

GENERIC · POWERTRAIN

P2140

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2140

Throttle/Pedal Position Sensor/Switch 'E' / 'F' Voltage Correlation

P2140 indicates that the engine control module (ECM) has detected a voltage correlation error between throttle or pedal position sensor/switch 'E' and 'F'. The ECM compares the two signals and sets the code when their voltages do not agree within the expected range during key-on or while the throttle is being operated.

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 mode, limiting acceleration
- Hesitation or stumble when pressing the accelerator pedal
- Unresponsive or erratic throttle behavior
- Poor fuel economy or increased idle speed
- In rare cases, the engine may stall or refuse to start

Common causes, most likely first

- 1 Faulty throttle position sensor or accelerator pedal position sensor 'E' or 'F'
- 2 Wiring damage such as open circuits, chafed wires, or corrosion in the sensor harness
- 3 Poor electrical connections at the sensor or ECM connectors
- 4 Contaminated or sticking throttle body causing sensor misalignment
- 5 ECM software issue or internal fault in the throttle control circuit
- 6 Aftermarket electronic throttle controllers or improper modifications interfering with signals



How to diagnose and fix it

- 1 Perform a visual inspection of the throttle body, pedal assembly, and related wiring for obvious damage or contamination
- 2 Use a scan tool to read live data from sensors 'E' and 'F' and compare their voltages through the full throttle range
- 3 Check for technical service bulletins (TSBs) or software updates for the vehicle make and model
- 4 Measure resistance and continuity of the sensor wiring between the sensor and ECM, repairing any opens or shorts
- 5 Clean the throttle body and perform a throttle relearn or calibration procedure if applicable
- 6 Replace the faulty throttle position sensor or accelerator pedal assembly if voltage correlation remains incorrect
- 7 Clear the code and verify the repair by test-driving the vehicle and monitoring live data for correlation errors

Why sensor correlation codes mislead

- A voltage correlation code between sensors 'E' and 'F' often points to a poor connection or chafed wire rather than a failed sensor, so always inspect the harness before replacing parts.
- On many vehicles, the throttle body must be cleaned and a relearn procedure performed after any sensor or throttle body service, or the code may return immediately.
- Aftermarket throttle controllers or piggyback tuners can alter sensor signals and trigger correlation codes even when the factory sensors are healthy.
- The ECM may set this code intermittently if the battery voltage is low or unstable, so check the charging system before condemning sensors.
- This code does not always mean the throttle body is faulty; a misadjusted or sticking accelerator pedal assembly can produce the same voltage mismatch.

Can I keep driving with P2140?

If the vehicle is in limp mode or the throttle response is erratic, avoid driving until the fault is diagnosed to prevent unsafe acceleration. If the only symptom is the check engine light and the car drives normally, you may drive cautiously to a repair shop, but avoid heavy acceleration or towing.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools (screwdrivers, socket set)
- Throttle body cleaner and shop rags



Reading P2140

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

Often seen with

P0121 Throttle Position Sensor A Circuit Range/Performance · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation · **P2138** Throttle/Pedal Position Sensor D/E Voltage Correlation · **P2141** Exhaust Gas Recirculation Throttle Control Circuit Low · **P2142** Exhaust Gas Recirculation Throttle Control Circuit High

See it working

Watch the animated explainer [How a Supercharger Works: Roots Blower in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2140/>

