



P1177 · BMW

O2 Sensor Slow Response Bank 2

P1177 on BMW vehicles indicates that the engine control module has detected an excessively slow response from the downstream oxygen sensor on bank 2, meaning the sensor's voltage is not switching quickly enough as the exhaust mixture changes. The computer compares the sensor's reaction time against expected values and flags the code when the signal lags beyond a calibrated threshold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Slightly reduced fuel economy over time as the engine control module struggles to fine-tune the mixture
- Occasional rough idle or hesitation during light acceleration
- A faint sulfur or rotten egg smell from the exhaust in some cases
- Failed emissions test due to increased tailpipe emissions

Common causes, most likely first

- 1 Aged or contaminated oxygen sensor on bank 2 downstream position
- 2 Exhaust leaks upstream of the sensor, allowing outside air to skew readings
- 3 Wiring damage or corroded connectors between the sensor and the engine control module
- 4 A failing catalytic converter that is no longer storing and releasing oxygen properly
- 5 Engine misfires or rich running conditions that have fouled the sensor element
- 6 Use of leaded fuel or silicone-based sealants that poison the sensor

How to diagnose and fix it

- 1 Inspect the bank 2 downstream oxygen sensor wiring and connector for damage, corrosion, or loose pins
- 2 Check for exhaust leaks between the manifold and the sensor using a smoke machine or by listening for ticking sounds
- 3 Graph the oxygen sensor voltage with a scan tool to confirm slow switching and compare it to the bank 1 sensor
- 4 Perform a propane enrichment test to verify the sensor reacts promptly to a rich mixture
- 5 Replace the bank 2 downstream oxygen sensor if it fails the response test
- 6 Clear the fault memory and perform a road test to verify the code does not return
- 7 If the code persists, inspect the catalytic converter for efficiency and replace if necessary



What a slow O2 sensor really tells you

- A slow oxygen sensor often passes a simple voltage swing test but still fails a response time test, so graphing the signal with a scan tool is essential for an accurate diagnosis.
- Exhaust leaks upstream of the sensor are a common cause of slow response codes because they introduce oxygen pulses that confuse the sensor's feedback loop.
- Replacing the sensor without checking for exhaust leaks or wiring issues frequently leads to a repeat failure of the same code.
- A degraded catalytic converter can cause the downstream sensor to appear slow because the converter's oxygen storage capacity affects the sensor's signal dynamics.
- On some BMW engines, oil or coolant contamination from internal leaks can coat the sensor element and slow its response without triggering a heater circuit code.

Can I keep driving with P1177?

You can usually continue driving with P1177, but avoid aggressive acceleration and long trips until the fault is repaired, as prolonged driving with a slow sensor can increase emissions and may eventually damage the catalytic converter.

Tools that help

- OBD-II scan tool with graphing capability
- Digital multimeter
- Smoke machine for exhaust leak detection
- Propane enrichment tool
- Oxygen sensor socket
- Wiring repair kit

Reading P1177

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (BMW); its meaning depends on the make.

1 Fuel and air metering.

77 The exact fault within that area.

Often seen with

P1176 Rear Oxygen Sensor Correction · **P1176** Long Term Fuel Trim Too Lean Banks 1 And 2 (FMFR) ·

P1176 Cam Calibration Fault · **P1176** O2 Sensor Slow Response Bank 1 · **P0130** O2 Sensor Circuit

Malfunction (Bank 1 Sensor 1) · **P0136** O2 Sensor Circuit Malfunction (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 [How a Car Clutch Works: Diaphragm Clutch Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1177/>

