

FORD · POWERTRAIN

P1273

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1273 · Ford

Cylinder 3 High To Low Side Open

P1273 on a Ford vehicle means the powertrain control module has detected an open circuit between the high side and low side of the fuel injector circuit for cylinder 3. The computer commands the injector on and monitors the electrical response, and it sees no current flow or an unexpected voltage pattern that indicates a break in the circuit.

SYSTEM

Powertrain

CODE TYPE

Ford specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

**Fuel and air
metering (injector
circuits)**

Symptoms you may notice

- Illuminated check engine light, often with no other symptoms besides the warning light
- Rough idle or misfire that is most noticeable when the engine is cold or under light load
- Noticeable loss of power and reduced fuel economy because cylinder 3 is not contributing
- Shaking or vibration from the engine bay that worsens during acceleration
- A faint fuel odor from the exhaust if the injector is stuck open or the circuit is intermittent
- In some cases the engine may enter limp mode and limit RPM to protect the catalytic converter

Common causes, most likely first

- 1 Broken or chafed wire in the cylinder 3 injector harness, often near the valve cover or where the harness bends
- 2 Corroded or loose electrical connector at the cylinder 3 fuel injector
- 3 Failed fuel injector with an open internal coil winding
- 4 Damaged pin or terminal in the injector connector or at the powertrain control module connector
- 5 Rodent damage to the injector wiring loom, which is common on Ford vehicles parked outdoors
- 6 A short to ground or short to voltage in the injector control circuit that mimics an open circuit



How to diagnose and fix it

- 1 Inspect the cylinder 3 injector connector and harness for corrosion, chafing, or loose pins, and repair any damaged terminals
- 2 Measure the resistance of the cylinder 3 injector with a multimeter and compare it to the specification for your engine
- 3 Check for continuity and short-to-ground on both the high and low sides of the injector circuit from the injector connector to the powertrain control module
- 4 Perform a wiggle test on the harness while watching injector data or listening for a change in engine idle to catch intermittent opens
- 5 Swap the cylinder 3 injector with a known-good injector from another cylinder and see if the code moves to confirm the injector is at fault
- 6 If the circuit and injector test good, check the powertrain control module connector pins and driver circuit for damage or corrosion
- 7 Clear the code and perform a road test with live misfire data to verify the repair before returning the vehicle

What Ford injector circuits hide from scanners

- A P1273 can set without any driveability complaint because the injector circuit may only open intermittently when the engine bay is hot or the harness flexes over bumps.
- Technicians often replace the cylinder 3 injector first, but chafed wiring near the valve cover or a corroded connector pin is a more frequent cause on high-mileage Ford engines.
- The code does not always mean the injector itself has failed; a shorted or open driver inside the powertrain control module can produce the same high-to-low side open reading.
- Rodent damage to the injector harness is common on Ford vehicles that sit outside, so inspect the loom carefully before condemning any electrical component.
- A misfire counter that stays at zero does not rule out this code, because the fault may be stored from a single key cycle when the circuit briefly opened.

Can I keep driving with P1273?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration and long trips because raw fuel from a dead cylinder can overheat and damage the catalytic converter. If the engine is shaking badly or the check engine light is flashing, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with live misfire and injector data
- Digital multimeter with resistance and continuity functions
- Wire piercing probes or back-probe pins
- Factory wiring diagram for your Ford model and engine
- Noid light or injector pulse tester
- Basic hand tools for removing the engine cover and accessing the injector harness

Reading P1273

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (Ford): its meaning depends on the make.

2 Fuel and air metering (injector circuits).

73 The exact fault within that area.

Often seen with

P1271 Accelerator Pedal Position Sensor 1-2 Correlation · **P1272** Accelerator Pedal Position Sensor 2-3 Correlation · **P1274** Injectors Wired Incorrectly · **P1271** Cylinder 1 High To Low Side Open · **P1272** Cylinder 2 High To Low Side Open · **P1274** Cylinder 4 High To Low Side Open · **P1271** APP Sensor 1-2 Performance · **P1272** Accelerator Pedal Position Sensor 2 · **P1274** Injectors Wired Incorrectly · **P1271** Ambient Air Pressure Sensor Electrical · **P0203** Injector Circuit Malfunction - Cylinder 3 · **P0303** Cylinder 3 Misfire Detected

See it working

Watch the animated explainer [How Crank and Cam Position Sensors Work](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1273/>

