

Hoses, Instrument Panels, Custom Products and Accessories

FOR EXPERIMENTAL AIRCRAFT



Thank you for purchasing your Rotax 912 Fuel Hose Kit. Please note that these directions are updated periodically as required and the current version will always be located on our website.

These instructions are meant to serve as a guide for the installation of the aftermarket fuel hose kit with pictures from an RV-12 installation. However, if you have any questions, please contact us so that we can assist you with your installation. If you call, it is very important that you note which part you are talking about, and use the correct terminology. This is especially important for the "Fuel Block Gizmo Thingamagig."

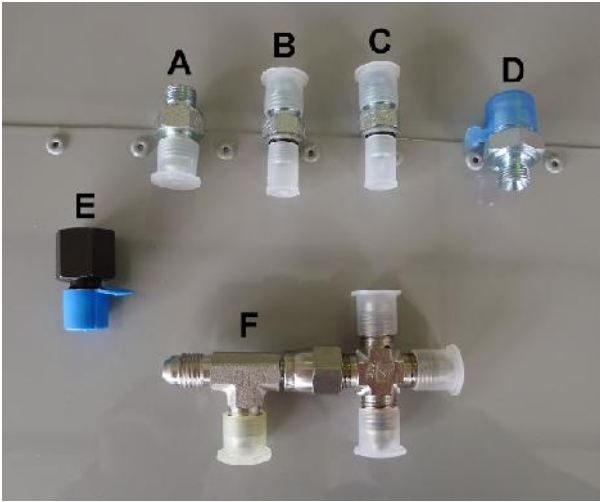
Please make sure to blow out hoses prior to final installation with compressed air to ensure that you didn't inadvertently get any debris in your lines.

As of 1-4-2018, fuel hose 6 is being changed to a 45 degree/str configuration. This instruction manual will show some pictures of both the original hose configuration as well as the new hose configuration so that either system can easily be installed. The only difference is in different possible hose securing methods.

Let's take a look at the components that make up this retrofit hose kit.

THE FITTINGS:

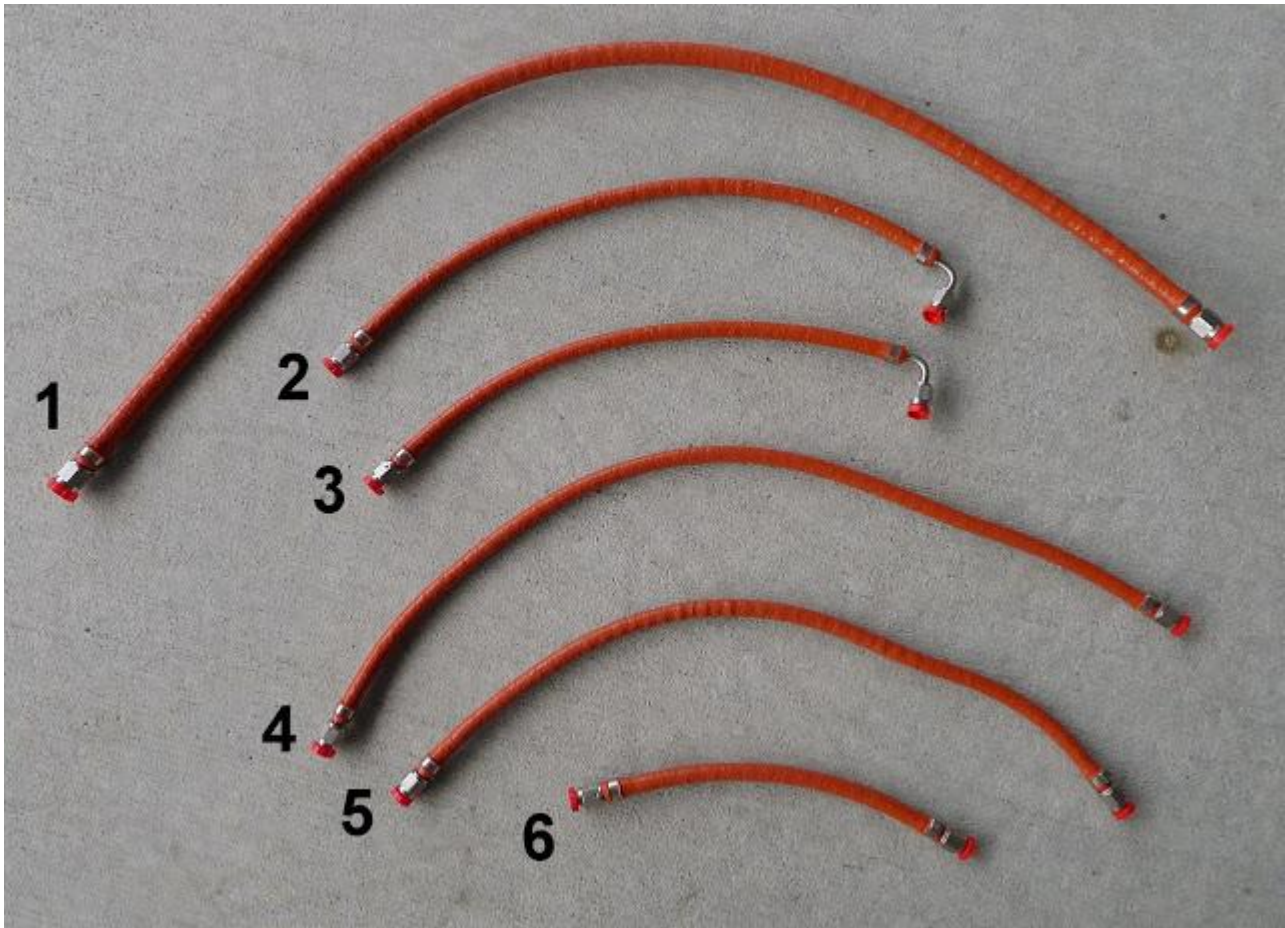
- A: fuel 'out' from the fuel pump
- B: fuel in to carburetor (B & C are identical)
- C: fuel in to carburetor
- D fuel 'in' to fuel pump
- E: fuel return line at firewall fitting
- F: Fuel Block Gizmo Thingamagig



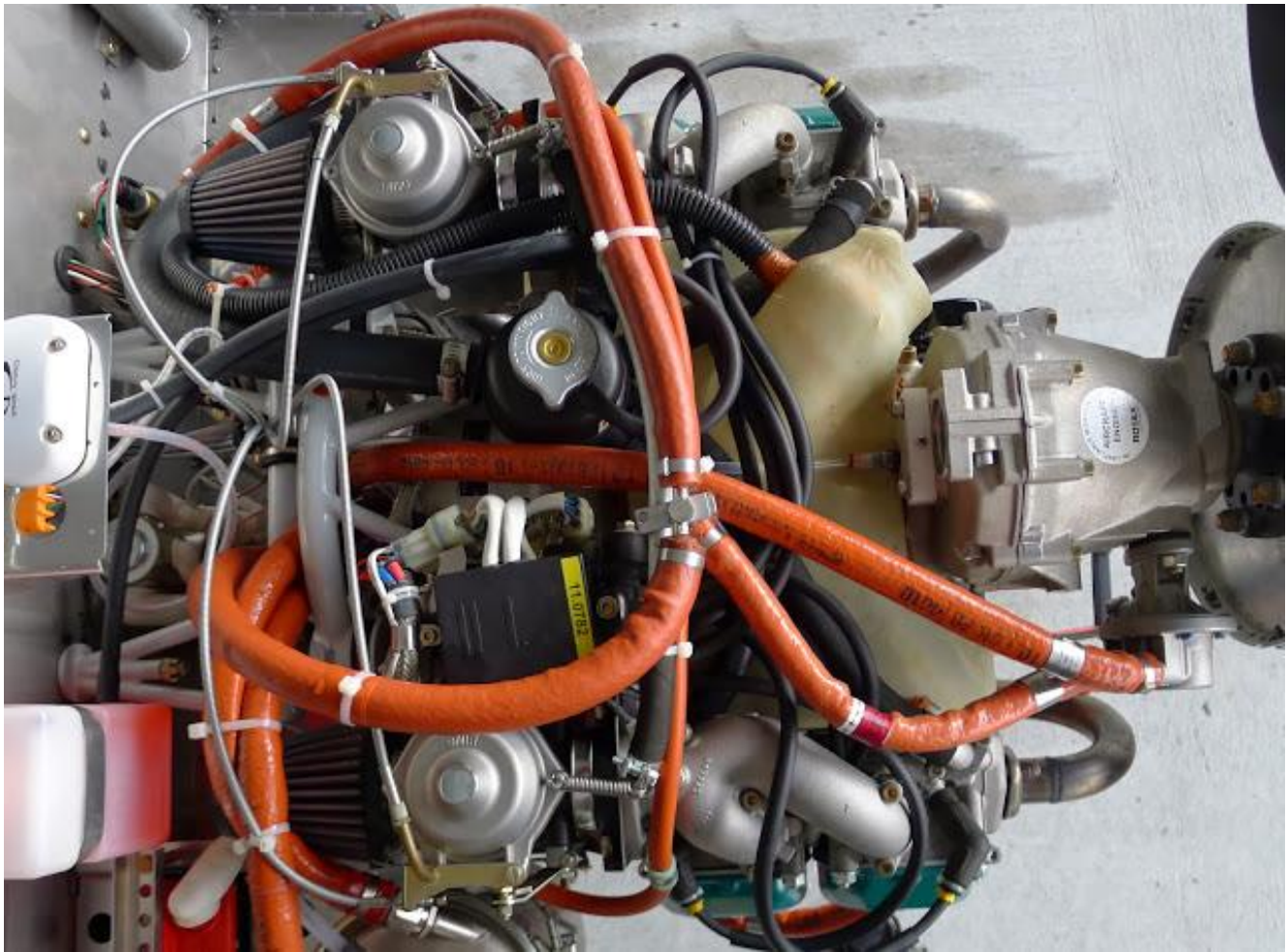
THE FUEL LINES

- 1: Gascolator to fuel 'in' on fuel pump. (This hose is a -6 diameter)
- 2: Input to left carburetor (this is the lengthier of 2 and 3)
- 3: Input to right carburetor
- 4: Input to fuel pressure sensor
- 5: Fuel return line (uses fitting E)
- 6: Fuel 'out' from fuel pump (As of 1-4-2018, This hose is a different configuration. It is a hose with a 45 degree fitting on one end and a str on the other. There is no performance difference between the hoses, but the one with a 45 fitting allows a slightly easier method of securing the fuel block)

