

DIAGNOSTICS FOR A/C SYSTEM FAILURE

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

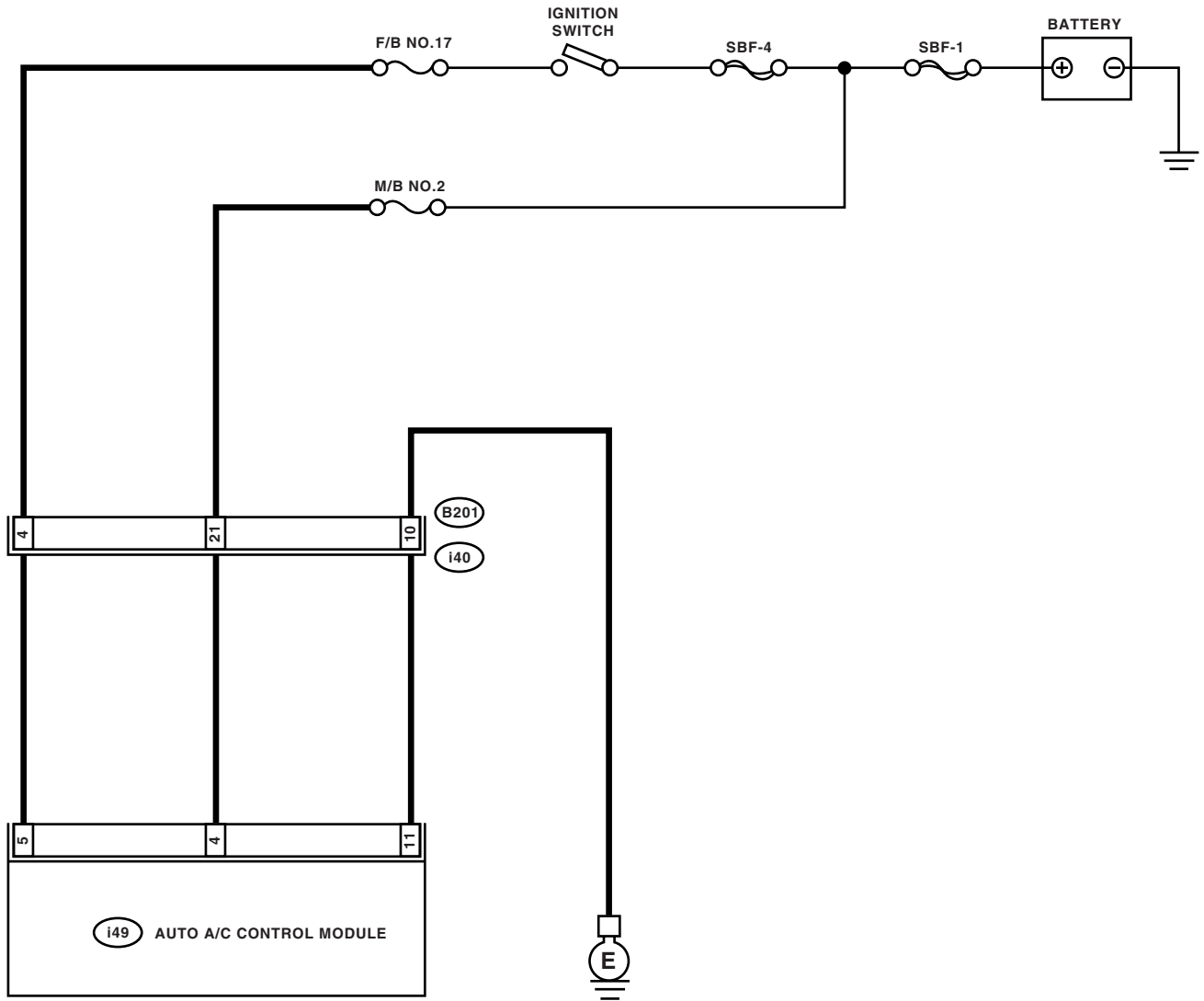
6. Diagnostics for A/C System Failure

A: A/C OR SELF-DIAGNOSIS FUNCTIONS DO NOT OPERATE

TROUBLE SYMPTOM:

- "Set" temperature is not indicated on the display, switch LEDs are faulty or switches do not operate.
- Self-diagnosis function does not operate.

