

NISSAN · POWERTRAIN

P1148

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1148 · Nissan

Closed Loop Control Bank 1

P1148 on Nissan vehicles indicates that the engine control module (ECM) has detected a fault in the closed-loop fuel control system for bank 1, meaning the air-fuel ratio is not being corrected as expected. The ECM monitors the heated oxygen sensor (HO2S) signal and sets this code when the fuel trim correction reaches its limit or the sensor response falls outside the expected range during closed-loop operation.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Slightly rough idle or hesitation during acceleration.
- Decreased fuel economy compared to normal.
- Occasional engine surging or stumbling at steady speeds.
- Failed emissions test due to incorrect air-fuel ratio.
- In rare cases, a rich or lean exhaust smell.

Common causes, most likely first

- 1 Faulty heated oxygen sensor (HO2S) on bank 1, commonly due to contamination or aging.
- 2 Vacuum leaks from cracked intake hoses, intake manifold gaskets, or PCV hoses.
- 3 Exhaust leaks before the oxygen sensor, allowing outside air to skew readings.
- 4 Dirty or failing mass air flow (MAF) sensor providing incorrect air measurement.
- 5 Fuel delivery issues such as a weak fuel pump, clogged fuel filter, or leaking fuel injectors.
- 6 Wiring problems in the oxygen sensor circuit, including damaged harness or corroded connectors.
- 7 Engine mechanical issues like low compression or incorrect valve timing affecting combustion.



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data and fuel trim values to confirm the fault conditions.
- 2 Visually inspect the bank 1 oxygen sensor and its wiring for damage, corrosion, or loose connections.
- 3 Perform a smoke test to check for vacuum leaks in the intake system.
- 4 Inspect the exhaust system for leaks upstream of the oxygen sensor.
- 5 Clean the mass air flow sensor with approved cleaner and verify its readings with a scan tool.
- 6 Check fuel pressure and injector operation according to manufacturer specifications.
- 7 Replace the bank 1 oxygen sensor if it is slow to respond or contaminated, then clear the code and verify repair with a test drive.

Before replacing the oxygen sensor

- A contaminated mass air flow sensor often causes P1148 by skewing the air-fuel mixture, so clean or test it before condemning the oxygen sensor.
- Exhaust leaks upstream of the sensor can draw in outside air and mimic a lean condition, leading to false oxygen sensor replacement.
- Fuel trim data is critical: positive trims indicate a lean condition (vacuum leak or weak fuel delivery), while negative trims point to a rich condition (leaking injector or high fuel pressure).
- On some Nissan models, P1148 can be set by a failing engine coolant temperature sensor that keeps the ECM from entering closed loop, so check live data for coolant temperature rationality.
- After repairs, the ECM may require a relearn procedure or several drive cycles before the code will clear and monitors run.

Can I keep driving with P1148?

You can generally continue driving with P1148, but avoid aggressive acceleration or heavy loads until diagnosed, as prolonged driving with an incorrect air-fuel ratio can damage the catalytic converter and increase emissions.

Tools that help

- OBD-II scan tool with live data and fuel trim capability
- Smoke machine for vacuum leak detection
- Digital multimeter for circuit testing
- Fuel pressure gauge
- Mass air flow sensor cleaner
- Basic hand tools (wrenches, screwdrivers, socket set)



Reading P1148

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Nissan): its meaning depends on the make.
- 1** Fuel and air metering.
- 48** 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 [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/nissan-p1148/>

