

GENERIC · POWERTRAIN

P03B0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P03B0

Cylinder 3 Pressure Variation Low

P03B0 indicates that the powertrain control module has detected an abnormally low pressure variation in cylinder 3 during the combustion cycle, based on crankshaft speed fluctuations or direct pressure sensor feedback. The computer compares each cylinder's contribution to engine speed and flags cylinder 3 when its pressure pulse is weaker or less consistent than expected.

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

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or shaking that may be more pronounced when the engine is cold
- Misfire-like hesitation or stumble during acceleration
- Reduced engine power or poor fuel economy
- Occasional vibration felt through the steering wheel or seat

Common causes, most likely first

- 1 Worn or fouled spark plug in cylinder 3
- 2 Faulty ignition coil or spark plug wire for cylinder 3
- 3 Clogged or leaking fuel injector for cylinder 3
- 4 Low compression in cylinder 3 due to worn piston rings, valves, or head gasket
- 5 Vacuum leak or intake manifold gasket leak affecting cylinder 3
- 6 Carbon buildup on intake valves or piston top in cylinder 3
- 7 Faulty crankshaft position sensor or reluctor wheel causing inaccurate speed readings

How to diagnose and fix it

- 1 Inspect and replace the spark plug in cylinder 3, checking for wear, fouling, or incorrect gap
- 2 Swap the ignition coil from cylinder 3 with a known-good cylinder and see if the code moves
- 3 Perform a compression test on cylinder 3 and compare with other cylinders to rule out mechanical issues
- 4 Test the fuel injector for cylinder 3 for proper resistance and spray pattern, or perform an injector balance test
- 5 Check for vacuum leaks around the intake manifold and cylinder 3 intake port using a smoke machine
- 6 Use a scan tool to monitor cylinder 3 misfire counters and live data for pressure variation
- 7 If all else fails, perform a leak-down test or inspect the cylinder 3 valvetrain for mechanical faults



Cylinder 3 pressure variation pitfalls

- A low pressure variation code can be set by a perfectly healthy cylinder if the crankshaft position sensor signal is erratic, so always check sensor integrity before tearing into the engine.
- Many technicians replace the ignition coil first, but a swapped coil that does not move the code points to fuel or compression rather than spark.
- Carbon buildup on direct-injection engines can cause low pressure variation without any traditional misfire code, so a top-end cleaning may resolve it.
- This code does not always mean the cylinder is failing; a loose spark plug or a damaged plug wire can create the same pressure signature.
- Related codes for other cylinders may appear if the root cause is a shared vacuum leak or a failing sensor that affects the whole bank.

Can I keep driving with P03B0?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because a persistent low pressure variation can lead to catalytic converter damage or worsen an underlying mechanical fault.

Tools that help

- OBD-II scan tool with live data and misfire counters
- Compression tester
- Spark plug socket and wrench
- Ignition coil puller or basic hand tools
- Smoke machine for vacuum leak detection
- Fuel injector tester or multimeter

Reading P03B0

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.

B0 The exact fault within that area.

Often seen with

P0171 System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0303** Cylinder 3 Misfire Detected · **P03B1** Cylinder 3 Pressure Variation High · **P03B2** Cylinder 3 Combustion Performance



See it working

Watch the animated explainer [How Misfire Detection Works: Crankshaft Speed](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p03b0/>