RV-12 Conductive Teflon Fuel Hose Installation Rev 9 12-11-20



THIS IS THE BEFORE PICTURE OF THE INSTALL



Here are two pictures of the fuel lines in the proper orientation in relation to the stainless fittings. (AS OF 1-4-18, Hose #6 in this picture will have a 45 degree hose end attached to the TEE)



RV-12 Conductive Teflon Fuel Hose Installation Rev 9 12-11-20

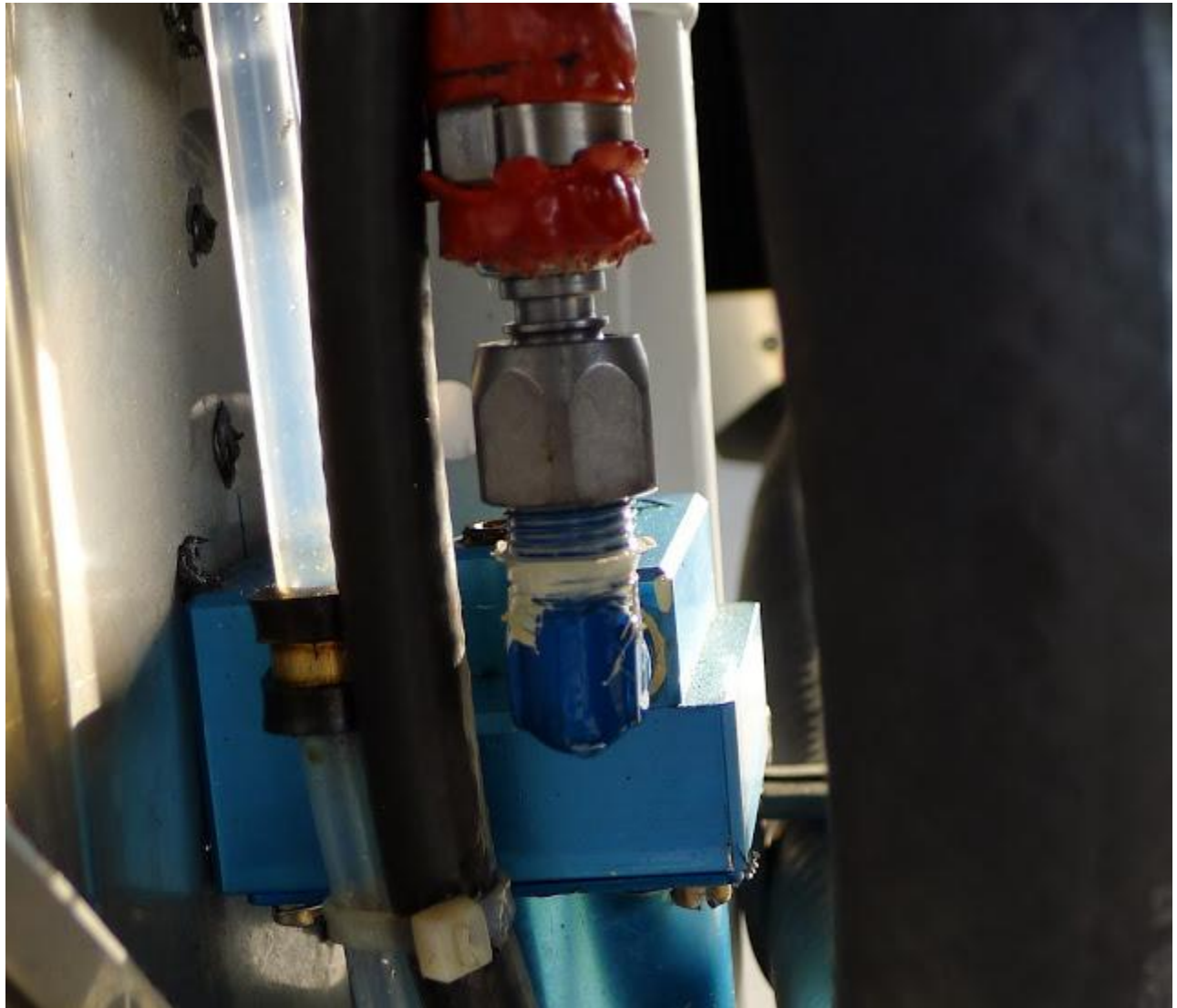


Step 1: Before we start, we need to drain any fuel out of the existing hoses to minimize spillage. Please close the fuel line in the cockpit using the red fuel shutoff knob.

Step 2: Remove the drain plug from the gascolator and let it drain into a bucket. Please do not smoke around the drained fuel. We feel that this could cause a sparking hazard and your fuel gizmo thingamagig may blow up.



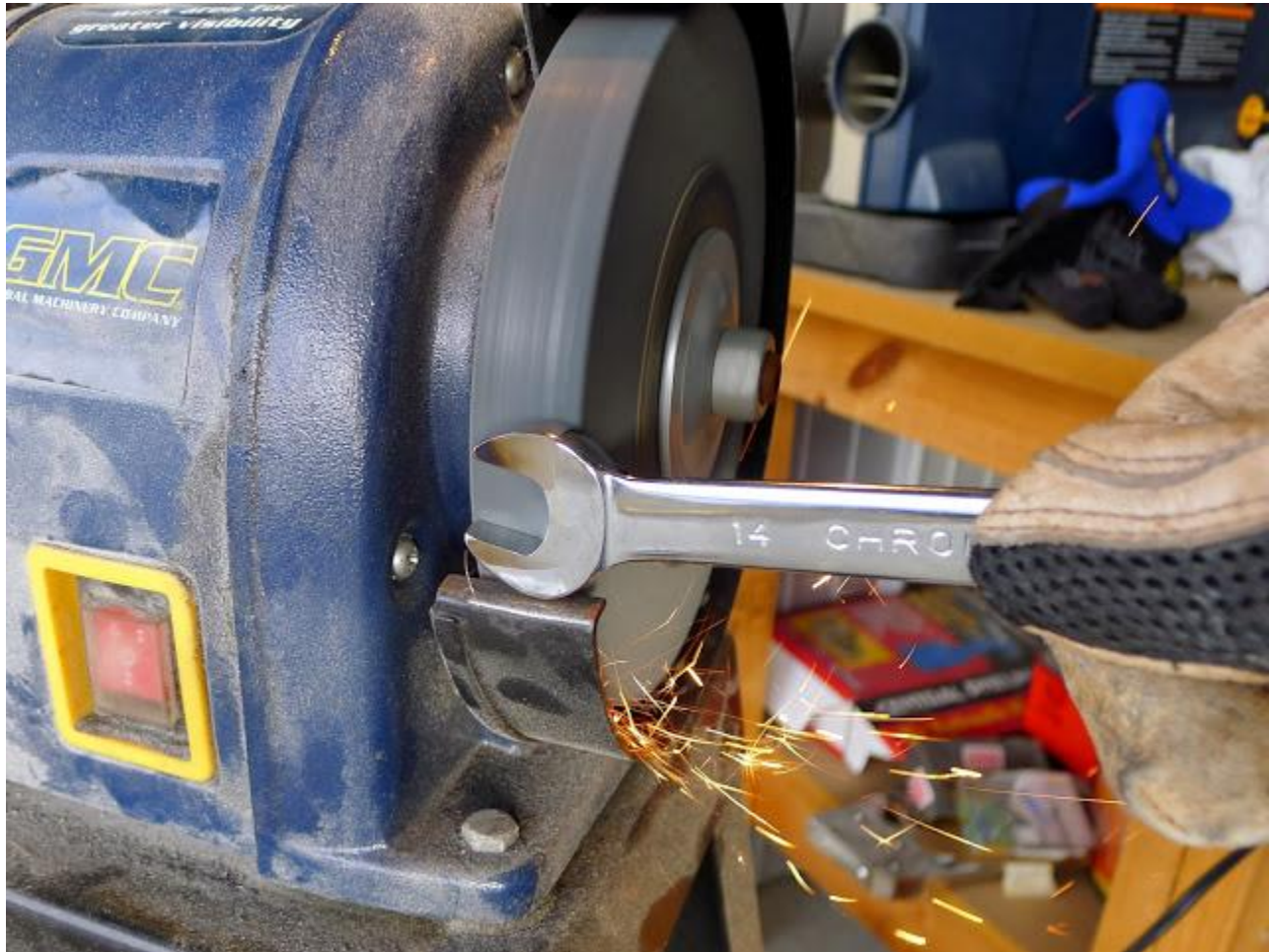
Step 3: Remove the main fuel line from the gascolator.



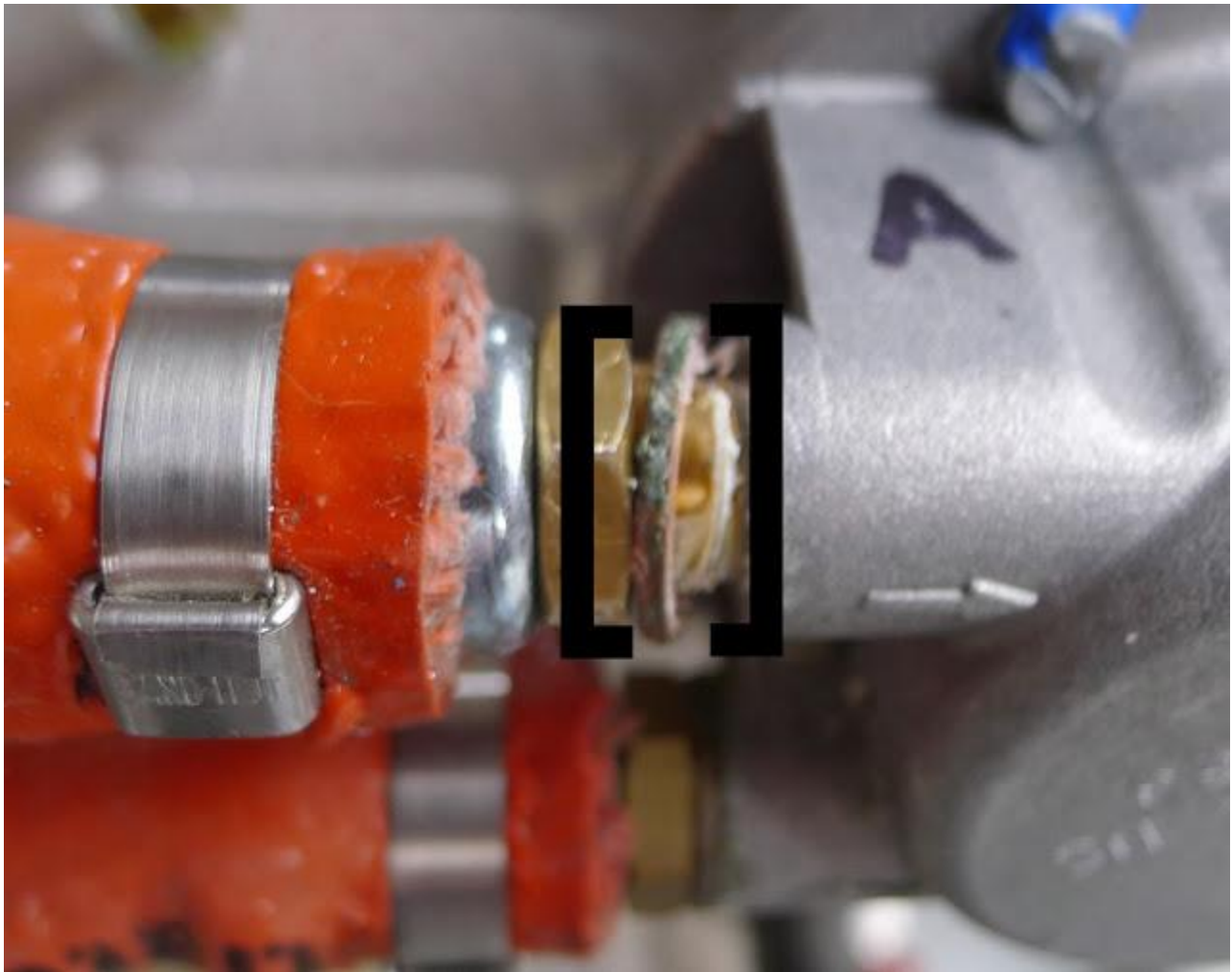
Step 4: Remove the main fuel line from the 'in' port of the fuel pump with a 14mm wrench.



