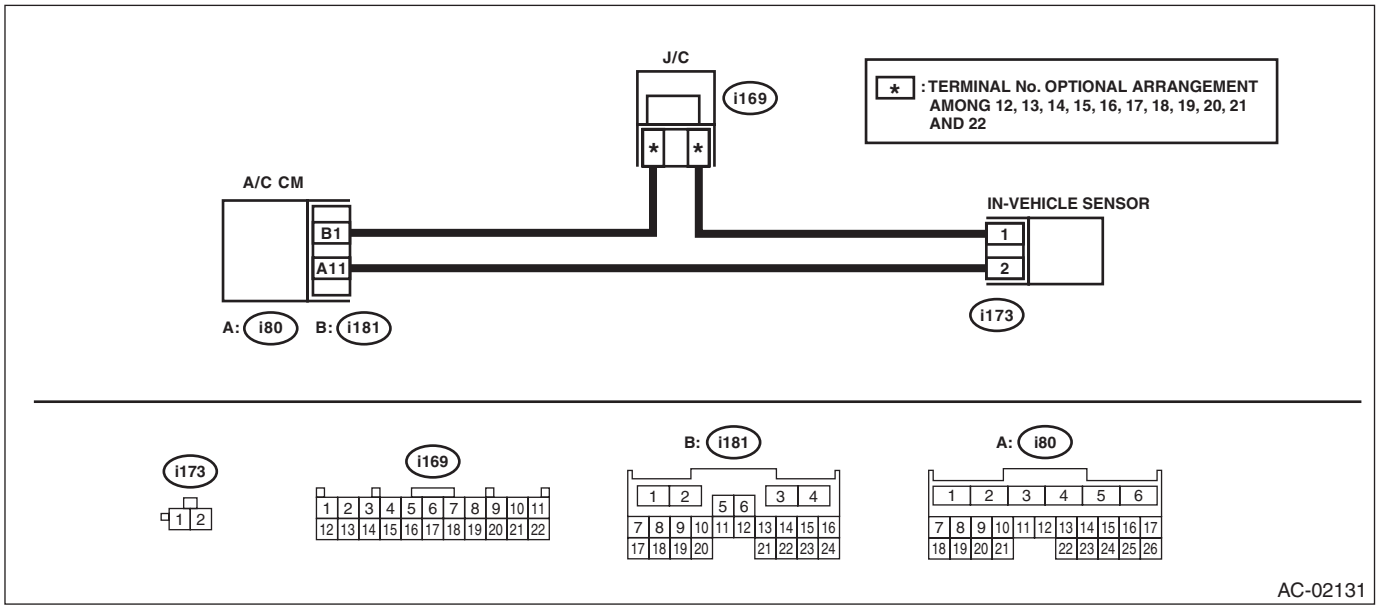
14.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC B1601 IN-VEHICLE SENSOR SHORT

DTC DETECTING CONDITION:
In-vehicle sensor circuit is shorted.
TROUBLE SYMPTOM:
- Auto A/C does not operate. (Manual operation is possible)
- In-vehicle temperature is falsely recognized as high, and the compartment temperature is adjusted.

WIRING DIAGRAM:



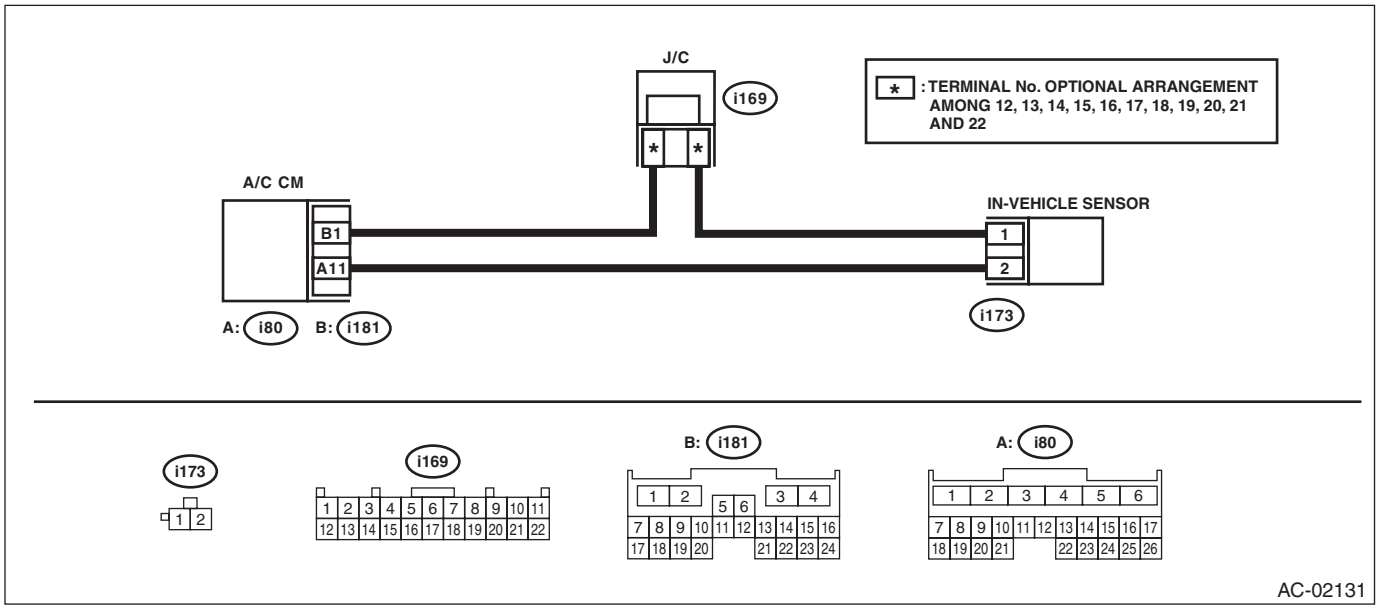
	Step	Check	Yes	No
1	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, check "In-vehicle Sensor Temperature" of the current data from the A/C diagnosis.	Is the current data exceeding 25°C (77°F)?	Go to step **2**.	Check the connection of the in-vehicle sensor circuit.
2	**CHECK IN-VEHICLE SENSOR.** 1) Disconnect the in-vehicle sensor. <Ref. to AC-71, REMOVAL, In-Vehicle Sensor (Auto A/C Model).> 2) Using the Subaru Select Monitor, check "In-vehicle Sensor Temperature" of the current data from the A/C diagnosis.	Is the current data exceeding 25°C (77°F)?	Go to step **3**.	Replace the in-vehicle sensor. <Ref. to AC-71, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal (i173) No. 1 — No. 2:***	Is the voltage 4.5 — 5.0 V?	Check the connection of the in-vehicle sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal (i173) No. 1 — No. 2:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

B: DTC B1602 IN-VEHICLE SENSOR OPEN

DTC DETECTING CONDITION:
In-vehicle sensor circuit is open.

TROUBLE SYMPTOM:
In-vehicle air temperature is falsely recognized as 25°C (77°F), and the compartment temperature is adjusted.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, check "In-vehicle Sensor Temperature" of the current data from the A/C diagnosis.	Does the current data display 25°C (77°F)?	Go to step **2**.	Check the connection of the in-vehicle sensor circuit.
2	**CHECK IN-VEHICLE SENSOR.** 1) Disconnect the in-vehicle sensor. 2) Short the i173 connector. 3) Using the Subaru Select Monitor, check "In-vehicle Sensor Temperature" of the current data from the A/C diagnosis.	Does the current data display 25°C (77°F)?	Go to step **3**.	Replace the in-vehicle sensor. <Ref. to AC-71, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i173) No. 1 — No. 2:***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i173) No. 1 — (i81) No. 1:*** ***(i173) No. 2 — (i80) No. 11:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

C: DTC B1603 EVAPORATOR SENSOR SHORT

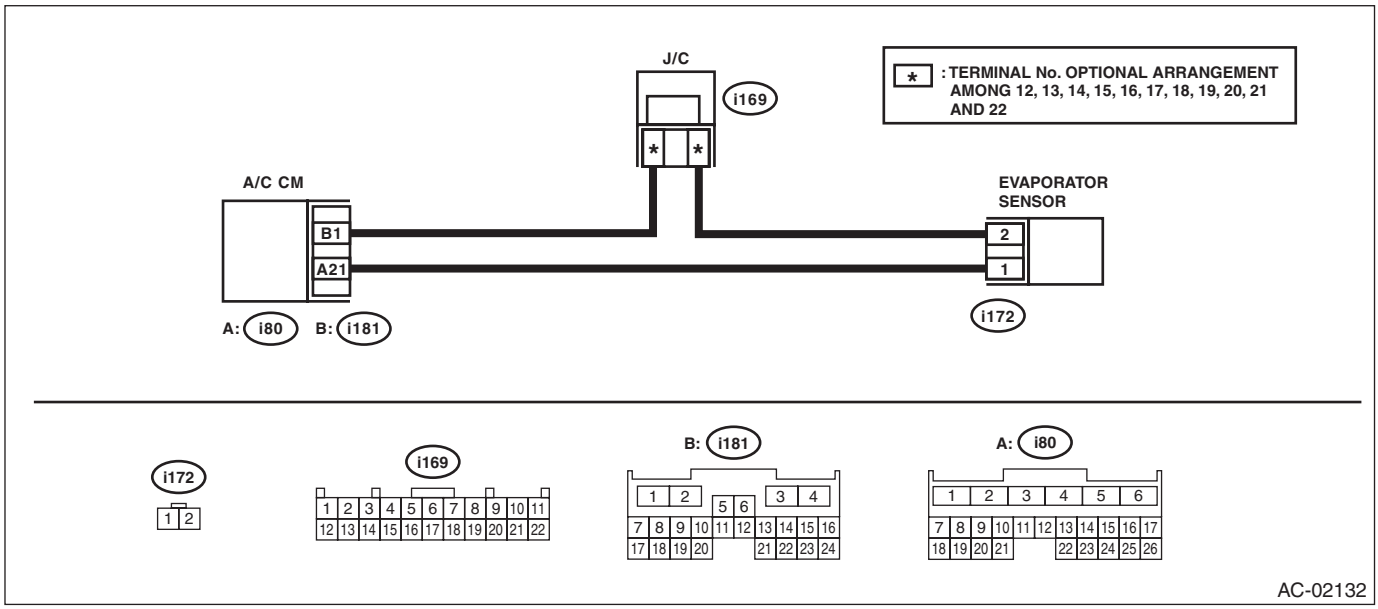
DTC DETECTING CONDITION:

Evaporator sensor circuit is shorted.

TROUBLE SYMPTOM:

- Compressor does not operate.
- Evaporator temperature is falsely recognized as high, and the compartment temperature is adjusted.

