

AIRCRAFT SPECIALTY



FLIGHTLINES

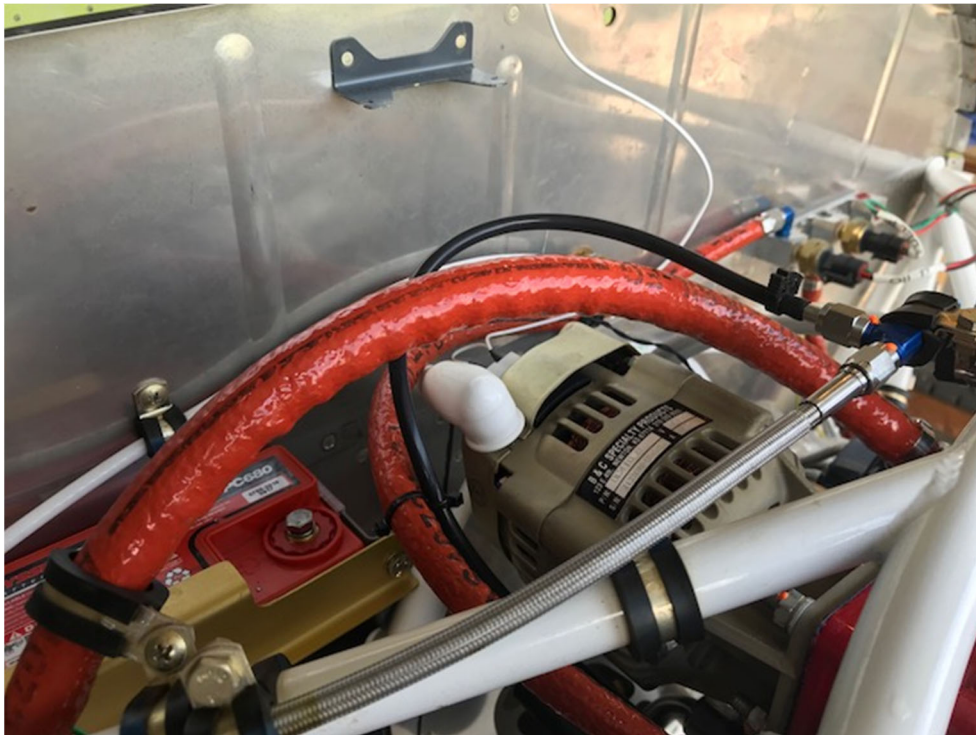
Thank you for your RV-14/14A Firewall Forward Hose purchase.

You are already receiving our PREMIUM INTEGRAL FIRESLEEVE hose assemblies as standard with your VANS FWF hose kit. However, we recognize that many builders will want to deviate slightly from the plans or make small adjustments to their setup. We have compiled a list of the most common changes that builders make as well as a list of hoses to delete from VANS when making these changes.

All hoses that you received with your kit are designed to be installed as per the VANS install manual with the following exceptions if you make changes.

