

VOLKSWAGEN · POWERTRAIN

P1778

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1778 · Volkswagen

Solenoid EV7 Electrical Malfunction

P1778 on Volkswagen vehicles means the transmission control module (TCM) has detected an electrical fault in the circuit for solenoid EV7, which is a shift solenoid inside the automatic transmission valve body. The computer monitors the solenoid's electrical current and voltage and flags the code when the expected electrical signature falls outside the programmed limits, indicating an open circuit, short, or faulty solenoid.

SYSTEM

Powertrain

CODE TYPE

Volkswagen
specific

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- The transmission may enter limp mode and stay in a single gear or neutral
- Harsh or delayed gear shifts, especially when the transmission is cold
- The check engine light or transmission warning light illuminates on the dashboard
- The transmission may slip or fail to engage a gear from a stop
- Often no symptoms besides the warning light, especially in early stages

Common causes, most likely first

- 1 Faulty solenoid EV7 itself, with an open or shorted internal coil
- 2 Damaged or corroded wiring harness or connector at the transmission valve body
- 3 Transmission fluid contamination or low fluid level affecting solenoid operation
- 4 Failed transmission control module (TCM) driver circuit for EV7
- 5 Internal transmission mechanical wear causing debris that damages the solenoid
- 6 Poor electrical ground connection for the transmission or TCM

How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P1778 is current and not history
- 2 Check transmission fluid level and condition; top off or service if contaminated
- 3 Inspect the solenoid EV7 connector and wiring for corrosion, chafing, or loose pins
- 4 Measure resistance of solenoid EV7 at the transmission connector and compare to specification
- 5 Perform a voltage drop test on the solenoid circuit under load to check for high resistance
- 6 If electrical checks pass, remove the valve body and test or replace solenoid EV7
- 7 Clear codes and perform a road test with live data to verify the repair



What P1778 really tells you about EV7

- A P1778 code does not always mean the solenoid is dead; a chafed wire or corroded connector often mimics a failed solenoid and costs far less to fix.
- Low or burnt transmission fluid can cause solenoid EV7 to draw excessive current and set the code, so always check fluid condition before condemning parts.
- On many Volkswagen transmissions, EV7 is part of the valve body assembly and cannot be replaced separately, requiring valve body replacement or rebuild.
- The TCM driver circuit for EV7 can fail internally, so if the solenoid and wiring test good, suspect the TCM before replacing the transmission.
- Intermittent P1778 codes often appear only when the transmission is cold or under specific load conditions, so a thorough road test with live data is essential.

Can I keep driving with P1778?

If the transmission is in limp mode or shifting harshly, avoid highway driving and seek service soon to prevent further damage. If the only symptom is a warning light and the car drives normally, you can drive cautiously to a workshop for diagnosis, but do not ignore the code.

Tools that help

- OBD-II scan tool with Volkswagen-specific software
- Digital multimeter for resistance and voltage tests
- Transmission fluid level dipstick or scan tool for fluid temperature
- Wiring diagram and connector pinout for the transmission
- Basic hand tools for valve body access

Reading P1778

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



Often seen with

P1780 Engine Intervention Readable · **P1780** Park Neutral Position Switch Malfunction Only For A/T · **P1780** Transmission Control Switch Circuit Overdrive Off Switch Not · **P1780** Modulation Pressure Switchover Valve ATCC Y34 Or Upshift Del · **P1780** Transmission Control Switch Circuit, Overdrive Off Switch No · **P1779** Load Control · **P1779** Engine Torque Delivered To TCM Signal · **P1780** Park/Neutral Position Switch Circuit · **P1779** Transmission Control Indicator Lamp Circuit Malfunction · **P1780** Transmission Control Switch Circuit is Out of Self-Test Rang · **P1780** CAN Torque Reduction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0715** Input/Turbine Speed Sensor Circuit Malfunction · **P0720** Output Speed Sensor Circuit Malfunction

See it working

Watch the animated explainer [How a Supercharger Works: Roots Blower in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1778/>