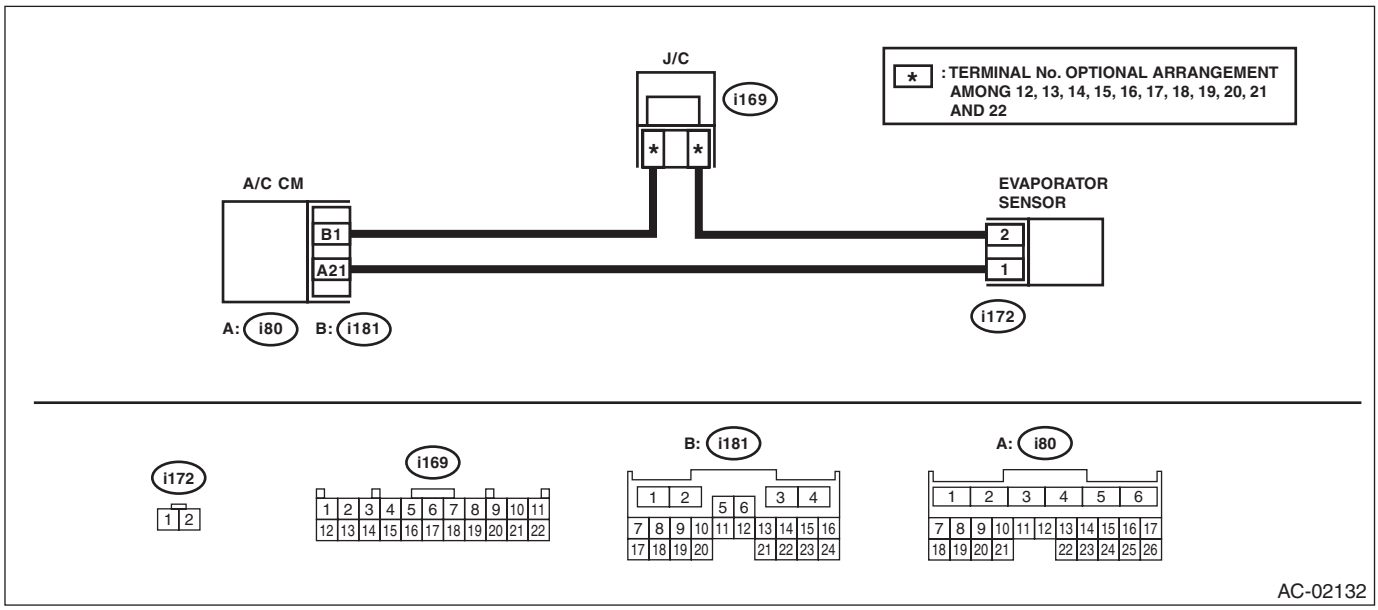
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, check "Evaporator Temperature" of the current data from the A/C diagnosis.	Is the current data exceeding 50°C (90°F)?	Go to step **2**.	Check the connection of the evaporator sensor circuit.
2	**CHECK EVAPORATOR SENSOR.** 1) Disconnect the evaporator sensor. 2) Using the Subaru Select Monitor, check "Evaporator Temperature" of the current data from the A/C diagnosis.	Is the current data exceeding 50°C (90°F)?	Go to step **3**.	Replace the evaporator sensor. <Ref. to AC-57, REMOVAL, Evaporator.>
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i172) No. 1 — No. 2:***	Is the voltage 4.5 — 5.0 V?	Check the connection of the evaporator sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i172) No. 1 — No. 2:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

D: DTC B1604 EVAPORATOR SENSOR OPEN

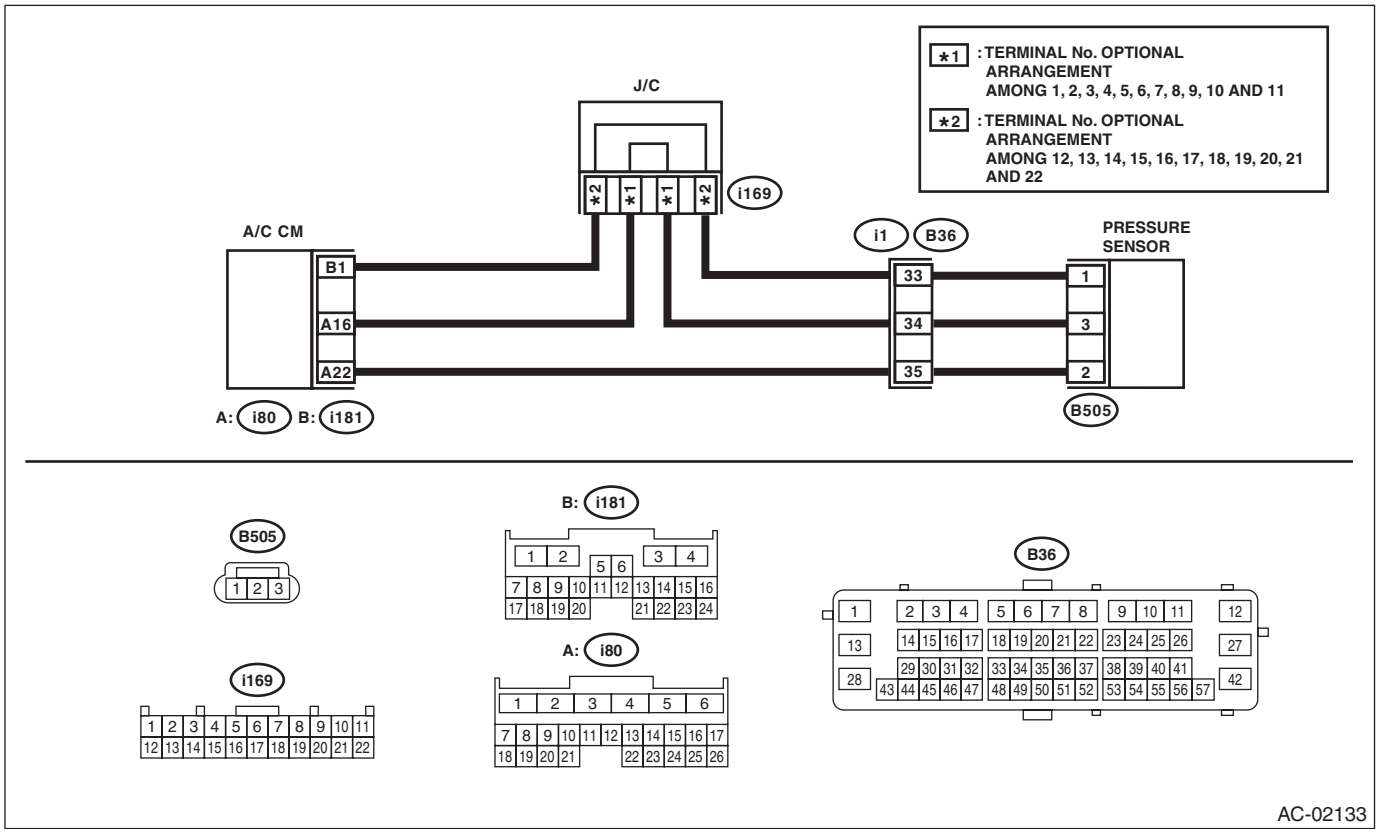
DTC DETECTING CONDITION:
Evaporator sensor circuit is open.
TROUBLE SYMPTOM:
Compressor does not operate.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, check "Evaporator Temperature" of the current data from the A/C diagnosis.	Is the current data lower than –30°C (–54°F)?	Go to step **2**.	Check the connection of the evaporator sensor circuit.
2	**CHECK EVAPORATOR SENSOR.** 1) Disconnect the evaporator sensor. 2) Short the i172 connector. 3) Using the Subaru Select Monitor, check "Evaporator Temperature" of the current data from the A/C diagnosis.	Is the current data lower than –30°C (–54°F)?	Go to step **3**.	Replace the evaporator sensor. <Ref. to AC-57, REMOVAL, Evaporator.>
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i172) No. 1 — No. 2:***	Is the voltage 4.5 — 5.0 V?	Check the connection of the evaporator sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i172) No. 1 — (i80) No. 21:*** ***(i172) No. 2 — (i81) No. 1:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

E: DTC B1605 REFRIGERANT FLOW SENSOR CIRCUIT OPEN

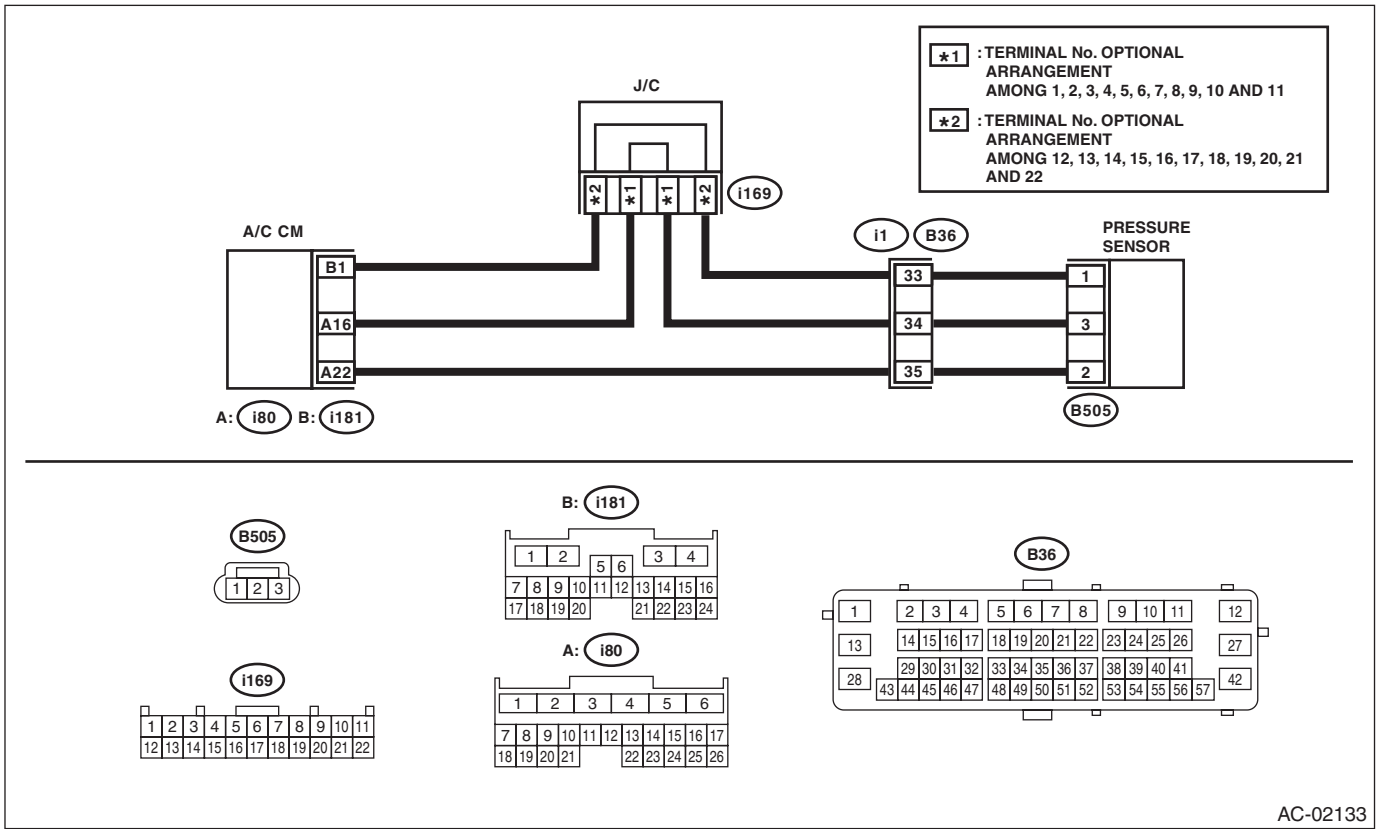
DTC DETECTING CONDITION:
Refrigerant pressure sensor circuit is open.
TROUBLE SYMPTOM:
Compressor does not operate.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, check "Refrigerant Pressure" of the current data from the A/C diagnosis.	Does the current data display 3.19 MPa?	Go to step **2**.	Check the connection of the refrigerant pressure sensor circuit.
2	**CHECK PRESSURE SENSOR.** 1) Disconnect the pressure sensor. 2) Short No. 2 and No. 3 of B505 connector. 3) Using the Subaru Select Monitor, check "Refrigerant Pressure" of the current data from the A/C diagnosis.	Does the current data display 3.19 MPa?	Go to step **3**.	Replace the refrigerant pressure sensor. <Ref. to AC-57, REMOVAL, Evaporator.>
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B505) No. 1 — No. 3:***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B505) No. 1 — (i81) No. 1:*** ***(B505) No. 2 — (i80) No. 22:*** ***(B505) No. 3 — (i80) No. 16:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

