

VOLKSWAGEN · POWERTRAIN

P1137

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1137 · Volkswagen

Long Term Fuel Trim Add Fuel Bank 1 System Too Rich

P1137 on a Volkswagen means the engine control module has detected that the long-term fuel trim on bank 1 has reached its rich correction limit, indicating the engine is running too rich and the computer can no longer lean it out. The ECM stores this code when the additive long-term fuel trim value exceeds the calibrated threshold for a set period, confirming a persistent rich condition on the bank containing cylinder 1.

SYSTEM

Powertrain

CODE TYPE

Volkswagen specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Often no symptoms besides the warning light, especially in early stages
- Noticeable decrease in fuel economy and a strong fuel odor from the exhaust
- Rough idle or engine stumbling, particularly when the engine is cold
- Black sooty exhaust smoke or black deposits on the tailpipe
- Hesitation or sluggish acceleration under load
- Failed emissions test due to high carbon monoxide or hydrocarbon readings

Common causes, most likely first

- 1 Leaking or stuck-open fuel injector on bank 1, delivering excess fuel into the cylinder
- 2 Faulty mass air flow sensor over-reporting airflow, causing the ECM to inject too much fuel
- 3 Contaminated or failing oxygen sensor on bank 1 sending a false lean signal
- 4 High fuel pressure from a failed fuel pressure regulator or restricted fuel return line
- 5 Evaporative emissions system purge valve stuck open, allowing fuel vapor to enter the intake continuously
- 6 Leaking intake manifold gasket or vacuum line admitting unmetered air that the ECM misinterprets
- 7 Worn spark plugs or ignition misfire causing unburned fuel to enter the exhaust, skewing the oxygen sensor reading



How to diagnose and fix it

- 1 Connect a scan tool and record live data for long-term fuel trim, mass air flow, oxygen sensor voltage, and fuel pressure to confirm the rich condition on bank 1
- 2 Inspect the air intake tract and vacuum lines for leaks or blockages that could distort the mass air flow reading
- 3 Test the mass air flow sensor with a multimeter or scan tool to verify its output matches expected values for the engine load
- 4 Check fuel pressure with a gauge and compare to the manufacturer's specification, looking for a stuck regulator or restricted return line
- 5 Perform an injector balance test or remove injectors for bench testing to identify a leaking or stuck-open injector on bank 1
- 6 Test the evaporative emissions purge valve for proper sealing and operation, replacing it if it remains open when commanded closed
- 7 Replace the upstream oxygen sensor on bank 1 if its signal is biased lean or sluggish, then clear the code and verify fuel trim returns to normal

When fuel trim points to the wrong part

- A leaking injector often does not set a misfire code because the excess fuel still burns, so technicians who only look for misfires miss the real cause of P1137.
- A contaminated mass air flow sensor can report higher airflow than actual, and the resulting rich trim may be the only clue before driveability symptoms appear.
- A stuck-open purge valve is a common cause on Volkswagen engines because it continuously feeds fuel vapor into the intake, and it is frequently overlooked during rich-condition diagnosis.
- Fuel trim readings can be skewed by exhaust leaks upstream of the oxygen sensor, which draw in outside air and make the sensor report a false lean condition, causing the ECM to add fuel.
- Replacing the oxygen sensor without checking fuel pressure and injector balance often leads to a repeat code because the sensor was only reporting the rich condition, not causing it.

Can I keep driving with P1137?

You can drive the vehicle short distances to a repair shop, but avoid prolonged driving because the rich condition can foul spark plugs, damage the catalytic converter, and dilute engine oil. If the check engine light begins flashing or you notice heavy fuel smell or black smoke, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with live data capability
- Fuel pressure gauge
- Multimeter for testing sensors and wiring
- Vacuum gauge for checking intake leaks
- Injector balance tester or noid light set
- Hand tools for removing and inspecting components

Reading P1137

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

Often seen with

P1136 Long Term Fuel Trim Add Fuel Bank 1 System Too Lean · **P1138** Long Term Fuel Trim Add Fuel Bank 2 System Too Lean · **P1136** HO2S Bank 1 Sensor 1 Heater Circuit High Input · **P1138** HO2S Bank 1 Sensor 2 Signal Above 0.45v AF Ratio Too Rich · **P1136** Control Box Fan Circuit · **P1138** Lack Of HO2S12 Switches Sensor Indicates Rich · **P1136** HO2S Rich Average Bank 1 Sensor 1 · **P1138** O2 Sensor High Voltage During Decel Fuel Cutoff · **P1138** Lack of Downstream Heated Oxygen Sensor Switch Sensor Indica · **P1136** HO2S Rich Average Bank 1 Sensor 1 · **P1138** HO2S Bank 1 Sensor 2 Rich Or High Voltage · **P1136** O2 Sensor Heater Circuit High Voltage Bank 1 Sensor 1 · **P1138** O2 Sensor Heater Circuit Low Voltage Bank 1 Sensor 2 · **P0172** System Too Rich (Bank 1) · **P0175** System Too Rich (Bank 2) · **P2188** System Too Rich at Idle (Bank 1)

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1137/>

