

## MAINTENANCE FOR UNITS IN TROPICAL WATERS

### ZINCS

This is the most important procedure. A full flow Sea Frost condenser without a zinc or without the bonding strap connected will last a very short time. Be sure to check the wear by inspection. Replace every six months or sooner if inspection reveals excessive wear. If the zinc breaks in the brass plug remove the remaining zinc by melting it with a propane torch.

### ALKALI SCALE

Condensers will scale after several years in warm water causing higher head pressures due to the scale interfering with the heat exchange. Remove the zinc. Plug the hole in the condenser with a 3/8" npt pipe plug. Warning: Leaving the zinc in place will make a big battery upon adding acid. This will produce heat and smoke. Don't forget to remove the zinc. Remove the top hose on the condenser and pour muriatic acid into the condenser until it boils out the top.

**Warning:** be sure to follow safety precautions on the muriatic acid container. Most muriatic acid is bottled at 5%-7%. This concentration is what we recommend.

Boiling (foaming) will stop in 4 or 5 minutes. There is no danger of damage to the condenser. Reconnect the hose to the engine and start the engine with the through hull open. After a minute or two of operation to flush out the acid, shut off the engine and through hull and replace the zinc.

### CLUTCH COILS

These fail from heat breaking down the wire insulation in the winding. Damaging heat can be caused by operation with too much charge and by scaling. Clean the condenser. Be sure the charge is minimum for a clear glass. No more than 24ozs for most systems. A single plate or block system will need less than 24ozs of refrigerant.

## **MAINTENANCE**

Like your engine, your SEA FROST needs periodic checking.

### **ROUTINELY CHECK:**

1. The refrigerant charge. (Checking the Refrigerant Charge) **NEVER OPERATE SYSTEM WITHOUT PROPER CHARGE!**
2. Check belt tension and condition
3. Periodically tighten compressor mounting bracket bolts.
4. Check the condenser zinc. **FAILURE TO MAINTAIN THE ZINC ANODE WILL CAUSE EXTENSIVE DAMAGE TO THE SYSTEM!**
5. Check all components, bilge and engine room fittings for corrosion and wear. **BE SURE TO LOCATE AND INSPECT ALL FITTINGS AND COMPONENTS IN THE SYSTEM. KNOW THE LOCATION OF ALL CONNECTION POINTS.** Spray with a rust inhibitor **REGULARLY**. Corrosion unchecked in the marine environment will severely reduce the life of your system.
6. Winter storage will require that the water-cooled condenser be drained or flushed and filled with antifreeze solution to avoid freeze damage. If the condenser is to be left dry flushing with a large amount of fresh water to remove salt deposits is recommended.
7. For tropical lay up, flush fresh water through the condenser.

## **CLEANING**

The plate surface protects itself with a layer of oxidation. You might find after a long period of storage the plate will look chalky. This will not effect operation and is easily cleaned up with a pot scrubber and soap.

## DETAIL OF CONDENSER ZINC ASSEMBLY