F: DTC B1606 REFRIGERANT FLOW SENSOR CIRCUIT SHORT

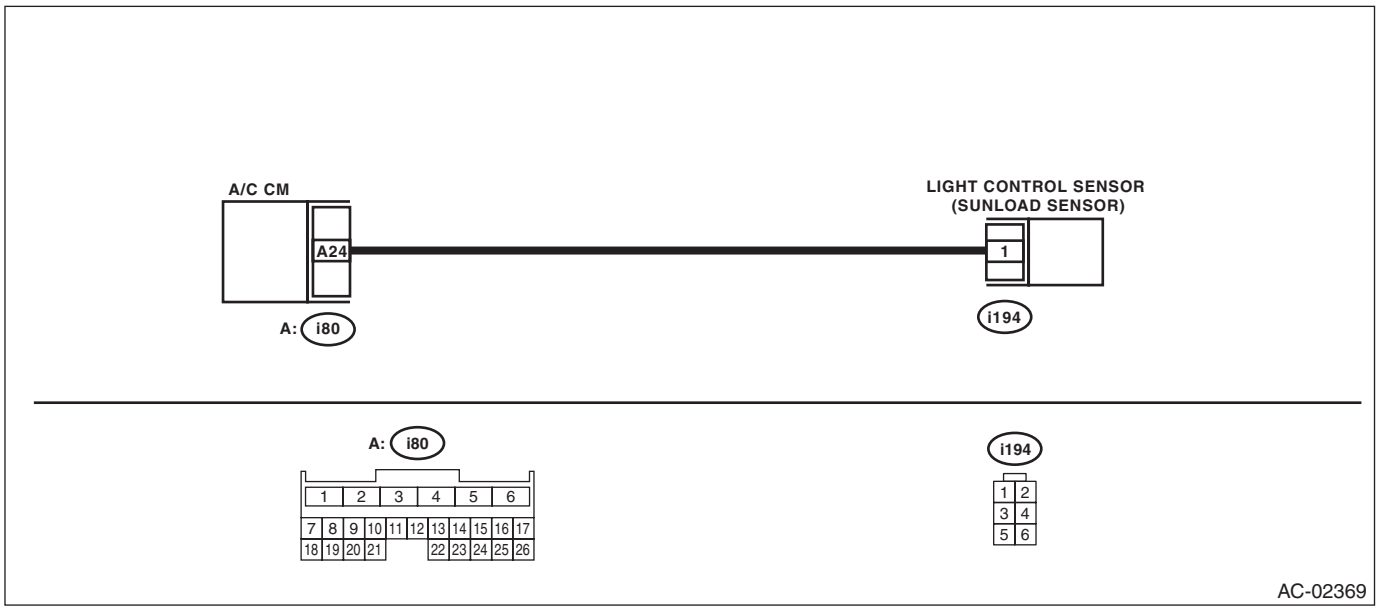
DTC DETECTING CONDITION:
Refrigerant pressure sensor circuit is shorted.
TROUBLE SYMPTOM:
Compressor does not operate.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, check "Refrigerant Pressure" of the current data from the A/C diagnosis.	Does the current data display 0 MPa?	Go to step **2**.	Check the connection of the refrigerant pressure sensor.
2	**CHECK REFRIGERANT PRESSURE SENSOR.** 1) Disconnect the refrigerant pressure sensor. 2) Using the Subaru Select Monitor, check "Refrigerant Pressure" of the current data from the A/C diagnosis.	Does the current data display 0 MPa?	Go to step **3**.	Replace the refrigerant pressure sensor. <Ref. to AC-57, REMOVAL, Evaporator.>
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B505) No. 1 — No. 3:***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B505) No. 1 — No. 2:*** ***(B505) No. 2 — No. 3:*** ***(B505) No. 3 — No. 1:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

G: DTC B1607 SUNLOAD SENSOR SHORT

DTC DETECTING CONDITION:
Sunload sensor circuit is shorted.
TROUBLE SYMPTOM:
Control is performed as no sunload.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, check "Quantity of Sunload" of the current data from the A/C diagnosis.	Does the current data display 0 W/m^2?	Go to step **2**.	Check the connection of the sunload sensor circuit.
2	**CHECK SUNLOAD SENSOR.** 1) Disconnect the sunload sensor. 2) Short the i194 connector to chassis ground. 3) Using the Subaru Select Monitor, check "Quantity of Sunload" of the current data from the A/C diagnosis.	Does the current data display 0 W/m^2?	Go to step **3**.	Replace the sunload sensor. <Ref. to AC-57, REMOVAL, Evaporator.>
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i194) No. 1 — Chassis ground:***	Is the voltage 4.5 — 5.0 V?	Check the connection of the sunload sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i194) No. 1 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

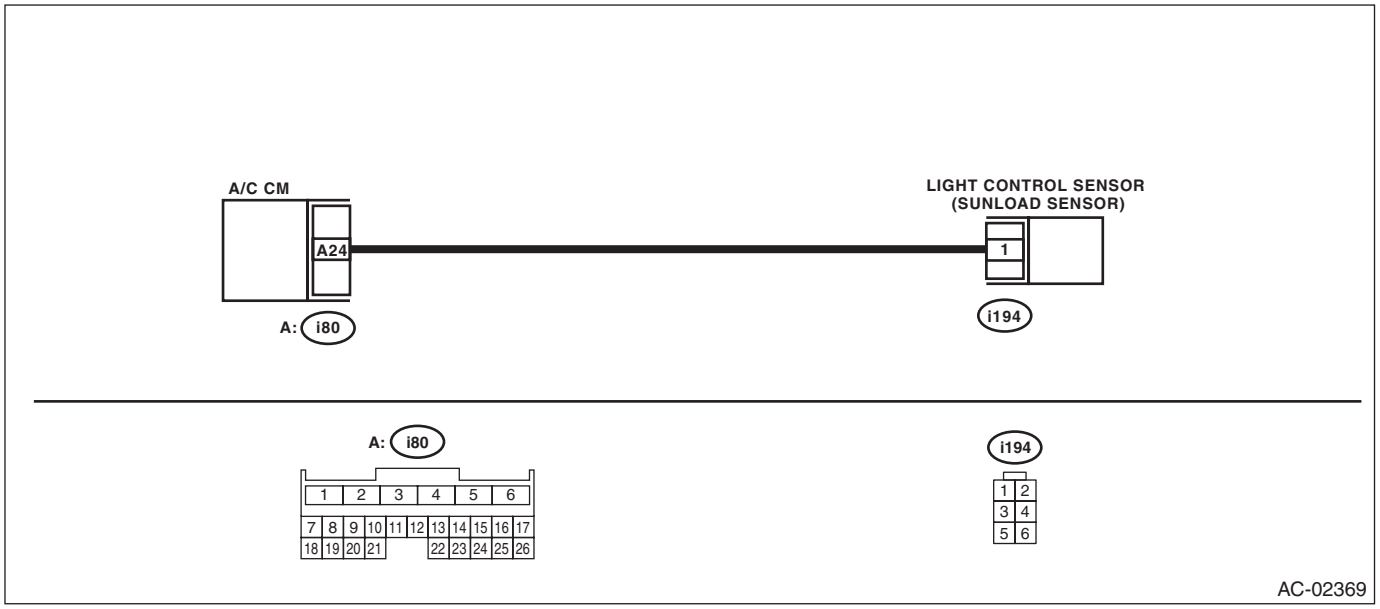
H: DTC B1608 SUNLOAD SENSOR OPEN

DTC DETECTING CONDITION:
Sunload sensor circuit is open. (Displayed for current malfunction)

NOTE:
When the sunload sensor check is performed indoors or in the shade, it could be diagnosed as having an open circuit. Always check the sunload sensor with the sun shining on it.

TROUBLE SYMPTOM:
Control is performed as no sunload.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, check "Quantity of Sunload" of the current data from the A/C diagnosis.	Does the current data display 0 W/m^2?	Go to step **2**.	Check the connection of the sunload sensor circuit.
2	**CHECK SUNLOAD SENSOR.** 1) Disconnect the sunload sensor. 2) Short the i194 connector to chassis ground. 3) Using the Subaru Select Monitor, check "Quantity of Sunload" of the current data from the A/C diagnosis.	Does the current data display 0 W/m^2?	Go to step **3**.	Replace the sunload sensor. <Ref. to AC-57, REMOVAL, Evaporator.>
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i194) No. 1 — Chassis ground:***	Is the voltage 4.5 — 5.0 V?	Check the connection of the sunload sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i194) No. 1 — (i80) No. 24:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

I: DTC B1610 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN (DRIVER'S)

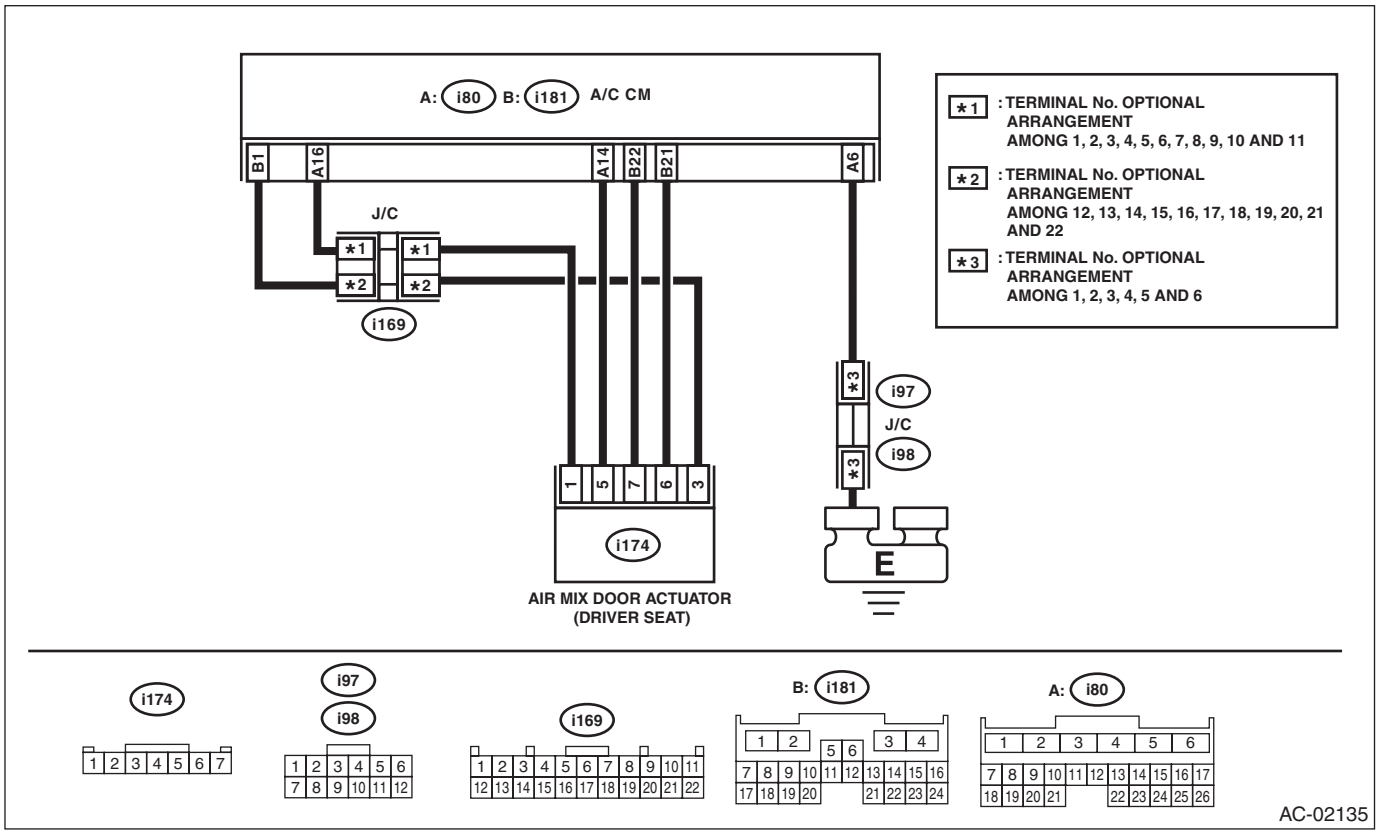
DTC DETECTING CONDITION:

Air mix door actuator — potentiometer circuit is open.

