

GENERIC · POWERTRAIN

P0545

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0545

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

P0545 means the engine computer has detected an abnormally low voltage signal from the exhaust gas temperature (EGT) sensor located before the catalytic converter on bank 1, which is the side of the engine that contains cylinder number one. The sensor's internal thermistor normally varies resistance with temperature, and a low signal tells the computer the exhaust is colder than it should be or that the circuit is shorted to ground.

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 cannot trust exhaust temperature data for protection strategies
- Poor fuel economy or altered regeneration behavior on diesel vehicles equipped with a particulate filter
- Intermittent stumble or rough running if the sensor wiring is chafed and shorting
- A stored freeze-frame showing low sensor voltage at the moment the fault set

Common causes, most likely first

- 1 A short to ground in the sensor signal wire, often where the harness rubs against a heat shield or bracket
- 2 A failed EGT sensor whose internal thermistor has drifted or shorted
- 3 Corroded, loose, or pushed-back pins at the sensor connector or the engine computer connector
- 4 Water intrusion into the connector causing a low-resistance path to ground
- 5 A faulty engine computer driver circuit, though this is rare compared with wiring faults
- 6 Exhaust leaks upstream of the sensor that let cooler air reach the tip and skew the reading



How to diagnose and fix it

- 1 Connect a scan tool and read the EGT sensor voltage live to confirm the signal is pinned low rather than intermittent
- 2 Inspect the sensor harness from the connector to the computer for chafing, melted insulation, or contact with hot exhaust parts
- 3 Disconnect the sensor and measure resistance across its terminals, comparing the reading to the temperature-based specification for the vehicle
- 4 Check for continuity between the signal wire and ground with the sensor unplugged to rule out a short in the harness
- 5 Clean and re-seat the connector, then clear the code and verify the voltage responds correctly when the engine warms up
- 6 Replace the EGT sensor if resistance testing proves it is out of range, using the correct thread sealant and torque
- 7 If the harness and sensor test good, perform a wiggle test and check the computer connector before condemning the computer

Why a low EGT signal is not always the sensor

- A shorted signal wire is far more common than a failed sensor on high-mileage vehicles, so always ohm the harness before buying parts.
- On diesel engines, a low EGT reading can prevent or alter diesel particulate filter regeneration, so ignoring the code can lead to a plugged filter.
- The sensor may test fine at room temperature but fail only when hot, so resistance checks should be repeated after a road test.
- Exhaust leaks upstream of the sensor pull in cool air and can mimic a low signal, so inspect gaskets and welds before replacing the sensor.
- Some vehicles set P0545 when the connector is simply unplugged, so check that the latch is fully seated before deeper diagnosis.

Can I keep driving with P0545?

You can usually drive short distances to a repair shop, but avoid heavy towing or sustained high-load driving because the computer may be limiting power or regeneration. If the engine enters limp mode or you notice a strong exhaust smell, stop driving and have it inspected.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter with resistance and continuity functions
- Wiring diagram for the specific vehicle
- Heat-resistant gloves and safety glasses
- Sensor socket or appropriate wrench

Reading P0545

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.
45	The exact fault within that area.

Often seen with

P0544 Exhaust Gas Temperature Sensor Circuit (Bank 1 Sensor 1) · **P0546** Exhaust Gas Temperature Sensor Circuit High (Bank 1 Sensor 1) · **P0547** Exhaust Gas Temperature Sensor Circuit (Bank 2 Sensor 1) · **P2031** Exhaust Gas Temperature Sensor Circuit (Bank 1 Sensor 2) · **P242C** Exhaust Gas Temperature Sensor Circuit Low Bank 1 Sensor 3

See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0545/>

