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## 2014 MAZDA 6/Atenza Sedan OEM Service and Repair Workshop Manual

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# DTC B11F5:86, B1A69:86, U210A:86 [CLIMATE CONTROL UNIT (MANUAL AIR CONDITIONER)]

SM2898589

id0702k390070

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System malfunction location | <ul style="list-style-type: none"><li>• <b>B11F5:86:</b> Invalid data (humidity sensor temperature) received from humidity sensor</li><li>• <b>B1A69:86:</b> Invalid data (relative humidity) received from humidity sensor</li><li>• <b>U210A:86:</b> Invalid data (windshield temperature) received from humidity sensor</li></ul>                                                                                                                                                                                                                                                           |
| Detection condition         | • Climate control unit receives the invalid data from the front body control module (FBCM).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Fail-safe function          | <b>B11F5:86</b> <ul style="list-style-type: none"><li>• Humidity sensor input value (temperature) is fixed at -40 °C {-40 °F}. However, control is performed without humidity sensor.</li></ul> <b>B1A69:86</b> <ul style="list-style-type: none"><li>• Humidity sensor input value (humidity) is fixed at 100 %. However, control is performed without humidity sensor.</li></ul> <b>U210A:86</b> <ul style="list-style-type: none"><li>• Humidity sensor input value (windshield temperature) is fixed at -40 °C {-40 °F}. However, control is performed without humidity sensor.</li></ul>  |
| Possible cause              | <ul style="list-style-type: none"><li>• Connector or terminal malfunction</li><li>• Malfunction in the wiring harness between the humidity sensor and front body control module (FBCM)</li><li>• Malfunction in the wiring harness between the front body control module (FBCM) and instrument cluster</li><li>• Malfunction in the wiring harness between the instrument cluster and climate control unit</li><li>• Humidity sensor malfunction</li><li>• Instrument cluster malfunction</li><li>• Front body control module malfunction</li><li>• Climate control unit malfunction</li></ul> |
| System wiring diagram       | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Diagnostic procedure

| Step | Inspection                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Action                                                                                                                                                                                                                                                              |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <b>PERFORM CLIMATE CONTROL UNIT DTC INSPECTION</b> <ul style="list-style-type: none"><li>• Clear the DTC from the climate control unit memory using the M-MDS. (See <b>CLEARING DTC [CLIMATE CONTROL UNIT (MANUAL AIR CONDITIONER)]</b>.)</li><li>• Perform the DTC inspection for the climate control unit using the M-MDS. (See <b>DTC DISPLAY [CLIMATE CONTROL UNIT (MANUAL AIR CONDITIONER)]</b>.)</li><li>• Is DTC U0155:00 or U0423:68 displayed?</li></ul> | Yes<br>Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See <b>DTC U0010:88, U0155:00 [CLIMATE CONTROL UNIT (MANUAL AIR CONDITIONER)]</b> .) (See <b>DTC U0423:68 [CLIMATE CONTROL UNIT (MANUAL AIR CONDITIONER)]</b> .) |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No<br>Go to the next step.                                                                                                                                                                                                                                          |
| 2    | <b>PERFORM FRONT BODY CONTROL MODULE (FBCM) DTC INSPECTION</b> <ul style="list-style-type: none"><li>• Perform the front body control module (FBCM) DTC inspection using the M-MDS. (See <b>DTC INSPECTION [FRONT BODY CONTROL MODULE (FBCM)]</b>.)</li><li>• Are any DTCs present?</li></ul>                                                                                                                                                                     | Yes<br>Go to the applicable DTC inspection. (See <b>DTC TABLE [FRONT BODY CONTROL MODULE (FBCM)]</b> .)                                                                                                                                                             |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No<br>Go to the next step.                                                                                                                                                                                                                                          |

