

ASK THE EXPERT: SPA MAINTENANCE GUIDE

By: All Seasons Spas & Fireplaces

<http://www.all4seasons.com>

Introduction

Soaking in a hot tub or spa can be uniquely soothing and relaxing, but the hot water environment provides some unique hazards along with the benefits. Before adding water to your spa or hot tub, carefully read this guide and your owner's operating manual. Keeping these guidelines in mind will help you safely enjoy your hot water experience.

Also keep in mind the fact that a spa requires special chemical treatment considerations. From a bather load standpoint, 5 people in a 500 gallon spa are equivalent to 219 people in a 20,000 gallon pool. The average person will perspire nearly three pints per hour in water heated at 102 degrees F. Aeration and heat will also result in fairly rapid evaporation and concentration of dissolved solids. So be sure to use only chemicals specially formulated for spas. Never use pool chemicals, they can damage your spa beyond repair.

General Safety Guidelines

People with a medical history of heart disease, circulatory problems, diabetes, or blood pressure problems, and pregnant women should check with their physician before using a spa.

People who are taking medications that might cause drowsiness, such as tranquilizers, narcotics, antihistamines, or anticoagulants, should not use a spa without first consulting a physician. Soaking in hot water could lead to sleep or unconsciousness and possibly result in drowning.

Water temperature that is too hot can raise body temperature high enough to cause heat stroke or for women prolonged soaks at high temperatures may rise core body temperatures high enough to risk birth defects, particularly during the first three months of pregnancy. An accurate, shatterproof thermometer should be used to monitor your water temperature. The water temperature should not be warmer than 100 to 104 degrees. A temperature of 100 degrees is considered safe for healthy adults. At higher temperatures you should use your spa for shorter periods of time. For example, at 102 degrees F. you should use the spa for no more than 20 minutes at a time.

Similarly, alcoholic beverages should not be used before or during spa use. Alcohol is a depressant which causes slowed reflexes and drowsiness. Consuming alcohol while soaking in hot water could result in sleep or unconsciousness and possible drowning.

Never use a spa or hot tub alone. Do not allow children to use a spa without supervision.

Broken or missing drain covers should be replaced immediately to avoid entrapment of long hair or body parts. An anti-vortex drain cover is recommended.

All electrical equipment should be wired according to the National Electrical Code and all relevant local codes under city, county, or state permit. Look for an Underwriters Laboratories (UL) logo on the manufacturer's nameplate for portable spas and all hot tub electrical equipment. Do not use electrical appliances while using your spa. Tape a list of emergency numbers to your telephone. Include local emergency, medical personnel or fire department, and your own address so a non-family member could easily direct emergency personnel to your home if necessary.

Chemical Safety Guidelines

- Read labels carefully before using chemicals.
- Store chemicals according to label directions and keep all chemicals out of reach of children.
- Store spa chemicals away from chemicals used for any other purpose. Keep dry spa chemicals separated from liquid spa chemicals.
- Always add chemicals to water to dilute. Never add water to chemicals.
- Do not mix chemicals with each other before adding to the water. Add chemicals to the spa water separately and allow several minutes between additions. Use the pump, jets, and filter to help dissolve chemicals.
- Do not smoke around chemicals. Avoid direct skin contact with chemicals.
- Use only clean utensils to handle chemicals and use a separate utensil for each chemical.
- Liquid chemicals may be added directly to the spa water by pouring slowly just above the spa water level to avoid splashing.
- Dry chemicals should be dissolved and diluted before adding to the water. To dissolve dry chemicals, dip a clean plastic bucket of water out of the hot tub and add the proper amount of dry chemical to the water in the bucket. Mix well until completely dissolved, and then lower the bucket back into the spa.
- Allow at least 30 minutes for all chemicals to dissolve and disperse and then retest your spa water before using.

Start Up Procedures

Start up procedures vary with each spa type. For Catalina Spas additional information can be found at our Online Catalina Spa Manual or for Coast Spas see the Online Coast Spa Manual. Follow these steps each time you re-fill your spa.

