

2012 - Mazda6 - HVAC

NO.5 WINDSHIELD FOGGED [MANUAL AIR CONDITIONER]

5	Windshield fogged.
DESCRIPTION	- A/C compressor does not operate while airflow mode is in DEFROSTER or HEAT/DEF modes. - Air intake mode does not change to FRESH while airflow mode is in DEFROSTER or HEAT/DEF modes.
POSSIBLE CAUSE	- Climate control unit (B+ signal) system malfunction - Air intake actuator malfunction - Climate control unit (RECIRCULATE, FRESH signal) system malfunction - Malfunction in blower unit air intake doors

- 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

STEP	INSPECTION	ACTION
1	COOL AIR BLOW OUT INSPECTION When both A/C and fan switch in the climate control unit are on, does cool air blow out from the front vent?	Yes Go to the next step.
		No Go to Step 1 of troubleshooting index No.8.
2	INSPECT CLIMATE CONTROL UNIT POWER SUPPLY FUSE FOR B+ SIGNAL Is the climate control unit power supply fuse for B+ signal normal?	Yes Go to the next step.
		No Inspect for a short to ground on blown fuse circuit. Repair or replace if necessary. Install appropriate amperage fuse.

3	INSPECT AIR INTAKE ACTUATOR - Inspect the air intake actuator. - Is there grease on the link? - Is link securely and properly positioned? - Is the link free of obstructions? - Are the above items okay?	Yes	Go to the next step.
		No	Apply grease or install the link properly and securely, remove obstruction, then go to Step 14.
*4	INSPECT WIRING HARNESS BETWEEN FUSE BLOCK AND CLIMATE CONTROL UNIT FOR CONTINUITY - Disconnect the climate control unit connector (24-pin). - Switch the ignition to ON. - Test voltage at climate control unit terminal 1Q (B+ signal). - Is voltage approx. 12 V?	Yes	Go to the next step.
		No	Repair the wiring harness between fuse block and climate control unit, then go to Step 14.
*5	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND GROUND FOR VOLTAGE - Test voltage at climate control unit terminal 1U (Ground). - Is the voltage approx. 0V?	Yes	Go to the next step.
		No	Repair the wiring harness between the climate control unit and ground, then go to Step 14.
6	VERIFY WHETHER MALFUNCTION IS IN BLOWER UNIT AIR INTAKE DOOR OR ELSEWHERE - Switch the ignition to off. - Connect the climate control unit connector (24-pin). - Remove the air intake actuator. - Switch the ignition to ON. - Set fan switch to 4th position.	Yes	Go to the next step.
		No	Go to Step 12.

	Does the air intake mode (RECIRCULATE, FRESH) change smoothly when the air intake link is operated by hand?		
7	INSPECT AIR INTAKE ACTUATOR - Inspect air intake actuator. (See AIR INTAKE ACTUATOR INSPECTION [MANUAL AIR CONDITIONER].) - Is it okay?	Yes	Go to the next step.
		No	Replace the air intake actuator, go to Step 14. (See AIR INTAKE ACTUATOR REMOVAL/ INSTALLATION [MANUAL AIR CONDITIONER] .)
8	INSPECT AIR INTAKE SELECTOR SWITCH AND DEFROSTER SWITCH IN CLIMATE CONTROL UNIT - Test voltage at climate control unit connector (24-pin) terminals 1E and 1C. - Is it okay?	Yes	Go to the next step.
		No	Replace the climate control unit, then go to Step 14. (See CLIMATE CONTROL UNIT REMOVAL/ INSTALLATION [MANUAL AIR CONDITIONER] .)
*9	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR CONTINUITY - Switch the ignition to off. - Is there continuity between following climate control unit connector (24-pin) terminal and air intake actuator connector terminals? - Terminal 1E — Terminal A (FRESH signal) - Terminal 1C — Terminal B (RECIRCULATE signal)	Yes	Go to the next step.
		No	Repair wiring harness between the climate control unit and air intake actuator, then go to Step 14.
*10	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR SHORT TO GROUND Is there continuity between the following climate control unit	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 14.
		No	Go to the next step.

	connector (24-pin) terminal and ground? - Terminal 1E (FRESH signal) - Terminal 1C (RECIRCULATE signal)		
*11	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR SHORT TO B+ - Switch the ignition to ON. - Test voltage at following climate control unit connector (24-pin) terminal. - Terminal 1E (FRESH signal) - Terminal 1C (RECIRCULATE signal) - Is the voltage approx. 12 V?	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 14.
		No	Replace the climate control unit, then go to Step 14. (See CLIMATE CONTROL UNIT REMOVAL/ INSTALLATION [MANUAL AIR CONDITIONER] .)
12	INSPECT BLOWER UNIT AIR INTAKE DOOR Is there any foreign material or obstruction in blower unit air intake door?	Yes	Remove obstruction, then go to Step 14.
		No	Go to the next step.
13	VERIFY THAT BLOWER UNIT AIR INTAKE DOOR IS POSITIONED SECURELY AND PROPERLY Is blower unit air intake door securely and properly positioned?	Yes	Inspect the air intake door for cracks or damage, then go to the next step.
		No	Install the air intake door securely in the proper position, then go to the next step.
14	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR Does the malfunction disappear?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

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		No	Apply grease or install the link properly and securely, remove obstruction, then go to Step 14.
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		No	Repair the wiring harness between fuse block and climate control unit, then go to Step 14.
*5	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND GROUND FOR VOLTAGE - Test voltage at climate control unit terminal 1U (Ground). - Is the voltage approx. 0V?	Yes	Go to the next step.
		No	Repair the wiring harness between the climate control unit and ground, then go to Step 14.
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	Does the air intake mode (RECIRCULATE, FRESH) change smoothly when the air intake link is operated by hand?		
7	INSPECT AIR INTAKE ACTUATOR - Inspect air intake actuator. (See AIR INTAKE ACTUATOR INSPECTION [MANUAL AIR CONDITIONER].) - Is it okay?	Yes	Go to the next step.
		No	Replace the air intake actuator, go to Step 14. (See AIR INTAKE ACTUATOR REMOVAL/ INSTALLATION [MANUAL AIR CONDITIONER] .)
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		No	Replace the climate control unit, then go to Step 14. (See CLIMATE CONTROL UNIT REMOVAL/ INSTALLATION [MANUAL AIR CONDITIONER] .)
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		No	Repair wiring harness between the climate control unit and air intake actuator, then go to Step 14.
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		No	Go to the next step.

	connector (24-pin) terminal and ground? - Terminal 1E (FRESH signal) - Terminal 1C (RECIRCULATE signal)		
*11	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR SHORT TO B+ - Switch the ignition to ON. - Test voltage at following climate control unit connector (24-pin) terminal. - Terminal 1E (FRESH signal) - Terminal 1C (RECIRCULATE signal) - Is the voltage approx. 12 V?	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 14.
		No	Replace the climate control unit, then go to Step 14. (See CLIMATE CONTROL UNIT REMOVAL/ INSTALLATION [MANUAL AIR CONDITIONER] .)
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