| Step | Inspection                                                                                                                                                                                                                                                                                                                                                                                                                                        |     | Action                                                                                                                                                                                                                     |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6    | <b>VERIFY AIRFLOW CONDITION</b> <ul style="list-style-type: none"> <li>• Set the airflow mode to DEFROSTER mode.</li> <li>• Turn the A/C switch off.</li> <li>• Set the airflow volume control switch to MAX.</li> <li>• Does sufficient air flow from the vents when the airflow mode is in DEFROSTER mode?</li> </ul>                                                                                                                           | Yes | Go to the Step 9.                                                                                                                                                                                                          |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No  | Go to the next step.                                                                                                                                                                                                       |
| 7    | <b>VERIFY DUCT INSTALLATION CONDITION</b> <ul style="list-style-type: none"> <li>• Is the duct under any of the following conditions? (See <b>DASHBOARD REMOVAL/INSTALLATION.</b>) (See <b>FRONT HEAT DUCT REMOVAL/INSTALLATION.</b>) (See <b>REAR HEAT DUCT REMOVAL/INSTALLATION.</b>) <ul style="list-style-type: none"> <li>— Clogging</li> <li>— Deformation</li> <li>— Air leakage</li> <li>— Poor installation</li> </ul> </li> </ul>       | Yes | Install the incorrectly installed ducts properly, then go to step 10. (See <b>DASHBOARD REMOVAL/INSTALLATION.</b> ) (See <b>FRONT HEAT DUCT REMOVAL/INSTALLATION.</b> ) (See <b>REAR HEAT DUCT REMOVAL/INSTALLATION.</b> ) |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No  | Go to the next step.                                                                                                                                                                                                       |
| 8    | <b>VERIFY FRONT AIRFLOW MODE LINK OPERATION</b> <ul style="list-style-type: none"> <li>• Remove the front airflow mode actuator. (See <b>AIRFLOW MODE ACTUATOR REMOVAL [FULL-AUTO AIR CONDITIONER].</b>) (See <b>AIRFLOW MODE ACTUATOR INSTALLATION [FULL-AUTO AIR CONDITIONER].</b>)</li> <li>• Verify the operation by manually operating the front airflow mode link.</li> <li>• Does the front airflow mode link operate smoothly?</li> </ul> | Yes | Replace the front A/C unit because there is a malfunction in the front airflow mode door. (See <b>A/C UNIT REMOVAL/INSTALLATION.</b> ) (See <b>A/C UNIT DISASSEMBLY/ASSEMBLY.</b> ) Go to the Step 10.                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No  | Replace the airflow mode link. (See <b>A/C UNIT REMOVAL/INSTALLATION.</b> ) (See <b>A/C UNIT DISASSEMBLY/ASSEMBLY.</b> ) Go to the Step 10.                                                                                |
| 9    | <b>VERIFY EVAPORATOR TEMPERATURE SENSOR</b> <ul style="list-style-type: none"> <li>• Inspect the evaporator temperature sensor. (See <b>EVAPORATOR TEMPERATURE SENSOR INSPECTION [FULL-AUTO AIR CONDITIONER].</b>)</li> <li>• Is the evaporator temperature sensor normal?</li> </ul>                                                                                                                                                             | Yes | Go to the next step.                                                                                                                                                                                                       |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No  | Replace the evaporator temperature sensor. (See <b>EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].</b> ) (See <b>A/C UNIT DISASSEMBLY/ASSEMBLY.</b> ) Go to the Step 10.                   |
| 10   | <b>VERIFY THAT MALFUNCTION SYMPTOM DOES NOT RECUR AFTER REPAIR</b> <ul style="list-style-type: none"> <li>• Is air discharged from vent?</li> </ul>                                                                                                                                                                                                                                                                                               | Yes | Troubleshooting completed. Explain repairs to customer.                                                                                                                                                                    |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No  | Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.                                                                                                                                           |

