

GENERIC · POWERTRAIN

P2110

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2110

Throttle Actuator Control System - Forced Limited RPM

P2110 means the engine computer has commanded the throttle actuator control (TAC) system into a forced limited-rpm mode, usually capping engine speed to a low value such as idle or a fast idle. The computer detected a fault in the electronic throttle control system that prevents it from trusting the throttle plate position, so it limits power as a fail-safe.

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

Symptoms you may notice

- The engine will not rev past a low limit, often around 1,500 to 2,500 rpm, even with the accelerator pressed to the floor.
- The accelerator pedal feels unresponsive or dead for the first part of its travel.
- The electronic throttle control (ETC) warning light or reduced power message illuminates on the dashboard.
- The vehicle may enter limp mode and stay in a single gear or refuse to shift normally.
- Often no symptoms besides the warning light if the fault is intermittent and the forced limit is not currently active.
- Rough or erratic idle when the throttle plate is being commanded to a default position.

Common causes, most likely first

- A dirty or carbon-fouled throttle body causing the plate to stick or return slowly.
- A failing throttle position sensor (TPS) or accelerator pedal position (APP) sensor sending implausible signals.
- Wiring damage, corrosion, or loose connectors in the throttle actuator or pedal sensor circuits.
- A faulty throttle actuator motor or its internal position feedback circuit.
- A weak or failing battery or charging system causing low voltage to the throttle control module.
- A software or calibration issue in the engine control module (ECM) requiring a reflash.
- A failed electronic throttle control module or a poor ground connection shared with the throttle system.



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to see the throttle command versus actual position at the time of the fault.
- 2 Inspect the throttle body for carbon buildup and clean it with throttle-body cleaner, then perform a throttle relearn or idle relearn procedure.
- 3 Check battery voltage and charging system output, as low voltage can set false throttle actuator codes.
- 4 Back-probe the throttle position sensor and accelerator pedal sensor signals while slowly moving the pedal to look for dead spots or erratic voltage.
- 5 Inspect the throttle actuator motor and its wiring for opens, shorts, or corrosion, and verify the motor moves smoothly when commanded with a scan tool.
- 6 Perform a bidirectional scan-tool test of the throttle actuator to confirm the plate follows commanded position without binding.
- 7 If all electrical and mechanical checks pass, check for technical service bulletins or a calibration update for the ECM before replacing the throttle body assembly.

What P2110 really tells you about the throttle

- P2110 is often a consequence code rather than the root cause, so a stored P2135 or P0121 throttle position correlation code frequently points to the real problem.
- A dirty throttle body is the most commonly missed cause because the plate can stick just enough to fail a rationality check without setting a drivability symptom the driver notices.
- Low battery voltage during cranking can set P2110 intermittently, so always check the battery and grounds before condemning the throttle body.
- The forced limited-rpm mode is a deliberate fail-safe, not a separate mechanical failure, and it will clear once the underlying throttle fault is repaired and codes are cleared.
- After replacing a throttle body or ECM, a throttle relearn procedure is mandatory on many vehicles or the code will return immediately.

Can I keep driving with P2110?

Do not drive the vehicle at normal road speeds because the forced limited-rpm mode can leave you unable to accelerate out of a dangerous situation. Limp the vehicle to a safe location or a repair shop at low speed, and avoid highways until the fault is repaired.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter
- Throttle body cleaner and shop rags
- Basic hand tools for intake duct and connector removal
- Battery load tester or charging system tester



Reading P2110

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

Often seen with

P0121 Throttle Position Sensor A Circuit Range/Performance · **P0122** Throttle Position Sensor A Circuit Low Input · **P0123** Throttle Position Sensor A Circuit High Input · **P2101** Throttle Actuator Control Motor Circuit Range/Performance · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation

See it working

Watch the animated explainer [How a Knock Sensor Works: Spark Timing and Octane](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2110/>

