



P2111

Throttle Actuator Control System - Unable to Open

P2111 means the engine computer commanded the electronic throttle actuator to open the throttle plate, but the throttle position sensors did not report the expected movement within the allowed time. The computer detects a mismatch between the commanded throttle angle and the actual throttle angle, so it sets this code and typically forces the throttle into a limited default position.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms at first
- Reduced engine power or a limp-home mode where the throttle responds sluggishly or not at all
- The accelerator pedal feels unresponsive or the engine idles at an elevated speed
- A hesitation or stumble when accelerating from a stop
- The vehicle may enter a fail-safe mode that limits engine speed to a low threshold

Common causes, most likely first

- 1 Carbon buildup or mechanical binding on the throttle plate or throttle bore, preventing free movement
- 2 A faulty throttle actuator motor (the electric motor inside the throttle body) that cannot generate enough force to open the plate
- 3 Wiring damage, corrosion, or loose connectors in the throttle actuator circuit
- 4 A failing throttle position sensor (TPS) or accelerator pedal position sensor (APP) that sends an incorrect signal
- 5 A defective electronic throttle body assembly where the internal gears or motor brushes have worn
- 6 A software or calibration issue in the engine control module (ECM) that misinterprets actuator feedback
- 7 Low battery voltage or a charging system fault that causes the actuator to operate weakly



How to diagnose and fix it

- 1 Inspect the throttle body for carbon deposits and clean the throttle bore and plate with throttle body cleaner, then perform a throttle relearn procedure
- 2 Check the throttle actuator motor and TPS wiring for continuity, corrosion, and tight connector pins, repairing any damaged wires
- 3 Measure the resistance of the throttle actuator motor and compare it to the manufacturer's specification to rule out an open or shorted motor
- 4 Use a scan tool to command the throttle plate open and closed while watching the TPS voltage to confirm whether the actuator responds and whether the sensors track smoothly
- 5 Test the accelerator pedal position sensor signals for dead spots or erratic voltage that could cause the ECM to command an incorrect throttle opening
- 6 Replace the electronic throttle body assembly if the motor or internal gears are faulty, then perform the required adaptation or relearn procedure
- 7 Verify battery and charging system health, as low voltage can cause the actuator to fail to open fully and set this code

Why cleaning the throttle body often fixes P2111

- Carbon buildup around the throttle plate is the most common cause of P2111 on high-mileage engines, and a thorough cleaning with a proper throttle body cleaner often resolves the code without replacing any parts.
- A throttle body that has been cleaned or replaced must usually undergo a relearn or adaptation procedure with a scan tool; skipping this step can cause the same code to return immediately because the ECM still expects the old throttle plate position.
- A weak or failing battery can cause the throttle actuator to move too slowly, setting P2111 even though the throttle body itself is healthy, so always check battery voltage and charging system output before condemning the throttle body.
- The code can be set by a faulty accelerator pedal position sensor even though the throttle body is fine, because the ECM compares commanded throttle angle from the pedal to actual throttle position and may blame the actuator when the pedal signal is erratic.
- Some vehicles set P2111 as a companion code to P2135 or P0121 when the throttle position sensors disagree, so diagnosing those codes first can prevent unnecessary throttle body replacement.

Can I keep driving with P2111?

Do not continue driving normally because the vehicle may enter a reduced-power limp mode without warning, which can be dangerous in traffic. If the throttle responds at all, drive slowly and directly to a repair shop, avoiding highways and heavy traffic; if the throttle is completely unresponsive, have the vehicle towed.



Tools that help

- OBD-II scan tool with live data and bidirectional control capability
- Digital multimeter for checking wiring continuity and motor resistance
- Throttle body cleaner and a soft brush or lint-free cloth
- Basic hand tools (screwdrivers, socket set) for removing the intake duct and throttle body
- Battery load tester or charging system tester

Reading P2111

- 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.
- 11** The exact fault within that area.

Often seen with

P0121 Throttle Position Sensor A Circuit Range/Performance · **P2100** Throttle Actuator Control Motor Circuit/Open · **P2101** Throttle Actuator Control Motor Circuit Range/Performance · **P2112** Throttle Actuator Control System - Unable to Close · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2111/>

