

GENERIC · POWERTRAIN

P010C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P010C

Mass or Volume Air Flow Sensor B Circuit Low

P010C indicates that the powertrain control module (PCM) has detected a low signal voltage on the 'B' circuit of the mass or volume air flow sensor, which is typically the sensor's second signal output on vehicles with twin intake tracts or a redundant output. The PCM expects this circuit to operate within a specific voltage range, and a sustained low reading tells the computer that the sensor's output is below the plausible minimum for current engine conditions.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or stumbling when the engine is cold
- Hesitation or flat spots during acceleration
- Reduced engine power or limp-home mode in some vehicles
- Poor fuel economy or rich-running smell from the exhaust
- Occasional stalling when coming to a stop

Common causes, most likely first

- 1 A failed mass air flow sensor 'B' circuit internal to the sensor housing
- 2 Damaged or chafed wiring between the sensor and the PCM, especially at flex points
- 3 Corroded or loose electrical connector pins at the sensor or PCM
- 4 A short to ground on the signal wire for circuit B
- 5 Contamination of the sensor element from oiled air filters or ingested debris
- 6 An intake air leak downstream of the sensor that skews the expected signal
- 7 A faulty PCM driver, though this is rare compared to sensor and wiring faults



How to diagnose and fix it

- 1 Inspect the mass air flow sensor connector and wiring for corrosion, looseness, or chafing, and repair as needed
- 2 Check the sensor's signal voltage on circuit B with a scan tool or multimeter and compare to the manufacturer's specification
- 3 Perform a wiggle test on the harness while watching live data to reveal intermittent wiring faults
- 4 Clean the sensor element with a dedicated mass air flow cleaner and recheck the signal
- 5 Check for intake air leaks between the sensor and throttle body using a smoke machine or carburetor cleaner
- 6 Replace the mass air flow sensor if wiring and leaks are ruled out and the low signal persists
- 7 Clear the code and verify the repair with a road test and live data review

What the 'B' circuit really means

- The 'B' circuit is often a second, independent signal output on the same sensor housing, so a failure can leave the primary signal working normally and mask the fault from seat-of-the-pants diagnosis.
A low signal code frequently results from a poor ground connection shared with other engine sensors, so technicians who only replace the sensor miss a corroded ground strap or engine block ground.
- Oiled aftermarket air filters are a common culprit because oil deposits on the hot film or hot wire element skew the voltage low without setting a hard failure until the contamination worsens.
- Some vehicles set P010C when the sensor's 5-volt reference is pulled down by a shorted component elsewhere on the same reference circuit, so the air flow sensor is not always the failed part.
The code can be stored by a momentary glitch during cranking or a low battery event, so a single occurrence with no driveability complaint may not justify parts replacement.

Can I keep driving with P010C?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration, towing, or long highway trips because the engine may run rich and the PCM may limit power. If the check engine light begins flashing or the engine stalls repeatedly, stop driving and have the vehicle towed.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Mass air flow sensor cleaner
- Smoke machine or carburetor cleaner for intake leak testing
- Wire terminal pick and electrical contact cleaner
- Factory service information for voltage specifications



Reading P010C

- 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.
- 0C** 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 · **P010B** Mass or Volume Air Flow Sensor B Circuit Range/Performance

See it working

Watch the animated explainer [Excavator Simulator: Hydraulics You Can Operate](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p010c/>