IT MAY BE NECESSARY TO GRIND A WRENCH DOWN IF IT DOESN'T FIT OVER THE FITTINGS. THEN AGAIN, YOU INSTALLED IT WITH A WRENCH AND SHOULD BE ABLE TO REMOVE IT THE SAME WAY. FOR SOME REASON IT SEEMS THAT THAT DOESN'T ALWAYS WORK ON AIRPLANES.



Step 4A: retain the copper washer from the old fitting. You will need it for the new fitting. If you are performing a replacement from the original style fuel pump that did NOT have a washer on it due to a press on fitting, **please let us know and we will be able to have new ones sent to you. (AS OF 1-4-18...all new style kits will include two of these washers in case you need to replace the old ones)**



At this point, the main fuel line can be removed.

Step 5: Feed one end of Hose 1 down to the gascolator and attach it to the fitting: (Note that in this picture there is some thread sealant from a previous installation. WE DO NOT RECOMMEND the use of thread sealant on flare fittings.)



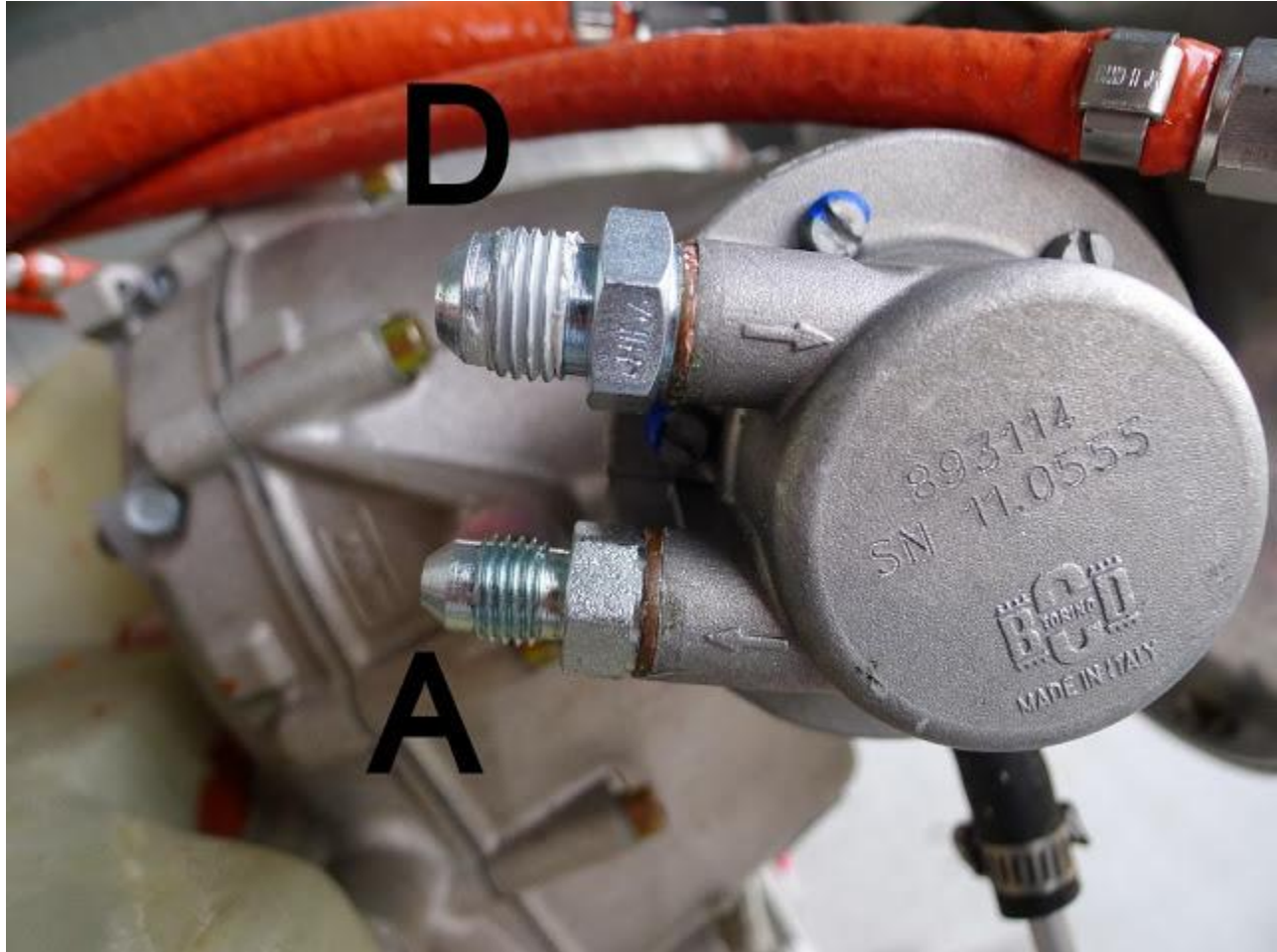
Step 6: Remove the fuel transfer block at the top of the engine by removing the two bolts.



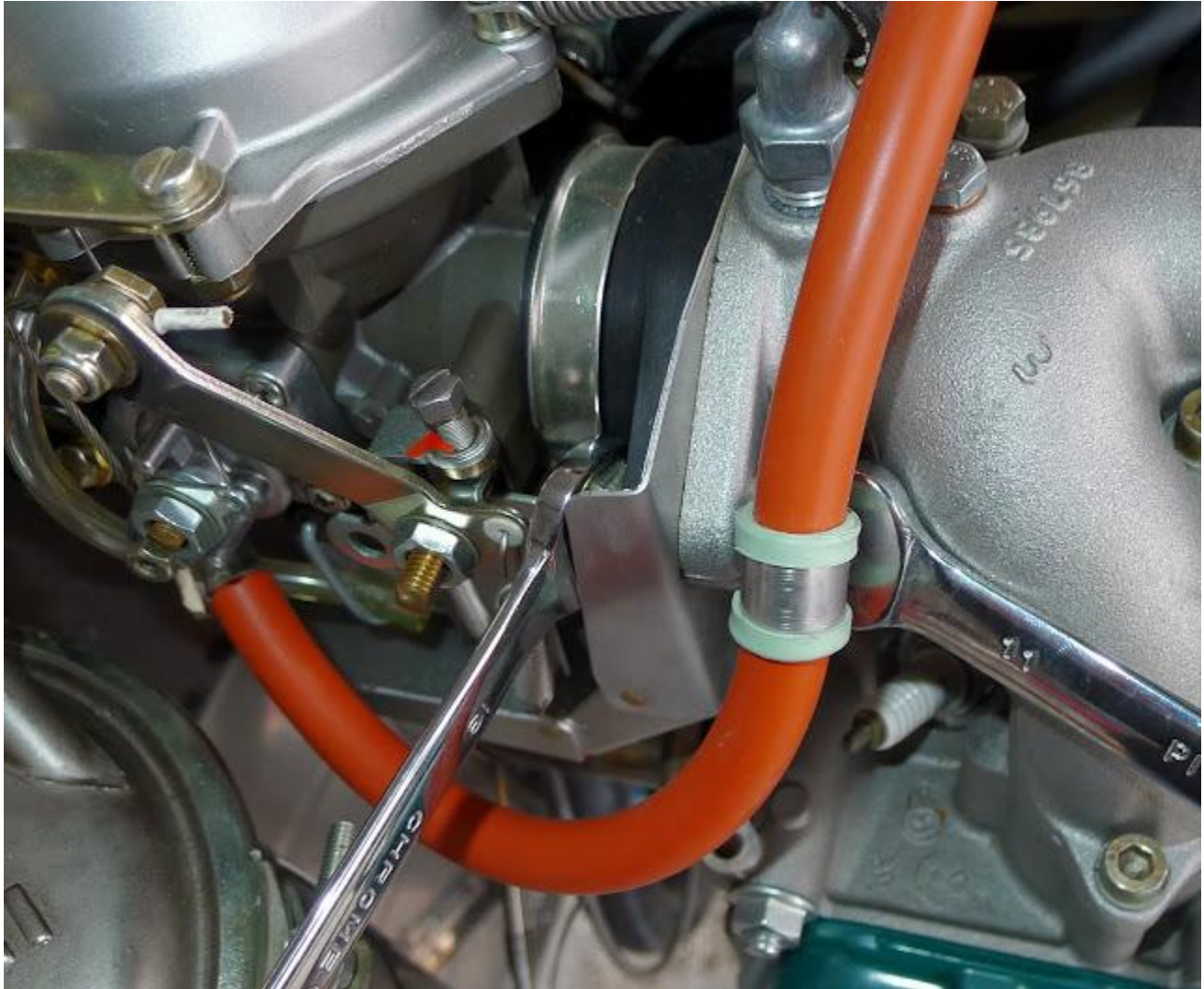
The old parts (except the fuel transfer block) have no use in the new installation. They can be thrown away, chopped up, or put down the garbage disposal. We do not recommend the garbage disposal option as it would likely necessitate needing to put in a new disposal. We don't provide directions on how to replace the garbage disposal, or how to appease your wife after you ruined her garbage disposal.

