Inspecting/Replacing the adjuster shaft O-rings for All models:

This service note applies to the following First Degree Fitness products:

1. All E series including E216, E316, E520, E720, E820, E920.
2. The S-500, S-350 and S-250.
3. The Cycle Xt and UBE.
4. FDR 03 and FDR 02 series rowers.

Faulty adjuster shaft O-rings can allow water to seep along the adjuster shaft and out through the front of the tank. This service note covers inspection and possible replacement of faulty adjuster shaft O-rings.

If a leak is present on your First Degree Fitness product, determining the source of the leak will greatly speed diagnosis and repair. By far the most common leakage point is from a improperly tightened tank plug. Other possibilities are listed below:

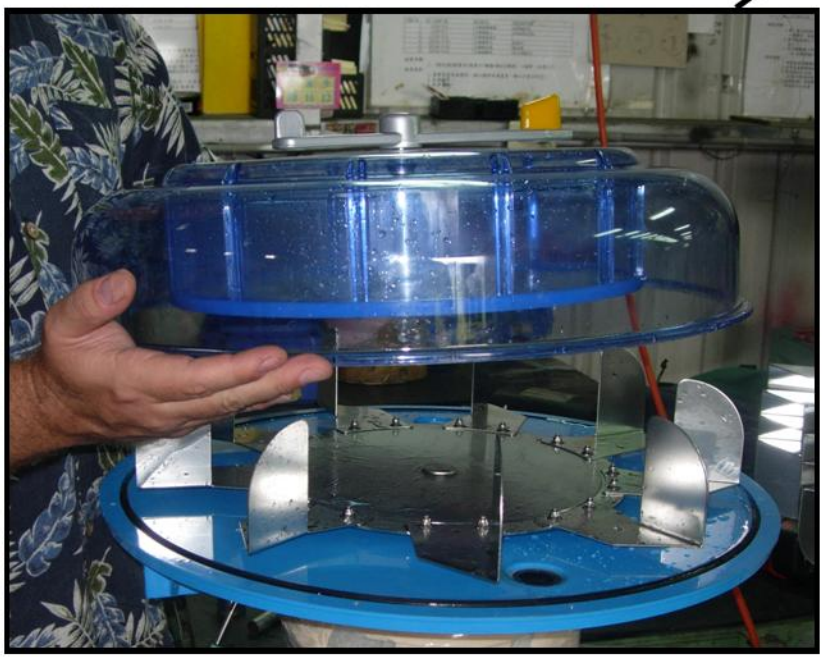
1. Cracked Polycarbonate shell.
2. Adjuster shaft O-rings.
3. Large tank Main seal.
4. Tank main shaft seal.

