

GENERIC · POWERTRAIN

P0345

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0345

Camshaft Position Sensor A Circuit (Bank 2)

P0345 means the engine computer has detected a problem with the electrical circuit for the Bank 2 camshaft position sensor, which is the sensor that reports the camshaft's position on the side of the engine opposite cylinder number one. The computer monitors the signal voltage from this sensor and sets the code when the signal is out of range, intermittent, or absent for a calibrated period while the engine is running.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Ignition system and misfire

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or misfire, especially when the engine is cold or under light load
- Hesitation or stumble during acceleration as the computer loses precise camshaft timing
- Reduced fuel economy because the engine management system defaults to a less efficient timing strategy
- Difficulty starting or an extended crank time if the sensor signal is completely lost
- In some vehicles, a limp-home mode that limits engine speed or disables variable valve timing

Common causes, most likely first

- 1 Faulty Bank 2 camshaft position sensor due to internal failure or contamination
- 2 Damaged or corroded wiring harness or connector at the sensor, often from heat or oil intrusion
- 3 Open or shorted circuit in the sensor wiring between the sensor and the engine computer
- 4 Poor electrical connection at the engine computer connector for the camshaft sensor circuit
- 5 Metal debris or sludge buildup on the sensor tip interfering with the magnetic signal
- 6 Failed reluctor wheel or tone ring on the camshaft that the sensor reads, though this is less common
- 7 Engine computer internal fault affecting the sensor signal processing circuit, which is rare



How to diagnose and fix it

- 1 Scan all stored codes and freeze-frame data to confirm P0345 is the primary fault and not a secondary code from another system
- 2 Inspect the Bank 2 camshaft position sensor connector and wiring for corrosion, chafing, or oil contamination, and repair as needed
- 3 Measure the sensor's resistance and compare it to the manufacturer's specification, replacing the sensor if it is out of range
- 4 Check for reference voltage and ground at the sensor connector with the key on and engine off, and verify signal voltage while cranking
- 5 Perform a wiggle test on the harness while monitoring the camshaft sensor signal on a scan tool to catch intermittent wiring faults
- 6 Verify the reluctor wheel or tone ring on the camshaft is intact and free of debris if the sensor and wiring test good
- 7 Clear the code and perform a road test to confirm the repair, and check that the camshaft and crankshaft timing correlation is correct

What the code does not always mean

- A P0345 is frequently set by a poor connection at the sensor pigtail rather than a failed sensor, so always inspect the plug before replacing parts.
- Oil sludge or metallic debris on the sensor tip can disrupt the magnetic signal and mimic a failed sensor, so clean the mounting area during diagnosis.
- On engines with variable valve timing, a camshaft phaser that is stuck or slow to respond can set this code even when the sensor itself is healthy.
- A weak or failing battery or charging system can cause low voltage at the sensor and trigger P0345 intermittently, so check system voltage first.
- Replacing the sensor without checking the reluctor wheel can lead to a repeat code if the wheel is damaged or has excessive runout.

Can I keep driving with P0345?

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 suffer poor performance. If the engine runs rough or stalls, stop driving and have it towed to prevent damage to the catalytic converter from unburned fuel.



Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter with back-probing pins
- Basic hand tools including ratchet and socket set
- Wire terminal pick and electrical contact cleaner
- Manufacturer service information for wiring diagrams and sensor specifications

Reading P0345

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 3** Ignition system and misfire.
- 45** The exact fault within that area.

Often seen with

P0016 Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A) · **P0340** Camshaft Position Sensor A Circuit Malfunction (Bank 1) · **P0341** Camshaft Position Sensor A Circuit Range/Performance · **P0344** Camshaft Position Sensor A Circuit Intermittent · **P0365** Camshaft Position Sensor 'B' Circuit (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/p0345/>

