

GENERIC · POWERTRAIN

P2C63

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C63

O2 Sensor Pumping Current Trim Circuit Low Bank 1 Sensor 3

P2C63 indicates that the engine control module has detected an abnormally low current on the trim circuit for the pumping cell of the downstream wideband oxygen sensor on bank 1 sensor 3. The sensor's internal heater and reference cell may still function, but the pumping current needed to measure oxygen concentration is below the expected range, so the module cannot trust the sensor's air-fuel ratio signal.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A slight decrease in fuel economy as the module substitutes a default value for the faulty sensor
- Occasional rough idle or hesitation if the module alters fuel trim based on the unreliable signal
- A pending or stored oxygen sensor heater or circuit code alongside P2C63
- Failed emissions inspection due to the oxygen sensor monitor not completing

Common causes, most likely first

- 1 A failed wideband oxygen sensor, specifically an open or shorted pumping current trim circuit inside the sensor
- 2 Corroded, loose, or damaged electrical connector pins at the sensor or the engine control module
- 3 A chafed or broken wire in the sensor harness between the sensor and the module
- 4 Contamination of the sensor element by coolant, oil, or silicone, which alters its pumping current characteristics
- 5 An exhaust leak upstream of the sensor that allows outside air to skew the sensor's reading
- 6 A rare internal fault in the engine control module's sensor driver circuit

How to diagnose and fix it

- 1 Inspect the sensor connector and harness for corrosion, loose pins, or physical damage, and repair as needed
- 2 Check the sensor's reference voltage and ground circuits with a multimeter to rule out wiring faults
- 3 Perform a resistance check on the sensor's pumping cell circuit and compare to the manufacturer's specification
- 4 Verify there are no exhaust leaks between the engine and the sensor that could affect the reading
- 5 Replace the wideband oxygen sensor with a quality direct-fit unit if electrical checks pass but the code persists
- 6 Clear the code and perform a road test to confirm the repair and allow the oxygen sensor monitor to run

Why this code often misleads on sensor replacement

- A low pumping current trim can be caused by a sensor that is merely aged and slow rather than completely failed, so a live data graph of the sensor's response is more telling than a simple resistance check.
- Technicians sometimes replace the sensor only to find the code returns because a corroded terminal in the module connector was the real culprit, so always back-probe the circuit under load.
- An exhaust leak just ahead of the sensor can pull in outside air and make the pumping current appear low, mimicking a failed sensor even though the sensor itself is healthy.
- This code is specific to wideband sensors that use a pumping cell; vehicles with traditional switching oxygen sensors will never set P2C63, so confirm the sensor type before ordering parts.
- A weak battery or charging system fault can cause erratic sensor readings and set this code intermittently, so check system voltage before condemning the sensor.

Can I keep driving with P2C63?

You can usually continue driving with P2C63 because the engine control module substitutes a default value and the vehicle remains driveable, but avoid long trips or heavy loads until the fault is repaired. Prolonged driving with an unreliable oxygen sensor signal can increase emissions and may eventually affect fuel economy or catalytic converter life.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Back-probe kit or fine test leads
- Wiring diagram for the oxygen sensor circuit
- Sensor socket or wrench

Reading P2C63

P	Powertrain: engine, transmission and emissions.
2	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
C	Hybrid propulsion.
63	The exact fault within that area.

Often seen with

P0135 O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0155** O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 1) · **P2196** O2 Sensor Signal Stuck Rich (Bank 1 Sensor 1) · **P2C62** O2 Sensor Pumping Current Trim Circuit/Open Bank 1 Sensor 3 · **P2C64** O2 Sensor Pumping Current Trim Circuit High Bank 1 Sensor 3



See it working

Watch the animated explainer [Master the Four-Stroke Engine Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2c63/>