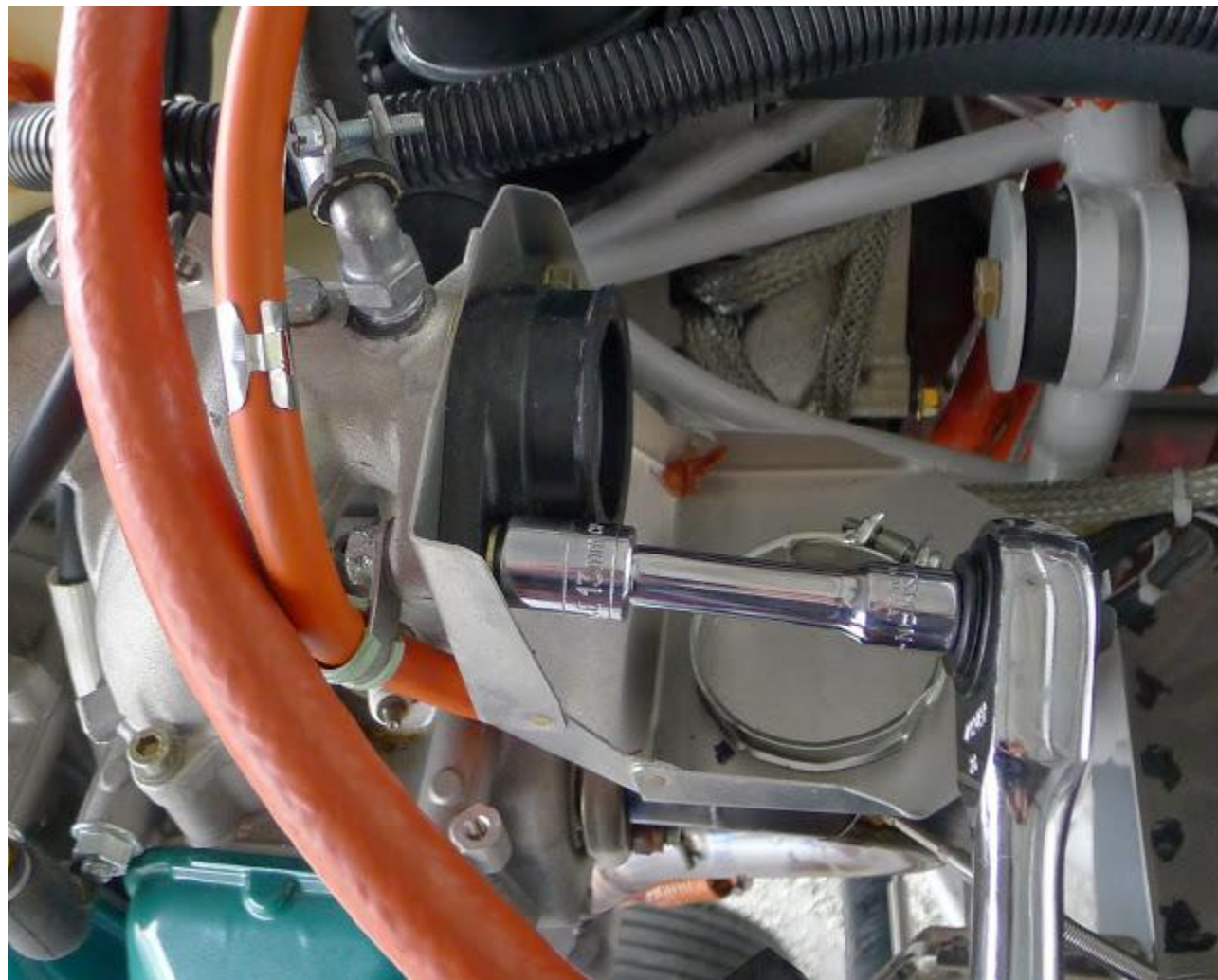
Step 7: Remove the fuel 'out' line from the fuel pump.

Step 8: Install Fittings A and D to the fuel pump, using the copper washers retained from the old fittings: Again, please do NOT use thread sealant on these fittings. (Please note that the fuel “in” fitting is a -6 diameter, and the fuel out is a -4 diameter)

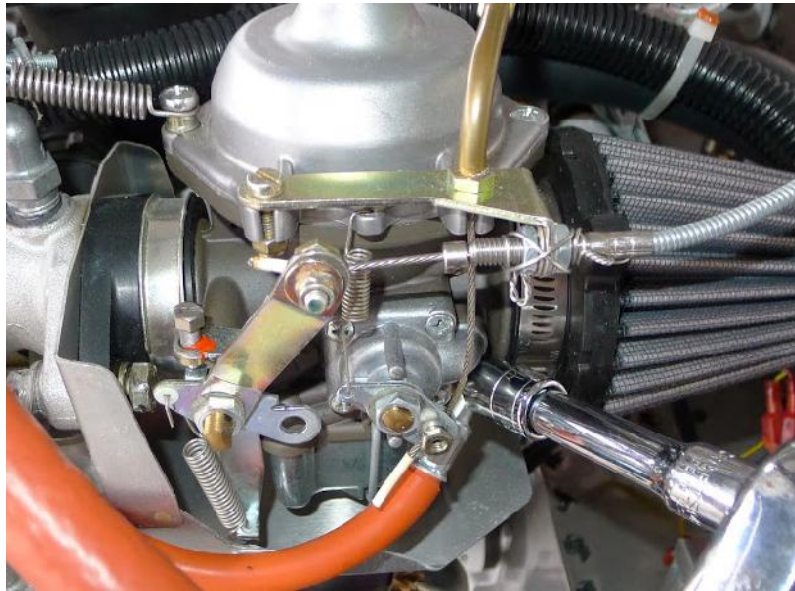


Step 9: Remove the Adel clamps holding the carburetor fuel lines. Remove the carburetor(s) if/as required.





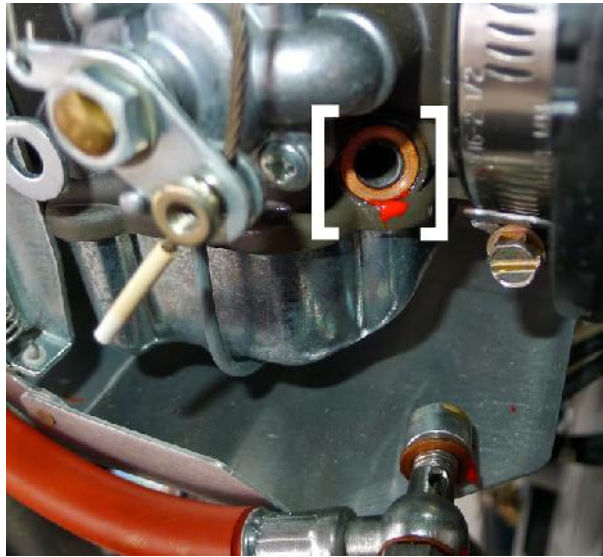
Step 10: Remove the carburetor fuel lines from the carburetors:



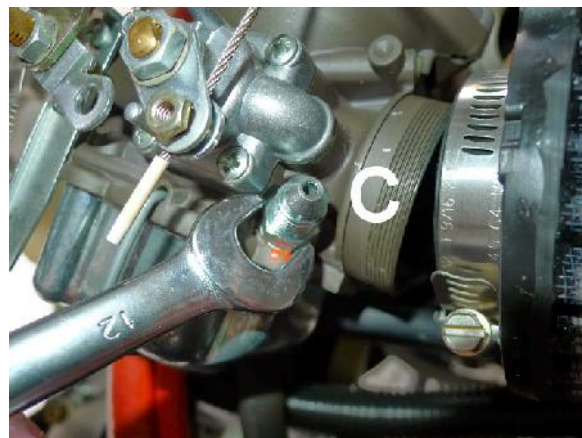
Access to the fuel line on the right side carburetor can be improved by loosening the oil tank clamps:



Step 10A: Ensure that the copper washers are removed; the new fittings have their own washers. Please ensure that the washer with rubber O-ring is in place on the fitting.



Step 11: Install Fittings 'B' and 'C':



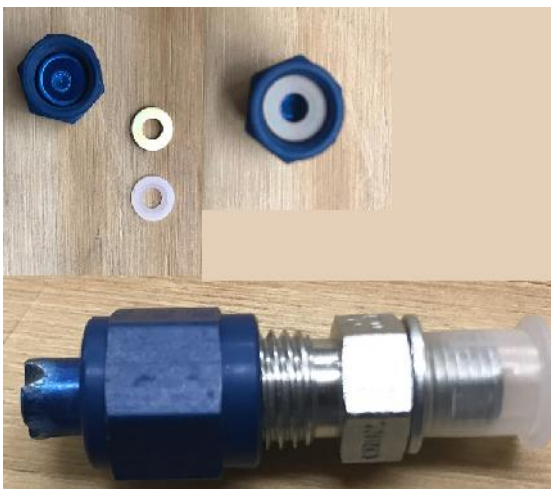
If you are unable to get a wrench around the fitting due to clearance, please use the included #4 sized AN cap by screwing it onto a fitting and using a wrench on the cap to drive the fitting in.

*** VERY IMPORTANT *** - Your kit includes two #4 Del Seal washers. They are either installed on your carb fitting flares or they are including in the fitting bag. Take great care that they are seated properly over the AN flare so that you do not damage them during this step.

