

GM · POWERTRAIN

P1158

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1158 · GM

HO2S Bank 2 Sensor 2 Rich Or High Voltage

P1158 on GM vehicles means the powertrain control module (PCM) has detected a rich condition or excessively high voltage signal from the downstream heated oxygen sensor (HO2S) on bank 2, which is the side of the engine that does not contain cylinder number one. The PCM monitors this sensor to judge catalytic converter efficiency, and a sustained high voltage tells the computer that the exhaust leaving the converter is richer than expected or that the sensor circuit is reporting a false rich signal.

SYSTEM

Powertrain

CODE TYPE

GM specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- A slight decrease in fuel economy as the PCM adjusts fuel trims based on the false rich reading
- Rough idle or uneven running if the rich condition is severe enough to foul spark plugs
- Black, sooty exhaust smoke or a strong fuel odor from the tailpipe in advanced cases
- Occasional hesitation or stumble during acceleration when the engine is under load
- Failed emissions inspection due to high carbon monoxide or hydrocarbon readings

Common causes, most likely first

- 1 A failed downstream oxygen sensor on bank 2 that is stuck at a high voltage or has an internal short
- 2 A rich fuel mixture on bank 2 caused by a leaking fuel injector or high fuel pressure
- 3 A restricted or contaminated catalytic converter on bank 2 that is not properly oxidizing exhaust gases
- 4 Wiring damage or corrosion in the HO2S bank 2 sensor 2 signal circuit, such as a short to voltage or a bad ground
- 5 An exhaust leak upstream of the sensor that allows extra fuel or air to skew the reading
- 6 A faulty PCM driver for the heater circuit or signal circuit, though this is rare
- 7 Engine mechanical issues such as low compression or a misfire on bank 2 that dump unburned fuel into the exhaust



How to diagnose and fix it

- 1 Connect a scan tool and record the HO2S bank 2 sensor 2 voltage and fuel trim data to confirm the rich condition and check for related codes.
- 2 Inspect the sensor wiring and connector for chafing, corrosion, or loose pins, and verify the sensor ground circuit with a multimeter.
- 3 Check fuel pressure and inspect the bank 2 fuel injectors for leaks or dripping using a fuel pressure gauge and injector balance test.
- 4 Perform a smoke test on the exhaust system upstream of the sensor to rule out leaks that can cause a false rich reading.
- 5 Swap the bank 2 sensor 2 oxygen sensor with a known-good unit or use a scan tool to watch the signal while introducing propane to confirm sensor response.
- 6 If the sensor and circuits test good, evaluate catalytic converter efficiency with a backpressure test or temperature differential check before replacement.
- 7 Clear the codes and perform a road test with the scan tool recording to verify the repair and ensure the monitor completes without resetting P1158.

Downstream sensor rich code traps to avoid

- A stuck-high downstream oxygen sensor often reads rich even when the engine is running perfectly, so technicians who replace fuel system parts first waste time and money.
- Bank 2 sensor 2 is the post-catalyst sensor, and its main job is catalyst monitoring; a rich code here frequently points to a failing catalytic converter rather than a fuel delivery problem.
- Exhaust leaks between the manifold and the downstream sensor can pull in outside air and cause the sensor to report a false lean condition, but a leak that lets unburned fuel escape can also trigger a rich code on some GM systems.
- GM trucks and SUVs with active fuel management can set P1158 when a lifter fails and causes a misfire on bank 2, dumping raw fuel into the exhaust that the downstream sensor interprets as rich.
- A contaminated mass airflow sensor or a dirty throttle body can skew fuel trims across both banks, but P1158 specifically flags bank 2, so always compare bank 1 and bank 2 fuel trim values before condemning a sensor.

Can I keep driving with P1158?

You can usually drive the vehicle short distances to a repair shop, but prolonged driving with a rich condition can overheat and destroy the catalytic converter and foul spark plugs. Avoid heavy acceleration or towing until the fault is diagnosed, and if the check engine light starts flashing, stop driving immediately because a flashing light indicates a misfire that can damage the converter.



Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter for circuit and sensor voltage checks
- Fuel pressure gauge
- Smoke machine for exhaust leak testing
- Infrared thermometer for catalytic converter temperature comparison
- Basic hand tools for sensor and connector access

Reading P1158

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (GM): its meaning depends on the make.
1	Fuel and air metering.
58	The exact fault within that area.

Often seen with

P1157 Manifold Absolute Pressure Sensor Circuit Power Supply Malfunction · **P1157** Lack Of HO2S22 Switches Sensor Indicates Lean · **P1157** HO2S Bank 2 Sensor 2 Lean System Or Low Voltage · **P1157** Lack of Downstream Heated Oxygen Sensor Switch Sensor Indicates Lean · **P1157** HO2S Bank 2 Sensor 2 Lean System Or Low Voltage · **P1157** O2 Sensor Heater Circuit High Voltage Bank 2 Sensor 2 · **P0132** O2 Sensor Circuit High Voltage (Bank 1 Sensor 1) · **P0135** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0172** System Too Rich (Bank 1) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1158/>