TROUBLE SYMPTOM:

- Temperature cannot be adjusted.
- Temperature of the driver's dual air conditioner cannot be adjusted.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1610 displayed?	Go to step **2**.	Repair poor contact of the air mix door actuator circuit.
2	**CHECK ACTUATOR.** 1) Disconnect the air mix door actuator (driver's). 2) Short No. 1 and No. 5 of i174 connector. 3) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1611 displayed?	Replace the air mix door actuator (driver's). <Ref. to AC-54, REMOVAL, Heater and Cooling Unit.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i174) No. 1 — (i80) No. 16:*** ***(i174) No. 3 — (i181) No. 1:*** ***(i174) No. 5 — (i80) No. 14:***	Is there continuity?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i174) No. 1 — (i174) No. 3:*** ***(i174) No. 3 — (i174) No. 5:*** ***(i174) No. 5 — (i174) No. 1:***	Is there continuity?	Repair or replace the open circuit of harness.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

J: DTC B1611 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT (DRIVER'S)

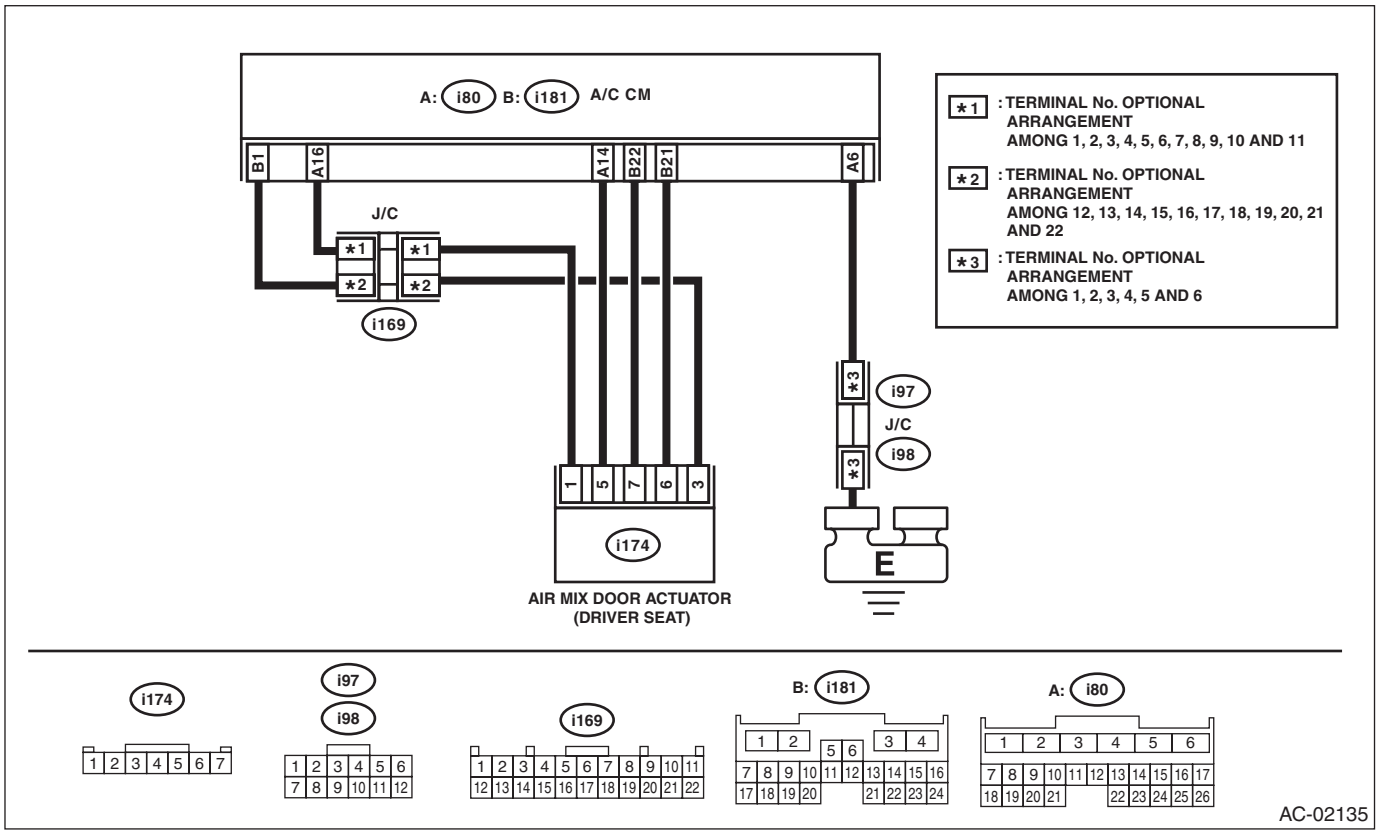
DTC DETECTING CONDITION:

Air mix door actuator — potentiometer circuit is shorted.

TROUBLE SYMPTOM:

- Temperature cannot be adjusted.
- Temperature of the driver's dual air conditioner cannot be adjusted.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1611 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the air mix door actuator (driver's). 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1610 displayed?	Replace the air mix door actuator (driver's).	Go to step **3**.
3	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i174) No. 1 — (i174) No. 3:*** ***(i174) No. 3 — (i174) No. 5:*** ***(i174) No. 5 — (i174) No. 1:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i174) No. 1 — (i80) No. 16:*** ***(i174) No. 3 — (i181) No. 1:*** ***(i174) No. 5 — (i80) No. 14:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>	Repair or replace the short circuit of the harness.

K: DTC B1612 AIRMIX DOOR ACTUATOR LOCK (DRIVER'S)

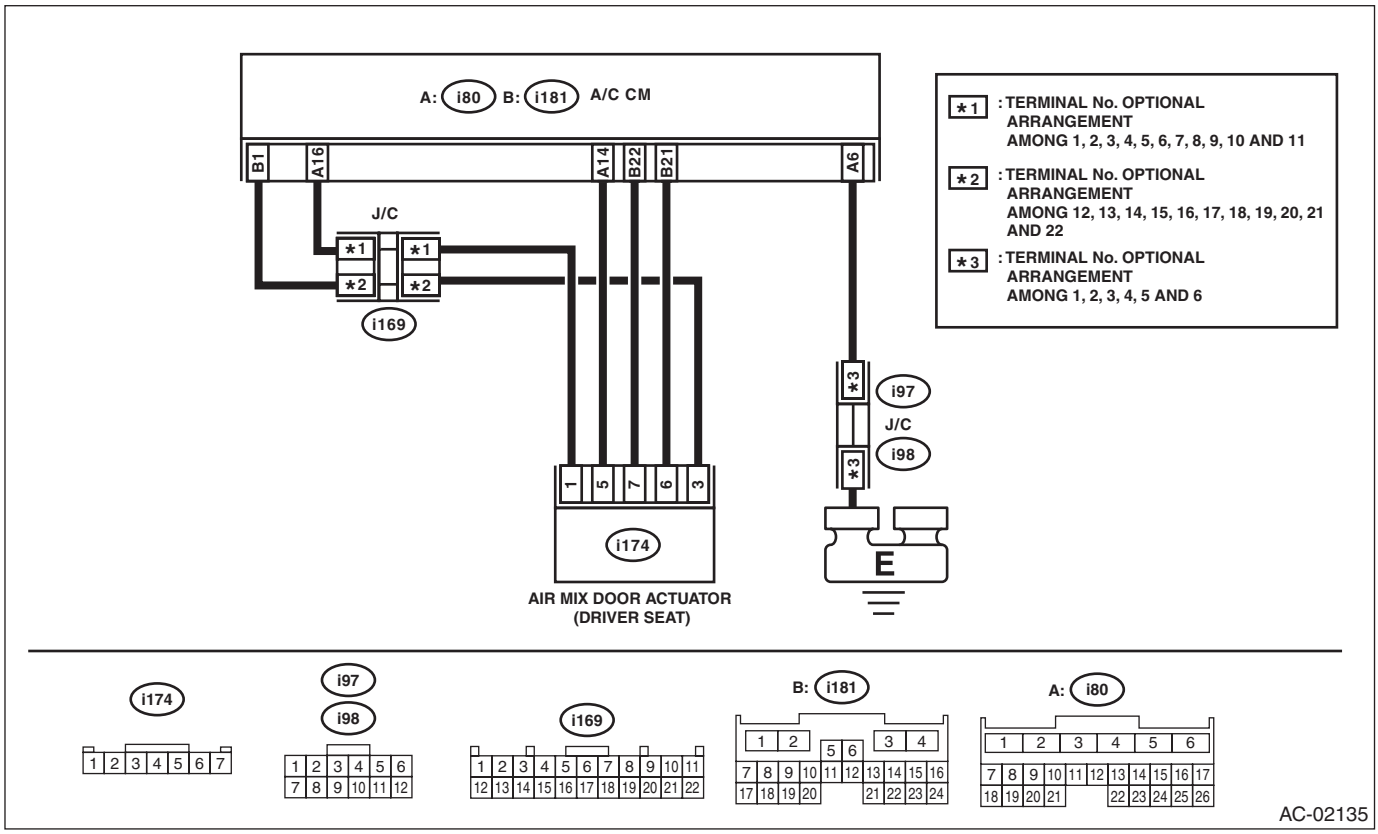
DTC DETECTING CONDITION:

- Air mix door actuator — driver's seat is locked.
- The potentiometer value of the actuator does not change.

TROUBLE SYMPTOM:

Temperature of the driver's dual air conditioner cannot be adjusted.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1612 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, change the setting of "Airmix Dr Act Trgt Open Angle (Driver's)" from the A/C diagnosis and perform the active test.	Did the actuator move to the specified target opening angle?	Air mix door actuator circuit is normal.	Go to step **3**.
3	**CHECK AIR MIX DOOR ACTUATOR — POTENTIOMETER.** 1) Using the temperature control button, change the set temperature. 2) Using the Subaru Select Monitor, check "Airmix Door Actuator Position (Driver's)" of the current data from the A/C diagnosis.	Does the current data change?	Go to step **4**.	Replace the air mix door actuator (driver's). <Ref. to AC-54, REMOVAL, Heater and Cooling Unit.>
4	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal (i174) No. 1 — No. 3:***	Is the voltage 4.5 — 5.0 V?	Check the connection of the air mix door actuator position circuit.	Go to step **5**.

	Step	Check	Yes	No
5	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i174) No. 5 — (i80) No. 14:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

L: DTC B1613 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN (PASSENGER'S)

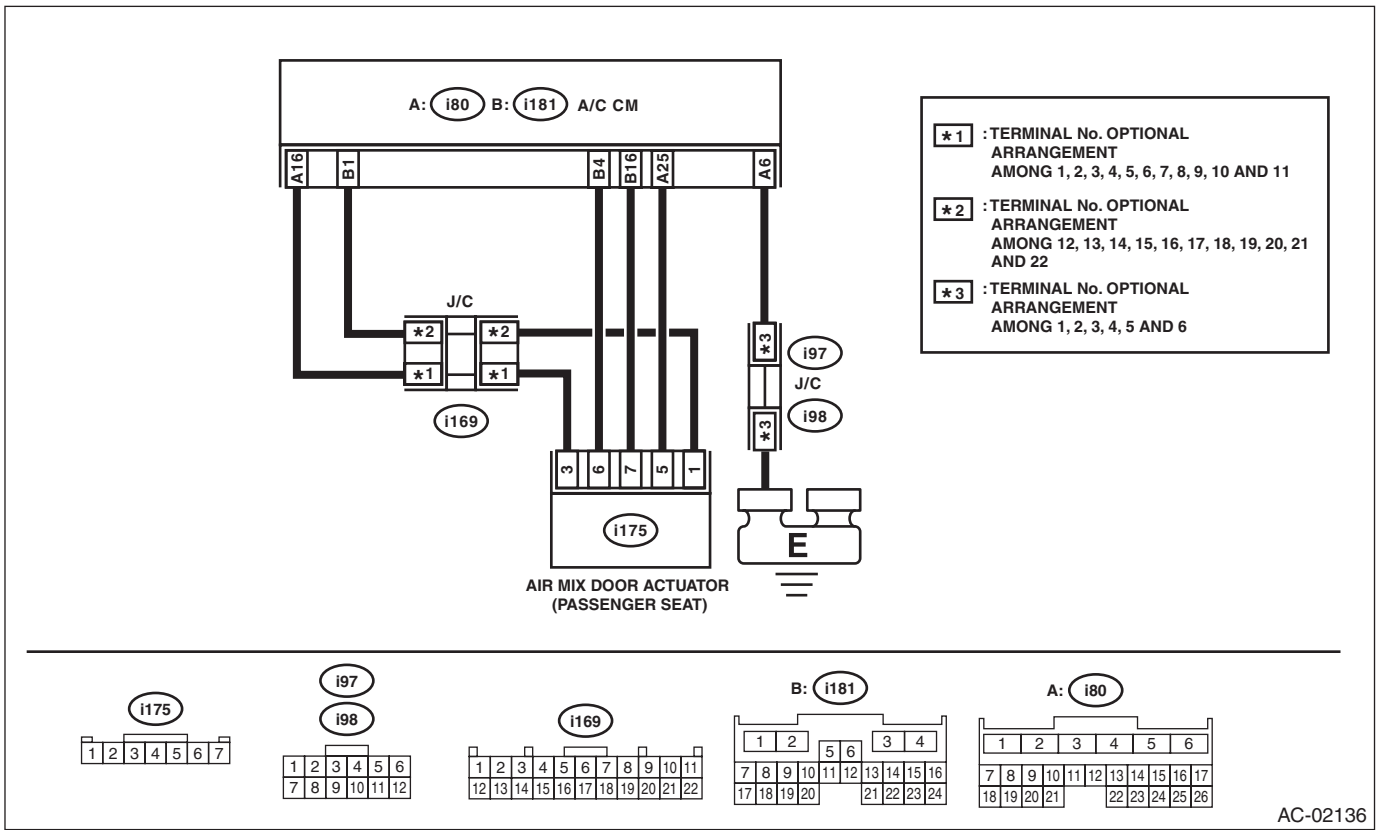
DTC DETECTING CONDITION:

Air mix door actuator — potentiometer circuit is open.