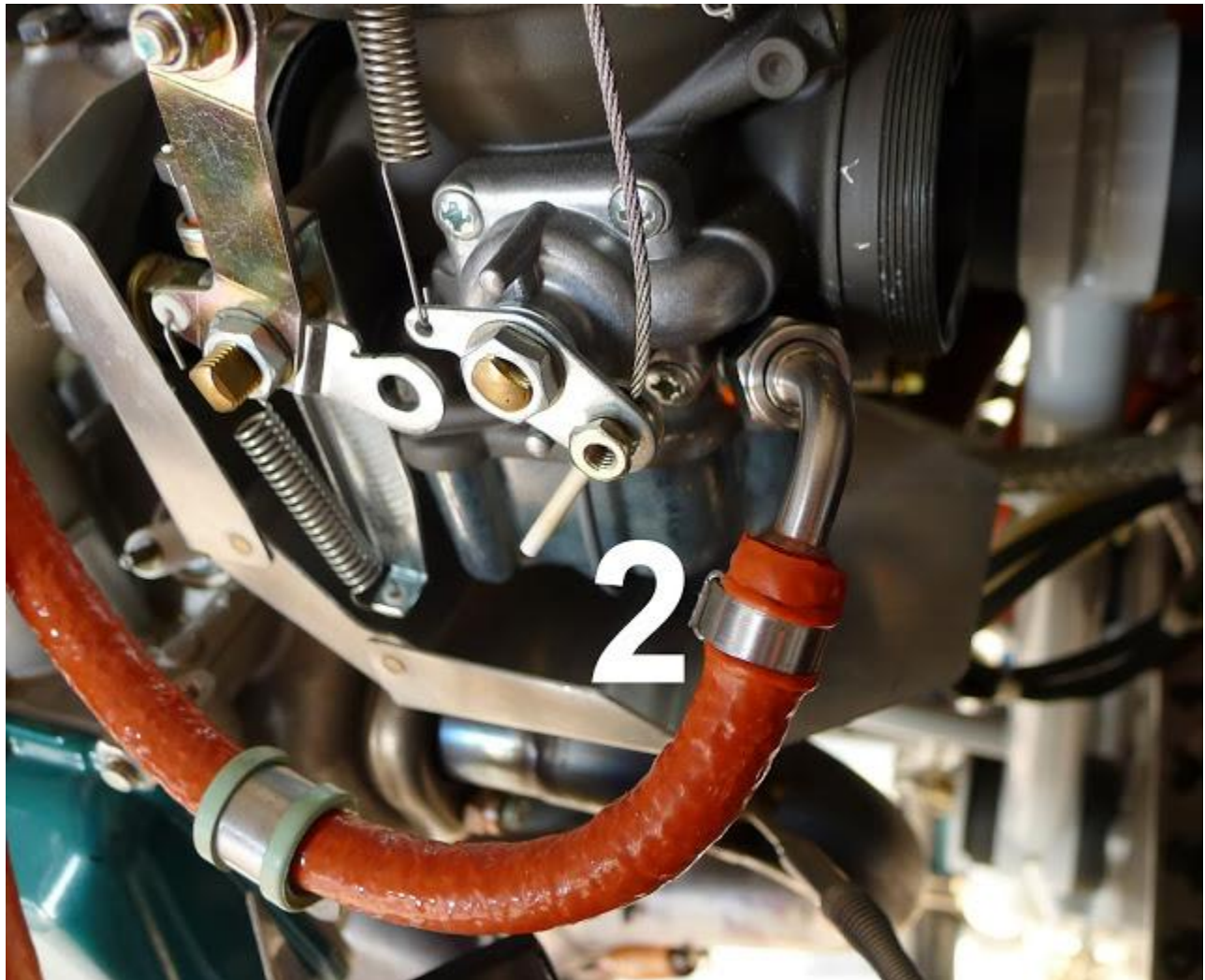
The reason that the Del Seal washers are included is that the carb fittings need to be tightened carefully to obtain the proper hose and fitting orientation as shown in the pictures. The Del Seal washers on these fittings help to promote a good seal on these fittings even at a very slightly lower than optimum torque value. The del seal washers are optional and do NOT need to be installed, but may be installed if needed to help get a good seal. *** VERY IMPORTANT ***

IT MAY BE NECESSARY TO INSTALL WASHERS ON THE INSIDE OF THE CAP TO MINIMIZE THREAD ENGAGEMENT ON THE CAP. We have included two steel #8 washers and one nylon one. As shown in the pictures below, utilize the washers as required to allow you to screw in the fitting.

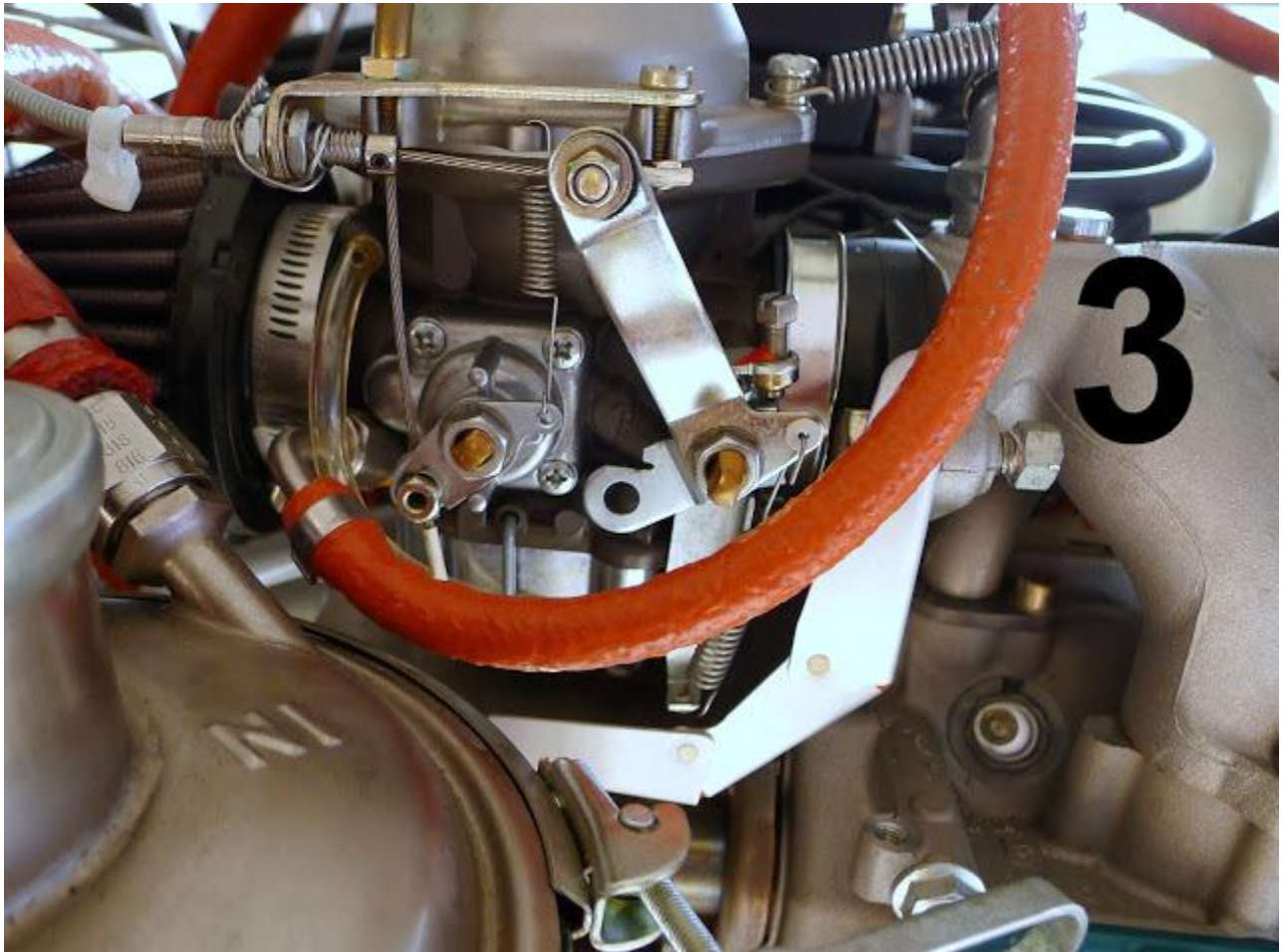
The friction of the washer on the carb fitting should be greater than the friction of the threads on the cap due to the spacer washers. When you loosen the nut cap, please verify that the fittings don't "back out." If you happen to have your carbs removed for maintenance, it is easiest to install these fittings with the carbs off.



Step 12: Install Hose 2 (the lengthier of hoses 2 and 3) onto the left side carburetor. **Ensure that the fitting does not interfere with the operation of the throttle and choke arms. This is VERY IMPORTANT. PLEASE NOTE THE CORRECT ORIENTATION OF THE HOSE.**



Step 13: Install Hose 3 (the shorter of hoses 2 and 3) onto the right side carburetor. **Ensure that the fitting does not interfere with the operation of the throttle and choke arms.**



RV-12 Conductive Teflon Fuel Hose Installation Rev 9 12-11-20

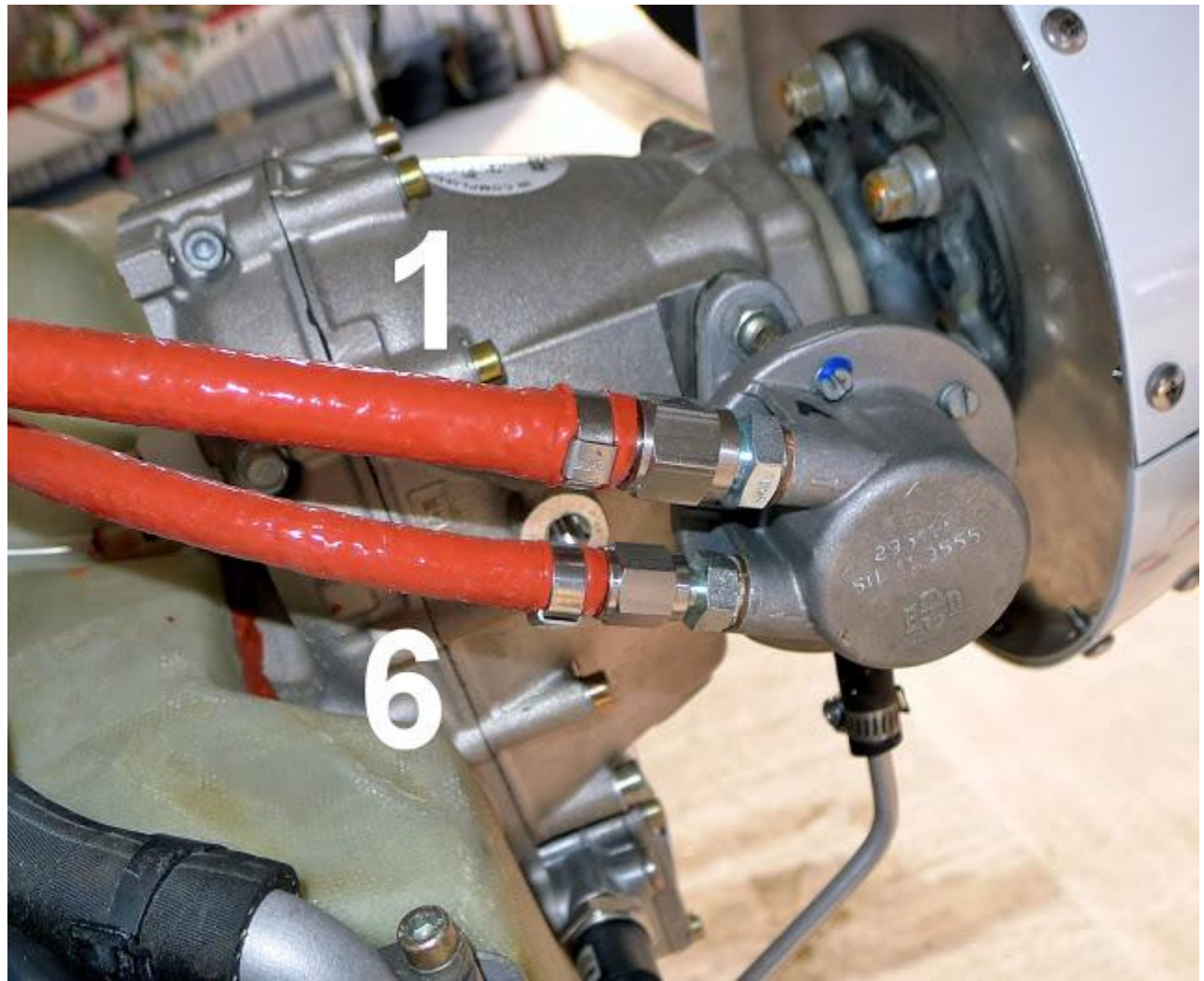
It may occur that a fitting interference exists with the oil tank on the right carb as shown in the image below.



