

GENERIC · POWERTRAIN

P0546

OBD-II TROUBLE CODE

P0546

Exhaust Gas Temperature Sensor Circuit High (Bank 1 Sensor 1)

P0546 means the engine computer has detected an abnormally high voltage signal from the exhaust gas temperature sensor located before the catalytic converter on bank 1, which is the side of the engine containing cylinder number one. The sensor circuit is reporting a temperature that is higher than the computer expects, or the signal wire is shorted to voltage, so the computer sets this code to flag a fault in the sensor circuit rather than a confirmed overheating event.

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 if the computer uses the faulty signal to protect the exhaust system
- A slight decrease in fuel economy as the computer adjusts fueling based on an incorrect temperature reading
- In rare cases, a burning or hot exhaust smell if the sensor is genuinely reporting an overheated condition
- Failure of an emissions readiness monitor, preventing the vehicle from passing an inspection

Common causes, most likely first

- 1 A short to voltage on the signal wire between the exhaust gas temperature sensor and the engine computer
- 2 A failed exhaust gas temperature sensor that internally shorts and sends a high voltage signal
- 3 Corroded, damaged, or pushed-out pins in the sensor connector or the computer connector
- 4 A wiring harness that has rubbed through and is contacting a power wire or a hot exhaust component
- 5 A faulty engine computer that incorrectly interprets a normal sensor signal as high voltage
- 6 An exhaust restriction or severe overheating condition that genuinely raises the exhaust temperature beyond normal limits



How to diagnose and fix it

- 1 Use a scan tool to read the exhaust gas temperature sensor voltage and compare it to the expected value with the key on and the engine off
- 2 Visually inspect the sensor, its connector, and the wiring harness for damage, corrosion, or contact with hot or moving parts
- 3 Disconnect the sensor and check the signal circuit for a short to voltage using a digital multimeter with the key on
- 4 Check the sensor's resistance or voltage output against the manufacturer's specification while heating the sensor with a heat gun
- 5 Repair or replace any damaged wiring or connector terminals, then clear the code and verify the signal returns to normal
- 6 Replace the exhaust gas temperature sensor if the circuit tests good but the sensor output remains out of range
- 7 If the circuit and sensor both test good, diagnose the engine computer or check for an exhaust restriction causing genuine overheating

What a high EGT signal really tells you

- A shorted signal wire is more common than a failed sensor on this code, so always check the harness for chafing near the exhaust manifold before condemning the sensor.
- The computer compares the pre-catalyst sensor to the post-catalyst sensor on many vehicles, so a faulty downstream sensor can sometimes cause a misleading high reading on the upstream sensor.
- A genuine exhaust restriction, such as a collapsed catalytic converter or a damaged muffler, can raise actual exhaust temperatures and set this code without any electrical fault at all.
- After replacing a sensor, the computer may need several drive cycles before the monitor runs and the code stays cleared, so do not assume the repair failed if the light returns immediately.
- Water or oil contamination in the connector can create a partial short to voltage that only appears when the engine is hot, so wiggle-test the harness while watching live data.

Can I keep driving with P0546?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or sustained high-speed driving because a genuine overheating condition could damage the catalytic converter. If the engine runs poorly or the check engine light flashes, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Heat gun for testing the sensor response
- Wiring diagram for the exhaust gas temperature sensor circuit
- Basic hand tools for connector and sensor removal

Reading P0546

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

Often seen with

P0544 Exhaust Gas Temperature Sensor Circuit (Bank 1 Sensor 1) · **P0545** Exhaust Gas Temperature Sensor Circuit Low (Bank 1 Sensor 1) · **P0547** Exhaust Gas Temperature Sensor Circuit (Bank 2 Sensor 1) · **P2032** Exhaust Gas Temperature Sensor Circuit Low (Bank 1 Sensor 2) · **P2033** Exhaust Gas Temperature Sensor Circuit High (Bank 1 Sensor 2)

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0546/>

