

NISSAN · POWERTRAIN

P1130

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1130 · Nissan

Swirl Control Valve Control Solenoid Valve

P1130 on Nissan vehicles indicates that the engine control module (ECM) has detected an electrical fault in the swirl control valve control solenoid circuit, which manages intake air tumble for improved combustion. The ECM monitors the solenoid's command signal and feedback voltage, and when the actual circuit response deviates from the expected value, it stores this code and may illuminate the check engine light.

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

Symptoms you may notice

- Check engine light illuminated on the dashboard
- Often no symptoms besides the warning light, especially during normal driving
- Slight hesitation or stumble during light acceleration at low engine speeds
- Rough idle quality or minor vibration felt through the steering wheel
- Reduced fuel economy in some cases due to less efficient combustion
- In rare instances, a noticeable loss of low-end torque when the engine is cold

Common causes, most likely first

- 1 Failed swirl control valve control solenoid, often due to an open or shorted internal coil
- 2 Damaged or corroded wiring harness connector at the solenoid
- 3 Broken, chafed, or shorted wires between the solenoid and the ECM
- 4 Vacuum leaks in the hose or passage that supplies the swirl control valve actuator
- 5 Sticking or carbon-fouled swirl control valve linkage preventing proper movement
- 6 ECM internal driver circuit failure, though this is less common
- 7 Poor ground connection at the solenoid mounting point or engine block



How to diagnose and fix it

- 1 Perform a visual inspection of the solenoid, its connector, and the vacuum hoses for obvious damage or disconnection
- 2 Use a scan tool to command the swirl control valve on and off while listening for the solenoid to click, confirming electrical function
- 3 Measure the solenoid's resistance with a multimeter and compare it to the manufacturer's specification to check for an open or shorted coil
- 4 Check for battery voltage at the solenoid connector with the key on and verify the ground circuit integrity using a test light or multimeter
- 5 Inspect the wiring harness between the solenoid and ECM for continuity, shorts to ground, and shorts to power
- 6 Test the swirl control valve actuator with a hand vacuum pump to ensure it moves freely and holds vacuum without leaking
- 7 If all electrical and vacuum checks pass, substitute a known-good solenoid and clear the code to see if it returns before condemning the ECM

Why P1130 often misleads Nissan owners

- A stuck-open or carbon-seized swirl control valve can set P1130 even when the solenoid itself tests perfectly, because the ECM expects a change in manifold pressure that never occurs.
- Many technicians replace the solenoid only to find the real problem is a cracked vacuum hose hidden under the intake manifold that leaks only when the engine is cold.
- The swirl control valve solenoid on some Nissan engines shares its power feed with other solenoids, so a blown fuse or a short in a neighbouring circuit can trigger P1130 without any fault in the solenoid itself.
- P1130 can appear intermittently after a battery replacement or ECM reset if the learned swirl valve position is not relearned, and the code may clear after a proper drive cycle.
- A dirty mass airflow sensor or a vacuum leak elsewhere in the intake can cause the ECM to see unexpected swirl valve response and set P1130 as a secondary code, so always check fuel trims first.

Can I keep driving with P1130?

You can generally continue driving with P1130 because the fault mainly affects intake tuning and emissions, not immediate safety. Avoid heavy acceleration or towing until the issue is repaired, and address it promptly to prevent long-term carbon buildup or reduced fuel economy.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Hand vacuum pump
- Test light
- Basic socket and wrench set



Reading P1130

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

Often seen with

P1133 Oxygen Sensor Heating Circuit Bank 1 + 2 Sensor 1 Electrical · **P1131** Bank 2 Sensor 1 Resistance Too High · **P1132** Oxygen Sensor Heating Circuit Bank 1 + 2 Sensor 1 Short To B · **P1133** Air/Fuel Sensor Circuit Response Bank 1 Sensor 1 · **P1131** Front Oxygen Sensor Circuit Malfunction Short Circuit · **P1133** Bank 1 Fuel Control Shifted Lean · **P1131** HO2S Bank 1 Sensor 1 Signal Below 0.45v AF Ratio Too Lean · **P1132** HO2S Bank 1 Sensor 1 Signal Above 0.45v AF Ratio Too Rich · **P1131** HO2S Circuit Low Variance Bank 1 Sensor 2 · **P1133** O2 Sensor Insufficient Switching (Bank 1 Sensor 1) · **P1132** HO2S Circuit Low Variance Bank 2 Sensor 1 · **P1132** Lack of Upstream Heated Oxygen Sensor Switch Sensor Indicate · **P1133** Bank 1 Fuel Control Shifted Lean · **P1131** Lack of Upstream Heated Oxygen Sensor Switch Sensor Indicate · **P1133** HO2S Insufficient Switching · **P1132** HO2S Circuit Low Variance Bank 2 Sensor 1 · **P1131** HO2S Circuit Low Variance Bank 1 Sensor 2 · **P1133** O2 Sensor Heater Control Circuit Bank 2 Sensor 1 · **P1132** O2 Sensor Heater Control Circuit Bank 1 Sensor 1 · **P0171** System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

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