| Step | Inspection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8    | <b>INSPECT TO SEE WHETHER MALFUNCTION IS IN BLOWER MOTOR OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>• Switch the ignition off.</li> <li>• Disconnect the negative battery terminal. (See <b>NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.</b>)</li> <li>• Inspect the blower motor. (See <b>BLOWER MOTOR INSPECTION.</b>)</li> <li>• Is the blower motor normal?</li> </ul>                                                                                                                                                                                                                                                                                                                     | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Replace the blower motor, then go to Step 18. (See <b>BLOWER MOTOR REMOVAL/INSTALLATION.</b> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 9*   | <b>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN BLOWER FAN CONTROLLER AND CLIMATE CONTROL UNIT) OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>• Disconnect the blower fan controller connector. (See <b>BLOWER FAN CONTROLLER REMOVAL/INSTALLATION.</b>)</li> <li>• Disconnect the climate control unit connector. (See <b>CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].</b>)</li> <li>• Inspect for continuity between the following terminals (wiring harness-side). <ul style="list-style-type: none"> <li>— Blower fan controller terminal B–climate control unit terminal 1T</li> </ul> </li> <li>• Is there continuity?</li> </ul> | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Refer to the wiring diagram and verify whether or not there is a common connector between blower fan controller terminal and climate control unit terminal.<br><b>If there is a common connector:</b> <ul style="list-style-type: none"> <li>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness.</li> <li>• Repair or replace the malfunctioning part.</li> </ul> <b>If there is no common connector:</b> <ul style="list-style-type: none"> <li>• Repair or replace the wiring harness.</li> </ul> Go to Step 18. |
| 10*  | <b>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO GROUND BETWEEN BLOWER FAN CONTROLLER AND CLIMATE CONTROL UNIT) OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>• Inspect for continuity between the following terminal (wiring harness-side) and body ground. <ul style="list-style-type: none"> <li>— Blower fan controller terminal B</li> </ul> </li> <li>• Is there continuity?</li> </ul>                                                                                                                                                                                                                                                                                        | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between blower fan controller terminal and climate control unit terminal.<br><b>If there is a common connector:</b> <ul style="list-style-type: none"> <li>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness.</li> <li>• Repair or replace the malfunctioning part.</li> </ul> <b>If there is no common connector:</b> <ul style="list-style-type: none"> <li>• Repair or replace the wiring harness.</li> </ul> Go to Step 18. |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 11*  | <b>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO POWER SUPPLY BETWEEN BLOWER FAN CONTROLLER AND CLIMATE CONTROL UNIT) OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>• Connect the negative battery terminal. (See <b>NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.</b>)</li> <li>• Switch the ignition on (engine off or on).</li> <li>• Measure the voltage at the following terminal (wiring harness side). <ul style="list-style-type: none"> <li>— Blower fan controller terminal B</li> </ul> </li> <li>• Is the voltage approx. 0 V?</li> </ul>                                                                                                                          | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Refer to the wiring diagram and verify whether or not there is a common connector between blower fan controller terminal and climate control unit terminal.<br><b>If there is a common connector:</b> <ul style="list-style-type: none"> <li>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness.</li> <li>• Repair or replace the malfunctioning part.</li> </ul> <b>If there is no common connector:</b> <ul style="list-style-type: none"> <li>• Repair or replace the wiring harness.</li> </ul> Go to Step 18. |

# AIR INTAKE MODE DOES NOT CHANGE [FULL-AUTO AIR CONDITIONER]

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|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description    | • Air intake mode does not change when switching REC/FRESH mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Possible cause | • ROOM 15 A fuse malfunction<br>• Open or short circuit in wiring harness between battery positive terminal and climate control unit<br>• Open or short circuit in wiring harness between climate control unit and each actuator / sensor<br>• Open or short circuit in wiring harness between climate control unit and air intake actuator position sensor<br>• Climate control unit connector malfunction or poor connection<br>• Air intake actuator connector malfunction or poor connection<br>• Air intake actuator malfunction<br>• Air intake link malfunction<br>• Climate control unit malfunction<br>• Air intake door malfunction |

• When performing an asterisked (\*) troubleshooting inspection, shake the wiring harness and connectors while performing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, inspect to make sure connectors, terminals and wiring harnesses are connected correctly and undamaged.

### Note

• The climate control unit controls the air intake mode when the airflow mode is in DEFROSTER so that it is fixed at FRESH mode. At this time, the airflow mode cannot be changed from FRESH to RECIRCULATE even if the REC switch is pressed, but this does not indicate a malfunction.

