

GENERIC · POWERTRAIN

P02B9

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P02B9

Cylinder 8 - Injector Leaking

P02B9 indicates that the engine control module has detected a leaking condition in the fuel injector for cylinder 8, typically by monitoring fuel trim or pressure behavior that deviates from expected values. The computer sees an imbalance that suggests the injector is allowing fuel to pass when it should be closed, which can upset the air-fuel ratio on that cylinder.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering (injector circuits)

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the leak is small
- Rough idle or a noticeable misfire at idle that may smooth out at higher rpm
- Strong fuel odor from the exhaust or around the engine bay
- Black smoke or sooty exhaust, particularly under acceleration
- Decreased fuel economy and a rich-running condition
- Hard starting or a flooded engine after sitting, due to fuel pooling in the cylinder

Common causes, most likely first

- 1 A sticking or contaminated injector nozzle that does not seal fully when closed
- 2 Worn or damaged injector pintle or internal seal allowing fuel to weep past
- 3 Debris or corrosion in the fuel rail holding the injector open slightly
- 4 A shorted injector driver circuit in the wiring harness or ECM holding the injector energized
- 5 Fuel pressure regulator failure causing excessive pressure that overcomes the injector seal
- 6 A cracked injector body or damaged O-ring allowing external or internal leakage



How to diagnose and fix it

- 1 Verify the code with a scan tool and check fuel trims and misfire counters on cylinder 8 to confirm a rich condition on that specific cylinder
- 2 Inspect the injector wiring and connector for corrosion, chafing, or a short to power that could hold the injector open
- 3 Perform a fuel pressure leak-down test to see if pressure drops abnormally, which points to a leaking injector or regulator
- 4 Use a noid light or injector balance test to compare cylinder 8 injector behavior against the others
- 5 Remove the suspect injector and bench-test it for leakage and spray pattern, or swap it with a known-good injector to see if the misfire moves
- 6 Replace the faulty injector and any damaged seals or O-rings, then clear the codes and verify fuel trims return to normal
- 7 If the injector itself tests good, check the ECM driver circuit for a short that keeps the injector energized

What a leaking injector really looks like

- A leaking injector often does not set a misfire code until the leak is severe, so the presence of P02B9 alone can be the first sign of a problem that has been developing quietly.
- Fuel trim readings can be misleading because a small leak may be masked by the oxygen sensor's correction range, so always compare cylinder-specific misfire data and injector balance results.
- A shorted injector driver in the ECM can mimic a leaking injector perfectly, so never replace the injector without first checking the control circuit for a constant ground or power feed.
- Excessive fuel pressure from a failing regulator can cause the same rich condition and code, so a leak-down test is essential before condemning the injector.
- On engines with direct injection, a leaking injector can dilute the oil with fuel and cause wear, so an oil analysis or fuel smell in the oil is a red flag that the leak is more serious than a simple misfire.

Can I keep driving with P02B9?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration and long trips because a leaking injector can wash cylinder walls, dilute the oil, and overheat the catalytic converter. If the engine runs very rough, smells strongly of fuel, or the check engine light flashes, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data and fuel trim capabilities
- Fuel pressure gauge and leak-down tester
- Noid light or injector balance tester
- Basic hand tools and torque wrench
- Multimeter for circuit testing



Reading P02B9

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 2** Fuel and air metering (injector circuits).
- B9** The exact fault within that area.

Often seen with

P0172 System Too Rich (Bank 1) · **P0175** System Too Rich (Bank 2) · **P02B8** Cylinder 8 - Injector Restricted · **P02BA** Cylinder 9 - Fuel Trim at Max Limit · **P0308** Cylinder 8 Misfire Detected

See it working

Watch the animated explainer [How a Gyroscope Works: Gimbals and Precession](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p02b9/>

