

GM · POWERTRAIN

P1133

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1133 · GM

O2 Sensor Insufficient Switching (Bank 1 Sensor 1)

P1133 on a GM vehicle means the powertrain control module (PCM) has determined that the upstream oxygen sensor on bank 1 (the side containing cylinder 1) is not switching rich-to-lean fast enough or with enough amplitude. The PCM monitors the sensor's voltage transitions over a calibrated time window and sets this code when the switching activity falls below the expected threshold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	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 defaults to a richer fuel mixture
- Occasional rough idle or hesitation during light acceleration
- Failed emissions test due to increased hydrocarbon or carbon monoxide output
- In rare cases, a sulfur or rotten-egg smell from the exhaust if the mixture stays rich
- Intermittent surging or poor throttle response when the sensor signal is erratic

Common causes, most likely first

- 1 Aged or contaminated upstream oxygen sensor that responds sluggishly
- 2 Exhaust leaks ahead of the sensor, such as a cracked manifold or failed gasket, letting outside air skew the reading
- 3 Wiring damage or corrosion at the sensor connector or along the harness
- 4 A vacuum leak or intake leak that creates an artificially lean condition and confuses the sensor's feedback
- 5 Low fuel pressure or a clogged fuel filter causing inconsistent mixture control
- 6 A failing mass airflow (MAF) sensor that sends inaccurate air-flow data to the PCM
- 7 Rarely, a PCM calibration issue or internal driver fault on the oxygen sensor heater circuit



How to diagnose and fix it

- 1 Scan all stored and pending codes, then record freeze-frame data to see the conditions when P1133 set
- 2 Inspect the bank 1 sensor 1 wiring and connector for chafing, corrosion, or loose pins, and repair as needed
- 3 Perform a smoke test on the intake and exhaust to rule out vacuum or pre-sensor exhaust leaks
- 4 Graph the upstream oxygen sensor voltage on a scan tool; a healthy sensor should switch rapidly between roughly 0.1 and 0.9 volts
- 5 Check fuel pressure and inspect the MAF sensor reading against expected values for the engine load
- 6 If the sensor is original and the graph shows slow or flat response, replace the bank 1 sensor 1 with the correct GM-specified part
- 7 Clear codes and complete a drive cycle to verify the repair and confirm the monitor runs to completion

What a slow O2 sensor really tells you

- A contaminated oxygen sensor often looks fine on a voltmeter but fails a transition-time test, so graphing live data is more reliable than a static voltage check.
Exhaust leaks upstream of the sensor are a common cause that many technicians overlook because the leak can be small and only affect the sensor at idle or light load.
- P1133 can set even when the sensor is good if the engine has a vacuum leak that keeps the mixture lean and reduces the sensor's switching activity.
- Replacing the sensor without checking fuel pressure and MAF sensor data often leads to a repeat code because the root cause is elsewhere in the fuel or air delivery system.
GM vehicles with high mileage sometimes develop a lazy upstream sensor that does not set a heater circuit code, so P1133 may be the only clue.

Can I keep driving with P1133?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because a rich default mixture can overheat the catalytic converter over time. Have the fault diagnosed soon to prevent long-term emissions system damage.

Tools that help

- OBD-II scan tool with live data graphing capability
- Digital multimeter
- Smoke machine for intake and exhaust leak testing
- Fuel pressure gauge
- Oxygen sensor socket and ratchet



Reading P1133

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

Often seen with

P1134 Oxygen Sensor Heating Circuit Bank 1 + 2 Sensor 2 Short To B · **P1134** Front Oxygen AF Sensor Microcomputer Problem · **P1134** Bank 1 Fuel Control Shifted Rich · **P1134** O2 Sensor Transition Time (Bank 1 Sensor 1) · **P1134** Bank 1 Fuel Control Shifted Rich · **P1134** HO2S Transition Time Ratio · **P1134** O2 Sensor Heater Circuit Signal Intermittent Bank 1 Sensor 1 · **P0133** O2 Sensor Circuit Slow Response (Bank 1 Sensor 1) · **P0171** System Too Lean (Bank 1) · **P0172** System Too Rich (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected

See it working

Watch the animated explainer [How a Catalytic Converter Works: 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1133/>

