

GENERIC · POWERTRAIN

P07CF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P07CF

Transmission Mode Switch D Circuit Low

P07CF indicates that the transmission control module (TCM) has detected a low-voltage condition on the signal circuit for Transmission Mode Switch D, which is one of several inputs used to determine the driver's selected gear range or driving mode. The TCM monitors the expected voltage on this circuit and sets the code when the signal stays below the calibrated threshold for a set period, indicating a short to ground, an open circuit, or a faulty switch contact.

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

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other noticeable symptoms
- The transmission may default to a limp-home mode, holding a single gear or refusing to shift normally
- Incorrect or delayed gear selection when moving the shift lever, or the indicated gear on the cluster not matching the lever position
- Harsh or erratic shifting as the TCM substitutes default shift schedules
- Failure of selectable driving modes (such as sport or tow/haul) to engage when requested
- In some vehicles, the engine may crank but not start if the TCM inhibits operation due to an invalid range signal

Common causes, most likely first

- 1 A short to ground in the signal wire between the transmission mode switch and the TCM
- 2 An open circuit or high-resistance connection in the switch signal circuit, including corroded terminals or a chafed wire
- 3 A faulty transmission mode switch with worn or contaminated internal contacts
- 4 Water intrusion or fluid contamination at the switch connector or inside the switch housing
- 5 A poor ground connection at the switch or TCM, causing the signal to read low
- 6 A failed TCM driver or internal circuit fault, though this is less common than wiring or switch issues



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then clear codes and verify whether P07CF returns immediately or after a test drive
- 2 Inspect the transmission mode switch connector and the TCM connector for corrosion, loose pins, or water intrusion, and clean or repair as needed
- 3 Check the signal circuit for a short to ground using a digital multimeter with the key on and the switch disconnected, looking for near-zero resistance to ground
- 4 Check the signal circuit for continuity and resistance end-to-end while wiggling the harness to reveal intermittent opens
- 5 Test the transmission mode switch itself by measuring resistance or voltage across its terminals in each lever position and comparing to the manufacturer's specification
- 6 Verify the switch ground circuit has less than 0.1 volt drop under load, repairing any high-resistance ground
- 7 If wiring and switch test good, substitute a known-good TCM only after confirming power and ground at the TCM, then reprogram or relearn as required

What the mode switch signal really tells the TCM

- A low signal on the mode switch circuit is often caused by a chafed wire where the harness flexes near the shift lever or transmission, not by the switch itself, so a visual inspection of the harness routing is essential before replacing parts.
- Some vehicles use a single wire with a resistor ladder for multiple mode inputs; a short in any branch can pull the entire signal low and set codes for several mode switches at once, so check for companion codes before condemning one switch.
- The TCM may set P07CF only after a certain number of key cycles or a specific driving pattern, so a code that clears and does not return immediately does not prove the fault is gone.
- Aftermarket accessories such as remote starters or alarm systems tapped into the shift console wiring can introduce a ground on the mode switch circuit and cause this code intermittently.
- A weak or failing battery or charging system can cause the TCM to misread the mode switch voltage during cranking, setting a low-circuit code that disappears once the charging system is repaired.

Can I keep driving with P07CF?

The vehicle is usually safe to drive to a repair shop, but avoid long trips or heavy towing because the transmission may be in a default mode with reduced shift quality and no selectable modes. If the transmission is stuck in limp-home or the engine will not start, stop driving and arrange a tow.



Tools that help

- OBD-II scan tool with live data and transmission module access
- Digital multimeter with back-probing pins
- Wire piercing probes or breakout leads
- Manufacturer service information for wiring diagrams and switch specifications
- Basic hand tools for trim and connector removal

Reading P07CF

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

Often seen with

P07C5 Intermediate Shaft Speed Sensor A Circuit Low · **P07C6** Intermediate Shaft Speed Sensor A Circuit High
 · **P07C7** Intermediate Shaft Speed Sensor B Circuit Low · **P07CE** Transmission Mode Switch D Circuit ·
P07D0 Transmission Mode Switch D 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/p07cf/>

