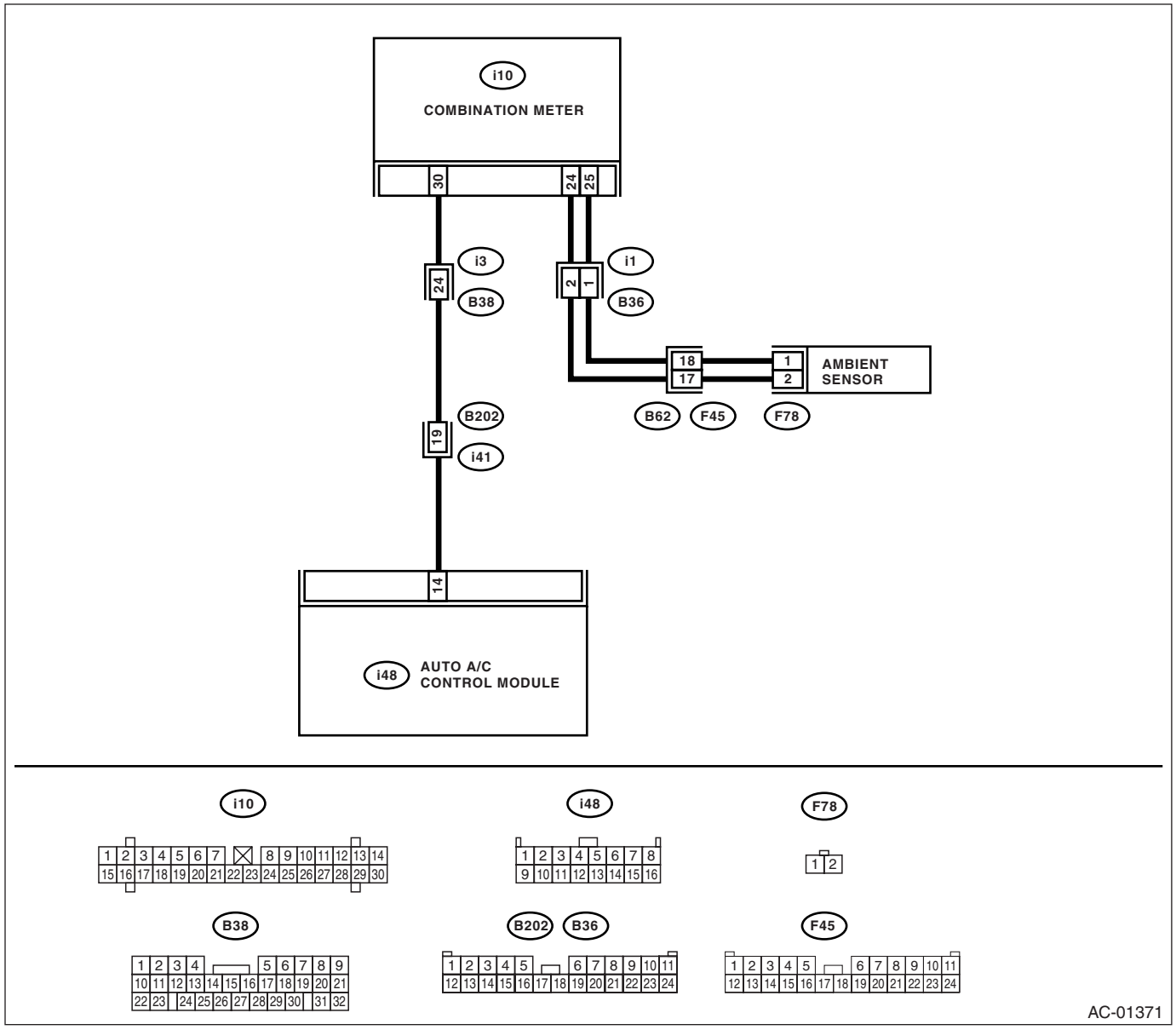
8. Diagnostic Procedure for Sensors

A: AMBIENT SENSOR

TROUBLE SYMPTOM:

- Fan speed is not switched when the fan speed control dial is in AUTO position.
- Failure related to the ambient sensor is indicated in self-diagnosis.