TROUBLE SYMPTOM:

Temperature of the passenger's dual air conditioner cannot be adjusted.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1613 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the air mix door actuator (passenger's). 2) Short No. 3 and No. 5 of i175 connector. 3) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1614 displayed?	Go to step **3**.	Replace the air mix door actuator (passenger's). <Ref. to AC-54, REMOVAL, Heater and Cooling Unit.>
3	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i175) No. 1 — (i181) No. 1:*** ***(i175) No. 3 — (i80) No. 16:*** ***(i175) No. 5 — (i80) No. 25:***	Is there continuity?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i175) No. 1 — (i175) No. 3:*** ***(i175) No. 3 — (i175) No. 5:*** ***(i175) No. 5 — (i175) No. 1:***	Is there continuity?	Repair or replace the open circuit of harness.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

M: DTC B1614 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT (PASSENGER'S)

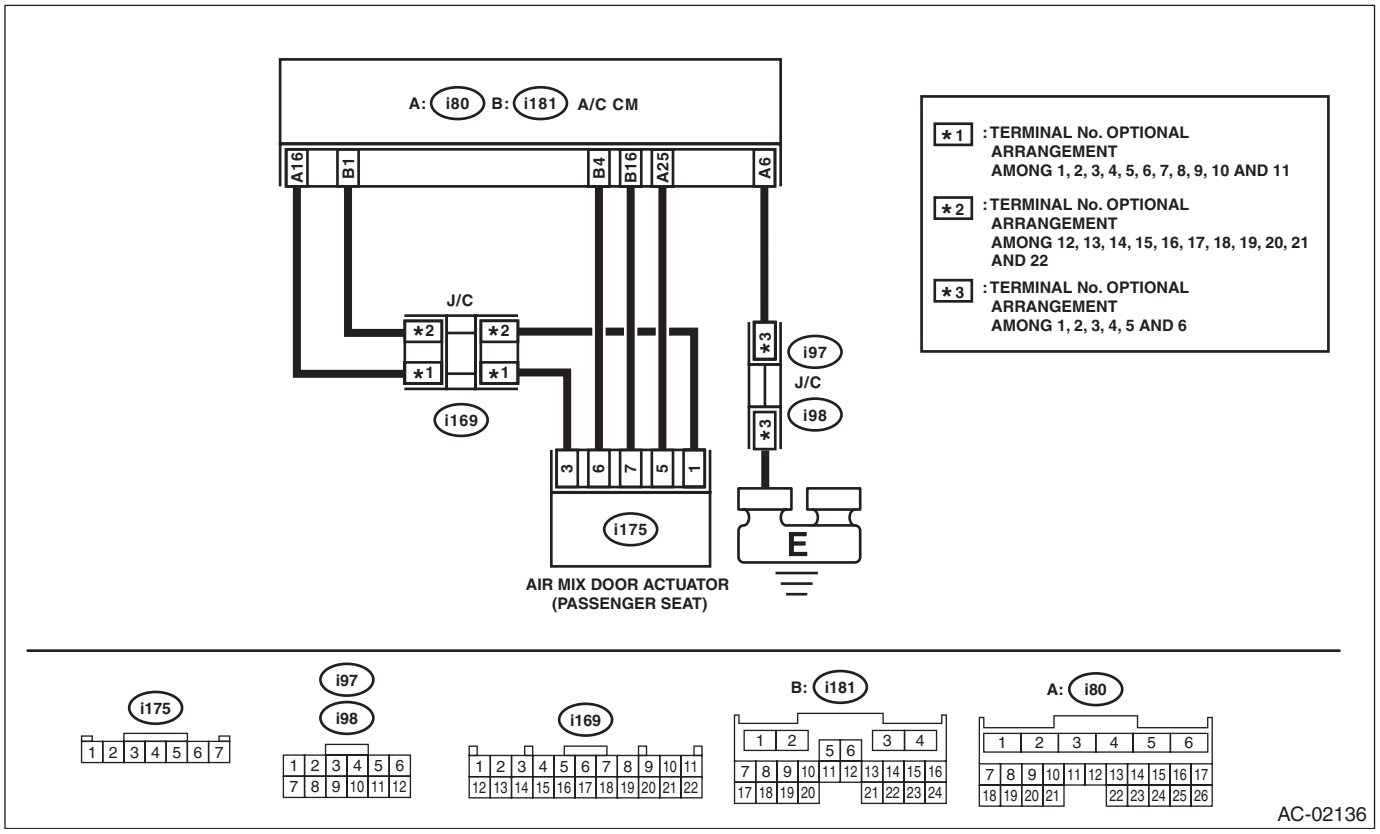
DTC DETECTING CONDITION:

Air mix door actuator — potentiometer circuit is shorted.

TROUBLE SYMPTOM:

Temperature of the passenger's dual air conditioner cannot be adjusted.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1614 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the air mix door actuator. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1614 displayed?	Go to step **3**.	Replace the air mix door actuator position (passenger's).
3	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i175) No. 1 — (i175) No. 3:*** ***(i175) No. 3 — (i175) No. 5:*** ***(i175) No. 5 — (i175) No. 1:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i175) No. 1 — (i181) No. 1:*** ***(i175) No. 3 — (i80) No. 16:*** ***(i175) No. 5 — (i80) No. 25:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>	Repair or replace the short circuit of the harness.

N: DTC B1615 AIRMIX DOOR ACTUATOR LOCK (PASSENGER'S)

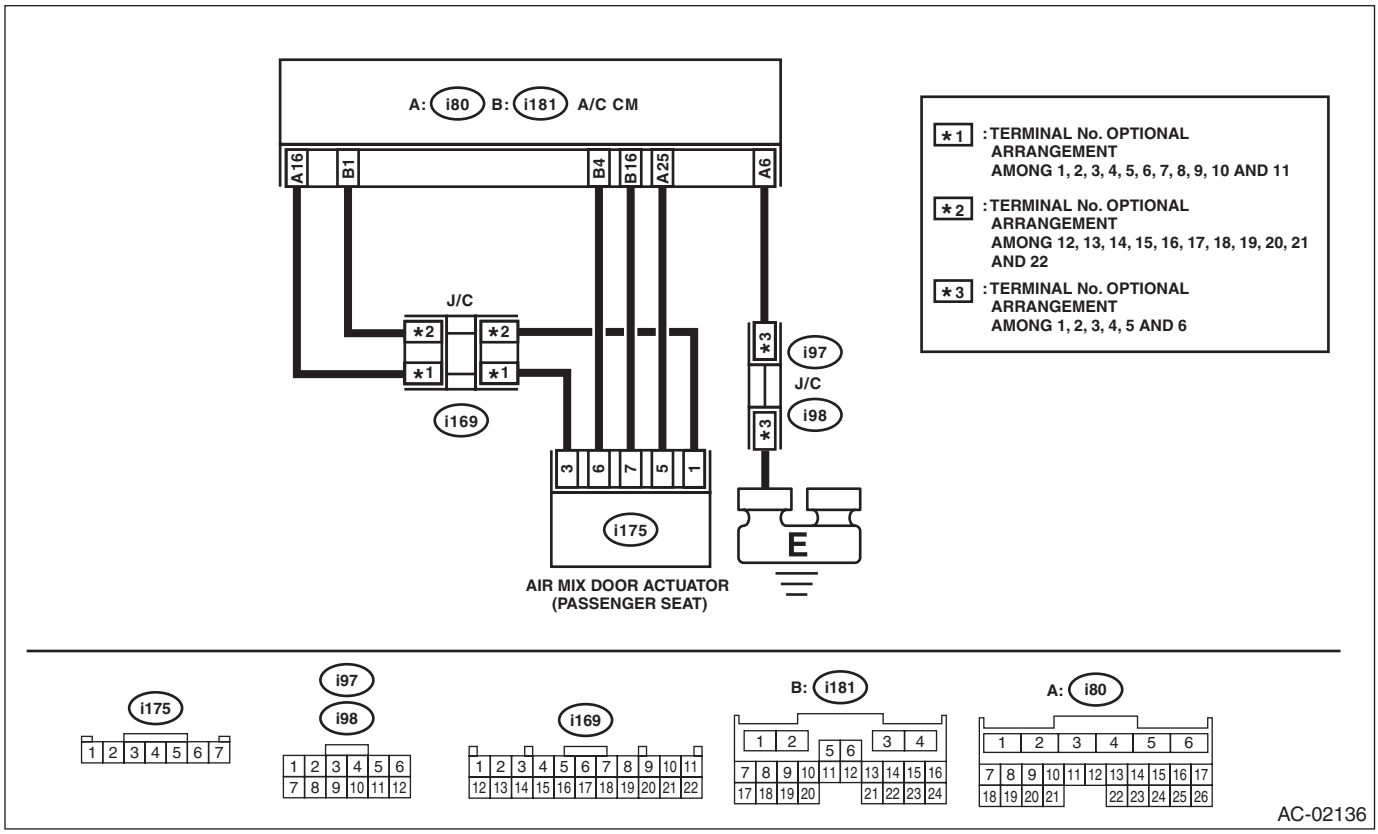
DTC DETECTING CONDITION:

- Passenger's air mix door actuator is locked.
- The potentiometer value of the actuator does not change.

TROUBLE SYMPTOM:

Temperature of the passenger's dual air conditioner cannot be adjusted.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1615 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, change the setting of "Airmix Dr Act Trgt Open Angle (Pas's)" from the A/C diagnosis and perform the active test.	Did the actuator move to the specified target opening angle?	Air mix door actuator circuit is normal.	Go to step **3**.
3	**CHECK AIR MIX DOOR ACTUATOR — POTENTIOMETER.** 1) Using the temperature control button, change the set temperature. 2) Using the Subaru Select Monitor, check "Airmix Door Actuator Position (Passenger's)" of the current data from the A/C diagnosis.	Does the current data change?	Go to step **4**.	Replace the air mix door actuator (passenger's). <Ref. to AC-54, REMOVAL, Heater and Cooling Unit.>
4	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal (i175) No. 1 — No. 3:***	Is the voltage 4.5 — 5.0 V?	Check the connection of the air mix door actuator position circuit.	Go to step **5**.

	Step	Check	Yes	No
5	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i175) No. 5 — (i181) No. 25:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

O: DTC B1620 MODE DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN

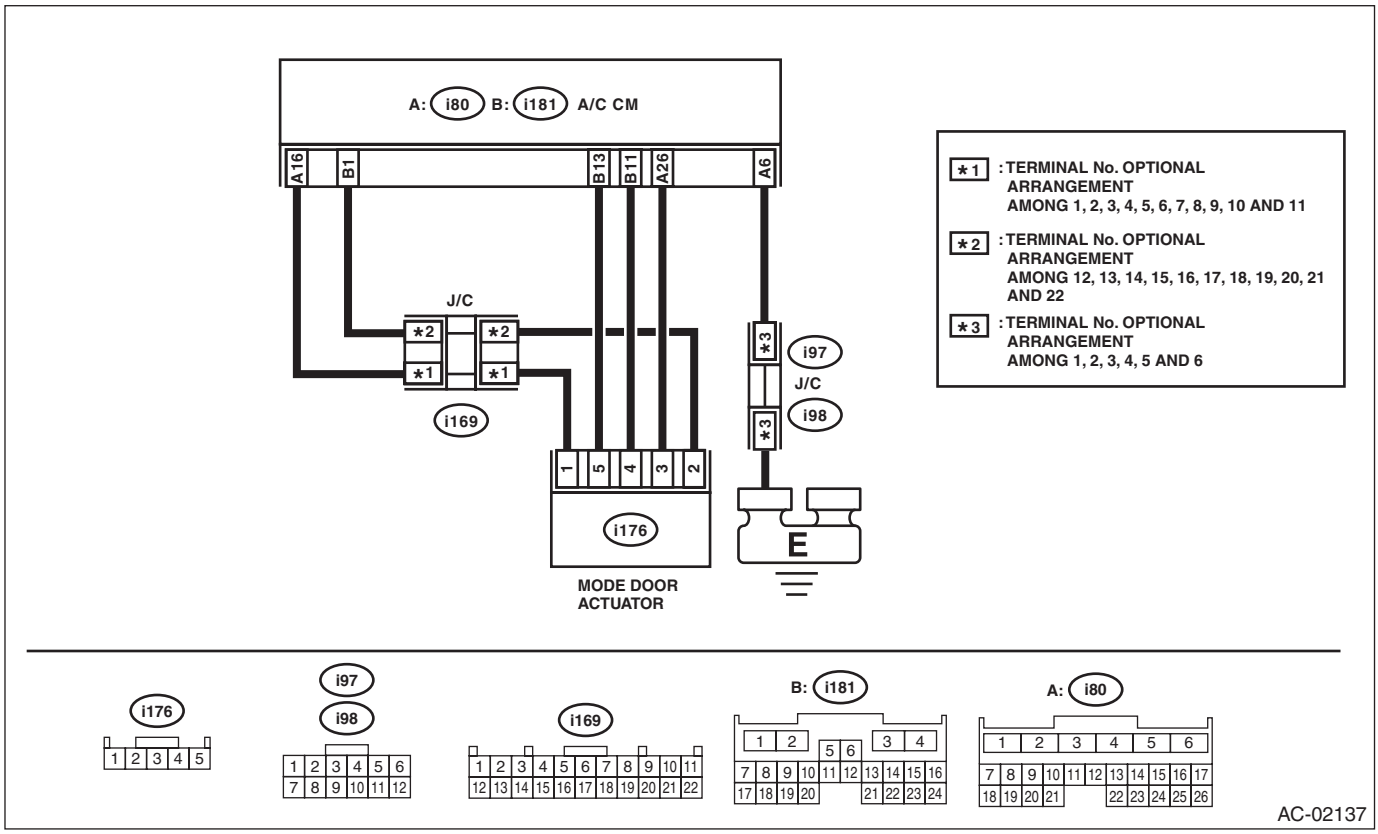
DTC DETECTING CONDITION:

- Mode door does not move.
- The potentiometer value of the actuator does not change.

