Safe Fuel Filter Installation

Please read:

1) Glass bodied fuel filters have been used, successfully, on millions of cars.
2) I would not use, and do not suggest you use, this installation on a competition car.
3) There is no SCCA rule against using it. But don't put it on any race car.
4) This install is ahead of the fuel pump on a stock Corvair. It is under NO pressure, ever!
5) As shown, if a leak develops on this unit, air leaks in, not gas out. Read the note.
6) I would only install an electric pump up at the tank, so do not use this with an electric pump.
7) This install gives you a visual indicator of fuel flow and cleanliness. Use with stock filters.

The Standard Corvair fuel system has three separate filters (5 on a 140 motor!) One on the pick-up tube in the fuel tank – called the fuel sock. The others are compressed bronze filters that are contained beneath the fuel inlet fittings in the Rochester "H" series carb on the Corvair. Sometimes, when an electric pump is installed, filters before and/or after the electric pump are added. This article will cover a method of adding a fuel filter onto the car in a safe manner. Chevy took great pains to make sure no rubber hose was used in the engine compartment. Most aftermarket fuel filters use short lengths of hose with clamps. Some of the filters are metal, some are plastic. I wanted to add a filter that was transparent, so you could see fuel flow. I also wanted to avoid rubber hose and the small screw-type clamps. The inlet tube ahead of the stock fuel pump is not pressurized (unless an electric pump has been added) so adding a filter ahead of the pump is safer. A leak in this plumbing might result in an air leak into the system – which could cause running issues. But it is unlikely to cause a gasoline leak – a much more dangerous situation. I removed a section of the 5/16" OD steel tubing in the feed to the fuel pump and replace it with this filter.

I looked on-line to find a filter that I could put in-line – in this case on the input feed tube to the pump. The feed is a 5/16" steel tubing. Filter requirements? Glass, so I can verify fuel flow, (metal fails this test) and remain non-flamable (plastic fails this test). No rubber hoses or clamps – this requirement removes 90% of the add-on filters. I finally found the "Clearview" filter from Mr. Gasket. (Their Part Number 9706.) Mr. Gasket – now a part of Holley Industries - sells several fuel filters. This one has 1/8" NPT female (metal) threads and a replaceable element. Along with the filter, you need some additional fittings. If you start with the original Corvair inlet pipe, which is what I did, I suggest that when you remove it from the car to install the filter, take the opportunity to replace the rubber hose on the other side of the firewall, above the left side rear wheel. Buy the newest Ethanol compatible fuel hose stuff! Buy twice as much as you need for here, so you will have enough for the front hose replacement, too. And get 4 hose clamps.

The Mr. Gasket 9706 filter has a glass outer shell with a replaceable filter element. It comes with a half-dozen plastic cast "fittings". Toss those in the trash. The metal filter ends are 1/8"NPT females. Use only metal fittings for this install!

If you have the capability of creating an appropriate flared tubing end, you can use that technique for the install. There are many sources for the correct SAE Inverted flare adapter fitting, 5/16" tubing to 1/8" pipe thread. Instead I chose to use ferrule-style fittings for this install. These do require the 5/16"

tubing to be in good condition for the ferrule to seal. These adapter fittings should also be available locally in Brass.

I removed the fuel line from the car to make the job easier. If you have a tiny tubing cutter, you could do the job with the line installed (but disconnected from the pump end. With the ferrule-type fittings, I removed a 4.125” section from the tube. (If you go with inverted flare fittings, that length may be different.) Choosing the position for the cut depends a little on clearance around the alternator/generator and the carbs on the left side of your car.

Installing the filter – The location of the feed tube in the engine compartment is important, because it runs arounds and between other items. There are two locations where a portion of the tube can be removed and the filter inserted. I chose the horizontal run ahead of the alternator. To maintain the geometry, I marked two points well beyond where the filter will end up. If the distance between those two points is the same after the filter is installed, everything should fit as before. (Plus or minus ½”, you are probably okay.)

1)Cut the tube at the correct location - XX inches from the bend. Clean the tube ends.

2)Slide the tube nut and the ferrule on - Don’t forget this part!

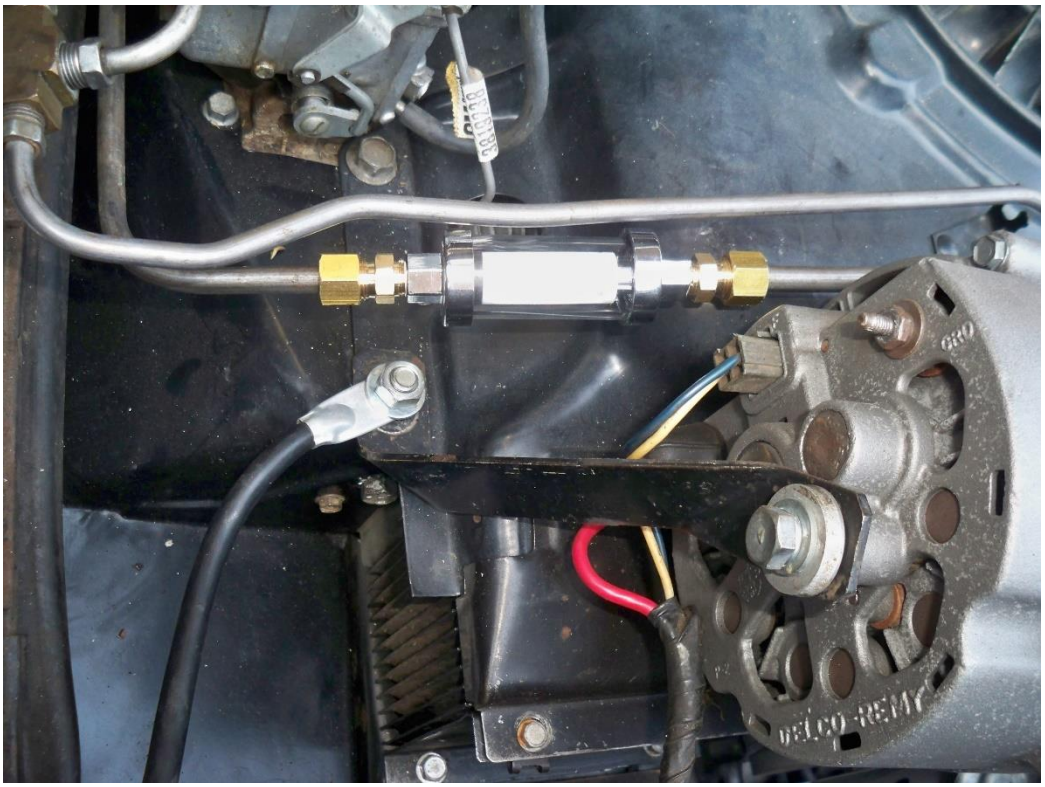
3)Install the adapter fittings onto the filter ends – Pipe threads, use sealer if you wish.

4)Install the filter onto the installed fitting/tube. Lay the other portion in place, adjust it to the marked points. And mark the tube.

5)Cut off the un-needed section, clean off the tube ends.

6)Slide the other tube nut and ferrule on – Again don't forget this part!

7)Do final assembly and install on the car. I did the final tightening after the tube was in place. Use pairs of wrenches to support each fitting as you tighten. Avoid twisting the whole line



8)Start the motor and look for any leaks - either fuel out or air in. And watch the fuel flow.

Look for any crud to be captured by the element.