

GENERIC · POWERTRAIN

P0981

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0981

Shift Solenoid 'D' Control Circuit Range/Performance

P0981 means the transmission control module (TCM) has detected that the electrical current or response from shift solenoid 'D' falls outside the expected range during a commanded shift. The computer monitors the solenoid circuit for opens, shorts, or a solenoid that is not moving the shift valve as commanded, and it sets this code when the measured performance does not match the commanded state.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- The check engine light or transmission warning light is illuminated, often with no other noticeable symptoms.
- Harsh or delayed shifts, especially when the transmission is commanded to engage or release the gear controlled by solenoid 'D'.
- The transmission may stick in a single gear or enter limp mode, limiting vehicle speed.
- A noticeable flare or slip during upshifts or downshifts that involve the affected clutch pack.
- Poor fuel economy or unusual engine RPM fluctuations at steady highway speeds.
- In some vehicles, the transmission may default to a fail-safe mode that feels like neutral or a harsh engagement when shifting from park to drive.

Common causes, most likely first

- 1 Low or contaminated transmission fluid, which alters hydraulic pressure and solenoid response.
- 2 A faulty shift solenoid 'D' that has failed electrically or is mechanically sticking.
- 3 Damaged or corroded wiring and connectors in the solenoid 'D' control circuit, including chafed harnesses near heat sources.
- 4 A clogged or sticking valve body shift valve that the solenoid cannot move through its full travel.
- 5 A failing transmission control module (TCM) or a poor ground connection shared by the solenoid circuit.
- 6 Internal transmission wear causing debris to accumulate in the solenoid or valve body passages.
- 7 Aftermarket or incorrect transmission fluid that does not meet the manufacturer's friction and viscosity specifications.



How to diagnose and fix it

- 1 Check the transmission fluid level and condition; top off or replace fluid only with the specified type if it is low or burnt.
- 2 Inspect the solenoid 'D' wiring harness and connectors for chafing, corrosion, or loose pins, and repair any damage found.
- 3 Use a scan tool to command solenoid 'D' on and off while watching live data to confirm whether the circuit responds electrically.
- 4 Measure the resistance of solenoid 'D' at the transmission connector and compare it to the manufacturer's specification to rule out an open or shorted coil.
- 5 Remove the transmission pan and inspect for debris; test the solenoid 'D' directly and replace it if it fails electrical or mechanical checks.
- 6 If the solenoid tests good, inspect the valve body for sticking shift valves or clogged passages that would prevent proper hydraulic response.
- 7 After repairs, clear the codes and perform a relearn or adaptive drive cycle as required by the manufacturer to confirm the fix.

What P0981 Often Really Means

- A significant number of P0981 cases are caused by low or degraded transmission fluid rather than a failed solenoid, so always check fluid condition before condemning parts.
- The code can be set by a momentary electrical glitch from a poor ground or a loose connector, so inspect the harness carefully before replacing the solenoid.
- Some vehicles use solenoid 'D' for a specific clutch pack, and a mechanical fault inside the transmission can mimic an electrical solenoid failure, leading to misdiagnosis.
- A failing transmission control module is rare but possible; do not replace it until all wiring and solenoid tests have passed.
- After replacing a solenoid, many transmissions require an adaptive relearn procedure; skipping it can cause harsh shifts and a repeat code.

Can I keep driving with P0981?

You can usually drive the vehicle to a repair shop if the transmission still shifts and the warning light is the only symptom, but avoid heavy acceleration or towing. If the transmission enters limp mode or slips severely, stop driving and have it towed to prevent internal damage.



Tools that help

- OBD-II scan tool with live transmission data and bidirectional control
- Digital multimeter for resistance and voltage checks
- Transmission fluid level gauge and fluid pump
- Socket set and torque wrench for pan removal
- Manufacturer service information for solenoid resistance specifications and relearn procedures

Reading P0981

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
9	Transmission.
81	The exact fault within that area.

Often seen with

P0700 Transmission Control System Malfunction · **P0979** Shift Solenoid 'C' Control Circuit Low · **P0980** Shift Solenoid 'C' Control Circuit High · **P0982** Shift Solenoid 'D' Control Circuit Low · **P0983** Shift Solenoid 'D' Control Circuit High

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0981/>