WIRING DIAGRAM:



i49 (GRAY)

B201

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

1	2	3	4	5	6	7	8	9	10	11		
12	13	14	15	16	17	18	19	20	21	22	23	24

AC-00797

DIAGNOSTICS FOR A/C SYSTEM FAILURE

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Step	Check	Yes	No
1 CHECK FUSE. 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 2 from main fuse box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step 2.
2 CHECK FUSE. 1) Turn the ignition switch to OFF. 2) Remove the fuses No. 17 from fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step 3.
3 CHECK A/C CONTROL MODULE POWER CIRCUIT. 1) Pull out the A/C control module connector. 2) Measure the voltage between A/C control module connector terminal and chassis ground when turning ignition switch to OFF. <i>Connector & terminal (i49) No. 4 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 4.	Repair the short circuit in harness for power supply line.
4 CHECK A/C CONTROL MODULE POWER CIRCUIT. Measure the voltage between A/C control module connector terminal and chassis ground when turning ignition switch to ON. <i>Connector & terminal (i49) No. 5 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 5.	Repair the short circuit in harness for power supply line.
5 CHECK A/C CONTROL MODULE GROUND CIRCUIT. Turn the ignition switch to ON, and measure the resistance of harness between A/C control module and chassis ground. <i>Connector & terminal (i49) No. 11 — Chassis ground:</i>	Is the resistance less than 1 Ω ?	Go to step 6.	Repair the short circuit in harness for ground line.
6 CHECK POOR CONTACT. Check poor contact in A/C control module.	Is there poor contact in connector?	Repair the connector.	Repair the A/C control module.

DIAGNOSTICS FOR A/C SYSTEM FAILURE

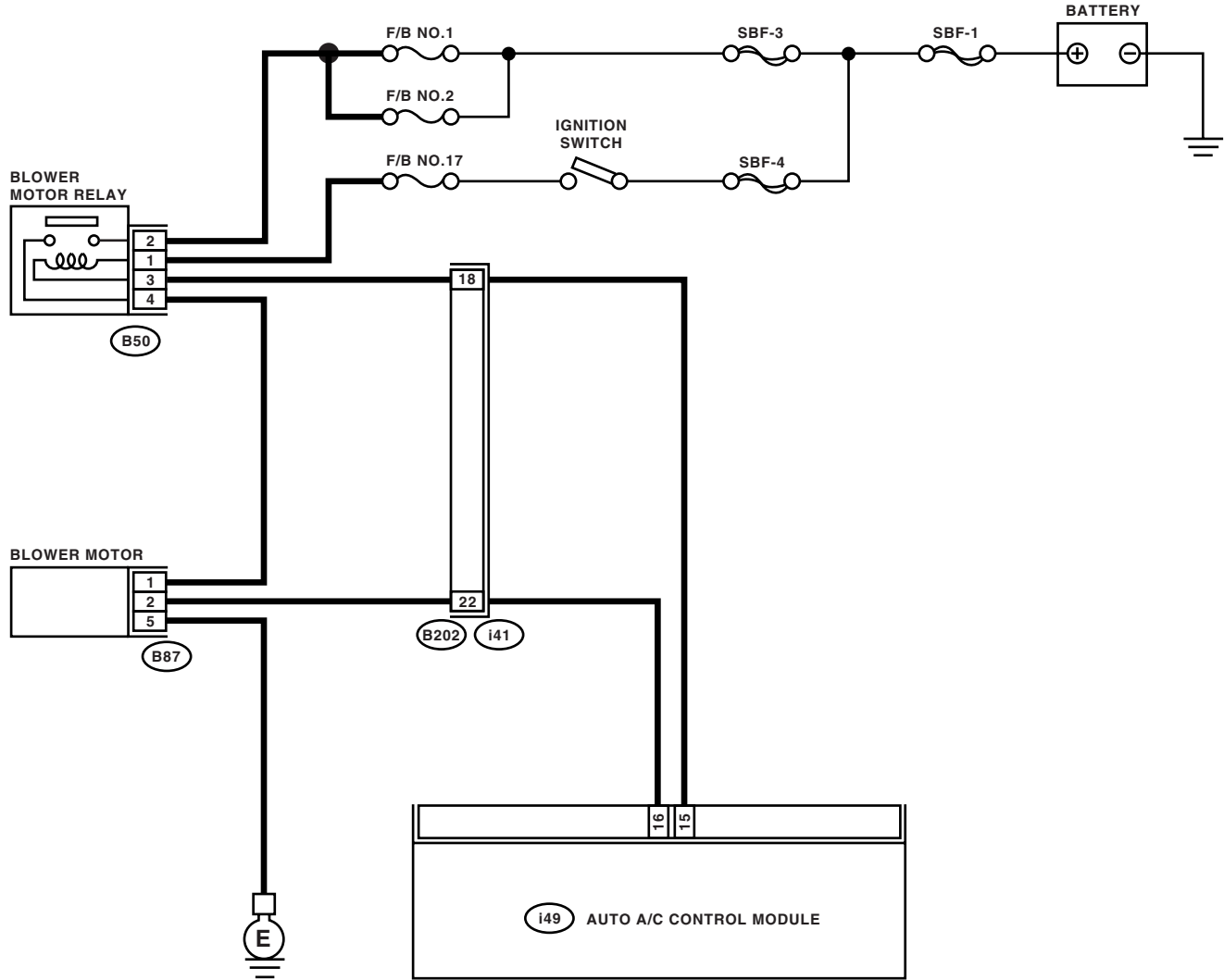
HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

