

## **Tides Marine Inc.**

### **Strong/Sure Seal Operation, Maintenance and Troubleshooting**

**Should the boat need to be towed, the drive shaft should be immobilized or the engines allowed to idle to provide lubrication water for the shaft seals. If a crossover line is fitted on a twin-engine boat only one engine need to be idled.**

**If a twin-engine boat is to be operated with one engine shut down, a crossover line needs to be installed or the nonworking shaft immobilized.**

#### **(Maintenance)**

**Tides Marine shaft seals require no winterization and the winterization fluids will not harm them.**

**The shaft seal assemblies should be inspected at least annually.**

- 1. Inspect the blue hose for damage. Inspect the hose clamps for corrosion and proper tensioning. With Strong Seals hand tight with a screwdriver or nutdriver is sufficient.**
- 2. Remove the water lubrication hose from the shaft seal. Make sure the fitting on the seal is clear and inspect for corrosion. If the boat is in the water there should be a strong inflow of water from the slip into the boat. Use the inspection cap attached to the fitting to stop this inflow.**
- 3. In a twin-engine installation repeat step 2. Compare the inflow of water from side to side. They should be about equal.**
- 4. If the boat is fitted with a crossover hose remove it from the shaft seal fitting and make sure it is clear. You should have about as much water out of the crossover as from the primary supply fittings. If the inflow is good you may reassemble the crossover.**
- 5. Inspect the engine fitting to make sure that it is clear and check for corrosion.**
- 6. If the boat is equipped with a spare seal assembly, make sure that it is separated from the Strong Seal and secured firmly on the shaft.**
- 7. With the vessel in the water, idle each engine. Check the water flow from the lubrication hose at the shaft seal. The flow rate should be about one gallon per minute at idle.**
- 8. Make sure that all hoses and clamps are reassembled securely.**

### (Trouble Shooting)

1. **Determine exactly where the leak is. Is it between the seal and the shaft or is it between the hose and seal body? Are there rust or water stains in the bilge? under the seal and or hose? If not, it may not be the seal causing water in the bilge. Is there rust on the stainless steel band below the seal?**
2. **If it is the seal:**
  - A. **Does it leak at rest? Could be a bad spot on the shaft or a damaged seal. Move seal forward to a different place on shaft to try to get it to stop leaking. You may have to polish the shaft before moving the seal forward. If this does not work install spare seal from carrier kit.**
  - B. **Does it leak underway? Could be seal or bearing. Polish spot on shaft and move seal forward to a different place on shaft.**
  - C. **Grab an injection fitting and pull the part sideways. Does it leak more when side loaded? A lot more? If no- probably just the seal. If yes probably the bearing. Replace unit. Some leaking when side loaded is normal for Sure Seals. This is due to the larger tolerances used in the new parts.**
  - D. **How many hours are on the seal? How old is the boat? Less than two years old or 2500 engine hours is a warranty? Is it a warranty? Is so collect information and begin warranty form.**
3. **If it is between the hose and body:**
  - A. **Loosen clamps and make sure that the split bands are positioned 180 degrees from each other. (Strong Seal only)**
  - B. **Reposition clamps so that they are about half on half off the stainless bands and retighten. Be sure not to overtighten. (Strong Seal only)**
  - C. **If this does not work, loosen the clamps and slide the bearing out of the hose far enough to put a bead of silicone around the forward edge of the forward split band. Reinstall with the forward clamp half on half off the split band. DO NOT OVER TIGHTEN THE CLAMPS! (Strong Seal only)**

**If you cannot determine exactly what the problem is or the problem persists after trying the above, turn the call over to a technician at Tides Marine.**