

## **Brac Systems Technical advisory #001**

### **Issue:** Binding control rod

**Background:** The control rod is part of the fresh water inlet assembly. The purpose of this assembly is to assure that a minimum level of water is always in the tank, so that the pump never runs dry. When the water level drops below the minimum level, the float falls, pulling down the control rod, and opening the fresh water inlet valve. The float rises with the water level, and when a sufficient level is reached, the control rod pushes up on the valve arm, closing the valve and shutting off the fresh water inlet.

This is the only function of the float/control rod/fresh water inlet, and it operates independently of all other subsystems in the Brac System. Under normal operating conditions (when there is plenty of grey water in the system), this subsystem will usually never be tripped on.

The proper function of this assembly requires that the control rod travel freely and loosely through both the stainless steel guide tube, and the eye at the end of the water valve arm.

**Problem:** The guide tube is secured to the platform disk, and the valve is secured to the tank wall. Slight movement of the platform disk in relation to the tank can cause a misalignment, resulting in the control rod binding. Pinching the control arm eye between the brass stops can also cause binding.

During assembly and quality control check at the factory, we take great pains to be sure that the control rod travels freely, then we lock down the disk to the tank with two or three set screws, which are screwed through the tank and into the platform disk horizontally, just above the horizontal groove that separates the upper and lower parts of the tank.

During shipping, installation, or over time through use, installers or customers may find that the rod is binding, preventing the fresh water inlet from either opening or closing.

**Solution:** First, be sure that the procedure in the owners manual on adjusting the upper brass stop on the float rod from its shipping position has been followed. Once the unit is installed and stationary, movement of the disk through shock becomes less of an issue. If you find that the control rod is now binding, the first step in resolving the problem is to loosen the set screws. Do not confuse the set screws with the three screws that hold the fresh water assembly to the side of the tank. These screws are in a triangular pattern, and should NOT be removed. The set screws are located no more than a half inch above the groove in the tank. There should be at least two screws, possibly three. You may find that simply loosening the screws resolves the issue. If it does not resolve the issue, remove the screws, remove the tank lid, and shift the disk around very slightly, until the rod is no longer binding. This is most easily accomplished by taking hold of the pressure tank, and jiggling lightly on it to cause the disk to rotate slightly, or shift side to side, or back and forth. There is a very small window of adjustment, so do not overcorrect. Once a proper adjustment is reached, the set screws can be left out, as the tank should be stationary, and, barring a major earthquake, there should be no movement of the disk in relation to the tank.

Also check to be sure that there is a small amount of slack between the brass stops and the water valve control arm. The eye of the valve arm should not be pinched between the stops.

March 01, 2006