

SUBARU · POWERTRAIN

P1137

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1137 · Subaru

Front Oxygen AF Sensor Circuit Range Performance Problem

P1137 on a Subaru means the engine computer has detected that the front air-fuel ratio sensor is not switching or responding within its expected range during closed-loop operation. The sensor is a wideband unit that measures oxygen content in the exhaust, and the computer compares its signal to what the engine's fueling model predicts; when the signal stays too lean, too rich, or too sluggish for a set period, this code is stored.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Subaru 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 hesitation or stumble during light-throttle acceleration
- Poor fuel economy compared with normal driving
- Rough idle or unstable engine speed when coming to a stop
- Occasional surging at steady cruising speeds
- Failed emissions inspection due to the stored code

Common causes, most likely first

- 1 Aged or contaminated front air-fuel ratio sensor that responds slowly or drifts out of range
- 2 Exhaust leak upstream of the sensor, allowing outside air to skew the reading
- 3 Wiring damage or corroded connector pins between the sensor and the engine control module
- 4 A vacuum leak in the intake tract that leans the mixture and forces the sensor correction beyond its limit
- 5 A failing mass airflow sensor that reports inaccurate airflow, causing the computer to misjudge the expected sensor signal
- 6 Low fuel pressure from a weak pump or restricted filter, leading to a lean condition the sensor cannot correct
- 7 A stuck-open or leaking fuel injector that richens one cylinder and skews the sensor's overall reading



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data plus live front air-fuel sensor voltage and short-term fuel trim to confirm the fault is present and not intermittent
- 2 Visually inspect the front air-fuel sensor, its wiring harness, and connector for chafing, corrosion, or oil contamination
- 3 Smoke-test the intake and exhaust system to rule out vacuum leaks and pre-sensor exhaust leaks
- 4 Check fuel pressure with a gauge and compare it to the Subaru specification for the engine
- 5 Perform a propane-enrichment test or use a known-good sensor to verify the sensor's response before condemning it
- 6 Replace the front air-fuel ratio sensor only after electrical and mechanical checks pass, using the correct Subaru-specified part
- 7 Clear the code and complete a drive cycle to verify the repair and confirm the monitor runs to completion

Why this code often misleads Subaru owners

- A P1137 is frequently set by a small exhaust leak at the front pipe gasket rather than by a failed sensor, so always inspect the exhaust before buying parts.
- Subaru front air-fuel ratio sensors are wideband units and cannot be tested reliably with a simple voltmeter; you need a scan tool that displays the sensor's lambda or current output.
- Oil or coolant contamination from an internal engine leak can coat the sensor tip and cause a slow response that sets P1137 without any driveability complaint.
- The engine control module may set P1137 when the sensor is actually working correctly but the fueling model is off due to a dirty mass airflow sensor or a lazy upstream oxygen sensor on the other bank.
- After replacing the sensor, some Subaru models require a relearn or a specific drive cycle before the monitor will pass, so a code that returns immediately may be a readiness issue rather than a repeat fault.

Can I keep driving with P1137?

You can usually drive the car short distances to a repair shop, but avoid heavy acceleration, towing, or long highway trips because a faulty air-fuel ratio sensor can cause the engine to run rich or lean and damage the catalytic converter over time. If the check engine light starts flashing or the engine runs rough, stop driving and have it towed.

Tools that help

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



Reading P1137

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Subaru): its meaning depends on the make.
- 1** Fuel and air metering.
- 37** 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) · **P0171** System Too Lean (Bank 1) · **P0172** System Too Rich (Bank 1)

See it working

Watch the animated explainer [Disc Brake Trainer: How Car Brakes Stop a Wheel](#) on Auto Veteran to see the parts involved moving.

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

