

# Diagnostics for A/C System Malfunction

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

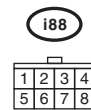
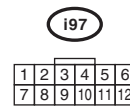
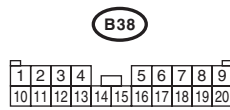
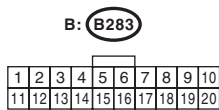
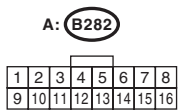
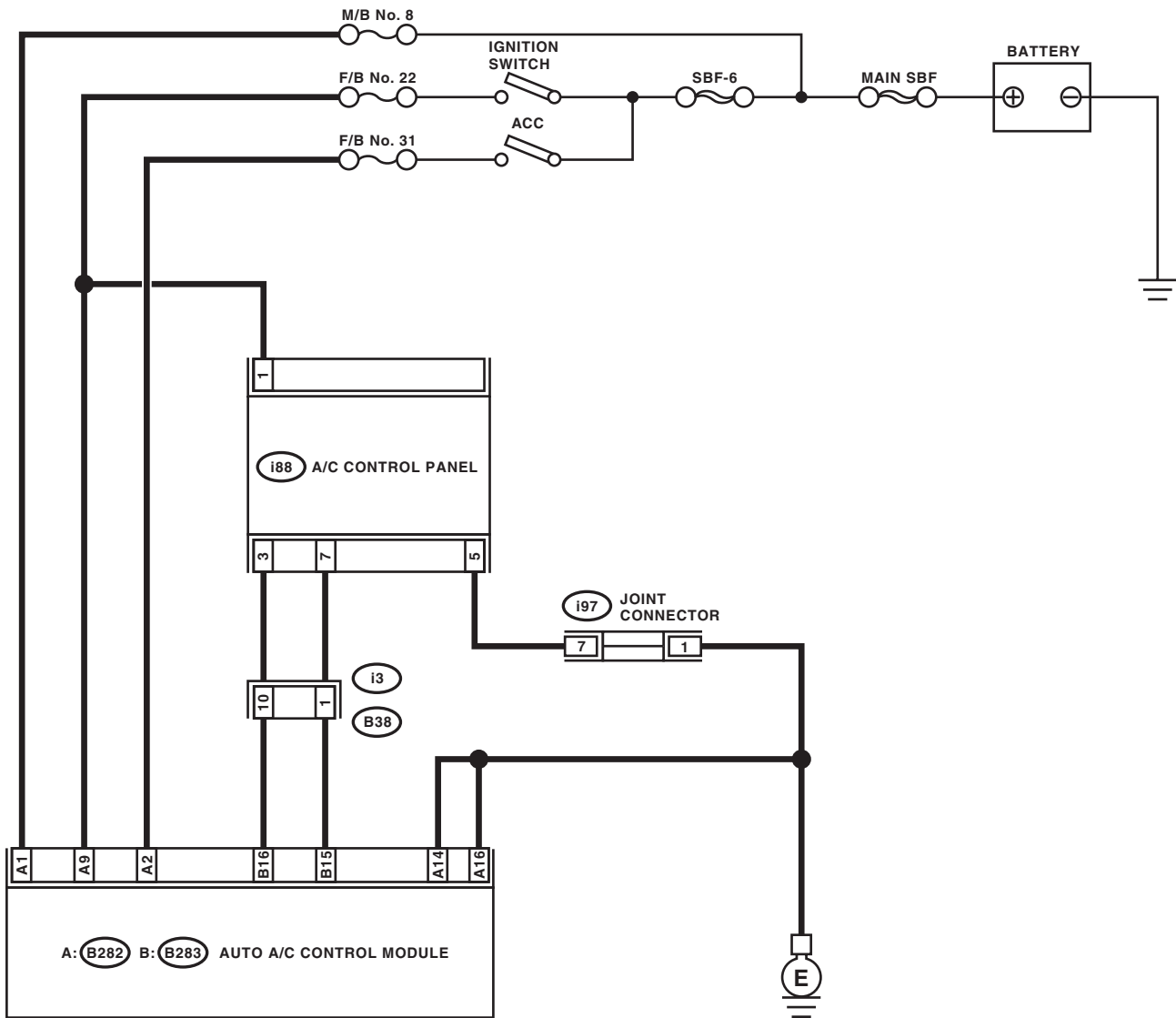
## 6. Diagnostics for A/C System Malfunction

