

VOLKSWAGEN · POWERTRAIN

P1750

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1750 · Volkswagen

Power Supply Voltage Low

P1750 on Volkswagen vehicles indicates that the transmission control module (TCM) has detected a low power supply voltage at its main power input, typically below the normal operating threshold of about 9 volts. This low voltage can prevent the TCM from reliably controlling shift solenoids and other transmission functions, potentially leading to harsh shifting or limp mode. The code is stored when the TCM's internal voltage monitor sees the supply drop below the specified limit for a calibrated time.

SYSTEM

Powertrain

CODE TYPE

**Volkswagen
specific**

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- Illumination of the transmission warning light or check engine light, often with no other noticeable symptoms
- Harsh or delayed gear shifts, especially when the transmission is cold
- Transmission may enter limp mode, sticking in a single gear (usually third)
- Intermittent loss of power or stalling when electrical loads are high
- Dashboard lights dimming or flickering at idle, indicating a broader charging issue

Common causes, most likely first

- 1 Weak or failing battery that cannot maintain voltage under load
- 2 Corroded, loose, or damaged battery terminals and ground connections
- 3 Faulty alternator not charging the battery properly, leading to low system voltage
- 4 Damaged or chafed wiring in the TCM power supply circuit, including blown fuses
- 5 Internal fault in the TCM causing it to misread or draw excessive voltage
- 6 Voltage drop across the ignition switch or relay that feeds the TCM

How to diagnose and fix it

- 1 Perform a battery load test and check specific gravity if applicable; replace battery if it fails
- 2 Clean and tighten all battery terminals and engine/transmission ground straps; inspect for corrosion
- 3 Test alternator output with a multimeter; should be 13.5–14.5 volts at idle with loads on
- 4 Check all fuses and relays related to the TCM power supply; replace any blown fuses and test relays
- 5 Measure voltage at the TCM connector with key on and engine running; compare to battery voltage to detect voltage drop
- 6 Inspect wiring harness from battery to TCM for chafing, corrosion, or loose pins; repair as needed
- 7 If all external circuits are good, suspect internal TCM fault; reprogram or replace TCM and perform adaptation

Don't Replace the TCM Before Checking These

- A weak battery that still starts the engine can cause P1750 because the TCM is sensitive to voltage dips during cranking or under electrical load.
- Corroded ground connections on the transmission housing or chassis are a frequent hidden cause that a simple voltage check at the battery may miss.
- The code can be set intermittently by a failing alternator diode that causes AC ripple, even when average voltage looks normal on a basic meter.
- After repairing the power supply, the TCM may need a relearn or adaptation drive cycle to clear the code and restore normal shifting.
- P1750 is sometimes misdiagnosed as an internal transmission failure when the real issue is a simple voltage drop in the ignition switch circuit.

Can I keep driving with P1750?

You can usually drive the vehicle to a repair shop, but avoid heavy electrical loads and prolonged driving if the transmission is in limp mode. If the battery light is also on or the engine stalls, stop driving and have the charging system checked immediately.

Tools that help

- Digital multimeter
- Battery load tester
- OBD-II scan tool with Volkswagen-specific software
- Fuse puller and test light
- Wiring diagram for the TCM power circuit

Reading P1750

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

Often seen with

P1751 Power Supply Voltage High · **P1752** Power Supply Malfunction · **P1751** A/T Control Relay · **P1751** Transmission Shift Solenoid A Mechanical Fault · **P1752** Transmission Shift Solenoid A Circuit Shorted · **P1751** Shift Solenoid A Performance · **P1751** Secondary Pressure Solenoid Open Circuit · **P0562** System Voltage Low · **P0563** System Voltage High · **U0100** Lost Communication With ECM/PCM A



See it working

Watch the animated explainer [How a MAF Sensor Works: Hot-Wire Airflow Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1750/>