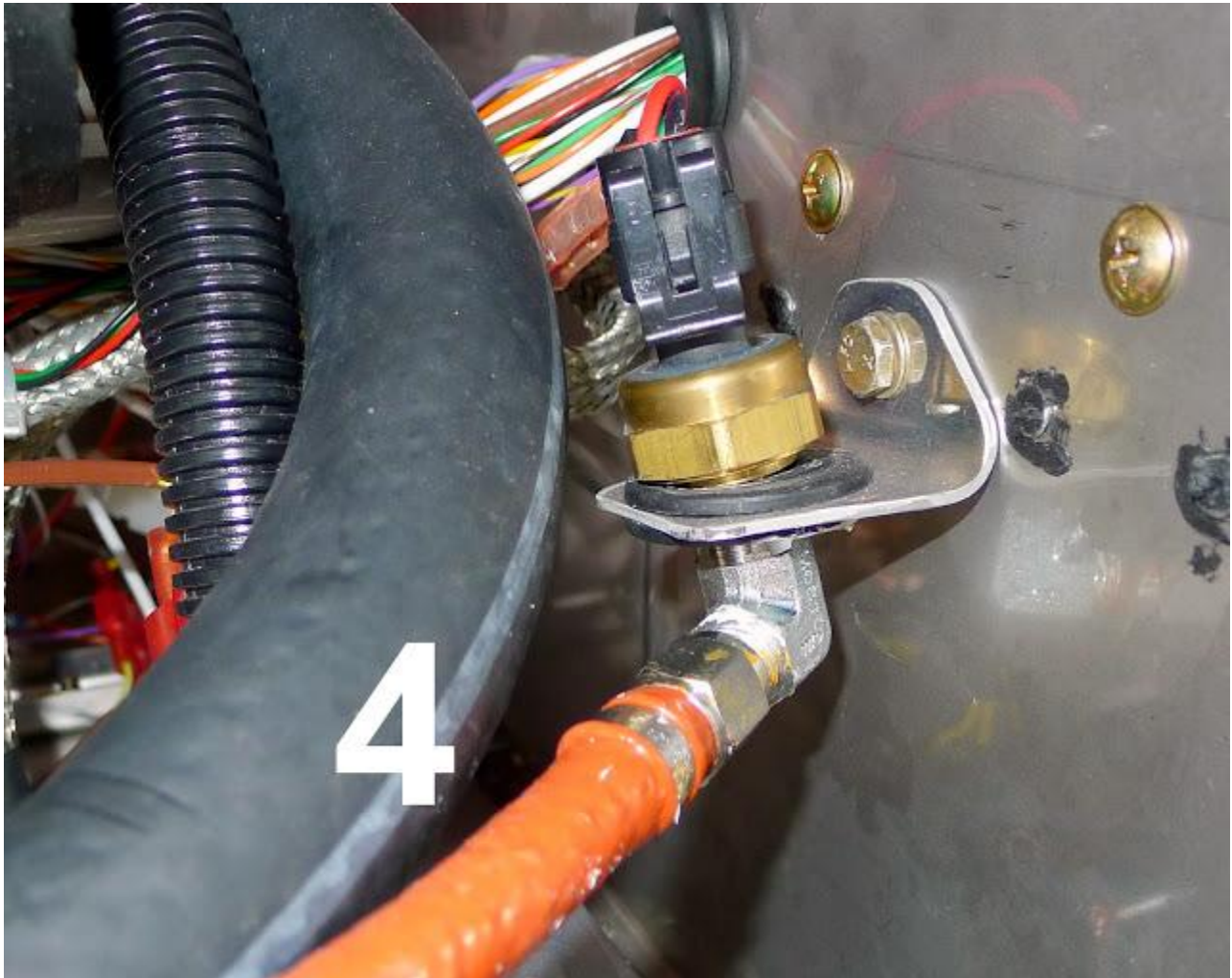
If that happens, the fitting orientation may be changed as show in the picture below. The important thing is to make sure that there is no interference.



Step 14: Install Hoses 1 and 6 onto the fuel pump:



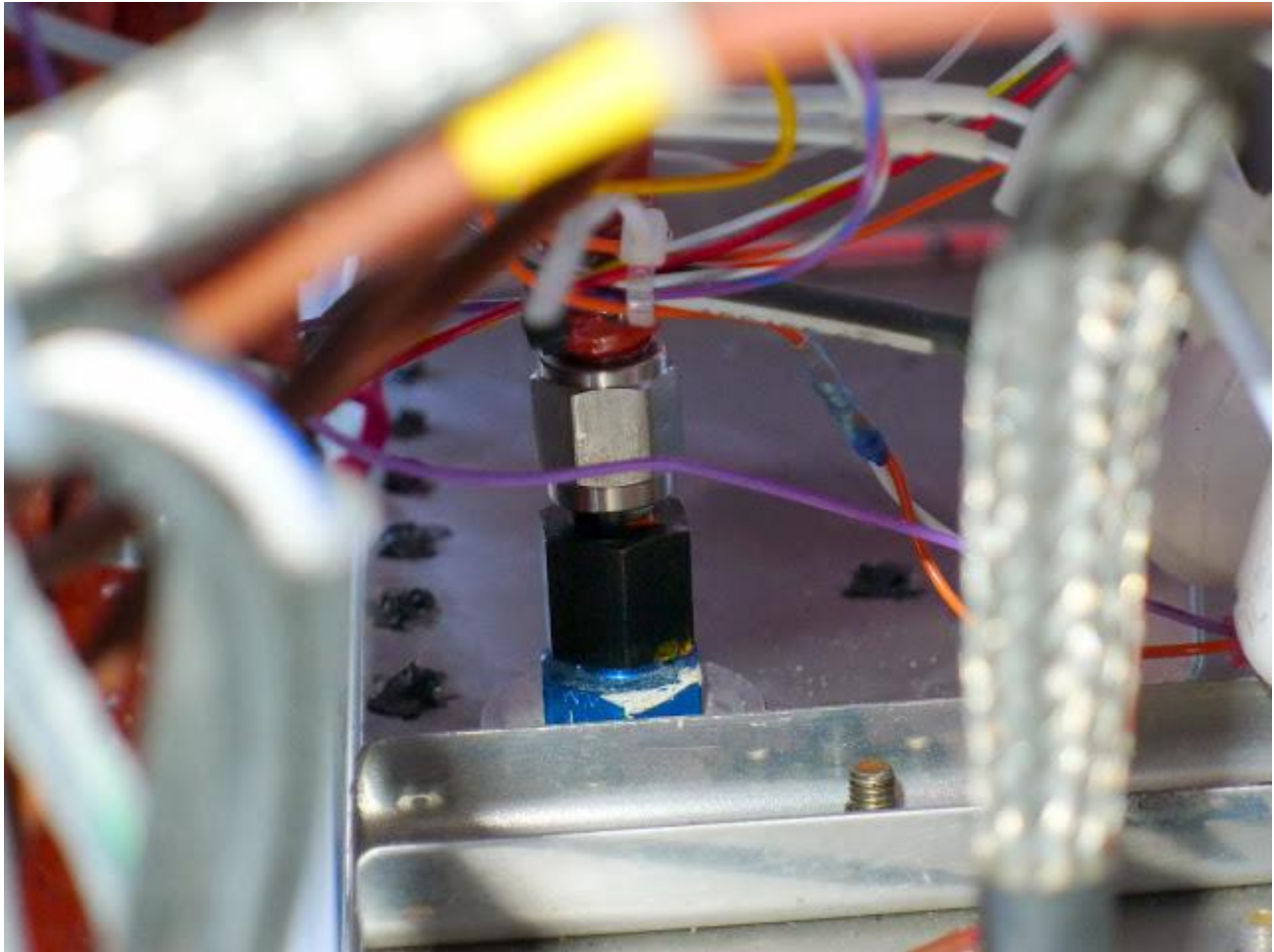
Step 15: Install one end of Hose 4 onto the fuel pressure sensor.



