

VOLKSWAGEN · POWERTRAIN

P1124

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1124 · Volkswagen

Long Term Fuel Trim Add Air Bank 1 System Too Lean

P1124 on Volkswagen vehicles indicates that the engine control module has detected an excessively lean condition on bank 1, based on long-term fuel trim adjustments that are adding more than the normal amount of fuel to compensate for unmetered air entering the intake system. The code specifically points to a long-term additive fuel trim fault, meaning the lean condition is present even at idle and low-load conditions, which typically suggests a vacuum leak or a faulty positive crankcase ventilation (PCV) system rather than a fuel delivery issue.

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
- Rough or erratic idle quality, sometimes accompanied by a slight stumble
- Occasional hesitation or lean misfire during acceleration from a stop
- Slightly elevated engine coolant temperature in some cases due to lean combustion
- Poor fuel economy as the engine control module (ECM) adds fuel to compensate
- In rare cases, a faint hissing or whistling sound from a vacuum leak under the hood

Common causes, most likely first

- 1 Vacuum leak from a cracked or disconnected intake hose, intake manifold gasket, or vacuum line
- 2 Faulty or leaking positive crankcase ventilation (PCV) valve or associated hoses
- 3 Leaking intake manifold gasket at the cylinder head or throttle body base
- 4 Cracked or deteriorated brake booster vacuum hose or booster diaphragm
- 5 Dirty or failing mass airflow (MAF) sensor reporting less air than actually entering
- 6 Weak or failing fuel pump or clogged fuel filter causing low fuel pressure
- 7 Leaking fuel injector O-rings or a faulty evaporative emissions (EVAP) purge valve stuck open



How to diagnose and fix it

- 1 Perform a visual inspection of all intake and vacuum hoses for cracks, loose connections, or disconnected lines, and repair or replace as needed
- 2 Use a smoke machine to pressurize the intake system and locate any vacuum leaks that are not visible
- 3 Check the PCV valve and hoses for proper operation and replace if faulty
- 4 Inspect the intake manifold gasket and throttle body gasket for leaks using a smoke test or carburetor cleaner while watching fuel trim values
- 5 Clean or replace the mass airflow sensor if it is contaminated or out of specification, and verify its readings with a scan tool
- 6 Test fuel pressure and volume to rule out a weak fuel pump or restricted fuel filter, and replace components if below specification
- 7 Check for leaking fuel injector O-rings or a stuck-open EVAP purge valve, and repair or replace as necessary

Common misdiagnosis traps for P1124

- A dirty mass airflow sensor often causes this code because it under-reports airflow, leading the ECM to add fuel and set a lean fault, but many technicians replace the sensor without first checking for vacuum leaks.
- The long-term additive fuel trim nature of P1124 means the leak is present at idle; a leak that only appears at higher engine speeds may set a different code, so testing at idle is critical.
- A failing brake booster can cause a large vacuum leak that sets P1124, and this is frequently overlooked because the brake pedal feel may seem normal until the booster fails completely.
- On some Volkswagen engines, a cracked valve cover or faulty oil filler cap can allow unmetered air into the crankcase, triggering P1124 without any obvious external leak.
- P1124 can be set by a lazy upstream oxygen sensor that responds slowly to fuel trim changes, so always verify oxygen sensor operation with a scan tool before replacing expensive components.

Can I keep driving with P1124?

You can usually continue driving to a repair shop, but avoid heavy acceleration, towing, or sustained high-speed driving because a lean condition can cause elevated combustion temperatures and potential engine damage. If the check engine light starts flashing or you notice severe misfiring, stop driving and have the vehicle towed.

Tools that help

- OBD-II scan tool with live data capability
- Smoke machine for vacuum leak detection
- Fuel pressure gauge
- Digital multimeter
- Vacuum gauge
- Carburetor cleaner or propane enrichment tool



Reading P1124

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

Often seen with

P1128 Long Term Fuel Trim Bank 1 System Too Lean · **P1130** Long Term Fuel Trim Bank 2 System Too Lean · **P1128** Throttle Control Motor Lock · **P1130** Air/Fuel Sensor Circuit Range Performance Bank 1 Sensor 1 · **P1130** Front Oxygen Sensor Circuit Malfunction Open Circuit · **P1128** MAP Lower Than Expected · **P1130** Swirl Control Valve Control Solenoid Valve · **P1128** HO2S Bank 1 Sensor 1 Signals Swapped In Key On Engine Runnin · **P1130** HO2S Bank 1 Sensor 1 Not Switching Fuel Control Limit Reache · **P1128** Long Term Fuel Trim Multiplicative Air System High · **P1128** MAP Lower Than Expected · **P1130** HO2S Circuit Low Variance Bank 1 Sensor 1 · **P1128** Upstream Heated Oxygen Sensor Signals Reversed · **P1130** Lack of Upstream Heated Oxygen Sensor Switch Adaptive Fuel L · **P1130** HO2S Circuit Low Variance Bank 1 Sensor 1 · **P2187** System Too Lean at Idle (Bank 1) · **P0171** System Too Lean (Bank 1) · **P0507** Idle Control System RPM Higher Than Expected

See it working

Watch the animated explainer [How a Helicopter Flies: Rotor and Tail 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-p1124/>

