

GENERIC · POWERTRAIN

P2148

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2148

Fuel Injector Group 'A' Supply Voltage Circuit High

P2148 means the engine control module has detected an abnormally high voltage on the power supply circuit that feeds a group of fuel injectors, usually the bank that shares a common power feed. The module expects the supply voltage to stay within a normal range, and a high reading tells it that the circuit is seeing excessive voltage or an open return path rather than the controlled voltage it commands.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough running or misfire if the high voltage has damaged or disabled injector operation
- Engine may crank but fail to start when the injector group loses its proper supply
- Reduced power or limp-home mode triggered by the engine control module
- Intermittent stumble or hesitation that comes and goes with vibration or temperature
- Often no symptoms besides the warning light when the fault is a brief voltage spike

Common causes, most likely first

- 1 Corroded, loose or damaged battery and ground connections that raise circuit voltage
- 2 Faulty engine control module power relay or fuse box connection feeding the injector group
- 3 Chafed or shorted injector supply wiring contacting a higher-voltage source
- 4 Failed engine control module driver or internal voltage regulation for that injector group
- 5 Poor engine ground strap or chassis ground causing voltage reference errors
- 6 Aftermarket electrical accessories or a faulty alternator pushing charging voltage too high
- 7 Damaged injector connector or harness pigtail allowing voltage to backfeed



How to diagnose and fix it

- 1 Read all stored and pending codes and record freeze-frame data before clearing anything
- 2 Inspect and test the battery, charging system and main grounds for excessive voltage or resistance
- 3 Check the injector group power relay, fuses and fuse box terminals for corrosion or looseness
- 4 Disconnect the injector group harness and measure supply voltage with the key on to confirm the high reading
- 5 Inspect the injector supply wiring for chafing, shorts to voltage and damaged connectors
- 6 Test the engine control module ground and reference circuits before condemning the module
- 7 If wiring and grounds are sound, perform a module driver test or substitute a known-good module to confirm internal failure

High voltage often starts at the ground

- A high voltage reading on an injector supply circuit is frequently caused by a bad ground rather than a short to power, because a lifted ground raises the reference voltage the module sees.
- Technicians who replace the engine control module first often miss a corroded ground strap or battery terminal that is the real source of the elevated voltage.
- This code does not always mean the injectors themselves are faulty, and replacing injectors without testing the supply circuit wastes money and does not clear the fault.
- A failing alternator or voltage regulator that pushes charging voltage above normal can set this code on vehicles with sensitive injector supply monitoring.
- The same high-voltage condition can damage the engine control module driver over time, so a fault that returns after repair should prompt a repeat voltage-drop test on every ground in the injector group circuit.

Can I keep driving with P2148?

You can usually drive a short distance to a repair shop if the engine runs normally, but avoid hard acceleration and long trips because excessive voltage can damage injectors or the engine control module. If the engine misfires, stalls or enters limp mode, stop driving and have the vehicle towed.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with voltage and resistance ranges
- Test light or load probe for circuit testing
- Wiring diagram for the injector supply circuit
- Socket and terminal pick set for connector inspection



Reading P2148

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

Often seen with

P0200 Injector Circuit Malfunction · **P0563** System Voltage High · **P2147** Fuel Injector Group 'A' Supply Voltage Circuit Low · **P2149** Fuel Injector Group 'B' Supply Voltage Circuit/Open · **P2150** Fuel Injector Group 'B' Supply Voltage Circuit Low

See it working

Watch the animated explainer [How Coil-on-Plug Ignition Works: Coil and Spark Plug](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2148/>