WIRING DIAGRAM:

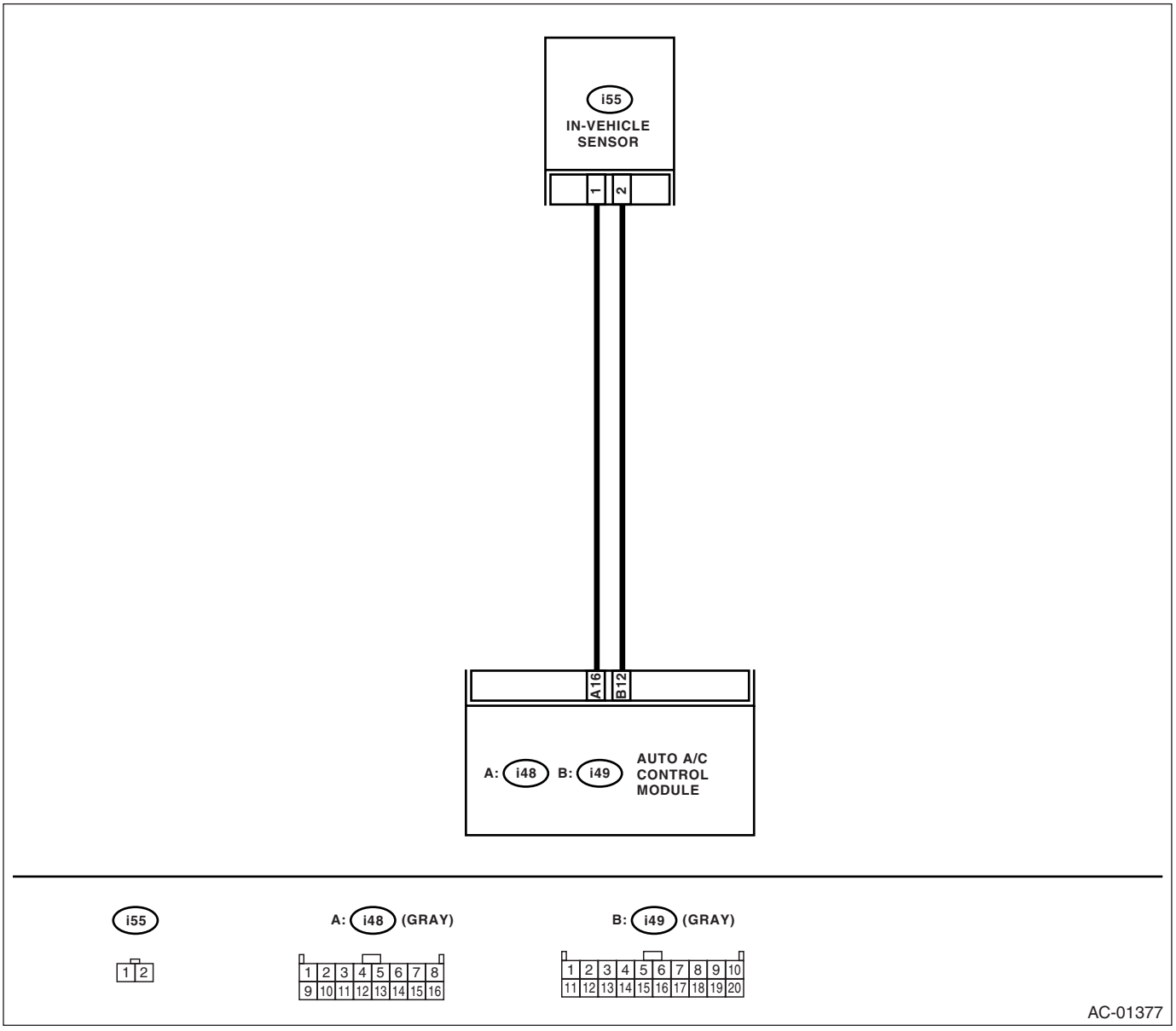


	Step	Check	Yes	No
1	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from auto A/C control module and the combination meter. 3) Measure the resistance of harness between the auto A/C control module and combination meter. ***Connector & terminal*** ***(i10) No. 30 — (i48) No. 14:***	Is the resistance less than 1 Ω?	Go to step **2**.	Repair the open circuit of the harness between auto A/C control module and combination meter.
2	**CHECK AMBIENT SENSOR CIRCUIT.** Check the ambient sensor circuit. <Ref. to IDI-9, CHECK OUTSIDE TEMPERATURE INDICATOR, INSPECTION, Combination Meter System.>	Is the ambient sensor circuit normal?	Go to step **3**.	Repair the ambient sensor circuit.
3	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact in the connector?	Repair the connector.	Replace the auto A/C control module.