### A: A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE

#### TROUBLE SYMPTOM:

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

#### WIRING DIAGRAM:



AC-01167

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Step	Check	Yes	No
<b>1 CHECK FUSE.</b> 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 8 from main fuse box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step 2.
<b>2 CHECK FUSE.</b> 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 22 and No. 31 from fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step 3.
<b>3 CHECK A/C CONTROL PANEL POWER CIRCUIT.</b> Measure the voltage between A/C control panel harness connector terminal and chassis ground after turning the ignition switch to ON. <i>Connector &amp; terminal</i> <i>(i88) No. 1 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 4.	Check for open or short circuit in the harness between A/C control panel and fuse.
<b>4 CHECK A/C CONTROL PANEL GROUND POWER CIRCUIT.</b> Measure the resistance of harness between A/C control panel and chassis ground after turning the ignition switch to OFF. <i>Connector &amp; terminal</i> <i>(i88) No. 5 — Chassis ground:</i>	Is the resistance less than 10 $\Omega$ ?	Go to step 5.	Repair the harness for ground line.
<b>5 CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.</b> Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch OFF. <i>Connector &amp; terminal</i> <i>(B282) No. 1 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 6.	Check open or short circuit of harness between auto A/C control module and fuse.
<b>6 CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.</b> Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to ACC. <i>Connector &amp; terminal</i> <i>(B282) No. 2 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 7.	Check open or short circuit of harness between auto A/C control module and fuse.
<b>7 CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.</b> Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to the ON position. <i>Connector &amp; terminal</i> <i>(B282) No. 9 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 8.	Check open or short circuit of harness between auto A/C control module and fuse.
<b>8 CHECK AUTO A/C CONTROL MODULE GROUND CIRCUIT.</b> Measure the resistance of harness between auto A/C control module and chassis ground. <i>Connector &amp; terminal</i> <i>(B282) No. 14, No. 16 — Chassis ground:</i>	Is the resistance less than 5 $\Omega$ ?	Go to step 9.	Repair the harness for ground line.
<b>9 CHECK COMMUNICATION CIRCUIT.</b> Measure the resistance of harness between A/C control panel and auto A/C control module. <i>Connector &amp; terminal</i> <i>(i88) No. 3 — (B283) No. 16:</i> <i>(i88) No. 7 — (B283) No. 15:</i>	Is the resistance less than 1 $\Omega$ ?	Go to step 10.	Repair the harness.
<b>10 CHECK POOR CONTACT.</b> 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.

