

GENERIC · POWERTRAIN

P064E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P064E

Internal Control Module O2 Sensor Processor Performance Bank 2

P064E indicates that the engine control module (ECM) has detected an internal performance fault within its own oxygen sensor processing circuit dedicated to Bank 2, meaning the processor or signal conditioning for the bank 2 oxygen sensor inputs is not operating as expected. The ECM is essentially reporting that its internal hardware or firmware for handling bank 2 O2 sensor data has failed a self-test, which can affect fuel control and emissions on that cylinder bank.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	High	Professional	Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough running or misfire-like behavior, especially under load or during closed-loop fuel control.
- Poor fuel economy due to incorrect air-fuel ratio adjustments on bank 2.
- Elevated emissions or failure of an emissions inspection.
- Intermittent hesitation or stumble during acceleration.
- In some cases, the engine may enter limp mode or exhibit reduced power.

Common causes, most likely first

- 1 Internal failure of the engine control module (ECM) or powertrain control module (PCM).
- 2 Corroded, damaged, or loose wiring or connectors at the bank 2 oxygen sensor or ECM harness.
- 3 Faulty bank 2 oxygen sensor causing abnormal signals that stress the ECM's processing circuit.
- 4 Voltage supply or ground issues to the ECM affecting its internal circuitry.
- 5 Software or firmware corruption within the ECM requiring reflash or replacement.
- 6 Aftermarket electronic accessories or poor electrical repairs introducing interference.
- 7 Extreme environmental factors such as water intrusion into the ECM enclosure.



How to diagnose and fix it

- 1 Perform a thorough visual inspection of the bank 2 oxygen sensor wiring and connectors for damage, corrosion, or looseness.
- 2 Check for any related diagnostic trouble codes (DTCs) and freeze-frame data to understand the conditions when P064E set.
- 3 Test the bank 2 oxygen sensor signal and heater circuits with a multimeter to rule out sensor or wiring faults.
- 4 Verify battery voltage and ground connections to the ECM, ensuring stable power and ground.
- 5 Consult technical service bulletins (TSBs) for the specific vehicle make and model regarding ECM software updates.
- 6 If all external circuits test good, reprogram or replace the ECM as per manufacturer procedures.
- 7 Clear codes and perform a road test to confirm the repair and ensure no pending codes return.

When the ECM blames itself for O2 faults

- A P064E is often misdiagnosed as a simple oxygen sensor failure, but the code specifically points to the ECM's internal processing, so replacing sensors without testing may not resolve it.
- In many cases, the root cause is a chafed or corroded wire in the bank 2 O2 sensor circuit that intermittently shorts and damages the ECM's input processor over time.
- Some vehicles may set P064E due to a low battery or charging system issue that causes voltage spikes, corrupting the ECM's internal self-test.
- Always check for aftermarket alarms, remote starters, or audio equipment that may have been tapped into the O2 sensor wiring, as these can introduce noise and trigger the code.
- A reflash or software update from the dealer can sometimes correct a false P064E without replacing the ECM, so check for TSBs before condemning the module.

Can I keep driving with P064E?

Driving with P064E is not recommended because the ECM may not properly control fuel delivery on bank 2, leading to poor performance, increased emissions, and potential damage to the catalytic converter. If you must drive, avoid heavy acceleration and have the vehicle diagnosed as soon as possible.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter (DMM) for circuit testing
- Wiring diagram and service information for the specific vehicle
- Oscilloscope for signal analysis (optional but helpful)
- ECM reprogramming tool or dealer-level scan tool



Reading P064E

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- 4E** The exact fault within that area.

Often seen with

P0130 O2 Sensor Circuit Malfunction (Bank 1 Sensor 1) · **P0135** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0150** O2 Sensor Circuit Malfunction (Bank 2 Sensor 1) · **P0155** O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 1) · **P0600** Serial Communication Link Malfunction

See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p064e/>