B: BLOWER MOTOR IS NOT ROTATED

TROUBLE SYMPTOM:

- Blower motor is not rotated.
- Blower motor is not shifted.

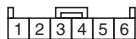
WIRING DIAGRAM:



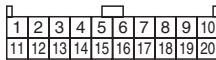
B50



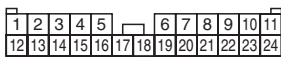
B87



i49 (GRAY)



B202



AC-00798

DIAGNOSTICS FOR A/C SYSTEM FAILURE

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK FUSE. 1) Remove the No.1, No. 2 and No. 17 fuses in fuse & relay box. 2) Check the condition of fuses.	Are any of the fuses blown out?	Replace the fuse.	Go to step 2.
2 CHECK POWER SUPPLY TO BLOWER FAN MOTOR. 1) Turn the ignition switch to ON. 2) Turn the fan speed control dial clockwise. 3) Measure the voltage between blower fan motor and chassis ground. Connector & terminal (B87) No. 1 (+) — Chassis ground (-):	Is the voltage more than 8 V (At normal temperature)?	Go to step 3.	Repair the open circuit in harness for blower fan motor power supply line.
3 CHECK BLOWER FAN MOTOR RELAY. 1) Turn the ignition switch to OFF. 2) Remove the blower fan motor relay. 3) Connect the battery positive (+) terminal to terminal No. 1 and ground (-) terminal to No. 3 of blower motor connector. 4) Measure the resistance between No. 2 and No. 4 terminals. Terminals No. 2 — No. 4:	Is the resistance less than 1 Ω ?	Go to step 4.	Replace the blower fan motor relay.
4 CHECK BLOWER FAN MOTOR. 1) Disconnect the connector from blower fan motor. 2) Connect the battery positive (+) terminal to terminal No. 1 and ground (-) terminal to No. 2 and No. 5 of blower motor connector. 3) Make sure that the blower fan motor is operated.	Does the blower fan motor operate?	Go to step 5.	Replace the blower fan motor.
5 CHECK POOR CONTACT. Check poor contact in A/C control module.	Is there poor contact in connector?	Repair the connector.	Repair the A/C control module.

