

NISSAN · POWERTRAIN

P1120

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1120 · Nissan

Secondary Throttle Position Sensor Circuit Fault

P1120 on Nissan vehicles indicates that the engine control module (ECM) has detected an electrical fault in the secondary throttle position sensor circuit, which is part of the electronic throttle control system. The ECM monitors the secondary sensor's signal for consistency with the primary sensor and expects a specific voltage range; when the signal is out of range, intermittent, or implausible, it sets this code and typically illuminates the check engine light.

SYSTEM

Powertrain

CODE TYPE

Nissan specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light (malfunction indicator lamp) on the dashboard.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- Reduced engine power or limp-home mode, where the vehicle may be limited to a lower speed or RPM.
- Poor throttle response or hesitation when accelerating from a stop.
- Unstable or fluctuating idle speed, sometimes accompanied by stalling.
- In some cases, the engine may enter a fail-safe mode that limits throttle opening to a fixed value.

Common causes, most likely first

- 1 Faulty secondary throttle position sensor (TPS) inside the throttle body assembly.
- 2 Damaged or corroded wiring or connector at the secondary TPS or throttle body harness.
- 3 Open or short circuit in the secondary TPS signal, ground, or reference voltage circuit.
- 4 Contaminated or sticking throttle plate or throttle body internals affecting sensor movement.
- 5 Failed electronic throttle control (ETC) actuator or motor driver inside the throttle body.
- 6 Engine control module (ECM) internal fault, though this is less common.
- 7 Poor electrical connection at the ECM connector or damaged ECM pins.



How to diagnose and fix it

- 1 Perform a visual inspection of the throttle body, secondary TPS connector, and wiring for damage, corrosion, or loose pins.
- 2 Use an OBD-II scanner to retrieve freeze-frame data and check for other stored codes that may indicate a related issue.
- 3 Measure the secondary TPS signal voltage with a multimeter while slowly opening the throttle by hand; compare to specification.
- 4 Check the reference voltage (typically 5V) and ground continuity at the secondary TPS connector.
- 5 Perform a wiggle test on the harness and connectors while monitoring sensor voltage to detect intermittent faults.
- 6 If the sensor or throttle body is faulty, replace the throttle body assembly (the secondary TPS is usually not serviced separately).
- 7 After repair, clear the codes and perform a throttle body relearn or idle air volume learning procedure as required for the Nissan model.

Secondary TPS faults often misdiagnosed

- A common mistake is to replace the accelerator pedal position sensor when the fault actually lies in the secondary TPS inside the throttle body, so always verify which sensor circuit is setting the code.
- The secondary TPS is not a standalone service part on many Nissan throttle bodies, meaning a faulty sensor often requires replacing the entire throttle body assembly.
- Intermittent P1120 codes can be caused by a poor ground connection at the throttle body or engine block, which is frequently overlooked during diagnosis.
- After replacing the throttle body or ECM, a relearn procedure is mandatory; skipping it can cause the code to return or create drivability issues.
- This code does not always mean the sensor is dead; a sticking throttle plate due to carbon buildup can cause the secondary sensor signal to fall out of correlation with the primary sensor.

Can I keep driving with P1120?

If the vehicle is in limp-home mode with severely reduced power, avoid highway driving and seek repair promptly. If the only symptom is the check engine light and the car drives normally, you can drive cautiously to a workshop, but do not ignore the warning because the throttle may enter fail-safe mode without notice.

Tools that help

- OBD-II scanner with live data capability
- Digital multimeter
- Back probe pins or breakout leads
- Basic hand tools (screwdrivers, socket set)
- Service manual or online repair information for the specific Nissan model



Reading P1120

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

Often seen with

P1122 Oxygen Sensor Heater Circuit Bank 2 Sensor 2 Open · **P1121** Oxygen Sensor Heater Circuit Bank 2 Sensor 2 Short To Ground · **P1121** Accelerator Pedal Position Sensor Range Performance Problem · **P1122** Pressure Sources Switching Valve Circuit High Input · **P1121** Neutral Position Switch Circuit Low Input AT Vehicles · **P1122** Throttle Position Higher Than Expected · **P1121** Throttle Position Lower Than Expected · **P1122** Throttle Position Stuck Closed · **P1121** Throttle Position Sensor Signal Not Consistent With Mass Air · **P1121** Pedal Position Sensor A Circuit Range Performance · **P1122** Pedal Position Sensor A Circuit Low Input · **P1121** Throttle Position Lower Than Expected · **P1122** Throttle Position Higher Than Expected · **P1121** Throttle Position Sensor Out of Range · **P1122** Throttle Position Sensor Out of Range · **P1121** Throttle Position Sensor Inconsistent with Mass Air Flow Sen · **P1122** Throttle Position TP Sensor Circuit Intermittent Low Voltage · **P1121** TP Sensor Circuit Intermittent High Voltage · **P1122** TP Sensor Circuit Intermittent Low Voltage · **P1122** Pedal Position Sensor 1 Low Input · **P1121** Pedal Position Sensor 1 Range Performance Problem · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation · **P0120** Throttle Position Sensor A Circuit Malfunction · **P0220** Throttle Position Sensor B Circuit Malfunction

See it working

Watch the animated explainer [Helicopter Simulator: Take Off, Hover and Land](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/nissan-p1120/>