Removing the PC tank cover

Step 1

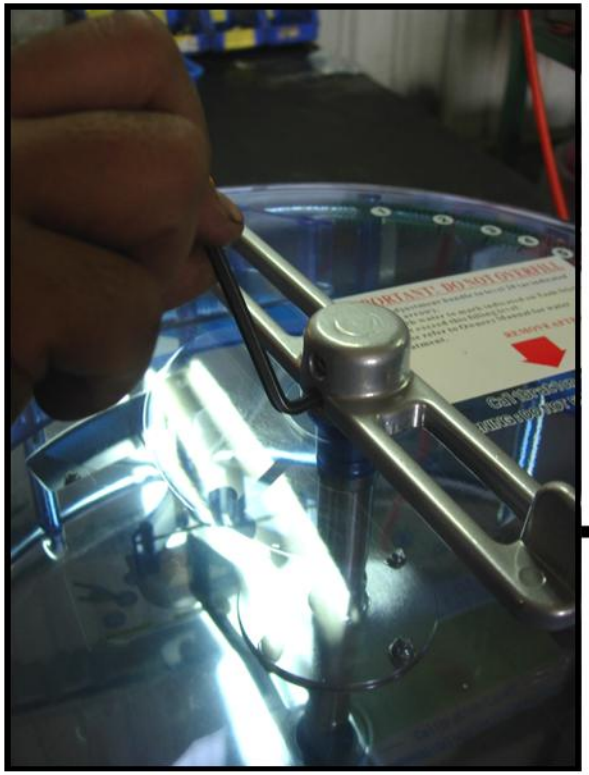
Step 2

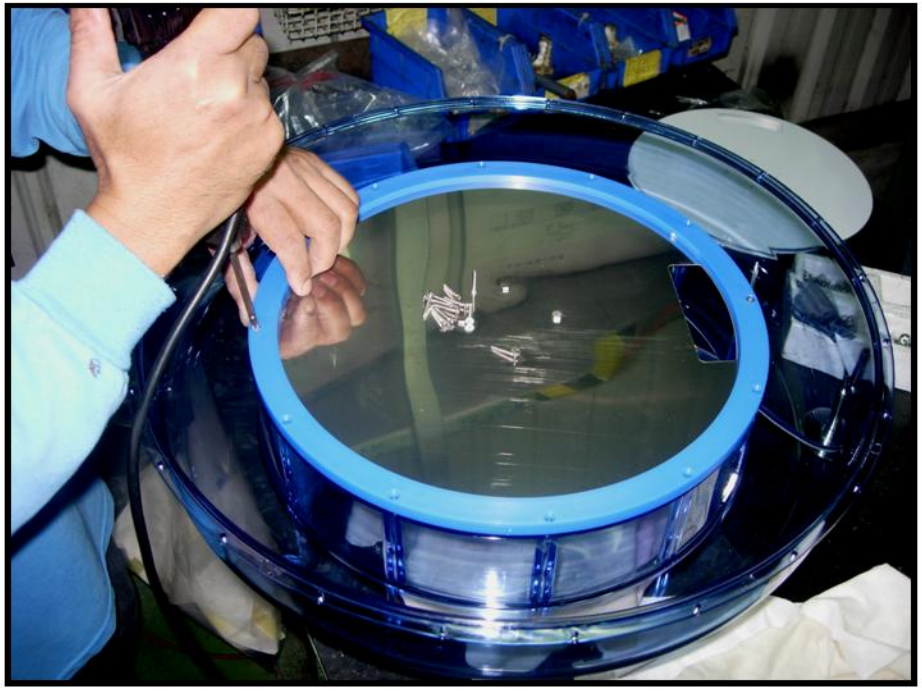
Step 3



Step 4

Start by removing Polycarbonate shell. Once the M3x12mm tank screws (12x) have been removed, use a rubber mallet and drop cloth and tap gently to break loose the outer tank seal. Remove the upper section of the tank, and inspect the O-ring for any signs of cracking tearing or binding. Replace if needed.

