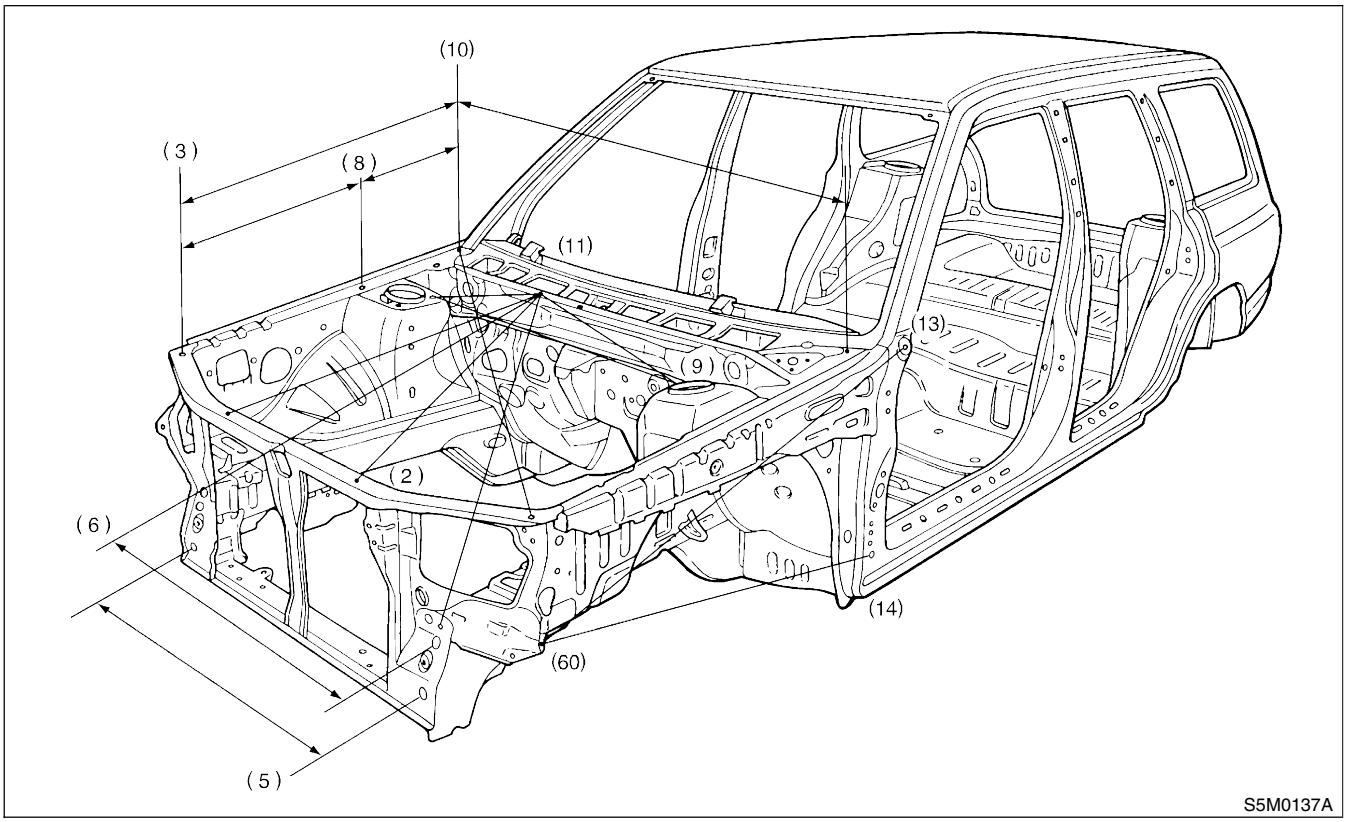


- Measure at the center of the circle around the outside of the body panel.



DATUM DIMENSIONS

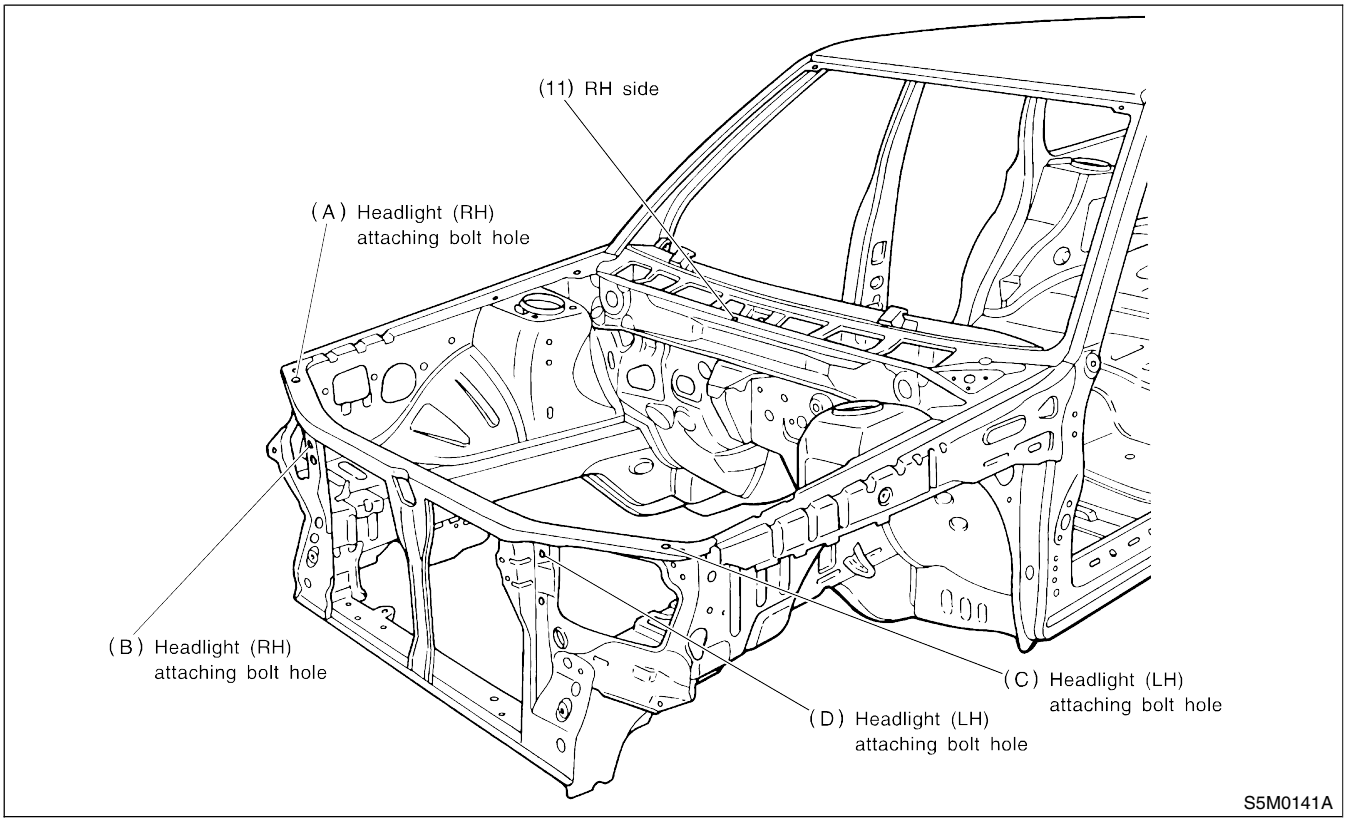
1. FRONT STRUCTURE S906337A1401



S5M0137A

Unit: mm (in)

Point to point	Dimension		Point to point	Dimension
(11) R to (1)	852 (33.54)		(10) R to (8) R	390 (15.35)
(11) L to (1)	913 (35.94)		(10) L to (8) L	390 (15.35)
(11) R to (2)	960 (37.80)		(11) L to (9) R	659 (25.94)
(11) L to (2)	865 (34.06)		(11) R to (9) L	659 (25.94)
(11) R to (9) R	392 (15.43)		(9) R to (9) L	966 (38.03)
(11) L to (9) L	392 (15.43)		(11) L to (6) R	1,059 (41.69)
(11) R to (6) R	926 (36.46)		(11) R to (6) L	1,059 (41.69)
(11) L to (6) L	926 (36.46)		(6) R to (6) L	914 (35.98)
(11) R to (3) R	891 (35.08)		(6) R to (10) L	1,549 (60.98)
(11) L to (3) L	891 (35.08)		(6) L to (10) R	1,549 (60.98)
(10) R to (3) R	917 (36.10)		(8) R to (3) R	528 (20.79)
(10) L to (3) L	917 (36.10)		(8) L to (3) L	528 (20.79)
(10) R to (10) L	1,374 (54.09)		(10) L to (3) R	1,637 (64.45)
(3) R to (3) L	1,338 (52.68)		(8) R to (8) L	1,396 (54.96)
(5) R to (5) L	924 (36.38)		(8) R to (10) L	1,438 (56.61)
(4) R to (4) L	1,296 (51.02)		(8) L to (10) R	1,438 (56.61)
(5) R to (4) L	1,176 (46.30)		(3) R to (8) L	1,465 (57.68)
(5) L to (4) R	1,176 (46.30)		(3) L to (8) R	1,465 (57.68)
(60) R to (13) R	1,174 (46.22)		(7) R to (7) L	860 (33.86)
(60) L to (13) L	1,174 (46.22)		(7) R to (6) L	982 (38.66)
(60) R to (14) R	1,076 (42.36)		(7) L to (6) R	982 (38.66)
(60) L to (14) L	1,076 (42.36)		(7) R to (10) L	1,302 (51.26)
(10) R to (3) L	1,637 (64.45)		(7) L to (10) R	1,302 (51.26)

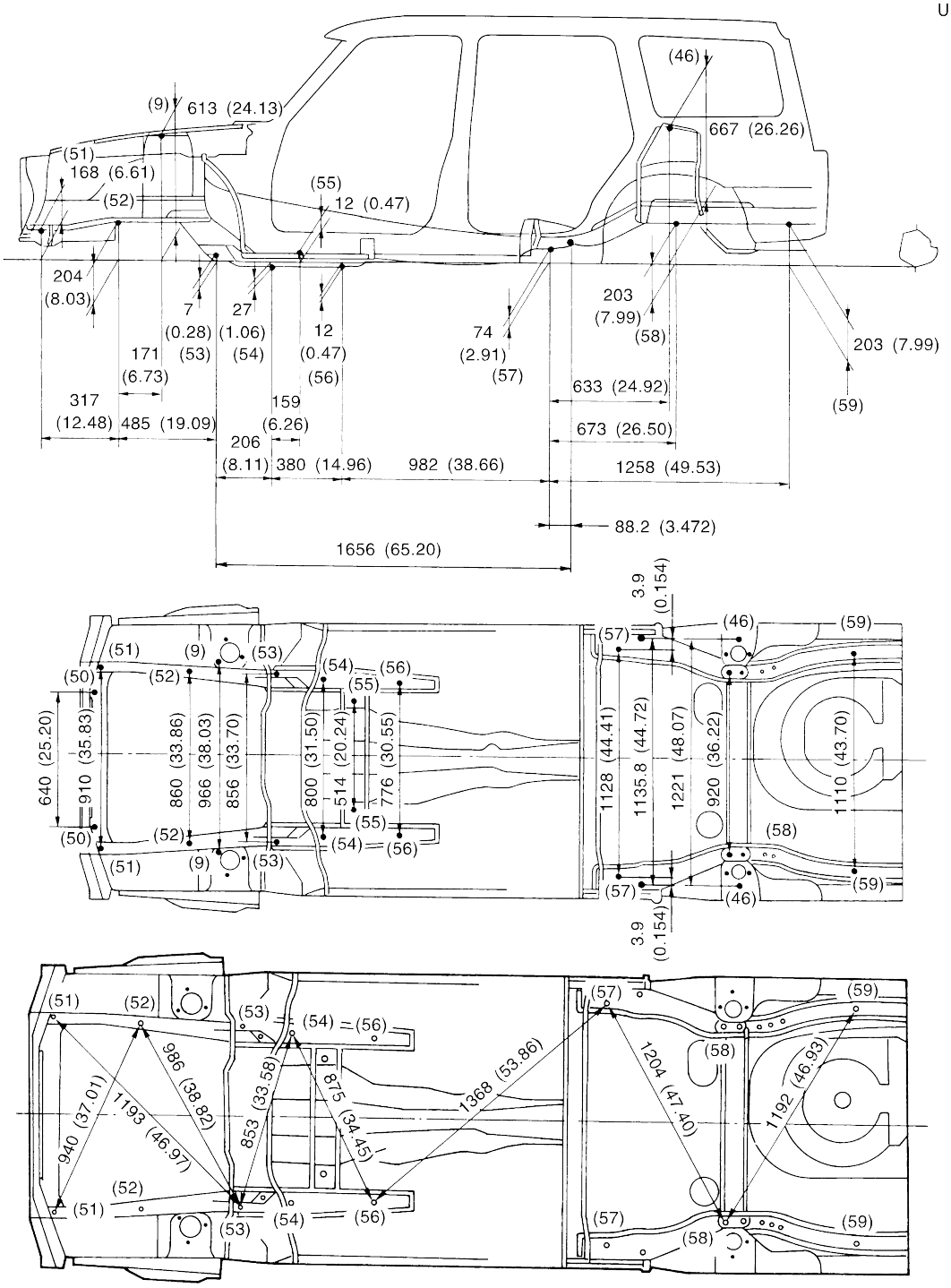


Unit: mm (in)

Point to point	Dimension		Point to point	Dimension
(11) to (A)	909.9 (35.82)		(11) to (C)	1,097.7 (43.22)
(11) to (B)	915 (36.02)		(11) to (D)	1,022 (40.24)

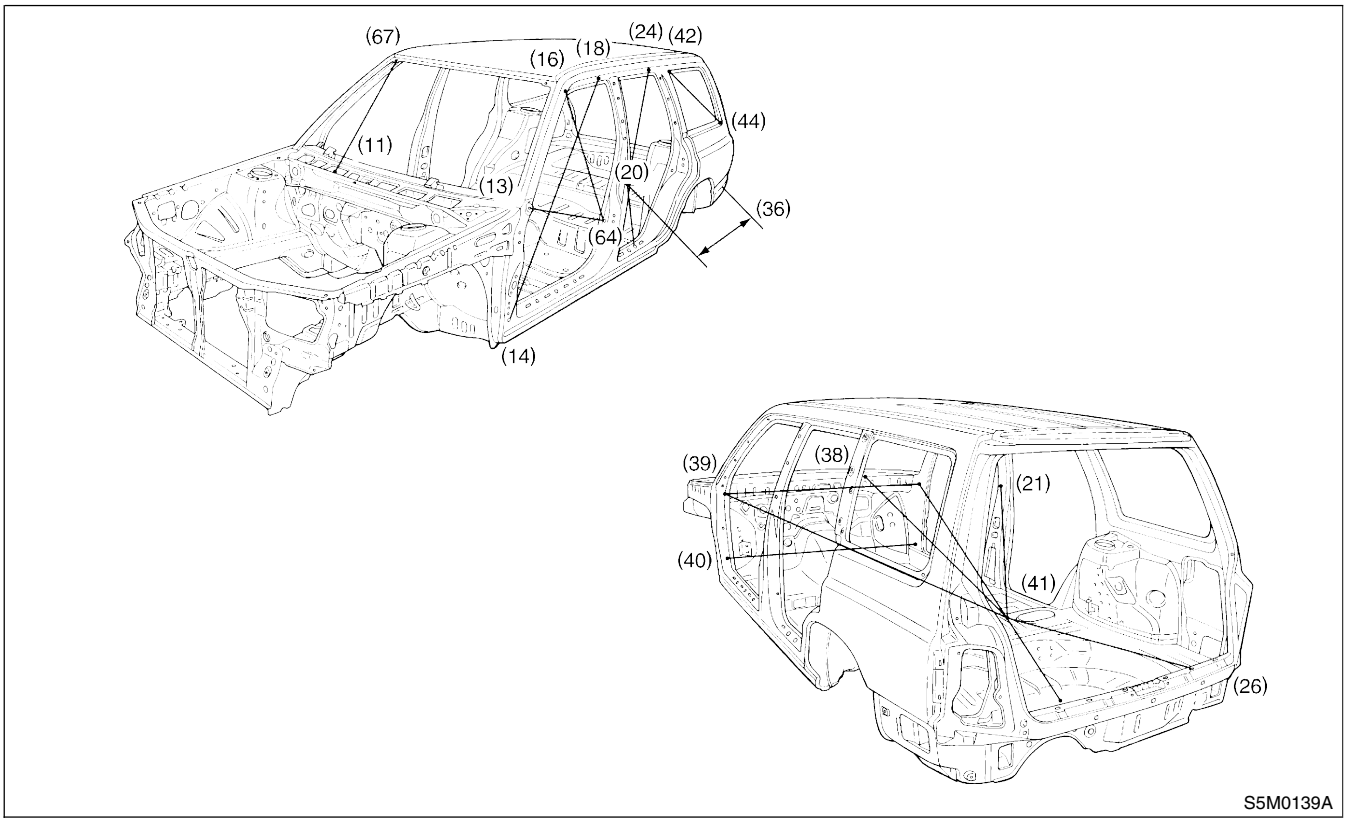
2. CENTER STRUCTURE S906337A1402

Unit: mm (in)



S5M0138B

3. WINDSHIELD AND DOORS S906337A1403

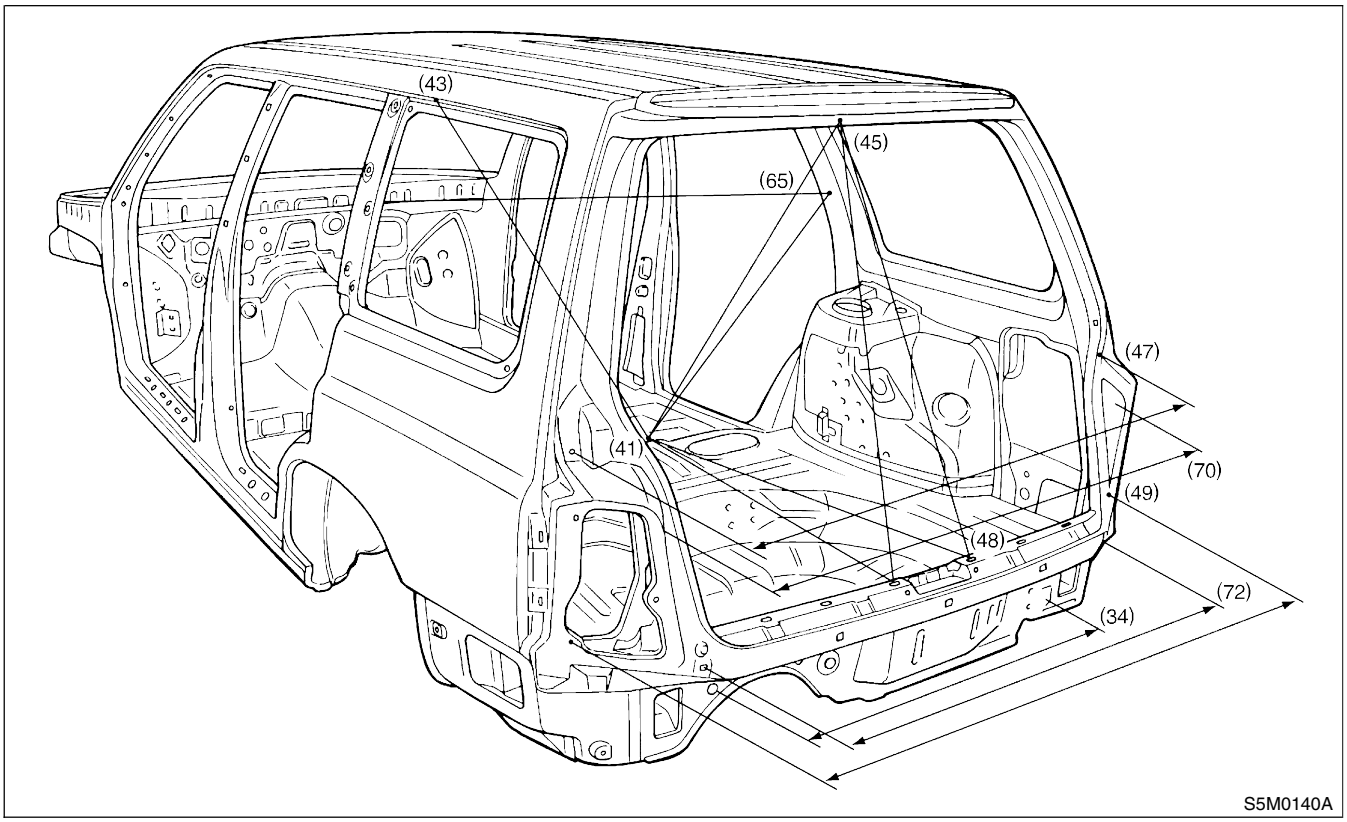


DATUM DIMENSIONS

Unit: mm (in)

Point to point	Dimension		Point to point	Dimension
(14) L to (18) L	1,453 (57.20)		(16) L to (64) L	859 (33.82)
(14) R to (18) R	1,453 (57.20)		(16) R to (64) R	859 (33.82)
(13) L to (64) L	944 (37.17)		(20) L to (23) L	845 (33.27)
(13) R to (64) R	944 (37.17)		(20) R to (23) R	845 (33.27)
(20) L to (24) L	947 (37.28)		(19) L to (23) L	885 (34.84)
(20) R to (24) R	947 (37.28)		(19) R to (23) R	885 (34.84)
(20) L to (36)	1,484 (58.43)		(11) L to (67) R	1,147 (45.16)
(20) R to (37)	1,488 (58.58)		(11) R to (67) L	1,147 (45.16)
(42) L to (44) L	769 (30.28)		(41) to (38)	1,157 (45.55)
(42) R to (44) R	769 (30.28)		(41) to (39) R	1,530 (60.24)
(11) R to (12)	918 (36.14)		(41) to (39) L	1,530 (60.24)
(11) L to (12)	918 (36.14)		(41) to (40) R	1,447 (56.97)
(67) R to (67) L	1,045 (41.14)		(41) to (40) L	1,447 (56.97)
(11) R to (67) R	1,006 (39.61)		(41) to (15) R	1,140 (44.88)
(11) L to (67) L	1,006 (39.61)		(41) to (15) L	1,140 (44.88)
(12) to (67) L	525 (20.67)		(41) to (22) R	733 (28.86)
(12) to (67) R	525 (20.67)		(41) to (22) L	733 (28.86)
(12) to (10) L	1,027 (40.43)		(41) to (26) R	1,568 (61.73)
(12) to (10) R	1,027 (40.43)		(41) to (26) L	1,568 (61.73)
(21) R to (21) L	1,322 (52.05)		(41) to (25)	1,212 (47.72)
(15) R to (15) L	1,453 (57.20)		(41) to (12)	1,298 (51.10)
(22) R to (22) L	1,453 (57.20)		(41) to (21) R	944 (37.17)
(39) R to (39) L	1,392 (54.80)		(41) to (21) L	944 (37.17)
(40) R to (40) L	1,402 (55.20)		(41) to (17) R	1,332 (52.44)
(11) L to (17) R	1,168 (45.98)		(41) to (17) L	1,332 (52.44)
(11) R to (17) L	1,168 (45.98)			

4. COMPARTMENT S906337A1404



Unit: mm (in)

Point to point	Dimension		Point to point	Dimension
(45) to (48) L	862 (33.94)		(41) to (65) R	1,131 (44.53)
(45) to (48) R	862 (33.94)		(41) to (65)L	1,131 (44.53)
(45) to (47) L	876 (34.49)		(41) to (45)	1,569 (61.77)
(45) to (47) R	876 (34.49)		(41) to (43) R	1,435 (56.50)
(47) R to (47) L	1,426 (56.14)		(41) to (43) L	1,435 (56.50)
(49)R to (49) L	1,479 (58.23)		(41) to (48) L	1,576 (62.05)
(34) R to (34) L	945 (37.20)		(41) to (48) R	1,576 (62.05)
(48) R to (46) R	992 (39.06)		(65) R to (65) L	1,267 (49.88)
(48) L to (46) L	992 (39.06)		(17) R to (76)	627 (24.68)
(70) R to (70) L	1,218 (47.95)		(17) L to (76)	680 (26.77)
(61) R to (75) R	447 (17.60)		(72) R to (72) L	1,111 (43.74)
(61) L to (75) L	447 (17.60)		(74) R to (75) R	480 (18.90)
(17) R to (75) R	1,137 (44.76)		(74) L to (75) L	480 (18.90)
(17) L to (75) L	1,137 (44.76)		(17) R to (73)	518 (20.39)
(45) to (71)	913 (35.94)		(17) L to (73)	476 (18.74)

DATUM DIMENSIONS

MEMO:

INSTRUMENTATION/DRIVER INFO

IDI

		Page
1.	General Description	2
2.	Combination Meter System	4
3.	Combination Meter Assembly	15
4.	Speedometer	17
5.	Tachometer	18
6.	Fuel Gauge	19
7.	Water Temperature Gauge	20
8.	Ambient Sensor	21

1. General Description S907001

A: SPECIFICATIONS S907001E49

Combination meter	Speedometer	Electric pulse type
	Temperature gauge	Thermistor cross coil type
	Fuel gauge	Resistance cross coil type
	Tachometer	Electric impulse type
	Turn signal indicator light	14 V — 1.4 W
	Charge indicator light	14 V — 1.4 W
	Oil pressure indicator light	14 V — 1.4 W
	ABS warning light	14 V — 1.4 W
	CHECK ENGINE warning light (Malfunction indicator light)	14 V — 1.4 W
	HI-beam indicator light	14 V — 1.4 W
	Door open warning light	LED
	Seat belt warning light	14 V — 1.4 W
	Brake fluid and parking brake warning light	14 V — 1.4 W
	FWD indicator light	14 V — 1.4 W
	AIRBAG warning light	14 V — 1.4 W
	Meter illumination light	14 V — 3 W, 1.4 W
	AT OIL TEMP. warning light	14 V — 1.4 W
	LO indicator light	14 V — 1.4 W
	HOLD indicator light	14 V — 1.4 W
	POWER indicator light	14 V — 1.4 W
	Rear differential oil temperature warning light	14 V — 1.4 W
	Immobilizer indicator light	LED
	Low fuel warning light	14 V — 1.4 W
	LCD back light	14 V — 1.4 W

B: CAUTION S907001A03

- Be careful not to damage meters and instrument panel.
- Be careful not to damage meter glasses.
- Make sure that electrical connector is connected securely.
- After installation, make sure that each meter operates normally.
- Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.
- Do not apply excessive force to circuit plate.
- Do not drop or otherwise apply impact.

C: PREPARATION TOOL S907001A17

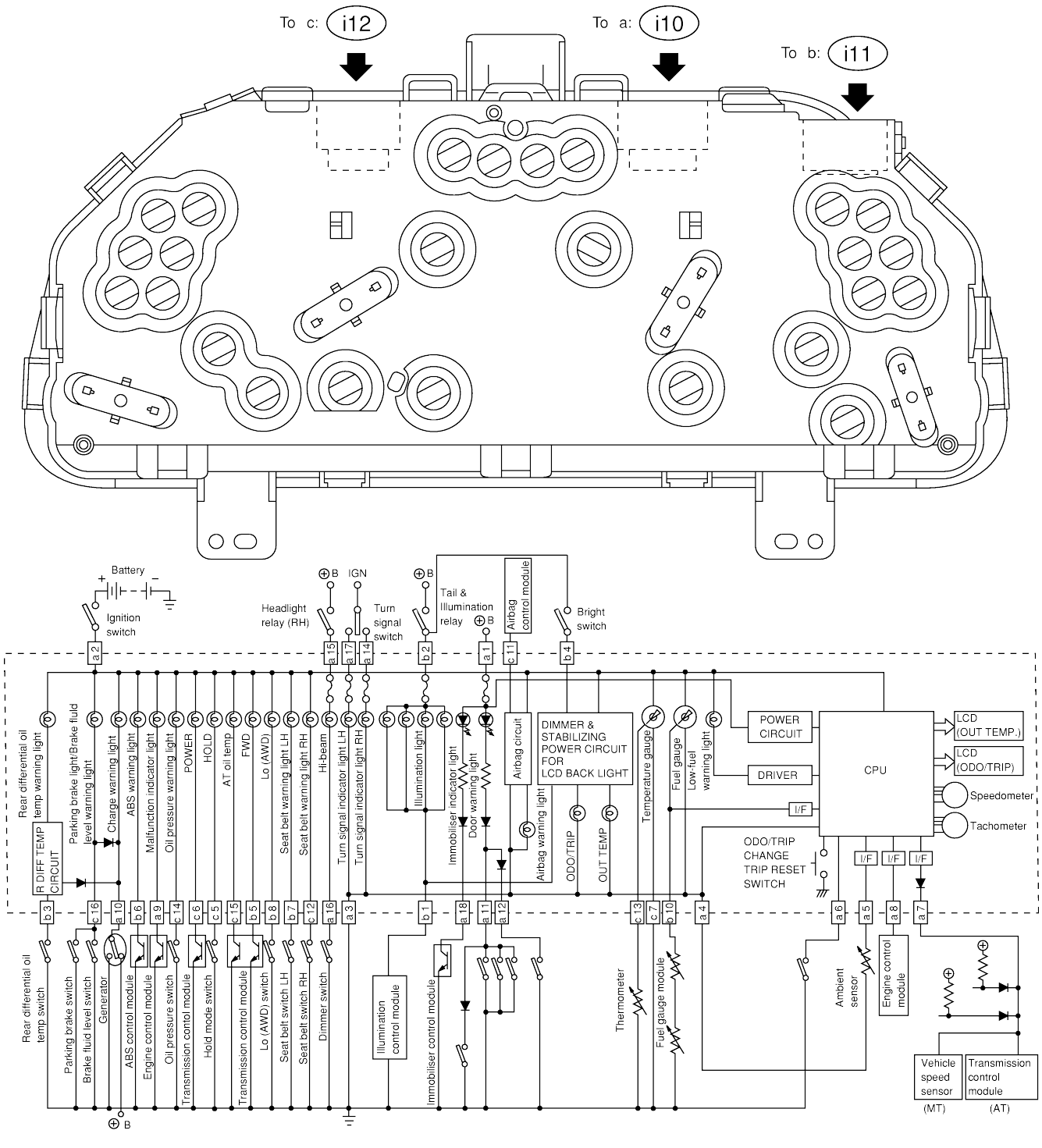
1. GENERAL TOOLS S907001A1701

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

2. Combination Meter System S907607

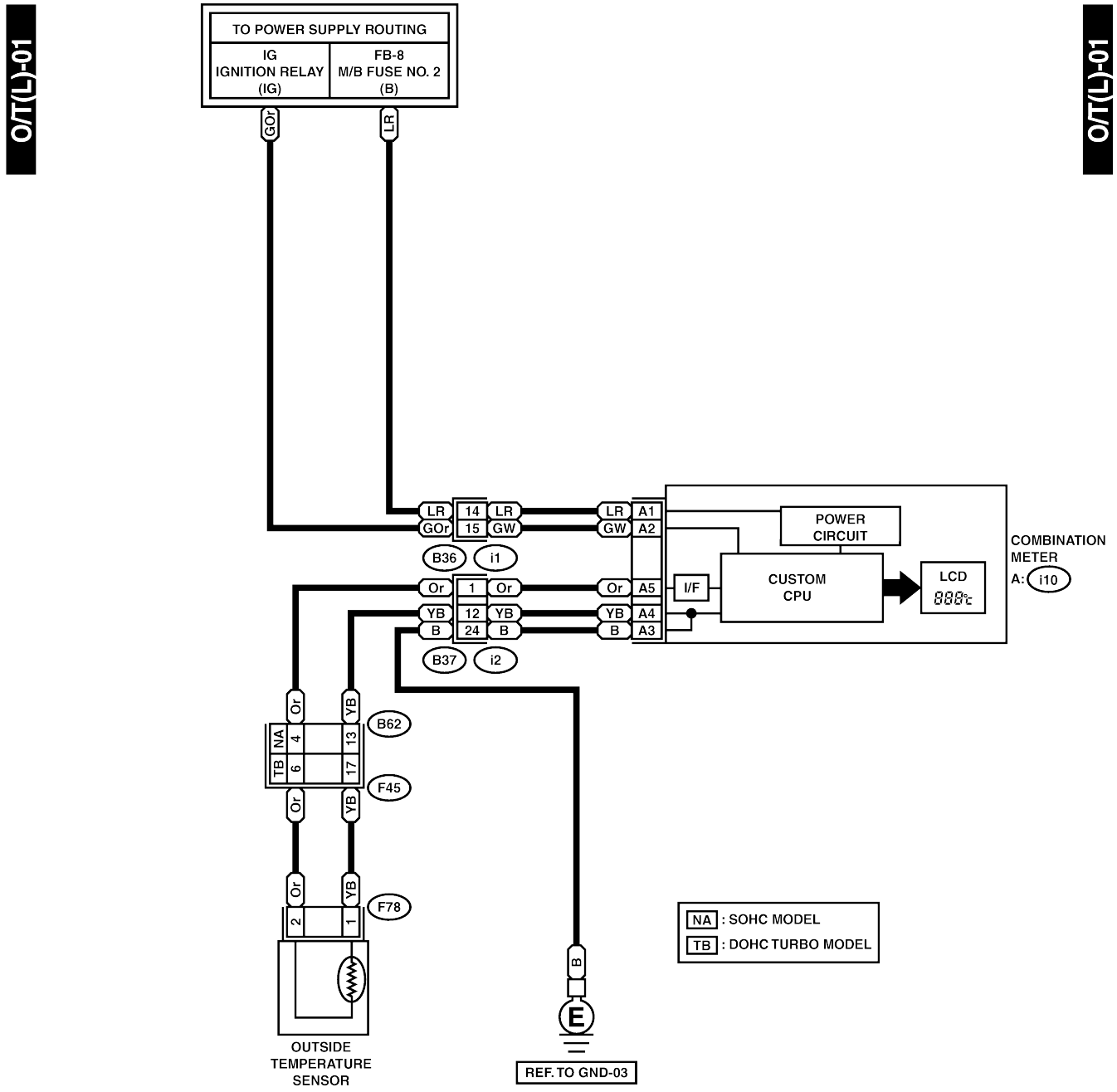
A: SCHEMATIC S907607A21

1. COMBINATION METER S907607A2101



SG6420A

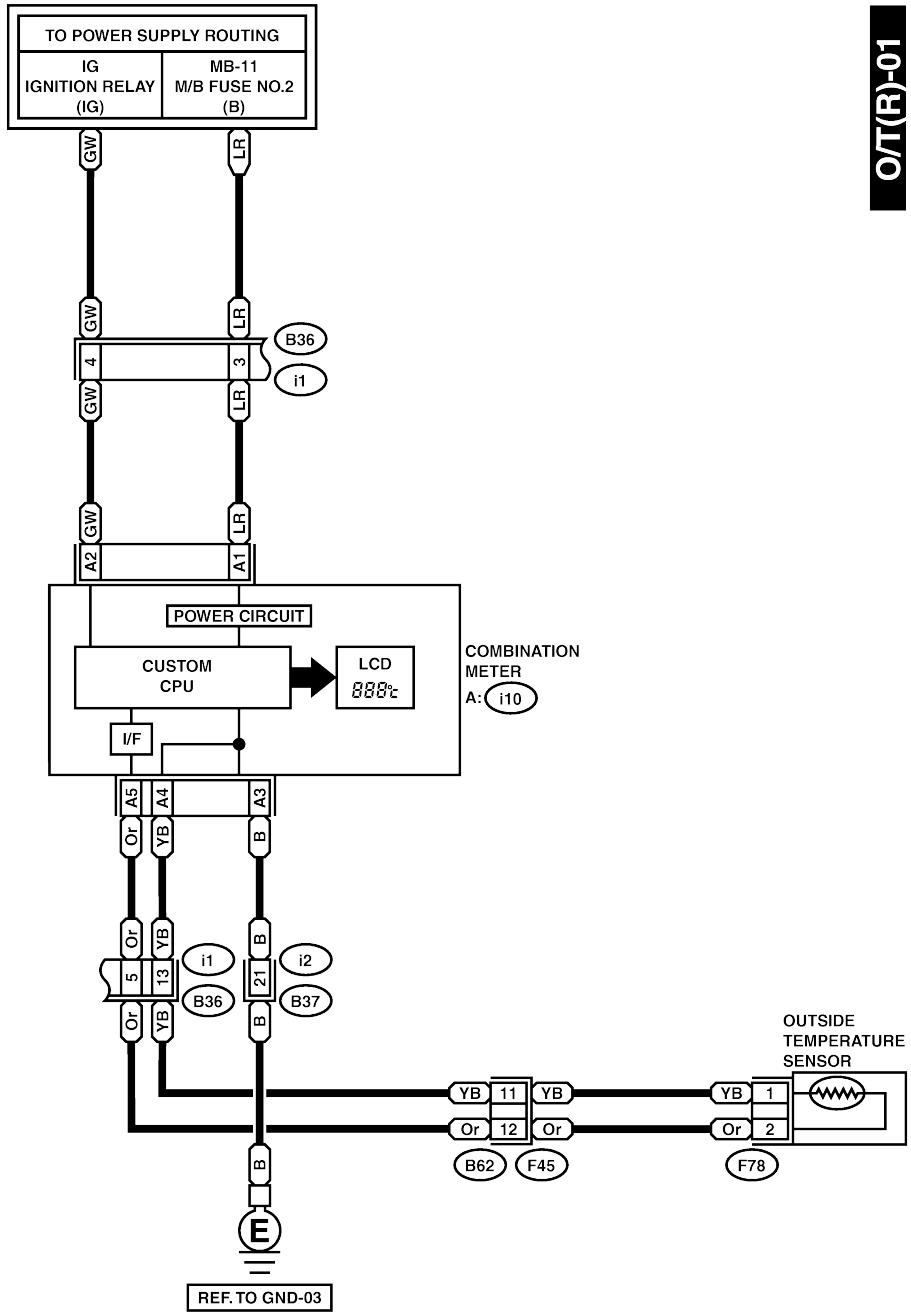
2. OUTSIDE TEMPERATURE INDICATOR LHD MODEL S907607A2103

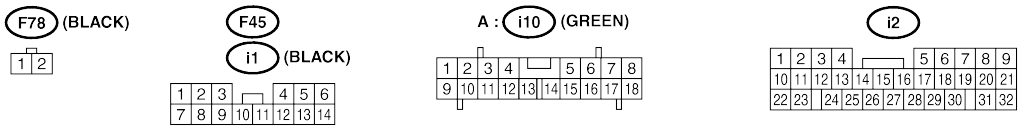


SL96-20

3. OUTSIDE TEMPERATURE INDICATOR RHD MODEL S907607A2104

O/T(R)-01





SR96-20

B: INSPECTION S907607A10

CAUTION:
When measuring voltage and resistance of the ECM, TCM, or each sensor, use a tapered pin with a diameter of less than 0.64 mm (0.025 in) in order to avoid poor contact. Do not insert the pin more than 2 mm (0.08 in).

1. SYMPTOM CHART S907607A1007

Symptom	Repair order	Reference
Combination meter assembly does not operate.	(1) Power supply (2) Ground circuit	<Ref. to IDI-8 CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Combination Meter System.>
Speedometer does not operate.	(1) (MT) Vehicle speed sensor (AT) Transmission control module (2) Harness (3) Speedometer	MT: <Ref. to IDI-9 CHECK VEHICLE SPEED SENSOR, INSPECTION, Combination Meter System.>
		AT: <Ref. to IDI-11 CHECK TRANSMISSION CONTROL MODULE, INSPECTION, Combination Meter System.>
Tachometer does not operate.	(1) Engine control module (2) Harness (3) Tachometer	<Ref. to IDI-11 CHECK ENGINE CONTROL MODULE, INSPECTION, Combination Meter System.>
Fuel gauge does not operate.	(1) Fuel level sensor (2) Harness (3) Fuel gauge	<Ref. to IDI-12 CHECK FUEL LEVEL SENSOR, INSPECTION, Combination Meter System.>
Water temperature gauge does not operate.	(1) Engine coolant temperature sensor (2) Harness (3) Water temperature gauge	<Ref. to IDI-13 CHECK ENGINE COOLANT TEMPERATURE SENSOR, INSPECTION, Combination Meter System.>
Outside temperature indicator does not operate.	(1) Ambient sensor (2) Harness (3) Combination meter	<Ref. to IDI-14 CHECK OUTSIDE TEMPERATURE INDICATOR, INSPECTION, Combination Meter System.>

2. CHECK POWER SUPPLY AND GROUND CIRCUIT S907607A1001

No.	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR COMBINATION METER.** 1) Remove combination meter. <Ref. to IDI-15 REMOVAL, Combination Meter Assembly.> 2) Disconnect combination meter harness connector. 3) Turn ignition switch to ON. 4) Measure voltage between combination meter connector (i10) and chassis ground. ***Connector & terminal*** ***(i10) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check harness for open or short between fuse and combination meter.
2	**CHECK POWER SUPPLY FOR COMBINATION METER.** Measure voltage between combination meter connector (i10) and chassis ground. ***Connector & terminal*** ***(i10) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3**.	Check harness for open or short between ignition relay and combination meter.
3	**CHECK GROUND CIRCUIT OF COMBINATION METER.** 1) Turn ignition switch to OFF. 2) Measure resistance of harness between combination meter connector (i10) and chassis ground. ***Connector & terminal*** ***(i10) No. 3 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	Replace combination meter printed circuit.	Repair wiring harness.

3. CHECK VEHICLE SPEED SENSOR

S907607A1002

No.	Step	Check	Yes	No
1	**CHECK VEHICLE SPEED SENSOR.** 1) Set the vehicle on a free roller, or lift-up the vehicle and support it with safety stands. 2) Remove the combination meter with harness connector. **WARNING:** **Be careful not to get caught in the running wheels.** 3) Drive the vehicle at a speed greater than 20 km/h (12 MPH). 4) Measure voltage between combination meter connector (i10) and chassis ground. ***Connector & terminal*** ***(i10) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V ←→ more than 4?	Check speedometer. <Ref. to IDI-17 REMOVAL, Speedometer.>	Go to step **2**.
2	**CHECK VEHICLE SPEED SENSOR POWER SUPPLY.** 1) Turn ignition switch to OFF. 2) Disconnect vehicle speed sensor harness connector. 3) Turn ignition switch to ON. 4) Measure voltage between vehicle speed sensor connector (B17) and engine ground. ***Connector & terminal*** ***(B17) No. 3 (+) — Engine ground (–):***	Is the voltage more than 10 V?	Go to step **3**.	Check harness for open or short between ignition relay and vehicle speed sensor.
3	**CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND ENGINE GROUND.** 1) Turn ignition switch to OFF. 2) Measure resistance between vehicle speed sensor connector (B17) and engine ground. ***Connector & terminal*** ***(B17) No. 2 (+) — Engine ground (–):***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair wiring harness.
4	**CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND COMBINATION METER.** 1) Disconnect connector from combination meter. 2) Measure resistance between vehicle speed sensor harness connector and combination meter harness connector. ***Connector & terminal*** ***(B17) No. 1 — (i10) No. 7:***	Is the resistance less than 10 Ω?	Replace vehicle speed sensor.	Repair wiring harness.

4. CHECK TRANSMISSION CONTROL MODULE S907607A1008

No.	Step	Check	Yes	No
1	**CHECK TRANSMISSION CONTROL MODULE SIGNAL.** 1) Set the vehicle on a free roller, or lift-up the vehicle and support it with safety stands. **WARNING:** **Be careful not to get caught in the running wheels.** 2) Drive the vehicle faster than 10 km/h (6 MPH). 3) Measure voltage between transmission control module connector (B55) and chassis ground. ***Connector & terminal*** ***(B56) No. 17 (+) — Chassis ground (–):***	Is the voltage less than 1 V ⟷ more than 4 V?	Go to step **2**.	Check transmission control module. <Ref. to AT-2 Basic Diagnostic Procedure.>
2	**CHECK HARNESS BETWEEN TRANSMISSION CONTROL MODULE AND COMBINATION METER.** 1) Turn ignition switch to OFF. 2) Disconnect connector from transmission control module and combination meter. 3) Measure resistance between transmission control module harness connector (B55) and combination meter harness connector (i10). ***Connector & terminal*** ***(B56) No. 17 — (i10) No. 7:***	Is the resistance less than 10 Ω?	Check speed meter. <Ref. to IDI-17 REMOVAL, Speedometer.>	Repair wiring harness.

5. CHECK ENGINE CONTROL MODULE

S907607A1004

No.	Step	Check	Yes	No
1	**CHECK ENGINE CONTROL MODULE SIGNAL.** 1) Start the engine. 2) Measure voltage between engine control module connector (B84, B134 or B136) and engine ground. ***Connector & terminal*** ***SOHC model:*** ***(B134) No. 30 (+) — Engine ground (–):*** ***SOHC without OBD model:*** ***(B84) No. 6 (+) — Engine ground (–):*** ***DOHC turbo model:*** ***(B136) No. 9 (+) — Engine ground (–):***	Is the voltage 0 ←→ 13 V or more?	Go to step **2**.	Check engine control module. <Ref. to EN(SOHC)-2, Basic Diagnostic Procedure.>, <Ref. to EN(SOHCw/oOBD)-2, Basic Diagnostic Procedure.> or <Ref. to EN(DOHC TURBO)-2, Basic Diagnostic Procedure.>
2	**CHECK HARNESS BETWEEN COMBINATION METER AND ENGINE CONTROL MODULE.** 1) Turn ignition switch to OFF. 2) Disconnect connector from engine control module and combination meter. 3) Measure resistance between engine control module harness connector (B84, B134 or B136) and combination meter harness connector (i11). ***Connector & terminal*** ***SOHC model:*** ***(B134) No. 30 — (i10) No. 8:*** ***SOHC without OBD model:*** ***(B84) No. 6 (+) — (i10) No. 8:*** ***DOHC turbo model:*** ***(B136) No. 9 (+) — (i10) No. 8:***	Is the resistance less than 10 Ω?	Check tachometer. <Ref. to IDI-18 REMOVAL, Tachometer.>	Repair wiring harness.

6. CHECK FUEL LEVEL SENSOR S907607A1005

No.	Step	Check	Yes	No
1	**CHECK FUEL LEVEL SENSOR.** 1) Remove fuel level sensor. <Ref. to FU(SOHC)-64, REMOVAL, Fuel Level Sensor.>, <Ref. to FU(SOHCw/oOBD)-52, REMOVAL, Fuel Level Sensor.> or <Ref. to FU(DOHC TURBO)-62, REMOVAL, Fuel Level Sensor.> 2) Measure resistance between fuel level sensor terminals when setting the float to FULL and EMPTY position. ***Terminals*** ***No. 3 — No. 5:***	Is the resistance 0.5 to 2.5 Ω (FULL) and 50 to 52 Ω (EMPTY)?	Go to step **2**.	Replace the fuel level sensor.
2	**CHECK FUEL SUB LEVEL SENSOR.** 1) Remove fuel sub level sensor. <Ref. to FU(SOHC)-65, REMOVAL, Fuel Sub Level Sensor.>, <Ref. to FU(SOHCw/oOBD)-53, REMOVAL, Fuel Sub Level Sensor.> or <Ref. to FU(DOHC TURBO)-63, REMOVAL, Sub Fuel Level Sensor.> 2) Measure resistance between fuel sub level sensor terminals when setting the float to FULL and EMPTY position. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance 0.5 to 2.5 Ω (FULL) and 42 to 44 Ω (EMPTY)?	Go to step **3**.	Replace the fuel sub level sensor.
3	**CHECK HARNESS BETWEEN FUEL SUB LEVEL SENSOR AND COMBINATION METER.** 1) Disconnect connector from combination meter. 2) Measure resistance between fuel sub level sensor harness connector terminal and combination meter harness connector terminal. ***Connector & terminal*** ***(R59) No. 1 — (i11) No. 10:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair wiring harness.
4	**CHECK HARNESS BETWEEN FUEL LEVEL SENSOR AND FUEL SUB LEVEL SENSOR.** Measure resistance between fuel level sensor harness connector terminal and fuel sub level sensor harness connector terminal. ***Connector & terminal*** ***(R58) No. 3 — (R59) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair wiring harness.
5	**CHECK FUEL LEVEL SENSOR GROUND CIRCUIT.** Measure resistance between fuel level sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(R58) No. 5 — Chassis ground:***	Is the resistance less than 10 Ω?	Check fuel gauge. <Ref. to IDI-19, REMOVAL, Fuel Gauge.>	Repair wiring harness.

7. CHECK ENGINE COOLANT TEMPERATURE SENSOR S907607A1006

No.	Step	Check	Yes	No
1	**CHECK ENGINE COOLANT TEMPERATURE SENSOR.** Check engine coolant temperature sensor. <Ref. to EN(SOHC)-122, DTC P0117—ENGINE COOLANT TEMPERATURE SENSOR CIRCUIT LOW INPUT—, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>, <Ref. to EN(SOHCw/oOBD)-70, DTC21 ENGINE COOLANT TEMPERATURE SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> or <Ref. to EN(DOHC TURBO)-130, DTC P0117—ENGINE COOLANT TEMPERATURE SENSOR CIRCUIT LOW INPUT—, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Is engine coolant temperature sensor OK?	Go to step **2**.	Replace engine coolant temperature sensor.
2	**CHECK HARNESS BETWEEN ENGINE COOLANT TEMPERATURE SENSOR AND COMBINATION METER.** 1) Turn ignition switch to OFF. 2) Disconnect connector from engine coolant temperature sensor and combination meter. 3) Measure resistance between engine coolant temperature sensor harness connector (E8) and combination meter harness connector (i12). ***Connector & terminal*** ***(E8) No. 3 — (i12) No. 13:***	Is the resistance less than 10 Ω?	Check water temperature gauge. <Ref. to IDI-20 REMOVAL, Water Temperature Gauge.>	Repair wiring harness.

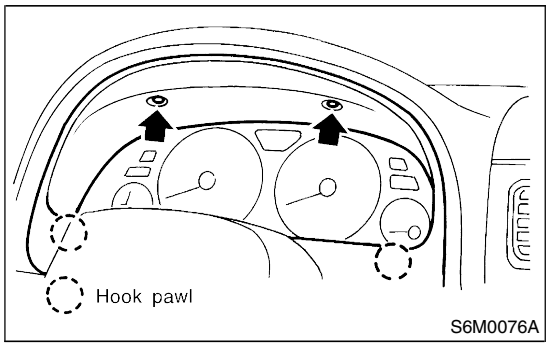
8. CHECK OUTSIDE TEMPERATURE INDICATOR S907607A1009

No.	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR AMBIENT SENSOR.** 1) Turn ignition switch OFF. 2) Disconnect connector from ambient sensor. 3) Turn ignition switch ON. 4) Measure voltage between ambient sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(F78) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 4 V?	Go to step **2**.	Check harness for open or short between ambient sensor and combination meter.
2	**CHECK AMBIENT SENSOR.** 1) Turn ignition switch OFF. 2) Remove ambient sensor. 3) Check ambient sensor. <Ref. to IDI-21 INSPECTION, Ambient Sensor.>	Is the ambient sensor OK?	Go to step **3**.	Replace the ambient sensor.
3	**CHECK HARNESS BETWEEN AMBIENT SENSOR AND COMBINATION METER.** 1) Disconnect connector from combination meter. 2) Measure resistance between ambient sensor harness connector terminal and combination meter harness connector terminal. ***Connector & terminal*** ***(F78) No. 1 — (i10) No. 4:*** ***(F78) No. 2 — (i10) No. 5:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair wiring harness.
4	**CHECK OUTSIDE TEMPERATURE INDICATOR.** 1) Connect combination meter harness connector. 2) Connect a resistor (3.0 kΩ) between terminals of ambient sensor harness connector. 3) Turn ignition switch ON and check the outside temperature indicator display.	Is the outside temperature indicator indicating 25°C (77°F)?	Check poor contact in ambient sensor harness connector.	Replace combination meter printed circuit.

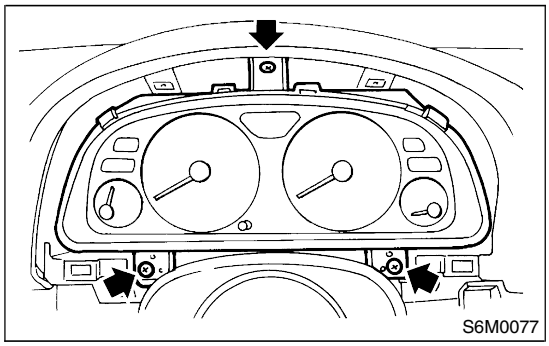
3. Combination Meter Assembly S907335

A: REMOVAL S907335A18

1) Disconnect ground cable from battery.
2) Set tilt steering at the lowest position.
3) Remove screws and detach meter visor.



4) Remove screws of combination meter and pull out the meter toward you.



5) Disconnect connector in the upper area of combination meter to remove meter.

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

B: INSTALLATION S907335A11

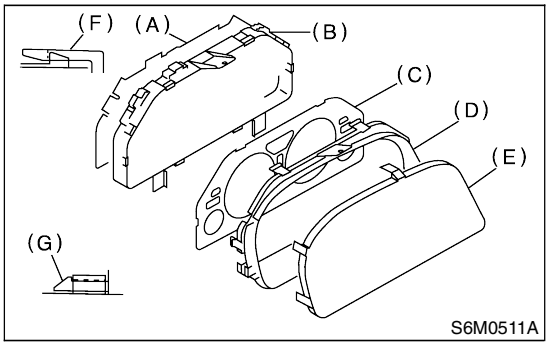
Install in the reverse order of removal.

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

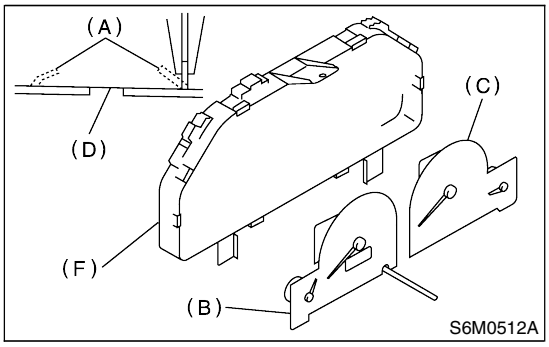
C: DISASSEMBLY S907335A06

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

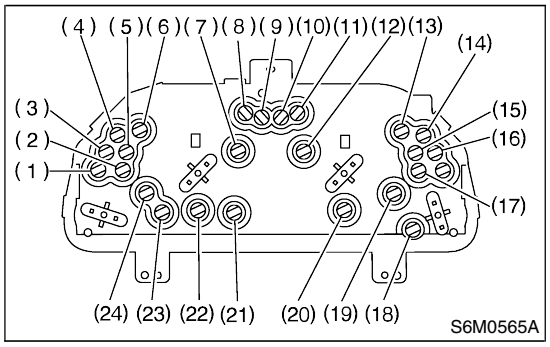
1) Disengage claw (F) to remove case (B) from back cover (A).
2) Disengage claw (G) to remove meter glass (E), reflector (D), and window plate (C) from inner case.



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



1. BULB REPLACEMENT S907335A0601



(1) Check engine
(2) Oil pressure
(3) Charge
(4) Seat belt (RHD)
(5) AT oil temp.
(6) Brake
(7) Tachometer
(8) Turn RH
(9) Airbag warning light
(10) HI-beam
(11) Turn LH
(12) Speedometer
(13) FWD
(14) Seat belt (LHD)
(15) ABS
(16) AWD LO
(17) R. DIFF TEMP
(18) Low fuel
(19) Speedometer and fuel gauge
(20) Odometer and trip meter
(21) HOLD
(22) Outside air temperature display
(23) POWER
(24) Tachometer and temperature gauge

D: ASSEMBLY S907335A02

Assemble in the reverse order of disassembly.

4. Speedometer S907608

A: REMOVAL S907608A18

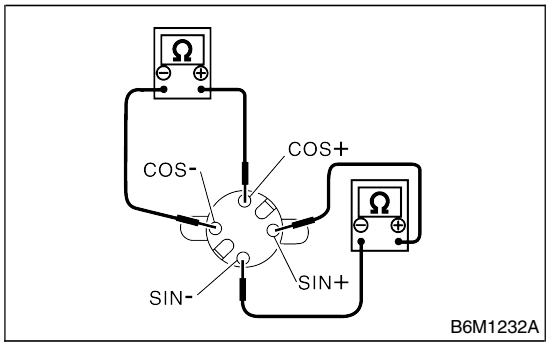
Disassemble combination meter, and then remove speedometer and fuel gauge assembly. <Ref. to IDI-15 DISASSEMBLY, Combination Meter Assembly.>

B: INSTALLATION S907608A11

Install in the reverse order of removal.

C: INSPECTION S907608A10

Measure resistance between speedometer terminals.



Tester connection	Resistance
Terminals SIN+ —SIN—	200±8 Ω
Terminals COS+ —COS—	200±8 Ω

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

5. Tachometer S907609

A: REMOVAL S907609A18

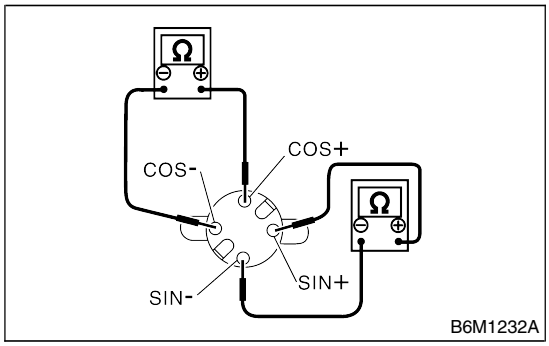
Disassemble combination meter, and then remove tachometer and water temperature gauge assembly. <Ref. to IDI-15 DISASSEMBLY, Combination Meter Assembly.>

B: INSTALLATION S907609A11

Install in the reverse order of removal.

C: INSPECTION S907609A10

Measure resistance between tachometer terminals.



Tester connection	Resistance
Terminals SIN+ —SIN—	200±8 Ω
Terminals COS+ —COS—	200±8 Ω

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

6. Fuel Gauge S907610

A: REMOVAL S907610A18

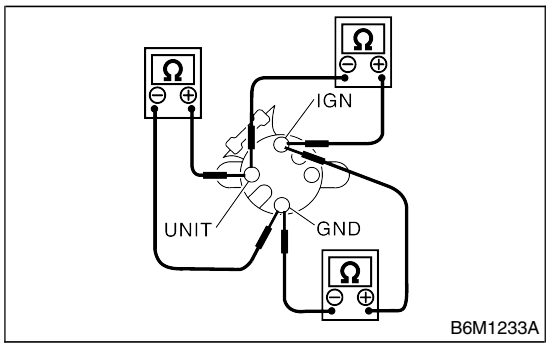
Disassemble combination meter, and then remove speedometer and fuel gauge assembly. <Ref. to IDI-15 DISASSEMBLY, Combination Meter Assembly.>

B: INSTALLATION S907610A11

Install in the reverse order of removal.

C: INSPECTION S907610A10

Measure resistance between fuel gauge terminals.



Tester connection	Resistance
Terminals IGN — GND	170±10 Ω
Terminals IGN — UNIT	35±10 Ω
Terminals UNIT — GND	136±10 Ω

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

7. Water Temperature Gauge S907611

A: REMOVAL S907611A18

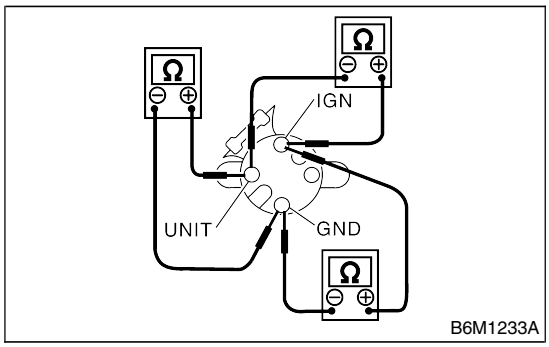
Disassemble combination meter, and then remove tachometer and water temperature gauge assembly. <Ref. to IDI-15 DISASSEMBLY, Combination Meter Assembly.>

B: INSTALLATION S907611A11

Install in the reverse order of removal.

C: INSPECTION S907611A10

Measure resistance between fuel gauge terminals.



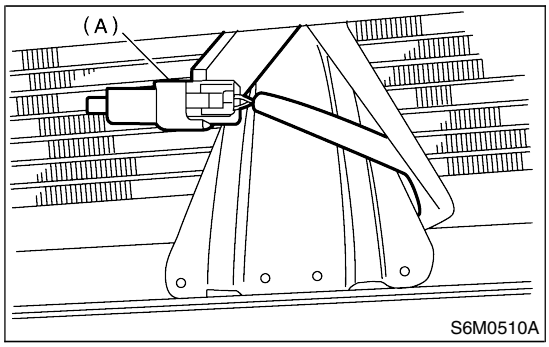
Tester connection	Resistance
Terminals IGN — GND	208±10 Ω
Terminals IGN — UNIT	56±10 Ω
Terminals UNIT — GND	264±10 Ω

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

8. Ambient Sensor S907644

A: REMOVAL S907644A18

1) Disconnect ground cable from battery.
2) Disconnect ambient sensor connector.
3) Remove ambient sensor (A) from radiator lower panel.

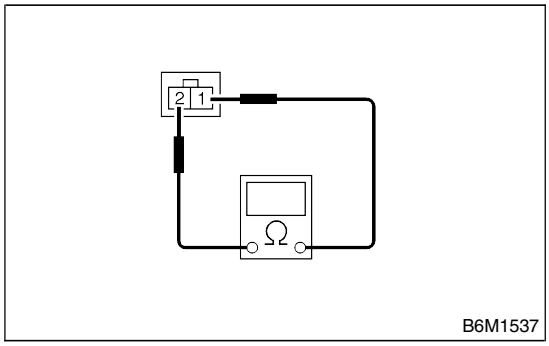


B: INSTALLATION S907644A11

Install in the reverse order of removal.

C: INSPECTION S907644A10

Measure resistance between ambient sensor terminals.



Tester connection	Resistance
1 — 2	3.0 kΩ/25°C (77°F)

If NG, replace the ambient sensor.

MEMO:

SEATS

SE

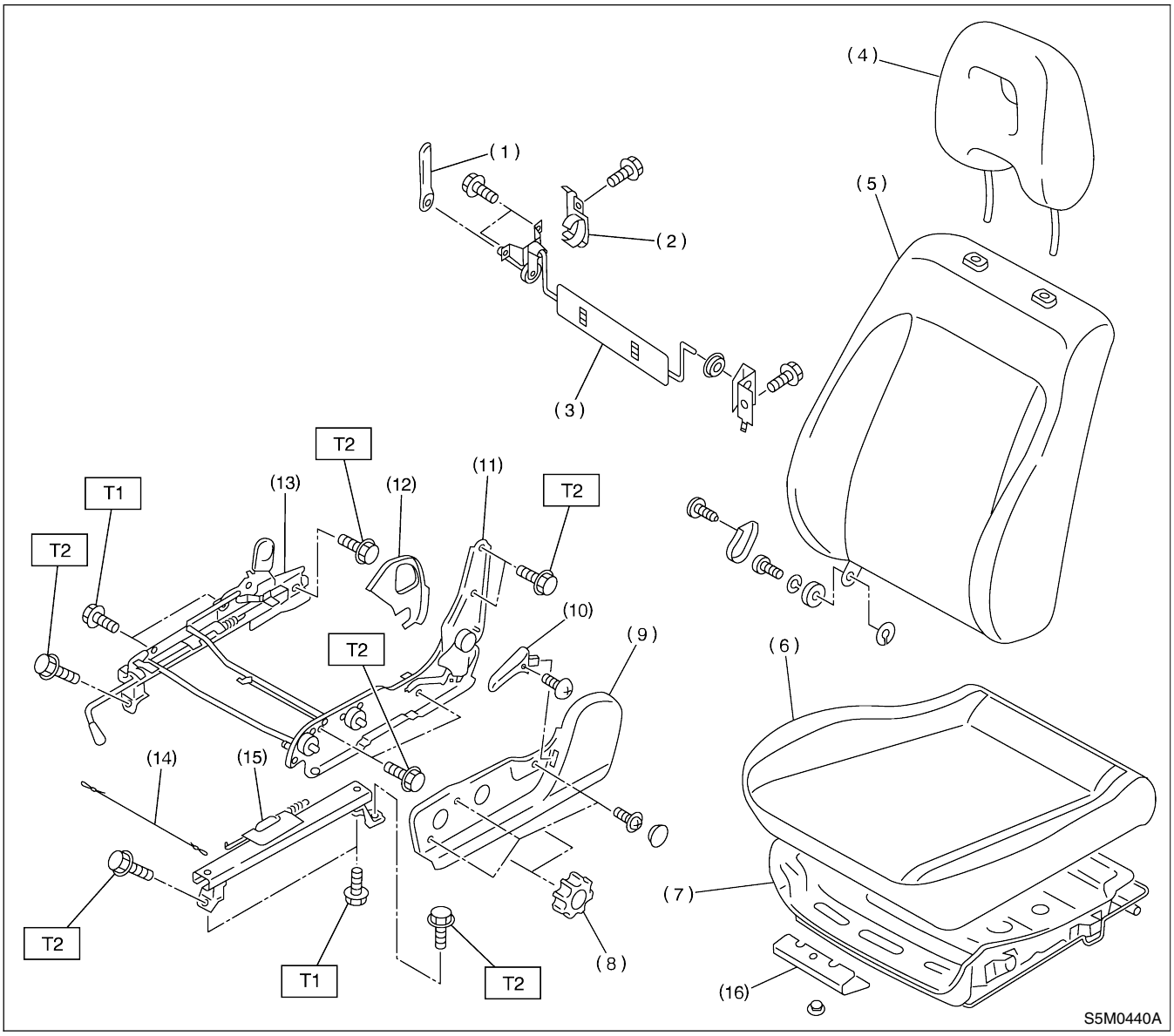
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1. General Description S908001

A: COMPONENT S908001A05

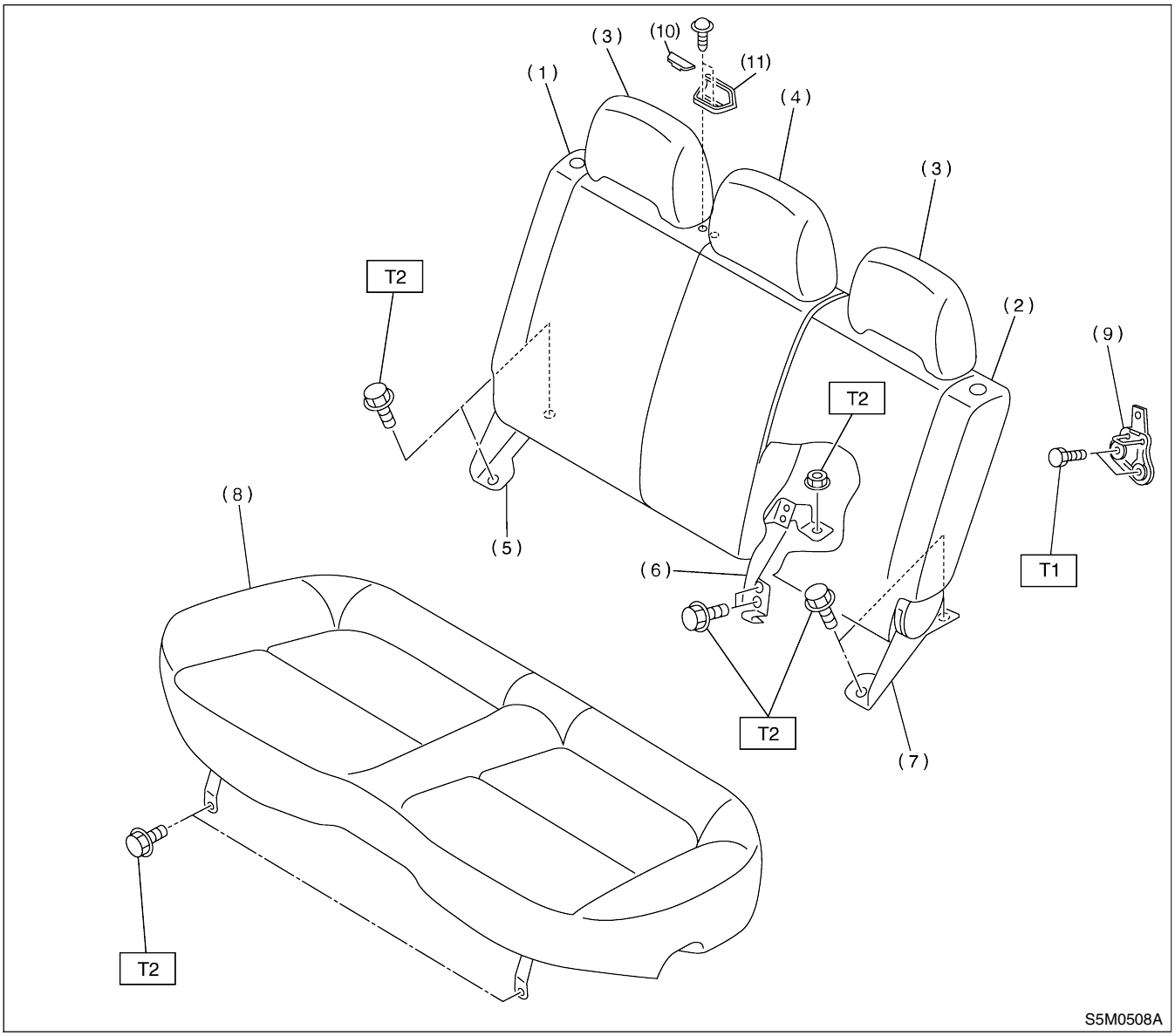
1. FRONT SEAT S908001A0501



(1) Lumbar lever
(2) Lumbar cover
(3) Lumbar unit
(4) Headrest
(5) Backrest
(6) Cushion
(7) Cushion frame
(8) Lifter dial
(9) Hinge cover OUT
(10) Reclining lever
(11) Hinge ASSY
(12) Hinge spring cover
(13) Slide rail ASSY IN
(14) Connecting wire
(15) Slide rail ASSY OUT
(16) Bracket

Tightening torque: N·m (kgf-m, ft-lb)
T1: 18 (1.8, 13)
T2: 52 (5.3, 38)

2. REAR SEAT S908001A0505



(1) Backrest RH
(2) Backrest LH
(3) Headrest OUTSIDE
(4) Headrest CENTER
(5) Hinge RH
(6) Hinge CENTER
(7) Hinge LH
(8) Cushion
(9) Striker
(10) Cap
(11) Webbing guide

Tightening torque: N·m (kgf-m, ft-lb)
T1: 10 (1.0, 7.2)
T2: 25 (2.5, 18.1)

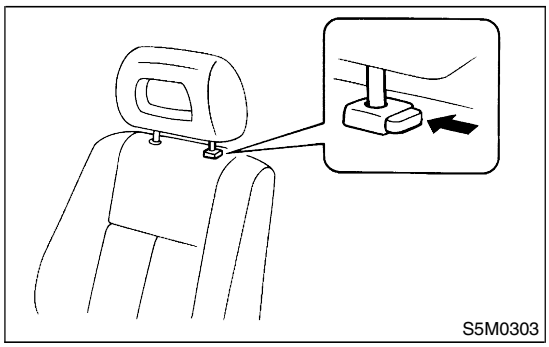
B: CAUTION S908001A03

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

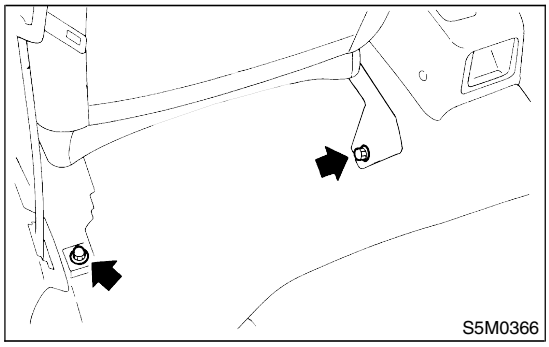
2. Front Seat S908343

A: REMOVAL S908343A18

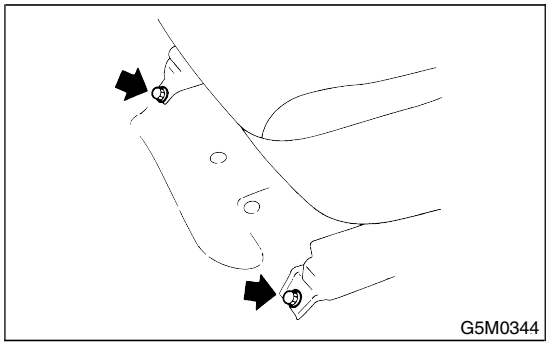
1) While operating button (located on top of backrest), lift headrest out with hand placed between backrest and headrest.


S5M0303

2) Pull reclining lever back to fold backrest all the way forward. While pulling slide adjuster lever, move seat all the way forward.
3) Remove bolt cover at rear end of slide rail.
4) Remove bolts securing seat rear.


S5M0366

5) While pulling slide adjuster lever, slide seat all the way back.
6) Remove bolts securing front of seat.

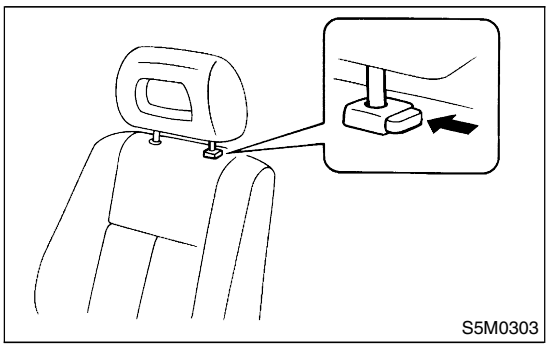

G5M0344

7) While disconnecting side airbag connector, detach front seat. (Side airbag equipped vehicle) and inner belt connector.

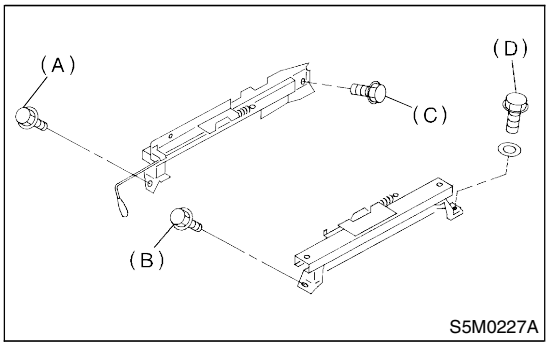
CAUTION:
• When removing seat from vehicle, take care not to damage body, seat, or trim.
• After the front seat has been removed from side airbag equipped vehicle, store it as instructed in AIRBAG REPAIR SECTION. <Ref. to AB-15, CAUTION, Side Airbag Module.>

B: INSTALLATION S908343A11

1) While operating button (located on top of backrest), lift headrest out by placing your hand between backrest and headrest.


S5M0303

2) Pull reclining lever back to fold backrest all the way forward. Pull slide adjuster lever and move lower slide rail all the way backward.
3) Position seat in compartment and align the holes on the seat with the holes on the vehicle body side.
4) Secure the front of seat using inward and outward bolts (A) and (B) in that order.
5) While pulling slide adjuster lever, move seat all the way forward.
6) Secure the rear of seat using inward and outward bolts (C) and (D).



S5M0227A

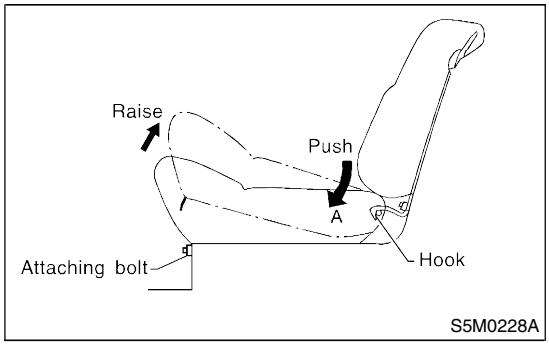
7) Connect inner belt connector.
8) Connect side airbag connector. (Side airbag equipped model)
9) Install bolt cover on rear end of slide rail.
10) Install headrest on backrest.

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

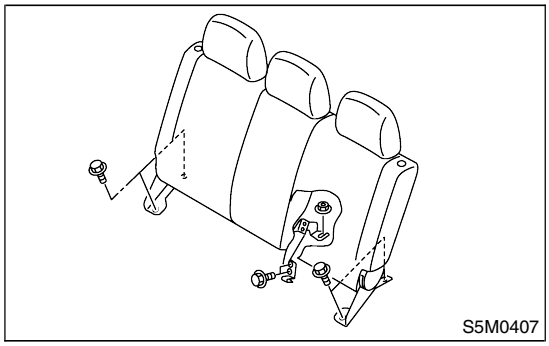
3. Rear Seat S908350

A: REMOVAL S908350A18

1) Remove bolts securing hinges (located at front of cushion) to body.
2) Slightly raise front of cushion while pushing down on cushion in the direction of “A”. With cushion held in that position, move it forward until it is unhooked.



3) Remove rear quarter lower trim. <Ref. to EI-39, REMOVAL, Rear Quarter Trim.>
4) Remove bolts and nuts.



5) Detach backrest.

B: INSTALLATION S908350A11

Install in the reverse order of removal.

SECURITY AND LOCKS

SL

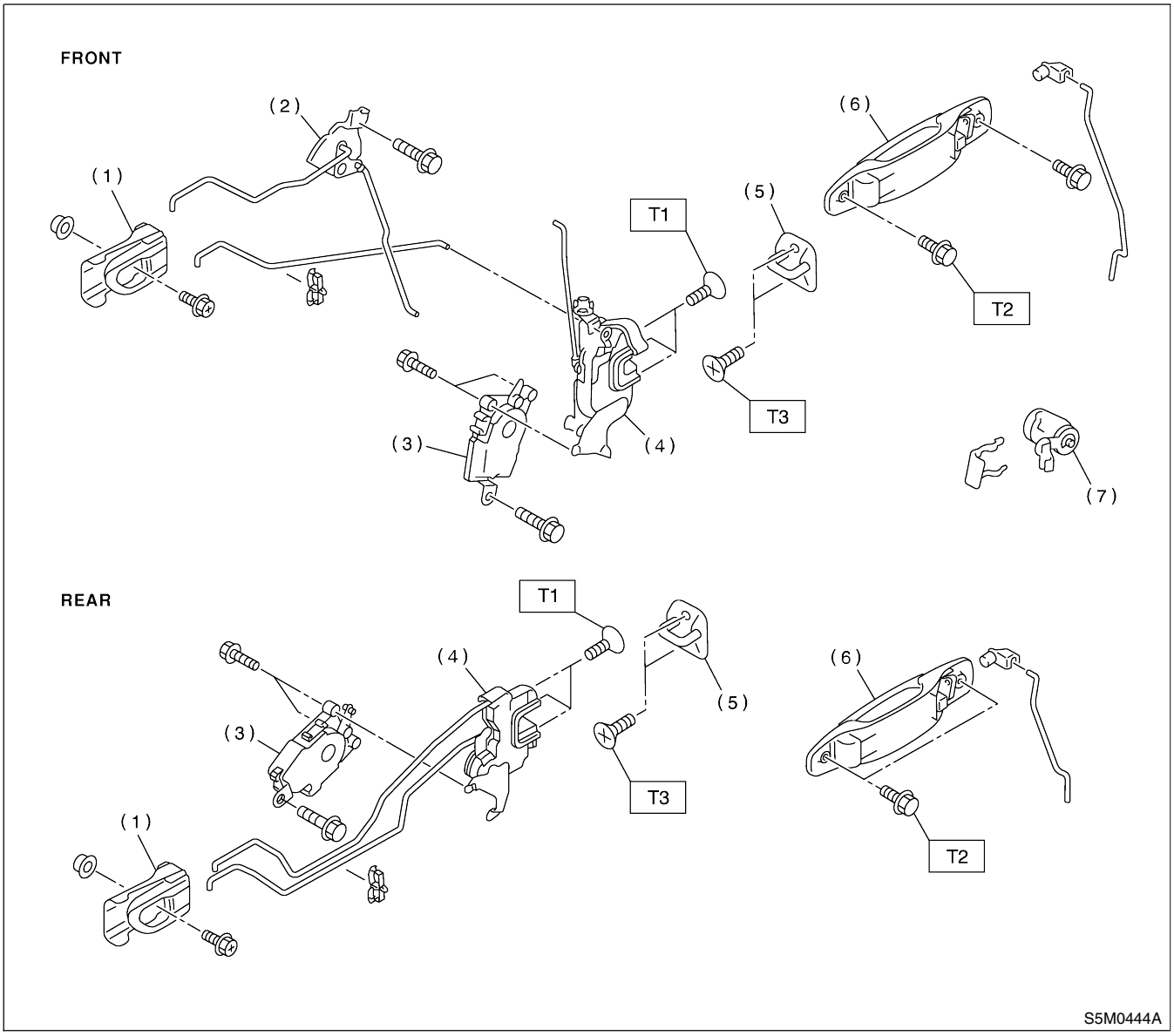
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1. General Description S909001

A: SPECIFICATIONS S909001E49

B: COMPONENT S909001A05

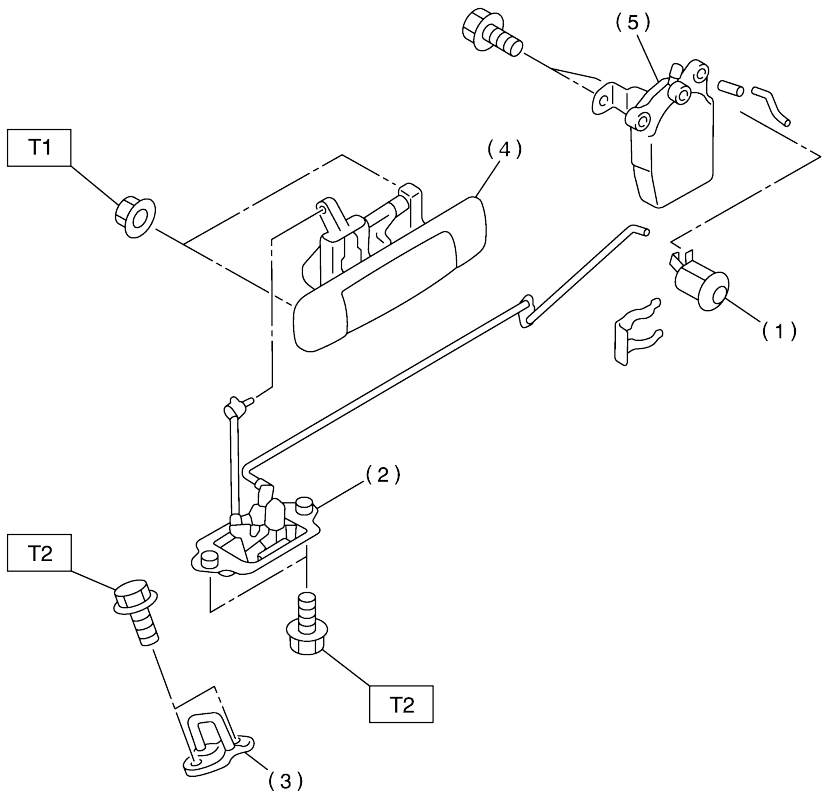
1. DOOR LOCK ASSEMBLY S909001A0501



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

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.4 (0.65, 4.7)
T2: 7.4 (0.75, 5.4)
T3: 14 (1.4, 10.1)

2. REAR GATE LOCK S909001A0502

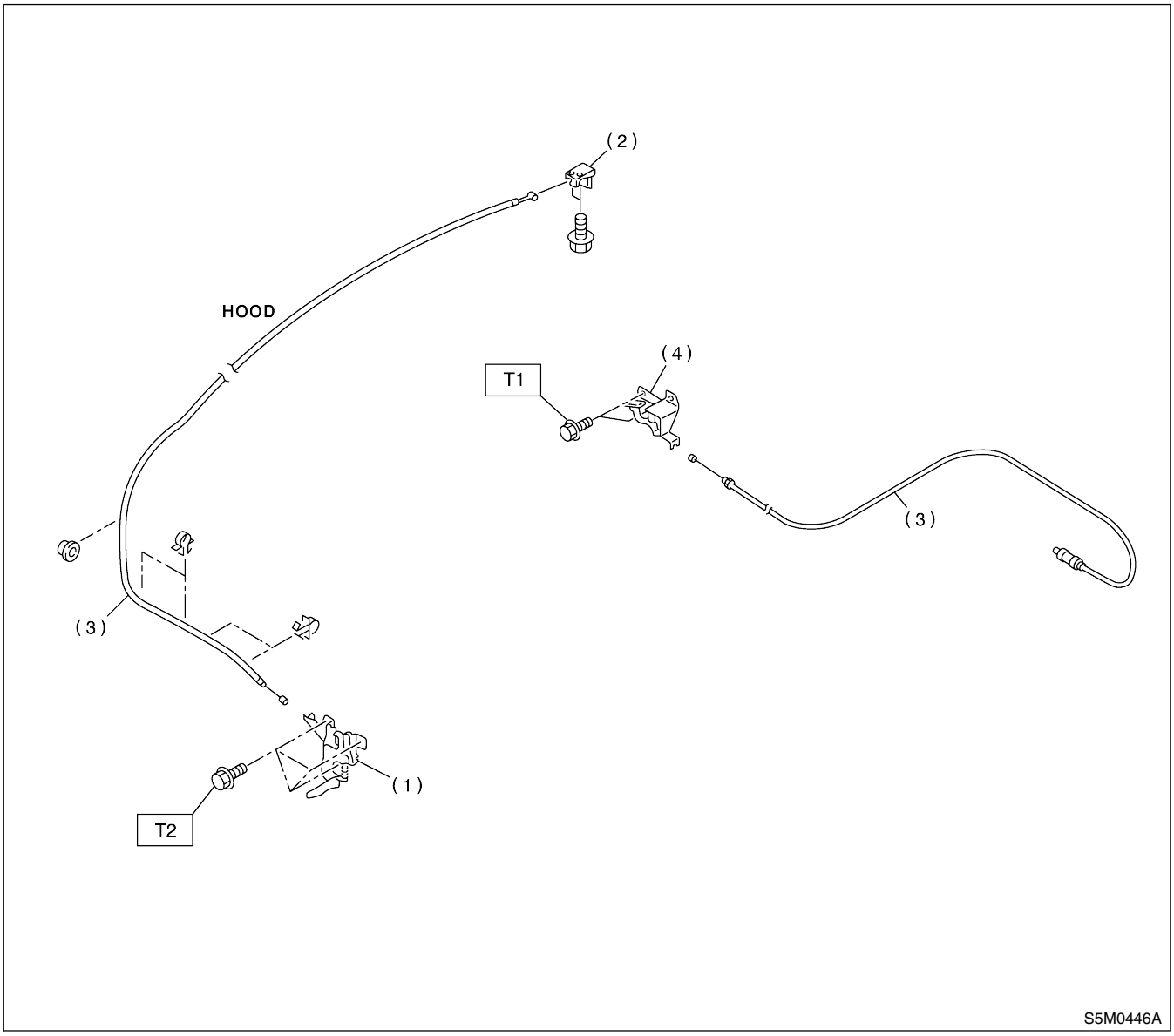


S5M0445A

(1) Key cylinder
(2) Rear gate latch
(3) Striker
(4) Rear gate outer handle
(5) Rear gate actuator

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.4 (0.75, 5.4)
T2: 25 (2.5, 18.1)

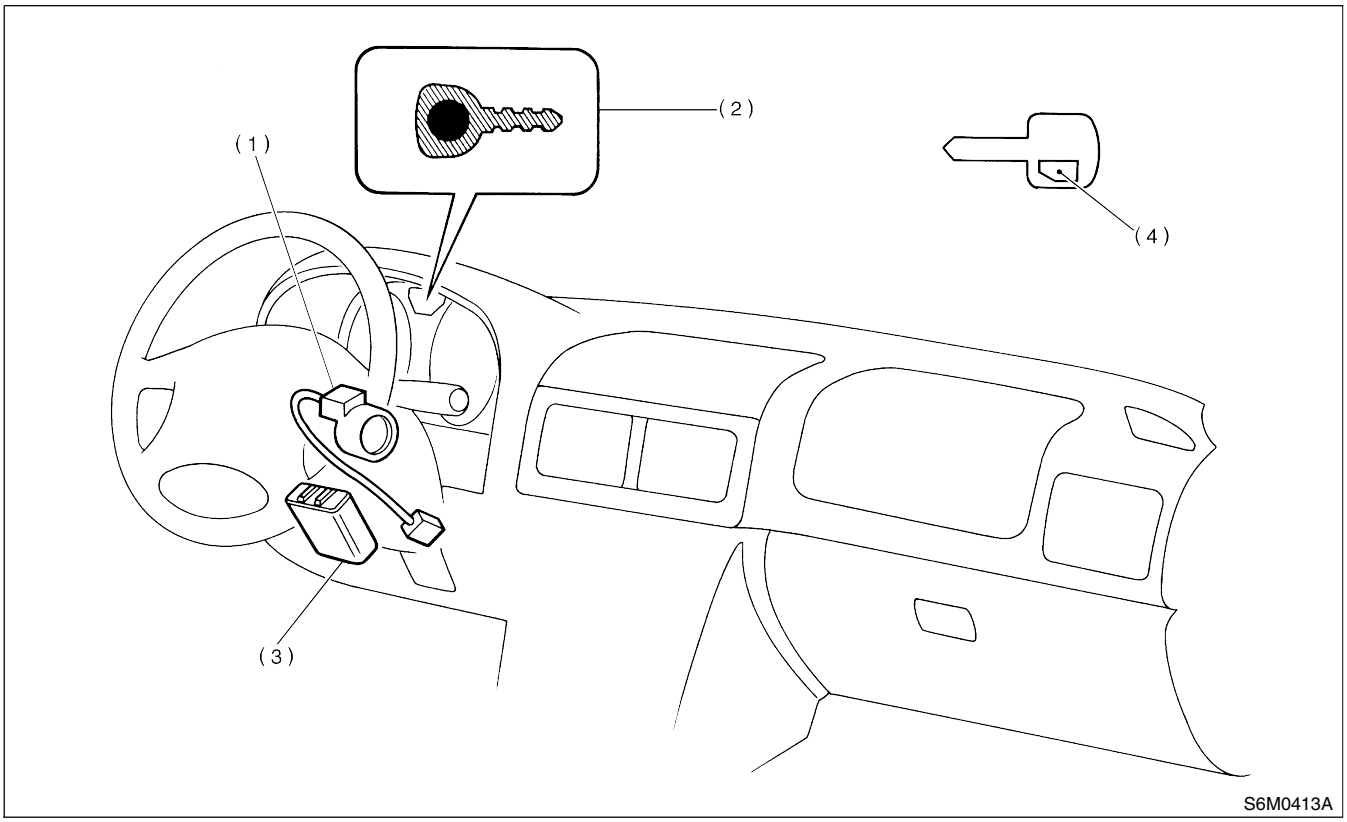
3. HOOD LOCK AND REMOTE OPENERS S909001A0503



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

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.4 (0.65, 4.7)
T2: 32 (3.3, 23.9)

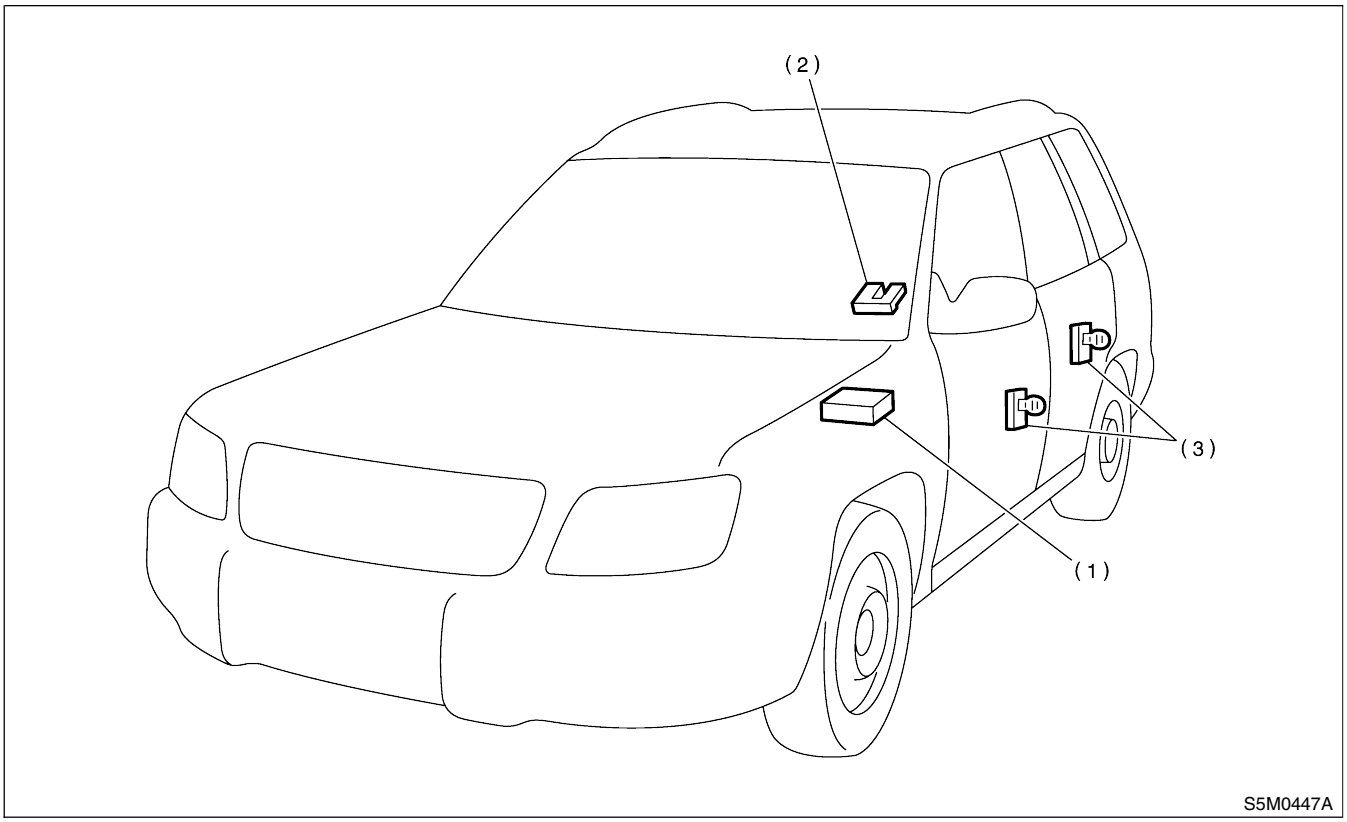
4. IMMOBILIZER SYSTEM S909001A0509



(1) Antenna
(2) Immobilizer indicator light (LED bulb)
(3) Immobilizer control module (IMM ECM): LHD model
(4) Transponder

NOTE:
IMM ECM location for RHD model is symmetrically opposite.

5. KEYLESS ENTRY SYSTEM S909001A0505



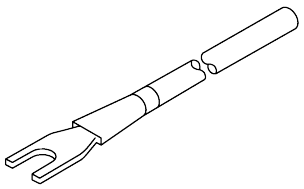
(1) Keyless entry control module (2) Rear gate latch switch (3) Door switch

C: CAUTION S909001A03

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

D: PREPARATION TOOL S909001A17

1. SPECIAL TOOLS S909001A1701

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

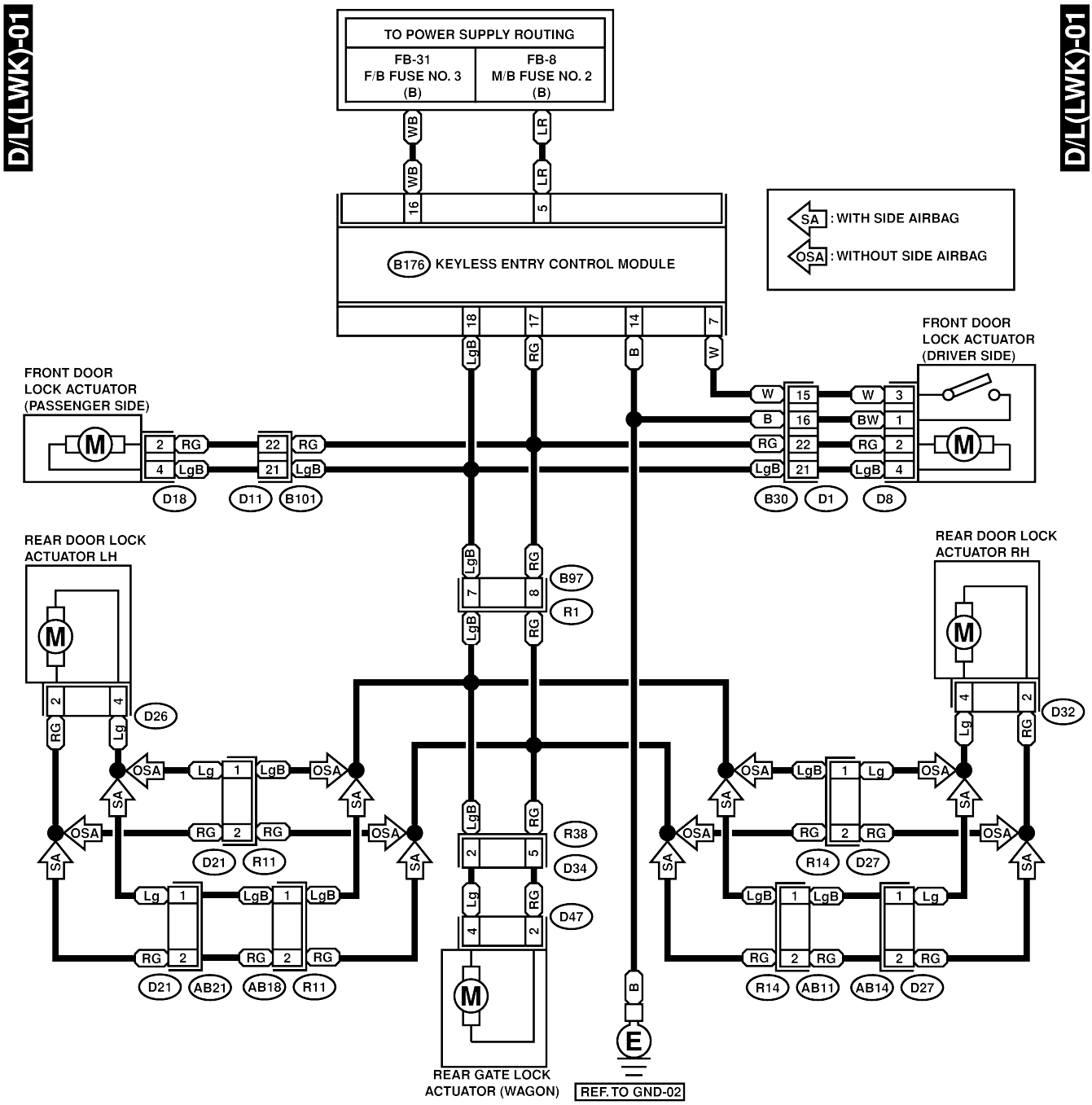
2. GENERAL TOOLS S909001A1702

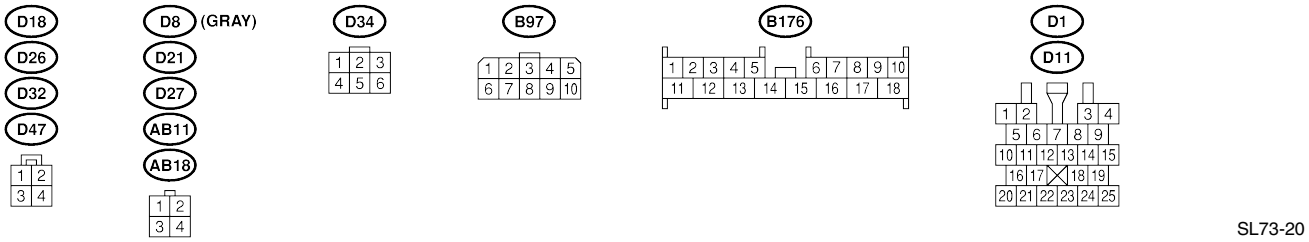
TOOL NAME	REMARKS
Circuit Tester	Used for measuring resistance and voltage.
Drill	Used for replacing ignition key lock.

