



P1157 · GM

HO2S Bank 2 Sensor 2 Lean System Or Low Voltage

P1157 on a GM vehicle means the powertrain control module has detected a lean condition or low voltage signal from the downstream heated oxygen sensor on bank 2, which monitors the catalytic converter on the side of the engine that does not contain cylinder number one. The computer compares this sensor's switching activity against expected values and flags the code when the signal stays below the lean threshold for too long or the circuit voltage remains lower than the calibrated range.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms besides the warning light
- A slight decrease in fuel economy as the computer adds fuel to compensate for the perceived lean condition
- Rough idle or occasional misfire if the lean condition is severe enough to affect combustion
- A sulfur or rotten egg smell from the exhaust if the converter is being overworked by excess fuel
- Failed emissions inspection due to the stored trouble code and incomplete readiness monitors

Common causes, most likely first

- 1 Failed downstream heated oxygen sensor on bank 2 that is stuck at a low voltage or slow to respond
- 2 Damaged or corroded wiring harness or connector at the bank 2 sensor 2 oxygen sensor
- 3 Exhaust leak between the bank 2 catalytic converter and the downstream sensor, allowing outside air to skew the reading
- 4 Vacuum leak or unmetered air entering the engine on bank 2, such as a leaking intake gasket or cracked vacuum hose
- 5 Low fuel pressure or a restricted fuel injector on bank 2 causing a genuine lean condition
- 6 Failing catalytic converter on bank 2 that no longer stores oxygen properly, altering the downstream sensor signal
- 7 Poor engine ground or reference voltage issue at the powertrain control module affecting the sensor circuit



How to diagnose and fix it

- 1 Connect a scan tool and record freeze frame data plus live bank 2 sensor 2 voltage to confirm the signal is genuinely low and not a false code
- 2 Visually inspect the bank 2 sensor 2 wiring, connector pins, and exhaust piping for damage, corrosion, or leaks before touching any parts
- 3 Perform a propane or smoke test around the bank 2 intake and exhaust to rule out unmetered air or exhaust leaks
- 4 Check fuel pressure and inspect bank 2 injector operation with a scan tool or injector balance test if a lean condition is confirmed
- 5 Measure the oxygen sensor heater circuit resistance and signal voltage with a multimeter to verify sensor integrity
- 6 Replace the bank 2 sensor 2 heated oxygen sensor only after electrical and air-leak checks pass, then clear the code and verify the monitor runs
- 7 If the code returns with a new sensor, evaluate the bank 2 catalytic converter efficiency and backpressure before condemning it

What the downstream sensor is really telling you

- A downstream oxygen sensor that reads lean does not automatically mean the engine is lean; an exhaust leak upstream of the sensor pulls in outside air and fools the computer into adding fuel.
- Technicians often replace the bank 2 sensor 2 oxygen sensor first, but a corroded connector pin or chafed wire near the exhaust manifold is a more common cause on older GM trucks and SUVs.
- A failing bank 2 catalytic converter can set P1157 because the converter no longer stores and releases oxygen correctly, which makes the downstream sensor switch leaner than expected.
- Bank 2 refers to the side of the engine without cylinder number one, so on V6 and V8 GM engines confirm which side that is before ordering parts or tracing wiring.
- A vacuum leak that only affects bank 2, such as a cracked intake manifold gasket, can set this code without any bank 1 codes, so do not assume both banks share the same fault.

Can I keep driving with P1157?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or long highway trips because a persistent lean condition can overheat the catalytic converter and cause costly damage. If the check engine light begins flashing or the engine runs rough, stop driving and have it diagnosed immediately.



Tools that help

- OBD-II scan tool with live data and freeze frame capability
- Digital multimeter for voltage and resistance checks
- Propane enrichment tool or smoke machine for vacuum and exhaust leak testing
- Fuel pressure gauge
- Oxygen sensor socket and hand tools

Reading P1157

P Powertrain: engine, transmission and emissions.

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

1 Fuel and air metering.

57 The exact fault within that area.

Often seen with

P1158 Manifold Absolute Pressure Sensor Circuit Range Performance · **P1158** Lack Of HO2S22 Switches Sensor Indicates Rich · **P1158** HO2S Bank 2 Sensor 2 Rich Or High Voltage · **P1158** Lack of Downstream Heated Oxygen Sensor Switch Sensor Indica · **P1158** HO2S Bank 2 Sensor 2 Rich Or High Voltage · **P1158** Fuel Trim Adaptation Additive Bank 1 Low · **P0137** O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2) · **P0157** O2 Sensor Circuit Low Voltage (Bank 2 Sensor 2) · **P0174** System Too Lean (Bank 2) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

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-p1157/>

