

VOLKSWAGEN · POWERTRAIN

P1540

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1540 · Volkswagen

Vehicle Speed Sensor High Input

P1540 on a Volkswagen means the engine control module (ECM) has detected an abnormally high voltage signal from the vehicle speed sensor (VSS) circuit, indicating the sensor is reporting an implausibly high speed or the signal wire is shorted to power. The ECM compares this signal against other inputs like engine speed and throttle position and flags the fault when the calculated vehicle speed exceeds a plausible threshold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Volkswagen specific	Medium	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The speedometer may read erratically, jump to a high value, or stay pegged at maximum
- The transmission may shift harshly or refuse to shift out of a gear because the control module is using an incorrect speed signal
- The cruise control may stop working or disengage unexpectedly
- The anti-lock braking system (ABS) and electronic stability control (ESC) warning lights may illuminate because those systems share the speed signal
- The engine may idle poorly or stall when coming to a stop if the ECM misjudges vehicle speed
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- A short to battery voltage in the signal wire between the vehicle speed sensor and the ECM, often from chafed insulation or a pinched harness
- A faulty vehicle speed sensor that internally shorts and outputs a high voltage signal
- Corroded or loose electrical connectors at the sensor or ECM, causing intermittent high-voltage spikes
- A damaged reluctor ring or tone wheel that produces an irregular signal the ECM interprets as high speed
- Water intrusion into the sensor connector or wiring harness, leading to corrosion and voltage leakage
- A failing ECM driver circuit that misreads or corrupts the speed signal
- Aftermarket electrical accessories improperly tapped into the speed sensor circuit, introducing voltage interference



How to diagnose and fix it

- 1 Use a scan tool to read live vehicle speed data and compare it with the speedometer and a GPS reference to confirm the fault is real and not a stored ghost code
- 2 Visually inspect the vehicle speed sensor, its connector, and the wiring harness for chafing, corrosion, or signs of water intrusion, repairing any damage found
- 3 Disconnect the sensor and measure the signal wire voltage with the key on; a reading near battery voltage indicates a short to power that must be traced and repaired
- 4 Check the sensor's ground circuit for excessive resistance and clean or tighten the ground connection as needed
- 5 Test the vehicle speed sensor with a multimeter or oscilloscope for a clean square wave or alternating current (AC) signal while spinning the wheels or driving, replacing the sensor if the output is erratic or absent
- 6 Inspect the reluctor ring or tone wheel for cracks, missing teeth, or debris that could distort the signal, cleaning or replacing it if necessary
- 7 If all wiring and components test good, perform a continuity and resistance check on the signal wire back to the ECM, and substitute a known-good ECM only after ruling out every other possibility

Speed sensor codes that fool good technicians

- A P1540 can be set by a momentary voltage spike from a failing alternator or a poor battery connection, so always check charging system voltage and battery terminals before condemning the sensor.
- On many Volkswagen models, the vehicle speed signal is shared with the ABS module, radio, and navigation system, so a fault in any of those components can back-feed voltage onto the signal wire and trigger P1540.
- A dirty or damaged reluctor ring on the axle or transmission output shaft can produce a high-frequency signal that the ECM interprets as excessive speed, even though the sensor itself is fine.
- Aftermarket stereos, alarms, or phone chargers wired into the speed sensor circuit are a common cause of high-voltage interference that sets P1540 intermittently.
- The code description 'high input' does not always mean the sensor is bad; it often points to a wiring short to power that only occurs when the harness flexes over bumps or during engine torque load.

Can I keep driving with P1540?

You can usually drive the vehicle short distances to a repair shop, but avoid sustained highway speeds and be prepared for erratic shifting or loss of cruise control; if the speedometer is jumping wildly or the transmission is behaving unpredictably, stop driving and have the vehicle towed to prevent damage.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope (for viewing the speed sensor waveform)
- Wire piercing probes and jumper wires
- Vehicle service information for wiring diagrams and sensor location

Reading P1540

- 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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- 5** Vehicle speed, idle control and auxiliary inputs.
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- 40** The exact fault within that area.

Often seen with

P1541 Fuel Pump Relay Circuit Open · **P1541** A/C High Side Over Temperature · **P1541** A/C High Side Over Temperature · **P1541** Pedal Position Sensor Double Error · **P0500** Vehicle Speed Sensor Malfunction · **P0501** Vehicle Speed Sensor Range/Performance · **P0715** Input/Turbine Speed Sensor Circuit Malfunction · **P0720** Output Speed Sensor Circuit Malfunction

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes 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-p1540/>

