

GENERIC · POWERTRAIN

P010E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P010E

Mass or Volume Air Flow Sensor B Circuit Intermittent/Erratic

P010E indicates that the powertrain control module has detected an intermittent or erratic signal from the mass or volume air flow sensor B circuit, which is often the second sensor in a dual-intake or redundant arrangement. The computer sets this code when the signal voltage or frequency jumps unpredictably rather than failing completely, so the fault may come and go with vibration, temperature, or moisture.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- The check engine light may be the only noticeable symptom, especially if the erratic signal is brief and the engine management system compensates quickly.
- Intermittent engine stumble, hesitation, or surging during acceleration as the air flow reading jumps around.
- Rough idle or unstable idle speed that comes and goes, sometimes worse after a cold start or in damp weather.
- A momentary loss of power or a flat spot when the erratic signal causes the computer to miscalculate fuel delivery.
- Occasional hard starting or stalling immediately after start-up when the sensor signal is unstable at low air flow.
- Poor fuel economy or slightly elevated emissions over time because the computer defaults to a richer or less efficient fuel strategy.



Common causes, most likely first

- 1 A dirty or contaminated mass air flow sensor sensing element, which is the most common cause of erratic readings on high-mileage vehicles.
- 2 A loose, corroded, or partially broken electrical connector at the sensor B circuit, causing intermittent contact as the engine moves.
- 3 Chafed or damaged wiring in the sensor B circuit harness, often near a bend, heat source, or vibration point.
- 4 A failing mass or volume air flow sensor B itself, where the internal electronics become temperature-sensitive or mechanically worn.
- 5 An intake air leak downstream of the sensor, such as a cracked intake tube or loose clamp, which creates unstable air flow readings.
- 6 A restricted or improperly installed air filter or intake duct that disturbs air flow and confuses the sensor B reading.
- 7 Rarely, a faulty powertrain control module or a poor ground connection that affects the sensor reference voltage.

How to diagnose and fix it

- 1 Inspect the air intake system for loose clamps, cracked tubes, or a mis-seated air filter that could cause unstable air flow before touching any electrical parts.
- 2 Check the sensor B electrical connector for corrosion, loose pins, or a broken lock tab, and clean or repair the connector as needed.
- 3 Use a scan tool to watch live mass air flow sensor B data while wiggling the harness and connector to reproduce the intermittent signal.
- 4 Remove the sensor and carefully clean the sensing element with a dedicated mass air flow sensor cleaner, following the product instructions, then retest.
- 5 Perform a voltage drop or continuity test on the sensor B signal and ground wires to rule out chafed or high-resistance wiring.
- 6 If cleaning and wiring checks do not resolve the erratic signal, replace the mass or volume air flow sensor B with a quality part and clear the code.
- 7 After any repair, road test the vehicle under varying loads and temperatures to confirm the signal remains stable and the code does not return.



Erratic signal traps before replacing the sensor

- A dirty sensor element is far more often the cause of an intermittent air flow signal than a failed sensor, so cleaning before replacement saves money and often fixes the code.
- The code can be set by a poor connection at the sensor B connector that only acts up when the engine moves under torque, so a static wiggle test with the engine off may miss it.
- An intake leak between the sensor and the throttle body can create erratic air flow readings that mimic a failing sensor B, so always inspect the ducting first.
- Some vehicles use sensor B as a redundant or secondary air flow sensor, and the engine may run acceptably on the primary sensor, which is why drivers often notice no symptoms besides the light.
- Aftermarket air filters that are over-oiled can contaminate the sensing element and cause this code repeatedly, so check the filter type and condition during diagnosis.

Can I keep driving with P010E?

You can usually continue driving to a repair shop because the fault is intermittent and the engine management system can compensate, but avoid heavy acceleration or towing until it is fixed. If the engine begins to stumble severely, stall, or lose power consistently, stop driving and have the vehicle inspected promptly.

Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter with back-probing pins
- Mass air flow sensor cleaner spray
- Basic hand tools for intake duct and connector removal
- Flashlight or inspection mirror for harness inspection

Reading P010E

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
1	Fuel and air metering.
0E	The exact fault within that area.

Often seen with

P0100 Mass/Volume Air Flow Circuit Malfunction · **P0101** Mass/Volume Air Flow Circuit Range/Performance · **P0102** Mass/Volume Air Flow Circuit Low Input · **P0103** Mass/Volume Air Flow Circuit High Input · **P0104** Mass/Volume Air Flow Circuit Intermittent



See it working

Watch the animated explainer [Fuel Trims Explained: Short-Term and Long-Term](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p010e/>

