

GENERIC · POWERTRAIN

P0277

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0277

Cylinder 6 Injector Circuit High

P0277 means the powertrain control module (PCM) has detected an abnormally high current or voltage on the control circuit for cylinder 6's fuel injector, indicating a short to power or an open circuit in the injector or its wiring. The PCM monitors the injector driver circuit and sets this code when the electrical load falls outside the expected range for the commanded pulse.

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

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or misfire felt as a shake or stumble, especially at idle
- Noticeable loss of power or hesitation during acceleration
- Increased fuel consumption due to a rich or unbalanced fuel mixture
- Possible fuel smell from the exhaust if the injector is stuck open
- In severe cases, the engine may enter limp mode or run poorly enough to trigger misfire codes

Common causes, most likely first

- Faulty fuel injector on cylinder 6 (internally shorted coil or stuck open)
- Damaged or chafed injector wiring harness shorting to a power source
- Corroded, loose, or disconnected electrical connector at the cylinder 6 injector
- Open circuit in the injector control wire between the PCM and the injector
- Failed PCM injector driver (less common but possible)
- Aftermarket or incorrect injector installed that does not match the PCM's expected resistance
- Moisture or contamination inside the injector connector causing high resistance or intermittent short



How to diagnose and fix it

- 1 Scan all stored codes and freeze-frame data to confirm P0277 is current and not history
- 2 Visually inspect the cylinder 6 injector connector and wiring for damage, corrosion, or loose pins
- 3 Measure the resistance of the cylinder 6 injector with a multimeter and compare to the manufacturer's specification
- 4 Perform a voltage drop test on the injector control circuit while cranking or running to check for excessive resistance
- 5 Check for a short to power on the injector control wire by disconnecting the PCM and testing continuity to battery positive
- 6 Swap the cylinder 6 injector with a known-good injector from another cylinder to see if the code follows the injector
- 7 If wiring and injector test good, diagnose the PCM driver circuit or replace the PCM as a last resort

Don't overlook the injector connector

- A loose or corroded connector at the cylinder 6 injector is a frequent cause of P0277 that is often missed during a quick visual inspection.
- The code can be set by an open circuit in the injector coil itself, which may not always cause a noticeable misfire until the engine is under load.
- A shorted injector driver inside the PCM can mimic a faulty injector, so always verify the injector and wiring before condemning the computer.
- Aftermarket injectors with incorrect resistance values can trigger P0277 even though they physically fit and function.
- P0277 is often accompanied by misfire codes for cylinder 6, but the absence of a misfire code does not rule out an injector circuit problem.

Can I keep driving with P0277?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because a misfiring cylinder can overheat the catalytic converter. If the engine runs very rough or flashes the check engine light, stop driving and have it towed.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Test light
- Wire probe set
- Factory service information for injector resistance specifications



Reading P0277

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

Often seen with

P0206 Injector Circuit/Open - Cylinder 6 · **P0261** Cylinder 1 Injector Circuit Low · **P0262** Cylinder 1 Injector Circuit High · **P0278** Cylinder 6 Contribution/Balance · **P0306** Cylinder 6 Misfire Detected

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0277/>