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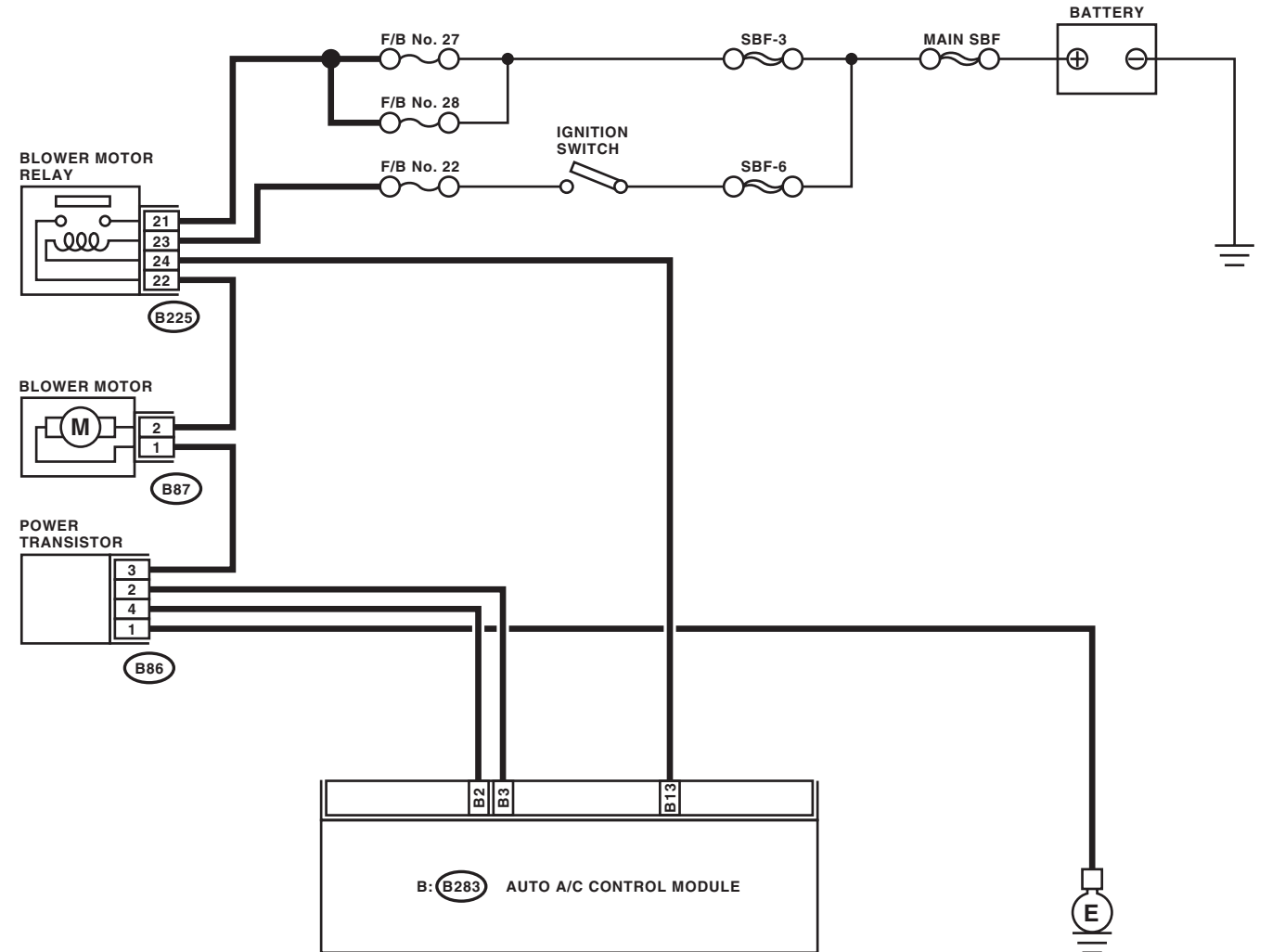
HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

## B: BLOWER FAN DOES NOT ROTATE.

### TROUBLE SYMPTOM:

- Blower motor does not rotate.
- Blower motor does not rotate in "HI".