TROUBLE SYMPTOM:

Vent does not change.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1620 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the mode door actuator. 2) Short No. 2 and No. 3 of (i176) connector. 3) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1621 displayed?	Replace the mode door actuator. <Ref. to AC-54, REMOVAL, Heater and Cooling Unit.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i176) No. 1 — (i80) No. 16:*** ***(i176) No. 2 — (i181) No. 1:*** ***(i176) No. 3 — (i80) No. 26:***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i176) No. 1 — (i176) No. 2:*** ***(i176) No. 2 — (i176) No. 3:*** ***(i176) No. 3 — (i176) No. 1:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

P: DTC B1621 MODE DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT

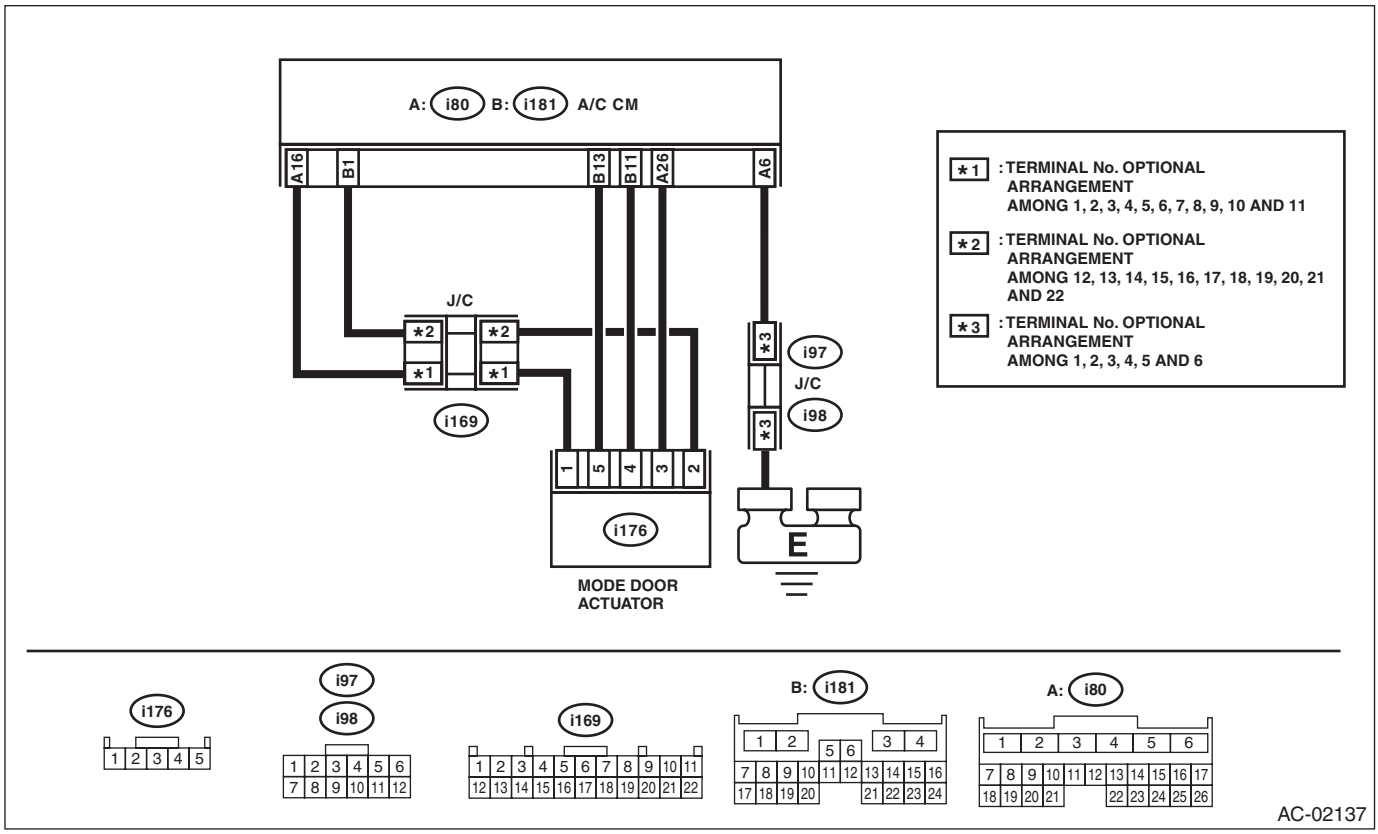
DTC DETECTING CONDITION:

- Mode door does not move.
- The potentiometer value of the actuator does not change.

TROUBLE SYMPTOM:

Vent does not change.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1621 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the mode door actuator. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1620 displayed?	Go to step **3**.	Replace the mode door actuator. <Ref. to AC-54, REMOVAL, Heater and Cooling Unit.>
3	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i176) No. 1 — (i176) No. 2:*** ***(i176) No. 2 — (i176) No. 3:*** ***(i176) No. 3 — (i176) No. 1:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i176) No. 1 — (i80) No. 16:*** ***(i176) No. 2 — (i181) No. 1:*** ***(i176) No. 3 — (i80) No. 26:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

Q: DTC B1622 MODE DOOR ACTUATOR LOCK

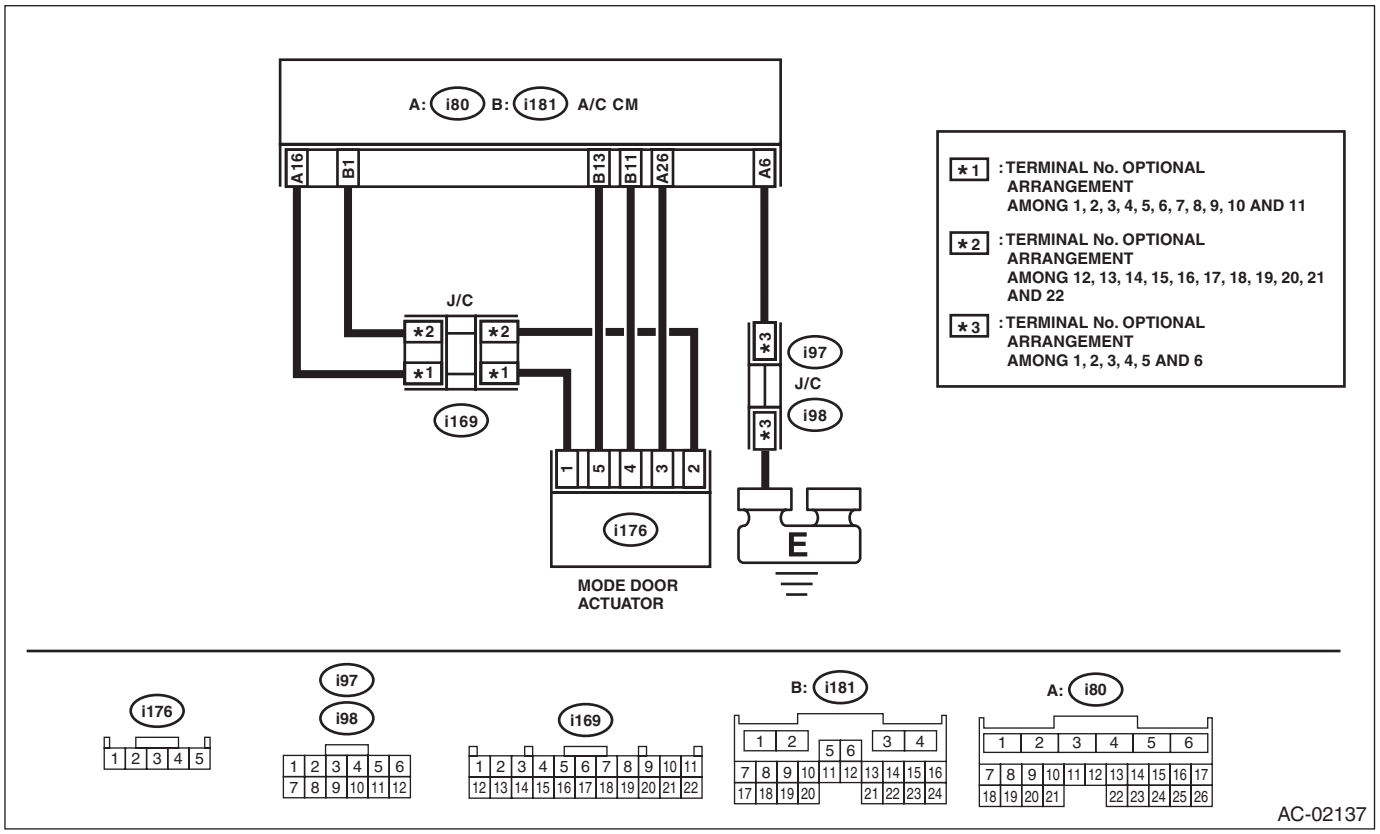
DTC DETECTING CONDITION:

- Mode door does not move.
- The potentiometer value of the actuator does not change.

TROUBLE SYMPTOM:

Vent does not change.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1622 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, change the setting of “Mode Door Actuator Position Target” from the A/C diagnosis and perform the active test.	Did the actuator move to the specified target opening angle?	Mode door actuator circuit is normal.	Go to step **3**.
3	**CHECK MODE DOOR ACTUATOR — POTENTIOMETER.** 1) Using the temperature control button, change the set temperature. 2) Using the Subaru Select Monitor, check “Mode Door Actuator Position” of the current data from the A/C diagnosis.	Does the current data change?	Go to step **4**.	Replace the mode door actuator (passenger’s). <Ref. to AC-54, REMOVAL, Heater and Cooling Unit.>
4	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal (i176) No. 1 — No. 2:***	Is the voltage 4.5 — 5.0 V?	Check the connection of the mode door actuator position circuit.	Go to step **5**.

