

GENERIC · POWERTRAIN

P040B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P040B

EGR Temperature Sensor A Circuit Range/Performance

P040B indicates that the engine computer has detected an out-of-range or performance fault in the circuit for EGR Temperature Sensor A, which monitors the temperature of the exhaust gas recirculation flow. The computer compares the sensor signal against expected values under specific operating conditions and sets the code when the voltage or calculated temperature falls outside the valid range for too long.

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 slight hesitation during acceleration if the EGR system is affected
- Reduced fuel economy in some cases due to incorrect EGR flow
- Intermittent engine stumble or surge at steady cruise speeds
- Failed emissions test due to the stored trouble code
- In rare cases, a noticeable decrease in engine power or poor throttle response

Common causes, most likely first

- 1 Faulty EGR temperature sensor A, including an open or shorted internal element
- 2 Damaged or corroded wiring and connectors between the sensor and the engine control module
- 3 Exhaust gas recirculation passages clogged with carbon, causing abnormal temperature readings
- 4 Failed or sticking EGR valve that prevents proper flow and skews temperature sensor readings
- 5 Engine control module software calibration issue or internal fault in the sensor circuit
- 6 Poor electrical ground connection for the sensor or the engine control module
- 7 Aftermarket or incorrect sensor installed that does not meet OEM specifications



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then clear codes and test-drive to see if P040B returns
- 2 Visually inspect the EGR temperature sensor, its wiring, and connectors for damage, corrosion, or loose pins
- 3 Measure the sensor resistance or voltage with a multimeter and compare to the manufacturer's specification
- 4 Check the EGR valve for proper operation and inspect the EGR passages for carbon buildup or blockage
- 5 Perform a voltage drop test on the sensor ground and signal circuits to rule out wiring resistance
- 6 If the sensor tests bad, replace it with a quality OEM or equivalent part and clear codes
- 7 If the fault persists after sensor replacement, diagnose the EGR valve and engine control module circuits as needed

Common misdiagnosis traps for P040B

- A clogged EGR passage can mimic a failed temperature sensor because the sensor sees little to no flow and reports a temperature that never changes as expected.
Many technicians replace the EGR temperature sensor only to find the real problem is a sticking EGR valve that prevents the sensor from seeing the correct temperature swing.
- Corroded pins or chafed wires near the exhaust manifold are a frequent cause that is easily overlooked during a quick visual inspection.
- The code can set intermittently due to a marginal sensor that only fails when cold or hot, so a live data scan during a test drive is more reliable than a static resistance check.
A faulty engine coolant temperature sensor can influence EGR temperature calculations on some systems, leading to a false P040B without any issue in the EGR circuit itself.

Can I keep driving with P040B?

You can usually continue driving with P040B, but avoid long periods of aggressive acceleration or heavy load until the fault is repaired. If the check engine light begins flashing or you notice rough running, stop driving and have the vehicle inspected promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Hand tools for sensor and connector removal
- Vacuum pump or smoke machine for EGR system testing
- Service information for sensor specifications and wiring diagrams



Reading P040B

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 4** Auxiliary emission controls.
- 0B** 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 · **P0404** EGR Circuit Range/Performance

See it working

Watch the animated explainer [How a Boxer Engine Works: Flat Engine Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p040b/>

