

VOLKSWAGEN · POWERTRAIN

P1771

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1771 · Volkswagen

Load Signal Stuck Off

P1771 on Volkswagen vehicles means the transmission control module (TCM) has detected that the load signal from the engine control module (ECM) is stuck in the off state, so the TCM is not receiving valid load information over the controller area network (CAN) or dedicated signal wire. The TCM expects a varying load signal to coordinate shift points and line pressure, but it sees a constant absence of that signal, which triggers the code and may force a limp-home mode.

SYSTEM

Powertrain

CODE TYPE

**Volkswagen
specific**

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- The transmission may enter limp-home mode and stay in a single gear, often third or fourth, with harsh engagement.
- The gear indicator on the instrument cluster may flash or show a fault message.
- Shift quality becomes erratic, with delayed or harsh upshifts and downshifts.
- The engine may feel down on power or hesitate because the TCM is limiting torque during shifts.
- Often no symptoms besides the warning light, especially if the fault is intermittent and the TCM has not yet defaulted to limp mode.
- Fuel economy may worsen noticeably because the transmission no longer shifts at optimal load points.

Common causes, most likely first

- 1 A faulty or contaminated mass airflow sensor (MAF) sending an implausible load signal to the ECM, which then relays incorrect data to the TCM.
- 2 Damaged or corroded wiring between the ECM and TCM, including chafed harnesses near the transmission bellhousing or engine mount areas.
- 3 A failing engine control module (ECM) that is not outputting the load signal correctly, often due to internal driver circuit failure.
- 4 A failing transmission control module (TCM) that cannot interpret the load signal, sometimes caused by water intrusion or heat damage.
- 5 Poor electrical connections at the ECM or TCM connectors, such as backed-out pins or terminal fretting.
- 6 A stuck or faulty throttle position sensor (TPS) or accelerator pedal position sensor that corrupts the load calculation.
- 7 Low battery voltage or a weak charging system causing the CAN bus to drop messages intermittently.



How to diagnose and fix it

- 1 Scan all modules for stored codes, especially in the ECM and TCM, and record freeze-frame data to see the load signal value at the time of fault.
- 2 Inspect the battery, charging system, and ground connections to rule out low voltage as a cause of communication faults.
- 3 Visually inspect the wiring harness between the ECM and TCM for chafing, corrosion, or loose connectors, and perform a wiggle test while monitoring live data.
- 4 Use a scan tool to compare the MAF, throttle position, and calculated load values in the ECM with the load signal the TCM is receiving; a large discrepancy points to a sensor or wiring issue.
- 5 Check the resistance and continuity of the dedicated load signal wire (if equipped) between the ECM and TCM, and repair any open or short circuits.
- 6 If wiring and sensors are good, substitute a known-good ECM or TCM (whichever is more accessible) to isolate the faulty module before replacement.
- 7 After repairs, clear codes and perform a road test with live data to confirm the load signal varies smoothly and the code does not return.

Load signal faults that fool good technicians

- A dirty or failing mass airflow sensor often sets P1771 without any engine codes because the ECM still considers the signal plausible, yet the TCM sees a stuck-off load value.
- Corroded terminals at the TCM connector, especially on vehicles with sunroof drains or cowl leaks, can cause intermittent load signal loss that never appears during a quick shop test.
- Some technicians replace the TCM only to find the real fault is a chafed wire in the harness near the transmission mount, so always perform a loaded wiggle test before condemning a module.
- P1771 can be set by a weak battery or alternator because voltage drops cause the CAN bus to drop load messages, and the TCM logs the missing signal as stuck off.
- On certain Volkswagen models, a faulty brake light switch or clutch pedal switch can interrupt the load signal path, so check those inputs before replacing expensive modules.

Can I keep driving with P1771?

You can usually drive the vehicle to a workshop, but avoid sustained highway speeds or heavy loads because the transmission may stay in limp mode and shift harshly. If the transmission is stuck in one gear or the warning light is flashing, limit driving to a short distance at low speed.



Tools that help

- OBD-II scan tool with manufacturer-specific software for live data and module coding
- Digital multimeter with back-probing pins for circuit testing
- Wiring diagram and connector pinout for the ECM and TCM
- Oscilloscope for checking CAN bus signal integrity
- Socket set and trim removal tools for accessing modules and harnesses

Reading P1771

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (Volkswagen): its meaning depends on the make.

7 Transmission.

71 The exact fault within that area.

Often seen with

P0101 Mass/Volume Air Flow Circuit Range/Performance · **P0102** Mass/Volume Air Flow Circuit Low Input · **P0103** Mass/Volume Air Flow Circuit High Input · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation · **U0100** Lost Communication With ECM/PCM A

See it working

Watch the animated explainer [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1771/>

