

MAZDA · POWERTRAIN

P1744

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1744 · Mazda

Torque Converter Clutch Solenoid Mechanical Fault

P1744 on Mazda vehicles means the powertrain control module has detected a mechanical fault in the torque converter clutch solenoid circuit or its hydraulic actuation path, so the clutch cannot lock or release as commanded. The computer monitors solenoid electrical response and the resulting slip across the torque converter, and it sets this code when the expected lock-up behaviour does not match the commanded state.

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

Symptoms you may notice

- The check engine light or automatic transmission warning light illuminates on the dashboard.
- Often no symptoms besides the warning light, especially in early stages of the fault.
- Harsh or delayed engagement when shifting from park or neutral into drive or reverse.
- Shuddering or vibration at steady highway speeds as the torque converter clutch fails to lock smoothly.
- Poor fuel economy because the torque converter stays unlocked and the engine runs at higher slip.
- The transmission may stay in a default gear or refuse to downshift cleanly when the fault is active.

Common causes, most likely first

- 1 A worn or sticking torque converter clutch solenoid valve inside the transmission valve body.
- 2 Contaminated automatic transmission fluid (ATF) clogging the solenoid screen or valve passages.
- 3 A damaged or internally shorted solenoid coil causing inconsistent electrical response.
- 4 A faulty valve body where the lock-up control bore is worn and cannot hold hydraulic pressure.
- 5 A restricted or kinked hydraulic circuit between the solenoid and the torque converter clutch.
- 6 A failing torque converter clutch lining or damper assembly causing mechanical slip.
- 7 A poor electrical connection or chafed wire at the solenoid connector or transmission harness.



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P1744 before clearing anything, then verify the code returns.
- 2 Check the automatic transmission fluid level, colour and smell, and inspect for metal debris or burnt odour.
- 3 Inspect the solenoid connector and harness for corrosion, chafing or loose pins, and measure solenoid resistance against the Mazda specification.
- 4 Command the torque converter clutch on and off with a scan tool while watching slip speed and solenoid current to confirm the fault.
- 5 Perform a transmission fluid service with the correct Mazda-specified ATF and re-test, since contaminated fluid is a common cause.
- 6 Remove the valve body and test or replace the torque converter clutch solenoid, cleaning the screen and passages while it is out.
- 7 If electrical and hydraulic checks pass, perform a stall and slip test to assess the torque converter clutch lining before replacing the converter.

What the P1744 code does not always mean

- A P1744 is frequently set by degraded automatic transmission fluid rather than a failed solenoid, so a fluid service with the correct Mazda specification resolves many cases before any part is replaced.
- The code can be triggered by a wiring fault at the transmission connector that mimics a solenoid failure, so resistance and voltage-drop tests at the connector must come before valve body work.
- Technicians sometimes replace the torque converter clutch solenoid only to find the valve body bore is worn, which means the hydraulic pressure still cannot hold lock-up and the code returns.
- On some Mazda models the torque converter clutch is pulse-width modulated, so a solenoid that tests good on a bench can still stick intermittently when hot, making a hot-engine re-test essential.
- A P1744 can appear alongside engine misfire or throttle codes because the PCM disables lock-up under those conditions, so always check for stored companion codes before condemning the transmission.

Can I keep driving with P1744?

You can usually drive the vehicle to a workshop, but avoid sustained highway speeds and heavy acceleration because the unlocked torque converter will overheat the transmission fluid. If the transmission slips badly or the warning light flashes, stop driving and arrange a tow to prevent internal damage.



Tools that help

- OBD-II scan tool with Mazda-specific transmission live data and bidirectional control
- Digital multimeter for solenoid resistance and voltage-drop testing
- Transmission fluid level dipstick or scan-tool fluid temperature procedure
- Factory service information for solenoid resistance specifications and torque values
- Transmission jack and fluid drain pan for valve body access
- Torque wrench for valve body and pan bolts

Reading P1744

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (Mazda): its meaning depends on the make.

7 Transmission.

44 The exact fault within that area.

Often seen with

P0700 Transmission Control System Malfunction · **P0715** Input/Turbine Speed Sensor Circuit Malfunction · **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/mazda-p1744/>

