

2012 - Mazda6 - HVAC

NO.10 DUAL A/ C CONTROL DOES NOT OPERATE [FULL-AUTO AIR CONDITIONER]

10	Dual A/ C control function does not operate
DESCRIPTION	• Driver or passenger side temperature control does not operate individually. • Temperature control operates normally except for dual A/C control function.
POSSIBLE CAUSE	• Driver side air mix door malfunction (stuck) • Passenger side air mix door malfunction (stuck) • Driver side air mix actuator malfunction • Passenger side air mix actuator malfunction • Driver side air mix actuator position sensor malfunction • Passenger side air mix actuator position sensor malfunction • Open, short circuit in wiring or poor connection between climate control unit and driver side air mix actuator • Open, short circuit in wiring or poor connection between climate control unit and passenger side air mix actuator • Open, short circuit in wiring or poor connection between climate control unit and driver side air mix actuator position sensor • Open, short circuit in wiring or poor connection between climate control unit and passenger side air mix actuator position sensor • Climate control unit malfunction

- 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	CHECK SYMPTOM	YesGo to the next step.

	• Turn on the A/C. • Perform the dual A/C control function for driver and passenger side individually. • Is it either of cannot the temperature control on driver's seat side or passenger's seat side?	No	Go to Step 8.
2	INSPECT TO SEE WHETHER MALFUNCTION IS IN AIR MIX DOOR OR ELSEWHERE • Turn on the A/C. • Change temperature control for suspect side seat at the dual mode. • Does the suspect side air mix door move smoothly?	Yes	Go to the next step.
		No	Go to Step 6.
3	INSPECT AIR MIX DOOR • Inspect the suspect side air mix door. ▪ Is the fan free of interfere with the suspect side A/C unit case? ▪ Is the fan free of foreign material and obstruction? • Is the air mix door normal?	Yes	Go to the next step.
		No	Remove the obstruction or replace the suspect side A/C unit case, then go to Step 9.
4	INSPECT AIR MIX ACTUATOR • Inspect the suspect side air mix actuator. • Is the air mix actuator normal?	Yes	Go to the next step.
		No	Replace the suspect air mix actuator, then go to Step 9.
5	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN AIR MIX ACTUATOR AND CLIMATE CONTROL UNIT) OR ELSEWHERE • Inspect for open, short or poor connection of terminals between the suspect air mix actuator and climate control unit. ▪ Terminal 1P (climate control unit) — terminal B (driver side air mix actuator) ▪ Terminal 1R (climate control unit) — terminal A (driver side air mix actuator) ▪ Terminal 1O (climate control unit) — terminal A (passenger side air mix actuator)	Yes	Repair or replace malfunction part, then go to Step 9.
		No	Replace the climate control unit, then go to Step 9.

	Terminal 1Q (climate control unit) — terminal B (passenger side air mix actuator) Is there any open, short or poor connection of terminals?		
6*	INSPECT AIR MIX ACTUATOR POSITION SENSOR - Inspect the suspect side air mix actuator position sensor. - Is the air mix actuator position sensor normal?	Yes	Go to the next step.
		No	Replace the suspect air mix actuator position sensor, then go to Step 9.
7	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN AIR MIX ACTUATOR POSITION SENSOR AND CLIMATE CONTROL UNIT) OR ELSEWHERE - Inspect for open, short or poor connection of terminals between the suspect air mix actuator position sensor and climate control unit. - Terminal 2C (climate control unit) — terminal E (driver side air mix actuator) - Terminal 2A (climate control unit) — terminal E (passenger side air mix actuator) - Terminal 2K (climate control unit) — terminal D (driver side air mix actuator) - Terminal 2K (climate control unit) — terminal F (passenger side air mix actuator) - Terminal 2L (climate control unit) — terminal F (driver side air mix actuator) - Terminal 2L (climate control unit) — terminal D (passenger side air mix actuator) - Is there any open, short or poor connection of terminals?	Yes	Repair or replace malfunction part, then go to Step 9.
		No	Replace the climate control unit, then go to Step 9.
8	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN CLIMATE CONTROL UNIT AND AIR MIX ACTUATOR POSITION SENSOR) OR ELSEWHERE - Inspect for open, short or poor connection of terminals between the climate control unit and air mix actuator position sensor. - Terminal 2K (climate control unit) —	Yes	Repair or replace malfunction part, then go to the next step.
		No	Replace the climate control unit, then go to the step.

	terminal D (driver side air mix actuator) ▪ Terminal 2K (climate control unit) — terminal F (passenger side air mix actuator) ▪ Terminal 2L (climate control unit) — terminal F (driver side air mix actuator) ▪ Terminal 2L (climate control unit) — terminal D (passenger side air mix actuator) • Is there any open, short or poor connection of terminals?		
9	CONFIRM THAT MALFUNCTION SYMPTOMS DOES NOT RECUR AFTER REPAIR • Does the temperature adjust individually for driver's seat and passenger's seat?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

