

GENERIC · POWERTRAIN

P2138

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2138

Throttle/Pedal Position Sensor D/E Voltage Correlation

P2138 is set when the engine computer compares the signal voltages from two throttle or accelerator pedal position sensors and finds they do not agree within the expected range. The computer detects a correlation error between sensor D and sensor E, which usually means one sensor's output is outside the plausible relationship to the other, triggering the code and often a reduced-power mode.

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 and often the electronic throttle control warning light
- Reduced engine power or limp mode, limiting vehicle speed and acceleration
- A hesitation or stumble when pressing the accelerator pedal
- An unresponsive or erratic throttle pedal feel
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Faulty accelerator pedal position sensor assembly, where one of the redundant sensors fails or becomes erratic
- 2 Worn or corroded electrical connectors at the pedal sensor or throttle body
- 3 Damaged, chafed, or open wiring in the sensor signal or reference voltage circuits
- 4 Poor ground connection for the pedal sensor or engine computer
- 5 Failed or dirty electronic throttle body causing the computer to see implausible correlation
- 6 Software calibration issue or faulty engine control module, though this is less common



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to see the conditions when P2138 set
- 2 Visually inspect the accelerator pedal sensor connector and wiring for corrosion, loose pins, or damage
- 3 Use a scan tool to view live data for both pedal sensor voltages and compare their sweep as the pedal is pressed slowly
- 4 Perform a voltage drop test on the sensor ground and reference circuits to rule out resistance in the wiring
- 5 Check for technical service bulletins or software updates for the vehicle's electronic throttle system
- 6 Replace the accelerator pedal assembly if live data shows one sensor dropping out or not tracking the other
- 7 Clear codes and perform a throttle relearn or idle relearn procedure if required by the manufacturer

What most technicians overlook with P2138

- A dirty or failing electronic throttle body can set P2138 even when the pedal sensors are perfect, because the computer cross-checks pedal and throttle positions and may blame the pedal correlation.
Intermittent P2138 codes often stem from a worn spot in the pedal sensor's resistive track that only acts up at a specific pedal angle, so a slow sweep with live data is more revealing than a static voltage check.
 - Some vehicles require a relearn or calibration after replacing the accelerator pedal assembly, and skipping this step can leave the code stored or cause a new correlation fault.
 - A weak battery or poor charging system voltage can cause erratic sensor readings that mimic a correlation fault, so always verify battery and ground integrity before condemning parts.
- P2138 does not always mean the pedal sensor is bad; a shorted or open reference voltage circuit shared with other sensors can pull down the signal and set this code along with others.

Can I keep driving with P2138?

You can usually drive the vehicle to a repair shop, but expect reduced power and avoid highways or situations requiring sudden acceleration. If the vehicle enters limp mode or the throttle becomes unresponsive, pull over safely and have it towed.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the accelerator pedal and throttle body circuits
- Basic hand tools for trim and connector removal
- Back probe pins or breakout leads



Reading P2138

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

Often seen with

P2122 Accelerator Pedal Position Sensor D Circuit Low · **P2127** Accelerator Pedal Position Sensor E Circuit Low
 · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation · **P2136** Throttle/Pedal Position Sensor/Switch
 'A' / 'C' Voltage Corr · **P2137** Throttle/Pedal Position Sensor/Switch 'B' / 'C' Voltage Corr

See it working

Watch the animated explainer [How the EVAP System Works: Fuel Vapour and Leak Test](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2138/>

