

2012 - Mazda6 - Engine

DTC P0125:00 [MZR 2.5]

DTC P0125:00	Insufficient coolant temperature for closed loop fuel control
DETECTION CONDITION	- The PCM monitors the ECT sensor signal after engine is started while the engine is cold. If the engine coolant temperature does not reach the expected temperature for a specified period, the PCM determines that it has taken an excessive amount of time for the engine coolant temperature to reach the temperature necessary to start closed-loop fuel control. Diagnostic support note - This is a continuous monitor (engine cooling system). - 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 first drive cycle. - FREEZE FRAME DATA (Mode 2)/Snapshot data is available. - The DTC is stored in the PCM memory.
POSSIBLE CAUSE	- ECT sensor connector or terminal malfunction - ECT sensor malfunction - PCM connector or terminal 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	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.

	RESULTS (engine cooling system related) been recorded?		
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 CURRENT INPUT SIGNAL STATUS IS CONCERN INTERMITTENT OR CONSTANT - Access the ECT PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Is the ECT PID above 60 °C { 140 °F } ?	Yes	Intermittent concern exists. Go to the "INTERMITTENT CONCERN TROUBLESHOOTING" procedure. (See INTERMITTENT CONCERN TROUBLESHOOTING [MZR 2.5].)
		No	Go to the next step.
4	INSPECT ECT SENSOR CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the ECT 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 7.
		No	Go to the next step.
5	INSPECT ECT SENSOR - Inspect the ECT sensor. (See ENGINE COOLANT TEMPERATURE (ECT) SENSOR INSPECTION [MZR 2.5].) - Is there any malfunction?	Yes	Replace the ECT sensor, then go to Step 7. (See ENGINE COOLANT TEMPERATURE (ECT) SENSOR REMOVAL/ INSTALLATION [MZR 2.5] .)
		No	Go to the next step.
6	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 the next step.
		No	Go to the next step.

7	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].) • Access the ECT PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • Wait until the ECT PID below 20 °C { 68 °F } . • Start the engine and warm it up completely. • Perform the Pending Trouble Code Access Procedure. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • 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 [MZR 2.5].) Go to the next step. No Go to the next step.
8	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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		No	Go to the next step.
6	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 the next step.
		No	Go to the next step.

7	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].) • Access the ECT PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • Wait until the ECT PID below 20 °C { 68 °F } . • Start the engine and warm it up completely. • Perform the Pending Trouble Code Access Procedure. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • 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 [MZR 2.5].) Go to the next step. No Go to the next step.
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