

VOLKSWAGEN · POWERTRAIN

P1220

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1220 · Volkswagen

Cylinder 8 Fuel Injector Circuit Short To B+

P1220 on a Volkswagen indicates that the engine control module (ECM) has detected a short to battery voltage on the fuel injector circuit for cylinder 8. The ECM monitors the injector driver circuit and expects a specific voltage pattern when the injector is commanded on and off; a short to B+ means the control wire is seeing constant battery voltage, which the ECM interprets as a fault.

SYSTEM

Powertrain

CODE TYPE

Volkswagen
specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air
metering (injector
circuits)

Symptoms you may notice

- Illuminated check engine light (malfunction indicator lamp)
- Rough idle or misfire, especially noticeable at idle or low speeds
- Engine hesitation or stumble during acceleration
- Reduced engine power or limp mode in some cases
- Often no symptoms besides the warning light, because the ECM may disable the injector to protect the circuit

Common causes, most likely first

- 1 Chafed or damaged injector wiring harness shorting to a power wire or the battery positive terminal
- 2 Faulty fuel injector for cylinder 8 with an internal short to the coil's power feed
- 3 Corroded or loose electrical connector at the cylinder 8 injector
- 4 Damaged ECM driver circuit for the cylinder 8 injector (less common)
- 5 Aftermarket accessories or improper wiring repairs that route power near the injector circuit
- 6 Water intrusion or debris in the injector connector causing a conductive path to B+



How to diagnose and fix it

- 1 Scan all modules for stored codes and verify P1220 is current; clear codes and test-drive to see if it returns.
- 2 Visually inspect the cylinder 8 injector connector and wiring for chafing, corrosion, or signs of shorting to nearby power wires.
- 3 Disconnect the cylinder 8 injector and measure resistance across its terminals; compare with a known-good injector (typically 12–16 ohms).
- 4 With the injector disconnected and ignition on, measure voltage on the injector control wire (ECM side) to ground; it should not show battery voltage with the injector unplugged.
- 5 Check for continuity between the injector control wire and battery positive or other power feeds; repair any short found in the harness.
- 6 If wiring and injector test good, substitute a known-good injector or perform an injector balance test to rule out an internal injector short.
- 7 If the fault persists after all external checks, test the ECM driver circuit with an oscilloscope or substitute a known-good ECM for diagnosis.

Don't overlook the injector harness routing

- A common cause on Volkswagen engines is the injector harness rubbing against the engine cover or intake manifold, wearing through insulation and shorting to a power wire.
- The ECM may set P1220 even if the injector itself is good, because the short can be intermittent and only appear when the engine is hot or vibrating.
- A short to B+ on one injector circuit can cause the ECM to shut down the entire bank or enter limp mode, leading to multiple misfire codes that mask the root cause.
- Aftermarket alarm or remote start installations often tap into injector wiring and can introduce a short to power if not properly fused or routed.
- Resistance testing alone can miss an injector that shorts only when energized; an injector balance test or oscilloscope pattern is more reliable.

Can I keep driving with P1220?

It is not advisable to continue driving with this fault because a shorted injector circuit can cause misfiring, reduced power, and potential damage to the ECM or catalytic converter. If you must drive to a repair shop, keep the engine speed low and avoid heavy acceleration, and have the vehicle inspected as soon as possible.

Tools that help

- OBD-II scan tool with manufacturer-specific code reading capability
- Digital multimeter (DMM) with resistance and voltage measurement
- Test light or fused jumper wire
- Oscilloscope (for advanced diagnosis of injector driver signal)
- Socket set and trim removal tools for accessing injector connectors



Reading P1220

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

Often seen with

P1221 CAN Communication ETC Or ETS Interrupted · **P1222** IFI Accelerator Pedal Position Sensor R252 · **P1221** Traction Control System · **P1222** Traction Control Output Circuit · **P1221** Pedal Demand Sensor B Circuit Range Performance · **P1221** Throttle Position (TP) Sensor 1 2 Correlation · **P1222** Injector Control Circuit Intermittent · **P1221** Traction Control System Malfunction · **P1222** Traction Control Output Circuit Malfunction · **P1221** Throttle Position (TP) Sensor 1-2 Correlation · **P1222** Injector Control Circuit Intermittent · **P1221** Pedal Position Sensor 2 Range Performance Problem · **P1222** Pedal Position Sensor 2 Low Input · **P0208** Injector Circuit/Open - Cylinder 8 · **P0308** Cylinder 8 Misfire Detected · **P2149** Fuel Injector Group 'B' Supply Voltage Circuit/Open

See it working

Watch the animated explainer [How an Oxygen Sensor Works: Live 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1220/>

