



P000D

B Camshaft Position Slow Response Bank 2

P000D indicates that the powertrain control module has detected an abnormally slow response from the bank 2 camshaft position sensor circuit, meaning the signal from the 'B' camshaft (typically the exhaust cam on V6/V8 engines) is not changing as quickly as the computer expects during engine operation. The computer compares the camshaft signal to the crankshaft signal and sets this code when the correlation falls outside the expected timing window for a calibrated period.

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
- Rough idle or intermittent engine stumble, especially when cold
- Reduced engine power or sluggish acceleration due to retarded cam timing
- Poor fuel economy or increased emissions
- Hard starting or extended cranking time
- In rare cases, a no-start condition if the cam signal is lost completely

Common causes, most likely first

- 1 Worn or contaminated engine oil causing the camshaft phaser to respond slowly
- 2 Faulty bank 2 camshaft position sensor or damaged sensor wiring/connector
- 3 Sticking or clogged oil control valve (OCV) for the bank 2 camshaft phaser
- 4 Internal varnish or sludge buildup in the phaser or oil passages
- 5 Timing chain stretch or misalignment affecting cam-to-crank correlation
- 6 Low oil pressure or oil level, reducing phaser response speed
- 7 Rarely, a faulty powertrain control module (PCM) or reflash needed



How to diagnose and fix it

- 1 Check engine oil level and condition; change oil and filter if overdue or contaminated
- 2 Inspect the bank 2 camshaft position sensor and its wiring for damage, corrosion, or loose connections
- 3 Use a scan tool to monitor live camshaft and crankshaft position data for erratic or slow response
- 4 Remove and clean or replace the bank 2 oil control valve (OCV) and check for sludge
- 5 Verify oil pressure with a mechanical gauge to rule out low pressure affecting phaser operation
- 6 Inspect timing chain and phaser components for wear or misalignment if oil-related fixes do not resolve
- 7 Clear codes and perform a road test to confirm the repair, reflashing the PCM if a software update is available

Why oil quality drives this code

- A slow cam response is frequently caused by degraded oil rather than a failed sensor, so always check oil condition before replacing parts.
- The 'B' camshaft often refers to the exhaust cam on V6/V8 engines, but its exact location varies by manufacturer, so consult the specific service information.
- A stretched timing chain can mimic a faulty cam sensor, and replacing the sensor alone will not fix the underlying correlation error.
- Some vehicles require a PCM reflash to correct overly sensitive cam response thresholds, especially after a phaser replacement.
- Intermittent wiring faults at the cam sensor connector can set P000D without any driveability symptoms, so wiggle-test the harness while monitoring live data.

Can I keep driving with P000D?

You can generally drive the vehicle short distances to a repair shop, but avoid aggressive acceleration or heavy loads because slow cam response can cause poor performance and increased emissions. If the engine runs rough or stalls, stop driving and have it towed to prevent further damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oil pressure gauge
- Basic hand tools (socket set, wrenches)
- Feeler gauge or timing chain inspection tools



Reading P000D

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

Often seen with

P000A A Camshaft Position Slow Response Bank 1 · **P000B** B Camshaft Position Slow Response Bank 1 · **P000C** A Camshaft Position Slow Response Bank 2 · **P0011** 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0016** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A)

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p000d/>

