

VOLKSWAGEN · POWERTRAIN

P1146

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1146 · Volkswagen

Mass Or Volume Air Flow Circuit Power Supply Malfunction

P1146 on Volkswagen vehicles indicates that the engine control module (ECM) has detected a power supply malfunction in the mass air flow (MAF) sensor circuit. This means the voltage feed to the MAF sensor is outside the expected range, which can prevent the sensor from accurately measuring incoming air and disrupt fuel delivery calculations.

SYSTEM

Powertrain

CODE TYPE

Volkswagen
specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air
metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or stumbling, especially when the engine is cold
- Hesitation or lack of power during acceleration
- Reduced fuel economy due to incorrect air mass readings
- In rare cases, the engine may enter limp mode or stall

Common causes, most likely first

- 1 Blown fuse supplying power to the MAF sensor
- 2 Damaged or corroded wiring in the MAF sensor power circuit
- 3 Poor electrical connection at the MAF sensor connector
- 4 Faulty MAF sensor with an internal short or open circuit
- 5 Corrosion or water intrusion in the wiring harness or connector
- 6 Failed engine control module (ECM) power output (less common)

How to diagnose and fix it

- 1 Check the fuse that supplies power to the MAF sensor and replace if blown
- 2 Inspect the MAF sensor connector and wiring for damage, corrosion, or loose pins
- 3 Measure voltage at the MAF sensor power wire with the key on and engine off; compare to specification
- 4 Perform a voltage drop test on the power circuit to identify excessive resistance
- 5 If voltage is low, trace the circuit back to the ECM or fuse box to find the break
- 6 Replace the MAF sensor if the power supply is confirmed good but the sensor does not function
- 7 Clear the fault code and verify the repair by test-driving the vehicle



Don't overlook the simple power supply checks

- A blown fuse for the MAF sensor is often caused by a shorted sensor or wiring, so simply replacing the fuse without finding the root cause will lead to a repeat failure.
- Volkswagen MAF sensors are sensitive to voltage drops; even a small amount of corrosion at the connector can set P1146 without causing obvious driveability issues.
- The code can be set intermittently by water intrusion into the connector, especially after car washes or heavy rain, so inspect for signs of moisture.
- A faulty MAF sensor can sometimes still produce plausible readings, so don't assume the sensor is good just because the engine runs; always verify power and ground first.
- Related codes such as P0102 or P0103 may also be stored, but P1146 specifically points to the power supply, not the signal circuit.

Can I keep driving with P1146?

If the vehicle is running normally, you can drive it to a workshop for diagnosis, but avoid heavy acceleration or towing. If the engine is stumbling, stalling, or in limp mode, stop driving and have the vehicle towed to prevent damage or unsafe operation.

Tools that help

- Digital multimeter
- Fuse puller or test light
- Socket set and screwdrivers for trim removal
- Wiring diagram for the specific Volkswagen model
- OBD-II scan tool

Reading P1146

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

Often seen with

P1145 Mass Or Volume Air Flow Circuit Short To B+ · **P1145** Intake Valve Timing Control Position Sensor Bank 2 · **P1145** HO2S Cross Counts Bank 1 Sensor 3 · **P1145** HO2S Cross Counts Bank 1 Sensor 3 · **P1145** Solenoid Valve Running Losses Control Circuit Electrical · **P0100** Mass/Volume Air Flow Circuit Malfunction · **P0102** Mass/Volume Air Flow Circuit Low Input · **P0103** Mass/Volume Air Flow Circuit High Input · **P0104** Mass/Volume Air Flow Circuit Intermittent



See it working

Watch the animated explainer **V6 Engine Explained: 60° Bank and Firing Order** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1146/>

