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OBD-II DIAGNOSTIC TROUBLE CODE (DTC) REPORT

P1792 · GM

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GM · POWERTRAIN

P1792

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

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Transmission Control Module Reprogrammable Memory

P1792 on a GM vehicle indicates that the Transmission Control Module (TCM) has detected a fault within its own reprogrammable memory, which stores adaptive learning data and calibration information. The TCM sets this code when it cannot reliably read or write to that memory, often due to an internal failure or a corrupted software flash.

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 default to a limp-home mode with harsh or delayed shifts
- Erratic shift quality or failure to shift through all gears
- Speedometer or gear indicator may behave erratically
- Often no symptoms besides the warning light, especially if the memory fault is intermittent

Common causes, most likely first

1. Internal failure of the Transmission Control Module (TCM) memory circuit
2. Corrupted or incomplete software flash from a previous reprogramming event
3. Low voltage or power interruption to the TCM during a learning or flash procedure
4. Poor electrical connection at the TCM harness or ground points
5. Aftermarket tuning or incorrect calibration loaded into the TCM
6. Water intrusion or connector corrosion at the TCM location

How to diagnose and fix it

1. Verify battery voltage and charging system output; low voltage can trigger false memory codes
2. Inspect the TCM harness connectors and ground straps for corrosion or looseness
3. Use a scan tool to clear the code and perform a relearn drive cycle to see if it returns
4. Check for any applicable GM service bulletins or calibration updates for the TCM
5. Reprogram the TCM with the latest factory calibration using a J2534 device or dealer tool
6. If the code persists after reprogramming, replace and program the TCM
7. Perform a transmission adaptive relearn after repair to restore shift quality

AV

What most technicians miss about P1792

- A weak or failing battery is a common culprit because the TCM writes adaptive data to memory during key-off, and a voltage dip can corrupt that write.
- Many P1792 codes are set after a failed or interrupted reprogramming attempt, so always check service history for recent flashes before condemning the module.
- The TCM memory fault can be intermittent and may not reappear immediately after clearing, so a thorough drive cycle with multiple key cycles is needed to confirm repair.
- On some GM models, the TCM is integrated into the valve body or mounted in a location prone to heat and vibration, which can lead to internal memory failures that mimic software issues.
- Do not replace the TCM without first verifying that the ignition switch and power supply are stable, as a faulty ignition switch can cause memory write errors.

Can I keep driving with P1792?

> You can usually drive the vehicle to a repair shop, but avoid aggressive acceleration or towing because the transmission may be in limp mode and shift unpredictably. If the transmission is stuck in a single gear or slips severely, stop driving and have it towed to prevent further damage.

Tools that help

- OBD-II scan tool with GM-specific software
- Digital multimeter for voltage and continuity checks
- J2534 pass-through device for reprogramming
- Battery load tester
- Factory service information for wiring diagrams and relearn procedures

Reading P1792

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

Often seen with

P0601 Internal Control Module Memory Checksum Error · **P0602** Control Module Programming Error · **P0603** Internal Control Module KAM Error · **P0700** Transmission Control System Malfunction · **U0100** Lost Communication With ECM/PCM A

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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-p1792/