



P1313 · Jaguar

Misfire Rate Catalyst Damage Fault Bank 1

P1313 on a Jaguar means the engine control module (ECM) has detected a misfire rate severe enough to risk overheating and damaging the catalytic converter on bank 1, which is the side of the engine containing cylinder number one. The ECM monitors crankshaft speed fluctuations to count misfires and flags this code when the misfire frequency crosses the damage threshold, not just the emissions threshold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Jaguar specific	High	Professional	Ignition system and misfire

Symptoms you may notice

- Check engine light illuminated, often flashing while the misfire is active
- Noticeable engine shake or rough idle, especially when cold or under light load
- Loss of power or hesitation during acceleration
- A rotten egg or sulfur smell from the exhaust after driving
- Often no symptoms besides the warning light when the misfire is intermittent
- Poor fuel economy or a strong raw fuel smell at the tailpipe

Common causes, most likely first

- 1 Worn or fouled spark plugs on bank 1 cylinders
- 2 Failed ignition coil or coil-on-plug boot on a bank 1 cylinder
- 3 Vacuum leak at the intake manifold gasket or a cracked breather hose affecting bank 1
- 4 Leaking or clogged fuel injector on a bank 1 cylinder
- 5 Low compression from a burnt valve, worn rings, or a failed head gasket on bank 1
- 6 Contaminated engine oil or incorrect oil viscosity affecting variable valve timing on bank 1
- 7 A failing catalytic converter on bank 1 that is already partially restricted and exaggerating misfire symptoms



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm which bank 1 cylinders are misfiring and under what load and temperature conditions
- 2 Inspect spark plugs on bank 1 for fouling, gap wear, or oil contamination and replace them as a set if worn
- 3 Swap ignition coils between bank 1 and bank 2 to see if the misfire follows the coil, then replace any coil that proves faulty
- 4 Perform a smoke test of the intake system to find vacuum leaks that lean out bank 1
- 5 Check fuel injector operation with a noid light or injector balance test and clean or replace a restricted injector
- 6 Run a compression test and a cylinder leak-down test on bank 1 to rule out mechanical faults before replacing catalytic converters
- 7 Verify repair by clearing the code and completing a drive cycle that reproduces the original freeze-frame conditions

Why P1313 is not just a tune-up code

- P1313 is a catalyst-damage misfire code, so the ECM has already seen enough misfires to overheat the converter; ignoring it can turn a cheap ignition repair into a costly catalytic converter replacement.
- A flashing check engine light with P1313 means the ECM is actively protecting the converter, and continuing to drive can melt the substrate inside bank 1's converter within a short distance.
- Jaguar's misfire monitor is sensitive to crankshaft position sensor signal quality, so a failing crank sensor or damaged reluctor ring can set P1313 without any true cylinder misfire.
- Bank 1 on many Jaguar V8 engines is the right-hand bank as viewed from the driver's seat, which trips up technicians who assume bank 1 is always the left side.
- A vacuum leak at the rear of the intake manifold on supercharged Jaguar engines often causes bank 1 misfires that only appear at idle and disappear off idle, leading to unnecessary coil replacement.

Can I keep driving with P1313?

Do not continue driving with P1313 active, especially if the check engine light is flashing, because raw fuel entering the exhaust can overheat and destroy the catalytic converter. If you must move the car, keep the engine speed low and drive only a short distance to a safe repair location.

Tools that help

- OBD-II scan tool with Jaguar-specific software and freeze-frame capability
- Infrared thermometer to check bank 1 catalytic converter inlet and outlet temperatures
- Vacuum gauge and smoke machine for intake leak testing
- Compression tester and cylinder leak-down tester
- Ignition coil tester or known-good coil for swap testing
- Fuel injector noid light and fuel pressure gauge



Reading P1313

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

Often seen with

P1314 Misfire Rate Catalyst Damage Fault Bank 2 · **P0171** System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 Misfire Detected · **P0420** Catalyst System Efficiency Below Threshold (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-p1313/>

