



P02C1

Cylinder 10 - Injector Leaking

P02C1 indicates that the engine control module has detected a leaking condition in the fuel injector for cylinder 10, typically by monitoring fuel trim or pressure behavior that suggests excess fuel is entering that cylinder when it should not. The computer sets this code when the injector fails to fully close, allowing fuel to dribble into the cylinder even after the injector pulse has ended.

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

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the leak is small
- Rough idle or misfire that may be more noticeable when the engine is cold
- Strong fuel odor from the exhaust or engine bay
- Black smoke or soot from the tailpipe
- Decreased fuel economy
- Engine may run rich, causing fouled spark plugs over time

Common causes, most likely first

- 1 Sticking or dirty injector pintle causing incomplete closure
- 2 Worn or damaged injector nozzle or seat
- 3 Electrical fault in the injector circuit holding the injector partially open
- 4 Contaminated fuel or debris preventing the injector from sealing
- 5 Mechanical failure inside the injector, such as a broken return spring
- 6 Fuel pressure regulator failure causing excessive pressure
- 7 Engine control module (ECM) driver circuit fault keeping the injector energized



How to diagnose and fix it

- 1 Perform a visual inspection of the injector and wiring for damage or fuel leaks
- 2 Check fuel pressure and compare to specification to rule out a regulator issue
- 3 Use a scan tool to monitor fuel trims and injector pulse width on cylinder 10
- 4 Perform an injector balance test or cylinder contribution test to confirm the leaking injector
- 5 Remove and inspect the spark plug for that cylinder for signs of rich running or fouling
- 6 Replace the faulty injector with a new or professionally cleaned unit
- 7 Clear the code and verify the repair with a test drive and fuel trim readings

Leaking injector versus rich-running misdiagnosis

- A leaking injector can mimic a faulty oxygen sensor or mass airflow sensor because both can cause rich fuel trims, so technicians should isolate the fault to a single cylinder before replacing sensors.
- Fuel trim readings may appear normal at idle if the leak is small, so a cylinder balance test or injector flow test is often needed to confirm the leak.
- A stuck-open injector can hydrolock the engine if enough fuel accumulates, so a strong fuel smell in the oil or excessive smoke should prompt immediate attention.
- The code may set intermittently if the injector sticks only when hot or after sitting, so a cold-start observation can be more revealing than a warm-engine test.
- Always check the injector connector and wiring for corrosion or chafing, because a short to power can hold the injector open and mimic a mechanical leak.

Can I keep driving with P02C1?

It is not advisable to continue driving with a confirmed leaking injector because raw fuel can wash cylinder walls, dilute engine oil, and damage the catalytic converter. If the check engine light is on but the engine runs smoothly, limit driving to a short distance to a repair shop and avoid heavy acceleration or long idling.

Tools that help

- OBD-II scan tool with live data and fuel trim capabilities
- Fuel pressure gauge
- Injector balance tester or cylinder contribution tester
- Spark plug socket and wrench
- Multimeter for circuit testing
- Mechanic's stethoscope or listening device



Reading P02C1

- 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).
- C1** The exact fault within that area.

Often seen with

P0172 System Too Rich (Bank 1) · **P0175** System Too Rich (Bank 2) · **P02C0** Cylinder 10 - Injector Restricted
 · **P02C2** Cylinder 11 - Fuel Trim at Max Limit · **P0300** Random/Multiple Cylinder Misfire Detected

See it working

Watch the animated explainer [How a Supercharger Works: Roots Blower in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p02c1/>

