

GENERIC · POWERTRAIN

P0547

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0547

Exhaust Gas Temperature Sensor Circuit (Bank 2 Sensor 1)

P0547 means the engine control module has detected an abnormal signal from the exhaust gas temperature sensor located upstream of the catalytic converter on bank 2, which is the side of the engine that does not contain cylinder number one. The computer compares the sensor's reported temperature against expected values during warm-up and running conditions, and it sets this code when the circuit voltage or temperature reading falls outside the programmed range for a calibrated period.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode on some vehicles as the computer protects the exhaust system
- Slightly higher fuel consumption because the computer may default to a richer mixture
- A pending or stored code that returns quickly after clearing if the fault is hard
- In rare cases, a burning or sulfur smell from the exhaust if temperatures run abnormally high
- No drivability complaint at all on many vehicles, especially those that use the sensor only for monitoring

Common causes, most likely first

- 1 Failed exhaust gas temperature sensor on bank 2 sensor 1, either open circuit, shorted internally, or drifted calibration
- 2 Damaged or corroded wiring harness and connector at the sensor, often from heat, oil, or road debris
- 3 Blown fuse or faulty relay that supplies power to the sensor heater circuit where applicable
- 4 Exhaust leak upstream of the sensor allowing outside air to skew the temperature reading
- 5 Poor ground connection for the sensor circuit at the engine or chassis
- 6 Faulty engine control module, which is rare but possible after all other causes are ruled out
- 7 Aftermarket or incorrect sensor installed previously that does not match the vehicle's calibration



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data and live exhaust gas temperature sensor reading to confirm the fault is present and not intermittent
- 2 Visually inspect the sensor, connector, and wiring for heat damage, chafing, corrosion, or loose pins, and repair any obvious harness damage
- 3 Check the sensor heater circuit fuse and relay if the sensor is a heated type, and verify power and ground at the connector with a multimeter
- 4 Measure the sensor resistance and compare it to the manufacturer's specification for the ambient temperature, replacing the sensor if it is open or out of range
- 5 Perform a voltage drop test on the sensor ground circuit to rule out a poor ground before condemning the sensor
- 6 Check for exhaust leaks upstream of the sensor using a smoke machine or by listening for ticking during cold start
- 7 Clear the code and road test the vehicle through a complete warm-up cycle to verify the repair and confirm the monitor runs without resetting the code

What a P0547 often hides behind the sensor

- A P0547 is frequently set by a wiring problem rather than a failed sensor, so technicians who replace the sensor without checking the harness often see the code return within a few drive cycles.
- On many vehicles the bank 2 sensor 1 exhaust gas temperature sensor is used mainly for catalyst protection and emissions monitoring, so the engine may run perfectly normally even when the sensor is dead.
- An exhaust leak between the cylinder head and the sensor can pull in outside air and cause the sensor to report a temperature that is too low, mimicking a failed sensor.
- Some vehicles set this code when the sensor heater circuit draws too much or too little current, which points to the sensor element itself rather than the signal wire.
- A weak battery or charging system that causes low voltage during cranking can set a false P0547 on sensitive vehicles, so always check system voltage before replacing parts.

Can I keep driving with P0547?

You can usually drive the vehicle short distances to a repair shop because the fault mainly affects emissions monitoring and catalyst protection rather than immediate engine safety. Avoid sustained heavy loads, towing, or high-speed driving until the fault is repaired, since a failed sensor can allow exhaust temperatures to rise unchecked and damage the catalytic converter over time.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with resistance and voltage drop functions
- Infrared thermometer for checking exhaust temperatures
- Socket set and wrench set for sensor removal
- Smoke machine for exhaust leak detection
- Wiring diagram and manufacturer's sensor resistance specifications

Reading P0547

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
5	Vehicle speed, idle control and auxiliary inputs.
47	The exact fault within that area.

Often seen with

P0420 Catalyst System Efficiency Below Threshold (Bank 1) · **P0545** Exhaust Gas Temperature Sensor Circuit Low (Bank 1 Sensor 1) · **P0546** Exhaust Gas Temperature Sensor Circuit High (Bank 1 Sensor 1) · **P0548** Exhaust Gas Temperature Sensor Circuit Low (Bank 2 Sensor 1) · **P0549** Exhaust Gas Temperature Sensor Circuit High (Bank 2 Sensor 1)

See it working

Watch the animated explainer [How Airbags Work: A 50 km/h Crash in Slow Motion](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0547/>

