

GENERIC · POWERTRAIN

P040D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P040D

EGR Temperature Sensor A Circuit High

P040D means the engine computer has detected an abnormally high voltage on the signal circuit of the exhaust gas recirculation (EGR) temperature sensor, which is typically a thermistor that changes resistance with temperature. The high voltage tells the computer that the sensor circuit is open, shorted to voltage, or that the sensor is reporting an unrealistically cold temperature.

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

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or stumbling when the EGR valve opens
- Poor fuel economy or increased emissions
- Hesitation or surging during light acceleration
- In rare cases, a no-start condition if the EGR system is commanded fully open

Common causes, most likely first

- 1 Open or damaged signal wire between the EGR temperature sensor and the engine computer
- 2 Corroded, loose, or disconnected electrical connector at the sensor
- 3 Failed EGR temperature sensor (open thermistor element)
- 4 Short to voltage on the signal circuit, often from chafed wiring near hot exhaust components
- 5 Faulty engine computer (rare, but possible if internal pull-up resistor fails)
- 6 Excessive carbon buildup on the sensor tip causing an open circuit



How to diagnose and fix it

- 1 Connect a scan tool and record the EGR temperature sensor voltage and freeze-frame data to confirm the high-voltage condition
- 2 Visually inspect the sensor, connector, and wiring for damage, corrosion, or loose pins, and repair as needed
- 3 Measure resistance across the sensor terminals and compare to the manufacturer's temperature-resistance chart to verify sensor integrity
- 4 Back-probe the signal circuit at the sensor and at the computer to check for an open or short to voltage with the key on
- 5 If wiring and sensor test good, substitute a known-good sensor or simulate the signal with a resistor box to see if the code clears
- 6 Clear the code and perform a road test with the EGR system commanded on to confirm the repair
- 7 If the code returns and all circuits test normal, follow the manufacturer's diagnostic flow for computer internal fault verification

What the high-voltage reading really means

- A high voltage on a thermistor circuit almost always indicates an open circuit, not a sensor that is reading too hot, so chasing overheating symptoms leads nowhere.
- Carbon buildup on the sensor tip can insulate it and create an open circuit that only appears when the EGR valve is closed and the sensor cools.
- Wiring chafing near the exhaust manifold or turbocharger is a common hidden cause that a simple sensor replacement will not fix.
- Some vehicles use the EGR temperature sensor to infer EGR flow, so a P040D can be accompanied by EGR flow codes even when the valve itself is fine.
- A faulty engine computer is the last suspect, but a shorted internal pull-up resistor can mimic a sensor circuit fault and is often overlooked.

Can I keep driving with P040D?

You can usually continue driving with P040D because the engine computer will default to a safe EGR strategy, but avoid heavy acceleration or towing until the fault is repaired to prevent potential engine knock or increased emissions.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the EGR temperature sensor circuit
- Resistor box or decade box for signal simulation
- Basic hand tools and terminal pick set



Reading P040D

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

Often seen with

P0401 EGR Flow Insufficient Detected · **P0402** EGR Flow Excessive Detected · **P0403** EGR Circuit Malfunction · **P040C** EGR Temperature Sensor A Circuit Low · **P040E** EGR Temperature Sensor A Circuit Intermittent/Erratic

See it working

Watch the animated explainer [How a Turbocharger Works, Step by Step](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p040d/>

