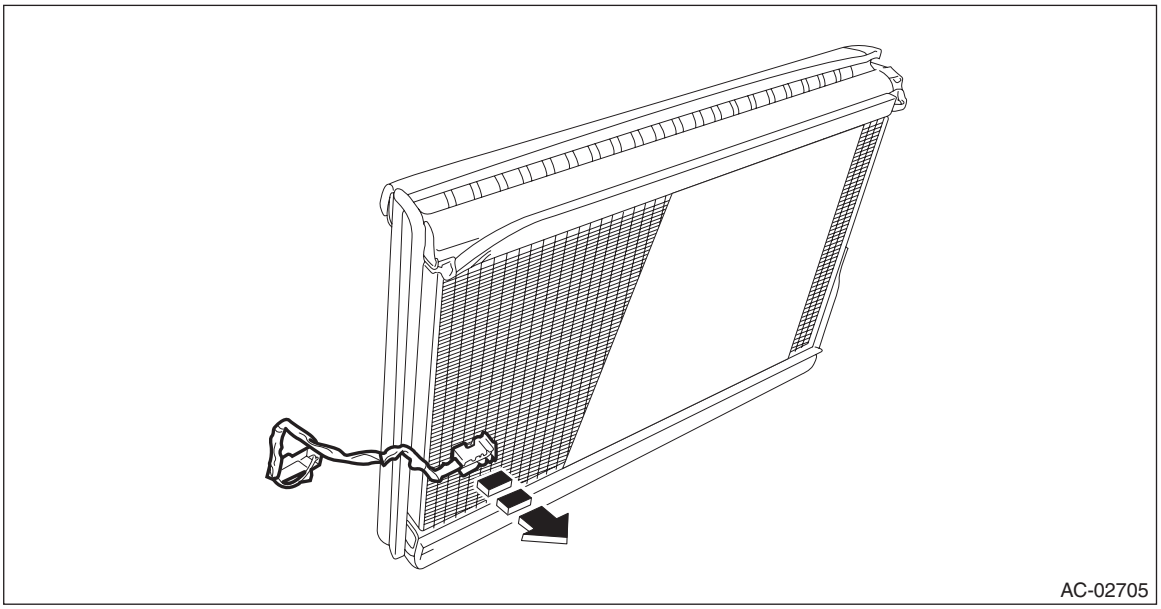
26.Evaporator Sensor

A: REMOVAL

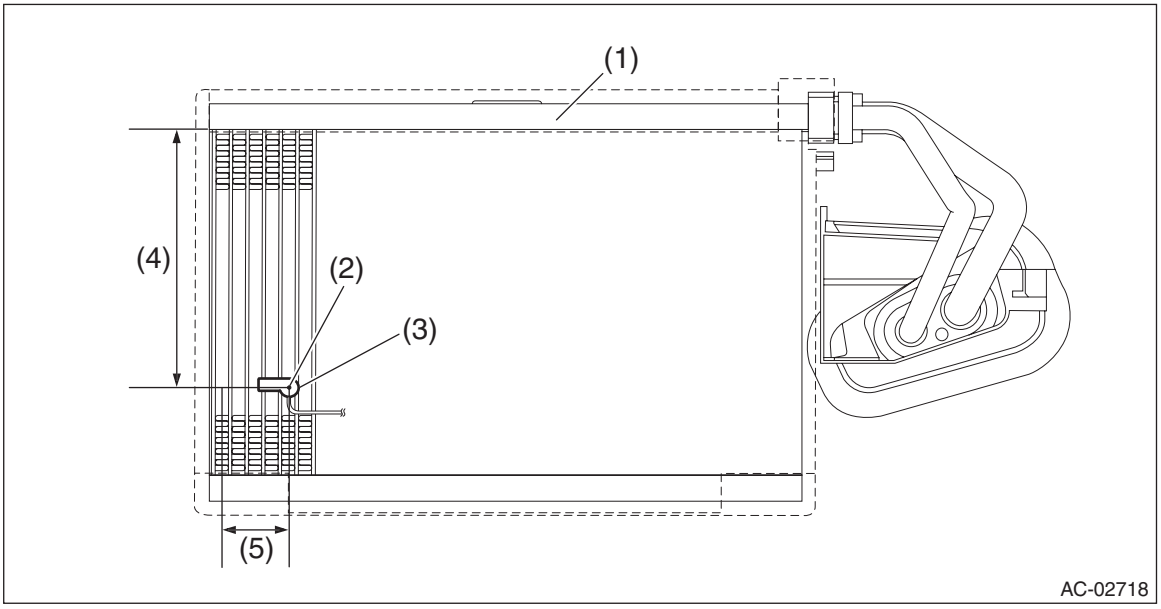
1) Remove the evaporator assembly - cooling. <Ref. to AC-63, REMOVAL, Evaporator.>
2) Remove the thermostat - cooling from the evaporator assembly - cooling.



