

2012 - Mazda6 - Engine

DTC P064D:00 [MZR 2.5]

DTC P064D:00	Internal control module A/F sensor processor performance problem
DETECTION CONDITION	- The A/F sensor IC integrated in PCM converts to voltage value for fuel control and for diagnosis based on the A/F sensor signal current and sends to CPU (integrated in PCM). The CPU switches the voltage value for the fuel control and for the diagnosis in the fuel control once during one drive cycle, and compares the voltage values. If the difference of compared value is below threshold, the PCM determines that the signal circuit between CPU and A/F sensor control IC has malfunction. MONITORING CONDITIONS - EGR System, A/F sensor heater, HO2S heater, A/F sensor, HO2S and TWC Repair Verification Drive Mode - Following conditions are met: - Engine is running or ignition switch is ON - A/F sensor signal voltage is 1.2V—battery voltage—1.2 V (PCM terminals 2Z, 2AC, 2AD) Diagnostic support note - This is a continuous monitor (A/F sensor, HO2S). - The MIL illuminates if the PCM detects the above malfunction condition in the first drive cycle. - FREEZE FRAME DATA (Mode 2)/Snapshot data is available. - The DTC is stored in PCM memory.
POSSIBLE CAUSE	PCM internal malfunction (between CPU and A/F sensor control IC communication line)

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA AND DIAGNOSTIC MONITORING TEST RESULTS HAVE BEEN	YesGo to the next step.

	RECORDED Have the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS (A/F sensor, HO2S related) been recorded?	No	Record the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS 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. - Is any related repair information available?	Yes	Perform repair or diagnosis according to the available repair information. If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	VERIFY DTC TROUBLESHOOTING COMPLETED - Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [MZR 2.5].) - Perform the Drive Mode 03 (EGR System, A/F sensor heater, HO2S heater, A/F sensor, HO2S and TWC Repair Verification Drive Mode). (See OBD-II DRIVE MODE [MZR 2.5].) - Is the same DTC present?	Yes	Replace the PCM, then go to the next step. (See PCM REMOVAL/ INSTALLATION [MZR 2.5] .)
		No	Go to the next step.
4	VERIFY AFTER REPAIR PROCEDURE - Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZR 2.5].) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .)
		No	DTC troubleshooting completed.

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DTC P064D:00	Internal control module A/F sensor processor performance problem
DETECTION CONDITION	- The A/F sensor IC integrated in PCM converts to voltage value for fuel control and for diagnosis based on the A/F sensor signal current and sends to CPU (integrated in PCM). The CPU switches the voltage value for the fuel control and for the diagnosis in the fuel control once during one drive cycle, and compares the voltage values. If the difference of compared value is below threshold, the PCM determines that the signal circuit between CPU and A/F sensor control IC has malfunction. MONITORING CONDITIONS - EGR System, A/F sensor heater, HO2S heater, A/F sensor, HO2S and TWC Repair Verification Drive Mode - Following conditions are met: - Engine is running or ignition switch is ON - A/F sensor signal voltage is 1.2V—battery voltage—1.2 V (PCM terminals 2Z, 2AC, 2AD) Diagnostic support note - This is a continuous monitor (A/F sensor, HO2S). - The MIL illuminates if the PCM detects the above malfunction condition in the first drive cycle. - FREEZE FRAME DATA (Mode 2)/Snapshot data is available. - The DTC is stored in PCM memory.
POSSIBLE CAUSE	PCM internal malfunction (between CPU and A/F sensor control IC communication line)

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA AND DIAGNOSTIC MONITORING TEST RESULTS HAVE BEEN	YesGo to the next step.

	RECORDED Have the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS (A/F sensor, HO2S related) been recorded?	No	Record the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS 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. - Is any related repair information available?	Yes	Perform repair or diagnosis according to the available repair information. If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	VERIFY DTC TROUBLESHOOTING COMPLETED - Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [MZR 2.5].) - Perform the Drive Mode 03 (EGR System, A/F sensor heater, HO2S heater, A/F sensor, HO2S and TWC Repair Verification Drive Mode). (See OBD-II DRIVE MODE [MZR 2.5].) - Is the same DTC present?	Yes	Replace the PCM, then go to the next step. (See PCM REMOVAL/ INSTALLATION [MZR 2.5] .)
		No	Go to the next step.
4	VERIFY AFTER REPAIR PROCEDURE - Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZR 2.5].) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .)
		No	DTC troubleshooting completed.