

GM · POWERTRAIN

P1139

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1139 · GM

O2 Sensor Insufficient Switching (Bank 1 Sensor 2)

P1139 on a GM vehicle means the downstream oxygen sensor on Bank 1 (Sensor 2, after the catalytic converter) is not switching voltage quickly enough for the powertrain control module's expectations. The computer compares the sensor's activity against a calibrated model and flags the code when the signal stays too flat or lazy over a monitored drive cycle.

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 noticeable symptoms.
- A slight decrease in fuel economy as the PCM may default to a richer or less optimized fuel strategy.
- Occasional rough idle or light surging if the lazy sensor is skewing fuel trim calculations.
- Failed emissions inspection due to the oxygen sensor monitor not completing or reporting a fault.
- In some cases, a stored pending code before the light comes on, especially during steady highway driving.
- No drivability complaints at all when the sensor is only marginally slow and the fault is intermittent.

Common causes, most likely first

- 1 Aged or contaminated downstream oxygen sensor that responds sluggishly to changing exhaust oxygen content.
- 2 Exhaust leaks between the catalytic converter and the sensor, or at the sensor bung, allowing outside air to affect the reading.
- 3 A failing catalytic converter that no longer stores and releases oxygen properly, causing the downstream signal to go flat.
- 4 Wiring damage or poor connector contact at the sensor pigtail, including corrosion or chafed insulation near the exhaust.
- 5 An exhaust leak upstream of the converter or a misfire that has damaged the converter substrate and altered downstream gas behavior.
- 6 Engine oil or coolant contamination from a leaking head gasket or worn valve guides coating the sensor element.
- 7 A PCM calibration issue or a sensor heater circuit fault that prevents the sensor from reaching operating temperature.



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P1139, then check for related codes such as P0420 or heater circuit faults before touching any parts.
- 2 Inspect the downstream oxygen sensor connector and wiring for corrosion, chafing, or loose pins, and repair any damaged terminals or harness sections.
- 3 Smoke-test the exhaust system from the converter back to the sensor to rule out leaks that can mimic a lazy sensor.
- 4 Use a scan tool to graph the Bank 1 Sensor 2 voltage while holding a steady throttle; a healthy sensor should switch rapidly between roughly 0.1 and 0.9 volts.
- 5 Check the sensor heater resistance and supply voltage against the GM service information for the specific engine, replacing the sensor only if the heater or signal response is out of specification.
- 6 If the sensor responds correctly but the signal remains flat, perform a back-pressure or converter efficiency test to determine whether the catalytic converter is the root cause.
- 7 After repairs, clear codes and complete the oxygen sensor monitor with a mixed drive cycle, then verify no pending or stored codes return.

Why a lazy O2 sensor is not always the culprit

- A downstream oxygen sensor that reads a steady lean or rich condition can be perfectly healthy while the catalytic converter upstream has lost its oxygen storage capacity, so replacing the sensor first often wastes money.
- Exhaust leaks after the converter pull in outside air and make the sensor report a false lean signal that looks like slow switching, and these leaks are frequently missed during a quick visual inspection.
- GM's oxygen sensor monitor is sensitive to sensor age and contamination, so a sensor that tests fine on a bench may still fail the switching test once installed in a hot exhaust stream.
- A misfire or rich-running condition that has already damaged the converter can set P1139 as a secondary code, so always check fuel trims and misfire counters before condemning the sensor.
- Some aftermarket sensors have different response characteristics than the original GM part, and a new but incorrect sensor can set this code even though it is not defective.

Can I keep driving with P1139?

The vehicle is generally safe to drive with P1139 because the fault affects emissions and fuel economy more than immediate safety, but avoid long-term driving with the light on since a failing converter can worsen and cause overheating or further damage. Have the exhaust and sensor circuit inspected soon, and do not tow heavy loads or ignore the light for months.



Tools that help

- OBD-II scan tool with live data graphing capability
- Digital multimeter for heater circuit and signal voltage checks
- Exhaust smoke machine for leak testing
- Oxygen sensor socket and ratchet
- Infrared thermometer or scan tool to verify converter inlet and outlet temperatures

Reading P1139

P Powertrain: engine, transmission and emissions.

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

1 Fuel and air metering.

39 The exact fault within that area.

Often seen with

P0136 O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) · **P0137** O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2) · **P0138** O2 Sensor Circuit High Voltage (Bank 1 Sensor 2) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

See it working

Watch the animated explainer [How Drive-by-Wire Works: Electronic Throttle Body](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1139/>

