

GENERIC · POWERTRAIN

P040F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P040F

EGR Temperature Sensor A/B Correlation

P040F indicates that the engine computer has detected an implausible relationship between the two exhaust gas recirculation (EGR) temperature sensor signals, typically Sensor A and Sensor B, which may be separate sensors or redundant elements within one housing. The powertrain control module compares the two readings during EGR flow and flags the code when their values diverge beyond a calibrated limit or fail to track each other as expected.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or stumbling when the EGR valve opens, especially when the engine is cold
- A slight hesitation or surge during light-throttle acceleration
- Reduced fuel economy if the fault causes the computer to disable EGR operation
- In rare cases, a noticeable sulfur or exhaust smell from the tailpipe
- Intermittent driveability complaints that come and go with temperature or vibration

Common causes, most likely first

- 1 Failed EGR temperature sensor A or B, including internal drift or an open circuit
- 2 Damaged, chafed, or corroded wiring between the sensors and the powertrain control module
- 3 Poor electrical connector contact at either EGR temperature sensor
- 4 Carbon or soot buildup on a sensor tip, insulating it from exhaust gas flow
- 5 A restricted or clogged EGR passage that causes one sensor to see a different temperature than the other
- 6 An exhaust leak upstream of the sensors that skews one reading
- 7 A software calibration issue in the powertrain control module, usually addressed by a reflash



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P040F, then verify the code is current and not history
- 2 Visually inspect both EGR temperature sensors, their connectors, and the wiring harness for damage or corrosion
- 3 Compare live EGR temperature sensor A and B readings with a scan tool when the engine is cold and again at operating temperature
- 4 Check the sensors' resistance or voltage output against the manufacturer's specification and look for an open or shorted circuit
- 5 Remove and inspect the sensor tips for heavy carbon deposits, cleaning or replacing as necessary
- 6 Verify EGR flow by commanding the EGR valve open and observing whether both temperature readings rise together
- 7 If wiring and sensors test good, check for technical service bulletins and consider a powertrain control module reflash or replacement

What the correlation code really checks

- P040F is often set by a lazy sensor that still reads a plausible temperature but responds too slowly, so a simple resistance check at room temperature can pass while the sensor is still faulty.
- On many engines the two EGR temperature sensors share a common ground or reference wire, so a single chafed wire can make both readings drift and mimic two failed sensors.
- A clogged EGR cooler or passage can cause one sensor to run much hotter than the other, setting P040F even when both sensors are electrically perfect.
- Technicians sometimes replace both sensors only to find the real problem is a cracked exhaust flex pipe or a leaking EGR gasket that lets outside air reach one sensor.
- The code can appear after an EGR valve replacement if the new valve's pintle position is not learned or if the battery was disconnected during the repair.

Can I keep driving with P040F?

You can usually continue driving to a repair shop, but avoid heavy acceleration and long uphill pulls because a faulty EGR temperature reading can cause the computer to disable EGR, which may increase combustion temperatures and emissions. If the check engine light begins flashing or the engine runs rough, stop driving and have it inspected promptly.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probing pins
- Infrared thermometer
- Hand tools for sensor removal and connector access
- Wiring diagram or service information for the specific vehicle



Reading P040F

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
4	Auxiliary emission controls.
0F	The exact fault within that area.

Often seen with

P0400 Exhaust Gas Recirculation Flow Malfunction · **P0401** EGR Flow Insufficient Detected · **P0402** EGR Flow Excessive Detected · **P0403** EGR Circuit Malfunction · **P040D** EGR Temperature Sensor A Circuit High

See it working

Watch the animated explainer [How Coil-on-Plug Ignition Works: Coil and Spark Plug](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p040f/>