2. Door Lock Control System S909348

A: SCHEMATIC S909348A21

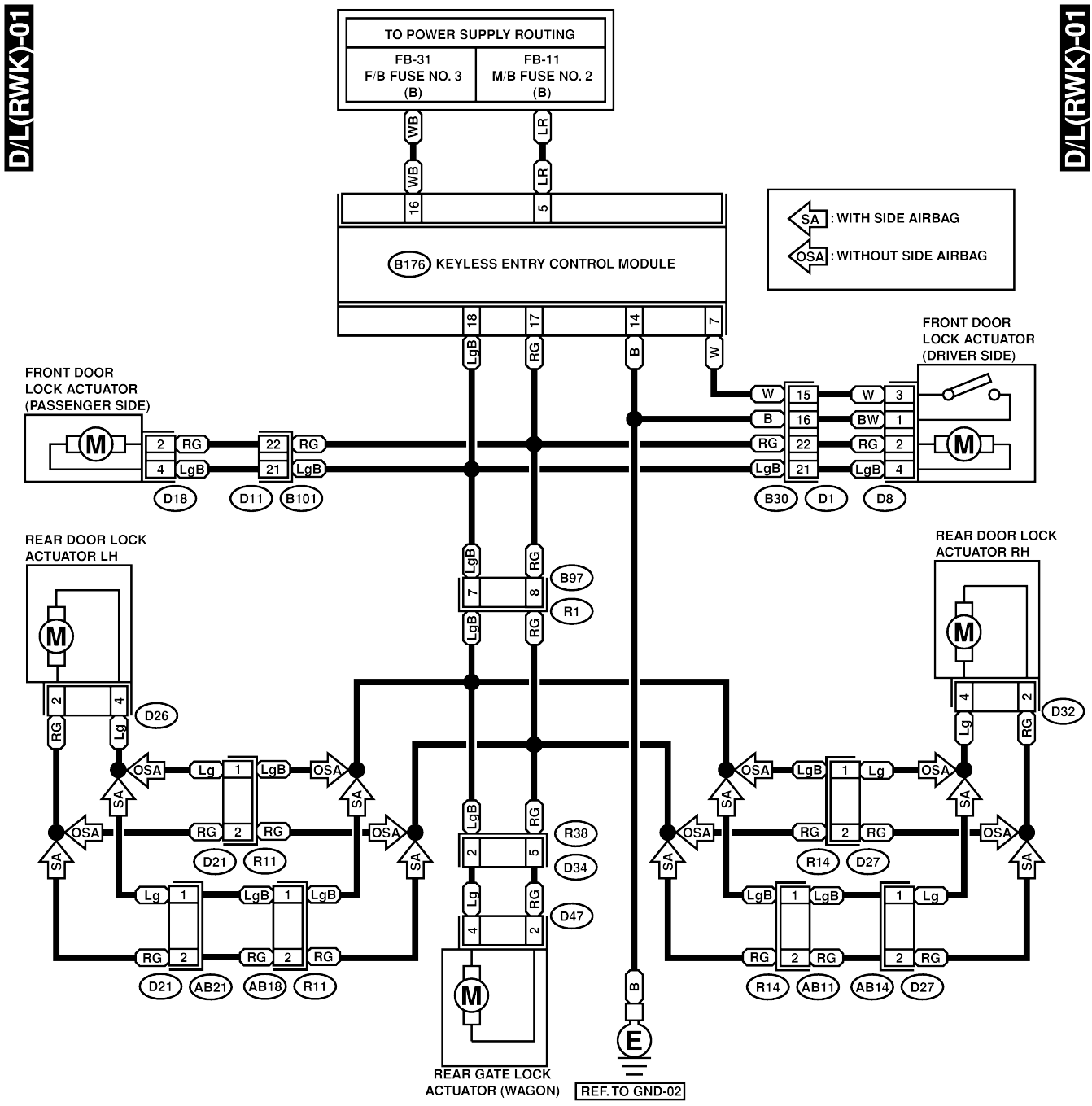
1. DOOR LOCK CONTROL LHD MODEL S909348A2106

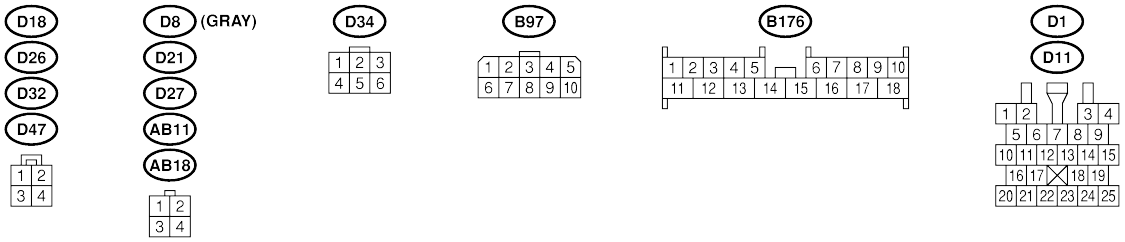




SL73-20

2. DOOR LOCK CONTROL RHD MODEL S909348A2107





SR73-20

B: INSPECTION S909348A10

1. SYMPTOM CHART S909348A1001

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 the keyless entry control module.	<Ref. to SL-11 CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.>
	3. Check the door lock switch and the circuit.	<Ref. to SL-11 CHECK DOOR LOCK SWITCH AND CIRCUIT, INSPECTION, Door Lock Control System.>
	4. Check the door lock actuator and the circuit.	<Ref. to SL-12 CHECK DOOR LOCK ACTUATOR AND CIRCUIT, INSPECTION, Door Lock Control System.>
The door lock switch (knob) does not operate.	Check the door lock switch and the circuit.	<Ref. to SL-11 CHECK DOOR LOCK SWITCH AND CIRCUIT, INSPECTION, Door Lock Control System.>
A specific door lock actuator does not operate.	Check the door lock actuator and the circuit.	<Ref. to SL-12 CHECK DOOR LOCK ACTUATOR AND CIRCUIT, INSPECTION, Door Lock Control System.>

2. CHECK FUSE S909348A1002

No.	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check fuse No. 2 (in the main fuse box) and No. 3 (in the fuse and relay box).	Is the fuse blown (15A)?	Replace the fuse with a new one.	Check power supply and ground circuit. <Ref. to SL-11 CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.>

3. CHECK POWER SUPPLY AND GROUND CIRCUIT S909348A1003

No.	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect the door lock timer or keyless entry control module harness connector. 2) Measure the voltage between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B176) No. 5 (+) — Chassis ground (–):*** ***(B176) No. 16 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check the harness for open circuits or shorts between the keyless entry control module and the fuse.
2	**CHECK GROUND CIRCUIT.** Measure the resistance between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B176) No. 14 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	Power supply and ground circuit is OK.	Repair harness.

4. CHECK DOOR LOCK SWITCH AND CIRCUIT S909348A1004

No.	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH CIRCUIT.** 1) Disconnect the keyless entry control module harness connector. 2) Measure the resistance between the harness connector terminal and chassis ground when moving the driver's door lock knob to UNLOCK. ***Connector & terminal*** ***(B176) No. 7 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	Go to step **2**.	Go to step **3**.
2	**CHECK DOOR LOCK SWITCH CIRCUIT.** Measure the resistance between the harness connector terminal and chassis ground when the driver's door lock knob is moved to LOCK. ***Connector & terminal*** ***(B176) No. 7 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	Go to step **3**.	The door lock switch is OK.
3	**CHECK DOOR LOCK SWITCH.** 1) Disconnect the driver's door lock switch (actuator) harness connector. 2) Check the continuity between the door lock switch terminals when moving the door lock knob to UNLOCK. ***Terminal*** ***No. 1 — No. 3:***	Does continuity exist?	Go to step **4**.	Replace the door lock switch (actuator).
4	**CHECK DOOR LOCK SWITCH.** Check the continuity between the door lock switch terminals when moving the door lock knob to LOCK. ***Terminal*** ***No. 1 — No. 3:***	Does continuity exist?	Replace the door lock switch (actuator).	Check the harness for open circuits or shorts between the keyless entry control module and the door lock switch.

5. CHECK DOOR LOCK ACTUATOR AND CIRCUIT S909348A1005

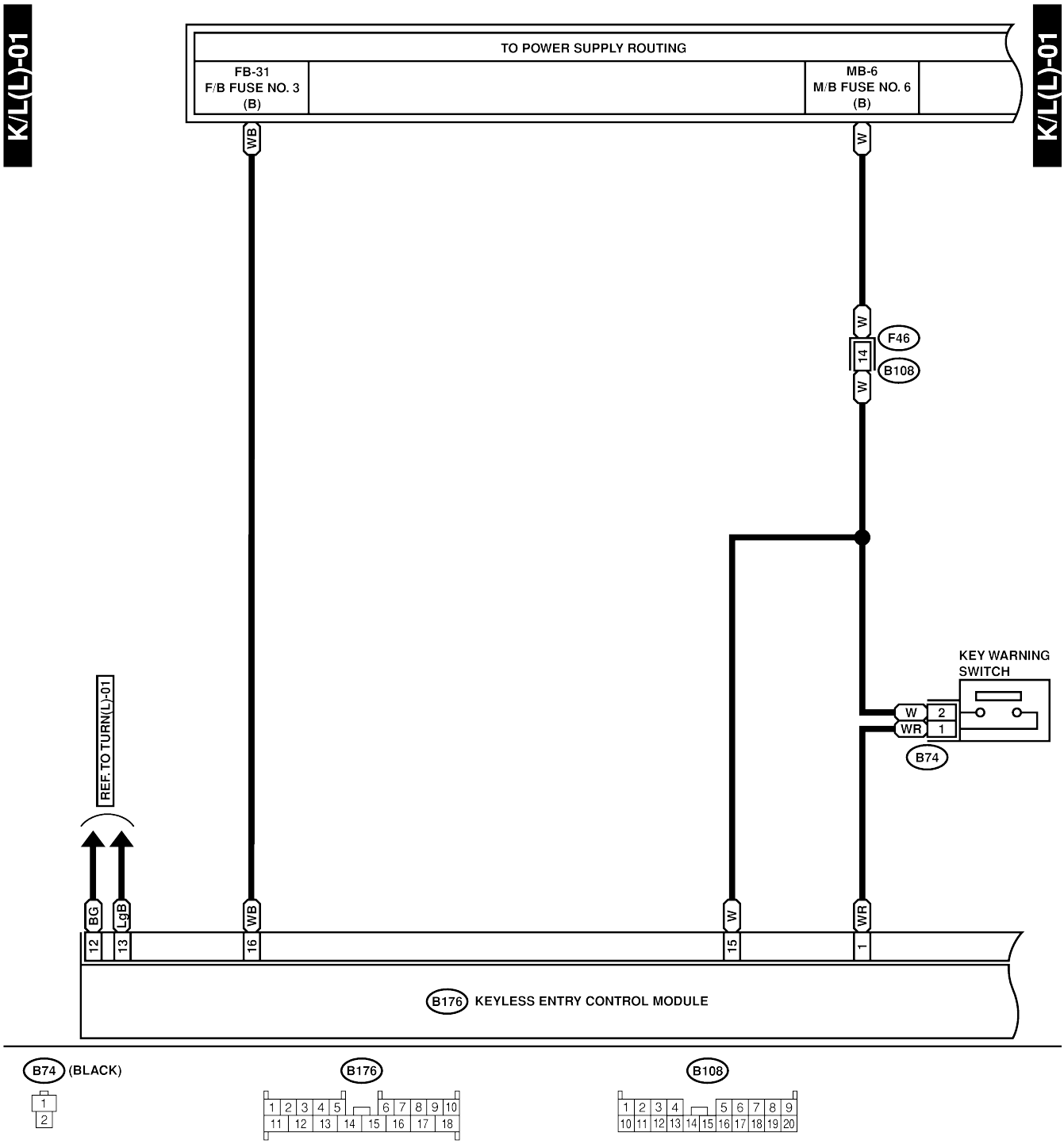
No.	Step	Check	Yes	No
1	**CHECK OUTPUT SIGNAL.** Measure the voltage between the harness connector terminal and chassis ground when moving the door lock knob to LOCK. ***Connector & terminal*** ***(B176) No. 18 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Replace the keyless entry control module.
2	**CHECK OUTPUT SIGNAL.** Measure the voltage between the harness connector terminal and chassis ground when moving the door lock knob to UNLOCK. ***Connector & terminal*** ***(B176) No. 17 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3**.	Replace the keyless entry control module.
3	**CHECK DOOR LOCK ACTUATOR.** Check the door lock actuator. Front door lock actuator: <Ref. to SL-30 Front Door Lock Actuator.> Rear door lock actuator: <Ref. to SL-34 Rear Door Lock Actuator.> Rear gate latch lock actuator: <Ref. to SL-37 Rear Gate Latch Lock Actuator.>	Is the door lock actuator OK?	Check the harness for open circuits or shorts between the keyless entry control module and the door lock actuator.	Replace the door lock actuator.

MEMO:

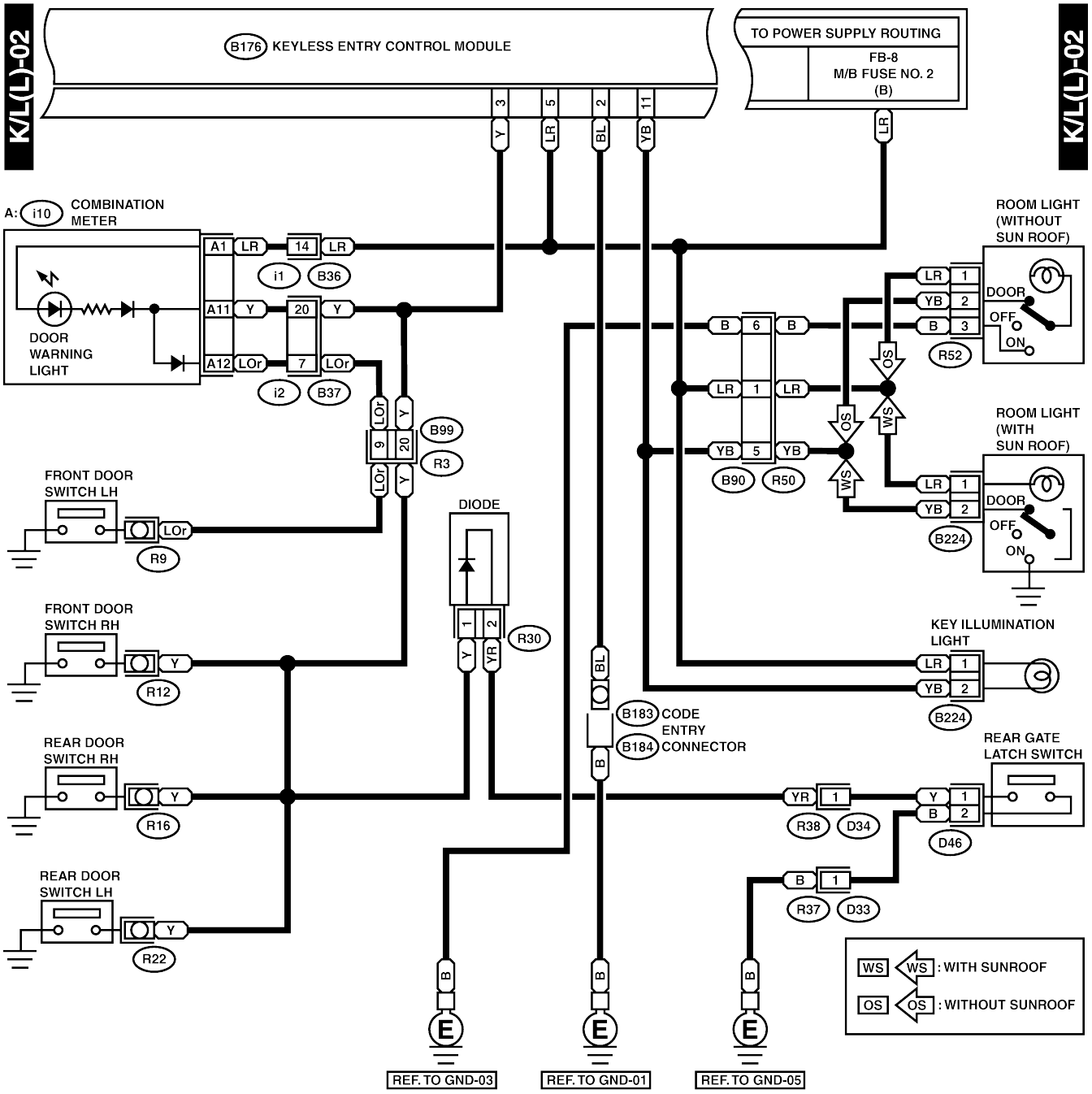
3. Keyless Entry System S909345

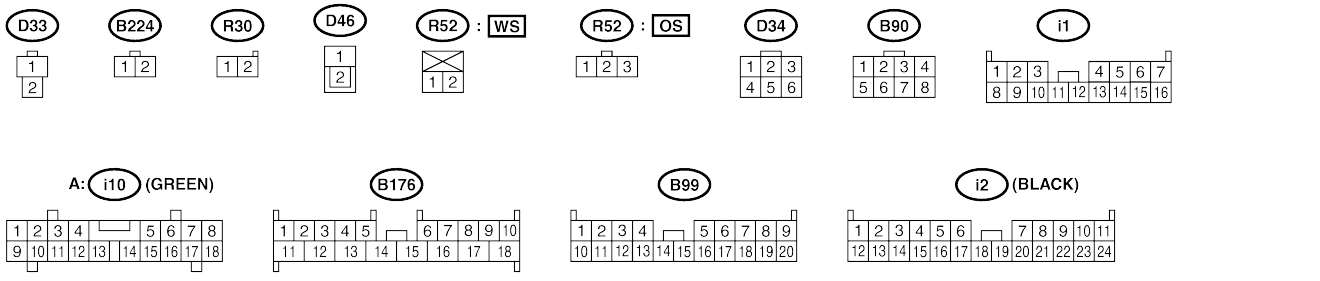
A: SCHEMATIC S909345A21

1. KEYLESS ENTRY LHD MODEL S909345A2101

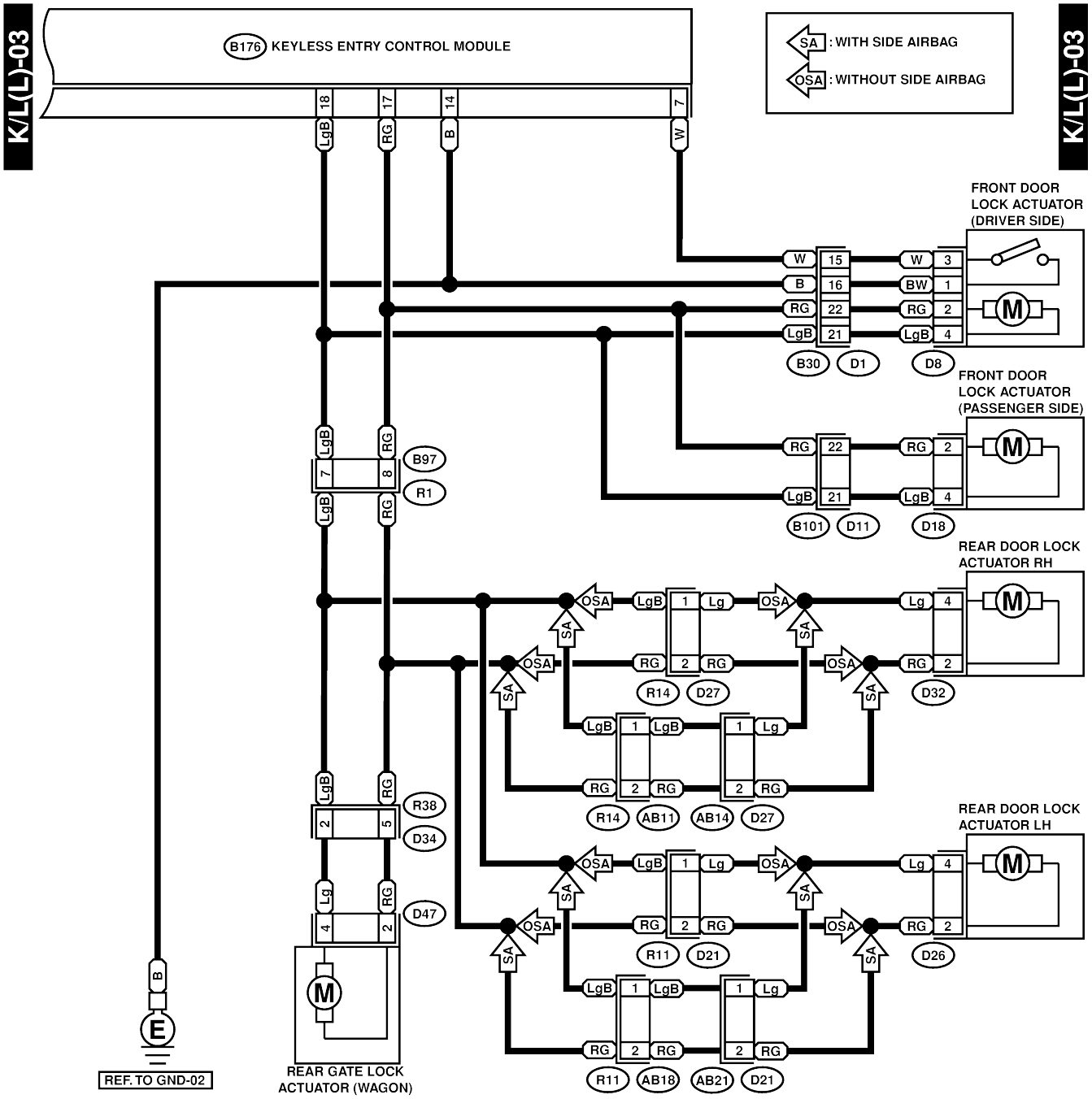


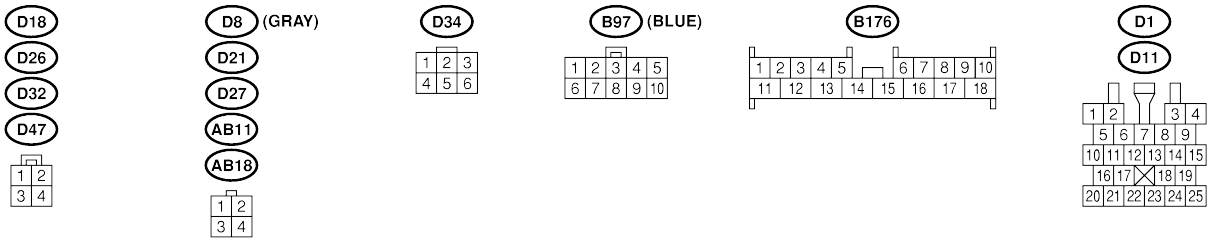
SL77-20A


K/L(L)-02
B176 KEYLESS ENTRY CONTROL MODULE
TO POWER SUPPLY ROUTING
FB-8
M/B FUSE NO. 2
(B)
K/L(L)-02
A: i10 COMBINATION METER
DOOR WARNING LIGHT
ROOM LIGHT (WITHOUT SUN ROOF)
ROOM LIGHT (WITH SUN ROOF)
FRONT DOOR SWITCH LH
FRONT DOOR SWITCH RH
REAR DOOR SWITCH RH
REAR DOOR SWITCH LH
DIODE
KEY ILLUMINATION LIGHT
REAR GATE LATCH SWITCH
B183 CODE ENTRY B184 CONNECTOR
WS : WITH SUNROOF
OS : WITHOUT SUNROOF
REF. TO GND-03
REF. TO GND-01
REF. TO GND-05


D33
B224
R30
D46
R52 : WS
R52 : OS
D34
B90
i1
A: i10 (GREEN)
B176
B99
i2 (BLACK)

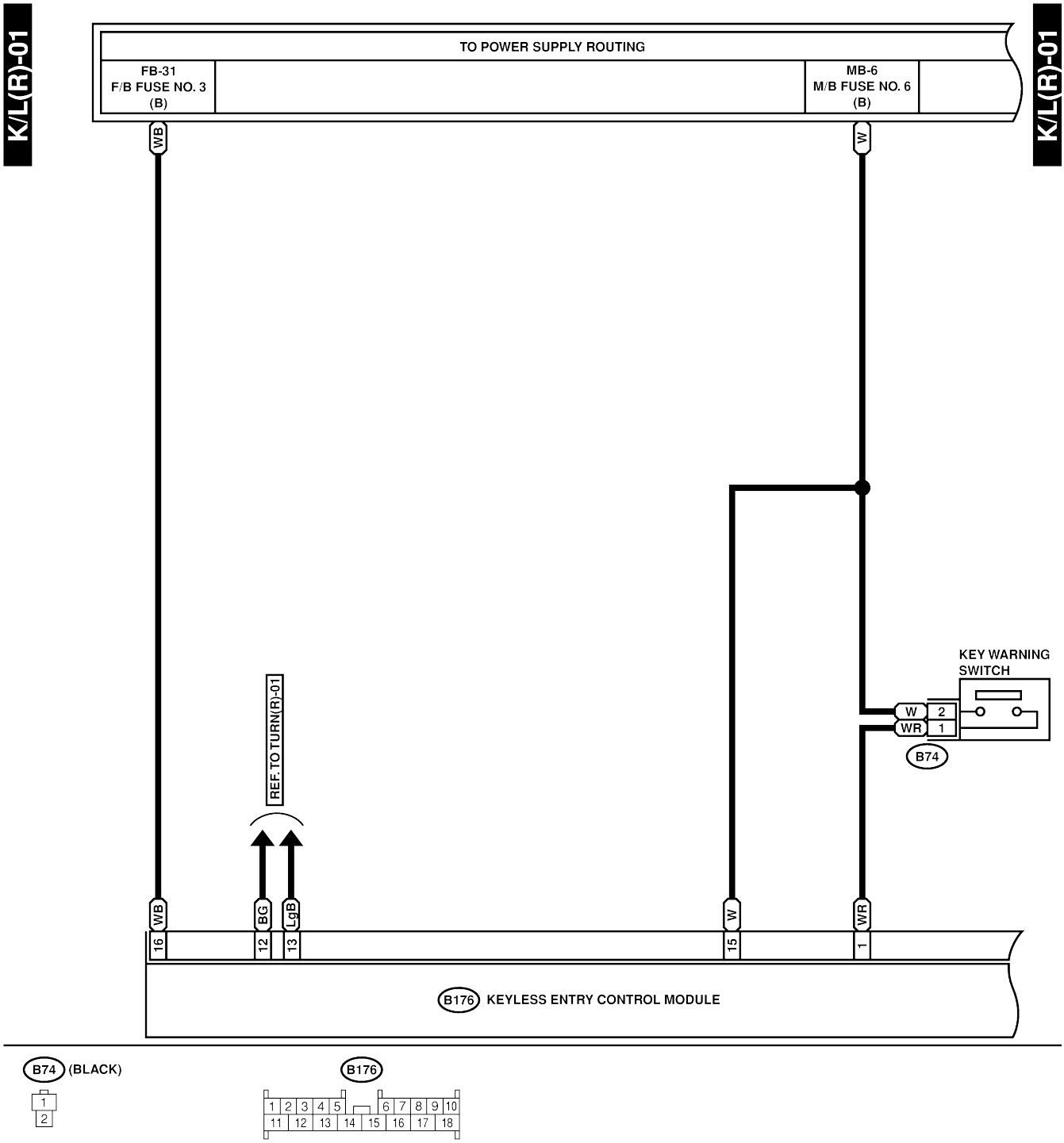
SL77-20B


K/L(L)-03
B176 KEYLESS ENTRY CONTROL MODULE
SA : WITH SIDE AIRBAG
OSA : WITHOUT SIDE AIRBAG
K/L(L)-03
FRONT DOOR LOCK ACTUATOR (DRIVER SIDE)
FRONT DOOR LOCK ACTUATOR (PASSENGER SIDE)
REAR DOOR LOCK ACTUATOR RH
REAR DOOR LOCK ACTUATOR LH
REAR GATE LOCK ACTUATOR (WAGON)
REF. TO GND-02
B97
R1
R38
D34
D47
R14
D27
D32
AB11
AB14
R11
D21
D26
AB18
AB21
B30
D1
D8
B101
D11
D18


D18
D26
D32
D47
D8 (GRAY)
D21
D27
AB11
AB18
D34
B97 (BLUE)
B176
D1
D11

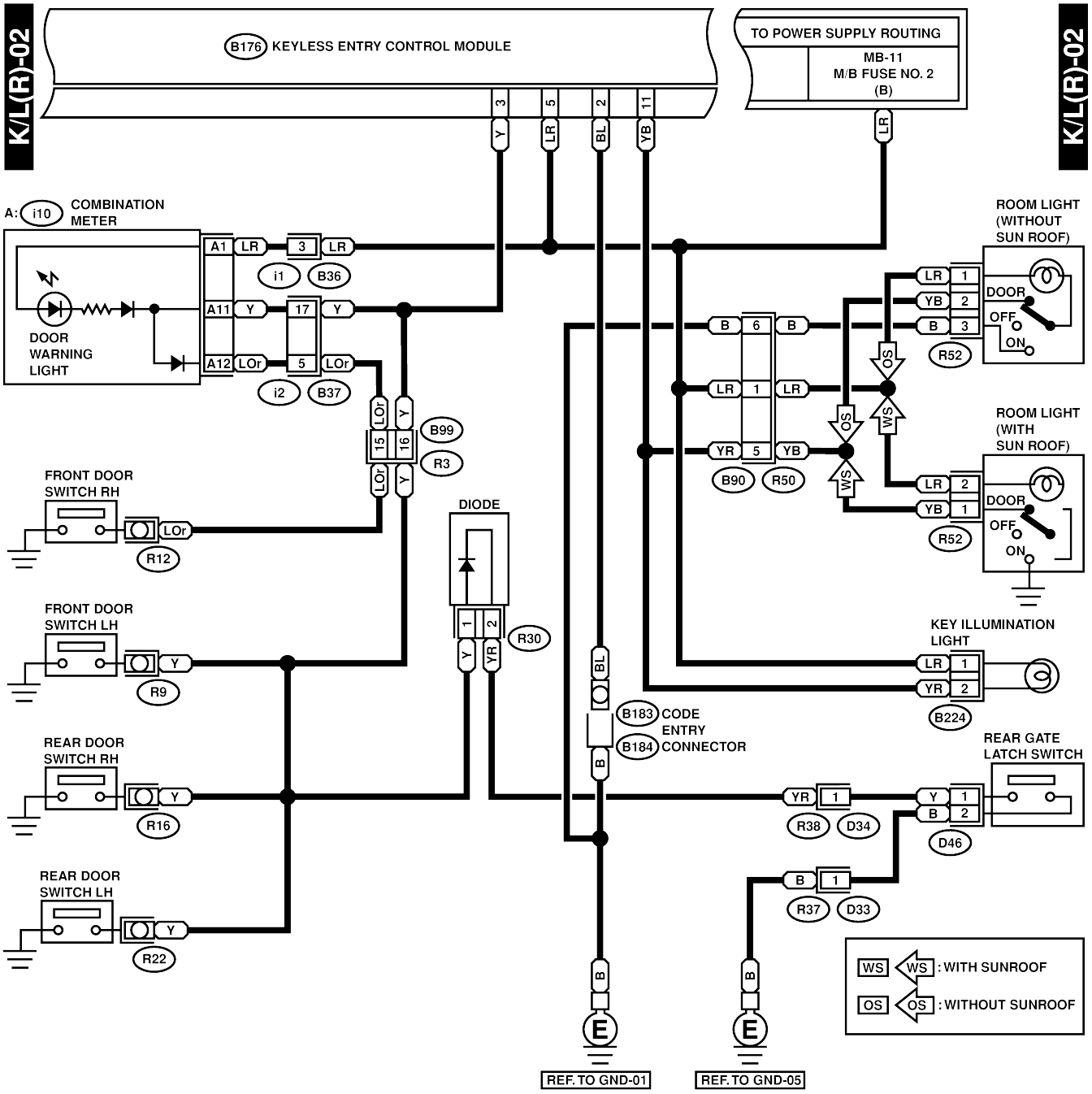
SL77-20C

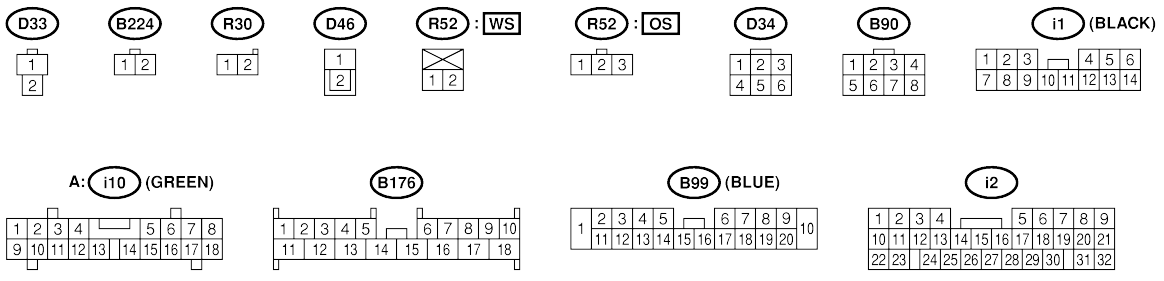
2. KEYLESS ENTRY RHD MODEL S909345A2102



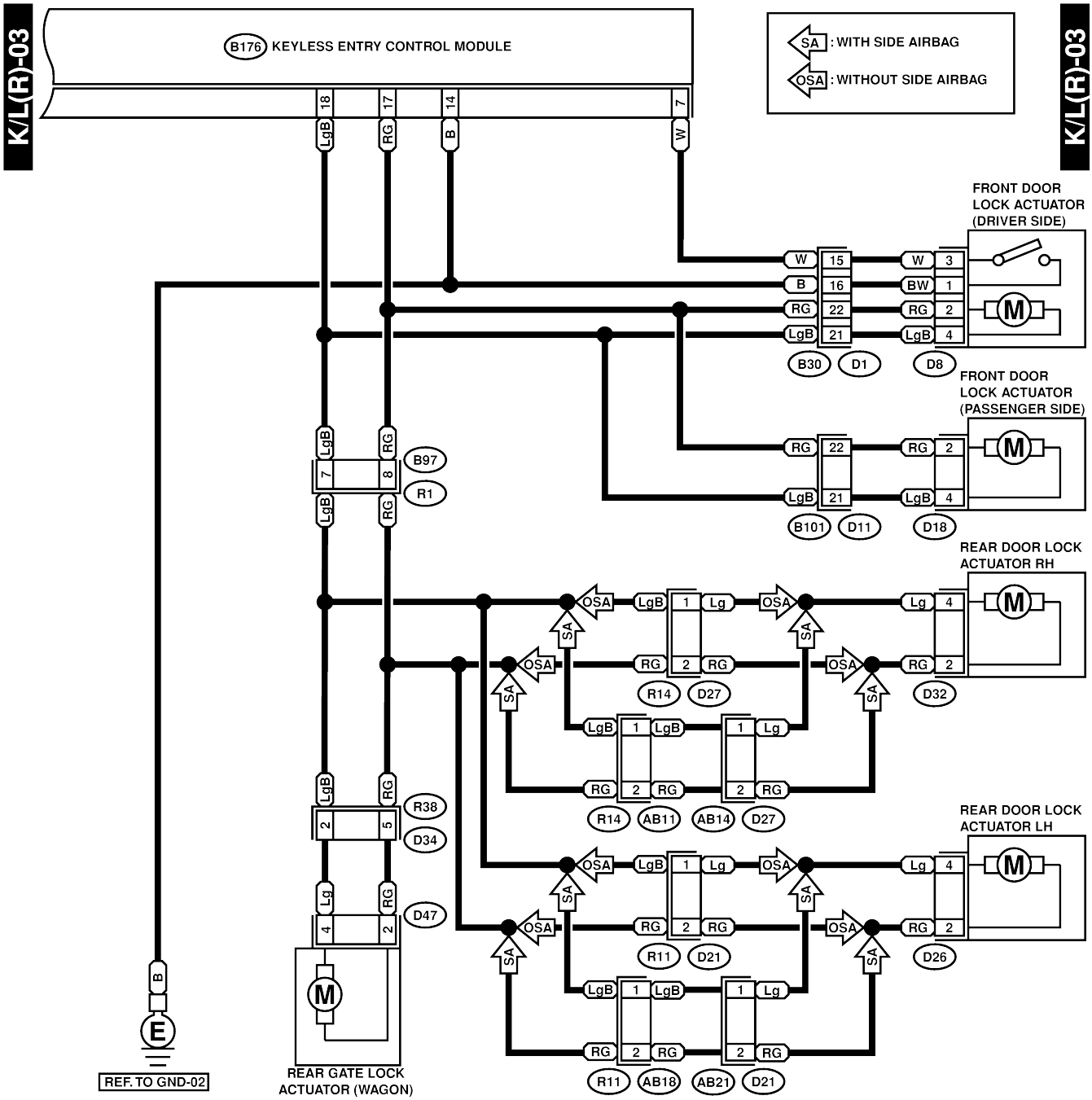
SR77-20A

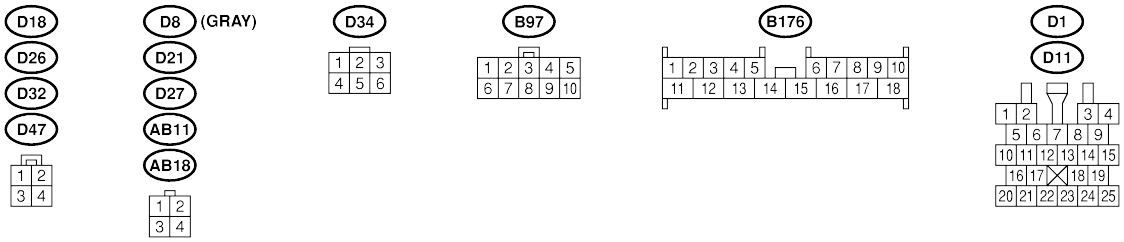
KEYLESS ENTRY SYSTEM





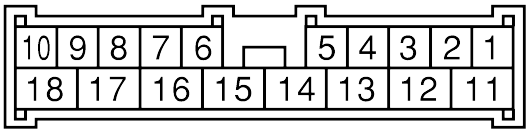
SR77-20B


K/L(R)-03
B176 KEYLESS ENTRY CONTROL MODULE
SA : WITH SIDE AIRBAG
OSA : WITHOUT SIDE AIRBAG
K/L(R)-03
FRONT DOOR LOCK ACTUATOR (DRIVER SIDE)
FRONT DOOR LOCK ACTUATOR (PASSENGER SIDE)
REAR DOOR LOCK ACTUATOR RH
REAR DOOR LOCK ACTUATOR LH
REAR GATE LOCK ACTUATOR (WAGON)
REF. TO GND-02
B97
R1
R38
D34
D47
R14
D27
D32
AB11
AB14
R11
D21
D26
AB18
AB21
B30
D1
D8
B101
D11
D18


D18
D26
D32
D47
D8 (GRAY)
D21
D27
AB11
AB18
D34
B97
B176
D1
D11

SR77-20C

B: ELECTRICAL SPECIFICATION S909345A08



B5M1141

Content	Terminal No.	Measuring condition
Key warning switch	1 (INPUT)	Battery voltage is present when inserting the key into the ignition switch.
Registration connector	2 (INPUT)	0 V is present when connecting the registration connector.
Door switch	3 (INPUT)	0 V is present when any door is open.
Empty	4	—
Power supply	5	Battery voltage is constantly present.
Empty	6	—
Door lock switch	7 (INPUT)	0 V is present when driver's door is unlocked.
Empty	8	—
Empty	9	—
Empty	10	—
Room light/Ignition switch illumination	11 (OUTPUT)	• 0 V is present when pressing the transmitter OPEN button. • 0 V is present when any door is open.
Turn signal light (Right)	12 (OUTPUT)	Battery voltage is present when pressing the transmitter OPEN or LOCK button.
Turn signal light (Left)	13 (OUTPUT)	Battery voltage is present when pressing the transmitter OPEN or LOCK button.
Ground	14	0 V is constantly present.
Power supply (Hazard light)	15	Battery voltage is constantly present.
Power supply	16	Battery voltage is constantly present.
Door and rear gate lock actuator (Unlock)	17 (OUTPUT)	Battery voltage is present when pressing the transmitter OPEN button.
Door and rear gate lock actuator (Lock)	18 (OUTPUT)	Battery voltage is present when pressing the transmitter LOCK button.

C: INSPECTION S909345A10

1. SYMPTOM CHART S909345A1001

Symptom	Repair order	Reference
None of the functions of the keyless entry system operate.	1. Check the transmitter battery.	<Ref. to SL-22 CHECK TRANSMITTER BATTERY, INSPECTION, Keyless Entry System.>
	2. Check the fuse.	<Ref. to SL-22 CHECK FUSE, INSPECTION, Keyless Entry System.>
	3. Check the keyless entry control module power supply and ground circuit.	<Ref. to SL-23 CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry system.>
	4. Replace the keyless entry control module.	<Ref. to SL-44 Keyless Entry Control Module.>
The transmitter cannot be registered.	1. Check the transmitter battery.	<Ref. to SL-22 CHECK TRANSMITTER BATTERY, INSPECTION, Keyless Entry System.>
	2. Check the registration connector circuit.	<Ref. to SL-23 CHECK REGISTRATION CONNECTOR CIRCUIT, INSPECTION, Keyless Entry System.>
	3. Replace the keyless entry control module.	<Ref. to SL-44 Keyless Entry Control Module.>
The 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 transmitter battery.	<Ref. to SL-22 CHECK TRANSMITTER BATTERY, INSPECTION, Keyless Entry System.>
	2. Check the key warning switch.	<Ref. to SL-24 CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	3. Check the door switch.	<Ref. to SL-24 CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	4. Replace the keyless entry control module.	<Ref. to SL- 44 Keyless Entry Control Module.>
The hazard light does not operate.	1. Check the transmitter battery	<Ref. to SL-22 CHECK TRANSMITTER BATTERY, INSPECTION, Keyless Entry System.>
	2. Check the key warning switch.	<Ref. to SL-24 CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	3. Check the door switch.	<Ref. to SL-24 CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	4. Check the hazard light operation.	<Ref. to SL-25 CHECK HAZARD LIGHT OPERATION, INSPECTION, Keyless Entry System.>
	5. Replace the keyless entry control module.	<Ref. to SL-44 Keyless Entry Control Module.>

Symptom	Repair order	Reference
The room light and ignition switch illumination operation does not activate.	1. Check the transmitter battery.	<Ref. to SL-22 CHECK TRANSMITTER BATTERY, INSPECTION, Keyless Entry System.>
	2. Check the room light operation.	<Ref. to SL-26 CHECK ROOM LIGHT OPERATION, INSPECTION, Keyless Entry System.>
	3. Check the ignition switch illumination circuit.	<Ref. to SL-26 CHECK IGNITION SWITCH ILLUMINATION CIRCUIT, INSPECTION, Keyless Entry System.>
	4. Check the key warning switch.	<Ref. to SL-24 CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	5. Check the door switch.	<Ref. to SL-24 CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	6. Replace the keyless entry control module.	<Ref. to SL-44 Keyless Entry Control Module.>

2. CHECK TRANSMITTER BATTERY S909345A1011

No.	Step	Check	Yes	No
1	**CHECK TRANSMITTER BATTERY.** 1) Remove the battery from the transmitter. <Ref. to SL-45 REMOVAL, Keyless Transmitter.> 2) Check the battery voltage. <Ref. to SL-45 INSPECTION, Keyless Transmitter.>	Is the battery voltage OK?	Further inspection is necessary, refer to “SYMPTOM CHART”. <Ref. to SL-21 SYMPTOM CHART, INSPECTION, Keyless Entry System.>	Replace the transmitter battery.

3. CHECK FUSE S909345A1004

No.	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check fuse No. 2 (in the main fuse box), No. 3 (in the fuse and relay box) and SBF-6 (in the main fuse box)	Is the fuse blown? (15 A and 30 A)	Replace the fuse with a new one.	Check power supply and ground circuit. <Ref. to SL-23 CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry system.>

4. CHECK POWER SUPPLY AND GROUND CIRCUIT S909345A1005

No.	Step	Check	Yes	No
1	**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*** ***(B176) No. 5, No. 15, No. 16 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check the harness for open circuits or shorts between the keyless entry control module and fuse.
2	**CHECK GROUND CIRCUIT.** Measure the resistance between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B176) No. 14 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	The power supply and ground circuit are OK.	Repair the harness.

5. CHECK REGISTRATION CONNECTOR CIRCUIT S909345A1012

No.	Step	Check	Yes	No
1	**REGISTRATION CONNECTOR INPUT VOLTAGE INSPECTION** 1) Disconnect registration connector. 2) Measure voltage between keyless entry control module harness connector and chassis ground. ***Connector & terminal*** ***(B176) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Repair harness, and (or) connector.
2	**REGISTRATION CONNECTOR INPUT VOLTAGE INSPECTION** 1) Connect registration connector. 2) Measure voltage between keyless entry control module harness connector and chassis ground. ***Connector & terminal*** ***(B176) No. 2 (+) — Chassis ground (–):***	Is the voltage 0 V?	Registration connector circuit is OK.	Repair harness, and (or) connector.

6. CHECK DOOR SWITCH S909345A1007

No.	Step	Check	Yes	No
1	**CHECK DOOR SWITCH CIRCUIT.** Measure the voltage between the keyless entry control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B176) No. 3 (+) — Chassis ground (–):***	Is the voltage 0 V when each door and rear gate is opened?	Go to step **2**.	Go to step **3**.
2	**CHECK DOOR SWITCH CIRCUIT.** Measure the voltage between the keyless entry control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B176) No. 3 (+) — chassis ground (–):***	Is the voltage more than 10 V when each door and 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) Check the continuity between the door switch terminal and chassis ground. ***Terminal*** ***Front LH No. 1 — Chassis ground:*** ***Front RH No. 1 — Chassis ground:*** ***Rear LH No. 1 — Chassis ground:*** ***Rear RH No. 1 — Chassis ground:*** ***Rear gate No. 1 — No. 2:***	Does continuity exist when the door switch is pushed?	Replace the door switch.	Go to step **4**.
4	**CHECK DOOR SWITCH.** Check continuity between the door switch terminal and chassis ground. ***Terminal*** ***Front LH No. 1 — Chassis ground:*** ***Front RH No. 1 — Chassis ground:*** ***Rear LH No. 1 — Chassis ground:*** ***Rear RH No. 1 — Chassis ground:*** ***Rear gate No. 1 — No. 2:***	Does continuity exist when the door switch is released?	Check the harness for open circuits and shorts between the keyless entry control module and door switch.	Replace the door switch.

7. CHECK KEY WARNING SWITCH S909345A1008

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

No.	Step	Check	Yes	No
4	**CHECK KEY WARNING SWITCH.** 1) Disconnect the key warning switch harness connector. 2) Insert the key into the ignition switch. (LOCK position) 3) Check the continuity between the key warning switch terminals. ***Terminal*** ***No. 1 — No. 2:***	Does continuity exist?	Go to step **5**.	Replace key warning switch.
5	**CHECK KEY WARNING SWITCH.** 1) Remove the key from the ignition switch. 2) Check the continuity between the key warning switch terminals. ***Terminal*** ***No. 1 — No. 2:***	Does continuity exist?	Replace key warning switch.	Check the following: • Harness for open circuits or shorts between the key warning switch and fuse • Harness for open circuits and shorts between the keyless entry control module and key warning switch

8. CHECK HAZARD LIGHT OPERATION

S909345A1013

No.	Step	Check	Yes	No
1	**CHECK HAZARD LIGHT OPERATION.** Make sure the hazard light blinks when hazard switch is turned ON.	Does hazard light brink?	Go to step **2**.	Check hazard light circuit.
2	**CHECK OUTPUT SIGNAL.** 1) Remove the key from ignition switch. 2) Close all doors and rear gate. 3) Measure voltage between keyless entry control module harness connector terminal and chassis ground when LOCK or OPEN button of transmitter is pressed. ***Connector & terminal*** ***(B176) No. 12, No. 13 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Check harness for open or short between keyless entry control module and turn signal lights.	Replace the keyless entry control module.

9. CHECK ROOM LIGHT OPERATION

S909345A1010

No.	Step	Check	Yes	No
1	**CHECK ROOM LIGHT OPERATION.** Make sure the room light illuminates when the room light switch is turned ON.	Does the room light illuminate?	Go to step **2**.	Check the room light circuit.
2	**CHECK HARNESS BETWEEN ROOM LIGHT AND KEYLESS ENTRY CONTROL MODULE.** 1) Disconnect the keyless entry control module harness connector and room light harness connector. 2) Measure the resistance between the keyless entry control module harness connector terminal and the room light harness connector terminal. ***Connector & terminal*** ***(B176) No. 11 — (R52) No. 2:***	Is the resistance less than 10 Ω?	The room light operation circuit is OK.	Check the harness for open circuits or shorts between the keyless entry control module and room light.

10. CHECK IGNITION SWITCH ILLUMINATION CIRCUIT

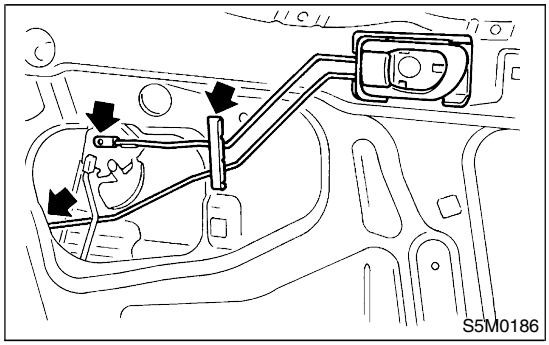
S909345A1014

No.	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH ILLUMINATION POWER SUPPLY.** 1) Disconnect the ignition switch illumination harness connector. 2) Measure voltage between the ignition switch illumination harness connector terminal and chassis ground. ***Connector & terminal*** ***(B224) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check harness for open circuit or shorts between the ignition switch illumination and fuse.
2	**CHECK HARNESS BETWEEN IGNITION SWITCH ILLUMINATION AND KEYLESS ENTRY CONTROL MODULE.** 1) Disconnect the keyless entry control module harness connector. 2) Measure the resistance between the keyless entry harness connector terminal and the ignition switch illumination harness connector. ***Connector & terminal*** ***(B176) No. 11 — (B224) No. 2:***	Is the resistance less than 10 Ω?	Check the ignition switch illumination. If NG, replace the ignition switch illumination.	Repair the harness.

4. Front Inner Remote S909344

A: REMOVAL S909344A18

1) Remove the door trim. <Ref. to EI-26 REMOVAL, Front Door Trim.>
2) Remove the sealing cover. <Ref. to EB-13 REMOVAL, Front Sealing Cover.>
3) Remove the two rod joints.
4) Unlatch rod holder
5) Remove the front inner remote.



B: INSTALLATION S909344A11

Install in the reverse order of removal.

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

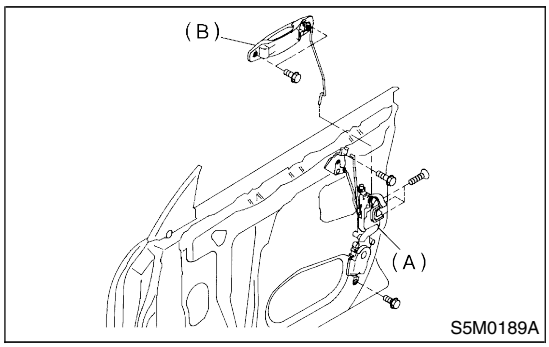
C: INSPECTION S909344A10

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

5. Front Outer Handle S909349

A: REMOVAL S909349A18

1) Remove the door trim. <Ref. to EI-26 REMOVAL, Front Door Trim.>
2) Remove the sealing cover. <Ref. to EB-13 REMOVAL, Front Sealing Cover.>
3) Remove the front inner remote. <Ref. to SL-27 REMOVAL, Front Inner Remote.>
4) Remove the two bolts. Remove the front outer handle (B).



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

B: INSTALLATION S909349A11

Install in the reverse order of removal.

NOTE:
Make sure outer handle works properly after installation.

C: INSPECTION S909349A10

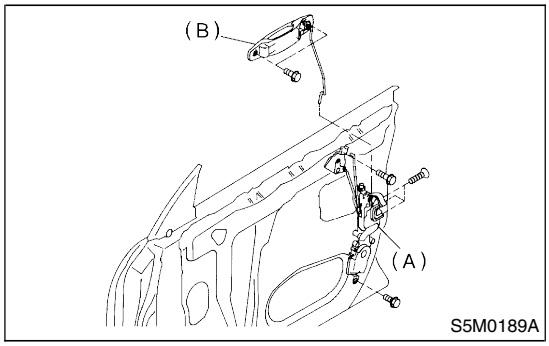
1) Make sure the rod is not deformed.
2) Make sure the lever and rod work smoothly.

6. Front Door Latch Assembly

S909334

A: REMOVAL S909334A18

1) Remove the front door trim. <Ref. to EI-26 REMOVAL, Front Door Trim.>
2) Remove the sealing cover. <Ref. to EB-13 REMOVAL, Front Sealing Cover.>
3) Remove the front inner remote. <Ref. to SL-27 REMOVAL, Front Inner Remote.>
4) Turn rod holder to disconnect joint between key lock and rod.
5) Turn rod holder to disconnect joint between outer handle and rod.
6) Turn rod holder to disconnect joint between crank and rod.
7) Remove the three screws and bolt.



8) Disconnect the connector. Remove the front door latch assembly (A).

B: INSTALLATION S909334A11

Install in the reverse order of removal.

NOTE:
Make sure parts work properly after installation.

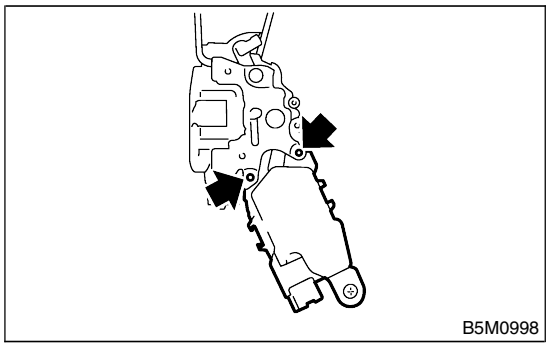
C: INSPECTION S909334A10

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

7. Front Door Lock Actuator S909319

A: REMOVAL S909319A18

1) Remove the front door latch assembly. <Ref. to SL-27 REMOVAL, Front Door Latch Assembly.>
2) Remove the bolt. Remove the front door lock actuator.

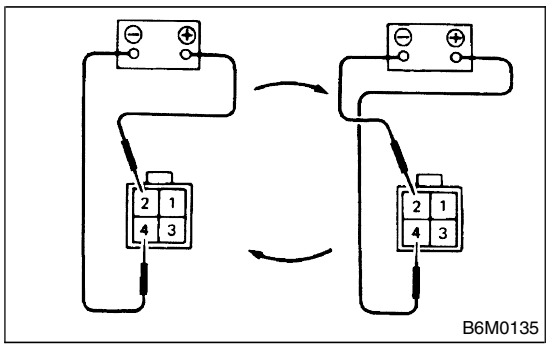


B: INSTALLATION S909319A11

Install in the reverse order of removal.

C: INSPECTION S909319A10

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



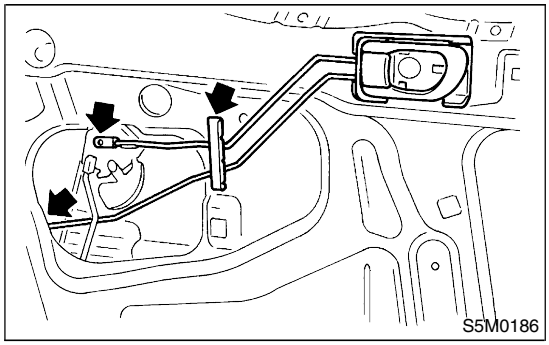
Battery connection	Actuator operation
No. 2 (+) — No. 4 (–)	Unlocked → Locked
No. 4 (+) — No. 2 (–)	Locked → Unlocked

If NG, replace the door lock actuator.

8. Rear Inner Remote S909321

A: REMOVAL S909321A18

1) Remove the rear door trim. <Ref. to EI-27 REMOVAL, Rear Door Trim.>
2) Remove the sealing cover. <Ref. to EB-16 REMOVAL, Rear Sealing Cover.>
3) Remove the two rod joints.
4) Remove the inner remote.



B: INSTALLATION S909321A11

Install in the reverse order of removal.

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

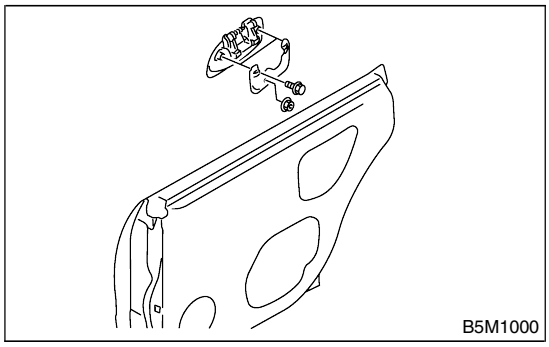
C: INSPECTION S909321A10

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

9. Rear Outer Handle S909322

A: REMOVAL S909322A18

1) Remove the rear door trim. <Ref. to EI-27 REMOVAL, Rear Door Trim.>
2) Remove the sealing cover. <Ref. to EB-16 REMOVAL, Rear Sealing Cover.>
3) Remove the rear inner remote. <Ref. to SL-31 REMOVAL, Rear Inner Remote.>
4) Remove the rear door latch assembly. <Ref. to SL-33 REMOVAL, Rear Door Latch Assembly.>
5) Remove the two bolts and nut. Remove the rear outer handle.



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

B: INSTALLATION S909322A11

Install in the reverse order of removal.

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

C: INSPECTION S909322A10

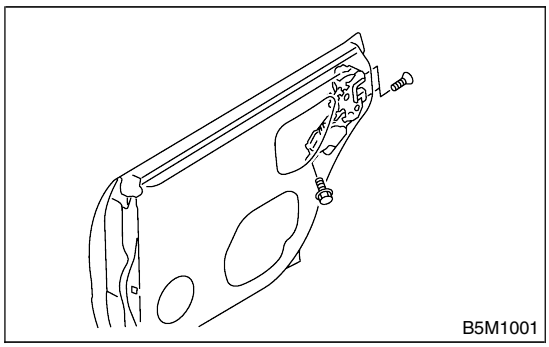
1) Make sure the rod is not deformed.
2) Make sure the lever and rod work smoothly.

10. Rear Door Latch Assembly

S909320

A: REMOVAL S909320A18

1) Remove the rear door trim. <Ref. to EI-27 REMOVAL, Rear Door Trim.>
2) Remove the sealing cover. <Ref. to EB-16 REMOVAL, Rear Sealing Cover.>
3) Remove the rear inner remote. <Ref. to SL-31 REMOVAL, Rear Inner Remote.>
4) Remove the three screws and bolt.



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

B: INSTALLATION S909320A11

Install in the reverse order of removal.

NOTE:
Make sure parts work properly after installation.

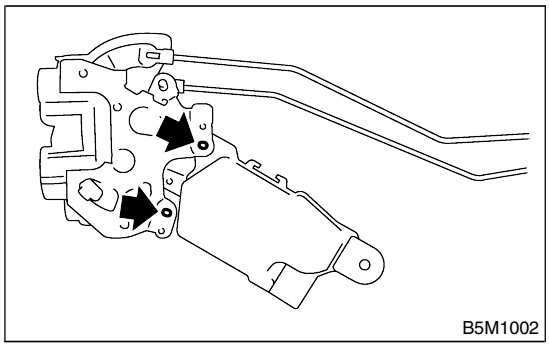
C: INSPECTION S909320A10

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

11. Rear Door Lock Actuator S909323

A: REMOVAL S909323A18

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



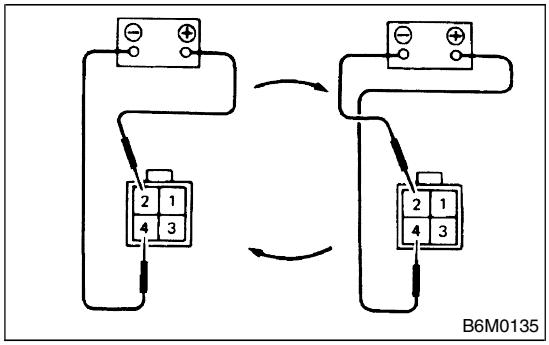
B: INSTALLATION S909323A11

Install in the reverse order of removal.

NOTE:
Make sure the lock works properly after installation.

C: INSPECTION S909323A10

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



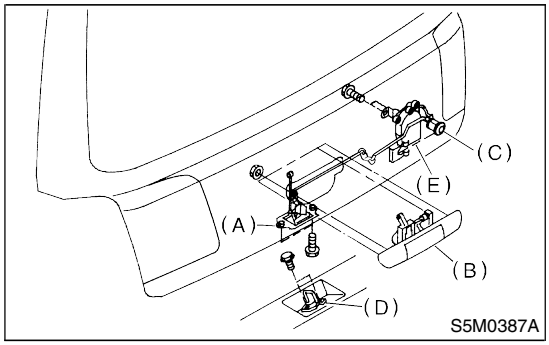
Battery connection	Actuator operation
No. 2 (+) — No. 4 (–)	Unlocked → Locked
No. 4 (+) — No. 2 (–)	Locked → Unlocked

If NG, replace the door lock actuator.

12. Rear Gate Outer Handle S909626

A: REMOVAL S909626A18

1) Remove the rear gate lower trim. <Ref. to 42 REMOVAL, Rear Gate Trim.>
2) Disconnect rod (latch to outer handle) from outer handle (B).
3) Remove the four nuts used to hold outer handle (B) to the inside of rear gate and detach outer handle.



B: INSTALLATION S909626A11

Install in the reverse order of removal.

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

C: INSPECTION S909626A10

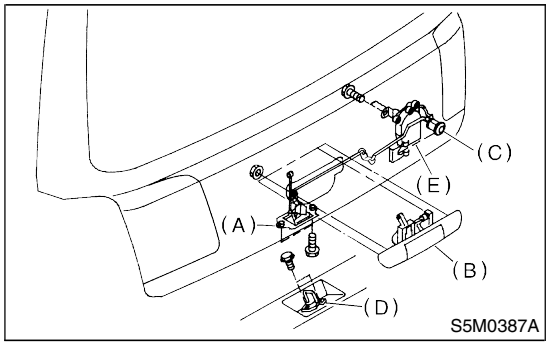
1) Inspect the rod for deformation.
2) Make sure the lever and rod move smoothly.

13. Rear Gate Latch Assembly

S909316

A: REMOVAL S909316A18

1) Remove the rear gate lower trim. <Ref. to EI-42 REMOVAL, Rear Gate Trim.>
2) Disconnect rod (latch to link) from latch (A).
3) Disconnect rod (latch to outer handle) from outer handle (B).
4) Remove bolts from latch (A).



5) Disconnect rear gate switch connector from latch (A) and then detach the latch.

B: INSTALLATION S909316A11

Install in the reverse order of removal.

NOTE:
Make sure parts work properly after installation.

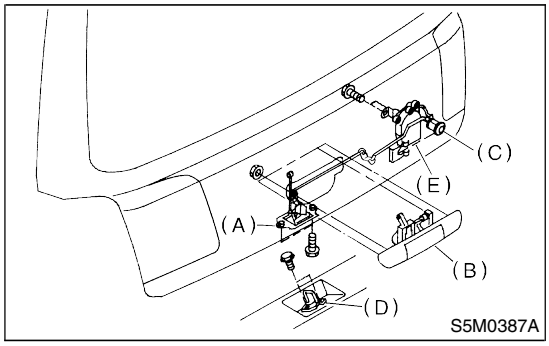
C: INSPECTION S909316A10

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

14. Rear Gate Latch Lock Actuator S909313

A: REMOVAL S909313A18

1) Remove rear gate trim. <Ref. to EI-42 REMOVAL, Rear Gate Trim.>
2) Disconnect rod from key cylinder.
3) Loosen two bolts to remove rear gate actuator (E).



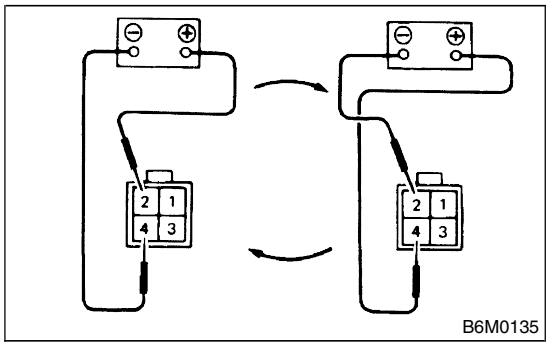
B: INSTALLATION S909313A11

Install in the reverse order of removal.

NOTE:
Make sure the lock works properly after installation.

C: INSPECTION S909313A10

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



Battery connection	Actuator operation
No. 2 (+) — No. 4 (–)	Unlocked → Locked
No. 4 (+) — No. 2 (–)	Locked → Unlocked

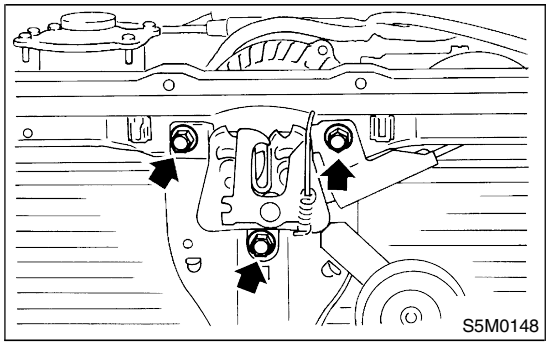
If NG, replace the rear gate latch lock actuator.

15. Front Hood Lock Assembly

S909595

A: REMOVAL S909595A18

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



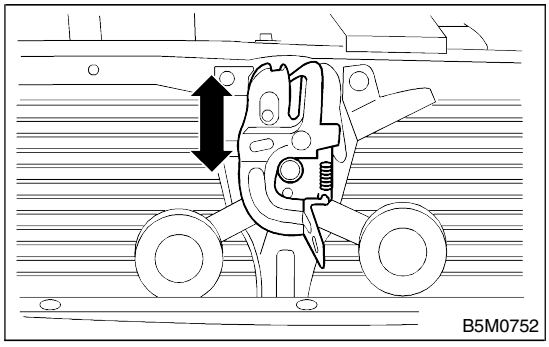
B: INSTALLATION S909595A11

Install in the reverse order of removal.

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

C: ADJUSTMENT S909595A01

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



D: INSPECTION S909595A10

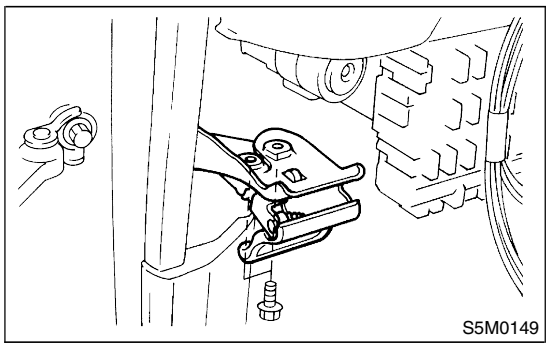
1) Check the striker for bending or abnormal wear.
2) Check the safety lever for improper movement.
3) Check other levers and the spring for rust formation and unsmooth movement.

16. Remote Openers S909317

A: REMOVAL S909317A18

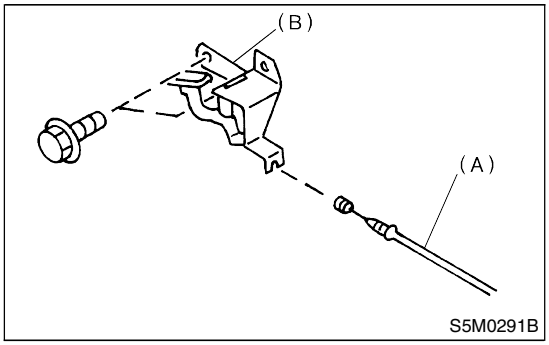
1. HOOD OPENER S909317A1801

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

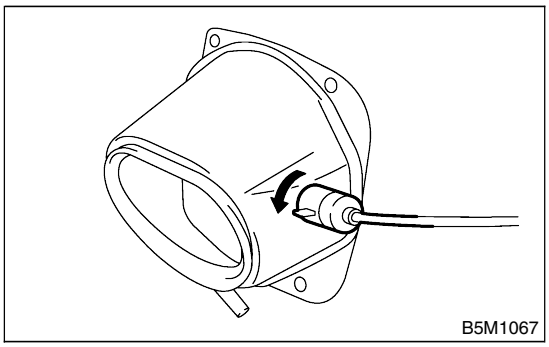


2. FUEL FLAP OPENER S909317A1803

1) Remove the rear seat. <Ref. to SE-6 REMOVAL, Rear Seat.>
2) Remove the center pillar lower trim and side sill cover on the passenger side. Remove the rear pillar lower trim. Pull back the floor mat. Remove the clip holding the cable.
3) Remove the bolt. Remove the opener pull handle.



4) Remove the cable from the opener pull handle.
5) Remove the right rear quarter trim. <Ref. to EI-39 REMOVAL, Rear Quarter Trim.>
6) Rotate the fuel lock inside the quarter panel to left and remove.



B: INSTALLATION S909317A11

1. HOOD OPENER S909317A1101

Install in the reverse order of removal.

2. FUEL FLAP OPENER S909317A1103

Install in the reverse order of removal.

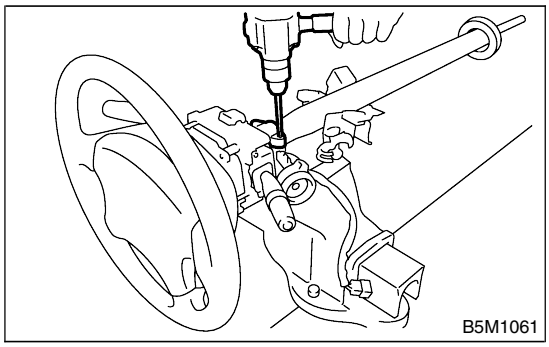
C: INSPECTION S909317A10

Make sure the fuel flap opens and closes smoothly.

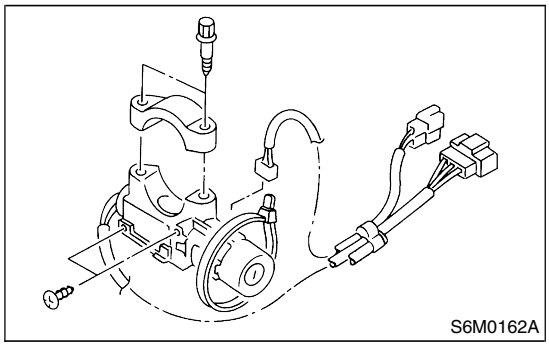
17. Ignition Key Lock S909318

A: REPLACEMENT S909318A20

1) Remove the battery ground cable.
2) Remove the steering column. <Ref. to DS-30 REMOVAL, Steering Column.>
3) Secure the steering column in a vise. Remove the bolt with a drill.



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



B: INSPECTION S909318A10

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

Switch position	Tester connection	Specified condition
LOCK		
ACC	No. 1 — No. 2	Continuity
ON	No. 1 — No. 2 — No. 4	Continuity
ST	No. 1 — No. 3 — No. 4	Continuity

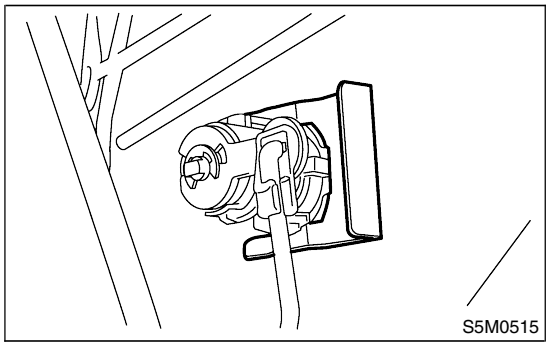
If NG, replace the ignition switch.

18. Key Lock Cylinders S909326

A: REPLACEMENT S909326A20

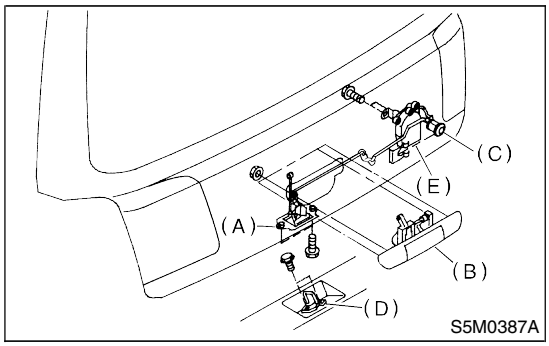
1. FRONT DOOR S909326A2001

1) Remove the door trim. <Ref. to EI-26 REMOVAL, Front Door Trim.>
2) Pull back the sealing cover.
3) Remove the rod clamp. Remove the lock plate. Replace the key cylinder.



2. REAR GATE S909326A2003

1) Remove the rear gate lower trim. <Ref. to EI-42 REMOVAL, Rear Gate Trim.>
2) Remove the rod clamp. Remove the lock plate. Replace the key cylinder (C).



19. Immobilizer Control Module

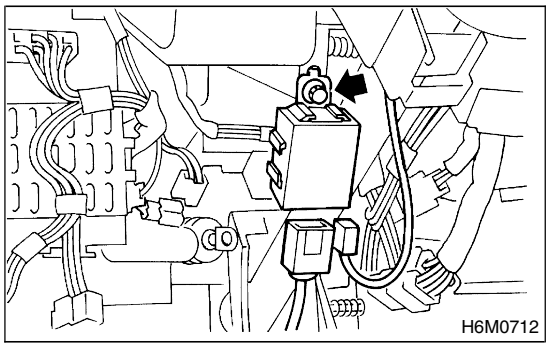
S909315

A: REMOVAL S909315A18

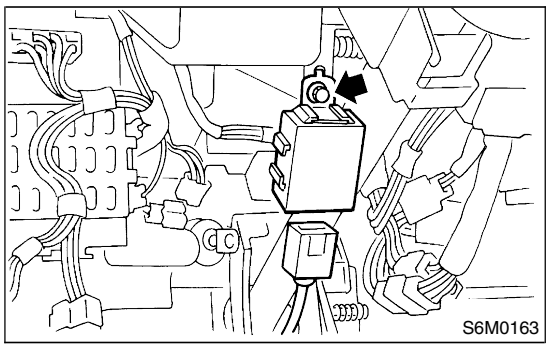
NOTE:
The following positions for removal and installation are for LHD models. The positions for RHD models are symmetrically opposite.

1) Disconnect GND cable from battery.
2) Remove instrument panel lower cover. <Ref. to EI-31 REMOVAL, Instrument Panel Assembly.>
3) Disconnect connector from immobilizer control module.
4) Remove immobilizer control module.

DOHC Turbo and SOHC with OBD model:



SOHC without OBD model:



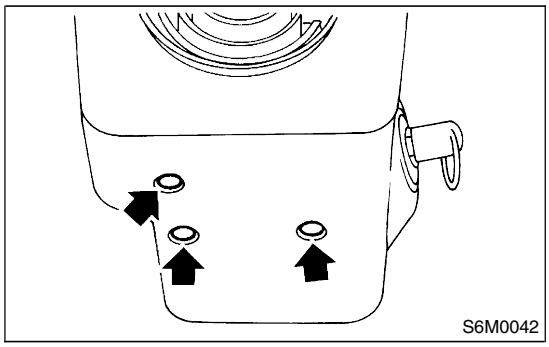
B: INSTALLATION S909315A11

Install in the reverse order of removal.

20. Immobilizer Antenna S909331

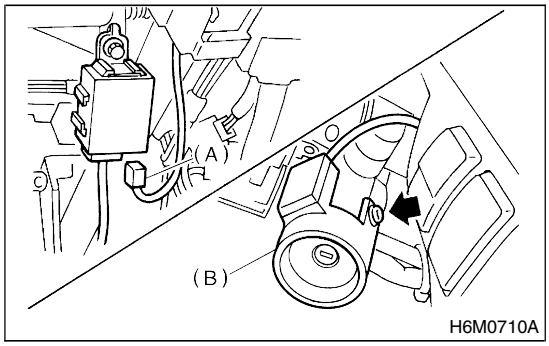
A: REMOVAL S909331A18

1) Disconnect GND cable from battery.
2) Remove instrument panel lower cover. <Ref. to EI-31 REMOVAL, Instrument Panel Assembly.>
3) Remove screws, separate upper column cover and lower column cover.

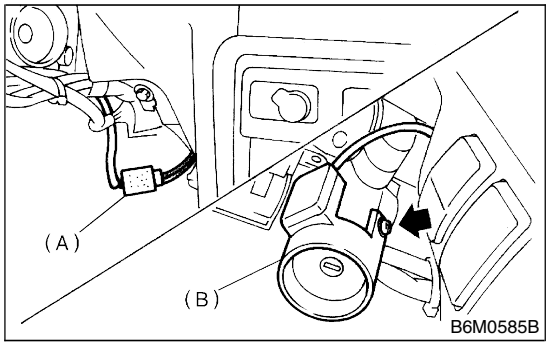


4) Disconnect immobilizer antenna connector (A) from immobilizer control module.
5) Remove immobilizer antenna (B).

DOHC Turbo and SOHC with OBD model:



SOHC without OBD model:



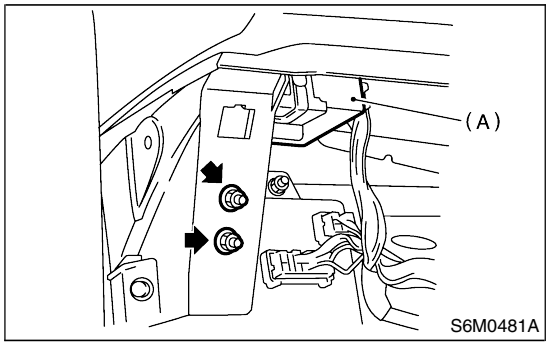
B: INSTALLATION S909331A11

Install in the reverse order of removal.

21. Keyless Entry Control Module S909324

A: REMOVAL S909324A18

1) Disconnect battery ground cable.
2) Remove instrument panel lower cover. <Ref. to EI-31 REMOVAL, Instrument Panel Assembly.>
3) Remove nut, then remove keyless entry control module (A) while disconnecting connector.



4) Disconnect keyless entry control module.

B: INSTALLATION S909324A11

Install in the reverse order of removal.

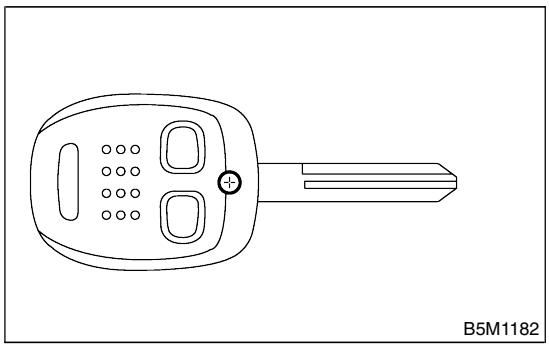
22. Keyless Transmitter S909325

A: REMOVAL S909325A18

1. TRANSMITTER BATTERY S909325A1801

Remove battery from transmitter.

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



B: INSTALLATION S909325A11

1. TRANSMITTER BATTERY S909325A1101

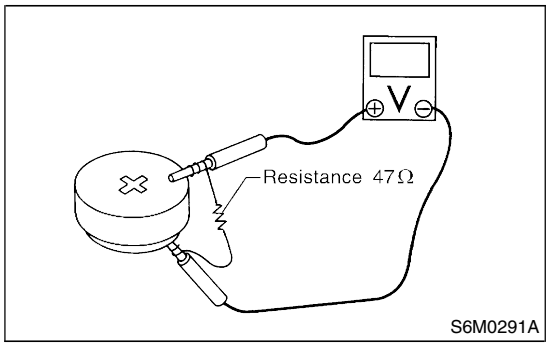
Install in the reverse order of removal.

C: INSPECTION S909325A10

1. TRANSMITTER BATTERY S909325A1001

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

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



Tester connection		Voltage (V)
(+)	(–)	
Battery (+) terminal	Battery (–) terminal	More than 2

If NG, replace the battery. (Use CR1620 or equivalent.)

D: REPLACEMENT S909325A20

1. TRANSMITTER REGISTRATION S909325A2001

NOTE:
A maximum of 3 transmitters can be registered for each individual vehicle.

1) Remove the side sill cover at the driver's side, then connect the registration connectors at the front pillar lower section.
2) Unlock the door lock.
3) Press any button of the transmitter twice to be registered.
4) The door lock will automatically lock and unlock in sequence. This indicates the completion of transmitter registration for the first transmitter.
5) If registration of a second transmitter is now to be carried out, press any button of that transmitter twice.
6) The door lock will automatically lock and unlock in sequence. This indicates the completion of transmitter registration for the second transmitter.
7) If registration of third transmitter is now to be carried out, repeat procedure of step 5) and 6).
8) Disconnect the registration connectors after the completion of all registration operations. After confirming the operation of the door lock using the newly registered transmitter(s), reinstall the side sill cover at the driver's side.

MEMO:

SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

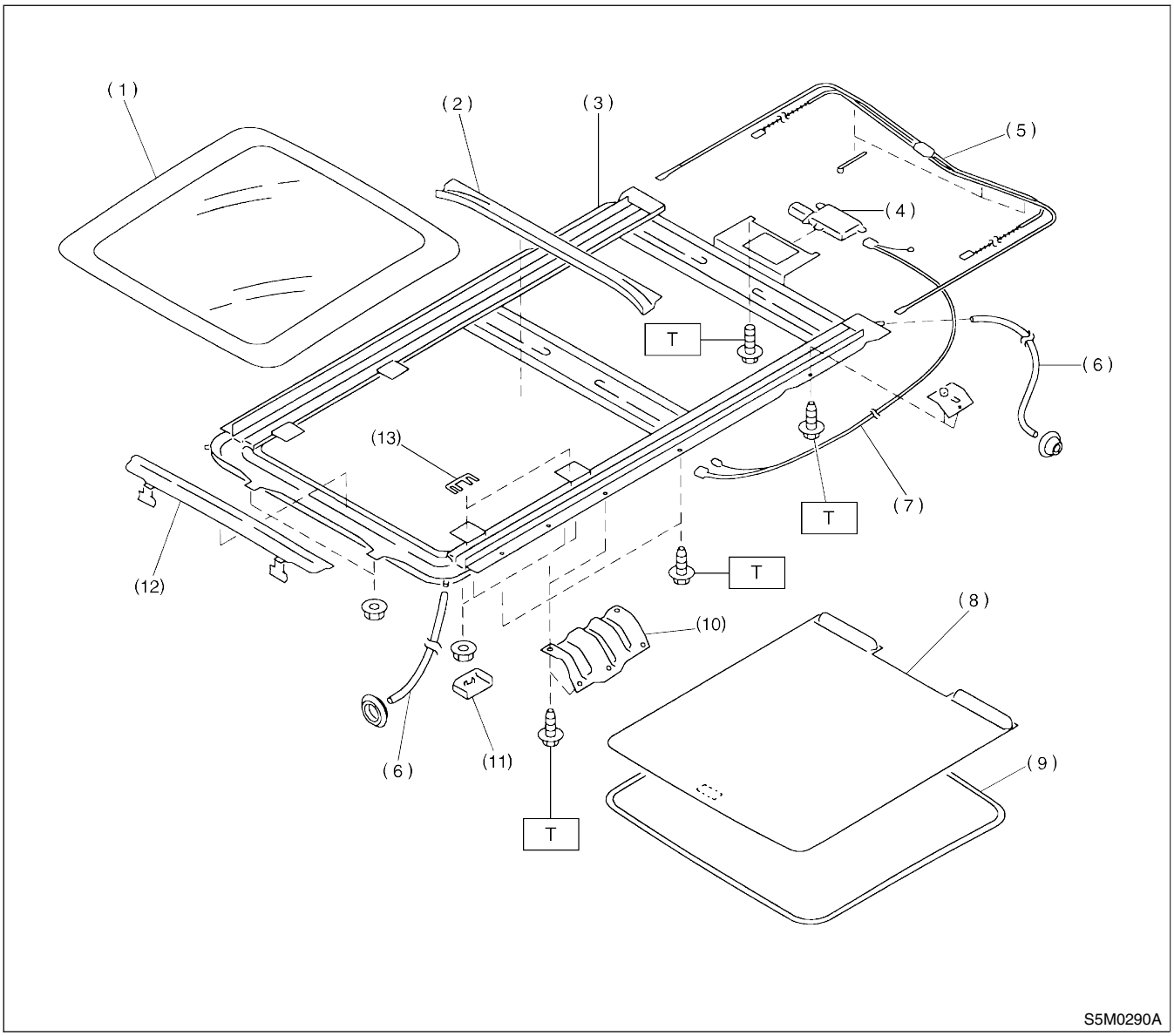
SR

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2. Sunroof Control System....5
3. Sunroof Lid....7
4. Sunroof Assembly....8
5. Sunroof Motor....10
6. Sunroof Switch....12

1. General Description S910001

A: COMPONENT S910001A05



(1) Glass lid
(2) Rear drain ASSY
(3) Frame ASSY
(4) Motor ASSY
(5) Drive unit
(6) Drain tube
(7) Harness
(8) Sunshade
(9) Garnish
(10) Frame bracket
(11) Cover
(12) Deflector
(13) Shim

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

B: CAUTION S910001A03

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

C: PREPARATION TOOL S910001A17

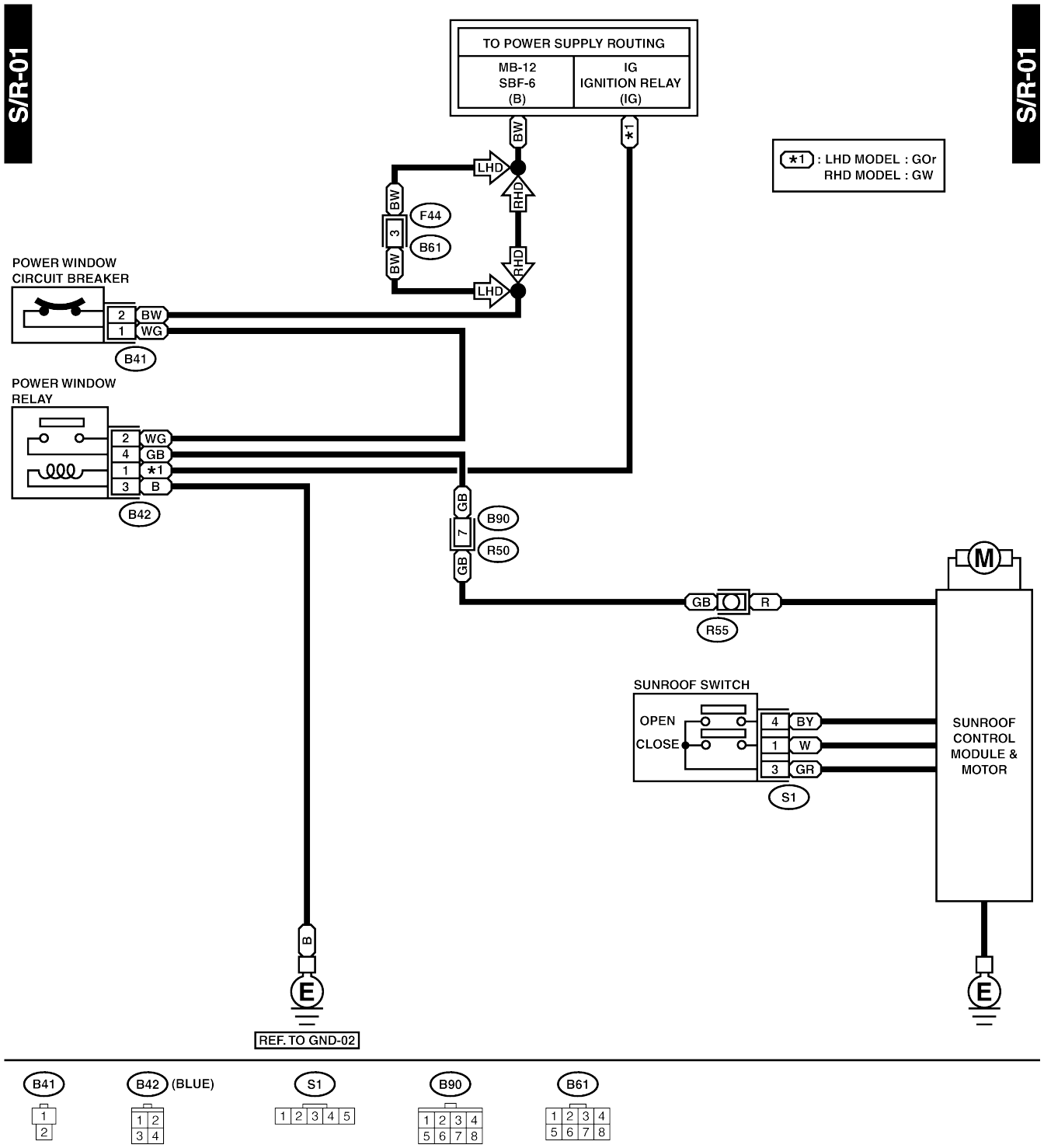
1. GENERAL TOOLS S910001A1701

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

2. Sunroof Control System S910328

A: SCHEMATIC S910328A21

1. SUNROOF S910328A2101



SG75-20

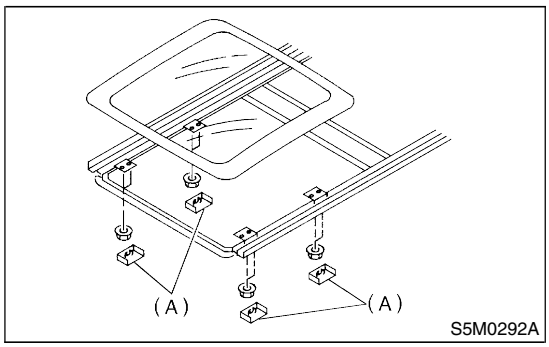
B: INSPECTION S910328A10

Symptom	Checking order
Water leaks.	(1) Check roof panel and sunroof lid for improper or poor sealing. (2) Check drain tube for clogging. (3) Check sunroof frame seal and body for improper fit.
Booming noise	(1) Check sunroof lid and roof panel for improper clearance. (2) Check sunshade and roof trim for improper clearance.
Abnormal motor noise	(1) Check motor for looseness. (2) Check gears and bearings for wear. (3) Check cables 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. (6) Check clutch adjustment nut for improper tightness.
Motor does not rotate or rotates improperly.	(1) Check fuse for blow-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. (7) Check limit switch for improper operation.

3. Sunroof Lid S910536

A: REMOVAL S910536A18

1) Completely close glass lid and open sunshade.
2) Detach the four covers (A) and then remove eight nuts.



3) Carefully remove glass lid.

B: INSTALLATION S910536A11

Install in the reverse order of removal.

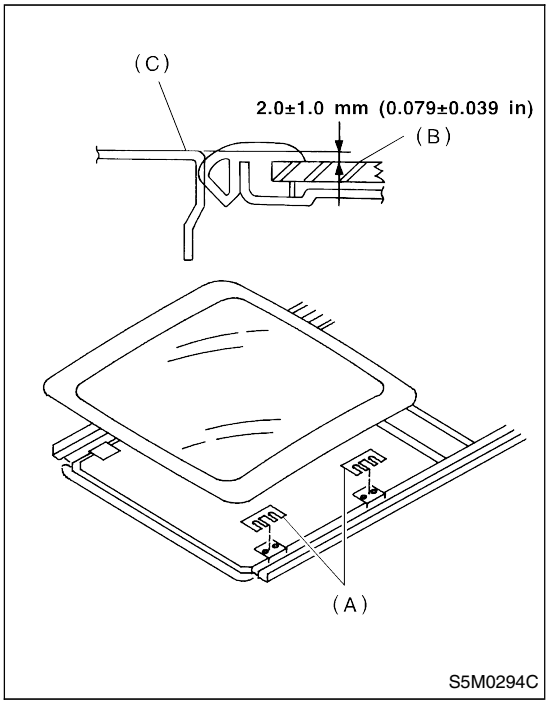
C: ADJUSTMENT S910536A01

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

Loosen sunroof lid nuts and then adjust height by adding (max: four pieces) or extracting (max: two pieces) shims (A) (standard: two pieces) between sunroof lid (B) and roof panel (C).

Difference in height between sunroof lid and roof panel

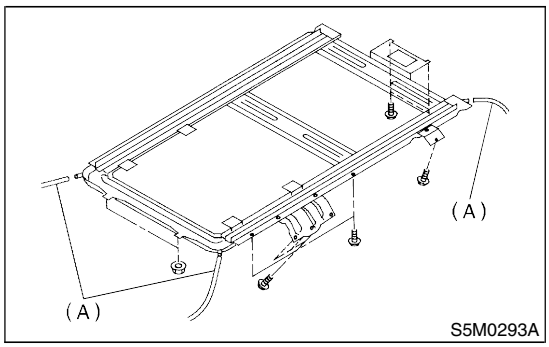
2.0±1.0 mm (0.079±0.039 in)



4. Sunroof Assembly S910329

A: REMOVAL S910329A18

1) Remove roof trim. <Ref. to EI-41, REMOVAL, Roof Trim.>
2) Remove sunroof lid. <Ref. to SR-7, REMOVAL, Sunroof Lid.>
3) Disconnect the four drain tubes (A) from sunroof frame.
4) Disconnect sunroof harness connector.
5) Remove bolts and nuts and then detach sunroof frame.



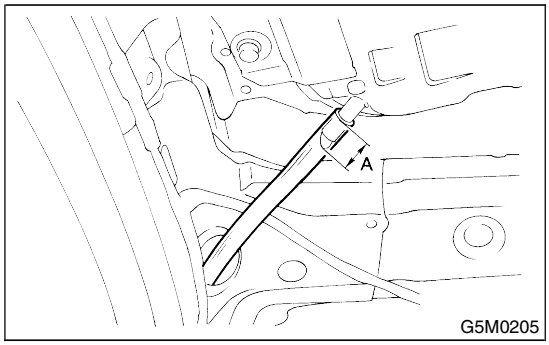
B: INSTALLATION S910329A11

Install in the reverse order of removal.

CAUTION:
Be careful not to snag harness.

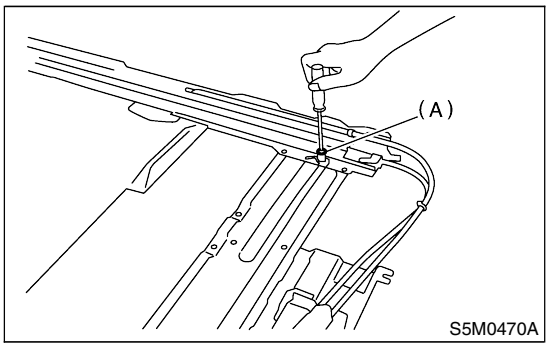
NOTE:
- Make sure to connect harness connector.
- When installing drain tube, insert it securely into drain pipe.

Length A:
15 mm (0.59 in) or more

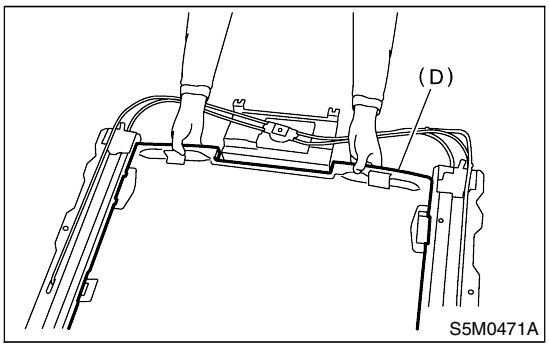


C: DISASSEMBLY S910329A06

1) Remove sunroof frame.
2) Remove rail stoppers (A).



3) Pull out the sunshade (B) from sunroof frame.



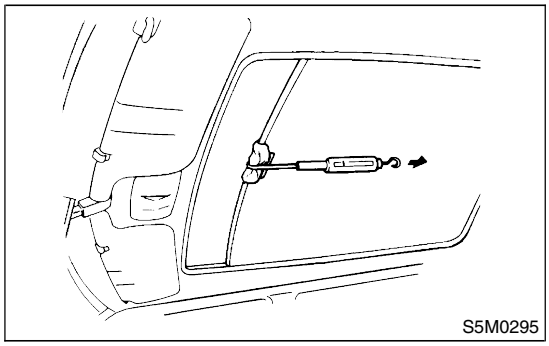
D: ASSEMBLY S910329A02

Assemble in the reverse order of disassembly.

E: INSPECTION S910329A10

1. CHECK FOR MOVEMENT OF SUNSHADE S910329A1001

1) Place a cloth on sunshade, and attach a spring scale to sunshade edge using a cloth.



2) Pull spring scale to measure force required to move the sunshade.

Force required to move sunshade:
Less than 24.5±9.8 N (2.5±1.0 kgf, 5.5±2.2 lb)

NOTE:
Considerable effort is required to start sunshade moving, so take scale reading while sunroof panel is moving smoothly.

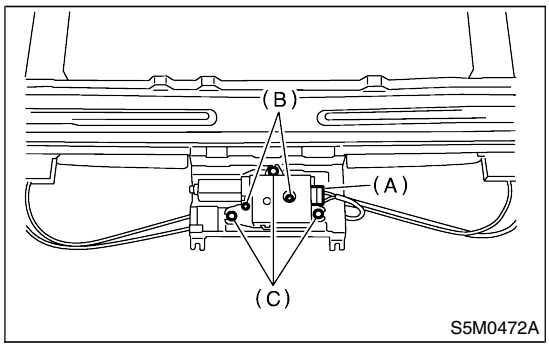
3) If force required exceeds specifications, check the sunroof glass lid, sunshade and deflector, and guide rail assembly for improper installation.

5. Sunroof Motor S910537

A: REMOVAL S910537A18

CAUTION:
• Fully open sunroof when removing sunroof motor.
• When removing clip, use great care to not damage the roof trim.

1) Completely open the sunroof.
2) Remove roof trim. <Ref. to EI-41, REMOVAL, Roof Trim.>
3) Disconnect harness connector (A) and remove sunroof motor mounting screw (B) and nut (C).



B: INSTALLATION S910537A11

CAUTION:
• Never rotate the sunroof motor while removed.
• Be careful not to move the sunroof cable when installing sunroof motor.

1) Install sunroof motor.
2) Connect sunroof motor harness connector and then connect battery ground cable.
3) Operate the sunroof switch, and check the sunroof stop position.
4) Move sunroof to completely closed position.

5) Check sunroof operation with the following procedure.

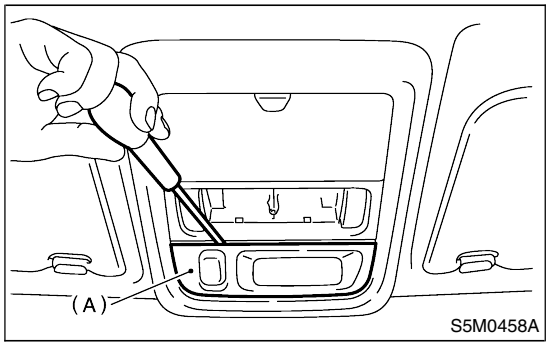
Checking order	Switch position
(1) Completely close sunroof.	Closed
(2) Open sunroof until it is almost completely open.	Open
(3) Completely open sunroof.	Open
(4) Close sunroof 500 mm (19.69 in) from completely open position.	Closed
(5) Completely close sunroof.	Closed

6) Install trim in the reverse order of removal.

6. Sunroof Switch S910538

A: REMOVAL S910538A18

1) Disconnect ground cable from battery.
2) Remove sunroof switch panel (A).

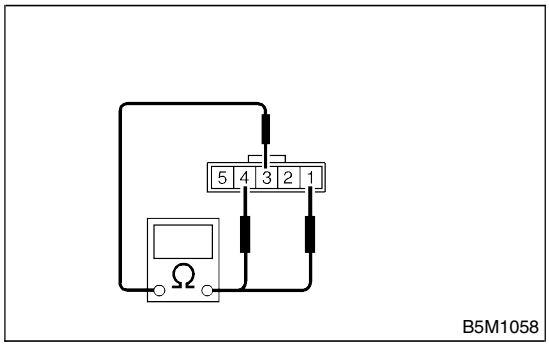


3) Disconnect harness connectors and remove sunroof switch.

B: INSTALLATION S910538A11

Install in the reverse order of removal.

C: INSPECTION S910538A10



Check continuity between terminals when operating the switch.

