

JAGUAR · POWERTRAIN

P1370

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1370 · Jaguar

Insufficient RPM Increase During Spark Test

P1370 on a Jaguar means the engine control module (ECM) commanded a spark test by advancing ignition timing and expected a corresponding rise in crankshaft speed, but the engine speed did not increase enough. The ECM uses this test to verify that each cylinder is contributing power during a diagnostic routine, and insufficient RPM increase points to a misfire or a fault in the ignition or fuel delivery for the tested cylinder.

SYSTEM

Powertrain

CODE TYPE

Jaguar specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Ignition system and misfire

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Intermittent rough idle or a slight shake felt through the steering wheel
- Hesitation or stumble during light acceleration
- Reduced engine power or poor fuel economy in more severe cases
- A flashing check engine light if the misfire becomes severe enough to damage the catalytic converter

Common causes, most likely first

- 1 Worn or fouled spark plugs on one or more cylinders
- 2 Faulty ignition coil or coil-on-plug boot causing a weak spark
- 3 Vacuum leak at the intake manifold or a split hose leaning out the mixture
- 4 Clogged or failing fuel injector reducing fuel delivery to the tested cylinder
- 5 Low fuel pressure from a weak pump or restricted filter
- 6 Mechanical issue such as low compression or a worn camshaft lobe on the affected cylinder
- 7 Carbon tracking or a cracked insulator on the spark plug



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then check for freeze-frame data to identify the affected cylinder
- 2 Inspect the spark plugs for wear, fouling, or incorrect gap and replace them if they are due or damaged
- 3 Swap the ignition coil from the affected cylinder to another cylinder and see if the misfire follows the coil
- 4 Perform a cylinder balance test or compression test to rule out mechanical faults
- 5 Check for vacuum leaks using a smoke machine or carburetor cleaner around intake gaskets and hoses
- 6 Measure fuel pressure and compare it to the Jaguar specification for the engine
- 7 Test the fuel injector for resistance and pulse with a noid light, and clean or replace if faulty

What the spark test really checks

- The spark test is an active diagnostic routine that the ECM runs only under specific conditions, so a P1370 may not set during normal driving and can be missed by a simple code read.
- A misfire that is too subtle to feel can still trigger P1370 because the ECM measures crankshaft speed changes with high resolution.
- On Jaguar V8 engines, coil-on-plug boots often fail from heat and oil contamination, causing a weak spark that only shows up under load.
- A dirty mass airflow sensor or a failing coolant temperature sensor can skew fuel trims enough to cause a lean misfire that sets this code without any ignition fault.
- Do not replace the ECM based on P1370 alone; the code almost always points to a mechanical, ignition, or fuel delivery issue rather than a control module failure.

Can I keep driving with P1370?

You can usually drive the car to a repair shop, but avoid heavy acceleration and long trips until the fault is diagnosed. If the check engine light flashes, stop driving and have the vehicle towed because a severe misfire can quickly overheat and destroy the catalytic converter.

Tools that help

- OBD-II scan tool with live data and cylinder balance capability
- Spark plug socket and torque wrench
- Compression gauge
- Vacuum gauge or smoke machine
- Fuel pressure gauge
- Noid light or injector pulse tester



Reading P1370

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

Often seen with

P0171 System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 Misfire Detected · **P0302** Cylinder 2 Misfire Detected · **P0351** Ignition Coil A Primary/Secondary Circuit Malfunction

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-p1370/>

