

VOLKSWAGEN · POWERTRAIN

P1556

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1556 · Volkswagen

Charge Pressure Negative Deviation

P1556 on Volkswagen vehicles means the engine control module (ECM) has detected that the actual charge pressure from the turbocharger is lower than the requested target pressure by a calibrated margin. The turbo is not producing the boost the computer expects, and the ECM has logged a negative deviation fault after comparing the manifold pressure sensor reading to its commanded value.

SYSTEM

Powertrain

CODE TYPE

Volkswagen
specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed,
idle control and
auxiliary inputs

Symptoms you may notice

- Illumination of the check engine light or electronic power control (EPC) warning lamp, often with no other symptoms besides the warning light.
- Noticeable loss of power and sluggish acceleration, especially when climbing hills or merging onto a highway.
- The engine may enter limp mode, limiting boost and engine speed to protect the turbocharger.
- Rough running or hesitation under load, sometimes accompanied by a slight whistling or hissing noise from the engine bay.
- Increased fuel consumption as the ECM compensates for the missing boost.
- In some cases, a puff of black smoke from the exhaust under hard acceleration due to over-fuelling relative to available air.

Common causes, most likely first

- 1 A leaking or disconnected charge air hose, intercooler pipe, or vacuum line between the turbocharger and the intake manifold.
- 2 A faulty or sticking turbocharger wastegate or variable turbine geometry (VTG) actuator, common on Volkswagen TDI engines.
- 3 A failed boost pressure sensor (also called the manifold absolute pressure sensor) sending inaccurate readings to the ECM.
- 4 A clogged or restricted air filter or intake tract, reducing airflow to the turbocharger.
- 5 A malfunctioning turbocharger recirculation valve (diverter valve) that bleeds off boost pressure prematurely.
- 6 A sticking or failed exhaust gas recirculation (EGR) valve affecting the pressure balance across the engine.
- 7 A weak or failing turbocharger itself, such as worn compressor wheel or seized VTG vanes, though this is less common than the items above.



How to diagnose and fix it

- 1 Perform a visual inspection of all charge air hoses, clamps, and intercooler connections for cracks, loose fittings, or oil residue that indicates a leak.
- 2 Use a scan tool to read live data for requested versus actual boost pressure and check for other stored codes that might point to a related sensor or actuator fault.
- 3 Smoke-test the intake and charge air system to pinpoint leaks that are not visible to the eye.
- 4 Test the wastegate or VTG actuator for free movement and correct operation, following Volkswagen-specific procedures for the engine code.
- 5 Check the boost pressure sensor wiring and connector for corrosion or damage, and compare its reading to a known-good sensor if possible.
- 6 Inspect and clean or replace the air filter and check the intake tract for obstructions.
- 7 If all external components check out, perform a turbocharger boost output test and consider removing the turbo for internal inspection or replacement.

Before you replace the turbocharger

- A very common cause on Volkswagen TDI engines is a sticking VTG mechanism in the turbocharger, which can often be cleaned and freed up rather than requiring a complete turbo replacement.
- A small split in a charge air hose may only open under boost, so a static visual inspection can miss it; a smoke test or pressure test is far more reliable.
- The boost pressure sensor on these engines can drift and report lower pressure than actual, causing the ECM to log a negative deviation even when the turbo is healthy.
- A clogged EGR valve or a faulty EGR cooler can alter exhaust flow and cause boost deviation codes without any direct turbo fault.
- After repairing the fault, the ECM may need a adaptation reset or a drive cycle to clear the code and relearn the boost control parameters.

Can I keep driving with P1556?

You can usually drive the vehicle to a workshop, but avoid heavy acceleration and sustained high-speed driving because the turbo may be over-speeding or the engine may enter limp mode unexpectedly. If the vehicle is in limp mode or you hear unusual noises from the turbo, stop driving and arrange a tow to prevent further damage.

Tools that help

- OBD-II scan tool with live data and Volkswagen-specific software
- Smoke machine for intake leak testing
- Hand vacuum pump and gauge for testing wastegate and VTG actuators
- Basic hand tools including screwdrivers, sockets, and pliers
- Digital multimeter for checking sensor wiring and voltage



Reading P1556

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Volkswagen): its meaning depends on the make.
- 5** Vehicle speed, idle control and auxiliary inputs.
- 56** The exact fault within that area.

Often seen with

P0234 Engine Overboost Condition · **P0299** Turbo/Supercharger Underboost · **P0401** EGR Flow Insufficient Detected · **P2015** Intake Manifold Runner Position Sensor/Switch Circuit Range/ · **P2563** Turbocharger Boost Control Position Sensor Circuit Range/Per

See it working

Watch the animated explainer [Readiness Monitors and the OBD-II Drive Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1556/>

