

GENERIC · POWERTRAIN

P07F2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P07F2

# Transmission Range Control Module Communication Circuit

P07F2 indicates that the transmission range control module (TRCM) has lost or detected an invalid communication signal on its dedicated data circuit, so the powertrain control module (PCM) can no longer confirm which gear range the driver has selected. The PCM sets this code when the expected periodic message from the TRCM is missing, corrupted, or outside the allowable timing window on the communication bus.

| SYSTEM     | CODE TYPE           | SEVERITY | FIX DIFFICULTY | AREA         |
|------------|---------------------|----------|----------------|--------------|
| Powertrain | Generic (all makes) | Medium   | Professional   | Transmission |

## Symptoms you may notice

- The gear indicator on the instrument cluster may flash, show a blank display, or illuminate the wrong range.
- The transmission may default to a limp-home mode, staying in a single forward gear or refusing to shift.
- The engine may crank but not start because the PCM cannot verify that the transmission is in Park or Neutral.
- A warning chime or message such as 'Transmission Range Indicator' may appear on the driver information center.
- Often no symptoms besides the warning light, especially if the fault is intermittent and the module re-establishes communication quickly.
- Remote start or push-button start may be disabled because the PCM cannot confirm the park/neutral status.

## Common causes, most likely first

- A chafed, corroded, or disconnected wire in the TRCM communication circuit, commonly at the transmission connector or along the harness near the shift linkage.
- Water intrusion or terminal fretting corrosion inside the TRCM electrical connector, leading to intermittent signal loss.
- A failing transmission range control module (TRCM) or its internal communication driver.
- A faulty or misadjusted transmission range sensor (also called the manual lever position sensor) that feeds incorrect range data to the TRCM.
- A poor ground connection shared by the TRCM and other transmission electronics, causing voltage drops that disrupt communication.
- A software or calibration issue in the PCM or TRCM that intermittently drops the communication message.
- Rarely, a failed PCM communication port or a shorted data bus wire that pulls the TRCM signal line low.



## How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then clear P07F2 and test-drive to see if it returns immediately or only after a specific driving condition.
- 2 Inspect the TRCM electrical connector and the transmission harness for corrosion, chafing, or loose terminals, and repair any damaged wiring before replacing parts.
- 3 Check the TRCM ground circuit with a voltage drop test while wiggling the harness to expose intermittent faults.
- 4 Use a scan tool to view live transmission range data and compare the displayed range with the actual shift lever position to confirm whether the TRCM is reporting correctly.
- 5 Perform a resistance and continuity test on the communication circuit between the TRCM and PCM, looking for opens, shorts to ground, or shorts to voltage.
- 6 If wiring and grounds are good, substitute a known-good TRCM or perform a module swap with a compatible unit to see if the code clears.
- 7 After any repair, clear the codes and verify that P07F2 does not return during a complete drive cycle that includes all gear ranges.

## Before you replace the range control module

- A loose or corroded ground bolt on the transmission case is a frequent culprit that mimics a failed TRCM, so always perform a voltage drop test before condemning the module.
- The TRCM communication circuit is often shared with other transmission sensors, so a shorted sensor on the same bus can pull the signal low and set P07F2 even though the TRCM itself is healthy.
- Intermittent P07F2 codes that appear only after a car wash or heavy rain often point to water intrusion at the transmission connector rather than an electronic failure.
- Some vehicles require a relearn or calibration procedure after replacing the TRCM or range sensor, and skipping that step will cause the code to reset immediately.
- P07F2 does not always mean the TRCM is dead; a weak battery or charging system voltage spike can corrupt communication and set the code without any hard part failure.

## Can I keep driving with P07F2?

You can usually drive the vehicle to a repair shop if the transmission still engages gears and the engine starts normally, but avoid highway speeds and towing because a sudden limp-home mode could reduce power unexpectedly. If the engine will not crank or the transmission will not engage any gear, stop driving and arrange a tow to prevent a dangerous stall or loss of motive power.



## Tools that help

- OBD-II scan tool with live transmission data capability
- Digital multimeter with voltage drop and continuity functions
- Wiring diagram for the specific vehicle's TRCM circuit
- Terminal pick and electrical contact cleaner
- Test light or logic probe for quick signal presence checks

## Reading P07F2

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>P</b>  | Powertrain: engine, transmission and emissions.                      |
| <b>0</b>  | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| <b>7</b>  | Transmission.                                                        |
| <b>F2</b> | The exact fault within that area.                                    |

## Often seen with

**P0705** Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0707** Transmission Range Sensor Circuit Low · **P0708** Transmission Range Sensor Circuit High · **U0101** Lost Communication with TCM

## 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/p07f2/>

