

JAGUAR · POWERTRAIN

P1797

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1797 · Jaguar

CAN TCM ECM Circuit Malfunction

P1797 on a Jaguar indicates that the Transmission Control Module (TCM) and the Engine Control Module (ECM) have detected a fault in the Controller Area Network (CAN) communication circuit that links them. The code is stored when either module fails to receive expected CAN messages from the other within a specified time window, or when the data received is implausible.

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

Symptoms you may notice

- Illumination of the malfunction indicator lamp (MIL) on the instrument cluster.
- Transmission may enter limp mode, defaulting to a single gear or restricted shift pattern.
- Harsh or delayed gear shifts, or the transmission may refuse to shift out of a particular gear.
- Engine may idle poorly, stall, or exhibit reduced power due to missing torque reduction requests from the TCM.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- Speedometer or tachometer may behave erratically if CAN data used by the instrument cluster is affected.

Common causes, most likely first

- 1 Damaged or chafed wiring in the CAN bus between the ECM and TCM, often near connectors or where the harness passes through the bulkhead.
- 2 Corroded, loose, or water-contaminated connectors at the ECM or TCM, leading to high resistance or intermittent open circuits.
- 3 Failed CAN transceiver inside the TCM or ECM, preventing proper differential signaling on the bus.
- 4 Internal fault in the TCM causing it to stop transmitting or receiving CAN messages.
- 5 Internal fault in the ECM causing it to stop transmitting or receiving CAN messages.
- 6 Electrical interference from a faulty alternator or ignition system corrupting CAN bus signals.
- 7 Low battery voltage or poor grounds causing modules to reset and drop off the CAN bus intermittently.



How to diagnose and fix it

- 1 Perform a thorough visual inspection of the CAN wiring between the ECM and TCM, looking for chafing, pinching, or corrosion at connectors.
- 2 Measure battery voltage and check both engine and transmission grounds for cleanliness and tightness; low voltage can cause spurious CAN faults.
- 3 Use a scan tool to read live CAN bus data and check for other communication codes (U-codes) that may indicate a broader network issue.
- 4 Disconnect the TCM and ECM connectors and inspect terminals for corrosion, fretting, or backed-out pins; clean and reseat as needed.
- 5 With a digital multimeter, check CAN High and CAN Low resistance and voltage levels at the TCM and ECM connectors to verify bus integrity.
- 6 If wiring and connectors are good, substitute a known-good TCM or ECM (whichever is more accessible) to isolate the faulty module.
- 7 After repairs, clear codes and perform a road test with a scan tool to confirm CAN communication is restored and no codes return.

CAN Bus Faults Often Misdiagnosed as TCM Failure

- A significant number of P1797 cases are caused by a chafed CAN wire in the harness near the transmission bell housing or behind the dashboard, not by a failed TCM or ECM.
- Water ingress into the TCM connector, often from a clogged drain or failed seal, can cause intermittent CAN faults that only appear in wet weather.
- A weak battery or failing alternator can drop system voltage enough to make modules reset and set P1797 without any permanent wiring fault.
- Some technicians replace the TCM only to find the code returns because the ECM connector has fretting corrosion on the CAN pins, which is easily overlooked.
- P1797 can be set by a faulty ignition switch or relay that momentarily cuts power to the TCM, mimicking a CAN circuit failure.

Can I keep driving with P1797?

If the transmission has entered limp mode or shifts erratically, avoid highway driving and seek service promptly; if only the warning light is on and the car drives normally, you may drive cautiously to a workshop but avoid heavy loads or long trips.



Tools that help

- OBD-II scan tool with Jaguar-specific software
- Digital multimeter with CAN bus measurement capability
- Wiring diagram for the specific Jaguar model
- Terminal pick and contact cleaner
- Oscilloscope (optional for advanced CAN signal analysis)

Reading P1797

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

Often seen with

P1798 Output Speed Sensor 2 Circuit Range Performance · **P1798** Coolant Temperature Circuit · **P1798** Coolant Temperature Circuit · **P1798** CAN TCM INST Circuit Malfunction · **P0700** Transmission Control System Malfunction · **P0720** Output Speed Sensor Circuit Malfunction · **U0100** Lost Communication With ECM/PCM A · **U0101** Lost Communication with TCM

See it working

Watch the animated explainer [How a Helicopter Flies: Rotor and Tail in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/jaguar-p1797/>

