

JAGUAR · POWERTRAIN

P1138

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1138 · Jaguar

Lack Of HO2S12 Switches Sensor Indicates Rich

P1138 on a Jaguar means the engine control module has monitored the downstream oxygen sensor on bank 1, sensor 2, and determined that its voltage is not switching between rich and lean as it should. Instead, the sensor signal stays biased rich, so the computer cannot confirm that the catalytic converter is storing and releasing oxygen properly.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Jaguar specific	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms noticed by the driver
- A slight decrease in fuel economy as the engine control module may add fuel based on the biased rich signal
- Occasional rough idle or hesitation if the rich condition affects closed-loop fueling
- A sulfur or rotten egg smell from the exhaust if the converter is overheating from excess fuel
- Failed emissions inspection due to the stored code and monitor status
- In rare cases, a noticeable loss of power if the converter becomes restricted

Common causes, most likely first

- 1 A failed downstream oxygen sensor (HO2S12) that is stuck rich or has a contaminated sensing element
- 2 An exhaust leak between the catalytic converter and the downstream sensor, allowing outside air to skew the reading
- 3 A rich-running engine caused by leaking fuel injectors, high fuel pressure, or a faulty coolant temperature sensor
- 4 A degraded catalytic converter that can no longer store and release oxygen, keeping the downstream signal rich
- 5 Wiring damage or corrosion at the HO2S12 connector or harness, causing a biased signal
- 6 An engine misfire or ignition problem that sends unburned fuel into the exhaust and saturates the converter
- 7 A stuck-open purge valve or EVAP system fault that introduces extra fuel vapor into the intake



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data and fuel trim values to confirm the rich condition before replacing parts
- 2 Inspect the HO2S12 sensor wiring and connector for corrosion, chafing, or loose pins, and repair as needed
- 3 Perform a smoke test or visual inspection of the exhaust system between the converter and the downstream sensor to rule out leaks
- 4 Check fuel pressure and injector balance to identify a rich-running condition, and repair any leaking injector or high-pressure fault
- 5 Use a scan tool to graph the HO2S12 voltage while holding a steady throttle; if it stays high with no switching, replace the sensor
- 6 After repairs, clear the codes and complete a drive cycle to verify the downstream oxygen sensor monitor passes
- 7 If the sensor and fueling are correct but the signal remains rich, perform a catalytic converter efficiency test before replacement

Before you replace the catalytic converter

- A rich-biased downstream oxygen sensor signal is often caused by a failing sensor itself rather than the catalytic converter, so always test the sensor's switching response before condemning the converter.
- Exhaust leaks upstream of the downstream sensor pull in outside oxygen and can make the sensor read lean at idle and rich under load, mimicking a failed converter.
- Fuel trim data is critical: if long-term fuel trims are significantly negative, the engine is running rich and the downstream sensor is correctly reporting a rich exhaust, not a sensor fault.
- Jaguar models with the AJ-V8 engine are known for oil contamination of the downstream sensor from valve cover gasket leaks, which biases the sensor rich without setting a misfire code.
- A stuck-open thermostat or a coolant temperature sensor reading too cold can keep the engine in open-loop enrichment, driving the downstream sensor rich and setting P1138 without any driveability complaint.

Can I keep driving with P1138?

You can usually continue driving to a workshop, but avoid heavy acceleration and long periods of idling because a rich condition can overheat and damage the catalytic converter. Have the fault diagnosed promptly to prevent a more expensive converter replacement.

Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter for checking sensor voltage and wiring continuity
- Smoke machine for exhaust leak testing
- Fuel pressure gauge
- Socket set and oxygen sensor wrench



Reading P1138

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Jaguar): its meaning depends on the make.
- 1** Fuel and air metering.
- 38** The exact fault within that area.

Often seen with

P1137 Long Term Fuel Trim Add Fuel Bank 1 System Too Rich · **P1137** Front Oxygen AF Sensor Circuit Range Performance Problem · **P1137** HO2S Bank 1 Sensor 2 Not Switching Fuel Control Limit Reached · **P1137** Lack Of HO2S12 Switches Sensor Indicates Lean · **P1137** O2 Sensor Low Voltage During Power Enrichment (Bank 1 Sensor · **P1137** Lack of Downstream Heated Oxygen Sensor Switch Sensor Indica · **P1137** HO2S Bank 1 Sensor 2 Lean Or Low Voltage · **P1137** O2 Sensor Heater Circuit Signal Intermittent Bank 1 Sensor 2 · **P0136** O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) · **P0138** O2 Sensor Circuit High Voltage (Bank 1 Sensor 2) · **P0172** System Too Rich (Bank 1) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

See it working

Watch the animated explainer [How a Catalytic Converter Works: 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/jaguar-p1138/>

