



P1138 · Ford

Lack of Downstream Heated Oxygen Sensor Switch Sensor Indicates Rich Bank 1

P1138 on Ford vehicles means the powertrain control module (PCM) has monitored the downstream heated oxygen sensor (HO2S) on bank 1 and determined that its voltage signal is stuck rich, indicating a lack of the normal lean-to-rich switching activity. The PCM expects the downstream sensor to show a relatively steady, lower voltage once the catalytic converter is working, but instead it sees a persistent high-voltage signal that suggests either a rich exhaust stream or a sensor that cannot report a lean condition.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A slight decrease in fuel economy as the PCM may command a leaner mixture based on the false rich signal
- Occasional rough idle or hesitation if the rich condition is severe enough to foul spark plugs
- A sulfur or rotten egg odor from the exhaust in cases where the converter is overwhelmed by rich exhaust
- Failed emissions inspection due to the stored code and possible catalyst monitor incompleteness

Common causes, most likely first

- 1 A failed downstream heated oxygen sensor that is biased rich or contaminated
- 2 A rich-running engine caused by a leaking fuel injector, high fuel pressure, or a faulty fuel pressure regulator
- 3 A stuck-open or leaking evaporative emissions purge valve allowing fuel vapor into the intake
- 4 A restricted or contaminated catalytic converter that cannot store oxygen properly
- 5 Wiring damage or corrosion in the downstream HO2S circuit causing a false rich signal
- 6 An engine coolant temperature sensor or mass airflow sensor error that enriches the mixture
- 7 Excessive oil consumption or coolant intrusion contaminating the oxygen sensor



How to diagnose and fix it

- 1 Use a scan tool to verify the downstream HO2S voltage is actually stuck high and not switching, and check for any pending or stored codes that indicate a rich condition.
- 2 Inspect the downstream oxygen sensor wiring and connector for chafing, corrosion, or loose pins, and repair any faults found.
- 3 Check fuel pressure and inspect for leaking fuel injectors or a faulty fuel pressure regulator, repairing as needed.
- 4 Test the evaporative emissions purge valve for sticking open and replace it if it does not seal properly.
- 5 Perform a propane enrichment test or use a scan tool to command a lean condition and observe whether the downstream sensor responds; if it does not, replace the sensor.
- 6 Replace the downstream heated oxygen sensor if it is slow, biased, or contaminated, and clear the codes to see if the fault returns.
- 7 If the code persists after sensor replacement, evaluate the catalytic converter for efficiency and replace it only if testing confirms it is restricted or contaminated.

Downstream Sensor Rich Code Traps

- A downstream oxygen sensor that is stuck rich often indicates a failed sensor rather than a true rich exhaust condition, because the downstream sensor's job is to monitor the converter, not to fine-tune fuel trim.
- Many technicians replace the catalytic converter unnecessarily when the real problem is a contaminated or lazy downstream oxygen sensor that cannot switch lean.
- A leaking fuel injector or a stuck-open purge valve can cause a rich exhaust that the downstream sensor reports, but the upstream sensor and fuel trims usually show the rich condition first.
- Ford vehicles are known for oxygen sensor wiring harness chafing near the exhaust, which can short the signal to voltage and create a false rich reading.
- The code can set intermittently if the sensor heater circuit is failing, so always check heater resistance and supply voltage before condemning the sensor.

Can I keep driving with P1138?

You can usually continue driving with P1138, but avoid heavy acceleration or towing until the fault is diagnosed, because a persistent rich condition can overheat and damage the catalytic converter. Have the vehicle inspected soon to prevent more costly repairs.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Fuel pressure gauge
- Propane enrichment tool or smoke machine
- Socket set and oxygen sensor wrench



Reading P1138

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

Often seen with

P0130 O2 Sensor Circuit Malfunction (Bank 1 Sensor 1) · **P0131** O2 Sensor Circuit Low Voltage (Bank 1 Sensor 1) · **P0132** O2 Sensor Circuit High Voltage (Bank 1 Sensor 1) · **P0172** System Too Rich (Bank 1) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

See it working

Watch the animated explainer [How a Rotary Engine Works: Wankel in X-Ray](#) on Auto Veteran to see the parts involved moving.

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

