

2012 - Mazda6 - Engine

DTC P0451:00 [MZR 2.5]

DTC P0451:00	Fuel tank pressure sensor range/performance problem
DETECTION CONDITION	NOTE: - DTC P0451:00 is set for a fuel tank pressure sensor range (offset) concern. - The fuel tank pressure sensor output is offset by +/- 424 Pa {43.2 kgf/ m², 0.0615 psi} or more. Diagnostic support note - This is an intermittent monitor (CCM). - 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	- Fuel tank pressure sensor connector or terminal malfunction - PCM connector or terminal malfunction - Fuel tank pressure sensor malfunction - PCM malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED	Yes Go to the next step.
	Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?	No Record the FREEZE FRAME DATA (Mode 2)/snapshot 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. • 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 RELATED PENDING AND STORED DTC • Switch the ignition to off, then to ON (engine off). • Verify pending and stored DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • Are any other DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5].)
		No	Go to the next step.
4	INSPECT FUEL TANK PRESSURE SENSOR CONNECTOR CONDITION • Switch the ignition to off. • Disconnect the fuel tank pressure 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 8.
		No	Go to the next step.
5	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 8.
		No	Go to the next step.
6	INSPECT FUEL TANK PRESSURE SENSOR • Inspect the fuel tank pressure sensor. (See FUEL TANK PRESSURE SENSOR INSPECTION [MZR 2.5].) • Is there malfunction?	Yes	Replace the evaporative hose component, then go to Step 8. (See FUEL TANK REMOVAL/ INSTALLATION [MZR 2.5].)
		No	Go to the next step.
7	INSPECT PCM CONDITION	Yes	Repair or replace the malfunctioning parts

	- Visually inspect the PCM for the following: - Pushed out pins - Corrosion - Is there any malfunction?		according to the inspection results, then go to the next step.
		No	Go to the next step.
8	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].) - 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.
9	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.
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		No	Go to the next step.
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