

GENERIC · POWERTRAIN

P2033

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2033

Exhaust Gas Temperature Sensor Circuit High (Bank 1 Sensor 2)

P2033 means the powertrain control module (PCM) has detected an abnormally high voltage on the exhaust gas temperature (EGT) sensor circuit for bank 1 sensor 2, which is the sensor located after the catalytic converter on the bank that contains cylinder number one. The PCM interprets this high voltage as an excessively hot exhaust stream or a wiring fault, and it sets the code to protect the engine and emissions system.

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 decides the exhaust temperature is unsafe.
- Poor fuel economy or altered shift quality as the PCM adjusts fueling and torque management.
- In rare cases, a burning smell or visible heat damage near the exhaust if the sensor is genuinely reading a hot condition.
- Intermittent warning light that comes and goes with vibration or moisture in the connector.

Common causes, most likely first

- 1 A faulty EGT sensor that internally shorts to voltage or has drifted out of calibration.
- 2 Damaged or chafed sensor wiring shorted to a power source or to the sensor signal return.
- 3 Corroded, loose, or water-intruded connector pins at the sensor or PCM harness.
- 4 An open ground circuit for the sensor, causing the signal voltage to float high.
- 5 A PCM internal fault that misreads the sensor input, though this is less common.
- 6 Extreme exhaust temperatures from a rich-running engine, retarded timing, or a restricted exhaust, which can push the sensor signal high.
- 7 Aftermarket sensor or pigtail with incorrect resistance or wiring that does not match the OEM specification.



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P2033 to see the reported EGT voltage and temperature at the moment of failure.
- 2 Visually inspect the bank 1 sensor 2 EGT sensor, its connector, and the wiring harness for chafing, corrosion, or heat damage.
- 3 Measure sensor resistance and compare it to the manufacturer's specification for the current exhaust temperature.
- 4 Back-probe the sensor signal circuit at the PCM and check for a short to voltage or an open ground with a digital multimeter.
- 5 Perform a wiggle test on the harness while watching live EGT data to catch intermittent wiring faults.
- 6 If the sensor and wiring test good, check for excessive exhaust temperatures caused by fueling, timing, or exhaust restriction issues.
- 7 Replace the EGT sensor only after confirming the circuit is not shorted or grounded, then clear codes and verify the repair with a road test.

What a high EGT reading really means

- A high voltage on an EGT sensor circuit usually indicates a short to voltage or an open ground, not necessarily a genuinely overheated exhaust, so chasing a hot exhaust first often wastes time.
- Many technicians replace the EGT sensor when the real fault is a chafed harness near the transmission bellhousing or a corroded connector that only acts up in wet weather.
- Bank 1 sensor 2 is the post-catalyst sensor on bank 1, and on V-configured engines that is not the same side as bank 2, so confirming the correct sensor location prevents replacing the wrong part.
- A P2033 can be set by a poor engine ground or a failing alternator that raises the reference voltage, so checking charging system voltage and ground straps is a worthwhile step.
- Aftermarket EGT sensors with incorrect resistance curves are a common cause of repeat P2033 codes, and OEM or OEM-equivalent sensors are the safer choice.

Can I keep driving with P2033?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration, towing, or long uphill pulls because the PCM may be limiting power and a genuine high exhaust temperature can damage components. If the engine enters limp mode or you smell burning, stop driving and have the vehicle towed.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter with back-probe pins
- Infrared thermometer
- Wiring diagram for the EGT sensor circuit
- Basic hand tools for sensor removal



Reading P2033

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

Often seen with

P0420 Catalyst System Efficiency Below Threshold (Bank 1) · **P0546** Exhaust Gas Temperature Sensor Circuit High (Bank 1 Sensor 1) · **P2031** Exhaust Gas Temperature Sensor Circuit (Bank 1 Sensor 2) · **P2032** Exhaust Gas Temperature Sensor Circuit Low (Bank 1 Sensor 2) · **P2034** Exhaust Gas Temperature Sensor Circuit (Bank 2 Sensor 2)

See it working

Watch the animated explainer [Excavator Simulator: Hydraulics You Can Operate](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2033/>

