

GENERIC · POWERTRAIN

P0141

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0141

O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)

P0141 indicates that the engine computer has detected a problem with the heater circuit inside the downstream oxygen sensor on bank 1, which is the sensor located after the catalytic converter. The computer monitors the heater's electrical current and expects a specific resistance range when the heater is commanded on, and it sets this code when the circuit draws too much or too little current or fails to respond.

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 higher fuel consumption because the sensor takes longer to reach operating temperature
- A pending or stored code that may cause the vehicle to fail an emissions inspection
- In rare cases, a rough idle or hesitation when the engine is cold if the sensor feedback is delayed
- No drivability issues in most cases because the downstream sensor mainly monitors catalyst efficiency

Common causes, most likely first

- 1 Failed heater element inside the downstream oxygen sensor
- 2 Open or shorted wiring in the sensor heater circuit, often due to corrosion or chafing
- 3 Blown fuse that supplies power to the oxygen sensor heater circuit
- 4 Poor electrical connection at the sensor harness connector, including loose pins or water intrusion
- 5 Faulty engine computer driver for the heater circuit, though this is rare
- 6 Exhaust leaks near the sensor that allow moisture to contaminate the heater element

How to diagnose and fix it

- 1 Check the fuse that protects the oxygen sensor heater circuit and replace it if blown
- 2 Inspect the sensor harness and connector for damage, corrosion, or loose pins and repair as needed
- 3 Measure the resistance of the heater element with a multimeter and compare to the manufacturer's specification
- 4 Test for power and ground at the sensor connector with the key on and the engine off to verify the circuit is complete
- 5 If the heater resistance is out of specification, replace the downstream oxygen sensor
- 6 Clear the code and perform a drive cycle to verify the repair and ensure the code does not return



What most technicians overlook on P0141

- A blown fuse for the oxygen sensor heater is often caused by a shorted sensor heater or wiring, so simply replacing the fuse without finding the short will lead to a repeat failure.
- The downstream sensor heater is not used for fuel control, so the vehicle may run perfectly fine and the only clue is the check engine light, leading some to ignore it until emissions testing.
- On many vehicles, the heater circuit is powered through a relay that can fail intermittently, causing the code to set only in cold weather or after the vehicle sits overnight.
- A code for the downstream sensor heater can sometimes be set by a failing upstream sensor if the two sensors share a common power or ground circuit, so always check both circuits.
- Resistance testing the heater element with a meter can be misleading if the element is intermittent; a load test with a bulb or a scope may be needed to catch a heater that only fails when hot.

Can I keep driving with P0141?

You can continue driving with P0141 because the downstream oxygen sensor heater does not affect engine safety or performance in most cases, but have it repaired soon to ensure the sensor reaches operating temperature and to avoid failing an emissions test.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Test light
- Socket set and oxygen sensor wrench
- Vehicle service information for wiring diagrams and resistance specifications

Reading P0141

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- 41** 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) · **P0140** O2 Sensor Circuit No Activity (Bank 1 Sensor 2) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)



See it working

Watch the animated explainer [How a Car Thermostat Works: Wax Pellet and Cooling Fan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0141/>

