

VOLKSWAGEN · POWERTRAIN

P1748

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1748 · Volkswagen

Transmission Control Unit Self-Check

P1748 on Volkswagen vehicles indicates that the Transmission Control Module (TCM) has detected an internal fault during its self-check routine. The TCM continuously monitors its own processors, memory, and output driver circuits, and when a discrepancy is found it stores this code and typically illuminates the malfunction indicator lamp.

SYSTEM

Powertrain

CODE TYPE

**Volkswagen
specific**

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- Illumination of the malfunction indicator lamp (MIL) on the dashboard
- Often no symptoms besides the warning light, with normal shift quality and operation
- Intermittent harsh or delayed shifting if the self-check fault affects solenoid control
- Transmission may enter limp-home mode with a fixed gear if the TCM cannot trust its own calculations
- Occasional failure to engage a gear or a sudden loss of drive on some models
- No-start condition in rare cases where the TCM self-check fault disables the powertrain

Common causes, most likely first

- 1 Internal failure of the Transmission Control Module (TCM) itself, such as corrupted memory or a faulty processor
- 2 Low or unstable supply voltage to the TCM caused by a weak battery or failing alternator
- 3 Poor ground connection at the TCM or transmission housing, leading to voltage drops during self-test
- 4 Damaged or chafed wiring in the TCM harness, especially near the transmission bellhousing
- 5 Water intrusion into the TCM connector or housing, causing corrosion and signal interference
- 6 Software corruption in the TCM that requires reflashing or replacement
- 7 Aftermarket electrical accessories wired into the transmission circuit causing electrical noise



How to diagnose and fix it

- 1 Verify battery voltage and charging system output; a weak battery is a common trigger for false self-check faults
- 2 Inspect and clean the TCM ground connections and check for voltage drops across the ground circuit
- 3 Visually inspect the TCM connector and harness for corrosion, water intrusion, or chafed wires
- 4 Clear the code and perform a road test to see if P1748 returns immediately or after a drive cycle
- 5 Check for any applicable TCM software updates and reflash the module if a newer calibration exists
- 6 If the fault persists after electrical checks, replace the TCM and perform adaptation or coding as required
- 7 After repair, clear codes and complete a full self-check and road test to confirm the fault is resolved

What a TCM self-check code really means

- A P1748 is often set by a momentary voltage dip during cranking, so a battery that passes a load test can still be the culprit if its reserve capacity is low.
- Many technicians replace the TCM only to find the fault returns because a corroded ground strap on the transmission was the real cause of the self-check failure.
- This code does not always indicate a failed TCM; it can be a stored history code from a one-time glitch that will not return after clearing.
- On some Volkswagen models, the TCM is integrated into the valve body inside the transmission, making replacement a fluid-and-filter service as well.
- Aftermarket remote starters or alarm systems tapped into the CAN bus can introduce electrical noise that the TCM interprets as a self-check error.

Can I keep driving with P1748?

If the vehicle drives normally with only the warning light on, you can drive to a workshop for diagnosis, but avoid long trips or heavy load. If the transmission has entered limp-home mode or shifts harshly, stop driving and have the vehicle towed to prevent further damage.

Tools that help

- OBD-II scan tool with Volkswagen-specific software
- Digital multimeter for voltage and ground drop tests
- Battery load tester and charging system analyzer
- Wiring diagram and TCM pinout for the specific model
- Socket set and trim removal tools for TCM access



Reading P1748

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

Often seen with

P1749 Transmission Control Unit Incorrect Coding · **P1750** Power Supply Voltage Low · **P1750** Solenoid Assembly · **P1749** Electronic Pressure Control Solenoid Circuit Low · **P1749** Electronic Pressure Control Solenoid Failed Low · **P1749** Secondary Pressure Solenoid Communication Error · **P1750** Secondary Pressure Solenoid Circuit Range Performance · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0715** Input/Turbine Speed Sensor Circuit Malfunction · **U0101** Lost Communication with TCM

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/volkswagen-p1748/>

