P0629: FUEL PUMP A CONTROL CIRCUIT HIGH

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Advanced
Repair Cost	:	**$400-$600**
Can I Still Drive?	:	No

What Does The P0629 Code Mean?

If the P0629 code appears, it means that a problem has been found in the fuel pump “A” control circuit. Specifically it means that a higher than normal voltage situation has been detected. Typically, it is brought on by damaged wires/connectors within the circuit or the Controller Area Network (CAN) bus. The Powertrain Control Module (PCM) or the Engine Control Module (ECM) normally identifies this code, however other supporting modules can also spark up this particular code such as:

- Alternative Fuel Control Module
- Fuel Injection Control Module
- Turbo Control Module

Depending on the make and model of the vehicle it may be several drive cycles before it is able to activate this code or it can also be an immediate reaction as soon as the ECM recognizes the fault.

The fuel pump is integral in the overall drivability of the vehicle. After all, without the fuel pump, there would be no fuel being delivered to the engine. The control circuit, generally speaking, is responsible for turning the pump on and off depending on the operator’s needs. An open within said circuit could also cause the P0629 code to become active so be aware of this before proceeding with any kind of diagnosing.

A typical fuel pump:

Related fuel pump A control circuit codes include:

- P0627: Fuel Pump “A” Control Circuit /Open
- P0628: Fuel Pump “A” Control Circuit Low
- P062A: Fuel Pump “A” Control Circuit Range/Performance

What Are The Symptoms Of The P0629 Code?

Symptoms of a P0629 trouble code may include:

- The check engine light is illuminated
- Engine won’t start
- Engine misfire/stall
- Engine starts but dies
- Fuel economy is reduced
- Engine cranks fine but does not start
- Engine dies when reaching operating temperature

Note: It is still possible that problem is actually unresolved, even if the check engine light does not light up immediately. Always ensure your vehicle has gone through a few drive cycles. i.e. drive the car for a week, if CEL (check engine light) is not illuminated by the end, the issue is most likely resolved.

What Are The Potential Causes Of The P0629 Code?

Causes for this code may include:

- Issues with the fuel pump itself
- Severed or damaged ground wire in the device’s control module
- Unattached ground strap in the control module
- Open, shorted, or corroded wiring in the CAN bus
- A faulty CAN bus
- Unsecured harnesses and wires causing a chafe or broken circuit
- High resistance in circuit (e.g. melted/corroded connectors, internal wire corrosion)

How Can You Fix The P0629 Code?

The first thing I recommend you do is to research the Technical Service Bulletins (TSB’s) for the specific vehicle by year, model and power plant. In some circumstances, this can save a lot of time in the long run by pointing you in the right direction.

Basic Step 1

You always should immediately scan and test each module with the use of an OBD-II scanner, to get a good idea of the overall electrical condition of your vehicle and it's modules. You should also always do a visual inspection of the connectors and wiring, in case there is anything obviously damaged, in which case it should be repaired or replaced.

A lot of times, these are located under the vehicle near the fuel tank. They are susceptible to road debris and the elements so pay close attention to the health of these.

Basic Step 2

When dealing with any component with its own module (e.g. fuel pump module, etc.), you should examine the ground circuits. You can do this with the use of a separate battery ground. At times, you can do this easily by using an auxiliary ground cable.

If your problem is rectified with the auxiliary ground attached but then, comes back when OEM ground is used, this would mean your ground cable is causing the issue and needs to be repaired or replaced. Grounds should always be thoroughly inspected for corroded connections. terminal, pins, etc. that could be causing the resistance of the circuit.

A good sign of excessive corrosion is a green ring around the connector attached to the positive battery terminal. If this is present, remove the terminal and clean all contact point, the connector face and the terminal post/stud.

Basic Step 3

Given the fact that the cause of P0629 code could be an open circuit, you should identify the circuit using an electrical wiring diagram out of your service manual. Once identified, you can trace the individual fuel pump A control wire individually to see if there are any obvious breaks in the wire. Repair as necessary either by soldering the wire (which I recommend) or using butt connectors with heat shrink to insulate it from the elements.

Using your multimeter you can measure the resistance between connectors in the circuit to pinpoint the location of the short/open. A power probe style tool here is highly recommended if there is a fault somewhere inside the entire circuit.

I hope that this article has been helpful to point you in the right direction to diagnose the problem with your fuel pump control circuit trouble code. This article is strictly informational and the specific technical data and service bulletins for your vehicle should always take priority.

Severity Description

This particular trouble code is a moderately severe problem for your vehicle. You can still utilize your vehicle despite the problem. However, it is highly advised to avoid doing so, because you may risk intermittently delivering fuel to the engine and an erratic or fluctuating fuel mixture could definitely result in severe engine damage.

Reference Sources

P0629 Fuel Pump A Control Circuit High, OBD-Codes.