## Diagnostic procedure

| Step | Inspection                                                                                                                                                                                                                                                                             | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <b>INSPECT FUSE</b> <ul style="list-style-type: none"><li>• Switch the ignition off.</li><li>• Disconnect the negative battery terminal. (See <b>NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.</b>)</li><li>• Remove the ROOM 15 A fuse.</li><li>• Is the fuse normal?</li></ul> | Yes<br>Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|      |                                                                                                                                                                                                                                                                                        | No<br><b>If the fuse is blown:</b> <ul style="list-style-type: none"><li>• Refer to the wiring diagram and verify whether or not there is a common connector between ROOM 15 A fuse and climate control unit terminal.</li></ul> <b>If there is a common connector:</b> <ul style="list-style-type: none"><li>— Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground.</li><li>— Repair or replace the malfunctioning part.</li></ul> <b>If there is no common connector:</b> <ul style="list-style-type: none"><li>— Repair or replace the wiring harness which has a short to ground.</li></ul> <ul style="list-style-type: none"><li>• Replace the fuse.</li></ul> <b>If the fuse is damaged:</b> <ul style="list-style-type: none"><li>• Replace the fuse.</li></ul> Then go to Step 22. |

| Step | Inspection                                                                                                                                                                                                                                                                                                                              |     | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10   | <b>INSPECT AIR INTAKE ACTUATOR CONNECTOR CONNECTION CONDITION</b><br>• Inspect the air intake actuator connector engagement and connection condition. (See <b>AIR INTAKE ACTUATOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].</b> )<br>• Is the connector normal?                                                                 | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|      |                                                                                                                                                                                                                                                                                                                                         | No  | Reconnect the air intake actuator connector properly.<br>Go to Step 22.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 11   | <b>INSPECT AIR INTAKE ACTUATOR CONNECTOR TERMINAL CONDITION</b><br>• Disconnect the air intake actuator connector. (See <b>AIR INTAKE ACTUATOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].</b> )<br>• Inspect the connector and terminals (corrosion, damage, pin disconnection).<br>• Are the connector and terminals normal?    | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|      |                                                                                                                                                                                                                                                                                                                                         | No  | Repair/replace the connector or terminal.<br>Go to Step 22.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 12*  | <b>INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN WIRING HARNESS (AIR INTAKE POSITION SIGNAL) OR ELSEWHERE</b><br>• Inspect for continuity between the following terminals (wiring harness-side):<br>— Climate control unit terminal 1D – air intake actuator terminal D<br>• Is there continuity?                       | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|      |                                                                                                                                                                                                                                                                                                                                         | No  | Refer to the wiring diagram and verify whether or not there is a common connector between climate control unit terminal and air intake actuator terminal.<br><b>If there is a common connector:</b><br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness.<br>• Repair or replace the malfunctioning part.<br><b>If there is no common connector:</b><br>• Repair or replace the wiring harness.<br>Go to Step 22.                                                                     |
| 13*  | <b>INSPECT TO SEE WHETHER MALFUNCTION (SHORT TO GROUND) IS IN WIRING HARNESS (AIR INTAKE POSITION SIGNAL) OR ELSEWHERE</b><br>• Inspect for continuity between the following terminal (wiring harness-side) and body ground:<br>— Climate control unit terminal 1D<br>• Is there continuity?                                            | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between climate control unit terminal and air intake actuator terminal.<br><b>If there is a common connector:</b><br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness.<br>• Repair or replace the malfunctioning part.<br><b>If there is no common connector:</b><br>• Repair or replace the wiring harness.<br>Go to Step 22.                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                         | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 14*  | <b>INSPECT TO SEE WHETHER MALFUNCTION (OPEN CIRCUIT) IS IN POSITION SENSOR POWER SUPPLY OR ELSEWHERE</b><br>• Inspect for continuity between the following terminal (wiring harness-side) and junction point to other actuators / sensors (position sensor power supply).<br>— Air intake actuator terminal C<br>• Is there continuity? | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|      |                                                                                                                                                                                                                                                                                                                                         | No  | Refer to the wiring diagram and verify whether or not there is a common connector between air intake actuator terminal and junction point to other actuators / sensor terminal.<br><b>If there is a common connector:</b><br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.<br>• Repair or replace the malfunctioning part.<br><b>If there is no common connector:</b><br>• Repair or replace the wiring harness which has an open circuit.<br>Go to Step 22. |

