

CHRYSLER · POWERTRAIN

P1390

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1390 · Chrysler

Timing Belt Skipped One Tooth Or More

P1390 on Chrysler vehicles indicates that the powertrain control module has detected a mismatch between the crankshaft position sensor and camshaft position sensor signals that is consistent with the timing belt jumping one or more teeth. The computer compares these two signals continuously and sets this code when the mechanical timing relationship falls outside the expected window.

SYSTEM

Powertrain

CODE TYPE

Chrysler specific

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Ignition system and misfire

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or misfire that may feel like a shaking engine
- Loss of power or sluggish acceleration, especially under load
- Hard starting or extended cranking before the engine fires
- Poor fuel economy or increased emissions
- In severe cases, the engine may stall or fail to start

Common causes, most likely first

- 1 Timing belt that has jumped one or more teeth due to wear or improper tension
- 2 Failed timing belt tensioner or idler pulley allowing belt slack
- 3 Worn or damaged timing belt teeth that skip on the sprockets
- 4 Incorrect timing belt installation after a recent repair
- 5 Camshaft or crankshaft position sensor signal interference or faulty sensor
- 6 Wiring damage or corrosion in the camshaft or crankshaft sensor circuits
- 7 Mechanical wear in the timing components such as a worn sprocket or keyway



How to diagnose and fix it

- 1 Verify the fault with a scan tool by checking live data for cam and crank synchronization and reviewing freeze-frame data
- 2 Inspect the timing belt, tensioner, and idler pulleys for wear, slack, or missing teeth
- 3 Perform a mechanical timing check by aligning the crankshaft and camshaft timing marks to confirm belt position
- 4 Test the camshaft and crankshaft position sensors and their wiring for continuity and signal integrity
- 5 If the belt has skipped, replace the timing belt, tensioner, and any worn pulleys as a set
- 6 Clear the code and road test the vehicle to confirm the repair and ensure the code does not return
- 7 If the code persists after mechanical repair, recheck sensor signals and the PCM for proper operation

Timing belt codes that fool good technicians

- A stretched or worn timing belt can cause this code without visibly missing teeth, so always measure belt deflection and inspect the tensioner.
Camshaft or crankshaft sensor faults can mimic a skipped tooth, so verify sensor signals with an oscilloscope before condemning the belt.
- After replacing the timing belt, the code may remain stored until the PCM completes a drive cycle, so clear it and perform a full relearn procedure.
- On some Chrysler engines, a weak battery or poor ground can cause intermittent sensor signals that set P1390 without any mechanical timing issue.
A jumped timing belt often causes no driveability symptoms at first, but continued driving can lead to valve and piston damage if the belt slips further.

Can I keep driving with P1390?

Do not continue driving with this code if the engine is running rough or misfiring, as a slipped timing belt can cause catastrophic engine damage. If the only symptom is the warning light, drive directly to a repair shop at low speed and avoid heavy acceleration.

Tools that help

- OBD-II scan tool with live data and graphing capability
- Oscilloscope for cam and crank sensor signal analysis
- Timing light or timing mark alignment kit
- Socket and wrench set for belt and pulley removal
- Service manual with timing belt alignment specifications



Reading P1390

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Chrysler): its meaning depends on the make.
- 3** Ignition system and misfire.
- 90** 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) · **P0017** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor B) · **P0335** Crankshaft Position Sensor A Circuit Malfunction · **P0340** Camshaft Position Sensor A Circuit Malfunction (Bank 1)

See it working

Watch the animated explainer [How a Manual Transmission Works: Four-Speed Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/chrysler-p1390/>

