



P1742 · Ford

Torque Converter Clutch Solenoid Faulty

P1742 on Ford vehicles means the powertrain control module (PCM) has detected an electrical fault in the torque converter clutch (TCC) solenoid circuit, which controls lockup of the torque converter. The PCM monitors the solenoid's current draw and response, and when the signal falls outside the expected range it commands the transmission into a failsafe mode and stores this code.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Ford specific	Medium	Professional	Transmission

Symptoms you may notice

- The check engine light or transmission warning light illuminates on the dashboard.
- The torque converter clutch may fail to engage, causing higher engine rpm at highway speeds and reduced fuel economy.
- Harsh or delayed shifting, especially when the transmission tries to lock or unlock the converter.
- The transmission may stay in a default gear or refuse to enter overdrive, depending on the Ford model.
- In some cases, the vehicle drives normally and the only sign is the stored code and warning light.

Common causes, most likely first

- 1 A failed torque converter clutch solenoid, often due to an open or shorted internal coil.
- 2 Damaged or chafed wiring in the TCC solenoid circuit, commonly at the transmission connector or along the harness.
- 3 Corroded or loose electrical connectors at the solenoid body or PCM, causing intermittent signal loss.
- 4 A faulty transmission control module (TCM) or PCM driver circuit, though this is less common than solenoid or wiring faults.
- 5 Contaminated transmission fluid or a clogged solenoid screen that restricts hydraulic flow and overheats the solenoid.
- 6 Internal transmission mechanical wear that causes the solenoid to draw abnormal current, such as a sticking valve body.



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to confirm the TCC solenoid circuit is the only fault.
- 2 Inspect the transmission wiring harness and connectors for chafing, corrosion, or loose pins, especially near the transmission case.
- 3 Measure the TCC solenoid resistance at the transmission connector and compare it to Ford specifications for the specific model.
- 4 Check the solenoid circuit for short-to-ground and short-to-power using a multimeter and a wiring diagram.
- 5 If electrical checks pass, remove the transmission pan and inspect the solenoid body for contamination or a failed solenoid.
- 6 Replace the faulty TCC solenoid or solenoid body as required, using the correct Ford service procedure and fresh transmission fluid.
- 7 Clear the codes, perform a road test with a scan tool monitoring TCC slip and solenoid current, and verify the repair.

What Ford technicians check before replacing the TCC solenoid

- A common misdiagnosis is replacing the TCC solenoid when the real fault is a chafed wire in the harness near the transmission mount, which only shows up when the engine moves under load.
- On many Ford transmissions, the TCC solenoid shares a connector with other shift solenoids, so a single corroded pin can set P1742 along with other solenoid codes.
- Low or burnt transmission fluid can cause the TCC solenoid to overheat and fail electrically, so always check fluid condition and level before condemning the solenoid.
- The PCM may set P1742 as a result of a faulty transmission range sensor or a poor ground connection, so verify all grounds and sensor signals before replacing parts.
- A sticking torque converter clutch control valve in the valve body can mimic a failed solenoid by causing abnormal current draw, so a pressure test is often needed to separate the two.

Can I keep driving with P1742?

You can usually drive the vehicle short distances to a repair shop, but avoid sustained highway speeds and heavy towing because the converter may not lock up, which can overheat the transmission fluid. If the transmission slips badly or the vehicle enters limp mode, stop driving and arrange a tow.



Tools that help

- OBD-II scan tool with Ford-specific software and live data capability
- Digital multimeter for resistance and voltage checks
- Transmission wiring diagram for the specific Ford model
- Socket set and transmission pan removal tools
- Torque wrench for solenoid body fasteners
- Fluid pump or drain pan for transmission fluid service

Reading P1742

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

Often seen with

P1744 Tiptronic Switch Recognition Circuit Short To Ground · **P1740** Torque Converter Clutch Solenoid Mechanical Fault · **P1744** Torque Converter Clutch Solenoid Mechanical Fault · **P1740** Torque Control/Management Request Circuit · **P1740** Transmission system problems · **P1744** Torque Converter Clutch System Stuck in Off Position · **P1740** TCC Or OD Solenoid Performance · **P1744** Pressure Control Solenoid A Electrical · **P0740** Torque Converter Clutch Circuit Malfunction · **P0741** Torque Converter Clutch Circuit Performance or Stuck Off · **P0742** Torque Converter Clutch Circuit Stuck On

See it working

Watch the animated explainer [Manual Car Driving Simulator: Learn Clutch Control](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1742/>

