

GENERIC · POWERTRAIN

P00D2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P00D2

HO2S Heater Control Circuit Range/Performance Bank 1 Sensor 2

P00D2 means the powertrain control module has detected an out-of-range or underperforming condition in the heater control circuit for the downstream oxygen sensor on bank 1, which is the sensor after the catalytic converter. The computer monitors the heater circuit's electrical behavior and flags this code when the heater current or voltage does not match expected values during the cold-start heater test.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Extended time for the engine to enter closed-loop fuel control after a cold start
- Slightly higher fuel consumption during warm-up because the downstream sensor stays cold longer
- In rare cases, a pending or stored code may be accompanied by a rough idle or hesitation when the engine is cold
- No driveability complaints at all in many vehicles, since the downstream sensor mainly monitors catalyst efficiency

Common causes, most likely first

- 1 Failed heater element inside the bank 1 sensor 2 oxygen sensor
- 2 Open or shorted wiring in the heater control circuit between the sensor and the powertrain control module
- 3 Corroded or loose electrical connector at the oxygen sensor or along the heater circuit
- 4 Blown fuse that supplies power to the oxygen sensor heater circuit
- 5 Internal fault in the powertrain control module driver for the heater circuit, though this is less common
- 6 Exhaust system leaks or contamination that damage the sensor and affect heater performance



How to diagnose and fix it

- 1 Connect a scan tool and record all stored, pending, and freeze-frame data to confirm P00D2 is the primary code and not a secondary effect of another fault.
- 2 Inspect the oxygen sensor connector and the heater circuit wiring for corrosion, chafing, or loose pins, and repair as needed.
- 3 Check the fuse that feeds the oxygen sensor heater circuit and replace it if blown, then verify power and ground at the sensor connector with the key on.
- 4 Measure the resistance of the heater element inside the bank 1 sensor 2 oxygen sensor with a multimeter and compare it to the manufacturer's specification.
- 5 If the heater resistance is out of specification or the circuit tests good but the code returns, replace the bank 1 sensor 2 oxygen sensor with a quality direct-fit unit.
- 6 Clear the codes and perform a cold-start drive cycle to verify the heater circuit passes its self-test and the code does not reset.
- 7 If the code persists after sensor replacement and circuit checks, diagnose the powertrain control module driver circuit for the heater control.

Heater circuit checks before sensor replacement

- A blown fuse for the oxygen sensor heater is a common cause that technicians overlook when they jump straight to replacing the sensor, so always verify power at the heater circuit first.
- The downstream sensor heater is often on the same fuse as other emissions components, so a blown fuse may also set companion codes for other sensors or circuits.
- Heater resistance can test good at room temperature but fail when the element heats up, so a resistance check alone does not always condemn or clear the sensor.
- This code does not mean the oxygen sensor's signal circuit is faulty; the heater circuit and the signal circuit are separate, and confusing them leads to unnecessary sensor replacement.
- After replacing the sensor, the powertrain control module may need several cold-start cycles before the heater monitor runs and clears the code, so do not assume the repair failed if the light stays on briefly.

Can I keep driving with P00D2?

You can generally keep driving with P00D2 because the downstream oxygen sensor heater mainly affects emissions during warm-up and does not cause an immediate safety risk. Avoid long periods of idling from a cold start and schedule diagnosis soon, since a failed heater can increase cold-start emissions and may eventually affect fuel economy.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter for resistance and voltage checks
- Fuse puller or test light for fuse and circuit verification
- Socket set and oxygen sensor wrench for sensor replacement
- Wire repair kit with crimp connectors and heat shrink

Reading P00D2

- 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.
- D2** The exact fault within that area.

Often seen with

P0036 HO2S Heater Control Circuit (Bank 1 Sensor 2) · **P0037** HO2S Heater Control Circuit Low (Bank 1 Sensor 2) · **P0038** HO2S Heater Control Circuit High (Bank 1 Sensor 2) · **P0136** O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)

See it working

Watch the animated explainer [How a CVT Works: Belt and Pulley Transmission](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00d2/>

