

VOLKSWAGEN · POWERTRAIN

**P1541**

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P1541 · Volkswagen

### Fuel Pump Relay Circuit Open

P1541 on Volkswagen vehicles means the engine control module (ECM) has detected an open circuit in the fuel pump relay control circuit, so the relay is not being commanded to power the fuel pump. The ECM monitors the relay coil circuit for expected voltage or current and flags the code when the circuit stays open, which can prevent the fuel pump from running.

SYSTEM

Powertrain

CODE TYPE

Volkswagen  
specific

SEVERITY

High

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed,  
idle control and  
auxiliary inputs

### Symptoms you may notice

- Engine cranks but does not start because the fuel pump never receives power
- Engine starts briefly then stalls as the relay fails to stay energized
- Intermittent no-start condition that may come and go with temperature or vibration
- Rough running or lean misfire under load if the relay contacts open intermittently
- Often no symptoms besides the warning light if the open circuit is in the relay coil circuit only
- Fuel pump does not prime when the key is turned to the run position

### Common causes, most likely first

- 1 Failed fuel pump relay coil or burned relay contacts
- 2 Open or corroded wiring between the ECM and the fuel pump relay coil
- 3 Loose or damaged relay socket terminals in the fuse/relay panel
- 4 Blown fuse protecting the fuel pump relay coil circuit
- 5 Failed ECM driver for the fuel pump relay control circuit
- 6 Aftermarket alarm or immobilizer wiring spliced into the fuel pump relay circuit
- 7 Corrosion in the relay panel from water intrusion



## How to diagnose and fix it

- 1 Check the fuel pump relay coil fuse and replace it if blown, then retest
- 2 Swap the fuel pump relay with an identical known-good relay and clear the code to see if it returns
- 3 Inspect the relay socket and terminals for looseness, corrosion, or pushed-out pins
- 4 Measure resistance and voltage drop on the relay coil control wire from the ECM to the relay panel
- 5 Check for battery voltage at the relay coil power terminal with the key on and verify the ECM ground trigger
- 6 Test the ECM control circuit with a loaded test light or oscilloscope to confirm the driver is switching
- 7 Repair or replace the faulty wiring, relay panel, or ECM as indicated by the test results

## Relay circuit checks before ECM replacement

- A fuel pump relay that clicks does not guarantee the high-current contacts are good, so always load-test the relay output circuit.
- Water intrusion into the relay panel on older Volkswagen models often corrodes the relay coil terminals and sets P1541 without any driveability complaint.
- Aftermarket alarms and remote starters spliced into the fuel pump relay circuit are a common hidden cause of an open circuit that looks like a failed relay.
- The ECM may set P1541 even when the fuel pump runs, because the code monitors the relay coil circuit rather than the pump motor itself.
- A weak or failing fuel pump can draw excessive current and burn the relay contacts, so replace the relay only after confirming the pump current draw is within specification.

## Can I keep driving with P1541?

Do not drive the vehicle with P1541 because the fuel pump may stop without warning and cause a stall at speed. If the engine still runs, limit driving to moving the car off the road or onto a trailer, and avoid highways or heavy traffic.

## Tools that help

- Digital multimeter
- Test light
- Relay puller
- Wiring diagram for the specific Volkswagen model
- Oscilloscope or logic probe for ECM driver testing



## Reading P1541

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Volkswagen): its meaning depends on the make.
- 5** Vehicle speed, idle control and auxiliary inputs.
- 41** The exact fault within that area.

## Often seen with

**P1545** Throttle Position Control Malfunction · **P1545** A/C Clutch Relay Control Circuit · **P1545** A/C Clutch Relay Control Circuit · **P1545** Pedal Position Sensor · **P0087** Fuel Rail/System Pressure - Too Low · **P0230** Fuel Pump Primary Circuit Malfunction · **P0231** Fuel Pump Secondary Circuit Low · **P0232** Fuel Pump Secondary Circuit High

## See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1541/>

