

2012 - Mazda6 - Engine

DTC P050B:00 [MZI 3.7 V6]

DTC P050B:00	Cold start ignition timing performance
DETECTION CONDITION	The monitor compares commanded spark timing to the spark timing desired by the powertrain control module (PCM). When the difference between desired and commanded spark timing exceeds the calibrated threshold, the DTC sets.
POSSIBLE CAUSE	- Intake air restriction - Exhaust restriction - Mechanical concern with engine - Damaged or sludged electronic throttle body (ETB) - Vacuum leakage - PCM malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has 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 Service Bulletins available?	Yes Perform repair or diagnosis according to the available Service Bulletins. 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 to off, then to ON	Yes Go to the appropriate DTC troubleshooting.

	(engine off). • Verify related pending code or stored DTCs. • Are other DTCs present?		(See DTC TABLE [MZI 3.7 V6] .)
		No	Go to the next step.
4	INSPECT AIR CLEANER ELEMENT • Remove air cleaner element with the engine running. • Is the engine speed increased?	Yes	Replace the air cleaner element, then go to Step 10.
		No	Go to the next step.
5	PERFORM VISUAL INSPECTION ON INTAKE AIR SYSTEM AND ALL VACUUM HOSES • Switch the ignition to off. • Check the intake air system for leaks, obstructions, and damage. • Inspect the entire length of all the vacuum hoses for: ▪ In correct connections ▪ Damage or cracks ▪ Damaged or cracked vacuum hose joint ▪ Improperly seated engine oil dipstick, tube or oil fill cap • Is a concern present?	Yes	Repair if necessary. Then go to Step 10.
		No	Go to the next step.
6	INSPECT CKP SENSOR • Inspect the CKP sensor. (See CRANKSHAFT POSITION (CKP) SENSOR INSPECTION [MZI 3.7 V6] .) • Is there any malfunction?	Yes	Replace the CKP sensor, then go to Step 10. (See CRANKSHAFT POSITION (CKP) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
		No	Go to the next step.
7	INSPECT CMP SENSOR • Inspect the CMP sensor. (See CAMSHAFT POSITION (CMP) SENSOR INSPECTION [MZI 3.7 V6] .) • Is there any malfunction?	Yes	Replace the CMP sensor, then go to Step 10. (See CAMSHAFT POSITION (CMP) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
		No	Go to the next step.
8	INSPECT ENGINE COMPRESSION • Inspect the engine compression.	Yes	Go to the next step.

	(See COMPRESSION INSPECTION [MZI 3.7 V6].) Is the engine compression normal?	No	Overhaul the engine, then go to Step 10.
9	INSPECT FOR RESTRICTION IN EXHAUST SYSTEM AND TWC Is there any restriction?	Yes	Replace malfunctioning part, then go to the next step.
		No	Go to the next step.
10	VERIFY TROUBLESHOOTING OF DTC P050B:00 HAS BEEN COMPLETED - Verify that all disconnected connectors are reconnected. - Switch the ignition ON (Engine off). - Clear the DTC from the PCM memory using the M-MDS. CAUTION: - While performing this step, always operate the vehicle in a safe and lawful manner. - When the M-MDS is used to observe monitor system status while driving, be sure to have another technician with you, or record the data in the M-MDS using the PID/DATA MONITOR AND RECORD capturing function and inspect later. - Drive the vehicle under the FREEZE FRAME DATA condition. - Retrieve the DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) - 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 [MZI 3.7 V6].) Go to the next step.
		No	Go to the next step.
11	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	Troubleshooting completed.

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