

# ADDING AN ELECTRIC FUEL PUMP

For various reasons, you may want to replace your mechanical fuel pump with an electric pump. This is a fairly straight forward installation, and I have shown three optional wiring configurations for this.

**Figure 1** shows the most basic installation, and is fully adequate if your pump draws less than four or five amps. There is no need to add an additional fuse if you connect to an existing green wire, as the green wires are already fused.

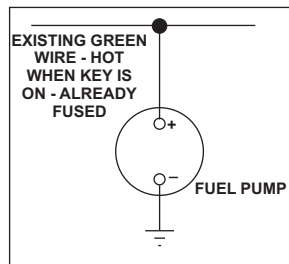


FIGURE 1

**Figure 2** below shows the addition of a relay, and should be used if the pump draws more than five amps. In this design, you **MUST** add a fuse to the line feeding the pump, as the white wires are **NOT** already fused in a Triumph. The lead to the pump will probably be routed under the car for at least a portion of its length, where it will be exposed to the elements, making a fuse necessary.

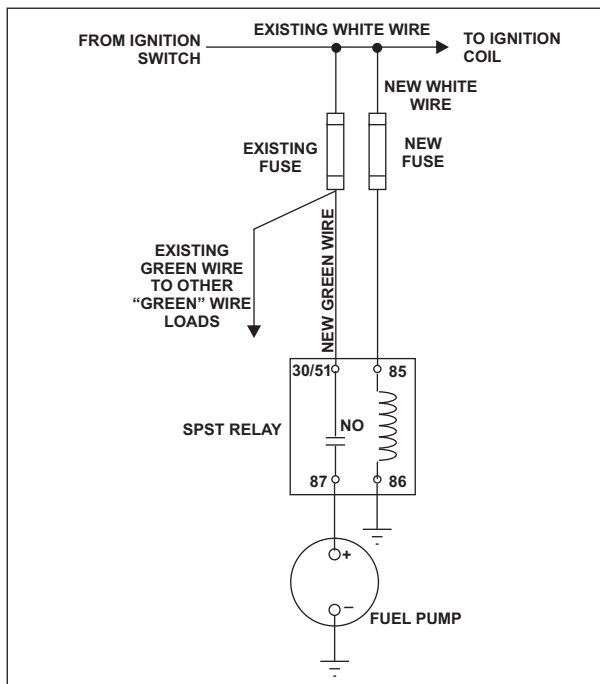


FIGURE 2

For safety purposes, it's a good idea to have an automatic shutoff feature on the fuel pump in case of an accident.

Unlike a mechanical pump, an electric pump will still function with the engine off, and can spill a lot of gas on the ground if a fuel line has been broken. Some folks like to use an oil pressure switch to shut off the pump when the engine dies, but I don't prefer that method for a couple of reasons. First of all, it's unnecessary if the engine has died but the car has not been overturned, as the needle valves in the carburetors will shut off the flow of fuel. Secondly, if you let your car sit for lengthy periods of time between driving it, such as in the off season, the fuel will evaporate from the float bowls, making it hard, if not impossible, to start the car. A mechanical pump will pump fuel while the starter motor is turning to prime the bowls, but if the electrical pump is shut off due to low oil pressure, the starter motor may not produce enough oil pressure to reset the pump. In this circumstance, you want to be able to turn the key to the on position long enough for the pump to fill the bowls before turning to the start position.

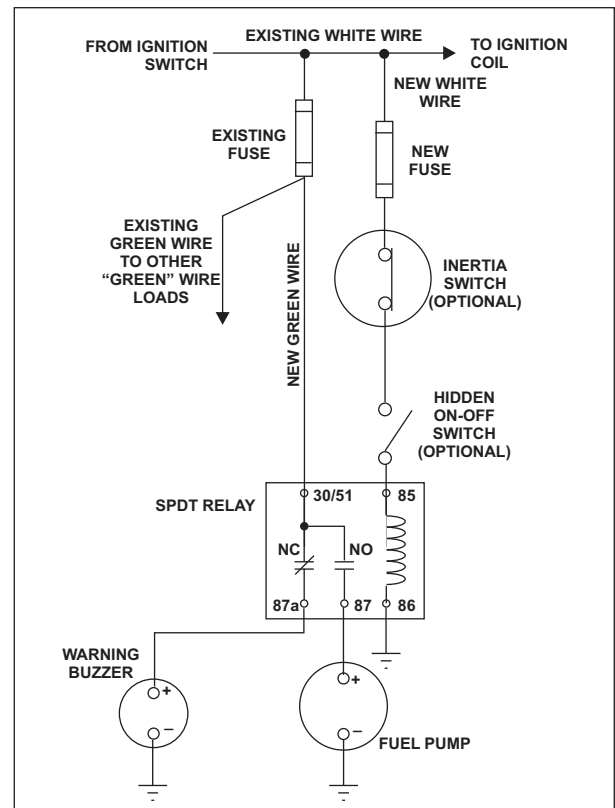


FIGURE 3

My preferred safety shutoff method, shown in **figure 3** above, is to use an inertia switch, wired to shut off the pump in the event of a crash, whether the car has

overturned or not. Any accident that jolts the car hard enough to rupture or break a fuel line will certainly operate the inertia switch. Unfortunately, a hard jolt from hitting a pothole can sometimes operate the inertia switch as well. For this reason, I prefer to mount the switch in the cockpit where it can easily be reached and reset by the driver without stopping the car, and I also wire it to sound the chime or buzzer should this happen. This way, there is no need to wonder if that last pothole you hit shut off the fuel pump -- if you don't hear the chime, you're OK. This is also shown in the wiring diagram in **figure 3**. This diagram also shows an optional cutout switch, which serves as a simple theft prevention device and a

maintenance aid. It will allow you to shut off the pump while having the ignition on to do maintenance on your car.

Inertia switches can be purchased from most speed parts vendors, such as Summit, JEGS, or even J. C. Whitney, and cost around \$50 - \$60 at the time of this writing. The Roadster Factory, Moss Motors and Victoria British often carry them as well, as do some of the other British parts suppliers. To save a few dollars, you might be able to salvage a working switch from a modern fuel injected automobile at your local salvage yard.