

GM · POWERTRAIN

P1765

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1765 · GM

Trans 12 Volt Supply Relay Control Circuit Open Or Shorted

P1765 on a GM vehicle means the transmission control module (TCM) has detected an open or shorted circuit in the control wire for the 12-volt supply relay that feeds power to the transmission solenoids. The TCM monitors the relay control circuit and sets this code when the voltage on the control wire is outside the expected range, indicating a wiring fault, a failed relay, or a problem inside the TCM itself.

SYSTEM

Powertrain

CODE TYPE

GM specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- The check engine light or transmission warning light illuminates on the dashboard.
- The transmission may enter limp mode, sticking in a single gear or refusing to shift.
- Harsh or delayed shifts, or a complete loss of shift quality.
- The engine may crank but not start if the same relay supplies power to other circuits.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- In some cases, the vehicle may stall or have a no-crank condition if the relay also feeds the starter circuit.

Common causes, most likely first

- 1 Failed transmission 12-volt supply relay (open coil or burned contacts).
- 2 Blown fuse or fusible link in the relay power circuit.
- 3 Open or shorted control wire between the TCM and the relay, often due to chafing or corrosion.
- 4 Poor ground connection at the relay or TCM mounting point.
- 5 Corroded or loose terminals at the relay socket or TCM connector.
- 6 Internal failure in the TCM driver circuit for the relay control.
- 7 Aftermarket alarm or remote start wiring that has tapped into the relay circuit and caused a short.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for related codes in the TCM and body control module (BCM).
- 2 Inspect the fuse and relay for the transmission 12-volt supply; replace any blown fuse or suspect relay.
- 3 Perform a voltage drop test on the relay control circuit from the TCM to the relay to check for opens or high resistance.
- 4 Check the relay ground circuit for clean, tight connections and proper continuity to chassis ground.
- 5 Disconnect the TCM and inspect the connector pins for corrosion, backing out, or damage; repair as needed.
- 6 If the control circuit is intact and the relay is good, test the TCM driver output with a test light or oscilloscope; replace the TCM if it cannot pull the relay coil low.
- 7 Clear the code and perform a road test to confirm the repair and ensure the transmission shifts properly.

Relay circuit faults that fool good technicians

- A relay that clicks does not guarantee good contacts; the coil can energize while the power contacts are burned and dropping voltage under load.
The same relay often supplies power to the powertrain control module (PCM) and fuel injectors, so a no-start condition can accompany P1765 even though the transmission seems fine.
- Corrosion inside the underhood fuse box can create an open circuit that looks like a failed relay but is actually a bad terminal in the box.
- Aftermarket accessories wired into the transmission power circuit are a common cause of intermittent P1765 that only appears when the accessory is used.
A shorted control wire may only show up when the harness is flexed or when the engine is hot, so a wiggle test while monitoring the circuit is essential.

Can I keep driving with P1765?

If the transmission is shifting normally and the light is the only symptom, you can drive cautiously to a repair shop, but avoid heavy loads or long trips. If the transmission is in limp mode or the engine will not start, stop driving and have the vehicle towed to prevent further damage.

Tools that help

- OBD-II scan tool with GM-specific software
- Digital multimeter with voltage and resistance functions
- Test light or logic probe
- Fuse puller and relay puller
- Wiring diagram for the specific GM model
- Terminal pick and electrical contact cleaner



Reading P1765

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (GM): its meaning depends on the make.
- 7** Transmission.
- 65** The exact fault within that area.

Often seen with

P1766 Throttle Angle Signal Stuck Off · **P1764** Low And Reverse Brake Failsafe Valve Malfunction · **P1764** Governor Pressure Sensor Voltage Too Low · **P1766** Shift Solenoid D Performance · **P1764** Governor Pressure Sensor Voltage Too Low · **P0562** System Voltage Low · **P0700** Transmission Control System Malfunction · **P0748** Pressure Control Solenoid 'A' Electrical

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1765/>