B: INSTALLATION

CAUTION:
- **Make sure that the water seal packing on the cover attachment area is securely attached.**
- **Replace the O-rings with new parts, and then apply compressor oil.**

1) Install the thermostat - cooling at the position shown in the figure below.



(1) Evaporator ASSY - cooling
(2) Center
(3) Thermostat - cooling
(4) 130 mm (5.12 in) from the upper end of the fins
(5) Fifth row fin from the left end

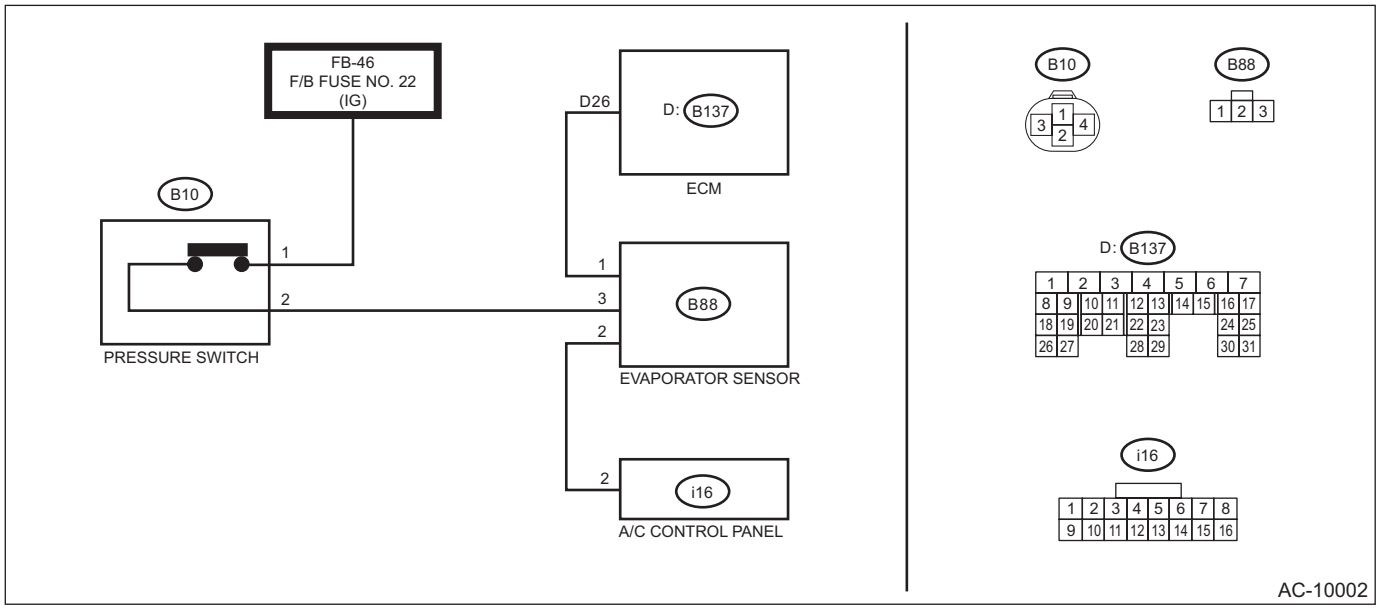
2) Install each part in the reverse order of removal.
3) Charge refrigerant. <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>

C: INSPECTION

1. MANUAL A/C MODEL

Preparation tool:
Circuit tester
Thermometer and hygrometer

WIRING DIAGRAM:



1) Prepare the vehicle.