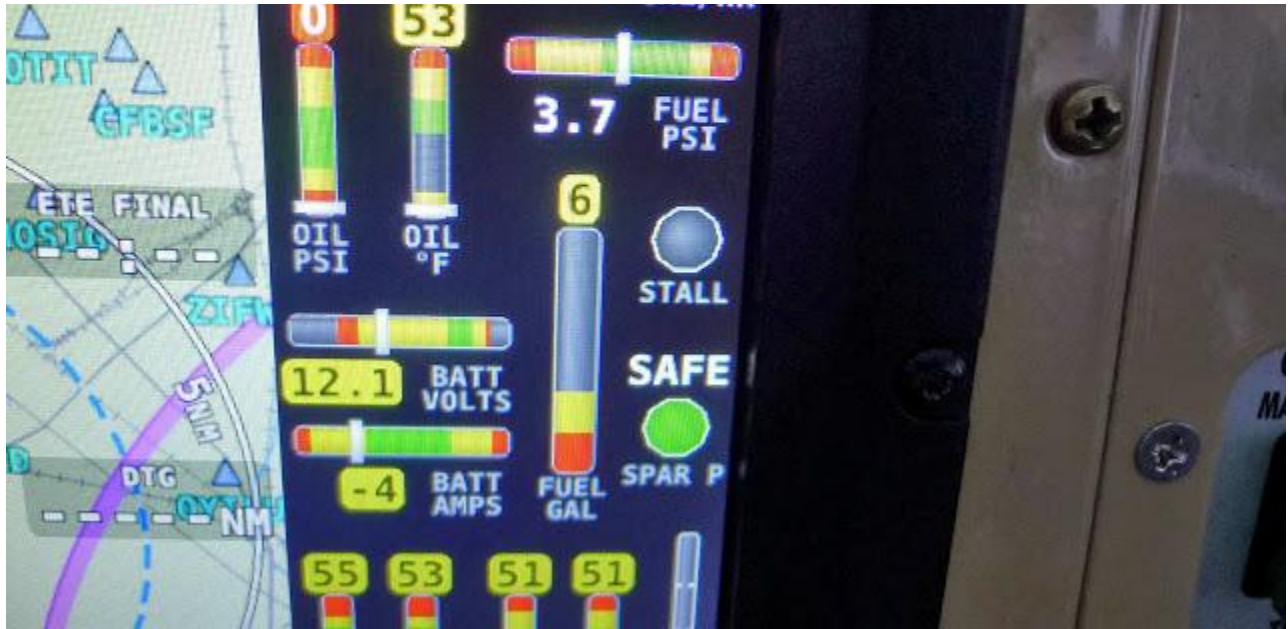
Step 16: Attach the loose ends of the installed hoses to the appropriate locations on Fitting F:



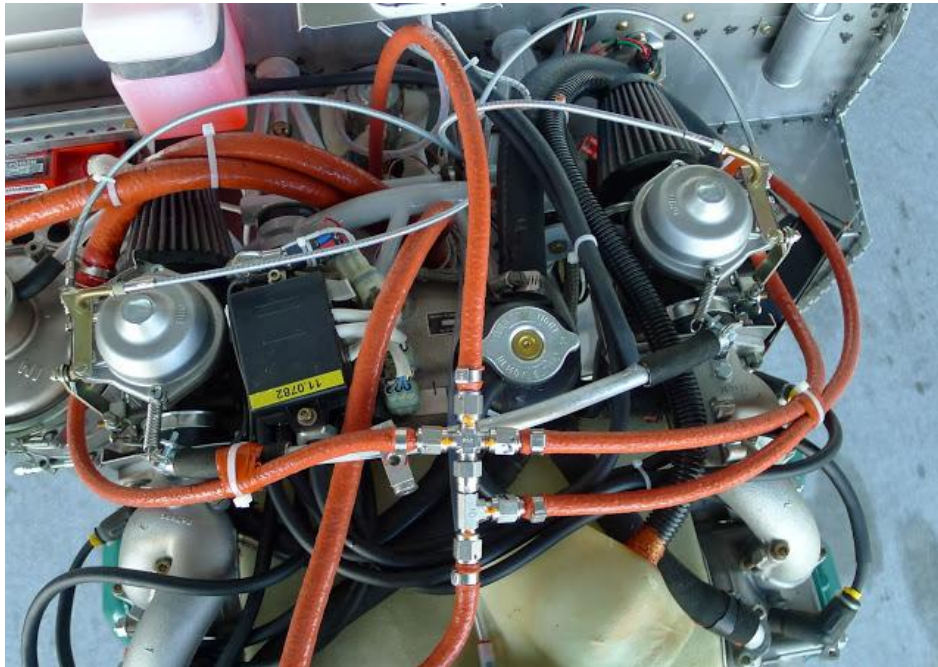
Step 17: Remove the fuel return line from the pass through fitting on the horizontal shelf of the firewall. Install Fitting 'E' - **note that this is a very important step!** Without the restrictor in this fitting, fuel would flow unobstructed back to the fuel tank which would have an adverse impact on the fuel flow to the carburetors. Install the end of Hose 5 onto Fitting 'E':



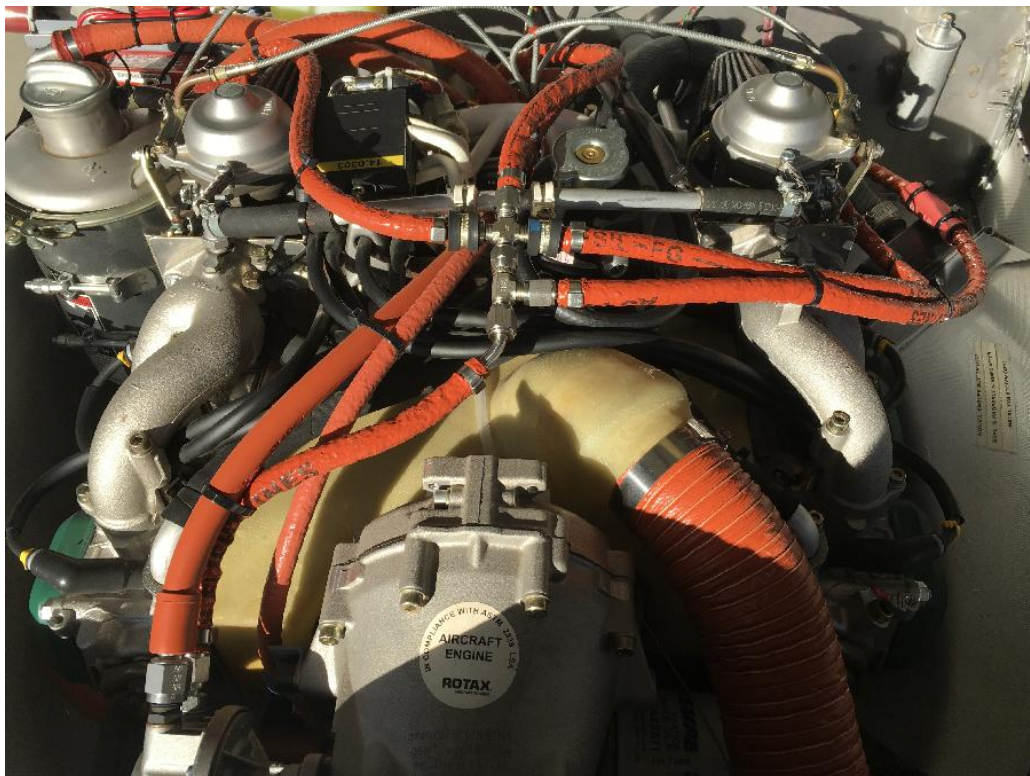
Step 18: After ensuring that all fittings and hoses are fully attached and checked to make sure the gascolator drain has been replaced, open the fuel shutoff and turn on the Master switch. The electric fuel pump should be able to provide a fuel pressure indication. Visually inspect the fittings and hoses for leaks. Also, ensure positive fuel flow as per SD-00017 from Vans.



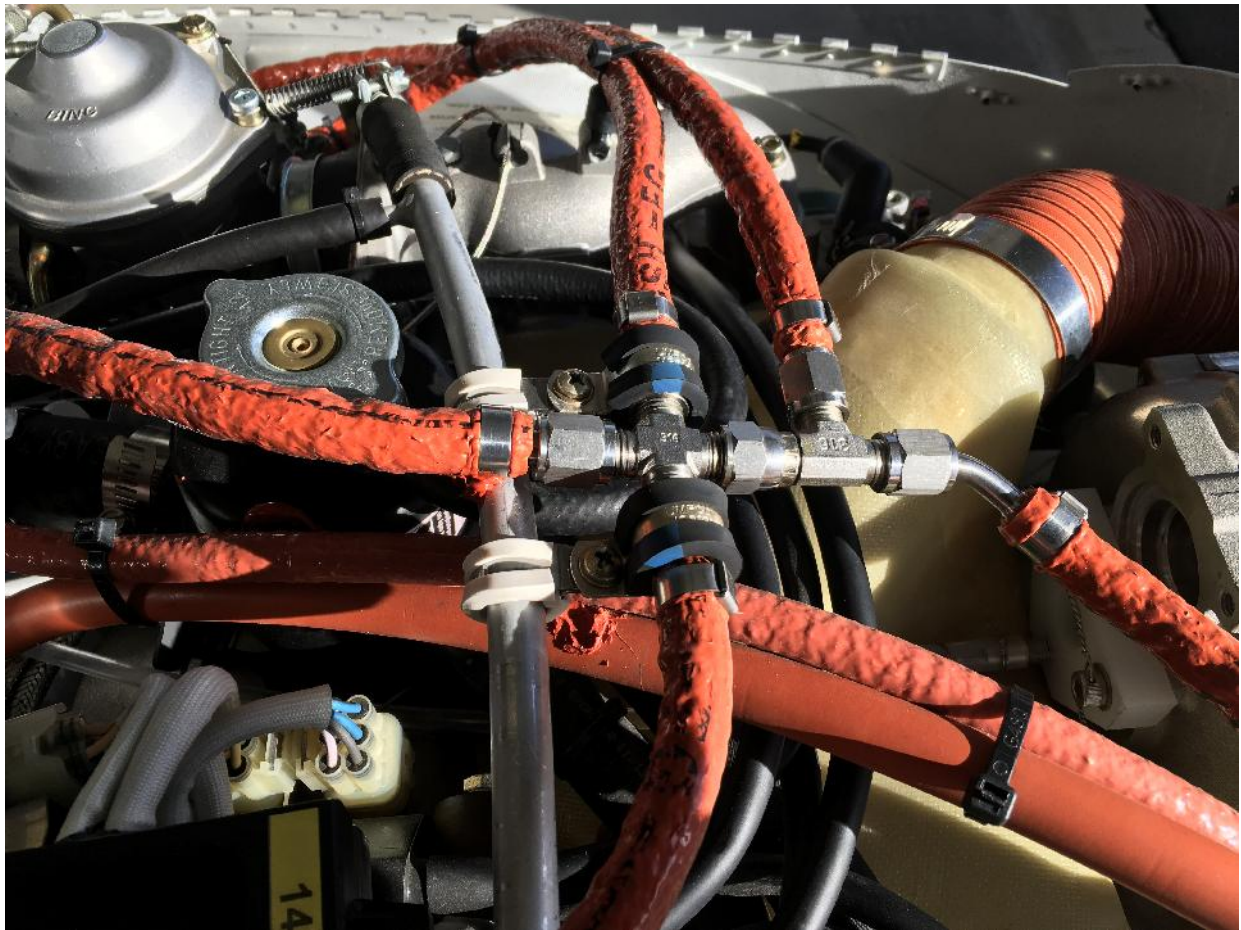
Step 19: Restrain the fuel lines using your preferred method: (This picture is of the original fuel line configuration.)