B: IN-VEHICLE SENSOR

TROUBLE SYMPTOM:

- Blower fan speed, outlet port and inlet port do not change after turning the AUTO switch ON
- Failure related to the in-vehicle sensor is indicated in self-diagnosis.

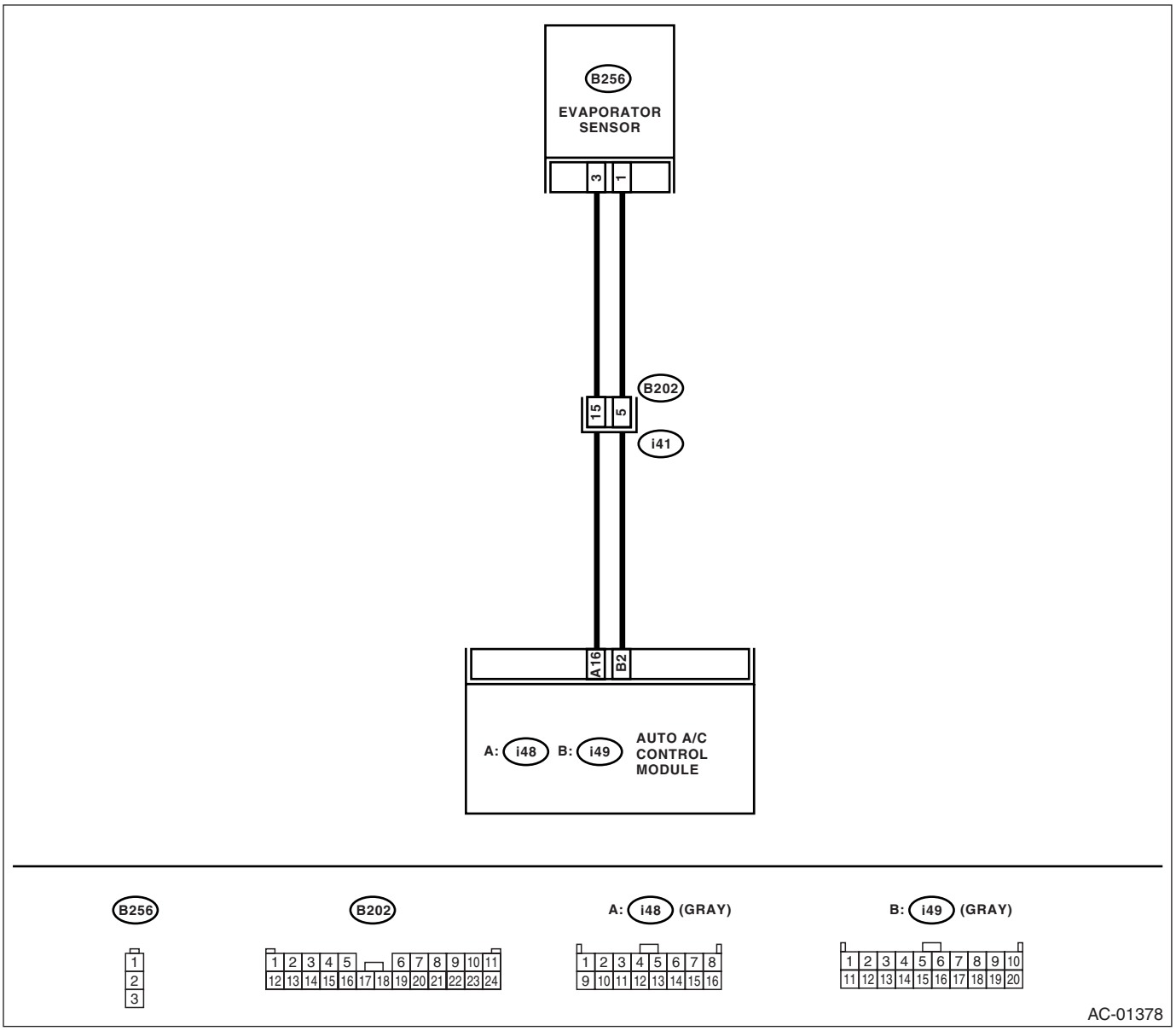


	Step	Check	Yes	No
1	**CHECK IN-VEHICLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Remove the driver side lower cover. 3) Disconnect the connector from in-vehicle sensor. 4) Measure the resistance between connector terminals of in-vehicle sensor. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance approximately 2.7 kΩ at 20°C (68°F)?	Go to step **2**.	Replace the in-vehicle sensor.