# NO TEMPERATURE CONTROL WITH CLIMATE CONTROL UNIT [FULL-AUTO AIR CONDITIONER]

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|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description    | <ul style="list-style-type: none"><li>• Temperature does not change when operating temperature control dial</li><li>• Malfunction in A/C unit and/or climate control unit air mix system</li><li>• Malfunction in driver and/or passenger side air mix actuator or related wiring harness</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Possible cause | <ul style="list-style-type: none"><li>• ROOM 15 A fuse malfunction</li><li>• Open or short circuit in wiring harness between fuse block and climate control unit</li><li>• Open or short circuit in wiring harness between climate control unit and each actuator / sensor</li><li>• Open or short circuit in wiring harness between climate control unit and air mix actuator position sensor</li><li>• Climate control unit connector malfunction or poor connection</li><li>• Air mix actuator connector malfunction or poor connection</li><li>• Air mix actuator malfunction</li><li>• Air mix link malfunction</li><li>• Air mix door malfunction</li><li>• Climate control unit malfunction</li><li>• Heater hose malfunction</li></ul> |

• When performing an asterisked (\*) troubleshooting inspection, shake the wiring harness and connectors while performing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, inspect to make sure connectors, terminals and wiring harnesses are connected correctly and undamaged.

## Diagnostic procedure

| Step | Inspection                                                                                                                                                                                                                                                                             | Action |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1    | <b>INSPECT COOLANT TEMPERATURE</b> <ul style="list-style-type: none"><li>• Is the coolant sufficiently warmed up?</li></ul>                                                                                                                                                            | Yes    |
|      |                                                                                                                                                                                                                                                                                        | No     |
| 2*   | <b>INSPECT FUSE</b> <ul style="list-style-type: none"><li>• Switch the ignition off.</li><li>• Disconnect the negative battery terminal. (See <b>NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.</b>)</li><li>• Remove the ROOM 15 A fuse.</li><li>• Is the fuse normal?</li></ul> | Yes    |
|      |                                                                                                                                                                                                                                                                                        | No     |

| Step | Inspection                                                                                                                                                                                                                                                                                                                                                                                                                     |     | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11   | <b>INSPECT AIR MIX ACTUATOR CONNECTOR CONNECTION CONDITION</b><br>• Inspect the air mix actuator connector engagement and connection condition. (See <b>AIR MIX ACTUATOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER]</b> .)<br>• Is the connector normal?                                                                                                                                                                 | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Reconnect the air mix actuator connector properly.<br>Go to Step 24.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 12   | <b>INSPECT AIR MIX ACTUATOR CONNECTOR TERMINAL CONDITION</b><br>• Disconnect the air mix actuator connector. (See <b>AIR MIX ACTUATOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER]</b> .)<br>• Inspect the connector and terminals (corrosion, damage, pin disconnection).<br>• Are the connector and terminals normal?                                                                                                    | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Repair/replace the connector or terminal.<br>Go to Step 24.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 13*  | <b>INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN WIRING HARNESS (AIR MIX POSITION SIGNAL) OR ELSEWHERE</b><br>• Inspect continuity between the following terminals (wiring harness-side):<br><br><b>Driver-side</b><br>— Climate control unit terminal 2K–air mix actuator terminal F<br><br><b>Passenger-side</b><br>— Climate control unit terminal 2I–air mix actuator terminal F<br>• Is there continuity? | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Refer to the wiring diagram and verify whether or not there is a common connector between climate control unit terminal and air mix actuator terminal.<br><b>If there is a common connector:</b><br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness.<br>• Repair or replace the malfunctioning part.<br><b>If there is no common connector:</b><br>• Repair or replace the wiring harness.<br>Go to Step 24.                                                                     |
| 14*  | <b>INSPECT TO SEE WHETHER MALFUNCTION (SHORT TO GROUND) IS IN WIRING HARNESS (AIR MIX POSITION SIGNAL) OR ELSEWHERE</b><br>• Inspect for continuity between the following terminals (wiring harness-side) and body ground:<br><br><b>Driver-side</b><br>— Climate control unit terminal 2K<br><br><b>Passenger-side</b><br>— Climate control unit terminal 2I<br>• Is there continuity?                                        | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between climate control unit terminal and each side air mix actuator terminal.<br><b>If there is a common connector:</b><br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness.<br>• Repair or replace the malfunctioning part.<br><b>If there is no common connector:</b><br>• Repair or replace the wiring harness.<br>Go to Step 24.                                                           |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 15*  | <b>INSPECT TO SEE WHETHER MALFUNCTION (OPEN CIRCUIT) IS IN POSITION SENSOR POWER SUPPLY OR ELSEWHERE</b><br>• Inspect for continuity between the following terminals (wiring harness-side) and junction point to other actuators / sensors (position sensor power supply).<br><br><b>Driver-side</b><br>— Air mix actuator terminal G<br><br><b>Passenger-side</b><br>— Air mix actuator terminal E<br>• Is there continuity?  | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Refer to the wiring diagram and verify whether or not there is a common connector between air mix actuator terminal and junction point to other actuators / sensor terminal.<br><b>If there is a common connector:</b><br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.<br>• Repair or replace the malfunctioning part.<br><b>If there is no common connector:</b><br>• Repair or replace the wiring harness which has an open circuit.<br>Go to Step 24. |

