

GENERIC · POWERTRAIN

P20E4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P20E4

Exhaust Gas Temperature Sensor 2/3 Correlation (Bank 1)

P20E4 indicates that the powertrain control module (PCM) has detected an implausible correlation between the exhaust gas temperature (EGT) sensor 2 and sensor 3 on bank 1. The PCM compares the two sensor readings under specific operating conditions and sets this code when the temperature values deviate beyond the calibrated threshold, suggesting a sensor, wiring, or exhaust system fault.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Malfunction indicator lamp (MIL) illuminated, often with no other noticeable symptoms
- Reduced engine power or limp mode in some vehicles
- Poor fuel economy or altered regeneration behavior on diesel engines
- Intermittent rough running or hesitation under load
- Possible black smoke or excessive exhaust odor from incomplete regeneration
- No drivability issues at all in many cases

Common causes, most likely first

- 1 Faulty EGT sensor 2 or sensor 3 (internal short, open circuit, or degraded response)
- 2 Damaged or corroded wiring harness or connector at either sensor
- 3 Exhaust leaks upstream of the sensors causing false temperature readings
- 4 Restricted exhaust or partially clogged diesel particulate filter (DPF) altering temperature gradients
- 5 PCM software calibration issue or outdated firmware
- 6 Failed sensor mounting or loose sensor in the exhaust bung
- 7 Corrosion or water intrusion in the sensor connector causing signal interference



How to diagnose and fix it

- 1 Perform a visual inspection of both EGT sensors and their wiring for damage, corrosion, or loose connections
- 2 Use a scan tool to read live EGT sensor 2 and sensor 3 values during a test drive and compare them for plausibility
- 3 Check for exhaust leaks upstream of the sensors using a smoke machine or visual inspection of gaskets and pipes
- 4 Measure sensor resistance and compare to manufacturer specifications if available
- 5 Verify sensor part numbers and installation depth match the application
- 6 Check for technical service bulletins (TSBs) or PCM software updates related to EGT correlation
- 7 Replace the faulty sensor or repair wiring as needed, then clear codes and verify the repair with a road test

What most technicians overlook on P20E4

- A correlation code does not automatically mean both sensors are bad; often only one sensor is skewed, and replacing both without testing wastes money.
Exhaust leaks between the two sensors can create a temperature difference that mimics a sensor fault, so always inspect the exhaust system before condemning sensors.
- On diesel vehicles, a failing DPF regeneration can cause abnormal temperature spreads that set this code even when sensors are healthy.
- Sensor connectors often suffer from water intrusion or corrosion that causes intermittent correlation faults, especially in areas with road salt.
After replacing a sensor, some vehicles require a relearn or adaptation reset to prevent the code from returning immediately.

Can I keep driving with P20E4?

The vehicle is generally safe to drive with this code, but avoid heavy loads or sustained high-speed driving until diagnosed, as incorrect EGT readings can affect regeneration and emissions performance. If the engine enters limp mode, seek service promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Infrared thermometer
- Smoke machine for exhaust leak detection
- Basic hand tools (wrenches, sockets, screwdrivers)



Reading P20E4

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- E4** 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) · **P2033** Exhaust Gas Temperature Sensor Circuit High (Bank 1 Sensor 2) · **P20E3** Exhaust Gas Temperature Sensor 1/3 Correlation (Bank 1) · **P20E5** Exhaust Gas Temperature Sensor 1/2 Correlation (Bank 2)

See it working

Watch the animated explainer [How the PCV System Works: Crankcase Ventilation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p20e4/>

