

DIAGNOSTIC PROCEDURE FOR SENSORS

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

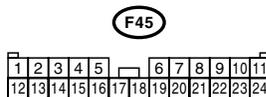
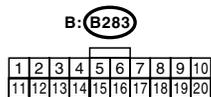
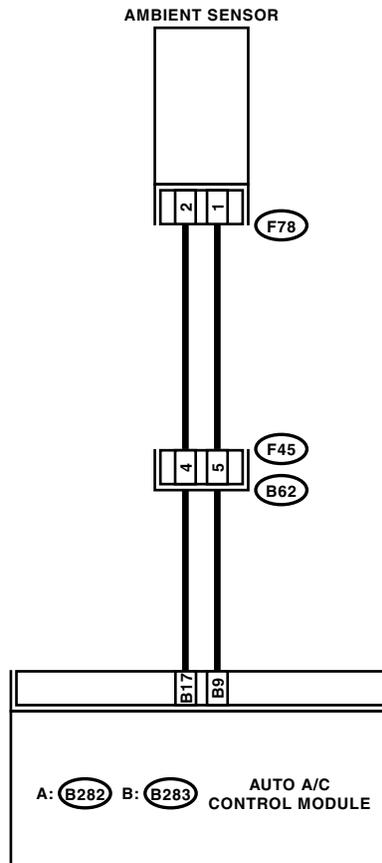
8. Diagnostic Procedure for Sensors

A: AMBIENT SENSOR

TROUBLE SYMPTOM:

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

WIRING DIAGRAM:



AC-00750

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Step	Check	Yes	No
1 CHECK AMBIENT SENSOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ambient sensor. 3) Measure the resistance between connector terminals of ambient sensor. <i>Terminals</i> <i>No. 1 — No. 2:</i>	Is the resistance approx. 2.2 k Ω at 25°C (77°F)?	Go to step 2.	Replace the ambient sensor.
2 CHECK INPUT SIGNALS FOR AMBIENT SENSOR. 1) Turn the ignition ON. 2) Measure the voltage between (F78) connector terminals. <i>Connector & terminal</i> <i>(F78) No. 1 (+) — No. 2 (-):</i>	Is the voltage approx. 5 V?	Go to step 6.	Go to step 3.
3 CHECK OUTPUT SIGNALS FROM A/C CONTROL MODULE. 1) Turn the ignition switch to OFF. 2) Pull out the A/C control unit. 3) Disconnect the connector from ambient sensor. 4) Turn the ignition switch to ON. 5) Measure the voltage between connector terminals of A/C control module. <i>Connector & terminal</i> <i>(B283) No. 9 (+) — No. 17 (-):</i>	Is the voltage approx. 5 V?	Go to step 4.	Go to step 6.
4 CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND AMBIENT SENSOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from A/C control module. 3) Measure the resistance of harness between A/C control module and ambient sensor. <i>Connector & terminal</i> <i>(F78) No. 1 — (B283) No. 9:</i>	Is the resistance less than 1 Ω ?	Go to step 5.	Repair the open circuit in harness between A/C control module and ambient sensor.
5 CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND AMBIENT SENSOR. Measure the resistance of harness between A/C control module and ambient sensor. <i>Connector & terminal</i> <i>(F78) No. 2 — (B283) No. 17:</i>	Is the resistance less than 1 Ω ?	Go to step 6.	Repair the open circuit in harness between A/C control module and ambient sensor.
6 CHECK POOR CONTACT. Check poor contact in A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the A/C control module.

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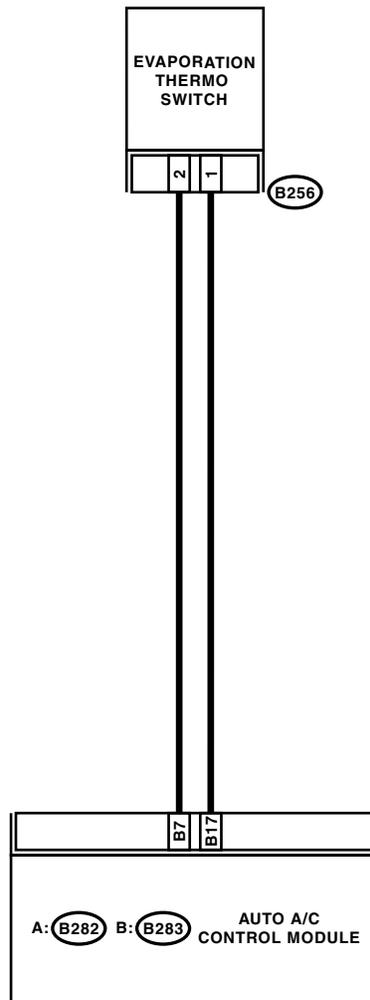
B: IN-VEHICLE SENSOR

TROUBLE SYMPTOM:

- When turning the AUTO switch to ON, blower fan speed, outlet port and inlet port is not changed.
- If the switch LED indicates that the sensor is malfunctioning, replace the A/C control module. The in-vehicle sensor is built into the A/C control module and cannot be replaced as a single unit.