DIAGNOSTICS FOR A/C SYSTEM FAILURE

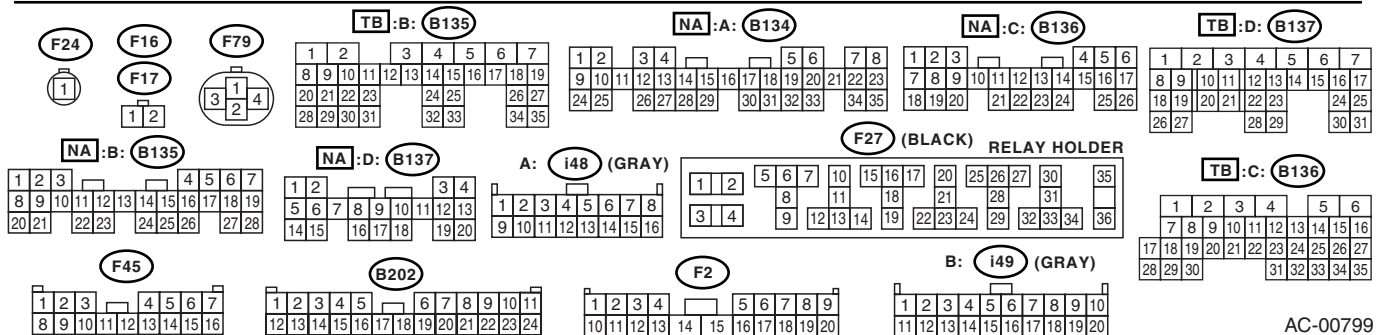
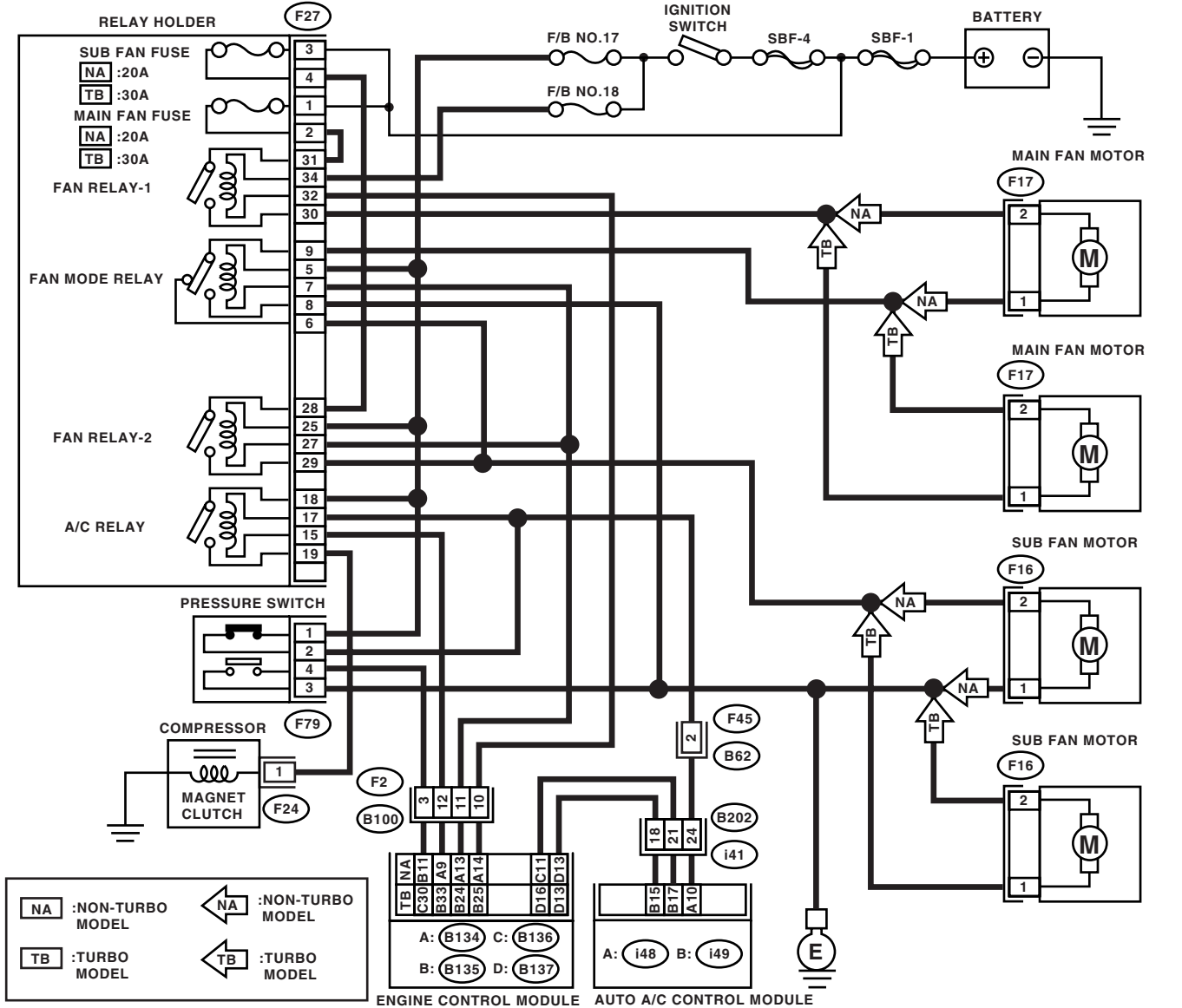
HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

