

GENERIC · POWERTRAIN

P2174

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2174

Throttle Actuator Control System - Sudden Low Airflow Detected

P2174 means the engine computer commanded a throttle position but the mass airflow sensor reported an unexpected sudden drop in airflow, so the throttle actuator control system could not maintain the expected air delivery. The computer sets this code when the measured airflow falls sharply below the predicted value for the commanded throttle opening within a very short time window.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine power or limp-home mode with a noticeable lack of acceleration
- Rough idle or stalling immediately after starting or when coming to a stop
- Hesitation or stumble when pressing the accelerator pedal from a steady cruise
- A sudden surge followed by a drop in power as the throttle actuator attempts to correct airflow

Common causes, most likely first

- 1 Dirty or contaminated mass airflow sensor element causing inaccurate airflow readings
- 2 Intake air leak between the mass airflow sensor and the throttle body, such as a cracked intake tube or loose clamp
- 3 Carbon buildup on the throttle plate or bore restricting airflow at small throttle openings
- 4 Failing throttle actuator motor or sticky throttle plate pivot causing delayed or erratic movement
- 5 Damaged or corroded wiring or connector terminals at the mass airflow sensor or throttle body
- 6 Vacuum leak from a cracked intake manifold, leaking gasket, or disconnected vacuum hose
- 7 Rarely, a faulty engine control module or corrupted throttle learning values



How to diagnose and fix it

- 1 Inspect the intake air duct and all connections between the mass airflow sensor and throttle body for cracks, loose clamps, or disconnected hoses
- 2 Clean the mass airflow sensor element with a dedicated sensor cleaner and allow it to dry completely before reinstalling
- 3 Remove the throttle body and clean the throttle plate and bore with throttle body cleaner, then perform a throttle relearn procedure
- 4 Use a scan tool to compare commanded throttle position with actual throttle position and mass airflow readings during a snap-throttle test
- 5 Check the mass airflow sensor and throttle actuator wiring for continuity, shorts, and corrosion, and repair any damaged circuits
- 6 Perform a smoke test on the intake system to locate hidden vacuum leaks that open only under certain engine load conditions
- 7 If all mechanical and electrical checks pass, reflash or replace the engine control module only after confirming the fault persists with a known-good unit

What a sudden low airflow code really means

- A dirty mass airflow sensor often reports lower airflow than actual, which makes the computer command a wider throttle opening and then flag a sudden low airflow when the sensor signal drops further under load.
- An intake leak downstream of the mass airflow sensor lets unmetered air enter the engine, so the sensor reads low airflow while the throttle actuator tries to compensate, setting P2174 without any driveability complaint.
- Carbon buildup on the throttle plate is a common cause on engines with direct injection because crankcase vapors coat the plate and cause the actuator to lag behind commanded position during quick throttle changes.
- P2174 can be set by a momentary glitch in the mass airflow sensor signal that does not repeat, so always check freeze-frame data and pending codes before replacing any parts.
- A weak battery or poor ground connection can cause voltage drops that disturb throttle actuator operation and mimic a failing throttle body, so load-test the battery and inspect grounds before condemning the actuator.

Can I keep driving with P2174?

You can usually drive the vehicle to a repair shop, but avoid hard acceleration and sustained high-speed driving because the engine may enter limp-home mode without warning. If the engine stalls or loses power repeatedly, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Mass airflow sensor cleaner
- Throttle body cleaner and soft brush
- Smoke machine for intake leak testing
- Digital multimeter for circuit testing
- Basic hand tools including screwdrivers and socket set

Reading P2174

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

Often seen with

P0068 MAP/MAF - Throttle Position Correlation · **P0101** Mass/Volume Air Flow Circuit Range/Performance · **P0102** Mass/Volume Air Flow Circuit Low Input · **P0121** Throttle Position Sensor A Circuit Range/Performance · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation

See it working

Watch the animated explainer **V6 Engine Explained: 60° Bank and Firing Order** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2174/>

