

JAGUAR · POWERTRAIN

P1137

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1137 · Jaguar

Lack Of HO2S12 Switches Sensor Indicates Lean

P1137 on a Jaguar means the engine control module has monitored the downstream heated oxygen sensor on bank 1 (HO2S12) and found its voltage signal stuck lean, indicating the sensor is not switching rich-to-lean as expected. The computer expects the post-catalyst sensor to oscillate within a calibrated range once the catalyst is lit, and this code sets when the signal remains below the lean threshold for too long.

SYSTEM

Powertrain

CODE TYPE

Jaguar specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms besides the warning light
- Slightly rough idle or hesitation on light acceleration in some cases
- A faint sulfur or rotten-egg smell from the exhaust if the catalyst is being overfuelled
- Reduced fuel economy noticed over several tanks of fuel
- Intermittent misfire or stumble when the engine is cold
- Failed emissions test with elevated hydrocarbon or carbon monoxide readings

Common causes, most likely first

- 1 Failed or contaminated downstream heated oxygen sensor (HO2S12) on bank 1
- 2 Exhaust leak between the catalyst and the downstream sensor, drawing in air and skewing the reading lean
- 3 Wiring damage or corroded connector pins in the HO2S12 circuit, including chafed harness near the exhaust
- 4 Aging or degraded catalytic converter on bank 1 that no longer stores oxygen properly
- 5 Vacuum leak or unmetered air entering upstream of the sensor, causing a genuine lean condition the sensor correctly reports
- 6 Low fuel pressure or a weak fuel pump delivering insufficient volume under load
- 7 Engine coolant temperature sensor bias causing the module to fuel incorrectly during warm-up



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then record freeze-frame data for P1137 to see the conditions at fault set
- 2 Inspect the HO2S12 harness and connector for chafing, corrosion, or oil contamination, and check the sensor ground circuit
- 3 Smoke-test the exhaust system from the catalyst back to the sensor to rule out an air leak before condemning the sensor
- 4 Graph the HO2S12 voltage on a scan tool while holding a steady cruise; a healthy sensor should switch rich-to-lean several times per second
- 5 Check fuel pressure and fuel trim data to confirm whether the lean reading is real or a sensor reporting error
- 6 If the sensor is slow or stuck lean with no exhaust leak, replace the downstream heated oxygen sensor and clear the code
- 7 After repair, verify the catalyst monitor runs to completion and confirm HO2S12 switching returns to normal

Exhaust leaks mimic a dead oxygen sensor

- A small crack or failed gasket between the catalyst and the downstream sensor pulls outside air into the exhaust stream, and the sensor faithfully reports lean, so technicians replace a healthy sensor and the code returns within a few drive cycles.
- Jaguar's downstream sensor on bank 1 is often contaminated by coolant or oil seeping past a failing gasket, which coats the sensing element and slows its switching without setting a heater circuit code.
- P1137 does not always mean the catalytic converter has failed; a lazy upstream sensor or a biased coolant temperature sensor can push fuel trims lean enough to keep the downstream sensor below its switching threshold.
- On supercharged and turbocharged Jaguar engines, a boost leak after the throttle body can produce a genuine lean condition that the downstream sensor detects before the upstream sensor sets its own code.
- Clearing P1137 without repairing the cause will usually result in the code returning after two or three complete drive cycles once the monitor re-runs, so always confirm the repair with live data.

Can I keep driving with P1137?

You can usually drive the car short distances to a workshop, but avoid sustained high-speed or heavy-load driving because a genuine lean condition can raise exhaust temperatures and damage the catalyst. If the check engine light starts flashing or you feel a misfire, stop driving and have the car towed.



Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter for circuit and sensor voltage checks
- Exhaust smoke machine for leak detection
- Fuel pressure gauge
- Oxygen sensor socket and ratchet set
- Wiring diagram for the HO2S12 circuit

Reading P1137

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (Jaguar): its meaning depends on the make.

1 Fuel and air metering.

37 The exact fault within that area.

Often seen with

P0136 O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) · **P0137** O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2) · **P0138** O2 Sensor Circuit High Voltage (Bank 1 Sensor 2) · **P0171** System Too Lean (Bank 1) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/jaguar-p1137/>

