

VOLKSWAGEN · POWERTRAIN

P1406

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1406 · Volkswagen

EGR Temperature Sensor Range Performance

P1406 on Volkswagen vehicles indicates that the engine control module has detected an out-of-range performance from the exhaust gas recirculation temperature sensor, which is used to monitor the temperature of the recirculated exhaust gas. The sensor's signal does not correlate with expected values under the operating conditions the ECU is commanding, often after the engine has reached operating temperature and the EGR system is active.

SYSTEM

Powertrain

CODE TYPE

Volkswagen specific

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Slightly rough idle or hesitation during light acceleration when the EGR valve opens
- Reduced fuel economy as the ECU may alter injection timing to compensate
- In rare cases, a slight increase in engine temperature if the EGR system is disabled by the ECU
- Intermittent fault code setting during steady-speed driving when EGR is active

Common causes, most likely first

- 1 Faulty EGR temperature sensor (sensor element degraded or open circuit)
- 2 Carbon buildup or soot contamination on the sensor tip, insulating it from exhaust gas flow
- 3 Damaged or corroded wiring harness connector at the sensor
- 4 Failed EGR valve stuck closed or partially open, preventing expected temperature changes
- 5 Exhaust leaks before the EGR temperature sensor causing inaccurate readings
- 6 ECU software issue or faulty ECU (rare, but possible on older models)



How to diagnose and fix it

- 1 Use a scan tool to read live data from the EGR temperature sensor and compare it to ambient and coolant temperature after a cold start
- 2 Visually inspect the sensor and its connector for corrosion, damage, or loose pins; clean or repair as needed
- 3 Remove the EGR temperature sensor and check for heavy carbon deposits; clean the sensor tip with appropriate solvent if contaminated
- 4 Test the sensor's resistance with a multimeter across a range of temperatures and compare to Volkswagen specifications
- 5 Check the EGR valve operation with a scan tool bidirectional test and inspect for carbon sticking; clean or replace if faulty
- 6 Verify that the ECU has the latest software calibration and update if required
- 7 Replace the EGR temperature sensor if all wiring and mechanical checks pass but the signal remains implausible

Don't overlook the EGR valve itself

- A sticking EGR valve often causes P1406 because the temperature sensor never sees the expected temperature change when the valve is commanded open, even though the sensor itself is fine.
- Carbon fouling on the sensor tip is common on higher-mileage Volkswagen engines and can be cleaned rather than replaced, saving unnecessary part costs.
- The EGR temperature sensor on many VW engines is located in a difficult-to-reach spot on the EGR pipe, so a faulty reading can sometimes be caused by a poor connection rather than a failed sensor.
- P1406 can be set by an exhaust leak upstream of the sensor, which dilutes the exhaust gas and lowers the measured temperature, mimicking a sensor fault.
- On some models, a weak battery or charging system issue can cause intermittent sensor codes; always check system voltage before condemning the sensor.

Can I keep driving with P1406?

The vehicle is generally safe to drive with P1406 because the fault primarily affects emissions and fuel economy, not immediate engine safety. Avoid prolonged heavy acceleration or towing until the fault is repaired, as the EGR system may be disabled and engine knock could occur under load.

Tools that help

- OBD-II scan tool with live data and bidirectional control capability
- Digital multimeter
- Socket set and wrenches for sensor removal
- Contact cleaner and dielectric grease
- Infrared thermometer (optional for verifying exhaust temperatures)



Reading P1406

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Volkswagen): its meaning depends on the make.
- 4** Auxiliary emission controls.
- 06** The exact fault within that area.

Often seen with

P1400 EGR Valve Circuit Electrical Malfunction · **P1401** EGR Valve Power Stage Short To Ground · **P1401** Sub-Throttle Position Sensor Range Performance Problem · **P1400** Sub-Throttle Position Sensor · **P1400** Fuel Tank Pressure Control Solenoid Low Input · **P1401** Fuel Tank Pressure Control System Performance · **P1400** EGRC Solenoid Valve · **P1401** EGR Temperature Sensor · **P1400** Manifold Differential Pressure Sensor Circuit · **P1401** EGR Lifting Sender B283 · **P1400** DPFE Sensor Circuit Low Input · **P1401** DPFE Sensor Circuit High Input · **P1401** EGR Control Solenoid Circuit Signal Low · **P1400** Exhaust Gas Recirculation Valve Position Control · **P1401** Exhaust Gas Recirculation Valve Position Circuit · **P1400** Differential Pressure Feedback Electronic Sensor Circuit Low · **P1401** Differential Pressure Feedback Electronic Sensor Circuit High · **P1400** Heated Catalyst Battery Voltage or Current Too Low During Heating · **P1401** Heated Catalyst Current Too High During Heating Bank 1 · **P0401** EGR Flow Insufficient Detected · **P0403** EGR Circuit Malfunction · **P0402** EGR Flow Excessive Detected

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-p1406/>

