

GENERIC · POWERTRAIN

P02F6

OBD-II TROUBLE CODE

P02F6

Cylinder 9 Injector Circuit Range/Performance

P02F6 means the powertrain control module (PCM) has detected that the electrical circuit for cylinder 9's fuel injector is not performing within its expected range, which usually indicates a wiring, connector, or injector coil problem rather than a mechanical engine fault. The PCM monitors injector circuit voltage and current during operation and sets this code when the measured values fall outside the calibrated window for a calibrated period of time.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A noticeable engine misfire or rough running condition, especially under load or at idle
- Reduced engine power or a limp-home mode in some vehicles
- Shaking or vibration felt through the steering wheel or seat
- A faint fuel odor from the exhaust due to unburned fuel from the affected cylinder
- Slightly worse fuel economy over time if the misfire is persistent

Common causes, most likely first

- 1 Faulty cylinder 9 fuel injector with an internally shorted or open coil
- 2 Damaged or corroded electrical connector at the cylinder 9 injector
- 3 Chafed, broken, or shorted wire in the injector harness near the cylinder 9 injector
- 4 Poor connection or corrosion at the PCM connector for the injector driver circuit
- 5 Internal PCM driver circuit fault for cylinder 9 injector
- 6 Aftermarket or incorrect injector installed that does not match the PCM calibration
- 7 Engine wiring harness damage from heat, rodents, or previous repairs



How to diagnose and fix it

- 1 Perform a visual inspection of the cylinder 9 injector connector and harness for corrosion, chafing, or loose pins
- 2 Use a scan tool to command the cylinder 9 injector on and off while listening for a click, and compare with other cylinders
- 3 Measure the resistance of the cylinder 9 injector coil with a multimeter and compare to the manufacturer's specification
- 4 Check for voltage and ground pulses at the injector connector with a noid light or oscilloscope during cranking
- 5 Inspect and test the injector driver circuit from the PCM to the injector for continuity and short to ground or power
- 6 If the circuit tests good, swap the cylinder 9 injector with a known-good injector from another cylinder and see if the code follows
- 7 Repair or replace the faulty injector, connector, or harness section and clear the code to verify the repair

Before you replace the cylinder 9 injector

- A loose or corroded connector at the injector is far more common than a failed injector coil, so always inspect and clean the terminals before condemning the part.
- The PCM may set P02F6 for a circuit that is only intermittently faulty, so a wiggle test of the harness while monitoring injector operation can reveal a problem that a static resistance check misses.
- On engines with multiple cylinders, a misfire counter can show whether cylinder 9 is the only affected cylinder or if the fault is shared with other injectors on the same driver circuit.
- Aftermarket injectors with incorrect resistance or spray pattern can trigger this code even when they are new, so verify part compatibility with the original equipment specification.
- A weak battery or charging system can cause injector circuit voltage to drop below the expected range and set this code without any actual injector fault.

Can I keep driving with P02F6?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or long trips because a persistent misfire can overheat the catalytic converter and cause expensive damage. If the check engine light is flashing, stop driving and have the vehicle towed.

Tools that help

- OBD-II scan tool with bidirectional control and misfire data
- Digital multimeter
- Noid light or oscilloscope
- Wire terminal pick and electrical contact cleaner
- Factory service information for injector resistance specifications and wiring diagrams



Reading P02F6

- 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).
- F6** The exact fault within that area.

Often seen with

P0209 Injector Circuit/Open - Cylinder 9 · **P0219** Engine Overspeed Condition · **P02F5** Cylinder 8 Injector Circuit Range/Performance · **P0309** Cylinder 9 Misfire Detected · **P2149** Fuel Injector Group 'B' Supply Voltage Circuit/Open

See it working

Watch the animated explainer [How Push-Button Start Works: Keyless Ignition](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p02f6/>

