

2012 - Mazda6 - Engine

DTC P0130:00 [MZR 2.5]

DTC P0130:00	A/F sensor circuit problem
DETECTION CONDITION	- The PCM monitors the voltage between PCM terminal 2AD and 2AC while the A/F sensor active. If the voltage deviate from specified range, the PCM determines that there is a A/F sensor circuit problem. Diagnostic support note - This is an intermittent monitor (A/F sensor, HO2S). - The MIL illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM. - PENDING CODE is available if the PCM detects the above malfunction condition during the first drive cycle. - FREEZE FRAME DATA (Mode 2)/Snapshot data is available. - The DTC is stored in the PCM memory.
POSSIBLE CAUSE	- A/F sensor connector or terminals malfunction - PCM connector or terminals malfunction - A/F sensor malfunction - PCM malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA AND DIAGNOSTIC MONITORING TEST RESULTS HAVE BEEN RECORDED Have the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS (A/F sensor, HO2S related) been recorded?	Yes Go to the next step. 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	INSPECT A/ F SENSOR CONNECTOR CONDITION • Switch the ignition to off. • Disconnect the A/F sensor connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes Repair or replace the terminal and/or connector, then go to Step 6.
		No Go to the next step.
4	INSPECT PCM CONNECTOR CONDITION • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes Repair or replace the terminal and/or connector, then go to Step 6.
		No Go to the next step.
5	INSPECT A/ F SENSOR • Reconnect all disconnected connectors. • Inspect the A/F sensor. (See AIR FUEL RATIO (A/ F) SENSOR INSPECTION [MZR 2.5].) • Is there any malfunction?	Yes Replace the A/F sensor, then go to the next step. (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZR 2.5] .)
		No Go to the next step.
6	VERIFY DTC TROUBLESHOOTING COMPLETED • Make sure to reconnect all disconnected connectors. • 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).	Yes Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to the next step.
		No Go to the next step.

	(See OBD-II DRIVE MODE [MZR 2.5].) • Is the PENDING CODE for this DTC present?		
7	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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POSSIBLE CAUSE	- A/F sensor connector or terminals malfunction - PCM connector or terminals malfunction - A/F sensor malfunction - PCM malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA AND DIAGNOSTIC MONITORING TEST RESULTS HAVE BEEN RECORDED Have the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS (A/F sensor, HO2S related) been recorded?	YesGo to the next step.
		NoRecord 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	INSPECT A/ F SENSOR CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the A/F sensor connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	Yes	Repair or replace the terminal and/or connector, then go to Step 6.
		No	Go to the next step.
4	INSPECT PCM CONNECTOR CONDITION - Disconnect the PCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	Yes	Repair or replace the terminal and/or connector, then go to Step 6.
		No	Go to the next step.
5	INSPECT A/ F SENSOR - Reconnect all disconnected connectors. - Inspect the A/F sensor. (See AIR FUEL RATIO (A/ F) SENSOR INSPECTION [MZR 2.5].) - Is there any malfunction?	Yes	Replace the A/F sensor, then go to the next step. (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZR 2.5] .)
		No	Go to the next step.
6	VERIFY DTC TROUBLESHOOTING COMPLETED - Make sure to reconnect all disconnected connectors. - 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).	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to the next step.
		No	Go to the next step.

	(See OBD-II DRIVE MODE [MZR 2.5].) • Is the PENDING CODE for this DTC present?		
7	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.