

2012 - Mazda6 - HVAC

NO.3 AIR INTAKE MODE DOES NOT CHANGE [MANUAL AIR CONDITIONER]

3	Air intake mode does not change.
DESCRIPTION	Air intake mode does not change when switching REC/FRESH mode.
POSSIBLE CAUSE	- Malfunction in air intake actuator - Malfunction in air intake door

- 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*	INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN AIR INTAKE ACTUATOR, WIRING HARNESS (BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE • Switch the ignition to ON. • Test voltages at the following terminals climate control unit. ▪ Terminal 1E (24-pin, FRESH motor drive signal) ▪ Terminal 1C (24-pin, RECIRCULATE motor drive signal) (See CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER] .) • Are voltages normal?	Yes Go to the next step.
		No Go to Step 3.

2*	INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN AIR INTAKE ACTUATOR OR WIRING HARNESS (BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) • Test voltage at the following terminals of air intake actuator. ▪ Terminal A (FRESH motor drive signal) ▪ Terminal B (RECIRCULATE motor drive signal) • Are voltages as shown below? ▪ Terminal A: approx. 0.5 V during RECIRCULATE and approx. 10 V during FRESH ▪ Terminal B: approx. 10 V during RECIRCULATE and approx. 0.5 V during FRESH	Yes	Replace air intake actuator, then go to Step 8.
		No	Repair wiring harness between the climate control unit and air intake actuator, then go to Step 8.
3	INSPECT TO SEE WHETHER MALFUNCTION IS IN AIR INTAKE ACTUATOR OR ELSEWHERE • Disconnect air intake actuator connector. • Test voltages at the following climate control unit terminals. ▪ Terminal 1E (FRESH motor drive signal) ▪ Terminal 1C (RECIRCULATE motor drive signal) (See CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER].) • Are voltages normal?	Yes	Inspect the air intake actuator, then go to Step 8.
		No	Go to the next step.
4	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO B+ BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE • Disconnect the climate control unit connector. • Test voltages at the following climate control unit terminals. ▪ Terminal 1E (FRESH motor drive signal)	Yes	Go to the next step.
		No	Repair wiring harness between the climate control unit and air intake actuator, then go to Step 8.

	▪ Terminal 1C (RECIRCULATE motor drive signal) • Are voltages approx. 0 V?		
5	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO GROUND BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE • Switch the ignition to off. • Inspect for continuity at the following terminals between the climate control unit and ground. ▪ Terminal 1E (FRESH motor drive signal) ▪ Terminal 1C (RECIRCULATE motor drive signal) • Is there continuity?	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 8.
		No	Go to the next step.
6	INSPECT AIR INTAKE LINK • Inspect the air intake links. ▪ Is there grease on link? ▪ Are the links securely and properly installed? ▪ Are the links free of obstructions and hindrances? • Are the above items okay?	Yes	Go to the next step.
		No	Apply grease to the links. If any the links are damaged, replace the air intake actuator, then go to Step 8.
7	INSPECT TO SEE WHETHER MALFUNCTION IS IN CLIMATE CONTROL UNIT OR AIR INTAKE DOOR • Inspect blower unit air intake door. ▪ Is door free of obstructions, cracks, and damage? ▪ Are the doors securely and properly installed? • Are the above items okay?	Yes	Replace the climate control unit, then go to the next step.
		No	Remove obstruction, or install the doors in the proper position. If any doors are cracked or damaged, replace them, then go to the next step.
8	CONFIRM THAT MALFUNCTION SYMPTOMS DO NOT RECUR AFTER REPAIR • Does the air intake mode change smoothly?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms,

		then repeat from Step 1 if the malfunction recurs.
--	--	--

[< Previous](#) [Next >](#)

[Back to Top](#)

© 2011 Mazda North American Operations, U.S.A.

2012 - Mazda6 - HVAC

NO.3 AIR INTAKE MODE DOES NOT CHANGE [MANUAL AIR CONDITIONER]

3	Air intake mode does not change.
DESCRIPTION	Air intake mode does not change when switching REC/FRESH mode.
POSSIBLE CAUSE	- Malfunction in air intake actuator - Malfunction in air intake door

- 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*	INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN AIR INTAKE ACTUATOR, WIRING HARNESS (BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE - Switch the ignition to ON. - Test voltages at the following terminals climate control unit. - Terminal 1E (24-pin, FRESH motor drive signal) - Terminal 1C (24-pin, RECIRCULATE motor drive signal) (See CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER].) - Are voltages normal?	Yes Go to the next step. No Go to Step 3.

2*	INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN AIR INTAKE ACTUATOR OR WIRING HARNESS (BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) - Test voltage at the following terminals of air intake actuator. - Terminal A (FRESH motor drive signal) - Terminal B (RECIRCULATE motor drive signal) - Are voltages as shown below? - Terminal A: approx. 0.5 V during RECIRCULATE and approx. 10 V during FRESH - Terminal B: approx. 10 V during RECIRCULATE and approx. 0.5 V during FRESH	Yes Replace air intake actuator, then go to Step 8. No Repair wiring harness between the climate control unit and air intake actuator, then go to Step 8.
3	INSPECT TO SEE WHETHER MALFUNCTION IS IN AIR INTAKE ACTUATOR OR ELSEWHERE - Disconnect air intake actuator connector. - Test voltages at the following climate control unit terminals. - Terminal 1E (FRESH motor drive signal) - Terminal 1C (RECIRCULATE motor drive signal) (See CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER].) - Are voltages normal?	Yes Inspect the air intake actuator, then go to Step 8. No Go to the next step.
4	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO B+ BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE - Disconnect the climate control unit connector. - Test voltages at the following climate control unit terminals. - Terminal 1E (FRESH motor drive signal)	Yes Go to the next step. No Repair wiring harness between the climate control unit and air intake actuator, then go to Step 8.

	▪ Terminal 1C (RECIRCULATE motor drive signal) • Are voltages approx. 0 V?		
5	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO GROUND BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE • Switch the ignition to off. • Inspect for continuity at the following terminals between the climate control unit and ground. ▪ Terminal 1E (FRESH motor drive signal) ▪ Terminal 1C (RECIRCULATE motor drive signal) • Is there continuity?	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 8.
		No	Go to the next step.
6	INSPECT AIR INTAKE LINK • Inspect the air intake links. ▪ Is there grease on link? ▪ Are the links securely and properly installed? ▪ Are the links free of obstructions and hindrances? • Are the above items okay?	Yes	Go to the next step.
		No	Apply grease to the links. If any the links are damaged, replace the air intake actuator, then go to Step 8.
7	INSPECT TO SEE WHETHER MALFUNCTION IS IN CLIMATE CONTROL UNIT OR AIR INTAKE DOOR • Inspect blower unit air intake door. ▪ Is door free of obstructions, cracks, and damage? ▪ Are the doors securely and properly installed? • Are the above items okay?	Yes	Replace the climate control unit, then go to the next step.
		No	Remove obstruction, or install the doors in the proper position. If any doors are cracked or damaged, replace them, then go to the next step.
8	CONFIRM THAT MALFUNCTION SYMPTOMS DO NOT RECUR AFTER REPAIR • Does the air intake mode change smoothly?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms,

		then repeat from Step 1 if the malfunction recurs.
--	--	--

[< Previous](#) [Next >](#)

[Back to Top](#)

© 2011 Mazda North American Operations, U.S.A.