

2012 - Mazda6 - Engine

DTC P0040:00, P0041:00 [MZI 3.7 V6]

DTC P0040:00	P0040:00: A/F sensor (LH/RH) signals swapped
DTC P0041:00	P0041:00: HO2S (LH/RH) signals swapped
DETECTION CONDITION	- P0040:00 indicates that during KOER testing, the A/F sensor monitor determines if the A/F sensor signal response for a fuel shift corresponds to the correct engine bank. The test fails when there is no response from the A/F sensor being tested. - P0041 indicates that during KOER testing, the HO2S monitor determines if the HO2S signal response for a fuel shift corresponds to the correct engine bank. The test fails when there is no response from the HO2S being tested.
POSSIBLE CAUSE	- P0040:00: Crossed A/F sensor harness connectors. - P0040:00: Crossed wiring at A/F sensor harness connectors. - P0041:00: Crossed HO2S harness connectors. - P0041:00: Crossed wiring at HO2S harness connectors. - Crossed wiring at PCM harness connector. - PCM malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED	Yes Go to the next step.
	Has FREEZE FRAME DATA been recorded?	No Record FREEZE FRAME DATA on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY Verify related Service Bulletins and/or on-line repair information availability.	Yes Perform repair or diagnosis according to the available Service Bulletins. If the vehicle is not repaired, go to the next

	Is any related Service Bulletins available?		step.
		No	Go to the next step.
3	INSPECT A/ F SENSOR/ HO2S WIRING HARNESS CONNECTORS - For P0040:00, visually inspect the vehicle A/F sensor wiring harness connector (s) for any indication of crossed wires (Also, stretched or incorrectly mounted wiring harnesses). - For P0041:00, visually inspect the vehicle HO2S wiring harness connector (s) for any indication of crossed wires (Also, stretched or incorrectly mounted wiring harnesses). - For P0040:00, P0041:00, visually inspect the vehicle PCM of A/F sensor/HO2S signals wiring harness connector (s) for any indication of crossed wires (Also, stretched or incorrectly mounted wiring harnesses). - Are there crossed connections or wires?	Yes	Repair if necessary.
		No	Unable to duplicate or identify the cause of concern at this time. Perform the "INTERMITTENT CONCERN TROUBLESHOOTING" procedure.
4	VERIFY TROUBLESHOOTING OF DTC P0040:00, P0041:00 HAVE BEEN COMPLETED - Verify that all disconnected connectors reconnected. - Switch the ignition to ON (Engine off). - Clear the DTC from the PCM memory using the M-MDS. - Start the engine and run it at idle. - Perform the KOER self-test. (See KOEO/ KOER SELF TEST [MZI 3.7 V6].) - Is the PENDING CODE for this DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].) Go to the next step.
		No	Go to the next step.
5	VERIFY AFTER REPAIR PROCEDURE Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZI 3.7 V6].)	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6].)
		No	Troubleshooting completed.

- | | | | |
|--|---|--|--|
| | <ul style="list-style-type: none">• Are any DTCs present? | | |
|--|---|--|--|

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

[Back to Top](#)

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

2012 - Mazda6 - Engine

DTC P0040:00, P0041:00 [MZI 3.7 V6]

DTC P0040:00	P0040:00: A/F sensor (LH/RH) signals swapped
DTC P0041:00	P0041:00: HO2S (LH/RH) signals swapped
DETECTION CONDITION	- P0040:00 indicates that during KOER testing, the A/F sensor monitor determines if the A/F sensor signal response for a fuel shift corresponds to the correct engine bank. The test fails when there is no response from the A/F sensor being tested. - P0041 indicates that during KOER testing, the HO2S monitor determines if the HO2S signal response for a fuel shift corresponds to the correct engine bank. The test fails when there is no response from the HO2S being tested.
POSSIBLE CAUSE	- P0040:00: Crossed A/F sensor harness connectors. - P0040:00: Crossed wiring at A/F sensor harness connectors. - P0041:00: Crossed HO2S harness connectors. - P0041:00: Crossed wiring at HO2S harness connectors. - Crossed wiring at PCM harness connector. - PCM malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED	Yes Go to the next step.
	Has FREEZE FRAME DATA been recorded?	No Record FREEZE FRAME DATA on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY Verify related Service Bulletins and/or on-line repair information availability.	Yes Perform repair or diagnosis according to the available Service Bulletins. If the vehicle is not repaired, go to the next

	Is any related Service Bulletins available?		step.
		No	Go to the next step.
3	INSPECT A/ F SENSOR/ HO2S WIRING HARNESS CONNECTORS - For P0040:00, visually inspect the vehicle A/F sensor wiring harness connector (s) for any indication of crossed wires (Also, stretched or incorrectly mounted wiring harnesses). - For P0041:00, visually inspect the vehicle HO2S wiring harness connector (s) for any indication of crossed wires (Also, stretched or incorrectly mounted wiring harnesses). - For P0040:00, P0041:00, visually inspect the vehicle PCM of A/F sensor/HO2S signals wiring harness connector (s) for any indication of crossed wires (Also, stretched or incorrectly mounted wiring harnesses). - Are there crossed connections or wires?	Yes	Repair if necessary.
		No	Unable to duplicate or identify the cause of concern at this time. Perform the "INTERMITTENT CONCERN TROUBLESHOOTING" procedure.
4	VERIFY TROUBLESHOOTING OF DTC P0040:00, P0041:00 HAVE BEEN COMPLETED - Verify that all disconnected connectors reconnected. - Switch the ignition to ON (Engine off). - Clear the DTC from the PCM memory using the M-MDS. - Start the engine and run it at idle. - Perform the KOER self-test. (See KOEO/ KOER SELF TEST [MZI 3.7 V6].) - Is the PENDING CODE for this DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].) Go to the next step.
		No	Go to the next step.
5	VERIFY AFTER REPAIR PROCEDURE Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZI 3.7 V6].)	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6].)
		No	Troubleshooting completed.

- | | | | |
|--|---|--|--|
| | <ul style="list-style-type: none">• Are any DTCs present? | | |
|--|---|--|--|

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

[Back to Top](#)

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