

GENERIC · POWERTRAIN

P07D2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P07D2

Transmission Mode Switch E Circuit Low

P07D2 means the transmission control module (TCM) has detected a low-voltage condition on the electrical circuit for Transmission Mode Switch E, which is one of several driver-selectable mode inputs such as tow/haul, sport, or economy. The TCM monitors the switch signal and flags the code when the circuit voltage stays below the expected threshold for longer than the calibration allows, indicating a short to ground, an open circuit, or a faulty switch.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Transmission

Symptoms you may notice

- The malfunction indicator lamp (MIL) illuminates on the dashboard, often with no other noticeable change in vehicle behavior.
- The transmission may stay in a default or limp mode, refusing to shift into certain gears or holding a single gear ratio.
- Mode selection buttons or dials on the center console may stop responding or fail to change the shift schedule.
- The instrument cluster may display a transmission fault message or flash the current gear indicator.
- Fuel economy may drop noticeably if the transmission defaults to a less efficient shift pattern.
- In some vehicles, the transmission may start in a higher gear or slip when accelerating from a stop.

Common causes, most likely first

- A short to ground in the signal wire between Transmission Mode Switch E and the TCM, often caused by chafed insulation against a metal bracket or body seam.
- An open circuit in the switch signal or ground return wire, frequently from a broken wire inside the harness flexed by console or shifter movement.
- A faulty Transmission Mode Switch E itself, where internal contacts corrode or stick and fail to close the circuit properly.
- Contamination or liquid intrusion into the switch or its connector, such as spilled drinks on a console-mounted mode button.
- A poor ground connection for the switch circuit at a body ground point, adding resistance that pulls the signal voltage low.
- A TCM internal driver fault that incorrectly reads the switch circuit as low, though this is less common than wiring or switch issues.
- Aftermarket accessories or wiring repairs that tapped into the mode switch circuit and introduced a ground path.



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then clear P07D2 and test-drive the vehicle through all mode selections to see if it returns immediately.
- 2 Inspect the Transmission Mode Switch E connector and the TCM connector for corrosion, loose pins, or pushed-back terminals, and clean or repair as needed.
- 3 Disconnect the switch and measure resistance across its terminals while pressing the mode button; compare to the factory specification to confirm the switch opens and closes correctly.
- 4 With the switch disconnected and the TCM connector removed, check the signal wire for continuity to ground and for a short to ground using a digital multimeter.
- 5 Wiggle the harness while monitoring the switch signal voltage on a scan tool or multimeter to reveal an intermittent short or open caused by movement.
- 6 Repair any damaged wire section with a proper splice and heat-shrink tubing, then recheck circuit voltage and clear the code.
- 7 If the circuit and switch test good, substitute a known-good TCM only after confirming power and ground feeds to the module are intact.

Mode switch faults that fool good technicians

- A mode switch that feels fine to the driver can still have high contact resistance that pulls the signal voltage low only when the circuit is loaded, so a simple continuity test may pass while the TCM still sets P07D2.
- Liquid spills on console-mounted mode buttons are a leading cause of this code because the residue creates a conductive path to ground that the TCM interprets as a stuck-low switch.
- The TCM often shares the mode switch ground with other console switches, so a single bad ground point can set P07D2 alongside codes for other mode or traction switches.
- P07D2 does not always mean the switch is bad; a shorted wire behind the dashboard or a pinched harness at the shifter assembly can produce the same low-voltage signal.
- Some vehicles use a multiplexed resistor ladder for mode selection, and a single faulty switch in the chain can drag the entire signal line low, setting codes for multiple mode switches at once.

Can I keep driving with P07D2?

You can usually drive the vehicle with P07D2 stored, but the transmission may stay in a default mode that reduces performance or fuel economy, and it may not select tow/haul or sport modes when needed. Avoid heavy towing or aggressive driving until the fault is repaired, and have the circuit inspected promptly if the transmission feels like it is slipping or holding gears.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter with resistance and voltage measurement
- Wire piercing probes or back-probe pins
- Factory service information for circuit and resistance specifications
- Trim removal tools for accessing console-mounted switches
- Heat-shrink tubing and soldering equipment for wire repair

Reading P07D2

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
7	Transmission.
D2	The exact fault within that area.

Often seen with

P07D0 Transmission Mode Switch D Circuit High · **P07D1** Transmission Mode Switch E Circuit · **P07D3** Transmission Mode Switch E Circuit High · **P07D4** Transmission Mode Switch F Circuit · **P07D5** Transmission Mode Switch F Circuit Low

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/p07d2/>