### WIRING DIAGRAM:



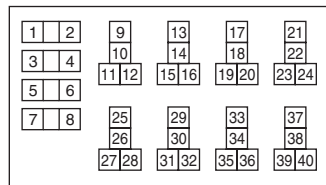
B87



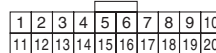
B86



B225



B: B283



AC-01168

# Diagnostics for A/C System Malfunction

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

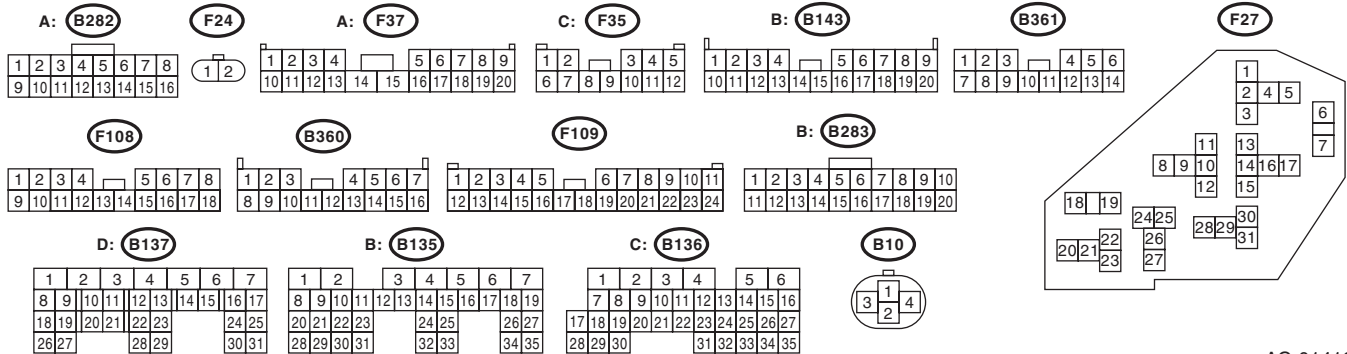
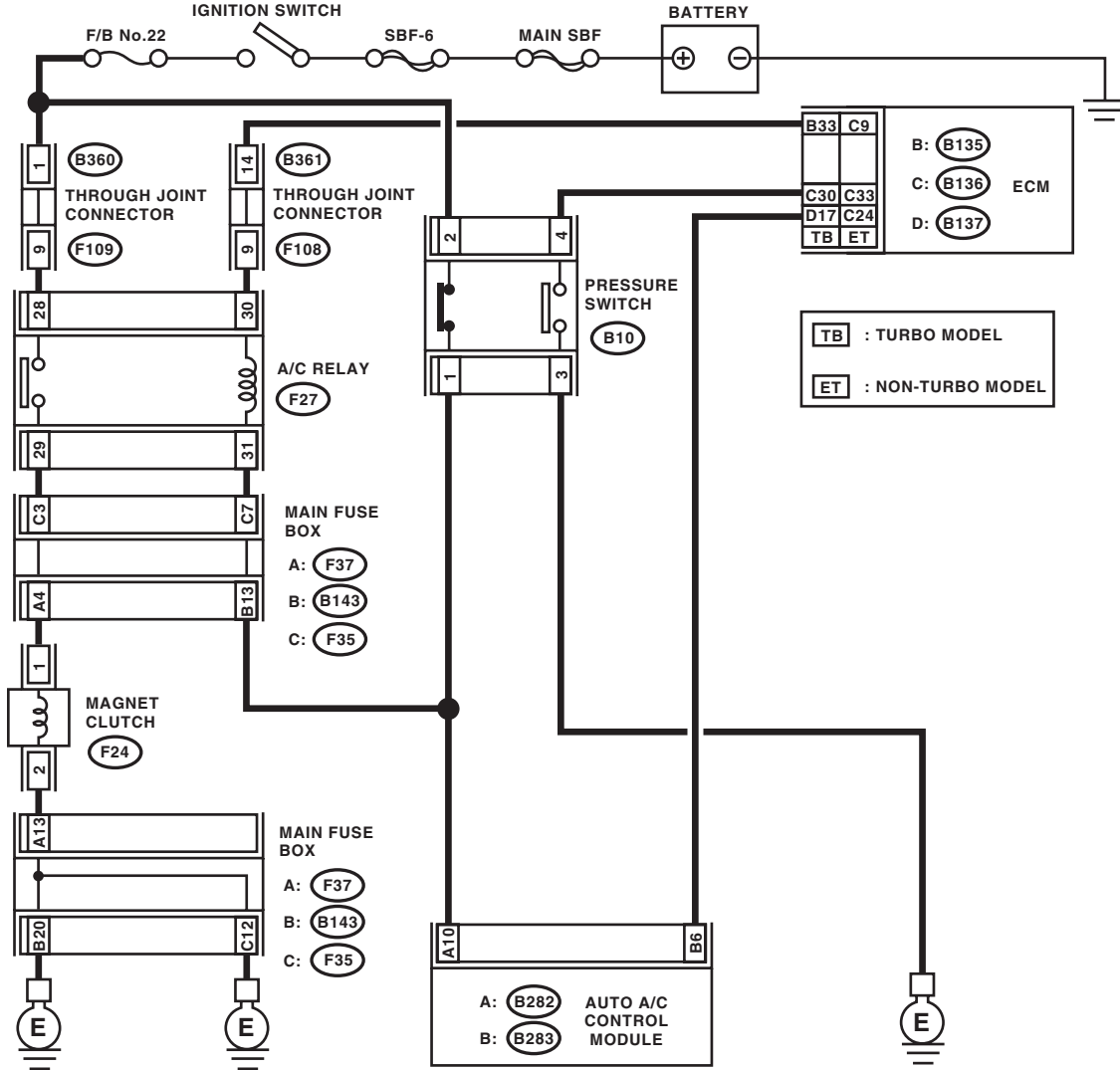
Step	Check	Yes	No
<b>1</b> <b>CHECK FUSE.</b> 1) Remove fuse No. 22, 27 and 28 from fuse & relay box. 2) Check the condition of fuse.	Is any fuse blown out?	Replace the fuse.	Go to step 2.
<b>2</b> <b>CHECK POWER SUPPLY FOR BLOWER MOTOR.</b> 1) Turn the ignition switch to ON. 2) Turn the blower switch to ON. 3) Measure the voltage between blower motor and chassis ground. <b>Connector &amp; terminal</b> <b>(B87) No. 2 (+) — Chassis ground (-):</b>	Is the voltage more than 10 V?	Go to step 3.	Repair the open circuit of blower motor power supply line harness.
<b>3</b> <b>CHECK BLOWER MOTOR RELAY.</b> 1) Turn the ignition switch to OFF. 2) Remove the blower motor relay. 3) Connect the battery positive (+) terminal to terminal No. 23 of blower motor relay, and negative (-) terminal to terminal No. 24. 4) Measure the resistance between terminals No. 21 and No. 22. <b>Terminal</b> <b>(B225) No. 21 — (B225) No. 22:</b>	Is the resistance less than 1 $\Omega$ ?	Go to step 4.	Replace the blower motor relay.
<b>4</b> <b>CHECK BLOWER MOTOR.</b> 1) Disconnect the connector from the blower motor. 2) Connect the battery positive (+) terminal to terminal No. 2 of blower motor connector, and negative (-) terminal to terminal No. 1. 3) Make sure the blower motor runs.	Does the blower motor run?	Go to step 5.	Replace the blower motor.
<b>5</b> <b>CHECK POOR CONTACT.</b> 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.