C: COMPARTMENT TEMPERATURE IS NOT CHANGED OR A/C SYSTEM DOES NOT RESPOND QUICKLY

TROUBLE SYMPTOM:

- Compartment temperature is not changed.
- A/C system does not respond quickly.

WIRING DIAGRAM:



AC-00799

DIAGNOSTICS FOR A/C SYSTEM FAILURE

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK FUSE. 1) Turn the ignition switch to OFF. 2) Remove the main fan fuse and sub fan fuse in main fuse box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step 2.
2 CHECK THE POWER SUPPLY TO PRESSURE SWITCH. 1) Disconnect the connector from pressure switch. 2) Turn the ignition switch to OFF. 3) Measure the resistance between harness connector and chassis ground. <i>Connector & terminal</i> <i>(F79) No. 1 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 3.	Repair the open circuit in harness for pressure switch power supply circuit.
3 CHECK THE HARNESS BETWEEN PRESSURE SWITCH AND A/C RELAY HARNESS. 1) Turn the ignition switch to OFF. 2) Remove the A/C relay in main fuse box. 3) Measure the resistance between A/C relay and pressure switch connector. <i>Connector & terminal</i> <i>(F27) No. 17 — (F79) No. 2:</i>	Is the resistance less than 1 Ω ?	Go to step 4.	Repair the open circuit in harness between A/C relay and pressure switch.
4 CHECK THE PRESSURE SWITCH. Measure the resistance between pressure switch terminals. <i>Terminals</i> <i>No. 1 — No. 2:</i>	Is the resistance less than 1 Ω ?	Go to step 5.	Replace the pressure switch.
5 CHECK THE A/C CUTOFF SIGNAL CIRCUIT. 1) Disconnect the connector from A/C control module. 2) Measure the resistance between A/C control module and pressure switch connector. <i>Connector & terminal</i> <i>(i48) No. 10 — (F79) No. 2:</i>	Is the resistance less than 1 Ω ?	Go to step 6.	Repair the open circuit in harness between A/C control module and pressure switch.
6 CHECK THE A/C ON SIGNAL CIRCUIT. 1) Disconnect the connector from engine control module. 2) Measure the resistance between engine control module and A/C control module connector. <i>Connector & terminal</i> <i>Non-turbo model</i> <i>(B136) No. 11 — (i49) No. 17:</i> <i>Turbo model</i> <i>(B137) No. 16 — (i49) No. 17:</i>	Is the resistance less than 1 Ω ?	Go to step 7.	Repair the open circuit in harness between A/C control module and engine control module.
7 CHECK A/C RELAY. 1) Remove the A/C relay in main fuse box. 2) Check the A/C relay. <Ref. to AC-36, INSPECTION, Relay and Fuse.>	Is the operation of the relay OK?	Go to step 8.	Replace the A/C relay.