	Step	Check	Yes	No
2	**CHECK INPUT SIGNAL FOR IN-VEHICLE SENSOR.** 1) Turn the ignition switch to ON. 2) Measure the voltage between in-vehicle sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(i55) No. 2 (+) — Chassis ground (–):***	Is the voltage approx. 5 V?	Go to step **5**.	Go to step **3**.
3	**CHECK AUTO A/C CONTROL MODULE OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Pull out the auto A/C control module. 3) Turn the ignition switch to ON. 4) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(i49) No. 12 (+) — (i48) No. 16 (–):***	Is the voltage approx. 5 V?	Go to step **4**.	Go to step **6**.
4	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND IN-VEHICLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the auto A/C control module. 3) Measure the resistance of harness between auto A/C control module and in-vehicle sensor. ***Connector & terminal*** ***(i55) No. 2 — (i49) No. 12:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the open circuit of the harness between auto A/C control module and in-vehicle sensor.
5	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND IN-VEHICLE SENSOR.** Measure the resistance of harness between auto A/C control module and in-vehicle sensor. ***Connector & terminal*** ***(i55) No. 1 — (i48) No. 16:***	Is the resistance less than 1 Ω?	Go to step **6**.	Repair the open circuit of the harness between auto A/C control module and in-vehicle sensor.
6	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact in the connector?	Repair the connector.	Replace the auto A/C control module.

C: EVAPORATOR SENSOR

WIRING DIAGRAM:



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 the evaporator sensor. ***Terminals*** ***No. 1 — No. 3:***	Is the resistance approximately 2.7 kΩ at 20°C (68°F)?	Go to step **2**.	Replace the evaporator sensor.

	Step	Check	Yes	No
2	**CHECK INPUT SIGNAL FOR EVAPORATOR SENSOR.** 1) Turn the ignition switch to ON. 2) Measure the voltage between evaporator sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(B256) No. 1 (+) — Chassis ground (–):***	Is the voltage approx. 5 V?	Go to step **5**.	Go to step **3**.
3	**CHECK AUTO A/C CONTROL MODULE OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Pull out the auto A/C control module. 3) Turn the ignition switch to ON. 4) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(i49) No. 2 (+) — (i48) No. 16 (–):***	Is the voltage approx. 5 V?	Go to step **4**.	Go to step **6**.
4	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND EVAPORATOR SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the auto A/C control module. 3) Measure the resistance of harness between auto A/C control module and evaporator sensor. ***Connector & terminal*** ***(B256) No. 1 — (i49) No. 2:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the open circuit of harness between auto A/C control module and evaporator sensor.
5	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND EVAPORATOR SENSOR.** Measure the resistance of harness between auto A/C control module and evaporator sensor. ***Connector & terminal*** ***(B256) No. 3 — (i48) No. 16:***	Is the resistance less than 1 Ω?	Go to step **6**.	Repair the open circuit of harness between auto A/C control module and evaporator sensor.
6	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact in the connector?	Repair the connector.	Replace the auto A/C control module.

