

## Procedure for Cleaning the Alt/Fly Seal Oil Coolers

Date: \_\_\_\_\_

Personal: \_\_\_\_\_

Note which applies:

Alternator Seal oil heat exchanger

Flywheel Seal oil heat exchanger

1.  Assure that the alternator is on Turning Gear
  
2.  Main River Water Pump Loc#MCC-B (2A) ----- OFF (Tag)
  
3.  Aux River Water Pump Loc#517 (NW14) ----- OFF (Tag)
  
4.  Main Seal Oil Pump Loc#MCC-B (2G) ----- OFF (Tag)
  
5.  Alt. DC Seal Oil Pump Fused Disc. Loc#216D-----OFF (Check)
  
6.  Fly DC Seal Oil Pump Fused Disc. Loc#216C-----OFF (Check)
  
7.  Exchanger cooling water supply and returns valve ----Close (Tag)
  
8.  Exchanger oil supply and return valves -----Close (tag)
  
9.  Drain the water from the exchanger either by removing one of the zink inserts or drain plug. Use a gutter if necessary to channel the water to an appropriate drain.
  
10.  Remove both heads from the exchanger one at a time and apply a dog type clamp on each end to hold the oil seal tight preventing leaks.

11.  Inspect both heads looking for high wear indications and metal corrosion. The heads will need to be thoroughly cleaned and may need to be epoxied as well. Remove the zinc anti corrosion inserts to inspect and replace if necessary.
12.  Inspect the condition of the tube sheet before cleaning. Look for metal chips, foreign matter, and any type of damage. Take note of the tube restriction as a percentage of total tubes clogged and make note: \_\_\_\_\_
13.  Inspect the condition of all the gaskets and make new ones if necessary.
14.  Clean the heat exchanger tubes using the Goodway electric rotary tube cleaner. The Alternator exchanger requires ½ inch brushes, and the flywheel exchanger requires ¼ inch brushes. Be careful to work the brushes into the tubes carefully as not to damage the tubes.
15.  Once the tubes are cleaned the heads can be reinstalled. (Note: When the heads are reinstalled it is necessary to apply a good bead (~1/4 inch) of gasket sealer to both surfaces to account for imperfections.) Be sure to use ant seize thread lubricant, and not over torque the bolts. Also assure that the heads are installed parallel to the shell flange.
16.  Wait 15 minutes to let the gasket sealer take a set before testing the exchangers.
17.  Main River Water Pump Loc#MCC-B (2A) ----- ON ( Remove Tag)
18.  Aux River Water Pump Loc#517 (NW14) ----- ON ( Remove Tag)
19.  Exchanger water supply and returns valve ----OPEN (Remove Tag)
20.  Start the river water pump and assure that the water pressure on the exchanger increases to the proper system pressure. Visually inspect the exchanger for any water leaks for a period of 10

minutes. If water leaks from around the exchanger it will be necessary to shut down the pump, open the circuit breakers, remove the heads and make the necessary repair. Most likely the problem will be related to the gasket fit or insufficient gasket sealer. Once it passes this short test it is permissible to proceed.

- 21.  Exchanger oil supply and return valves ---OPEN (Remove tag)
- 22.  Main Seal Oil Pump Loc#MCC-B (2G) -----(Remove tag)
- 23.  Assure alternator is on Turning gear and callout system is armed.
- 24.  Clean up area and wipe down equipment etc..
- 25.  File the completed procedure in the office.