



## P0142

### O2 Sensor Circuit (Bank 1 Sensor 3)

P0142 indicates that the powertrain control module (PCM) has detected a fault in the heater circuit of the downstream oxygen sensor on bank 1, which is sensor 3. The PCM monitors the heater current and voltage and sets this code when the circuit is open, shorted, or drawing current outside the expected range.

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

### Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Slightly increased fuel consumption due to the sensor not reaching operating temperature quickly
- Possible rough idle or hesitation when the engine is cold
- Failed emissions test because the heater monitor is not ready or the sensor does not respond
- In rare cases, a slight sulfur or rotten egg smell from the exhaust if the sensor stays cold and reads incorrectly

### Common causes, most likely first

- 1 Open or broken wire in the oxygen sensor heater circuit, often near the connector or where the harness flexes
- 2 Corroded, loose, or water-contaminated electrical connector at the oxygen sensor
- 3 Failed oxygen sensor heater element (open circuit inside the sensor)
- 4 Blown fuse that supplies power to the oxygen sensor heater circuit
- 5 Short to ground or short to voltage in the heater control wire
- 6 Faulty powertrain control module (PCM) driver for the heater circuit, though this is rare

### How to diagnose and fix it

- 1 Check the fuse that feeds the oxygen sensor heater circuit and replace it if blown, then recheck for the code
- 2 Inspect the oxygen sensor connector and wiring for corrosion, loose pins, or damage, and repair as needed
- 3 Measure the resistance of the oxygen sensor heater element with a multimeter and compare to the manufacturer's specification
- 4 With the key on and engine off, check for battery voltage at the heater power supply wire at the sensor connector
- 5 Check the heater control wire for continuity to the PCM and for shorts to ground or voltage
- 6 If the circuit and fuse are good but the heater resistance is out of spec, replace the oxygen sensor
- 7 Clear the code and perform a drive cycle to verify the repair and ensure the monitor completes



## Don't overlook the heater circuit fuse

- A blown fuse for the oxygen sensor heater circuit is a common cause that many people miss because they replace the sensor first without checking the fuse.
- The downstream sensor on bank 1 (sensor 3) is often used to monitor catalytic converter efficiency, but this code specifically points to the heater circuit, not the sensor's signal or the converter itself.
- A code P0142 can be set by a poor connection at the sensor connector even if the sensor itself is good, so always inspect the pins and seals before condemning the sensor.
- On some vehicles, the oxygen sensor heater is powered through a relay that can fail, causing a heater circuit code for multiple sensors; check for additional codes that might indicate a shared power supply issue.
- The heater element can test good at room temperature but fail when hot, so a resistance check alone may not always catch an intermittent heater fault.

## Can I keep driving with P0142?

You can generally continue driving with this code because the engine will still run and the main effect is slightly higher emissions and fuel consumption when cold. Avoid long periods of idling from a cold start and have the fault repaired soon to prevent damage to the catalytic converter over time.

## Tools that help

- OBD-II scan tool
- Digital multimeter
- Wire probe set
- Fuse puller
- Service information for wiring diagrams and resistance specifications

## Reading P0142

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>P</b>  | Powertrain: engine, transmission and emissions.                      |
| <b>0</b>  | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| <b>1</b>  | Fuel and air metering.                                               |
| <b>42</b> | 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) · **P0136** O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)



### See it working

Watch the animated explainer [How Variable Valve Timing Works: Cam Phaser and VVT Solenoid](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0142/>

