

GENERIC · POWERTRAIN

P000B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P000B

B Camshaft Position Slow Response Bank 1

P000B means the engine computer has detected that the bank 1 'B' camshaft is not changing its timing position as quickly as the commanded schedule expects, so the actual cam angle lags behind the target. The powertrain control module monitors the camshaft position sensor signal against the crankshaft signal and sets this code when the response rate falls outside the calibrated window for a set number of drive cycles.

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
- Slightly rough idle or a mild stumble when the engine is cold
- Reduced fuel economy as the computer defaults to a less efficient cam timing schedule
- Hesitation or weak acceleration during light-to-moderate throttle applications
- In some cases, a brief rattle or tick from the front of the engine on startup if the phaser is sticking
- Rarely, the engine may enter limp mode with reduced power if the fault escalates

Common causes, most likely first

- 1 Dirty or degraded engine oil causing the camshaft phaser to respond sluggishly
- 2 A sticking or clogged oil control valve (OCV) solenoid that meters oil to the phaser
- 3 Wear or sludge buildup inside the camshaft phaser mechanism itself
- 4 A failing camshaft position sensor or a damaged sensor reluctor wheel
- 5 Wiring damage, corrosion, or poor connector contact in the camshaft sensor or OCV circuit
- 6 Low oil pressure from a worn oil pump, a clogged pickup screen, or an internal oil leak
- 7 A faulty powertrain control module, though this is the least likely cause



How to diagnose and fix it

- 1 Verify the engine oil level and condition, then change the oil and filter with the specified viscosity if the oil is dirty or overdue
- 2 Scan all modules for stored and pending codes, and check freeze-frame data to confirm the conditions when P000B set
- 3 Inspect the camshaft position sensor and oil control valve connectors and harnesses for corrosion, chafing, or loose pins
- 4 Remove and clean or test the oil control valve solenoid, checking for debris on the screen and verifying it clicks and moves freely when powered
- 5 Use a scan tool to command camshaft timing changes and watch the actual cam angle versus the commanded angle to isolate a slow phaser or sensor
- 6 Check oil pressure with a mechanical gauge at the camshaft feed point to rule out low pressure before replacing the phaser
- 7 If the phaser is mechanically worn or sludged beyond cleaning, replace the camshaft phaser and recheck timing response after clearing the code

Oil quality drives this code more than sensors

- A large share of P000B cases are resolved by correcting oil maintenance rather than replacing any part, because the phaser and oil control valve are hydraulically actuated and sensitive to sludge and wrong viscosity.
- Technicians who replace the camshaft position sensor first often find the code returns, since the sensor is usually reporting a real mechanical lag rather than producing a false signal.
- The oil control valve screen can be partially blocked by debris from a failing timing chain guide or from neglected oil changes, so always inspect the screen before condemning the solenoid.
- A stretched timing chain or a worn chain tensioner can shift cam timing enough to set a slow-response code without any phaser fault, so check chain slack on engines with high mileage.
- P000B can appear intermittently after a cold start in very low temperatures because thick oil slows phaser response, and it may not indicate a hard failure if it does not return once the engine warms.

Can I keep driving with P000B?

You can usually continue driving to a repair shop at moderate speeds, but avoid heavy throttle and prolonged idling until the fault is diagnosed. If the engine begins to run rough, lose power, or make new mechanical noises, stop driving and have it towed to prevent collateral damage.



Tools that help

- OBD-II scan tool with live data and bidirectional control capability
- Digital multimeter for circuit and solenoid testing
- Mechanical oil pressure gauge
- Basic hand tools including socket set and torque wrench
- Oil filter wrench and drain pan for oil service

Reading P000B

- 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.
- 0B** The exact fault within that area.

Often seen with

P000A A Camshaft Position Slow Response Bank 1 · **P0010** 'A' Camshaft Position Actuator Circuit (Bank 1) · **P0011** 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0016** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A) · **P0340** Camshaft Position Sensor A Circuit Malfunction (Bank 1)

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/p000b/>

