

GENERIC · POWERTRAIN

# P0175

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P0175

### System Too Rich (Bank 2)

P0175 means the engine computer has detected a fuel mixture that is too rich on bank 2, which is the side of the engine that does not contain cylinder number one. The computer calculates this from oxygen sensor feedback and long-term fuel trim, and it sets the code when it can no longer lean out the mixture enough to keep bank 2 within its programmed limits.

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

### Symptoms you may notice

- Often no symptoms besides the warning light, especially if the rich condition is mild or intermittent.
- A noticeable drop in fuel economy because the engine is burning more fuel than necessary.
- A strong gasoline or rotten-egg smell from the exhaust, particularly after idling or at a stop.
- Black, sooty exhaust smoke or black deposits on the tailpipe and rear bumper.
- Rough idle, misfiring, or a stumble on acceleration when the rich mixture fouls spark plugs.
- The engine may run poorly when cold and improve slightly once warm, depending on the cause.

### Common causes, most likely first

- 1 A leaking or sticking fuel injector on bank 2 that delivers too much fuel and cannot be controlled by the computer.
- 2 Excessive fuel pressure from a failing fuel pressure regulator or a restricted fuel return line.
- 3 A faulty mass airflow sensor that over-reports airflow, causing the computer to add too much fuel.
- 4 A dirty or failing oxygen sensor on bank 2 that sends a false rich signal, prompting the computer to overcorrect.
- 5 A stuck-open or leaking purge valve in the evaporative emissions system that allows fuel vapor to flood the intake.
- 6 Low compression or a misfire on bank 2 that leaves unburned fuel in the exhaust, which the oxygen sensor reads as rich.
- 7 A restricted air intake or a dirty air filter that reduces the air entering the engine and richens the mixture.



## How to diagnose and fix it

- 1 Check for any stored misfire or oxygen sensor codes and repair those first, because a misfire can mimic a rich condition.
- 2 Inspect the air intake system for restrictions, a dirty air filter, or a disconnected intake tube that lets unmetered air in.
- 3 Measure fuel pressure with a gauge and compare it to the manufacturer's specification to rule out excessive pressure.
- 4 Use a scan tool to watch live fuel trim data on bank 2 and compare it with bank 1 to confirm the rich condition is isolated to one side.
- 5 Test the purge valve for sticking open by commanding it closed with a scan tool and observing fuel trim changes.
- 6 Perform a cylinder balance or compression test on bank 2 to identify a weak cylinder that is causing unburned fuel in the exhaust.
- 7 Replace the oxygen sensor on bank 2 only after confirming its signal is inaccurate with a scope or a known-good sensor.

## What a rich bank 2 code really tells you

- A misfire on bank 2 is one of the most commonly overlooked causes of P0175, because unburned fuel in the exhaust looks exactly like a rich mixture to the oxygen sensor.
- The code does not always mean the engine is mechanically rich; a lazy or contaminated oxygen sensor on bank 2 can report a false rich condition and trigger the code without any real fueling problem.
- Fuel trim data is your best friend here: if long-term fuel trim on bank 2 is significantly more negative than bank 1, the problem is real and isolated to that bank, but if both banks are equally negative, look for a system-wide cause like fuel pressure or the mass airflow sensor.
- A sticking purge valve can flood the intake with fuel vapor and set P0175 without any fuel injector or sensor fault, and it often sets codes on both banks if the vapor distribution is uneven.
- Replacing the catalytic converter for P0175 is a costly mistake; the converter is usually a victim of the rich condition, not the cause, and it will fail again if the underlying fuel problem is not fixed.

## Can I keep driving with P0175?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or long trips because a rich mixture can quickly overheat and damage the catalytic converter. If the check engine light is flashing or the engine is misfiring badly, stop driving and have it towed.



## Tools that help

- OBD-II scan tool with live data and fuel trim graphing capability
- Fuel pressure gauge
- Digital multimeter
- Vacuum gauge
- Compression tester
- Hand tools for intake and sensor removal

## Reading P0175

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>P</b>  | Powertrain: engine, transmission and emissions.                      |
| <b>0</b>  | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| <b>1</b>  | Fuel and air metering.                                               |
| <b>75</b> | The exact fault within that area.                                    |

## Often seen with

**P0132** O2 Sensor Circuit High Voltage (Bank 1 Sensor 1) · **P0171** System Too Lean (Bank 1) · **P0172** System Too Rich (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0302** Cylinder 2 Misfire Detected

## See it working

Watch the animated explainer [How a Car Clutch Works: Diaphragm Clutch Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0175/>

