

GENERIC · POWERTRAIN

P2256

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2256

O2 Sensor Negative Current Control Circuit High (Bank 2 Sensor 1)

P2256 means the engine computer has detected that the negative current control circuit for the upstream oxygen sensor on bank 2 is reporting a voltage higher than expected. The oxygen sensor's heater and signal return are managed by a current-controlled driver inside the powertrain control module, and this code sets when the feedback voltage on that control wire stays above the calibrated threshold for too long.

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

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or hesitation when the engine is cold because the sensor heater is not regulating properly
- Slightly higher fuel consumption as the computer loses accurate upstream oxygen feedback
- Intermittent misfire or stumble under light throttle in some vehicles
- Failed emissions test due to the oxygen sensor monitor not completing
- Occasional stalling or poor cold-start driveability in severe cases

Common causes, most likely first

- 1 Faulty oxygen sensor with an internal short or damaged heater element
- 2 Chafed, corroded or open wiring in the sensor's negative current control circuit
- 3 Poor electrical connection at the oxygen sensor or powertrain control module connector
- 4 Failed powertrain control module driver for the sensor's current control circuit
- 5 Exhaust leak near the sensor allowing moisture or contaminants to damage the sensor
- 6 Aftermarket or incorrect oxygen sensor that does not match the vehicle's current-control strategy



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm the code is current and not history
- 2 Inspect the oxygen sensor wiring and connector for chafing, corrosion, or pushed-out pins
- 3 Measure resistance and voltage on the negative current control circuit with a digital multimeter and compare to factory specifications
- 4 Check the sensor heater circuit for continuity and verify the sensor is the correct part number for the application
- 5 Perform a voltage drop test on the ground and power feeds to the sensor and powertrain control module
- 6 If the circuit tests good, substitute a known-good oxygen sensor and clear the code to see if it returns
- 7 If the code persists with a known-good sensor, diagnose the powertrain control module driver circuit or replace the module as a last resort

Why this code often misleads on oxygen sensor replacement

- A high voltage on the negative current control circuit frequently points to a wiring fault or a poor ground rather than a failed sensor, so replacing the sensor first can waste money.
- The powertrain control module uses a current-controlled driver for the sensor heater, and a shorted or open control wire can mimic a sensor failure on a scan tool.
- Exhaust leaks upstream of the sensor can pull in air and cause the sensor to report abnormal current, setting this code even though the sensor itself is healthy.
- Aftermarket oxygen sensors with incorrect heater resistance are a common cause of repeat P2256 codes on vehicles that require a specific current-control strategy.
- This code does not always mean the sensor is dead; it can be set by a loose battery ground or a failing alternator that introduces electrical noise into the sensor circuit.

Can I keep driving with P2256?

You can usually drive the vehicle with P2256, but avoid heavy loads and long trips until it is diagnosed because the engine may run richer and damage the catalytic converter over time. If the check engine light starts flashing or you notice misfiring, stop driving and have it inspected promptly.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probing pins
- Wiring diagram and factory service information for the vehicle
- Oxygen sensor socket and ratchet
- Electrical contact cleaner and dielectric grease



Reading P2256

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 2** Fuel and air metering (injector circuits).
- 56** The exact fault within that area.

Often seen with

P0135 O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) · **P0155** O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 1) · **P0161** O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 2) · **P2255** O2 Sensor Negative Current Control Circuit Low (Bank 2 Senso

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/p2256/>

