

# General Description

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

## 2. General Description

### A: CAUTION

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

### CAUTION:

- The airbag system wiring harnesses and connectors are all yellow in color. Do not use the electrical test equipment on these circuits.
- Be careful not to damage the airbag system wiring harness when servicing the A/C control panel (auto A/C control module) and junction box.

### B: INSPECTION

Before performing the diagnosis, check the following items which may cause problems in the A/C system.

#### 1. BATTERY

- 1) Measure the battery voltage and check electrolyte.

**Standard voltage:**

**12 V**

**Specific gravity:**

**1.260 or more**

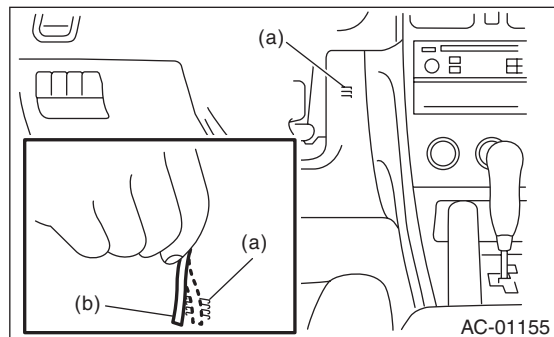
- 2) Check the condition of the fuses for A/C system power supply and other fuses.
- 3) Check the condition of harness and harness connector connections.

#### 2. ASPIRATOR HOSE

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

#### NOTE:

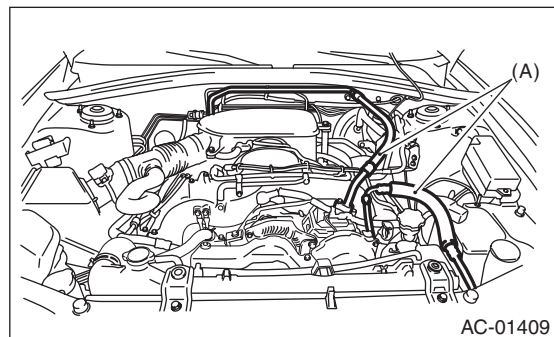
- Be careful not to let the paper get sucked into the port.
- Hold the paper approx. 5 mm (0.02 in) away from port when the suction force is not very strong.



- 6) If the paper does not move at all, remove the lower cover <Ref. to AC-28, REMOVAL, Control Unit.> and check for improper connection of the aspirator hose, lower cover, and heater unit, and fix them if necessary.

#### 3. REFRIGERANT LINE

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



#### 4. CONTROL LINKAGE

- 1) Check the state of mode door linkage.
- 2) Check the state of air mix door linkage.
- 3) Check the state of FRESH/RECIRC door linkage.

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#### 5. CONTROL SWITCHES

Start the engine and warm-up completely.

##### 1) Inspection using switches

No.	Point to check	Switch operation	Judgment standard
1	Air flow control dial	Turn the dial to the right.	Outlet opening switches in order to AUTO → VENT → BILEVEL → HEAT → DEF/HEAT → DEF each time the dial is turned.
2	Fan speed control dial	Turn the dial to the right.	Fan speeds switch OFF → AUTO → 1st → 2nd → 3rd → 4th → 5th → 6th → 7th each time the dial is turned.
3	FRESH/RECIRC switch	Press the FRESH/RECIRC switch.	Inlet opening switches RECIRC → FRESH → RECIRC each time the switch is pressed. (The LED lights for RECIRC.)
		Press the FRESH/RECIRC switch for a longer period of time. (1 second or more)	The LED blinks twice and the system switches to AUTO.
4	A/C switch	Turn the A/C switch to ON with the fan speed control dial is set to other than OFF position.	The LED lights and the compressor operates.
		Press the FRESH/RECIRC switch for a longer period of time. (1 second or more)	The LED blinks twice and the system switches to AUTO.
5	Auto function Operate in order from 1).	1) Set the following dial and switch to AUTO. • Air flow control dial • Fan speed control dial • FRESH/RECIRC switch • A/C switch 2) Turn the temperature control dial completely to the left, and set to the maximum cool position.	<ul style="list-style-type: none"> <li>• Outlet air temperature: COOL</li> <li>• Fan speed: Max.</li> <li>• Outlet opening: VENT</li> <li>• Inlet opening: RECIRC</li> <li>• Compressor: AUTO</li> </ul>
		3) Turn the temperature control dial to the right slowly up to the maximum warm position.	<ul style="list-style-type: none"> <li>• Outlet air temperature: COOL → HOT</li> <li>• Fan speed: AUTO</li> <li>• Outlet opening: AUTO</li> <li>• Inlet opening: AUTO</li> <li>• Compressor: AUTO</li> </ul>
		4) Turn the temperature control dial fully to the right, to the maximum hot position.	<ul style="list-style-type: none"> <li>• Outlet air temperature: HOT</li> <li>• Fan speed: Max.</li> <li>• Outlet opening: HEAT</li> <li>• Inlet opening: FRESH</li> <li>• Compressor: AUTO</li> </ul>
6	Defroster Interlock Function	Set the air flow control dial to the DEF or the DEF/HEAT position.	<ul style="list-style-type: none"> <li>• Outlet opening: AUTO</li> <li>• Fan speed: AUTO</li> <li>• Outlet opening: DEF or DEF/HEAT</li> <li>• Inlet opening: FRESH</li> <li>• Compressor: ON</li> </ul>
7	Rear defogger switch	Press the rear defogger switch.	The LED lights.

##### 2) Inspection of illumination control

No.	Point to check	Switch operation	Judgment standard
1	Illumination	Turn the lighting switch ON.	Illumination comes on. If the LED lights, the LED will dim.