

JAGUAR · POWERTRAIN

P1228

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1228 · Jaguar

Mechanical Guard Circuit High Input

P1228 on a Jaguar indicates that the engine control module (ECM) has detected an abnormally high voltage on the mechanical guard circuit, which is a safety feedback loop for the electronic throttle control system. The ECM expects a specific voltage range from this circuit and sets the code when the signal exceeds the upper limit, often due to a wiring fault or a failing throttle body.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Jaguar specific	Medium	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the check engine light or electronic throttle warning lamp
- Reduced engine power or limp-home mode with limited throttle response
- Intermittent hesitation or stumble during acceleration
- Engine may stall or fail to start in severe cases
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Corroded or damaged wiring in the mechanical guard circuit, particularly at the throttle body connector
- 2 Failed electronic throttle body (throttle actuator control) internal sensor or motor
- 3 Poor electrical connection at the ECM harness or ground points
- 4 Water intrusion into the throttle body connector or wiring loom
- 5 Faulty accelerator pedal position sensor sending implausible signals
- 6 ECM software glitch or internal fault (rare)

How to diagnose and fix it

- 1 Inspect the throttle body connector and wiring for corrosion, chafing, or loose pins; clean and repair as needed
- 2 Check the mechanical guard circuit voltage with a multimeter at the throttle body and ECM to confirm the high input
- 3 Perform a wiggle test on the harness while monitoring live data to identify intermittent faults
- 4 Verify the accelerator pedal sensor operation with a scan tool and compare to throttle position
- 5 Replace the electronic throttle body if wiring and connections are good but the fault persists
- 6 Reprogram or update the ECM software if a known calibration issue exists
- 7 Clear the code and perform a throttle adaptation reset, then road test to confirm the repair



Mechanical Guard Circuit High Input Pitfalls

- A high input on the mechanical guard circuit is often caused by a poor ground connection rather than a failed throttle body, so always check grounds before replacing parts.
- The mechanical guard circuit is a safety redundancy that monitors throttle plate movement; a fault here can trigger limp mode even if the engine otherwise runs fine.
- Intermittent high voltage spikes can be caused by a failing alternator or voltage regulator, so check charging system output if the code returns after repairs.
- Some Jaguar models require a throttle body adaptation reset after any service involving the electronic throttle, and skipping this step can cause the code to reappear.
- The code can be set by a loose battery terminal or low battery voltage during cranking, so always verify battery condition and connections first.

Can I keep driving with P1228?

If the vehicle is in limp mode or the throttle response is erratic, avoid driving and have it towed to a repair shop. If the only symptom is the warning light and the car drives normally, you can drive cautiously to a workshop, but avoid heavy acceleration or high speeds.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific Jaguar model
- Torx and socket set for throttle body removal
- Contact cleaner and dielectric grease

Reading P1228

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Jaguar): its meaning depends on the make.
2	Fuel and air metering (injector circuits).
28	The exact fault within that area.

Often seen with

P1227 Cylinder 3 Injector Circuit Short To Ground · **P1229** Cylinder 5 Injector Circuit Short To Ground · **P1227** Fuel Injector 3 Circuit Low Voltage · **P1227** Mechanical Guard Circuit Low Input · **P1229** Electronic Throttle Control Circuit · **P1227** Wastegate Failed Closed Over Pressure · **P1229** Intercooler Pump Driver Fault · **P0121** Throttle Position Sensor A Circuit Range/Performance · **P0221** Throttle Position Sensor B Circuit Range/Performance · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation



See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/jaguar-p1228/>

