

AUXILIARY ELECTRIC FUEL PUMPS

By Frank Daly

With a properly rebuilt fuel pump using a diaphragm made of material which is compatible with ethanol, a mechanical fuel pump should be all that is needed to keep your Classic rolling down the road. After all, these cars were driven for tens of thousands of miles 'in the day' with just the mechanical pump.

However, there are a couple of reasons to consider an auxiliary electric fuel pump.

I use an electric fuel pump on most of my vintage vehicles, primarily to prime the carburetor after the car has been sitting for a while. If I plan to drive a particular car every day (such as when on a tour) or even every two or three days, I don't use the electric pump at all. However, after my cars have been sitting for four or five days or more, the fuel in the carburetor bowl and perhaps even part of the line has evaporated. It takes a great deal of cranking before there is sufficient fuel to start the car.

I use a small momentary switch (installed out-of-sight) under the dash. I hold it in for about 30 seconds before starting my cars, and it always works like a charm.

Another, perhaps more important, reason to consider an auxiliary pump is the dreaded vapor lock. Modern fuels are formulated to run under a great deal of pressure – I've been told 30 psi. At atmospheric pressure, today's gas boils relatively easily. At higher altitudes and, of course, higher ambient temperatures, fuel boils/vaporizes even more readily. More importantly, fuel can boil in the mechanical fuel pump or in the lines, and until things cool down, no fuel will flow.

Mechanical pumps suck gas from the tank and cannot suck vapor. Electric fuel pumps create pressure in the line. I am sure that there are conditions under which no fuel pump can overcome severe vapor lock, but in multiple cars over many years, in the rare circumstances (usually hot, high speed, going up a long grade) under which I've experienced vapor lock, switching on the electric pump has instantly cured the problem.

Be sure that any electric pump is wired through the ignition switch; i.e. power is available only when the ignition switch is "on". I once witnessed a vintage vehicle burn beyond repair as a result of wiring a switched fuel pump to an 'always on' power source. An engine fire caused by a melted plastic fuel filter (also a no-no) might have been extinguishable, but when the owner exited the vehicle, while he switched off the ignition, in his haste/panic he failed to switch off the fuel pump. Fuel continued to feed the fire until the battery was destroyed by the fire.

It is a good idea to bypass the mechanical pump if you are going to run the electric fuel pump all the time. If the diaphragm in the mechanical pump fails, pressurized fuel delivered by the electric pump could flow past the diaphragm and into the crankcase, with potentially exciting results.

If you are going to use your electric fuel pump only to prime the carburetor and possibly overcome occasional vapor lock, you need to use the right kind of fuel pump.

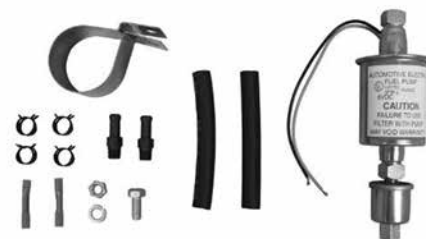
There are two common types of electric fuel pumps. The first is the so-called gear pump. Carter calls them "Carotor Style". According to the Carter literature this pump utilizes "...a unique gear and rotor eccentric mechanism that squeezes the fuel within the pump...".

This pump is fine, and recommended, if you are going to run the electric fuel pump continuously. The advantages of this pump are small size, light weight, and quiet operation. It runs on six or twelve volts; at six volts it puts out 20 GPH at 4-6 PSI. The Carter



number is P60430. This pump is not recommended for priming the carburetor or other intermittent use. The reason is that the gear/rotor mechanism restricts fuel flow when the pump is not running, and if the gear and rotor end up in just the right (actually, wrong) position when the pump is switched off, the pump can block fuel flow completely.

If you want to use your mechanical fuel pump as your primary pump, but wish to have an auxiliary electric fuel pump for priming the carburetor or for 'emergency' operation, a piston type electric fuel pump is appropriate. When this pump is switched off, it does not restrict flow through the pump, and the mechanical pump can 'pull' fuel through this pump without additional effort. One appropriate fuel pump for this use is the Airtex E8902. (see below)



This pump runs on 6 volts. It puts out 25 – 30 GPH at 2.5 – 4.5 PSI, more than enough flow at an appropriate

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pressure for vintage vehicles. They are about \$70.00 through NAPA and half that from Amazon. This style of pump works just fine in continuous operation as well as intermittent operation. Whichever pump you choose, mount it as close to your fuel tank as possible. These pumps are much better at pushing fuel than they are at pulling it, and it is cooler back there (not near the muffler). Neither pump uses the body as an electrical connection, so there is no issue with positive ground cars. Simply connect the (+) terminal to a good, clean ground and wire the (-) terminal from your ignition switch and through your off/on switch – intermittent or continuous, depending on your chosen mode of operation.



A Tribute to Gordon Apker

Written by Al McEwan

Gordon Apker, a lifetime member of the Classic Car Club of America, passed away February 3, 2016 at the age of 71. Gordon became active in the Classic Car Club in the middle seventies and, while he already was involved with cars, his and Claudia's first CCCA event was the 1978 Pacific Northwest CARavan®. That year they drove a 1936 Auburn sedan and were back again for the 1982, 1986, and 1990 Pacific Northwest CARavans each time driving a different, desirable Full Classic® including a 1929 Duesenberg Murphy roadster, a 1934 Auburn 12 Salon Speedster and a 1933 Cadillac Sport Phaeton. The Apker estate on Puget Sound, south of Seattle, included a 'barn' that had to grow in size to accommodate the cars. Many cars and much automobilia were on display in the 'barn,' part of which was a restoration area often referred to as the 'Chicken Coop.' The restorations that came out of Gordon's 'Chicken Coop' helped set a standard of excellence that was admired everywhere.

Throughout these years, Gordon hosted the annual 'Apker Affair d'Elegance' at the lovely estate. This was an event for all car hobbyists and every kind of collector car. The event grew in size until there were 200 to 300 cars and 500 to 700 people in attendance. As Gordon owned several Shakey's pizza parlors during these years, all of the food was donated so that the registration fees could benefit Children's Hospital.

Gordon served as a National CCCA Board Member from 1984 to 1988 and was the CCCA National Head Judge. He also judged at other events throughout the country, particularly at Pebble Beach, where he was the Chief Class Judge for Duesenbergs for more than three decades.

Gordon and Janet were married in 2000 and built a home in Scottsdale, AZ. He and Janet split their time between the Seattle area home and Scottsdale, eventually spending more and more of their time in Arizona. Gordon continued to accumulate cars, many of them from the fifties and early sixties. His last CARavan in 2002 was with Janet in a very rare 1936 Packard 12 Sport Phaeton. While Gordon enjoyed showing his cars, his greatest joy was in touring and driving them. In more recent years, he participated in many other automotive events such as the Colorado Grand and Copper State 1000.

Gordon was well known throughout the car hobby world, had a great deal of experience with many different collector cars and was a 'go-to' guy for information. We all miss Gordon and wish Janet our very best. We also hope that she will continue to be involved in the car hobby.