

GENERIC · POWERTRAIN

P0257

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0257

Injection Pump Fuel Metering Control 'B' Range/Performance (Cam/Rotor/Injector)

P0257 indicates that the engine control module (ECM) has detected an out-of-range or performance fault in the fuel metering control circuit for injection pump control 'B', which is often associated with the cam ring, rotor, or injector timing components on diesel injection pumps. The ECM monitors the commanded fuel quantity versus actual delivery and sets this code when the signal from the fuel metering actuator or its feedback circuit does not match expected values during specific operating conditions.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	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 intermittent misfire, especially when the engine is cold
- Reduced engine power or limp mode activation under load
- Poor fuel economy or excessive black smoke from the exhaust
- Hard starting or extended cranking before the engine fires
- Hesitation or stumble during acceleration

Common causes, most likely first

- 1 Faulty fuel metering control solenoid or actuator on the injection pump
- 2 Wiring damage (shorts, opens, or corrosion) in the control circuit between the ECM and pump
- 3 Sticking or worn internal pump components such as the cam ring or rotor
- 4 Contaminated or degraded fuel causing actuator malfunction
- 5 ECM software calibration issue or internal driver fault
- 6 Poor electrical connections at the pump or ECM harness



How to diagnose and fix it

- 1 Perform a visual inspection of the injection pump wiring and connectors for damage or corrosion
- 2 Check fuel quality and replace fuel filters if contamination is suspected
- 3 Use a scan tool to command the fuel metering actuator and observe feedback values for smooth operation
- 4 Measure resistance and voltage on the control circuit to rule out wiring faults
- 5 Compare commanded versus actual fuel delivery using live data to isolate mechanical pump issues
- 6 If the actuator is faulty, replace the fuel metering control solenoid or the complete injection pump as required
- 7 After repairs, clear codes and perform a road test to verify the fault does not return

Before you replace the injection pump

- A clogged fuel filter or contaminated fuel can mimic a failed fuel metering actuator, so always check fuel quality and filter condition first.
- The code can be set by a loose or corroded connector at the pump, which is often overlooked during diagnosis.
- On some vehicles, a faulty camshaft or crankshaft position sensor can cause timing-related fuel metering errors that trigger P0257.
- Replacing the injection pump without verifying the ECM calibration and wiring integrity can lead to repeat failures.
- Intermittent faults may only appear during specific driving conditions, so a thorough road test with live data is essential.

Can I keep driving with P0257?

You can usually drive the vehicle with this code, but avoid heavy acceleration or towing until it is diagnosed, as the fault may worsen and lead to reduced power or increased emissions. If the engine enters limp mode or runs poorly, seek service promptly to prevent damage to the injection pump.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter
- Fuel pressure gauge
- Wiring diagram and service information
- Basic hand tools



Reading P0257

- 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).
- 57** The exact fault within that area.

Often seen with

P0251 Injection Pump Fuel Metering Control 'A' (Cam/Rotor/Injector · **P0252** Injection Pump Fuel Metering Control 'A' Range/Performance (· **P0253** Injection Pump Fuel Metering Control 'A' Low (Cam/Rotor/Inje · **P0254** Injection Pump Fuel Metering Control 'A' High (Cam/Rotor/Inj · **P0255** Injection Pump Fuel Metering Control 'A' Intermittent (Cam/R

See it working

Watch the animated explainer [How Hydraulic Brakes Work: Pedal to Caliper](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0257/>