	Step	Check	Yes	No
5	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i176) No. 3 — (i80) No. 26:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

R: DTC U0028 HEATER CONTROL PANEL COMMUNICATION ERROR

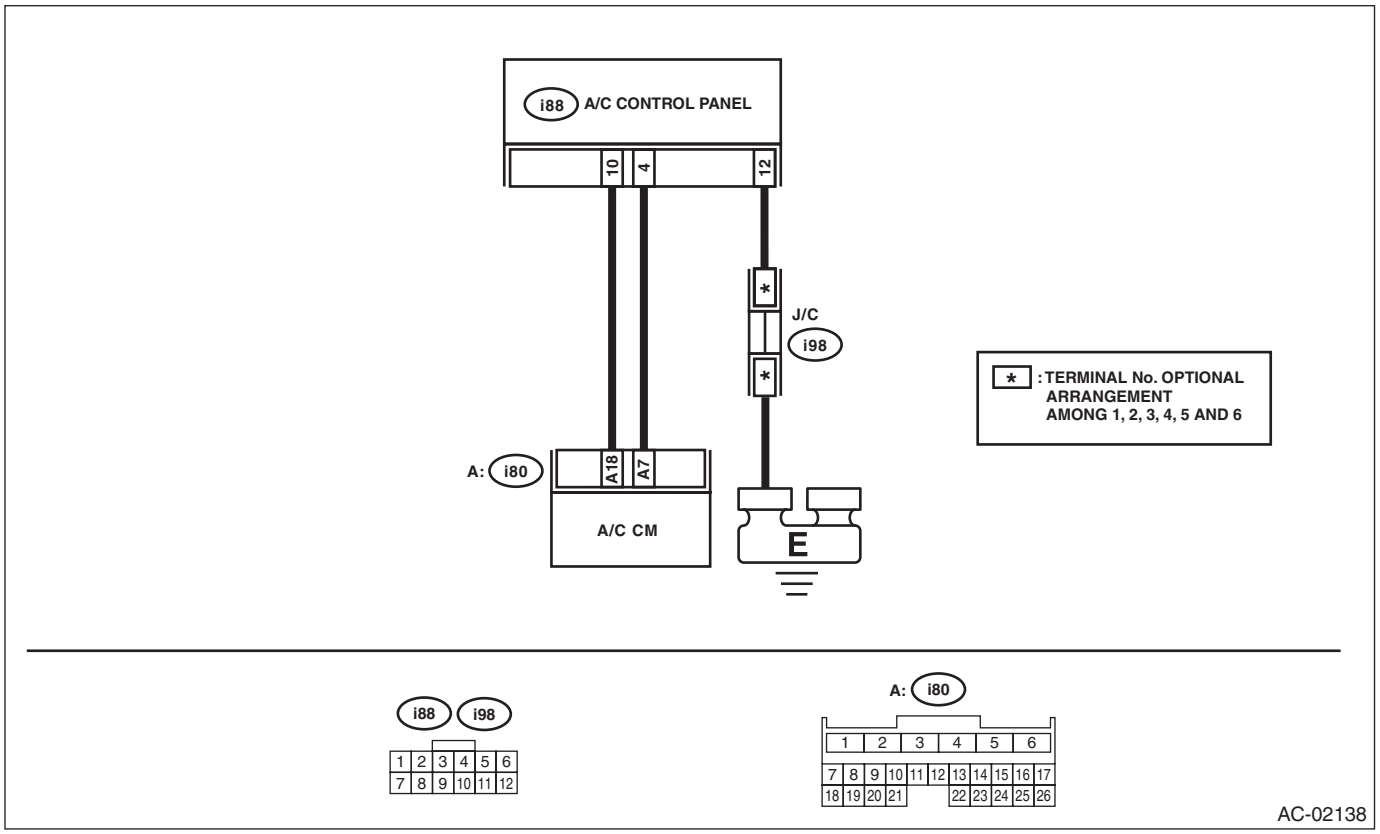
DTC DETECTING CONDITION:

- Heater and A/C do not operate.
- A/C panel display does not change even though being operated.

TROUBLE SYMPTOM:

Unable to operate A/C.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK HARNESS.** 1) Disconnect the connector from A/C control panel and A/C CM. 2) Using a tester, check for continuity between the harness terminals. ***Connector & terminal*** ***(i80) No. 18 — (i88) No. 10:*** ***(i80) No. 7 — (i88) No. 4:***	Is there continuity?	Go to step **2**.	Repair or replace the open circuit of harness.
2	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i80) No. 18 — No. 7:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

S: DTC U0001 CAN COMMUNICATION BUS OFF

DTC DETECTING CONDITION:

- Data to be received via CAN communication do not arrive.
- A/C cooperation control does not operate.

TROUBLE SYMPTOM:

A/C does not operate fully automatically.

Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of the CAN system using the Subaru Select Monitor.	Is a DTC of the CAN system detected?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK A/C CM.** 1) Replace with a normally operating A/C CM. 2) Read the DTC of the A/C system using the Subaru Select Monitor.	Is U0001 detected?	Go to step **3**.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>
3	**CHECK CAN COMMUNICATION CIRCUIT.** Check the CAN communication circuit. <Ref. to LAN(diag)-13, LIST, CAN Communication Circuit Check.>	Is the CAN communication circuit normal?	It is possible that temporary poor communication occurs. Clear the memory.	Repair or replace the CAN communication circuit.

T: DTC U0002 CAN COMMUNICATION ERROR

DTC DETECTING CONDITION:

- Data to be received via CAN communication do not arrive.
- A/C cooperation control does not operate.

TROUBLE SYMPTOM:

A/C does not operate fully automatically.

Step		Check	Yes	No
1	**CHECK CURRENT DATA.** Read the DTC of the CAN system using the Subaru Select Monitor.	Is a DTC of the CAN system detected?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK A/C CM.** 1) Replace with a normally operating A/C CM. 2) Read the DTC of the A/C system using the Subaru Select Monitor.	Is U0002 detected?	Go to step **3**.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>
3	**CHECK CAN COMMUNICATION CIRCUIT.** Check the CAN communication circuit. <Ref. to LAN(diag)-13, LIST, CAN Communication Circuit Check.>	Is the CAN communication circuit normal?	It is possible that temporary poor communication occurs. Clear the memory.	Repair or replace the CAN communication circuit.

U: DTC B1641 REFRIGERANT FLOW SENSOR CIRCUIT SHORT

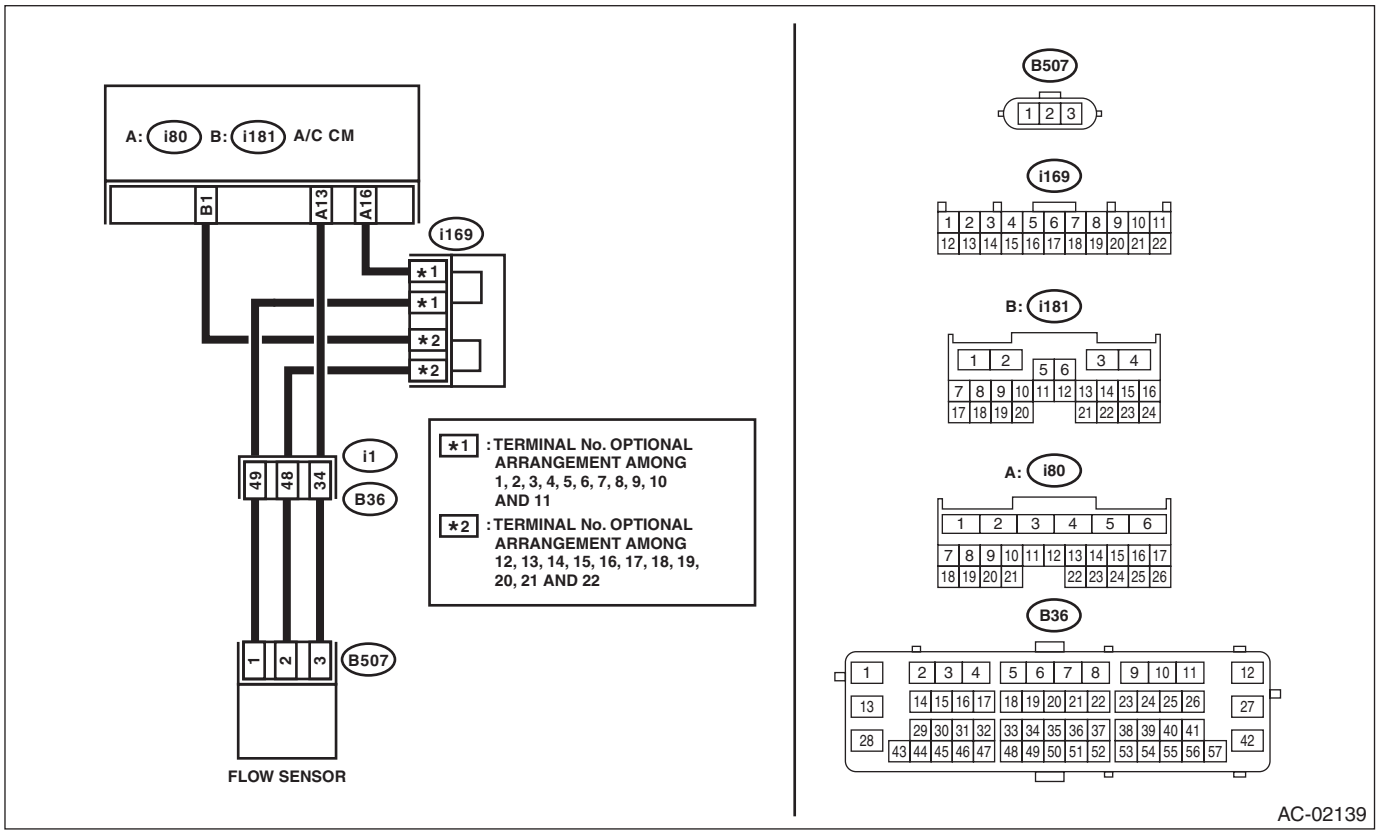
DTC DETECTING CONDITION:

- The voltage of the sensor signal line decreased to 0.3 V or less.
- The circuit is open or shorted.

TROUBLE SYMPTOM:

A/C does not function because refrigerant flow amount cannot be measured.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK SENSOR POWER SUPPLY.** 1) Disconnect the refrigerant flow sensor connector. 2) Turn the ignition switch to ON. 3) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B507) No. 1 — No. 2:***	Is the voltage 4.5 — 5.0 V?	Go to step **5**.	Go to step **2**.
2	**CHECK HARNESS.** 1) Disconnect the A/C CM connector. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B507) No. 3 — (i80) No. 13:*** ***(B507) No. 2 — (i181) No. 1:*** ***(B507) No. 1 — (i80) No. 16:***	Is there continuity?	Go to step **3**.	Repair or replace the open circuit of harness.
3	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B507) No. 1 — Chassis ground:*** ***(B507) No. 2 — Chassis ground:*** ***(B507) No. 3 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B507) No. 1 — No. 2:*** ***(B507) No. 1 — No. 3:*** ***(B507) No. 2 — No. 3:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **5**.
5	**CHECK A/C CM.** 1) Replace the A/C CM with a normal part. 2) Read the DTC using Subaru Select Monitor.	Is B1641 detected?	Replace refrigerant flow sensor.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

V: DTC B1642 REFRIGERANT FLOW SENSOR CIRCUIT OPEN

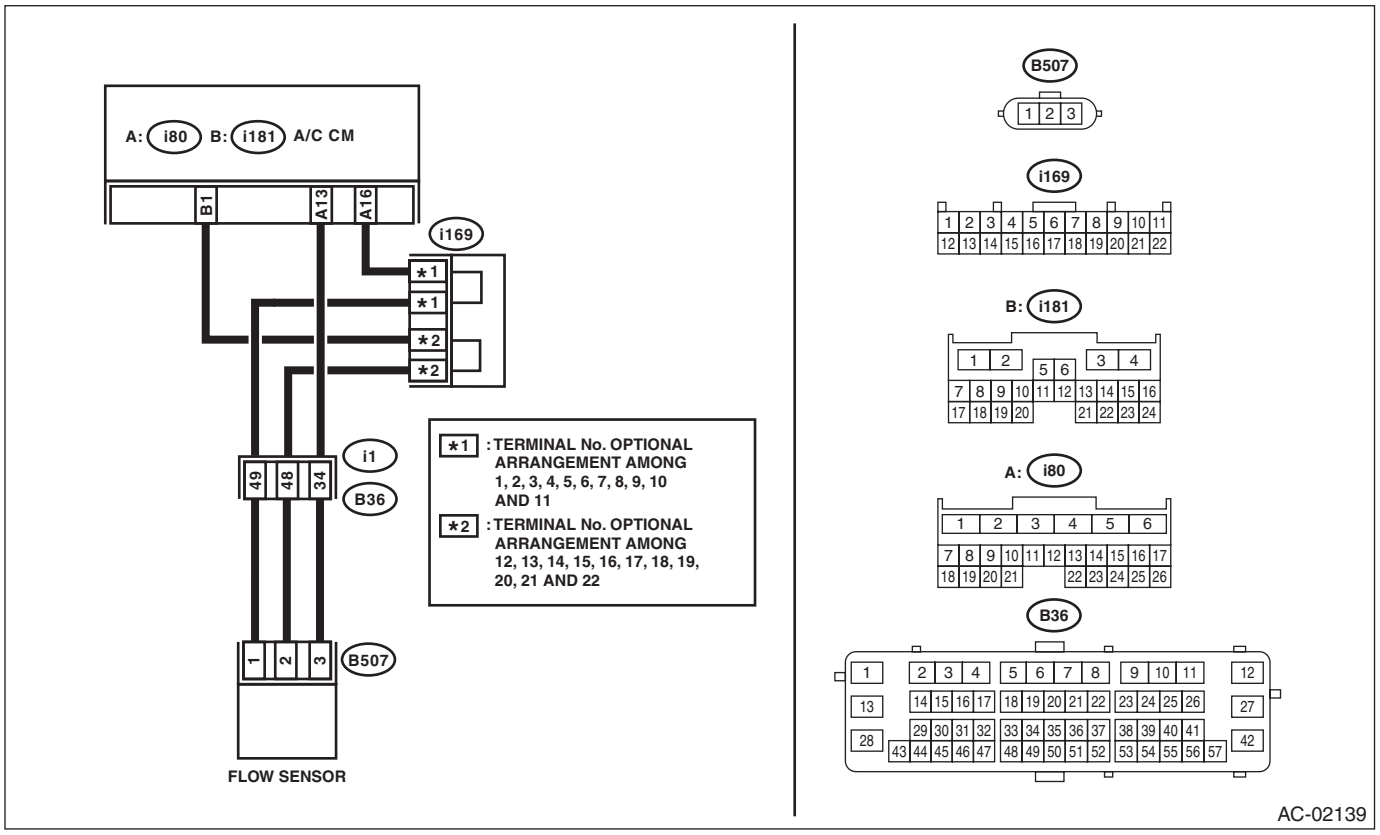
DTC DETECTING CONDITION:

- The voltage of the sensor signal line increased to 4.7 V or more.
- The circuit is open or shorted.

