

2012 - Mazda6 - Engine

DTC P0505:00 [MZI 3.7 V6]

DTC P0505:00	Idle speed control system problem
DETECTION CONDITION	The PCM attempts to control engine speed during the KOER self-test. The test fails when the desired engine speed could not be reached or controlled during the self-test.
POSSIBLE CAUSE	- Intake air restriction - Vacuum leakage - Throttle body malfunction - Slugged throttle body - Mechanical concern with engine - Exhaust restriction - Failure mode effects management condition is present - PCM malfunction NOTE: - This DTC is informational only and it may be accompanied by other DTCs. Diagnose other DTCs first. If other DTCs are not present inspect the intake air system for air restrictions, vacuum leaks, and damage. If no concerns are present, clear the DTC and repeat the KOER self-test.

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED	Yes Go to the next step.
	Has FREEZE FRAME DATA been recorded?	No Record FREEZE FRAME DATA on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY	Yes Perform repair or diagnosis according to the available Service Bulletins.

	• Verify related Service Bulletins and/or on-line repair information availability. • Is any related Service Bulletins available?		• 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. • Are other DTCs present?	Yes	Go to the appropriate DTC troubleshooting. (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 9.
		No	Go to the next step.
5	INSPECT FOR AIR SUCTION AT INTAKE AIR SYSTEM • Inspect for air leakage at the following: ▪ Around connection of dynamic chamber and intake manifold ▪ Around connection of intake manifold and cylinder head • Is air leakage found?	Yes	Repair or replace the suspected part, then go to Step 9.
		No	Go to the next step.
6	INSPECT THROTTLE BODY PASSAGE • Is the throttle body clogged?	Yes	Clean or replace the throttle body passage, then go to Step 9.
		No	Go to the next step.
7	INSPECT ENGINE COMPRESSION • Inspect the engine compression. (See COMPRESSION INSPECTION [MZI 3.7 V6].) • Is the engine compression normal?	Yes	Go to the next step.
		No	Overhaul the engine, then go to the next step.
8	INSPECT FOR RESTRICTION IN	Yes	Replace malfunctioning part, then go to

	EXHAUST SYSTEM AND TWC Is there any restriction?		the next step.
		No	Go to the next step.
9	VERIFY TROUBLESHOOTING OF DTC P0505:00 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. - Perform the KOER self-test. (See KOEO/ KOER SELF 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.
10	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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	• Verify related Service Bulletins and/or on-line repair information availability. • Is any related Service Bulletins available?		• If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
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		No	Go to the next step.
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		No	Go to the next step.
7	INSPECT ENGINE COMPRESSION • Inspect the engine compression. (See COMPRESSION INSPECTION [MZI 3.7 V6].) • Is the engine compression normal?	Yes	Go to the next step.
		No	Overhaul the engine, then go to the next step.
8	INSPECT FOR RESTRICTION IN	Yes	Replace malfunctioning part, then go to

	EXHAUST SYSTEM AND TWC Is there any restriction?		the next step.
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		No	Go to the next step.
10	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.