| Step | Inspection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20*  | <b>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO GROUND BETWEEN CLIMATE CONTROL UNIT AND AIR MIX ACTUATOR) OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>• Switch the ignition off.</li> <li>• Climate control unit and air mix actuator connectors disconnected.</li> <li>• Inspect for continuity between the following terminals (wiring harness-side) and body ground.</li> </ul> <p><b>Driver-side</b></p> <ul style="list-style-type: none"> <li>— Climate control unit terminal 1J (HOT motor drive signal)</li> <li>— Climate control unit terminal 1L (COLD motor drive signal)</li> </ul> <p><b>Passenger-side</b></p> <ul style="list-style-type: none"> <li>— Climate control unit terminal 2C (COLD motor drive signal)</li> <li>— Climate control unit terminal 2A (HOT motor drive signal)</li> </ul> <ul style="list-style-type: none"> <li>• Is there continuity?</li> </ul> | Yes | <p>Refer to the wiring diagram and verify whether or not there is a common connector between climate control unit terminal and air mix actuator terminal.</p> <p><b>If there is a common connector:</b></p> <ul style="list-style-type: none"> <li>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground.</li> <li>• Repair or replace the malfunctioning part.</li> </ul> <p><b>If there is no common connector:</b></p> <ul style="list-style-type: none"> <li>• Repair or replace the wiring harness which has a short to ground.</li> </ul> <p>Go to Step 24.</p> |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 21   | <b>INSPECT AIR MIX ACTUATOR</b> <ul style="list-style-type: none"> <li>• Inspect the air mix actuator. (See <b>AIR MIX ACTUATOR INSPECTION [FULL-AUTO AIR CONDITIONER].</b>)</li> <li>• Is air mix actuator normal?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Yes | <p>Replace the climate control unit. (See <b>CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].</b>)</p> <p>Go to Step 24.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | No  | <p>Replace the suspected side air mix actuator. (See <b>AIR MIX ACTUATOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].</b>)</p> <p>Then go to Step 24.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 22   | <b>INSPECT AIR MIX LINK</b> <ul style="list-style-type: none"> <li>• Inspect the air mix links for each-side. (See <b>AIR MIX ACTUATOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].</b>)</li> </ul> <ul style="list-style-type: none"> <li>— Is grease on link?</li> <li>— Are links securely and properly installed?</li> <li>— Are links free of obstructions and hindrances?</li> </ul> <ul style="list-style-type: none"> <li>• Are the above items normal?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                             | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | No  | <p>Apply grease to links.</p> <p>If any links are damaged. Replace malfunctioning part. (See <b>A/C UNIT DISASSEMBLY/ASSEMBLY.</b>)</p> <p>Then go to Step 24.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 23   | <b>INSPECT A/C UNIT AND AIR MIX DOOR</b> <ul style="list-style-type: none"> <li>• Inspect the A/C unit and each-side air mix door. (See <b>A/C UNIT DISASSEMBLY/ASSEMBLY.</b>)</li> </ul> <ul style="list-style-type: none"> <li>— Is door free of obstructions and damage?</li> <li>— Are doors securely and properly installed?</li> </ul> <ul style="list-style-type: none"> <li>• Are the above items normal?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Yes | <p>Inspect the heater hoses.</p> <ul style="list-style-type: none"> <li>• If the heater hoses are not free of damage and cracks, repair or replace the heater hoses.</li> <li>• If the heater hose connections are loose, install securely in correct position.</li> </ul> <p>Go to the next step.</p>                                                                                                                                                                                                                                                                                                                                                                                                   |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | No  | <p>Remove the obstruction, or install door in proper position.</p> <p>If any doors are cracked, replace them. (See <b>A/C UNIT DISASSEMBLY/ASSEMBLY.</b>)</p> <p>Then go to the next step.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 24   | <b>VERIFY THAT MALFUNCTION SYMPTOM DOES NOT RECUR AFTER REPAIR</b> <ul style="list-style-type: none"> <li>• Does the unit operate at every temperature setting?