

NISSAN · POWERTRAIN

P1788

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1788 · Nissan

Pressure Control Solenoid B Circuit Open

P1788 on Nissan vehicles means the transmission control module (TCM) has detected an open circuit in the electrical path for pressure control solenoid B, which is used to regulate hydraulic line pressure inside the automatic transmission. The TCM commands a current through the solenoid coil and monitors the return voltage; when the circuit stays open, the expected current does not flow and the code is stored.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Nissan specific	Medium	Professional	Transmission

Symptoms you may notice

- Illuminated check engine light or transmission warning light, often with no other noticeable symptoms at first
- Harsh or delayed shifts, especially when the transmission is cold or under light throttle
- The transmission may default to a fail-safe mode with fixed line pressure, causing firm engagements and poor shift quality
- Slipping or flaring during gear changes as line pressure control is lost
- In some cases the vehicle may enter limp mode and stay in a single gear

Common causes, most likely first

- 1 Broken, chafed, or corroded wiring in the solenoid B circuit between the TCM and the transmission connector
- 2 Open solenoid coil inside the valve body, caused by heat, contamination, or normal wear
- 3 Corroded or loose pins at the transmission case connector or TCM harness connector
- 4 Failed TCM output driver for the pressure control solenoid circuit
- 5 Internal transmission harness damage from heat or fluid contamination
- 6 Aftermarket or incorrect solenoid replacement with wrong resistance



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P1788, then clear the code and verify whether it returns immediately or only after the transmission reaches operating temperature
- 2 Inspect the transmission case connector and TCM harness connector for corrosion, loose pins, or pushed-back terminals, and repair as needed
- 3 Measure resistance of pressure control solenoid B at the transmission connector and compare to the Nissan specification for the exact model and transmission
- 4 Check continuity and resistance of the individual wires from the TCM connector to the transmission connector while flexing the harness to reveal intermittent opens
- 5 If the circuit tests good, remove the valve body and inspect the solenoid B coil and internal harness for an open circuit or fluid intrusion
- 6 Replace the faulty solenoid or internal harness only after confirming the external circuit is intact, then clear codes and perform a transmission adaptive relearn
- 7 If the solenoid and wiring are good, test the TCM output with a load box or oscilloscope and replace the TCM only if the driver is confirmed open

What P1788 does not always mean

- A stored P1788 does not automatically mean the solenoid is bad; a corroded connector pin or a chafed wire in the harness is a common cause that costs far less to fix.
- Nissan TCMs often set P1788 only after the transmission reaches a specific fluid temperature, so a cold-engine test can pass even when the circuit is intermittently open.
- The same open circuit can trigger companion codes such as P0745 or P0740, and diagnosing only the solenoid without checking the shared power or ground path can lead to a repeat failure.
- After replacing the solenoid or repairing the circuit, the TCM must relearn line pressure adaptives; skipping this step can leave the transmission shifting harshly and make a good repair look like a failure.
- Fluid contamination or a clogged valve body can cause the solenoid to overheat and open internally, so a failed solenoid is sometimes a symptom of a larger hydraulic problem rather than the root cause.

Can I keep driving with P1788?

You can usually drive the vehicle to a repair shop, but avoid heavy throttle, towing, or long highway trips because the transmission may be in fail-safe mode with fixed line pressure. If the transmission slips severely or enters limp mode, stop driving and arrange a tow to prevent internal damage.



Tools that help

- OBD-II scan tool with Nissan-specific transmission data and freeze-frame capability
- Digital multimeter with min/max recording and resistance measurement
- Transmission connector pinout and resistance specification for the exact Nissan model
- Wire piercing probes or back-probe kit for testing circuits without damaging insulation
- Oscilloscope or load box for testing the TCM output driver
- Transmission fluid drain pan and hand tools for valve body access if solenoid replacement is needed

Reading P1788

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (Nissan): its meaning depends on the make.

7 Transmission.

88 The exact fault within that area.

Often seen with

P1787 Reversing Light Circuit Short To Ground · **P1789** Idle Speed Intervention Circuit Error Message From Engine Co · **P1789** Pressure Control Solenoid B Circuit Shorted · **P1789** Pressure Control Solenoid B Circuit Shorted · **P1789** Ignition Supply Malfunction · **P1787** 2-1 Downshift Error · **P1789** Pressure Control Solenoid B Short Circuit · **P0700** Transmission Control System Malfunction · **P0740** Torque Converter Clutch Circuit Malfunction · **P0745** Pressure Control Solenoid Malfunction

See it working

Watch the animated explainer [How a Starter Motor Works: Pre-Engaged Starter](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/nissan-p1788/>