2012 - Mazda6 - HVAC

NO.10 DUAL A/ C CONTROL DOES NOT OPERATE [FULL-AUTO AIR CONDITIONER]

10	Dual A/ C control function does not operate
DESCRIPTION	• Driver or passenger side temperature control does not operate individually. • Temperature control operates normally except for dual A/C control function.
POSSIBLE CAUSE	• Driver side air mix door malfunction (stuck) • Passenger side air mix door malfunction (stuck) • Driver side air mix actuator malfunction • Passenger side air mix actuator malfunction • Driver side air mix actuator position sensor malfunction • Passenger side air mix actuator position sensor malfunction • Open, short circuit in wiring or poor connection between climate control unit and driver side air mix actuator • Open, short circuit in wiring or poor connection between climate control unit and passenger side air mix actuator • Open, short circuit in wiring or poor connection between climate control unit and driver side air mix actuator position sensor • Open, short circuit in wiring or poor connection between climate control unit and passenger side air mix actuator position sensor • Climate control unit malfunction

- 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	CHECK SYMPTOM	YesGo to the next step.

	• Turn on the A/C. • Perform the dual A/C control function for driver and passenger side individually. • Is it either of cannot the temperature control on driver's seat side or passenger's seat side?	No	Go to Step 8.
2	INSPECT TO SEE WHETHER MALFUNCTION IS IN AIR MIX DOOR OR ELSEWHERE • Turn on the A/C. • Change temperature control for suspect side seat at the dual mode. • Does the suspect side air mix door move smoothly?	Yes	Go to the next step.
		No	Go to Step 6.
3	INSPECT AIR MIX DOOR • Inspect the suspect side air mix door. ▪ Is the fan free of interfere with the suspect side A/C unit case? ▪ Is the fan free of foreign material and obstruction? • Is the air mix door normal?	Yes	Go to the next step.
		No	Remove the obstruction or replace the suspect side A/C unit case, then go to Step 9.
4	INSPECT AIR MIX ACTUATOR • Inspect the suspect side air mix actuator. • Is the air mix actuator normal?	Yes	Go to the next step.
		No	Replace the suspect air mix actuator, then go to Step 9.
5	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN AIR MIX ACTUATOR AND CLIMATE CONTROL UNIT) OR ELSEWHERE • Inspect for open, short or poor connection of terminals between the suspect air mix actuator and climate control unit. ▪ Terminal 1P (climate control unit) — terminal B (driver side air mix actuator) ▪ Terminal 1R (climate control unit) — terminal A (driver side air mix actuator) ▪ Terminal 1O (climate control unit) — terminal A (passenger side air mix actuator)	Yes	Repair or replace malfunction part, then go to Step 9.
		No	Replace the climate control unit, then go to Step 9.

	Terminal 1Q (climate control unit) — terminal B (passenger side air mix actuator) Is there any open, short or poor connection of terminals?		
6*	INSPECT AIR MIX ACTUATOR POSITION SENSOR - Inspect the suspect side air mix actuator position sensor. - Is the air mix actuator position sensor normal?	Yes	Go to the next step.
		No	Replace the suspect air mix actuator position sensor, then go to Step 9.
7	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN AIR MIX ACTUATOR POSITION SENSOR AND CLIMATE CONTROL UNIT) OR ELSEWHERE - Inspect for open, short or poor connection of terminals between the suspect air mix actuator position sensor and climate control unit. - Terminal 2C (climate control unit) — terminal E (driver side air mix actuator) - Terminal 2A (climate control unit) — terminal E (passenger side air mix actuator) - Terminal 2K (climate control unit) — terminal D (driver side air mix actuator) - Terminal 2K (climate control unit) — terminal F (passenger side air mix actuator) - Terminal 2L (climate control unit) — terminal F (driver side air mix actuator) - Terminal 2L (climate control unit) — terminal D (passenger side air mix actuator) - Is there any open, short or poor connection of terminals?	Yes	Repair or replace malfunction part, then go to Step 9.
		No	Replace the climate control unit, then go to Step 9.
8	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN CLIMATE CONTROL UNIT AND AIR MIX ACTUATOR POSITION SENSOR) OR ELSEWHERE - Inspect for open, short or poor connection of terminals between the climate control unit and air mix actuator position sensor. - Terminal 2K (climate control unit) —	Yes	Repair or replace malfunction part, then go to the next step.
		No	Replace the climate control unit, then go to the step.

	terminal D (driver side air mix actuator) ▪ Terminal 2K (climate control unit) — terminal F (passenger side air mix actuator) ▪ Terminal 2L (climate control unit) — terminal F (driver side air mix actuator) ▪ Terminal 2L (climate control unit) — terminal D (passenger side air mix actuator) • Is there any open, short or poor connection of terminals?		
9	CONFIRM THAT MALFUNCTION SYMPTOMS DOES NOT RECUR AFTER REPAIR • Does the temperature adjust individually for driver's seat and passenger's seat?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.