TROUBLE SYMPTOM:

A/C does not function because refrigerant flow amount cannot be measured.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, check "Refrigerant Flow".	Is the value 3.2 MPa or more?	Go to step **2**.	Refrigerate flow sensor circuit is normal.
2	**CHECK SENSOR POWER SUPPLY.** 1) Disconnect the refrigerant flow sensor connector. 2) Turn the ignition switch to ON. 3) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B507) No. 1 — No. 2:***	Is the voltage 4.5 — 5.0 V?	Go to step **6**.	Go to step **3**.
3	**CHECK HARNESS.** 1) Disconnect the A/C CM connector. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B507) No. 3 — (i80) No. 13:*** ***(B507) No. 2 — (i181) No. 1:*** ***(B507) No. 1 — (i80) No. 16:***	Is there continuity?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B507) No. 1 — Chassis ground:*** ***(B507) No. 2 — Chassis ground:*** ***(B507) No. 3 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **5**.
5	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B507) No. 1 — No. 2:*** ***(B507) No. 1 — No. 3:*** ***(B507) No. 2 — No. 3:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **6**.
6	**CHECK A/C CM.** 1) Replace the A/C CM with a normal part. 2) Read the DTC using Subaru Select Monitor.	Is B1641 detected?	Replace refrigerant flow sensor.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

W: DTC B1643 VARIABLE FLOW CHANGE SOLENOID DUTY CIRCUIT ABNORMAL

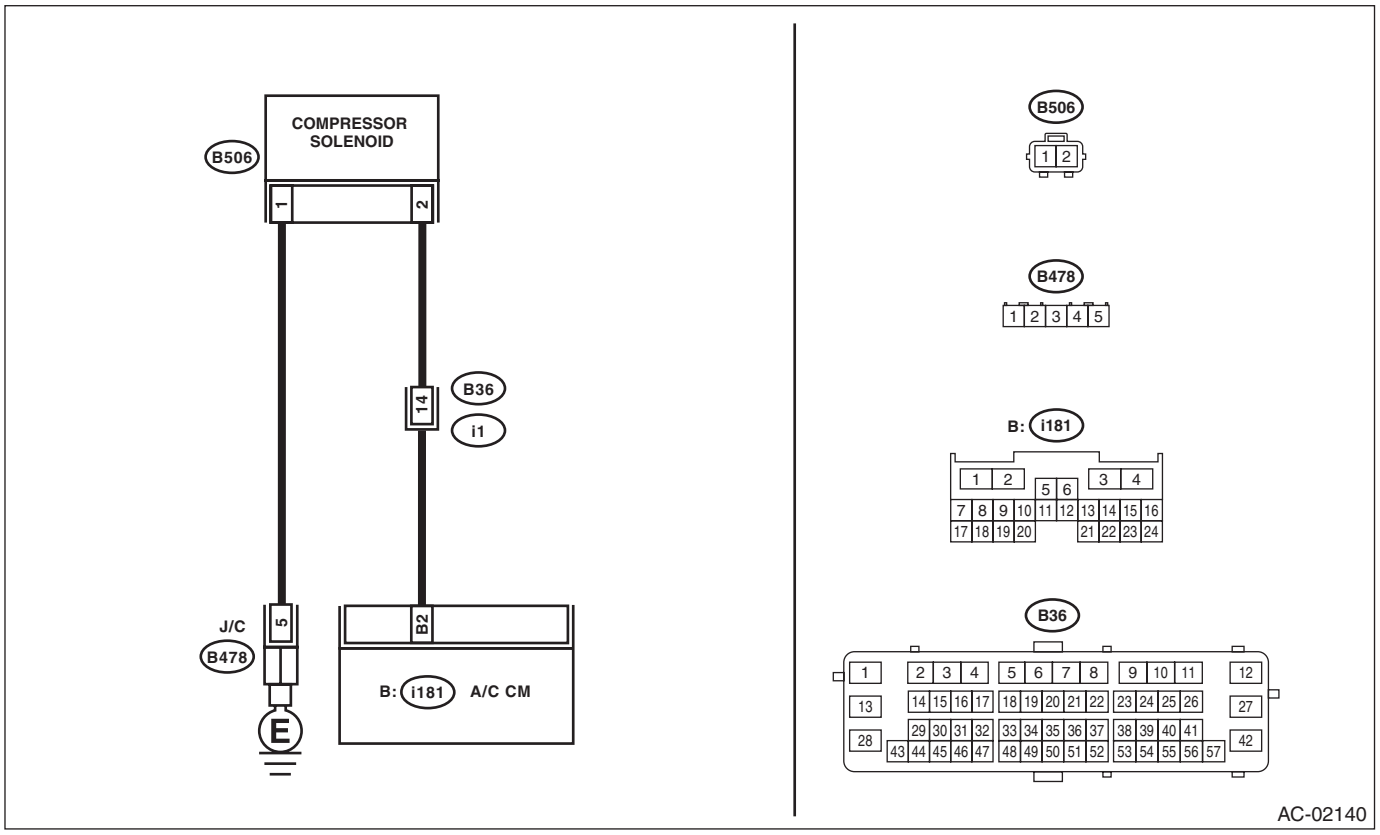
DTC DETECTING CONDITION:

- A/C does not operate.
- Refrigerant pressure does not increase or decrease.

TROUBLE SYMPTOM:

Refrigerant pressure cannot be changed.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**ACTIVE TEST.** 1) Attach the manifold gauge. 2) Using the Subaru Select Monitor, change the setting of “Variable Solenoid Output Duty” from the A/C diagnosis and perform the active test.	Did the actuator operate to the specified target, and the pressure change?	Variable flow change solenoid circuit is normal.	Go to step **2**.
2	**CHECK VARIABLE FLOW CHANGE SOLENOID.** 1) Disconnect the variable flow change solenoid connector. 2) Using a tester, measure the resistance of the solenoid. ***Connector & terminal*** ***(B506) No. 1 — No. 2:***	Is the resistance between 10 — 12 Ω?	Go to step **3**.	Replace the variable flow change solenoid. <Ref. to AC-54, REMOVAL, Heater and Cooling Unit.>
3	**CHECK HARNESS.** 1) Disconnect the A/C CM connector. 2) Using a tester, check for continuity between the harness terminals. ***Connector & terminal*** ***(B506) No. 2 — (i181) No. 2:*** ***(B506) No. 1 — Chassis ground:***	Is there continuity?	Go to step **4**.	Repair or replace the open circuit of harness.

Step		Check	Yes	No
4	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B506) No. 2 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-46, REMOVAL, Control Unit.>

X: DTC B1644 REFRIGERANT NOT SEALED DRIVE ERROR

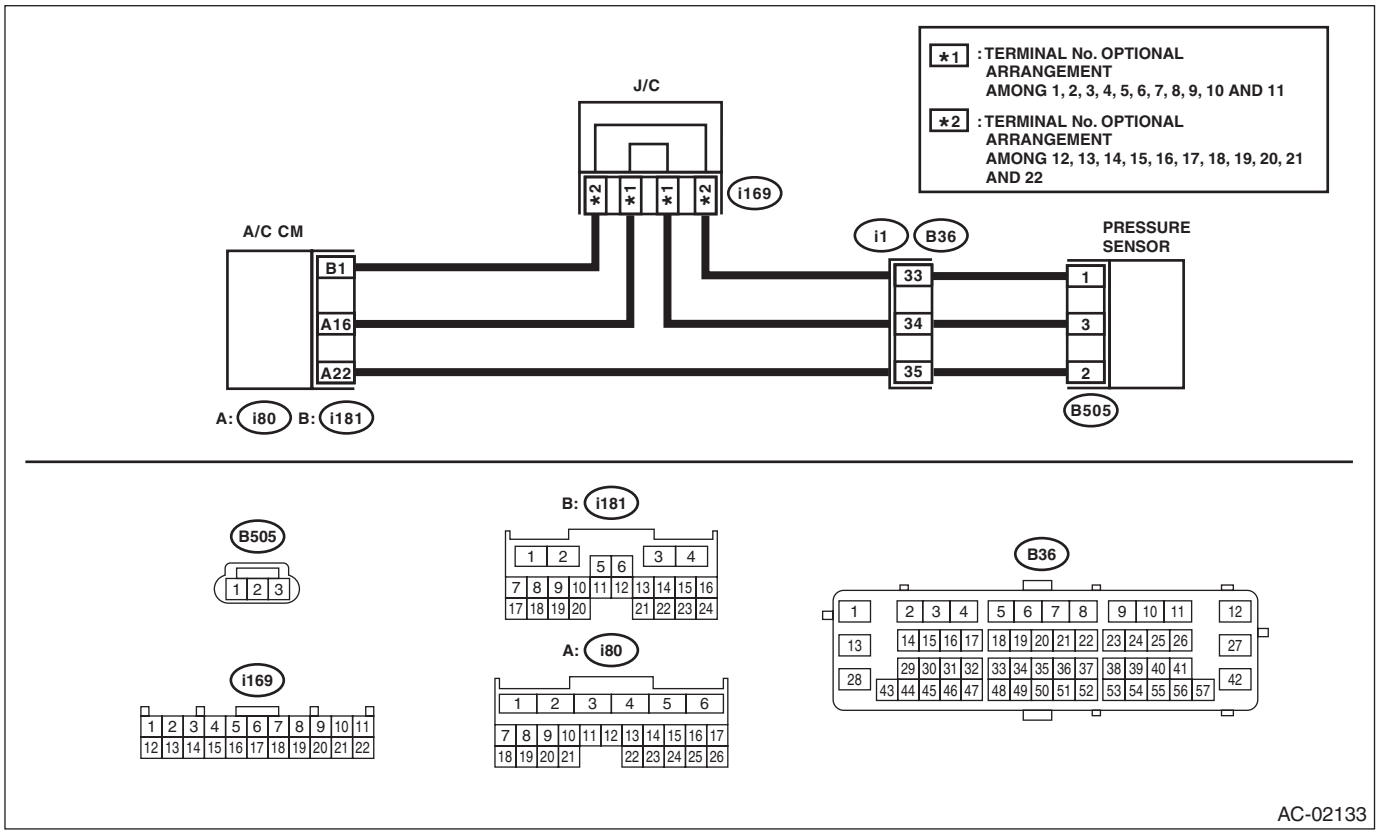
DTC DETECTING CONDITION:

- Compressor was operated while refrigerant was low.
- Compressor was operated while refrigerant pressure was extremely low.

TROUBLE SYMPTOM:

A/C does not operate.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK AMOUNT OF REFRIGERANT.** Check the refrigerant pressure and filling amount. <Ref. to AC-17, PROCEDURE, Refrigerant Pressure with Manifold Gauge Set.>	Is the filling amount a standard value?	Check the refrigerant pressure sensor or refrigerant flow sensor for defect.	Replace the compressor.