

CHRYSLER · POWERTRAIN

P1345

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1345 · Chrysler

CKP/CMP Correlation

P1345 on Chrysler vehicles means the powertrain control module (PCM) has detected a loss of correlation between the crankshaft position (CKP) sensor and the camshaft position (CMP) sensor signals. The computer compares the two signals to verify that the timing chain or belt is transferring the camshaft's rotation exactly as expected, and when the expected relationship falls outside a calibrated window, it stores this code.

SYSTEM

Powertrain

CODE TYPE

Chrysler specific

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Ignition system and misfire

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Intermittent or complete engine stall, especially when coming to a stop or at idle
- Extended cranking before the engine starts, or a no-start condition
- Rough running, misfire, or loss of power under acceleration
- Poor fuel economy or increased emissions
- A noticeable rattle or ticking from the front of the engine on cold start (if timing chain wear is the cause)

Common causes, most likely first

- 1 Worn or stretched timing chain or timing belt, causing the camshaft to lag behind the crankshaft
- 2 Failed or contaminated CKP sensor or CMP sensor
- 3 Damaged, chafed, or corroded wiring in the CKP or CMP sensor circuits
- 4 A loose or damaged reluctor wheel (tone ring) on the crankshaft or camshaft
- 5 Improperly installed timing components after a recent repair, such as a chain off by one tooth
- 6 PCM software issue or internal fault in the correlation detection circuit (rare)



How to diagnose and fix it

- 1 Connect a scan tool and check for any additional codes, then record freeze-frame data to see the conditions when P1345 set
- 2 Inspect the CKP and CMP sensor connectors and wiring for damage, corrosion, or loose pins, and repair as needed
- 3 Use a lab scope to compare the CKP and CMP signal patterns for missing pulses, noise, or incorrect alignment
- 4 Remove the timing cover and verify that the timing marks on the crankshaft and camshaft sprockets align perfectly; if not, correct the timing
- 5 Replace the CKP and/or CMP sensor if signal testing shows a faulty sensor, then clear codes and retest
- 6 If the timing chain or belt is stretched or the tensioner is worn, replace the timing components and re-verify correlation
- 7 After repairs, perform a crank relearn procedure if required by the vehicle, clear codes, and road-test to confirm the code does not return

What Most Techs Miss on P1345

- A stretched timing chain can set P1345 without any driveability complaint, so a simple sensor swap often fails to fix the code and the real wear goes unnoticed.
- The CKP and CMP sensors share a common ground or reference voltage on many Chrysler engines, so a fault in one sensor's circuit can corrupt the other's signal and mislead diagnosis.
- After replacing a timing chain or sensor, some Chrysler PCMs require a crankshaft position variation relearn; skipping this step can cause P1345 to reset immediately even though the repair is correct.
- Oil sludge or debris on the CMP sensor tip can weaken the signal enough to trigger the correlation code, especially on high-mileage engines with infrequent oil changes.
- P1345 does not always mean the timing is mechanically off; a failing CKP sensor that drops pulses intermittently can mimic a timing chain fault on a scope if the capture is too short.

Can I keep driving with P1345?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or long trips because a timing chain that has jumped or is severely worn can cause sudden engine stall or internal damage. If the engine is running rough, stalling, or cranking excessively, stop driving and arrange a tow.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter for circuit and sensor testing
- Lab scope (oscilloscope) for comparing CKP and CMP waveforms
- Timing light or timing mark verification tools
- Basic hand tools and socket set for sensor and timing cover access



Reading P1345

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

Often seen with

P1391 CMP Sensor Bank 2 Short To Ground · **P1391** Intermittent Loss Of CMP Or CKP Sensor Signals · **P1391** Wheel Speed Sensor 1 G-Sensor Circuit Performance · **P1391** Glow Plug Circuit Low Input Bank 1 · **P1391** Intermittent Loss of CMP Or CKP · **P0016** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A) · **P0335** Crankshaft Position Sensor A Circuit Malfunction · **P0340** Camshaft Position Sensor A Circuit Malfunction (Bank 1) · **P0344** Camshaft Position Sensor A Circuit Intermittent

See it working

Watch the animated explainer [Readiness Monitors and the OBD-II Drive Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/chrysler-p1345/>

