

GM · POWERTRAIN

P1346

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1346 · GM

Intake Camshaft Position (CMP) Sensor System Performance

P1346 on a GM vehicle means the engine computer has detected a performance problem with the intake camshaft position sensor circuit, typically a signal that does not match expected timing or is intermittent. The computer compares the intake camshaft position sensor signal to the crankshaft position sensor and sets this code when the relationship falls outside the programmed window.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	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 intermittent misfire, especially when the engine is cold
- Reduced engine power or a stumble during acceleration
- Poor fuel economy or increased emissions
- Hard starting or extended cranking before the engine fires
- In rare cases, the engine may stall or enter limp mode

Common causes, most likely first

- 1 Faulty intake camshaft position sensor
- 2 Damaged or chafed wiring in the sensor circuit
- 3 Corroded or loose electrical connector at the sensor
- 4 Contaminated or incorrectly gapped sensor reluctor wheel
- 5 Stretched timing chain or worn timing chain tensioner
- 6 Engine oil sludge or debris obstructing the sensor tip
- 7 Failed engine control module (ECM) driver circuit, though uncommon



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data and any stored codes to confirm the fault conditions
- 2 Visually inspect the intake camshaft position sensor, its connector, and the wiring harness for damage or corrosion
- 3 Measure sensor resistance and check for a clean, consistent signal with an oscilloscope or multimeter
- 4 Verify the sensor reluctor wheel for damage, debris, or incorrect air gap
- 5 Check base engine timing and inspect the timing chain for stretch or wear
- 6 Perform a voltage drop test on the sensor ground and power circuits to rule out wiring resistance
- 7 Replace the intake camshaft position sensor only after confirming the circuit and mechanical timing are sound

What a P1346 often hides

- A stretched timing chain can set P1346 without any sensor fault, so always verify mechanical timing before replacing parts.
- Oil sludge or debris on the sensor tip is a common cause that is easily overlooked during a quick visual inspection.
- Intermittent wiring faults may only appear when the engine is hot or vibrating, so wiggle-test the harness while monitoring live data.
- The code can be set by a poor connection at the sensor pigtail even when the sensor itself tests good on the bench.
- Replacing the sensor without addressing a worn reluctor wheel or timing chain will lead to a repeat failure.

Can I keep driving with P1346?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or long trips until the fault is diagnosed. If the engine runs rough, stalls, or loses power, stop driving and arrange a tow to prevent further damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope for signal waveform analysis
- Basic hand tools and socket set
- Feeler gauges for air gap measurement
- Factory service information for timing specifications



Reading P1346

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

Often seen with

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) · **P0341** Camshaft Position Sensor A Circuit Range/Performance

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/gm-p1346/>

