

GENERIC · POWERTRAIN

P0019

OBD-II TROUBLE CODE

P0019

Crankshaft Position - Camshaft Position Correlation (Bank 2 Sensor B)

P0019 means the engine computer detected a mismatch between the crankshaft position sensor and the bank 2 sensor B camshaft position sensor, so the two signals are not lining up as expected. The computer uses these signals to control variable valve timing, and it sets this code when the correlation falls outside the allowed range.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or engine misfire, especially when cold
- Reduced engine power or poor acceleration
- Decreased fuel economy
- Engine may stall or hesitate during acceleration
- Unusual engine noises such as ticking or rattling from the valvetrain

Common causes, most likely first

- 1 Faulty bank 2 sensor B camshaft position sensor or its wiring
- 2 Faulty crankshaft position sensor or its wiring
- 3 Contaminated or sludged engine oil affecting variable valve timing operation
- 4 Sticking or failed variable valve timing solenoid or phaser
- 5 Timing chain or belt stretched or incorrectly installed
- 6 Engine control module software issue or faulty module



How to diagnose and fix it

- 1 Check engine oil level and condition; change oil and filter if contaminated or overdue
- 2 Inspect camshaft and crankshaft position sensor connectors and wiring for damage or corrosion
- 3 Use a scan tool to compare live camshaft and crankshaft position data for erratic signals
- 4 Test the bank 2 sensor B camshaft position sensor and crankshaft position sensor with a multimeter or oscilloscope
- 5 Remove and inspect the variable valve timing solenoid for debris or sticking; clean or replace as needed
- 6 Verify timing chain or belt alignment and condition; replace if stretched or damaged
- 7 Reprogram or replace the engine control module if all other components test good

Oil quality and sensor correlation traps

- Dirty or incorrect viscosity oil is a leading cause of this code because it disrupts variable valve timing phaser operation and sensor correlation.
- A weak battery or charging system can cause erratic sensor signals and set this code without any sensor being faulty.
- The code may appear after an engine repair where the timing chain was not properly aligned, even if all sensors are new.
- Some vehicles use the same part number for bank 1 and bank 2 camshaft sensors, so swapping them can help confirm a faulty sensor before replacement.
- A failing crankshaft position sensor can set this code along with misfire codes, so always check both sensors and their wiring.

Can I keep driving with P0019?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or long trips because the engine may enter limp mode or stall unexpectedly. If the engine runs rough or loses power, stop driving and have it towed to prevent damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope for waveform analysis
- Basic hand tools (socket set, wrenches)
- Oil filter wrench
- Feeler gauge or timing chain alignment tools



Reading P0019

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

Often seen with

P0008 Engine Position System Performance (Bank 1) · **P0009** Engine Position System Performance (Bank 2) · **P0016** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A) · **P0017** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor B) · **P0018** Crankshaft Position - Camshaft Position Correlation (Bank 2)

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/p0019/>

