

VOLKSWAGEN · POWERTRAIN

P1796

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1796 · Volkswagen

Vehicle Speed Signal Short To Ground

P1796 on Volkswagen vehicles indicates that the transmission control module (TCM) has detected a short to ground on the vehicle speed signal circuit, which is the wire that carries the road speed pulse from the ABS module or speed sensor to the TCM. The TCM uses this signal to schedule shifts and manage torque converter lockup, so a short to ground will disrupt those functions and typically trigger the warning light.

SYSTEM

Powertrain

CODE TYPE

**Volkswagen
specific**

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the short is intermittent or only affects the signal at certain times.
Harsh or delayed transmission shifts, particularly when the TCM lacks a valid speed signal and defaults to a limp-home strategy.
- Speedometer needle behaving erratically or dropping to zero while driving, since the instrument cluster may share the same speed signal.
- Transmission stuck in a single gear or refusing to downshift when coming to a stop.
- Cruise control failing to engage or disengaging unexpectedly because it relies on vehicle speed data.
- Anti-lock brake (ABS) or traction control warning lights illuminating if the short affects the shared speed signal circuit.

Common causes, most likely first

- 1 Chafed or pinched wiring harness between the ABS module, speed sensor, and TCM, often where the loom passes through tight body gaps or near sharp brackets.
- 2 Corroded or water-intruded connector pins at the TCM, ABS module, or intermediate harness connectors, allowing the signal wire to short to ground.
- 3 Internal short to ground inside the ABS module or TCM, though this is less common than harness faults.
- 4 Aftermarket alarm, radio, or navigation installation that tapped into the speed signal wire and created an unintended ground path.
- 5 Damaged speed sensor or reluctor ring that sends an erratic signal the TCM interprets as a short, though this usually sets a different code.
- 6 Rodent damage or debris rubbing through the insulation on the speed signal wire.



How to diagnose and fix it

- 1 Connect a Volkswagen-compatible scan tool and read all stored codes in the TCM, ABS, and instrument cluster to confirm P1796 is active and not a ghost code from a low battery.
- 2 Inspect the speed signal wiring harness visually from the ABS module to the TCM, looking for chafing, pinches, or corrosion at every connector along the path.
- 3 Disconnect the TCM and ABS module connectors and check for bent pins, green corrosion, or water intrusion; clean and dry as needed.
- 4 Use a digital multimeter to measure resistance from the speed signal wire to chassis ground with both modules disconnected; a reading near zero ohms confirms a short in the harness.
- 5 Wiggle-test the harness while watching the multimeter or live speed data on the scan tool to locate intermittent shorts that only appear over bumps or during engine movement.
- 6 Repair the damaged section of wire with a proper solder and heat-shrink splice, routing it away from sharp edges and securing it with new loom clips.
- 7 Clear the code and perform a road test with live data to verify the speed signal reads correctly and P1796 does not return.

Speed Signal Shorts That Fool Technicians

- A short to ground on the speed signal wire can be caused by a failed aftermarket accessory, so always ask the owner about recent radio, alarm, or dashcam installations before condemning the TCM.
- The TCM and ABS module share the speed signal on many Volkswagen models, so a fault in the ABS module or its wiring can set P1796 even though the transmission itself is healthy.
- Intermittent P1796 codes that appear only in wet weather often trace to a cracked connector seal allowing water to bridge the signal pin to ground inside the connector body.
- Do not replace the TCM based solely on P1796; the code specifically flags a circuit short, and the module is rarely the culprit compared to harness damage.
- A weak battery or poor ground connection at the chassis can cause the TCM to log false short-to-ground codes, so verify battery voltage and ground straps before chasing wiring.

Can I keep driving with P1796?

You can usually drive the vehicle to a workshop, but expect harsh shifts or limp-home mode and avoid sustained high-speed driving or towing until the fault is repaired. If the transmission is stuck in one gear or the speedometer has failed completely, limit driving to a short distance at low speed.



Tools that help

- Volkswagen-compatible scan tool with live data capability
- Digital multimeter with resistance and continuity functions
- Wiring diagram for the specific Volkswagen model and year
- Soldering iron and heat-shrink tubing for wire repair
- Trim removal tools for accessing harness routing

Reading P1796

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

Often seen with

P1795 Vehicle Speed Signal Circuit Open · **P1793** Output Speed Sensor 2 Circuit No Signal · **P1795** Idle Switch Circuit · **P1793** Intake Air Volume Circuit · **P1795** Throttle Position Input Circuit To TCM · **P1793** Intake Air Volume Circuit · **P1795** Idle Switch Circuit · **P1795** 4WD Switch Signal Malfunction · **P1793** Ignition Supply Malfunction · **P1795** Inconsistent CAN Level · **P1793** Automatic Transmission System Malfunction · **P1795** Automatic Transmission System Malfunction · **P1793** Transmission Control Module Stack Overrun · **P1795** CAN Bus Throttle Body Position · **P1795** Idle Switch Circuit Malfunction · **P0501** Vehicle Speed Sensor Range/Performance · **P0721** Output Speed Sensor Range/Performance · **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-p1796/>

