

GENERIC · POWERTRAIN

**P2080**

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P2080

### Exhaust Gas Temperature Sensor Circuit Range/Performance (Bank 1 Sensor 1)

P2080 means the powertrain control module (PCM) has detected that the exhaust gas temperature (EGT) sensor on bank 1, sensor 1 is reporting a temperature outside the range the PCM expects for the current engine operating conditions. The PCM compares the sensor signal against modeled exhaust temperature and other sensor inputs, and it sets this code when the signal is plausible but incorrect rather than completely absent.

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

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode if the PCM derates the engine to protect exhaust components
- Poor fuel economy or altered regeneration behavior on diesel vehicles equipped with a particulate filter
- Intermittent rough running or hesitation during acceleration
- A stored freeze-frame showing the fault occurred during a specific temperature or load condition

### Common causes, most likely first

- 1 Faulty exhaust gas temperature sensor that is biased or slow to respond
- 2 Damaged or corroded sensor wiring or connector terminals causing resistance changes
- 3 Exhaust leaks upstream of the sensor allowing outside air to affect the reading
- 4 Sensor installed with the wrong thread depth or a missing heat shield, causing it to read incorrectly
- 5 PCM software calibration issue or internal driver fault on the sensor circuit
- 6 Contamination or physical damage to the sensor probe from excessive soot or overheating



## How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to see the exact conditions when the code set
- 2 Visually inspect the sensor, connector, and wiring for damage, corrosion, or exhaust leaks
- 3 Compare the EGT sensor reading with a known-good reference or infrared thermometer at idle and during a rev test
- 4 Check the sensor resistance or voltage output against the manufacturer's specification if available
- 5 Perform a wiggle test on the harness while watching live data to catch intermittent wiring faults
- 6 Replace the EGT sensor if its reading is biased or unresponsive compared with actual exhaust temperature
- 7 Clear the code and complete a drive cycle to verify the repair, reprogramming the PCM if a calibration update is required

## What the EGT range code really means

- A P2080 can set from an exhaust leak before the sensor because the leaking pulse of outside air cools the probe and skews the reading without any sensor fault at all.  
Technicians often replace the sensor first, but a corroded connector terminal that adds resistance will make a new sensor read exactly as badly as the old one.
  - On diesel engines, this code frequently appears after a failed regeneration or excessive soot loading, so the root cause may be the particulate filter rather than the sensor.
  - The PCM may accept a sensor that reads a fixed plausible temperature at idle, so a live-data comparison during a hard acceleration is the only way to expose a lazy sensor.
- A P2080 does not always mean the sensor is dead; a sensor that is merely slow to respond can pass a static resistance test and still set this range code.

## Can I keep driving with P2080?

You can usually drive the vehicle to a workshop, but avoid heavy acceleration, towing, or long high-load trips because an incorrect exhaust temperature reading can disrupt regeneration and lead to overheating or emissions damage. If the engine enters limp mode or you notice excessive smoke, stop driving and arrange a diagnostic scan.

## Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Infrared thermometer for comparing actual exhaust temperature
- Digital multimeter for resistance and voltage checks
- Wiring diagram and manufacturer sensor specifications
- Basic hand tools for sensor removal and connector inspection



## Reading P2080

- 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.
- 80** The exact fault within that area.

## Often seen with

**P0544** Exhaust Gas Temperature Sensor Circuit (Bank 1 Sensor 1) · **P2033** Exhaust Gas Temperature Sensor Circuit High (Bank 1 Sensor 2) · **P2081** Exhaust Gas Temperature Sensor Circuit Intermittent (Bank 1) · **P2082** Exhaust Gas Temperature Sensor Circuit Range/Performance (Bank 1) · **P2083** Exhaust Gas Temperature Sensor Circuit Intermittent (Bank 2)

## See it working

Watch the animated explainer [Readiness Monitors and the OBD-II Drive Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2080/>

