

GENERIC · POWERTRAIN

P0406

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0406

EGR Sensor A Circuit High

P0406 means the engine computer has detected an abnormally high voltage on the signal circuit for EGR Sensor A, which is the sensor that reports how far the exhaust gas recirculation (EGR) valve has opened. The computer expects that signal to stay within a calibrated low-voltage range, and a sustained high reading tells it the circuit is shorted to voltage, open, or the sensor has failed.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

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
- A noticeable stumble or rough idle when the EGR valve is commanded open
- Slight loss of power or hesitation during light-throttle acceleration
- Increased engine ping or knock under load because exhaust recirculation is disabled
- Failed emissions inspection due to the stored code and incomplete readiness monitors

Common causes, most likely first

- 1 Failed EGR sensor or EGR valve position sensor internally shorted to voltage
- 2 Damaged or chafed signal wire shorted to a power wire in the engine harness
- 3 Corroded, loose, or backed-out terminal at the EGR sensor connector
- 4 Open ground circuit at the EGR sensor, causing the signal to float high
- 5 Faulty engine computer driver or reference voltage circuit feeding the sensor
- 6 Carbon buildup or mechanical binding holding the EGR valve in a position that drives the signal high

How to diagnose and fix it

- 1 Connect a scan tool and read live EGR sensor voltage along with freeze-frame data to confirm the high signal under the reported conditions
- 2 Visually inspect the EGR sensor connector and harness for corrosion, chafing, or a short to voltage, and repair any damaged wiring
- 3 Back-probe the sensor signal wire and compare it to the manufacturer's expected voltage with the key on and engine off
- 4 Check the sensor ground circuit for excessive resistance and repair an open or high-resistance ground
- 5 Remove the EGR valve and inspect for carbon binding or a stuck pintle that prevents normal sensor travel
- 6 Replace the EGR valve or sensor assembly only after circuit tests confirm the sensor itself is at fault
- 7 Clear the code, complete a drive cycle, and verify the EGR monitor passes without the code returning

Why a high EGR signal is often wiring

- A high signal voltage frequently comes from an open ground rather than a failed sensor, because a floating ground pulls the signal toward reference voltage and mimics a short.
- Carbon holding the EGR valve partly open can drive the position sensor to a high reading even when the sensor and wiring test perfectly on a bench.
- Technicians who replace the EGR valve without back-probing the signal circuit often find the new part sets the same code because the harness short was never repaired.
- A shorted reference voltage wire from another sensor on the same five-volt bus can pull the EGR signal high, so check shared reference circuits before condemning the valve.
- The code can set intermittently from vibration-related harness chafing, so a wiggle test of the EGR harness while watching live data is a worthwhile step.

Can I keep driving with P0406?

The vehicle usually remains drivable with P0406 because the computer disables EGR operation, but you should avoid heavy throttle and long uphill loads until the fault is repaired. Prolonged driving with EGR disabled can cause engine knock and increased emissions, so schedule diagnosis soon.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probe pins
- Wiring diagram for the EGR sensor circuit
- Basic hand tools for connector and valve removal
- Carburetor or intake cleaner for carbon removal

Reading P0406

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
4	Auxiliary emission controls.
06	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 · **P0405** EGR Sensor A Circuit Low



See it working

Watch the animated explainer [How a Helicopter Flies: Rotor and Tail in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0406/>

