

VOLKSWAGEN · POWERTRAIN

P1171

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1171 · Volkswagen

Throttle Actuation Potentiometer Signal 2 Range Performance

P1171 on Volkswagen vehicles indicates that the engine control module (ECM) has detected an implausible or out-of-range signal from the second throttle actuation potentiometer inside the electronic throttle body. The ECM compares this signal with the first potentiometer and expects them to correlate; when the second signal deviates beyond a calibrated threshold, the code is stored and the engine may enter a reduced-power mode.

SYSTEM

Powertrain

CODE TYPE

Volkswagen specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the electronic power control (EPC) warning light or check engine light
- Reduced engine power or limp mode, often limiting RPM to around 1500–2000
- Hesitation or stumble when pressing the accelerator pedal
- Unstable or surging idle speed
- Poor throttle response or delayed acceleration
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Carbon buildup or contamination on the throttle body internal potentiometer tracks
- 2 Wear or degradation of the potentiometer resistive tracks inside the electronic throttle body
- 3 Corroded, chafed, or loose wiring in the throttle body harness connector or associated circuits
- 4 Poor electrical connection at the throttle body connector pins
- 5 Failed electronic throttle body assembly (internal sensor or motor fault)
- 6 Engine control module (ECM) software issue or internal fault (rare)



How to diagnose and fix it

- 1 Perform a visual inspection of the throttle body connector and wiring for corrosion, damage, or loose pins; clean and secure as needed
- 2 Use a scan tool to read live data for both throttle position sensors (TPS1 and TPS2) and compare their voltages throughout the pedal travel; look for dead spots or non-linear response
- 3 Remove the throttle body and clean the internal potentiometer tracks and throttle plate with appropriate electronic cleaner and a soft brush; reinstall and perform a throttle body adaptation
- 4 Check the resistance and continuity of the throttle body harness circuits between the ECM and throttle body according to the factory wiring diagram
- 5 If cleaning and wiring repairs do not resolve the issue, replace the electronic throttle body assembly with a quality OEM or equivalent part
- 6 After replacement, perform a throttle body adaptation using a diagnostic scan tool to relearn the closed and open positions
- 7 If the fault persists after all other steps, diagnose the ECM and its software; update or replace only if confirmed faulty

Throttle body cleaning often fixes P1171

- Many technicians replace the throttle body immediately, but carbon contamination on the potentiometer tracks is a frequent and correctable cause that can be resolved with careful cleaning.
- The code can be set by intermittent wiring faults that only appear under vibration or temperature changes, so a wiggle test of the harness while monitoring live data is essential.
- A dirty throttle body may cause both P1171 and P1172 (throttle actuation potentiometer signal 1) or other throttle-related codes; addressing the root cause prevents recurrence.
- After any service that affects the throttle body, a throttle body adaptation must be performed; skipping this step can lead to poor running and repeat codes.
- On some Volkswagen models, a weak battery or charging system issue can cause voltage spikes that disrupt throttle body signals, so check battery health and grounds before condemning the throttle body.

Can I keep driving with P1171?

If the vehicle is in limp mode with severely reduced power, avoid highway driving and seek repair promptly. If the only symptom is the warning light and the car drives normally, you may drive cautiously to a workshop, but avoid aggressive acceleration or heavy loads until diagnosed.



Tools that help

- OBD-II scan tool with live data and throttle body adaptation capability
- Digital multimeter for circuit and resistance testing
- Basic hand tools (screwdrivers, socket set, pliers)
- Electronic cleaner and soft brush for throttle body cleaning
- Factory wiring diagram or service information for circuit reference

Reading P1171

- 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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- 1** Fuel and air metering.
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- 71** The exact fault within that area.

Often seen with

P1172 Throttle Actuation Potentiometer Signal 2 Signal Too Low · **P1172** System Too Rich Banks 1 And 2 (Rich Fuel Fault) · **P1172** Rotor Control Fault · **P0121** Throttle Position Sensor A Circuit Range/Performance · **P0638** Throttle Actuator Control Range/Performance (Bank 1) · **P2101** Throttle Actuator Control Motor Circuit Range/Performance · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation

See it working

Watch the animated explainer [How a CVT Works: Belt and Pulley Transmission](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1171/>