Switch position	Tester connection	Specified condition
Open	3 — 4	Continuity
Close	1 — 3	Continuity

EXTERIOR/INTERIOR TRIM

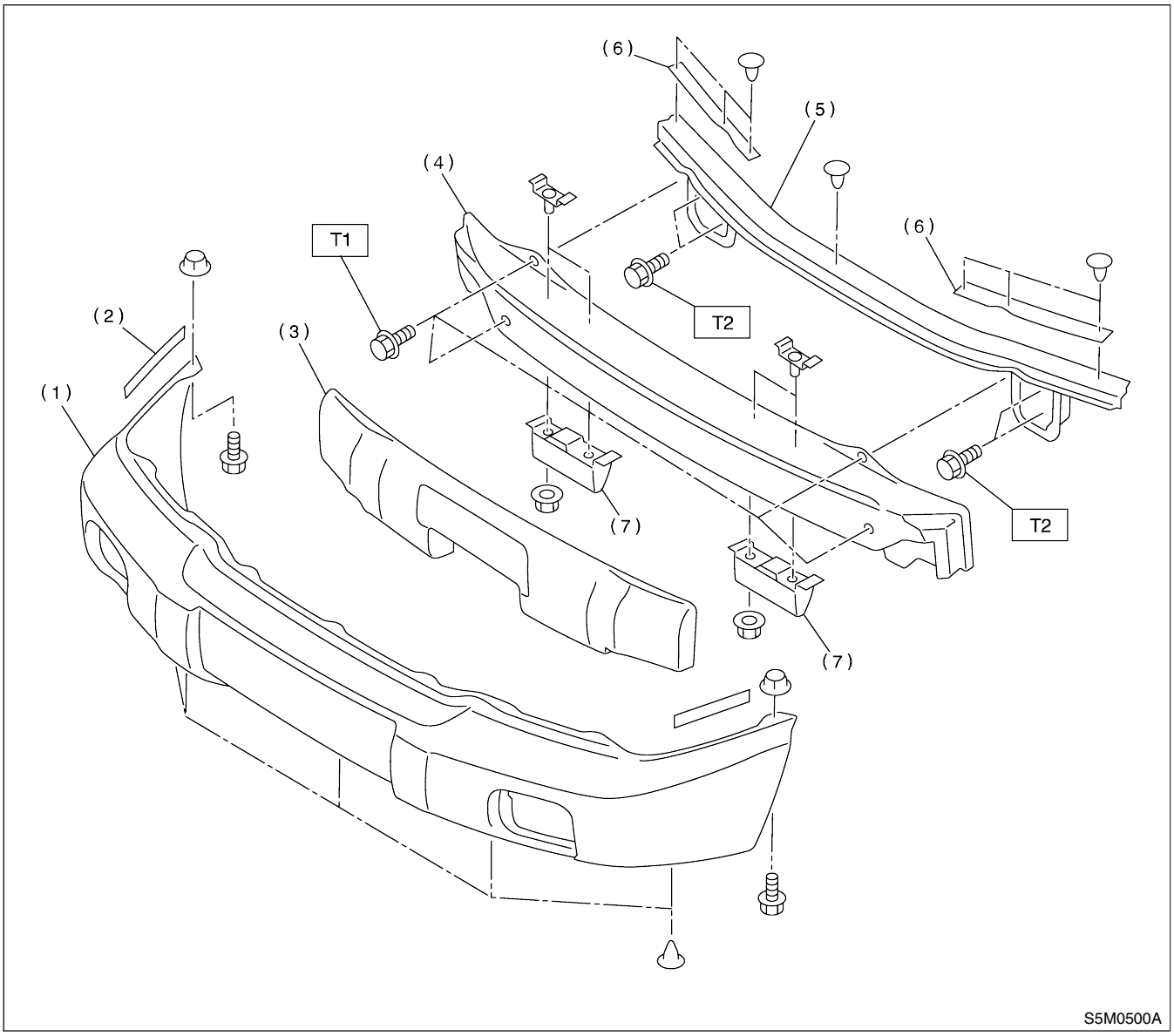
EI

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1. General Description S911001

A: COMPONENT S911001A05

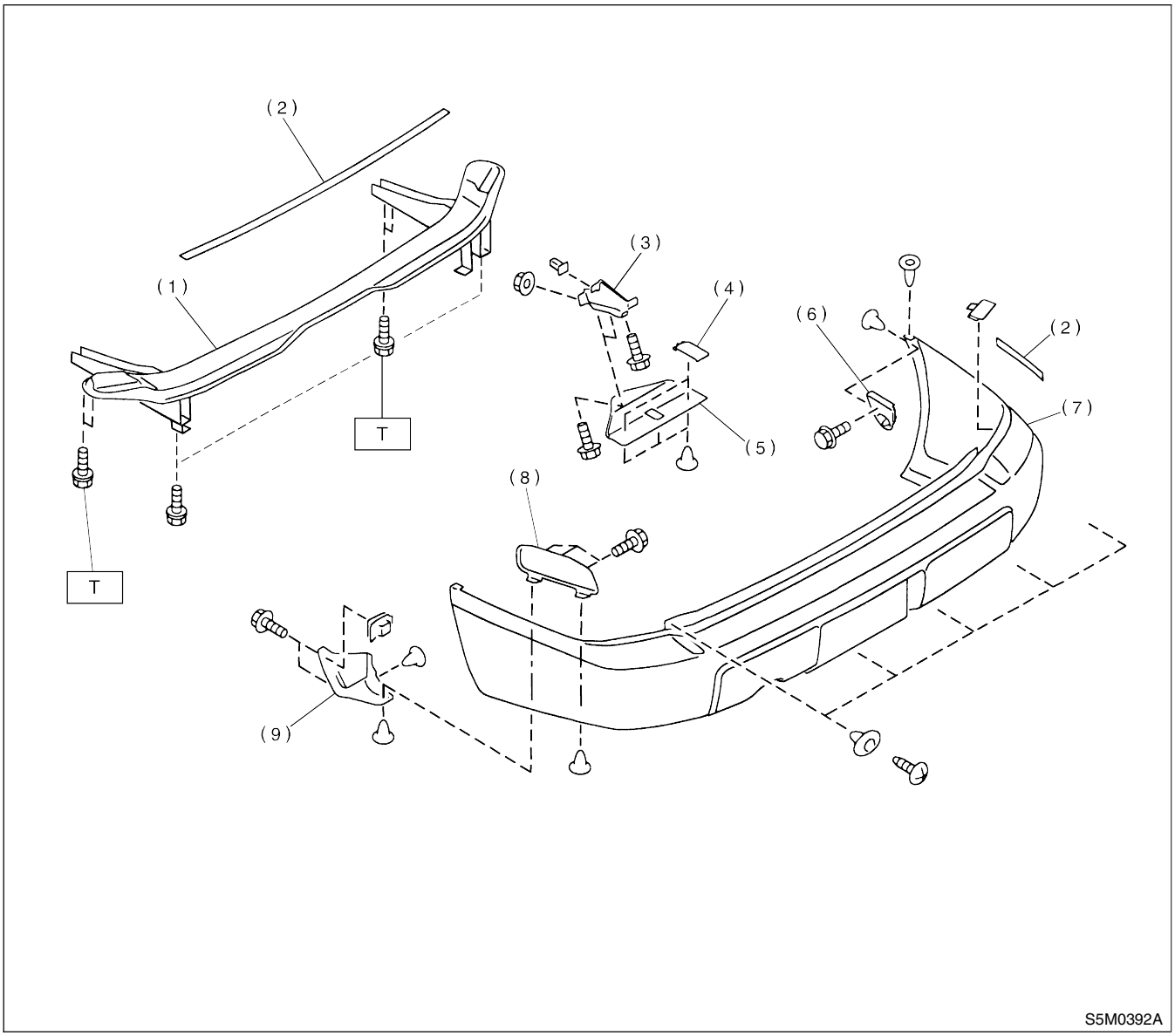
1. FRONT BUMPER S911001A0501



(1) Bumper face
(2) Spacer
(3) E/A foam
(4) Back beam
(5) Beam upper
(6) Plate
(7) Bracket

Tightening torque: N·m (kgf-m, ft-lb)
T1: 33 (3.4, 25)
T2: 70 (7.1, 51)

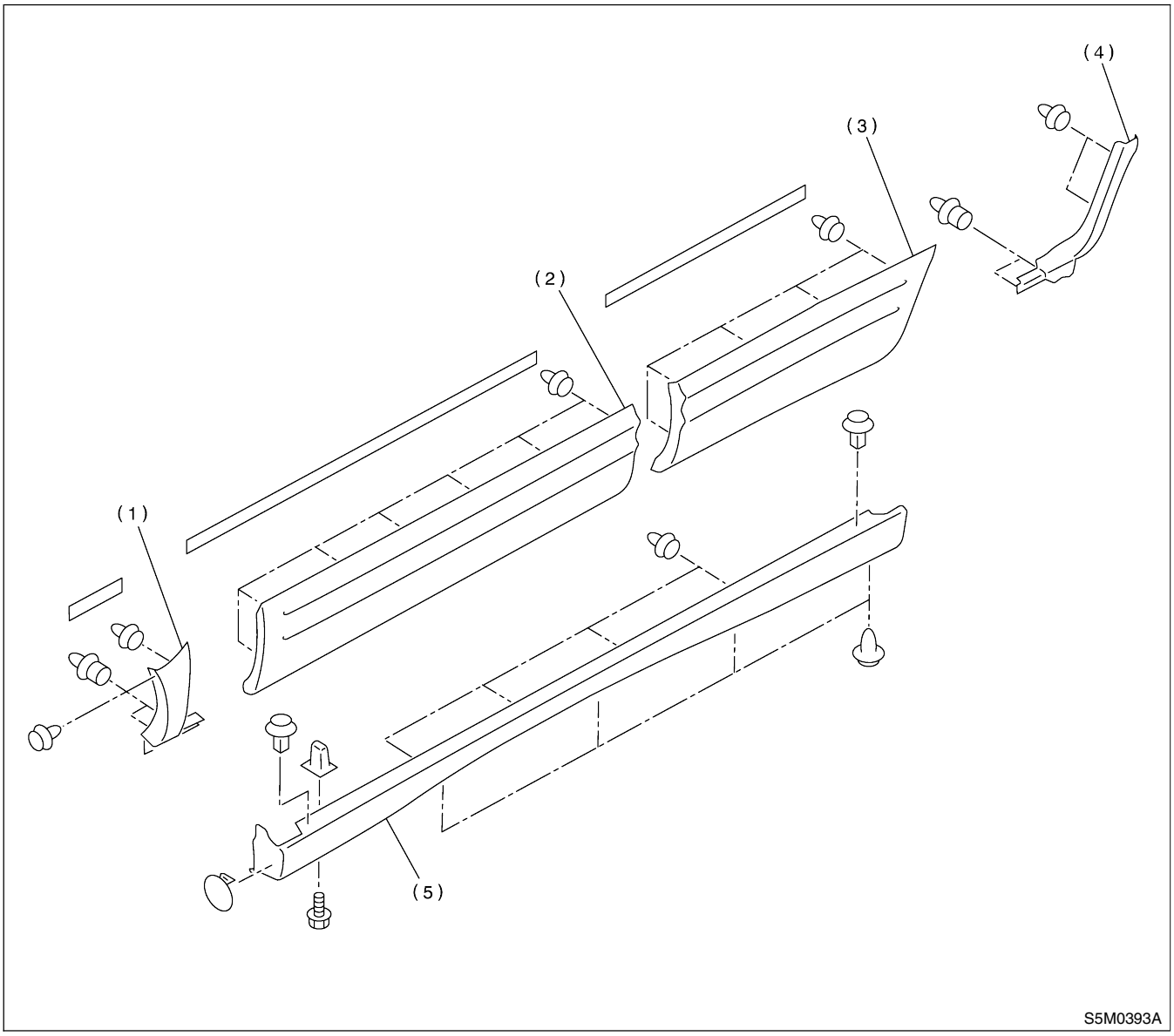
2. REAR BUMPER S911001A0511



(1) Bumper beam
(2) Cushion
(3) Lower center bracket
(4) Rear bumper plate
(5) Lower bracket
(6) Side upper bracket
(7) Bumper face
(8) Bumper side plate

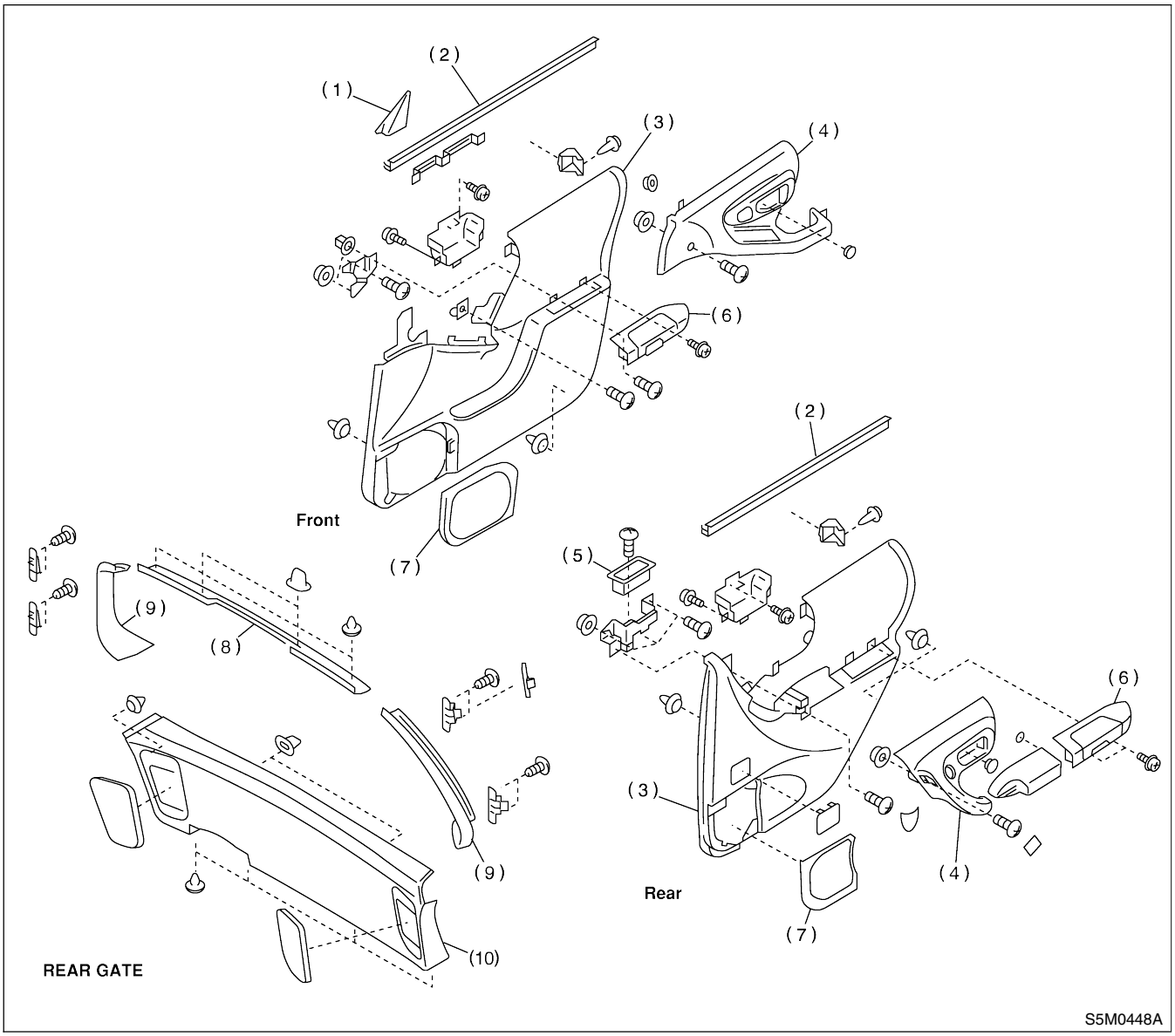
Tightening torque: N·m (kgf-m, ft-lb)
T: 93 (9.5, 69)

3. SIDE PROTECTOR S911001A0504



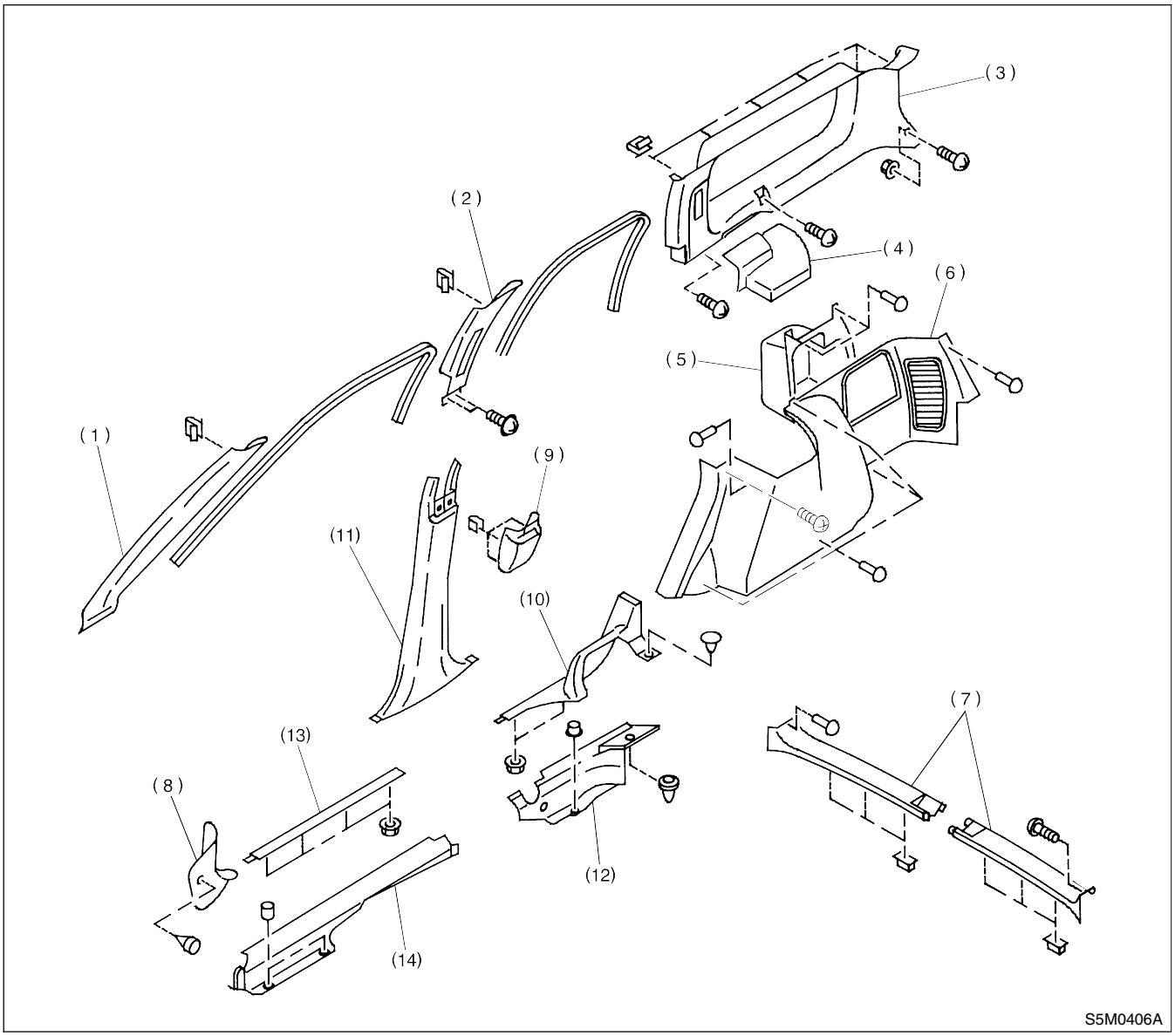
(1) Side protector (Front fender)
(2) Side protector (Front door)
(3) Side protector (Rear door)
(4) Side protector (Rear quarter)
(5) Side protector (Side sill)

4. DOOR TRIM S911001A0505



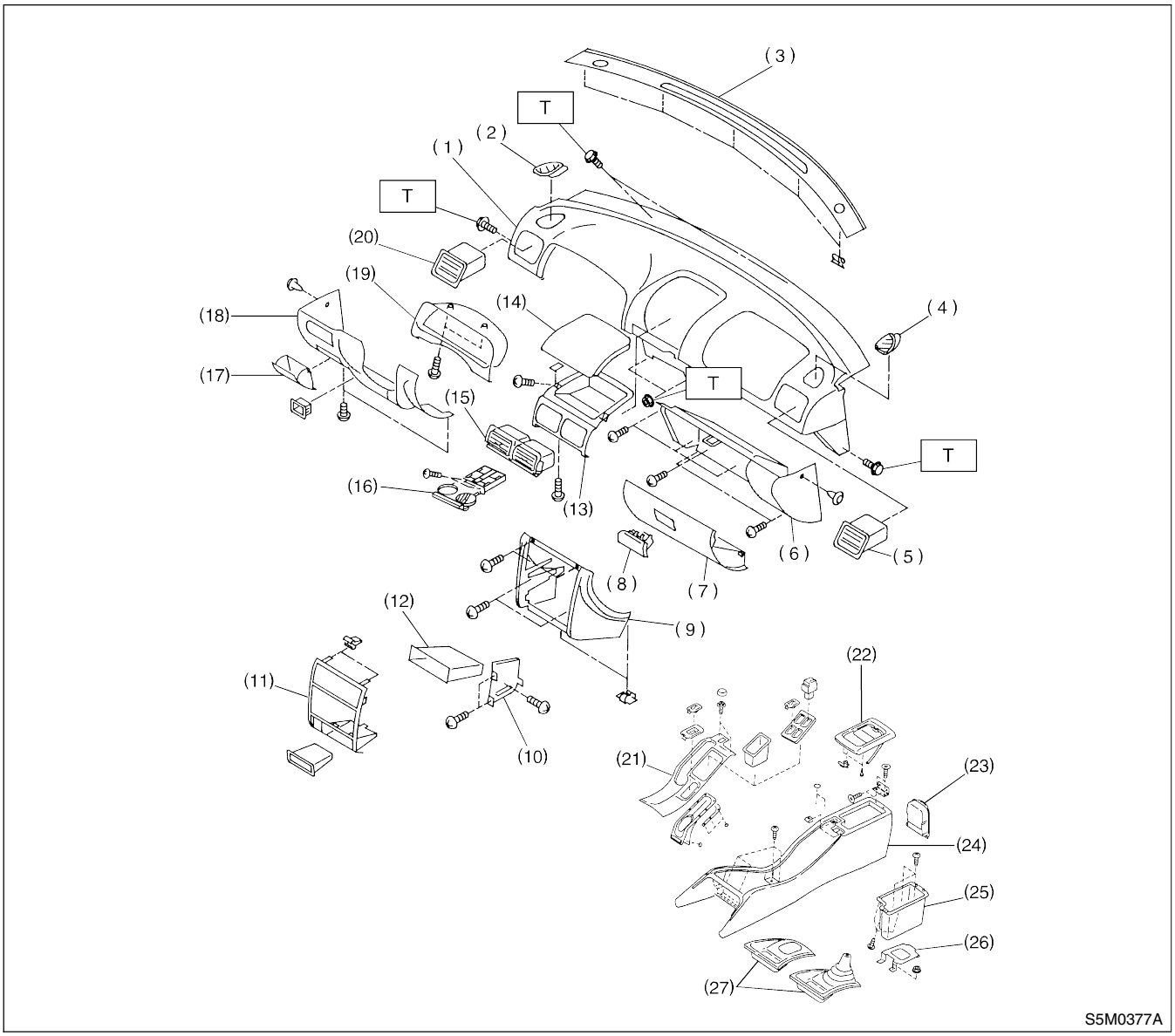
(1) Gusset cover
(2) Weatherstrip
(3) Trim panel
(4) Pull handle
(5) Handle
(6) Pocket
(7) Speaker grille
(8) Upper trim
(9) Side trim
(10) Lower trim

5. INNER TRIM S911001A0512



(1) Front pillar upper trim
(2) Center pillar upper trim
(3) Rear pillar upper trim
(4) Cover
(5) Pocket
(6) Rear quarter lower trim
(7) Rear skirt trim
(8) Front pillar lower trim
(9) Center pillar cover
(10) Side sill rear upper cover
(11) Center pillar lower trim
(12) Side sill rear lower cover
(13) Side sill front upper cover
(14) Side sill front lower cover

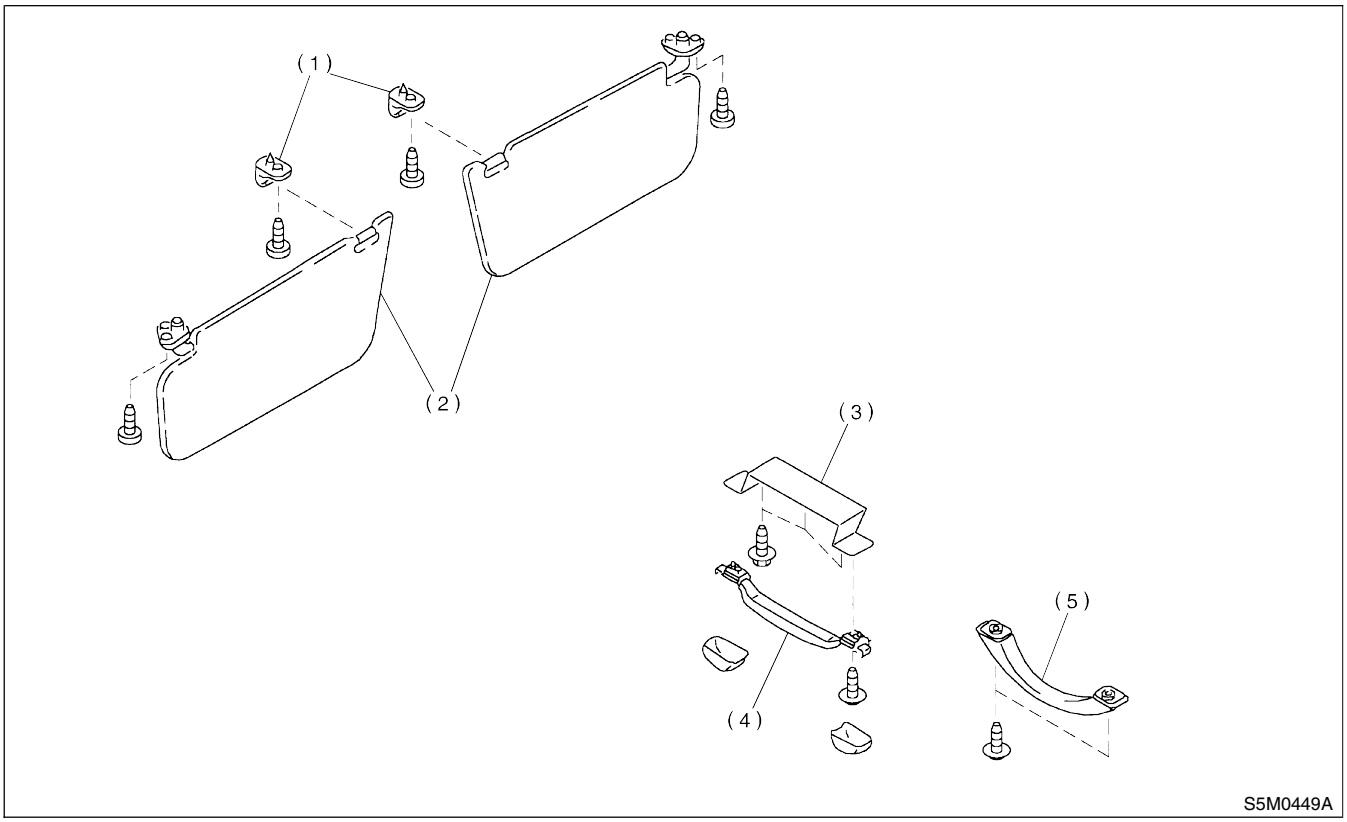
6. INSTRUMENT PANEL S911001A0508



(1) Pad & frame
(2) Grille side (D)
(3) Front def. grille
(4) Grille side (P)
(5) Grille vent (P)
(6) Glove box panel
(7) Glove box lid
(8) Knob
(9) Instrument panel center console
(10) BRKT (Radio)
(11) Center console cover
(12) Pocket
(13) Panel center
(14) Center pocket lid
(15) Grille center
(16) Cup holder
(17) Side pocket
(18) Lower cover ASSY
(19) Meter visor
(20) Grille vent (D)
(21) Console cover
(22) Console lid
(23) Rear cup holder
(24) Console box
(25) Console pocket
(26) Rear console BRKT
(27) Front cover

Tightening torque: N·m (kgf-m, ft-lb)
T: 7 (0.7, 5.1)

7. INNER ACCESSORIES S911001A0510



(1) Hook
(2) Sun visor
(3) Assist rail bracket
(4) Assist grip (retractable)
(5) Assist grip (fixed)

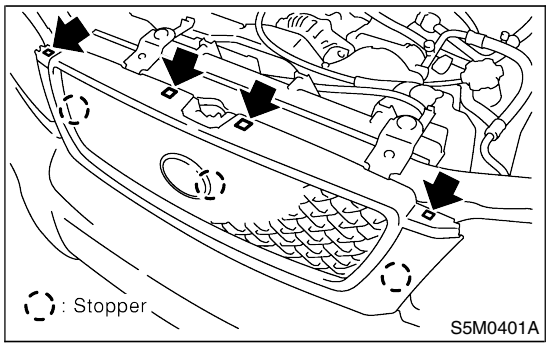
B: PREPARATION TOOL S911001A17

TOOL NAME	REMARKS
Clip remover	Used for removal of trim.
Adhesive remover	Used for removal of side protector.
Primer	Used for installation of side protector.
Infrared lamp	Used for disassembly/assembly of side protector.
Tow-sided tape	Used for installation of side protector.

2. Front Grille S911379

A: REMOVAL S911379A18

1) Open hood.
2) Remove the four upper clips from the body panel. Push the part shown in the figure by using a screwdriver while lightly pulling the front grille.



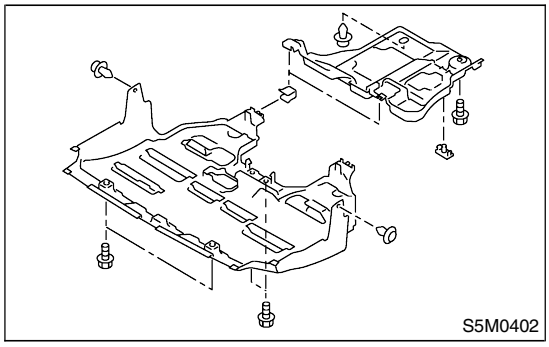
B: INSTALLATION S911379A11

1) Attach all clips to front grille.
2) Align them with clip holes in body and push them into place.

3. Front Under Cover S911372

A: REMOVAL S911372A18

1) Lift-up the vehicle.
2) Loosen bolts and clips to remove under cover.



B: INSTALLATION S911372A11

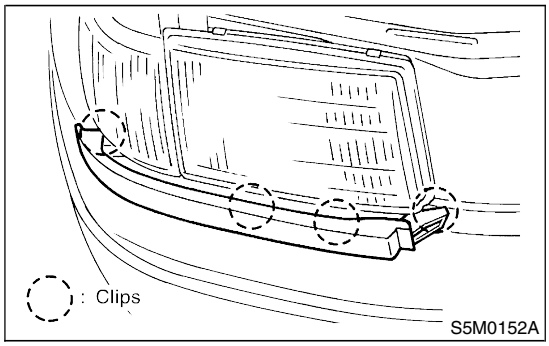
Install in the reverse order of removal.

4. Front Bumper S911371

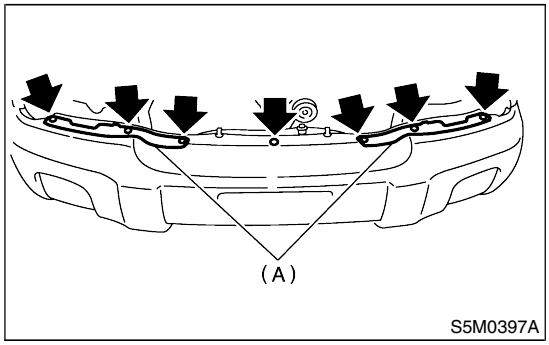
A: REMOVAL S911371A18

CAUTION:
- **Handle bumper carefully to avoid damage to bumper face.**
- **Do not damage body during removal or installation of bumper.**
- **To avoid damage to bumper, lay removed bumper on sheet spread on the floor. Do not lay it directly on the floor.**

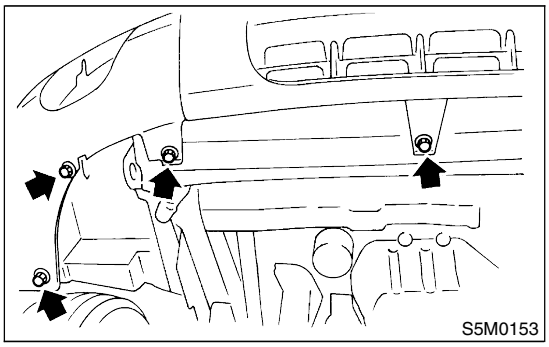
1) Disconnect the ground cable from the battery.
2) Remove front fog light. <Ref. to LI-48, REMOVAL, Front Fog Light Assembly.>
3) Remove the front grille. <Ref. to EI-10, REMOVAL, Front Grille.>
4) Remove headlight washer nozzle. (Headlight washer equipped vehicle) <Ref. to WW-24, REMOVAL, Headlight Washer.>
5) Remove the extension of both sides.



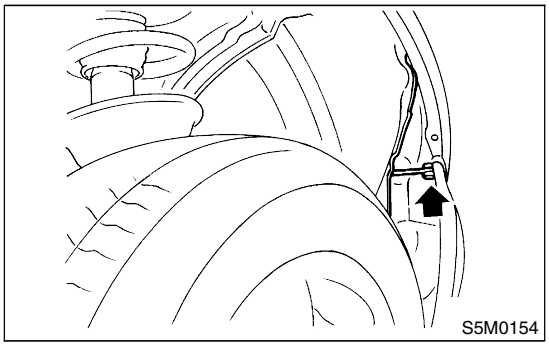
6) Remove the seven clips and then detach plate (A).



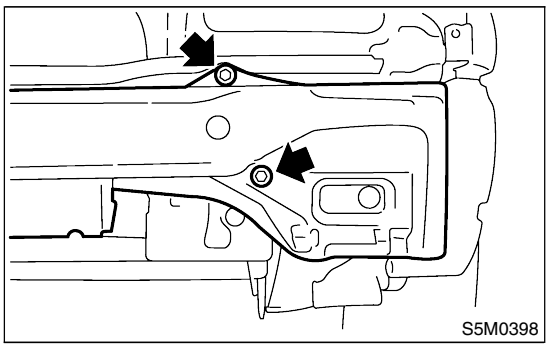
7) Remove under cover. <Ref. to EI-11, REMOVAL, Front Under Cover.>
8) Remove the seven clips from under side of bumper.



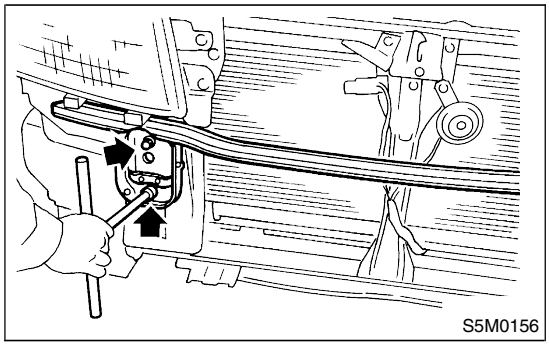
9) Turn over the front mud guard of the front portion and then remove bolt.



10) Remove bumper face and E/A foam.
11) Remove the four bolts and then detach the back beam.



12) Remove the four bolts and then detach the beam upper.



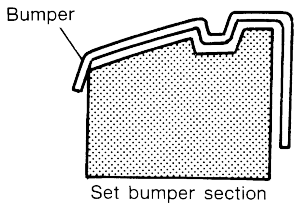
B: INSTALLATION *S911371A11*

Install in the reverse order of removal.

CAUTION:
• Handle bumper carefully to avoid damage to bumper face.
• Do not damage body during removal or installation of bumper.

C: REPAIR S911371A19

1. COATING METHOD FOR PP BUMPER S911371A1901

<table>
<tr><th>Process No.</th><th>Process name</th><th colspan="2">Job contents</th></tr>
<tr><td>1</td><td>Bumper mounting</td><td>Set bumper on paint worktable if required. Use paint worktable conforming to inner shape of bumper when possible.</td><td> 

G5M0164</td></tr>
<tr><td>2</td><td>Masking</td><td colspan="2">Mask specified part (black base) with masking tape. Use masking tape for PP (example, Nichiban No. 533, etc.).</td></tr>
<tr><td>3</td><td>Degreasing, cleaning</td><td colspan="2">Clean all parts to be painted with white gasoline, normal alcohol, etc. to remove dirt, oil, fat, etc.</td></tr>
<tr><td>4</td><td>Primer paint</td><td colspan="2">Apply primer one to all parts to be painted, using air gun. Use primer (clear).</td></tr>
<tr><td>5</td><td>Drying</td><td colspan="2">Dry at normal temperature [10 to 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.</td></tr>
<tr><td rowspan="2">6</td><td rowspan="2">Top coat paint (I)</td><td>Solid color</td><td>Metallic color</td></tr>
<tr><td>Use section (block) paint for top coat.
• Paint in use (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 — 45μ
• Spraying pressure: 245 — 343 kPa
(2.5 — 3.5 kg/cm^2, 36 — 50 psi)</td><td>Use section (block) paint for top coat.
• Paint in use (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 — 20μ
• Spraying pressure: 245 — 343 kPa
(2.5 — 3.5 kg/cm^2, 36 — 50 psi)</td></tr>
<tr><td>7</td><td>Drying</td><td>Not required.</td><td>Dry at normal temperature [10 min. or more at 20°C (68°F)].
In half-dried condition, avoid dust, dirt.</td></tr>
<tr><td>8</td><td>Top coat paint (II)</td><td>Not required.</td><td>Apply a clear coat to parts with top coat paint (I), three times, at 5 — 7 minutes intervals.
• Paint in use:
Metallic paint
Hardener PB
Thinner T-301
• Mixing ratio: Clear vs. hardener = 6:1
• Viscosity: 14 — 16 sec/20°C (68°F)
• Film thickness: 25 — 30μ
• Spraying pressure: 245 — 343 kPa
(2.5 — 3.5 kg/cm^2, 36 — 50 psi)</td></tr>
<tr><td>9</td><td>Drying</td><td colspan="2">60°C (140°F), 60 min. or 80°C (176°F), 30 min.
If higher than 80°C (176°F), PP may be deformed. Keep maximum temperature of 80°C (176°F).</td></tr>
<tr><td>10</td><td>Inspection</td><td colspan="2">Paint check.</td></tr>
<tr><td>11</td><td>Masking removal</td><td colspan="2">Remove masking in process No. 2.</td></tr>
</table>

2. REPAIR INSTRUCTIONS FOR COLORED PP BUMPER S911371A1902

NOTE:
All PP bumpers are provided with a grained surface, and if the surface is damaged, it cannot normally be restored to its former condition. Damage limited to shallow scratches that cause only a change in the lustre of the base material or coating, can be almost fully restored. Before repairing a damaged area, explain this point to the customer and get an understanding about the matter. Repair methods are outlined below, based on a classification of the extent of damage.

• Minor damage causing only a change in the lustre of the bumper due to a light touch

Almost restorable.

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

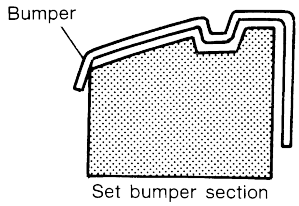
• Deep damage caused by scratching fences, etc.

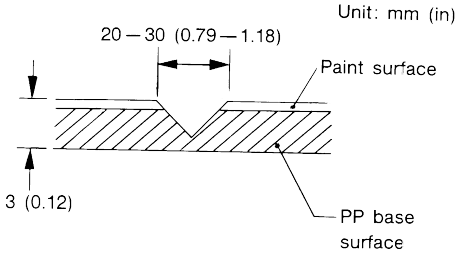
A dent cannot be repaired but a whitened or swelled part can be removed.

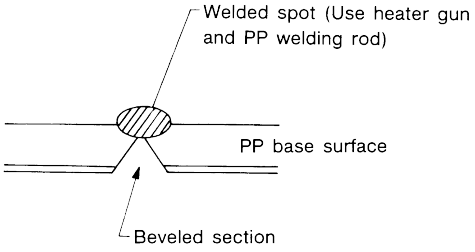
<table>
<tr><th>Process No.</th><th>Process name</th><th colspan="2">Job contents</th></tr>
<tr><td>1</td><td>Cleaning</td><td colspan="2">Clean damaged area with water.</td></tr>
<tr><td>2</td><td>Removal of damaged area</td><td colspan="2">Cut off protruding area, if any, due to collision, using a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

• Deep damage such as a break or hole that requires filling

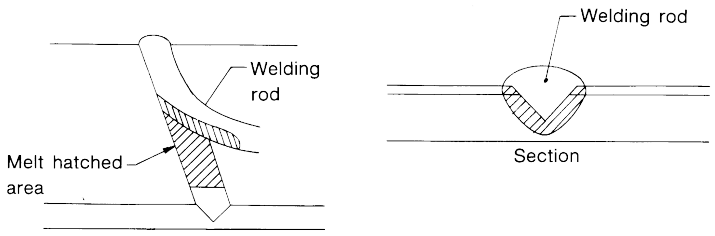
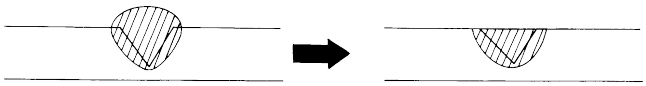
Much of the peripheral grained surface must be sacrificed for repair, and the degree of restoration is not really worth the expense. (The surface, however, will become almost flush with adjacent areas.)
Recommended repair kit: PP Part Repair Kit (NRM)

<table>
<tr><th>Process No.</th><th>Process name</th><th colspan="2">Job contents</th></tr>
<tr><td>1</td><td>Bumper removal</td><td colspan="2">Remove bumper as required.</td></tr>
<tr><td>2</td><td>Part removal</td><td colspan="2">Remove parts built into bumper as required.</td></tr>
<tr><td>3</td><td>Bumper placement</td><td>Place bumper on a paint worktable as required.
It is recommended that contour of worktable accommodate internal shape of bumper.</td><td> 

G5M0164</td></tr>
<tr><td>4</td><td>Surface preparation</td><td colspan="2">Remove dust, oil, etc. from areas to be repaired and surrounding areas, using a suitable solvent (NRM No. 900 Precleno, white gasoline, or alcohol).</td></tr>
<tr><td>5</td><td>Cutting</td><td>If nature of damage are cracks or holes, cut a guide slit of 20 to 30 mm (0.79 to 1.18 in) in length along the crack or hole up to the bumper's base surface. Then, bevel or "vee-out" the affected area using a knife or grinder.</td><td> 

G5M0165</td></tr>
<tr><td>6</td><td>Sanding (I)</td><td colspan="2">Grind beveled surface with sand paper (#40 to #60) to smooth finish.</td></tr>
<tr><td>7</td><td>Cleaning</td><td colspan="2">Clean the sanded surface with the same solvent as used in Process No. 4.</td></tr>
<tr><td rowspan="2">8</td><td rowspan="2">Temporary welding</td><td colspan="2">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.</td></tr>
<tr><td colspan="2"> 

G5M0166
NOTE:
• Do not melt welding rod until it flows out. This results in reduced strength.
• Leave the welded spot unattended until it cools completely.</td></tr>
</table>

Process No.	Process name	Job contents
9	Welding	Using a heater gun and PP welding rod, weld the beveled spot while melting the rod and damaged area.
		 G5M0167
		NOTE: ● Melt the sections indicated by hatched area. ● Do not melt welding rod until it flows out, in order to provide strength. ● Always keep the heater gun 1 to 2 cm (0.4 to 0.8 in) away from the welding spot. ● Leave the welded spot unattended until it cools completely.
10	Sanding (II)	Remove excess part of weld with a putty knife. If a drill or disc wheel is used instead of the knife, operate it at a rate lower than 1,500 rpm and grind the excess part little by little. A higher rpm will cause the PP substrate to melt from the heat.
		 G5M0168
		Sand the welded spot smooth with #240 sand paper.
11	Masking	Mask the black substrate section using masking tape. Recommended masking tape: Nichiban No. 533 or equivalent
12	Cleaning/ degreasing	Completely clean the entire coated area, using solvent similar to that used in Process No. 4.
13	Primer coating	Apply a coat of primer to the repaired surface and its surrounding areas. Mask these areas, if necessary. Recommended primer: Mp/ 364 PP Primer NOTE: Be sure to apply one coat of primer at a spraying pressure of 245 to 343 kPa (2.5 to 3.5 kg/cm^2, 36 to 50 psi) with a spray gun.
14	Leave unattended.	Leave the repaired area unattended at 20°C (68°F) for 10 to 15 minutes until primer is half-dry. NOTE: If dirt or dust comes in contact with the coated area, wipe it off with a cloth dampended with alcohol. (Do not use thinner since the coated area tends to melt.)
15	Primer surfacer coating	Apply a coat of primer surfacer to the repaired area two or three times at an interval of 3 to 5 minutes. 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) ● Coated film thickness: 40 — 50μ
16	Drying	Allow the coated surface to dry for 60 minutes at 20°C (68°F) [or 30 minutes at 60°C (140°F)].
17	Sanding (III)	Sand the coated surface and its surrounding areas using #400 sand paper and water.
18	Cleaning/ degreasing	Same as Process No. 12.

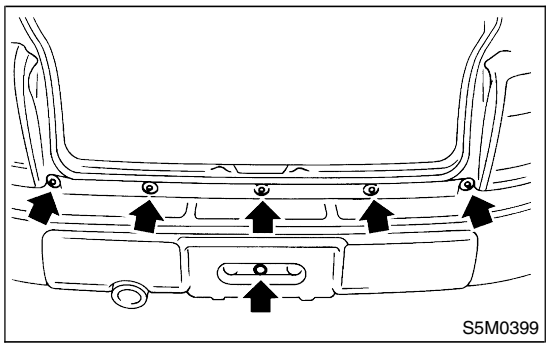
Process No.	Process name	Job contents	
		Solid color	Metallic color
19	Top coat (I)	Use a “block” coating method. ● Recommended paint: Suncryl (SC) No. 307 Flex Hardener SC Reducer (thinner) ● Mixing ratio: 3 : 1 Suncryl (SC) vs. No. 307 Flex Hardener ● Viscosity: 11 — 13 sec/20°C (68°F) ● Coated film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

5. Rear Bumper S911370

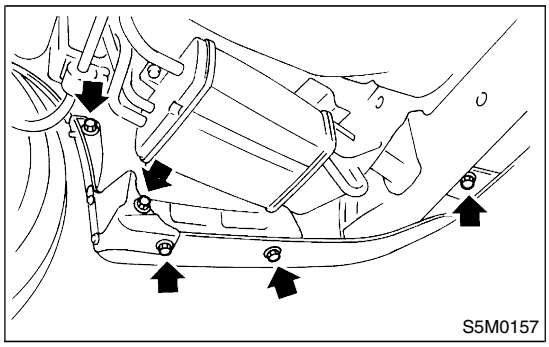
A: REMOVAL S911370A18

CAUTION:
• Handle bumper carefully to avoid damage to bumper face.
• Do not damage body during removal or installation of bumper.
• To avoid damage to bumper, lay removed bumper on sheet spread on the floor. Do not lay it directly on the floor.

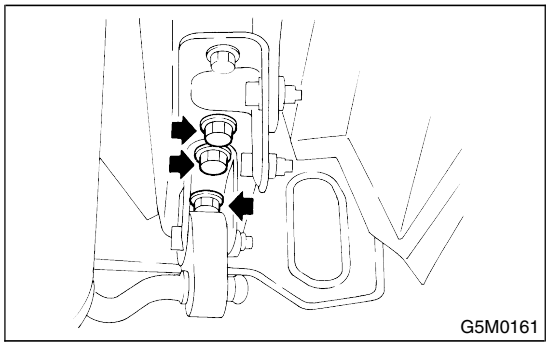
1) Disconnect the ground cable from the battery.
2) Open rear gate.
3) Remove the five screws and the clip from the rear bumper.


S5M0399

4) Disconnect license plate light and rear fog light (if equipped) connectors.
5) Remove bolts and clips from under side of bumper.


S5M0157

6) Remove bumper face.
7) Remove bolts from bumper stay.


G5M0161

8) Remove rear bumper beam.

B: INSTALLATION S911370A11

CAUTION:
• Handle bumper carefully to avoid damage to bumper face.
• Do not damage body during removal or installation of bumper.

Install in the reverse order of removal.

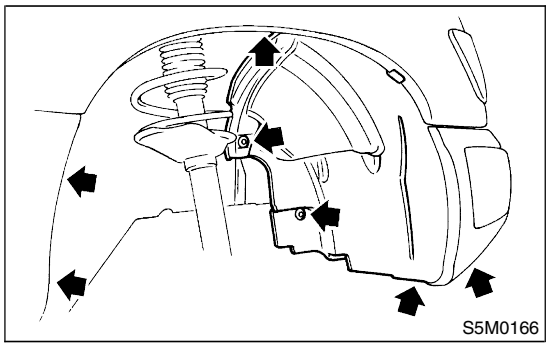
C: REPAIR S911370A19

Refer to front bumper repair. <Ref. to EI-12 REMOVAL, Front Bumper.>

6. Mud Guard S911374

A: REMOVAL S911374A18

1) Jack-up the vehicle.
2) Remove screws and clips. Move mud guard toward the center of the body and remove mud guard.

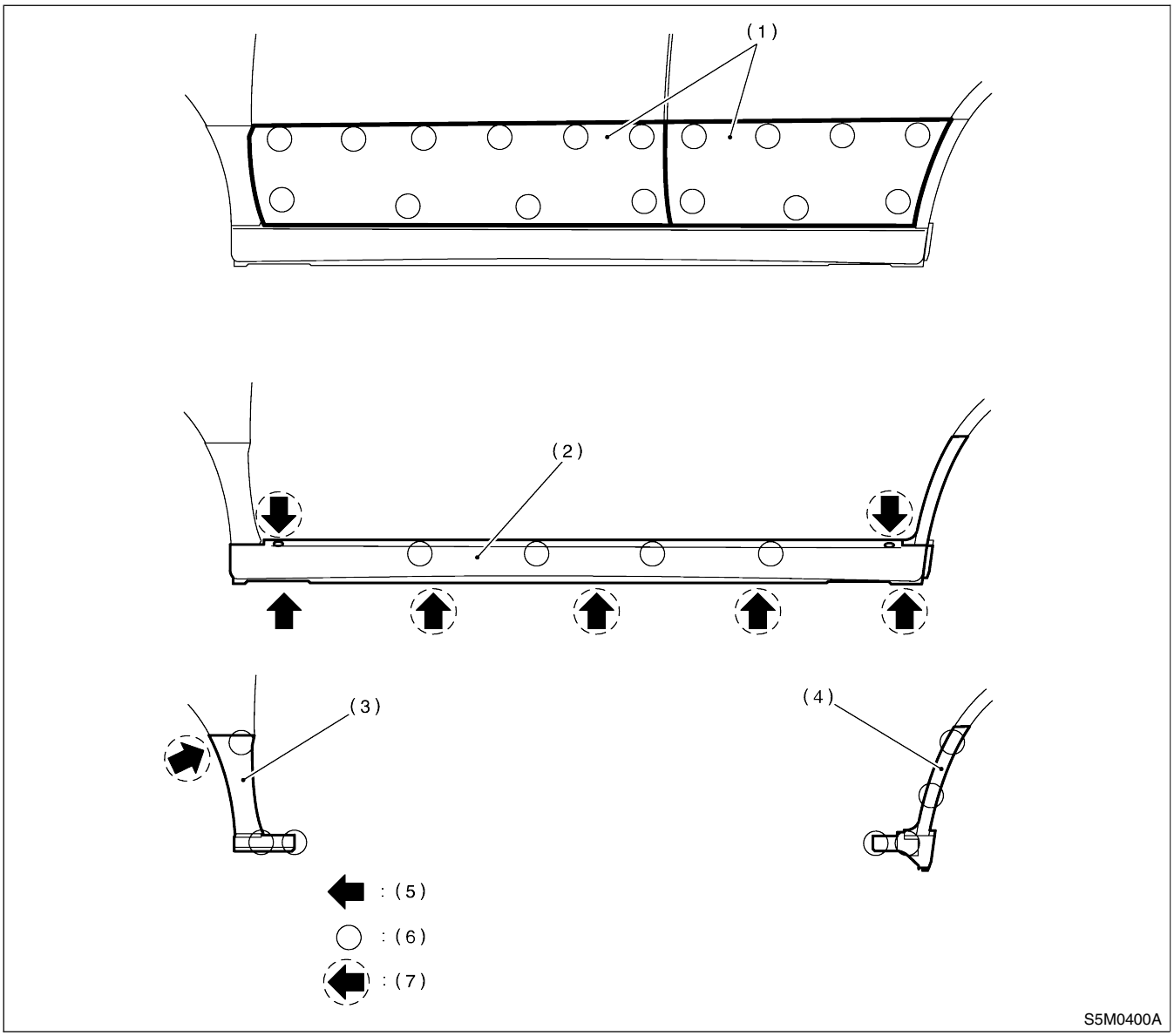


B: INSTALLATION S911374A11

Insert hook into body, and tighten it with screw and clip.

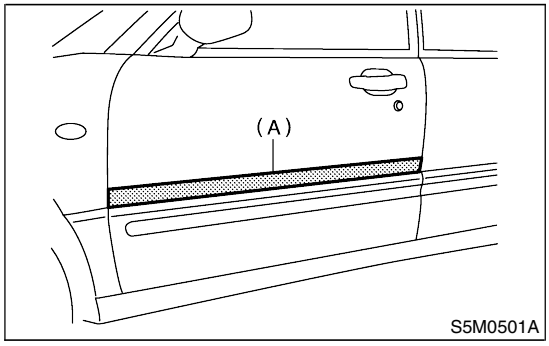
7. Protector S911380

A: REMOVAL S911380A18

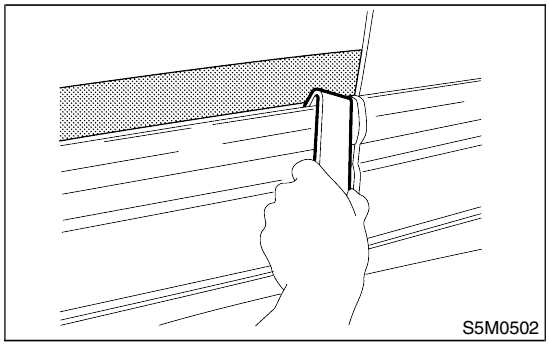


(1) Side protector (Door)
(2) Side protector (Side sill)
(3) Side protector (Front fender)
(4) Side protector (Rear quarter)
(5) Screw
(6) Clip
(7) Clip

1) Attach masking tape (A) on the upper painted area of the protector.



2) Release clip engagement using clip remover, and remove the protector while peeling off two-sided tape.



NOTE:
● To increase adhesive remover strength, leave two-sided tape on body and side protector.
● If two-sided tape is too thick, use a putty knife to cut it thin so that adhesive remover is ready for use.
● If two-sided tape is hard to remove, heat to approximately 40°C (104°F).

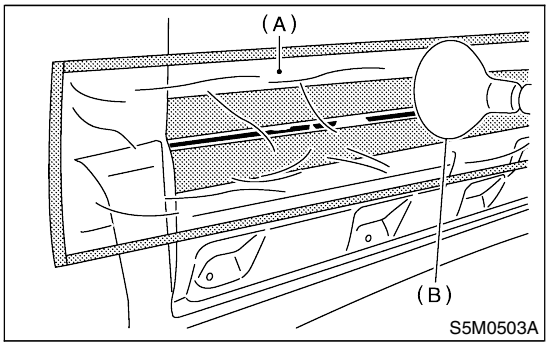
3) Apply an even coat of adhesive remover to the two-sided tape.

Recommended adhesive remover:
SUMITOMO 3M4000 or equivalent

CAUTION:
Do not apply adhesive remover to lacquer base coated body panels.

4) Attach plastic wrap (A) to adhesive remover coated areas and heat to 40 to 60°C (104 to 140°F) for 5 to 10 minutes using an infrared lamp (B).

CAUTION:
Do not overheat until plastic wrap is somewhat white.



5) Using a plastic spatula, remove traces of two-sided tape from body panel.
6) Remove masking tape and clean traces of two-sided tape using a cloth dampened with white gasoline.
7) Similarly, clean traces of adhesive from two-sided tape on side protector.

CAUTION:
Make sure side protector is clean and free of adhesive remover. Clean if necessary.

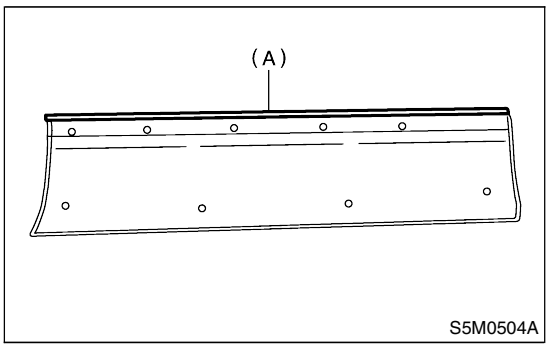
B: INSTALLATION *S911380A11*

1) Apply primer to original side protector (if used), and attach two-sided tape (A) to upper of side protectors as shown.

Two-sided tape:
Thickness; 1.2 mm (0.047 in)
Width; 5 mm (0.20 in)

Recommended primer:
SUMITOMO 3MK-500 or equivalent

Recommended two-sided tape:
SUMITOMO 3M5305 or equivalent



2) Using an infrared lamp, heat body panel to 40 to 60°C (104 to 140°F) and rear surface of side protector to 20 to 30°C (68 to 86°F).

3) Remove tack paper from two-sided paper. While aligning clips with holes in body panel, attach two-sided tape to side protector and body panel with a force of more than 49 N (5 kg, 11 lb) with roller. Do not allow air to enter mating surface of the two.

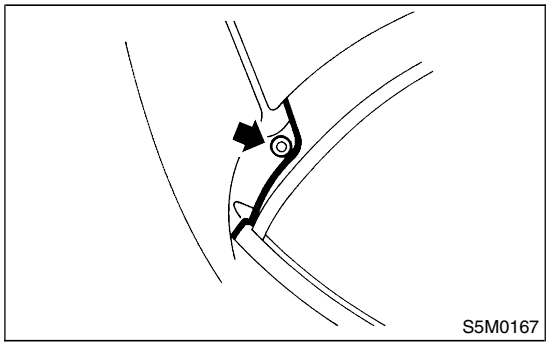
CAUTION:
- **To maintain adhesive power, do not wash the vehicle for 24 hours after tape application.**
- **Push clip in securely using hands.**

(To prevent deformation, do not use excessive force.)

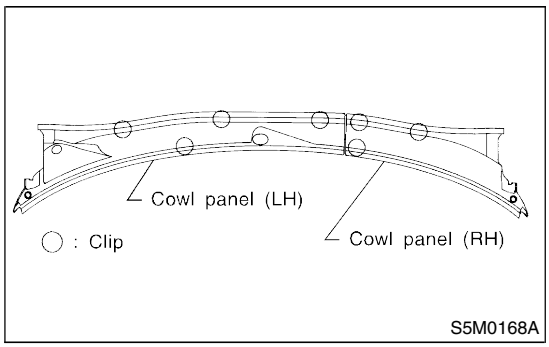
8. Cowl Panel S911387

A: REMOVAL S911387A18

1) Remove cowl panel side.



2) Open hood.
3) Remove wiper arm. <Ref. to WW-14 REMOVAL, Wiper Arm.>
4) Lift cowl panel (RH), and then lift cowl panel (LH).



B: INSTALLATION S911387A11

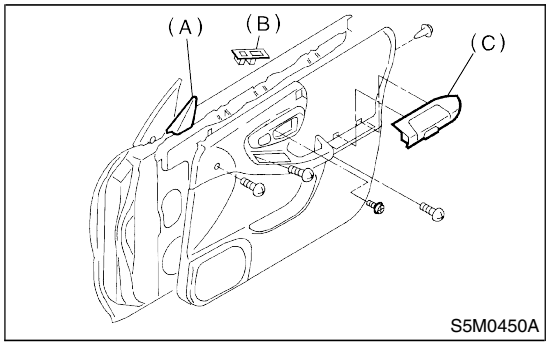
Install in the reverse order of removal.

9. Front Door Trim S911356

A: REMOVAL S911356A18

CAUTION:
Do not apply excessive force to clip. Otherwise the clip may be broken.

1) Remove gusset cover (A), power window switch assembly (B) and pocket (C).
2) Remove screws, and then detach trim panel.



B: INSTALLATION S911356A11

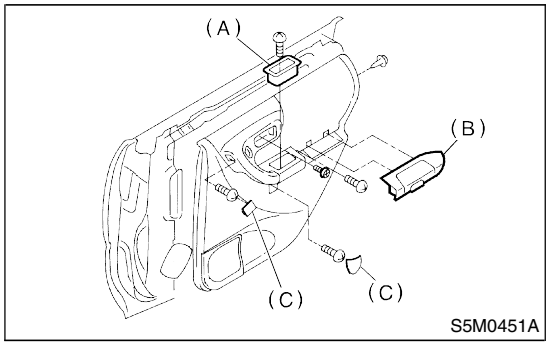
Install in the reverse order of removal.

10. Rear Door Trim S911354

A: REMOVAL S911354A18

CAUTION:
Do not apply excessive force to clip. Otherwise the clip may be broken.

1) Remove handle (A), pocket (B) and clips (C).
2) Remove screws, and then detach trim panel.



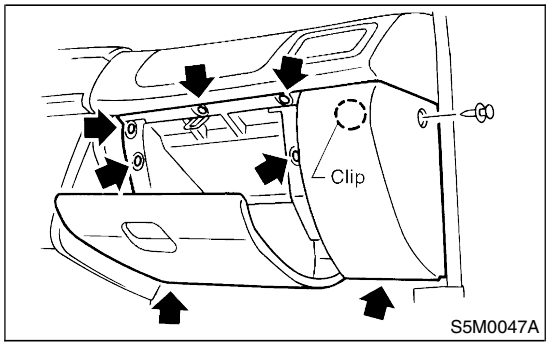
B: INSTALLATION S911354A11

Install in the reverse order of removal.

11. Glove Box S911558

A: REMOVAL S911558A18

Loosen screws to remove glove box.



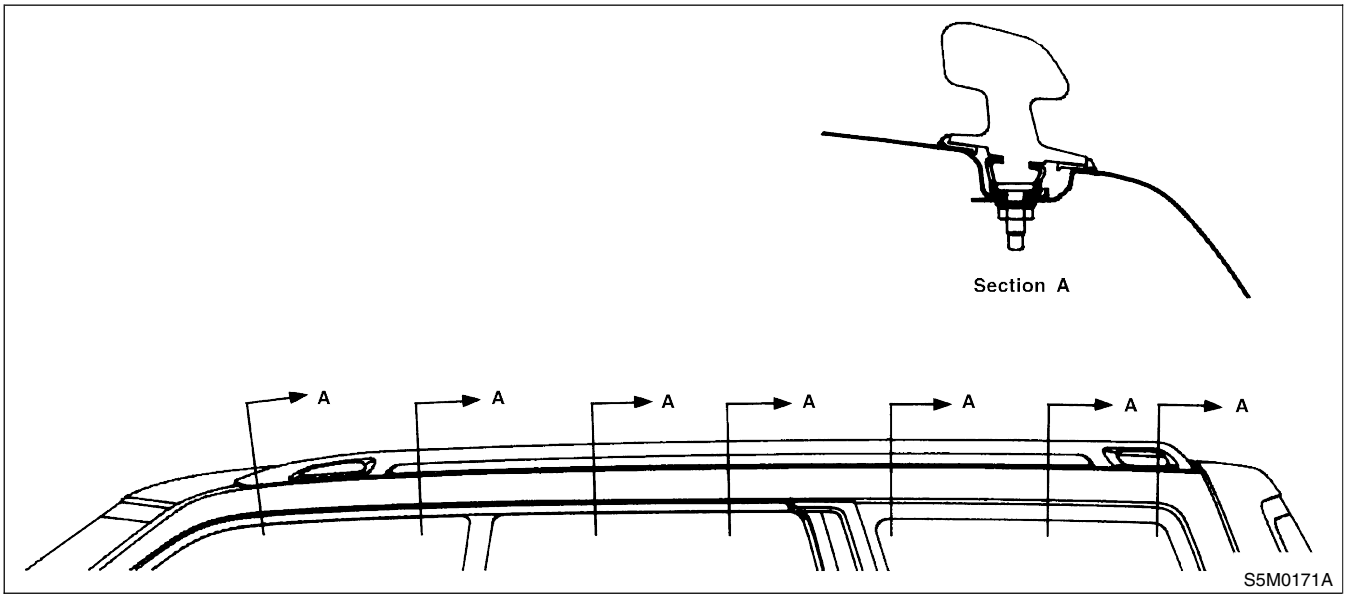
B: INSTALLATION S911558A11

Install in the reverse order of removal.

12. Roof Rail S911383

A: REMOVAL S911383A18

1) Remove roof trim. <Ref. to EI-41 REMOVAL, Roof Trim.>
2) Remove seven mounting nuts and then detach roof rail carefully.



B: INSTALLATION S911383A11

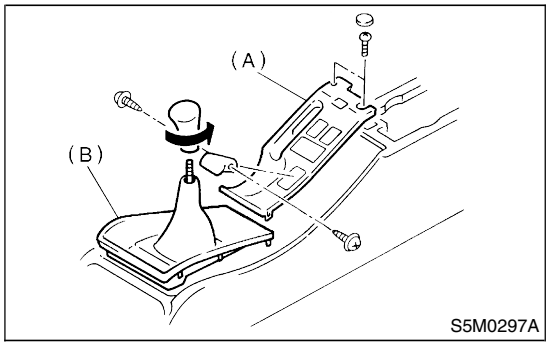
Install in the reverse order of removal.

CAUTION:
Be careful not to scratch body panels with roof rail stud bolts when removing and installing them.

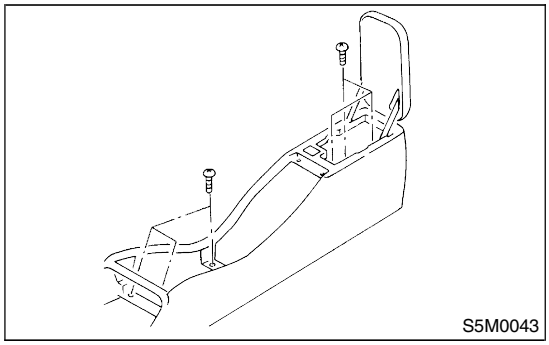
13. Console Box S911382

A: REMOVAL S911382A18

1) Remove shift knob and drive select lever (MT model).
2) Remove console cover (A) and front cover (B).



3) Remove console box.



B: INSTALLATION S911382A11

Install in the reverse order of removal.

14. Instrument Panel Assembly

S911381

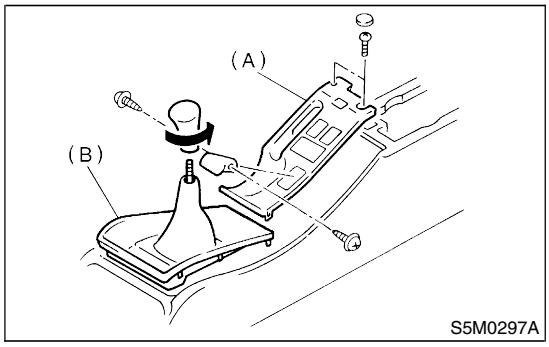
A: REMOVAL S911381A18

Airbag system wiring harness is routed near combination meter.

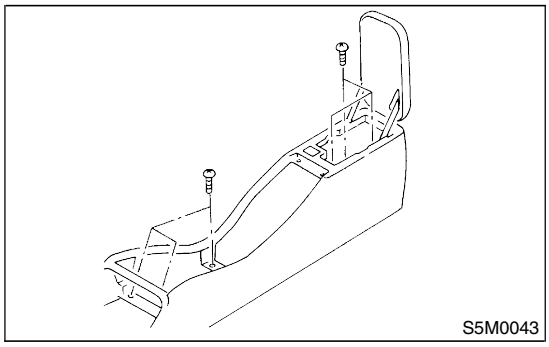
CAUTION:
● All airbag system wiring harness and connectors are colored yellow. Do not use electrical test equipment on these circuits.
● Be careful not to damage airbag system wiring harness when servicing the instrument panel.

NOTE:
The following positions for removal and installation are for LHD models. The positions for RHD models are symmetrically opposite.

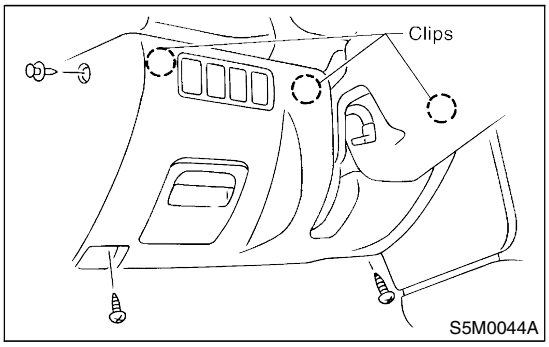
1) Disconnect GND cable from battery.
2) Remove shift knob and drive select lever. (MT model)
3) Remove console cover (A) and front cover (B).



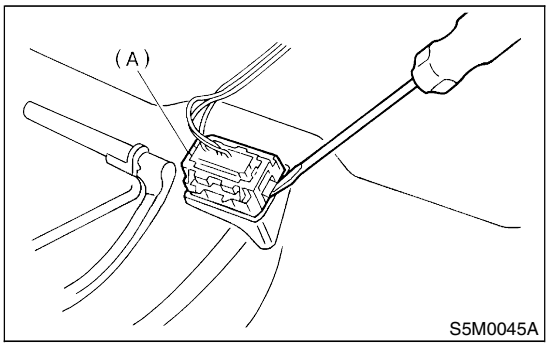
4) Remove console box.



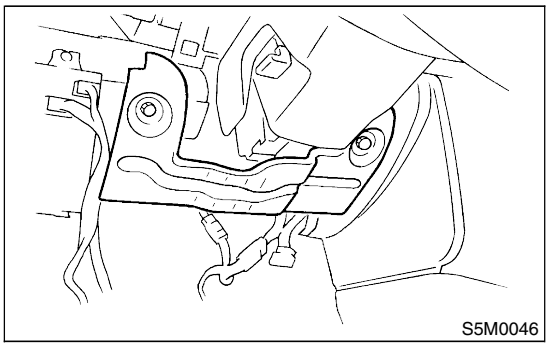
5) Remove lower cover and then disconnect connector.



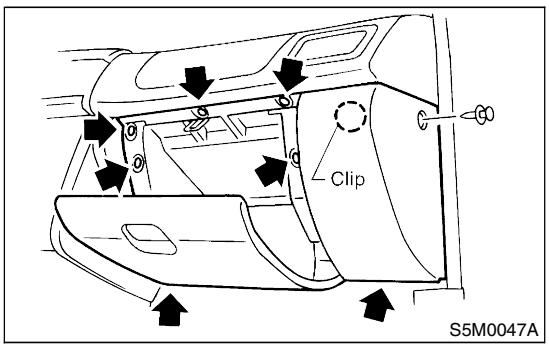
6) Disconnect data link connector (A) from lower cover.



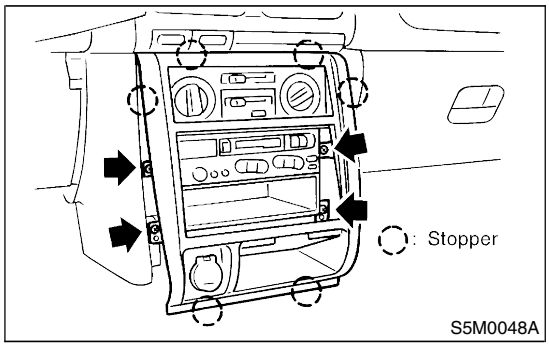
7) Remove knee panel.



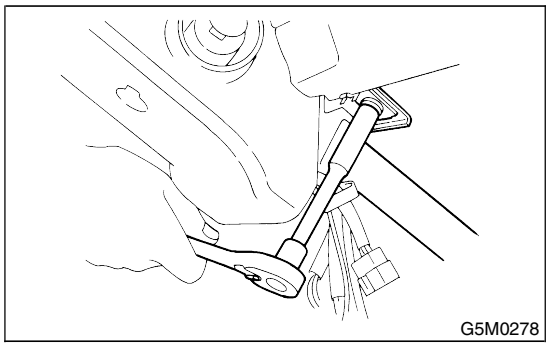
8) Remove glove box.



9) Remove center panel and disconnect connector.
10) Remove audio.



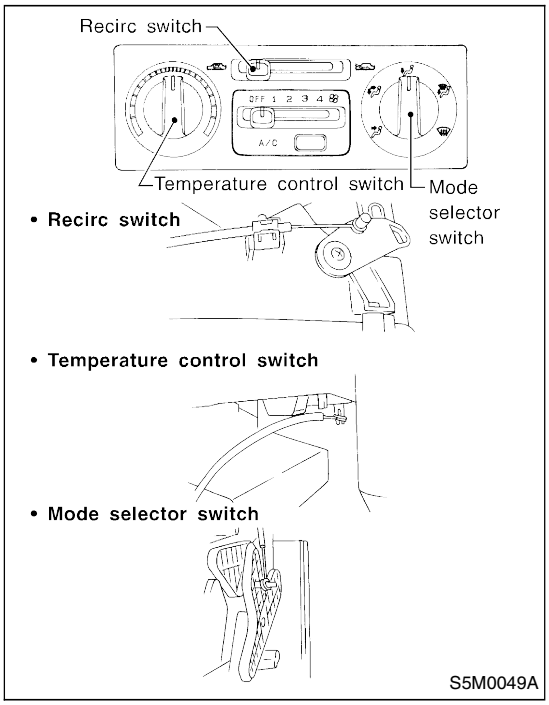
11) Remove two bolts and lower steering column.



12) Set temperature control switch to “FULL HOT”, mode selector switch to “DEF” position and recirc switch to “FRESH” position.

13) Disconnect temperature control cable and mode control cable from heater unit then disconnect recirc control cable from intake unit.

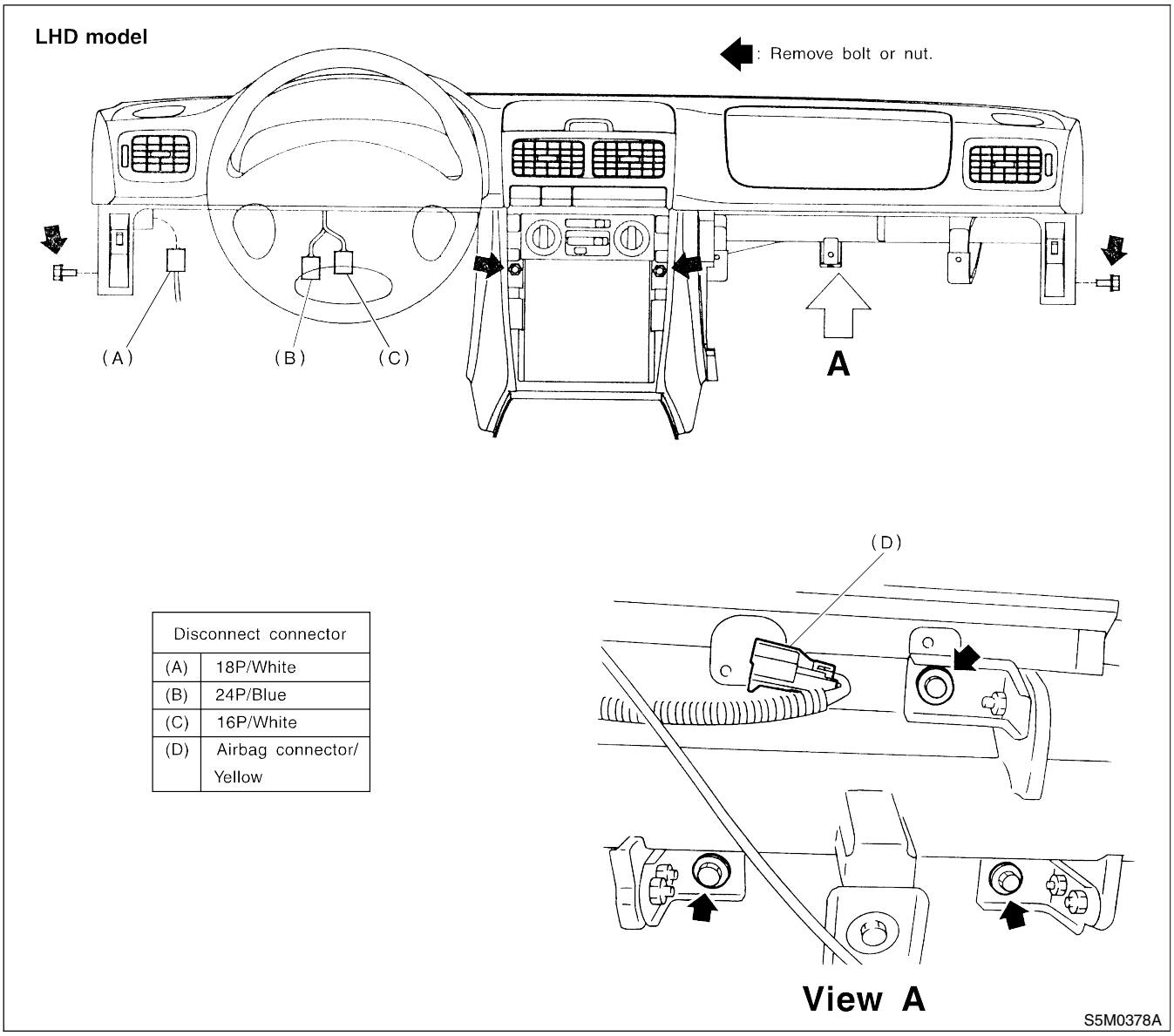
NOTE:
Do not move switch and link when installing.



14) Disconnect harness connectors and then remove the installing bolts and nuts.

CAUTION:
Be sure to hold socket section and not harness when disconnecting.

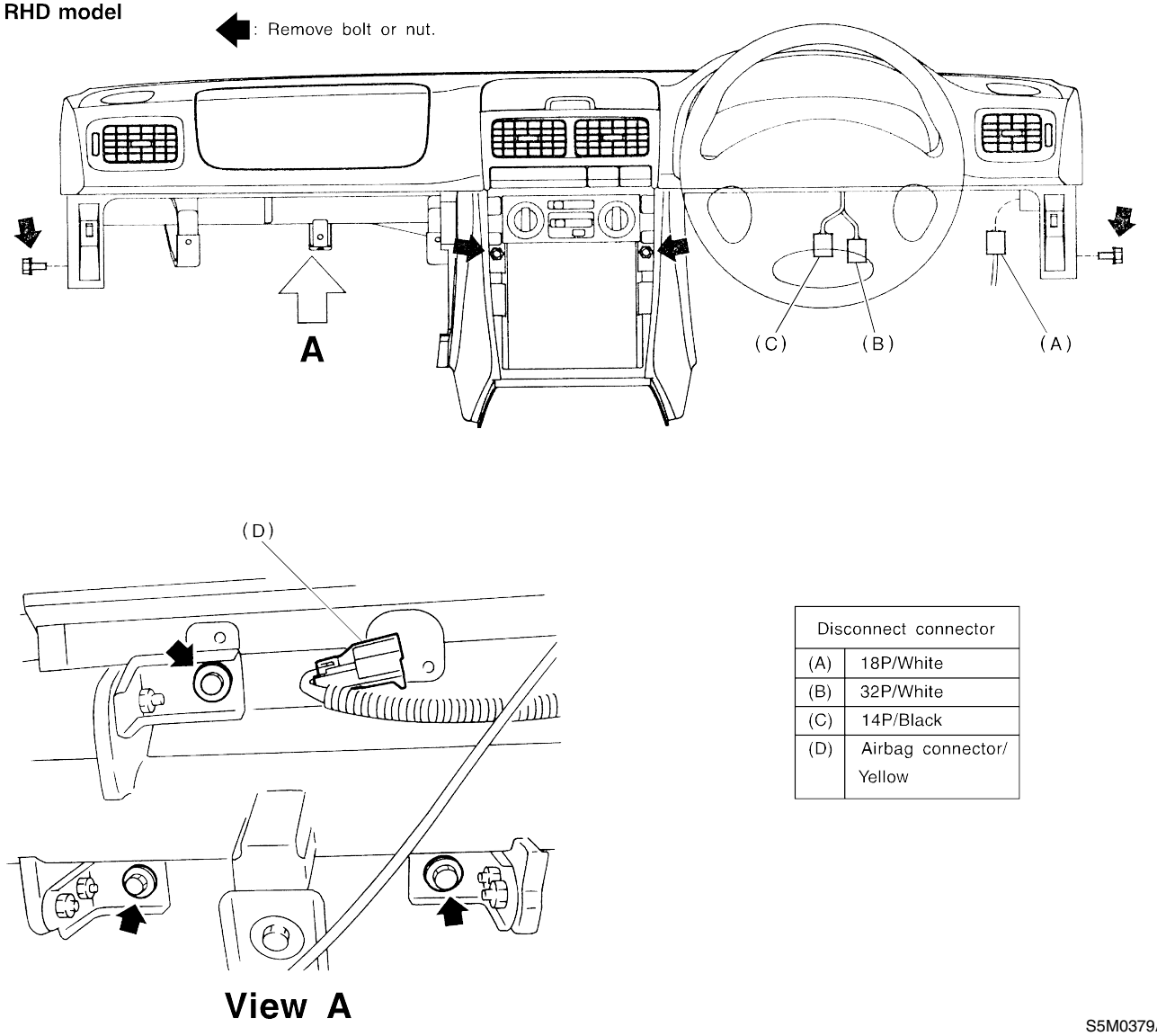
NOTE:
Put matching mark, if necessary, for easy reassembly.



Disconnect connector	
(A)	18P/White
(B)	24P/Blue
(C)	16P/White
(D)	Airbag connector/ Yellow

INSTRUMENT PANEL ASSEMBLY

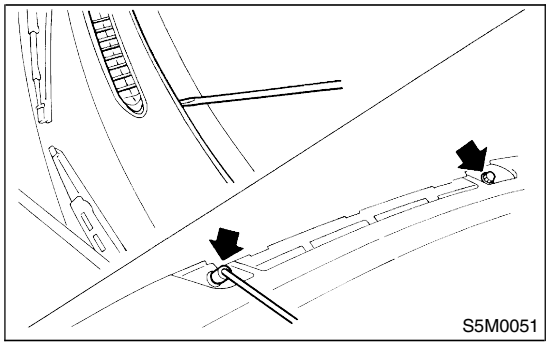
RHD model



Disconnect connector	
(A)	18P/White
(B)	32P/White
(C)	14P/Black
(D)	Airbag connector/ Yellow

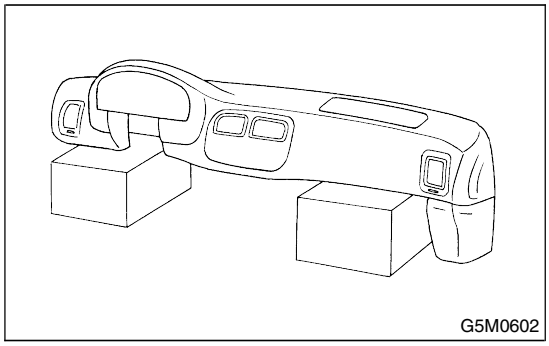
S5M0379A

15) Remove front defroster grille and two bolts.



16) Remove instrument panel carefully from the body.

CAUTION:
● Do not pull the harness when disconnecting the connector.
● Take care not to scratch the instrument panel and related parts.
● When storing removed instrument panel with passenger airbag module, place it standing up on the floor.

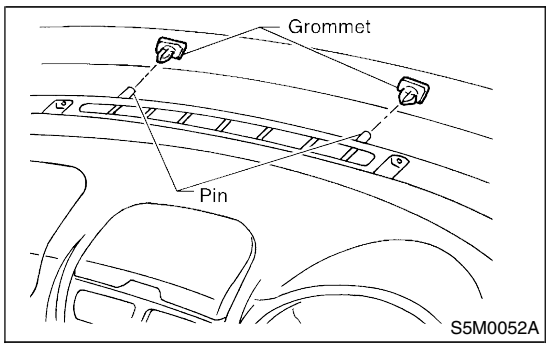


B: INSTALLATION S911381A11

Install in the reverse order of removal.

CAUTION:
- **Be careful not to snag the harness.**
- **Make sure to connect harness connector.**
- **Take care not to scratch the instrument panel and related parts.**

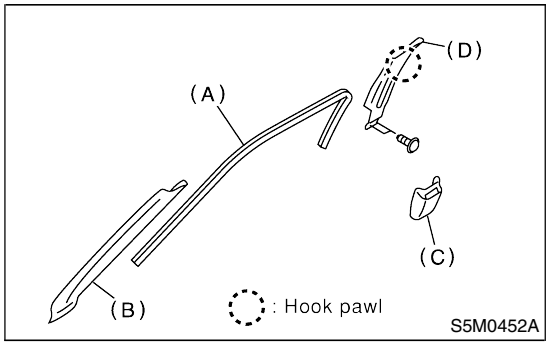
NOTE:
When setting the instrument panel into position, push the two pins into grommet on the body panel.



15. Upper Inner Trim S911384

A: REMOVAL S911384A18

1) Remove front mole (A).
2) Remove front pillar upper trim (B).
3) Remove center pillar cover (C).
4) Detach front seat belt shoulder anchor.
5) Loosen screws to remove center pillar upper trim (D).

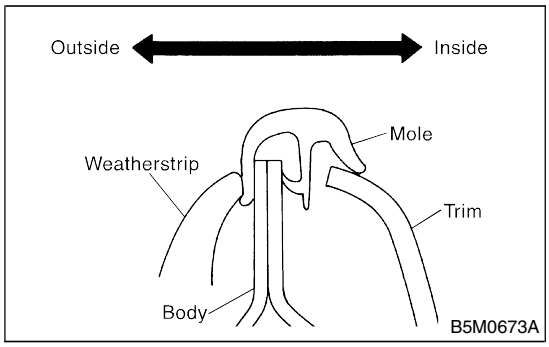


B: INSTALLATION S911384A11

Install in the reverse order of removal.

CAUTION:
Be sure to securely hook pawls of inner trim panel to body flange.

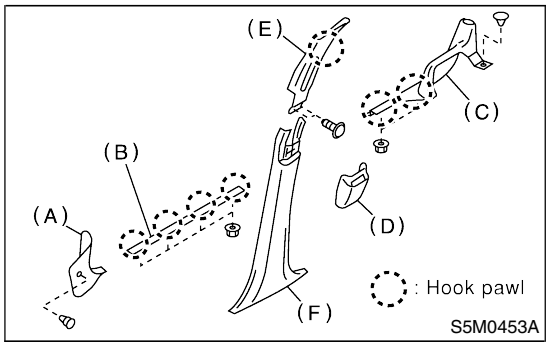
NOTE:
When installing center pillar upper trim and front pillar upper trim, be sure to set front mole as shown in figure.



16. Lower Inner Trim S911369

A: REMOVAL S911369A18

1) Remove front pillar lower trim (A).
2) Remove side sill front upper cover (B).
3) Remove rear seat cushion <Ref. to SE-6 REMOVAL, Rear Seat.>, then remove side sill rear upper cover (C).
4) Remove center pillar cover (D).
5) Remove front seat belt shoulder anchor.
6) Loosen screws to remove center pillar upper trim (E).
7) Remove center pillar lower trim (F).



B: INSTALLATION S911369A11

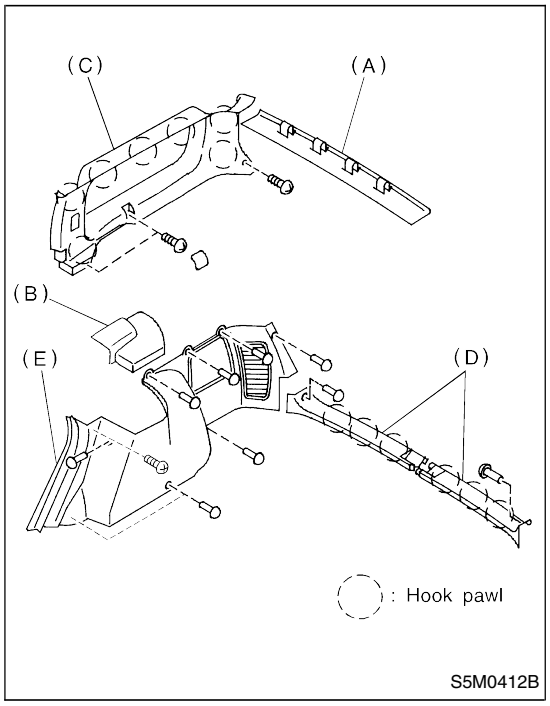
Install in the reverse order of removal.

CAUTION:
Be sure to securely hook pawls of inner trim panel to body flange.

17. Rear Quarter Trim S911358

A: REMOVAL S911358A18

1) Remove rear rail trim (A).
2) Remove strut cover (B).
3) Remove rear seat belt anchor.
4) Remove caps and screws, and then remove rear quarter upper trim (C).
5) Remove rear skirt trim (D).
6) Remove luggage floor mat. <Ref. to EI-44, REMOVAL, Luggage Floor Mat.>
7) Remove rear quarter lower trim (E).

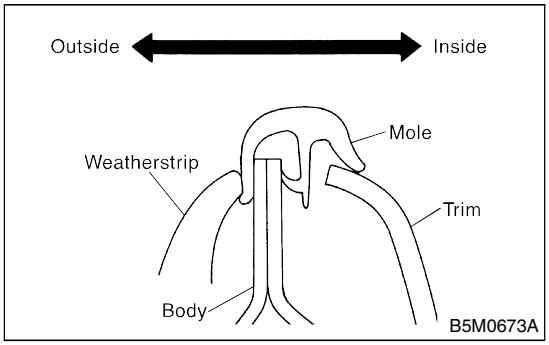


B: INSTALLATION S911358A11

Install in the reverse order of removal.

CAUTION:
Be sure to securely hook pawls of inner trim panel to body flange.

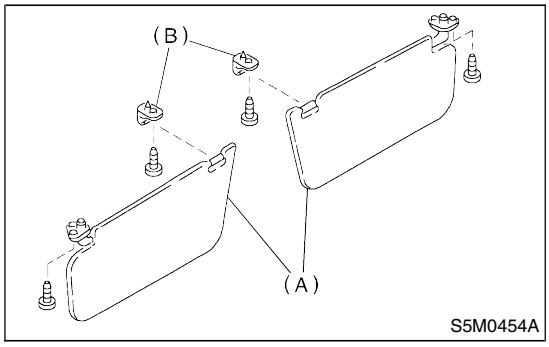
NOTE:
When installing rear quarter upper trim, be sure to set rear mole as shown in the figure.



18. Sun Visor S911359

A: REMOVAL S911359A18

Remove mounting screws then detach sun visor (A) and hook (B).



B: INSTALLATION S911359A11

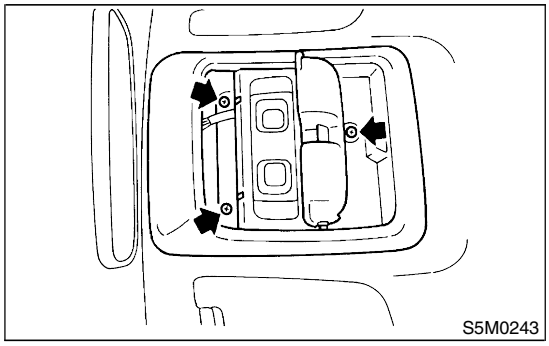
Install in the reverse order of removal.

19. Roof Trim S911360

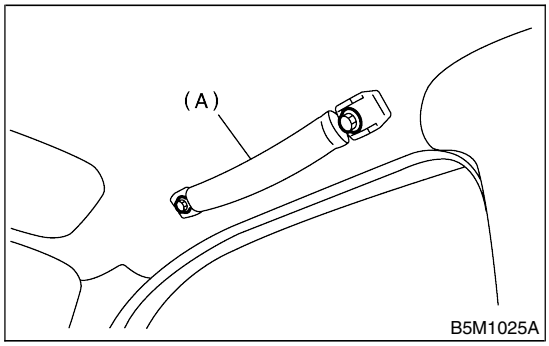
A: REMOVAL S911360A18

CAUTION:
When removing clip, use great care not to damage the roof trim.

1) Disconnect ground cable from battery.
2) Remove head console.

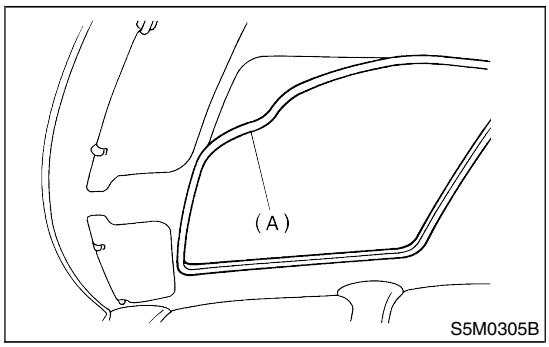

S5M0243

3) Remove sun visor and hook of both sides. <Ref. to EI-40, REMOVAL, Sun Visor.>
4) Remove assist grips (A).



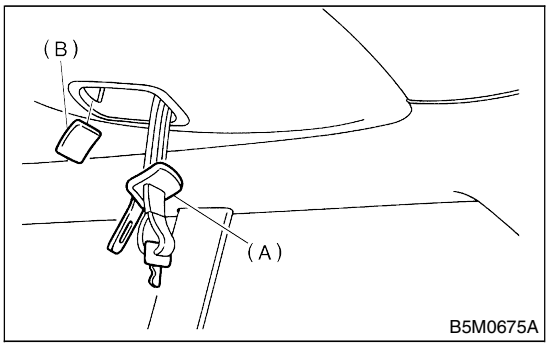
B5M1025A

5) Remove upper inner trim. <Ref. to EI-37, REMOVAL, Upper Inner Trim.>
6) Remove rear quarter trim. <Ref. to EI-39, REMOVAL, Rear quarter Trim.>
7) Detach sunroof garnish (A). (Sunroof equipped model)



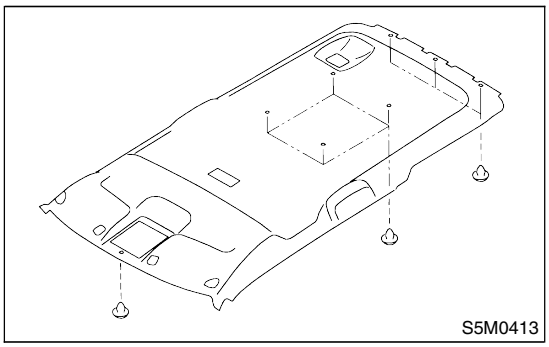
S5M0305B

8) Remove cover (B) while detaching snap lock carefully. Put the rear seat belt tongue (A) out to the other side of the trim through the hole.



B5M0675A

9) Remove clips and then remove roof trim.


S5M0413

B: INSTALLATION S911360A11

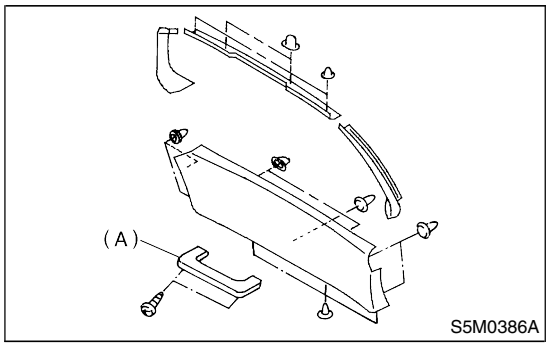
Install in the reverse order of removal.

20. Rear Gate Trim S911357

A: REMOVAL S911357A18

CAUTION:
Be careful not to damage clips or their holes.

Remove rear gate inner handle (A) from rear gate and then detach trim panel.



B: INSTALLATION S911357A11

Install in the reverse order of removal.

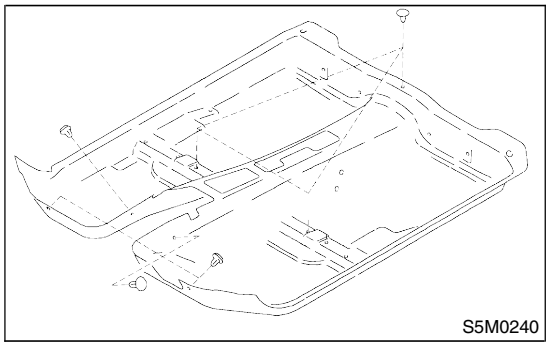
21. Floor Mat S911362

A: REMOVAL S911362A18

1) Remove front seats. <Ref. to SE-5 REMOVAL, Front Seat.>
2) Remove rear seat cushion. <Ref. to SE-6 REMOVAL, Rear Seat.>
3) Remove console box. <Ref. to EI-30 Console Box.>
4) Remove front pillar lower trim, side sill rear upper cover and center pillar lower trim. <Ref. to EI-38 REMOVAL, Lower Inner Trim.>
5) Remove clips from floor mat.

NOTE:
When pulling out edge, do not pull mat alone; pull mat together with edge. Ply off two steel clips on side sill front cover and one on side sill rear cover using screwdriver.

6) Remove mat hook.
7) Remove mat from toe board area.
8) Remove mat from rear heater duct.
9) Roll mat, and then take it out of opened rear door.


S5M0240

B: INSTALLATION S911362A11

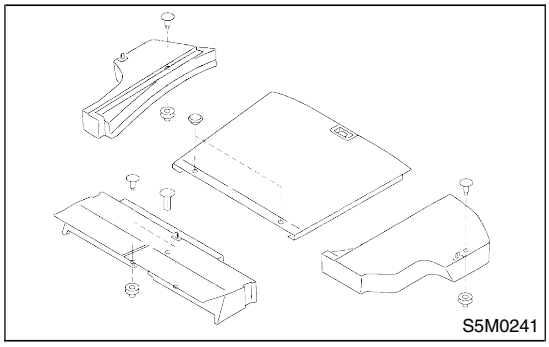
Install in the reverse order of removal.

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

22. Luggage Floor Mat S911353

A: REMOVAL S911353A18

Remove clips, then detach rear floor mats and boxes.



B: INSTALLATION S911353A11

Install in the reverse order of removal.

