

GENERIC · POWERTRAIN

P041D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P041D

EGR Temperature Sensor B Circuit High

P041D means the powertrain control module has detected an abnormally high voltage on the signal circuit for EGR Temperature Sensor B, which is the exhaust gas recirculation temperature sensor on bank 2 or the second sensor in a multi-sensor arrangement. The sensor's internal thermistor normally pulls the signal voltage down as exhaust temperature rises, so a voltage that stays above the expected range tells the computer the circuit is open, shorted to voltage, or the sensor element has failed.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms besides the warning light
- Slightly elevated emissions or a failed emissions inspection
- Rough idle or a subtle stumble when the EGR valve opens, if the sensor fault affects EGR scheduling
- Reduced fuel economy in some vehicles because the computer defaults to a conservative EGR strategy
- Intermittent warning light that comes and goes with vibration or temperature changes
- No noticeable performance change at all in many cases, since the sensor is primarily an emissions monitor

Common causes, most likely first

- 1 Failed EGR temperature sensor B, where the internal thermistor has gone open circuit and the signal voltage floats high
- 2 Open or damaged signal wire between sensor B and the powertrain control module
- 3 Corroded, pushed-back, or loose terminal pins at the sensor connector or PCM connector
- 4 Short to voltage on the signal circuit, often from chafed wiring near the exhaust or engine block
- 5 Poor sensor ground connection causing the signal to read higher than actual temperature
- 6 PCM internal fault on the sensor input circuit, which is rare but possible after other causes are ruled out



How to diagnose and fix it

- 1 Connect a scan tool and read live data for EGR temperature sensor B to confirm the signal is pegged high and compare it with sensor A or intake air temperature after a cold soak
- 2 Visually inspect the sensor B connector, wiring harness, and ground points for corrosion, chafing, or heat damage near the exhaust
- 3 Measure sensor resistance with a multimeter and compare it to the manufacturer's temperature-resistance chart to verify the thermistor is open
- 4 Back-probe the signal circuit at the sensor and at the PCM to check for an open wire or a short to voltage with the key on and engine off
- 5 Perform a voltage drop test on the sensor ground circuit to rule out a poor ground that skews the reading
- 6 Replace the EGR temperature sensor B if resistance testing confirms it is out of specification, then clear the code and verify the live data reads correctly
- 7 If the sensor and wiring test good, check for a PCM software update or, as a last resort, diagnose the PCM input circuit for an internal fault

Why EGR temperature sensor B reads high

- A common misdiagnosis is replacing the EGR valve when the actual fault is the temperature sensor circuit, because both can set EGR-related codes and cause similar driveability complaints.
- On vehicles with two EGR temperature sensors, sensor B often monitors the cooler outlet, so a restricted or failed EGR cooler can overheat the sensor and cause a high-voltage reading that looks like an electrical fault.
- The sensor's resistance drops as temperature rises, so an open thermistor or a broken signal wire makes the PCM see maximum voltage, which is why a simple resistance check at the sensor connector is the fastest way to separate a sensor failure from a wiring problem.
- Corrosion inside the connector pins is a frequent cause on vehicles driven in wet or salty climates, and it can create a high-voltage signal without any visible damage to the wire itself.
- A P041D can appear after an engine replacement or exhaust work if the sensor connector is left unplugged or the harness is routed too close to a hot exhaust component.

Can I keep driving with P041D?

The vehicle is generally safe to drive with P041D because the fault mainly affects emissions and the computer defaults to a conservative EGR strategy, but you should avoid long-term driving without diagnosis since unresolved EGR issues can increase exhaust temperatures and reduce fuel economy. Have the circuit checked soon, especially if the warning light is accompanied by rough running or if your area requires an emissions inspection.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Back-probe kit or fine test leads
- Temperature-resistance chart for the sensor
- Basic hand tools for connector and sensor access
- Wiring diagram for the EGR temperature sensor circuit

Reading P041D

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
4	Auxiliary emission controls.
1D	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 · **P041C** EGR Temperature Sensor B Circuit Low · **P041E** EGR Temperature Sensor B Circuit Intermittent/Erratic

See it working

Watch the animated explainer [How Hydraulic Brakes Work: Pedal to Caliper](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p041d/>

