

GENERIC · POWERTRAIN

P2082

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2082

Exhaust Gas Temperature Sensor Circuit Range/Performance (Bank 2 Sensor 1)

P2082 indicates that the powertrain control module has detected an out-of-range or erratic signal from the exhaust gas temperature sensor located before the catalytic converter on bank 2. The sensor's voltage or resistance does not correlate with expected exhaust temperature under the current operating conditions, so the computer flags a range or performance fault rather than a simple open or short circuit.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	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 in some vehicles as a protective measure
- Slightly higher fuel consumption due to altered fuel delivery strategies
- Intermittent rough running or hesitation during acceleration
- A stored freeze-frame showing the fault occurred during a specific temperature window
- Possible secondary codes related to catalyst efficiency or sensor heater performance

Common causes, most likely first

- 1 Faulty exhaust gas temperature sensor on bank 2 sensor 1 that has drifted or become sluggish
- 2 Damaged or corroded wiring harness and connector pins at the sensor or along the circuit
- 3 Exhaust leaks upstream of the sensor introducing false air and skewing temperature readings
- 4 Restricted exhaust flow or a failing catalytic converter causing abnormal temperature behavior
- 5 Poor electrical ground or reference voltage supply shared with other sensors
- 6 Aftermarket or incorrect sensor installed previously that does not meet the original calibration



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data to see the exact conditions when the code set
- 2 Visually inspect the sensor, connector, and wiring for chafing, corrosion, or heat damage
- 3 Measure sensor resistance and compare it to the manufacturer's specification at known temperatures
- 4 Check for exhaust leaks upstream of the sensor using a smoke machine or by listening for ticking
- 5 Verify the sensor's signal voltage with a multimeter or oscilloscope while warming the engine
- 6 Replace the exhaust gas temperature sensor if it fails resistance or response tests
- 7 Clear the code and perform a drive cycle to confirm the repair and ensure no pending codes return

What a P2082 often hides

- A sluggish sensor that responds slowly to temperature changes can set P2082 without ever producing an open-circuit code, so a simple resistance check at room temperature may pass while the sensor is still faulty.
- Exhaust leaks between the cylinder head and the sensor are a commonly missed cause because they introduce oxygen that makes the sensor read cooler than actual exhaust temperature.
- The code can be set by a poor connection at the sensor connector that only acts up when the engine bay is hot, so wiggle-testing the harness while watching live data is a valuable step.
- Some vehicles use the bank 2 sensor 1 signal to control catalyst protection strategies, so ignoring the code can eventually lead to catalyst damage rather than just a warning light.
- A replacement sensor that is not calibrated for the specific vehicle can set the same code again, so matching the original sensor's part family and connector is critical.

Can I keep driving with P2082?

You can usually continue driving to a workshop, but avoid heavy loads, towing, or sustained high-speed driving until the fault is repaired. If the engine enters limp mode or you notice rough running, stop and have the vehicle inspected promptly.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with temperature probe
- Oscilloscope for signal waveform analysis
- Smoke machine for exhaust leak detection
- Socket set and heat-resistant gloves



Reading P2082

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

Often seen with

P0420 Catalyst System Efficiency Below Threshold (Bank 1) · **P0430** Catalyst System Efficiency Below Threshold (Bank 2) · **P2080** Exhaust Gas Temperature Sensor Circuit Range/Performance (Bank 1) · **P2081** Exhaust Gas Temperature Sensor Circuit Intermittent (Bank 1) · **P2083** Exhaust Gas Temperature Sensor Circuit Intermittent (Bank 2)

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2082/>