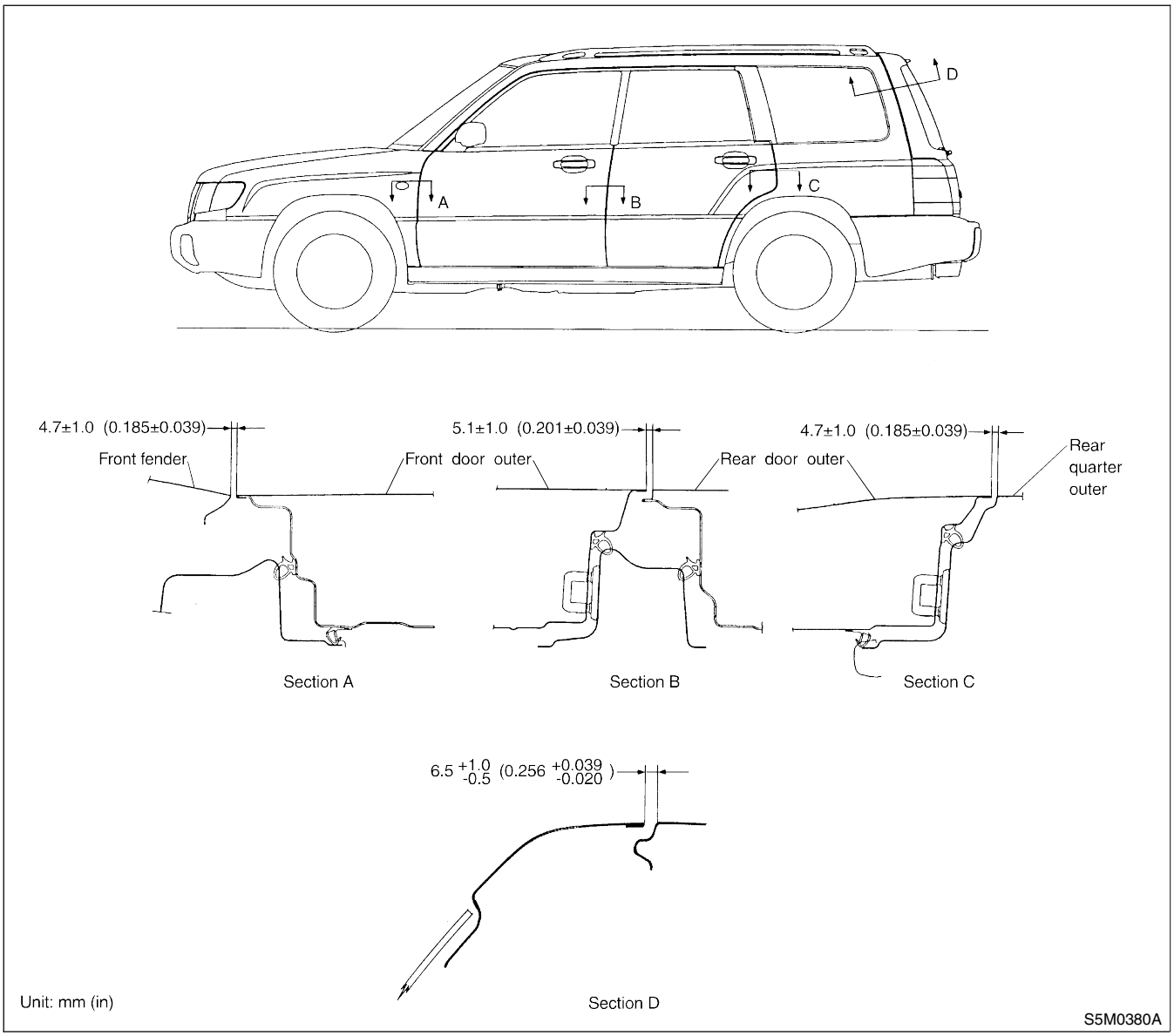
EXTERIOR BODY PANELS

EB

		Page
1.	General Description	2
2.	Front Hood	9
3.	Fender Panel	10
4.	Front Door Panel	11
5.	Front Sealing Cover	13
6.	Rear Door Panel	14
7.	Rear Sealing Cover	16
8.	Rear Gate Panel	17

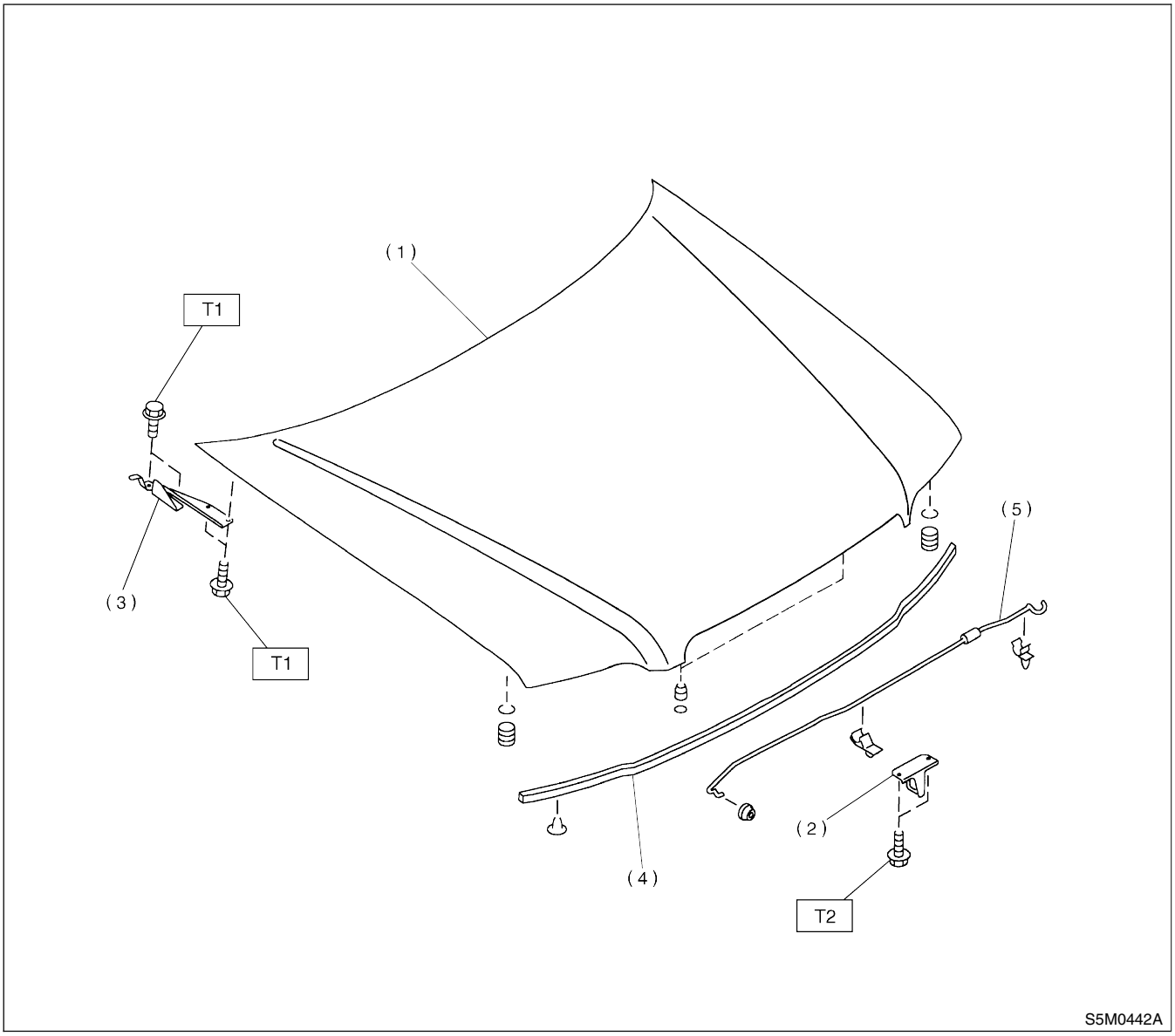
1. General Description S913001

A: SPECIFICATIONS S913001E49



B: COMPONENT S913001A05

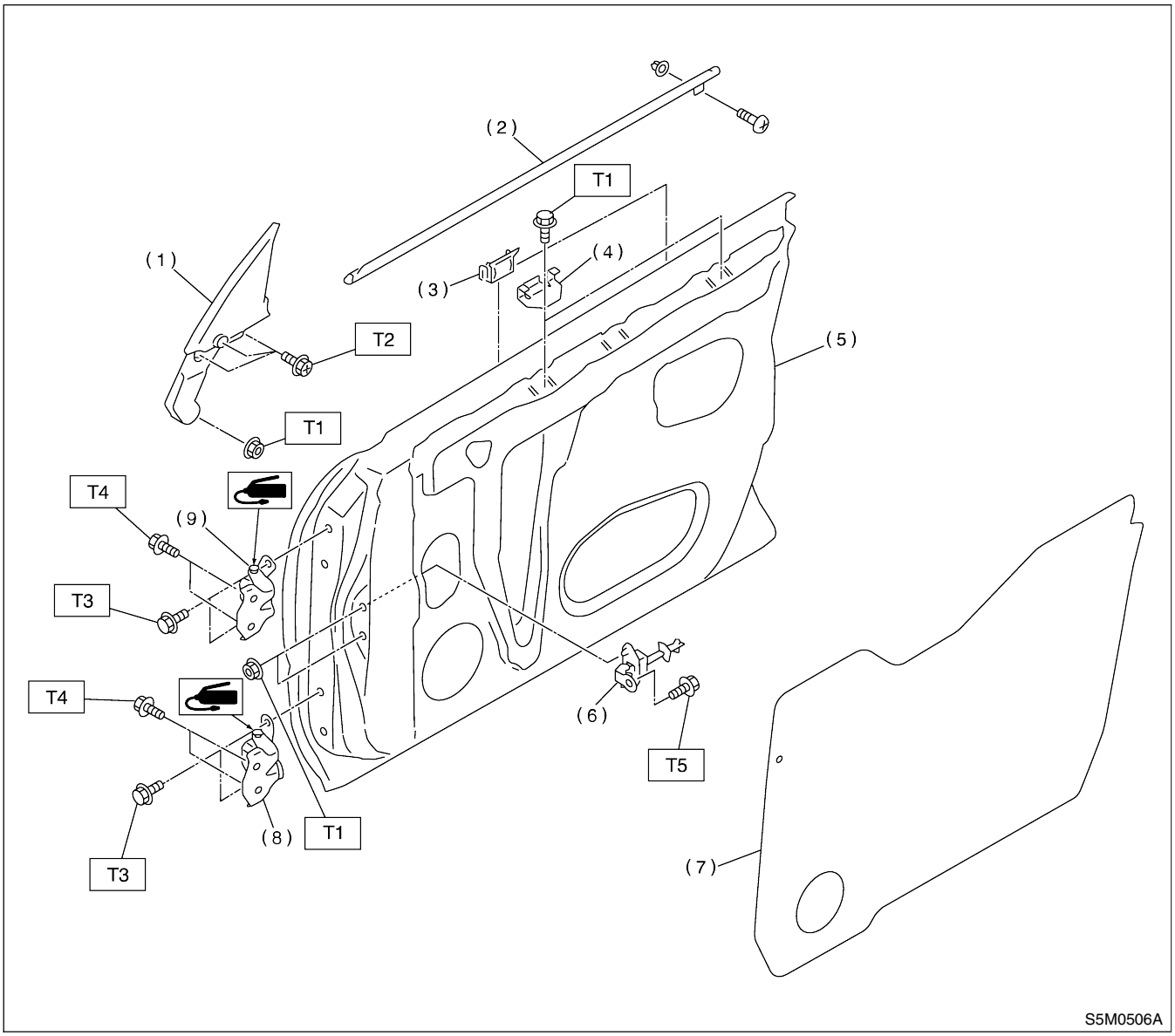
1. FRONT HOOD S913001A0501



(1) Front hood
(2) Striker
(3) Hinge
(4) Seal
(5) Front hood stay

Tightening torque: N·m (kg-m, ft-lb)
T1: 24.5 (2.5, 18.1)
T2: 33 (3.4, 25)

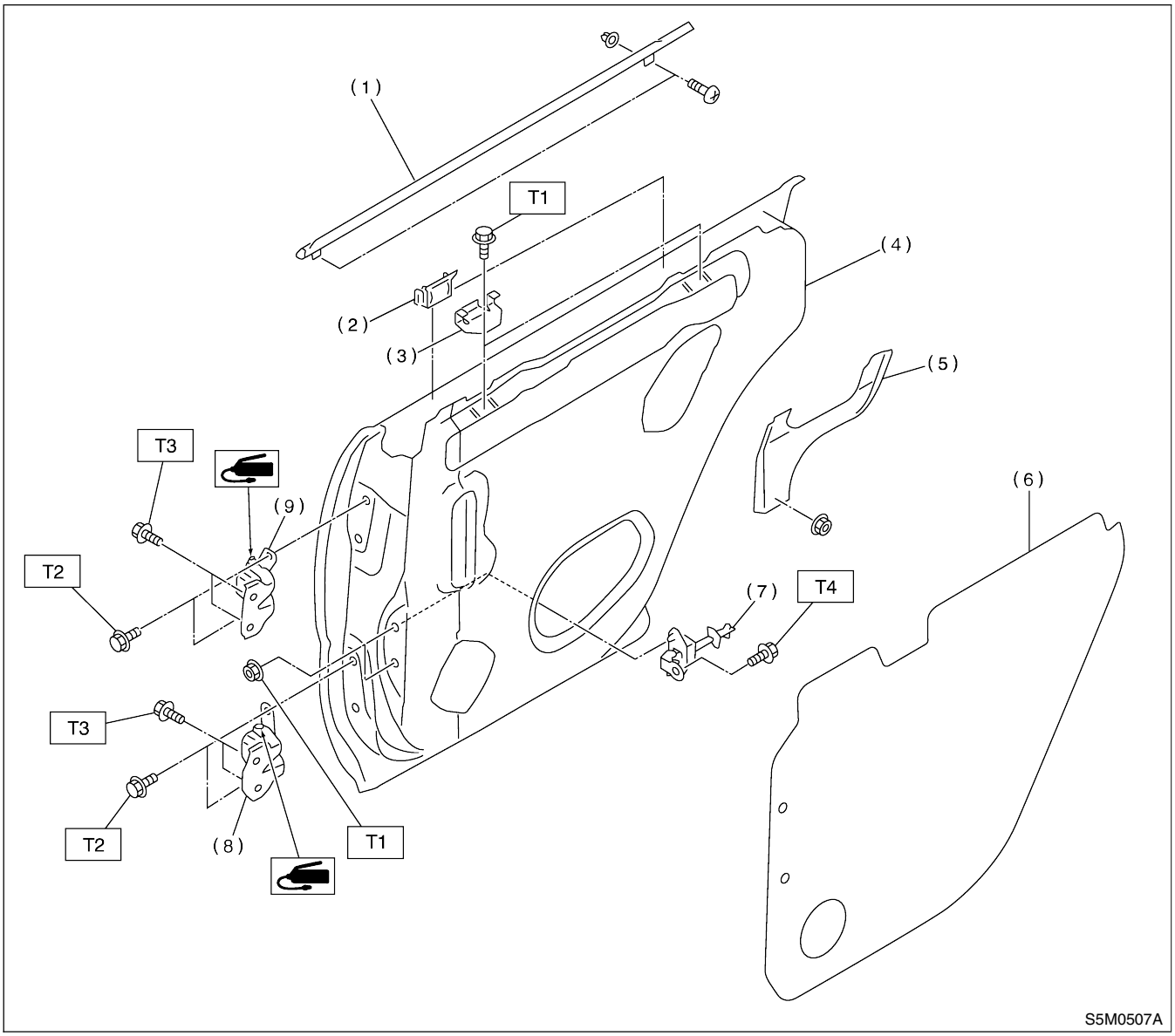
2. FRONT DOOR PANEL S913001A0502



(1) Gusset
(2) Weatherstrip
(3) Stabilizer (Outer)
(4) Stabilizer (Inner)
(5) Door panel
(6) Checker
(7) Sealing cover
(8) Lower hinge
(9) Upper hinge

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.35 (0.75, 5.4)
T2: 13 (1.3, 9.4)
T3: 25 (2.5, 18)
T4: 30 (3.1, 22)
T5: 32 (3.3, 24)

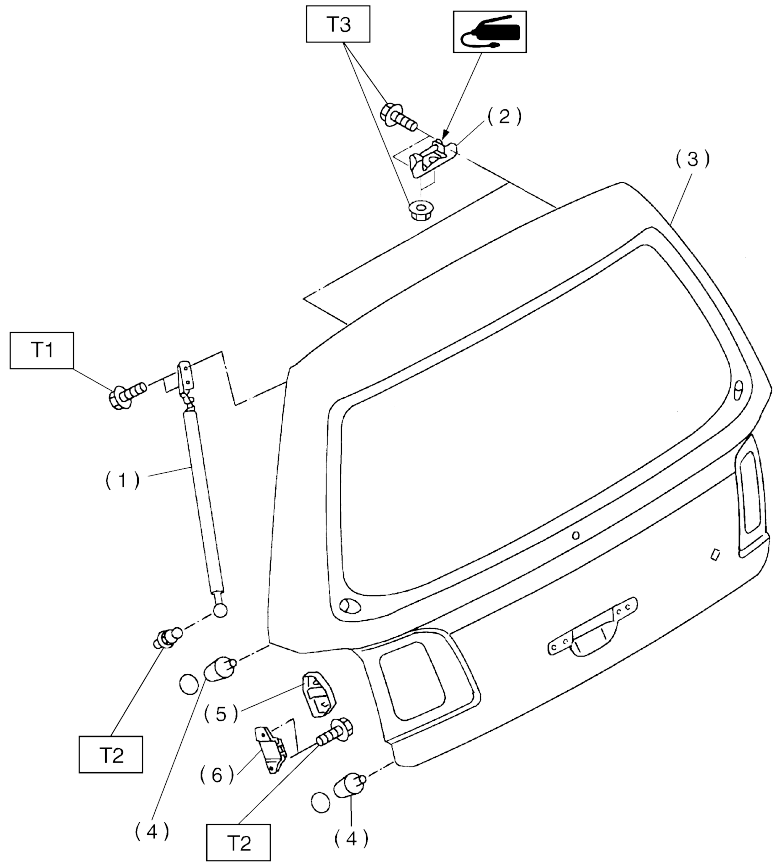
3. REAR DOOR PANEL S913001A0503



(1) Weatherstrip
(2) Stabilizer (Outer)
(3) Stabilizer (Inner)
(4) Door panel
(5) Plate
(6) Sealing cover
(7) Checker
(8) Lower hinge
(9) Upper hinge

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.35 (0.75, 5.4)
T2: 25 (2.5, 18)
T3: 30 (3.1, 18)
T4: 32 (3.3, 24)

4. REAR GATE PANEL S913001A0505



S5M0443B

(1) Gas stay
(2) Hinge
(3) Rear gate
(4) Stopper
(5) Buffer cover
(6) Buffer (Back door)

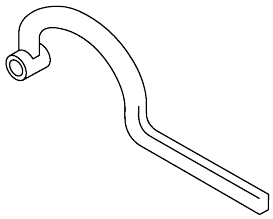
Tightening torque: N·m (kg-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 14 (1.4, 10.1)
T3: 25 (2.5, 18.1)

C: CAUTION S913001A03

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

D: PREPARATION TOOL S913001A17

1. SPECIAL TOOLS S913001A1701

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 B5M1117	925610000	WRENCH	Used for removing and installing door hing.

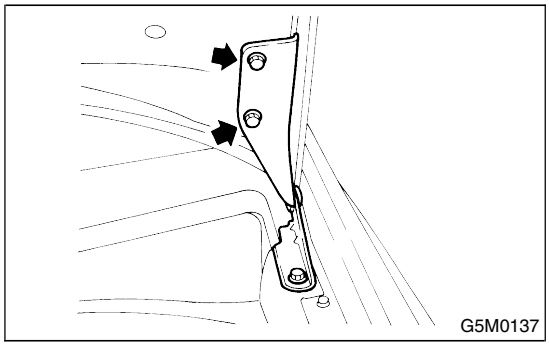
2. GENERAL TOOL S913001A1702

TOOL NAME	REMARKS
Support Jack	Used for supporting door panel.

2. Front Hood S913367

A: REMOVAL S913367A18

1) Open front hood to remove washer nozzles.
2) Remove bolts to detach hood from hinges.

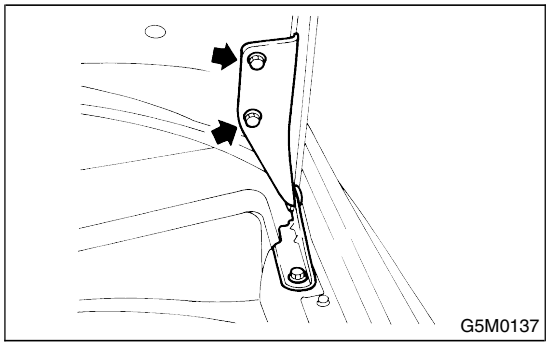


B: INSTALLATION S913367A11

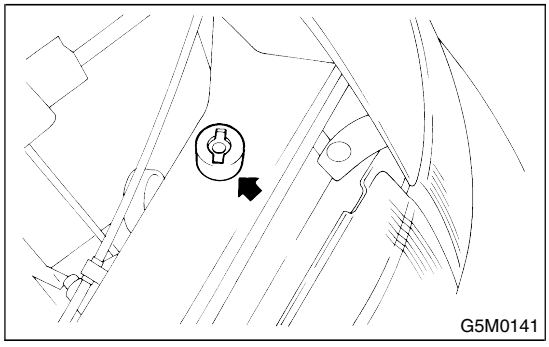
1) Install in the reverse order of removal.
2) Adjust clearance between hood and fender. Clearance must be equal at both sides.

C: ADJUSTMENT S913367A01

1) Use hinge mounting holes to align front hood longitudinally and laterally.



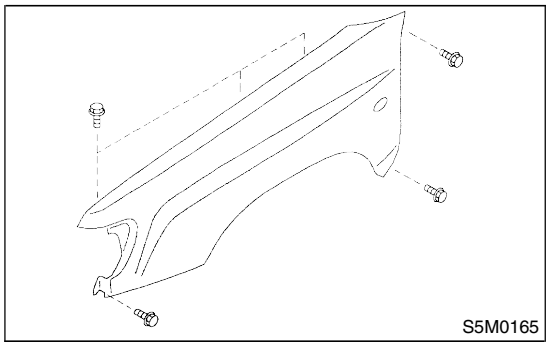
2) Adjust height at front end of hood. <Ref. to SL-38 ADJUSTMENT, Front Hood Lock Assembly.>
3) Rotate hood buffer to adjust lateral height.



3. Fender Panel S913368

A: REMOVAL S913368A18

1) Disconnect ground (–) cable from battery.
2) Remove side protectors and fender protectors. <Ref. to EI-22, REMOVAL, Protector.>
3) Remove mud guard. <Ref. to EI-21 REMOVAL, Mud Guard.>
4) Remove front bumper face. <Ref. to EI-12 REMOVAL, Front Bumper.>
5) Remove headlights. <Ref. to LI-42 REMOVAL, Headlight Assembly.>
6) Remove bolts to remove front fender.



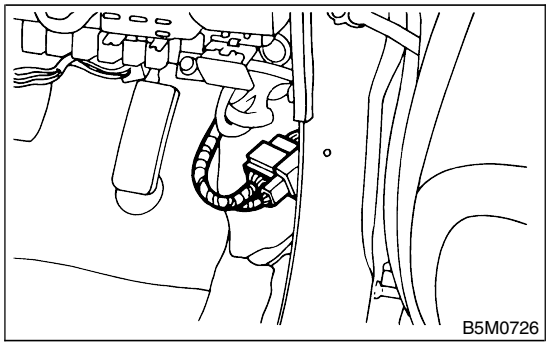
B: INSTALLATION S913368A11

1) Install in the reverse order of removal.
2) When fender panel is installed, clearance between fender panel and hood or front fender must be equal.

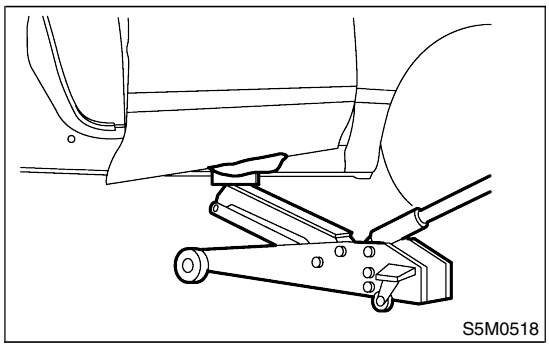
4. Front Door Panel S913366

A: REMOVAL S913366A18

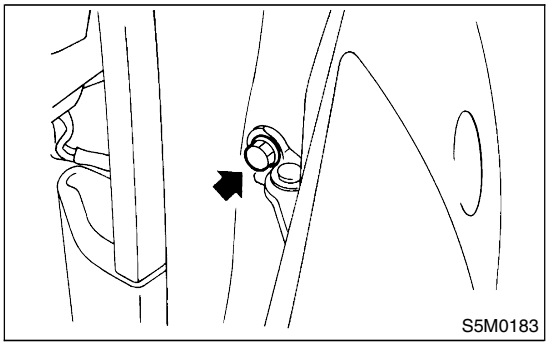
1) Disconnect (–) cable from battery.
2) Remove front door trim. <Ref. to EI-26 REMOVAL, Front Door Trim.>
3) Remove outer mirror assembly. <Ref. to GW-49 REMOVAL, Outer Mirror Assembly.>
4) Remove front door glass. <Ref. to GW-28, REMOVAL, Front Door Glass.>
5) Remove front door regulator and motor. <Ref. to GW-31 REMOVAL, Front Regulator and Motor.>
6) Remove front door latch assembly. <Ref. to SL-29 REMOVAL, Front Door Latch Assembly.>
7) Remove front outer handle. <Ref. to SL-28 REMOVAL, Front Outer Handle.>
8) Remove front pillar lower trim to disconnect connector from body harness.


B5M0726

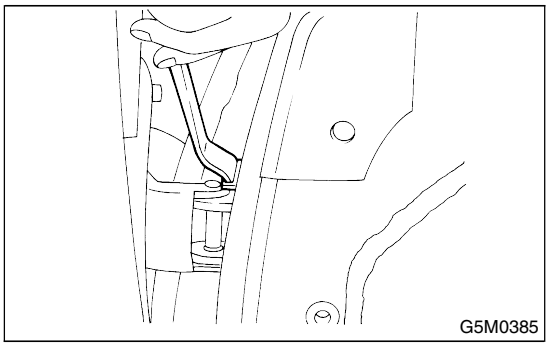
9) Put wooden block on jack and place jack under door. Support door with a jack to protect it from damage.


S5M0518

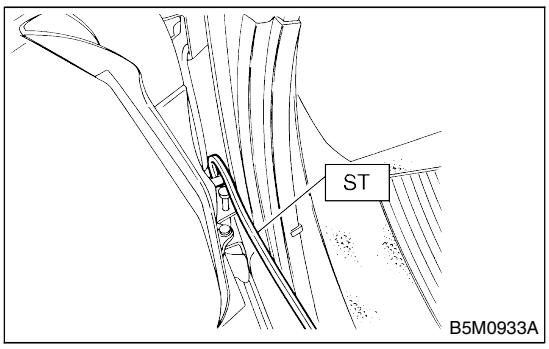
10) Remove checker bolts.


S5M0183

11) Remove door-side bolts for upper and lower hinges to remove door.


G5M0385

12) Using special tool, remove body-side bolts for upper and lower hinges, and remove door hinges.
ST 925610000 DOOR HINGE WRENCH



B5M0933A

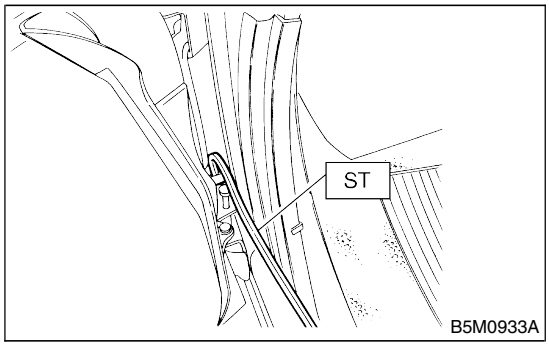
CAUTION:
• During removal and installation of doors, do not damage body.
• Doors are heavy. Be careful not to drop and damage them.

B: INSTALLATION S913366A11

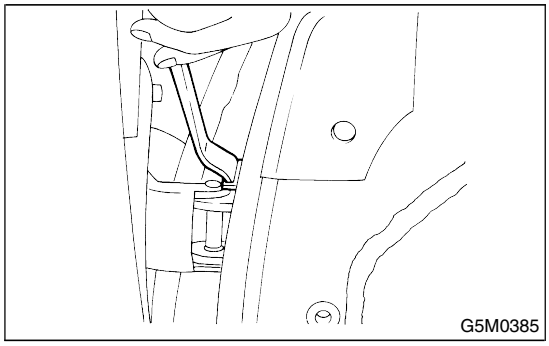
1) Install in the reverse order of removal.
2) Apply grease to sliding area of door hinges.

C: ADJUSTMENT S913366A01

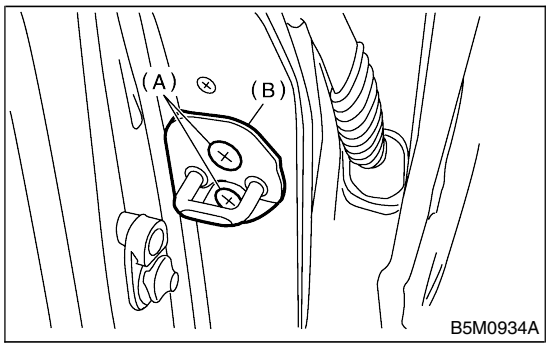
1) Using special tool, loosen body-side bolts of upper and lower hinges to align the position of front door panel longitudinally and vertically.
ST 925610000 DOOR HINGE WRENCH



2) Loosen door-side bolts of upper and lower hinges to align the position of front door panel vertically and laterally at the front end.



3) Loosen screw (A) and lightly tap striker (B) using plastic hammer to adjust striker to align the position of front door panel vertically and laterally at the rear end.



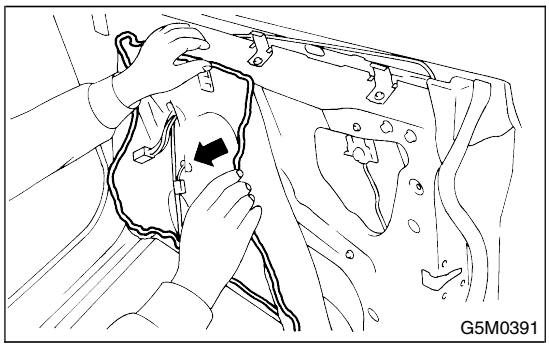
CAUTION:
Do not use impact wrench. Welding area on striker nut plate is easily broken.

5. Front Sealing Cover S913564

A: REMOVAL S913564A18

1) Remove front door trim. <Ref. to EI-26 REMOVAl, Front Door Trim.>
2) Remove front speaker. <Ref. to EI-12 REMOVAL, Front Speaker.>
3) Using a spatula, remove sealer.

CAUTION:
• Carefully remove sealer. Excessive force will easily break the cover.
• If cover gets broken, replace it with a new one.



B: INSTALLATION S913564A11

1) Install in the reverse order of removal.
2) When replacing sealing cover, use CEMEDINE 5430L sealer.
3) Press sealer-applied area firmly to prevent any floating on surface.

Sealer:
CEMEDINE 5430L or equivalent

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

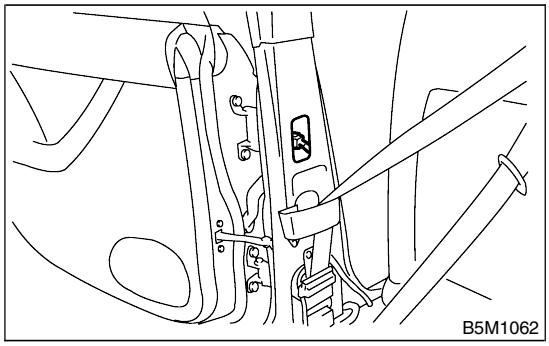
C: INSPECTION S913564A10

If sealing cover is damaged, replace it with a new one.

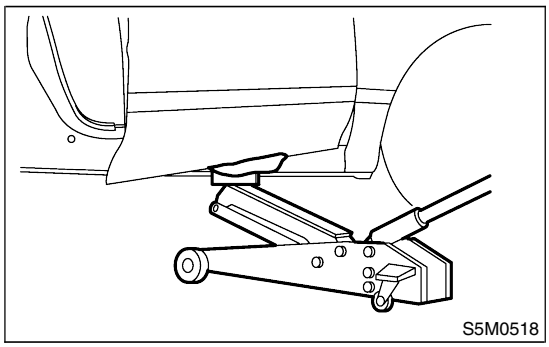
6. Rear Door Panel S913364

A: REMOVAL S913364A18

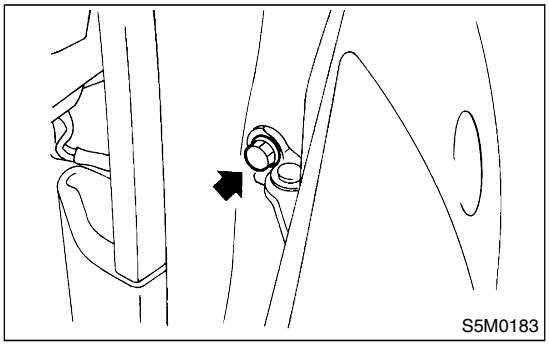
1) Disconnect (–) cable from battery.
2) Remove rear door trim. <Ref. to EI-27 REMOVAL, Rear Door Trim.>
3) Remove rear door glass. <Ref. to GW-32, REMOVAL, Rear Door Glass.>
4) Remove rear door regulator and motor assembly. <Ref. to GW-34 REMOVAL, Rear Regulator and Motor Assembly.>
5) Remove rear outer handle. <Ref. to SL-32 REMOVAL, Rear Outer Handle.>
6) Remove center pillar lower trim. <Ref. to EI-38 REMOVAL, Lower Inner Trim.>
7) Remove seatbelt bracket and blind plug.
Disconnect connector of door harness and remove door hinge nut.


B5M1062

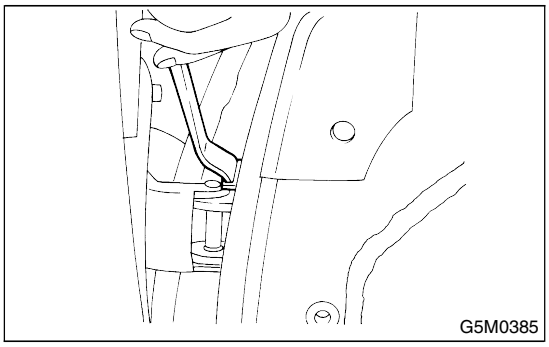
8) Put a wooden block on the jack and place the jack under the door. Support the door with the jack to protect it.


S5M0518

9) Remove checker bolts.


S5M0183

10) Remove door-side bolts for upper and lower hinges to remove door.


G5M0385

11) Using special tool, remove body-side bolts for upper and lower hinges, and remove door hinges.

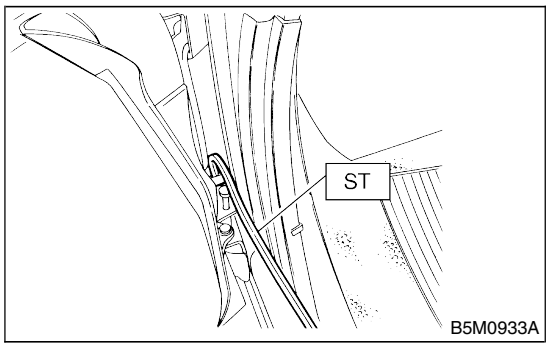
CAUTION:
- **During removal and installation of doors, do not damage body.**
- **Doors are heavy. Be careful not to drop and damage them.**

B: INSTALLATION S913364A11

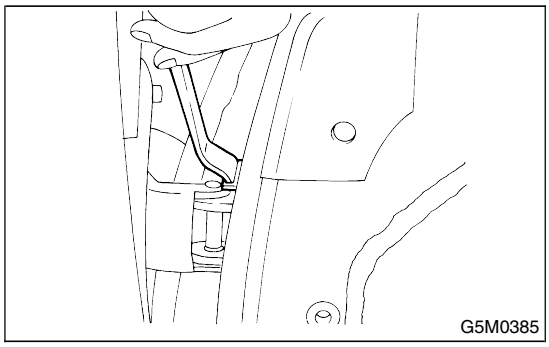
1) Install in the reverse order of removal.
2) Apply grease to sliding area of door hinges.

C: ADJUSTMENT S913364A01

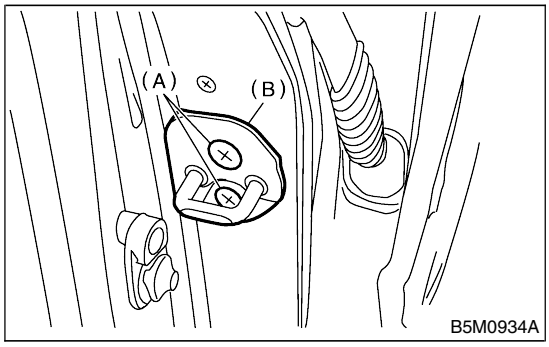
1) Using special tool, loosen body-side bolts of upper and lower hinges to align the position of rear door panel longitudinally and vertically.



2) Loosen door-side bolts of upper and lower hinges to align the position of rear door panel vertically and laterally at front-end.



3) Loosen screw (A) and lightly tap striker (B) using plastic hammer to adjust striker to align the position of front door panel vertically and laterally at the rear end.



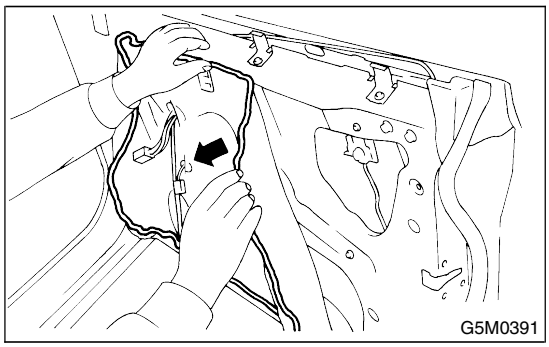
CAUTION:
Do not use an impact wrench. The welding area on the striker nut plate is easily broken.

7. Rear Sealing Cover S913565

A: REMOVAL S913565A18

1) Remove rear door trim. <Ref. to EI-27 REMOVAL, Rear Door Trim.>
2) Remove rear speaker. <Ref. to ET-13 REMOVAL, Rear Speaker.>
3) Using a spatula, remove sealer.

CAUTION:
• Carefully remove sealer. Excessive force will easily break the cover.
• If cover gets broken, replace it with a new one.



B: INSTALLATION S913565A11

1) Install in the reverse order of removal.
2) When replacing sealing cover, use CEMEDINE 5430L sealer.
3) Press sealer-applied area firmly to prevent any floating on surface.

Sealer:
CEMEDINE 5430L or equivalent

CAUTION:
• Apply an uniform bead of sealer.
• Attach sealing cover, keeping it from becoming wrinkled.
• Breaks in the bead will allow water leakage and contamination.

C: INSPECTION S913565A10

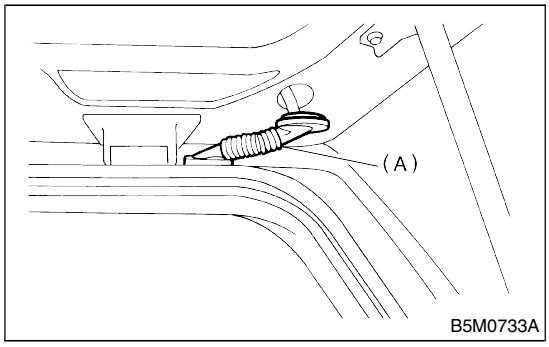
If sealing cover gets damaged, replace it with a new one.

8. Rear Gate Panel S913363

A: REMOVAL S913363A18

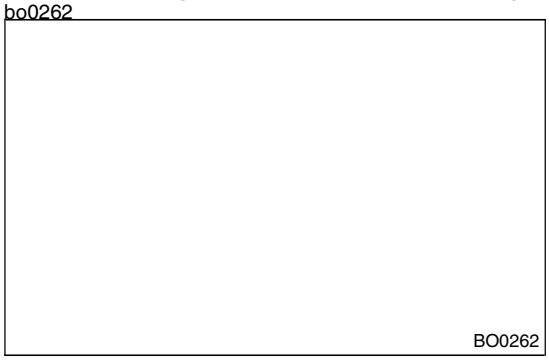
1. REAR GATE PANEL S913363A1801

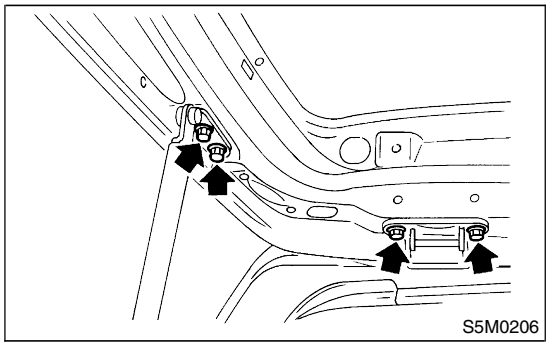
1) Open rear gate.
2) Remove rear gate outer handle. <Ref. to SL-35 REMOVAL, Rear Gate Outer Handle.>
3) Remove rear gate latch assembly. <Ref. to SL-36 REMOVAL, Rear Gate Latch Assembly.>
4) Remove rear gate key lock cylinders. <Ref. to SL-41 REMOVAL, Key Lock Cylinders.>
5) Remove rear wiper. <Ref. to WW-20 REMOVAL, Rear Wiper Motor.>
6) Disconnect connectors of rear wiper, rear defogger, and other lighting devices.
7) Disconnect washer hose.
8) Remove rubber duct (A) connection, and pull out harness and washer hose from rear gate.



B5M0733A

9) Using a support, support the rear gate while removing gas stay mounting bolts.
10) Loosen rear gate bolts to remove rear gate.

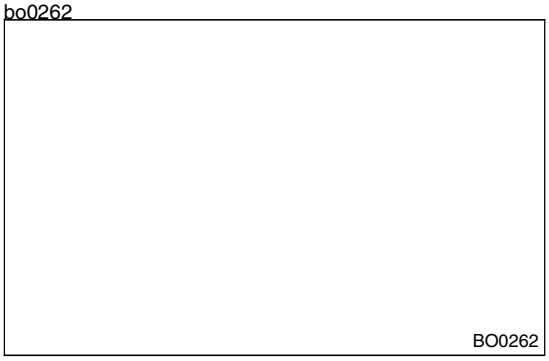
bo0262

BO0262


S5M0206

CAUTION:
When the rear gate is released, it may hit and damage the body. To prevent this, place a shop cloth between body and gate.

2. GAS STAY S913363A1802

1) Open rear gate. Using a jack to support the rear gate.

bo0262

BO0262

CAUTION:
- **After gas stay is removed, rear gate cannot stay open. Supporting the rear gate with a jack, remove the bolts.**
- **Do not damage piston rods and oil seals.**
- **Never disassemble cylinders: They contain gas.**

2) Loosen bolts to remove gas stay from rear gate.

B: INSTALLATION S913363A11

1. REAR GATE PANEL S913363A1101

1) Install in the reverse order of removal.
2) Install rear gate panel with uniform clearance to body.

CAUTION:
Do not damage painted surfaces of body and rear gate.

2. GAS STAY S913363A1102

Install in the reverse order of removal.

CAUTION:
- **Do not confuse right and left sides of gas stay.**
- **After supporting rear gate with a jack, start operation.**

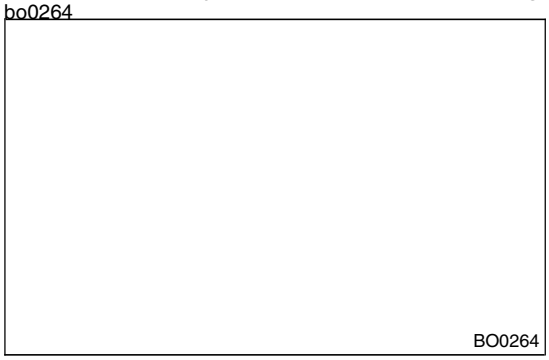
C: DISPOSAL S913363A07

1. GAS STAY S913363A0701

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 case as shown in the figure.

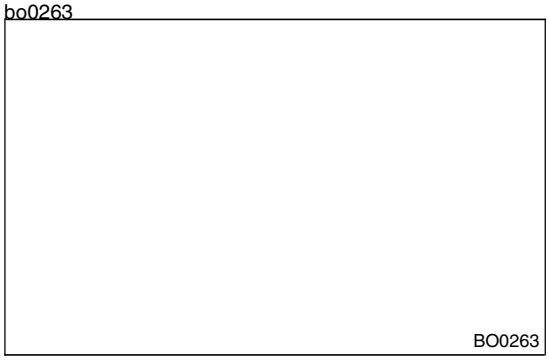
bo0264



CAUTION:
Prevent the vinyl case from being caught by drill cutting edge

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

bo0263



CRUISE CONTROL SYSTEM

CC

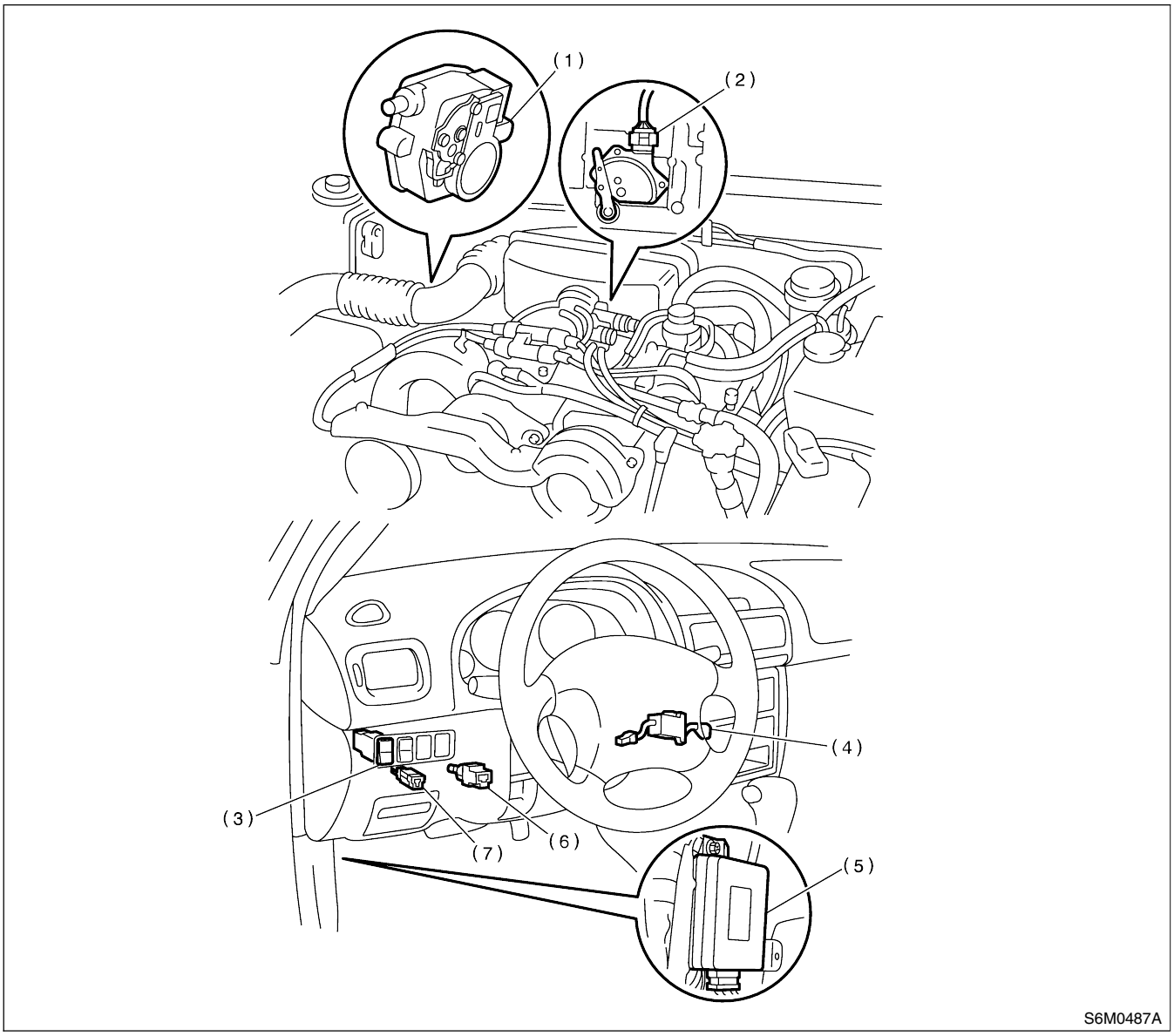
Page

1. General Description....2
2. Actuator (Turbo Model) 5
3. Actuator (Non-turbo Model)....7
4. Cruise Control Module 8
5. Cruise Control Main Switch....9
6. Cruise Control Command Switch....10
7. Stop and Brake Switch....11
8. Clutch Switch....12
9. Inhibitor Switch....13

1. General Description S912001

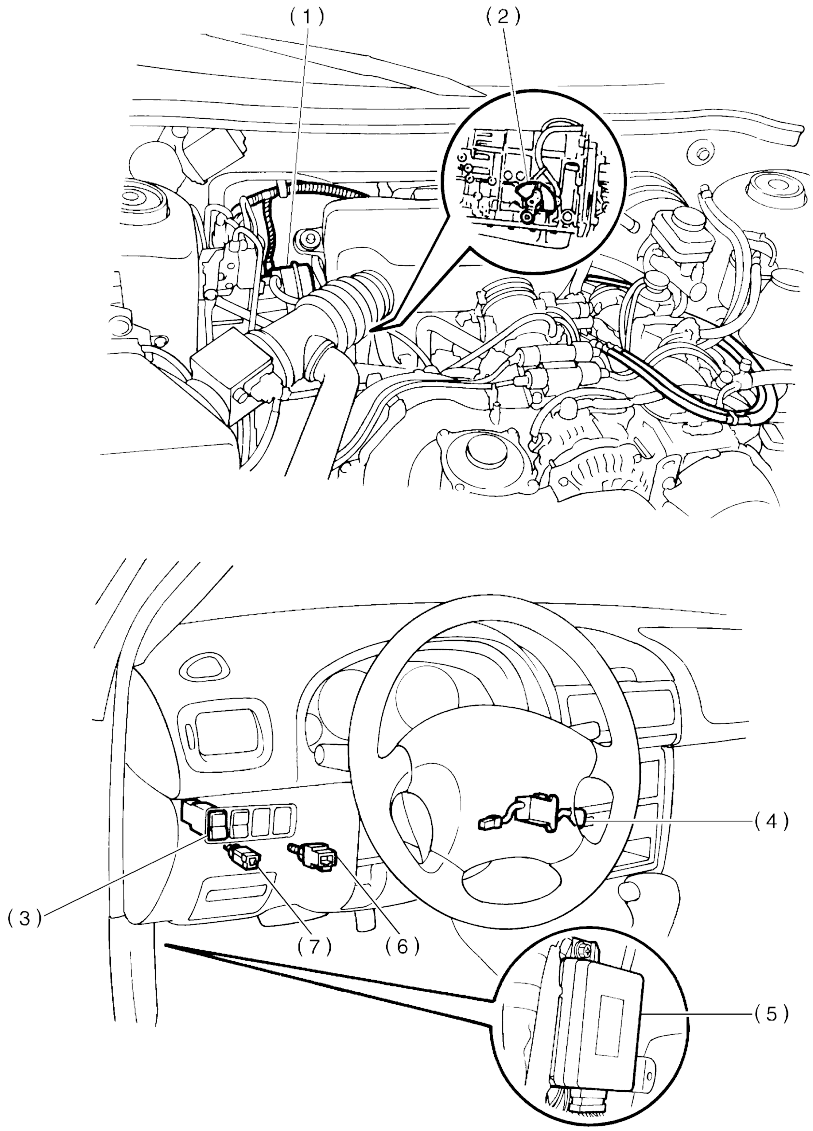
A: COMPONENT S912001A05

1. TURBO MODEL S912001A0501



(1) Actuator
(2) Inhibitor switch (AT)
(3) Cruise control main switch
(4) Cruise control command switch
(5) Cruise control module
(6) Stop and brake switch
(7) Clutch switch (MT)

2. NON-TURBO MODEL S912001A0502



(1) Actuator (with valves)
(2) Inhibitor switch (AT)
(3) Cruise control main switch
(4) Cruise control command switch
(5) Cruise control module
(6) Stop and brake switch
(7) Clutch switch (MT)

NOTE:
Electrical component location are for LHD vehicles. Cruise control actuator and cruise control module location for RHD vehicles are symmetrically opposite.

B: CAUTION S912001A03

- Before disassembling or reassembling parts, always disconnect the battery ground cable. When repairing the radio, control module and other parts with memory functions, make note of the memory before disconnecting the battery ground cable. All memory will be erased.
- Reassemble parts in the reverse order of disassembly unless otherwise indicated.
- Adjust parts to specifications specified in this manual.
- Connect connectors and hoses securely during reassembly.
- After reassembly, ensure functional parts operate properly.

C: PREPARATION TOOL S912001A17

1. GENERAL TOOLS S912001A1701

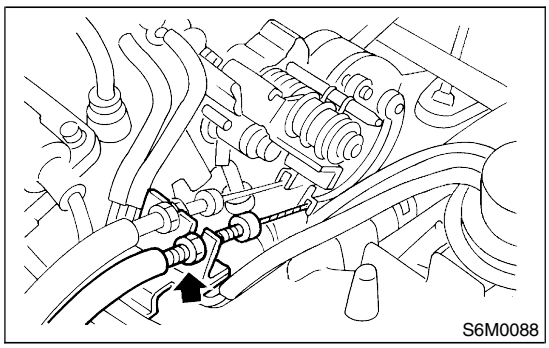
TOOL NAME	REMARKS
Circuit Tester	Used for measuring resistance and voltage.

2. Actuator (Turbo Model) S912753

A: REMOVAL S912753A18

CAUTION:
• Be careful not to apply excessive load to the wire cable when adjusting and/or installing; otherwise, the actuator may be deformed or damaged.
• Do not bend cable sharply with a radius less than 100 mm (3.94 in); otherwise, cable may bend permanently, resulting in poor performance.
• When installing cable, be careful not to sharply bend or pinch the inner cable; otherwise, the cable may break.

1) Remove clip bands from cruise control cable.
2) Loosen nut which secures cruise control cable end to throttle cam and then remove cable from throttle cam.


S6M0088

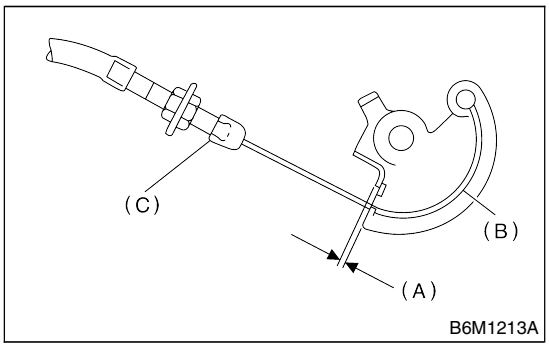
3) Remove actuator attaching bolts.
4) Remove actuator while disconnecting connector.

B: INSTALLATION S912753A11

Install in the reverse order of removal.

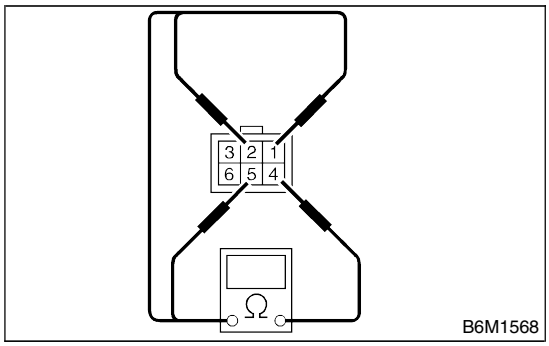
Tightening torque:
7.4 N·m (0.75 kgf-m, 5.4 ft-lb)

NOTE:
(A): Must be adjusted when cable end outer is fixed in place, so that gap between throttle cam and lever is 0 — 1 mm (0 — 0.04 in).
(Must be attached while throttle cam is being pulled by wire cable.)
(B): Must be coated evenly on cam end inner connection.
(C): Cover must be inserted securely, until tip of cable touches cover stopper.



B6M1213A

C: INSPECTION S912753A10



Measure resistance between cruise control actuator terminals.

Tester connection	Resistance (Ω)
4 — 1	Approx. 5
4 — 2	Approx. 5
4 — 5	Approx. 5
3 — 6	Approx. 39

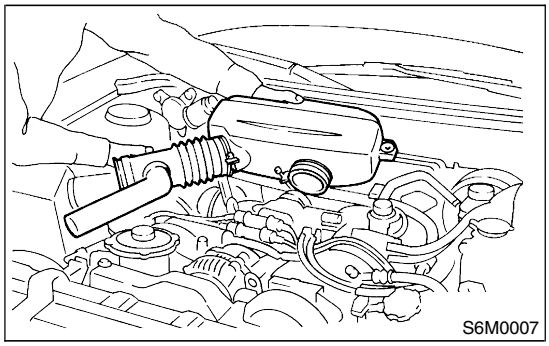
If NG, replace cruise control actuator.

3. Actuator (Non-turbo Model)

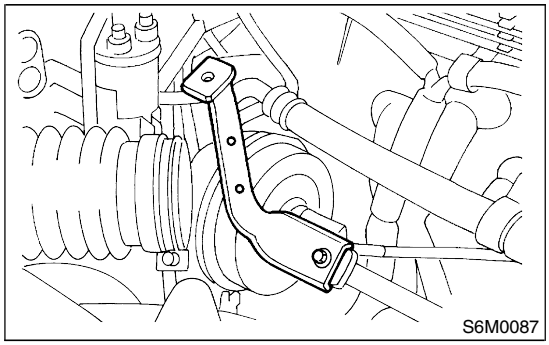
S912754

A: REMOVAL S912754A18

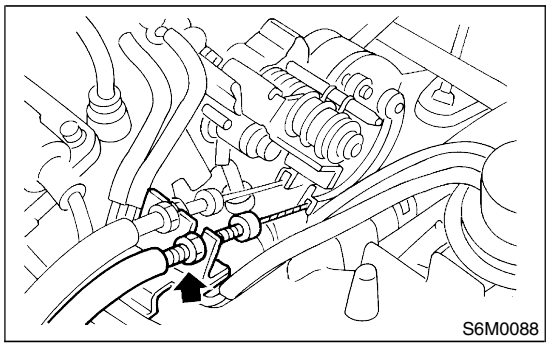
1) Remove air intake chamber.


S6M0007

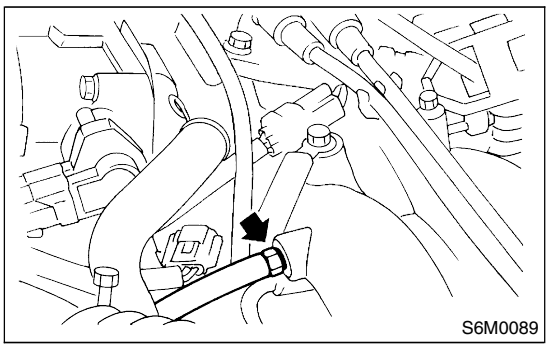
2) Remove air intake chamber stay.
3) Remove clip bands from cruise control cable.


S6M0087

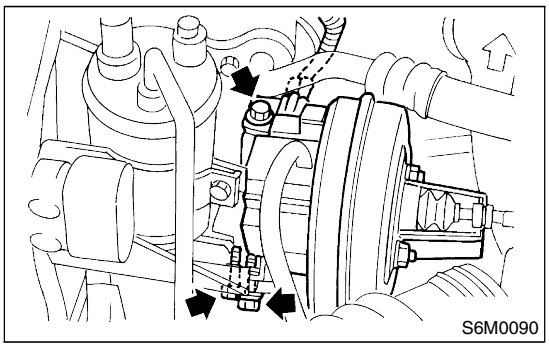
4) Remove cruise control cable end from throttle cam.


S6M0088

5) Disconnect cruise control vacuum hose from intake manifold.


S6M0089

6) Remove actuator attaching bolts.
7) Disconnect connector from actuator, then remove the actuator.


S6M0090

B: INSTALLATION S912754A11

Install in the reverse order of removal.

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

CAUTION:
When inserting vacuum hose to intake manifold, apply sealant to the fitting hose.

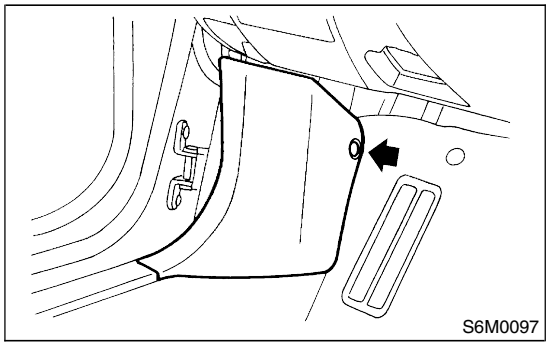
Fluid packing:
THREE BOND 1105 or equivalent

CAUTION:
• Be careful not to apply excessive load to the wire cable when adjusting and/or installing; otherwise, the actuator may be deformed or damaged.
• Do not bend cable sharply with a radius less than 100 mm (3.94 in); otherwise, cable may bend permanently, resulting in poor performance.
• When installing cable, be careful not to sharply bend or pinch the inner cable; otherwise, the cable may break.

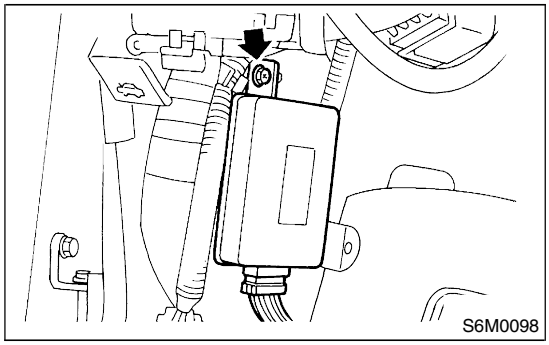
4. Cruise Control Module S912500

A: REMOVAL S912500A18

1) Remove front pillar lower trim.



2) Disconnect connector from cruise control module.
3) Remove bolt, then remove cruise control module.



B: INSTALLATION S912500A11

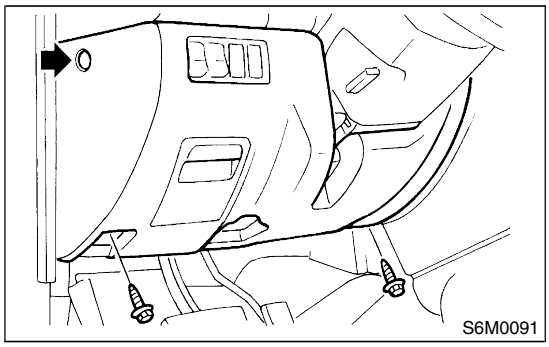
Install in the reverse order of removal.

5. Cruise Control Main Switch

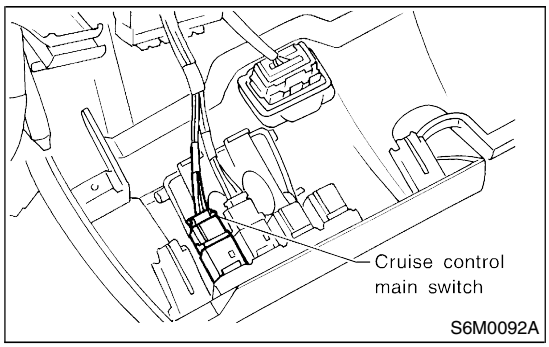
S912498

A: REMOVAL S912498A18

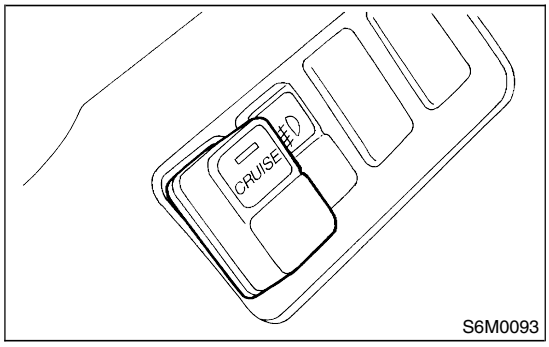
1) Remove screws and clip from instrument panel lower cover.
2) Remove panel lower cover.



3) Disconnect connector from cruise control main switch.



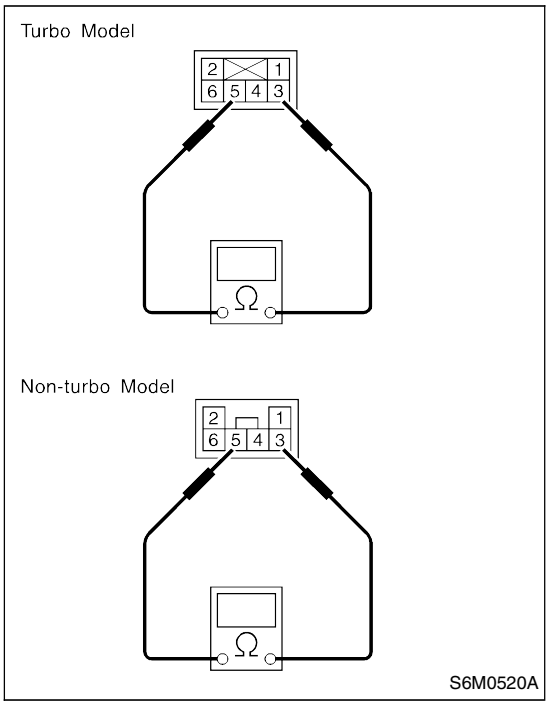
4) Remove main switch by pushing it outward.



B: INSTALLATION S912498A11

Install in the reverse order of removal.

C: INSPECTION S912498A10



Check continuity between cruise control main switch terminals.

Switch position	Tester connection	Specified condition
OFF	3 — 5	No continuity
ON	3 — 5	Continuity

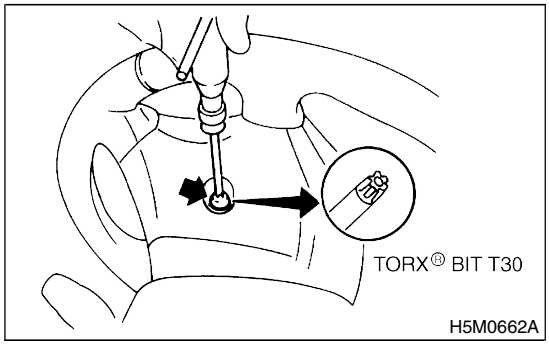
If NG, replace cruise control main switch.

6. Cruise Control Command Switch S912497

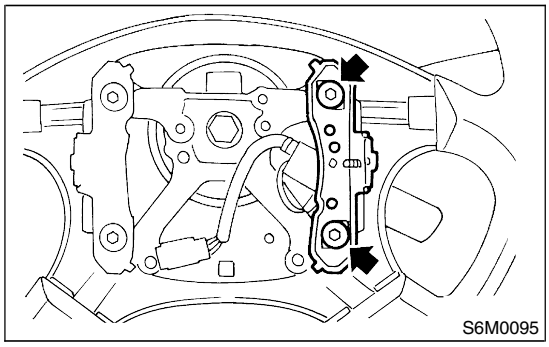
A: REMOVAL S912497A18

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

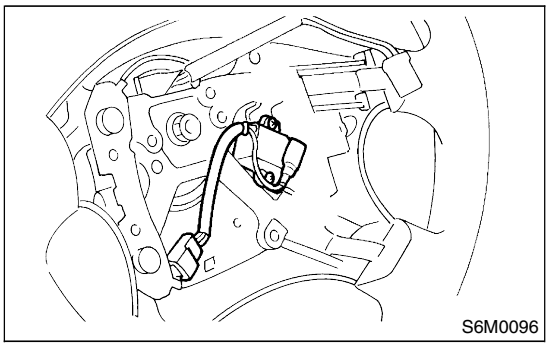
1) Set front wheels in straight ahead position.
2) Turn ignition switch OFF.
3) Disconnect battery ground cable from battery and wait for at least 20 seconds before starting work.
4) Using TORX® BIT T30 (Tamper resistant type), loosen two TORX® bolts which secure driver's airbag module.



5) Disconnect airbag module connector on back of airbag module.
6) Remove horn switch from steering wheel as shown.



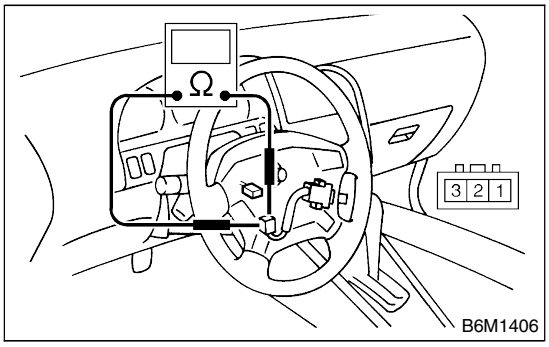
7) Disconnect horn and cruise control command switch connector, then remove cruise control command switch.



B: INSTALLATION S912497A11

Install is in the reverse order of removal.

C: INSPECTION S912497A10



Check continuity between cruise control command switch terminals.

Switch	Position	Tester connection	Specified condition
CANCEL	ON	1 (+) — 2 (–)	Continuity
	ON	1 (+) — 3 (–)	Continuity
SET/COAST	OFF	1 — 3	No continuity
	ON	1 — 3	Continuity
RESUME/ ACCEL	OFF	1 — 2	No continuity
	ON	1 — 2	Continuity

If NG, replace cruise control command switch.

7. Stop and Brake Switch S912496

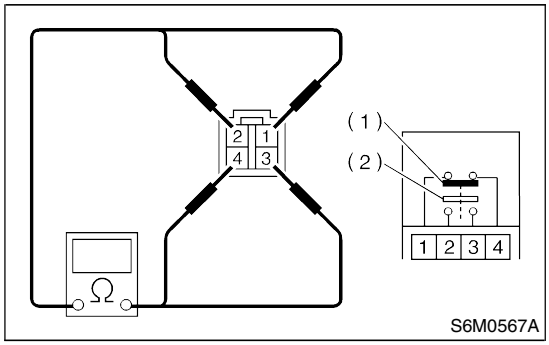
A: REMOVAL S912496A18

Disconnect connector from switch, and then remove the switch. <Ref. to BR-60 REMOVAL, Stop Light Switch.>

B: INSTALLATION S912496A11

Install in the reverse order of removal.

C: INSPECTION S912496A10



Check continuity brake switch (1) and stop light switch (2) between terminals.

Switch	Pedal	Tester connection	Specified condition
Brake	Released	1 — 4	Continuity
	Depressed	1 — 4	No continuity
Stop light	Released	2 — 3	No continuity
	Depressed	2 — 3	Continuity

If NG, replace stop and brake switch.

8. Clutch Switch S912258

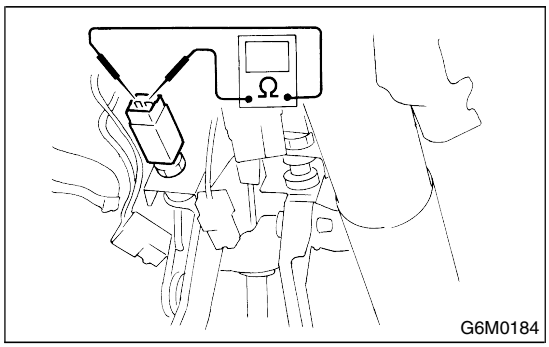
A: REMOVAL S912258A18

Disconnect the connector from the switch, and then remove the switch. <Ref. to CL-38 DISASSEMBLY, Clutch Pedal.>

B: INSTALLATION S912258A11

Install in the reverse order of removal.

C: INSPECTION S912258A10



Check continuity between clutch switch terminals.

Switch	Pedal	Tester connection	Specified condition
Clutch	Released	1 — 2	Continuity
	Depressed	1 — 2	No continuity

If NG, replace the clutch switch.

9. Inhibitor Switch S912243

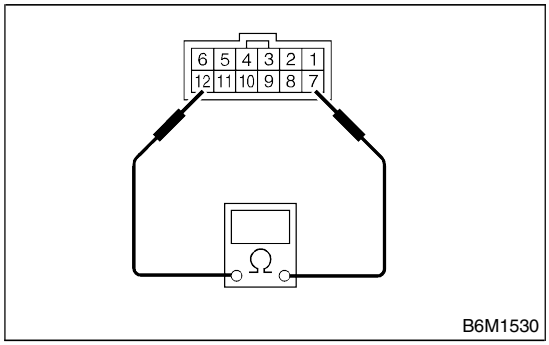
A: REMOVAL S912243A18

Disconnect connector from switch, and then remove the switch. <Ref. to AT-29 REMOVAL, Inhibitor Switch.>

B: INSTALLATION S912243A11

Installation is in the reverse order of removal.

C: INSPECTION S912243A10



Check continuity between inhibitor switch terminals.

Selector lever position	Tester connection	Specified condition
P	7 — 12	Continuity
N		Continuity
Except P and N		No continuity

If NG, replace inhibitor switch.

MEMO:

AIRBAG SYSTEM (DIAGNOSTICS)

AB

		Page
1.	Basic Diagnostic Procedure	2
2.	Check List for Interview	3
3.	General Description	4
4.	Electrical Components Location	16
5.	A/B Control Module I/O Signal	18
6.	Airbag Connector	24
7.	Airbag Warning Light Illumination Pattern	26
8.	Read Diagnostic Trouble Code	27
9.	Inspection Mode	28
10.	Clear Memory Mode	29
11.	Airbag Warning Light Failure	30
12.	List of Diagnostic Trouble Code	36
13.	Diagnostic Chart with Trouble Code	39

1. Basic Diagnostic Procedure

S002627

A: PROCEDURE S002501E45

No.	Step	Check	Yes	No
1	**Read Diagnostic Trouble Code.** <Ref. to AB-27 Read Diagnostics Trouble Code.>	Is the normal code being detected?	Finish the diagnosis.	Go to step **2**.
2	**Read Diagnostic Trouble Code.** <Ref. to AB-27 Read Diagnostics Trouble Code.>	Is the trouble code being detected?	Go to step **3**.	Go to “Airbag Warning Light Failure”. <Ref. to AB-30 Airbag Warning Light Failure.>
3	**Perform the diagnosis.** 1) Judge the possible cause from “List of Diagnostic Trouble Code” <Ref. to AB-36 List of Diagnostic Trouble Code.>. 2) Inspect using “Diagnostic Chart with Trouble Code”. (DTC) 3) Repair the cause of the trouble. 4) Perform the clear memory mode. <Ref. to AB-29 Clear Memory Mode.> 5) Perform the inspection mode. <Ref. to AB-28 Inspection Mode.> 6) Read diagnostic trouble code.	Is the trouble code being detected?	Perform the procedure 1) to 5) in step 3.	Finish the diagnosis.

2. Check List for Interview S002502

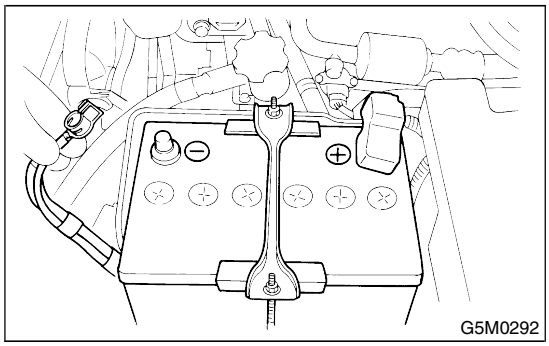
A: CHECK S002502A04

Customer's Name		Inspector's Name	
Date Vehicle Brought In	/ /	Registration No.	
Odometer Reading	Km Miles	Vin No.	
Date Problem Occurred	/ /	Registration Year	/ /
Weather	☐ Fine ☐ Cloudy ☐ Rainy ☐ Snowy ☐ Other:		
Temperature	°C (°F)		
Road Condition	☐ Level road ☐ Uphill ☐ Downhill ☐ Rough road ☐ Other:		
Vehicle Operation	☐ Starting ☐ Idling ☐ Driving (☐ Constant Speed ☐ Acceleration ☐ Deceleration ☐ Steering wheel turn ☐ Other:)		
Details of Problem			
Check Airbag Warning Light	☐ Remains ON ☐ Remains OFF		
Check DTC	☐ Normal Code ☐ Trouble Code: (Code:)		

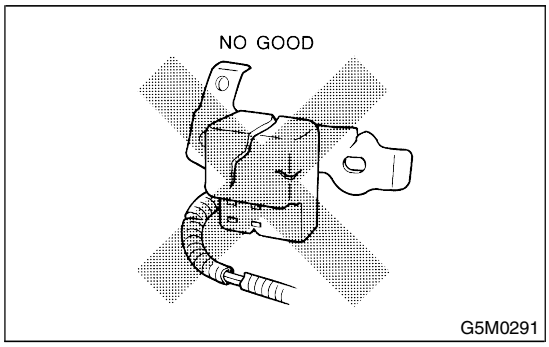
3. General Description S002001

A: CAUTION S002001A03

- When servicing a vehicle, be sure to turn the ignition switch OFF, disconnect the ground cable from the 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.


G5M0292

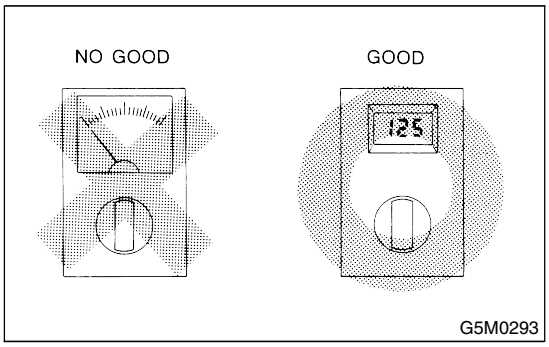
- If sensors, airbag module, airbag control module and harness are deformed or damaged, replace them with new genuine parts.
- Do not use the airbag system on other vehicles. When replacing parts, be sure to replace them with new parts.



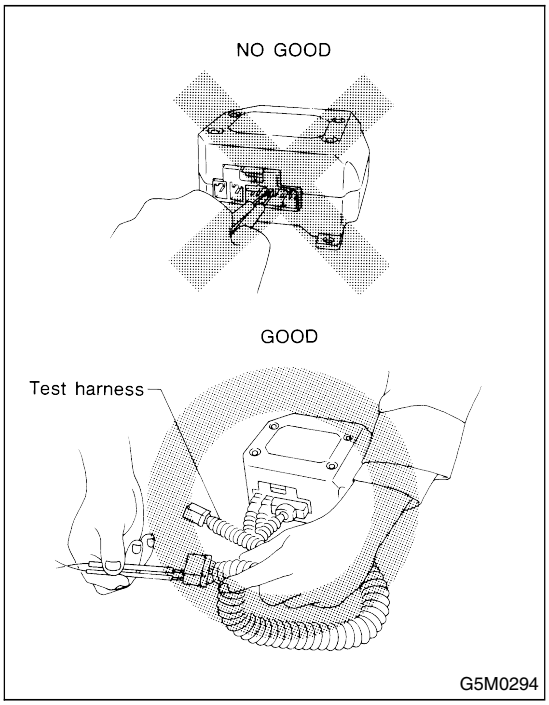
G5M0291

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

- When checking, use a test harness. Do not directly apply the tester probe to any connector terminal of the airbag.

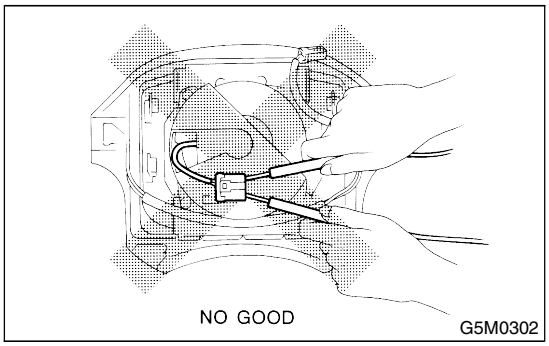


G5M0293



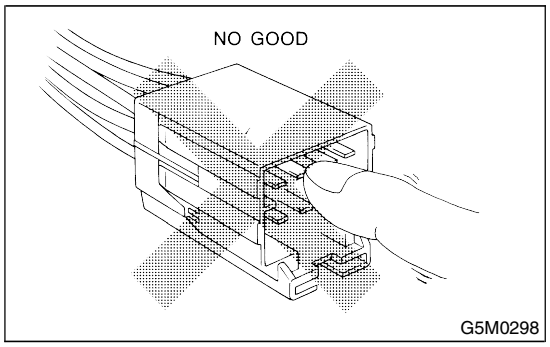
G5M0294

- Do not check continuity of the airbag module (driver, passenger, and side).

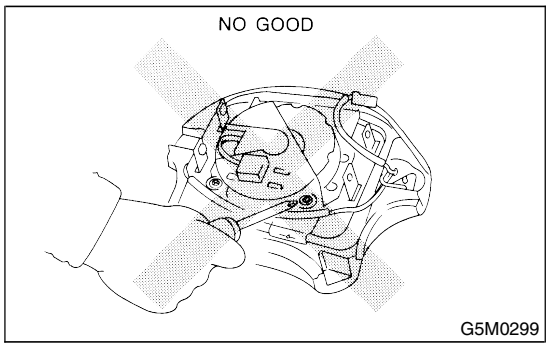


G5M0302

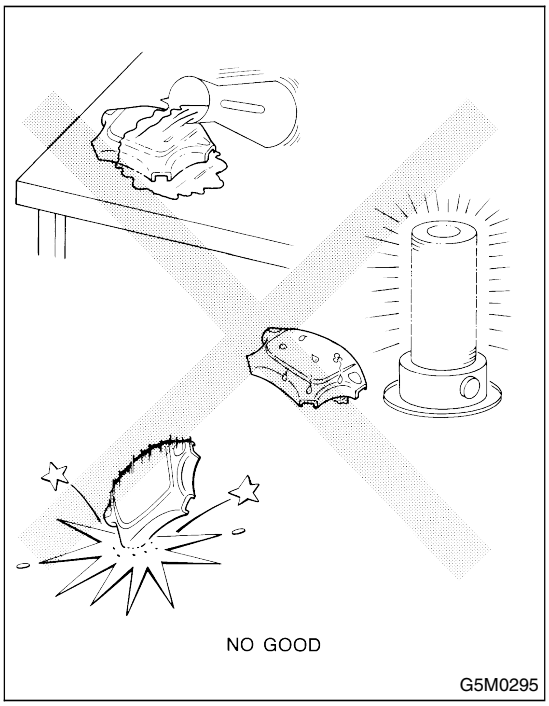
● Do not allow water or oil to come in contact with the connector terminals. Do not touch the connector terminals.



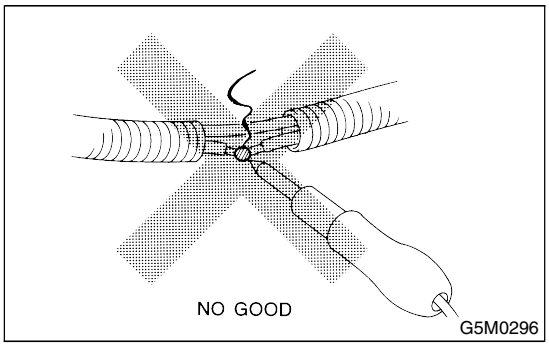
● The airbag module (driver, passenger, and side) must not be disassembled.
● The airbag module cannot be used again once inflated.



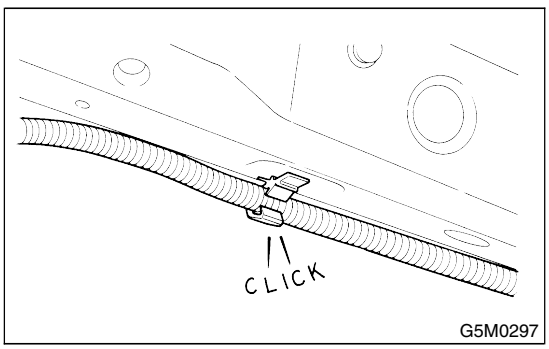
● Do not drop the airbag modulator parts, subject them to high temperature over 93°C (199°F), or let water, oil, or grease get on them; otherwise, the internal parts may be damaged and reliability greatly lowered.



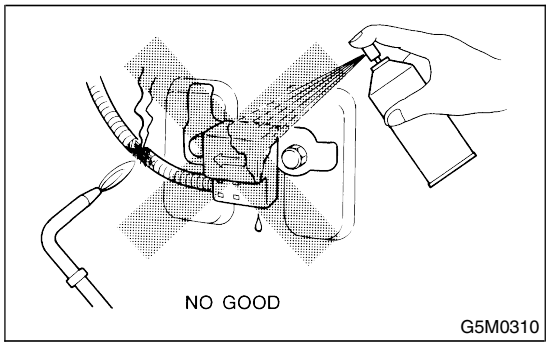
● If any damage, opening or rust is found on the airbag system wire harness, do not attempt to repair using soldering equipment. Be sure to replace the faulty harness with a new genuine part.



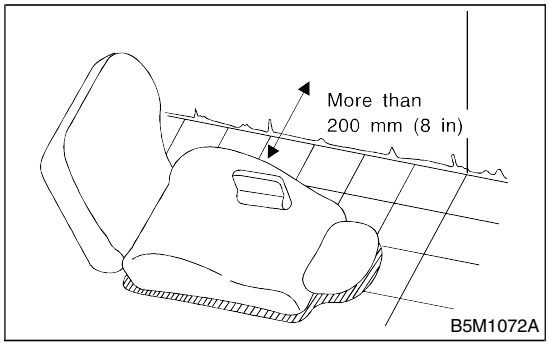
● Install the wire harness securely with the specified clips to avoid interference or tangled up with other parts.



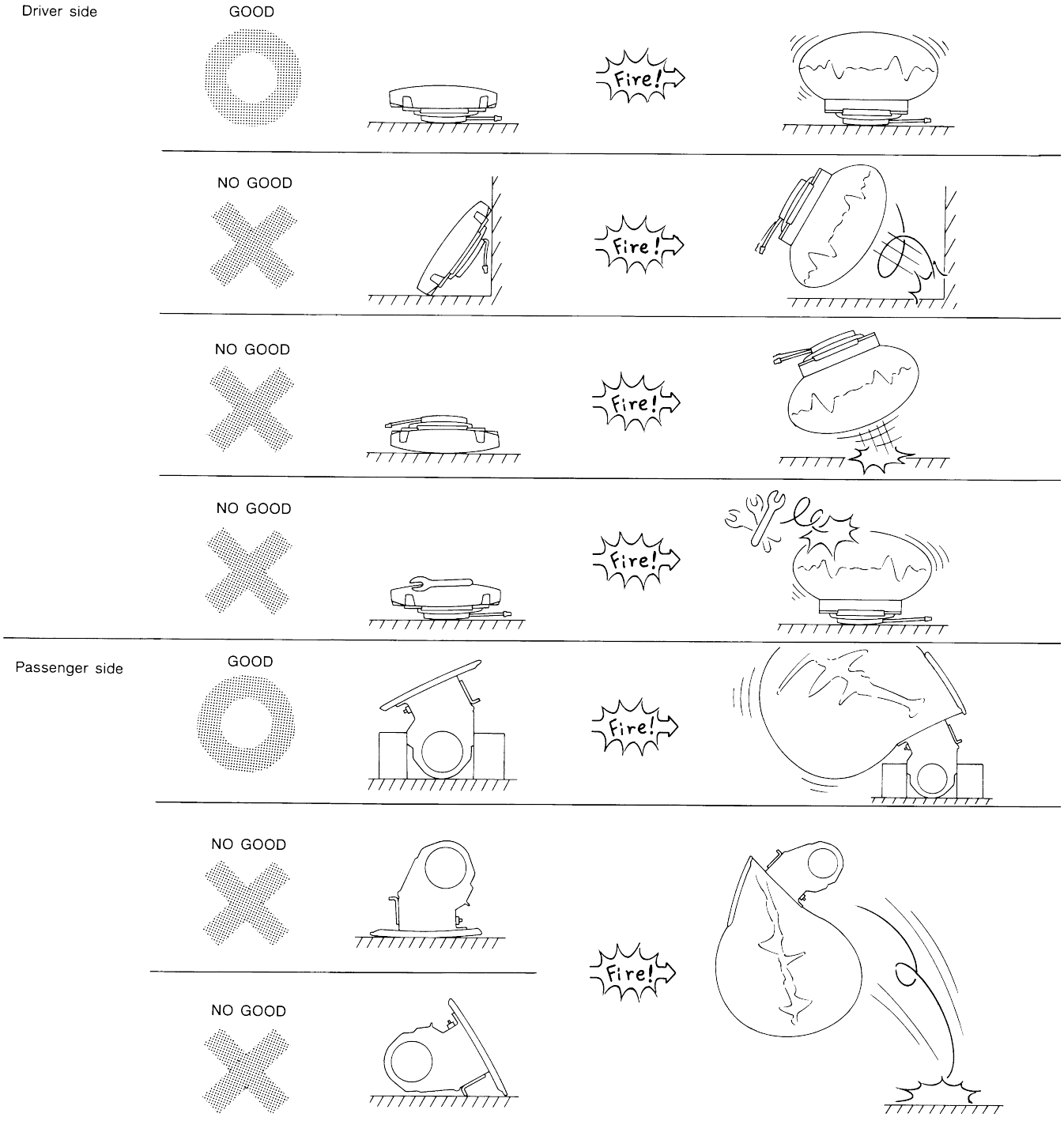
● When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender, and front side frame, remove the front sub sensors and wire harness of the airbag system.
● When painting or performing sheet metal work on the side of the vehicle, including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



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



● When storing a removed airbag module, do not place any objects on it or pile airbag modules on top of each other. 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.


Driver side
GOOD
Fire!
NO GOOD
Fire!
NO GOOD
Fire!
NO GOOD
Fire!
Passenger side
GOOD
Fire!
NO GOOD
Fire!
NO GOOD

G5M0604

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

B: INSPECTION S002001A10

Before diagnosing, check the following items that might be related to the engine problem:

1. BATTERY S002001A1001

Measure battery voltage and specific gravity of electrolyte.

Standard voltage: 12V

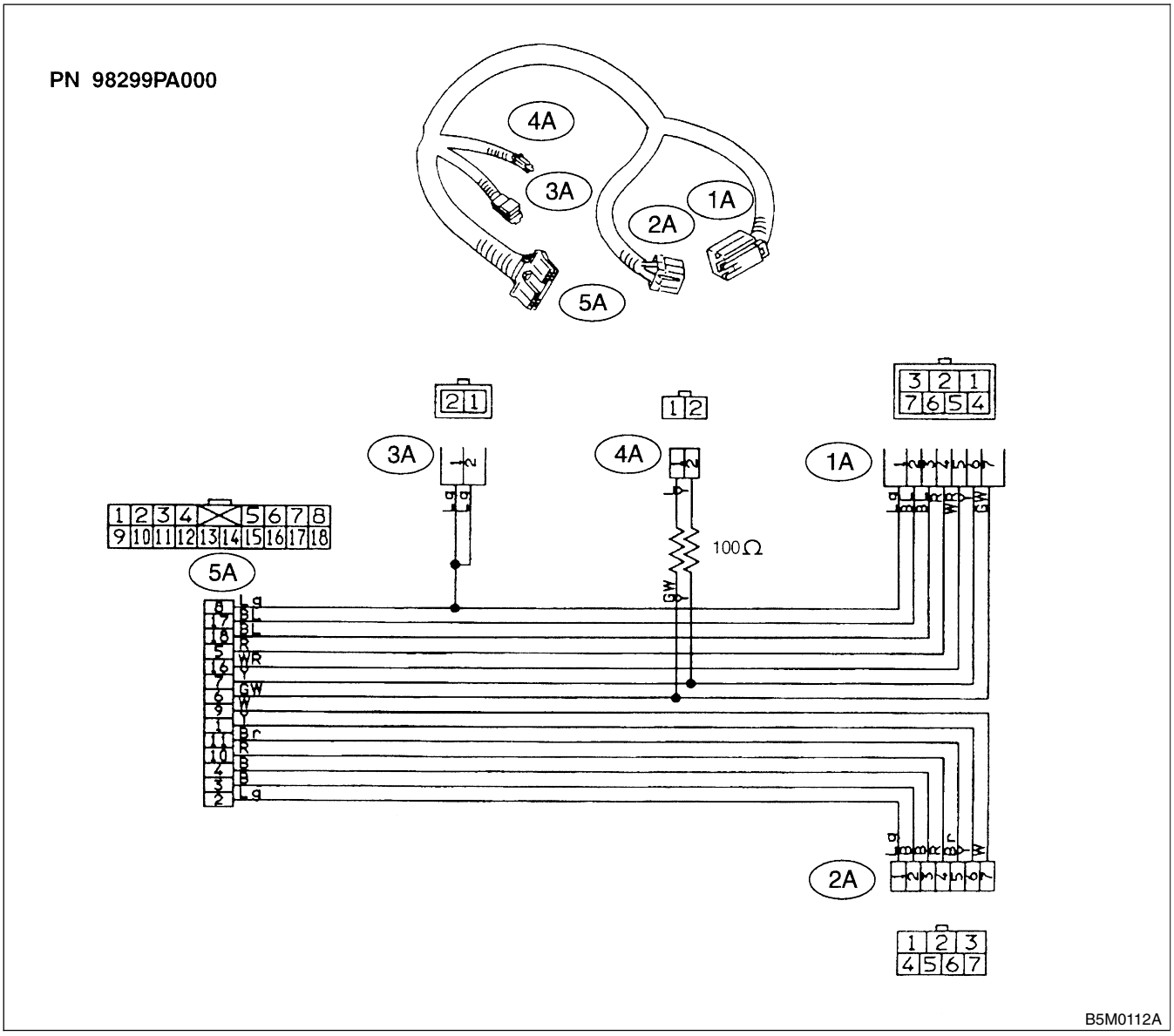
Specific gravity: Above 1.260

C: PREPARATION TOOL S002001A17

CAUTION:
Be sure to use specified test harness A, F, G, H and I or I2 when measuring voltage, resistance, etc. of AIRBAG system component parts.

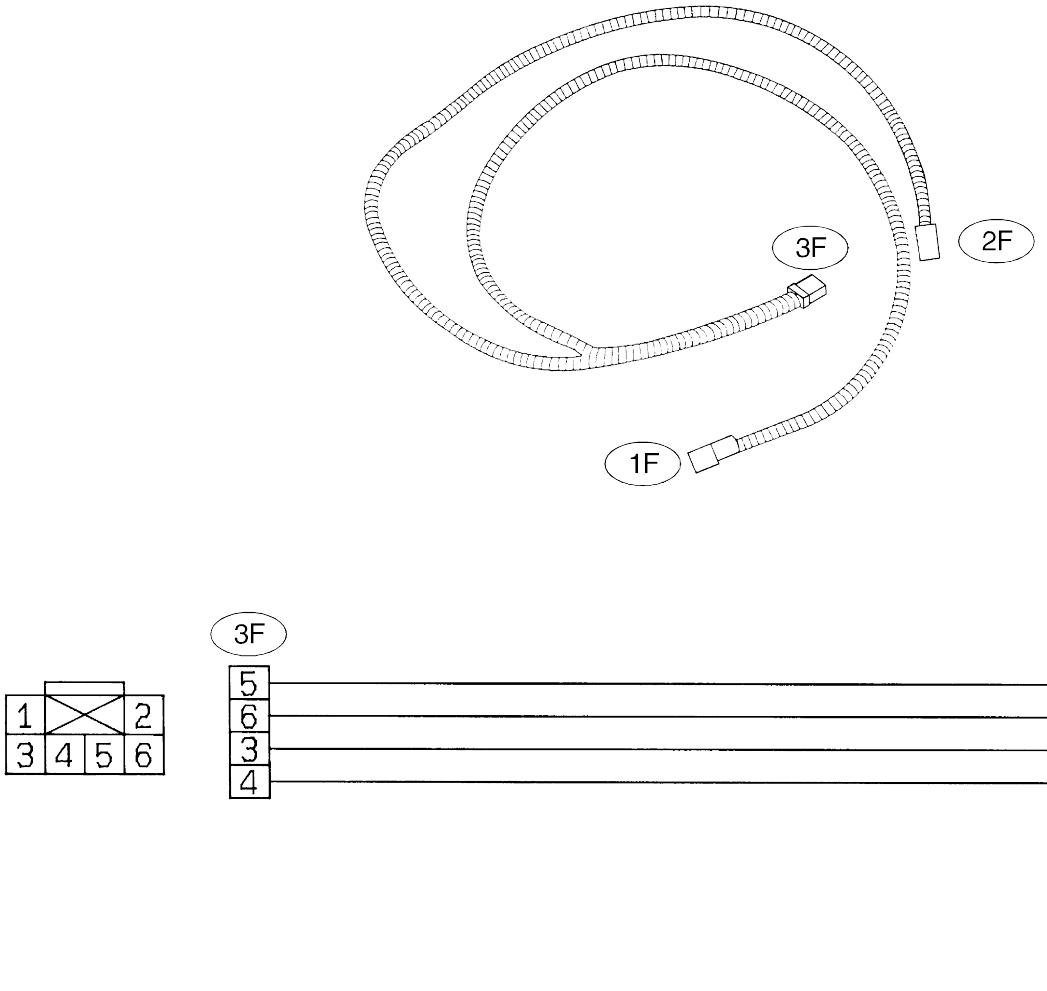
1. TEST HARNESS A S002001A1701

PN 98299PA000



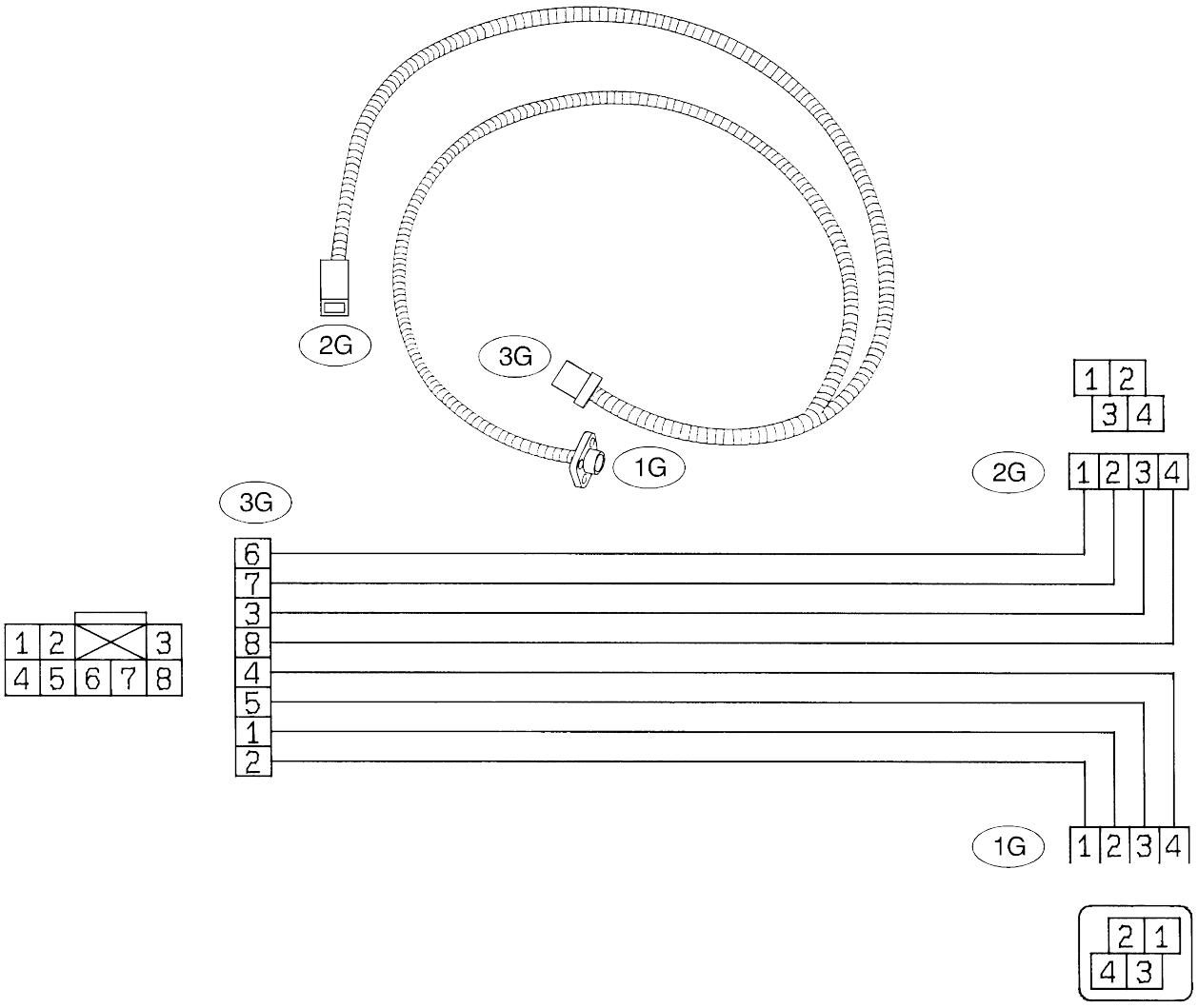
2. TEST HARNESS F S002001A1702

PN 98299FC010



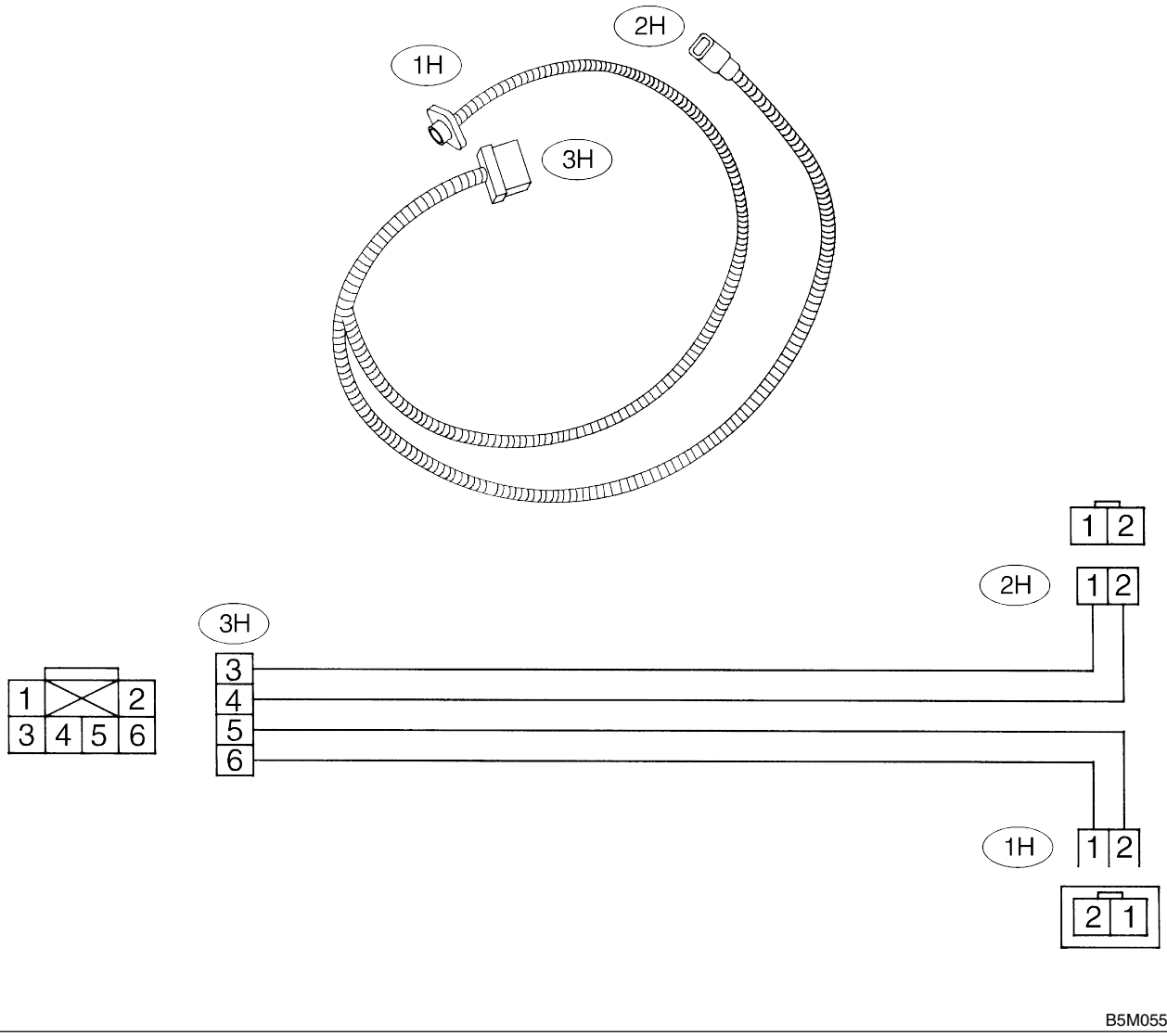
3. TEST HARNESS G S002001A1703

PN 98299FC020



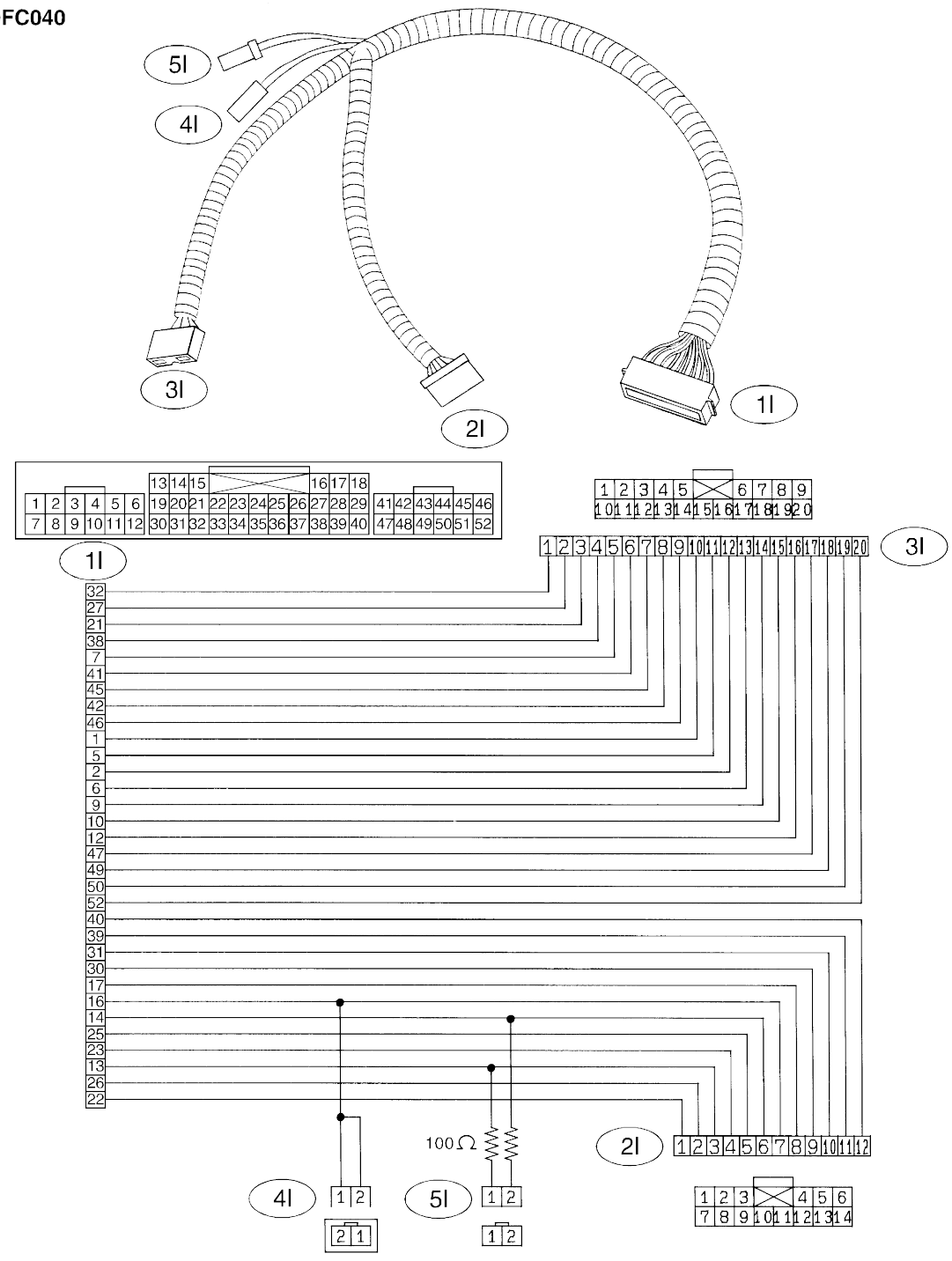
4. TEST HARNESS H S002001A1704

PN 98299FA030



5. TEST HARNESS I S002001A1705

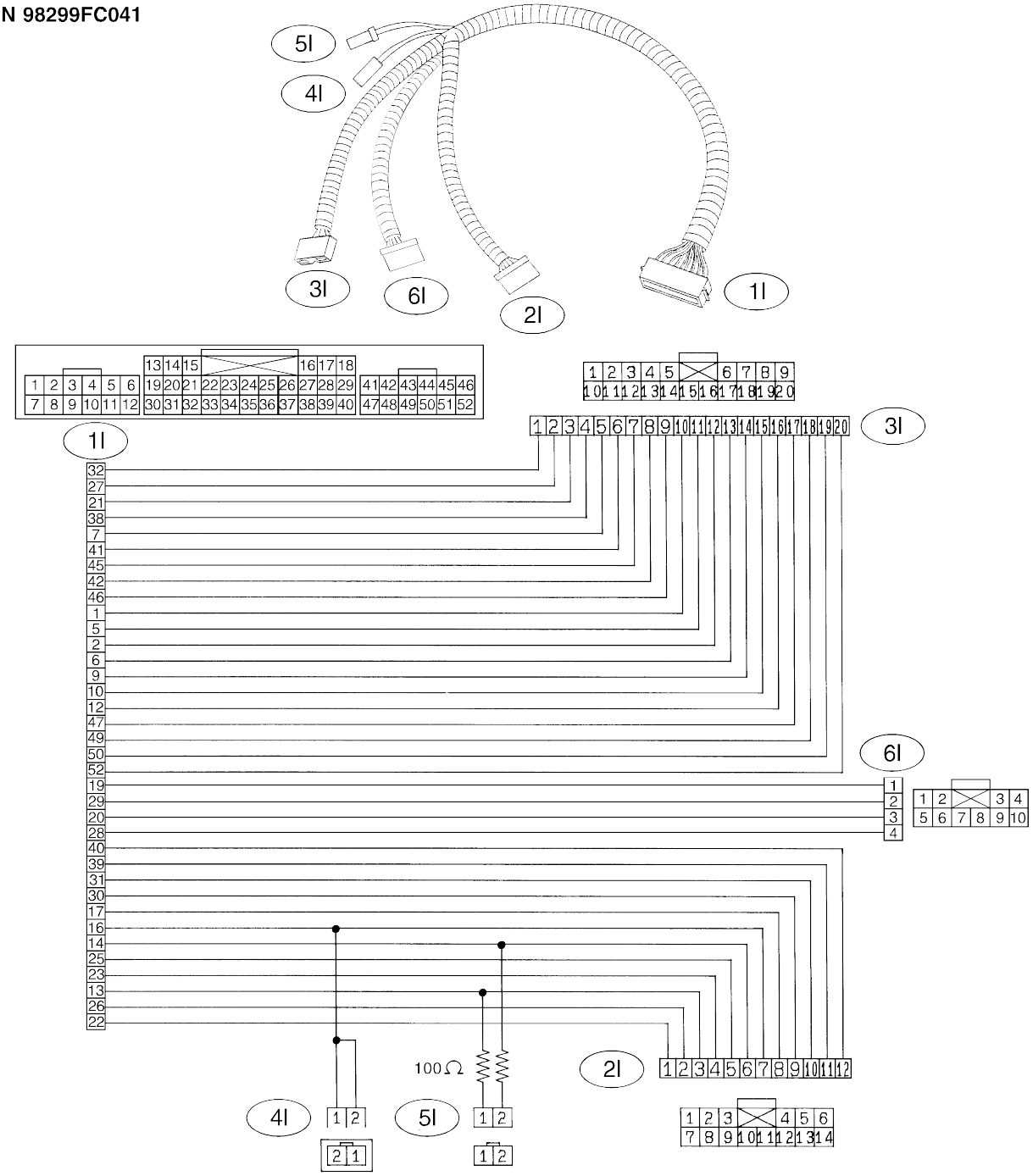
PN 98299FC040



S5M0340A

6. TEST HARNESS I2 S002001A1706

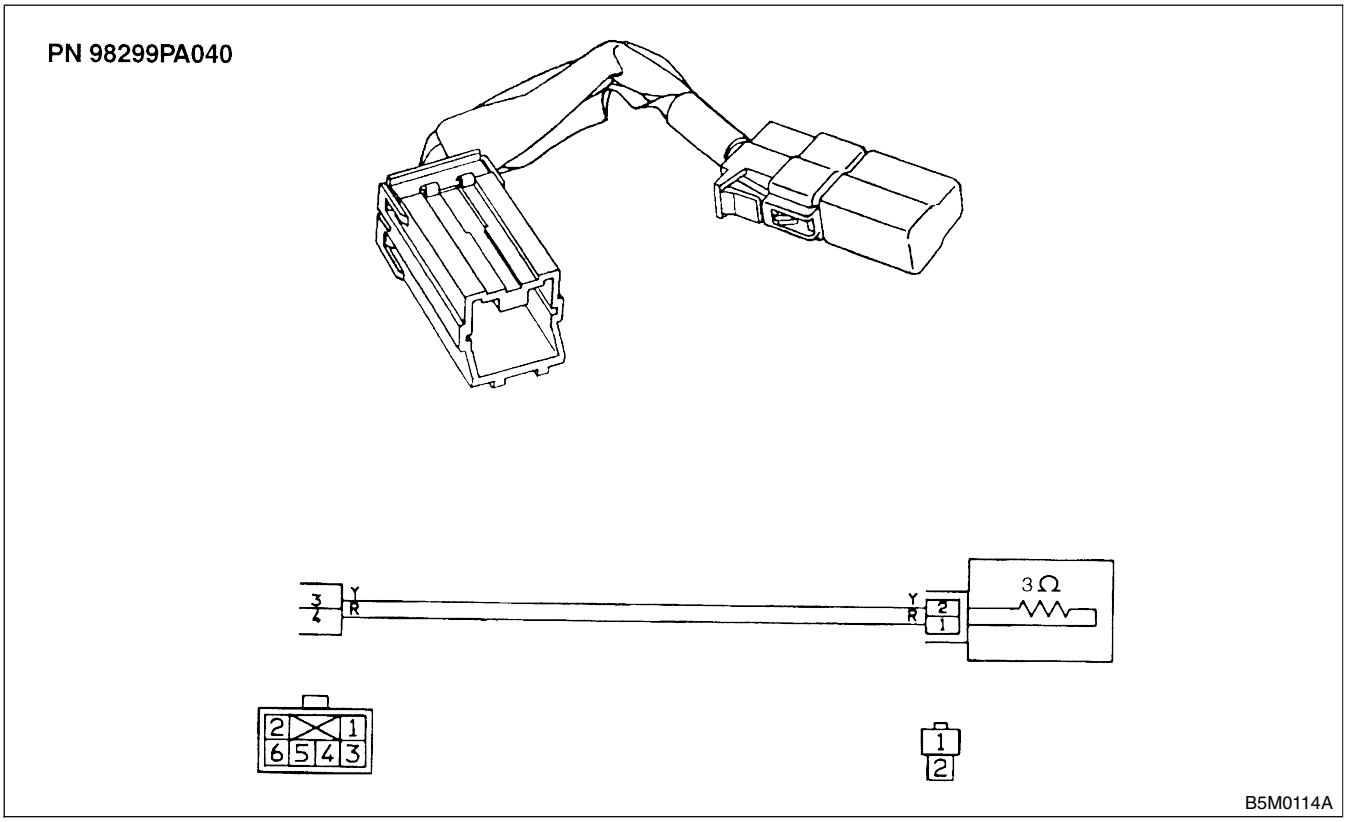
PN 98299FC041



B5M0927A

7. AIRBAG RESISTOR S002001A1707

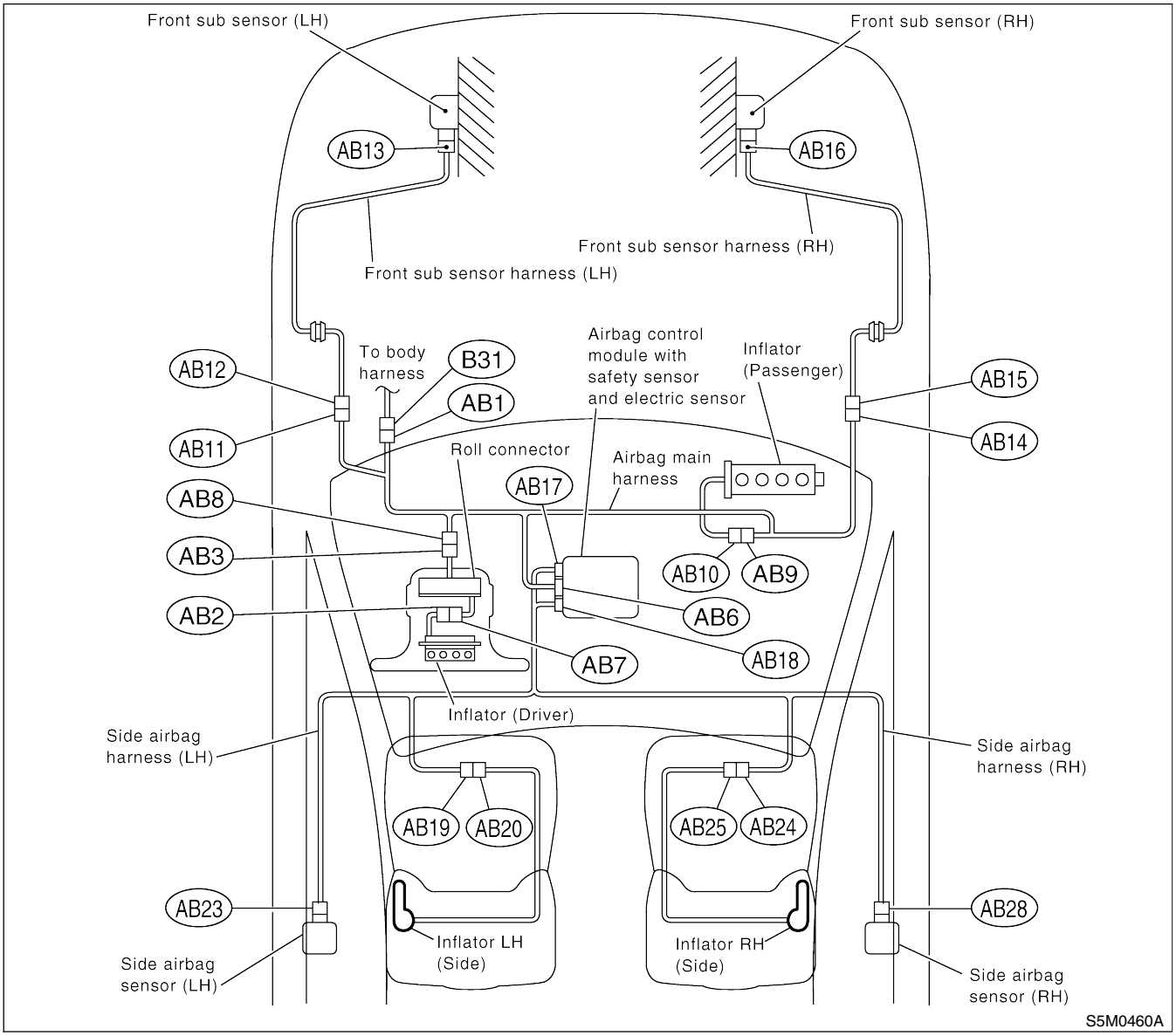
The airbag resistor is used during diagnostics. The airbag resistor has the same resistance as the airbag module and thus provides safety when used instead of the airbag module. It also makes it possible to finish, diagnostics in less time.



