

JAGUAR · POWERTRAIN

P1336

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1336 · Jaguar

Crankshaft Camshaft Sensor Range Performance

P1336 on a Jaguar indicates the engine control module (ECM) has detected a performance range problem between the crankshaft position sensor and the camshaft position sensor signals. The ECM compares the two signals during engine operation and flags this code when their relative timing or correlation falls outside the expected range, which can affect fuel injection and ignition timing.

SYSTEM

Powertrain

CODE TYPE

Jaguar specific

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Ignition system and misfire

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Intermittent engine misfire or rough running, especially under load
- Difficulty starting or extended cranking before the engine catches
- Reduced engine power or limp mode activation in some cases
- Poor fuel economy or increased emissions
- Occasional stalling when coming to a stop or at idle

Common causes, most likely first

- 1 Worn or stretched timing chain, particularly on Jaguar V8 engines known for timing chain guide failure
- 2 Faulty crankshaft position sensor or damaged reluctor ring
- 3 Faulty camshaft position sensor or contaminated sensor tip
- 4 Wiring harness damage or corroded connectors between the sensors and the ECM
- 5 Oil sludge or debris interfering with sensor signal pickup
- 6 ECM software calibration issue requiring a reflash or update



How to diagnose and fix it

- 1 Perform a visual inspection of the crankshaft and camshaft sensor connectors and wiring for chafing, corrosion, or loose pins
- 2 Use a scan tool to check for other stored codes and freeze-frame data to confirm the fault conditions
- 3 Verify sensor signals with an oscilloscope to compare crankshaft and camshaft waveforms for timing correlation
- 4 Check the timing chain for stretch or guide wear by inspecting the chain tensioner and timing marks
- 5 Test the crankshaft and camshaft position sensors for resistance and signal output according to Jaguar specifications
- 6 Repair or replace damaged wiring or connectors as needed
- 7 If all else checks out, update the ECM calibration or replace the ECM only after confirming sensor and timing integrity

Timing chain wear often mimics sensor failure

- On many Jaguar V8 engines, a P1336 is the first warning of a failing timing chain tensioner, and replacing sensors alone will not fix the underlying mechanical wear.
- The code can be set by a dirty or contaminated camshaft sensor tip picking up metallic debris, which is often overlooked during diagnosis.
- A weak battery or poor ground connection can cause voltage spikes that disrupt sensor signals and trigger P1336 without any faulty component.
- After replacing a sensor or repairing timing components, the ECM may require a relearn procedure or a drive cycle before the code clears permanently.
- P1336 can be stored alongside misfire codes, leading some to replace ignition coils unnecessarily when the root cause is timing correlation.

Can I keep driving with P1336?

You can drive the vehicle short distances to a repair shop, but avoid heavy acceleration or sustained high speeds because the fault can cause misfires and potential engine damage. If the engine runs rough or stalls frequently, stop driving and arrange a tow.

Tools that help

- OBD-II scan tool with live data and graphing capability
- Oscilloscope for waveform analysis
- Digital multimeter
- Timing light
- Socket set and torque wrench
- Jaguar-specific service information for timing marks and sensor specifications



Reading P1336

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

Often seen with

P1337 CMP Sensor Bank 1 Short To Ground · **P1337** CKP Sensor B Low Input · **P1337** CKP Sensor B Low Input · **P0016** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0335** Crankshaft Position Sensor A Circuit Malfunction · **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/jaguar-p1336/>