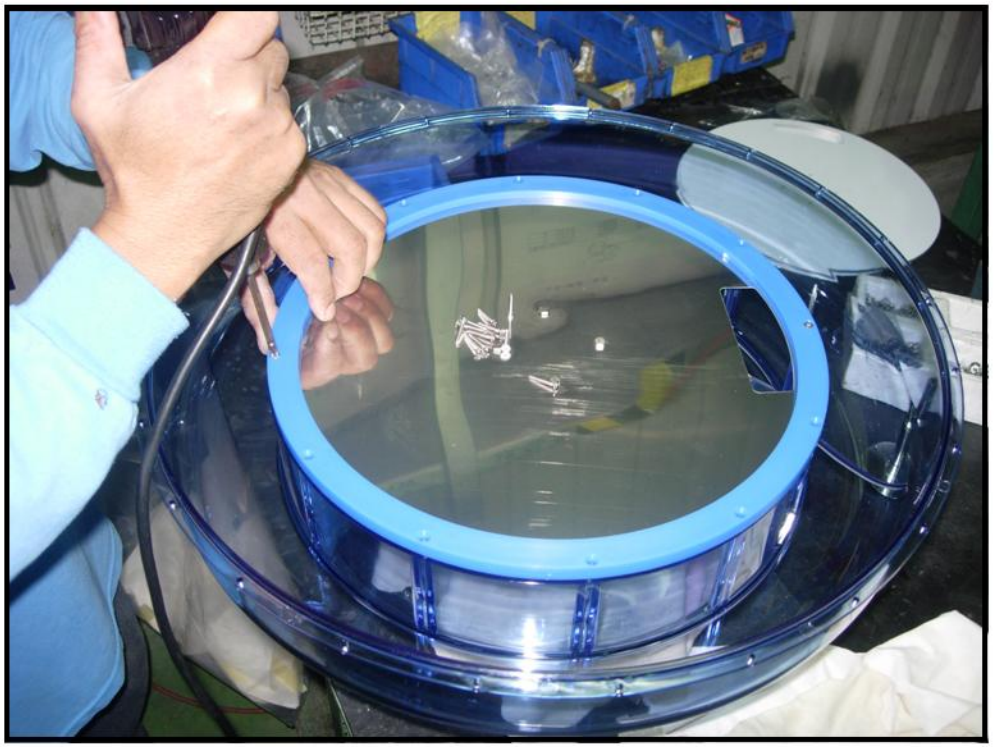




Remove the tank adjuster handle, flip the tank cover over to access the blue Polypropylene ring which holds the adjuster shaft backing plate and adjuster shaft. Remove the 12 Stainless screws, remove the Polypropylene ring. You may now once again turn the tank cover upright, and with a soft rubber mallet gently tap the adjuster shaft through the tank and remove.

Next, remove the 2x small O-rings on the adjuster shaft for inspection. Due to their small size, a small crack or tear may go unnoticed. We recommend using a Magnifying glass for a more detailed inspection. If a fault in the O-rings is discovered, replace them. If the O-rings are undamaged, then lubricate lightly with silicone grease and reinstall them onto the adjuster shaft. Note that un-lubricated O-rings can easily slip out of position upon reassembly, a potential leaking point.

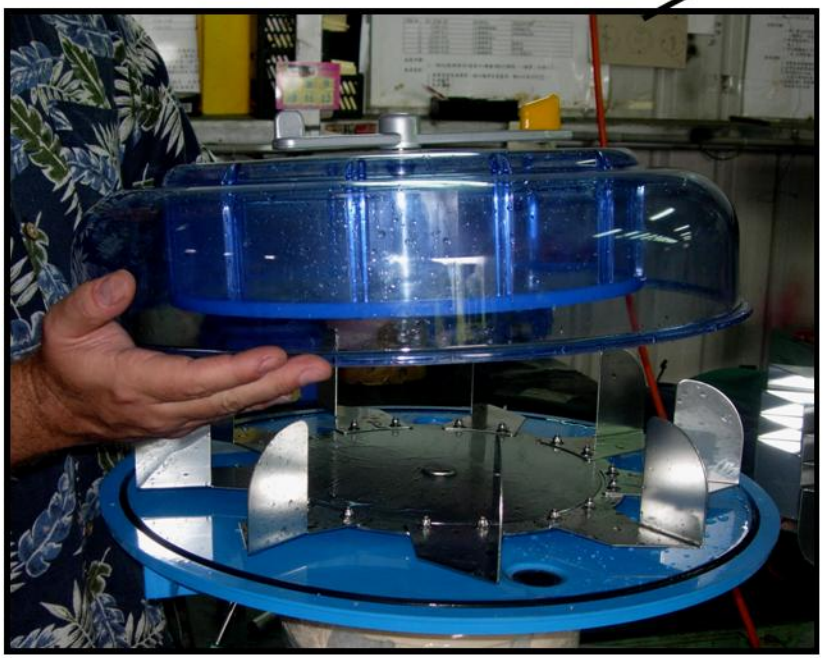
Reinstall the O-rings onto to the adjuster shaft. If you have removed the backing plate from the adjuster shaft then re-place it now. Use a circular motion when pushing the O-rings and shaft through the Polycarbonate as shown. This helps the O-rings maintain their position in the adjuster shaft grooves...



Before reinstalling the Polypropylene ring, it is advisable to “bend” the adjuster backing plate edge slightly. Place one hand in the middle of the backing plate and move use the other hand to pull upward, keeping the pressure on the middle hand to keep it even as you move your outer hand around the plate. This helps tension the plate onto the Polypropylene ring for better performance once reassembly is complete. Reinstall the Polypropylene screws as shown, using the same cross pattern as for a car tire.

Reinstalling the Tank O-ring and Polycarbonate cover

1. Lay the O-ring into the SMC O-ring groove, making sure it is flat and flush before securing the PC cover. An improperly laid and prepared O-ring will seep water over time. If the seal is excessively dry, then add a light coat of silicone.



2. When attaching the PC cover, use a cross pattern with the screws. If a power tool is used, the lightest setting is more than enough to establish a seal. **Note over tightening the tank screws will readily crack the PC cover!**