

GENERIC · POWERTRAIN

P00D4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P00D4

HO2S Heater Control Circuit Range/Performance Bank 2 Sensor 2

P00D4 indicates that the powertrain control module has detected an out-of-range or performance fault in the heater control circuit for the downstream oxygen sensor on bank 2, which is the side of the engine that does not contain cylinder number one. The computer monitors the heater circuit for abnormal voltage or current behavior and sets this code when the circuit does not respond as expected during the heater self-test or continuous monitoring.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A slight decrease in fuel economy because the sensor takes longer to reach operating temperature
- Occasional rough idle or hesitation during cold starts while the system runs in open loop
- A pending code that may intermittently clear and reset depending on temperature and vibration
- In rare cases, a failed heater can cause the sensor to stay cold and trigger a related circuit code

Common causes, most likely first

- 1 A failed oxygen sensor heater element inside the bank 2 sensor 2 assembly
- 2 Corroded, loose, or damaged electrical connector pins at the sensor or harness
- 3 A broken or chafed wire in the heater control circuit between the sensor and the PCM
- 4 A short to ground or short to voltage in the heater wiring that skews the current feedback
- 5 A faulty powertrain control module driver for the heater circuit, though this is less common
- 6 Water intrusion into the connector or harness causing intermittent resistance changes



How to diagnose and fix it

- 1 Connect a scan tool and record all freeze-frame data and any stored or pending codes before clearing anything
- 2 Visually inspect the bank 2 sensor 2 connector and harness for corrosion, chafing, or water intrusion
- 3 Measure the resistance of the heater element at the sensor connector and compare it to the manufacturer's specification
- 4 Check for battery voltage and ground at the heater circuit with the key on and the engine off, using a wiring diagram
- 5 Perform a voltage drop test on both the power and ground sides of the heater circuit while the circuit is loaded
- 6 If the circuit tests good, substitute a known-good sensor or perform a bidirectional heater test with a scan tool
- 7 Repair or replace the faulty wiring, connector, or sensor as indicated by the test results, then clear codes and verify

Why the heater circuit fails without a dead sensor

- A heater element can test good at room temperature but fail open when it heats up, so a resistance check alone may miss an intermittent fault.
- The PCM often sets this code based on current draw rather than simple voltage, so a partially shorted heater can trigger it even though the sensor still works.
- Corrosion inside the connector is a frequent cause on vehicles driven in wet or salty conditions, and it can mimic a failed sensor.
- A weak battery or charging system can cause the heater self-test to fail and set this code without any actual circuit fault.
- Replacing the sensor without checking the heater circuit voltage drop often leads to a repeat failure when the real problem is a chafed wire.

Can I keep driving with P00D4?

The vehicle remains safe to drive because the downstream oxygen sensor heater only affects emissions and cold-start efficiency, not engine operation. Avoid extended idling and schedule diagnosis soon, since a persistent fault will prevent the monitor from running and may cause a failed emissions test.

Tools that help

- OBD-II scan tool with live data and bidirectional controls
- Digital multimeter with resistance and voltage drop capability
- Wiring diagram for the bank 2 sensor 2 heater circuit
- Back probe pins or breakout leads
- Socket set and oxygen sensor wrench



Reading P00D4

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- D4** The exact fault within that area.

Often seen with

P00D3 HO2S Heater Control Circuit Range/Performance Bank 2 Sensor · **P00D5** HO2S Sensor Correlation Bank 1 Sensor 1/Bank 1 Sensor 2 · **P0136** O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) · **P0137** O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)

See it working

Watch the animated explainer [How a Boxer Engine Works: Flat Engine Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00d4/>

