

GENERIC · POWERTRAIN

P03E0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P03E0

Cylinder 8 Pressure Too Low

P03E0 is a generic powertrain code indicating that the powertrain control module has detected abnormally low cylinder pressure on cylinder number 8 during the engine's power stroke. The computer typically makes this determination by monitoring crankshaft speed fluctuations or using a dedicated in-cylinder pressure sensor, and it sets the code when the measured pressure falls below the expected threshold for that cylinder.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	High	Professional	Ignition system and misfire

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or a noticeable vibration that may be more pronounced when the engine is cold
- Misfire-like shudder or hesitation during acceleration, especially under load
- Reduced engine power and poor fuel economy as the engine compensates for the weak cylinder
- Occasional flashing check engine light if the low pressure triggers a misfire severe enough to damage the catalytic converter

Common causes, most likely first

- 1 Worn or damaged piston rings causing compression loss past the piston
- 2 Burned or poorly sealing exhaust or intake valve, including a valve seat that has receded into the head
- 3 Faulty or contaminated in-cylinder pressure sensor or its wiring, if the engine is equipped with one
- 4 Sticking or collapsed hydraulic lifter or a worn camshaft lobe that prevents the valve from opening fully
- 5 Head gasket leak or cracked cylinder head allowing pressure to escape into the cooling system or adjacent cylinder
- 6 Carbon buildup on valve stems or piston crowns that interferes with proper sealing
- 7 Mechanical timing issue, such as a jumped timing chain or belt, that alters valve timing for cylinder 8



How to diagnose and fix it

- 1 Perform a visual inspection of the engine bay for obvious damage, disconnected connectors, or vacuum leaks, and check the oil level and condition.
- 2 Use a scan tool to read live data and confirm the code is current, then check for related misfire codes and freeze-frame data to understand when the fault occurs.
- 3 Run a relative compression test or a manual compression test on cylinder 8 and compare it to a known-good cylinder; a low reading confirms a mechanical sealing problem.
- 4 Perform a cylinder leak-down test to pinpoint whether pressure is escaping through the rings, intake valve, exhaust valve, or head gasket.
- 5 If the engine uses an in-cylinder pressure sensor, swap it with a known-good sensor from another cylinder (if accessible) or perform a resistance and signal check to rule out a sensor fault.
- 6 Inspect the valve train for cylinder 8, including rocker arms, lifters, and cam lobes, and verify timing marks are aligned correctly.
- 7 Based on the leak-down results, repair the root cause: replace piston rings, recondition the cylinder head, replace a faulty sensor, or correct timing as needed, then clear the code and verify the repair with a test drive.

When low cylinder pressure is not mechanical

- A faulty in-cylinder pressure sensor or a chafed wire to that sensor can set P03E0 even when the engine is mechanically healthy, so always verify the sensor signal before tearing into the engine.
- Carbon buildup on the back of an intake valve can cause low pressure on one cylinder without any obvious misfire, especially on direct-injection engines, and a chemical induction cleaning may resolve it.
- A sticking hydraulic lifter can bleed down overnight and cause low pressure on startup that improves as oil pressure builds, leading to an intermittent P03E0 that is hard to reproduce.
- The code does not always mean the cylinder is failing; a miscalibrated crankshaft position sensor or a damaged reluctor wheel can distort the speed signal the computer uses to calculate pressure.
- A head gasket leak between cylinders 7 and 8 can cause low pressure on both, so check for companion codes on the adjacent cylinder before assuming a single-cylinder fault.

Can I keep driving with P03E0?

If the check engine light is steady and the engine runs smoothly, you can drive cautiously to a repair shop, but avoid heavy acceleration and long trips. If the light is flashing or the engine is misfiring badly, stop driving immediately to prevent catalytic converter damage and further engine damage.



Tools that help

- OBD-II scan tool with live data and misfire monitoring capability
- Compression tester or relative compression tester
- Cylinder leak-down tester
- Vacuum gauge
- Mechanic's stethoscope
- Digital multimeter for sensor and wiring checks

Reading P03E0

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
3	Ignition system and misfire.
E0	The exact fault within that area.

Often seen with

P0300 Random/Multiple Cylinder Misfire Detected · **P0307** Cylinder 7 Misfire Detected · **P0308** Cylinder 8 Misfire Detected · **P03DF** Cylinder 8 Pressure Sensor Circuit Intermittent/Erratic · **P03E1** Cylinder 8 Pressure Too High

See it working

Watch the animated explainer [How Crank and Cam Position Sensors Work](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p03e0/>

