

GENERIC · POWERTRAIN

P0740

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0740

Torque Converter Clutch Circuit Malfunction

P0740 means the powertrain control module has detected an electrical or performance fault in the torque converter clutch (TCC) solenoid circuit, which controls when the torque converter locks up to improve efficiency. The computer monitors the solenoid's commanded state versus actual engine and transmission behavior, and it sets this code when the circuit current or the resulting slip does not match expectations.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- The check engine light or transmission warning light illuminates, often with no other noticeable symptoms.
- The engine may shudder or feel like it is lugging at steady highway speeds when the converter fails to lock up.
- Fuel economy drops noticeably because the torque converter stays unlocked and the engine runs at higher slip.
- Transmission may hesitate or flare during light-throttle upshifts, especially into overdrive.
- In some vehicles the transmission may enter limp mode, holding a single gear and disabling lockup.
- A slight surge or rpm fluctuation may be felt when the clutch is commanded to engage or release.

Common causes, most likely first

- 1 Faulty torque converter clutch solenoid, often due to internal coil failure or contamination.
- 2 Damaged, chafed, or corroded wiring and connectors between the transmission and the control module.
- 3 Restricted or dirty automatic transmission fluid causing solenoid sticking or poor hydraulic response.
- 4 Valve body wear or a stuck TCC control valve that prevents proper clutch apply pressure.
- 5 Failed torque converter clutch assembly itself, such as a worn lining or damaged damper.
- 6 Poor electrical ground or low system voltage affecting solenoid operation.
- 7 Internal transmission mechanical wear causing excessive slip that the computer interprets as a TCC circuit fault.



How to diagnose and fix it

- 1 Check transmission fluid level and condition; top off or service fluid if it is low, dark, or contaminated.
- 2 Inspect the TCC solenoid wiring harness and connectors for chafing, corrosion, or loose pins, and repair as needed.
- 3 Use a scan tool to command the TCC solenoid on and off while monitoring rpm slip and solenoid current to confirm the fault.
- 4 Measure the resistance of the TCC solenoid circuit and compare it to the manufacturer's specification to rule out an open or shorted coil.
- 5 If electrical checks pass, remove the transmission pan and inspect the solenoid and valve body for debris or sticking valves.
- 6 Replace the TCC solenoid or valve body components as indicated by testing, then clear the code and verify lockup operation on a road test.
- 7 If the fault persists after electrical and hydraulic repairs, diagnose the torque converter clutch assembly for mechanical failure.

What the TCC code does not always mean

- P0740 is frequently set by a simple low-fluid or dirty-fluid condition rather than a failed solenoid, so always check fluid first.
- A worn valve body or a sticking TCC control valve can mimic a bad solenoid and will set this code even when the solenoid tests good.
- Some vehicles set P0740 when the torque converter clutch is commanded off but the computer detects unexpected slip, pointing to a mechanical clutch problem rather than an electrical one.
- A weak battery or charging system can cause erratic solenoid operation and set this code without any hard transmission failure.
- After replacing a solenoid, the transmission adaptive learning may need to be reset with a scan tool, or the code can return until the computer relearns lockup behavior.

Can I keep driving with P0740?

You can usually drive the vehicle short distances at moderate speeds, but avoid heavy throttle and highway cruising because an unlocked or slipping torque converter can overheat the transmission fluid. If the transmission enters limp mode or you feel severe shuddering, stop driving and have it diagnosed promptly.

Tools that help

- OBD-II scan tool with bidirectional transmission controls
- Digital multimeter for circuit and solenoid resistance testing
- Transmission fluid level dipstick or scan tool fluid temperature check
- Factory service information for wiring diagrams and solenoid specifications
- Transmission pan gasket and fluid for service after inspection



Reading P0740

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

Often seen with

P0700 Transmission Control System Malfunction · **P0715** Input/Turbine Speed Sensor Circuit Malfunction · **P0730** Incorrect Gear Ratio · **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/p0740/>

