

GENERIC · POWERTRAIN

P0137

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0137

O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2)

P0137 indicates that the downstream oxygen sensor on bank 1 (often called sensor 2) is reporting a voltage that stays below the normal operating range for too long. The engine computer expects this sensor's signal to oscillate between roughly 0.1 and 0.9 volts once the catalytic converter is hot, and a sustained low voltage tells the computer the sensor circuit is either shorted to ground, the sensor is lazy, or the exhaust stream is unusually oxygen-rich.

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

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Slightly rough idle or hesitation during acceleration in some cases
- A faint rotten-egg or fuel smell from the exhaust if the mixture is rich
- Poor fuel economy as the computer adjusts fuel trim based on faulty feedback
- Failed emissions test due to the sensor readiness monitor not completing
- In rare cases, a drop in power or surging while cruising

Common causes, most likely first

- 1 Failed downstream oxygen sensor (bank 1 sensor 2) that is stuck at a low voltage
- 2 Damaged or corroded wiring between the sensor and the engine computer, especially a short to ground
- 3 Exhaust leak upstream of the sensor allowing outside air to skew the reading
- 4 Contaminated sensor from coolant, oil, or silicone poisoning
- 5 Faulty engine computer driver circuit for the sensor heater or signal return
- 6 Low fuel pressure or a leaking injector causing an excessively lean exhaust stream
- 7 Aging catalytic converter that no longer stores oxygen properly, though this usually sets a different code



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data and pending codes to confirm P0137 is active and not intermittent
- 2 Inspect the downstream oxygen sensor wiring and connector for chafing, corrosion, or a short to ground
- 3 Check for exhaust leaks between the engine and the sensor using a smoke machine or by listening for ticking
- 4 Measure the sensor signal voltage with a digital voltmeter or oscilloscope while the engine is running to see if it is pinned low
- 5 Test the sensor heater circuit resistance and compare it to the manufacturer's specification
- 6 Replace the downstream oxygen sensor if the wiring and exhaust are sound and the signal remains low
- 7 Clear codes and complete a drive cycle to verify the repair and confirm the monitor runs without resetting the code

Why a low voltage does not always mean a bad sensor

- A common misdiagnosis is replacing the downstream sensor when the real problem is an exhaust leak or a failing upstream sensor that is skewing fuel trim and driving the downstream signal low.
- The downstream oxygen sensor on bank 1 sensor 2 is often a monitoring sensor only, so a low voltage may not affect driveability at all and the code can be set by a lazy sensor that still switches but not fast enough.
- Wiring shorts to ground are frequently caused by the sensor harness rubbing against the exhaust shield or suspension components, so a visual inspection of the entire run is essential before condemning the sensor.
- A contaminated sensor from a previous coolant or oil leak can read low even after the leak is fixed, and the code may return until the sensor is replaced.
- On some vehicles, a weak battery or poor ground can cause the reference voltage to drop and set a false low-voltage code, so checking charging system health is a worthwhile first step.

Can I keep driving with P0137?

You can usually continue driving with P0137 because the downstream sensor mainly monitors catalytic converter efficiency and does not control fuel delivery directly. Avoid ignoring it for months, though, since a persistent low voltage can mask a richer underlying problem that may eventually damage the catalytic converter or increase emissions.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital voltmeter or oscilloscope
- Smoke machine for exhaust leak detection
- Socket set and oxygen sensor wrench
- Wiring diagram and manufacturer service information



Reading P0137

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

Often seen with

P0130 O2 Sensor Circuit Malfunction (Bank 1 Sensor 1) · **P0136** O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) · **P0138** O2 Sensor Circuit High Voltage (Bank 1 Sensor 2) · **P0171** System Too Lean (Bank 1) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0137/>