The Picture Below shows the New Fuel Line configuration after 1-4-2018 (NOTE THAT THE RIGHT CARB HOSE ROUTES OVER THE AIR FILTER IN THE BACK.)



RV-12 Conductive Teflon Fuel Hose Installation Rev 9 12-11-20



QTY 4 #8 ADEL Clamps are seen in the picture above to secure the fuel block assembly

RV-12 Conductive Teflon Fuel Hose Installation Rev 9 12-11-20

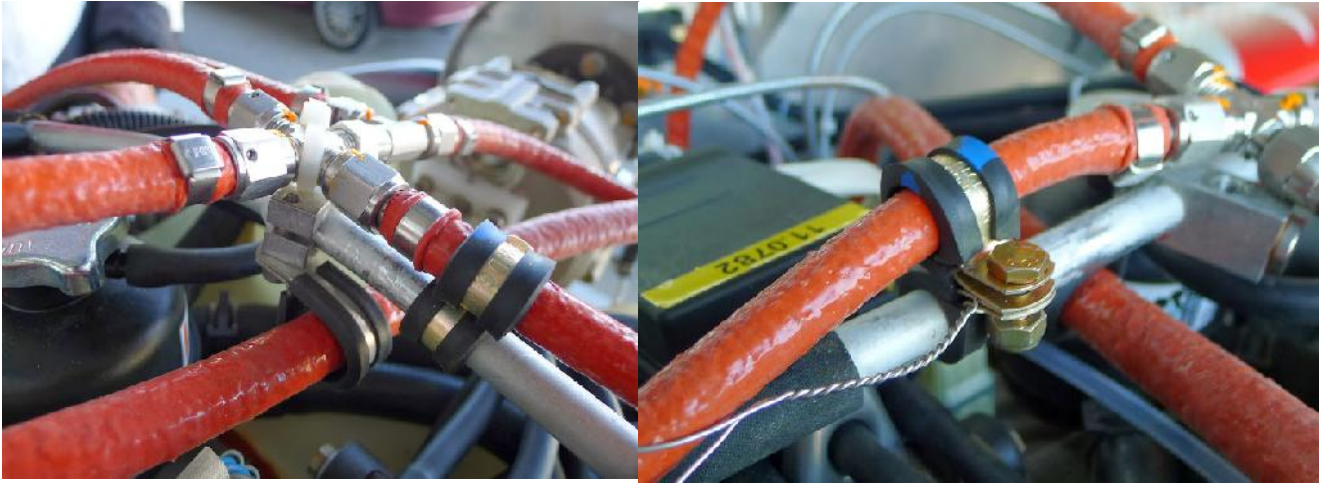
The -11 clamp allows you to re use the “fuel transfer block” that was removed in step 6. The -11 adel clamp seems to secure the -6 diameter fuel hose very well as seen in the following picture.



RV-12 Conductive Teflon Fuel Hose Installation Rev 9 12-11-20

The picture below shows the old original configuration system.

You can secure the carb line with the included size -8 adel clamps as well as the AN3-4a bolt and included locknut. This helps secure the “fuel gizmo thingamagig” also.



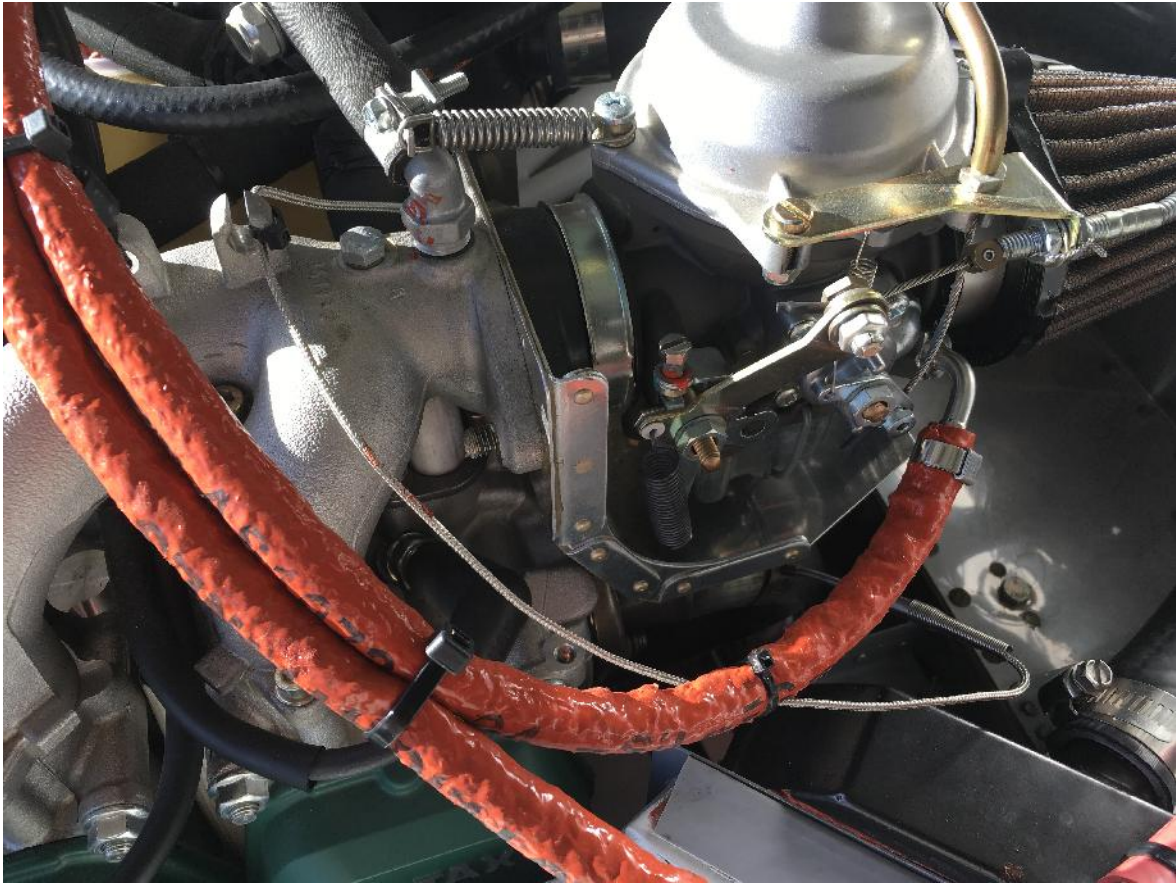
Please note the tie wrap in this picture. This was installed in order to prevent the fuel tee from rubbing on the tube and fitting below it. (THESE PICTURES ARE OF THE ORIGINAL CONFIGURATION FUEL SYSTEM)

RV-12 Conductive Teflon Fuel Hose Installation Rev 9 12-11-20

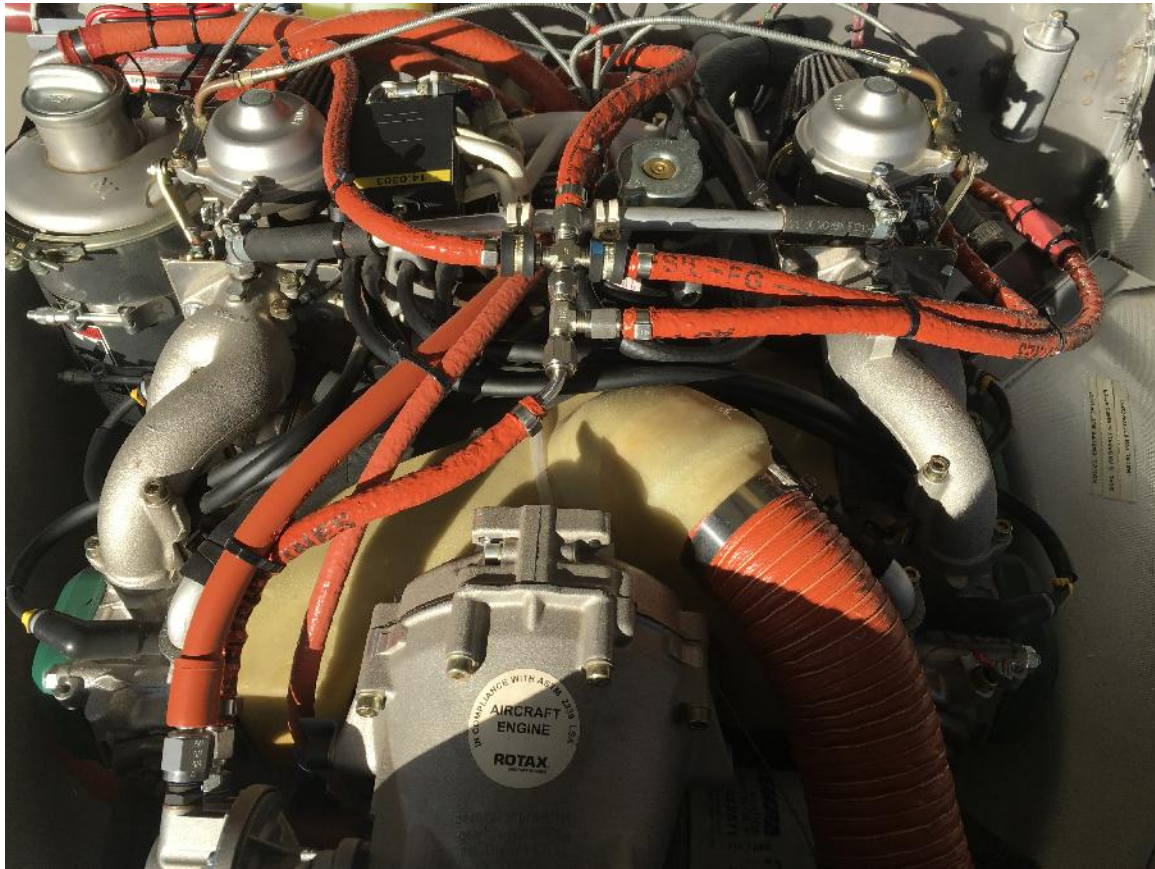
We recommend going through the entire installation and securing everything and preventing all hoses from chafing on each other or anything else. We have included some sample pictures on how one installer decided to do it. The firesleeve adds a lot of protection to the hoses, but we are of the mindset that more anti chafe is always better.



RV-12 Conductive Teflon Fuel Hose Installation Rev 9 12-11-20



RV-12 Conductive Teflon Fuel Hose Installation Rev 9 12-11-20



Step 20: Get a friend with a fire extinguisher and go test run your motor. Make sure that you are on good terms with your friend. Please do a good leak check and verify that all fittings are secure and torque sealed for verification.

Step 21: Enjoy your hoses.