NOTE:
Check that the ambient temperature is 25 — 40°C (77 — 104°F) and that the humidity is 30% — 80%.
- Place the vehicle in the workshop or in the shade and windless condition.
- Open all windows.

2) Set the vehicle to the following conditions and idle the engine for 15 minutes.

Item	Condition
Engine	Idling
Air vent grille	Shutter is fully open.
A/C switch	OFF
Temperature adjustment dial	LO (MAX COOL)
FRESH/RECIRC switch	RECIRC
Air flow control dial	VENT
Fan dial	3/4 level

3) Check evaporator sensor power supply input
(1) Turn the ignition to OFF.
(2) Disconnect the evaporator sensor connector.
(3) Turn the ignition to ON.
(4) Measure the voltage between evaporator sensor connector and chassis ground.

Connector & terminal
(B88) No. 3 (+) — Chassis ground (–):
(5) Is the voltage approx. 12 V?
- **Yes** → Go to step 4).
- **No** → Repair or replace the harness.

4) Check evaporator sensor ground circuit
   (1) Turn the ignition to OFF.
   (2) Check continuity between evaporator sensor connector and chassis ground.

Connector & terminal
(B88) No. 2 — Chassis ground:
   (3) Is there continuity?
   - **Yes** → Go to step 6).
   - **No** → Go to step 5).

5) Check open circuit in evaporator sensor ground circuit
   (1) Disconnect the control panel connector.
   (2) Check continuity between evaporator sensor connector and control panel connector.

Connector & terminal
(B88) No. 2 — (i16) No. 2:
   (3) Is there continuity?
   - **Yes** → Replace the control panel.
   - **No** → Repair or replace the harness.

6) Check evaporator sensor signal output
   (1) Connect the evaporator sensor connector and the control panel connector.
   (2) Disconnect the engine control module (ECM) connector.
   (3) Turn the ignition to ON.
   (4) Turn the A/C switch to ON.
   (5) Measure the voltage between engine control module (ECM) connector and chassis ground.

Connector & terminal
(B137) No. 26 — Chassis ground (–):
   (6) Is the voltage approx. 8 V or more?
   - **Yes** → Evaporator sensor is normal.
   - **No** → Go to step 7).

7) Check open circuit in evaporator sensor signal output circuit
   (1) Turn the ignition to OFF.
   (2) Disconnect the evaporator sensor connector.
   (3) Check continuity between evaporator sensor connector and engine control module (ECM) connector.

Connector & terminal
(B88) No. 1 — (B137) No. 26:
   (4) Is there continuity?
   - **Yes** → Replace the evaporator sensor.
   - **No** → Repair or replace the harness.

2. AUTO A/C MODEL

Preparation tool:
Subaru Select Monitor III kit
Circuit tester
Thermometer and hygrometer

1) Prepare the vehicle.

NOTE:
Check that the ambient temperature is 25 — 40°C (77 — 104°F) and that the humidity is 30% — 80%.
- Place the vehicle in the workshop or in the shade and windless condition.
- Open all windows.

2) Set the vehicle to the following conditions.

Item	Condition
Engine	Idling
Air vent grille	Shutter is fully open.
A/C switch	OFF
Temperature adjustment dial	LO (MAX COOL)
FRESH/RECIRC switch	RECIRC
Air flow control dial or switch	VENT
Fan dial	5/7 level

3) Using the Subaru Select Monitor, check «Evaporator Temperature».

