

**NO.9 DUAL A/C CONTROL DOES NOT OPERATE [FULL-AUTO AIR CONDITIONER]**

id0703c1812300

<b>9</b>	<b>Dual A/C control function does not operate</b>
<b>DESCRIPTION</b>	<ul style="list-style-type: none"><li>• Driver or passenger side temperature control dial does not operate individually</li><li>• Temperature control operates normally except for dual A/C control function</li></ul>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"><li>• Driver-side air mix door malfunction (stuck)</li><li>• Passenger-side air mix door malfunction (stuck)</li><li>• Driver-side air mix actuator malfunction</li><li>• Passenger-side air mix actuator malfunction</li><li>• Driver-side air mix actuator position sensor malfunction</li><li>• Passenger-side air mix actuator position sensor malfunction</li><li>• Open, short circuit in wiring or poor connection between climate control unit and driver-side air mix actuator</li><li>• Open, short circuit in wiring or poor connection between climate control unit and passenger-side air mix actuator</li><li>• Open, short circuit in wiring or poor connection between climate control unit and driver-side air mix actuator position sensor</li><li>• Open, short circuit in wiring or poor connection between climate control unit and passenger-side air mix actuator position sensor</li><li>• Climate control unit malfunction</li></ul>

- When performing an asterisked (\*) troubleshooting inspection, shake the wiring harness and connectors while doing 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 harness are connected correctly and undamaged.

**Diagnostic procedure**

<b>STEP</b>	<b>INSPECTION</b>	<b>ACTION</b>
1	<b>CHECK SYMPTOM</b> <ul style="list-style-type: none"><li>• Turn on the A/C.</li><li>• Perform the dual A/C control function for driver and passenger side individually.</li><li>• Is it either of cannot the temperature control on driver side or passenger side?</li></ul>	Yes Go to the next step.
		No Go to Step 12.
2	<b>INSPECT TO SEE WHETHER MALFUNCTION IS IN AIR MIX DOOR OR ELSEWHERE</b> <ul style="list-style-type: none"><li>• Turn on the A/C.</li><li>• Change temperature control for suspect side seat at the dual mode.</li><li>• Does the suspect side air mix door move smoothly?</li></ul>	Yes Go to Step 8.
		No Go to the next step.
3	<b>INSPECT AIR MIX ACTUATOR</b> <ul style="list-style-type: none"><li>• Inspect the suspect side air mix actuator.</li><li>• Is the air mix actuator normal?</li></ul>	Yes Go to the next step.
		No Replace the suspect air mix actuator, then go to Step 15.

STEP	INSPECTION	ACTION	
4*	<b>INSPECT AIR MIX ACTUATOR (MOTOR) CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>Disconnect the climate control unit connector.</li> <li>Inspect for continuity between the following terminals (wiring harness-side) and body ground: <b>L.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 2E (driver-side motor)</li> <li>Climate control unit terminal 2G (driver-side motor)</li> <li>Climate control unit terminal 2F (passenger-side motor)</li> <li>Climate control unit terminal 2H (passenger-side motor)</li> </ul> <b>R.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 2F (driver-side motor)</li> <li>Climate control unit terminal 2H (driver-side motor)</li> <li>Climate control unit terminal 2E (passenger-side motor)</li> <li>Climate control unit terminal 2G (passenger-side motor)</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Repair or replace the wiring harness for a possible short to ground, then go to the Step 15.
		No	Go to the next step.
5*	<b>INSPECT AIR MIX ACTUATOR (MOTOR) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Air mix actuator and climate control unit connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side): <b>L.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 2E— driver-side air mix actuator terminal B</li> <li>Climate control unit terminal 2G — driver-side air mix actuator terminal C</li> <li>Climate control unit terminal 2F— passenger-side air mix actuator terminal C</li> <li>Climate control unit terminal 2H — passenger-side air mix actuator terminal B</li> </ul> <b>R.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 2F — driver-side air mix actuator terminal C</li> <li>Climate control unit terminal 2H — driver-side air mix actuator terminal B</li> <li>Climate control unit terminal 2E — passenger-side air mix actuator terminal B</li> <li>Climate control unit terminal 2G— passenger-side air mix actuator terminal C</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to Step 15.

