

GENERIC · POWERTRAIN

P02B8

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P02B8

Cylinder 8 - Injector Restricted

P02B8 is a generic powertrain code indicating that the engine control module (ECM) has detected a restricted fuel injector on cylinder 8, meaning the injector is not delivering the expected amount of fuel for the commanded pulse width. The ECM typically compares crankshaft speed fluctuations or fuel trim deviations across cylinders to identify the imbalance.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or misfire sensation, especially noticeable at idle or low speeds
- Reduced engine power or hesitation during acceleration
- Poor fuel economy due to improper fuel delivery
- Shaking or vibration from the engine, particularly under load
- In some cases, a rich or lean exhaust smell depending on the nature of the restriction

Common causes, most likely first

- 1 Clogged or partially blocked fuel injector nozzle due to carbon deposits or debris
- 2 Failed or sticking injector solenoid winding, causing incorrect pintle movement
- 3 Wiring harness damage or poor electrical connection at the injector connector
- 4 Contaminated fuel or fuel system debris lodging in the injector inlet screen
- 5 Internal injector corrosion or mechanical wear from age and heat cycles
- 6 Engine control module (ECM) software calibration issue or faulty driver circuit (less common)

How to diagnose and fix it

- 1 Perform a visual inspection of the cylinder 8 injector connector and wiring for damage or corrosion
- 2 Use a noid light or oscilloscope to verify the injector control signal from the ECM
- 3 Measure the injector coil resistance with a multimeter and compare to manufacturer specification
- 4 Run a fuel injector balance test or cylinder contribution test to confirm the restriction
- 5 Use a fuel pressure gauge to rule out low fuel pressure or volume issues
- 6 Treat the fuel system with a quality injector cleaner if the restriction is minor and no other faults exist
- 7 Replace the cylinder 8 fuel injector if electrical and fuel delivery tests confirm it is faulty



Why cylinder 8 injector codes mislead

- A restricted injector often does not set a misfire code because the ECM can compensate with fuel trims until the restriction becomes severe, so the absence of a misfire does not rule out a problem.
- Carbon buildup on the injector tip is a common cause that can sometimes be resolved with a professional fuel system cleaning, but many technicians replace the injector prematurely without testing flow.
- Wiring issues at the injector connector are frequently overlooked because the connector may look fine but have internal corrosion or a backed-out terminal that causes intermittent restriction symptoms.
- The ECM may set P02B8 based on crankshaft speed variation rather than direct injector flow measurement, so a mechanical issue like a valve problem or vacuum leak can occasionally trigger a false injector code.
- On engines with direct injection, a restricted injector can cause high-pressure fuel pump wear or fuel dilution in the oil, so checking oil condition is a wise diagnostic step.

Can I keep driving with P02B8?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or prolonged idling because a restricted injector can lead to misfire, catalyst damage, and poor fuel economy. If the check engine light begins flashing, stop driving immediately and seek service.

Tools that help

- OBD-II scan tool with live data and cylinder balance capabilities
- Digital multimeter for resistance and voltage checks
- Noid light or oscilloscope for injector pulse testing
- Fuel pressure gauge
- Mechanic's hand tools (socket set, screwdrivers, pliers)

Reading P02B8

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).
B8	The exact fault within that area.

Often seen with

P0172 System Too Rich (Bank 1) · **P0208** Injector Circuit/Open - Cylinder 8 · **P02B7** Cylinder 8 - Fuel Trim at Min Limit · **P02B9** Cylinder 8 - Injector Leaking · **P0308** Cylinder 8 Misfire Detected



See it working

Watch the animated explainer [Disc Brake Trainer: How Car Brakes Stop a Wheel](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p02b8/>

