

GENERIC · POWERTRAIN

P0145

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0145

O2 Sensor Circuit Slow Response (Bank 1 Sensor 3)

P0145 means the powertrain control module (PCM) has detected that the downstream oxygen sensor on bank 1, sensor 3, is responding too slowly to changes in exhaust oxygen content. The PCM monitors the sensor's voltage switching rate and compares it to an expected response time, and when the signal lags beyond a calibrated threshold, it stores this code.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Low	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms noticed by the driver.
- A slight decrease in fuel economy as the PCM may default to a less efficient fuel strategy.
- Occasional hesitation or stumble during acceleration if the slow sensor skews fuel trim calculations.
- A failed emissions test due to the sensor's slow response affecting the monitor's readiness status.
- Rough idle or unstable engine operation in some cases, though less common with a downstream sensor fault.

Common causes, most likely first

- 1 A degraded or aged oxygen sensor that has lost its responsiveness over time.
- 2 Contamination of the sensor tip from oil, coolant, or silicone, which coats the sensing element and slows its reaction.
- 3 A wiring fault such as a chafed wire, corroded connector, or poor ground that adds resistance to the sensor circuit.
- 4 An exhaust leak upstream of the sensor that allows outside air to dilute the exhaust sample and confuse the sensor's reading.
- 5 A restricted or failing catalytic converter that alters the exhaust flow and affects the sensor's ability to sample gases accurately.
- 6 A PCM software issue or internal driver fault that misinterprets the sensor signal, though this is rare.



How to diagnose and fix it

- 1 Inspect the oxygen sensor wiring and connector for damage, corrosion, or loose pins, and repair as needed.
- 2 Check for exhaust leaks between the engine and the sensor, especially at manifold flanges and pipe joints, and seal any leaks found.
- 3 Use a scan tool to view live data for the bank 1 sensor 3 voltage and compare its switching rate to the upstream sensor to confirm sluggishness.
- 4 Perform a visual inspection of the sensor tip for contamination or damage, and replace the sensor if it shows signs of fouling or physical wear.
- 5 Verify the sensor's ground circuit and reference voltage with a multimeter to rule out electrical resistance issues.
- 6 Clear the code and perform a drive cycle to see if the code returns, confirming whether the repair was effective.
- 7 If the sensor and wiring are good, evaluate the catalytic converter's efficiency with a backpressure test or temperature readings, as a failing converter can cause slow sensor response.

Downstream sensor slow response traps

- A slow response from a downstream oxygen sensor is often caused by a failing catalytic converter rather than the sensor itself, so replacing the sensor without checking converter efficiency can lead to a quick return of the code.
- Exhaust leaks that are small enough to be inaudible can introduce enough oxygen to skew the sensor's reading and trigger P0145, so a thorough leak check is essential before condemning the sensor.
- Some vehicles use the downstream sensor primarily for catalyst monitoring, so a slow response may not affect driveability at all, leading drivers to ignore the code until an emissions test fails.
- Contamination from silicone-based sealants or coolant leaks can coat the sensor and slow its response without setting a heater circuit code, so inspecting for external contaminants is a smart diagnostic step.
- The PCM may set P0145 only after multiple drive cycles with specific conditions, so a single clear code does not always mean the problem is resolved; a full readiness drive cycle is needed to verify the fix.

Can I keep driving with P0145?

You can generally continue driving with P0145 because the downstream sensor has minimal impact on engine performance, but avoid long-term neglect since it can mask a failing catalytic converter and will cause an emissions test failure. Have the fault diagnosed soon to prevent secondary damage and to ensure your vehicle remains compliant with emissions regulations.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oxygen sensor socket
- Exhaust leak detection smoke machine or stethoscope
- Jack and jack stands or ramps for under-vehicle access

Reading P0145

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- 45** The exact fault within that area.

Often seen with

P0135 O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0136** O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) · **P0140** O2 Sensor Circuit No Activity (Bank 1 Sensor 2) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

See it working

Watch the animated explainer [Helicopter Simulator: Take Off, Hover and Land](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0145/>

