



## Fuel Pump

### *Customer Education Sheet*

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A vehicle's fuel pump is responsible for getting the fuel from the tank to the vehicle's engine. The vast majority of vehicles have just one fuel pump (almost always located in the tank), but a very small number of vehicles also have a second fuel pump located outside of the tank.

### **Symptoms of a Bad Fuel Pump**

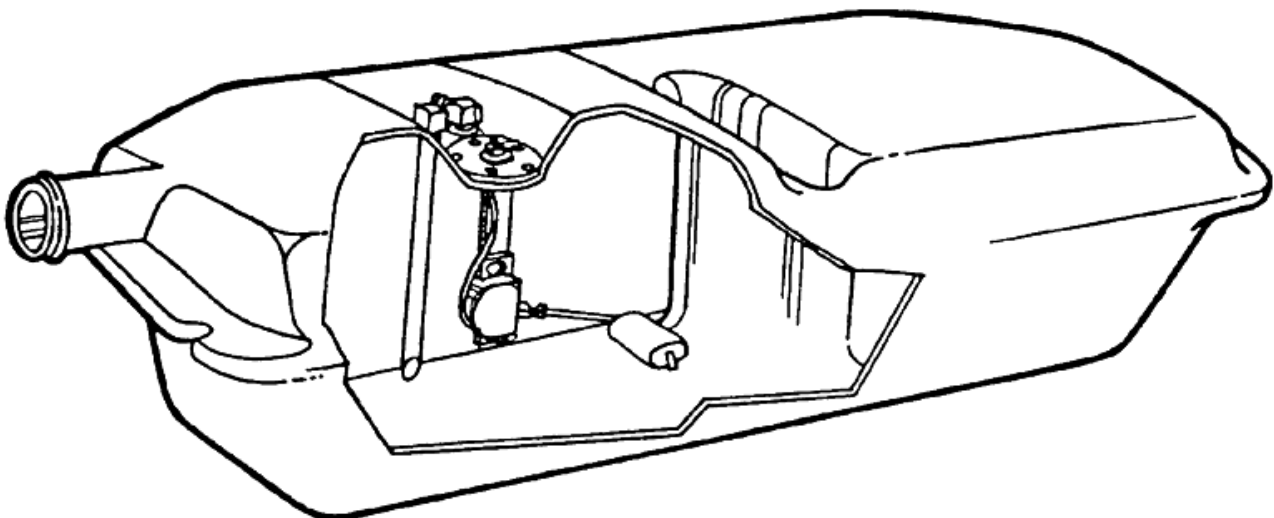
A fuel pump can fail suddenly with little to no warning, but in some cases there are warning signs. Symptoms of a bad or failing fuel pump can include: engine shuttering at high speeds, loss of power during heavy loads (such as when going uphill or pulling a trailer), poor gas mileage, or starting problems.

### **Fuel Pump Failure**

If the fuel pump quits, the engine will stall and may not restart. It may restart if the fuel pump is jarred (for example, when the vehicle is towed or the fuel tank is hit with a hammer) but it will fail again in the near future and should be replaced. They can also partially fail, leading to some of the symptoms mentioned above.

### **Diagnosing a Bad Fuel Pump**

There are plenty of other things (besides a bad fuel pump) that can cause a vehicle to not start, to run poorly, or to have poor fuel mileage. This is why it's important that the cause of any issue is properly diagnosed. To diagnose a bad fuel pump, a technician should check the fuel pressure, the fuel pump relay, the inertia switch (if equipped), and for power at the pump, among other things. If the vehicle that previously did not run will start and run when starting fluid is used, the issue is definitely fuel-related.



## Causes of Fuel Pump Failure

One of the biggest causes of fuel pump failure is driving with a low fuel level. Fuel in the tank cools and lubricates the fuel pump, so frequently driving on empty can cause the pump to wear prematurely and/or overheat, shortening its life. Another common cause of fuel pump failure is a clogged fuel filter, as the pump has to work much harder to push fuel through a clogged filter. Debris and sediment tends to settle at the bottom of the tank, and when the fuel level is extremely low, this debris can get picked up by the fuel pump and damage it or clog the fuel filter. Last but not least, fuel pumps can simply fail due to age.

## Fuel Pump Replacement

To replace the fuel pump, the fuel tank usually needs to be removed. Due to rust issues, it's not uncommon to have to replace fuel lines and/or the straps that hold the tank in place when replacing the fuel pump or removing the fuel tank. Some vehicles have an access cover in the trunk, which allows the fuel pump to be replaced without having to remove the tank itself.

## Cost to Replace a Fuel Pump

The cost to replace a fuel pump varies quite a bit by vehicle, engine style, and other factors, but it is usually less expensive if there is an access cover to get to it.

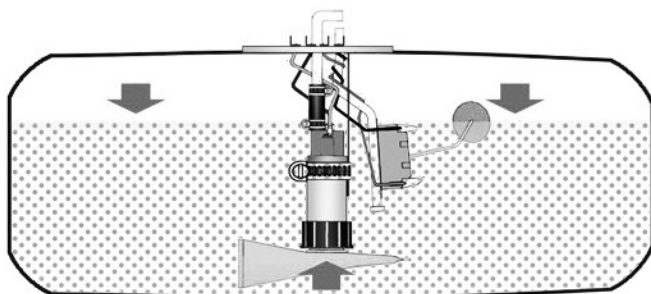
## Tips to Extend Fuel Pump Life

It's best to keep your tank at least 1/4 full. Don't fuel your vehicle at a gas station if there is a tanker truck there filling the station's tanks, as this stirs up dirt and debris that will then be pumped into your vehicle's fuel tank. Also, have your fuel filter changed as often as specified in your maintenance schedule.

## How Often to Replace the Fuel Filter

Your owner's manual will list how often you should have your fuel filter replaced (for example, every 50,000 miles). It should also be replaced if leaking or particularly rusty. Fuel filters are often outside the tank on one of the fuel lines, but some are part of the fuel pump itself.

The weight of the fuel helps maintain fuel pressure, and fuel cools the pump



With a low fuel level, the pump works harder and there is less cooling

