

FORD · POWERTRAIN

P1305

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1305 · Ford

EGR Calibration Low

P1305 on Ford vehicles means the powertrain control module (PCM) has detected that the exhaust gas recirculation (EGR) system's calibration signal is lower than expected during its self-test. The PCM monitors the EGR valve position sensor and the differential pressure feedback EGR (DPFE) sensor to verify that commanded EGR flow matches actual flow, and this code sets when the feedback voltage stays below the calibrated minimum.

SYSTEM

Powertrain

CODE TYPE

Ford specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

**Ignition system
and misfire**

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Slight rough idle or intermittent stumble when the EGR valve is commanded open
- Reduced fuel economy because the PCM may disable EGR and alter spark timing
- Failed emissions test due to increased oxides of nitrogen (NOx) output
- Occasional hesitation or surge during light-throttle cruising
- No drivability complaints at all in many cases, with the code found only during a scan

Common causes, most likely first

- 1 Carbon buildup or sludge on the EGR valve pintle preventing it from reaching the commanded low position
- 2 Faulty differential pressure feedback EGR (DPFE) sensor sending a low or biased signal
- 3 Damaged or disconnected EGR valve position sensor wiring or connector
- 4 Leaking or cracked EGR valve diaphragm causing the valve to stick or not respond
- 5 Restricted or clogged EGR passage in the intake manifold or valve body
- 6 Failed EGR vacuum regulator solenoid not supplying correct vacuum to the valve
- 7 PCM calibration issue or faulty PCM driver for the EGR circuit (rare)



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data to see when the code set, then clear it and verify whether it returns
- 2 Inspect the EGR valve, DPFE sensor, and all related connectors and vacuum lines for physical damage, corrosion, or disconnection
- 3 Use a scan tool to command the EGR valve open and closed while watching the position sensor and DPFE voltage for smooth, correct response
- 4 Measure the DPFE sensor reference voltage and signal voltage with a multimeter and compare to Ford specifications
- 5 Remove the EGR valve and inspect the pintle and passages for carbon buildup; clean or replace the valve if restricted
- 6 Check vacuum supply to the EGR valve with a vacuum gauge and test the EGR vacuum regulator solenoid for proper operation
- 7 If all components test good, perform a PCM relearn or reprogram per Ford service procedure, and replace the PCM only as a last resort

What Ford EGR calibration really checks

- The DPFE sensor on Ford engines is a common failure point that often sets P1305 without any drivability symptoms, so technicians who replace the EGR valve first waste money.
- Carbon buildup on the EGR valve pintle can hold the valve slightly open at idle, causing the PCM to see a low calibration signal even though the valve electrically tests fine.
- A dirty or failing mass airflow (MAF) sensor can skew EGR flow calculations and trigger P1305 indirectly, so check fuel trims and MAF readings before condemning EGR parts.
- On some Ford models, a weak battery or poor ground can cause the PCM to misread the EGR position sensor during the self-test, setting a false P1305.
- The code does not always mean the EGR valve itself is bad; a leaking vacuum line to the EGR valve or a stuck-open EGR vacuum regulator solenoid can produce the same low-calibration reading.

Can I keep driving with P1305?

You can usually continue driving with P1305 because the PCM defaults to a safe calibration, but avoid long periods of heavy load or towing until the fault is repaired. Have the system diagnosed soon to prevent increased emissions and potential damage to the EGR valve or catalytic converter.



Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter
- Hand vacuum pump with gauge
- Basic hand tools (sockets, wrenches, screwdrivers)
- Carburetor and throttle body cleaner
- Inspection mirror and flashlight

Reading P1305

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Ford): its meaning depends on the make.
3	Ignition system and misfire.
05	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 Bank 1 · **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 [Inline-Four Engine X-Ray: Firing Order 1-3-4-2](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1305/>