4. Electrical Components Location S002507

A: LOCATION S002507A13

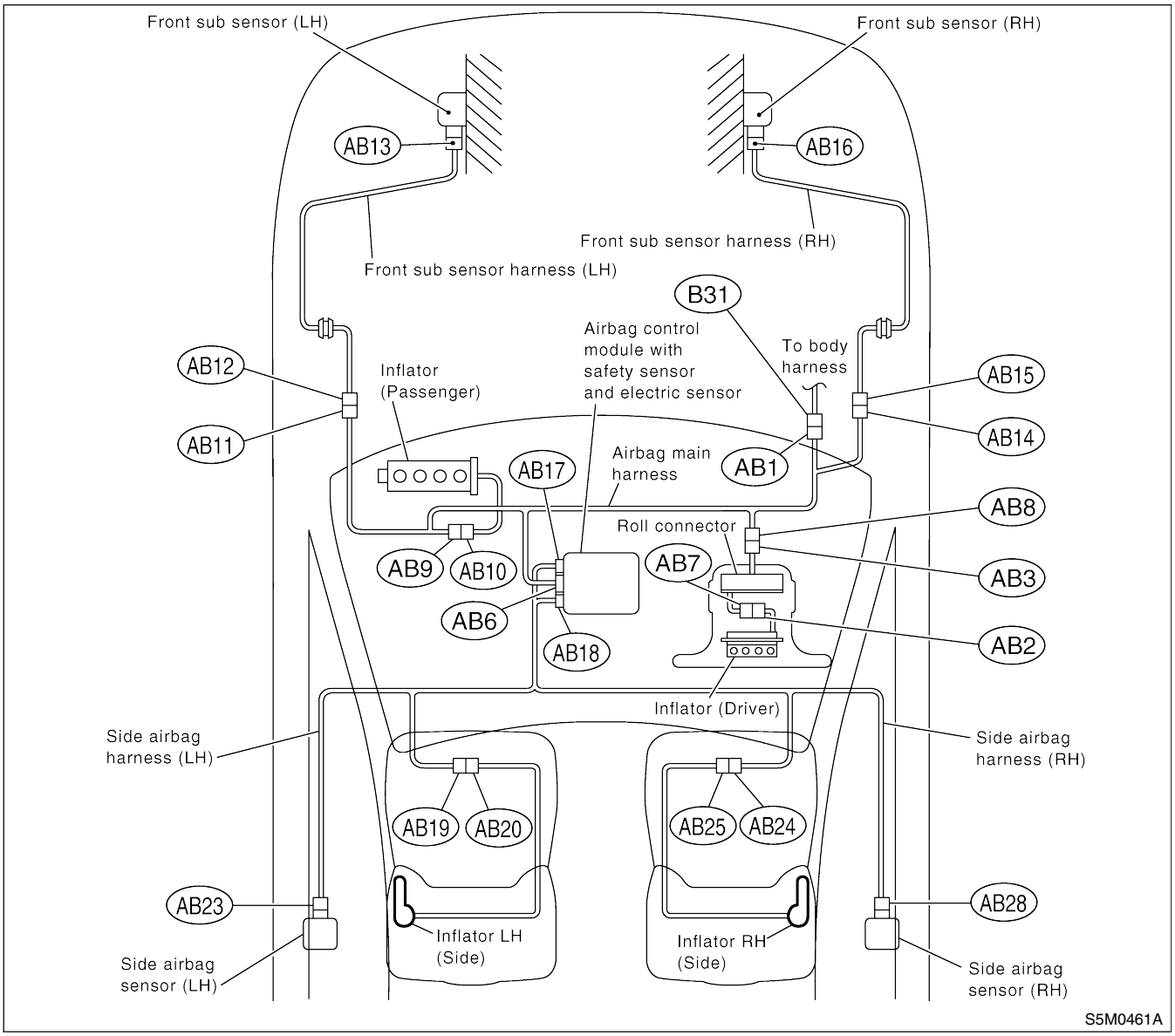
1. LHD MODEL S002507A1301



Connector No.	(AB1)	(AB2)	(AB3)	(AB6)	(AB7)	(AB8)	(AB9)	(AB10)	(AB11)	(AB12)	(AB13)
Pole	7	2	2	28	2	2	2	2	2	2	2
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Blue	Blue	Yellow
Male/ Female	Male	Male	Male	Female	Female	Female	Female	Male	Female	Male	Female

Connector No.	(AB14)	(AB15)	(AB16)	(AB17)	(AB18)	(AB19)	(AB20)	(AB23)	(AB24)	(AB25)	(AB28)
Pole	2	2	2	12	12	2	2	4	2	2	4
Color	Blue	Blue	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Male/ Female	Female	Male	Female	Female	Female	Female	Male	Female	Female	Male	Female

2. RHD MODEL S002507A1302



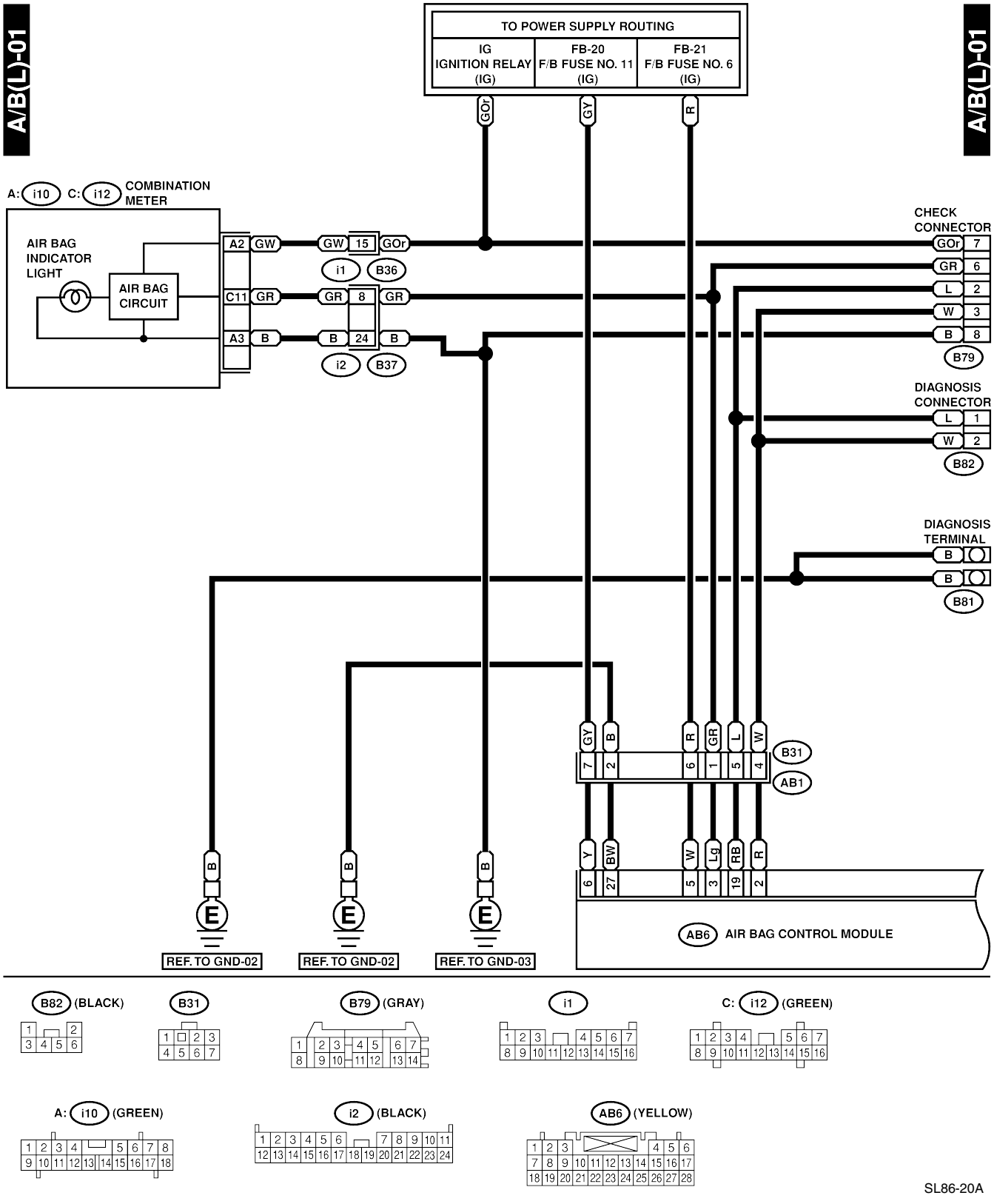
Connector No.	(AB1)	(AB2)	(AB3)	(AB6)	(AB7)	(AB8)	(AB9)	(AB10)	(AB11)	(AB12)	(AB13)
Pole	7	2	2	28	2	2	2	2	2	2	2
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Blue	Blue	Yellow
Male/ Female	Male	Male	Male	Female	Female	Female	Female	Male	Female	Male	Female

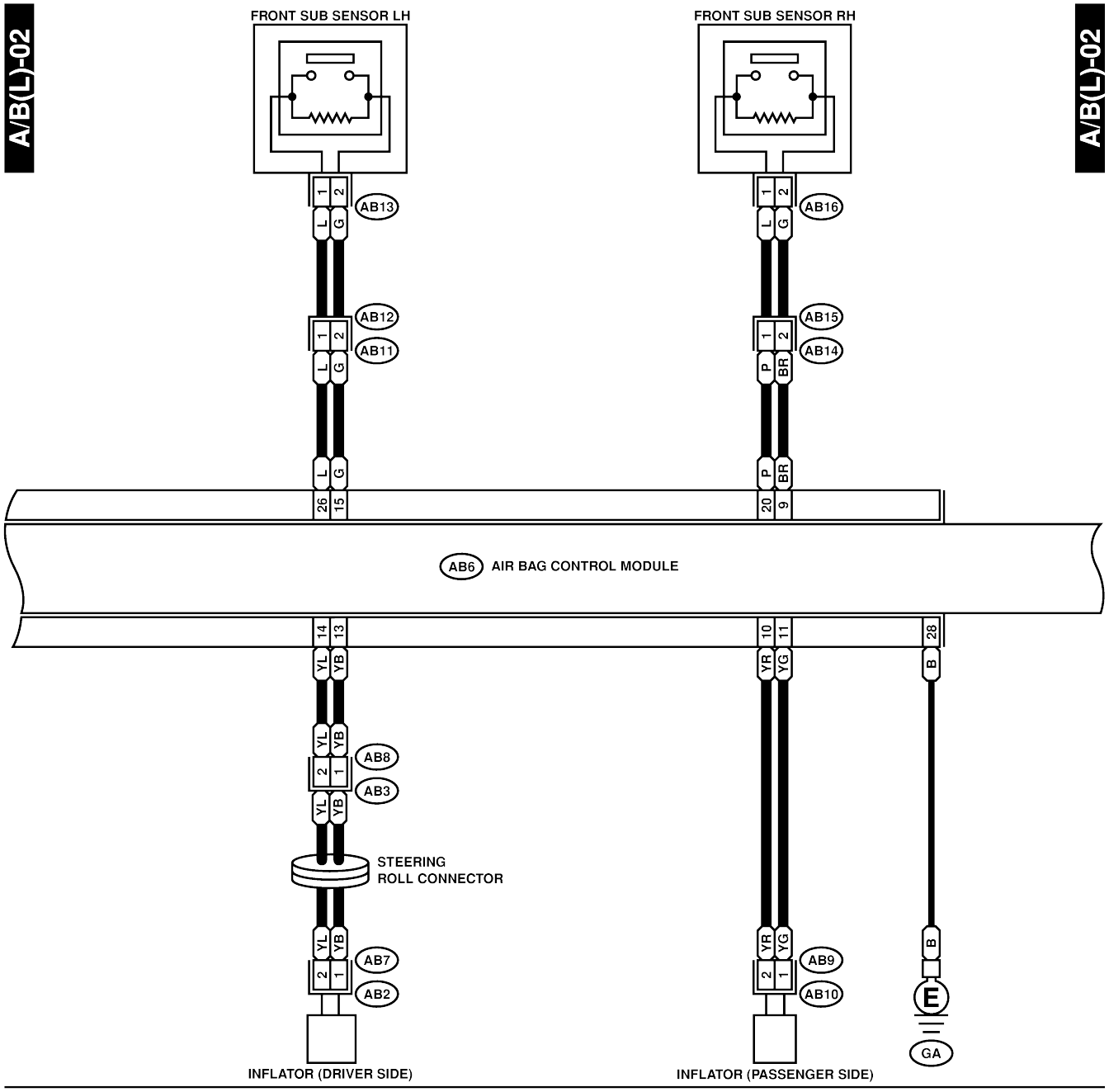
Connector No.	(AB14)	(AB15)	(AB16)	(AB17)	(AB18)	(AB19)	(AB20)	(AB23)	(AB24)	(AB25)	(AB28)
Pole	2	2	12	12	2	2	4	2	2	4	
Color	Blue	Blue	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Male/ Female	Female	Male	Female	Female	Female	Female	Male	Female	Female	Male	Female

5. A/B Control Module I/O Signal S002745

A: SCHEMATIC S002745A21

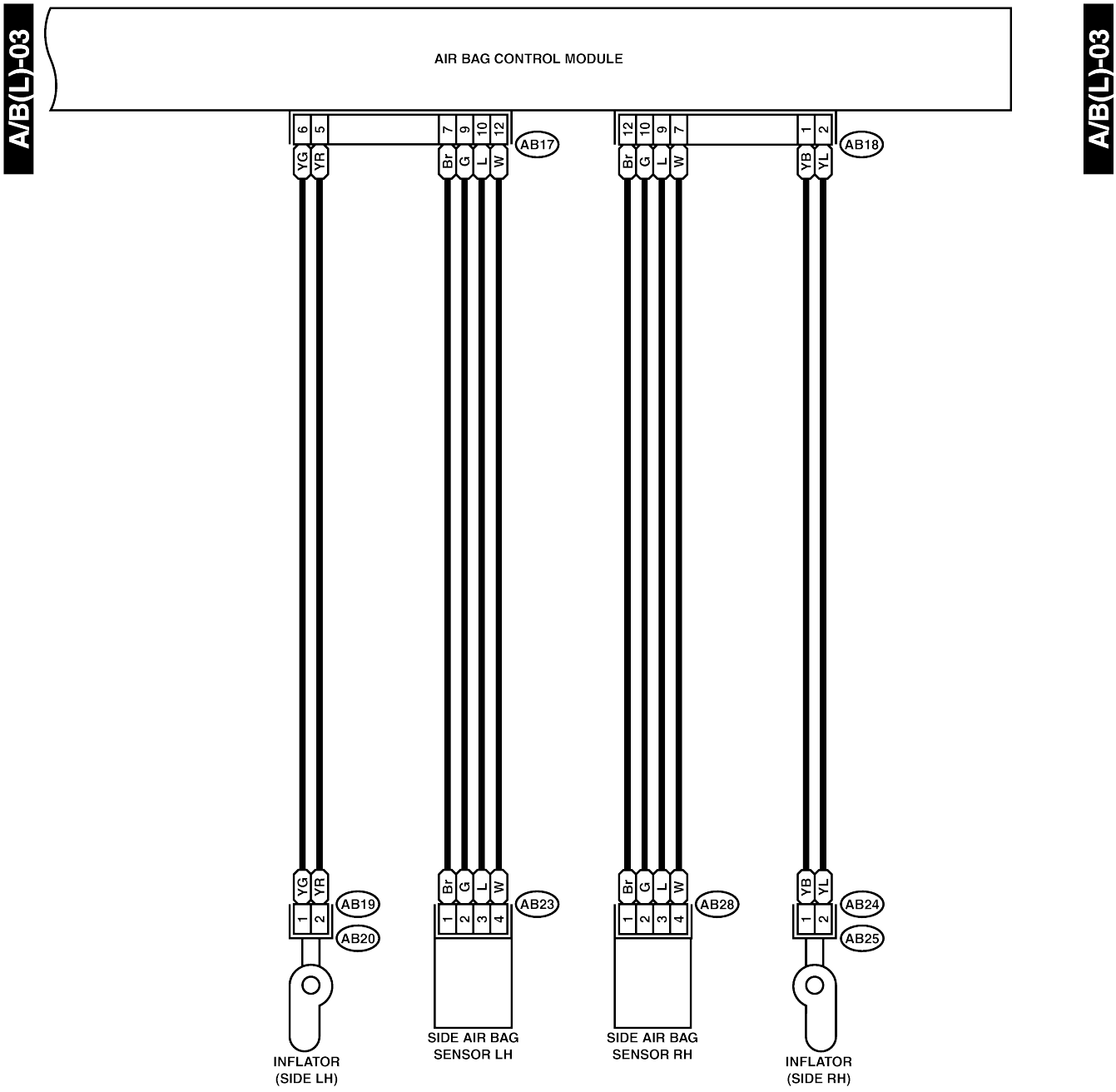
1. AIRBAG LHD MODEL S002745A2101

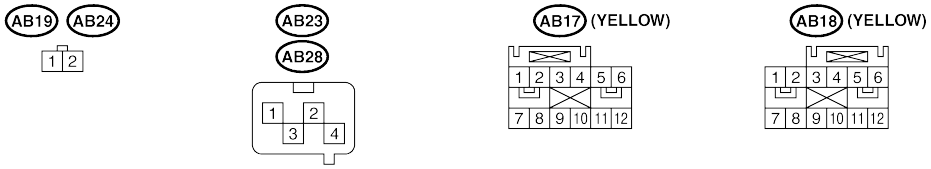



A/B(L)-02
A/B(L)-02
FRONT SUB SENSOR LH
FRONT SUB SENSOR RH
AB13
AB16
AB12
AB11
AB15
AB14
AB6 AIR BAG CONTROL MODULE
AB8
AB3
STEERING
ROLL CONNECTOR
AB7
AB2
AB9
AB10
E
GA
INFLATOR (DRIVER SIDE)
INFLATOR (PASSENGER SIDE)
AB7 AB11 (BLUE)
AB8 AB14 (BLUE)
AB9
AB13
AB16
AB6 (YELLOW)

SL86-20B

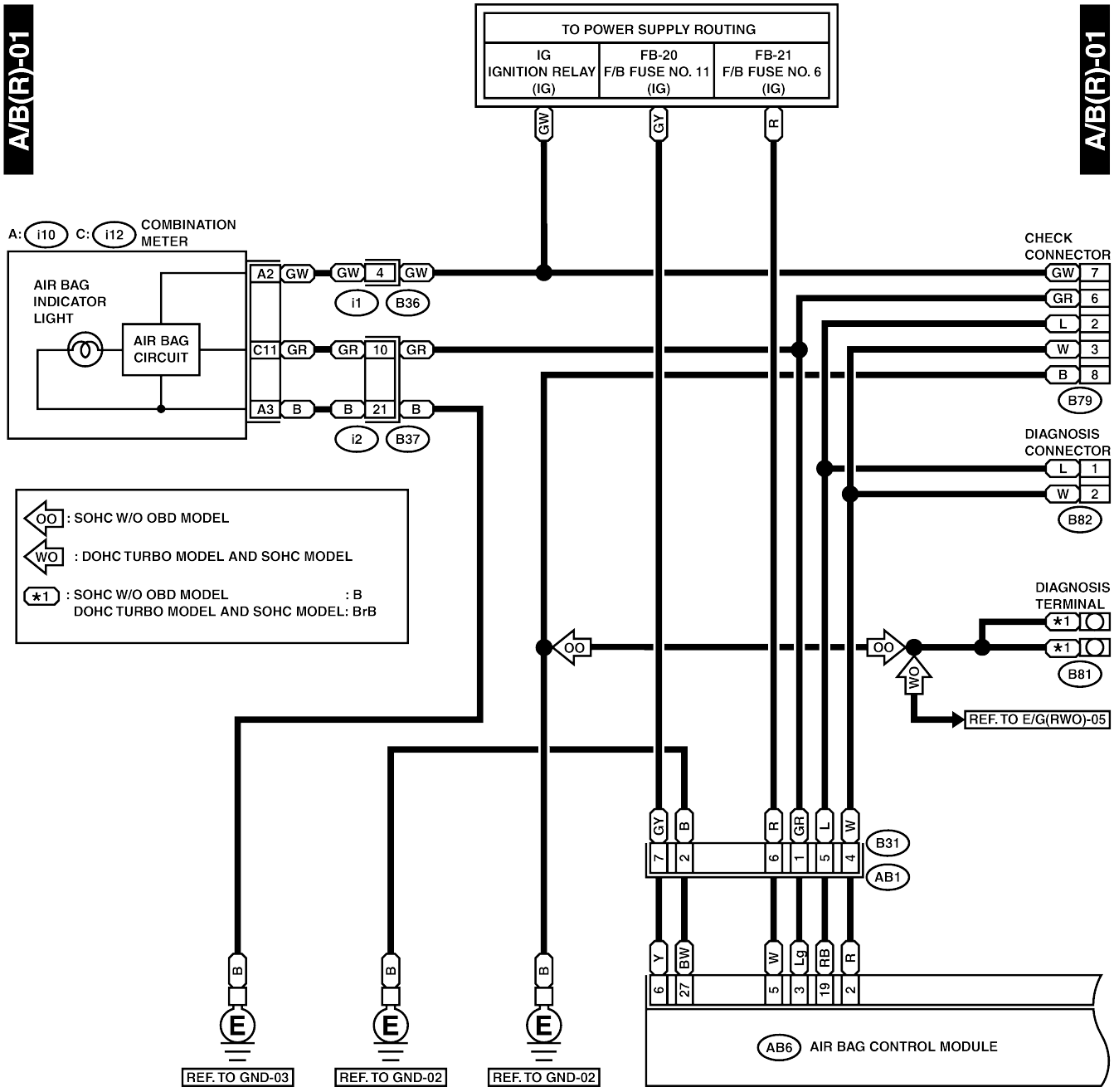
A/B CONTROL MODULE I/O SIGNAL

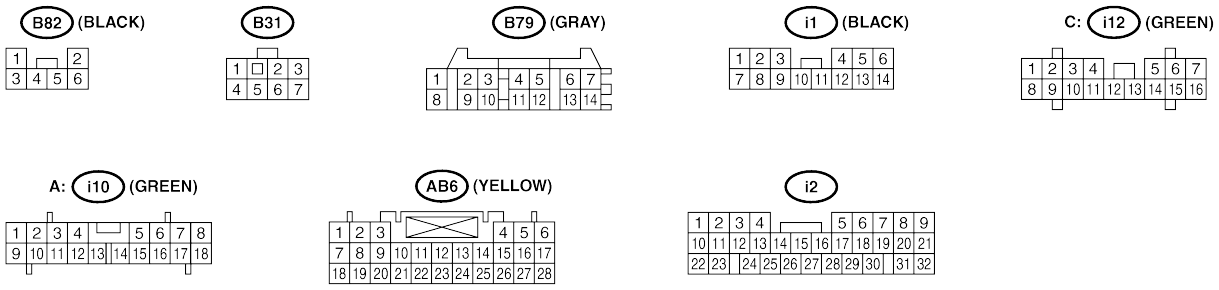




SL86-20C

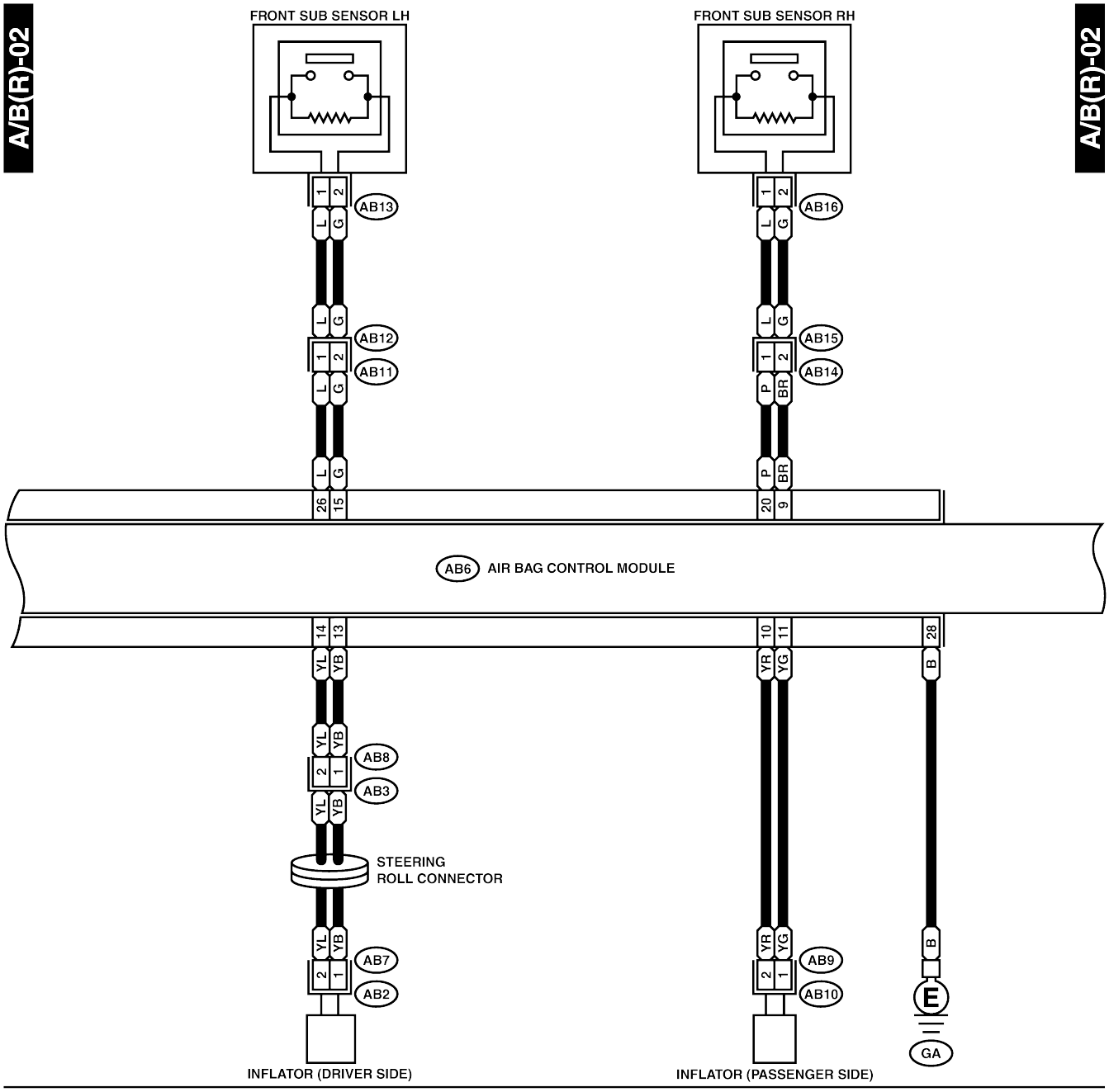
2. AIRBAG RHD MODEL S002745A2102



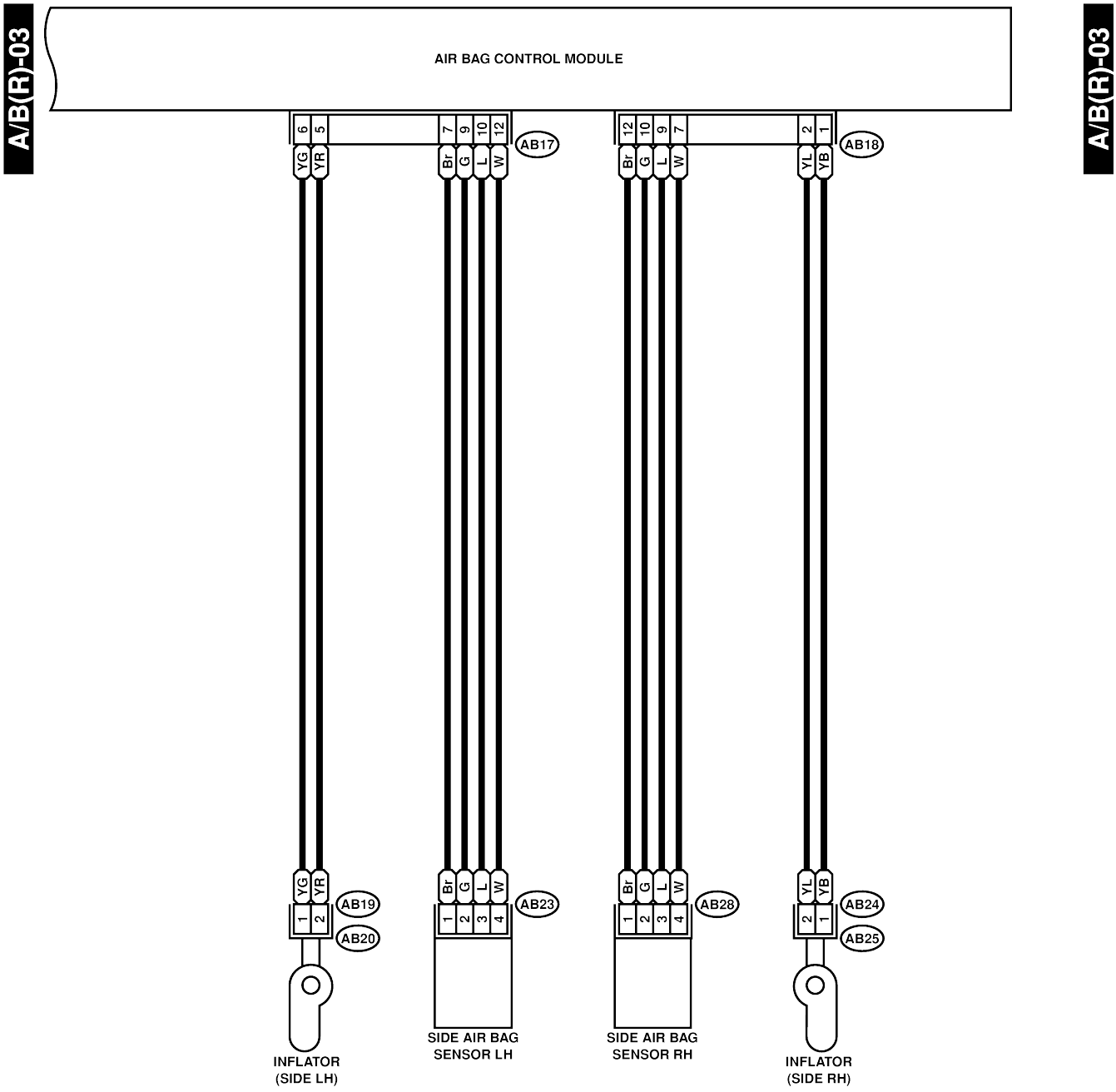


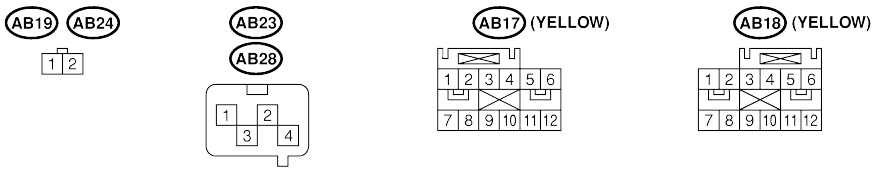
SR86-20A

A/B CONTROL MODULE I/O SIGNAL



SR86-20B


A/B(R)-03
AIR BAG CONTROL MODULE
A/B(R)-03
6 5 7 9 10 12
AB17
YG YR Br G L W
12 10 9 7 2 1
AB18
Br G L W YL YB
YG YR
AB19
1 2
AB20
Br G L W
AB23
1 2 3 4
Br G L W
AB28
1 2 3 4
YL YB
AB24
2 1
AB25
INFLATOR (SIDE LH)
SIDE AIR BAG SENSOR LH
SIDE AIR BAG SENSOR RH
INFLATOR (SIDE RH)


AB19
AB24
1 2
AB23
AB28
1 2 3 4
AB17 (YELLOW)
1 2 3 4 5 6
7 8 9 10 11 12
AB18 (YELLOW)
1 2 3 4 5 6
7 8 9 10 11 12

SR86-20C

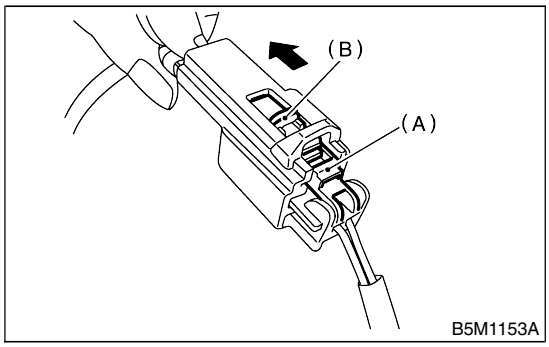
6. Airbag Connector S002659

A: OPERATION S002659A16

1. DRIVER'S AIRBAG, PASSENGER'S AIRBAG, SIDE AIRBAG S002659A1607

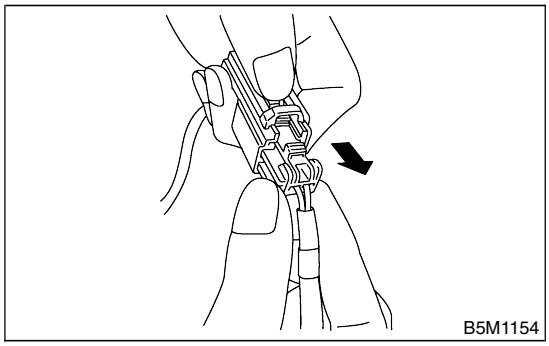
- **How to disconnect:**

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



3) With slide lock (B) pulled, remove lock arm (A) to its original position, and then pull in the direction of the arrow and separate the connector.

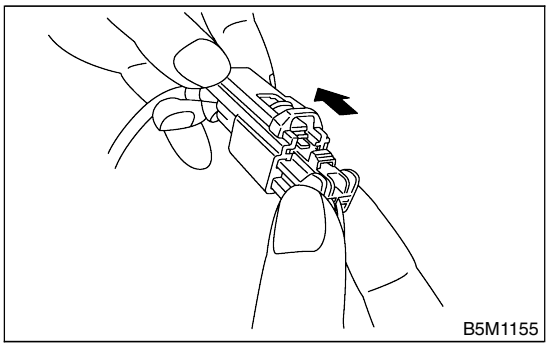
CAUTION:
When pulling, be sure to hold onto the connector and not the wire.



- **How to connect:**

Holding the connector, and push it in carefully until a connecting sound is heard.

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

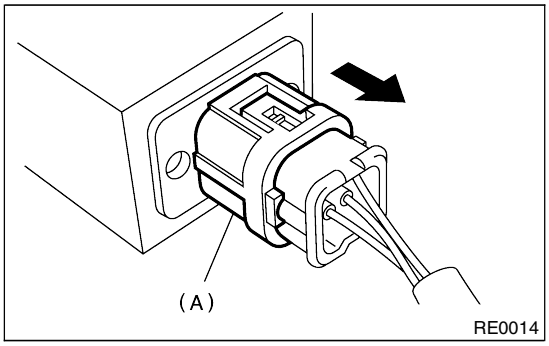


2. FRONT SUB-SENSOR, SIDE AIRBAG SENSOR S002659A1603

- **How to disconnect:**

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

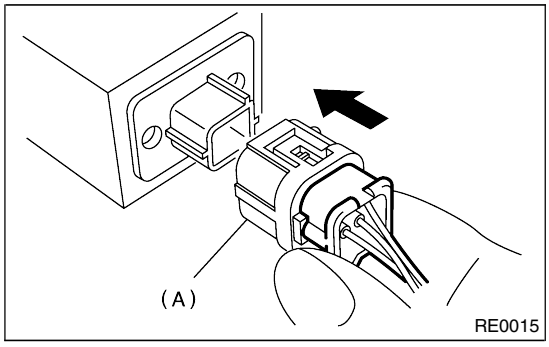
CAUTION:
When pulling, be sure to hold onto the connector and not the wire.



● How to connect:

Holding the connector, and push it in carefully until a connecting sound is heard.

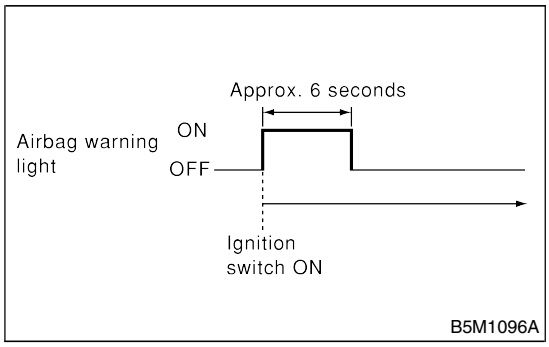
CAUTION:
● Outer (A) moves back, and so do not put your hand on the outer part.
● Be sure to insert the connector in until it locks. Then pull on it gently to make sure that it is locked.



7. Airbag Warning Light Illumination Pattern S002629

A: INSPECTION S002629A10

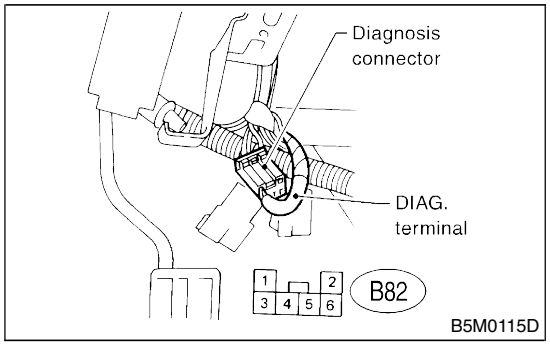
Keep the ignition switch ON, and confirm that the airbag warning light remains off approximately 6 seconds after being turned on.



8. Read Diagnostic Trouble Code S002508

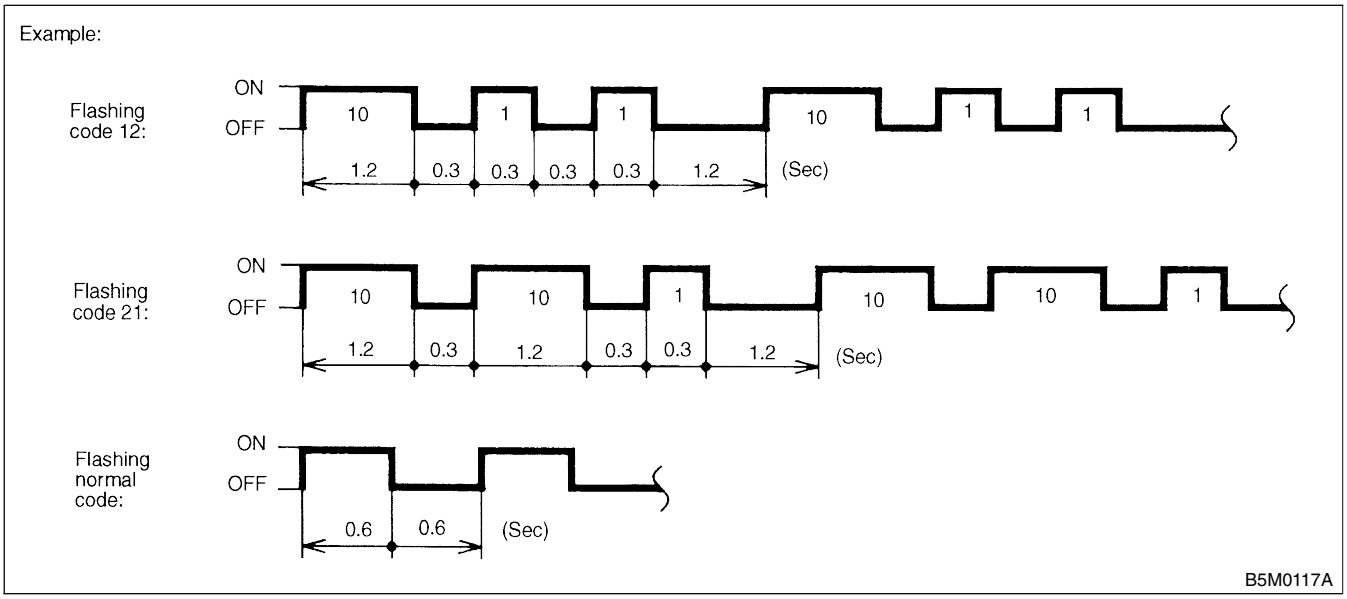
A: OPERATION S002508A16

1) Turn the ignition switch ON.
2) Connect the diagnosis terminal to diagnosis connector terminal No. 1 in the driver's seat lower cover area.



3) Read trouble code by identifying the way the air bag warning light flashes.
The airbag warning light flashes a code corresponding to the faulty parts.
The long segment (1.2 sec on) indicates a "ten", and the short segment (0.3 sec on) indicates a "one".

NOTE:
- "List of Diagnostic Trouble Code" <Ref. to AB-36 List of Diagnostic Trouble Code.>
- "Airbag Warning Light Failure" <Ref. to AB-30 Airbag Warning Light Failure.>



4) Turn the ignition switch OFF, and disconnect the diagnosis terminal from the diagnosis connector terminal No 1.
5) Wind tape around the diagnosis terminal and return it to its original position.

9. Inspection Mode S002510

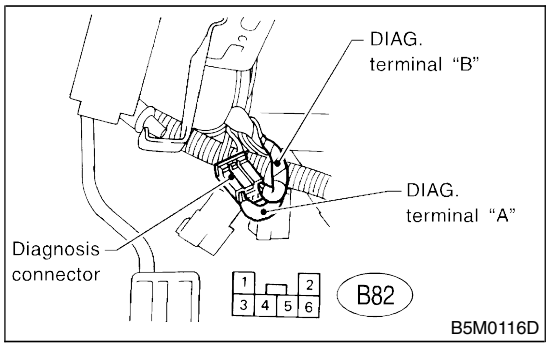
A: OPERATION S002510A16

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

10. Clear Memory Mode S002513

A: OPERATION S002513A16

1) Turn the ignition switch ON.
2) Connect the diagnosis terminal “A” to diagnosis connector terminal No. 1 in the driver’s seat lower cover area.



3) While the warning light flashes, connect another diagnosis terminal “B” to diagnosis connector terminal No.2.
4) Once the memory is erased, the warning light returns to the normal flash rate (0.6 sec on). The failure to recover the normal flash rate indicates that trouble parts still remain. Having repaired such parts, erase the memory again and confirm that the normal flash rate has returned.
5) When the memory has been cleared, disconnect the diagnosis terminal from the diagnosis connector.
6) Wind tape around the diagnosis terminal and return it to its original position.

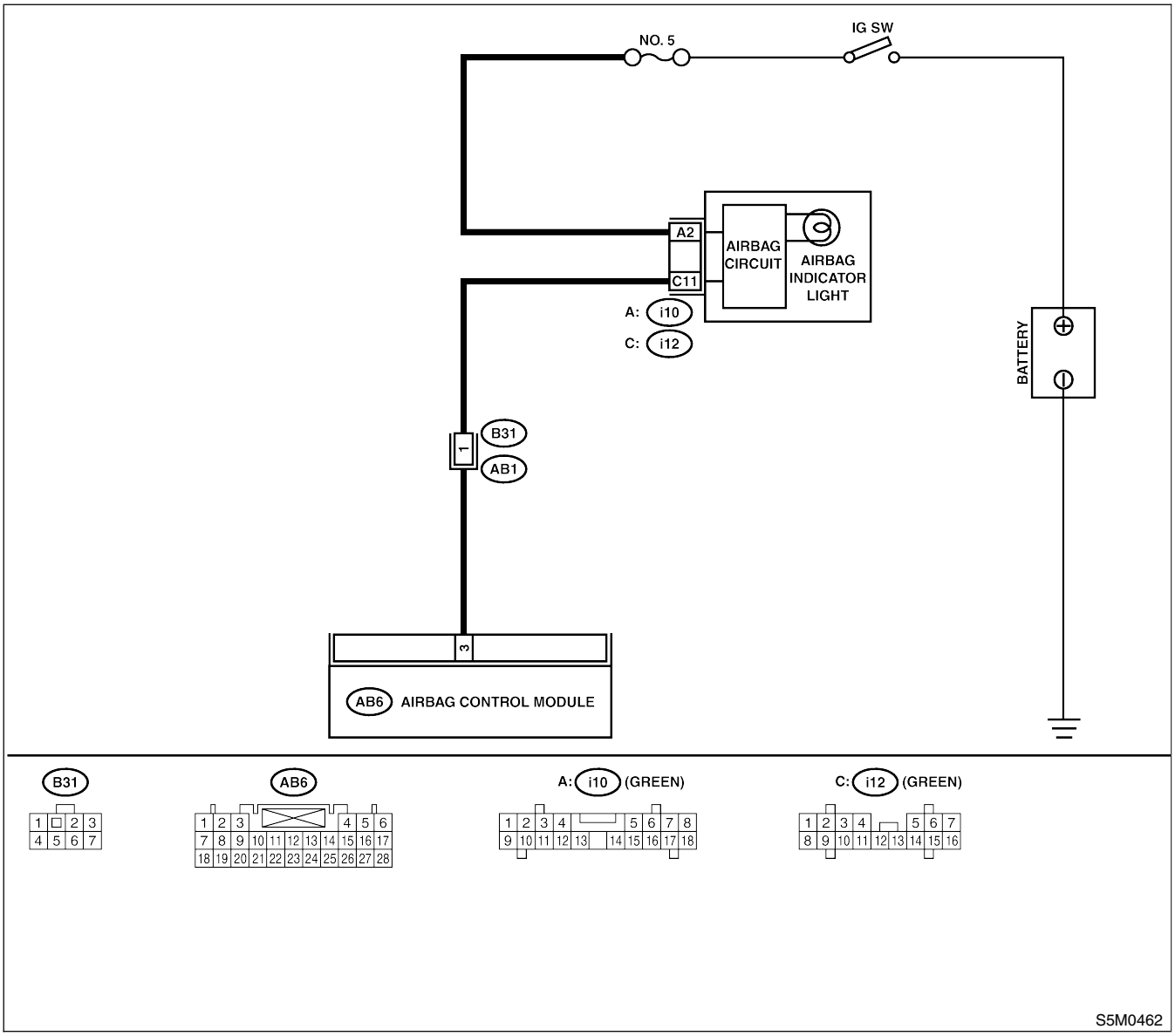
11. Airbag Warning Light Failure S002681

A: AIRBAG WARNING LIGHT REMAINS ON. S002681E28

DIAGNOSIS:
- Airbag warning light unit 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 the battery, and wait more than 20 seconds before starting to work.**
- **Before replacing the airbag module, roll connector, control module, and sensor, reconnect each part and confirm that the warning light operates properly.**
- **When inspecting the airbag main harness, disconnect the airbag module connector of the driver and passenger seats for safety reasons.**

WIRING DIAGRAM:



No.	Step	Check	Yes	No
1	**CHECK POOR CONTACT IN CONNECTORS (AB1) AND (B31).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove front pillar lower trim. (Driver's side) 3) Confirm that firm contact is secured between connectors (AB1) and (B31).	Is the poor contact in double lock of connectors (AB1) and (B31)?	Repair the body harness or replace airbag main harness.<Ref. to AB-16 Main Harness.>	Go to step **2**.

AIRBAG WARNING LIGHT FAILURE

No.	Step	Check	Yes	No
2	**CHECK AIRBAG WARNING LIGHT.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Connect the connector (1A) in test harness A to the body harness connector (B31). 3) Connect the battery ground cable and turn the ignition switch ON. 4) Connect two connectors, (3A) and (4A) in test harness A.	Is the airbag warning light turned off?	Go to step **4**.	Go to step **3**.
3	**CHECK BODY HARNESS.** Check the body harness. NOTE: After problem has been eliminated, disconnect connectors (3A) and (4A).	Is the anything unusual to body harness?	Repair the body harness.	Replace combination meter printed circuit. <Ref. to IDI-15 Combination Meter Assembly.>
4	**CHECK POOR CONTACT.** Confirm that firm contact is secured between the airbag control module and the connector (AB6). <Ref. to AB-18 Airbag Control Module.>	Is the poor contact in connector (AB6)?	Replace airbag main harness. <Ref. to AB-16 Main Harness.> or Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Go to step **5**.
5	**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 connectors (AB3) and (AB8). 4) Remove glove box and disconnect connectors (AB10) and (AB9). 5) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1I) in test harness I or I2. <Ref. to AB-18 Airbag Control Module.> 6) Connect the battery ground cable and turn the ignition switch ON. 7) Connect connectors (4I) and (5I) in test harness I or I2. NOTE: After problem has been eliminated, disconnect connectors (4I) and (5I).	Is the airbag warning light turned off?	Go to step **6**.	Replace airbag main harness. <Ref. to AB-16 Main Harness.>
6	**CHECK GROUNDING CIRCUIT.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB1) from the body harness connector (B31). 3) Connect the connector (1A) in test harness A to body harness connector (B31). 4) Measure the resistance between connector (5A) in test harness A and the chassis ground. ***Connector & terminal*** ***(5A) No. 17 — Chassis ground:*** ***(5A) No. 18 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **7**.	Repair body-grounding circuit.

No.	Step	Check	Yes	No
7	**CHECK AIRBAG MAIN HARNESS.** 1) Connect the connector (AB1) to (B31). 2) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1I) in test harness I or I2. <Ref. to AB-18 Airbag Control Module.> 3) Measure the resistance between connector (2I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(2I) No. 9 — Chassis ground:*** ***(2I) No. 10 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace airbag main harness. <Ref. to AB-16 Main Harness.>

B: AIRBAG WARNING LIGHT REMAINS OFF. S002681E27

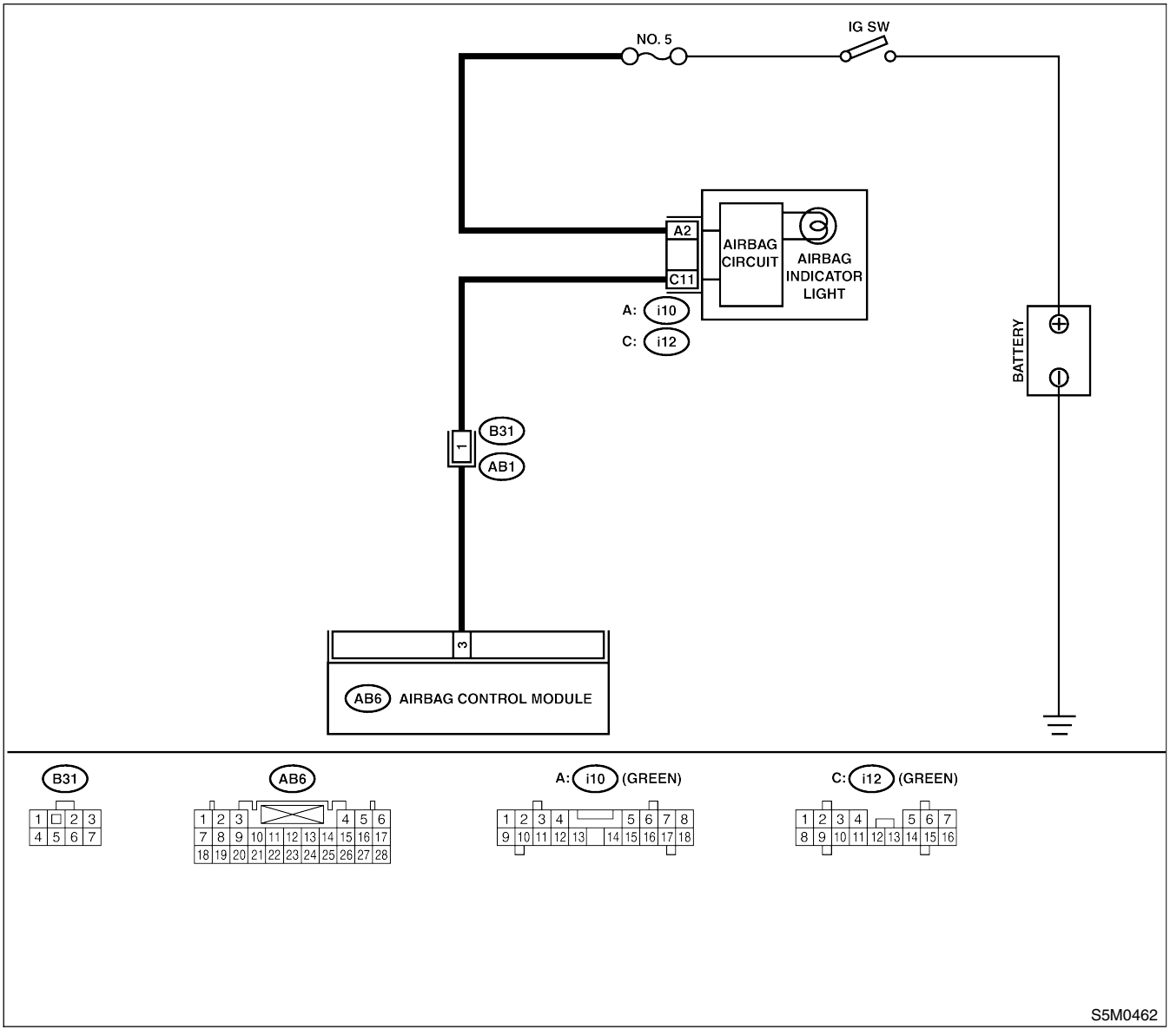
DIAGNOSIS:

- 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 the battery, and wait more than 20 seconds before starting to work.
• Before replacing the airbag module, roll connector, control module, and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connector of the driver and passenger seats for safety reasons.

WIRING DIAGRAM:



AIRBAG WARNING LIGHT FAILURE

No.	Step	Check	Yes	No
1	**CHECK COMBINATION METER.** Turn the ignition switch ON, and confirm that warning lights equipped in the combination meter are turned on.	Do warning lights not for the airbag turn on?	Go to step **2**.	Repair combination meter power supply. <Ref. to IDI-4 Combination Meter System.>
2	**CHECK FUSE NO. 5 (IN MAIN FUSE BOX).** Remove fuse No. 5 and perform visual inspection.	Is fuse No. 5 (in main fuse box) blown?	Replace fuse No. 5. If fuse No. 5 blows 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 ON.	Is the airbag warning light turned on?	Go to step **4**.	Replace airbag warning light bulb or combination meter printed circuit. <Ref. to IDI-15 Combination Meter Assembly.>
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 the airbag control module. <Ref. to AB-18 Airbag Control Module.> 4) Connect the battery ground cable and turn the ignition switch ON.	Is the airbag warning light turned on?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace airbag main harness. <Ref. to AB-16 Main Harness.>

12. List of Diagnostic Trouble Code S002511

A: LIST S002511A12

Trouble code/ Contents of troubles	Memory function	Contents of diagnosis	Index No.
11	Provided.	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (driver) 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-39 TROUBLE CODE 11, Diagnostic Chart with Trouble Code.>
12	Provided.	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (passenger) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB-43 TROUBLE CODE 12, Diagnostic Chart with Trouble Code.>
15	Provided.	• Airbag main harness circuit (driver) is shorted to power supply. • Airbag module harness (driver) 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-45 TROUBLE CODE 15, Diagnostic Chart with Trouble Code.>
16	Provided.	• Airbag main harness circuit (passenger) is shorted to power supply. • Airbag module harness (passenger) is shorted to power supply. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB-47 TROUBLE CODE 16, Diagnostic Chart with Trouble Code.>
21	Provided.	Airbag control module is faulty.	<Ref. to AB-48 TROUBLE CODE 21, Diagnostic Chart with Trouble Code.>
22	Provided.	Front airbag module is inflated.	<Ref. to AB-49 TROUBLE CODE 22, Diagnostic Chart with Trouble Code.>
23	Not provided.	(AB6), (AB17) and (AB18) are not connected properly to airbag control module.	<Ref. to AB-50 TROUBLE CODE 23, Diagnostic Chart with Trouble Code.>
24	Not provided.	• Airbag control module is faulty. • Airbag main harness circuit is open. • Fuse No. 11 (in joint box) is blown. • Body harness circuit is open.	<Ref. to AB-51 TROUBLE CODE 24, Diagnostic Chart with Trouble Code.>
25	Provided.	• Airbag control module is faulty. • Airbag main harness circuit is open. • Fuse No. 6 (in joint box) is blown. • Body harness circuit is open.	<Ref. to AB-53 TROUBLE CODE 25, Diagnostic Chart with Trouble Code.>
31	Provided.	• 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-55 TROUBLE CODE 31, Diagnostic Chart with Trouble Code.>

Trouble code/ Contents of troubles	Memory function	Contents of diagnosis	Index No.
32	Provided.	• 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-59 TROUBLE CODE 32, Diagnostic Chart with Trouble Code.>
41	Provided.	• Side airbag harness (RH) is faulty. • Side airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB-63 TROUBLE CODE 41, Diagnostic Chart with Trouble Code.>
42	Provided.	• Side airbag harness (LH) is faulty. • Side airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB-65 TROUBLE CODE 42, Diagnostic Chart with Trouble Code.>
45	Provided.	• Side airbag harness (RH) is shorted to power supply. • Airbag control module is faulty.	<Ref. to AB-67 TROUBLE CODE 45, Diagnostic Chart with Trouble Code.>
46	Provided.	• Side airbag harness (LH) is shorted to power supply. • Airbag control module is faulty.	<Ref. to AB-69 TROUBLE CODE 46, Diagnostic Chart with Trouble Code.>
51	Provided.	• Side airbag sensor (RH) is faulty. • Side airbag harness (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB-71 TROUBLE CODE 51, Diagnostic Chart with Trouble Code.>
52	Provided.	• Side airbag sensor (LH) is faulty. • Side airbag harness (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB-73 TROUBLE CODE 52, Diagnostic Chart with Trouble Code.>
53	Provided.	Side airbag sensor (RH) is faulty.	<Ref. to AB-74 TROUBLE CODE 53, Diagnostic Chart with Trouble Code.>
54	Provided.	Side airbag sensor (LH) is faulty.	<Ref. to AB-74 TROUBLE CODE 54, Diagnostic Chart with Trouble Code.>
55	Provided.	Side airbag module is inflated.	<Ref. to AB-74 TROUBLE CODE 55, Diagnostic Chart with Trouble Code.>

MEMO:

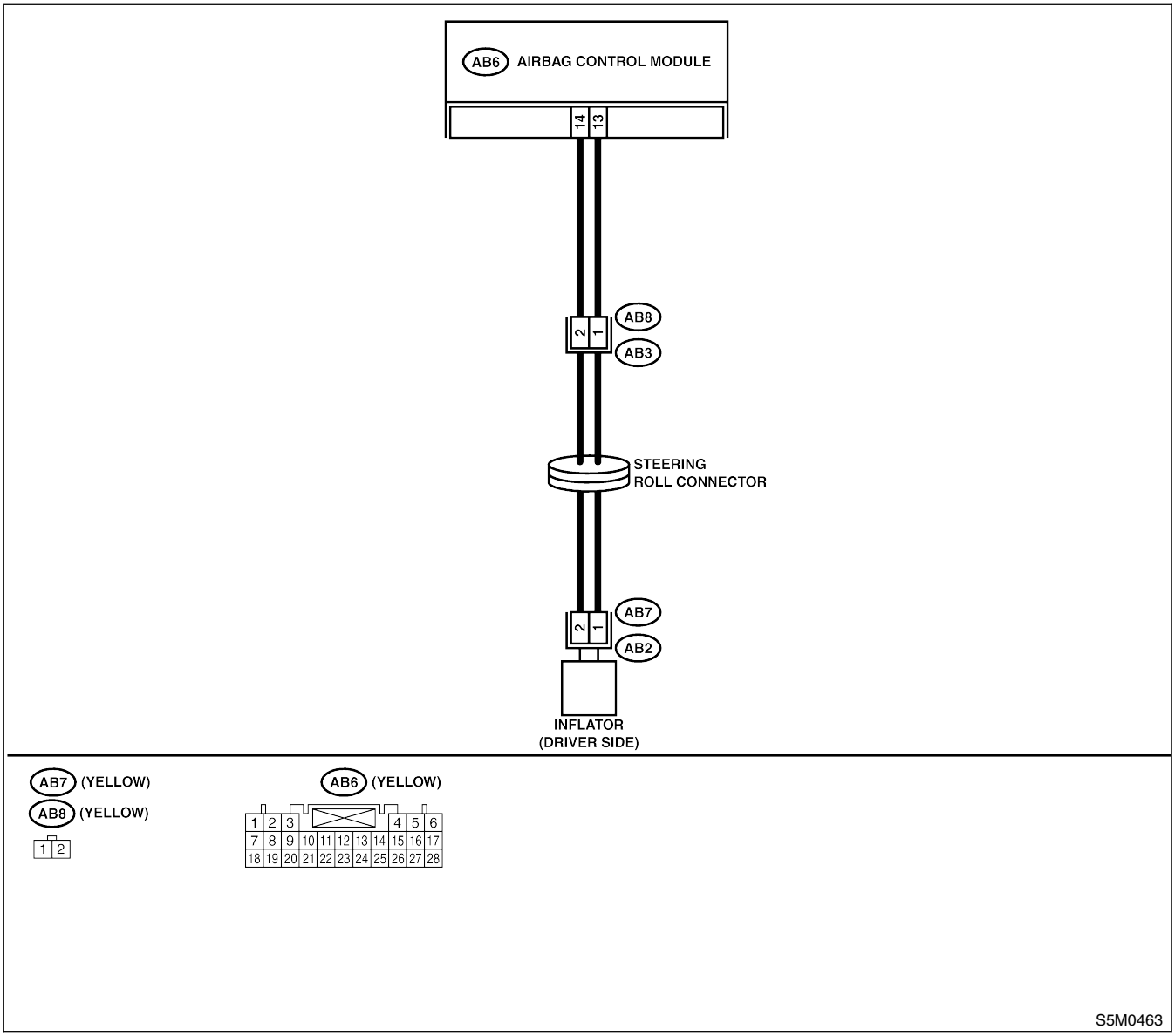
13. Diagnostic Chart with Trouble Code S002630

A: TROUBLE CODE 11 S002630C38

DIAGNOSIS:
- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (Driver) 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 the battery, and wait more than 20 seconds before starting to work.**
- **Before replacing the airbag module, roll controller, control module, and sensor, reconnect each part and confirm that the warning light operates properly.**
- **When inspecting the airbag main harness, disconnect the driver's airbag module and passenger's airbag module connectors for safety reasons.**

WIRING DIAGRAM:



No.	Step	Check	Yes	No
1	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch OFF, disconnect battery ground cable, and wait more than 20 seconds. 2) Remove the driver's airbag module. <Ref. to AB-12 Driver's Airbag Module.> 3) Connect the connector (1F) in test harness F to connector (AB7). 4) Connect airbag resistor to connector (3F) in test harness F. 5) Connect the battery ground cable and turn the ignition switch ON.	Does the airbag warning light operate properly?	Replace the driver's airbag module. <Ref. to AB-12 Driver's Airbag Module.>	Go to step **2**.

No.	Step	Check	Yes	No
2	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 second. 2) Disconnect the test harness from the connector (AB7). 3) Remove the lower cover panel, disconnect the connector (AB3) from (AB8) and connect the connector (1F) in test harness F to connector (AB8). 4) Connect the airbag resistor to connector (3F) in test harness F. 5) Connect the battery ground cable and turn the ignition switch ON.	Does the airbag warning light operate properly?	Replace the roll connector. <Ref. to AB-20 Roll Connector.>	Go to step **3**.
3	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch OFF, disconnect the ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connector (3F) in test harness F. 3) Remove the glove box, <Ref. to AB-14 Passenger's Airbag Module.> and disconnect connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1I) in test harness I or I2. <Ref. to AB-18 Airbag Control Module.> 5) Measure the resistance between connector (2I) in test harness I or I2 and the connector (3F) in test harness F. ***Connector & terminal*** ***(2I) No. 1 — (3F) No. 3:*** ***(2I) No. 4 — (3F) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace airbag main harness. <Ref. to AB-16 Main Harness.>
4	**CHECK AIRBAG MAIN HARNESS.** Measure the resistance of the connector (2I) in test harness I or I2. ***Connector & terminal*** ***(2I) No. 1 — No. 4:*** ***(2I) No. 4 — Chassis ground:*** ***(2I) No. 1 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace airbag main harness. <Ref. to AB-16 Main Harness.>

MEMO:

B: TROUBLE CODE 12 S002630C40

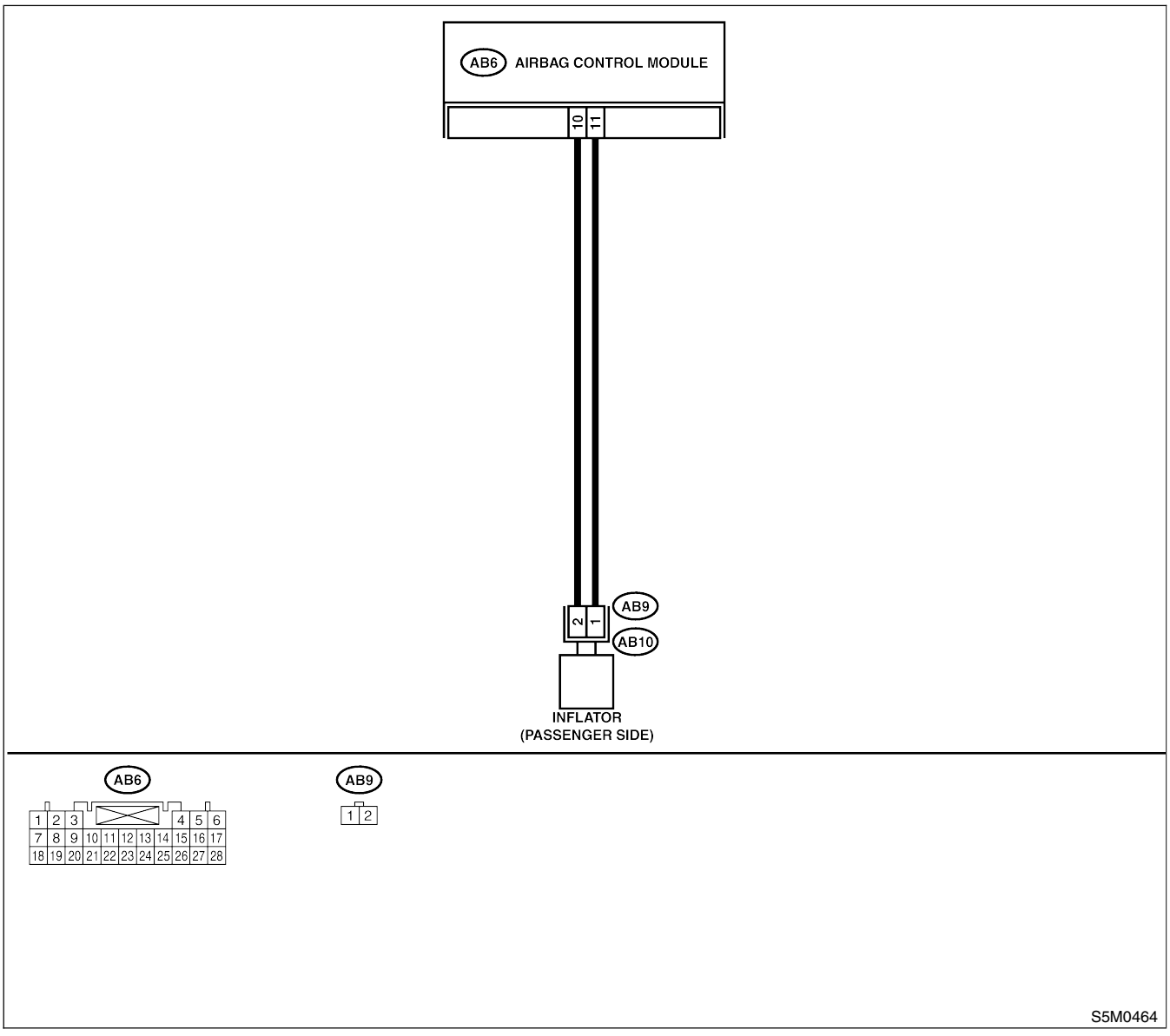
DIAGNOSIS:

- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (Passenger) 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 the battery, and wait more than 20 seconds before starting to work.**
- **Before replacing the airbag module, roll connector, control module, and sensor, reconnect each part and confirm that the warning light operates properly.**
- **When inspecting the airbag main harness, disconnect the airbag module connector of the driver and passenger seats for safety reasons.**

WIRING DIAGRAM:



DIAGNOSTIC CHART WITH TROUBLE CODE

No.	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 glove box. 3) Disconnect the connector (AB10) from (AB9). 4) Connect the connector (1F) in test harness F to connector (AB9). 5) Connect the airbag resistor to connector (3F) in test harness F. 6) Connect the battery ground cable and turn the ignition switch ON.	Does the airbag warning light operate properly?	Replace the passenger airbag module. <Ref. to AB-14 Passenger's Airbag Module.>	Go to step **2**.
2	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connector (3F) in test harness F. 3) Remove lower cover and disconnect the connector (AB3) from (AB8). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1I) in test harness I or I2. <Ref. to AB-18 Airbag Control Module.> 5) Measure the resistance between connector (2I) in test harness I or I2 and the connector (3F) in test harness F. ***Connector & terminal*** ***(2I) No. 2 — (3F) No. 3:*** ***(2I) No. 5 — (3F) No. 4:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace airbag main harness. <Ref. to AB-16 Main Harness.>
3	**CHECK AIRBAG MAIN HARNESS.** Measure the resistance of the connector (2I) in test harness I or I2. ***Connector & terminal*** ***(2I) No. 2 — No. 5:*** ***(2I) No. 2 — Chassis ground:*** ***(2I) No. 5 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace airbag main harness. <Ref. to AB-16 Main Harness.>

C: TROUBLE CODE 15 S002630C41

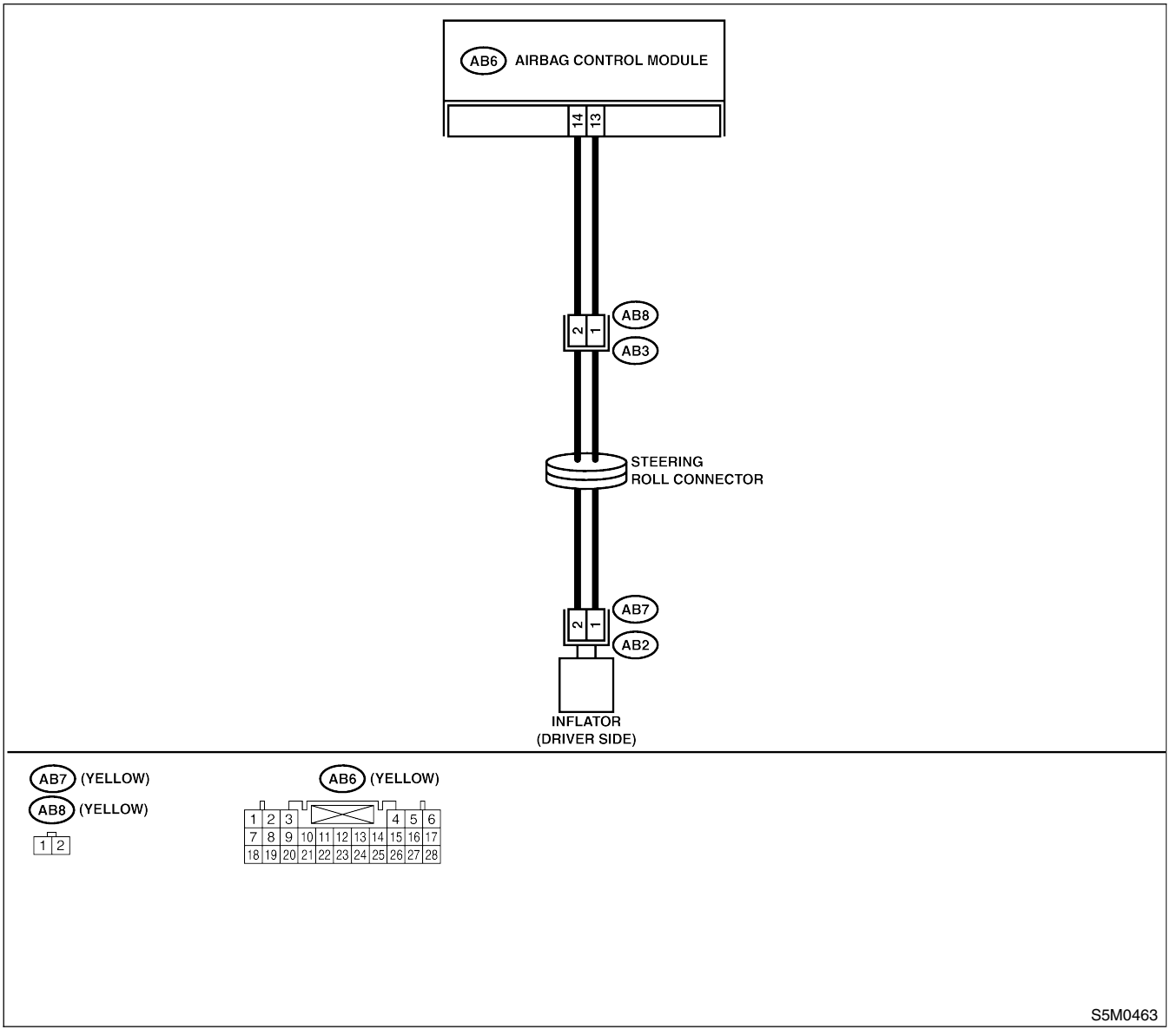
DIAGNOSIS:

- Airbag main harness circuit (Driver) is shorted to the power supply.
- Airbag module harness (Driver) is shorted to the power supply.
- Roll connector is shorted to the 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 the battery, and wait more than 20 seconds before starting to work.**
- **Before replacing the airbag module, roll connector, control module, and sensor, reconnect each part and confirm that the warning light operates properly.**
- **When inspecting the airbag main harness, disconnect the driver's airbag module and passenger's airbag module connectors for safety reasons.**

WIRING DIAGRAM:



DIAGNOSTIC CHART WITH TROUBLE CODE

No.	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. <Ref. to AB-12 Driver's Airbag Module.> 3) Connect the connector (AB7) to connector (1F) in test harness F. 4) Connect the airbag resistor to connector (3F) in test harness F. 5) Connect the battery ground cable and turn the ignition switch ON.	Does the airbag warning light operate properly?	Replace the driver's airbag module. <Ref. to AB-12 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 from the connector (AB7). 3) Remove the lower cover panel and disconnect the connector (AB3) from (AB8). 4) Connect the connector (1F) in test harness F to connector (AB8). 5) Connect the airbag resistor to connector (3F) in test harness F. 6) Connect the battery ground cable and turn the ignition switch ON.	Does the airbag warning light operate properly?	Replace the roll connector. <Ref. to AB-20 Roll Connector.>	Go to step **3**.
3	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connector (3F) in test harness F. 3) Remove the glove box, and disconnect connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1I) in test harness I or I2. <Ref. to AB-18 Airbag Control Module.> 5) Connect the battery ground cable and turn the ignition switch ON. (Engine OFF) 6) Measure the voltage between connector (2I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(2I) No. 4 (+) — Chassis ground (–):*** ***(2I) No. 1 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace airbag main harness. <Ref. to AB-16 Main Harness.>

D: TROUBLE CODE 16 S002630C42

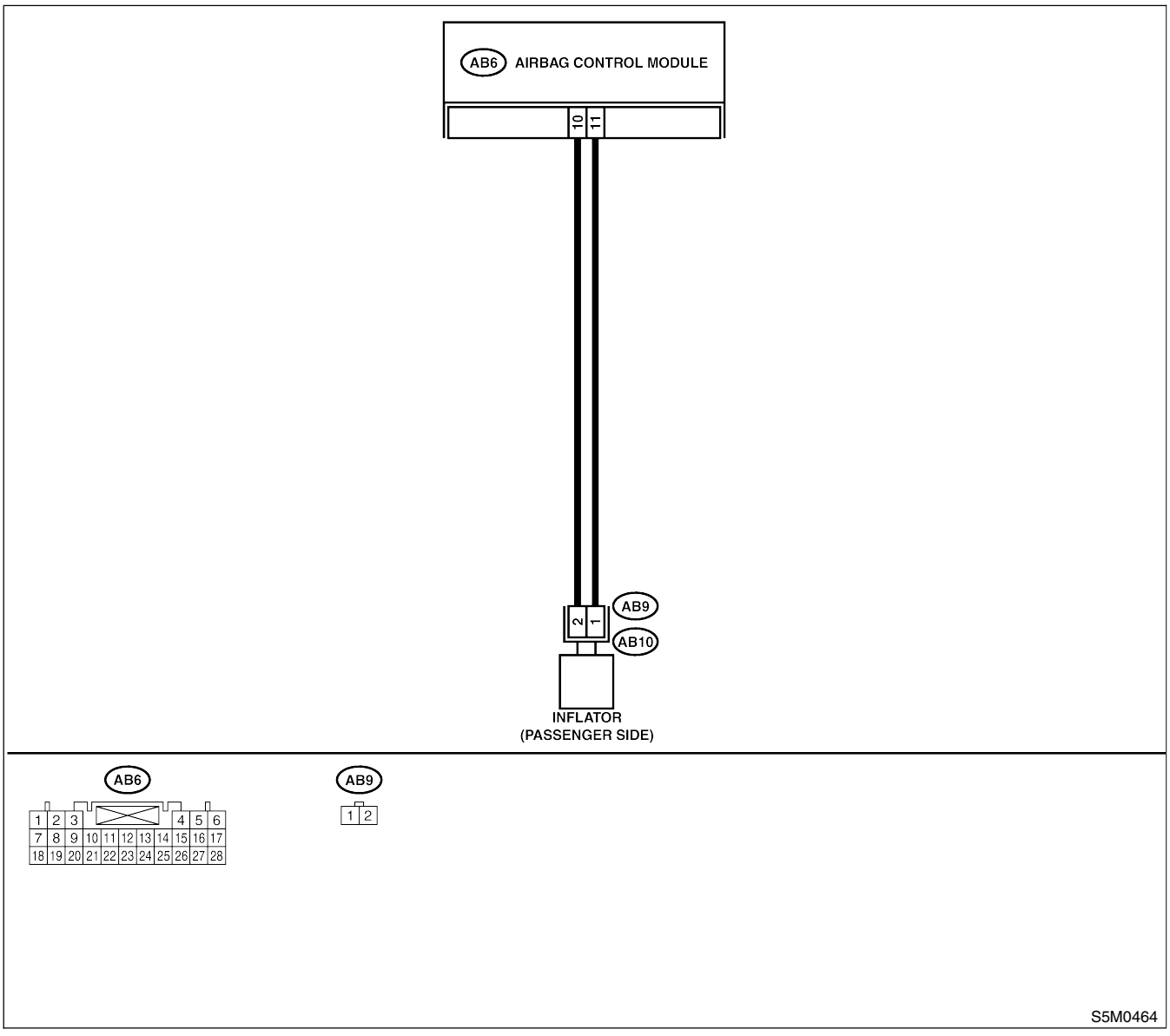
DIAGNOSIS:

- Airbag main harness circuit (Passenger) is shorted to the power supply.
- Airbag module harness (Passenger) is shorted to the 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 the battery, and wait more than 20 seconds before starting to work.**
- **Before replacing the airbag module, roll connector, control module, and sensor, reconnect each part and confirm that the warning light operates properly.**
- **When inspecting the airbag main harness, disconnect the airbag module connector of the driver and passenger seats for safety reasons.**

WIRING DIAGRAM:



No.	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 glove box. 3) Disconnect the connector (AB10) from (AB9) 4) Connect the connector (1F) in test harness F to connector (AB9). 5) Connect the airbag resistor to connector (3F) in test harness F. 6) Connect the battery ground cable and turn the ignition switch ON.	Does the airbag warning light operate properly?	Replace the passenger airbag module. <Ref. to AB-14 Passenger's Airbag Module.>	Go to step **2**.
2	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connector (3F) in test harness F. 3) Remove the lower cover and disconnect the connector (AB3) from (AB8). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1I) in test harness I or I2. <Ref. to AB-18 Airbag Control Module.> 5) Measure the voltage between connector (2I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(2I) No. 2 — Chassis ground:*** ***(2I) No. 5 — Chassis ground:***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace airbag main harness. <Ref. to AB-16 Main Harness.>

E: TROUBLE CODE 21 *S002630C45*

DIAGNOSIS:
- Airbag control module is faulty.

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

No.	Step	Check	Yes	No
1	**CHECK IF TROUBLE CODE 21 IS INDICATED.** Read Diagnostic Trouble Code. <Ref. to AB-27 Read Diagnostics Trouble Code.>	Is airbag warning light trouble code 21 indicated?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Perform clear memory. <Ref. to AB-29 Clear Memory Mode.>

F: TROUBLE CODE 22 S002630C51

This code is indicated when the front airbag is in operation.
Once this code is indicated, memory is not erasable; therefore replace the following parts.
- Airbag control module. <Ref. to AB-18 Airbag Control Module.>
- Driver's airbag module. <Ref. to AB-12 Driver's Airbag Module.>
- Passenger's airbag module. <Ref. to AB-14 Passenger's Airbag Module.>
- Front sub-sensor of both sides. <Ref. to AB-21 Front Sub Sensor.>

G: TROUBLE CODE 23 S002630C56

DIAGNOSIS:
(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 the battery, and wait more than 20 seconds before starting to work.

No.	Step	Check	Yes	No
1	**CHECK POOR CONTACT 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 the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Check if rust or damage appear on the harness connector and the control module connector.	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.> Replace airbag main harness. <Ref. to AB-16 Main Harness.> Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>	Go to step **2**.
2	**CHECK POOR CONTACT IN CONNECTORS (AB6), (AB17) and (AB18).** 1) Ensure that connectors are firmly reconnected. 2) Connect the battery ground cable and turn the ignition switch ON.	Does the airbag warning light operate properly?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>

H: TROUBLE CODE 24 S002630C61

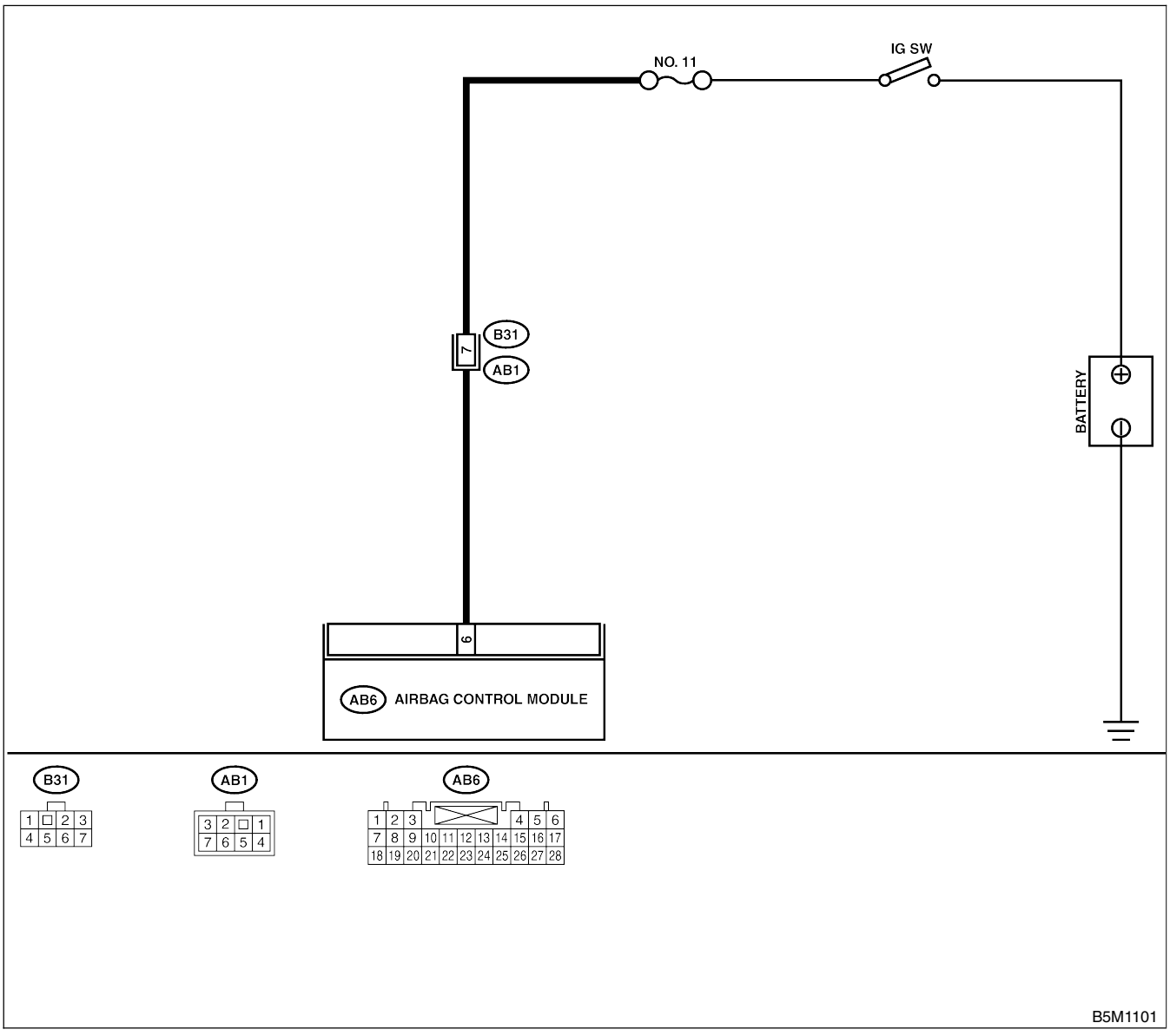
DIAGNOSIS:

- Airbag control module is faulty.
- Airbag main harness circuit is open.
- Fuse No, 11 (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 the battery, and wait more than 20 seconds before starting to work.**
- **Before replacing the airbag module, roll connector, control module, and sensor, reconnect each part and confirm that the warning light operates properly.**
- **When inspecting the airbag main harness, disconnect the driver's airbag module and passenger's airbag module connectors for safety reasons.**

WIRING DIAGRAM:



DIAGNOSTIC CHART WITH TROUBLE CODE

No.	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 the airbag control module. <Ref. to AB-18 Airbag Control Module.> 3) Connect the connector (1I) in test harness I or I2 to connector (AB6). 4) Connect the battery ground cable and turn the ignition switch ON. 5) Measure the voltage between connector (2I) in test harness I or I2 and chassis ground. ***Connector & terminal*** ***(2I) No. 3 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Go to step **2**.
2	**CHECK AIRBAG MAIN HARNESS.** 1) While checking control module, turn the ignition switch OFF and disconnect the battery ground cable. Wait more than 20 seconds before operation. 2) Disconnect the airbag connector (AB1) from the body harness (B31). 3) Connect the connector (2A) in test harness A to connector (AB1). 4) Measure the resistance between connector (5A) in test harness A and the connector (2I) in test harness I or I2. ***Connector & terminal*** ***(5A) No. 9 — (2I) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace airbag main harness. <Ref. to AB-16 Main Harness.>
3	**CHECK AIRBAG MAIN HARNESS.** Measure the following resistance with the above-mentioned condition maintained. ***Connector & terminal*** ***(5A) No. 9 — Chassis ground:*** ***(2I) No. 3 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **4**.	Replace airbag main harness. <Ref. to AB-16 Main Harness.>
4	**CHECK FUSE No. 11 (IN JOINT BOX).** 1) Confirm that the ignition switch is turned OFF. 2) Remove fuse No. 11 (in joint box) and perform visual inspection.	Is fuse No. 11 blown?	Replace fuse No. 11. If fuse No. 11 blows again, repair the body harness.	Repair the body harness.

I: TROUBLE CODE 25 S002630C66

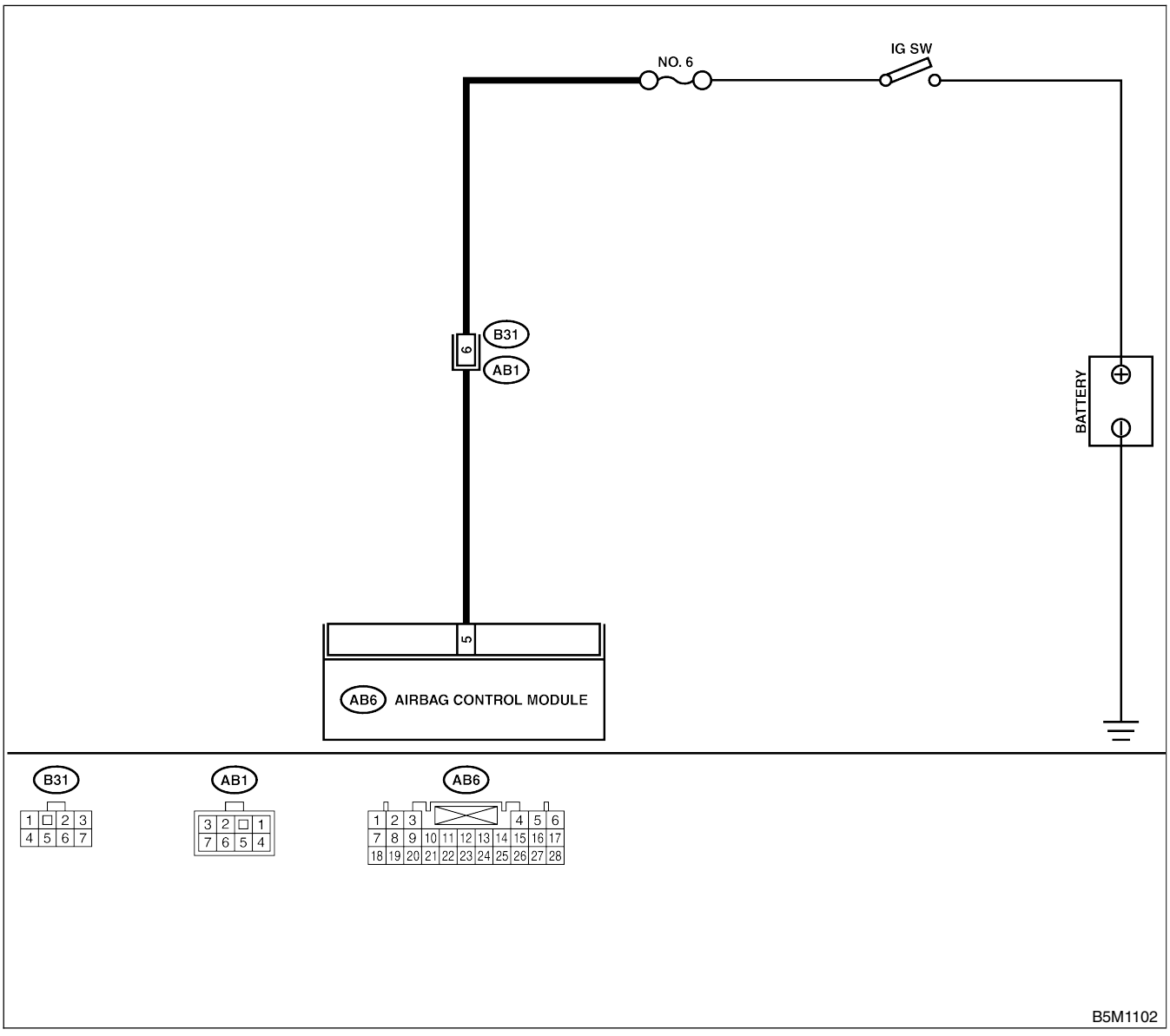
DIAGNOSIS:

- Airbag control module is faulty.
- Airbag main harness circuit is open.
- Fuse No. 6 (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 the battery, and wait more than 20 seconds before starting to work.**
- **Before replacing the airbag module, roll connector, control module, and sensor, reconnect each part and confirm that the warning light operates properly.**
- **When inspecting the airbag main harness, disconnect the driver's airbag module and passenger's airbag module connectors for safety reasons.**

WIRING DIAGRAM:



DIAGNOSTIC CHART WITH TROUBLE CODE

No.	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 airbag control module. <Ref. to AB-18 Airbag Control Module.> 3) Connect the connector (1I) in test harness I or I2 to connector (AB6). 4) Connect the battery ground cable, and turn the ignition switch ON. 5) Measure the voltage between the connector (2I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(2I) No. 6 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Go to step **2**.
2	**CHECK AIRBAG MAIN HARNESS.** 1) While checking control module, turn the ignition switch OFF and disconnect the battery ground cable. Wait more than 20 seconds before operation. 2) Disconnect the airbag connector (AB1) from the body harness (B31). 3) Connect the connector (2A) in test harness A to the airbag connector (AB1). 4) Measure the resistance between the connector (5A) in test harness A and the connector (2I) in test harness I or I2. ***Connector & terminal*** ***(5A) No. 1 — (2I) No. 6:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag main harness. <Ref. to AB-16 Main Harness.>
3	**CHECK AIRBAG MAIN HARNESS.** Measure the following resistance with the above-mentioned condition maintained. ***Connector & terminal*** ***(5A) No. 1 — Chassis ground:*** ***(2I) No. 6 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **4**.	Replace the airbag main harness. <Ref. to AB-16 Main Harness.>
4	**CHECK FUSE NO. 6 (IN JOINT BOX).** 1) Confirm that the ignition switch is turned OFF. 2) Remove No. 6 fuse (in joint box) and perform visual inspection.	Is fuse No. 6 blown?	Replace fuse No. 6. If fuse No. 6 is blown again, repair the body harness.	Repair the body harness.