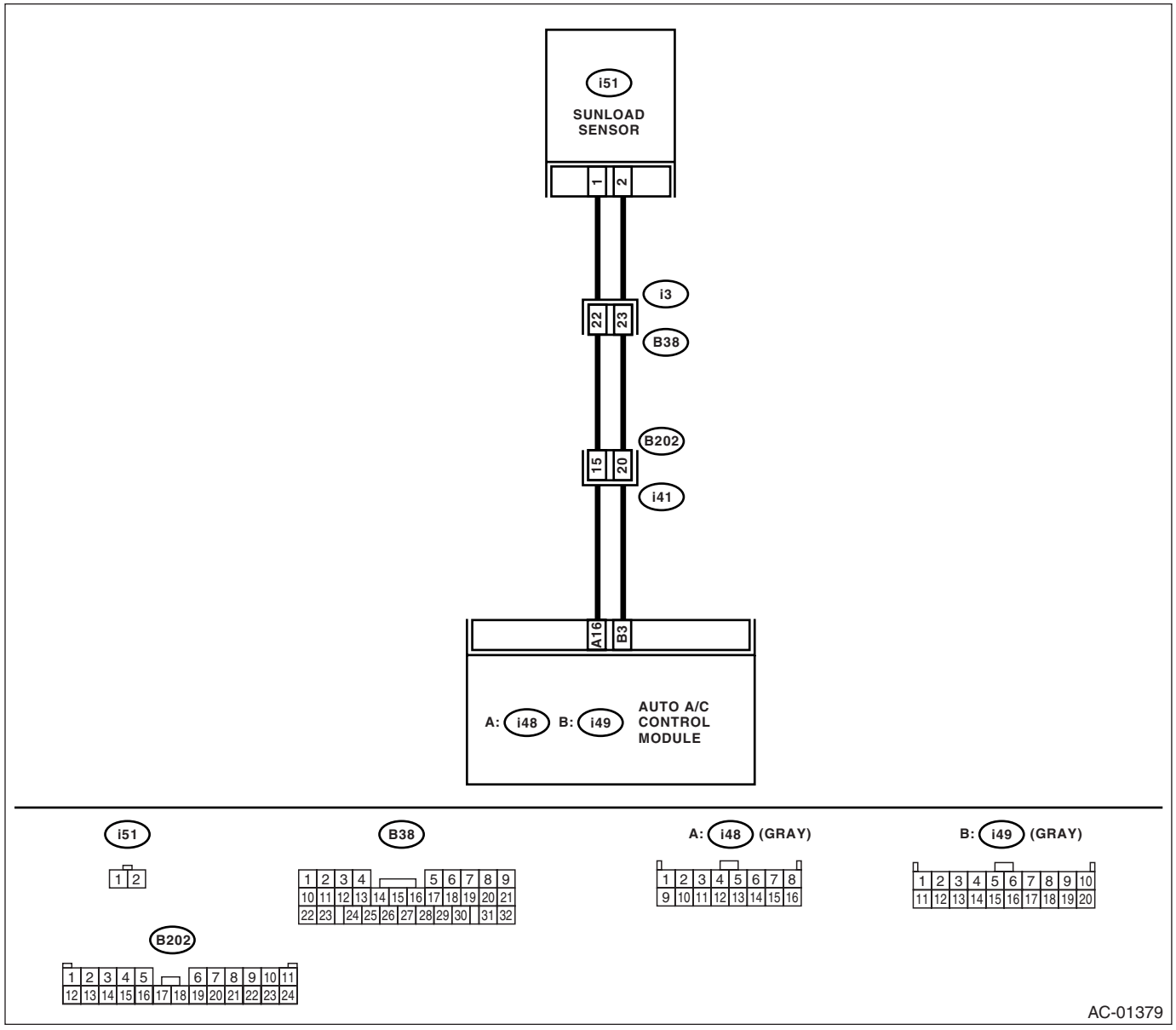
D: SUNLOAD SENSOR

TROUBLE SYMPTOM:

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

NOTE:
When the sunload sensor is checked indoors or in the shade, an open circuit might be indicated. Always check the sunload sensor at a location exposed to direct sunlight.

WIRING DIAGRAM:



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**.

	Step	Check	Yes	No
2	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND SUNLOAD SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the auto A/C control module. 3) Measure the resistance of the harness between the auto A/C control module and sunload sensor. ***Connector & terminal*** ***(i51) No. 2 — (i49) No. 3:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the harness between auto A/C control module and sunload sensor.
3	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND SUNLOAD SENSOR.** Measure the resistance of the harness between the auto A/C control module and sunload sensor. ***Connector & terminal*** ***(i51) No. 1 — (i48) No. 16:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair the harness between auto A/C control module and sunload sensor.
4	**CHECK INPUT VOLTAGE FOR AUTO A/C CONTROL MODULE.** 1) Connect the auto A/C control module connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(i49) No. 3 (+) — (i48) No. 16 (–):***	Is the voltage approx. 2.5 V?	Go to step **5**.	Replace the sunload sensor.
5	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact of the connector?	Repair the connector.	Replace the auto A/C control module.