C: EVAPORATOR SENSOR

WIRING DIAGRAM:



B256

B: B283

1 2

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

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Step	Check	Yes	No
1 CHECK EVAPORATOR SENSOR. 1) Turn the ignition switch to OFF. 2) Remove the glove box. 3) Disconnect the connector from evaporator sensor. 4) Measure the resistance between connector terminals of evaporator sensor. <i>Terminals</i> <i>No. 1 — No. 2:</i>	Is the resistance approx. 3.3 k Ω at 20°C (68°F)?	Go to step 2.	Replace the evaporator sensor.
2 CHECK INPUT SIGNALS FOR EVAPORATOR SENSOR. 1) Turn the ignition switch to ON. 2) Measure the voltage between (B256) connector terminal and chassis ground. <i>Connector & terminal</i> <i>(B256) No. 2 (+) — Chassis ground (-):</i>	Is the voltage approx. 5 V?	Go to step 6.	Go to step 3.
3 CHECK OUTPUT SIGNALS FROM A/C CONTROL MODULE. 1) Turn the ignition switch to OFF. 2) Pull out the A/C control module. 3) Turn the ignition switch to ON. 4) Measure the voltage between A/C control module connector terminals. <i>Connector & terminal</i> <i>(B283) No. 7 (+) — No. 17 (-):</i>	Is the voltage approx. 5 V?	Go to step 4.	Go to step 6.
4 CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND EVAPORATOR SENSOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from A/C control module. 3) Measure the resistance of harness between A/C control module and evaporator sensor. <i>Connector & terminal</i> <i>(B256) No. 2 — (B283) No. 7:</i>	Is the resistance less than 1 Ω ?	Go to step 5.	Repair the open circuit in harness between A/C control module and evaporator sensor.
5 CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND EVAPORATOR SENSOR. Measure the resistance of harness between A/C control module and evaporator sensor. <i>Connector & terminal</i> <i>(B256) No. 1 — (B283) No. 17:</i>	Is the resistance less than 1 Ω ?	Go to step 6.	Repair the open circuit in harness between A/C control module and evaporator sensor.
6 CHECK POOR CONTACT. Check poor contact in A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the A/C control module.

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D: SUNLOAD SENSOR

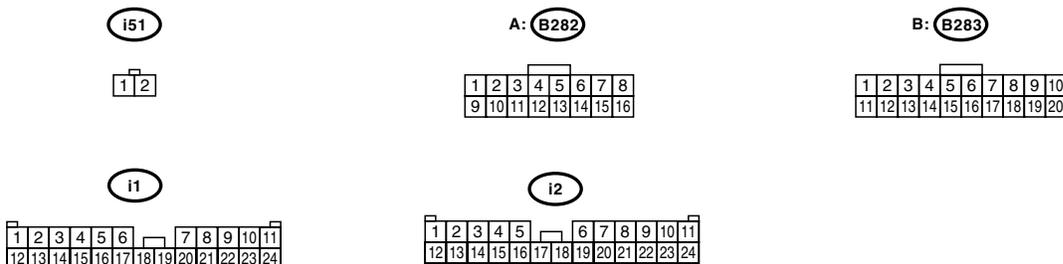
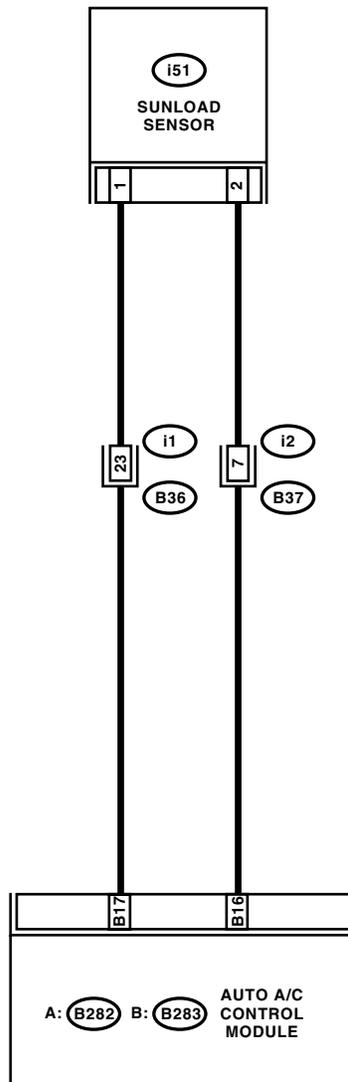
TROUBLE SYMPTOM:

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

NOTE:

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

WIRING DIAGRAM:



AC-00751

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Step	Check	Yes	No
1 CHECK INPUT VOLTAGE TO SUNLOAD SENSOR. 1) Turn the ignition switch to ON. 2) Measure the input voltage to sunload sensor. Connector & terminal (i51) No. 2 (+) — Chassis ground (-):	Is the voltage approx. 5 V?	Go to step 3.	Go to step 2.
2 CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND SUNLOAD SENSOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from A/C control module. 3) Measure the resistance of harness between A/C control module and sunload sensor. Connector & terminal (i51) No. 2 — (B283) No. 16:	Is the resistance less than 1 Ω ?	Go to step 3.	Repair the harness between A/C control module and sunload sensor.
3 CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND SUNLOAD SENSOR. Measure the resistance of harness between A/C control module and sunload sensor. Connector & terminal (i51) No. 1 — (B283) No. 17:	Is the resistance less than 1 Ω ?	Go to step 4.	Repair the harness between A/C control module and sunload sensor.
4 CHECK THE INPUT VOLTAGE TO A/C CONTROL MODULE. 1) Connect the A/C control module connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between A/C control module connector terminals. Connector & terminal (B283) No. 16 (+) — (B283) No. 17 (-):	Is the voltage approx. 2.5 V?	Go to step 5.	Replace the sunload sensor.
5 CHECK POOR CONTACT. Check poor contact in A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the A/C control module.