

VOLKSWAGEN · POWERTRAIN

P1143

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1143 · Volkswagen

Load Calculation Cross Check Upper Limit Exceeded

P1143 on a Volkswagen means the engine control module (ECM) has compared the calculated engine load from the mass airflow (MAF) sensor against the load value derived from the manifold absolute pressure (MAP) sensor and found the MAF-based calculation exceeded the upper limit. The ECM sees more air entering the engine than the throttle and pressure sensors say should be there, so it flags an implausible load cross-check.

SYSTEM

Powertrain

CODE TYPE

Volkswagen
specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air
metering

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms.
- Intermittent hesitation or stumble during light acceleration.
- Rough idle or unstable engine speed when coming to a stop.
- Reduced fuel economy compared with normal driving.
- Occasional lean misfire codes or a pending P0171 stored alongside P1143.
- Limp-home mode with reduced power on some models if the fault repeats.

Common causes, most likely first

- 1 Contaminated or failing mass airflow (MAF) sensor sending an inflated air-mass signal.
- 2 Unmetered air entering after the MAF sensor through a cracked intake boot, leaking vacuum hose, or faulty PCV valve.
- 3 Dirty throttle body or sticking throttle plate causing the ECM's load model to disagree with measured airflow.
- 4 Faulty manifold absolute pressure (MAP) sensor or restricted MAP sensor port.
- 5 Wiring harness damage or poor connector contact at the MAF or MAP sensor.
- 6 Engine control module software calibration issue or, rarely, a failing ECM.
- 7 Excessive crankcase pressure or a leaking intake manifold gasket allowing unmetered air.



How to diagnose and fix it

- 1 Read all stored and pending fault codes with a Volkswagen-compatible scan tool and record freeze-frame data for P1143.
- 2 Inspect the intake tract between the MAF sensor and throttle body for cracks, loose clamps, and disconnected vacuum lines.
- 3 Clean the MAF sensor element with dedicated MAF cleaner and verify its live reading against the expected value at idle and under load.
- 4 Check the MAP sensor reading and inspect its vacuum port for blockage or oil contamination.
- 5 Perform a smoke test on the intake system to locate unmetered air leaks that the visual inspection missed.
- 6 Verify wiring continuity and connector pin tension at the MAF and MAP sensors before condemning either sensor.
- 7 After repairs, clear adaptations and take the vehicle on a mixed-speed road test to confirm the cross-check stays within limits.

What the load cross-check really compares

- P1143 is a plausibility code, not a sensor-failure code, so replacing the MAF sensor without checking for unmetered air often leaves the fault present.
- A dirty throttle body on Volkswagen engines can skew the ECM's expected load model enough to set P1143 even when the MAF sensor is healthy.
- Oil contamination from an overfilled crankcase or failed PCV valve coats the MAF element and inflates the air-mass signal, which is a common missed cause.
- The ECM compares calculated load from the MAF sensor with load derived from the MAP sensor and throttle position, so a lazy MAP sensor can trigger P1143 without any MAF fault.
- On some Volkswagen models, a software update for the engine control module is required after mechanical repairs to prevent the code from returning.

Can I keep driving with P1143?

You can usually drive the vehicle to a workshop, but avoid heavy acceleration and sustained high-speed driving until the fault is diagnosed. If the engine enters limp mode or misfires severely, stop driving and arrange a tow to prevent damage to the catalytic converter.

Tools that help

- Volkswagen-compatible OBD-II scan tool with live data capability
- Digital multimeter for sensor wiring checks
- Smoke machine for intake leak testing
- MAF sensor cleaner spray
- Basic hand tools for intake and connector access



Reading P1143

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

Often seen with

P1144 Mass Or Volume Air Flow Circuit Open/Short To Ground · **P1144** Pressure Sensor Circuit High Input · **P1144** HO2S Bank 1 Sensor 3 Signal Above 0.45v AF Ratio Too Rich · **P1144** Air Assisted Injector Control Valve Circuit · **P1144** HO2S Bank 1 Sensor 3 Rich Or High Voltage · **P1144** HO2S Bank 1 Sensor 3 Rich Or High Voltage · **P0101** Mass/Volume Air Flow Circuit Range/Performance · **P0106** MAP/Barometric Pressure Circuit Range/Performance · **P0171** System Too Lean (Bank 1) · **P2187** System Too Lean at Idle (Bank 1)

See it working

Watch the animated explainer [How an Elevator Works: Traction Lift in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1143/>

