

GM · POWERTRAIN

P1793

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1793 · GM

Transmission Control Module Stack Overrun

P1793 on a GM vehicle means the Transmission Control Module (TCM) detected a stack overrun, an internal software fault where the module's program stack exceeded its allocated memory. The TCM sets this code when its processor cannot properly manage the sequence of internal tasks, often due to corrupted software or voltage instability.

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

Symptoms you may notice

- Illuminated Check Engine Light or Service Engine Soon light
- Transmission may enter limp mode with harsh or delayed shifts
- No noticeable drivability issues besides the warning light
- Intermittent erratic shifting or failure to shift
- Transmission may default to a single gear
- Possible stored codes in other modules due to communication issues

Common causes, most likely first

- 1 Corrupted or outdated software in the Transmission Control Module
- 2 Low or unstable battery voltage affecting TCM operation
- 3 Poor ground connections for the TCM or transmission harness
- 4 Internal TCM hardware failure (faulty memory or processor)
- 5 Wiring harness damage or chafing causing intermittent shorts
- 6 Aftermarket tuning or programming errors in the TCM

How to diagnose and fix it

- 1 Verify battery voltage and charging system performance; load test the battery
- 2 Inspect and clean TCM ground connections and harness connectors for corrosion
- 3 Check for and clear any related communication codes in other modules
- 4 Reprogram or update the TCM with the latest GM calibration using a scan tool
- 5 Perform a wiggle test on the transmission wiring harness while monitoring TCM data
- 6 If software and wiring are good, replace and reprogram the TCM



Stack Overrun Often Misdiagnosed as Valve Body

- A stack overrun is a software execution fault, not a hydraulic or mechanical transmission problem, so replacing the valve body or solenoids rarely fixes it.
- Low battery voltage from a weak battery or poor connection can cause the TCM to log this code without any actual internal failure.
- Aftermarket performance tuners that alter TCM parameters can introduce stack overruns, and reverting to the stock calibration often resolves the issue.
- Technicians sometimes overlook corrupted adaptive learning data; a TCM reset and relearn procedure can clear the code if no hardware fault exists.
- This code can be set by a faulty ignition switch or power relay that momentarily drops voltage to the TCM, mimicking an internal fault.

Can I keep driving with P1793?

You can usually drive with P1793, but the transmission may shift harshly or enter limp mode, so avoid aggressive acceleration and highway merging until it is diagnosed. If the vehicle feels unsafe or refuses to shift, stop driving and have it towed.

Tools that help

- OBD-II scan tool with GM-specific software
- Digital multimeter
- Battery load tester
- TCM programming tool (J2534 pass-thru device)
- Wiring diagram and connector pinout kit

Reading P1793

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

Often seen with

P0601 Internal Control Module Memory Checksum Error · **P0602** Control Module Programming Error · **P0606** PCM Processor Fault · **P0700** Transmission Control System Malfunction · **U0100** Lost Communication With ECM/PCM 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/gm-p1793/>