# Diagnostics for A/C System Malfunction

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

## C: COMPARTMENT TEMPERATURE DOES NOT CHANGE, OR A/C SYSTEM DOES NOT RESPOND PROMPTLY.

WIRING DIAGRAM:



AC-01416

# Diagnostics for A/C System Malfunction

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK FUSE.</b> 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 22 from fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step 2.
<b>2 CHECK SIGNAL TO A/C RELAY AND A/C CONTROL MODULE.</b> 1) Disconnect the A/C relay and auto A/C control module harness connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between A/C relay connector terminal and chassis ground. 4) Measure the voltage between auto A/C control module harness connector terminal and chassis ground. <b>Connector &amp; terminal</b> <i>(F27) No. 31 (+) — Chassis ground (-):</i> <i>(B282) No. 10 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 5.	Go to step 3.
<b>3 CHECK POWER SUPPLY FOR PRESSURE SWITCH.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the pressure switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between pressure switch harness connector terminal and chassis ground. <b>Connector &amp; terminal</b> <i>(B10) No. 2 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 4.	Check for open or short circuit in the harness between fuse and pressure switch.
<b>4 CHECK HARNESS BETWEEN PRESSURE SWITCH AND A/C RELAY, AUTO A/C CONTROL MODULE.</b> 1) Turn the ignition switch to OFF. 2) Measure the resistance of harness between pressure switch connector and A/C relay connector. 3) Measure the resistance of harness between pressure switch connector and auto A/C control module connector. <b>Connector &amp; terminal</b> <i>(B10) No. 1 — (F27) No. 31:</i> <i>(B10) No. 1 — (B282) No. 10:</i>	Is the resistance less than 1 $\Omega$ ?	Check the pressure switch. <Ref. to AC-40, INSPECTION, Pressure Switch (Triple Pressure Switch).>	Repair the harness.
<b>5 CHECK POWER SUPPLY FOR A/C RELAY.</b> Measure the voltage between A/C relay connector terminal and chassis ground. <b>Connector &amp; terminal</b> <i>(F27) No. 28 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 6.	Check open or short circuit of harness between fuse and A/C relay.
<b>6 CHECK A/C RELAY.</b> Check the A/C relay. <Ref. to AC-39, INSPECTION, Relay and Fuse.>	Is there a malfunction in the A/C relay?	Replace the A/C relay.	Go to step 7.

