



P1130 · Subaru

Front Oxygen Sensor Circuit Malfunction Open Circuit

P1130 on a Subaru means the engine control module (ECM) has detected an open circuit in the front oxygen sensor's signal or heater circuit, so it cannot read the air-fuel ratio before the catalytic converter. The ECM monitors the sensor's electrical continuity and sets this code when the circuit is broken or has excessive resistance.

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

Symptoms you may notice

- Check Engine Light illuminated, often with no other noticeable symptoms
- Rough idle or stumbling when the engine is cold
- Poor fuel economy or rich-running smell from the exhaust
- Hesitation or flat spots during acceleration
- Failed emissions test due to incorrect air-fuel ratio
- In rare cases, the engine may enter limp mode with reduced power

Common causes, most likely first

- 1 Broken or chafed wire in the front oxygen sensor harness, especially near the exhaust manifold
- 2 Corroded or loose electrical connector at the front oxygen sensor
- 3 Failed front oxygen sensor heater element (open circuit inside the sensor)
- 4 Blown fuse that supplies power to the oxygen sensor heater circuit
- 5 Damaged ECM driver circuit for the oxygen sensor heater (less common)
- 6 Aftermarket or incorrect sensor installed that does not match Subaru specifications

How to diagnose and fix it

- 1 Inspect the front oxygen sensor wiring and connector for visible damage, corrosion, or looseness
- 2 Check the oxygen sensor heater fuse in the underhood fuse box and replace if blown
- 3 Measure resistance across the sensor heater circuit with a multimeter to confirm an open element
- 4 Backprobe the sensor signal wire at the ECM to verify continuity and check for a short to ground
- 5 Replace the front oxygen sensor with an OEM or equivalent quality part if the circuit is open internally
- 6 Clear the code and perform a drive cycle to confirm the repair and ensure the monitor runs



What a P1130 on a Subaru really tells you

- A P1130 often appears after a timing belt or clutch job where the front oxygen sensor wiring was disturbed or pinched during reassembly.
- The front oxygen sensor on many Subaru models is a wideband air-fuel ratio sensor, and a generic oxygen sensor will not work correctly and may set this code again.
- An open circuit can be intermittent, so wiggle-test the harness while watching live data to catch a broken wire that only fails when the engine moves.
- Do not replace the ECM based on this code alone; the ECM driver circuit is rarely the cause, and a shorted sensor heater can mimic a failed driver.
- Exhaust leaks before the front oxygen sensor can cause erratic readings that some Subaru ECMs interpret as a circuit fault, so check for leaks as well.

Can I keep driving with P1130?

You can usually drive short distances to a repair shop, but avoid sustained high-speed driving or heavy loads because the engine may run rich and damage the catalytic converter over time. If the engine runs poorly or enters limp mode, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire probe set or backprobe pins
- Socket set and oxygen sensor socket
- Factory service information for wiring diagrams and resistance specifications

Reading P1130

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Subaru): its meaning depends on the make.
1	Fuel and air metering.
30	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) · **P0133** O2 Sensor Circuit Slow Response (Bank 1 Sensor 1) · **P0134** O2 Sensor Circuit No Activity (Bank 1 Sensor 1)



See it working

Watch the animated explainer [How Hydraulic Brakes Work: Pedal to Caliper](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/subaru-p1130/>

