



Thank you for purchasing your Rotax 912 Thermostasis Install 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 thermostasis kit with directions specific to an RV-12 installation. However, we currently have installation kits for multiple aircraft, and pictures are included at the end of this document showing the routing and installation of the kit on other aircraft. However, if you have any questions, please contact us so that we can assist you with your installation. If your aircraft is not listed, this kit is adaptable, and we will be happy to work with you to create a custom kit that fits for you.

**IMPORTANT NOTE: Routings of hoses shown in this document are what different builders have used. If you find a more optimum routing or want to re route for more clearance, some of the hoses contain enough extra length that re routing is possible. Please ensure your hoses are protected from abrasion and also from hot exhaust/engine components.**

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

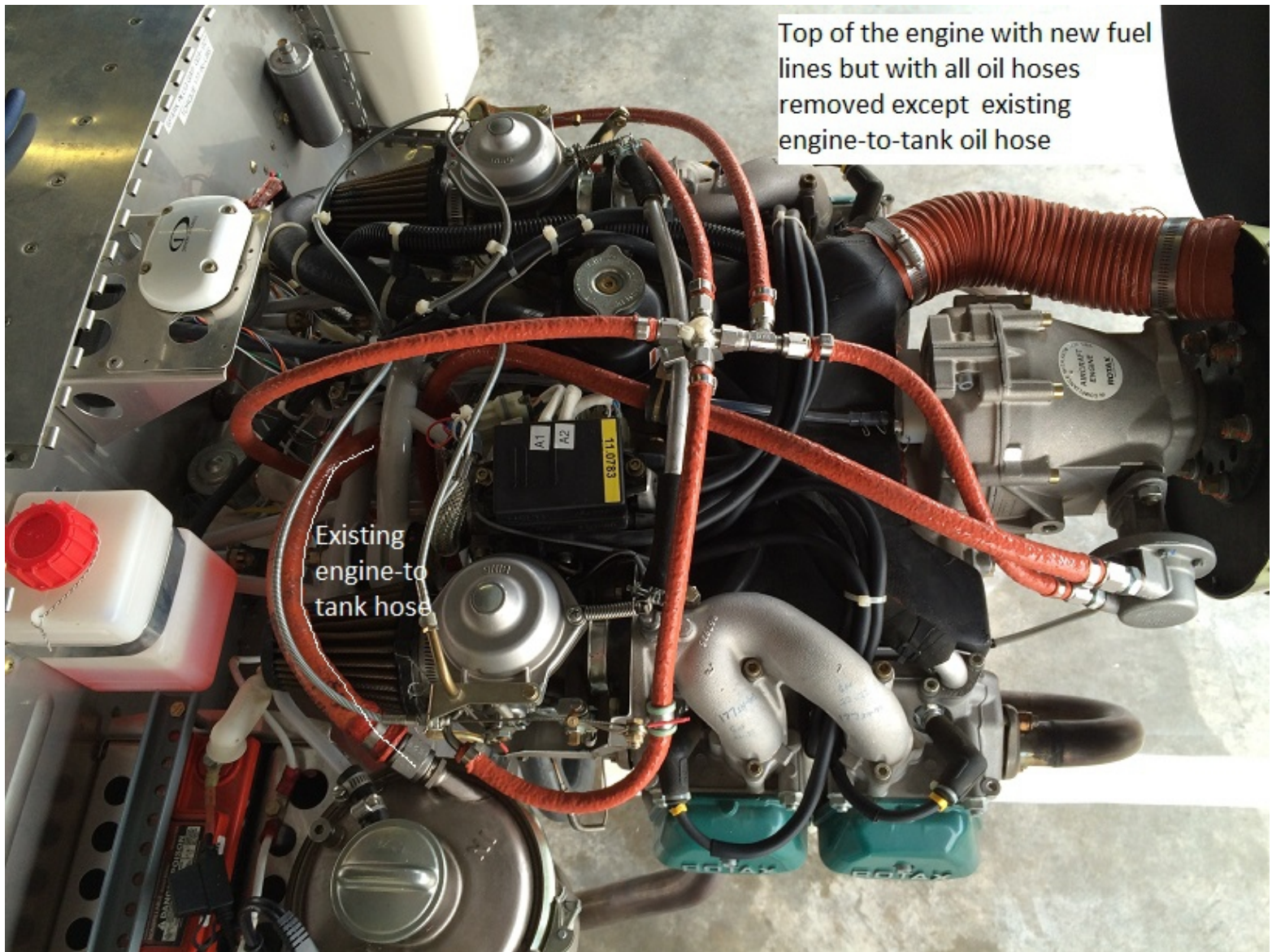
- 1. Thermostasis Unit (190 degree Thermostasis Unit as recommended for the Rotax 912 engine)**
- 2. AN fittings for the thermostasis unit. There are three -8 Straight Fittings, and 1 -8 90 degree fitting. (FOR THE RV-12...other aircraft may use other fittings)**
- 3. 4 oil lines for Thermostasis installation (Description of hoses for the RV-12)**
  1. Hose 1: Thermostasis to oil tank – Shortest of the hoses with a 90/str fitting
  2. Hose 2: Thermostasis to oil pump- Only hose with two straight fittings
  3. Hose 3: Thermostasis to pilot side of oil cooler – Medium length hose with 90/str fittings
  4. Hose 4: Thermostasis to copilot side of oil cooler – Longest hose with 90/str fittings