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### HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

Step	Check	Yes	No
<b>7 CHECK A/C ON SIGNAL.</b> 1) Turn the ignition switch to OFF. 2) Connect the A/C relay and all disconnected connectors. 3) Start the engine and turn the AUTO switch to ON. 4) Turn the temperature control dial at maximum cool position. 5) Measure the voltage between auto A/C control module harness connector terminal and chassis ground. <b>Connector &amp; terminal</b> <b>(B283) No. 6 (+) — Chassis ground (-):</b>	Is the voltage more than 5.5 V?	Go to step 9.	Go to step 8.
<b>8 CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND ECM.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of auto A/C control module and ECM. 3) Measure the resistance of harness between auto A/C control module connector and ECM connector. <b>Connector &amp; terminal</b> <b>Turbo model</b> <b>(B283) No. 6 — (B137) No. 17:</b> <b>without turbo model</b> <b>(B283) No. 6 — (B136) No. 24:</b>	Is the resistance less than 1 $\Omega$ ?	Replace the auto A/C control module.	Repair the harness.
<b>9 CHECK MAGNET CLUTCH ON SIGNAL.</b> 1) Stop the engine, and turn the AUTO switch to OFF. 2) Turn the ignition switch to ON. 3) Measure the voltage between ECM connector terminal and chassis ground. <b>Connector &amp; terminal</b> <b>Turbo model</b> <b>(B135) No. 33 (+) — Chassis ground (-):</b> <b>without turbo model</b> <b>(C136) No. 9 — Chassis ground:</b>	Is the voltage more than 10 V?	Go to step 10.	Check for open or short circuit in the harness between A/C relay and ECM.
<b>10 CHECK MAGNET CLUTCH ON SIGNAL.</b> 1) Start the engine and turn the AUTO switch to ON. 2) Turn the temperature control dial at maximum cool position. 3) Measure the voltage between ECM connector terminal and chassis ground. <b>Connector &amp; terminal</b> <b>Turbo model</b> <b>(B135) No. 33 (+) — Chassis ground (-):</b> <b>without turbo model</b> <b>(C136) No. 9 — Chassis ground:</b>	Is the voltage 0 V?	Go to step 11.	Replace the ECM.

# Diagnostics for A/C System Malfunction

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

Step	Check	Yes	No
<b>11</b> <b>CHECK POWER SUPPLY FOR MAGNET CLUTCH.</b> 1) Stop the engine, and turn the AUTO switch to OFF. 2) Disconnect the harness connector of magnet clutch. 3) Start the engine and turn the AUTO switch to ON. 4) Turn the temperature control dial at maximum cool position. 5) Measure the voltage between magnet clutch harness connector terminal and chassis ground. <i><b>Connector &amp; terminal</b></i> <i><b>(F24) No. 1 (+) — Chassis ground (-):</b></i>	Is the voltage more than 10 V?	Go to step <b>12</b> .	Check for open or short circuit in the harness between A/C relay and magnet clutch.
<b>12</b> <b>CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND ECM.</b> 1) Stop the engine, and turn the AUTO switch to OFF. 2) Measure the resistance between magnet clutch harness connector terminal and chassis ground. <i><b>Connector &amp; terminal</b></i> <i><b>(F24) No. 2 — Chassis ground:</b></i>	Is the resistance less than 1 $\Omega$ ?	Inspect the compressor. <Ref. to AC-33, INSPECTION, Compressor.>	Repair the harness.