STEP	INSPECTION	ACTION	
6*	<b>INSPECT AIR MIX ACTUATOR (MOTOR) CIRCUIT FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Air mix actuator and climate control unit connectors are disconnected.</li> <li>Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>Switch the ignition ON (engine off or on).</li> <li>Measure the voltage at the following terminals (wiring harness-side):               <b>L.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 2E (driver-side motor)</li> <li>Climate control unit terminal 2G (driver-side motor)</li> <li>Climate control unit terminal 2F (passenger-side motor)</li> <li>Climate control unit terminal 2H (passenger-side motor)</li> </ul> <b>R.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 2F (driver-side motor)</li> <li>Climate control unit terminal 2H (driver-side motor)</li> <li>Climate control unit terminal 2E (passenger-side motor)</li> <li>Climate control unit terminal 2G (passenger-side motor)</li> </ul> </li> <li>Is the voltage <b>0 V</b>?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible short to power supply, then go to Step 15.
7	<b>INSPECT AIR MIX DOOR</b> <ul style="list-style-type: none"> <li>Inspect the suspect side air mix door.               <ul style="list-style-type: none"> <li>Is the fan free of interfere with the suspect side A/C unit case?</li> <li>Is the fan free of foreign material and obstruction?</li> </ul> </li> <li>Is the air mix door normal?</li> </ul>	Yes	Replace the climate control unit, then go to Step 15. (See CLIMATE CONTROL UNIT REMOVAL/ INSTALLATION [FULL-AUTO AIR CONDITIONER].)
		No	Remove the obstruction or replace the suspect side A/C unit case, then go to Step 15.
8*	<b>INSPECT AIR MIX ACTUATOR POSITION SENSOR</b> <ul style="list-style-type: none"> <li>Inspect the suspect side air mix actuator position sensor.</li> <li>Is the air mix actuator position sensor normal?</li> </ul>	Yes	Go to the next step.
		No	Replace the suspect air mix actuator, then go to Step 15.

STEP	INSPECTION	ACTION	
9*	<b>INSPECT AIR MIX ACTUATOR (POSITION SENSOR) CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>• Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>• Disconnect the climate control unit connector.</li> <li>• Inspect for continuity between the following terminals (wiring harness-side) and body ground: <b>L.H.D.</b> <ul style="list-style-type: none"> <li>— Climate control unit terminal 1N (driver-side position sensor)</li> <li>— Climate control unit terminal 1P (passenger-side position sensor)</li> <li>— Climate control unit terminal 1H (position sensor power supply)</li> <li>— Climate control unit terminal 1X (position sensor ground)</li> </ul> <b>R.H.D.</b> <ul style="list-style-type: none"> <li>— Climate control unit terminal 1P (driver-side position sensor)</li> <li>— Climate control unit terminal 1N (passenger-side position sensor)</li> <li>— Climate control unit terminal 1H (position sensor power supply)</li> <li>— Climate control unit terminal 1X (position sensor ground)</li> </ul> </li> <li>• Is there continuity?</li> </ul>	Yes	Repair or replace the wiring harness for a possible short to ground, then go to the Step 15.
		No	Go to the next step.