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HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

Step	Check	Yes	No
<p>8 CHECK POWER SUPPLY TO MAGNET CLUTCH OF A/C COMPRESSOR. 1) Turn the ignition switch to OFF, and then connect the A/C relay connector and all removed connectors. 2) Start the engine, and turn A/C switch to ON. 3) Set the temperature control dial to maximum cold position. 4) Measure the voltage between magnet clutch harness connector and chassis ground. Connector & terminal (F24) No. 1 (+) — Chassis ground (-):</p>	Is the voltage more than 10.5 V (At normal temperature)?	Go to step 9.	Repair the open circuit in harness for power supply line of A/C compressor.
<p>9 CHECK OPERATION OF MAIN FAN MOTOR. 1) Start the engine and turn the A/C switch to ON. 2) Check the operation of main fan motor.</p>	Does the main fan motor operate?	Go to step 14.	Go to step 10.
<p>10 CHECK POWER SUPPLY TO MAIN FAN MOTOR. CAUTION: Be careful not to overheat the engine during repair. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from main fan motor. 3) Start the engine, and warm it up until engine coolant temperature increases over 100°C (212°F). 4) Stop the engine and turn ignition switch to ON. 5) Measure the voltage between main fan motor harness connector and chassis ground. Connector & terminal Non-turbo model (F17) No. 2 (+) — Chassis ground (-): Turbo model (F17) No. 1 (+) — Chassis ground (-):</p>	Is the voltage more than 10 V?	Go to step 11.	Repair the open circuit in harness for main fan motor power supply circuit.
<p>11 CHECK GROUND CIRCUIT OF MAIN FAN MOTOR. 1) Turn the ignition switch to OFF. 2) Measure the resistance between main fan motor harness connector and chassis ground. Connector & terminal Non-turbo model (F17) No. 1 — Chassis ground: Turbo model (F17) No. 2 — Chassis ground:</p>	Is the resistance less than 1 Ω?	Go to step 12.	Repair the open circuit in harness for main fan motor ground circuit.
<p>12 CHECK MAIN FAN MOTOR. Connect the battery positive (+) terminal to terminal No. 2 (Non-turbo model) terminal No. 1 (Turbo-model), and ground (-) terminal to terminal No. 1 (Non-turbo model) terminal No. 2 (Turbo-model) of main fan motor connector to make sure that main fan motor rotate.</p>	Does the main fan rotate?	Go to step 13.	Replace the main fan motor with a new one.
<p>13 CHECK POOR CONTACT IN MAIN FAN MOTOR CONNECTOR. Check poor contact in main fan motor harness connector.</p>	Is there poor contact in connector?	Repair the poor contact in main fan motor connector.	Go to step 14.

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Step	Check	Yes	No
14 CHECK OPERATION OF SUB FAN MOTOR. 1) Start the engine and turn the A/C switch to ON. 2) Check the operation of sub fan motor.	Does the sub fan motor operate normally?	Go to step 19 .	Go to step 15 .
15 CHECK POWER SUPPLY TO SUB FAN MOTOR. CAUTION: Be careful not to overheat the engine during repair. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from sub fan motor. 3) Start the engine, and warm it up until engine coolant temperature increases over 100°C (212°F). 4) Stop the engine and turn ignition switch to ON. 5) Measure the voltage between sub fan motor harness connector and chassis ground. Connector & terminal Non-turbo model (F16) No. 2 (+) — Chassis ground (-): Turbo model (F16) No. 1 — Chassis ground:	Is the voltage more than 10 V?	Go to step 16 .	Repair the open circuit in harness for sub fan motor power supply circuit.
16 CHECK GROUND CIRCUIT OF SUB FAN MOTOR. 1) Turn the ignition switch to OFF. 2) Measure the resistance between sub fan motor harness connector and chassis ground. Connector & terminal Non-turbo model (F16) No. 1 — Chassis ground: Turbo model (F16) No. 2 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 17 .	Repair the open circuit in harness for sub fan motor ground circuit.
17 CHECK SUB FAN MOTOR. Connect the battery positive (+) terminal to terminal No. 2 (Non-turbo model) terminal No. 1 (Turbo model), and ground (-) terminal to terminal No. 1 of (Non-turbo model) terminal No. 2 (Turbo model) sub fan motor connector to make sure that sub fan motor rotate.	Does the sub fan motor rotate?	Go to step 18 .	Replace the sub fan motor with a new one.
18 CHECK POOR CONTACT IN SUB FAN MOTOR CONNECTOR. Check poor contact in sub fan motor connector.	Is there poor contact in connector?	Repair the poor contact in sub fan motor connector.	Go to step 19 .
19 CHECK POOR CONTACT IN AUTO A/C CONTROL MODULE CONNECTOR. Check poor contact in auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module.