

GENERIC · POWERTRAIN

P0256

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0256

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

P0256 is a generic OBD-II code that indicates the engine control module (ECM) has detected an abnormal electrical condition in the fuel metering control circuit for injection pump output 'B', which is often associated with the cam ring, rotor, or injector circuit on diesel injection pumps. The ECM monitors the commanded current or voltage on this circuit and sets the code when the actual signal falls outside the expected range for a calibrated period.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Fuel and air metering (injector circuits)

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or misfire, especially when the engine is cold
- Reduced engine power or limp mode during acceleration
- Hard starting or extended cranking before the engine fires
- Increased fuel consumption or black smoke from the exhaust
- Intermittent stalling or hesitation under load

Common causes, most likely first

- 1 Faulty fuel metering control solenoid or actuator on the injection pump
- 2 Damaged, chafed, or corroded wiring in the 'B' control circuit
- 3 Loose or contaminated electrical connector at the pump or ECM
- 4 Internal injection pump mechanical wear affecting the cam ring or rotor
- 5 Failed ECM driver circuit for the fuel metering control output
- 6 Poor ground connection for the injection pump or engine block



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm when the code sets
- 2 Inspect the injection pump harness and connectors for damage, corrosion, or loose pins
- 3 Measure resistance and voltage on the 'B' control circuit and compare to manufacturer specifications
- 4 Test the fuel metering control solenoid for proper resistance and function
- 5 Check fuel pressure and volume to rule out supply issues that can mimic circuit faults
- 6 Perform a wiggle test on the harness while monitoring live data to catch intermittent faults
- 7 If all electrical checks pass, follow the manufacturer's diagnostic flow for injection pump replacement or ECM repair

What the P0256 code often hides

- A weak or failing fuel pump relay or fuse can cause voltage drops that set P0256 even though the metering solenoid itself is good.
- On many diesel engines, air in the fuel system from a leaking filter housing or supply line can trigger this code by causing erratic metering control feedback.
- Technicians sometimes replace the injection pump only to find the real problem is a chafed wire behind the engine block that shorts intermittently when hot.
- P0256 can be set by a low battery or charging system fault because the ECM may misinterpret low system voltage as a circuit failure.
- Always check for technical service bulletins (TSBs) for the specific vehicle, as some manufacturers have updated harness routing or connector designs to prevent this code.

Can I keep driving with P0256?

You can usually drive the vehicle to a repair shop if the engine runs smoothly and the check engine light is steady, but avoid heavy acceleration or towing. If the engine misfires, stalls, or enters limp mode, stop driving and have it towed to prevent damage to the injection pump or catalytic converter.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with min/max recording
- Wiring diagram and manufacturer service information
- Fuel pressure test kit
- Breakout box or back-probe kit for circuit testing



Reading P0256

- 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).
- 56** 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 a Car Thermostat Works: Wax Pellet and Cooling Fan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0256/>

