

VOLKSWAGEN · POWERTRAIN

P1345

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1345 · Volkswagen

Ignition Coil Output Stage 3 Short To Ground

P1345 on a Volkswagen means the engine control module (ECM) has detected a short to ground on the output stage that fires ignition coil 3. The ECM commands the coil to spark by pulling its control wire low, and it monitors that circuit for abnormal current flow; a short to ground forces current to flow when the coil should be off, so the ECM flags the fault and may disable that coil's output to protect the driver circuit.

SYSTEM

Powertrain

CODE TYPE

Volkswagen
specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Ignition system
and misfire

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms at first
- Rough idle or a distinct misfire felt as shaking through the steering wheel and seats
- Noticeable loss of power and sluggish acceleration under load
- Flashing check engine light during hard acceleration, indicating a misfire that can damage the catalytic converter
- Slightly higher fuel consumption because the affected cylinder is not burning efficiently
- In some cases the engine may enter limp mode and limit rpm to protect the catalytic converter

Common causes, most likely first

- 1 Ignition coil 3 internal failure shorting the control circuit to ground
- 2 Chafed or pinched wire in the coil 3 control circuit contacting the engine block or another ground
- 3 Corroded or water-intruded coil connector pins creating a ground path
- 4 Faulty engine control module output driver for coil 3, often after a previous coil failure
- 5 Harness damage from heat, rodents, or previous repair work near the coil pack
- 6 Poor engine ground strap causing abnormal current paths through the coil control circuit



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P1345, then clear the code and verify whether it returns immediately
- 2 Inspect ignition coil 3 and its connector for corrosion, moisture, or a loose pin, and compare coil 3 with the other coils on the engine
- 3 Measure resistance from the coil 3 control wire to ground with the ignition off and the ECM disconnected; any reading below a few ohms indicates a short
- 4 Swap ignition coil 3 with another coil of the same part number and see whether the fault follows the coil or stays with cylinder 3
- 5 Disconnect the ECM and check the coil 3 control circuit for continuity to ground and for shorts to neighboring wires in the harness
- 6 If the wiring and coil test good, test the ECM output driver with an oscilloscope or known-good ECM swap before condemning the module
- 7 Repair the shorted wire or replace the failed coil, clear the code, and take a road test with live misfire data to confirm the repair

What a coil 3 short really tells you

- A short to ground in the coil control circuit often damages the ECM driver, so replacing only the coil can leave the code returning after a short drive.
- Volkswagen coil packs on some engines share a common power feed, so a shorted coil 3 can pull down voltage for other coils and create misfires on cylinders that are not actually faulty.
- Water ingress through a degraded coil connector boot is a frequent cause on transverse engines where the coil pack sits under a plastic cover that traps moisture.
- The ECM may set P1345 without ever illuminating the misfire counter, so a scan tool that shows only the code and no misfire data does not rule out a real ignition problem.
- A chafed harness behind the engine near the exhaust manifold can short the coil 3 control wire intermittently, so the code may only appear after the engine is hot or after hitting a bump.

Can I keep driving with P1345?

You can drive a short distance to a repair shop if the engine runs smoothly and the check engine light is steady, but avoid hard acceleration and heavy loads. If the light flashes or the engine misfires badly, stop driving because unburned fuel can overheat and destroy the catalytic converter.



Tools that help

- OBD-II scan tool with live misfire and freeze-frame data
- Digital multimeter with resistance and continuity functions
- Oscilloscope for checking the coil control signal
- Basic socket and ratchet set for coil removal
- Wiring diagram for the specific Volkswagen engine

Reading P1345

- 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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- 3** Ignition system and misfire.
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- 45** The exact fault within that area.

Often seen with

P1342 Ignition Coil Power Output State 1 Short To B+ · **P1343** Ignition Coil Output Stage 2 Short To Ground · **P1342** Misfire During Start Cylinder 1 · **P1343** Misfire Cylinder 1 With Fuel Cut-off · **P1344** Misfire During Start Cylinder 2 · **P0303** Cylinder 3 Misfire Detected · **P0353** Ignition Coil C Primary/Secondary Circuit Malfunction

See it working

Watch the animated explainer **Four-Stroke Engine Cutaway: Intake to Exhaust** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1345/>

