



P1317 · BMW

B Camshaft Position Plausibility

P1317 on BMW vehicles indicates that the engine control module has detected an implausible signal from the B camshaft position sensor, meaning the reported cam timing does not match the expected correlation with the crankshaft signal. The computer compares the cam and crank signals during startup and running to verify that the variable valve timing system is mechanically and electrically sound.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	Medium	Professional	Ignition system and misfire

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or intermittent stalling, especially when the engine is cold
- Reduced engine performance or limp mode under acceleration
- Poor fuel economy or increased emissions
- Difficulty starting or extended cranking time
- Occasional misfire or hesitation during light throttle

Common causes, most likely first

- 1 Faulty B camshaft position sensor or damaged sensor wiring connector
- 2 Contaminated or degraded engine oil affecting VANOS solenoid operation
- 3 Sticking or failed VANOS solenoid on the affected camshaft
- 4 Timing chain wear or stretched chain causing cam-to-crank misalignment
- 5 Failed camshaft timing phaser or mechanical VANOS unit
- 6 Engine control module software issue requiring update or reprogramming



How to diagnose and fix it

- 1 Perform a visual inspection of the B camshaft sensor wiring and connector for chafing, corrosion, or loose pins
- 2 Check engine oil level and condition; change oil and filter if overdue or contaminated
- 3 Use a scan tool to read live camshaft and crankshaft position data and compare commanded versus actual cam timing
- 4 Test the B camshaft position sensor signal with an oscilloscope or swap with a known-good sensor if accessible
- 5 Inspect and test the VANOS solenoid for the affected camshaft, cleaning or replacing if faulty
- 6 Verify timing chain condition and camshaft timing marks; repair mechanical timing issues if found
- 7 Update engine control module software if no other faults are found and the code persists

Cam sensor code often misdiagnosed as sensor failure

- A stretched timing chain on higher-mileage BMW engines frequently sets P1317 before any chain noise is audible, so always verify timing marks before replacing sensors.
Oil sludge or infrequent oil changes can clog VANOS solenoid screens and cause implausible cam signals without any electrical fault in the sensor circuit.
- The B camshaft sensor on some BMW engines is difficult to access, leading technicians to replace the easier-to-reach A sensor by mistake and leave the fault unresolved.
- Intermittent P1317 can be caused by a failing camshaft phaser bolt or worn VANOS seals that only misbehave when oil pressure is low at idle.
After any timing chain or VANOS repair, the engine control module adaptation values must be cleared and a relearn drive cycle performed to prevent false recurrence.

Can I keep driving with P1317?

You can usually drive the vehicle short distances at moderate speeds, but avoid hard acceleration and prolonged idling until the fault is diagnosed. If the engine runs roughly, stalls, or enters limp mode, stop driving and arrange a professional inspection to prevent further damage.

Tools that help

- OBD-II scan tool with live data and BMW-specific software
- Digital multimeter
- Oscilloscope for signal waveform analysis
- Oil filter wrench and drain pan
- Basic socket and wrench set
- Timing light or camshaft timing verification kit



Reading P1317

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (BMW): its meaning depends on the make.
- 3** Ignition system and misfire.
- 17** The exact fault within that area.

Often seen with

P1315 Igniter Circuit Malfunction No 4 · **P1315** Persistent Misfire · **P1315** Ignition Coil 4 Primary Feedback Circuit · **P1315** Ignition Coil 4 Primary Feedback Circuit · **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/bmw-p1317/>