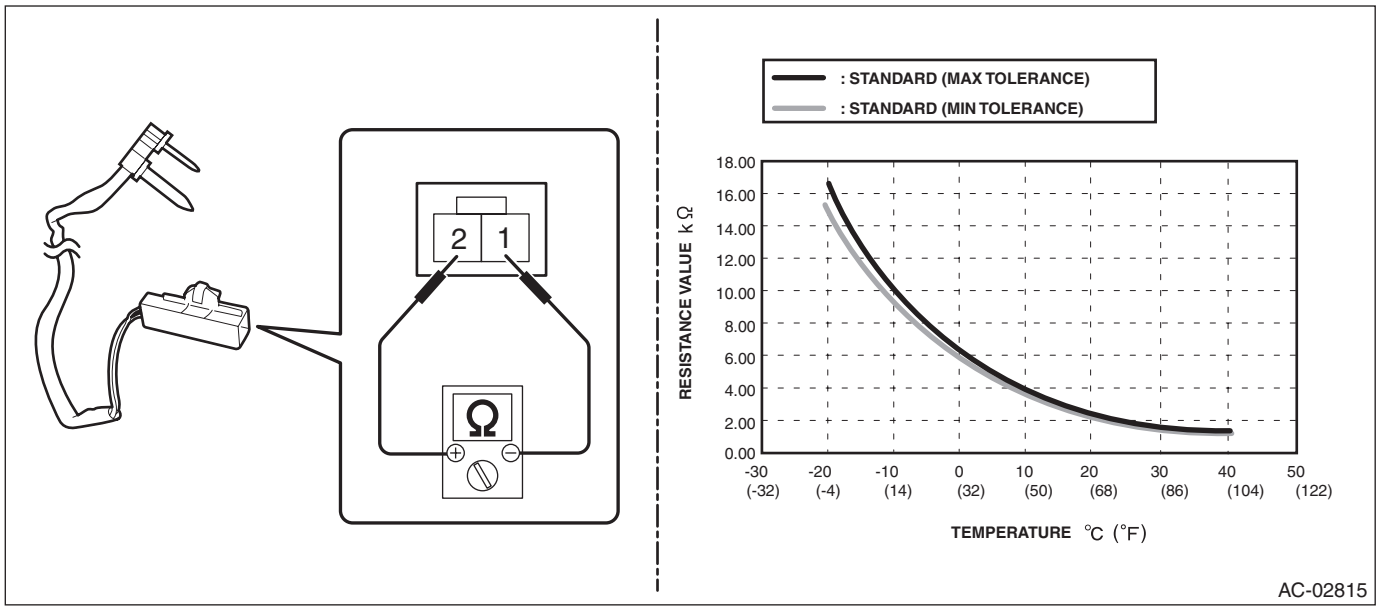
NOTE:
For detailed procedures, refer to “PC application help for Subaru Select Monitor”.

(1) Idle the engine for 15 minutes, and then compare the air flow outlet temperature with «Evaporator Temperature».

NOTE:
For outlet opening temperature, measure the average temperature of center grille assembly and side grille assembly.

(2) Do the air flow outlet temperature and «Evaporator Temperature» differ by 3°C (5.4°F) or more?
- **Yes** → Go to step 4).
- **No** → Evaporator sensor is normal.

4) Check the evaporator sensor.
(1) Disconnect the evaporator sensor connector.
(2) Is the resistance between terminals of evaporator sensor within standard value?



Terminal No.	Inspection conditions	Standard
1 — 2	-20°C	15.37 — 16.62 kΩ
	-15°C	12.09 — 12.87 kΩ
	-10°C	9.576 — 10.05 kΩ
	-5°C	7.636 — 7.899 kΩ
	0°C	6.132 — 6.256 kΩ
	5°C	4.891 — 5.057 kΩ
	10°C	3.928 — 4.113 kΩ
	15°C	3.174 — 3.366 kΩ
	20°C	2.581 — 2.77 kΩ
	25°C	2.111 — 2.292 kΩ
	30°C	1.737 — 1.907 kΩ
	35°C	1.437 — 1.595 kΩ
	40°C	1.195 — 1.34 kΩ

- **Yes** → Evaporator sensor is normal.
- **No** → Replace the evaporator sensor.