J: TROUBLE CODE 31 S002630C89

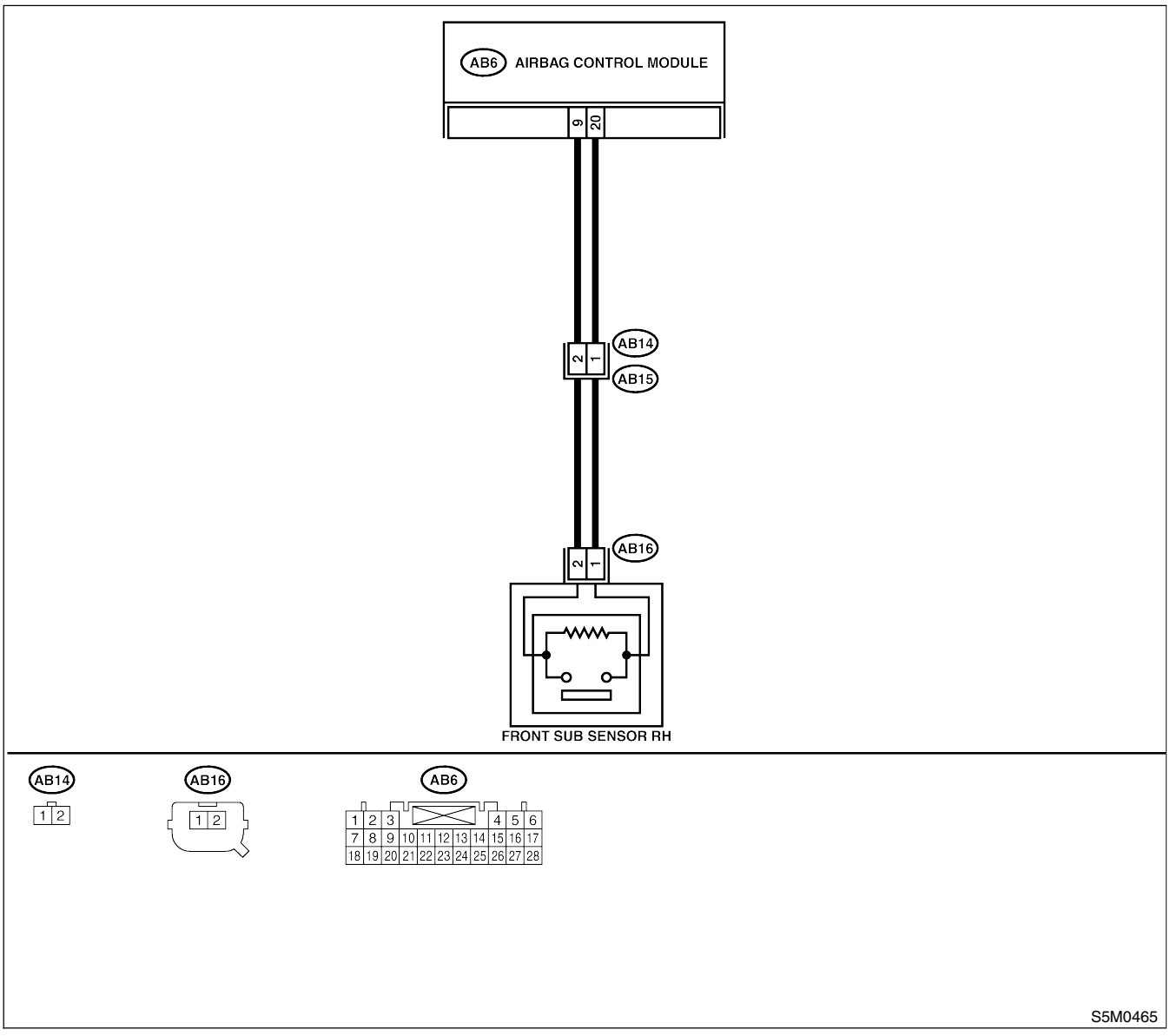
DIAGNOSIS:

- 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 the battery, and wait more than 20 seconds before starting to work.**
- **Before replacing the airbag module, roll connector, control module, and sensor, reconnect each part and confirm that the warning light operates properly.**
- **When inspecting the airbag main harness, disconnect the driver's airbag module and passenger's airbag module connectors for safety reasons.**

WIRING DIAGRAM:



DIAGNOSTIC CHART WITH TROUBLE CODE

No.	Step	Check	Yes	No
1	**CHECK FRONT SUB-SENSOR (RH) AND FRONT SUB-SENSOR HARNESS (RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB6) from the airbag control module , and connect the connector (1I) in test harness I or I2. <Ref. to AB-18 Airbag Control Module.> 3) Measure the resistance of the connector (3I) in test harness I or I2. ***Connector & terminal*** ***(3I) No. 2 — No. 4:***	Is the resistance between 750Ω and 1 KΩ?	Go to step **2**.	Go to step **3**.
2	**CHECK FRONT SUB-SENSOR (RH) AND FRONT SUB-SENSOR HARNESS (RH).** Measure the resistance between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 2 — Chassis ground:*** ***(3I) No. 4 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Go to step **3**.
3	**CHECK AIRBAG MAIN HARNESS AND FRONT SUB-SENSOR HARNESS (RH).** 1) Disconnect connector (AB16) from the front sub-sensor. <Ref. to AB-21 Front Sub Sensor.> 2) Connect connector (1H) in test harness H to connector (AB16). 3) Measure the resistance between connector (3I) in test harness I or I2 and connector (3H) in test harness H. ***Connector & terminal*** ***(3I) No. 2 — (3H) No. 5:*** ***(3I) No. 4 — (3H) No. 6:***	Is the resistance less than 10Ω?	Go to step **4**.	Go to step **5**.
4	**CHECK AIRBAG MAIN HARNESS AND FRONT SUB-SENSOR HARNESS (RH).** Measure the resistance between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 2 — Chassis ground:*** ***(3I) No. 4 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **9**.	Go to step **5**.
5	**CHECK AIRBAG MAIN HARNESS** 1) Remove the instrument panel. <Ref. to EI-31 Instrument Panel Assembly.> 2) Disconnect connector (AB15) from (AB14), and connect connector (1F) in test harness F to connector (AB14). 3) Measure the resistance between connector (3I) in test harness I or I2 and connector (3F) in test harness F. ***Connector & terminal*** ***(3I) No. 2 — (3F) No. 3:*** ***(3I) No. 4 — (3F) No. 4:***	Is the resistance less than 10 Ω?	Go to step **6**.	Replace airbag main harness. <Ref. to AB-16 Main Harness.>

No.	Step	Check	Yes	No
6	**CHECK AIRBAG MAIN HARNESS** Measure the resistance between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 2 — Chassis ground:*** ***(3I) No. 4 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **7**.	Replace airbag main harness. <Ref. to AB-16 Main Harness.>
7	**CHECK FRONT SUB-SENSOR HARNESS (RH).** 1) Connect connector (2F) in test harness F to the connector (AB15). 2) Measure the resistance between connector (3H) in test harness H and connector (3F) in the test harness F. ***Connector & terminal*** ***(3F) No. 6 — (3H) No. 5:*** ***(3F) No. 5 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **8**.	Replace the front sub-sensor harness (RH) <Ref. to AB-22 Front Sub Sensor Harness.>
8	**CHECK FRONT SUB-SENSOR HARNESS (RH).** Measure the resistance between connector (3H) in test harness H and connector (3F) in test harness F. ***Connector & terminal*** ***(3F) No. 6 — (3H) No. 6:*** ***(3F) No. 5 — (3H) No. 5:***	Is the resistance more than 1 MΩ?	Go to step **9**.	Replace the front sub-sensor harness (RH). <Ref. to AB-22, Front Sub Sensor Harness.>
9	**CHECK FRONT SUB-SENSOR HARNESS (RH).** Measure the resistance between connector (3F) in test harness F and the chassis ground. ***Connector & terminal*** ***(3F) No. 6 — Chassis ground:*** ***(3F) No. 5 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **10**.	Replace the front sub-sensor harness (RH) <Ref. to AB-22 Front Sub Sensor Harness.>
10	**CHECK FRONT SUB-SENSOR (RH).** 1) Connect connector (2H) in test harness H to front sub-sensor (RH). 2) Measure the resistance of the connector (3H) in test harness H. ***Connector & terminal*** ***(3H) No. 3 — No. 4:***	Is the resistance between 750Ω and 1 KΩ?	Go to step **11**.	Replace the front sub-sensor (RH) <Ref. to AB-21 Front Sub Sensor.>
11	**CHECK FRONT SUB-SENSOR (RH).** Measure the resistance between connector (3H) in test harness H and the chassis ground. ***Connector & terminal*** ***(3H) No. 3 — Chassis ground:*** ***(3H) No. 4 — Chassis ground:***	Is the resistance more than 1 MΩ?	Finish the diagnosis.	Replace the front sub-sensor (RH) <Ref. to AB-21 Front Sub Sensor.>

MEMO:

K: TROUBLE CODE 32 S002630C95

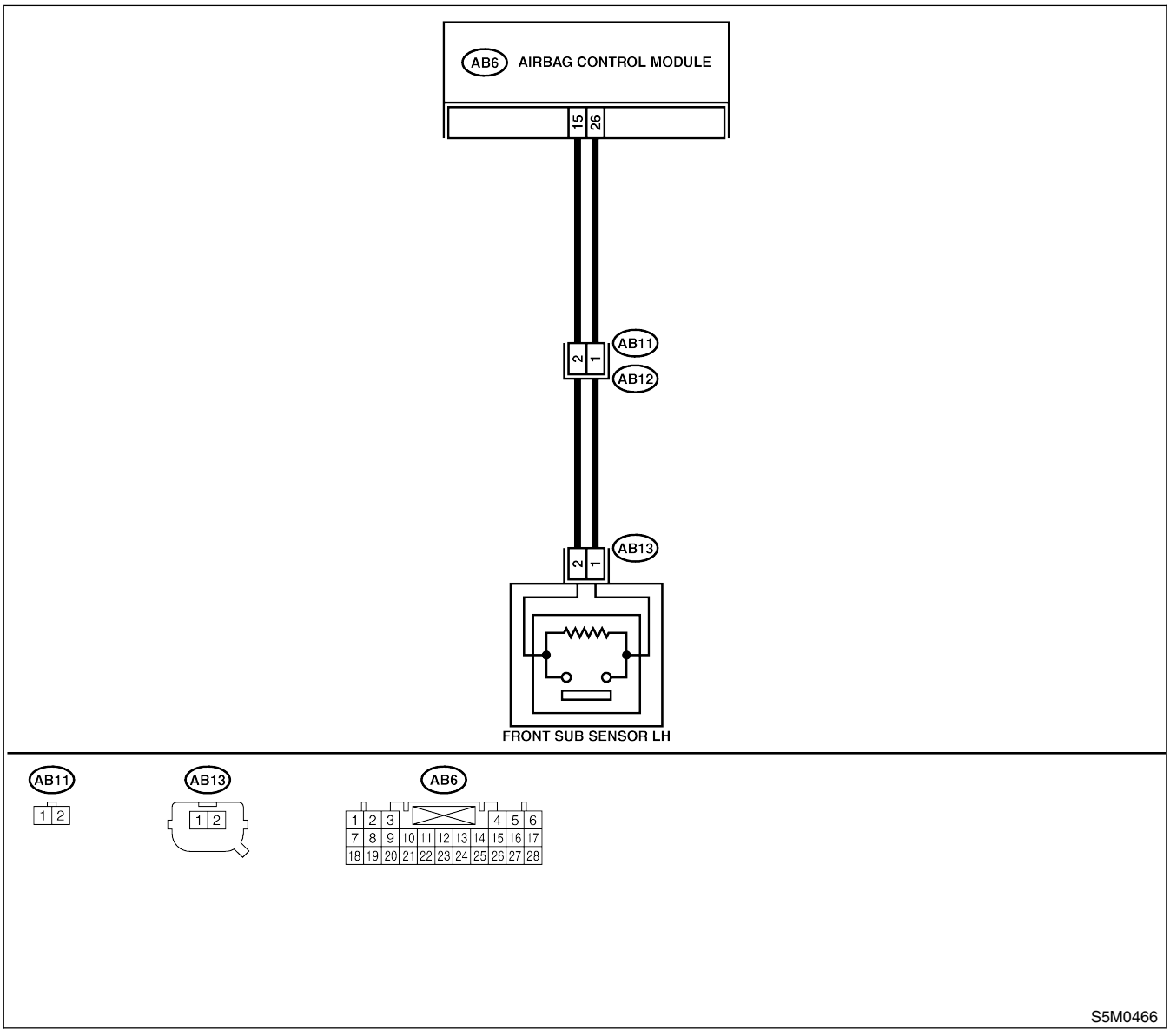
DIAGNOSIS:

- 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 the battery, and wait more than 20 seconds before starting to work.**
- **Before replacing the airbag module, roll connector, control module, and sensor, reconnect each part and confirm that the warning light operates properly.**
- **When inspecting the airbag main harness, disconnect the driver's airbag module and passenger's airbag module connectors for safety reasons.**

WIRING DIAGRAM:



DIAGNOSTIC CHART WITH TROUBLE CODE

No.	Step	Check	Yes	No
1	**CHECK FRONT SUB-SENSOR (LH) AND FRONT SUB-SENSOR HARNESS (RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect connector (AB6) from the air-bag control module, and connect connector (1I) in the test harness I or I2 to connector (AB6). <Ref. to AB-18 Airbag Control Module.> 3) Measure the resistance of the connector (3I) in the test harness I or I2. ***Connector & terminal*** ***(3I) No. 1 — No. 3:***	Is the resistance between 750Ω and 1 KΩ?	Go to step **2**.	Go to step **3**.
2	**CHECK FRONT SUB-SENSOR (LH) AND FRONT SUB-SENSOR HARNESS (RH).** Measure the resistance between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 1 — Chassis ground:*** ***(3I) No. 3 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the air-bag control module. <Ref. to AB-18 Airbag Control Module.>	Go to step **3**.
3	**CHECK AIRBAG MAIN HARNESS AND FRONT SUB-SENSOR HARNESS (LH).** 1) Disconnect the connector (AB13) from the front sub-sensor. <Ref. to AB-21 Front Sub Sensor.> 2) Connect connector (1H) in test harness H to connector (AB13). 3) Measure the resistance between connector (3I) in test harness I or I2 and connector (3H) in test harness H. ***Connector & terminal*** ***(3I) No. 3 — (3H) No. 5:*** ***(3I) No. 1 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **4**.	Go to step **5**.
4	**CHECK AIRBAG MAIN HARNESS AND FRONT SUB-SENSOR HARNESS (LH).** Measure the resistance between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 3 — Chassis ground:*** ***(3I) No. 1 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **9**.	Go to step **5**.
5	**CHECK AIRBAG MAIN HARNESS.** 1) Remove the instrument panel. <Ref. to EI-31 Instrument Panel Assembly.> 2) Disconnect connector (AB11) from (AB12), and connect connector (1F) in test harness F to (AB11). 3) Measure the resistance between connector (3I) in test harness I or I2 and connector (3F) in test harness F. ***Connector & terminal*** ***(3I) No. 3 — (3F) No. 3:*** ***(3I) No. 1 — (3F) No. 4:***	Is the resistance less than 10 Ω?	Go to step **6**.	Replace the air-bag main harness. <Ref. to AB-16 Main Harness.>

No.	Step	Check	Yes	No
6	**CHECK AIRBAG MAIN HARNESS.** Measure the resistance between connector (3I) in the test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 3 — Chassis ground:*** ***(3I) No. 1 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **7**.	Replace the air-bag main harness. <Ref. to AB-16 Main Harness.>
7	**CHECK FRONT SUB-SENSOR HARNESS (LH).** 1) Connect connector (2F) in test harness F to connector (AB12). 2) Measure the resistance between connector (3H) in test harness H and connector (3F) in test harness F. ***Connector & terminal*** ***(3F) No. 6 — (3H) No. 5:*** ***(3F) No. 5 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **8**.	Replace the front sub-sensor harness (LH). <Ref. to AB-22 Front Sub Sensor Harness.>
8	**CHECK FRONT SUB-SENSOR HARNESS (LH).** Measure the resistance between connector (3H) in test harness H and connector (3F) in test harness F. ***Connector & terminal*** ***(3F) No. 6 — (3H) No. 6:*** ***(3F) No. 5 — (3H) No. 5:***	Is the resistance more than 1 MΩ?	Go to step **9**.	Replace the front sub-sensor harness (LH). <Ref. to AB-22, Front Sub Sensor Harness.>
9	**CHECK FRONT SUB-SENSOR HARNESS (LH).** Measure the resistance between connector (3F) in test harness F and the chassis ground. ***Connector & terminal*** ***(3F) No. 6 — Chassis ground:*** ***(3F) No. 5 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **10**.	Replace the front sub-sensor harness (LH). <Ref. to AB-22 Front Sub Sensor Harness.>
10	**CHECK FRONT SUB-SENSOR (LH).** 1) Connect connector (2H) in test harness H to front sub-sensor (LH). 2) Measure the resistance of the connector (3H) in test harness H. ***Connector & terminal*** ***(3H) No. 3 — No. 4:***	Is the resistance between 750Ω and 1 KΩ?	Go to step **11**.	Replace the front sub-sensor (LH). <Ref. to AB-21 Front Sub Sensor.>
11	**CHECK FRONT SUB-SENSOR (LH).** Measure the resistance between connector (3H) in test harness H and the chassis ground. ***Connector & terminal*** ***(3H) No. 3 — Chassis ground:*** ***(3H) No. 4 — Chassis ground:***	Is the resistance more than 1 MΩ?	Finish the diagnosis.	Replace the front sub-sensor (LH). <Ref. to AB-21 Front Sub Sensor.>

MEMO:

L: TROUBLE CODE 41 S002630D28

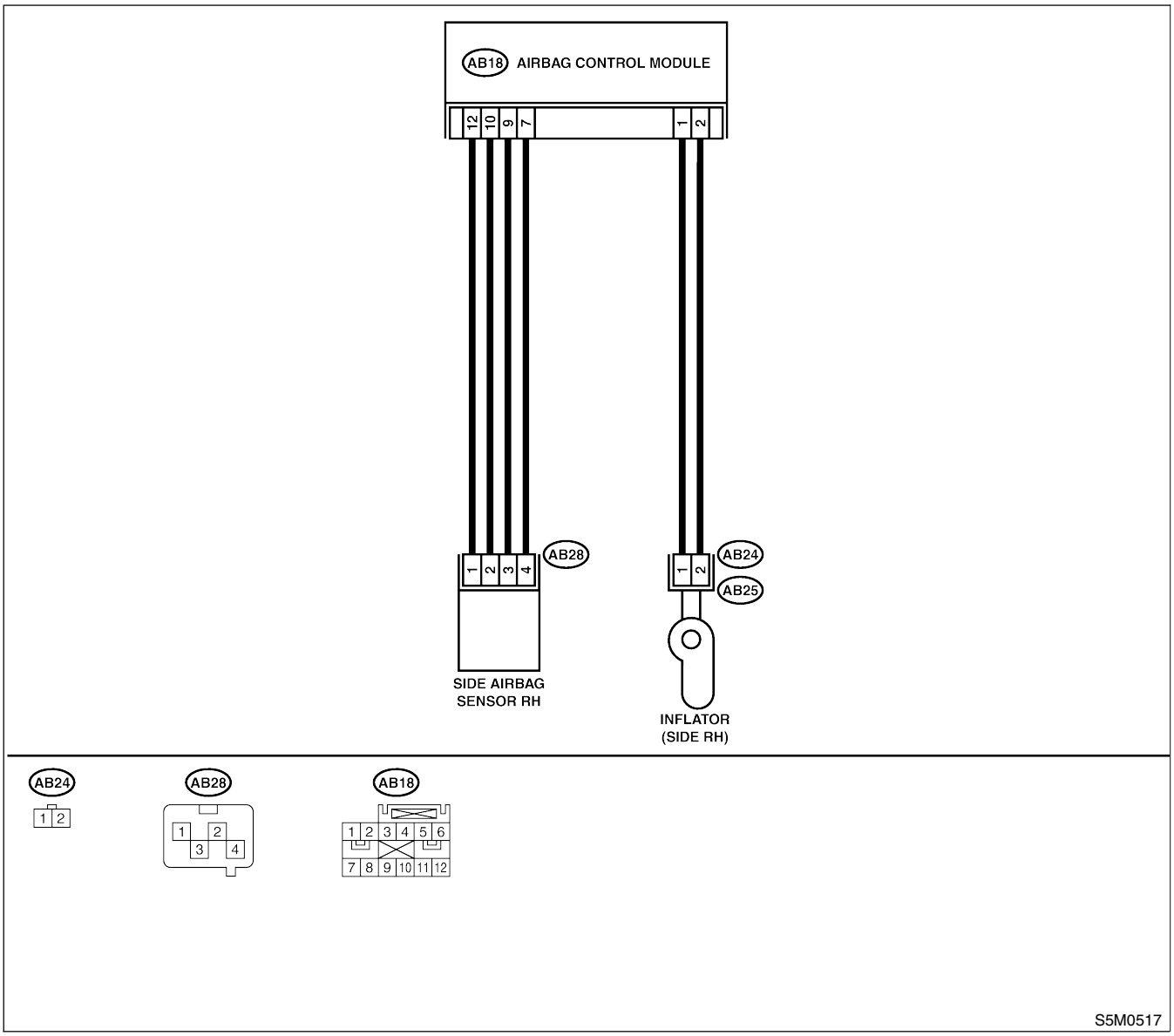
DIAGNOSIS:

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

CAUTION:

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

WIRING DIAGRAM:



DIAGNOSTIC CHART WITH TROUBLE CODE

No.	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 connector (AB25) from (AB24), and connect connector (1F) in test harness F to (AB24). 3) Connect airbag resistor to connector (3F) in test harness F. 4) Connect the battery ground cable, and turn the ignition switch ON.	Does the airbag warning light operate properly?	Replace front seat with side airbag module (RH). <Ref. to SE-5 Front Seat.>	Go to step **2**.
2	**CHECK SIDE AIRBAG HARNESS (RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect airbag resistor from test harness. 3) Disconnect the connector (AB18) from air bag control module. <Ref. to AB-18 Airbag Control Module.> 4) Connect connector (1I) in test harness I or I2 to connector (AB18). 5) Measure the resistance between connector (3I) in test harness I or I2 and connector (3F) in test harness F. ***Connector & terminal*** ***(3I) No. 7 — (3F) No. 3:*** ***(3I) No. 9 — (3F) No. 4:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>
3	**CHECK SIDE AIRBAG HARNESS (RH).** Measure the resistance of the connector (3I) in test harness I or I2. ***Connector & terminal*** ***(3I) No. 7 — No. 9:***	Is the resistance more than 1 MΩ?	Go to step **4**.	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>
4	**CHECK SIDE AIRBAG HARNESS (RH).** Measure the resistance of the connector (3F) in test harness F. ***Connector & terminal*** ***(3F) No. 3 — No. 4:***	Is the resistance more 1MΩ?	Go to step **5**.	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>
5	**CHECK SIDE AIRBAG HARNESS (RH).** Measure the resistance between connector (3F) in test harness F and the chassis ground. ***Connector & terminal*** ***(3F) No. 3 — Chassis ground:*** ***(3F) No. 4 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **6**.	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>
6	**CHECK SIDE AIRBAG HARNESS (RH).** Measure the resistance between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 7 — Chassis ground:*** ***(3I) No. 9 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>

M: TROUBLE CODE 42 S002630D33

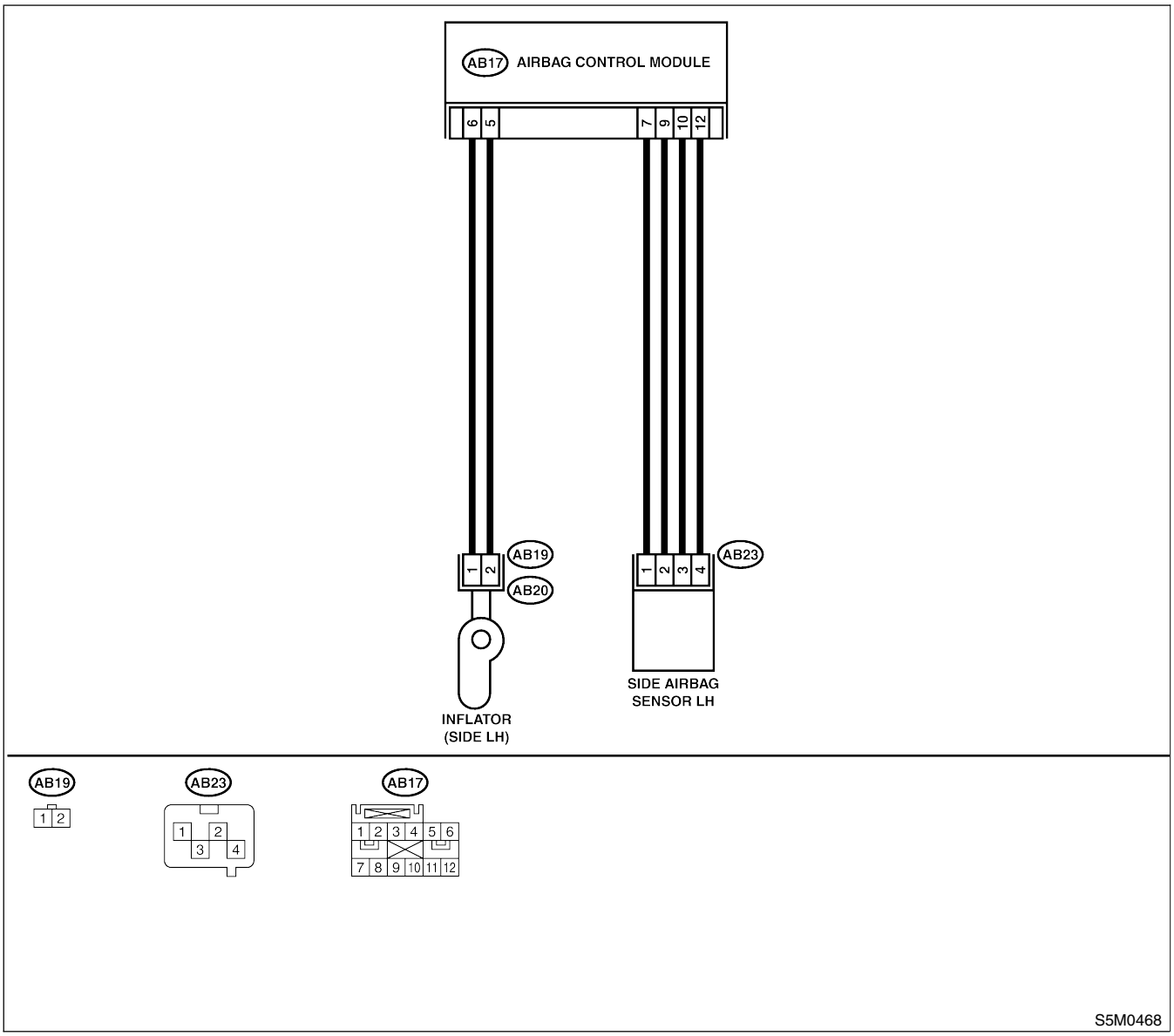
DIAGNOSIS:

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

CAUTION:

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

WIRING DIAGRAM:



DIAGNOSTIC CHART WITH TROUBLE CODE

No.	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 connector (AB20) from (AB19), and connect connector (1F) in test harness F to (AB19). 3) Connect airbag resistor to connector (3F) in test harness F. 4) Connect the battery ground cable, and turn the ignition switch ON.	Does the airbag warning light operate properly?	Replace front seat with side airbag module (LH). <Ref. to SE-5 Front Seat.>	Go to step **2**.
2	**CHECK SIDE AIRBAG HARNESS (LH).** 1) Turn ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect airbag resistor from the test harness. 3) Disconnect the connector (AB17) from the airbag control module. <Ref. to AB-18 Airbag Control Module.> 4) Connect connector (1I) in test harness I or I2 to connector (AB17). 5) Measure the resistance between connector (3I) in test harness I or I2 and connector (3F) in test harness F. ***Connector & terminal*** ***(3I) No. 10 — (3F) No. 4:*** ***(3I) No. 12 — (3F) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>
3	**CHECK SIDE AIRBAG HARNESS (LH).** Measure the resistance of the connector (3I) in test harness I or I2. ***Connector & terminal*** ***(3I) No. 10 — No. 12:***	Is the resistance more than 1 MΩ?	Go to step **4**.	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>
4	**CHECK SIDE AIRBAG HARNESS (LH).** Measure the resistance of the connector (3F) in test harness F. ***Connector & terminal*** ***(3F) No. 3 — No. 4:***	Is the resistance more than 1 MΩ?	Go to step **5**.	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>
5	**CHECK SIDE AIRBAG HARNESS (LH).** Measure the resistance between connector (3F) in test harness F and the chassis ground. ***Connector & terminal*** ***(3F) No. 3 — Chassis ground:*** ***(3F) No. 4 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **6**.	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>
6	**CHECK SIDE AIRBAG HARNESS (LH).** Measure the resistance between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 10 — Chassis ground:*** ***(3I) No. 12 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>

N: TROUBLE CODE 45 S002630D45

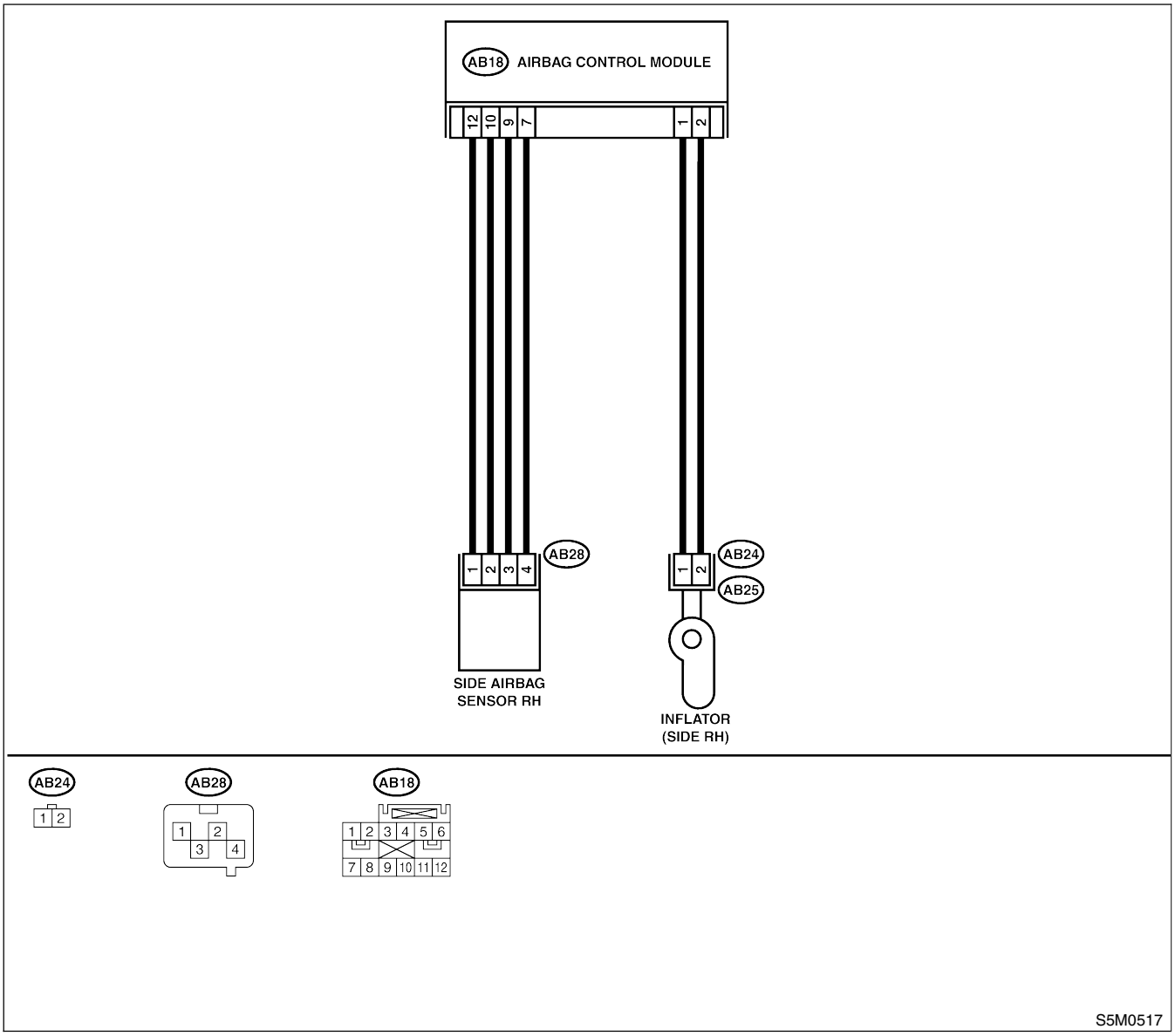
DIAGNOSIS:

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

CAUTION:

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

WIRING DIAGRAM:



DIAGNOSTIC CHART WITH TROUBLE CODE

No.	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 connector (1F) in test harness F to (AB24). 3) Connect airbag resistor to connector (3F) in test harness F. 4) Connect the battery ground cable, and turn the ignition switch ON.	Does airbag warning light operate properly?	Replace front seat with side airbag module (RH). <Ref. to SE-5 Front Seat.>	Go to step **2**.
2	**CHECK SIDE AIRBAG HARNESS (RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect airbag resistor from the test harness. 3) Disconnect the connector (AB18) from the airbag control module. <Ref. to AB-18 Airbag Control Module.> 4) Connect connector (1I) in test harness I or I2 to connector (AB18). 5) Connect the battery ground cable, and turn the ignition switch ON. 6) Measure the voltage between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 7 (+) — Chassis ground (–):*** ***(3I) No. 9 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>

O: TROUBLE CODE 46 S002630D50

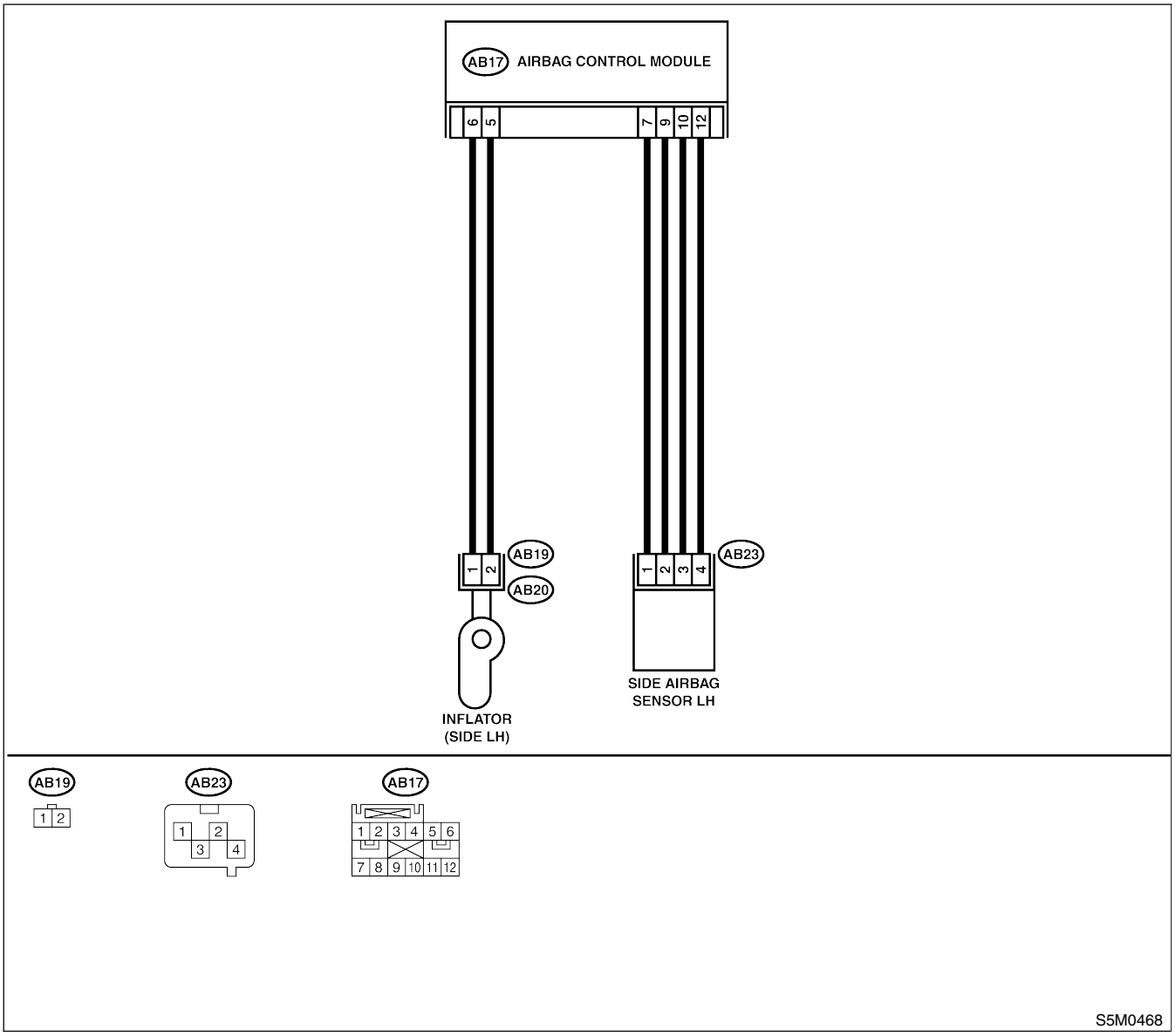
DIAGNOSIS:

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

CAUTION:

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

WIRING DIAGRAM:



DIAGNOSTIC CHART WITH TROUBLE CODE

No.	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 connector (AB20) from (AB19), and connect connector (1F) in test harness F to (AB19). 3) Connect airbag resistor to connector (3F) in test harness F. 4) Connect the battery ground cable and turn the ignition switch ON.	Does airbag warning light operate properly?	Replace front seat with side airbag module (LH). <Ref. to SE-5 Front Seat.>	Go to step **2**.
2	**CHECK SIDE AIRBAG HARNESS (LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect airbag resistor from the test harness. 3) Disconnect the connector (AB17) from the airbag control module. <Ref. to AB-18 Airbag Control Module.> 4) Connect connector (1I) in test harness I or I2 to connector (AB17). 5) Connect the battery ground cable, and turn the ignition switch ON. 6) Measure the voltage between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 10 (+) — Chassis ground (–):*** ***(3I) No. 12 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>

P: TROUBLE CODE 51 S002630D60

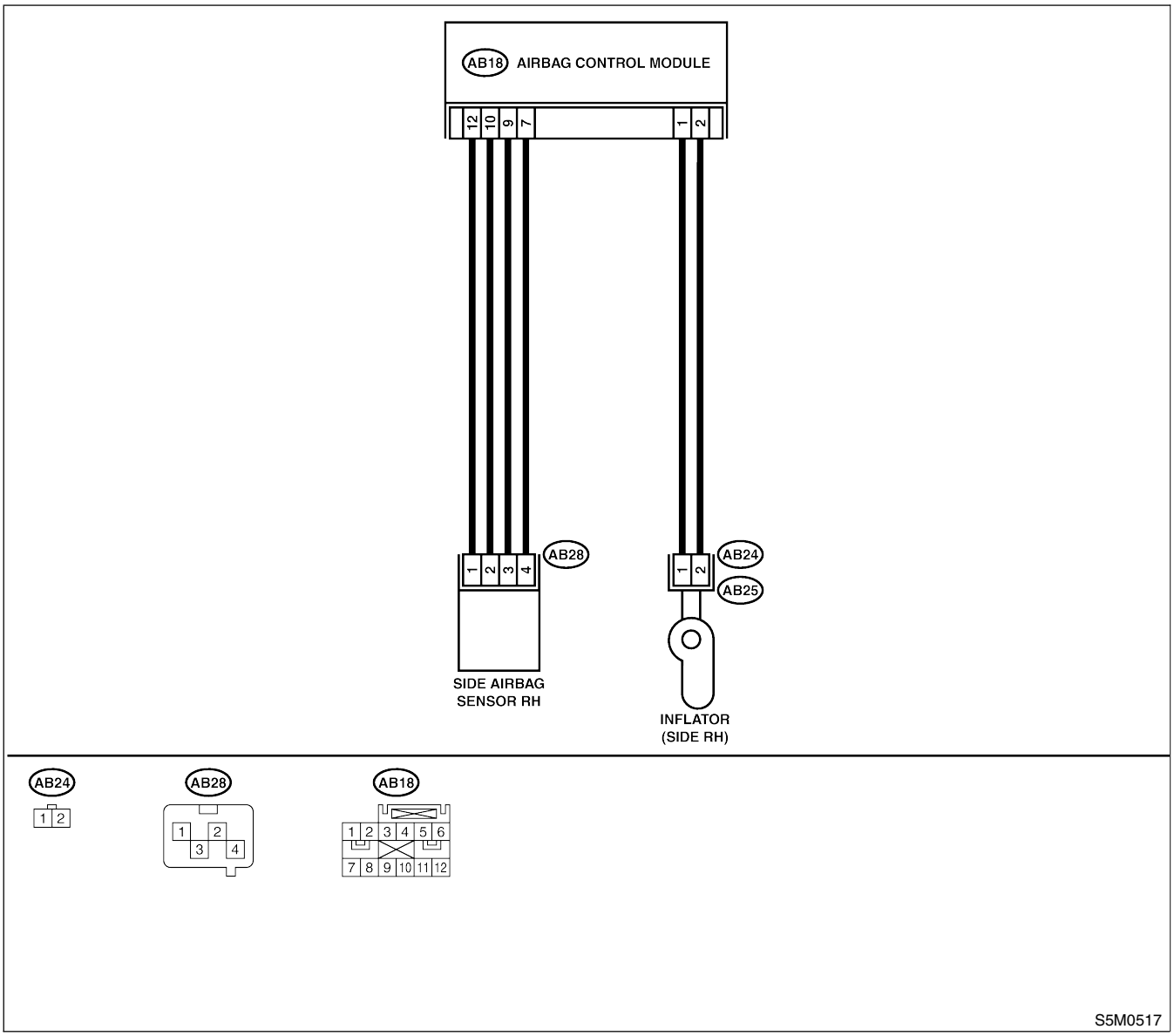
DIAGNOSIS:

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

CAUTION:

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

WIRING DIAGRAM:



No.	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG HARNESS (RH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect connector (AB25) from (AB24). 3) Disconnect connector (AB18) from the airbag control module. <Ref. to AB-18 Airbag Control Module.> 4) Connect connector (1I) in test harness I or I2 to the connector (AB18). 5) Disconnect connector (AB28) from the side airbag sensor (RH), and connect connector (1G) in test harness G to connector (AB28). 6) Measure the resistance between connector (3I) in test harness I or I2 and connector (3G) in test harness G. ***Connector & terminal*** ***(3I) No. 17 — (3G) No. 2:*** ***(3I) No. 18 — (3G) No. 1:*** ***(3I) No. 19 — (3G) No. 5:*** ***(3I) No. 20 — (3G) No. 4:***	Is the resistance less than 10 Ω?	Go to step **2**.	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>
2	**CHECK SIDE AIRBAG HARNESS (RH).** Measure the resistance between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 17 — Chassis ground:*** ***(3I) No. 18 — Chassis ground:*** ***(3I) No. 19 — Chassis ground:*** ***(3I) No. 20 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace side airbag sensor (RH). <Ref. to AB-19 Side Airbag Sensor.> When sensor replacement is not OK, replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>

Q: TROUBLE CODE 52 S002630D64

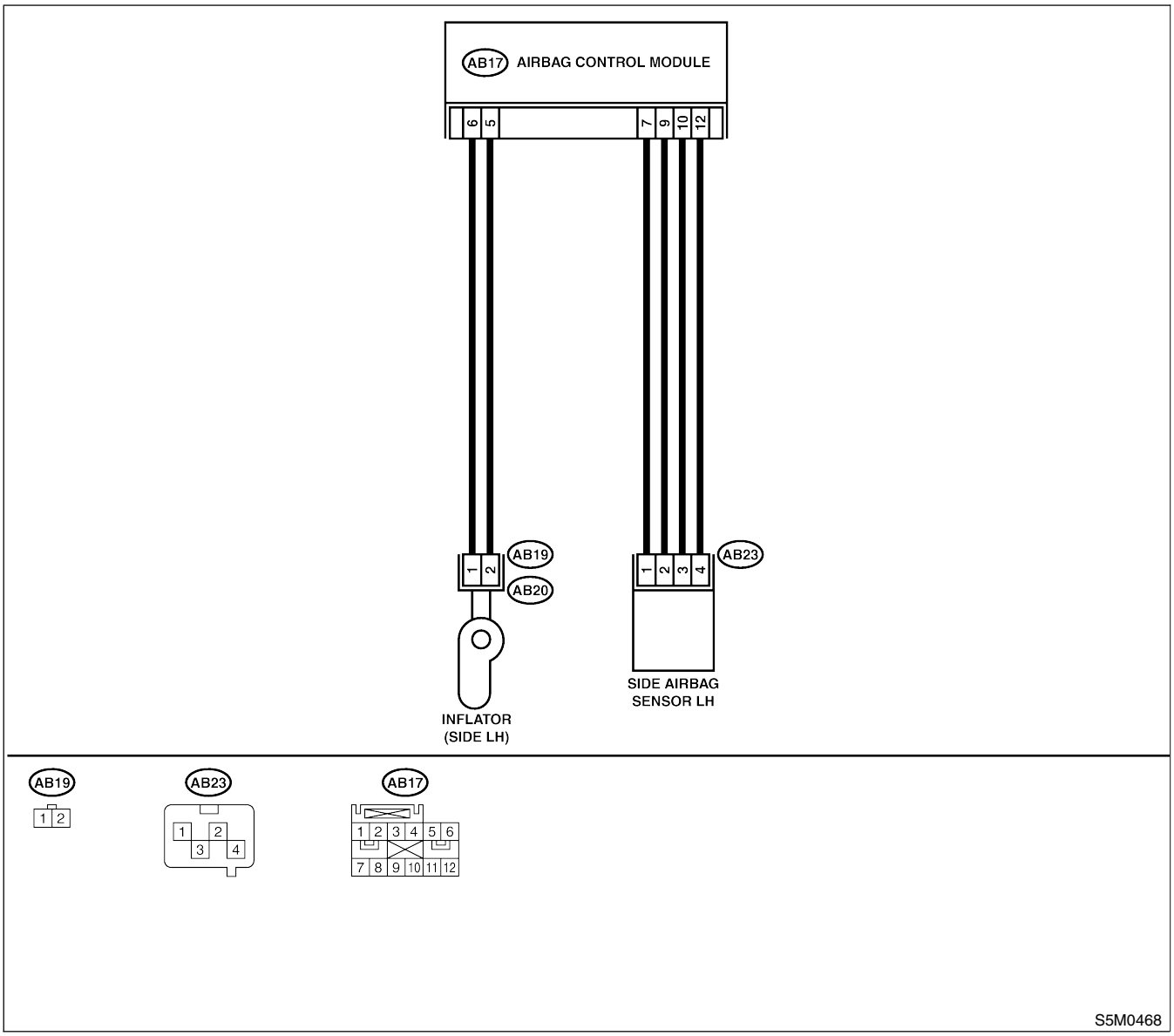
DIAGNOSIS:

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

CAUTION:

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

WIRING DIAGRAM:



No.	Step	Check	Yes	No
1	**CHECK SIDE AIRBAG HARNESS (LH).** 1) Turn the ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect connector (AB20) from (AB19). 3) Disconnect connector (AB17) from the airbag control module. <Ref. to AB-18 Airbag Control Module.> 4) Connect connector (1I) in test harness I or I2 to connector (AB17). 5) Disconnect connector (AB23) from the side airbag sensor (LH), and connect connector (1G) in test harness G to connector (AB23). 6) Measure the resistance between connector (3I) in test harness I or I2 and connector (3G) in test harness G. ***Connector & terminal*** ***(3I) No. 5 — (3G) No. 4:*** ***(3I) No. 14 — (3G) No. 5:*** ***(3I) No. 15 — (3G) No. 1:*** ***(3I) No. 16 — (3G) No. 2:***	Is the resistance less than 10 Ω?	Go to step **2**.	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>
2	**CHECK SIDE AIRBAG HARNESS (RH).** Measure the resistance between connector (3I) in test harness I or I2 and the chassis ground. ***Connector & terminal*** ***(3I) No. 5 — Chassis ground:*** ***(3I) No. 14 — Chassis ground:*** ***(3I) No. 15 — Chassis ground:*** ***(3I) No. 16 — Chassis ground:***	Is the resistance more than 1 MΩ?	Replace side airbag sensor (LH). <Ref. to AB-19 Side Airbag Sensor.> When sensor replacement is not OK, replace the airbag control module. <Ref. to AB-18 Airbag Control Module.>	Replace side airbag harness. <Ref. to AB-17 Side Airbag Harness.>

R: TROUBLE CODE 53 *S002630D69*

DIAGNOSIS:
- Side airbag sensor (RH) is faulty.

When Code 53 is displayed, the circuit within the side airbag sensor (RH) is faulty. Replace the side airbag sensor (RH).
<Ref. to AB-19 Side Airbag Sensor.>

S: TROUBLE CODE 54 *S002630D70*

DIAGNOSIS:
- Side airbag sensor (LH) is faulty.

When Code 54 is displayed, the circuit within the side airbag sensor (LH) is faulty. Replace the side airbag sensor (LH).
<Ref. to AB-19 Side Airbag Sensor.>

T: TROUBLE CODE 55 *S002630D73*

This code is displayed when the side airbag is deployed.
When this code is displayed, the memory cannot be erased. Replace the following parts.
- Airbag control module. <Ref. to AB-18 Airbag Control Module.>
- Front seat with side airbag module. (Operating side) <Ref. to SE-5 Front Seat.>
- Side airbag sensor. (Operating side) <Ref. to AB-19 Side Airbag Sensor.>

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

CC

Page

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2. General Description 5
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6. Diagnostics Chart with Symptom (Turbo Model) 21
7. Diagnostics Chart with Trouble Code (Turbo Model) 37
8. Diagnostics Chart with Symptom (Non-turbo Model) 49
9. Diagnostics Chart with Trouble Code (Non-turbo Model) 57

1. Basic Diagnostic Procedure S003501

A: PROCEDURE S003501E45

No.	Step	Check	Yes	No
1	**START DIAGNOSIS.** 1) Perform pre-inspection. <Ref. to CC-6 INSPECTION, General Description.> 2) Check cruise control main switch operation.	Is cruise control main switch turned ON?	Go to step **2**.	Go to symptom 1. **Turbo model:** <Ref. to CC-21 SYMPTOM CHART, Diagnostics Chart with Symptom (Turbo Model).> **Non-turbo model:** <Ref. to CC-49, SYMPTOM CHART, Diagnostics Chart with Symptom (Non-turbo Model).>
2	**PREPARE SUBARU SELECT MONITOR.**	Is the select monitor available?	Go to step **3**.	Go to step **4**.
3	**PERFORM CRUISE CANCEL CONDITIONS DIAGNOSIS.** Perform cruise cancel conditions diagnosis. <Ref. to CC-19 Subaru Select Monitor.>	Is trouble code indicated?	Go to “Diagnostics Chart with Trouble Code”.	Go to step **4**.
4	**CHECK CRUISE CONTROL SET OPERATION.** Check cruise control set operation.	Can cruise control be set while driving at 40 km/h (25 MPH)?	Go to step **5**.	Go to symptom 2. **Turbo model:** <Ref. to CC-21 SYMPTOM CHART, Diagnostics Chart with Symptom (Turbo Model).> **Non-turbo model:** <Ref. to CC-49, SYMPTOM CHART, Diagnostics Chart with Symptom (Non-turbo Model).>
5	**CHECK VEHICLE SPEED IS HELD WITHIN SET SPEED.** Make sure vehicle speed is held within set speed.	Is vehicle speed held within set speed ±3 km/h (±2 MPH) ?	Go to step **6**.	Go to symptom 3. **Turbo model:** <Ref. to CC-21 SYMPTOM CHART, Diagnostics Chart with Symptom (Turbo Model).> **Non-turbo model:** <Ref. to CC-49, SYMPTOM CHART, Diagnostics Chart with Symptom (Non-turbo Model).>

No.	Step	Check	Yes	No
6	**CHECK RESUME/ACCEL OPERATION.** Check RESUME/ACCEL operation.	Does vehicle speed increase or return to set speed after RESUME/ ACCEL switch has been pressed?	Go to step **7**.	Go to symptom 4. **Turbo model:** <Ref. to CC-21 SYMPTOM CHART, Diagnostics Chart with Symptom (Turbo Model).> **Non-turbo model:** <Ref. to CC-49, SYMPTOM CHART, Diagnostics Chart with Symptom (Non-turbo Model).>
7	**CHECK SET/COAST OPERATION.** Check SET/COAST operation.	Does vehicle speed decrease after SET/COAST switch has been pressed?	Go to step **8**.	Go to symptom 5. **Turbo model:**<Ref. to CC-21 SYMPTOM CHART, Diagnostics Chart with Symptom (Turbo Model).> **Non-turbo model:** <Ref. to CC-49, SYMPTOM CHART, Diagnostics Chart with Symptom (Non-turbo Model).>
8	**CHECK CANCEL OPERATION.** Check CANCEL operation.	Is cruise control released after CANCEL switch has been pressed?	Go to step **9**.	Go to symptom 6. **Turbo model:** <Ref. to CC-21 SYMPTOM CHART, Diagnostics Chart with Symptom (Turbo Model).> **Non-turbo model:** <Ref. to CC-49, SYMPTOM CHART, Diagnostics Chart with Symptom (Non-turbo Model).>

No.	Step	Check	Yes	No
9	**CHECK CRUISE CONTROL RELEASE OPERATION.** Check cruise control release operation.	Is cruise control released after brake pedal has been depressed?	Go to step **10**.	Go to symptom 7. **Turbo model:** <Ref. to CC-21 SYMPTOM CHART, Diagnostics Chart with Symptom (Turbo Model).> **Non-turbo model:** <Ref. to CC-49, SYMPTOM CHART, Diagnostics Chart with Symptom (Non-turbo Model).>
10	**CHECK CRUISE CONTROL RELEASE OPERATION.** Check cruise control release operation.	Is cruise control released after clutch pedal has been depressed? (MT)	Finish the diagnostics.	Go to symptom 8. **Turbo model:** <Ref. to CC-21 SYMPTOM CHART, Diagnostics Chart with Symptom (Turbo Model).> **Non-turbo model:** <Ref. to CC-49, SYMPTOM CHART, Diagnostics Chart with Symptom (Non-turbo Model).>

2. General Description S003001

A: CAUTION S003001A03

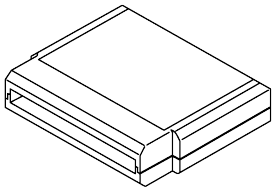
1. SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG" S003001A0301

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

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

B: PREPARATION TOOL S003001A17

1. SPECIAL TOOLS S003001A1701

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 B2M3876	24082AA150 (Newly adopted tool)	CARTRIDGE	Troubleshooting for electrical systems.
 B2M3877	22771AA030	SELECT MONITOR KIT	Troubleshooting for electrical systems. • English: 22771AA030 (Without printer) • German: 22771AA070 (Without printer) • French: 22771AA080 (Without printer) • Spanish: 22771AA090 (Without printer)

2. GENERAL TOOLS S003001A1702

TOOL NAME	REMARKS
Circuit Tester	Used for measuring resistance, voltage and ampere.

C: INSPECTION S003001A10

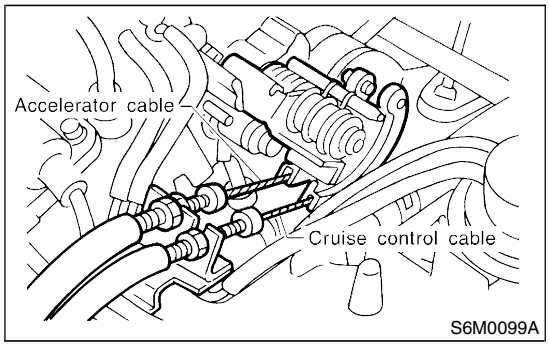
1. BATTERY S003001A1002

Measure battery voltage and specific gravity of electrolyte.

Standard voltage:
12 V, or more

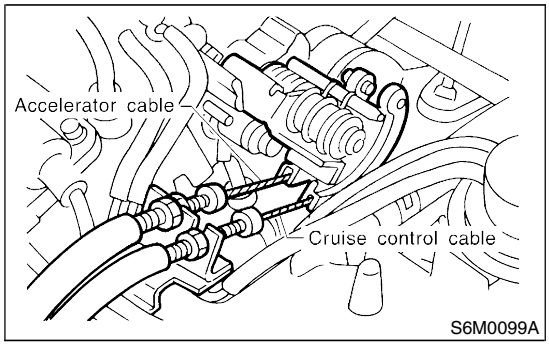
Specific gravity:
Above 1.260

2. CRUISE CONTROL CABLE S003001A1003



Check the cruise control cable installation.
If NG, install the cable securely.

3. ACCELERATOR CABLE S003001A1004

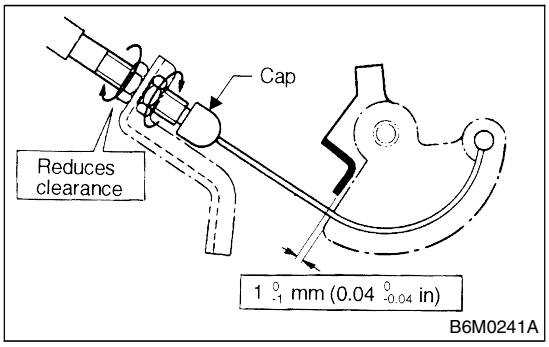


Check movement of the accelerator cable when the cruise control throttle is moved by hand.
If NG, check throttle cam.

4. THROTTLE CAM S003001A1005

Check that the throttle cam moves smoothly.
If NG, repair throttle cam.

5. CABLE FREE PLAY S003001A1006



Check that the throttle cam-to-lever clearance is within specifications.

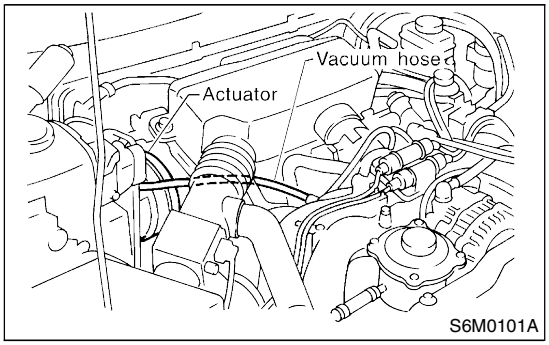
Throttle cam-to-lever clearance:
0 — 1 mm (0 — 0.04 in)

If NG, adjust the clearance with the adjust nut.

NOTE:
Check that the cap is positioned in the groove.

6. VACUUM HOSE (NON-TURBO MODEL)

S003001A1009



Check vacuum hose (which connects actuator and intake manifold).
If NG, replace vacuum hose.

7. ACTUATOR (NON-TURBO MODEL) S003001A1010

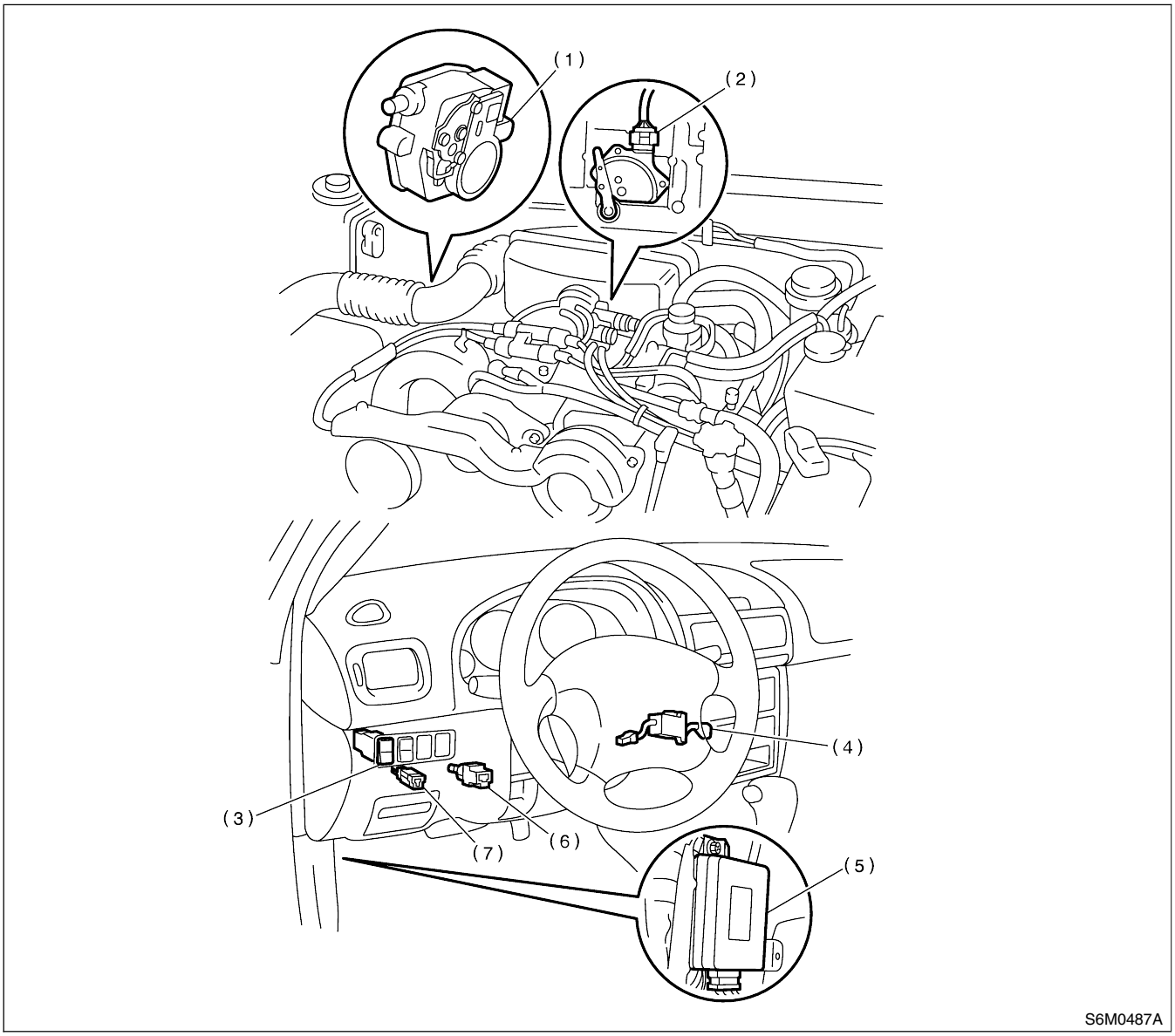
No.	Step	Check	Yes	No
1	**MEASURE RESISTANCE OF VALVE.** 1) Disconnect connector from actuator. 2) Measure resistance between terminals of actuator. ***Terminals*** ***No. 2 — No. 3:***	Is resistance less than 22 Ω?	Go to step **2**.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>
2	**MEASURE RESISTANCE OF VALVE.** Measure resistance between terminals of actuator. ***Terminals*** ***No. 2 — No. 1:***	Is resistance less than 55 Ω?	Go to step **3**.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>
3	**MEASURE RESISTANCE OF VALVE.** Measure resistance between terminals of actuator. ***Terminals*** ***No. 2 — No. 4:***	Is resistance less than 55 Ω?	Go to step **4**.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>
4	**CHECK FOR LEAKAGE AND STICKING OF VALVES.** 1) Disconnect connector from actuator. 2) Disconnect vacuum hose from actuator. 3) Connect vacuum pump. 4) Apply a vacuum pressure of 40.0 kPa (300 mmHg, 11.81 inHg) to actuator. 5) Make sure that cruise control cable moves smoothly when connecting + (positive) battery cable to terminal No. 2 and – (negative) battery cable to terminals No. 1, 3 and 4 of actuator connector.	Does cruise control cable have a stroke of 35 mm (1.38 in) within 3 seconds?	Go to step **5**.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>
5	**CHECK FOR LEAKAGE AND STICKING OF VALVES.** When the battery cable is disconnected from former condition, make sure the cable returns to its original position smoothly.	Does cruise control cable get back to its original position within 1.5 seconds?	Go to step **6**.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>
6	**CHECK CABLE MOVEMENT.** 1) Connect + (positive) battery cable to terminal No. 2 and – (negative) battery cable to terminals No. 1, 3 and 4 of actuator connector. 2) Apply a vacuum pressure of 40 kPa (300 mmHg, 11.81 inHg) to actuator.	Does cruise control perform pull operation?	Go to step **7**.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>
7	**CHECK CABLE MOVEMENT.** After step 6, disconnect – (negative) battery cable from terminal 3 of actuator connector and remove vacuum pump.	Does cruise control perform hold operation?	Go to step **8**.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>
8	**CHECK CABLE MOVEMENT.** After step 7, disconnect – (negative) battery cable from terminal 1 of actuator connector.	Does cruise control perform release operation?	End of actuator inspection.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>

3. Electrical Components Location S003507

A: LOCATION S003507A13

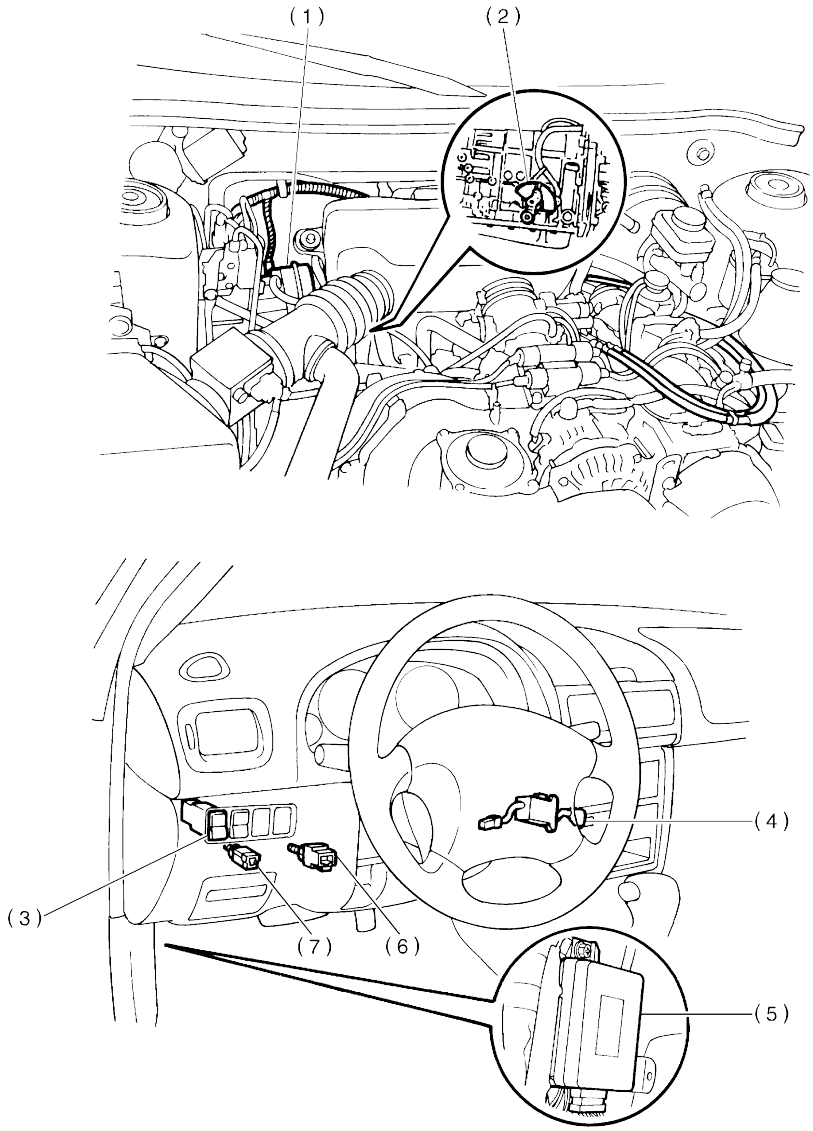
NOTE:
Electrical component locations are for LHD vehicles.
Cruise control actuator and cruise control module locations for RHD vehicles are symmetrically opposite.

1. TURBO MODEL S003507A1301



(1) Actuator
(2) Inhibitor switch (AT)
(3) Cruise control main switch
(4) Cruise control command switch
(5) Cruise control module
(6) Stop and brake switch
(7) Clutch switch (MT)

2. NON-TURBO MODEL S003507A1302

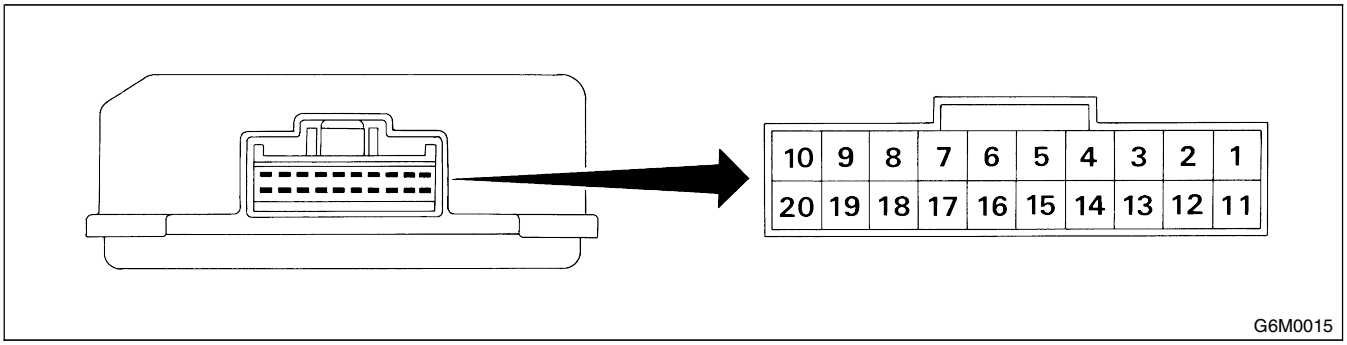


(1) Actuator (with valves)
(2) Inhibitor switch (AT)
(3) Cruise control main switch
(4) Cruise control command switch
(5) Cruise control module
(6) Stop and brake switch
(7) Clutch switch (MT)

4. Cruise Control Module I/O Signal S003515

A: ELECTRICAL SPECIFICATION S003515A08

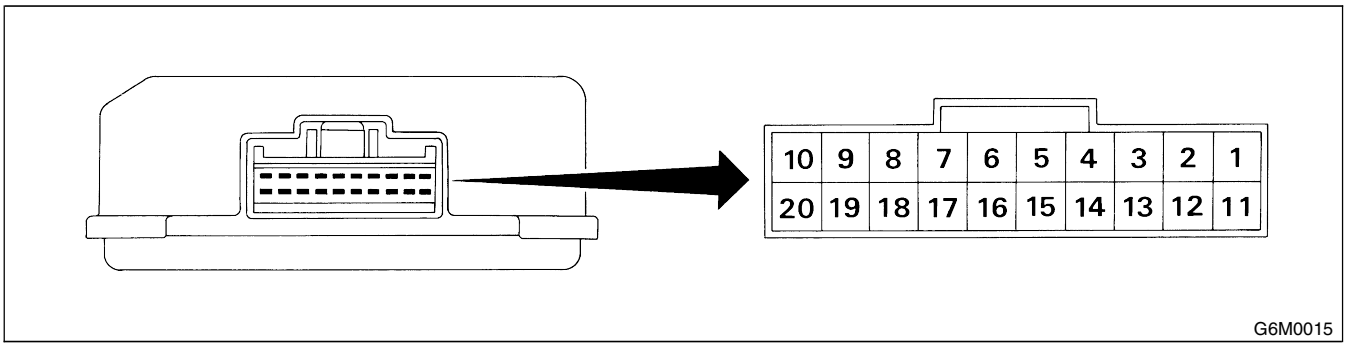
1. TURBO MODEL S003515A0801



Content	Terminal No.	Measuring conditions and I/O signals (ignition switch ON and engine idling)
Main light	1	• Battery voltage is present when main switch is turned OFF. • “0” volt is present when main switch is turned ON.
Inhibitor switch (AT)	4	• Battery voltage is present when selector lever is other than “P” or “N” position. • “0” volt is present when selector lever is set to “P” or “N” position.
Motor B	5	• ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating. • “0” volt is present when main switch is turned OFF.
Ground	6	—
Motor A	7	• ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating. • “0” volt is present when main switch is turned OFF.
RESUME/ACCEL switch	9	• Battery voltage is present when command switch is turned to RESUME/ACCEL position. • “0” volt is present when command switch is released.
SET/COAST switch	10	• Battery voltage is present when command switch is turned to SET/COAST position. • “0” volt is present when command switch is released.
Main power supply	11	• Battery voltage is present when main power is turned ON. • “0” volt is present when main power is turned OFF.
Ignition switch	12	• Battery voltage is present when ignition switch is turned ON. • “0” volt is present when ignition switch is turned OFF.
Motor C	13	• ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating. • “0” volt is present when main switch is turned OFF.
Motor clutch	14	• ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating. • “0” volt is present when vehicle is stopped.
Cruise control main switch	15	• Battery voltage is present during pressing the cruise control main switch, and then battery voltage is present while main switch is turned ON. • “0” volt is present when main switch is turned OFF.
Brake switch	16	Leave clutch pedal released (MT), while cruise control main switch is turned ON. Then check that; • Battery voltage is present when brake pedal is released. • “0” volt is present when brake pedal is depressed. Additionally only in MT vehicle, keep the cruise control main switch to ON and leave brake pedal released. Then check that; • Battery voltage is present when clutch pedal is released. • “0” volt is present when clutch pedal is depressed.

Content	Terminal No.	Measuring conditions and I/O signals (ignition switch ON and engine idling)
Data link connector	17	—
Data link connector	18	—
Vehicle speed sensor (MT) TCM (AT)	19	Lift-up the vehicle until all four wheels are raised off ground, and then rotate any wheel manually. Approx. “5” and “0” volt pulse signals are alternately input to cruise control module.
Stop light switch	20	Turn ignition switch to OFF. Then check that; ● Battery voltage is present when brake pedal is depressed. ● “0” volt is present when brake pedal is released.
NOTE: Voltage at terminals 5, 7, 13 and 14 cannot be checked unless vehicle is driving by cruise control operation.		

2. NON-TURBO MODEL S003515A0802



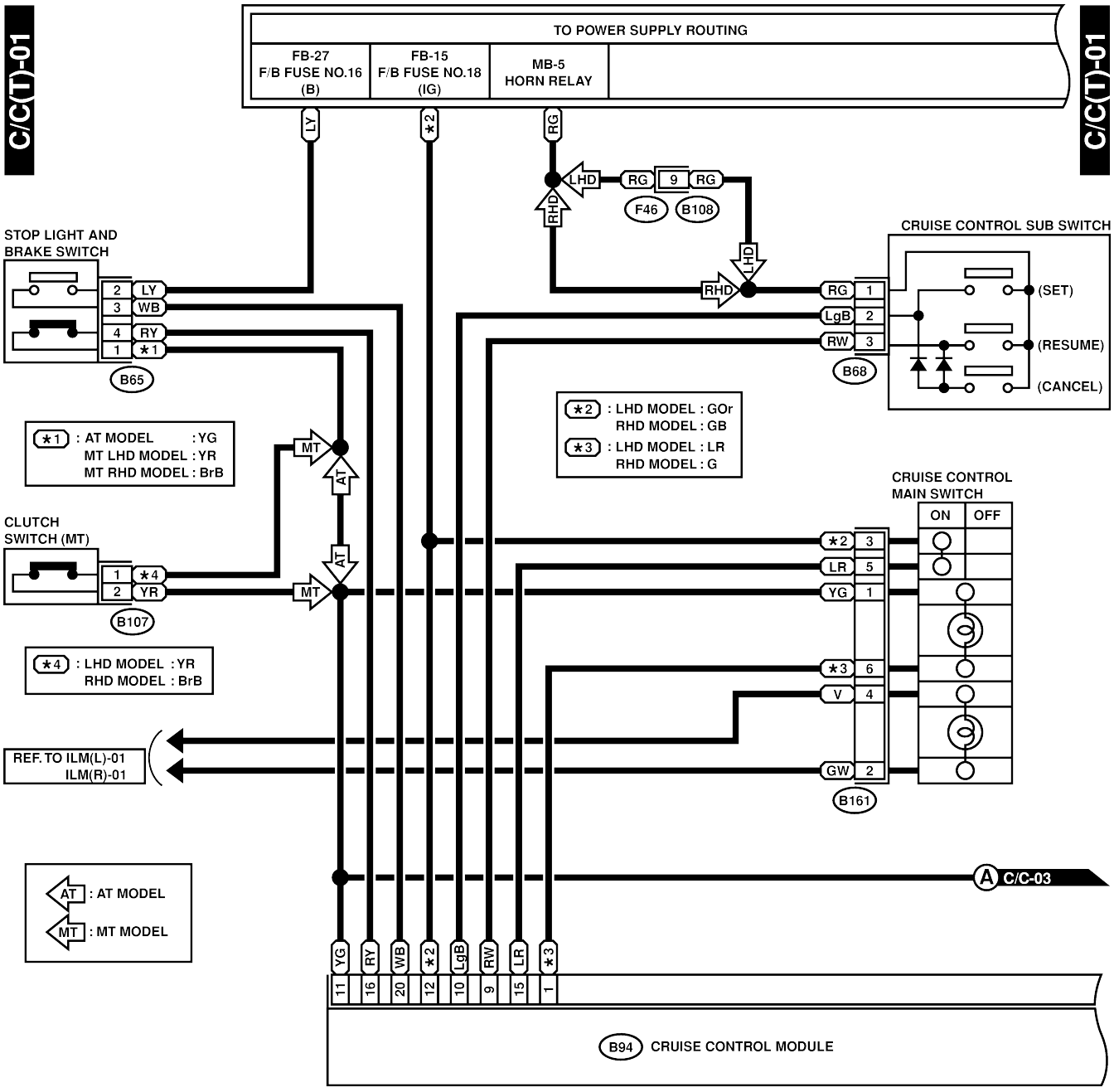
Content	Terminal No.	Measuring conditions and I/O signals (ignition switch ON and engine idling)
Vent valve	1	● Power supply is ON when vehicle is stopped. ● ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating.
Safety valve	2	● Power supply is ON when vehicle is stopped. ● ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating.
Ignition switch	3	● Battery voltage is present when ignition switch is turned ON. ● “0” volt is present when ignition switch is turned OFF.
Cruise control main switch	4	● Battery voltage is present when main power is turned ON. ● “0” volt is present when main power is turned OFF.
Power supply to vacuum valve, vent valve, safety valve and indicator light	5	● Battery voltage is present when main power is turned ON. ● “0” volt is present when main power is turned OFF.
SET/COAST switch	6	● Battery voltage is present when command switch is turned to SET/COAST position. ● “0” volt is present when command switch is released.
RESUME/ACCEL switch	7	● Battery voltage is present when command switch is turned to RESUME/ ACCEL position. ● “0” volt is present when command switch is released.

CRUISE CONTROL MODULE I/O SIGNAL

Content	Terminal No.	Measuring conditions and I/O signals (ignition switch ON and engine idling)
Brake switch	8	Set selector lever to any position other than “P” or “N” position (AT) / leave clutch pedal released (MT), while cruise control main switch is turned ON. Then check that; ● Battery voltage is present when brake pedal is released. ● “0” volt is present when brake pedal is depressed, or ● Battery voltage is present when clutch pedal is released (MT). ● “0” volt is present when clutch pedal is depressed (MT). ● Battery voltage is present when selector lever is in any position other than “P” or “N” position (AT). ● “0” volt is present when selector lever is set to “P” or “N” position (AT).
Clutch switch (MT)/ Inhibitor switch (AT)	9	● Battery voltage is present when clutch pedal is released (MT). ● “0” volt is present when clutch pedal is depressed (MT). ● Battery voltage is present when selector lever is in any position other than “P” or “N” position (AT). ● “0” volt is present when selector lever is set to “P” or “N” position (AT).
Vacuum valve	11	● Power supply is ON when vehicle is stopped. ● ON-and-OFF (“0”-and-battery voltage) operation is alternately repeated while cruise control is operating.
Set signal to transmission control module (AT)	12	● TCM emits a ground-level signal while driving vehicle at least 40 km/h (25 MPH) with SET switch ON.
Ground	13	—
Check connector/ OBD-II service connector	14	—
Check connector/ OBD-II service connector	15	—
Vehicle speed sensor 2 (MT) Automatic transmission control module (AT)	18	Lift-up the vehicle until all four wheels are raised off ground, and then rotate any wheel manually. Approx. 5 and 0 volt pulse signals are alternately input to cruise control module.
Stop light switch	19	Turn ignition switch to OFF. Then check that; ● Battery voltage is present when brake pedal is depressed. ● “0” volt is present when brake pedal is released.
Ground	20	—
NOTE: Voltage at terminals 1, 2, 11 and 12 cannot be checked unless vehicle is driving by cruise control operation.		

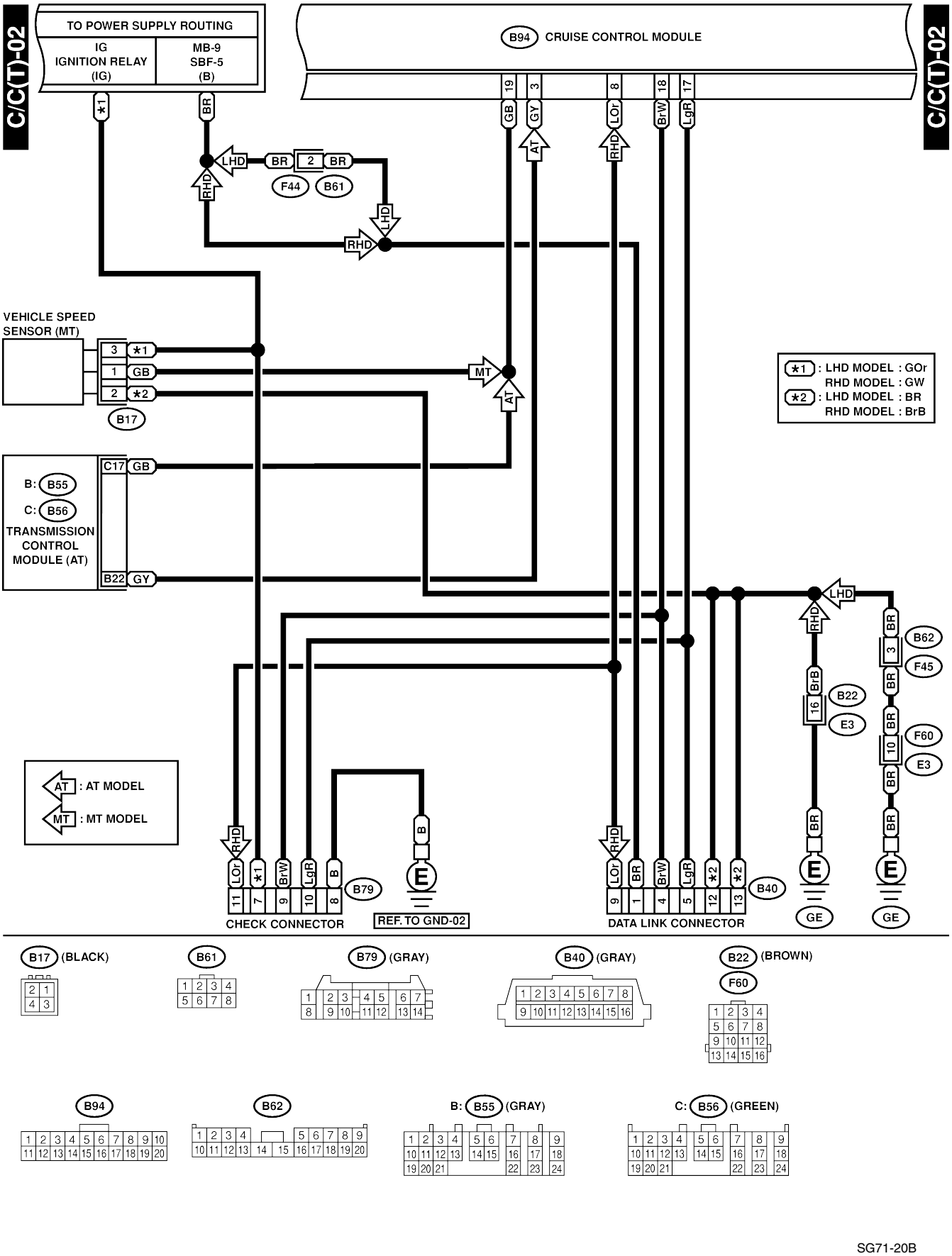
B: SCHEMATIC S003515A21

1. CRUISE CONTROL TURBO MODEL S003515A2107

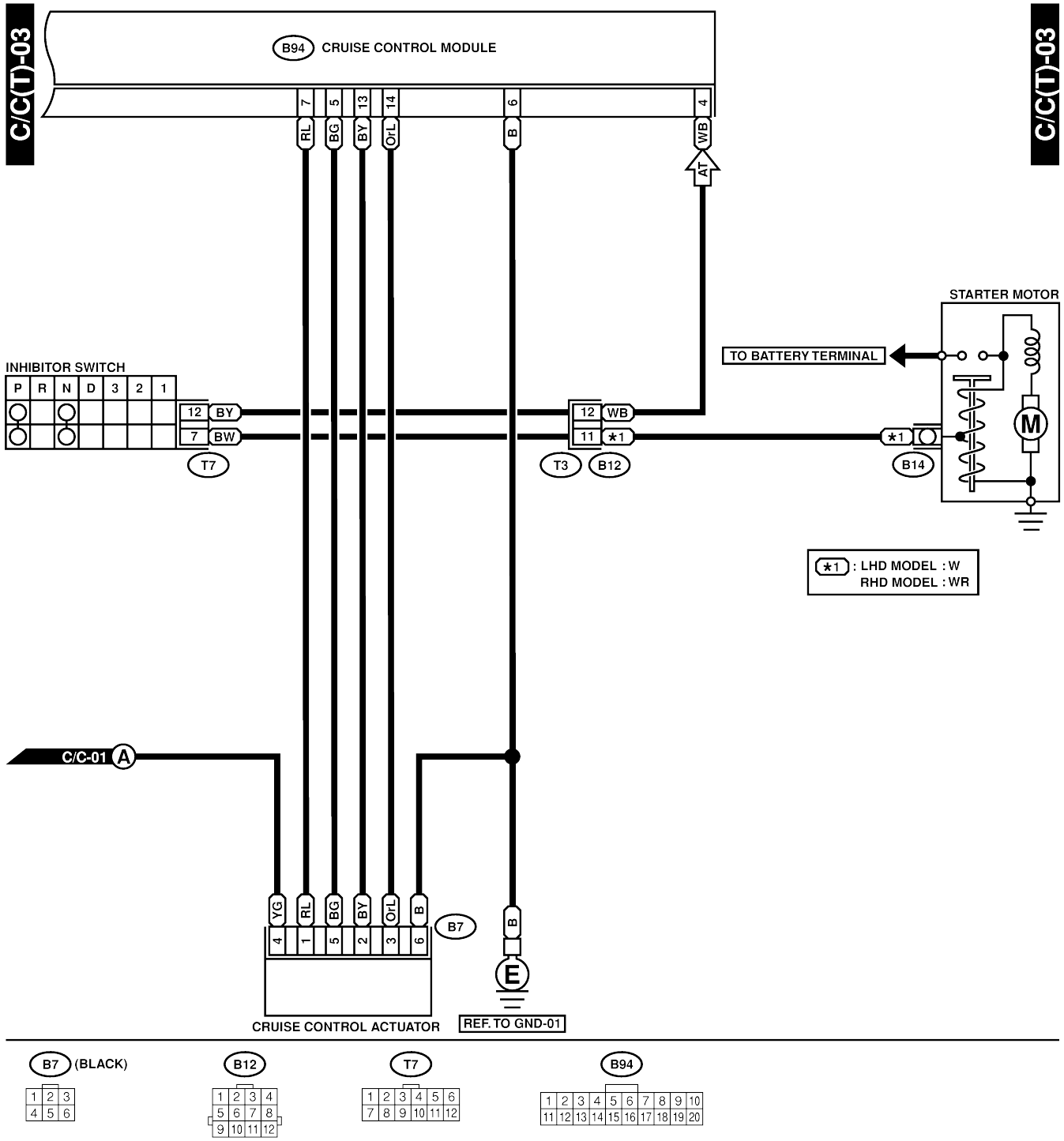


SG71-20A

CRUISE CONTROL MODULE I/O SIGNAL



SG71-20B

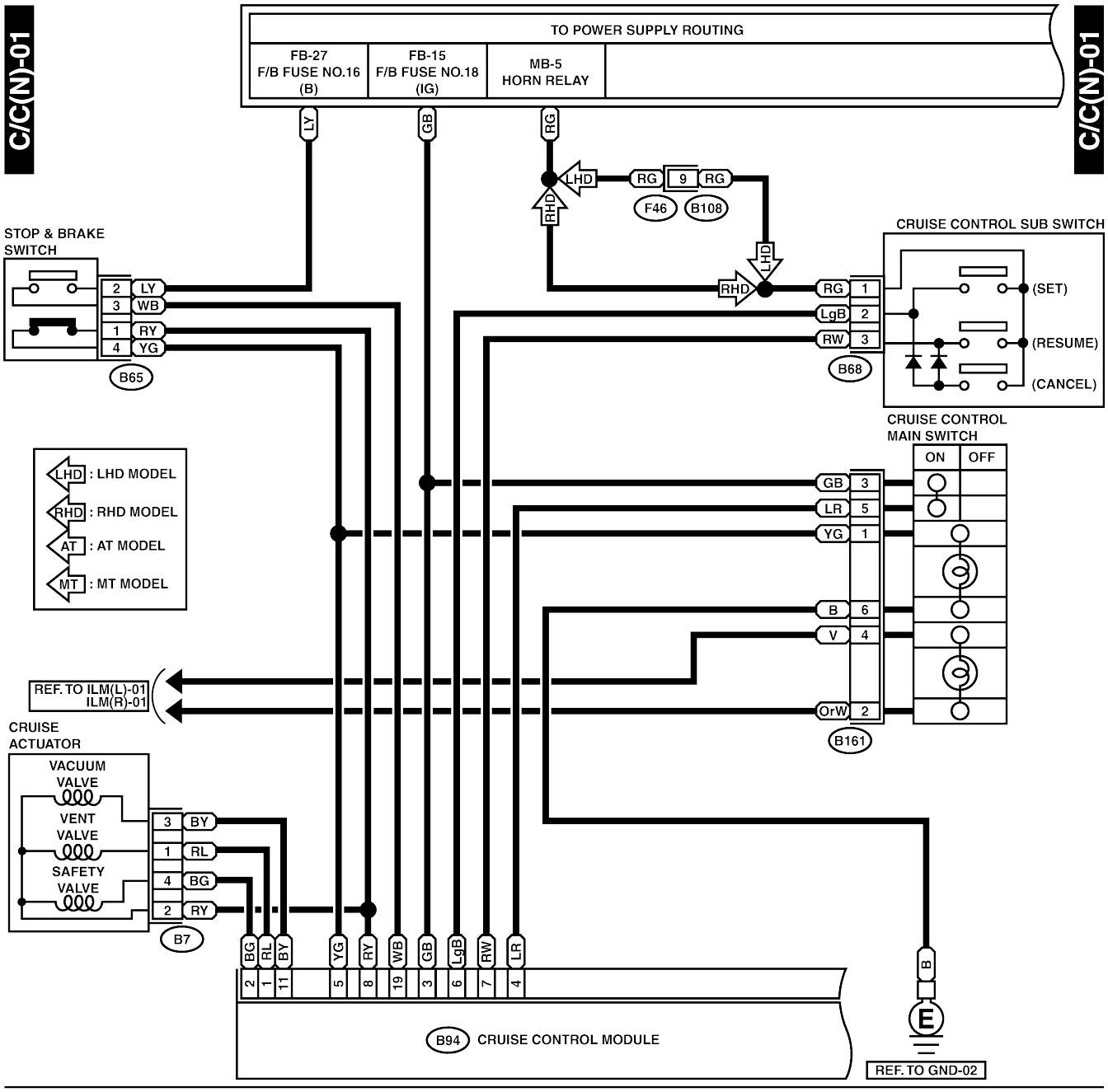

C/C(T)-03
B94 CRUISE CONTROL MODULE
7 5 13 14 6 4
RL BG BY OrL B WB
AT
C/C(T)-03
STARTER MOTOR
TO BATTERY TERMINAL
INHIBITOR SWITCH
P R N D 3 2 1
12 BY
7 BW
T7
12 WB
11 *1
T3 B12
*1
B14
M
*1 : LHD MODEL : W
RHD MODEL : WR
C/C-01 A
YG RL BG BY OrL B
4 1 5 2 3 6
B7
B
E
CRUISE CONTROL ACTUATOR
REF. TO GND-01

B7 (BLACK)
1 2 3
4 5 6
B12
1 2 3 4
5 6 7 8
9 10 11 12
T7
1 2 3 4 5 6
7 8 9 10 11 12
B94
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20

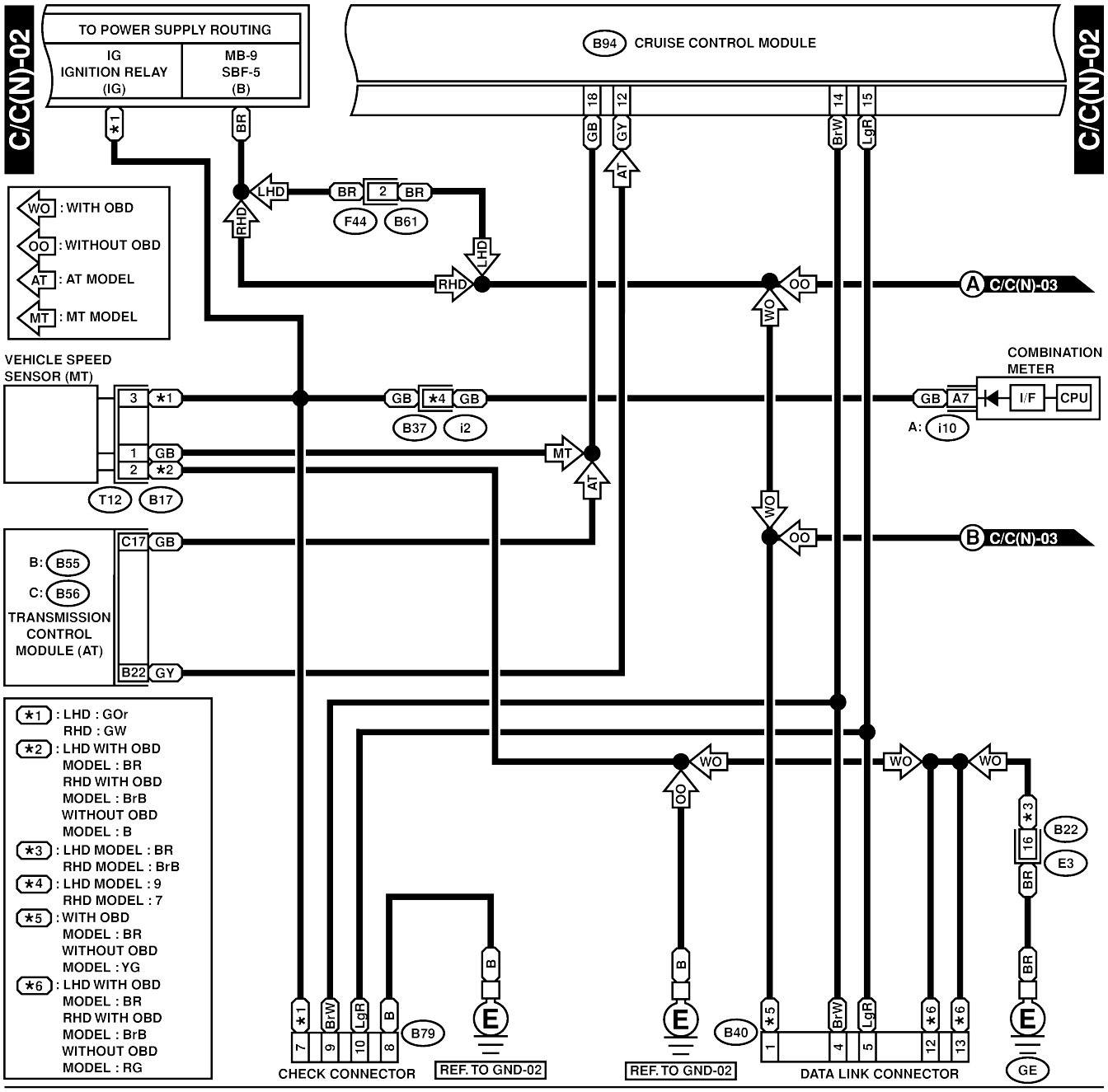
SG71-20C

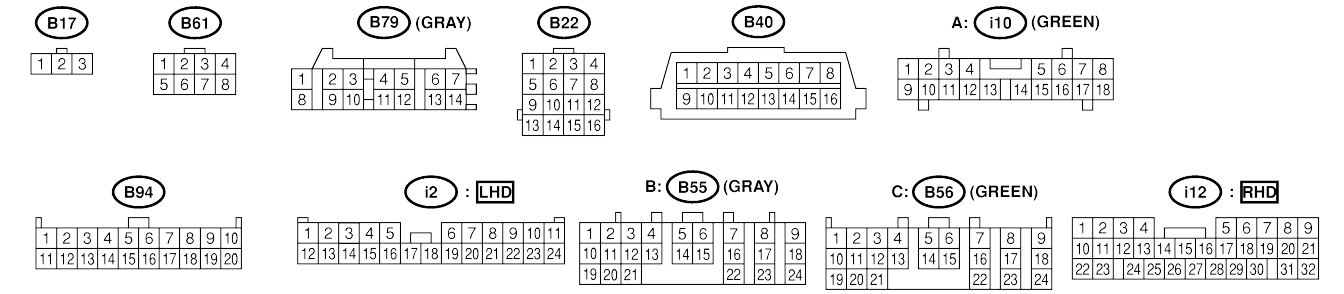
2. CRUISE CONTROL NON-TURBO MODEL

S003515A2108



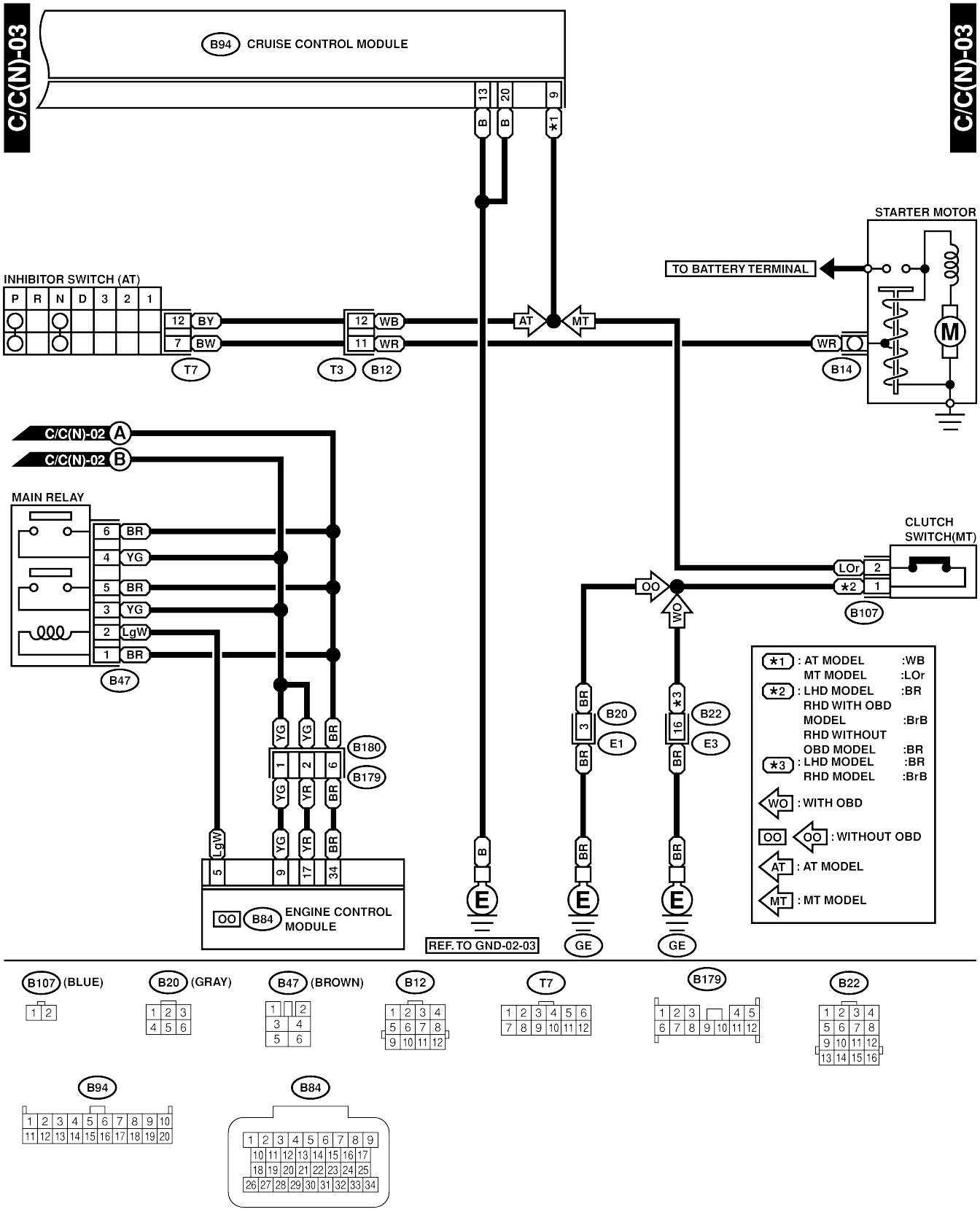
SG71-21A


C/C(N)-02
TO POWER SUPPLY ROUTING
IG
IGNITION RELAY
(IG)
MB-9
SBF-5
(B)
B94 CRUISE CONTROL MODULE
WO : WITH OBD
OO : WITHOUT OBD
AT : AT MODEL
MT : MT MODEL
VEHICLE SPEED SENSOR (MT)
T12
B17
TRANSMISSION CONTROL MODULE (AT)
B: B55
C: B56
C17
B22
F44
B61
B37
i2
A: i10
COMBINATION METER
I/F
CPU
A7
A C/C(N)-03
B C/C(N)-03
CHECK CONNECTOR
B79
REF. TO GND-02
B40
DATA LINK CONNECTOR
E3
GE
*1 : LHD : GOr
RHD : GW
*2 : LHD WITH OBD
MODEL : BR
RHD WITH OBD
MODEL : BrB
WITHOUT OBD
MODEL : B
*3 : LHD MODEL : BR
RHD MODEL : BrB
*4 : LHD MODEL : 9
RHD MODEL : 7
*5 : WITH OBD
MODEL : BR
WITHOUT OBD
MODEL : YG
*6 : LHD WITH OBD
MODEL : BR
RHD WITH OBD
MODEL : BrB
WITHOUT OBD
MODEL : RG


B17
B61
B79 (GRAY)
B22
B40
A: i10 (GREEN)
B94
i2 : LHD
B: B55 (GRAY)
C: B56 (GREEN)
i12 : RHD

SG71-21B

CRUISE CONTROL MODULE I/O SIGNAL



SG71-21C

5. Subaru Select Monitor S003503

A: OPERATION S003503A16

1. GENERAL S003503A1604

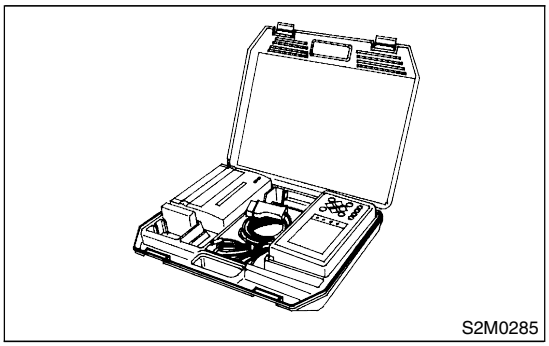
The on-board diagnosis function of the cruise control system uses an external Subaru Select Monitor.
The on-board diagnosis function operates in two categories, which are used depending on the type of problems;
1) Cruise cancel conditions diagnosis
   (1) This category of diagnosis requires actual vehicle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

CAUTION:
● The cruise control memory stores not only the cruise "cancel" which occurred (although "cancel" operation is not entered by the driver), but also the "cancel" condition input by the driver.
● The content of memory is cleared when ignition switch or cruise main switch is turned OFF.

