

VOLKSWAGEN · POWERTRAIN

P1242

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1242 · Volkswagen

Cylinder 6 Injector Circuit Open Circuit

P1242 on Volkswagen vehicles indicates that the engine control module (ECM) has detected an open circuit in the electrical path for the number 6 cylinder fuel injector. The ECM commands the injector to fire but sees no current flow or an unexpected voltage drop, which it interprets as a break in the wiring or a failed injector coil.

SYSTEM

Powertrain

CODE TYPE

Volkswagen
specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air
metering (injector
circuits)

Symptoms you may notice

- Check engine light illuminated, often with no other noticeable symptoms
- Rough idle or misfire that may be more pronounced when the engine is cold
- Noticeable loss of power and reduced fuel economy due to a dead cylinder
- Engine may shake or vibrate, especially under acceleration or load
- In some cases, the ECM may enter limp mode and limit engine speed

Common causes, most likely first

- 1 Failed fuel injector on cylinder 6 (open internal coil)
- 2 Damaged or corroded electrical connector at the cylinder 6 injector
- 3 Broken, chafed, or shorted wire in the injector harness near the cylinder 6 injector
- 4 Faulty engine control module (ECM) injector driver circuit (less common)
- 5 Rodent damage to the injector wiring harness
- 6 Loose or damaged ground connection for the injector circuit

How to diagnose and fix it

- 1 Perform a visual inspection of the cylinder 6 injector connector and wiring for damage or corrosion
- 2 Use a noid light or oscilloscope to check for a pulse at the injector connector while cranking the engine
- 3 Measure the resistance of the cylinder 6 injector with a multimeter and compare to the manufacturer's specification
- 4 Check continuity and resistance of the injector circuit from the ECM connector to the injector connector
- 5 If the injector fails the resistance test, replace the cylinder 6 fuel injector
- 6 If the wiring is faulty, repair or replace the affected section of the harness
- 7 Clear the fault codes and verify the repair with a test drive, ensuring the code does not return



Don't overlook the injector harness connector

- A common cause of P1242 that is often missed is a loose or corroded connector at the cylinder 6 injector, which can mimic a failed injector and lead to unnecessary replacement.
- The code does not always mean the injector itself has failed; wiring damage from heat, vibration, or rodent activity is a frequent culprit on higher-mileage Volkswagen engines.
- Technicians sometimes replace the injector only to find the open circuit is in the harness, so always perform a continuity test before condemning the injector.
- On some Volkswagen models, a faulty ECM driver can set this code, but this is rare and should only be suspected after all other possibilities are ruled out.
- Related codes such as P0306 (cylinder 6 misfire) may be stored alongside P1242, and ignoring the injector circuit fault can lead to catalytic converter damage over time.

Can I keep driving with P1242?

Driving with P1242 is possible but not recommended for extended periods because the dead cylinder can cause misfire, increased fuel consumption, and potential damage to the catalytic converter. Avoid heavy acceleration and have the fault diagnosed promptly to prevent further issues.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Noid light or oscilloscope
- Wire repair kit (splices, heat shrink, electrical tape)
- Socket set and trim removal tools

Reading P1242

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Volkswagen): its meaning depends on the make.
- 2** Fuel and air metering (injector circuits).
- 42** The exact fault within that area.

Often seen with

P1241 Cylinder 5 Injector Circuit Open Circuit · **P1243** Cylinder 7 Injector Circuit Open Circuit · **P1241** Throttle Vent Control Motor Circuit 1 Malfunction · **P1243** Throttle Position Insufficient · **P1241** Sensor Power Supply Low Input · **P1243** Analog Ground · **P1241** Throttle Vent Control Motor Circuit 1 Malfunction · **P1243** Throttle Position Insufficient · **P1243** Injector Circuit Cylinder 8 Intermittent · **P1243** Second Fuel Pump Faulty or Ground Fault · **P1243** Open Or Shorted Condition Detected In The Turbocharger Surge · **P0206** Injector Circuit/Open - Cylinder 6 · **P0300** Random/Multiple Cylinder Misfire Detected · **P0306** Cylinder 6 Misfire Detected



See it working

Watch the animated explainer [How a Refrigerator Works: The Cooling Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1242/>

