

GM · POWERTRAIN

P1225

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1225 · GM

Injector Circuit Cylinder 2 Intermittent

P1225 on a GM vehicle means the engine control module has detected an intermittent fault in the electrical circuit for cylinder 2's fuel injector, meaning the circuit momentarily opens, shorts, or changes resistance while the engine is running. The computer monitors injector current and voltage and flags the code when the signal falls outside expected parameters for a brief period, often without storing a hard failure.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the intermittent fault is brief and the injector still fires most of the time.
- A noticeable misfire or rough idle that comes and goes, particularly when the engine is cold or after hitting a bump.
- Slight hesitation or stumble during acceleration that may feel like a temporary loss of power.
- A flashing check engine light during the misfire event, indicating a catalyst-damaging condition.
- Poor fuel economy or a faint fuel smell if the injector circuit intermittently opens and the cylinder runs lean.
- In rare cases, the engine may stall or run very poorly if the intermittent fault becomes a hard open circuit.

Common causes, most likely first

- Frayed, chafed, or broken wiring in the injector harness near the cylinder 2 injector connector, often caused by vibration or heat.
- Corroded or loose terminals at the cylinder 2 injector pigtail or at the engine control module connector.
- A failing fuel injector with an internal coil that opens intermittently when hot or under vibration.
- A poor ground connection for the injector driver circuit, leading to erratic current flow.
- Damage to the injector circuit from rodent chewing, road debris, or previous repair work.
- A faulty engine control module injector driver, though this is less common than wiring or injector issues.
- Water intrusion into the injector connector or harness, causing intermittent shorts.



How to diagnose and fix it

- 1 Inspect the cylinder 2 injector connector and the harness for loose pins, corrosion, or chafed insulation, and repair any damage found.
- 2 Perform a wiggle test on the injector harness while the engine is running and monitor for misfire or injector pulse changes with a scan tool.
- 3 Measure the resistance of the cylinder 2 injector with a multimeter and compare it to the manufacturer's specification, looking for an open or out-of-range coil.
- 4 Use a noid light or oscilloscope to check for a consistent injector pulse signal at the cylinder 2 connector while cranking and running.
- 5 Check the injector driver circuit for shorts to ground or power using a wiring diagram and a multimeter, repairing any faults.
- 6 Swap the cylinder 2 injector with a known-good injector from another cylinder to see if the misfire follows the injector, confirming an internal injector fault.
- 7 If all wiring and the injector test good, diagnose the engine control module driver circuit and replace the module only after confirming a driver failure.

Intermittent injector faults that fool technicians

- A common misdiagnosis is replacing the cylinder 2 injector immediately, but the intermittent nature often points to a wiring issue that a new injector will not fix.
- The fault may only appear when the engine is hot or after driving over rough roads, so a cold static test can pass and mislead you into thinking the circuit is fine.
- Corrosion inside the injector connector can create resistance that changes with temperature, setting P1225 without any visible external damage.
- A failing ignition coil or spark plug on cylinder 2 can cause a misfire that mimics an injector circuit fault, so always check secondary ignition components before condemning the injector.
- The engine control module may set P1225 due to a brief voltage spike from a poor ground elsewhere in the engine harness, not a direct injector circuit problem.

Can I keep driving with P1225?

You can usually drive the vehicle short distances if the misfire is mild and the check engine light is steady, but avoid heavy acceleration or towing. If the light flashes or the engine runs very rough, stop driving and have it diagnosed promptly to prevent catalytic converter damage.



Tools that help

- OBD-II scan tool with live data and misfire counters
- Digital multimeter
- Noid light or oscilloscope
- Wiring diagram for the specific GM vehicle
- Injector connector release tool and terminal pick
- Heat gun and electrical tape for harness repair

Reading P1225

P Powertrain: engine, transmission and emissions.

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

2 Fuel and air metering (injector circuits).

25 The exact fault within that area.

Often seen with

P1226 Cylinder 2 Injector Circuit Short To Ground · **P1226** Control Sleeve Sensor Circuit · **P1226** Fuel Injector 2 Circuit Low Voltage · **P1224** Electronic Throttle Control Position Error · **P1226** Mechanical Guard Circuit Range Performance · **P1224** Throttle Position Sensor B Out of Self-Test Range · **P0202** Injector Circuit Malfunction - Cylinder 2 · **P0302** Cylinder 2 Misfire Detected · **P0352** Ignition Coil B Primary/Secondary Circuit Malfunction

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/gm-p1225/>

