

GENERIC · POWERTRAIN

P0702

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0702

Transmission Control System Electrical

P0702 is a generic powertrain code that indicates the transmission control module (TCM) or the powertrain control module (PCM) has detected an electrical fault within the transmission control system. This means the computer sees abnormal voltage, current, or communication issues in the wiring, sensors, or solenoids that control gear shifting, often resulting in erratic operation or a default limp mode.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Transmission

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other noticeable symptoms.
- Harsh or delayed gear shifts, including slipping or flaring between gears.
- Transmission stuck in a single gear (limp mode) to protect the internal components.
- Failure to downshift or upshift when expected, leading to poor acceleration or high RPMs.
- In some cases, the vehicle may enter a fail-safe mode that limits speed or engine power.

Common causes, most likely first

- 1 Damaged, corroded, or loose wiring and connectors in the transmission control circuit.
- 2 Faulty transmission control module (TCM) or powertrain control module (PCM) software or hardware.
- 3 Malfunctioning shift solenoids, pressure control solenoids, or other electro-hydraulic components.
- 4 Poor ground connections for the transmission or engine control system.
- 5 Internal transmission sensor failures, such as input or output speed sensors, that feed data to the control module.
- 6 Low or contaminated transmission fluid affecting electrical component performance.



How to diagnose and fix it

- 1 Inspect the transmission wiring harness and connectors for chafing, corrosion, or loose pins, and repair as needed.
- 2 Check and clean all ground connections related to the transmission and engine control systems.
- 3 Perform a battery and charging system test to rule out low voltage causing erratic control module behavior.
- 4 Use a scan tool to retrieve stored codes and live data from the TCM, looking for intermittent signals or voltage drops.
- 5 Test the resistance and function of shift solenoids and pressure control solenoids according to the manufacturer's specifications.
- 6 Verify the integrity of the controller area network (CAN) bus communication between the TCM and other modules.
- 7 If all external checks pass, follow the manufacturer's diagnostic flow chart, which may require reprogramming or replacing the TCM/PCM.

Overlooked Causes of P0702

- A weak or failing battery can cause P0702 because the TCM requires stable voltage to operate correctly, and low voltage may trigger electrical fault codes without any transmission malfunction.
- Corroded ground straps, especially those between the engine and chassis, are a frequent culprit that many technicians overlook when diagnosing transmission electrical codes.
- P0702 can be set by a faulty brake pedal position sensor or other non-transmission inputs that share the same reference voltage circuit, so don't assume the fault is inside the transmission.
- Aftermarket accessories or poor installation of remote starters or alarm systems can introduce electrical noise or draw excessive current, leading to this code.
- In some vehicles, P0702 is a companion code to other transmission codes like P0700 or P0750, and addressing those primary faults may resolve P0702 as well.

Can I keep driving with P0702?

If the vehicle is in limp mode or shifting erratically, avoid highway driving and seek service immediately to prevent transmission damage. If only the warning light is on and the car drives normally, you can drive cautiously to a repair shop, but avoid heavy loads or aggressive acceleration.

Tools that help

- OBD-II scan tool with transmission control module (TCM) capability
- Digital multimeter for voltage and resistance checks
- Wiring diagram and connector pinout for the specific vehicle
- Test light or logic probe for circuit testing
- Battery load tester and charging system analyzer



Reading P0702

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 7** Transmission.
- 02** 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 · **P0750** Shift Solenoid 'A' · **P0755** Shift Solenoid 'B'

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/p0702/>