**PLEASE NOTE: A COPY OF THE THERMOSTASIS SPECIFIC DIRECTIONS ARE ATTACHED TO THE LAST PAGE OF THIS DOCUMENT.**

**Tools required for installation:**

**1. Wrench Set**

**Step 1:** Please remove all oil hoses except for the existing engine to oil tank hose shown in this picture.



**Step 2:**

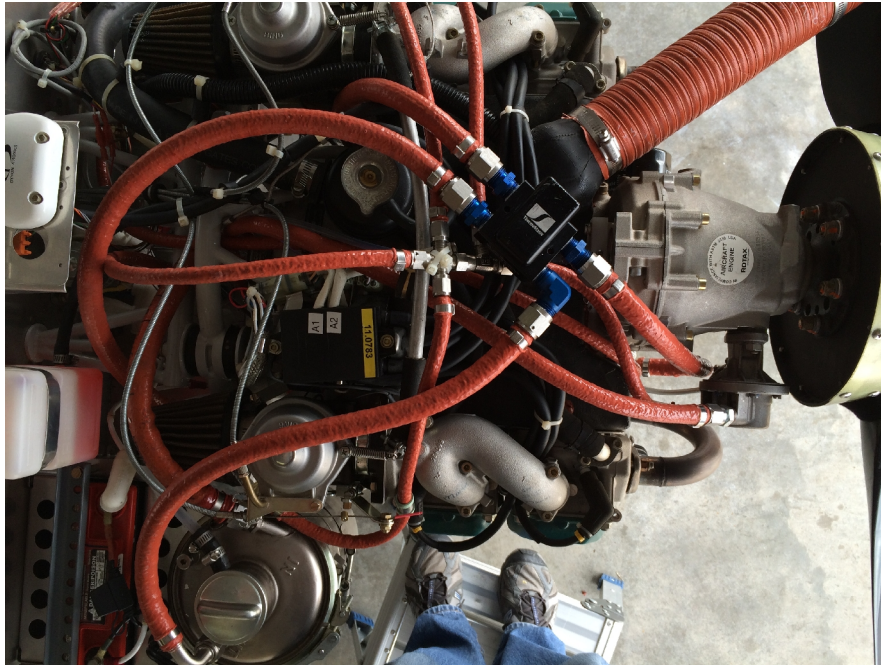


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Please install included blue AN fittings into your thermostasis unit. Please note that the thermostasis unit will take straight fittings in 3 of the 4 ports. The port that utilizes the 90 degree fitting is the port on the copilot side toward the firewall of the aircraft. Please also note that although the thermostasis unit is “bi-directional”, thermostasis does recommend that the “top” fitting when viewed from the front is the one that goes to the oil pump. They did tell us verbally that if it is installed incorrectly, it won't affect performance but will make the temperatures off by a few degrees, which is no big deal.



Please utilize an oil proof thread sealant such as permatex on the NPT portion only of these fittings.



### Step 3:

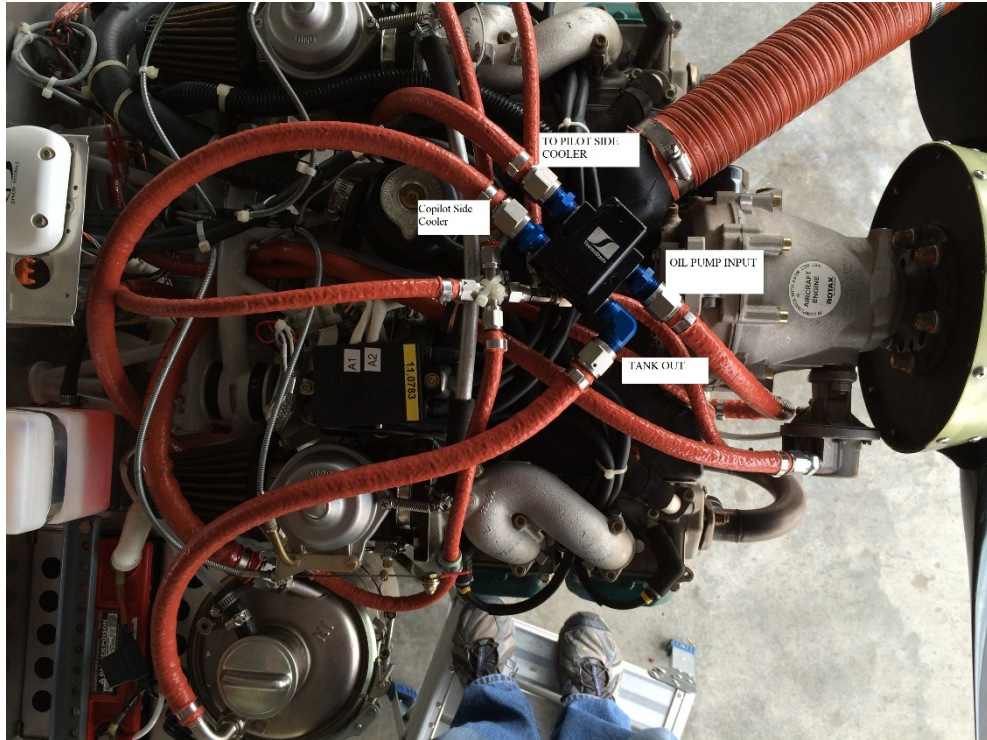
Please utilize the following pictures which show the routings of the oil thermostasis lines. Please note that if you have the stock Vans fuel lines, this unit fits best on top of the fuel lines. If you also have the 912 Teflon Fuel Line retrofit kit, this unit will fit either on top of or underneath the fuel lines, although underneath the fuel lines seems to be the preferred routing.

Also, please note that the line from the thermostasis to the oil pump has shipped in two different configurations. One configuration has a straight fitting on the thermostasis and a 90 elbow at the pump and drops down next to the gearbox. The other configuration has two straight fittings and makes a large loop. That is the current and final configuration that

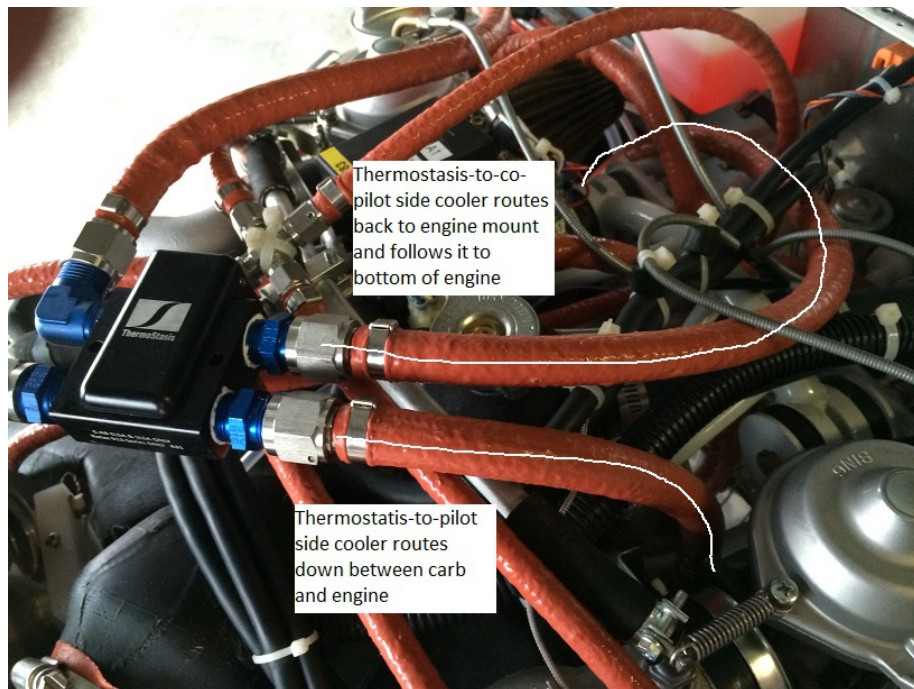
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is shipping. If you have the other configuration it will also work well, but we decided on the loop in order to have a slightly longer hose with more play and to make the install a bit easier.

If one of the pictures is unclear and you have questions on the routing, please feel free to contact us and we will be happy to help you.



**PLEASE NOTE THAT THE PICTURE ABOVE IS CORRECT. THE PICTURE BELOW HAS THE CORRECT NOTES ON IT, BUT THE THERMOSTASIS UNIT IS MOUNTED UPSIDE DOWN.**

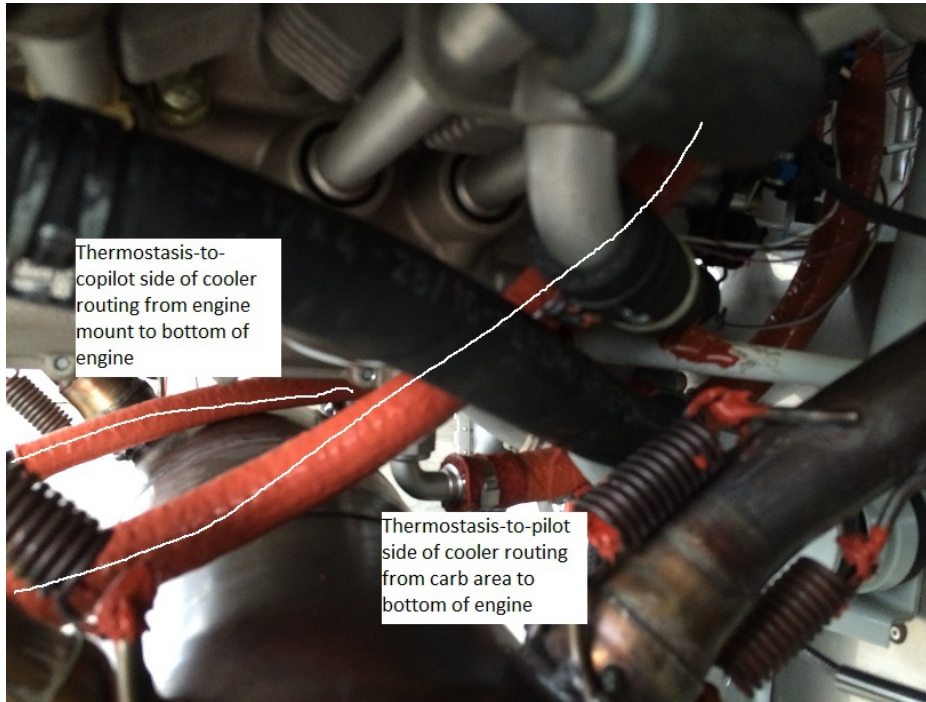






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PLEASE NOTE THAT ON THE PICTURE BELOW THE HOSES HAVE NOT YET BEEN SECURED. PLEASE ENSURE THAT THE HOSES ARE SECURED SO THAT THEY DO NOT COME IN CONTACT WITH THE MUFFLER/EXHAUST SHROUD, OR ANY OTHER ENGINE COMPONENTS THAT THEY SHOULDN'T



PLEASE PAY PARTICULAR ATTENTION TO MAKE SURE THAT YOU HAVE HOSE CLEARANCE ON THE ENGINE PUSHRODS WHEN THE COWLING IS SECURED IN PLACE. You may need to pay close attention to the clocking of the fittings and the general fit in this area depending on how your cooler is installed.





**Step 4:**

Tighten all fittings and secure all hoses so that they are in safe locations and not touching/rubbing any engine components.

**Step 5:** Please make sure to purge any air out of the oil lines per Rotax Service Instruction SI-912-018

**Step 6:** Assemble a group of your closest friends. Have them standby with a fire extinguisher and marshmallows. Make sure you are on good terms with them. Please perform an engine run and a good leak check. Verify that all fittings are secure and torque sealed for verification. (Please note that with an un-cowled engine, your oil thermostat will not help your oil temperatures all that much. Once the cowling is re installed, the unit will be much more effective. (PLEASE SEE INSTALLATION NOTES BELOW FIRST)

**Step 7:**

Enjoy your hoses. Please know that they have a 10 year warranty on them. Also, if you choose to do a hose replacement at the 10 yr point or any point thereafter, we will give a 20% discount to you on your second set of hoses.

**RV-12 SPECIFIC INSTALLATION NOTES AND HELPFUL TIPS:**

1. Be very careful when pulling out the old hose that passes by the RPM pickup on the back of the engine, lest the metal band on the hose cut the insulation on the pickup.
2. Loosen the clamp that holds the oil tank in place and lower the tank as far as possible to allow maximum room for the hose that goes from the Tank to the Thermostasis unit.
3. Slightly bend the lip of the carburetor drip pan away from the new hose that goes from the Thermostasis unit to the cooler. This will minimize any chafing that will occur.
4. If doing a cowl off run up to check for leaks, temporarily secure the oil cooler with safety wire.

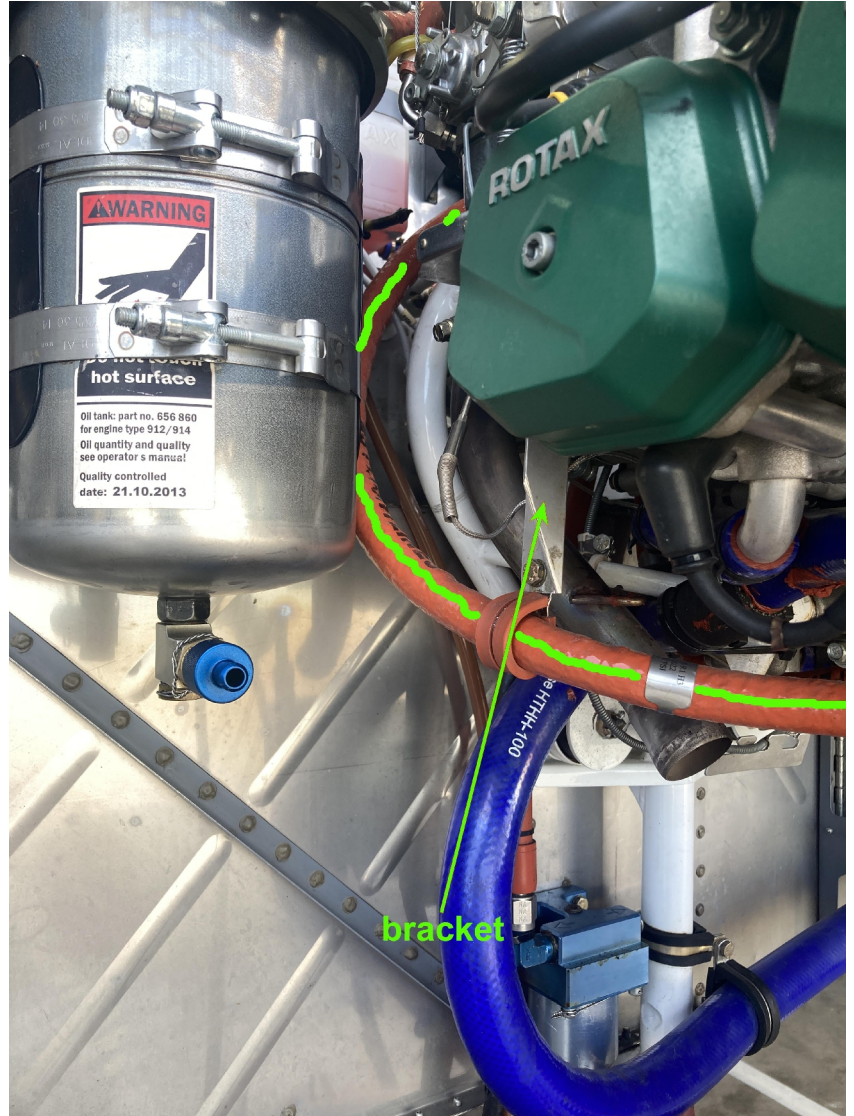
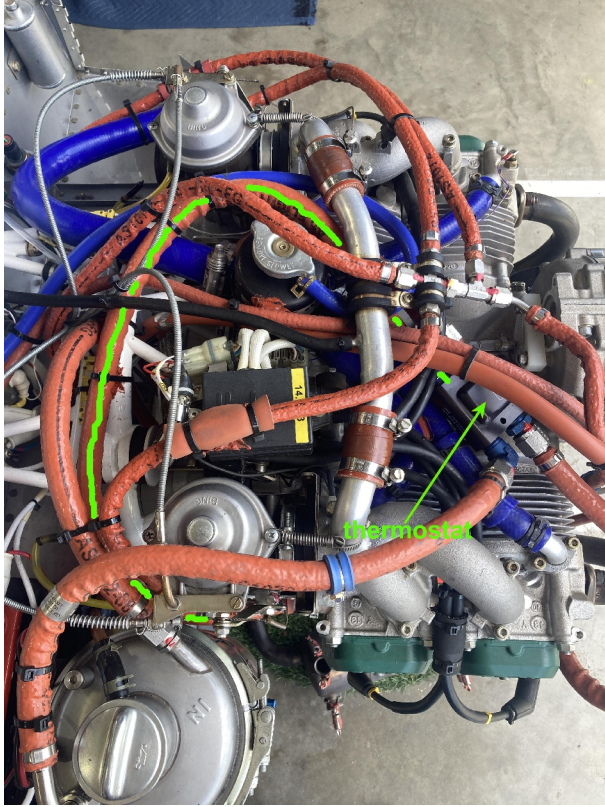
**GENERAL INSTALLATION NOTES**

1. Please read the Thermostasis manufacturer install directions in order to verify that your installation is correct.
2. Please make sure none of your hoses are rubbing on anything and make sure that they are fastened securely and safely.
3. Make sure that none of your hoses were kinked during the installation process.

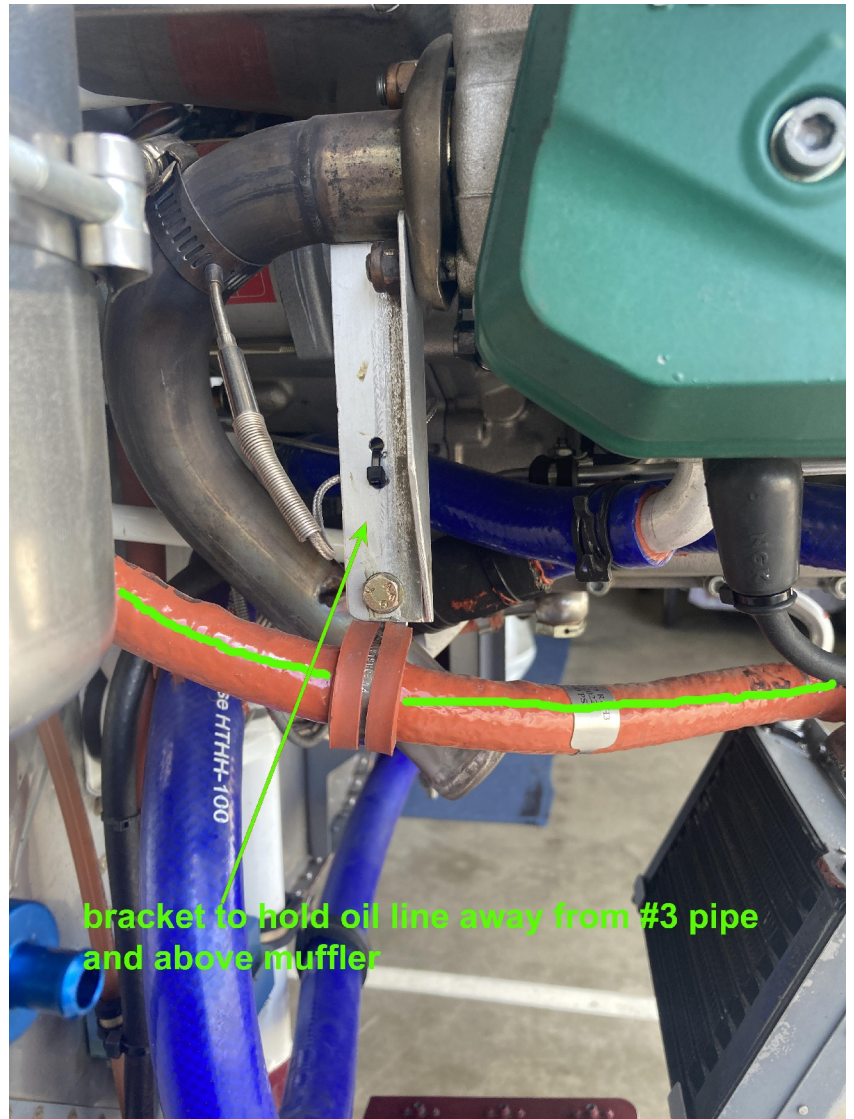
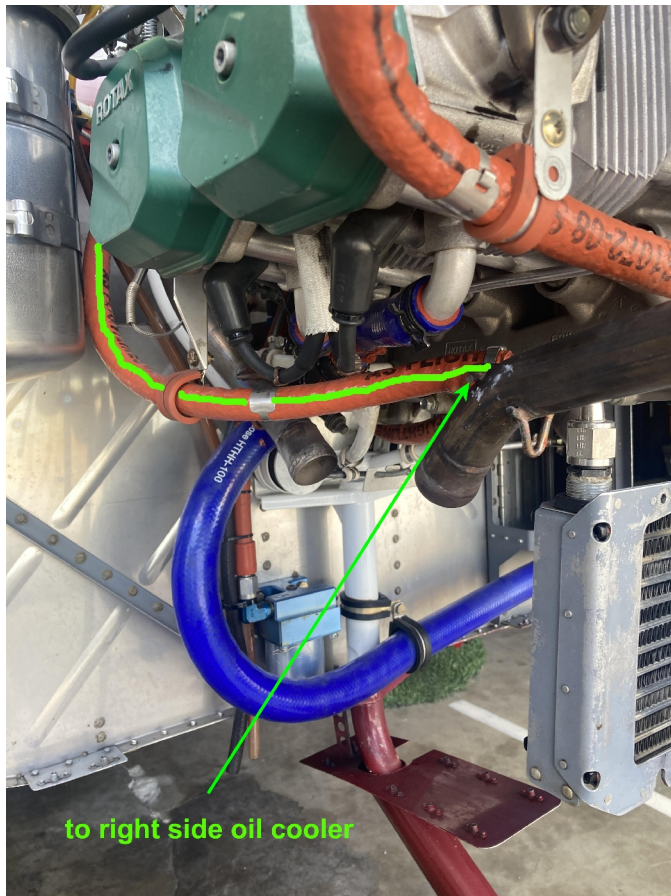
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4. You need to purge the system prior to use per Rotax manual.
5. Leak check your entire system prior to going flying.

**ALTERNATE ROUTING FOR RIGHT THERMOSTAT LINES- This routing gives a bit more exhaust clearance and we have had two builders recommend this routing.**







**NOTE:** The bracket on the picture at the right was customer fabricated and bracket/adel clamp are not included in kit.



## HIGHLANDER THERMOSTASIS INSTALLATION

1. 4 hoses are included in the standard package, 5 in the optional package if you want to replace every hose in the oil system.

Hose 1 – 45/Str fitting. 45 goes on oil cooler and str on thermostasis. (See Last picture with explanation)

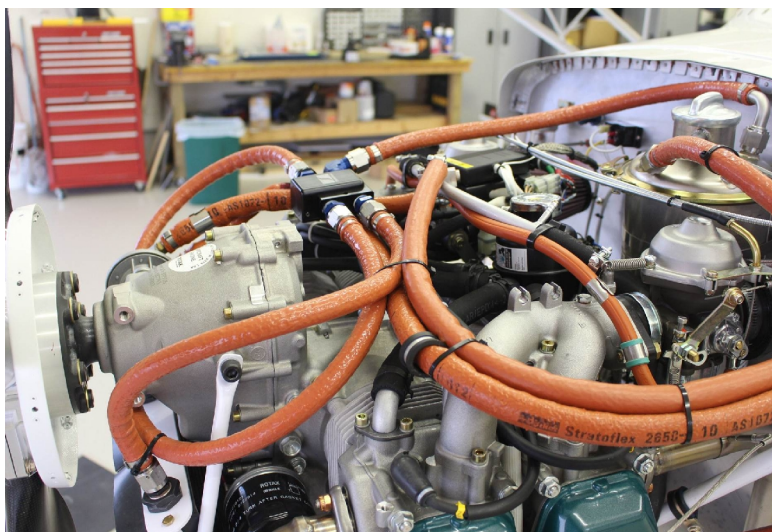
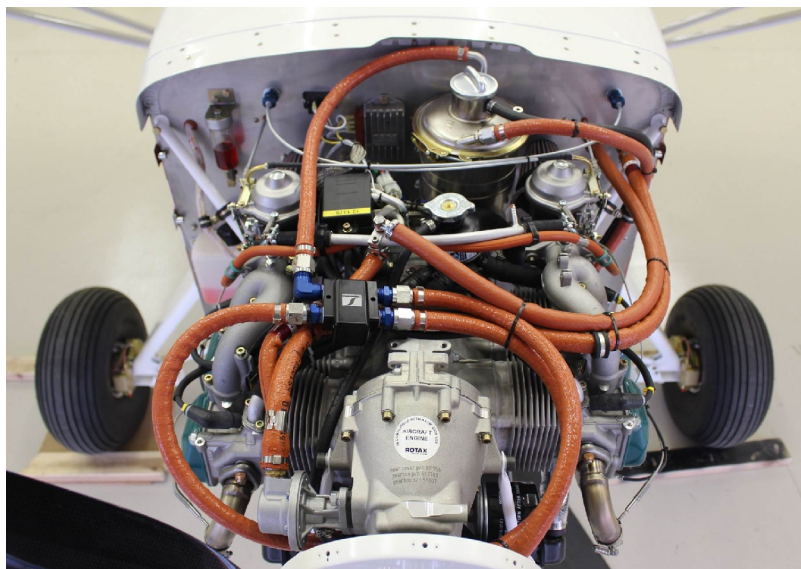
Hose 2- Shortest hose with a 90 on one end – Thermostasis to oil tank out

Hose 3- 2<sup>nd</sup> shortest with a 90 on one end – Thermostasis to oil pump

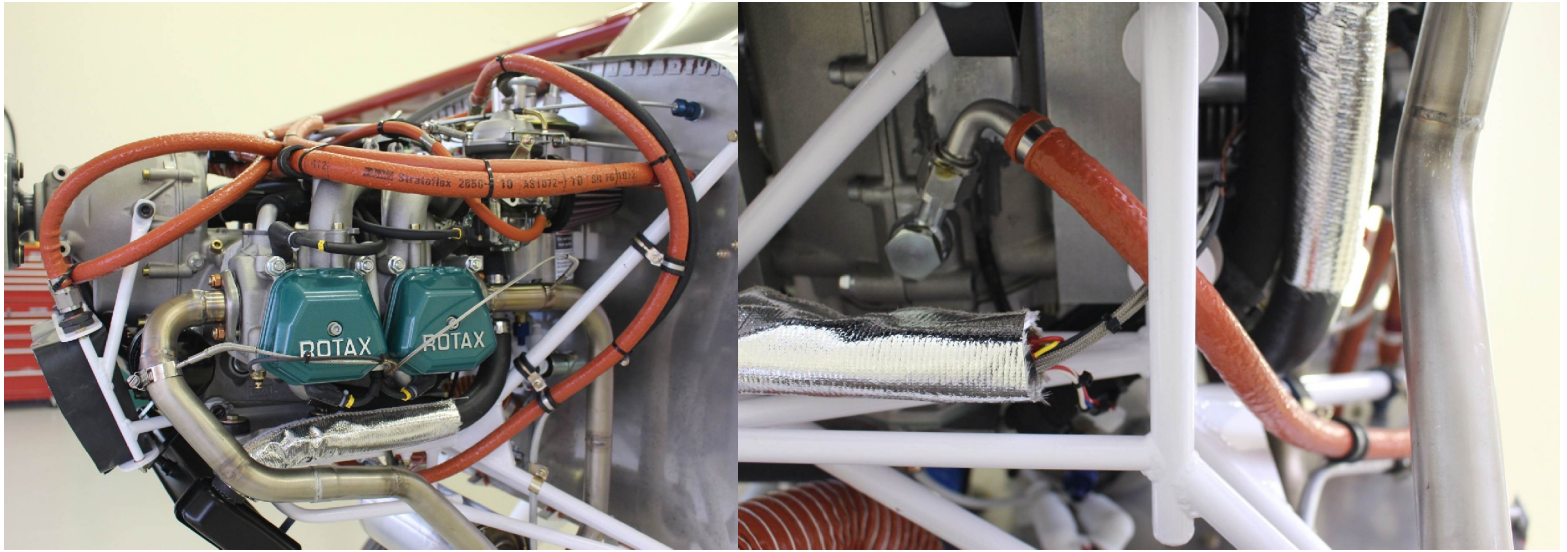
Hose 4- 3<sup>rd</sup> shortest with a 90 on one end – thermostasis to oil cooler right

Hose 5- Longest with a 90 on one end- Bottom of engine to oil tank (Optional hose)

Below are some pictures of the Highlander Installation

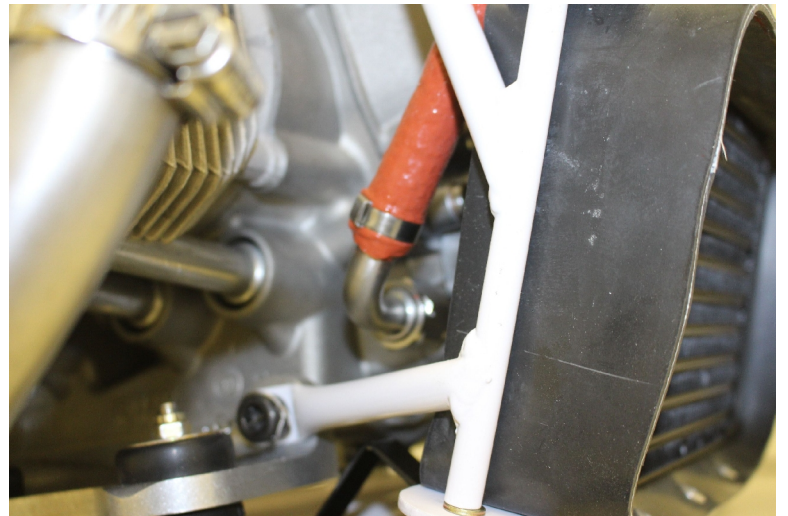






THE PICTURE ABOVE SHOWS THE OPTIONAL 5<sup>th</sup> HOSE

The pictures below shows two important things. The one on the left shows the 45 degree angle adapter at the oil cooler. We have since replaced our hose end with a 45 degree end and leave the original straight adapter in the oil cooler. This is the location where the 45 degree hose end goes. The picture on the right shows the 90 degree fitting on the thermostasis to pump hose.





## RANS S6 THERMOSTASIS INSTALLATION

4 hoses are included in the standard package. **VERY IMPORTANT: IF YOU HAVE A 90 DEGREE RIGID TUBE ASSMSEMBLY RANS PART# KSPW0082 (Pictured in the s7 section of this manual), please contact us prior to ordering as the hose length will need to made differently.**

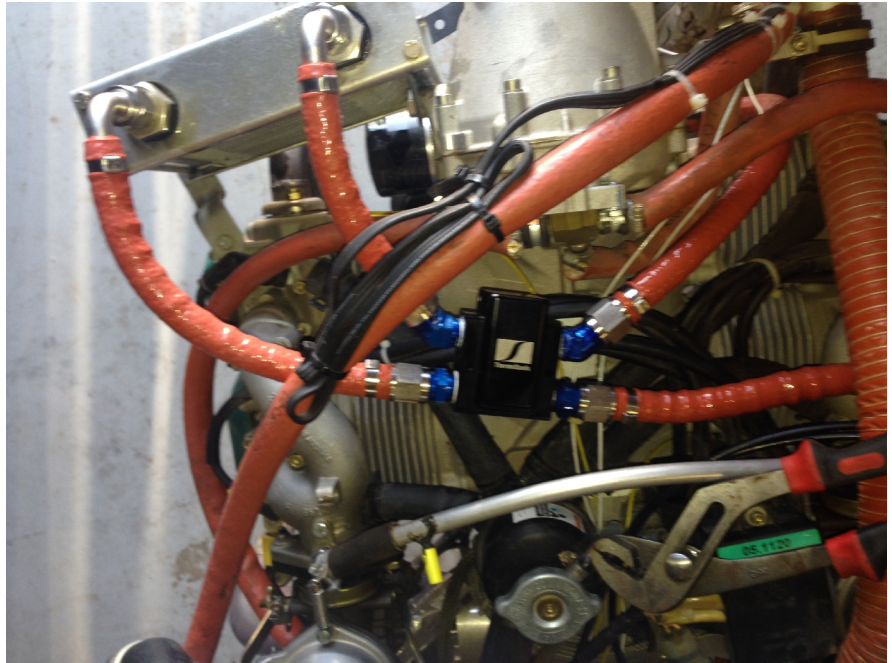
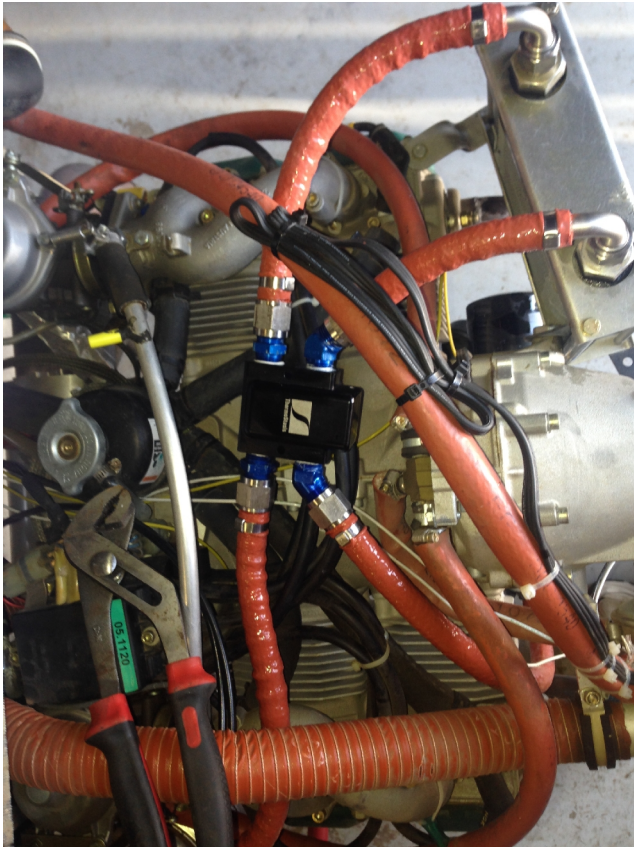
Hose 1 – Straight fitting on each end – Oil Pump to Thermostasis

Hose 2- Shortest hose with a 90 on one end – Thermostasis to cooler right

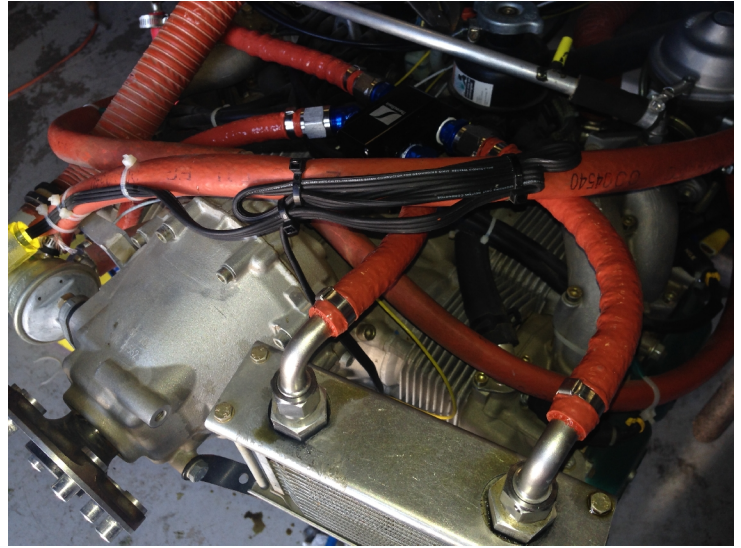
Hose 3- 2<sup>nd</sup> shortest with a 90 on one end – Thermostasis to cooler left

Hose 4- Longest with a 90 one one end – Thermostasis to oil tank

Below are some pictures of the S6 Installation







## RANS S7 THERMOSTASIS INSTALLATION

4 hoses are included in the standard package.

Hose 1 – Straight fitting on each end – Oil Pump to Thermostasis (Note that this attaches to a Rigid tube assembly that is supplied by RANS as part #KSPW0082. (If you don't have this part that is in the pictures below, let us know and we can adjust the kit for you.)

Hose 2- Shortest hose with a 90 on one end – Thermostasis to cooler right (inboard)

Hose 3- 2<sup>nd</sup> shortest with a 90 on one end – Thermostasis to cooler left (Outboard)

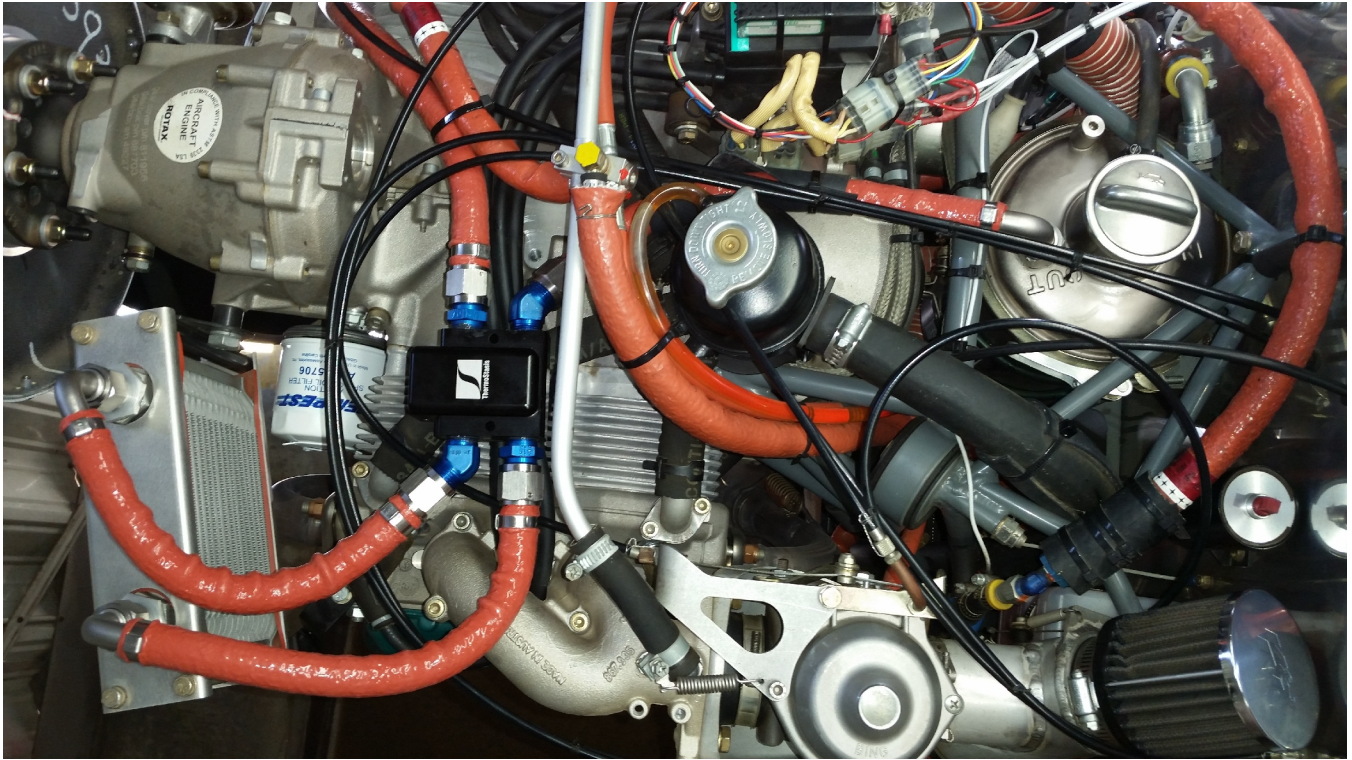
Hose 4- Longest with a 90 one one end – Thermostasis to oil tank

Below are some pictures of the S7 Installation





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BELOW IS THE RANS ELBOW MENTIONED ABOVE....IF YOU DO NOT HAVE ONE, PLEASE CONTACT US SO WE CAN MAKE MODIFICATIONS TO YOUR KIT TO FIT YOUR AIRCRAFT.