STEP	INSPECTION	ACTION	
10*	<b>INSPECT AIR MIX ACTUATOR (POSITION SENSOR) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Air mix actuator and climate control unit connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side):               <b>L.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 1N — driver-side air mix actuator terminal F</li> <li>Climate control unit terminal 1P — passenger-side air mix actuator terminal F</li> <li>Climate control unit terminal 1H — driver-side air mix actuator terminal G</li> <li>Climate control unit terminal 1H — passenger-side air mix actuator terminal E</li> <li>Climate control unit terminal 1X — driver-side air mix actuator terminal E</li> <li>Climate control unit terminal 1X — passenger-side air mix actuator terminal G</li> </ul> <b>R.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 1P — driver-side air mix actuator terminal F</li> <li>Climate control unit terminal 1N — passenger-side air mix actuator terminal F</li> <li>Climate control unit terminal 1H — driver-side air mix actuator terminal E</li> <li>Climate control unit terminal 1H — passenger-side air mix actuator terminal G</li> <li>Climate control unit terminal 1X — driver-side air mix actuator terminal G</li> <li>Climate control unit terminal 1X — passenger-side air mix actuator terminal E</li> </ul> </li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to Step 15.

STEP	INSPECTION	ACTION	
11*	<b>INSPECT AIR MIX ACTUATOR (POSITION SENSOR) CIRCUIT FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Air mix actuator and climate control unit connectors are disconnected.</li> <li>Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>Switch the ignition ON (engine off or on).</li> <li>Measure the voltage at the following terminals (wiring harness-side):               <b>L.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 1N (driver-side position sensor)</li> <li>Climate control unit terminal 1P (passenger-side position sensor)</li> <li>Climate control unit terminal 1H (position sensor power supply)</li> <li>Climate control unit terminal 1X (position sensor ground)</li> </ul> <b>R.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 1P (driver-side position sensor)</li> <li>Climate control unit terminal 1N (passenger-side position sensor)</li> <li>Climate control unit terminal 1H (position sensor power supply)</li> <li>Climate control unit terminal 1X (position sensor ground)</li> </ul> </li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible short to power supply, then go to Step 15.
12*	<b>INSPECT AIR MIX ACTUATOR (POSITION SENSOR) CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>Disconnect the climate control unit connector.</li> <li>Inspect for continuity between the following terminals (wiring harness-side) and body ground:               <ul style="list-style-type: none"> <li>Climate control unit terminal 1H (position sensor power supply)</li> <li>Climate control unit terminal 1X (position sensor ground)</li> </ul> </li> </ul>	Yes	Repair or replace the wiring harness for a possible short to ground, then go to the Step 15.
		No	Go to the next step.

STEP	INSPECTION	ACTION	
13*	<b>INSPECT AIR MIX ACTUATOR (POSITION SENSOR) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Air mix actuator and climate control unit connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side):               <b>L.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 1H — driver-side air mix actuator terminal G</li> <li>Climate control unit terminal 1H — passenger-side air mix actuator terminal E</li> <li>Climate control unit terminal 1X — driver-side air mix actuator terminal E</li> <li>Climate control unit terminal 1X — passenger-side air mix actuator terminal G</li> </ul> <b>R.H.D.</b> <ul style="list-style-type: none"> <li>Climate control unit terminal 1H — driver-side air mix actuator terminal E</li> <li>Climate control unit terminal 1H — passenger-side air mix actuator terminal G</li> <li>Climate control unit terminal 1X — driver-side air mix actuator terminal G</li> <li>Climate control unit terminal 1X — passenger-side air mix actuator terminal E</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to Step 15.
14*	<b>INSPECT AIR MIX ACTUATOR (POSITION SENSOR) CIRCUIT FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Air mix actuator and climate control unit connectors are disconnected.</li> <li>Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>Switch the ignition ON (engine off or on).</li> <li>Measure the voltage at the following terminals (wiring harness-side):               <ul style="list-style-type: none"> <li>Climate control unit terminal 1H (position sensor power supply)</li> <li>Climate control unit terminal 1X (position sensor ground)</li> </ul> </li> <li>Is the voltage 0 V?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible short to power supply, then go to the next step.
15	<b>CONFIRM THAT MALFUNCTION SYMPTOMS DOES NOT RECUR AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Does the temperature adjust individually for driver seat and passenger seat?</li> </ul>	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.