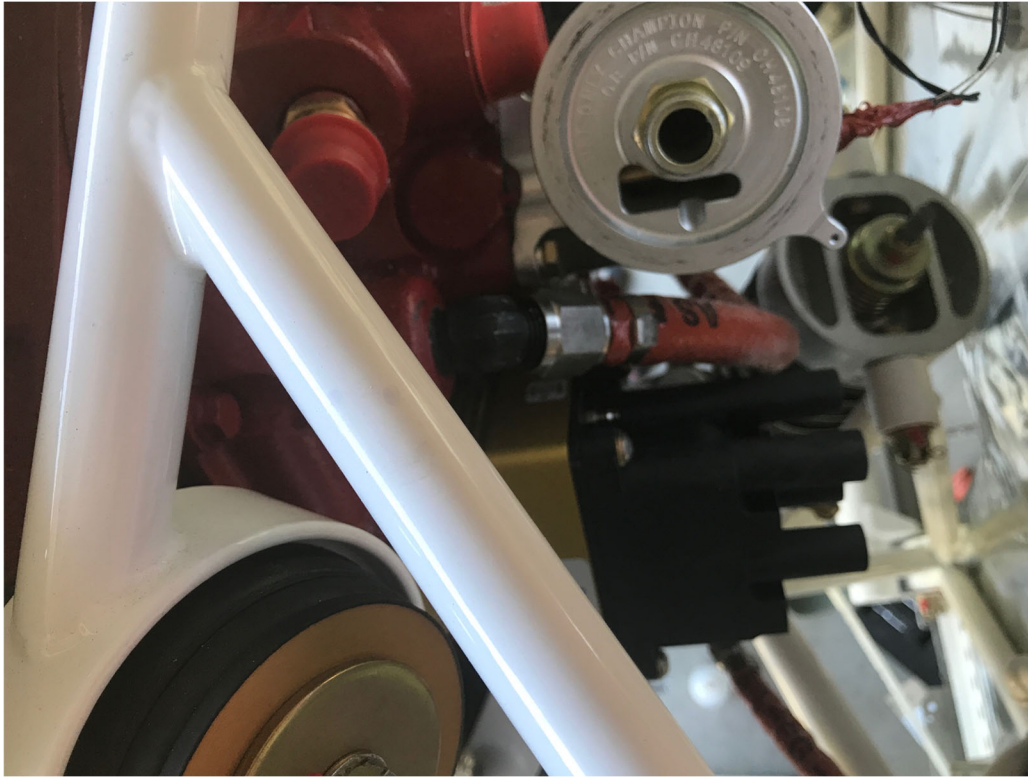
CHOICE #1 – RV14A Backup Alternator – IF you are utilizing a backup alternator on your RV14A, you will need a modified VA-190 hose that is slightly longer than stock. The image below shows you the new modified assembly (Standard Firesleeve is pictured, but this kit will include a premium integral firesleeve assembly.)

VANS DELETION LIST: VA190 HOSE



CHOICE #2 – RV14A UPRIGHT OIL FILTER ADAPTER – IF you are utilizing the B and C Upright oil filter adapter on your 14A, you will need a different hose configuration and length for the VA-190 assembly. Because this hose routes differently, it will also work if you have a backup alternator. If you choose this option for the hose due to your Upright Oil filter adapter, you will need to discard the stock vans Breather tube and fabricate your own.

VANS DELETION LIST: VA190 HOSE



CHOICE #3 – RV14TW UPRIGHT OIL FILTER ADAPTER –

VANS DELETION LIST: FF00016 HOSE

You will need to purchase an additional AN816 STR Fitting as you will be utilizing a str -8 fitting in your ENGINE and Cooler for the FF00016 Hose. A lot of builders choose to utilize a steel fitting FWF in lieu of aluminum. The new hose end at the engine will be a 45 degree fitting, and the Hose end at the cooler will be a Str.



The picture to the left and on the next page shows how the 45 degree fitting allows the line to loop around the oil port in the engine and then over to the cooler. (Please note that the hose in the image on the next page is not firesleeved.

This was an install verification hose. If you order this hose option it will come with an integral FS hose.

VERY IMPORTANT:

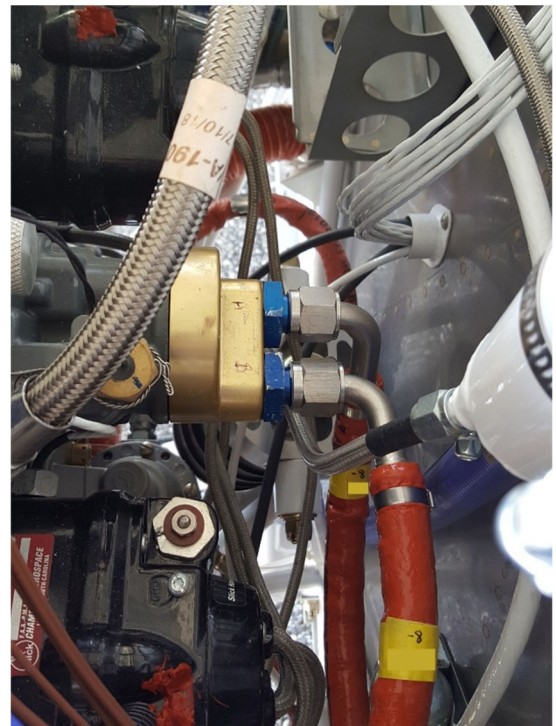
You will also need a spacer as shown in the picture to move the upright filter away from the hose end.



CHOICE #4 – Airwolf Remote Oil Filter Kit RV14A –

VANS DELETION LIST: NONE

If you would like to utilize the Airwolf Remote oil filter setup for the RV14A, we also have a hose installation package for that setup. The Airwolf remote filter that our hose kit mates with is the K007-F kit. The Airwolf kit includes all AN fittings, and our installation kit adds the two required hoses. The installation pictures below show the configuration of the setup as well as the Airwolf remote mounting location. We recommend that you install the hoses by hand tightening to locate the perfect position of the remote filter on the firewall. Then you can mark and install that and then final install the hoses.



CHOICE #5 – Airwolf Remote Oil Filter Kit RV14TW –

VANS DELETION LIST: NONE

If you would like to utilize the Airwolf Remote oil filter setup for the RV14TW, we also have a hose installation package for that setup. The Airwolf remote filter that our hose kit mates with is the K007-F kit. The Airwolf kit includes all AN fittings, and our installation kit adds the two required hoses as well as an adapter fitting required for the airwolf at the back of the engine.. The installation pictures show the configuration of the setup as well as the Airwolf remote mounting location . We recommend that you install the hoses by hand tightening to locate the perfect position of the remote filter on the firewall. Then you can mark and install that and then final install the hoses. The location of the TW setup is very critical due to proximity with the engine mount.



CHOICE #6 – PMAG INSTALL KIT GARMIN

VANS DELETION LIST: FF-00014-1

For those builders utilizing the Garmin Avionics systems with SINGLE or DUAL PMAGS, we have developed a PMAG hose setup that takes advantage of the unused port on the Transducer manifold mounting block. **DO NOT REMOVE THE THIRD PORT** of this block when the directions tell you the option is there to do so.

We build this setup so that if you utilize a single PMAG, you cap off the unused port with an included cap. If you have dual pmags or want to upgrade from a single to a dual down the road, just use the included fitting and replace the cap and your setup now is adaptable to the second PMAG without removal of any hoses.

The pictures on the next several pages show the routing and securing of the new PMAG setup.

The only additional item that you will need is a 1/8 NPT plug to seal off the unused portion of the third port. You should have an extra one with your components from VANS.







CHOICE #7 – PMAG INSTALL KIT DYNON

VANS DELETION LIST: FF-00014-1

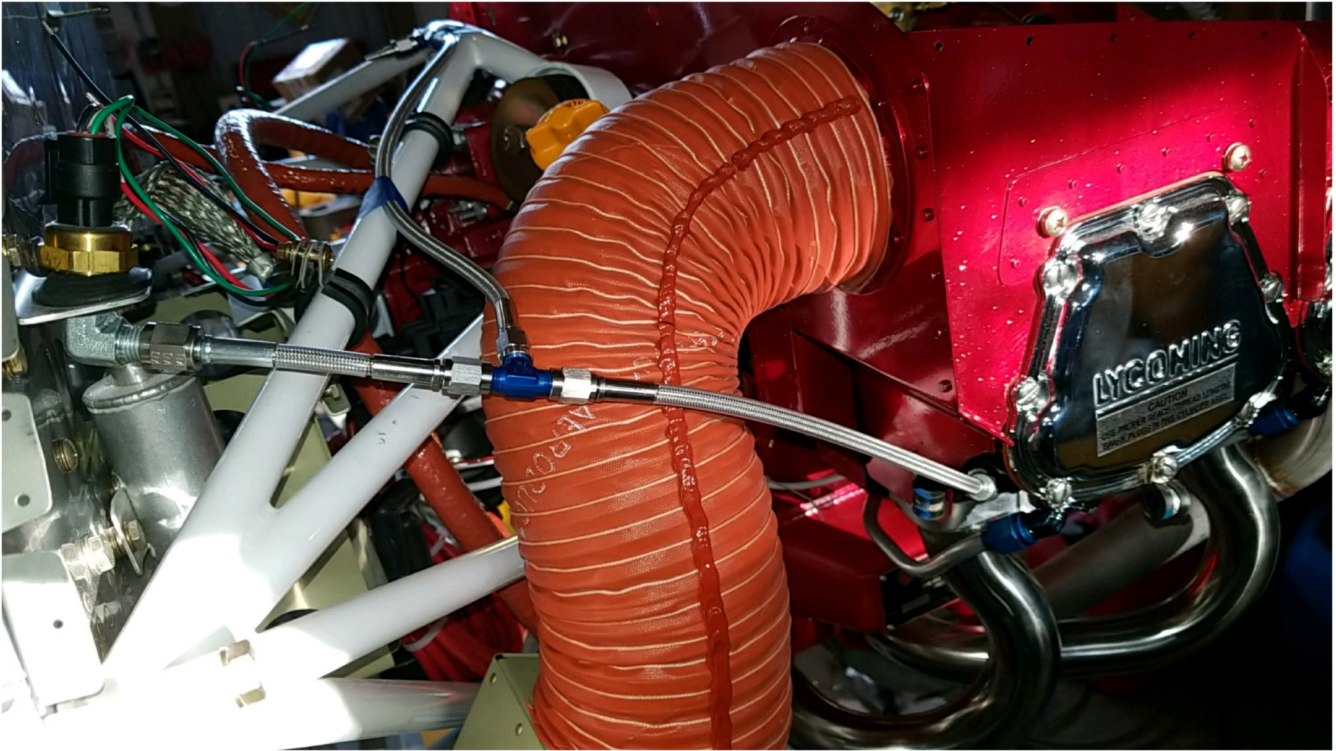
For those builders utilizing the DYNON or ADVANCED FLIGHT Avionics systems with SINGLE or DUAL PMAGS, we have developed a PMAG hose setup that provides you with a special DYNON MAP ADAPTER.

We build this setup so that if you utilize a single PMAG, you cap off the unused port with an included cap. If you have dual pmags or want to upgrade from a single to a dual down the road, just use the included fitting and replace the cap and your setup now is adaptable to the second PMAG without removal of any hoses.

The install directions below show both Garmin and Dynon transducers, but the routing is the same for both of them. For those who have Garmin, ignore this section as our install has changed to the option of CHOICE #6.

PMAG INSTALLATION

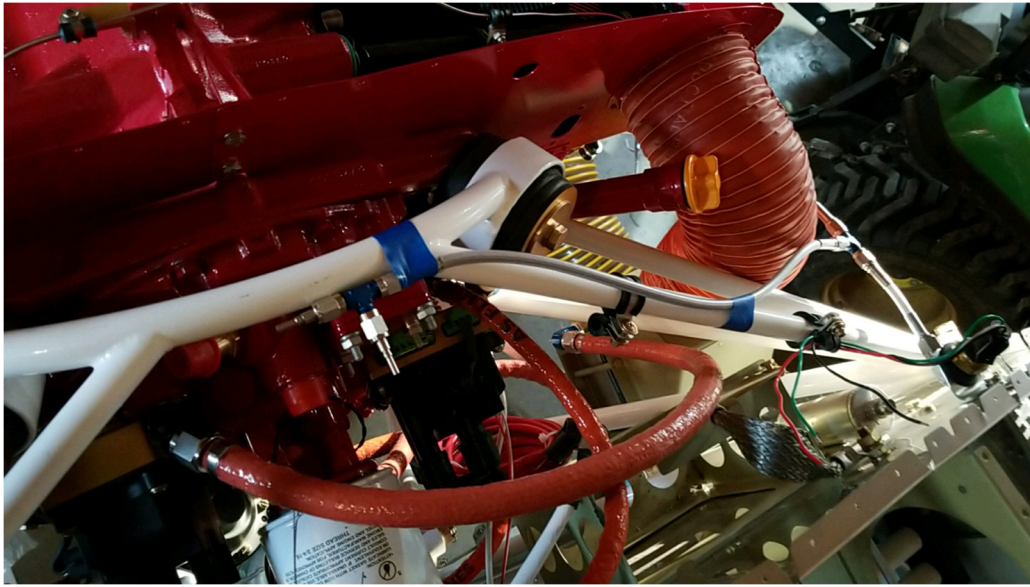
1. We can accommodate either a single or Dual PMAG Installation.
2. Our PMAG hose setup utilizes -3 diameter hose with a clear anti abrasion coating on it. We supply a steel AN 45 degree elbow (with built in restrictor) for the engine port on your aircraft. This elbow is a -4 diameter elbow. We utilize -4 fittings on -3 diameter hose at the engine elbow as well as at the transducer. We supply two AN tees for the inline portion of the system and then two fittings to attach the rubber hoses to to make the final PMAG rubber hose connections.
3. This setup is based on stock locations for the Manifold pressure transducer. As always, we are happy to make modifications to this kit for any other locations or items that you would like to change. If you provide us with different dimensions, we are happy to accommodate. Please contact us prior to ordering if you would like to make any changes to the package.



We supply a steel 45 degree elbow with a .040” restrictor orifice built in for the fitting coming off of the engine cylinder. The lines are all -3 diameter which allows us several fittings with an additional small orifice size (.079”) in them to provide manifold pressure system dampening for less PMAG pressure fluctuations.

The picture shown below is of where the system tees off into the PMAGs. This is the point at which the system differs from a single to a dual PMAG setup. The picture below shows a dual setup. Please note that the system in these pictures has not been completed yet and hoses must be final secured.

If you are planning on a single PMAG setup, we supply the exact same configuration, except that in lieu of a second fitting for the rubber hose to slide over, we supply an AN cap to seal off the unused port on the Tee.



Pictured below is the DUAL PMAG configuration shown with the ADEL clamps and mounting hardware that we provide in the package for securing the lines. The mounting hardware closer to the outside of the cowling is a #4 and and #12 adel clamp as well as a bolt, washer and nut.

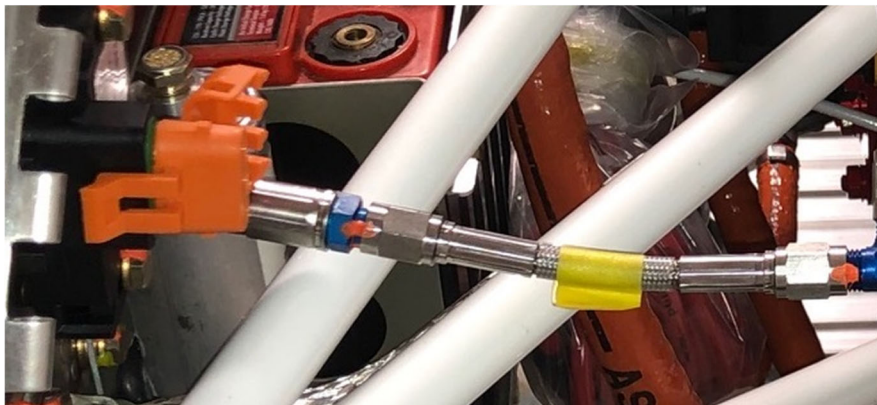
The mounting hardware on the inboard tee is a #14 around the engine mount, and a #7 around the fitting “B-nut”.



The picture here shows the rubber hoses attaching from the inboard Tee to the PMAGs. In this setup, the left pmag hose was cut to 15.25" and the Right PMAG is cut to 10.75" long.



If you are utilizing a DYNON MAP then you will receive a Dynon adapter as shown below.



CHOICE #8 and Choice #9– HALF RAVEN OIL INSTAL KIT
VANS DELETION LIST: NONE

HALF RAVEN INVERTED OIL SYSTEM FOR RV14 TAILWHEEL (ALSO WORKS FOR 14A)

AS Flightlines is excited to introduce another option for RV14 builders. For those of you considering the Half Raven Inverted oil system, we have a drop in hose component package that will provide you with the AN Elbows, Mounting Hardware and hoses required to finish out the package. All hoses are Conductive Teflon Combi Hose which is extremely high quality hose and very flexible. The half raven kit is an add on kit as all the firewall forward hoses in our standard kits are used. This just adds on the items required to add the half raven to your setup. (You'll still need to purchase the tank and components directly from Raven.)



If you order the Half Raven Setup for an FM150 Servo engine, an extra hose will be included as you will need a different length hose from the servo to the spider for clearance reasons.

Pictured below are images of the Half Raven Tank with Fittings as well as routings required for the hoses.





Above (Hose Routing) Below Left (Hose Routing) Below Right (Drain hose)



CHOICE #10, 11 and 12- Integral Firesleeve Servo to Spider hose

VANS DELETIONS: NONE

Your IO390 engine comes with a hose installed from the Servo to the Spider. This hose is sometimes not the optimal length from Lycoming and will also not be integral firesleeve. If you would like to replace the stock hose from Lycoming with an integral firesleeve hose built the correct dimensions to match the rest of your FWF hose kit, you can select choice 10, 11, or 12 depending on your servo.

CHOICE #13 EXP 119 engine interference with Forward Pilot Cylinder Drain Tube: **VANS DELETIONS :NONE**

It has come to our attention from early EXP 119 installations that there is interference with the VANS provided snorkel and the forward cylinder drain tube.

We have built and tested a CNC bent oil drain tube that will provide the necessary clearance on the VANS provided snorkel. Picture are shown below.



CHOICE #14 EXP 119 Red Cube Relocation Kit RV14A

VANS DELETIONS: FF00019-1 and FF00015-1

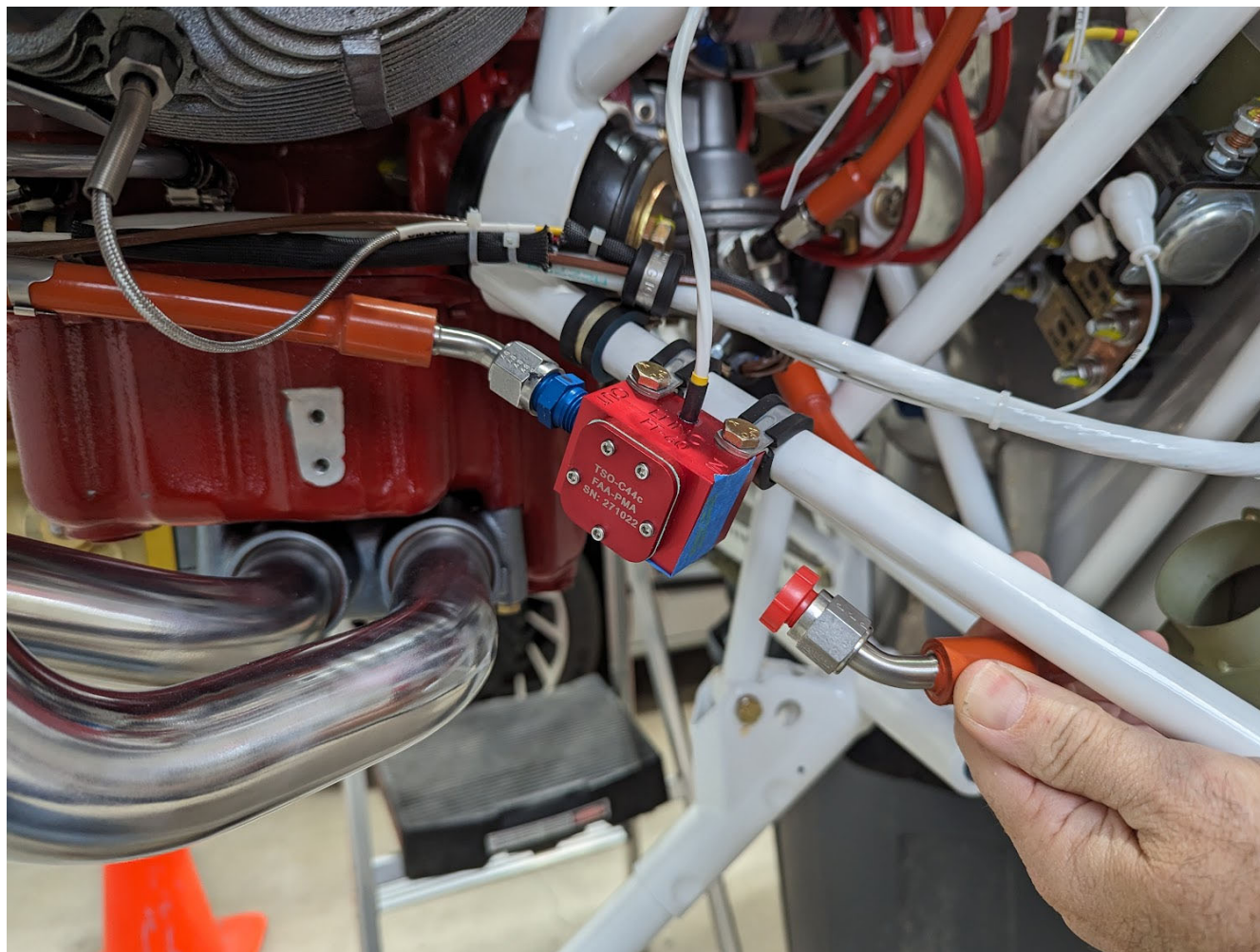
In response to builder requests for a relocated red cube transducer mount location, we worked with a beta tester to develop and test this alternate location. This kit includes two hoses as well as all the installation hardware required to relocate the red cube to the engine mount with adel clamps. Please note that the images below are a mix of 14 and 14A aircraft. There are a few different configurations that work with the same hoses due to changes in the stock fittings coming out of the red cube. Some pictures show two AN816-6D fittings, and others show an AN823-6D. (45 degree fitting) The hose kit does not include any additional fittings, but if you need AN816-6D or 823-6D, they are available on the “Fittings” section of our website for ordering.

14A EXP 119 Version 1

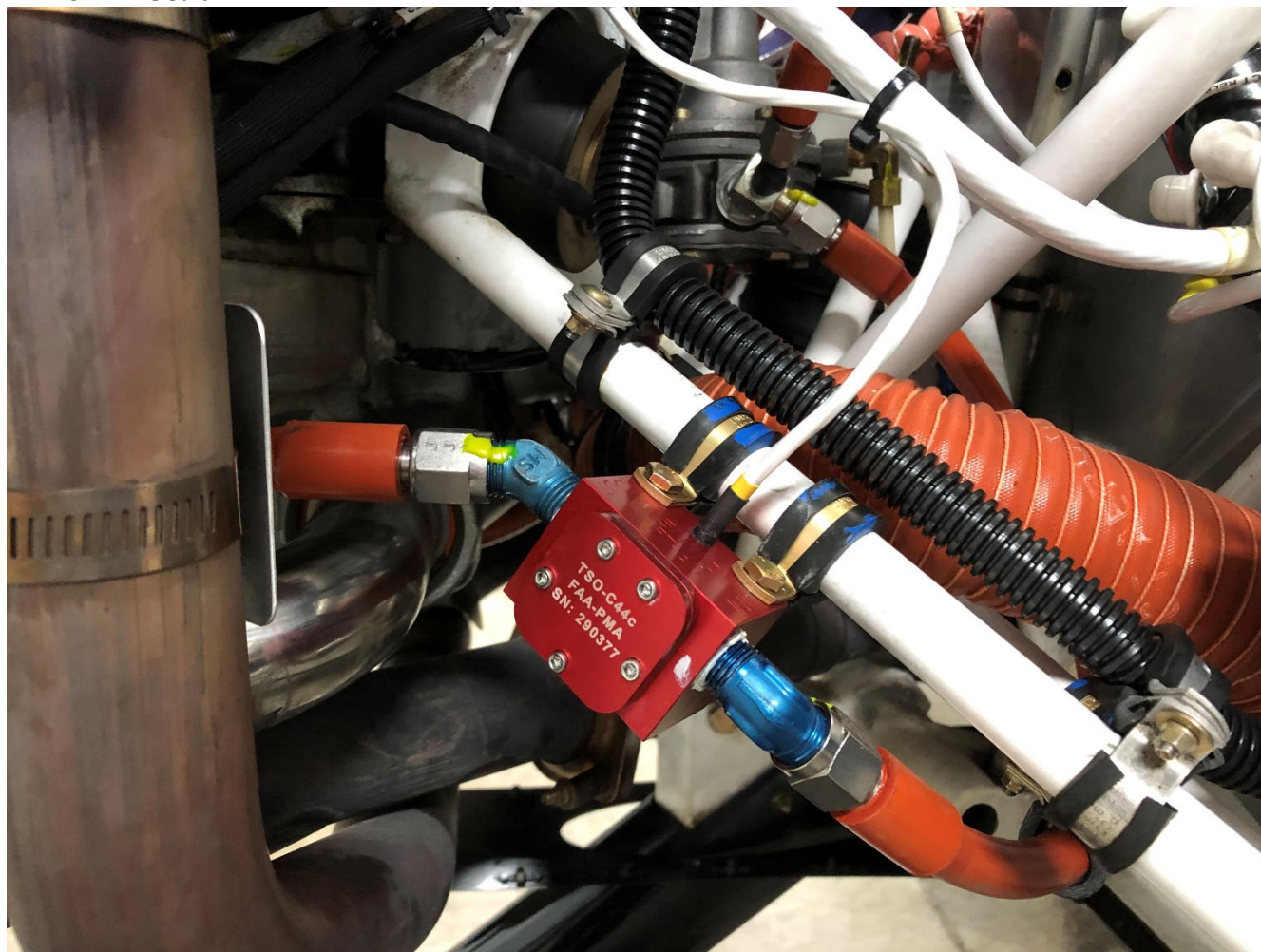




14A VERSION 2



14A STD IO390



14TW