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Yes | <p>Troubleshooting completed.</p> <p>Explain repairs to customer.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | No  | <p>Recheck malfunction symptoms, then repeat from Step1 if the malfunction recurs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Step | Inspection                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7*   | <b>INSPECT TO SEE WHETHER MALFUNCTION (SHORT TO POWER SUPPLY) IS IN POSITION SENSOR GROUND OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>• Measure voltage at the following terminal (wiring harness-side). <ul style="list-style-type: none"> <li>— Climate control unit terminal 1Q</li> </ul> </li> <li>• Is voltage below 1.0 V?</li> </ul>                                                                                                                                | Yes | Refer to wiring diagram and inspect for open circuit following. <ul style="list-style-type: none"> <li>• Between climate control unit terminal 1C and junction point to actuators / sensors (position sensor power supply).</li> <li>• Between climate control unit terminal 1Q and junction point to actuators / sensors (position sensor ground).</li> </ul> Repair or replace the malfunctioning part or wiring harness.<br>Go to Step 23.                                                                                                                                                                                                                                                  |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Refer to the wiring diagram and verify whether or not there is a common connector between climate control unit terminal and each actuator / sensor terminal.<br><b>If there is a common connector:</b> <ul style="list-style-type: none"> <li>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness.</li> <li>• Repair or replace the malfunctioning part.</li> </ul> <b>If there is no common connector:</b> <ul style="list-style-type: none"> <li>• Repair or replace the wiring harness.</li> </ul> Go to Step 23.                                                            |
| 8*   | <b>INSPECT TO SEE WHETHER MALFUNCTION (SHORT TO POWER SUPPLY) IS IN WIRING HARNESS (AIR INTAKE POSITION SIGNAL) OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>• Is voltage B+, at Step 4?</li> </ul>                                                                                                                                                                                                                                                                           | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between climate control unit terminal and air intake actuator terminal.<br><b>If there is a common connector:</b> <ul style="list-style-type: none"> <li>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to power supply.</li> <li>• Repair or replace the malfunctioning part.</li> </ul> <b>If there is no common connector:</b> <ul style="list-style-type: none"> <li>• Repair or replace the wiring harness which has a short to power supply.</li> </ul> Go to Step 23. |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 9    | <b>INSPECT CLIMATE CONTROL UNIT CONNECTOR CONNECTION CONDITION</b> <ul style="list-style-type: none"> <li>• Switch the ignition off.</li> <li>• Disconnect the negative battery terminal. (See <b>NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION</b>.)</li> <li>• Inspect the climate control unit connector engagement and connection condition. (See <b>CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER]</b>.)</li> <li>• Is the connector normal?</li> </ul> | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Reconnect the climate control unit connector properly.<br>Go to Step 23.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 10   | <b>INSPECT CLIMATE CONTROL UNIT CONNECTOR TERMINAL CONDITION</b> <ul style="list-style-type: none"> <li>• Disconnect the climate control unit connector. (See <b>CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER]</b>.)</li> <li>• Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>• Are the connector and terminals normal?</li> </ul>                                                                                        | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Repair/replace the connector or terminal.<br>Go to Step 23.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |