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HotStrip Oil Sump Heater
INSTALLATION & OPERATING INSTRUCTIONS

Failure to follow these instructions WILL result in product failure.
If any of these instructions are unclear, please call for clarification before beginning.

1) Test each heating element before installation by plugging it in for maximum 5 seconds to verify that it gets warm.

2) See photos on page 2 showing how the parts plug together, and do a trial fit. Pick a spot to install the heater(s) that is a flat, smooth area on the bottom or side of the oil sump below the oil level. Do not install on a surface that is not flat, or over raised letters, gaps, dents, etc. Continental 360, 470, 520, 550: heater must go on the side, the bottom is not flat. Lycoming IO-360: for locations see photos in our web site "Installation Instructions". Locate parts away from controls like the throttle and mixture arms, to avoid interference with them. Do not bond to composite (non-metallic) sumps.

3) **Surface preparation is critical.** Paint and anodizing MUST be removed and both of the surfaces (sump and heater) must be scuffed with a Scotchbrite pad and cleaned with alcohol. After cleaning, do not touch the surfaces.

4) **Thorough mixing of epoxy is critical.** Place the Aremco epoxy bag in your pocket for a while to soften it and make it easier to mix, then follow the instructions on the package. Remove the divider clip and lay the bag on a table and roll the two parts back and forth in the bag **for several minutes** with a large socket. Simply kneading the bag a few times with your fingers is NOT sufficient. Apply a coating of epoxy onto the **unprinted side** of the heater (the side with flaps), P/N 14. Position the heater onto the sump and apply firm pressure to squeeze out excess epoxy. Ideal epoxy thickness is 0.010" (like 3 sheets of paper). Use duct tape to hold the heater tightly to the sump while the epoxy cures. Place unused epoxy in the freezer and save it for final touch up in step 5. J-B Weld epoxy #8265 (available in most hardware stores) is a suitable substitute epoxy but **do not substitute any other adhesive including other J-B WELD products.**

5) **Proper curing is critical.** Aremco epoxy cures in 48 hrs at 75° F. Temps cooler than that will inhibit curing. For cold weather installations, it is not necessary to have the hangar at 75°. Tent the engine with a blanket and use the cylinder heaters, a heat lamp, or space heater to warm the sump to 75°. After the epoxy is fully cured (when it's hard), power up the heating elements (with sump full of oil) and watch them closely as they heat up. Probe the epoxy as it heats up and if it gets gooey, unplug it and allow it to cure longer. If using JB Weld follow the curing instructions on their package, except that 75°F is required to be fully cured in the 24 hrs stated in their instructions. Curing of either epoxy is complete when the epoxy is solid. Use epoxy to form a generous bead around and over the heater edges to "lock" the heater in place, and to seal the openings in the corners and the lead wire exit hole to keep out oil, water, or other foreign matter which can short out the heater. Allow this edge bead to cure before running the engine. IMPORTANT: Place a gob of epoxy or RTV over the lead wire exit for strain relief.

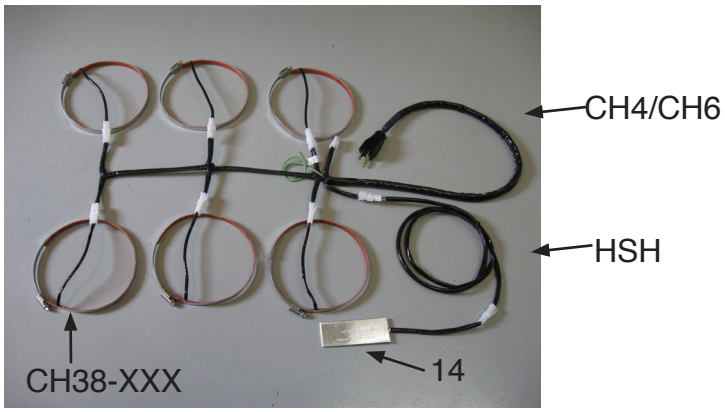
6) Installation of the thermostat (P/N HSTS) is optional. It limits the oil to 190F, however the heaters are not capable of heating the oil that high. Bond it to the oil sump using the same procedure and epoxy as for the heater. The sensor is the small white box, bond it to the sump below the oil level a few inches from the heating elements.

7) Install the oil sump heater harness (P/N HSH or HSPC). HSH plugs into a connector on the cylinder heater harness (P/N CH4, CH6, CH7, or CH9). Route HSH through the rear baffle and down to the sump heater: Cut a 3/8" hole in the baffle, debur it, and insert the provided snap bushing to protect the harness. Then install the connector housing taking care not to install it backwards…see other harness connectors for proper orientation. Polarity doesn't matter. For HSPC locate the AC plug so it will be accessible with an extension cord, typically through the cooling air exit or oil access door. Secure the harnesses using cable ties, clamps, or by bonding to the sump with epoxy or RTV. Avoid interference with any moving parts such as throttle linkage and heat sources such as exhaust pipes. Attach the green ground wire to the engine.

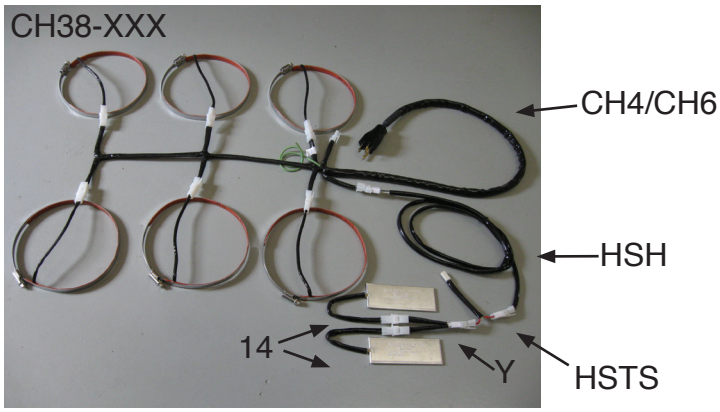
8) Installation of our FAA-PMA preheat system is a minor alteration and does not require an STC or Form 337. See www.ReiffPreheat.com/FAA-PMA.htm for more info. For type certificated aircraft an A&P is required to install them or supervise installation and document the engine logbook and W&B. The weight of your system is printed on the label on your box. The arm is the same as the arm for the engine oil.

Assembly Photos

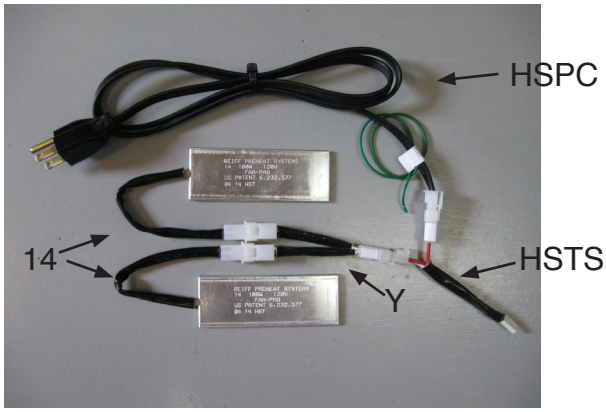
Standard System



XP System
(4 cylinder version
installed on
1454U)



HotStrip
Oil Sump Heater
System



Operating Instructions

For safety use a GFI outlet. Place a blanket over the engine cowling and plug all cowl openings to retain heat in the engine compartment. Plug in the heater 3-5 hours before engine start, 10-12 hours for maximum heating. See the Heating Time Table for more info: www.ReiffPreheat.com/product.htm#Heating time

We suggest using a WI-FI or cellular remote control to make it convenient to turn the preheater on. Continuous preheating during long periods of aircraft inactivity is not recommended, nor do we advocate continuous preheater use as a means to prevent corrosion in inactive engines. Corrosion can occur in engines that are not flown frequently, whether they are warm or not. Every aircraft owner should become familiar with these (see here for links www.ReiffPreheat.com/FAQ.htm#QA3):

Lycoming Service Letter No. L180B "Engine Preservation for Active and Stored Aircraft"

Continental Service Information Letter No. SIL99-1 "Engine Preservation for Active and Stored Aircraft"

During each annual inspection the heaters and harnesses should be checked to make sure they are secure and undamaged. If necessary, replacement parts may be obtained directly from us.

No Fault Warranty

Up to 5 years after your purchase date we will repair or replace any part that fails.