

GM · POWERTRAIN

P1870

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1870 · GM

Transmission Component Slipping

P1870 on GM vehicles means the transmission control module (TCM) has detected excessive slip in the transmission's apply components, typically the torque converter clutch (TCC) or a clutch pack, based on a mismatch between engine speed and transmission output speed. The TCM commands a specific gear and lockup state, then compares expected slip to actual slip; when the difference exceeds a calibrated threshold for a set time, it sets P1870 and often commands maximum line pressure to protect the transmission.

SYSTEM

Powertrain

CODE TYPE

GM specific

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- Check Engine Light or Transmission Warning Light illuminated, often with no other noticeable symptoms
- Harsh or delayed shifts, especially when the transmission is cold or under light throttle
- Engine RPM flaring or surging between shifts, or a feeling of the transmission slipping under acceleration
- Torque converter clutch shudder or vibration at steady highway speeds
- Reduced fuel economy and possibly a limp-home mode with limited gear selection
- Transmission fluid may appear dark or smell burnt if the slip has been ongoing

Common causes, most likely first

- 1 Worn or contaminated automatic transmission fluid (ATF) causing poor clutch apply and TCC slip
- 2 Sticking or faulty torque converter clutch solenoid or valve body solenoid
- 3 Worn valve body bores or sticking valves in the valve body, leading to low apply pressure
- 4 Internal clutch pack wear, especially the 3-4 clutch or forward clutch, causing excessive slip
- 5 Faulty transmission control module (TCM) calibration or a TCM that misreports slip
- 6 Damaged or restricted transmission cooler lines causing overheating and fluid breakdown
- 7 Electrical issues such as a chafed wiring harness or poor ground to the transmission



How to diagnose and fix it

- 1 Check transmission fluid level and condition; top off or replace fluid and filter if contaminated or burnt
- 2 Scan all modules for stored and pending codes, and check freeze-frame data to see when P1870 set
- 3 Inspect the transmission wiring harness and connectors for damage, corrosion, or loose pins
- 4 Test the TCC solenoid and shift solenoids for resistance and function according to GM service information
- 5 Perform a line pressure test and compare to specifications to identify low pressure or internal leaks
- 6 Remove the valve body for inspection and rebuild or replace it if worn bores or sticking valves are found
- 7 If internal wear is confirmed, overhaul or replace the transmission, and update the TCM calibration if applicable

What P1870 really tells you about your GM transmission

- P1870 is often set by a worn valve body or sticking TCC solenoid rather than a completely failed transmission, so a full rebuild is not always necessary.
- A low or burnt fluid condition is a frequent culprit, and a simple fluid and filter service can sometimes resolve the code if caught early.
- The code can be triggered by a faulty TCM or a poor electrical connection, so always check wiring and grounds before condemning internal parts.
- Some GM transmissions set P1870 when the torque converter clutch fails to lock up, which may feel like a slight vibration or RPM fluctuation at highway speed.
- Driving with P1870 for an extended period can cause overheated fluid and accelerated clutch wear, turning a minor repair into a major one.

Can I keep driving with P1870?

It is not safe to keep driving with P1870 for long because continued slipping can overheat the transmission and cause catastrophic internal damage. Limit driving to short trips to a repair shop, avoid heavy acceleration or towing, and check the fluid level and condition before moving the vehicle.

Tools that help

- OBD-II scan tool with GM-specific software to read transmission codes and freeze-frame data
- Transmission fluid pressure gauge kit
- Digital multimeter for testing solenoids and wiring
- Factory service information for line pressure specifications and solenoid resistance values
- Fluid pump and drain pan for transmission fluid service
- Valve body rebuild kit or replacement valve body if internal inspection is needed



Reading P1870

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

Often seen with

P1811 Long Shift / Maximum Adaptation Limit Reached · **P0741** Torque Converter Clutch Circuit Performance or Stuck Off · **P0742** Torque Converter Clutch Circuit Stuck On · **P0751** Shift Solenoid 'A' Performance or Stuck Off · **P0756** Shift Solenoid 'B' Performance or Stuck Off

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/gm-p1870/>