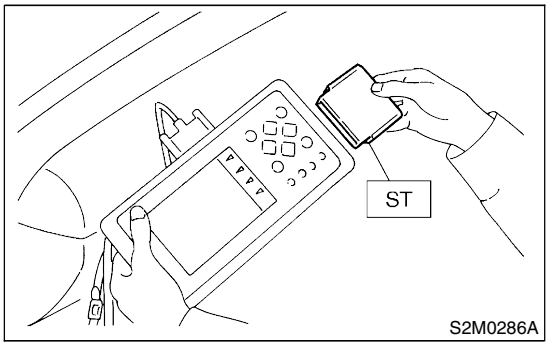
2) Real-time diagnosis
The real-time diagnosis function is used to determine whether or not the input signal system is in good order, according to signal emitted from switches, sensors, etc.
   (1) Vehicle cannot be driven at cruise speed because problem occurs in the cruise control system or its associated circuits.
   (2) Monitor the signal conditions from switches and sensors.

2. CRUISE CANCEL CONDITIONS DIAGNOSIS S003503A1605

1) Prepare Subaru Select Monitor kit.

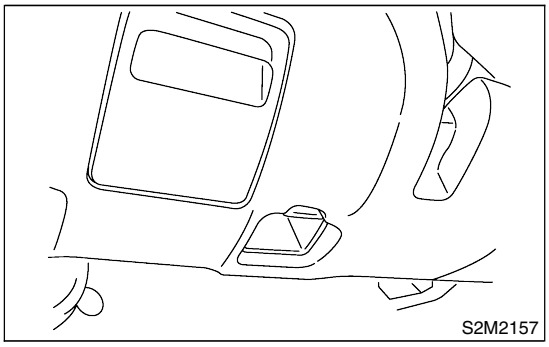

S2M0285

2) Connect diagnosis cable to Subaru Select Monitor.
3) Insert cartridge into Subaru Select Monitor.



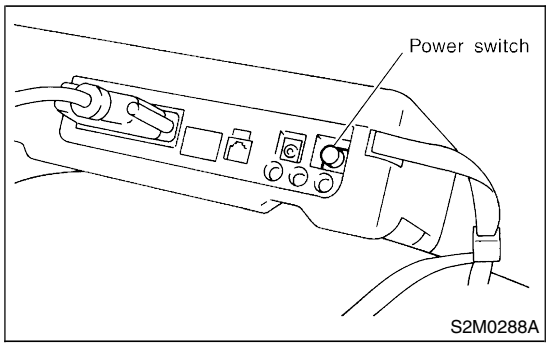
S2M0286A

4) Connect Subaru Select Monitor to data link connector.
   (1) Data link connector located in the lower portion of the instrument panel (on the driver's side).


S2M2157

   (2) Connect diagnosis cable to data link connector.

5) Start engine and turn cruise control main switch to ON.
6) Turn Subaru Select Monitor switch to ON.



7) On the ≪Main Menu≫ display screen, select the {All System Diagnosis} and press the [YES] key.

NOTE:
The diagnostic trouble code is also shown in the {Each System Check} mode. This mode is called up on the ≪Cruise Control Diagnosis≫ screen by selecting the item {Cancel Code(s) Display}.

8) Drive vehicle at least 30 km/h (19 MPH) with cruise speed set.
9) If cruise speed is canceled itself (without doing any cancel operations), a diagnostic trouble code will appear on select monitor display.

CAUTION:
● A diagnostic trouble code will also appear when cruise cancel is effected by driver. Do not confuse.
● Have a co-worker ride in vehicle to assist in diagnosis during driving.

NOTE:
Diagnostic trouble code will be cleared by turning ignition switch or cruise control main switch to OFF.

3. REAL-TIME DIAGNOSIS *S003503A1606*

1) Connect select monitor.
2) Turn ignition switch and cruise control main switch to ON.
3) Turn Subaru Select Monitor switch to ON.
4) On the ≪Main Menu≫ display screen, select the {Each System Check} and press the [YES] key.
5) On the ≪System Selection Menu≫ display screen, select the {Cruise Control} and press the [YES] key.
6) Press the [YES] key after displayed the information of engine type.
7) On the ≪Cruise Control Diagnosis≫ display screen, select the {Current Data Display & Save} and press the [YES] key.
8) Make sure that normal indication is displayed when controls are operated as indicated below:
● Depress/release the brake pedal. (Stop light switch and brake switch turn ON.)
● Turn ON the “SET/COAST” switch.
● Turn ON the “RESUME/ACCEL” switch.
● Depress/release the clutch pedal. (MT)
● Set the selector lever to P or N. (AT)

NOTE:
● For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.
● For detailed concerning diagnostic trouble codes, refer to the LIST OF DIAGNOSTIC TROUBLE CODE.
<Ref. to CC-37 LIST OF DIAGNOSTIC TROUBLE CODE, Diagnostics Chart with Trouble Code (Turbo Model).> or <Ref. to CC-57, LIST OF DIAGNOSTIC TROUBLE CODE, Diagnostics Chart with Trouble Code (Non-turbo Model).>

6. Diagnostics Chart with Symptom (Turbo Model) S003749

A: SYMPTOM CHART S003749F22

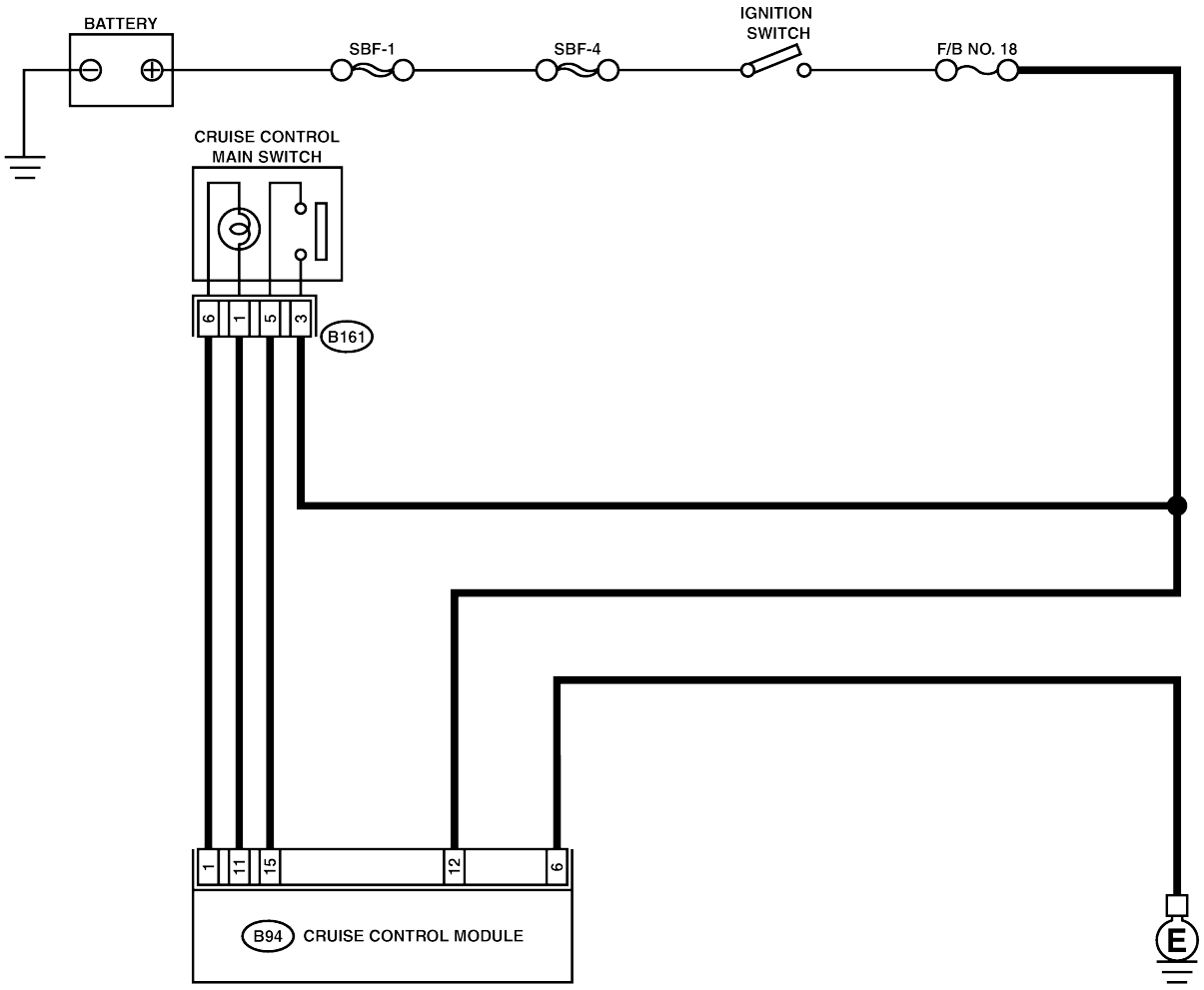
	Symptom	Repair area	Reference
1	Cruise control main switch is not turned ON.	(1) Check power supply.	<Ref. to CC-23 CHECK POWER SUPPRY, Diagnostics Chart with Symptom (Turbo Model).>
		(2) Check cruise control main switch.	<Ref. to CC-25 CHECK CRUISE CONTROL MAIN SWITCH, Diagnostics Chart with Symptom (Turbo Model).>
2	Cruise control cannot be set.	(1) Check SET/COAST switch.	<Ref. to CC-29 CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics Chart with Symptom (Turbo Model).>
		(2) Check stop light switch and brake switch.	<Ref. to CC-31 CHECK STOP LIGHT SWITCH AND BRAKE SWITCH, Diagnostics Chart with Symptom (Turbo Model).>
		(3) Check clutch switch (MT).	<Ref. to CC-33 CHECK CLUTCH SWITCH (MT), Diagnostics Chart with Symptom (Turbo Model).>
		(4) Check inhibitor switch (AT).	<Ref. to CC-35 CHECK INHIBITOR SWITCH (AT), Diagnostics Chart with Symptom (Turbo Model).>
		(5) Check vehicle speed sensor.	<Ref. to CC-39 DIAGNOSTIC TROUBLE CODE 22 — VEHICLE SPEED SENSOR —, Diagnostics Chart with Trouble Code (Turbo Model).>
		(6) Check motor drive system.	<Ref. to CC-43 DIAGNOSTIC TROUBLE CODE 35 AND 36 — ACTUATOR MOTOR — , Diagnostics Chart with Trouble Code (Turbo Model).>
		(7) Check motor clutch drive system.	<Ref. to CC-45 DIAGNOSTIC TROUBLE CODE 37 — ACTUATOR MOTOR CLUTCH — , Diagnostics Chart with Trouble Code (Turbo Model).>
3	Vehicle speed is not held within set speed ±3 km/h (±2 MPH).	(1) Check vehicle speed sensor.	<Ref. to CC-39 DIAGNOSTIC TROUBLE CODE 22 — VEHICLE SPEED SENSOR —, Diagnostics Chart with Trouble Code (Turbo Model).>
		(2) Check motor drive system.	<Ref. to CC-43 DIAGNOSTIC TROUBLE CODE 35 AND 36 — ACTUATOR MOTOR — , Diagnostics Chart with Trouble Code (Turbo Model).>
		(3) Check motor clutch drive system.	<Ref. to CC-45 DIAGNOSTIC TROUBLE CODE 37 — ACTUATOR MOTOR CLUTCH — , Diagnostics Chart with Trouble Code (Turbo Model).>
4	Vehicle speed does not increase or does not return to set speed after RESUME/ACCEL switch has been pressed.	(1) Check RESUME/ACCEL switch.	<Ref. to CC-29 CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics Chart with Symptom (Turbo Model).>
		(2) Check motor drive system.	<Ref. to CC-43 DIAGNOSTIC TROUBLE CODE 35 AND 36 — ACTUATOR MOTOR — , Diagnostics Chart with Trouble Code (Turbo Model).>
		(3) Check motor clutch drive system.	<Ref. to CC-45 DIAGNOSTIC TROUBLE CODE 37 — ACTUATOR MOTOR CLUTCH — , Diagnostics Chart with Trouble Code (Turbo Model).>
5	Vehicle speed does not decrease after SET/COAST switch has been pressed.	(1) Check SET/COAST switch.	<Ref. to CC-29 CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics Chart with Symptom (Turbo Model).>
		(2) Check motor drive system.	<Ref. to CC-43 DIAGNOSTIC TROUBLE CODE 35 AND 36 — ACTUATOR MOTOR — , Diagnostics Chart with Trouble Code (Turbo Model).>
		(3) Check motor clutch drive system.	<Ref. to CC-45 DIAGNOSTIC TROUBLE CODE 37 — ACTUATOR MOTOR CLUTCH — , Diagnostics Chart with Trouble Code (Turbo Model).>

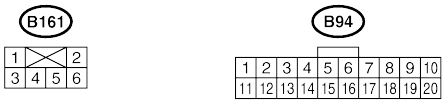
DIAGNOSTICS CHART WITH SYMPTOM (TURBO MODEL)

Symptom		Repair area	Reference
6	Cruise control is not released after CANCEL switch has been pressed.	(1) Check CANCEL switch.	<Ref. to CC-29 CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics Chart with Symptom (Turbo Model).>
		(2) Check motor drive system.	<Ref. to CC-43 DIAGNOSTIC TROUBLE CODE 35 AND 36 — ACTUATOR MOTOR — , Diagnostics Chart with Trouble Code (Turbo Model).>
		(3) Check motor clutch drive system.	<Ref. to CC-45 DIAGNOSTIC TROUBLE CODE 37 — ACTUATOR MOTOR CLUTCH — , Diagnostics Chart with Trouble Code (Turbo Model).>
7	Cruise control is not released after brake pedal has been depressed.	(1) Check stop light switch and brake switch.	<Ref. to CC-31 CHECK STOP LIGHT SWITCH AND BRAKE SWITCH, Diagnostics Chart Symptom (Turbo Model).>
		(2) Check motor drive system.	<Ref. to CC-43 DIAGNOSTIC TROUBLE CODE 35 AND 36 — ACTUATOR MOTOR — , Diagnostics Chart with Trouble Code (Turbo Model).>
		(3) Check motor clutch drive system.	<Ref. to CC-45 DIAGNOSTIC TROUBLE CODE 37 — ACTUATOR MOTOR CLUTCH — , Diagnostics Chart with Trouble Code (Turbo Model).>
8	Cruise control is not released after clutch pedal has been depressed (MT).	(1) Check clutch switch.	<Ref. to CC-33 CHECK CLUTCH SWITCH (MT), Diagnostics Chart with Symptom (Turbo Model).>
		(2) Check motor drive system.	<Ref. to CC-43 DIAGNOSTIC TROUBLE CODE 35 AND 36 — ACTUATOR MOTOR — , Diagnostics Chart with Trouble Code (Turbo Model).>
		(3) Check motor clutch drive system.	<Ref. to CC-45 DIAGNOSTIC TROUBLE CODE 37 — ACTUATOR MOTOR CLUTCH — , Diagnostics Chart with Trouble Code (Turbo Model).>

B: CHECK POWER SUPPLY S003749F23

TROUBLE SYMPTOM:
Cruise control can be set normally, but indicator does not come on. (When main switch is pressed.)
WIRING DIAGRAM:





S6M0521

DIAGNOSTICS CHART WITH SYMPTOM (TURBO MODEL)

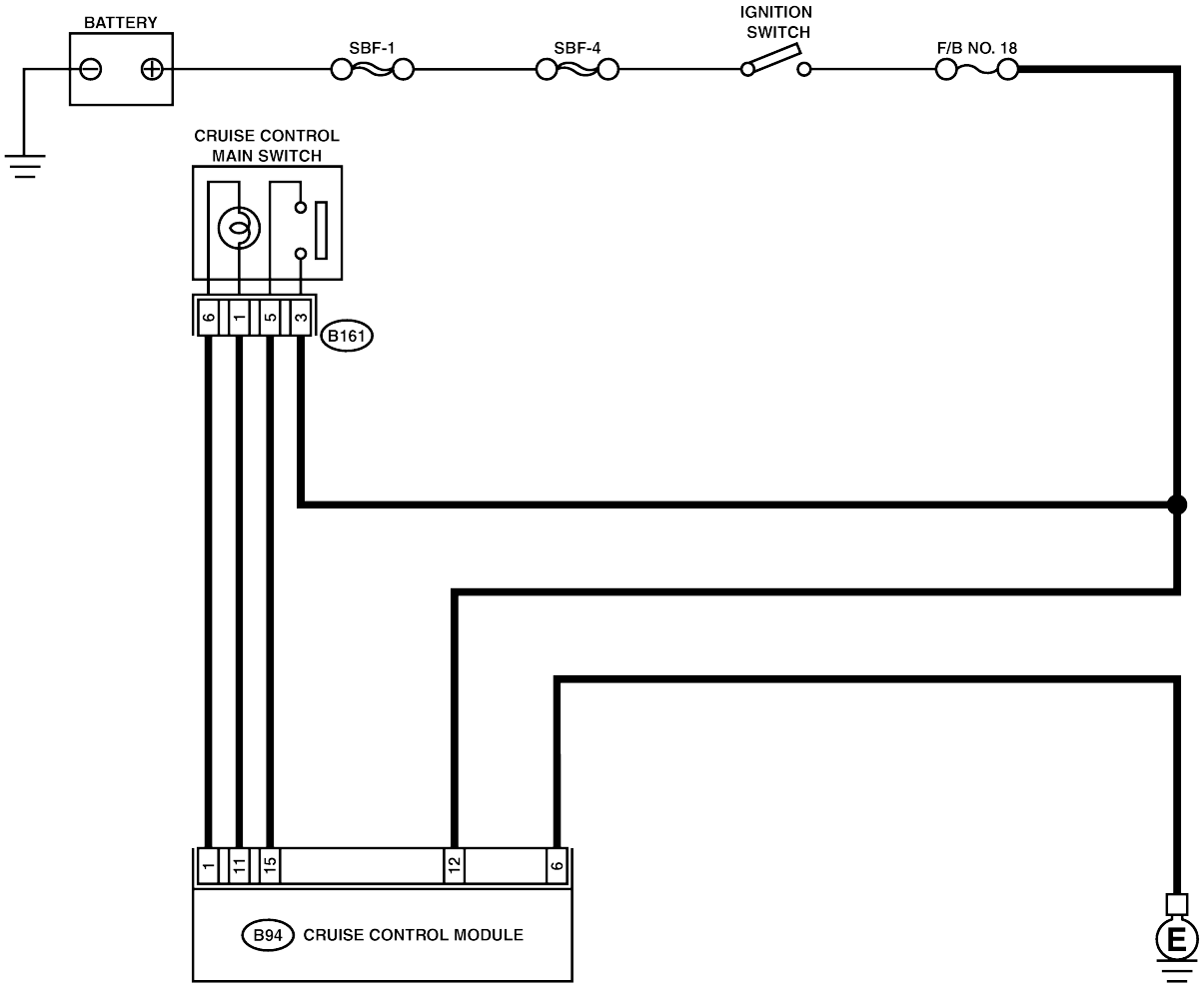
No.	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect cruise control module harness connector. 2) Turn ignition switch ON. 3) Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B94) No. 12 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	• Check fuse No. 18 (in fuse & relay box). • Check harness for open or short between cruise control module and fuse & relay box.
2	**CHECK GROUND CIRCUIT.** Measure resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B94) No. 6 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	Power supply and ground circuit are OK.	Repair harness.

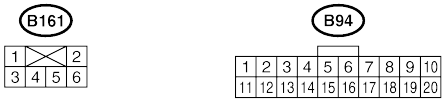
C: CHECK CRUISE CONTROL MAIN SWITCH S003749F24

TROUBLE SYMPTOM:
Cruise control main switch is not turned ON and cruise control cannot be set.

NOTE:
When the main relay (built-in cruise control module) operates, the main switch circuit is in normal condition.
The main relay operation can be checked by hearing the operation sounds.
This operation sounds will be heard when ignition switch and cruise control main switch is turned to ON.

WIRING DIAGRAM:





S6M0521

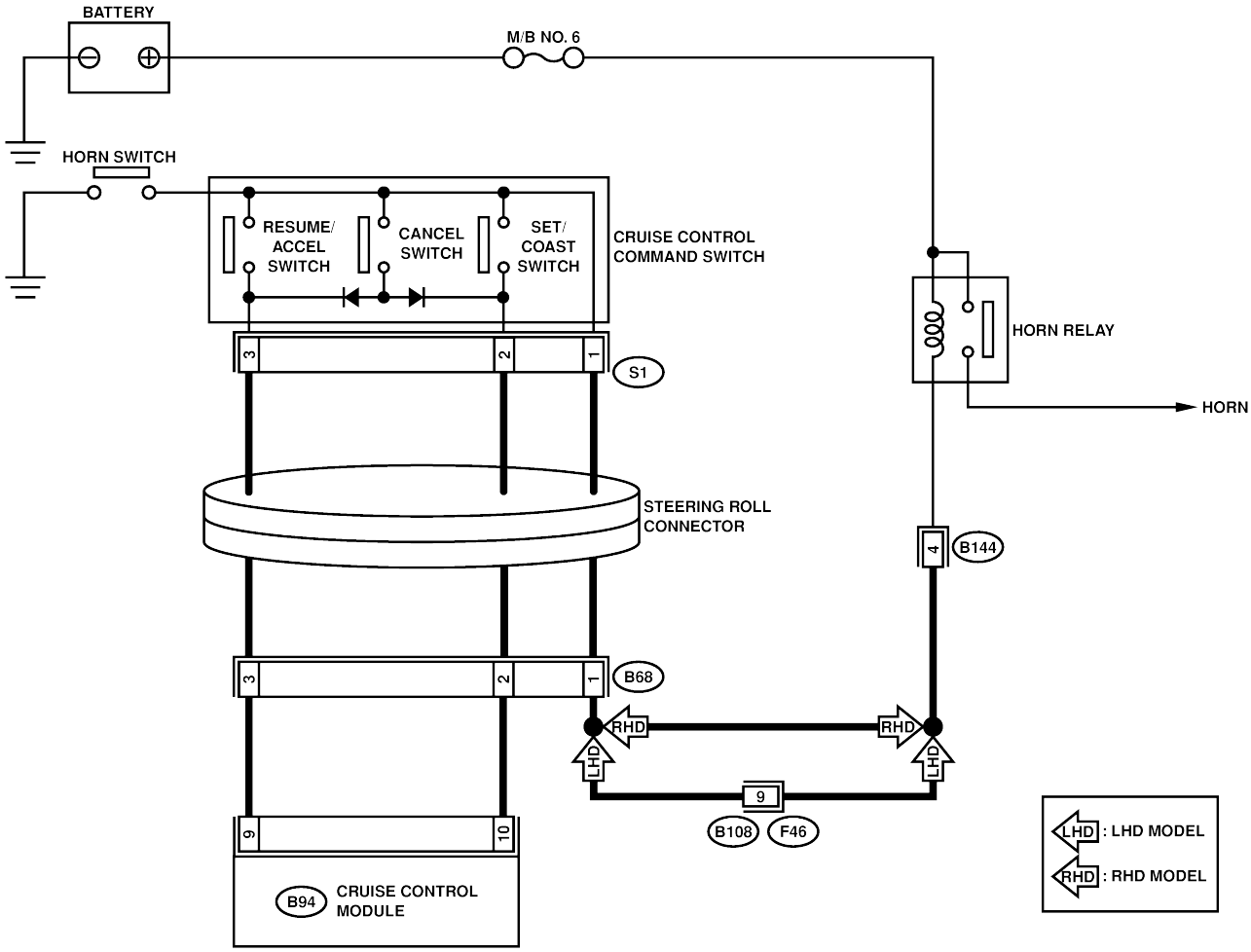
DIAGNOSTICS CHART WITH SYMPTOM (TURBO MODEL)

No.	Step	Check	Yes	No
1	**CHECK CRUISE CONTROL MAIN SWITCH CIRCUIT.** 1) Disconnect cruise control main switch harness connector. 2) Turn ignition switch ON. 3) Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B161) No. 3 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	• Check fuse No. 18 (in fuse & relay box). • Check harness for open or short between cruise control main switch and fuse & relay box.
2	**CHECK CRUISE CONTROL MAIN SWITCH CIRCUIT.** 1) Turn ignition switch OFF. 2) Disconnect cruise control module harness connector. 3) Measure resistance between cruise control module harness connector terminal and cruise control main switch harness connector terminal. ***Connector & terminal*** ***(B94) No. 15 (+) — (B161) No. 5 (–):*** ***(B94) No. 1 (+) — (B161) No. 6 (–):*** ***(B94) No. 11(+) — (B161) No. 1 (–):***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair harness.
3	**CHECK CRUISE CONTROL MAIN SWITCH.** Remove and check cruise control main switch. <Ref. to CC-9 Cruise Control Main Switch.>	Is cruise control main switch OK?	Replace cruise control module.	Replace cruise control main switch.

MEMO:

D: CHECK CRUISE CONTROL COMMAND SWITCH S003749F25

TROUBLE SYMPTOM:
Cruise control cannot be set. (Cancelled immediately.)
WIRING DIAGRAM:





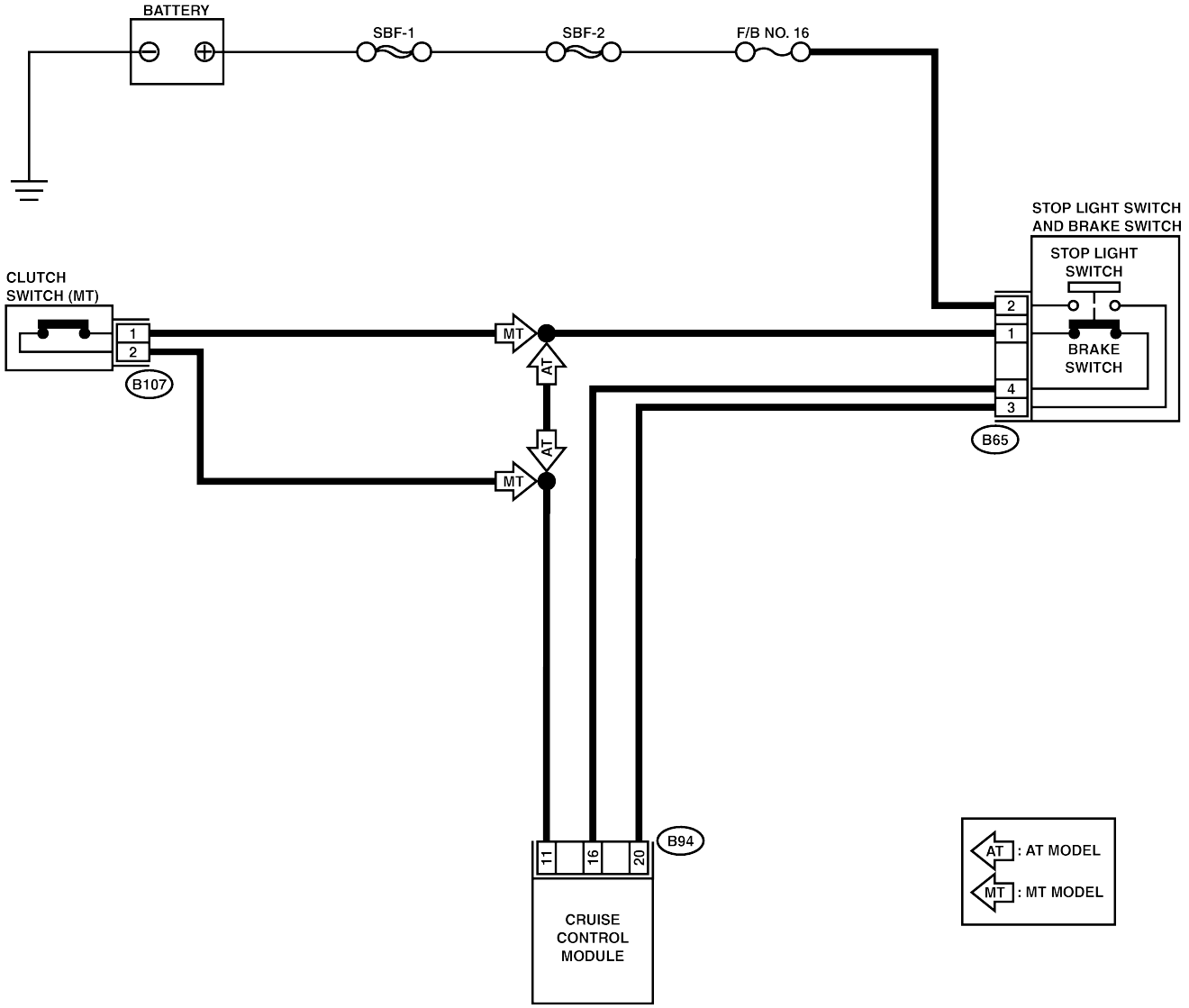
S6M0522

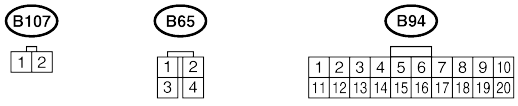
DIAGNOSTICS CHART WITH SYMPTOM (TURBO MODEL)

No.	Step	Check	Yes	No
1	**CHECK SET/COAST SWITCH CIRCUIT.** 1) Disconnect cruise control module harness connector. 2) Turn ignition switch ON. 3) Measure voltage between harness connector terminal and chassis ground when SET/COAST switch is pressed and not pressed. ***Connector & terminal*** ***(B94) No. 10 (+) — Chassis ground (–):***	Is the voltage 0 V when SET/COAST switch is not pressed? Is the voltage more than 10 V when SET/COAST switch is pressed?	Go to step **2**.	Go to step **4**.
2	**CHECK RESUME/ACCEL SWITCH CIRCUIT.** Measure voltage between harness connector terminal and chassis ground when RESUME/ACCEL switch is pressed and not pressed. ***Connector & terminal*** ***(B94) No. 9 (+) — Chassis ground (–):***	Is the voltage 0 V when RESUME/ACCEL switch is not pressed? Is the voltage more than 10 V when RESUME/ACCEL switch is pressed?	Go to step **3**.	Go to step **4**.
3	**CHECK CANCEL SWITCH CIRCUIT.** Measure voltage between harness connector terminal and chassis ground when CANCEL switch is pressed and not pressed. ***Connector & terminal*** ***(B94) No. 9 (+) — Chassis ground (–):*** ***(B94) No. 10 (+) — Chassis ground (–):***	Is the voltage 0 V when CANCEL switch is not pressed? Is the voltage more than 10 V when CANCEL switch is pressed?	Cruise control command switch circuit is OK.	Go to step **4**.
4	**CHECK POWER SUPPLY FOR COMMAND SWITCH.** Check horn operation.	Does horn sound?	Go to step **5**.	• Check fuse No. 6 (in main fuse box). • Check horn relay. <Ref. to COM-4 HORN RELAY, INSPECTION, Horn System.> • Check harness for open or short between cruise control command switch and fuse & relay box.
5	**CHECK CRUISE CONTROL COMMAND SWITCH.** Remove and check cruise control command switch. <Ref. to CC-10 Cruise Control Command Switch.>	Is cruise control command switch OK?	Check harness between cruise control command switch and cruise control module.	Replace cruise control command switch.

E: CHECK STOP LIGHT SWITCH AND BRAKE SWITCH S003749F26

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





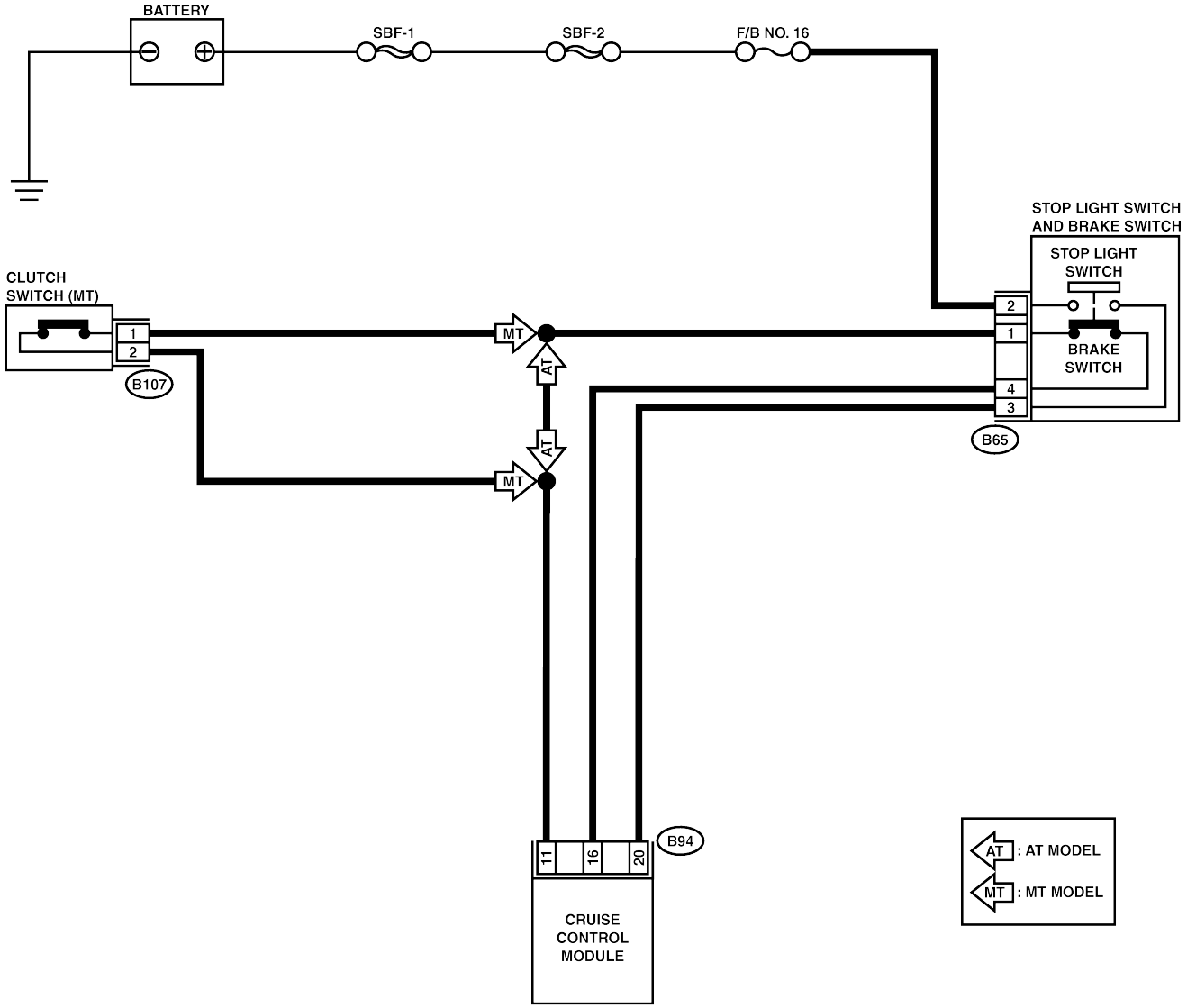
S6M0523

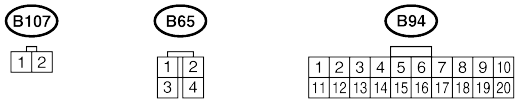
DIAGNOSTICS CHART WITH SYMPTOM (TURBO MODEL)

No.	Step	Check	Yes	No
1	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** 1) Disconnect stop light switch and brake switch harness connector. 2) Turn ignition switch ON. 3) Turn cruise control main switch ON. 4) Measure 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. 16 (in fuse & relay box). • Check harness for open or short between stop light/brake switch and fuse & relay box.
2	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3**.	• Check harness for open or short between stop light/brake switch and cruise control module (AT). • Check clutch switch and the circuit (MT).
3	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** 1) Turn cruise control main switch and ignition switch OFF. 2) Disconnect cruise control module harness connector. 3) Measure resistance between cruise control module harness connector terminal and stop light switch and brake switch harness connector terminal. ***Connector & terminal*** ***(B94) No. 20 (+) — (B65) No. 3 (–):*** ***(B94) No. 16 (+) — (B65) No. 4 (–):***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair harness.
4	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH.** Remove and check stop light switch and brake switch. <Ref. to CC-11 Stop and Brake Switch.>	Are stop light switch and brake switch OK?	Stop light switch and brake switch circuit are OK.	Replace stop light switch and brake switch.

F: CHECK CLUTCH SWITCH (MT) S003749F27

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





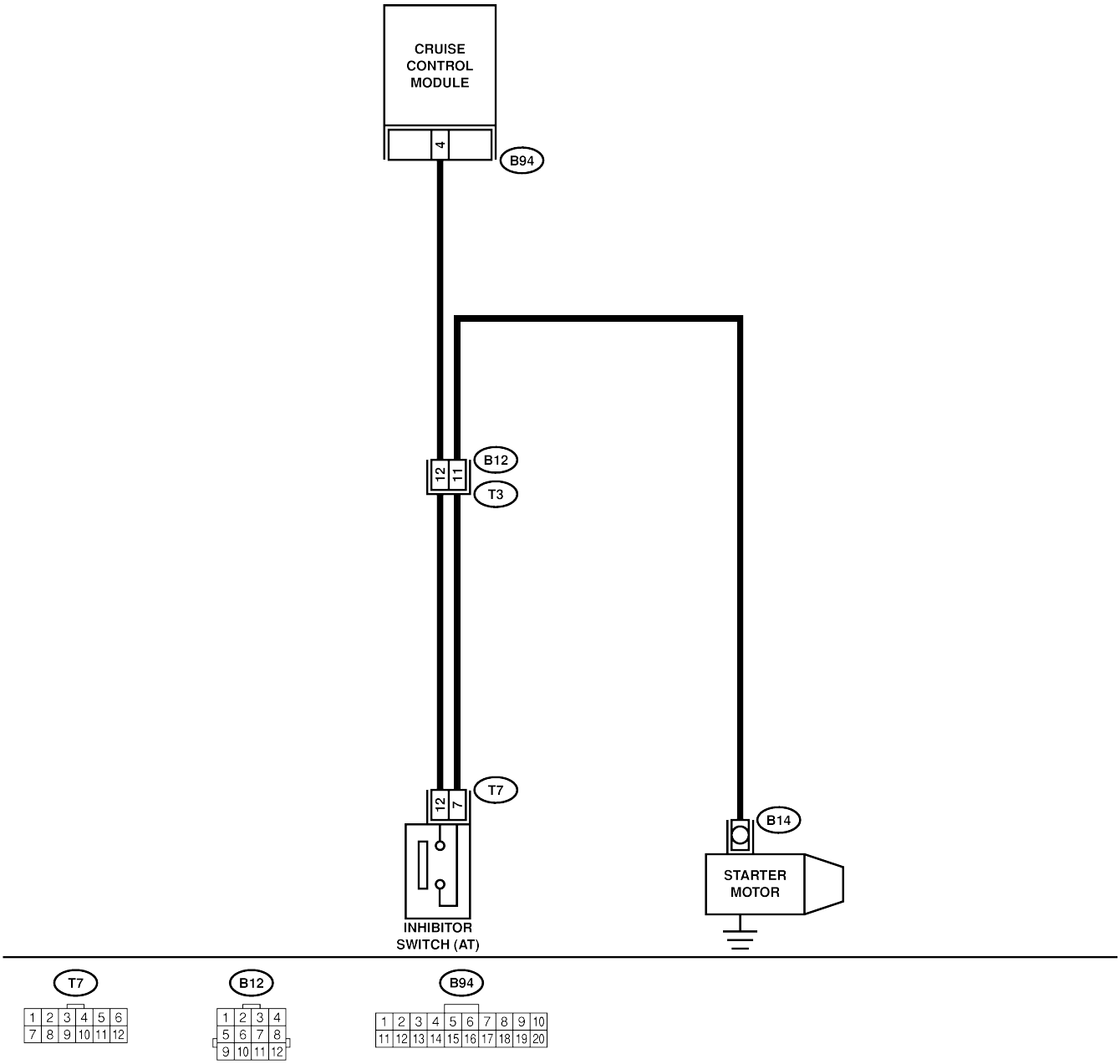
S6M0523

DIAGNOSTICS CHART WITH SYMPTOM (TURBO MODEL)

No.	Step	Check	Yes	No
1	**CHECK CLUTCH SWITCH CIRCUIT.** 1) Disconnect clutch switch harness connector. 2) Turn ignition switch ON. 3) Turn cruise control main switch ON. 4) Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B107) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check harness for open or short between clutch switch and cruise control module.
2	**CHECK CLUTCH SWITCH CIRCUIT.** 1) Turn cruise control main switch and ignition switch OFF. 2) Disconnect stop light switch and brake switch harness connector. 3) Measure resistance between clutch switch harness connector terminal and stop light switch and brake switch harness connector terminal. ***Connector & terminal*** ***(B107) No. 1 (+) — (B65) No. 1 (–):***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair harness.
3	**CHECK CLUTCH SWITCH.** Remove and check clutch switch. <Ref. to CC-12 Clutch Switch.>	Is clutch switch OK?	Clutch switch circuit is OK.	Replace clutch switch.

G: CHECK INHIBITOR SWITCH (AT) S003749F28

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



B6M1527

DIAGNOSTICS CHART WITH SYMPTOM (TURBO MODEL)

No.	Step	Check	Yes	No
1	**CHECK INHIBITOR SWITCH CIRCUIT.** 1) Disconnect inhibitor switch harness connector. 2) Turn ignition switch ON. 3) Turn cruise control main switch ON. 4) Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(T7) No. 12 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check harness for open or short between inhibitor switch and cruise control module.
2	**CHECK INHIBITOR SWITCH CIRCUIT.** 1) Turn cruise control main switch and ignition switch OFF. 2) Disconnect starter motor harness connector. 3) Measure resistance between inhibitor switch harness connector terminal and chassis ground. ***Connector & terminal*** ***(T7) No. 7 (+) — (B14) No. 1 (–):***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair harness.
3	**CHECK INHIBITOR SWITCH.** Remove and check inhibitor switch. <Ref. to CC-13 Inhibitor Switch.>	Is inhibitor switch OK?	Inhibitor switch circuit is OK.	Replace inhibitor switch.

7. Diagnostics Chart with Trouble Code (Turbo Model) S003750

A: LIST OF DIAGNOSTIC TROUBLE CODE S003750E40

Diagnostic trouble code	Item	Contents of diagnosis	Reference
21	Inner relay is seized.	Cruise control module inner relay is seized when main switch is OFF.	<Ref. to CC-38 DIAGNOSTIC TROUBE CODE 21, 24, 25, AND 2A — CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM —, Diagnostics Chart with Trouble Code (Turbo Model).>
22	Vehicle speed sensor	Vehicle speed signal changes more than 10 km/h (6 MPH) within 350 ms.	<Ref. to CC-39 DIAGNOSTIC TROUBLE CODE 22 — VEHICLE SPEED SENSOR —, Diagnostics Chart with Trouble Code (Turbo Model).>
24	Cruise control module is abnormal.	Two vehicle speed values stored in cruise control module memory are not the same.	<Ref. to CC-38 DIAGNOSTIC TROUBE CODE 21, 24, 25, AND 2A — CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM —, Diagnostics Chart with Trouble Code (Turbo Model).>
25	Cruise control module is abnormal.	Two output values stored in cruise control module memory are not the same.	<Ref. to CC-38 DIAGNOSTIC TROUBE CODE 21, 24, 25, AND 2A — CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM —, Diagnostics Chart with Trouble Code (Turbo Model).>
28	Wiring harness opened.	Open wiring harness circuit is detected via control module relay when main switch is ON.	<Ref. to CC-42 DIAGNOSTIC TROUBLE CODE 28 — WIRING HARNESS OPENED —, Diagnostics Chart with Trouble Code (Turbo Model).>
35	Motor drive system is abnormal.	• Motor output circuit is open or shorted. • Motor drive circuit is open or shorted.	<Ref. to CC-43 DIAGNOSTIC TROUBLE CODE 35 AND 36 — ACTUATOR MOTOR — , Diagnostics Chart with Trouble Code (Turbo Model).>
36	Trouble of motor	Motor turning speed is slow.	<Ref. to CC-43, DIAGNOSTIC TROUBLE CODE 35 AND 36 — ACTUATOR MOTOR —, Diagnostics Chart with Trouble Code (Turbo Model).>

Diagnostic trouble code	Item	Contents of diagnosis	Reference
37	Motor clutch drive system is abnormal.	• Motor clutch output circuit is open or shorted. • Motor clutch drive circuit is open or shorted.	<Ref. to CC-45 DIAGNOSTIC TROUBLE CODE 37 — ACTUATOR MOTOR CLUTCH — , Diagnostics Chart with Trouble Code (Turbo Model).>
38	Motor drive shaft does not engage properly.	Motor drive gear engagement is not properly adjusted.	<Ref. to CC-47 DIAGNOSTIC TROUBLE CODE 38 — MOTOR DRIVE SHAFT DOES NOT ENGAGE PROPERLY.— , Diagnostics Chart with Trouble Code (Turbo Model).>
39	Motor is overloaded.	Current flows through motor more frequently than under normal conditions.	<Ref. to CC-48 DIAGNOSTIC TROUBLE CODE 39 — MOTOR IS OVERLOADED.—, Diagnostics Chart with Trouble Code (Turbo Model).>
2A	Cruise control module is abnormal.	Cruise control module self-diagnosis function senses abnormality.	<Ref. to CC-38 DIAGNOSTIC TROUBE CODE 21, 24, 25, AND 2A — CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM —, Diagnostics Chart with Trouble Code (Turbo Model).>

B: DIAGNOSTIC TROUBLE CODE 21, 24, 25 AND 2A — CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM — S003750F29

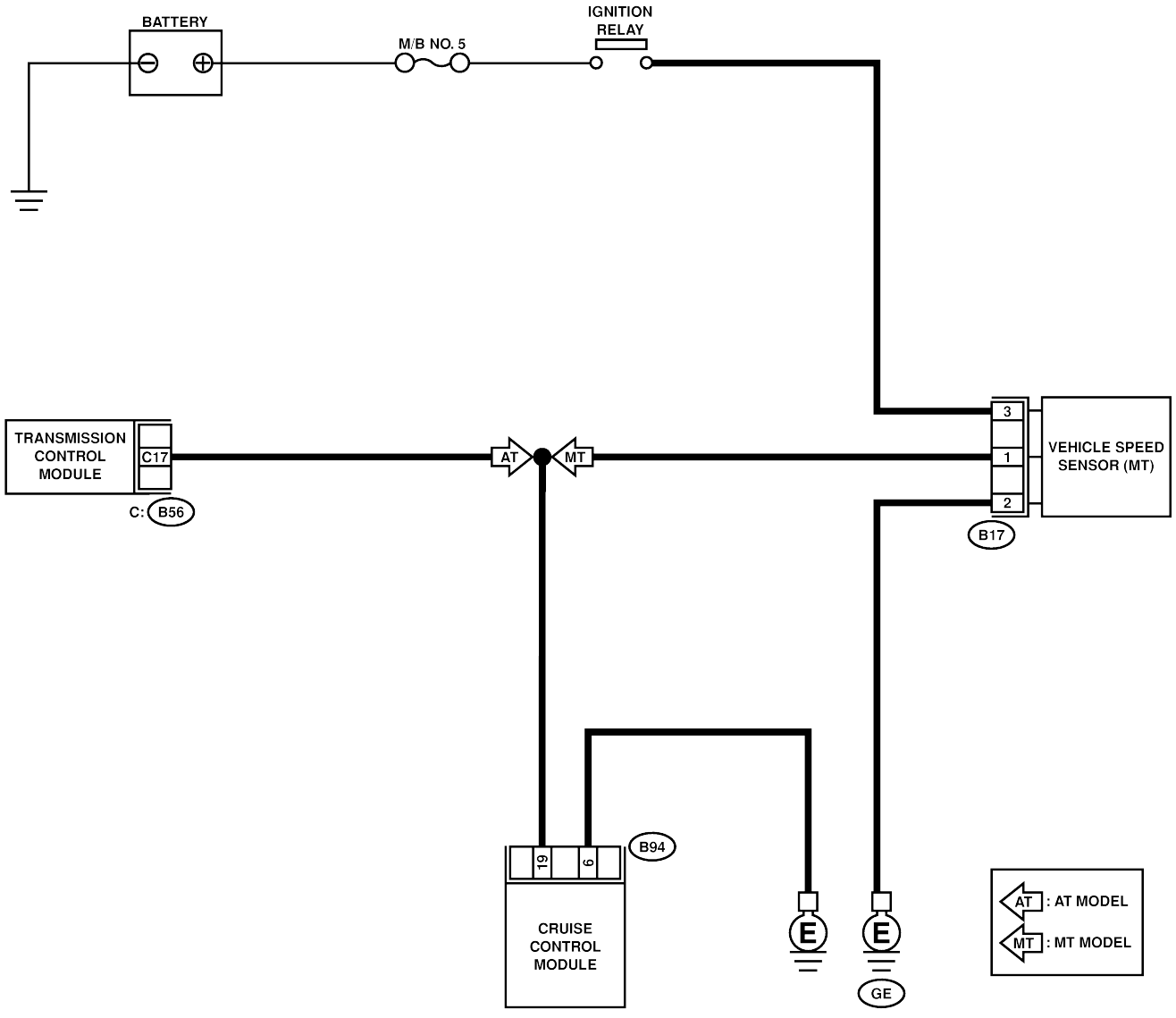
DIAGNOSIS:
- Poor welding of built-in relay of cruise control module.
- Failure of built-in CPU RAM of cruise control module.

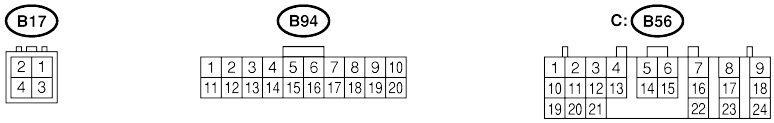
TROUBLE SYMPTOM:
- Cruise control is canceled and memorized cruise speed is also canceled.
- Once cruise control is canceled, cruise control cannot be set until the ignition switch and cruise control main switch turns OFF, and then turns ON again.

NOTE:
Check input/output signal and vehicle speed signal with select monitor. When signals are in good condition, failure is in cruise control module. (Check power supply and ground conditions of cruise control module.)

C: DIAGNOSTIC TROUBLE CODE 22 — VEHICLE SPEED SENSOR — S003750F30

DIAGNOSIS:
Disconnection or short circuit of vehicle speed sensor system.
TROUBLE SYMPTOM:
Cruise control cannot be set. (Cancelled immediately.)
WIRING DIAGRAM:





S6M0524

DIAGNOSTICS CHART WITH TROUBLE CODE (TURBO MODEL)

No.	Step	Check	Yes	No
1	**CHECK TRANSMISSION TYPE.**	Is the transmission type MT?	Go to step **2**.	Go to step **6**.
2	**CHECK HARNESS BETWEEN BATTERY AND VEHICLE SPEED SENSOR.** 1) Disconnect harness connector from vehicle speed sensor. 2) Turn ignition switch to ON. 3) Measure voltage between vehicle speed sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(B17) No. 3 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3**.	Check harness for open or short between ignition relay and vehicle speed sensor.
3	**CHECK HARNESS BETWEEN CRUISE CONTROL MODULE AND VEHICLE SPEED SENSOR.** 1) Disconnect harness connector from cruise control module. 2) Measure resistance between vehicle speed sensor harness connector terminal and cruise control module harness connector terminal. ***Connector & terminal*** ***(B17) No. 1 — (B94) No. 19:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair harness.
4	**CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND ENGINE GROUND.** 1) Turn ignition switch to OFF. 2) Measure resistance between vehicle speed sensor harness connector terminal and engine ground. ***Connector & terminal*** ***(B17) No. 2 (+) — Engine ground (–):***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair harness.
5	**CHECK VEHICLE SPEED SENSOR.** 1) Connect harness connector to vehicle speed sensor. 2) Set the vehicle on free roller, or lift-up the vehicle and support with safety stands. **WARNING:** **Be careful not to be caught up by the running wheels.** 3) Drive the vehicle at speed greater than 20 km/h (12 MPH). 4) Measure voltage between cruise control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B94) No. 19 (+) — Chassis ground (–):***	Is the voltage less than 1 V ←→ more than 4 V?	Replace cruise control module. <Ref. to CC-8 Cruise Control Module.>	Replace vehicle speed sensor.

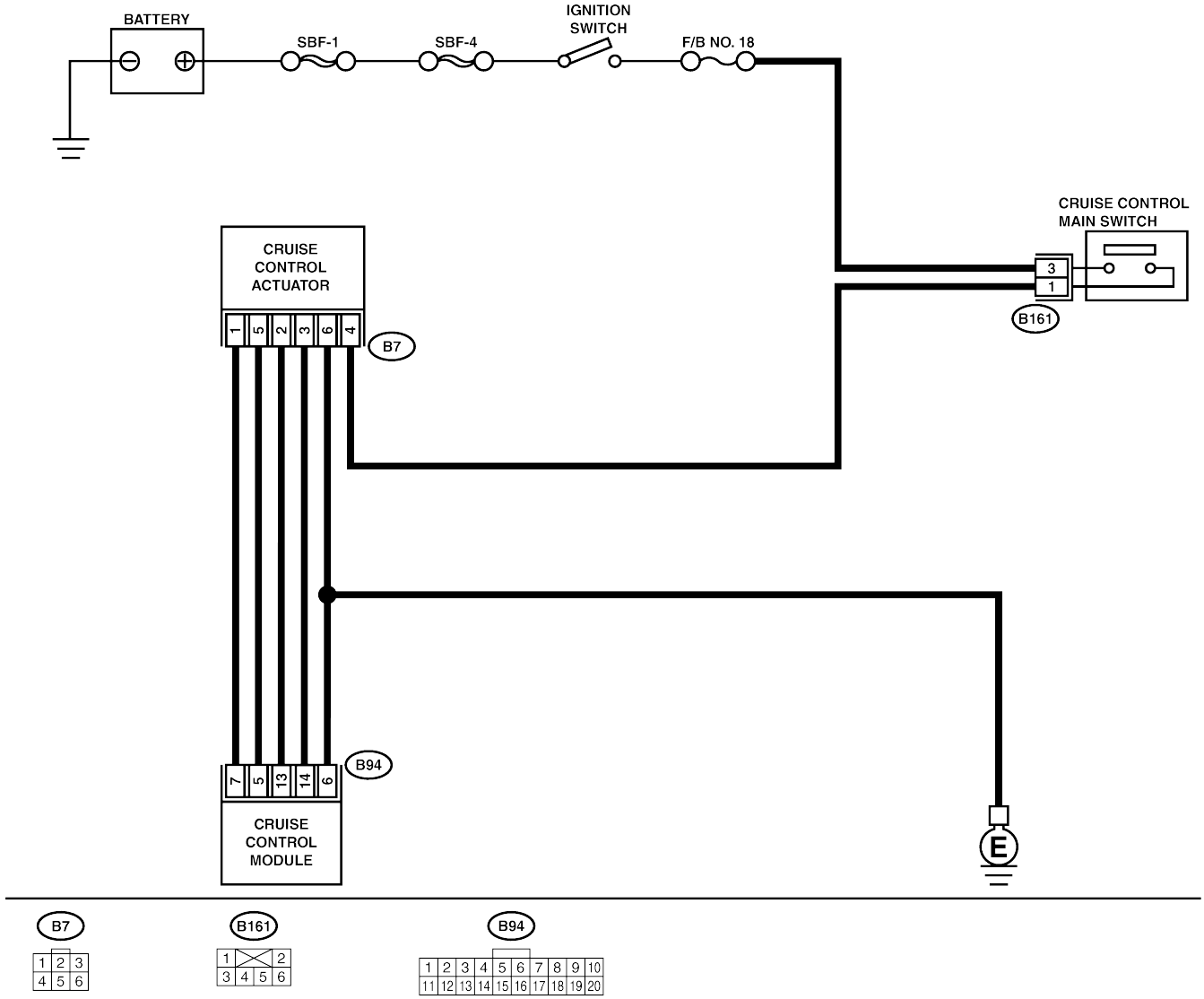
No.	Step	Check	Yes	No
6	**CHECK HARNESS BETWEEN CRUISE CONTROL MODULE AND TRANSMISSION CONTROL MODULE.** 1) Disconnect harness connector from transmission control module and cruise control module. 2) Measure resistance between cruise control module harness connector terminal and transmission control module harness connector terminal. **CAUTION:** **To measure the voltage and/or resistance, use a tapered pin with a diameter of less than 0.64 mm (0.025 in). Do not insert the pin more than 5 mm (0.20 in).** ***Connector & terminal*** ***(B94) No. 19 — (B56) No. 17:***	Is the resistance less than 10 Ω?	Go to step **7**.	Repair harness connector between cruise control module and transmission control module.
7	**CHECK TRANSMISSION CONTROL MODULE.** 1) Connect harness connector to transmission control module. 2) Set the vehicle on free roller, or lift-up the vehicle and support with safety stands. **WARNING:** **Be careful not to be caught by the running wheels.** 3) Drive the vehicle faster than 10 km/h (6 MPH). 4) Measure voltage between transmission control module harness connector terminal and chassis ground. **CAUTION:** **To measure the voltage and/or resistance, use a tapered pin with a diameter of less than 0.64 mm (0.025 in). Do not insert the pin more than 5 mm (0.20 in).** ***Connector & terminal*** ***(B56) No. 17 (+) — Chassis ground (–):***	Is the voltage less than 1 V ←→ more than 4 V?	Replace cruise control module. <Ref. to CC-8 Cruise Control Module.>	Replace transmission control module. <Ref. to AT-48 Transmission Control Module (TCM).>

D: DIAGNOSTIC TROUBLE CODE 28 — WIRING HARNESS OPENED. — S003750F31

No.	Step	Check	Yes	No
1	**CHECK BATTERY.** Measure battery specific gravity of electrolyte.	Is battery specific gravity more than 1.250?	Go to step **2**.	Charge or replace battery. Go to step **2**.
2	**CHECK FUSES, CONNECTORS AND HARNESSES.** Check the condition of the main and other fuses, and harnesses and connectors. Also check for proper grounding.	Is there anything unusual about the appearance of main fuse, fuse, harness, connector and grounding?	Repair or replace faulty parts.	End of inspection.

E: DIAGNOSTIC TROUBLE CODE 35 AND 36 — ACTUATOR MOTOR — S003750F32

DIAGNOSIS:
Open or poor contact of cruise control actuator motor.
TROUBLE SYMPTOM:
Cruise control cannot be set. (Cancelled immediately.)
WIRING DIAGRAM:



S6M0525

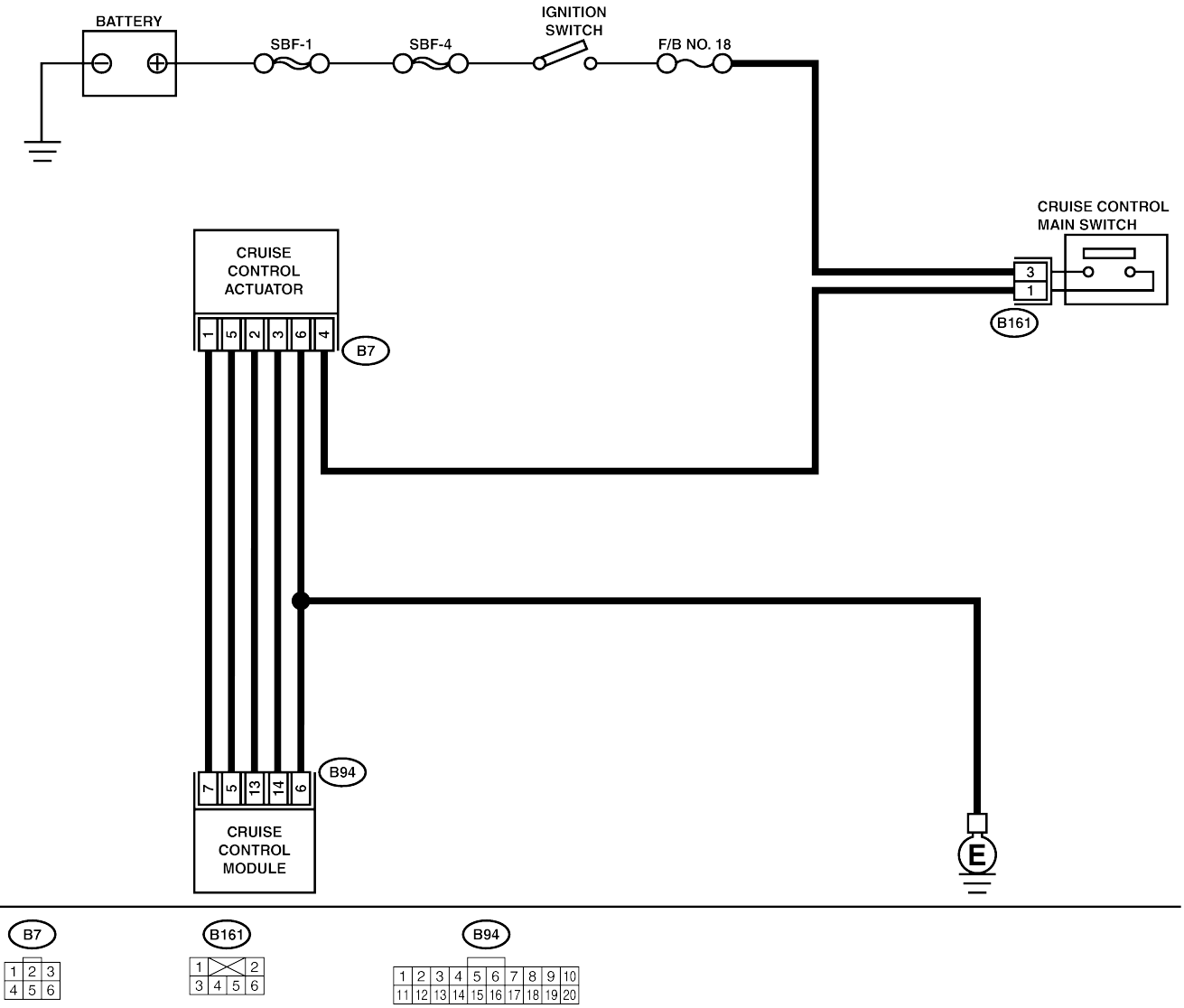
DIAGNOSTICS CHART WITH TROUBLE CODE (TURBO MODEL)

No.	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Turn ignition switch OFF. 2) Disconnect harness connector from cruise control actuator. 3) Turn ignition switch ON. 4) Turn cruise control main switch ON. 5) Measure voltage between cruise control actuator harness connector terminal and chassis ground. ***Terminals*** ***(B7) No. 4 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check harness for open or short between cruise control main switch and cruise control actuator.
2	**CHECK GROUND CIRCUIT OF ACTUATOR.** Measure resistance between cruise control actuator harness connector terminal and chassis ground. ***Terminals*** ***(B7) No. 6 (+) — Chassis ground (–):***	Is resistance less than 10 Ω?	Go to step **3**.	Repair harness.
3	**MEASURE RESISTANCE OF ACTUATOR.** Measure resistance of cruise control actuator motor. ***Terminals*** ***No. 4 — No. 1:*** ***No. 4 — No. 2:*** ***No. 4 — No. 5:***	Is resistance approximately 5 Ω?	Go to step **4**.	Replace cruise control actuator. <Ref. to CC-5, Actuator (Turbo Model).>
4	**CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.** 1) Disconnect harness connector from cruise control module. 2) Measure resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal. ***Connector & terminal*** ***(B7) No. 1 — (B94) No. 7:***	Is resistance less than 10 Ω?	Go to step **5**.	Repair harness.
5	**CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.** Measure resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal . ***Connector & terminal*** ***(B7) No. 5 — (B94) No. 5:***	Is resistance less than 10 Ω?	Replace cruise control module. <Ref. to CC-8 Cruise Control Module.>	Repair harness.

F: DIAGNOSTIC TROUBLE CODE 37 — ACTUATOR MOTOR CLUTCH —

S003750F33

DIAGNOSIS:
Open or poor contact of cruise control actuator motor clutch.
TROUBLE SYMPTOM:
Cruise control cannot be set. (Cancelled immediately.)
WIRING DIAGRAM:



S6M0525

DIAGNOSTICS CHART WITH TROUBLE CODE (TURBO MODEL)

No.	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Turn ignition switch OFF. 2) Disconnect harness connector from cruise control actuator. 3) Turn ignition switch ON. 4) Turn cruise control main switch ON. 5) Measure voltage between cruise control actuator harness connector terminal and chassis ground. ***Terminals*** ***(B7) No. 4 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check harness for open or short between cruise control main switch and cruise control actuator.
2	**CHECK GROUND CIRCUIT OF ACTUATOR.** Measure resistance between cruise control actuator harness connector terminal and chassis ground. ***Terminals*** ***(B7) No. 6 — Chassis ground:***	Is resistance less than 10 Ω?	Go to step **3**.	Repair harness.
3	**MEASURE RESISTANCE OF ACTUATOR CLUTCH.** Measure resistance of cruise control actuator clutch. ***Terminals*** ***No. 3 — No. 6:***	Is resistance approximately 39 Ω?	Go to step **4**.	Replace cruise control actuator. <Ref. to CC-5, Actuator (Turbo Model).>
4	**CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.** 1) Disconnect harness connector from cruise control module. 2) Measure resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal. ***Connector & terminal*** ***(B7) No. 2 — (B94) No. 13:***	Is resistance less than 10 Ω?	Go to step **5**.	Repair harness.
5	**CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.** Measure resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal. ***Connector & terminal*** ***(B7) No. 3 — (B94) No. 14:***	Is resistance less than 10 Ω?	Replace cruise control module. <Ref. to CC-8 Cruise Control Module.>	Repair harness.

G: DIAGNOSTIC TROUBLE CODE 38 — MOTOR DRIVE SHAFT DOES NOT ENGAGE PROPERLY. — S003750F34

No.	Step	Check	Yes	No
1	**CHECK ACTUATOR MOTOR.** 1) Disconnect harness connector from cruise control actuator. 2) Remove cruise control actuator from mounting bracket. 3) Pull cable by hand to check for looseness or status of inner gear engagement.	Are foreign particles caught in inner gear or does inner gear engage and disengage improperly?	Replace cruise control actuator. <Ref. to CC-5, Actuator (Turbo Model).>	Check the cruise control cable adjustment. <Ref. to CC-6 CABLE FREE PLAY, INSPECTION, General Description.>

H: DIAGNOSTIC TROUBLE CODE 39 — MOTOR IS OVERLOADED. — S003750F35

No.	Step	Check	Yes	No
1	**CHECK THE OPERATING CURRENT TO ACTUATOR MOTOR.** 1) Connect Subaru Select Monitor to data link connector. 2) Try to drive the vehicle while operating the cruise control system. 3) Check the operation current to the cruise control actuator motor.	Is current more than 10A?	Replace cruise control module. <Ref. to CC-8 Cruise Control Module.>	Check the power supply circuit. <Ref. to CC-23, CHECK POWER SUPPLY, Diagnostics Chart with Symptom (Turbo Model).>

8. Diagnostics Chart with Symptom (Non-turbo Model) S003751

A: SYMPTOM CHART S003751F22

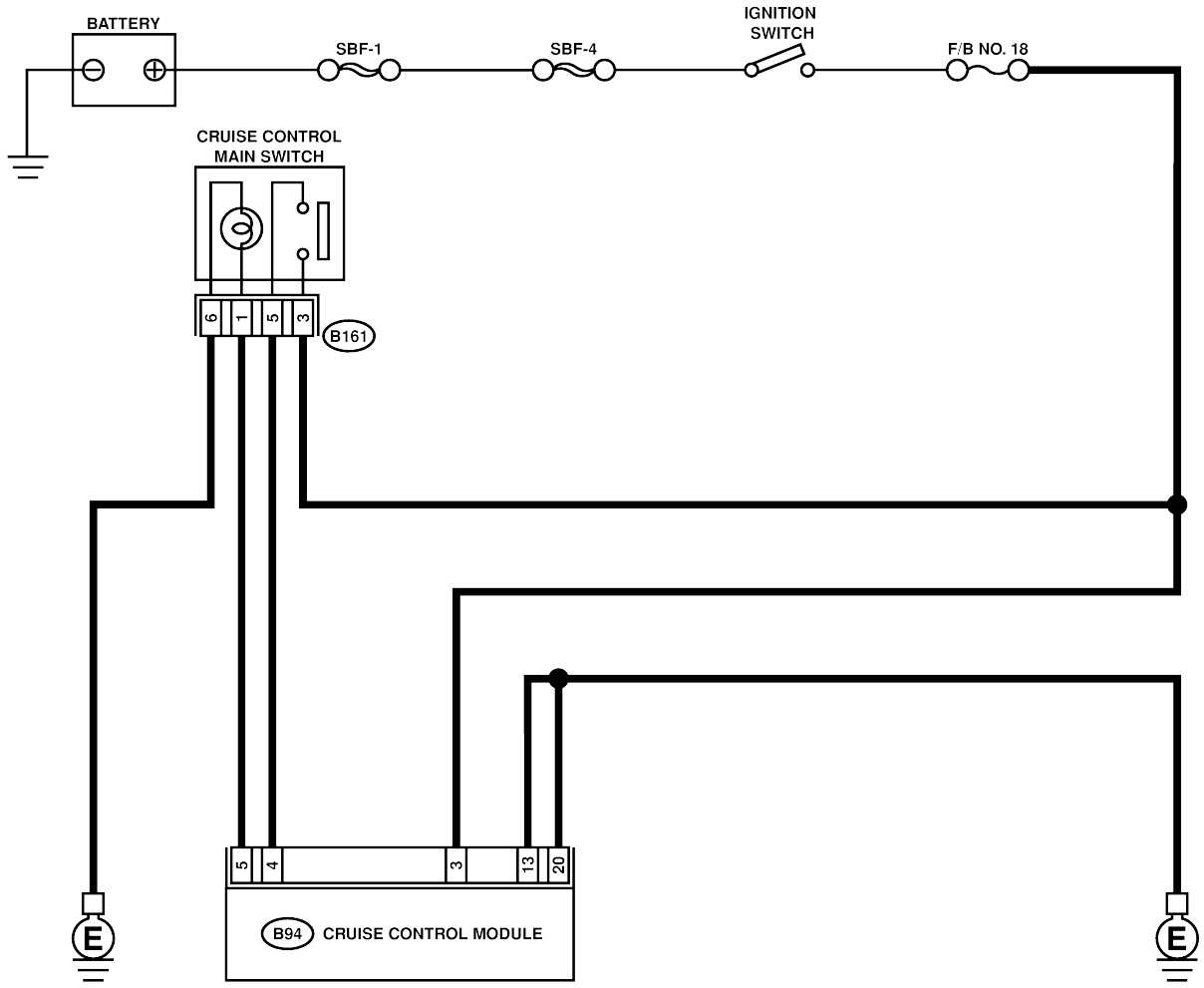
	Symptom	Repair area	Reference
1	Cruise control main switch is not turned ON.	(1) Check power supply.	<Ref. to CC-51 CHECK POWER SUPPLY, Diagnostics Chart with Symptom (Non-turbo Model).>
		(2) Check cruise control main switch.	<Ref. to CC-53 CHECK CRUISE CONTROL MAIN SWITCH, Diagnostics Chart with Symptom (Non-turbo Model).>
2	Cruise control cannot be set.	(1) Check SET/COAST switch.	<Ref. to CC-66 DIAGNOSTIC TROUBLE CODE 14 — SET/COAST SWITCH, RESUME/ACCEL SWITCH AND CANCEL SWITCH —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(2) Check stop light switch and brake switch.	<Ref. to CC-59 DIAGNOSTIC TROUBLE CODE 11 — BRAKE SWITCH AND STOP LIGHT SWITCH —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(3) Check clutch switch (MT).	<Ref. to CC-61 DIAGNOSTIC TROUBLE CODE 12 — CLUTCH SWITCH AND INHIBITOR SWITCH —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(4) Check inhibitor switch (AT).	<Ref. to CC-61 DIAGNOSTIC TROUBLE CODE 12 — CLUTCH SWITCH AND INHIBITOR SWITCH —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(5) Check vehicle speed sensor.	<Ref. to CC-63, DIAGNOSTIC TROUBLE CODE 13 AND 24 — SPEED SENSOR SYSTEM —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(6) Check actuator.	<Ref. to CC-68 DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
3	Vehicle speed is not held within set speed ±3 km/h (±2 MPH).	(1) Check vehicle speed sensor.	<Ref. to CC-63, DIAGNOSTIC TROUBLE CODE 13 AND 24 — SPEED SENSOR SYSTEM —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(2) Check actuator.	<Ref. to CC-68 DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
4	Vehicle speed does not increase or does not return to set speed after RESUME/ACCEL switch has been pressed.	(1) Check RESUME/ACCEL switch.	<Ref. to CC-66 DIAGNOSTIC TROUBLE CODE 14 — SET/COAST SWITCH, RESUME/ACCEL SWITCH AND CANCEL SWITCH —,Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(2) Check actuator.	<Ref. to CC-68 DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
5	Vehicle speed does not decrease after SET/COAST switch has been pressed.	(1) Check SET/COAST switch.	<Ref. to CC-66 DIAGNOSTIC TROUBLE CODE 14 — SET/COAST SWITCH, RESUME/ACCEL SWITCH AND CANCEL SWITCH —,Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(2) Check actuator.	<Ref. to CC-68 DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE —, Diagnostics Chart with Trouble Code (Non-turbo Model).>

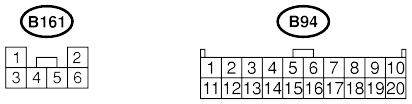
DIAGNOSTICS CHART WITH SYMPTOM (NON-TURBO MODEL)

	Symptom	Repair area	Reference
6	Cruise control is not released after CANCEL switch has been pressed.	(1) Check CANCEL switch.	<Ref. to CC-66 DIAGNOSTIC TROUBLE CODE 14 — SET/COAST SWITCH, RESUME/ACCEL SWITCH AND CANCEL SWITCH —,Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(2) Check actuator.	<Ref. to CC-68 DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
7	Cruise control is not released after brake pedal has been depressed.	(1) Check stop light switch and brake switch.	<Ref. to CC-59 DIAGNOSTIC TROUBLE CODE 11 — BRAKE SWITCH AND STOP LIGHT SWITCH —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(2) Check actuator.	<Ref. to CC-68 DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
8	Cruise control is not released after clutch pedal has been depressed (MT).	(1) Check clutch switch.	<Ref. to CC-61 DIAGNOSTIC TROUBLE CODE 12 — CLUTCH SWITCH AND INHIBITOR SWITCH —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
		(2) Check actuator.	<Ref. to CC-68 DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE —, Diagnostics Chart with Trouble Code (Non-turbo Model).>

B: CHECK POWER SUPPLY S003751F23

TROUBLE SYMPTOM:
Cruise control can be set normally, but indicator does not come on. (When main switch is pressed.)
WIRING DIAGRAM:





S6M0526

DIAGNOSTICS CHART WITH SYMPTOM (NON-TURBO MODEL)

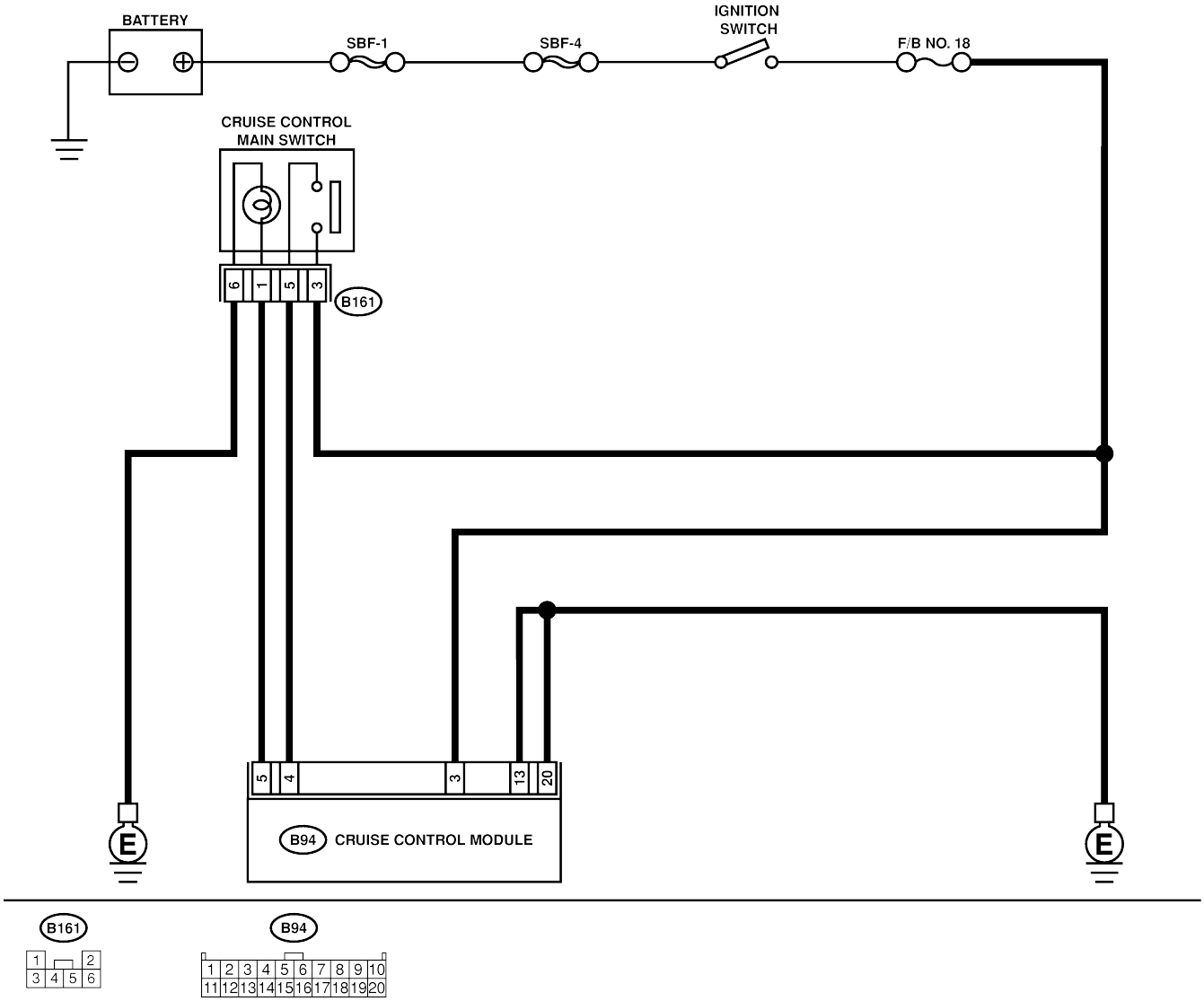
No.	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect cruise control module harness connector. 2) Turn ignition switch ON. 3) Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B94) No. 3 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	• Check fuse No. 18 (in fuse & relay box). • Check harness for open or short between cruise control module and fuse & relay box.
2	**CHECK GROUND CIRCUIT.** Measure resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B94) No. 13, No. 20 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	Power supply and ground circuit are OK.	Repair harness.

C: CHECK CRUISE CONTROL MAIN SWITCH S003751F24

TROUBLE SYMPTOM:
Cruise control main switch is not turned ON and cruise control cannot be set.

NOTE:
When the main relay (built-in cruise control module) operates, the main switch circuit is in normal condition.
The main relay operation can be checked by hearing the operation sounds.
This operation sounds will be heard when ignition switch and cruise control main switch is turned to ON.

WIRING DIAGRAM:



S6M0526

DIAGNOSTICS CHART WITH SYMPTOM (NON-TURBO MODEL)

No.	Step	Check	Yes	No
1	**CHECK CRUISE CONTROL MAIN SWITCH CIRCUIT.** 1) Disconnect cruise control main switch harness connector. 2) Turn ignition switch ON. 3) Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B161) No. 3 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	• Check fuse No. 18 (in fuse & relay box). • Check harness for open or short between cruise control main switch and fuse & relay box.
2	**CHECK CRUISE CONTROL MAIN SWITCH CIRCUIT.** 1) Turn ignition switch OFF. 2) Disconnect cruise control module harness connector. 3) Measure resistance between cruise control module harness connector terminal and cruise control main switch harness connector terminal. ***Connector & terminal*** ***(B94) No. 4 (+) — (B161) No. 5 (–):*** ***(B94) No. 5 (+) — (B161) No. 1 (–):*** ***(B161) No. 6 (+) — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair harness.
3	**CHECK CRUISE CONTROL MAIN SWITCH.** Remove and check cruise control main switch. <Ref. to CC-9 Cruise Control Main Switch.>	Is cruise control main switch OK?	Replace cruise control module.	Replace cruise control main switch.

MEMO:

9. Diagnostics Chart with Trouble Code (Non-turbo Model) S003752

A: LIST OF DIAGNOSTIC TROUBLE CODE S003752E40

Diagnostic code	Item	Contents of diagnosis	Index No.
11	BRAKE SW/STOP SW	Input signals from brake switch “OFF”, stop light switch “ON” (Brake pedal is depressed.)	<Ref. to CC-59 DIAGNOSTIC TROUBLE CODE 11 — BRAKE SWITCH AND STOP LIGHT SWITCH —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
12	CLUTCH SW/INHIBITOR SW	Input signals from clutch switch “OFF” (MT), or inhibitor switch “P or N” (AT) [Clutch pedal is depressed (MT), or selector lever is set to P or N position (AT).]	<Ref. to CC-61 DIAGNOSTIC TROUBLE CODE 12 — CLUTCH SWITCH AND INHIBITOR SWITCH —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
13	LOW SPEED LIMIT	Low-speed control limiter	<Ref. to CC-63 DIAGNOSTIC TROUBLE CODE 13 AND 24 — VEHICLE SPEED SENSOR SYSTEM —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
14	CANCEL SW	Input signal from cancel switch (faulty SET/COAST switch or RESUME/ACCEL switch)	<Ref. to CC-66 DIAGNOSTIC TROUBLE CODE 14 — SET/COAST SWITCH, RESUME/ACCEL SWITCH AND CANCEL SWITCH —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
21	VACUUM VALVE	Faulty vacuum valve or valve drive system	<Ref. to CC-68 DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
22	VENT 2 VALVE	Faulty vent 2 valve or valve drive system	<Ref. to CC-68 DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
23	VENT 1 VALVE	Faulty vent 1 valve or valve drive system	<Ref. to CC-68 DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE —, Diagnostics Chart with Trouble Code (Non-turbo Model).>

DIAGNOSTICS CHART WITH TROUBLE CODE (NON-TURBO MODEL)

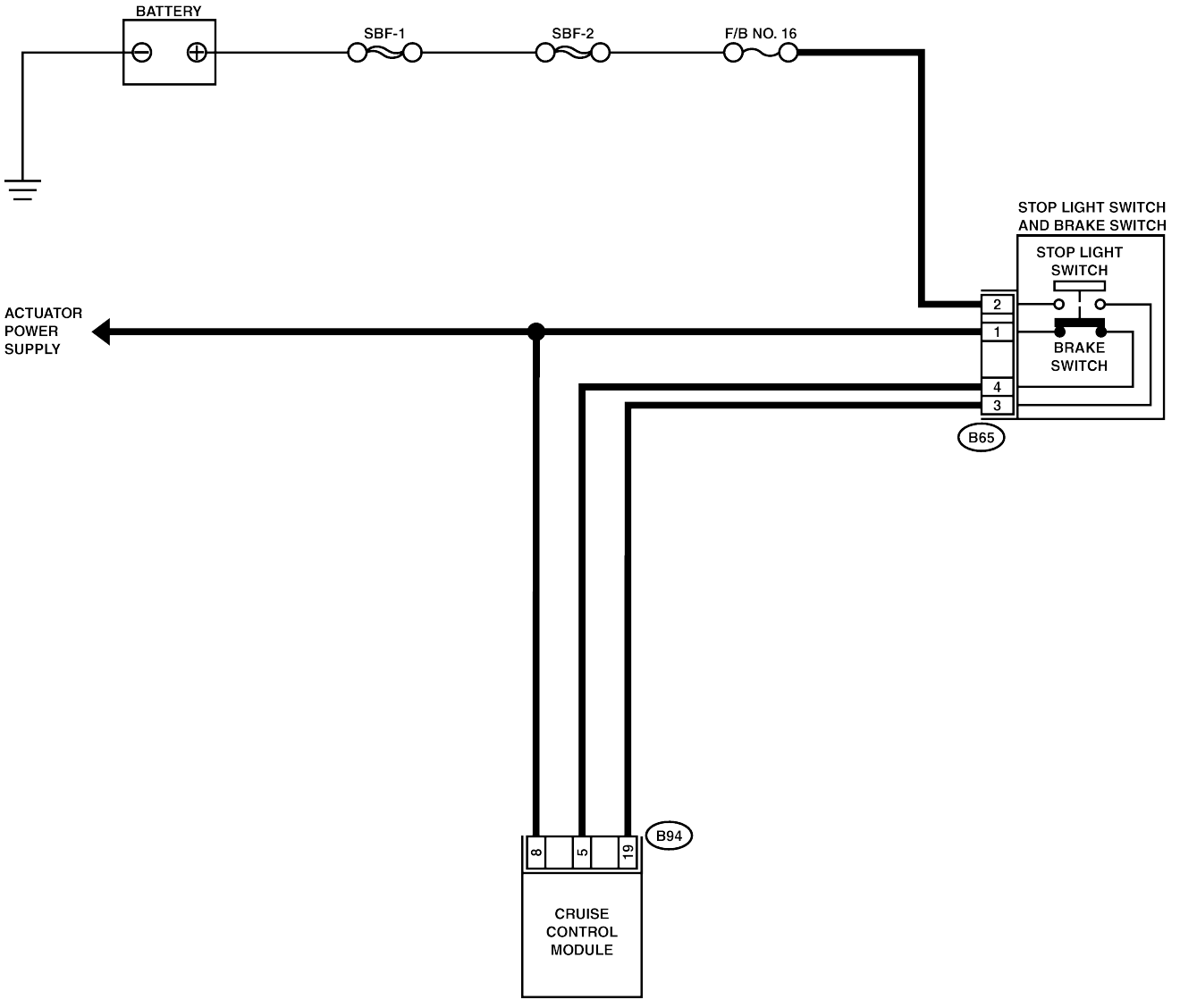
Diagnostic code	Item	Contents of diagnosis	Index No.
24	SPEED SENSOR	Faulty vehicle speed sensor 2 (MT) or transmission control module (AT)	<Ref. to CC-63 DIAGNOSTIC TROUBLE CODE 13 AND 24 — VEHICLE SPEED SENSOR SYSTEM —, Diagnostics Chart with Trouble Code (Non-turbo Model).>
25	CONTROL MODULE	Faulty CPU RAM included in cruise control module	<Ref. to CC-70 DIAGNOSTIC TROUBLE CODE 25 — CRUISE CONTROL MODULE BUILT-IN RELAY AND CPU RAM —, Diagnostics Chart with Trouble Code (Non-turbo Model).>

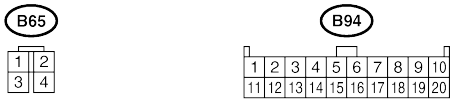
B: DIAGNOSTIC TROUBLE CODE 11 — BRAKE SWITCH AND STOP LIGHT SWITCH — S003752H52

DIAGNOSIS:

- Failure or disconnection of the stop light switch and brake switch.

WIRING DIAGRAM:





S6M0527

DIAGNOSTICS CHART WITH TROUBLE CODE (NON-TURBO MODEL)

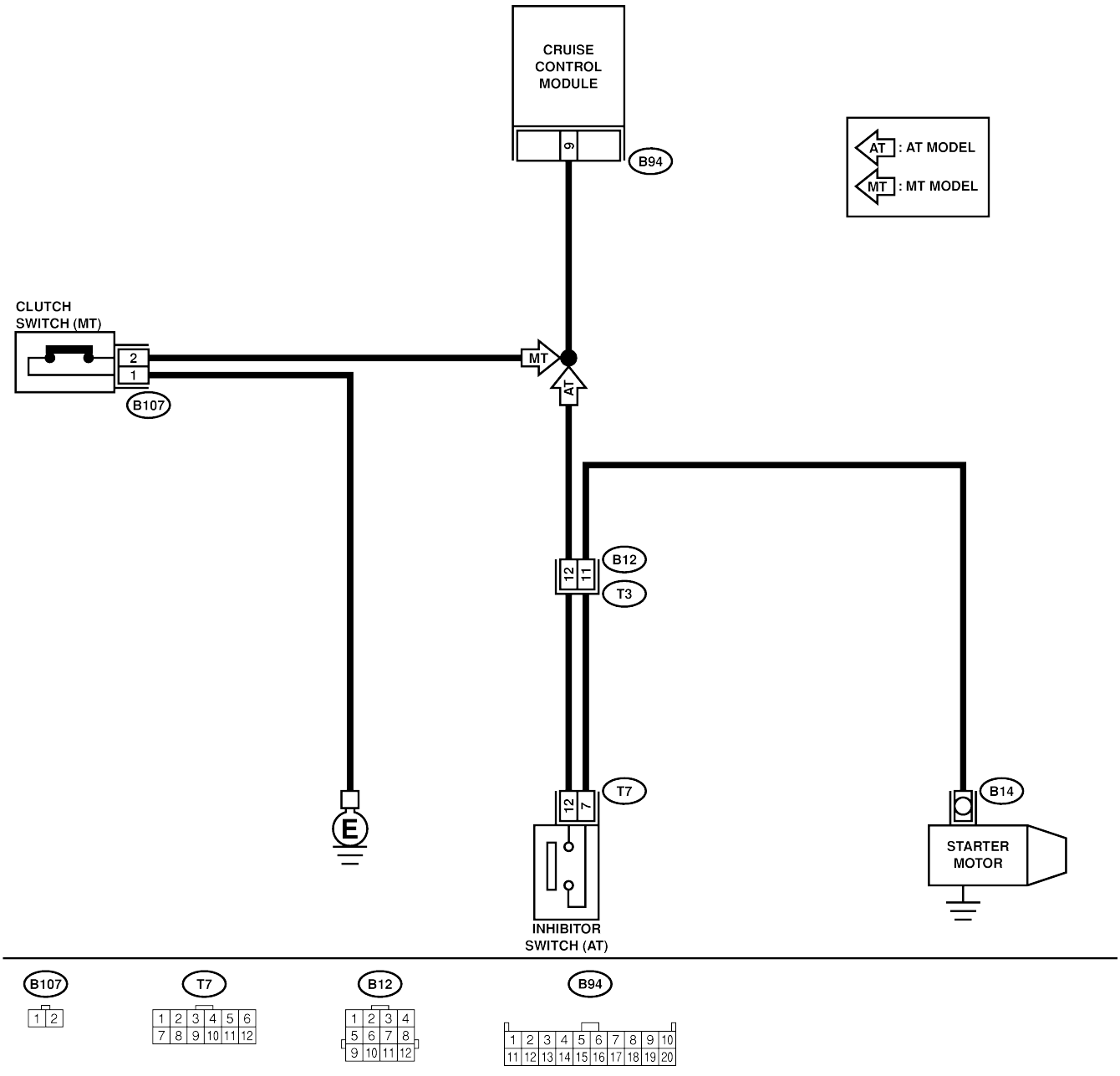
No.	Step	Check	Yes	No
1	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** 1) Disconnect stop light switch and brake switch harness connector. 2) Turn ignition switch ON. 3) Turn cruise control main switch ON. 4) Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	• Check fuse No. 16 (in fuse & relay box). • Check harness for open or short between stop light/brake switch and fuse & relay box.
2	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3**.	• Check harness for open or short between stop light/brake switch and cruise control module.
3	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** 1) Turn cruise control main switch and ignition switch OFF. 2) Disconnect cruise control module harness connector. 3) Measure resistance between cruise control module harness connector terminal and stop light switch and brake switch harness connector terminal. ***Connector & terminal*** ***(B94) No. 5 (+) — (B65) No. 4 (–):*** ***(B94) No. 19 (+) — (B65) No. 3 (–):***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair harness.
4	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH.** Remove and check stop light switch and brake switch. <Ref. to CC-11 Stop and Brake Switch.>	Are stop light switch and brake switch OK?	Stop light switch and brake switch circuit are OK.	Replace stop light switch and brake switch.

C: DIAGNOSTIC TROUBLE CODE 12 — CLUTCH SWITCH AND INHIBITOR SWITCH — S003752H53

DIAGNOSIS:

- Failure or disconnection of the clutch switch. (MT)
- Failure or disconnection of the inhibitor switch. (AT)

WIRING DIAGRAM:



S6M0528

DIAGNOSTICS CHART WITH TROUBLE CODE (NON-TURBO MODEL)

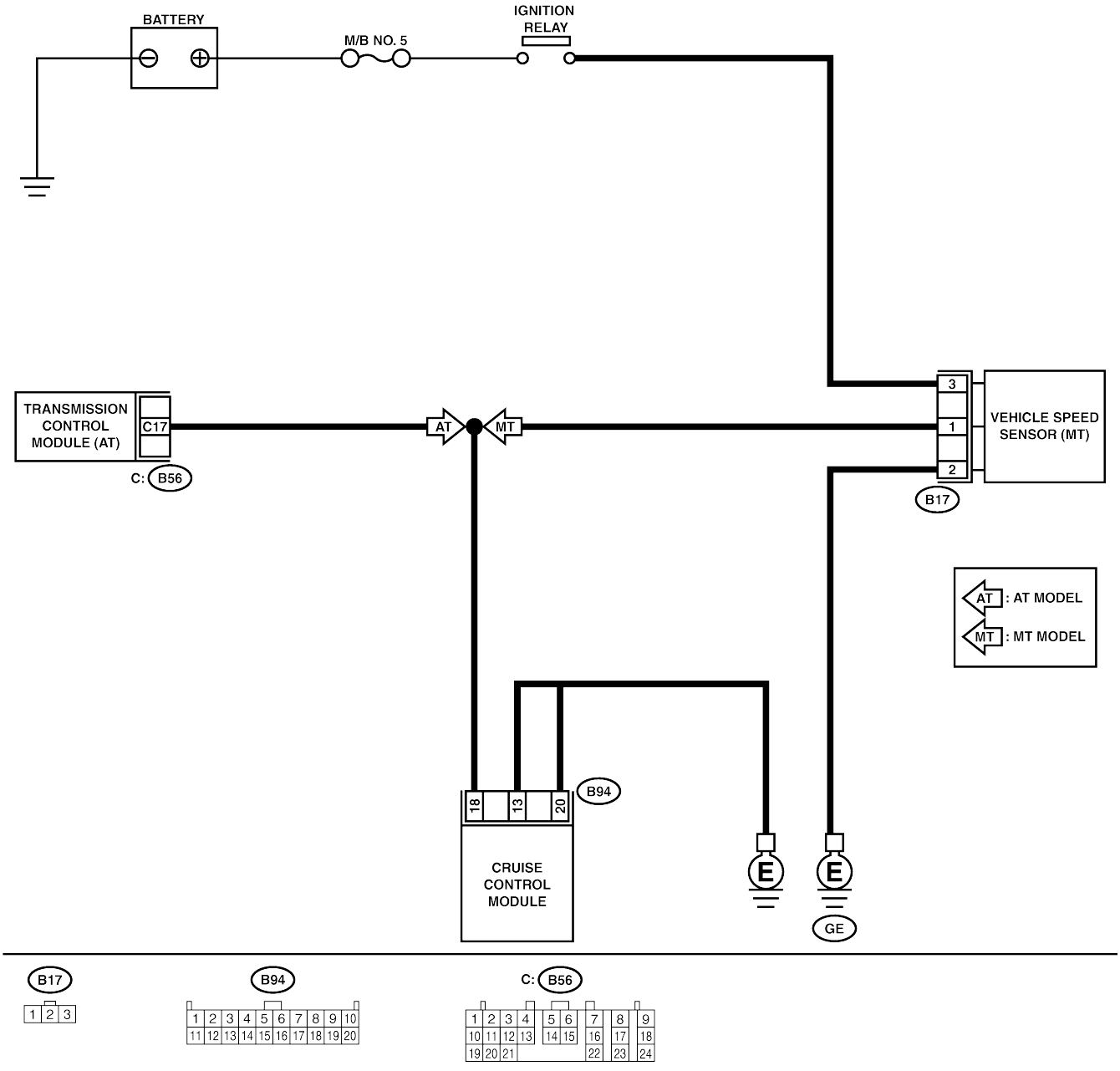
No.	Step	Check	Yes	No
1	**CHECK INHIBITOR SWITCH CIRCUIT (AT).** 1) Disconnect inhibitor switch harness connector. 2) Turn ignition switch ON. 3) Turn cruise control main switch ON. 4) Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(T7) No. 12 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check harness for open or short between inhibitor switch and cruise control module.
2	**CHECK INHIBITOR SWITCH CIRCUIT (AT).** 1) Turn cruise control main switch and ignition switch OFF. 2) Disconnect starter motor harness connector. 3) Measure resistance between inhibitor switch harness connector terminal and chassis ground. ***Connector & terminal*** ***(T7) No. 7 (+) — (B14) No. 1 (–):***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair harness.
3	**CHECK INHIBITOR SWITCH (AT).** Remove and check inhibitor switch. <Ref. to CC-13 Inhibitor Switch.>	Is inhibitor switch OK?	Inhibitor switch circuit is OK.	Replace inhibitor switch.
4	**CHECK CLUTCH SWITCH CIRCUIT (MT).** 1) Disconnect clutch switch harness connector. 2) Turn ignition switch ON. 3) Turn cruise control main switch ON. 4) Measure voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B107) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **5**.	Check harness for open or short between clutch switch and cruise control module.
5	**CHECK CLUTCH SWITCH CIRCUIT (MT).** 1) Turn cruise control main switch and ignition switch OFF. 2) Disconnect stop light switch and brake switch harness connector. 3) Measure resistance between clutch switch harness connector terminal and stop light switch and brake switch harness connector terminal. ***Connector & terminal*** ***(B107) No. 1 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair harness.
6	**CHECK CLUTCH SWITCH (MT).** Remove and check clutch switch. <Ref. to CC-12 Clutch Switch.>	Is clutch switch OK?	Clutch switch circuit is OK.	Replace clutch switch.

D: DIAGNOSTIC TROUBLE CODE 13 AND 24 — VEHICLE SPEED SENSOR SYSTEM — S003752F52

DIAGNOSIS:

● Disconnection or short circuit of vehicle speed sensor (MT model) or transmission control module (AT model).

