Water Treatment Concerns for Bumper Boat Ponds

A great deal of the credit for an appealing and successful Bumper Boat operation can be attributed to water quality.

Patrons often judge their willingness to participate based on the pond's water quality. Clean water usually indicates a clean and sanitary environment.

Operators should strive to offer the customers clean and safe water quality along with maintaining water chemistry that protects their investment. It is **important** to understand that certain water chemistry is conducive to promoting a corrosive water environment.

Be aware from the start-up of your Bumper Boat Pond that sever damage can and will happen in a very short period of time if boats operate in corrosive water. Potentially serious and costly damage to Bumper Boat engines and lower motor housings can be avoided by reviewing water standards and good planning.

Remember... It is normally much more economical to avoid, rather than remedy problems after the fact.

It is **important** for all parties involved in maintaining water quality that they understand that a Bumper Boat Pond is different than a Swimming Pool in so much as ideal water chemistry.

A Bumper Boat Pond is similar to a Swimming Pool being that they both should have a properly designed and sized filtration system to handle the volume and water quality concerns.

A favorable Bumper Boat pond for both the patrons and operators can be achieved by maintaining the proper balance of the following four major factors that affect water chemistry.

PH Level-	**7.2 to 7.5**	The measurement of whether the water is acidic or alkaline. On a scale of 1-14, 7.5 is ideal.
Alkalinity-	**120 PPM**	The sum total of all basic alkaline materials dissolved in the water. 120 P.P.M. being ideal.
Calcium Hardness-	**250-300 PPM**	Too little **CH** can lead to corrosion of metallic motor parts. Too much can lead to scale and unsightly stains on the boats and pond surfaces. The ideal level is 250-300 PPM.
Chlorine Residual-	**½ to 1 PPM**	The amount of free chlorine in the water to oxidize dirt, break down oils and kill algae and bacteria. A properly designed filtration system allows for lower chlorine levels to be used.

Remember... Water chemistry is extremely important to understand and maintain. If the water quality is ignored the results will not make you happy.

If you do not have a local pool chemical supplier to assist you, contact Foster Manufacturing. Although Foster does not sell chemicals, we will provide you the names and telephone numbers of suppliers that are experts in their fields and they will work with you.

FOSTER Manufacturing Corporation
1652 Phillips Avenue, Racine, Wisconsin 53403-2116
Phone (262) 633-7073 Fax (262) 633-4458 E-mail info@fostermfgcorp.com Web-site www.fostermfgcorp.com
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PROPER HANDLING and INFLATING of BUMPER BOAT TUBES

The flotation tube is made of very durable and tuff PVC material. Because of the heavy wall thickness and material hardness, minimum air pressure is required. The tube should be inflated so that it feels firm to the touch. **NEVER** inflate the tube so that it feels "rock hard". If a low range pressure gauge is available, it should be used to determine when the tube has been inflated to 2 ½-3 psi. **NEVER INFLATE TO MORE THAN 3 psi AT ANY ONE TIME!!!**

Note: The nature of vinyl is to stretch to some degree based on the ambient temperature. After the initial inflation of the tube and the initial stretch, the air pressure will probably drop-off to 2-2 ½ psi which is fine for operating bumper boats.

Note: When first inflating the tube it should be laid out without any folds. It is important when the air nozzle is being applied that the valve is not twisted and there is some separation between the wall thicknesses of the tube. Separating the wall thicknesses will allow the air to go into the tube and not be stopped inside by the opposite side of the tube.

Note: Again, the nature of vinyl is to stretch to some degree after applying pressure. The greater the pressure, the more the tube will stretch. **DO NOT** repeatedly inflate the tube trying to keep the air pressure up to 3 psi. Repeated inflation will only cause the tube to stretch and depending on the temperature the tube will always drop off in the pressure value. Once a tube has stretched, there is no chance for it to go back to its original size.

Tubes are made from PVC and there are U.V. stabilizers that are added to the material prior to the molding process. The shine or gloss of a tube is the result of the high gloss finish of the molds used in the manufacturing process. To protect the gloss and finish it is necessary to immediately start using a PVC protector (i.e. Armor All) and continue doing so on a regular basis. Routinely clean the tube using a vinyl cleaner and then reapply the vinyl protector. Water chemistry will affect the finish of the tubes as well as the U.V. rays.

IMPORTANT!!! When using the Foster Tube on any other Bumper Boat that is not a Foster Product the **Valve Stem MUST be facing down into the water.**
Do to the fact that all boats are somewhat different in size and style the valve stem might rub against the Boat Hull. The rubbing could cause the Valve Stem to leak at the base or even cause the valve to become loose.
Before installing the tube spray soapy water around the valve stem to make sure there is not a leak and verify that the needle valve has been properly tightened.

NOTE: THERE WILL BE NO WARRANTY CONSIDERATION FOR TUBES THAT HAVE NOT BEEN PROPERLY INSTALLED!!!

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