2012 - Mazda6 - Engine

DTC P0451:00 [MZI 3.7 V6]

DTC P0451:00	Fuel tank pressure sensor range/performance
DETECTION CONDITION	**NOTE:** • For some vehicle applications, DTC P0451:00 is set for a fuel tank pressure sensor range (offset) concern. The DTC P0454 replaces the original P0451:00 for intermittent (noisy) sensor concerns. Until the phase in process is complete, noisy or offset fuel tank pressure sensor concerns may set DTC P0451:00. • The fuel tank pressure changes more than 14 inches of water in 0.10 s. Fuel tank pressure sensor output is offset by + /- 1.7 inches of water.
POSSIBLE CAUSE	• Intermittent open or short in the fuel tank pressure sensor or the fuel tank pressure sensor signal • Connector or terminal malfunction • Fuel tank pressure sensor malfunction • PCM malfunction

Diagnostic procedure

STEP	INSPECTION		ACTION
1	**VERIFY FREEZE FRAME DATA HAS BEEN RECORDED** • Has the FREEZE FRAME DATA been recorded?	Yes	Go to the next step.
		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. • Is any related repair information available?	Yes	Perform the 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 CODE OR STORED DTCs** • Switch the ignition off then to the ON position (Engine off). • Verify related pending code or stored DTCs. • Is other DTCs present?	Yes	Go to the appropriate DTC troubleshooting. (See **DTC TABLE [MZI 3.7 V6]**.)
		No	Go to the next step.
4	**CLEAR AND ATTEMPT TO RETRIEVE THE DTC** • Clear the DTC from the PCM memory using the M-MDS. • Switch the ignition ON (Engine running). • Run the engine for **approx. 10 s**. • Check for continuous memory DTCs. • Is the same DTC present?	Yes	Go to the next step.
		No	DTC troubleshooting completed.
5	**INSPECT FUEL TANK PRESSURE AND PCM CONNECTOR FOR POOR CONNECTION** • Switch the ignition off. • Disconnect the fuel tank pressure sensor connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 8.
		No	Go to the next step.
6	**INSPECT THE FUEL TANK PRESSURE** • Inspect the fuel tank pressure sensor. (See **FUEL TANK PRESSURE SENSOR INSPECTION [MZI 3.7 V6]**.) • Is there malfunction?	Yes	Replace evaporative hose component, then go to Step 8. (See **FUEL TANK REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
		No	Go to the next step.
7	**INSPECT FOR CORRECT PCM OPERATION** • Disconnect all the PCM connectors. • Visually inspect for: ▪ Pushed out pins ▪ Corrosion	Yes	Go to the next step.
		No	The system is correctly. Go to the next step.

	• Connect all the PCM connectors and verify that they seat correctly. • Retrieve DTCs using the M-MDS. • Is the PENDING CODE for this DTC present?		
8	**VERIFY TROUBLESHOOTING OF DTC P0451:00 COMPLETED** • Verify that all disconnected connectors are reconnected. • Clear the DTC from the PCM memory using the M-MDS. • Perform the KOEO or KOER self-test. (See **KOEO/ KOER SELF TEST [MZI 3.7 V6]**.) • Start the engine and wait for **approx. 10s**. • Is the PENDING CODE for the 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.
9	**VERIFY AFTER REPAIR PROCEDURE** • Perform the "AFTER REPAIR PROCEDURE". (See**AFTER REPAIR PROCEDURE [MZI 3.7 V6]**) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [MZI 3.7 V6]**.)
		No	DTC troubleshooting completed.

< Previous Next >

Back to Top

2012 - Mazda6 - Engine

DTC P0451:00 [MZI 3.7 V6]

DTC P0451:00	Fuel tank pressure sensor range/performance
DETECTION CONDITION	**NOTE:** • For some vehicle applications, DTC P0451:00 is set for a fuel tank pressure sensor range (offset) concern. The DTC P0454 replaces the original P0451:00 for intermittent (noisy) sensor concerns. Until the phase in process is complete, noisy or offset fuel tank pressure sensor concerns may set DTC P0451:00. • The fuel tank pressure changes more than 14 inches of water in 0.10 s. Fuel tank pressure sensor output is offset by + /- 1.7 inches of water.
POSSIBLE CAUSE	• Intermittent open or short in the fuel tank pressure sensor or the fuel tank pressure sensor signal • Connector or terminal malfunction • Fuel tank pressure sensor malfunction • PCM malfunction

Diagnostic procedure

STEP	INSPECTION		ACTION
1	**VERIFY FREEZE FRAME DATA HAS BEEN RECORDED** • Has the FREEZE FRAME DATA been recorded?	Yes	Go to the next step.
		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. • Is any related repair information available?	Yes	Perform the 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 CODE OR STORED DTCs** • Switch the ignition off then to the ON position (Engine off). • Verify related pending code or stored DTCs. • Is other DTCs present?	Yes	Go to the appropriate DTC troubleshooting. (See **DTC TABLE [MZI 3.7 V6]**.)
		No	Go to the next step.
4	**CLEAR AND ATTEMPT TO RETRIEVE THE DTC** • Clear the DTC from the PCM memory using the M-MDS. • Switch the ignition ON (Engine running). • Run the engine for **approx. 10 s**. • Check for continuous memory DTCs. • Is the same DTC present?	Yes	Go to the next step.
		No	DTC troubleshooting completed.
5	**INSPECT FUEL TANK PRESSURE AND PCM CONNECTOR FOR POOR CONNECTION** • Switch the ignition off. • Disconnect the fuel tank pressure sensor connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 8.
		No	Go to the next step.
6	**INSPECT THE FUEL TANK PRESSURE** • Inspect the fuel tank pressure sensor. (See **FUEL TANK PRESSURE SENSOR INSPECTION [MZI 3.7 V6]**.) • Is there malfunction?	Yes	Replace evaporative hose component, then go to Step 8. (See **FUEL TANK REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
		No	Go to the next step.
7	**INSPECT FOR CORRECT PCM OPERATION** • Disconnect all the PCM connectors. • Visually inspect for: ▪ Pushed out pins ▪ Corrosion	Yes	Go to the next step.
		No	The system is correctly. Go to the next step.

	• Connect all the PCM connectors and verify that they seat correctly. • Retrieve DTCs using the M-MDS. • Is the PENDING CODE for this DTC present?		
8	**VERIFY TROUBLESHOOTING OF DTC P0451:00 COMPLETED** • Verify that all disconnected connectors are reconnected. • Clear the DTC from the PCM memory using the M-MDS. • Perform the KOEO or KOER self-test. (See **KOEO/ KOER SELF TEST [MZI 3.7 V6]**.) • Start the engine and wait for **approx. 10s**. • Is the PENDING CODE for the 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.
9	**VERIFY AFTER REPAIR PROCEDURE** • Perform the "AFTER REPAIR PROCEDURE". (See**AFTER REPAIR PROCEDURE [MZI 3.7 V6]**) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [MZI 3.7 V6]**.)
		No	DTC troubleshooting completed.

< Previous Next >

Back to Top