WIRING DIAGRAM:



S6M0529

DIAGNOSTICS CHART WITH TROUBLE CODE (NON-TURBO MODEL)

No.	Step	Check	Yes	No
1	**CHECK TRANSMISSION TYPE.**	Is the transmission type MT?	Go to step **2**.	Go to step **6**.
2	**CHECK HARNESS BETWEEN BATTERY AND VEHICLE SPEED SENSOR.** 1) Disconnect harness connector from vehicle speed sensor. 2) Turn ignition switch to ON. 3) Measure voltage between vehicle speed sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(B17) No. 3 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3**.	Check harness for open or short between ignition relay and vehicle speed sensor.
3	**CHECK HARNESS BETWEEN CRUISE CONTROL MODULE AND VEHICLE SPEED SENSOR.** 1) Disconnect harness connector from cruise control module. 2) Measure resistance between vehicle speed sensor harness connector terminal and cruise control module harness connector terminal. ***Connector & terminal*** ***(B17) No. 1 — (B94) No. 18:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair harness.
4	**CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND ENGINE GROUND.** 1) Turn ignition switch to OFF. 2) Measure resistance between vehicle speed sensor harness connector terminal and engine ground. ***Connector & terminal*** ***(B17) No. 2 (+) — Engine ground (–):***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair harness.
5	**CHECK VEHICLE SPEED SENSOR.** 1) Connect harness connector to vehicle speed sensor. 2) Set the vehicle on free roller, or lift-up the vehicle and support with safety stands. **WARNING:** **Be careful not to be caught up by the running wheels.** 3) Drive the vehicle at speed greater than 20 km/h (12 MPH). 4) Measure voltage between cruise control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B94) No. 18 (+) — Chassis ground (–):***	Is the voltage less than 1 ←→ more than 4 V?	Replace cruise control module. <Ref. to CC-8 Cruise Control Module.>	Replace vehicle speed sensor.

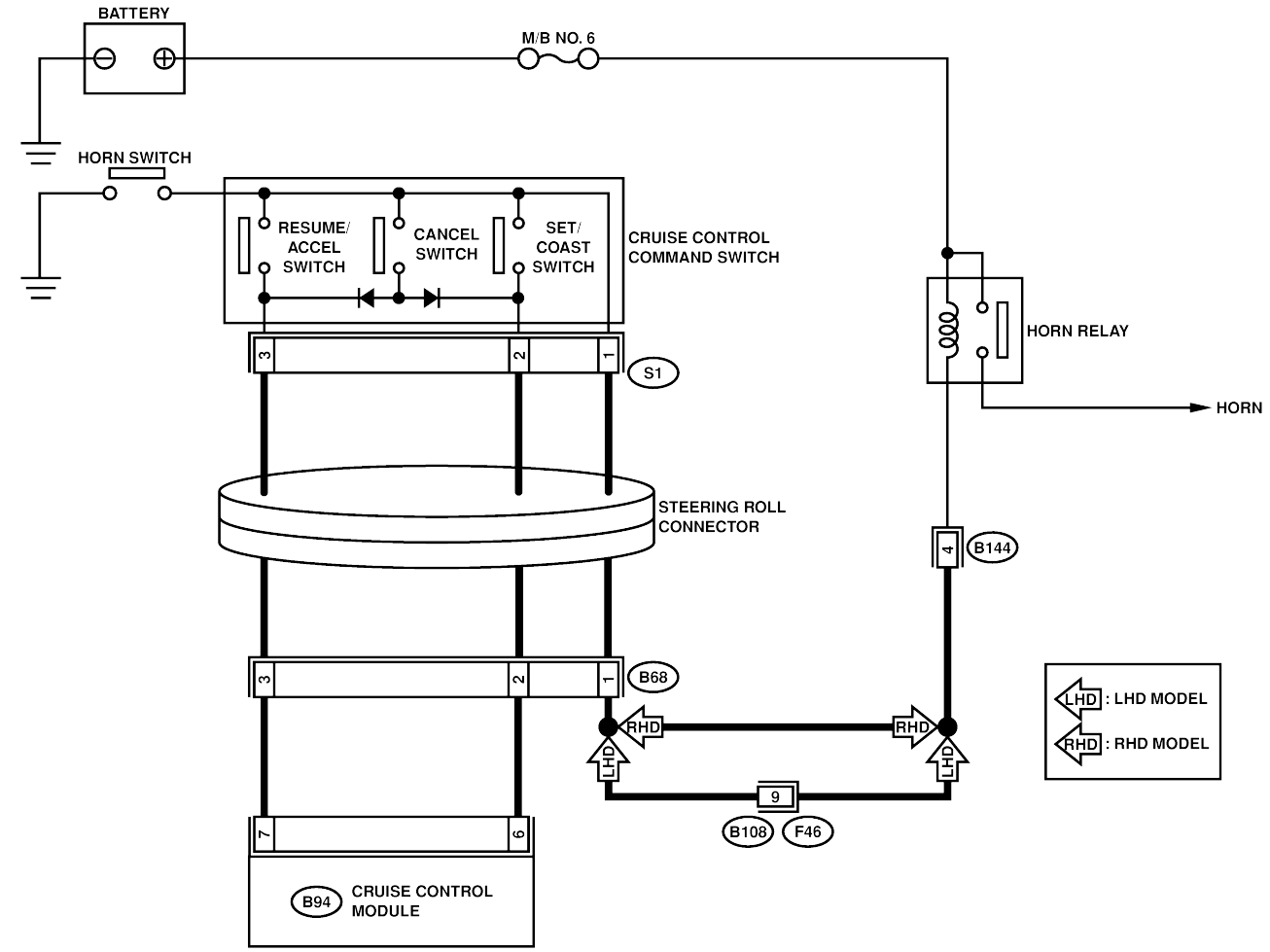
No.	Step	Check	Yes	No
6	**CHECK HARNESS BETWEEN CRUISE CONTROL MODULE AND TRANSMISSION CONTROL MODULE.** 1) Disconnect harness connector from transmission control module and cruise control module. 2) Measure resistance between cruise control module harness connector terminal and transmission control module harness connector terminal. **CAUTION:** **To measure the voltage and/or resistance, use a tapered pin with a diameter of less than 0.64 mm (0.025 in). Do not insert the pin more than 5 mm (0.20 in).** ***Connector & terminal*** ***(B94) No. 18 — (B56) No. 17:***	Is the resistance less than 10 Ω?	Go to step **7**.	Repair harness connector between cruise control module and transmission control module.
7	**CHECK TRANSMISSION CONTROL MODULE.** 1) Connect harness connector to transmission control module. 2) Set the vehicle on free roller, or lift-up the vehicle and support with safety stands. **WARNING:** **Be careful not to be caught by the running wheels.** 3) Drive the vehicle faster than 10 km/h (6 MPH). 4) Measure voltage between transmission control module harness connector terminal and chassis ground. **CAUTION:** **To measure the voltage and/or resistance, use a tapered pin with a diameter of less than 0.64 mm (0.025 in). Do not insert the pin more than 5 mm (0.20 in).** ***Connector & terminal*** ***(B56) No. 17 (+) — Chassis ground (–):***	Is the voltage less than 1 V ←→ more than 4 V?	Replace cruise control module. <Ref. to CC-8 Cruise Control Module.>	Replace transmission control module. <Ref. to AT-48 Transmission Control Module (TCM).>

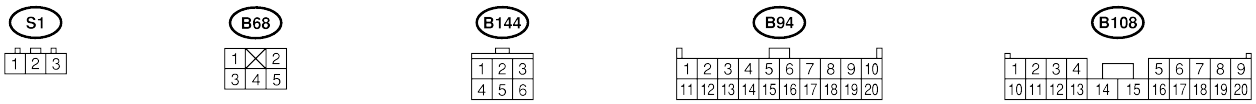
E: DIAGNOSTIC TROUBLE CODE 14 — SET/COAST SWITCH, RESUME/ACCEL SWITCH AND CANCEL SWITCH — S003752H54

DIAGNOSIS:

- Short circuit inside the SET SW and RESUME SW.

WIRING DIAGRAM:





S6M0530

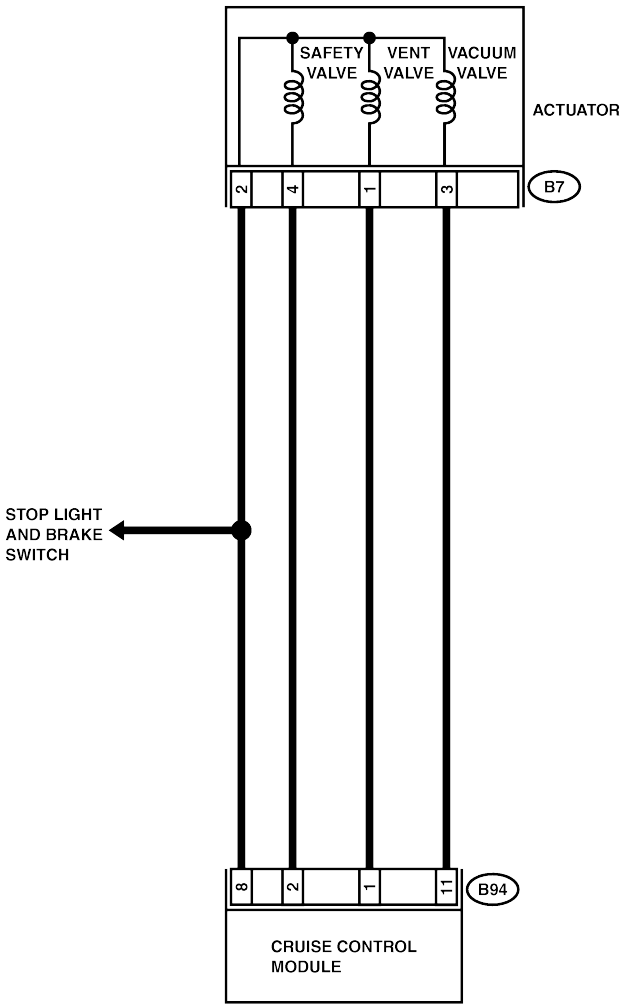
No.	Step	Check	Yes	No
1	**CHECK SET/COAST SWITCH CIRCUIT.** 1) Disconnect cruise control module harness connector. 2) Turn ignition switch ON. 3) Measure voltage between harness connector terminal and chassis ground when SET/COAST switch is pressed and not pressed. ***Connector & terminal*** ***(B94) No. 6 (+) — Chassis ground (–):***	Is the voltage 0 V when SET/COAST switch is not pressed? Is the voltage more than 10 V when SET/COAST switch is pressed?	Go to step **2**.	Go to step **4**.
2	**CHECK RESUME/ACCEL SWITCH CIRCUIT.** Measure voltage between harness connector terminal and chassis ground when RESUME/ACCEL switch is pressed and not pressed. ***Connector & terminal*** ***(B94) No. 7 (+) — Chassis ground (–):***	Is the voltage 0 V when RESUME/ACCEL switch is not pressed? Is the voltage more than 10 V when RESUME/ACCEL switch is pressed?	Go to step **3**.	Go to step **4**.
3	**CHECK CANCEL SWITCH CIRCUIT.** Measure voltage between harness connector terminal and chassis ground when CANCEL switch is pressed and not pressed. ***Connector & terminal*** ***(B94) No. 7 (+) — Chassis ground (–):*** ***(B94) No. 6 (+) — Chassis ground (–):***	Is the voltage 0 V when CANCEL switch is not pressed? Is the voltage more than 10 V when CANCEL switch is pressed?	Cruise control command switch circuit is OK.	Go to step **4**.
4	**CHECK POWER SUPPLY FOR COMMAND SWITCH.** Check horn operation.	Does horn sound?	Go to step **5**.	• Check fuse No. 6 (in main fuse box). • Check horn relay. <Ref. to COM-4 HORN RELAY, INSPECTION, Horn System.> • Check harness for open or short between cruise control command switch and main fuse box.
5	**CHECK CRUISE CONTROL COMMAND SWITCH.** Remove and check cruise control command switch. <Ref. to CC-10 Cruise Control Command Switch.>	Is cruise control command switch OK?	Check harness between cruise control command switch and cruise control module.	Replace cruise control command switch.

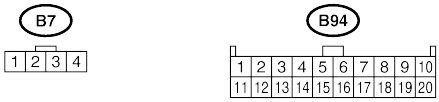
F: DIAGNOSTIC TROUBLE CODE 21, 22 AND 23 — VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE — S003752H55

DIAGNOSIS:

- Open or poor contact of vacuum valve, vent 2 valve and vent 1 valve.

WIRING DIAGRAM:





S6M0531

No.	Step	Check	Yes	No
1	**MEASURE RESISTANCE OF VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE.** 1) Disconnect connector from actuator. 2) Measure resistance of vacuum valve, vent 2 valve and vent 1 valve. ***Terminals*** ***No. 2 — No. 3:***	Is resistance less than 22 Ω?	Go to step **2**.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>
2	**MEASURE RESISTANCE OF VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE.** Measure resistance of vacuum valve, vent 2 valve and vent 1 valve. ***Terminals*** ***No. 2 — No. 1:***	Is resistance less than 55 Ω?	Go to step **3**.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>
3	**MEASURE RESISTANCE OF VACUUM VALVE, VENT 2 VALVE AND VENT 1 VALVE.** Measure resistance of vacuum valve, vent 2 valve and vent 1 valve. ***Terminals*** ***No. 2 — No. 4:***	Is resistance less than 55 Ω?	Go to step **4**.	Replace actuator. <Ref. to CC-7, REMOVAL, Actuator (Non-turbo Model).>
4	**PERFORM A CIRCUIT TEST IN HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.** 1) Disconnect connector from cruise control module. 2) Measure resistance of harness connector between cruise control module and actuator. ***Connector & terminal*** ***(B7) No. 1 — (B94) No. 1:***	Is resistance less than 10 Ω?	Go to step **5**.	Repair or replace wiring harness between actuator and cruise control module.
5	**PERFORM A CIRCUIT TEST IN HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.** Measure resistance of harness connector between cruise control module and actuator. ***Connector & terminal*** ***(B7) No. 2 — (B94) No. 8:***	Is resistance less than 10 Ω?	Go to step **6**.	Repair or replace wiring harness between actuator and cruise control module.
6	**PERFORM A CIRCUIT TEST IN HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.** Measure resistance of harness connector between cruise control module and actuator. ***Connector & terminal*** ***(B7) No. 3 — (B94) No. 11:***	Is resistance less than 10 Ω?	Go to step **7**.	Repair or replace wiring harness between actuator and cruise control module.
7	**PERFORM A CIRCUIT TEST IN HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.** Measure resistance of harness connector between cruise control module and actuator. ***Connector & terminal*** ***(B7) No. 4 — (B94) No. 2:***	Is resistance less than 10 Ω?	Replace cruise control module. <Ref. to CC-8 REMOVAL, Cruise Control Module.>	Repair or replace wiring harness between actuator and cruise control module.

G: DIAGNOSTIC TROUBLE CODE 25 — CRUISE CONTROL MODULE BUILT-IN RELAY AND CPU RAM — S003752H56

DIAGNOSIS:
- Poor welding of built-in relay of cruise control module.
- Failure of built-in CPU RAM of cruise control module.

TROUBLE SYMPTOM:
- Cruise control is canceled and memorized cruise speed is also canceled.
- Once cruise control is canceled, cruise control cannot be set until the ignition switch and cruise control main switch turns OFF, and then turns ON again.

NOTE:
Check input/output signal and vehicle speed signal with select monitor. When signals are in good condition, failure is in cruise control module. (Check power supply and ground conditions of cruise control module.)

IMMOBILIZER (DIAGNOSTICS)

IM

Page

1. Basic Diagnostic Procedure 2
2. General Description 3
3. Electrical Components Location 5
4. Immobilizer Control Module I/O Signal 6
5. Subaru Select Monitor 14
6. Read Diagnostic Trouble Code 16
7. Clear Memory Mode 18
8. Diagnostics Chart for Immobilizer Indicator Light 19
9. List of Diagnostic Trouble Code 25
10. Diagnostics Chart with Trouble Code 26

1. Basic Diagnostic Procedure

S009501

A: PROCEDURE S009501E45

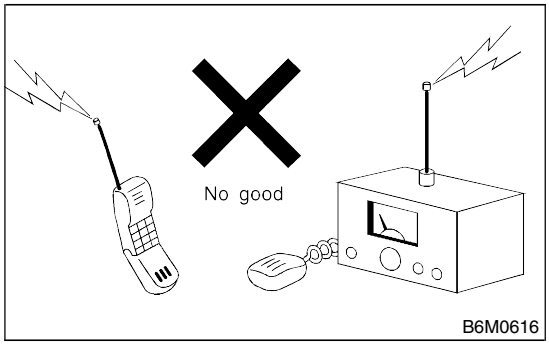
No.	Step	Check	Yes	No
1	**CHECK ILLUMINATION OF IMMOBILIZER INDICATOR LIGHT.** Turn ignition switch ON.	Does immobilizer indicator light illuminate?	Go to step **2**.	Go to step **3**.
2	**CHECK ENGINE START.** Turn ignition switch to START position.	Is the engine hard to start?	Go to step **5**.	Go to step **3**.
3	**CHECK ILLUMINATION OF IMMOBILIZER INDICATOR LIGHT.** 1) Turn ignition switch to OFF or ACC position. 2) Wait at least 60 seconds.	Does immobilizer indicator light blink?	Go to step **4**.	Check immobilizer indicator light circuit. <Ref. to IM-19, CHECK IMMOBILIZER INDICATOR CIRCUIT, INSPECTION, Diagnostics Chart for Immobilizer Indicator Light.>
4	**CHECK ILLUMINATION OF IMMOBILIZER INDICATOR LIGHT.** Remove key from ignition switch.	Does immobilizer indicator light begin to blink 5 seconds after the key is removed?	The immobilizer system is OK.	Check key switch circuit. <Ref. to IM-22, CHECK KEY SWITCH CIRCUIT, INSPECTION, Diagnostics Chart for Immobilizer Indicator Light.>
5	**CHECK INDICATION OF DTC ON DISPLAY.** 1) Turn ignition switch OFF. 2) Connect the Subaru Select Monitor to data link connector. <Ref. to IM-14, OPERATION, Subaru Select Monitor.> 3) Turn ignition switch and Subaru Select Monitor switch ON. 4) Read DTC on the display.	Is trouble code indicated on display?	Go to step **6**.	Repair the related parts.
6	**PERFORM THE DIAGNOSIS.** 1) Inspect using “Diagnostics Chart with Trouble Code”. <Ref. to IM-26, Diagnostics Chart with Trouble Code.> 2) Repair the trouble cause. 3) Perform clear memory mode. 4) Read DTC again.	Is trouble code indicated on display?	Inspect using “Diagnostic Chart with Trouble Code”. <Ref. to IM-26, Diagnostics Chart with Trouble Code.>	Finish the diagnostics.

2. General Description S009001

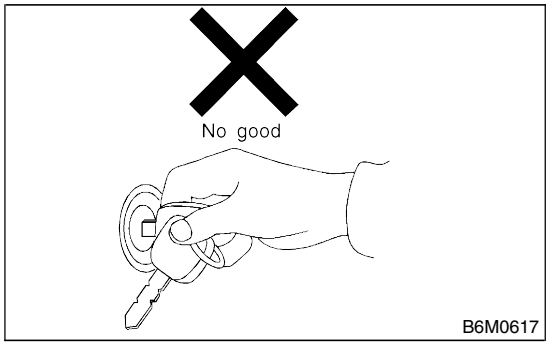
A: CAUTION S009001A03

CAUTION:

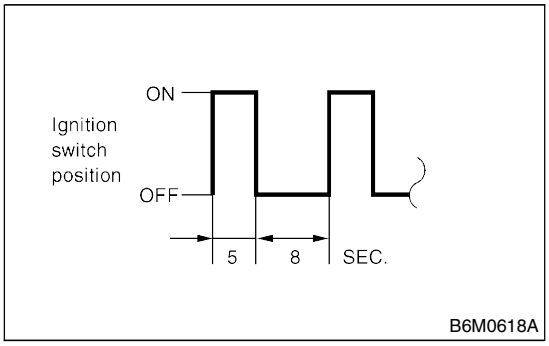
- **Airbag system wiring harness is routed near the immobilizer control module. All airbag system wiring harness and connectors are colored yellow. Do not use electrical test equipment on these circuits.**
- **Be careful not to damage airbag system wiring harness when servicing the immobilizer control module.**
- **While diagnostic items are being checked, do not operate radios, portable telephones, etc. which emit electromagnetic waves near or inside the vehicle.**



- **When ignition switch is being turned ON or OFF while diagnostic items are being checked, do not allow keys with different ID codes close to the ignition switch. If ignition key is in a key holder, remove it from holder before carrying out diagnoses.**



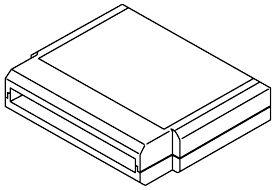
- **When repeatedly turning ignition ON or OFF while diagnostic items are being checked, it should be switched in cycles of "ON" for at least 5 seconds → "OFF" for at least 8 seconds.**



- **If engine fails to start with a registered ignition key, detach ignition key from ignition switch and wait for approximately 1 second until immobilizer indicator light begins to flash. Start engine again.**
- **Before checking diagnostic items, obtain all keys for vehicle to be checked possessed by owner.**

B: PREPARATION TOOL S009001A17

1. SPECIAL TOOLS S009001A1701

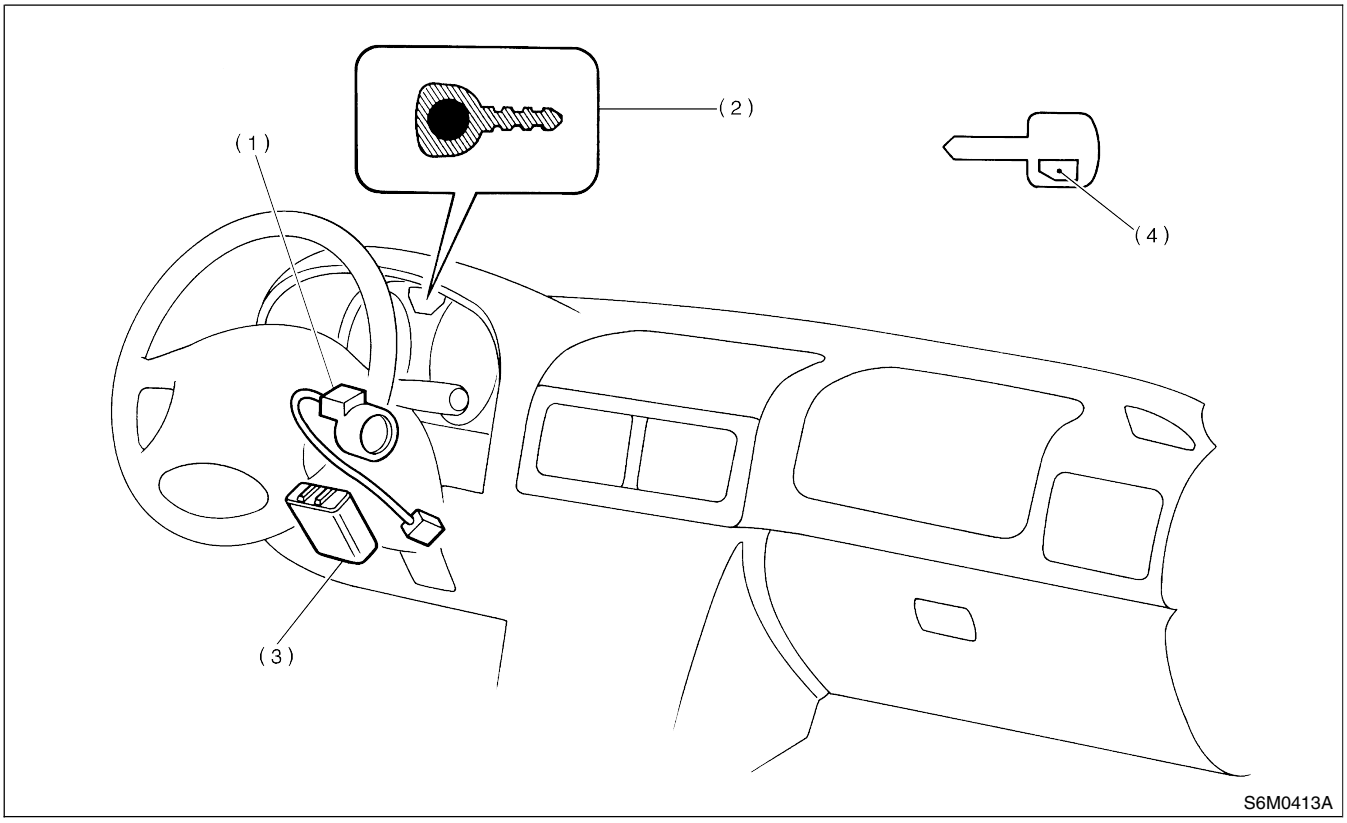
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 B2M3876	24082AA150 (Newly adopted tool)	CARTRIDGE	Troubleshooting for electrical systems.
 B2M3877	22771AA030	SELECT MONITOR KIT	Troubleshooting for electrical systems. • English: 22771AA030 (Without printer) • German: 22771AA070 (Without printer) • French: 22771AA080 (Without printer) • Spanish: 22771AA090 (Without printer)

2. GENERAL TOOLS S009001A1702

TOOL NAME	REMARKS
Circuit Tester	Used for measuring resistance, voltage and ampere.

3. Electrical Components Location S009507

A: LOCATION S009507A13



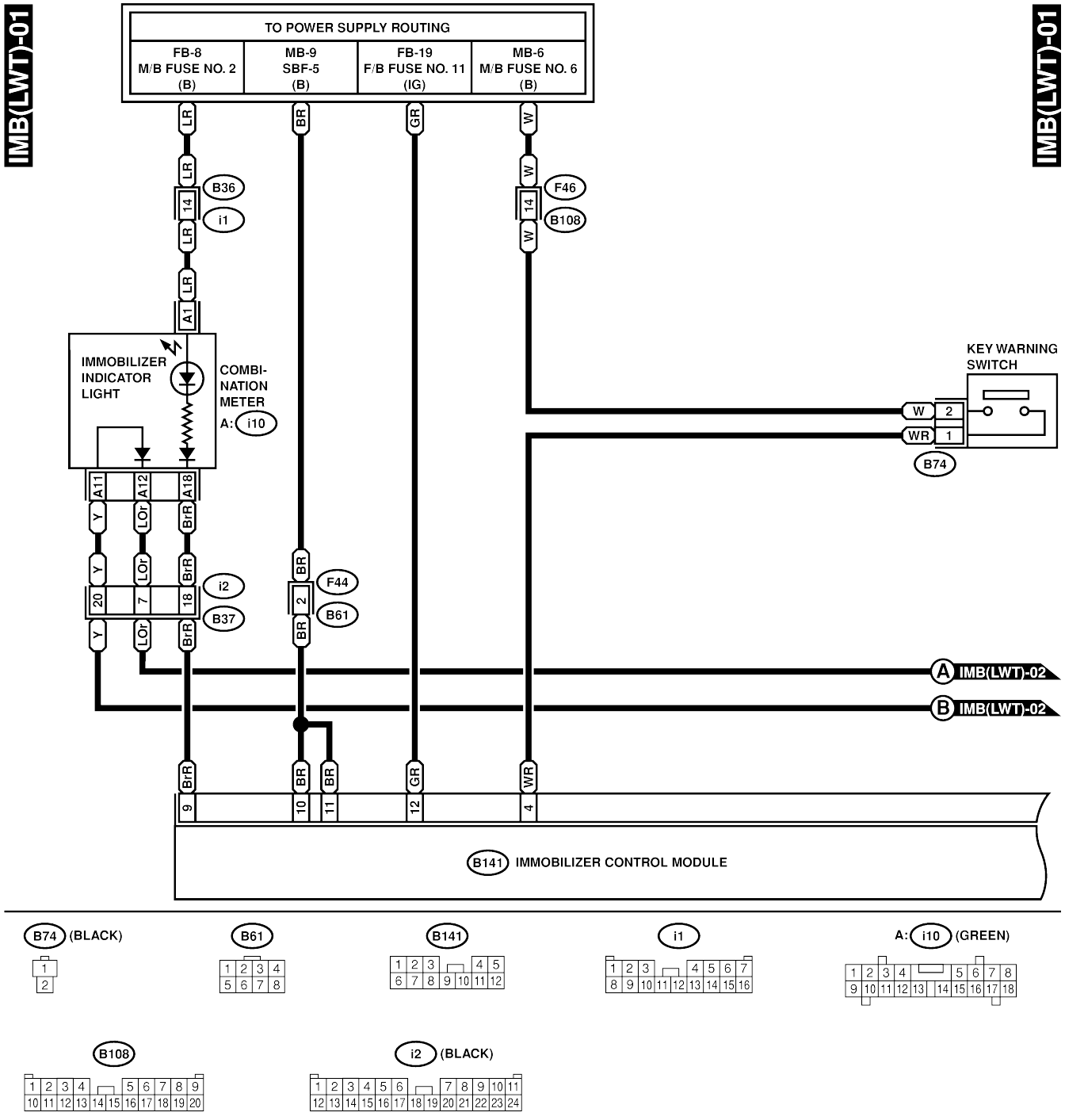
(1) Antenna
(2) Immobilizer indicator light (LED bulb)
(3) Immobilizer control module (IMM ECM)
(4) Transponder

NOTE:
IMM ECM location for RHD model is symmetrically opposite.

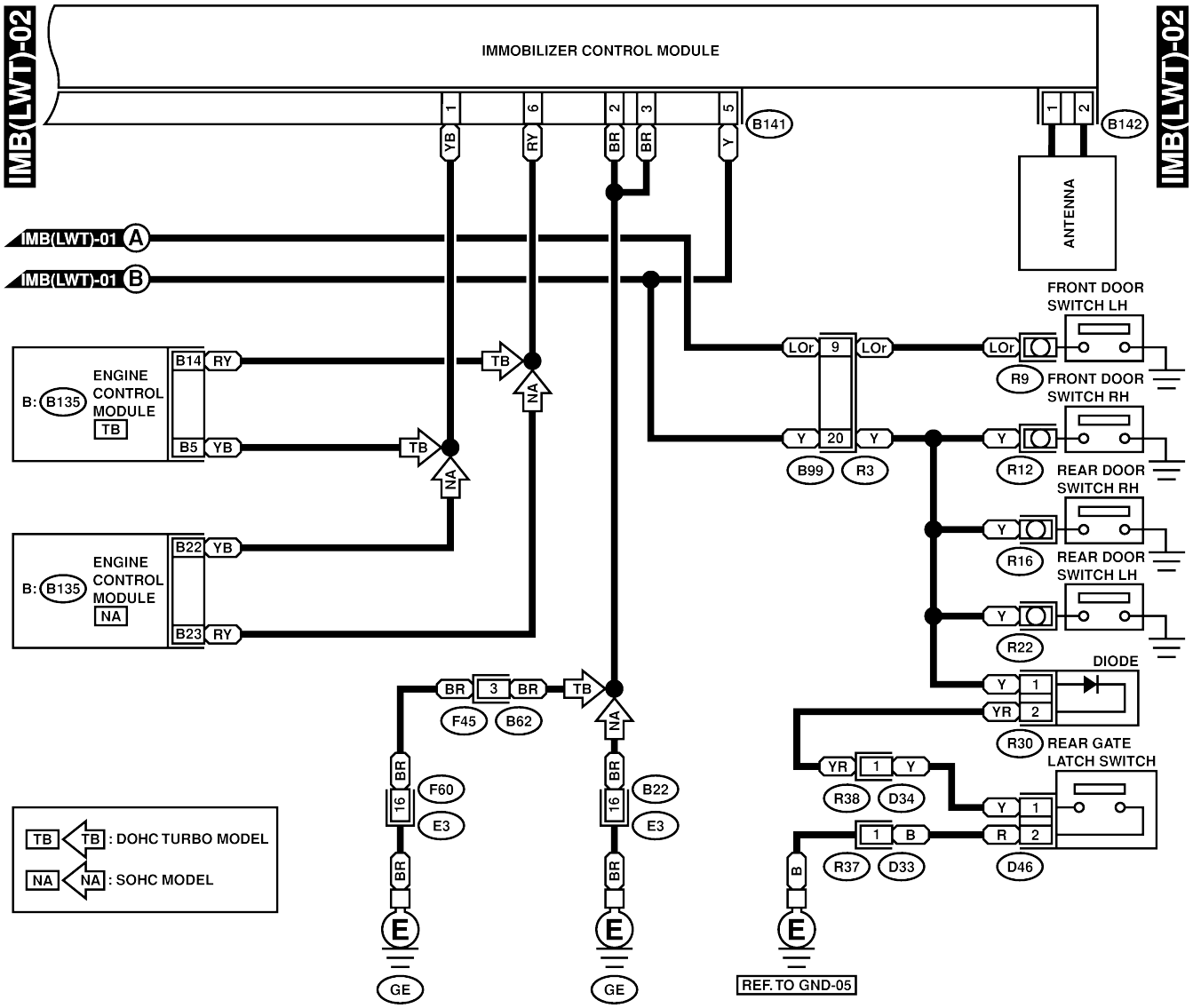
4. Immobilizer Control Module I/O Signal S009517

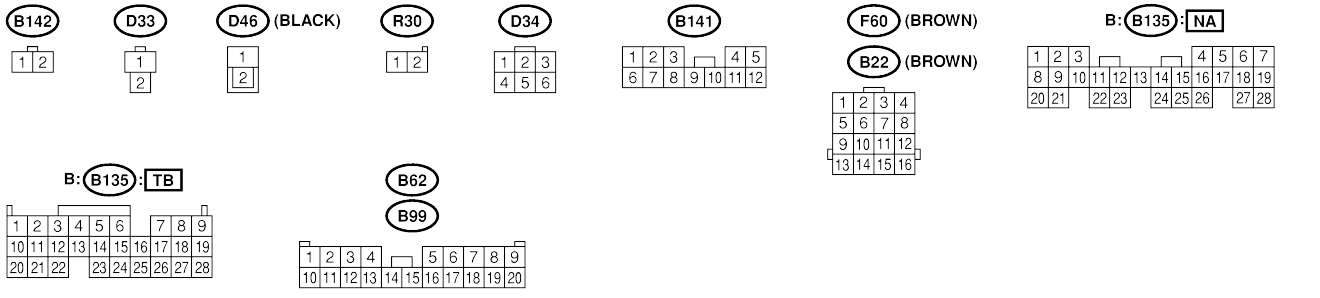
A: SCHEMATIC S009517A21

1. IMMOBILIZER LHD WITH OBD MODEL S009517A2103



SL91-20A

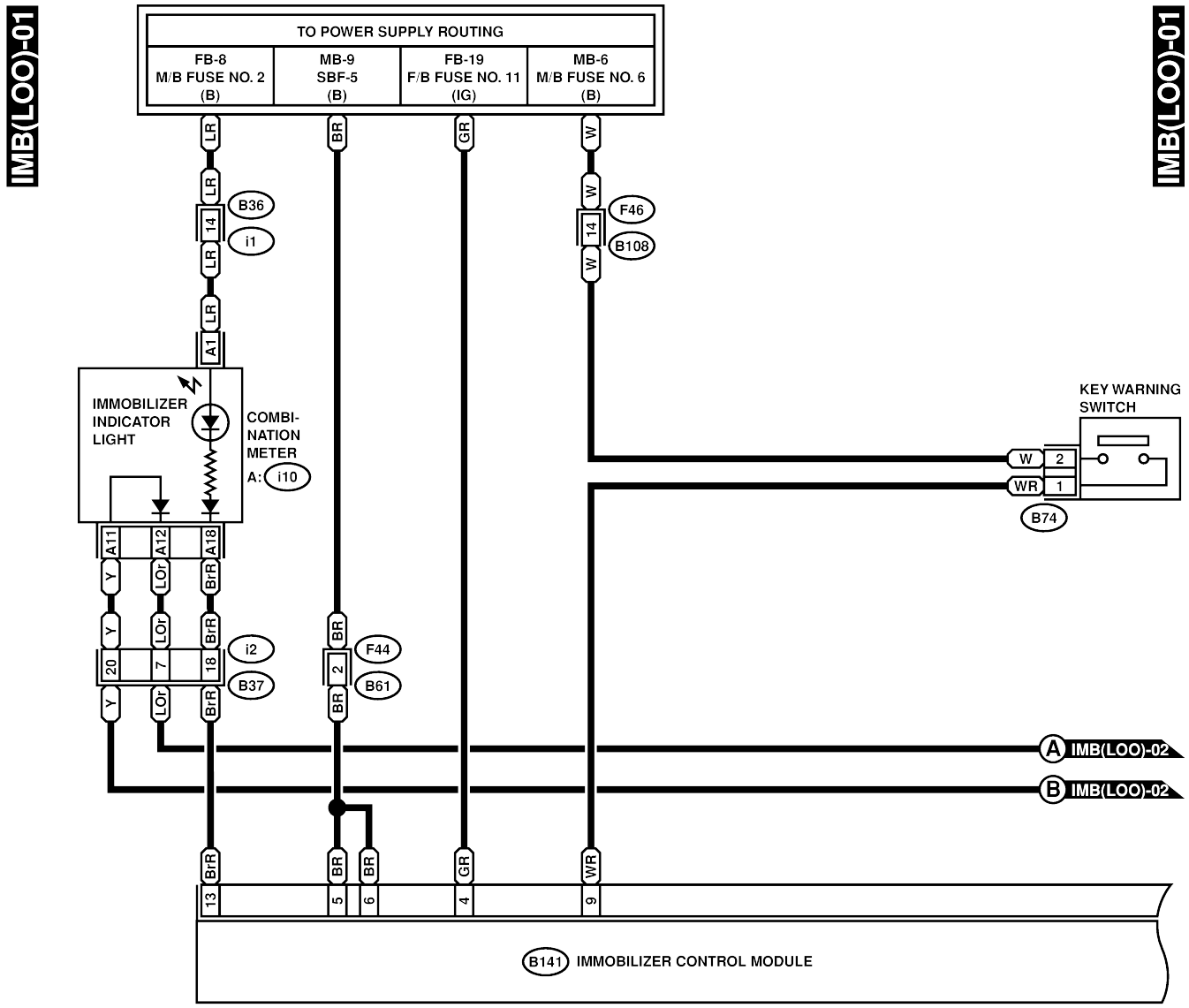

IMB(LWT)-02
IMMOBILIZER CONTROL MODULE
IMB(LWT)-02
B141
B142
ANTENNA
IMB(LWT)-01 A
IMB(LWT)-01 B
FRONT DOOR SWITCH LH
FRONT DOOR SWITCH RH
REAR DOOR SWITCH RH
REAR DOOR SWITCH LH
DIODE
REAR GATE LATCH SWITCH
B: B135 ENGINE CONTROL MODULE TB
B: B135 ENGINE CONTROL MODULE NA
TB : DOHC TURBO MODEL
NA : SOHC MODEL
REF. TO GND-05
GE
GE

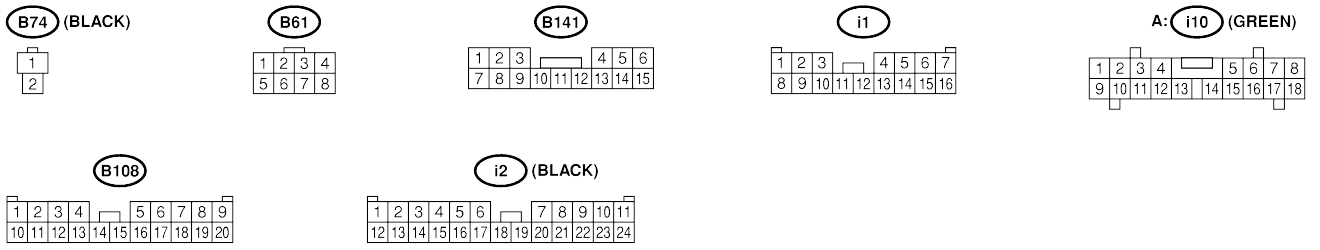

B142
D33
D46 (BLACK)
R30
D34
B141
F60 (BROWN)
B22 (BROWN)
B: B135 : NA
B: B135 : TB
B62
B99

SL91-20B

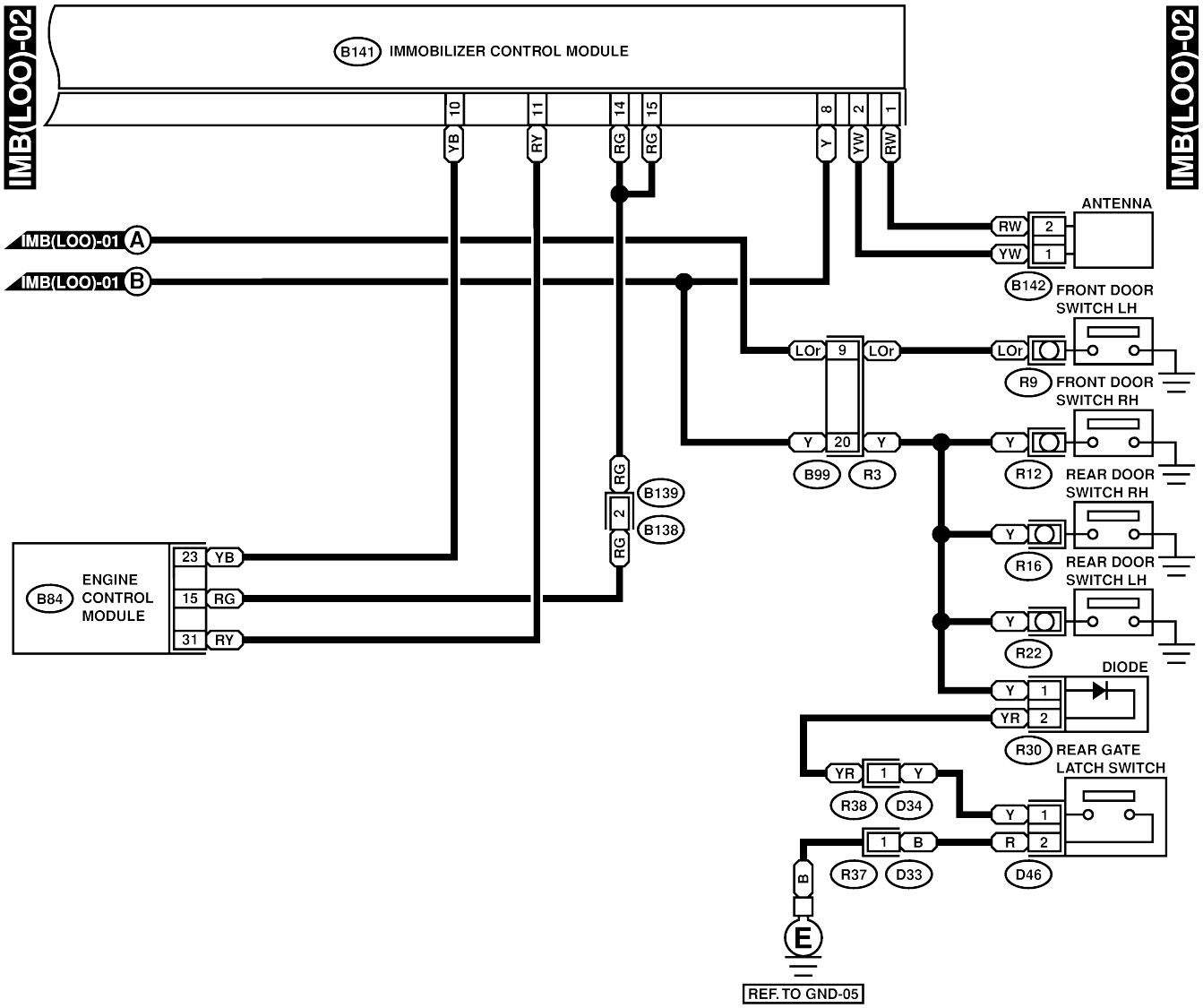
2. IMMOBILIZER LHD WITHOUT OBD MODEL

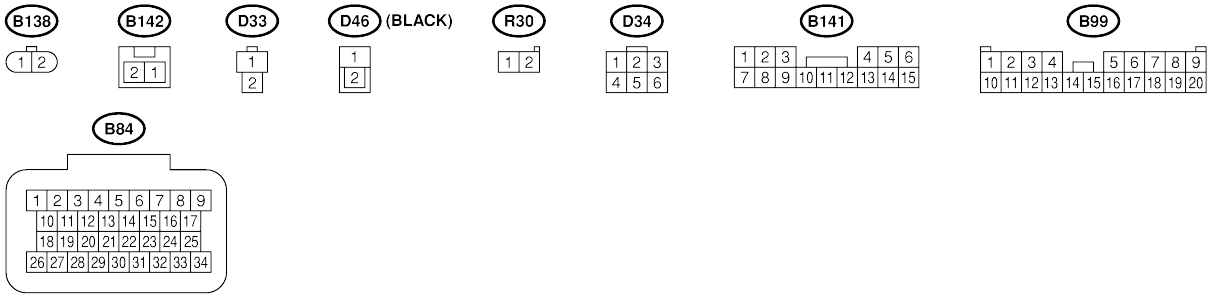
S009517A2104





SL91-21A


IMB(LOO)-02
B141 IMMOBILIZER CONTROL MODULE
10 11 14 15 8 2 1
YB RY RG RG Y YW RW
IMB(LOO)-01 A
IMB(LOO)-01 B
ANTENNA
RW 2
YW 1
B142 FRONT DOOR SWITCH LH
LOr 9 LOr
R9 FRONT DOOR SWITCH RH
Y 20 Y
B99 R3
R12 REAR DOOR SWITCH RH
R16 REAR DOOR SWITCH LH
R22
DIODE
Y 1
YR 2
R30 REAR GATE LATCH SWITCH
YR 1 Y
R38 D34
Y 1
1 B
R 2
R37 D33
D46
B
E
REF. TO GND-05
RG
B139
2
B138
RG
B84 ENGINE CONTROL MODULE
23 YB
15 RG
31 RY

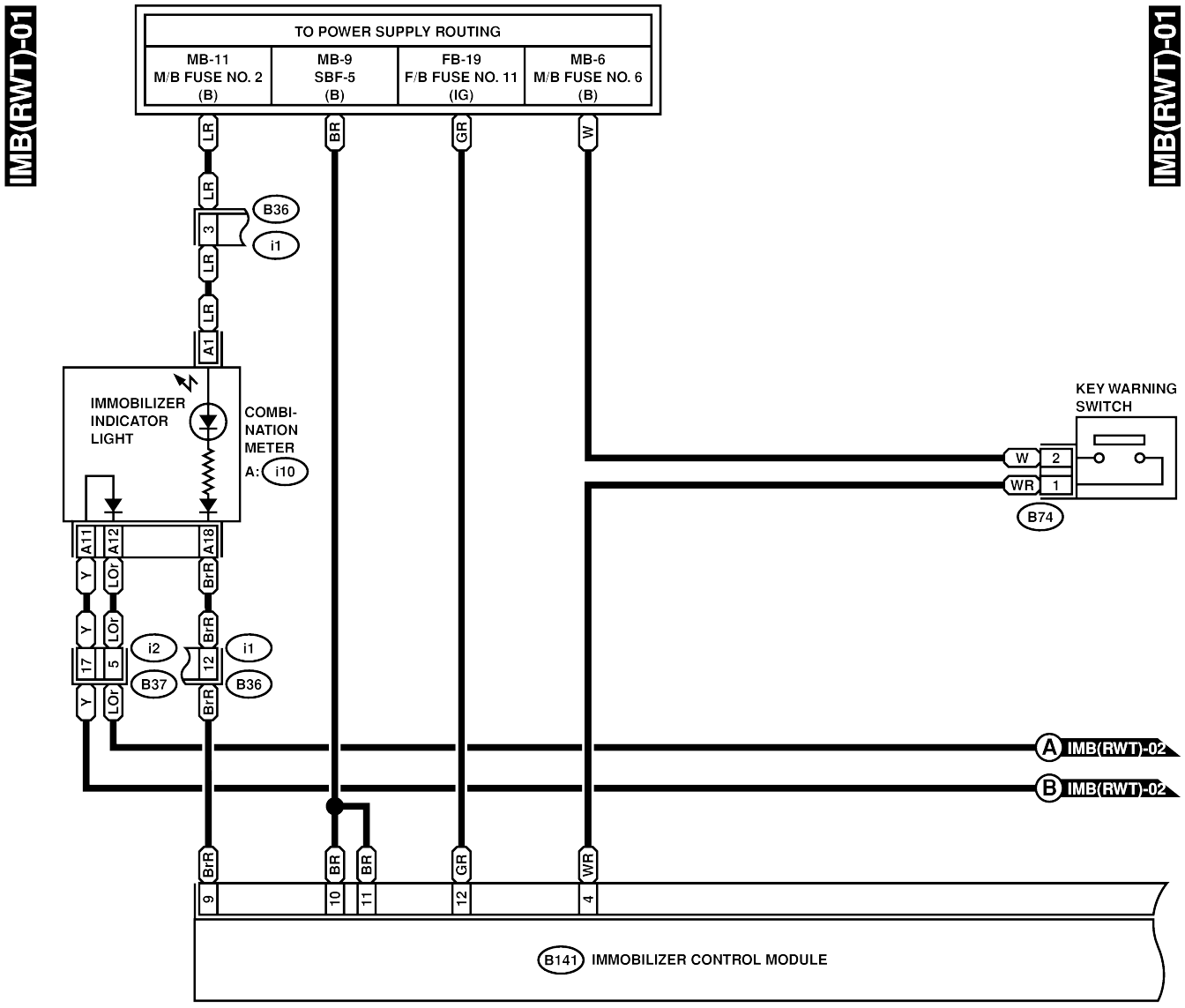

B138
1 2
B142
2 1
D33
1
2
D46 (BLACK)
1
2
R30
1 2
D34
1 2 3
4 5 6
B141
1 2 3 4 5 6
7 8 9 10 11 12 13 14 15
B99
1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17 18 19 20

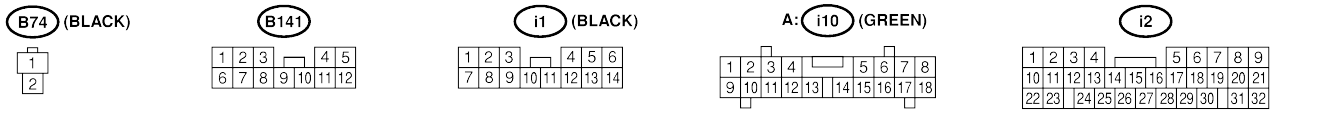
B84
1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17
18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34

SL91-21B

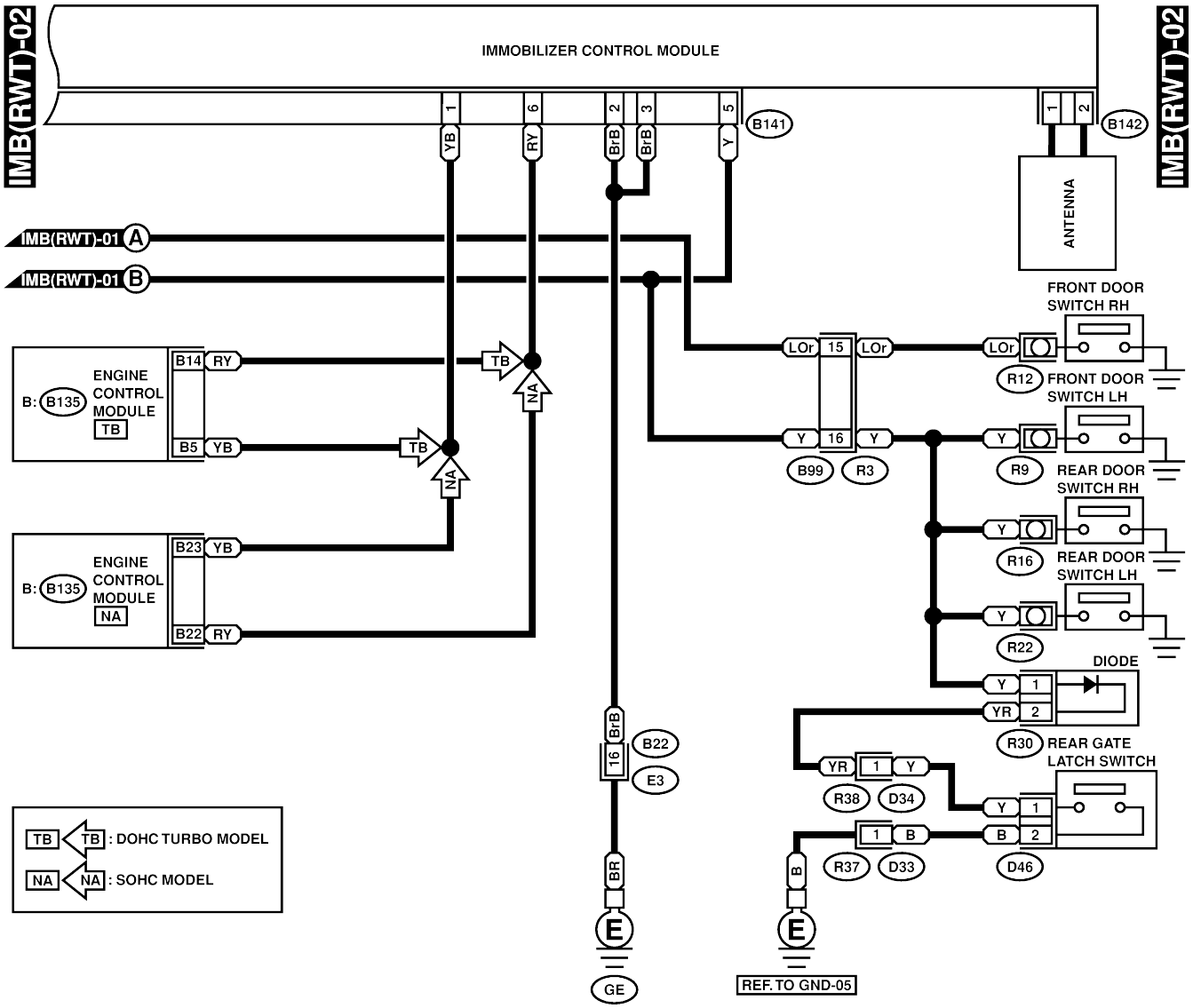
3. IMMOBILIZER RHD WITH OBD MODEL

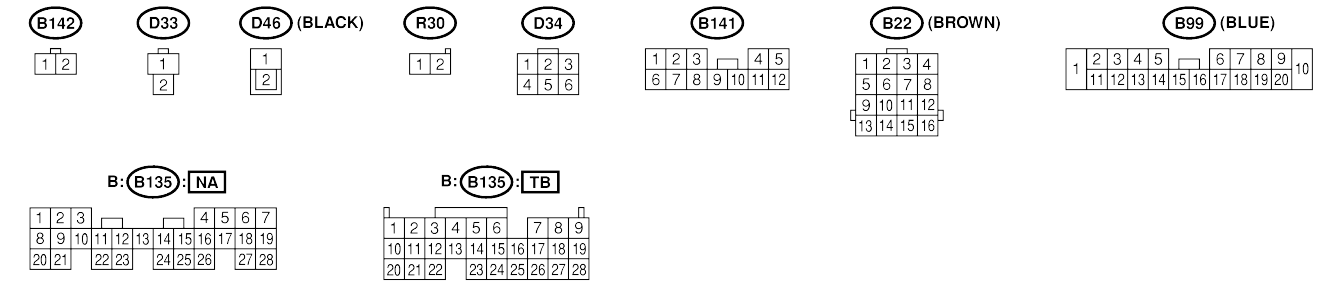
S009517A2105





SR91-20A

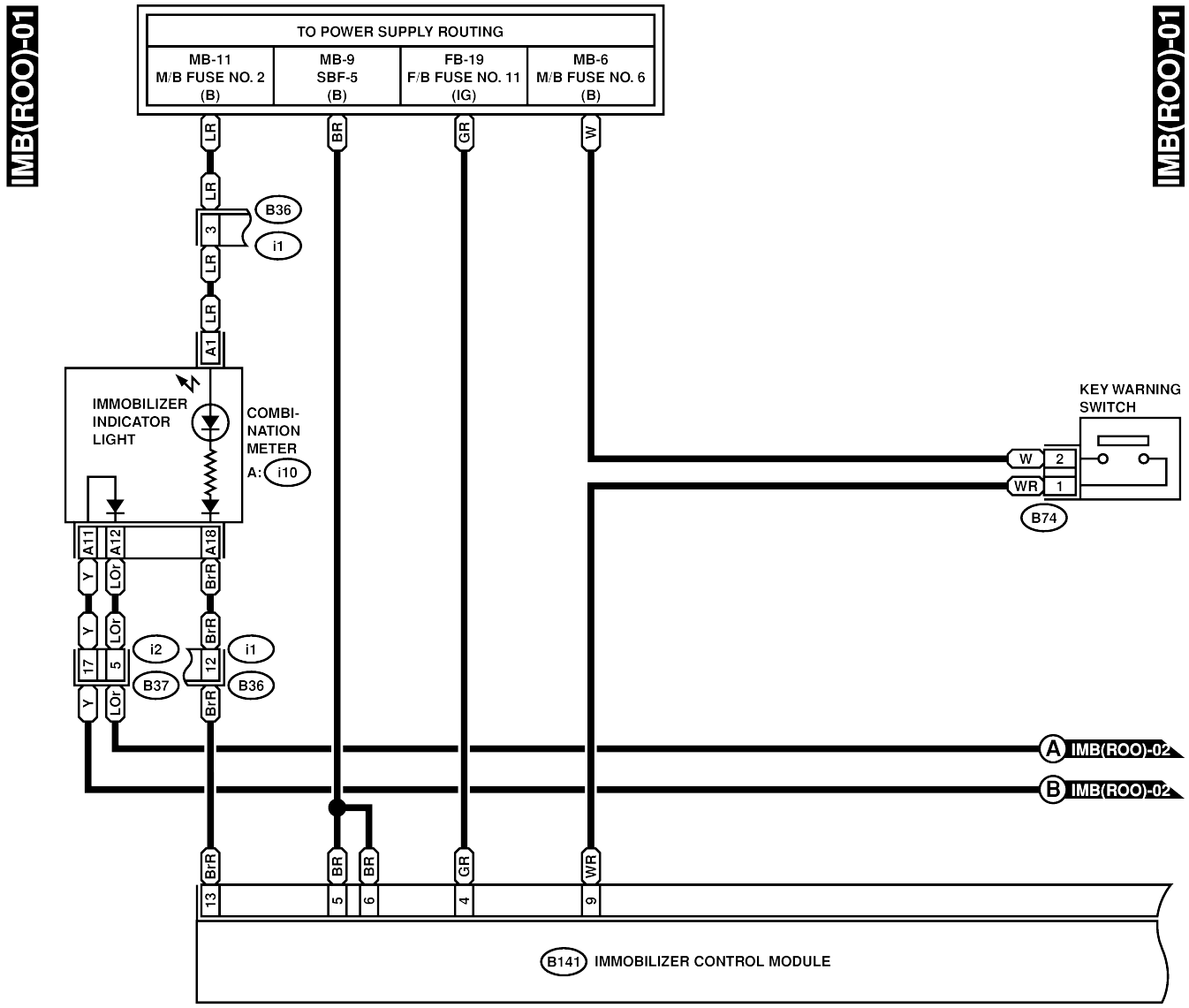

IMB(RWT)-02
IMMOBILIZER CONTROL MODULE
B141
B142
ANTENNA
IMB(RWT)-01 A
IMB(RWT)-01 B
FRONT DOOR SWITCH RH
FRONT DOOR SWITCH LH
REAR DOOR SWITCH RH
REAR DOOR SWITCH LH
DIODE
REAR GATE LATCH SWITCH
ENGINE CONTROL MODULE
TB
NA
B99
R3
R12
R9
R16
R22
R30
R38
D34
R37
D33
D46
B22
E3
GE
REF. TO GND-05
TB : DOHC TURBO MODEL
NA : SOHC MODEL

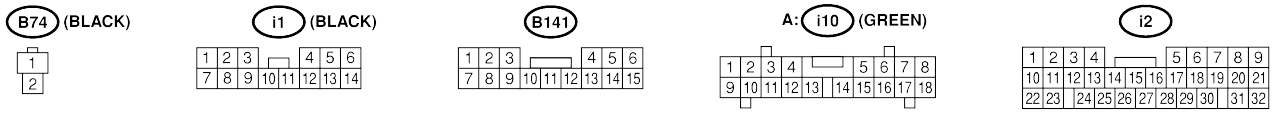

B142
D33
D46 (BLACK)
R30
D34
B141
B22 (BROWN)
B99 (BLUE)
B: B135 : NA
B: B135 : TB

SR91-20B

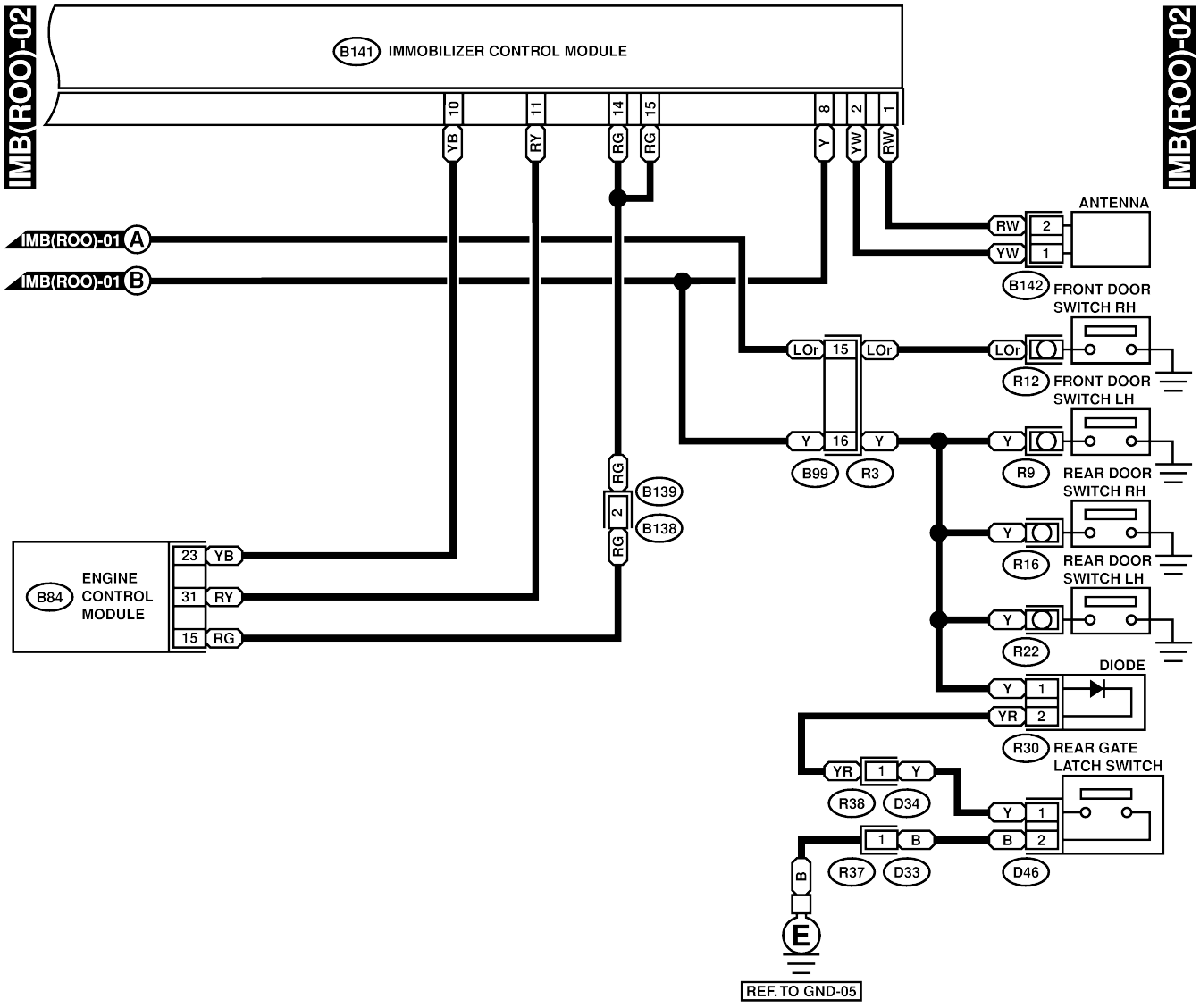
4. IMMOBILIZER RHD WITHOUT OBD MODEL

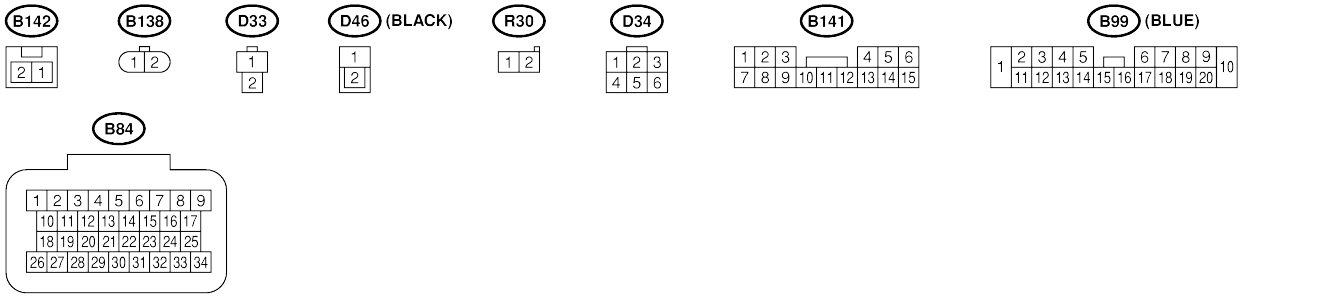
S009517A2106





SR91-21A


IMB(ROO)-02
B141 IMMOBILIZER CONTROL MODULE
10 11 14 15 8 2 1
YB RY RG RG Y YW RW
IMB(ROO)-01 A
IMB(ROO)-01 B
ANTENNA
RW 2
YW 1
B142 FRONT DOOR SWITCH RH
LOr 15 LOr
R12 FRONT DOOR SWITCH LH
Y 16 Y
B99 R3
R9 REAR DOOR SWITCH RH
R16 REAR DOOR SWITCH LH
R22
DIODE
Y 1
YR 2
R30 REAR GATE LATCH SWITCH
YR 1 Y
R38 D34
Y 1
1 B
B 2
R37 D33
D46
B
E
REF. TO GND-05
RG
B139
2
B138
RG
B84 ENGINE CONTROL MODULE
23 YB
31 RY
15 RG


B142
2 1
B138
1 2
D33
1
2
D46 (BLACK)
1
2
R30
1 2
D34
1 2 3
4 5 6
B141
1 2 3 4 5 6
7 8 9 10 11 12 13 14 15
B99 (BLUE)
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
B84
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 32 33 34

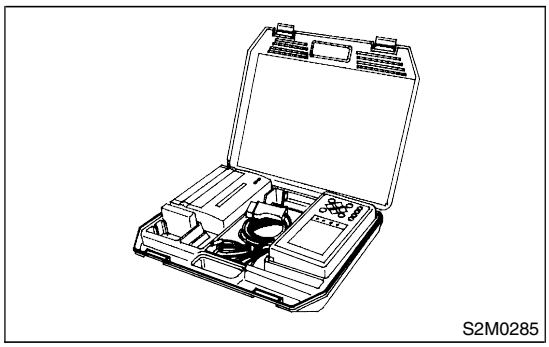
SR91-21B

5. Subaru Select Monitor S009503

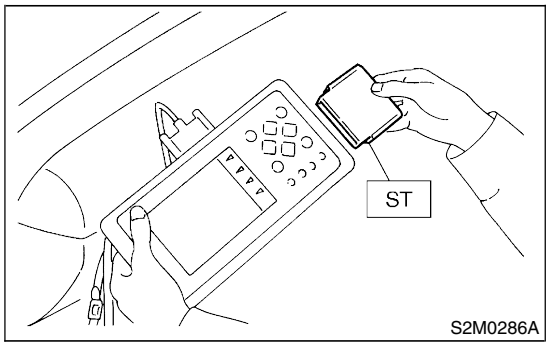
A: OPERATION S009503A16

1. HOW TO USE SUBARU SELECT MONITOR S009503A1605

1) Prepare Subaru Select Monitor kit.

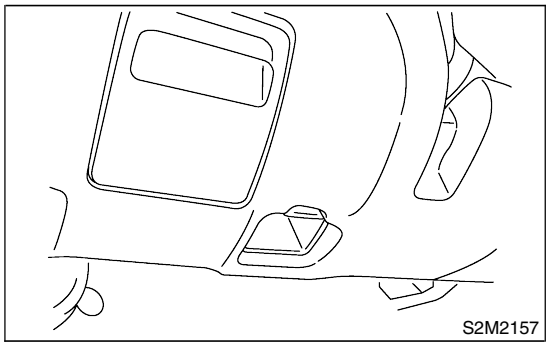

S2M0285

2) Connect diagnosis cable to Subaru Select Monitor.
3) Insert cartridge into Subaru Select Monitor. <Ref. to IM-4, SPECIAL TOOLS, PREPARATION TOOL, General Description.>



S2M0286A

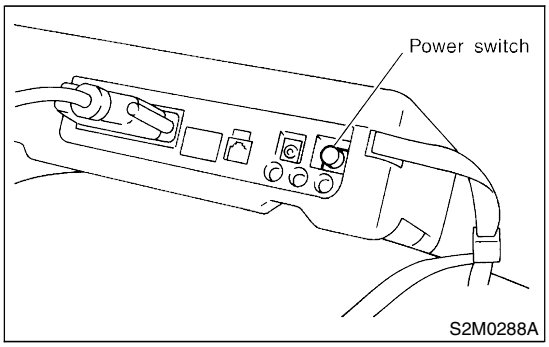
4) Connect Subaru Select Monitor to data link connector.
(1) Data link connector located in the lower portion of the instrument panel (on the driver's side).


S2M2157

(2) Connect diagnosis cable to data link connector.

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

5) Turn ignition switch to ON (engine OFF) and Subaru Select Monitor switch to ON.



S2M0288A

6) Using Subaru Select Monitor, call up diagnostic trouble code(s) and various data, then record them.

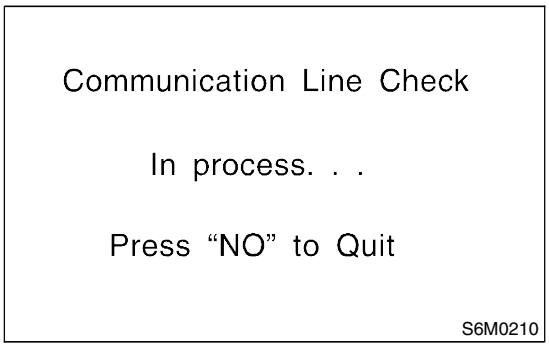
2. READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE. S009503A1606

Refer to Read Diagnostic Trouble Code for information about how to indicate DTC. <Ref. to IM-16, Read Diagnostic Trouble Code.>

3. INTERFACE CHECK S009503A1604

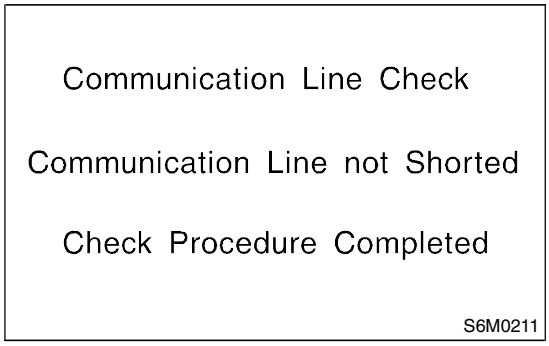
NOTE:
Communication line between ECM and IMM ECM can be checked in ≪System Operation Check Mode≫. This is referred to as "interface check".

1) Connect select monitor.
2) Set the ≪System Operation Check Mode≫ menu display screen then select ≪Immobilizer System≫.
3) Screen indicates as shown.



S6M0210

4) Start interface check.
5) Does “Communication Line not Shorted” appear on screen?
If “YES”. Go to step 6).
If “NO”. Go to step 7).



6) After diagnostic results, it is determined that short circuit is not a diagnostic item. This completes interface check.
7) If a problem is detected, repair. <Ref. to IM-27, DTC P1572 — IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT) —, Diagnostics Chart with Trouble Code.>

6. Read Diagnostic Trouble Code S009508

A: OPERATION S009508A16

1. WITH SUBARU SELECT MONITOR S009508A1601

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 displayed the information of engine type.
4) On the ≪Engine Diagnosis≫ display screen, select the {Diagnostic Code(s) Display} and 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 press the [YES] key.

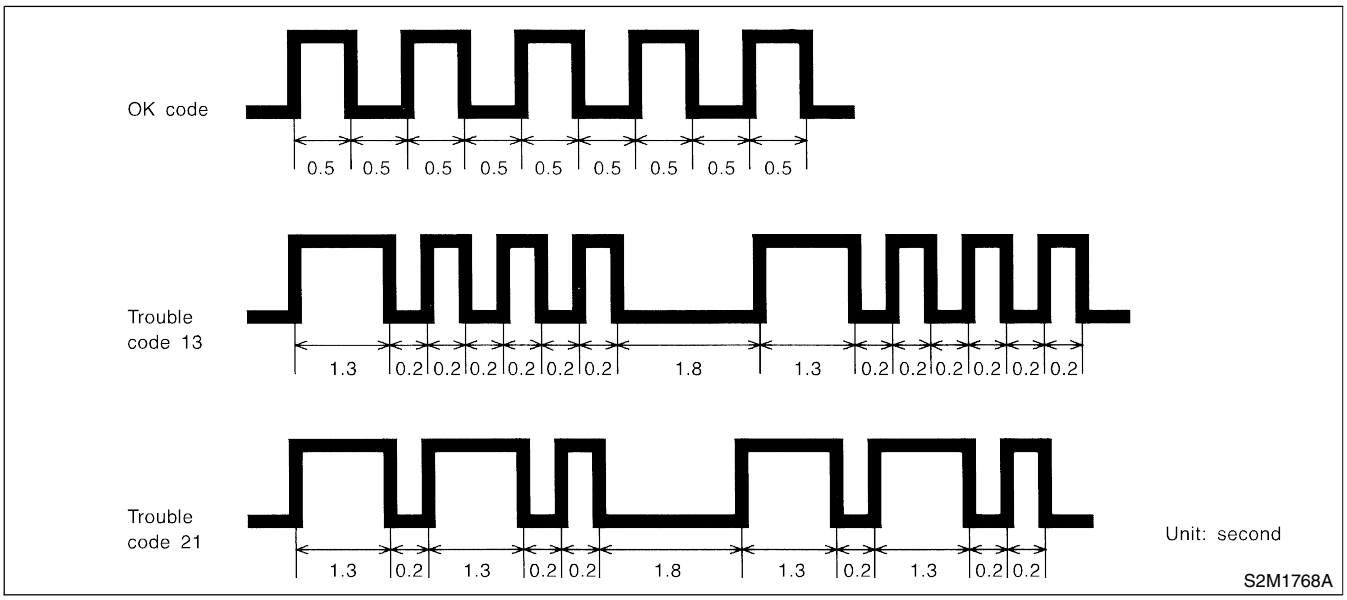
NOTE:
- For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.
- For detailed concerning diagnostic trouble codes, refer to the List of Diagnostic Trouble Code (DTC). <Ref. to IM-25, LIST, List of Diagnostic Trouble Code.>

2. WITHOUT SUBARU SELECT MONITOR S009508A1602

No.	Step	Check	Yes	No
1	**CHECK STATUS OF CHECK ENGINE MALFUNCTION INDICATOR LAMP (MIL).** 1) Turn ignition switch to OFF. 2) Connect read memory connector. <Ref. to EN(SOHCw/oOBD)-10, LOCATION, Electrical Components Location.> 3) Turn ignition switch to ON.	Does the MIL come on?	Go to step **2**.	Check the following and repair if necessary. NOTE: ● Open or short circuit in engine control module power supply or ground line ● Open or short circuit in CHECK ENGINE malfunction indicator lamp
2	**CHECK DIAGNOSTIC TROUBLE CODE (DTC).**	Does the MIL indicate diagnostic trouble code (DTC)?	Record diagnostic trouble code (DTC). Then turn ignition switch to OFF, disconnect read memory connector.	Complete read diagnostic trouble code. Turn ignition switch to OFF and disconnect read memory connector.

The CHECK ENGINE malfunction indicator lamp (MIL) flashes the code corresponding to the faulty parts. The long segment (1.3 seconds ON) indicates a “ten”, and the short segment (0.2 seconds ON) signifies “one”. And middle segment (0.5 seconds ON) means OK code.

NOTE:
● For detailed concerning diagnostic trouble codes, refer to the List of Diagnostic Trouble Code (DTC). <Ref. to IM-25, LIST, List of Diagnostic Trouble Code.>



7. Clear Memory Mode S009513

A: OPERATION S009513A16

1. WITH SUBARU SELECT MONITOR

S009513A1601

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 {Engine Control System} and press the [YES] key.
3) Press the [YES] key after displayed the information of engine type.
4) On the ≪Engine Diagnosis≫ display screen, select the {Clear Memory} and press the [YES] key.
5) When the 'Done' and 'Turn Ignition Switch OFF' are shown on the display screen, turn the Subaru Select Monitor and ignition switch to OFF.

NOTE:
● Are the memory has been cleared, the ISC must be initialized. To do this, turn the ignition switch to the ON position. Wait 3 seconds before starting the engine.
● For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.

2. WITHOUT SUBARU SELECT MONITOR S009513A1602

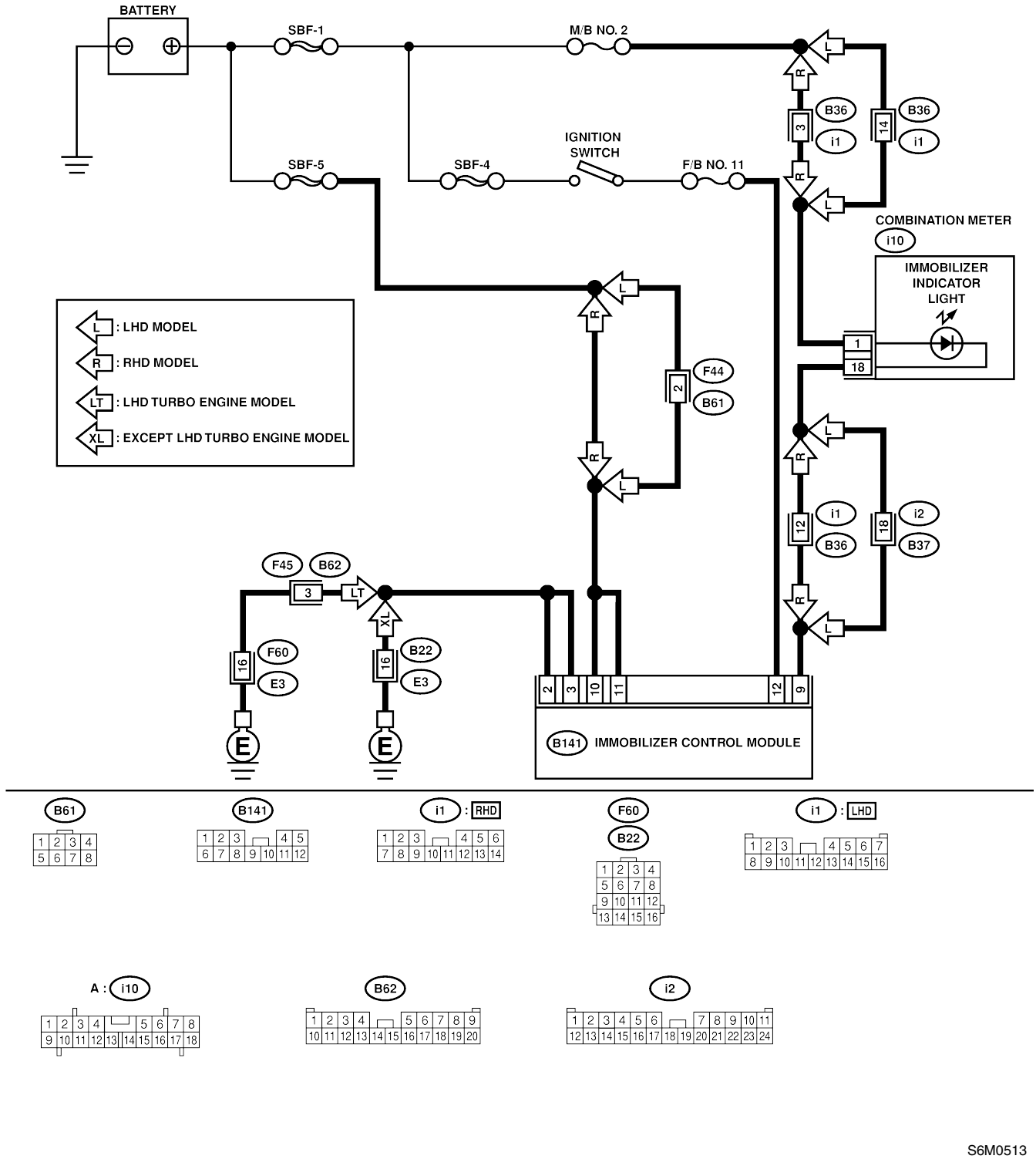
No.	Step	Check	Yes	No
1	**CHECK STATUS OF CHECK ENGINE MALFUNCTION INDICATOR LAMP (MIL).** 1) Turn ignition switch to OFF. 2) Set shift lever to neutral position (MT vehicles), or set selector lever to "P" position (AT vehicles). 3) Connect test mode connector and read memory connector. 4) Turn ignition switch to ON.	Does the MIL come on?	Go to step **2**.	Check the following and repair if necessary. NOTE: ● Open or short circuit in engine control module power supply or ground line ● Open or short circuit in CHECK ENGINE malfunction indicator lamp
2	**CHECK DIAGNOSTIC TROUBLE CODE (DTC).** 1) Set selector lever "N" position, and then set selector lever to "P" position again (AT vehicles only). 2) Start the engine. 3) Drive vehicle at speed greater than 11 km/h (7 MPH) for at least one minute. 4) Warm-up engine above 2,000 rpm.	Does the MIL indicate diagnostic trouble code (DTC)? <Ref. to IM-25, LIST, List of Diagnostic Trouble Code.>	Record diagnostic trouble code. Repair the trouble cause.	Turn ignition switch to OFF, Disconnect read memory connector and test mode connector. Complete clear memory mode.

8. Diagnostics Chart for Immobilizer Indicator Light S009641

A: INSPECTION S009641A10

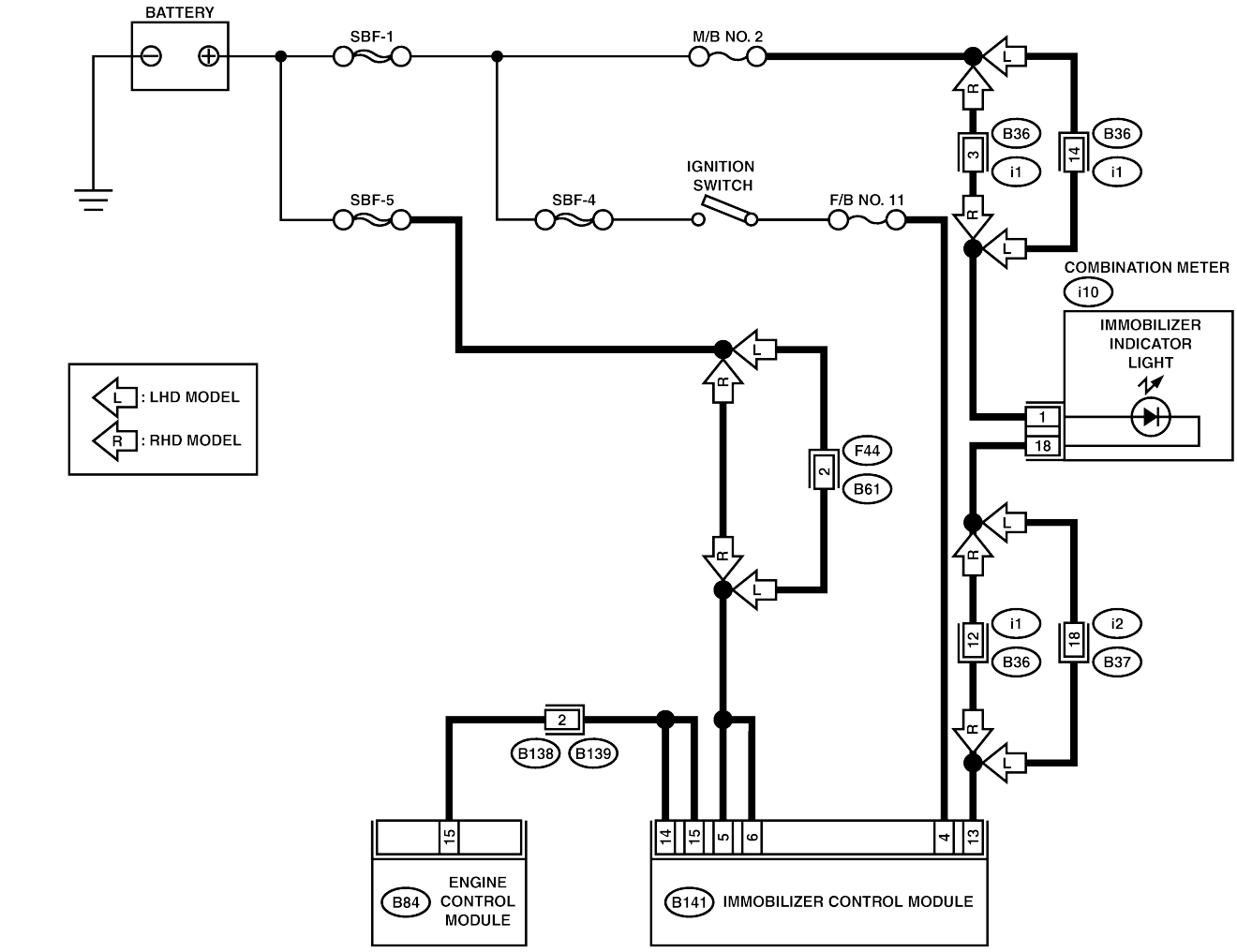
1. CHECK IMMOBILIZER INDICATOR CIRCUIT S009641A1001

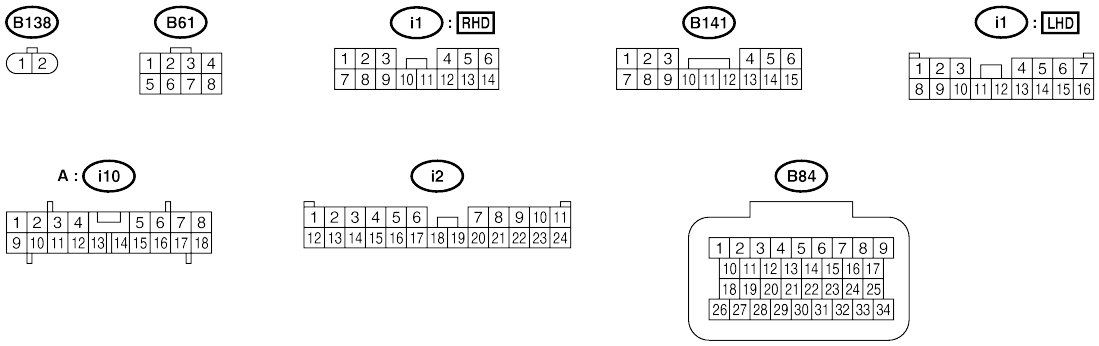
WIRING DIAGRAM (WITH OBD MODEL):



S6M0513

WIRING DIAGRAM (WITHOUT OBD MODEL):





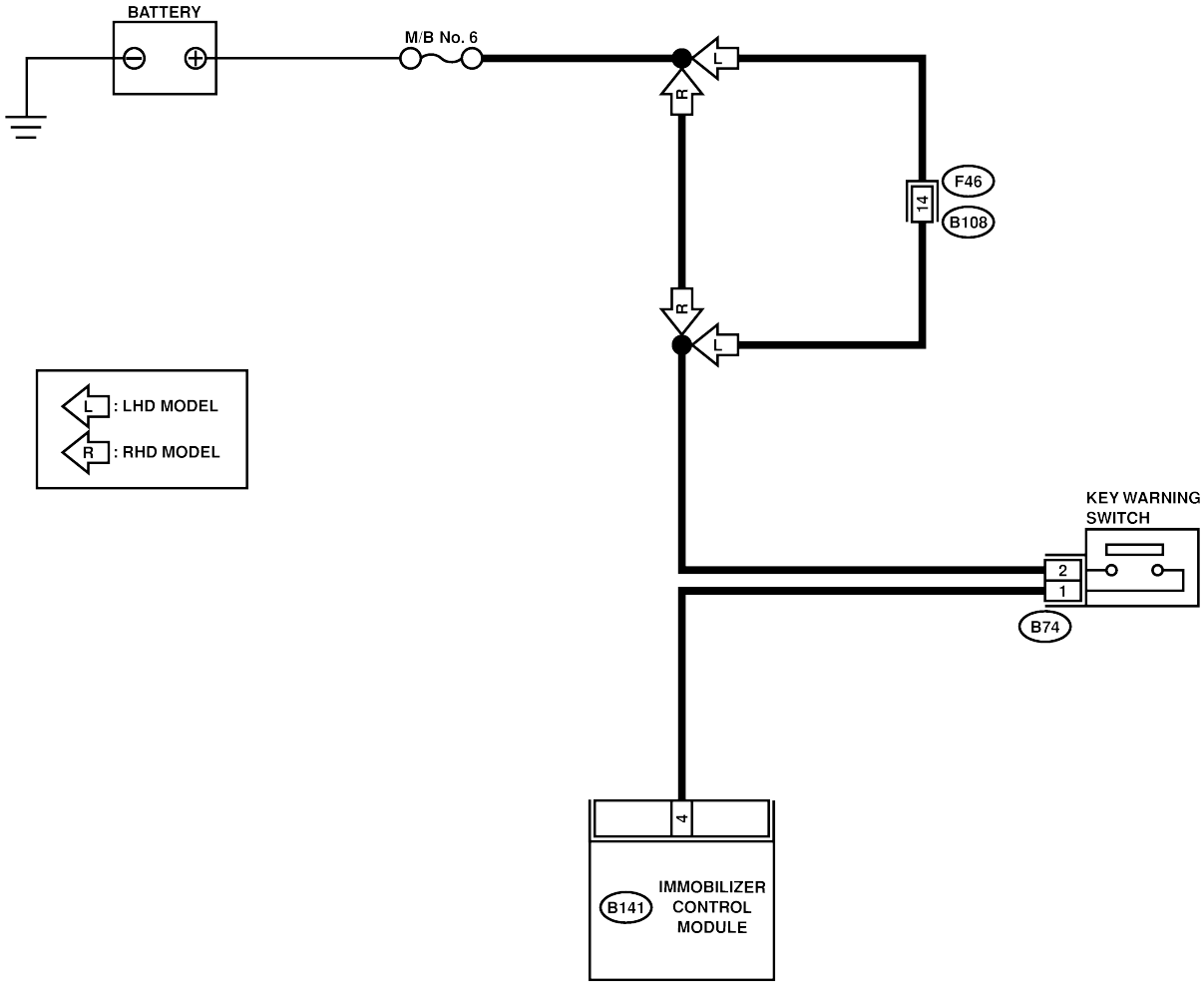
S6M0514

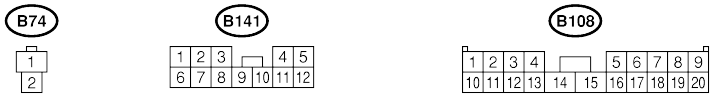
DIAGNOSTICS CHART FOR IMMOBILIZER INDICATOR LIGHT

No.	Step	Check	Yes	No
1	**CHECK IMMOBILIZER INDICATOR LIGHT COMES ON.** 1) Turn ignition switch OFF. 2) Disconnect harness connector from IMM ECM. 3) Connect a resistor (750 Ω) between IMM ECM harness connector terminal No. 9 and chassis ground.	Does indicator light comes on?	Go to step **2**.	Go to step **5**.
2	**CHECK IMM ECM GROUND CIRCUIT.** Measure resistance between IMM ECM harness connector terminal and chassis ground. ***Connector & terminal*** ***With OBD:*** ***(B141) No. 2, No. 3 (+) — Chassis ground (–):*** ***Without OBD:*** ***(B141) No. 14, No. 15 (+) — Chassis ground (–):***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair open circuit of IMM ECM ground circuit.
3	**CHECK IMM ECM IGNITION CIRCUIT.** 1) Turn ignition switch ON. (Engine OFF.) 2) Measure voltage between IMM ECM harness connector terminal and chassis ground. ***Connector & terminal*** ***With OBD:*** ***(B141) No. 12 (+) — Chassis ground (–):*** ***Without OBD:*** ***(B141) No. 4 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **4**..	Check harness for open or short between IMM ECM and ignition switch.
4	**CHECK IMM ECM POWER SUPPLY CIRCUIT.** 1) Turn ignition switch OFF. 2) Measure voltage between IMM ECM harness connector terminal and chassis ground. ***Connector & terminal*** ***With OBD:*** ***(B141) No. 10, No. 11 (+) — Chassis ground (–):*** ***Without OBD:*** ***(B141) No. 5, No. 6 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Replace IMM ECM <Ref. to SL-42, Immobilizer Control Module.> and then replace all ignition keys (including the transponder). Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0820GZ).	Check harness for open or short between IMM ECM and fuse.
5	**CHECK COMBINATION METER CIRCUIT.** 1) Remove combination meter. <Ref. to IDI-15, Combination Meter Assembly.> 2) Measure voltage between combination meter harness connector terminal and chassis ground. ***Connector & terminal*** ***(i10) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **6**.	Check harness for open or short between combination meter and fuse.
6	**CHECK COMBINATION METER CIRCUIT.** Measure resistance between IMM ECM harness connector terminal and combination meter harness connector terminal. ***Connector & terminal*** ***With OBD:*** ***(B141) No. 9 — (i10) No. 18:*** ***Without OBD:*** ***(B141) No. 13 (+) — (i10) No. 18:***	Is the resistance less than 10 Ω?	Faulty LED bulb. Replace combination meter printed circuit. <Ref. to IDI-15, DISASSEMBLY, Combination Meter Assembly.>	Repair harness or connector.

2. CHECK KEY SWITCH CIRCUIT S009641A1002

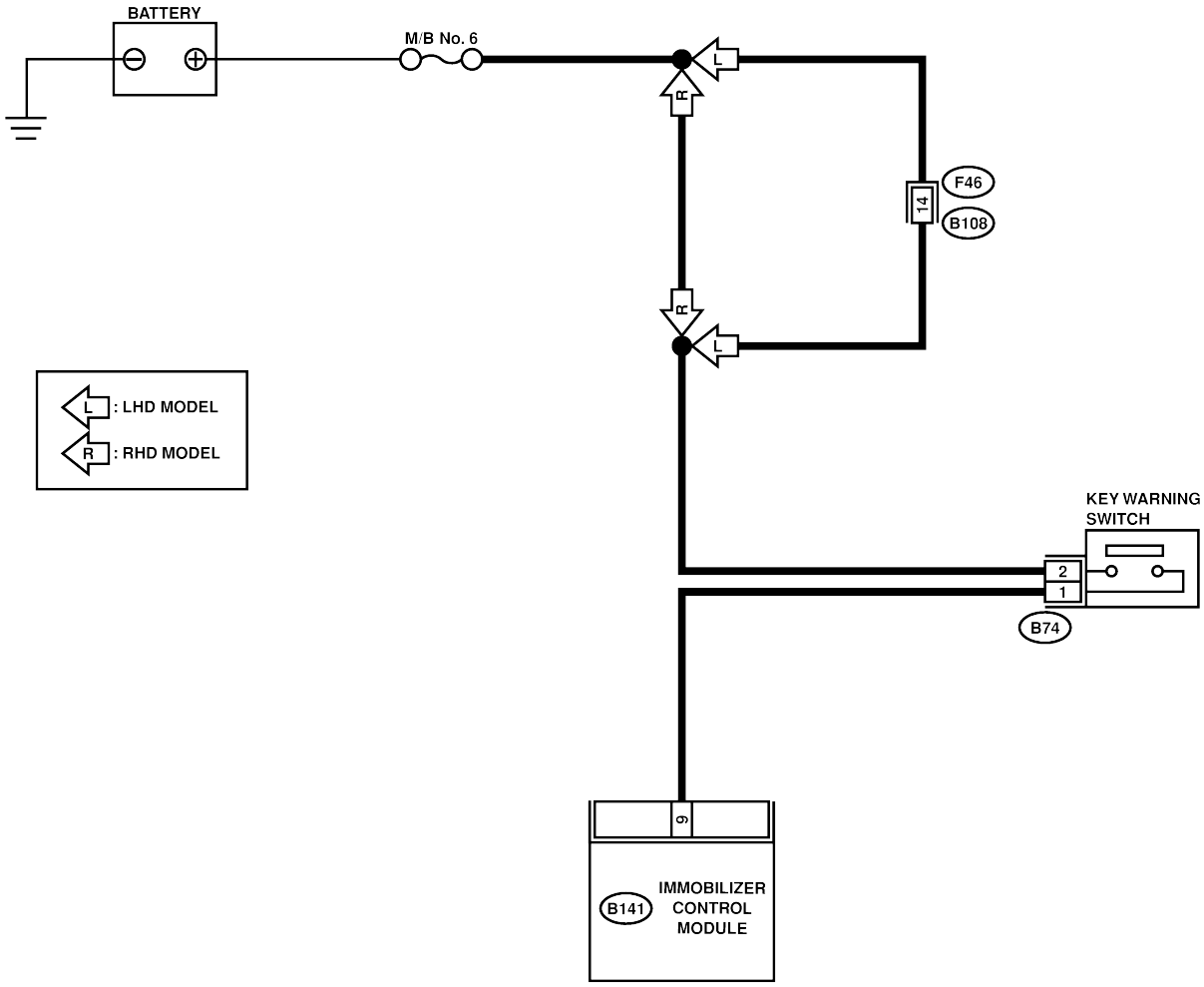
WIRING DIAGRAM (WITH OBD MODEL):

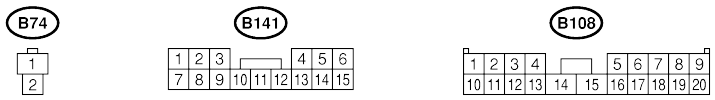




S6M0515

WIRING DIAGRAM (WITHOUT OBD MODEL):





S6M0516

DIAGNOSTICS CHART FOR IMMOBILIZER INDICATOR LIGHT

No.	Step	Check	Yes	No
1	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect harness connector from key warning switch. 2) Turn ignition switch ACC or LOCK position (The key inserted). 3) Measure voltage between key warning switch harness connector terminal and chassis ground. ***Connector & terminal*** ***(B74) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check harness for open or short between key warning switch and fuse.
2	**CHECK KEY SWITCH.** 1) Insert the ignition key to the ignition switch. (OFF or ACC position) 2) Check continuity between key warning switch connector terminals. ***Connector & terminal*** ***No. 1 — No. 2:***	Dose continuity exist?	Go to step **3**.	Replace key warning switch.
3	**CHECK KEY SWITCH.** 1) Remove the ignition key from the ignition switch. 2) Check continuity between key warning switch connector terminals. ***Connector & terminal*** ***No. 1 — No. 2:***	Does continuity exsit?	Replace key warning switch.	Go to step **4**.
4	**CHECK HARNESS BETWEEN KEY SWITCH AND IMM ECM.** 1) Disconnect harness connector from key warning switch. 2) Disconnect harness connector from IMM ECM. 3) Measure resistance between key warning switch harness connector terminal and IMM ECM harness connector terminal. ***Connector & terminal*** ***With OBD:*** ***(B74) No. 1 — (B141) No. 4:*** ***Without OBD:*** ***(B74) No. 1 — (B141) No. 9:***	Is the resistance less than 10 Ω?	Replace IMM ECM <Ref. to SL-42, Immobilizer Control Module.> and then replace all ignition keys (including the transponder). Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0820GZ).	Repair harness between key warning switch and IMM ECM.

9. List of Diagnostic Trouble Code S009511

A: LIST S009511A12

DTC		Item	Contents of diagnosis	Index No.
Without OBD	With OBD			
53	P1571	Reference Code Incompatibility	Reference code incompatibility between IMM ECM and ECM	<Ref. to IM-26, DTC P1571 — REFERENCE CODE INCOMPATIBILITY —, Diagnostics Chart with Trouble Code.>
	P1572	IMM Circuit Failure (Except Antenna Circuit)	Communication failure between IMM ECM and ECM	<Ref. to IM-27, DTC P1572 — IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT) —, Diagnostics Chart with Trouble Code.>
	P1574	Key Communication Failure	Failure of IMM ECM to verify key (transponder) ID code	<Ref. to IM-33, DTC P1574 — KEY COMMUNICATION FAILURE —, Diagnostics Chart with Trouble Code.>
	P0153	Use of Unregistered Key	Incorrect immobilizer key (Use of unregistered key in IMM ECM)	<Ref. to IM-34, DTC P0153 — INNCORRECT IMMOBILIZER KEY (USE OF UNREGISTERED KEY) —, Diagnostics Chart with Trouble Code.>
	P1576	EGI Control Module EEPROM	ECM malfunctioning	<Ref. to IM-34, DTC P1576 — EGI CONTROL MODULE EEPROM —, Diagnostics Chart with Trouble Code.>
	P1577	IMM Control Module EEPROM	IMM ECM malfunctioning	<Ref. to IM-34, DTC P1577 — IMM CONTROL MODULE EEPROM —, Diagnostics Chart with Trouble Code.>
	P1570	ANTENNA	Faulty antenna	<Ref. to IM-35, DTC P1570 — ANTENNA —, Diagnostics Chart with Trouble Code.>

NOTE:
- When reading diagnostic trouble code except with SUBARU SELECT MONITOR, the item cannot be specified. Therefore diagnose for all items.
- When a diagnostic trouble code except for the above immobilizer trouble code has been output, carry out diagnosis for the engine trouble code. <Ref. to EN(SOHC)-80, List of Diagnostic Trouble Code (DTC).> or <Ref. to EN(SOHCw/oOBD)-65, List of Diagnostic Trouble Code (DTC).> or <Ref. to EN(DOHC TURBO)-82, List of Diagnostic Trouble Code (DTC).>

10. Diagnostics Chart with Trouble Code S009620

A: DTC P1571 — REFERENCE CODE INCOMPATIBILITY — S009620H45

DIAGNOSIS:

- Reference code incompatibility between IMM ECM and ECM

No.	Step	Check	Yes	No
1	**PERFORM TEACHING OPERATION ON IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to teaching operation manual.	Is teaching operation for all keys completed?	END	Replace ECM. <Ref. to FU(SOHC)-49, Engine Control Module.>, <Ref. to FU(SOHCw/oOBD)-38, Engine Control Module.>, or <Ref. to FU(DOHC TURBO)-47, Engine Control Module.>, IMM ECM <Ref. to SL-42, Immobilizer Control Module.> and then replace all ignition keys (including the transponder). Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0820GZ).