

FORD · POWERTRAIN

P1704

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1704 · Ford

Transmission system problems

P1704 on Ford vehicles is a manufacturer-specific code that the powertrain control module (PCM) sets when it detects a transmission system problem, typically a fault in the electronic control circuit or a mechanical issue that prevents the transmission from operating within expected parameters. The PCM monitors inputs from the transmission range sensor, speed sensors, and solenoid circuits, and it stores this code when the signals fall outside the programmed strategy or when a rationality check fails. This code often appears alongside other transmission codes and may trigger limp mode to protect the gearbox.

SYSTEM

Powertrain

CODE TYPE

Ford specific

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- Illumination of the check engine light or transmission warning light on the instrument cluster
- Transmission may enter limp mode, defaulting to a single gear or refusing to shift
- Harsh or delayed gear engagements, especially when shifting from park to drive or reverse
- Slipping or flaring during acceleration, with engine RPM rising without corresponding vehicle speed
- Erratic or missing shift points, or the transmission stuck in a particular gear
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Faulty transmission range sensor (TRS) or digital transmission range (DTR) sensor providing incorrect gear position data
- 2 Damaged or corroded wiring harness or connectors between the transmission and the PCM
- 3 Failed transmission solenoid pack or individual shift solenoid causing hydraulic control issues
- 4 Internal transmission mechanical wear, such as a stuck valve body or worn clutch packs
- 5 Low or contaminated transmission fluid affecting hydraulic pressure and shift quality
- 6 PCM software calibration issue or internal PCM fault misinterpreting sensor signals



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any accompanying transmission codes to narrow the fault area
- 2 Inspect the transmission fluid level and condition; top off or replace fluid if it is low or burnt
- 3 Visually inspect the wiring harness and connectors at the transmission and PCM for chafing, corrosion, or loose pins
- 4 Test the transmission range sensor and solenoid pack resistance and continuity according to Ford service information
- 5 Perform a pinpoint test for the specific circuit indicated by the code using a multimeter and wiring diagram
- 6 Repair or replace the faulty component, such as the range sensor, solenoid pack, or damaged wiring
- 7 Clear the code and perform a road test to verify the repair and ensure the transmission shifts correctly

What Ford Technicians Check First for P1704

- A loose or failing transmission range sensor is the most common culprit behind P1704 on Ford vehicles, and it often sets without any drivability complaint until the sensor fails completely.
Corroded connectors at the transmission bulkhead or PCM are frequently overlooked, and simply cleaning and reseating them can resolve the code without replacing any parts.
- This code does not always indicate a major internal transmission failure; many cases are resolved by repairing a chafed wire in the harness near the exhaust or battery tray.
- A weak battery or charging system fault can cause the PCM to log P1704 along with other communication codes, so always check battery voltage and ground connections before condemning the transmission.
After repairs, some Ford models require a relearn procedure for the transmission adaptive strategy, and skipping it can cause the code to return or shift quality to remain poor.

Can I keep driving with P1704?

If the transmission is in limp mode or shifting erratically, avoid highway driving and seek service promptly to prevent further damage. If the only symptom is the warning light and the vehicle drives normally, you can drive cautiously to a repair shop, but avoid heavy loads or aggressive acceleration.

Tools that help

- OBD-II scan tool with Ford-specific software for live data and code clearing
- Digital multimeter for circuit testing
- Ford service information and wiring diagrams
- Transmission fluid level indicator and fluid pump
- Socket set and basic hand tools for sensor and solenoid access



Reading P1704

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

Often seen with

P0705 Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0715** Input/Turbine Speed Sensor Circuit Malfunction · **P0720** Output Speed Sensor Circuit Malfunction · **P0750** Shift Solenoid 'A'

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/ford-p1704/>