1. Read the instruction manual provided with your spa.
2. Before filling a fiberglass or plastic spa for the first time, clean the surface with an all purpose cleaner. Then use 1 to 2 applications of spa polish such as Fast Sheen.
3. Fill the spa with fresh water to the proper level. Do not use soft water since soft water tends to foam. Spas with top load filters should have the filter removed and then be filled through the filter to reduce the possibility of an air lock in the pump.
4. Start the circulation system and allow it to run 20 minutes before starting any chemical testing. Initially your spa should be ran continuously until your water is clear then if your spa has a filtration timer, set it to operate 8 hours a day. The most beneficial schedule is 4 hours on, 8 hours off, 4 hours on, 8 hours off.
5. Add Metal Protector according to label directions.
6. Use a Qwik Dip strip to determine pH and total alkalinity.

7. If the total alkalinity is not within the acceptable range of 100 - 150 ppm, then adjust as follows; If low, add pH/Alkalinity Up 1 ounce at a time. If high, add pH/Alkalinity Down 1 ounce at a time.
8. Retest for pH if you have adjusted alkalinity. If pH is not in the 7.2 - 7.8 range, add pH/Alkalinity Up or pH/Alkalinity Down 1/2 ounce at a time to bring the Ph within the desired range.
9. Add the sanitizer of your choice (spa bromine or spa chlorine) according to the label instructions to obtain 3.0 - 5.0 ppm free chlorine or bromine. If bromine tablets are used, add 2 ounces of Go-Brom (sodium bromide) powder for every 400 gallons of spa water before adding the tablets. Adjust the brominator to deliver the correct amount of bromine for the size of your spa. It may take several days of adjusting the feeder to obtain the correct delivery rate.
10. Wait two days, then begin with the Day One instructions. Follow the Easy Spa Water Maintenance steps each week.
11. If foam develops, use only enough Foam Gone (defoamer) to eliminate the foam. Do not overdose.

Easy Spa Water Maintenance

The following Easy Spa Maintenance steps are designed to simplify your spa water maintenance routine yet cover all the basic steps needed to assure good water quality.

Day One

1. Test the pH, total alkalinity and sanitizer using your Qwik-Dip test strips.
2. Adjust total alkalinity if not within the 100 - 150 ppm range, using 1 ounce of pH/Alkalinity Up or Down at a time.
3. Retest for pH if you adjusted alkalinity. If pH is not in the 7.2 - 7.8 range, add pH/Alkalinity Up or Down 1/2 ounce at a time to bring the pH within the desired range.
4. Adjust the sanitizer level by adding additional sanitizer (bromine or chlorine) or adjusting the bromine feeder to maintain 3.0 - 5.0 ppm free bromine or chlorine.
5. Add 2 ounces of Spa Bright (water clarifier).
6. Allow your spa to circulate for 30 minutes after adding chemicals.

Day Three

1. Perform steps 1 through 4 from Day One.
2. Add 2 ounces of Stain & Scale Defense per 500 gallons.
3. Allow your spa to circulate for 30 minutes after adding chemicals.

Day Five

1. Perform steps 1 through 4 from Day One.
2. Check and clean you filter is necessary following the Filter Maintenance steps.
3. Allow your spa to circulate for 30 minutes after adding chemicals.

Water Testing & Balance

It is important to test your spa's water at least three times weekly. The Qwik-Dip test strips is by far the easiest method to use and very accurate. pH level and sanitization level is very important and should be monitored closely.

- pH that is too low can cause corrosive damage to pipes, filters, pumps, o-rings, and other equipment and a high pH level will reduce the effectiveness of sanitizers and encourage the growth of bacteria and algae. Spa water pH should be maintained between 7.2 and 7.6 with an ideal pH being 7.4 ppm.
- Sanitization is the process of destroying organisms that are harmful to people. Chlorine and Bromine are commonly used as sanitizers in spa water. Use your Qwik-Dip test strips to check and maintain the correct level. High water temperatures, aeration, and high bather loads will increase the sanitizer demand. If you do not get a sanitizer reading on your test strip, the water probably does not have enough sanitizer present to color the test strip indicator. If you are using chlorine simply add 1/2 ounce and re-test in 20 minutes until the desired level is attained. If bromine is used and the you get no reading on the test strip, add 2 ounces of Go-Brom to establish a bromide reserve.

Filtration System

Operate your filtration system a minimum of 3 to 4 hours per day. The amount of filtration time will vary according to the size of your spa, pump and filter, and bather load. If the water does not remain clear, read the following paragraphs on the filtration system then see Water Clarity Troubleshooting.

The purpose of filtration is to trap and remove larger particles of debris. These particles are not entirely removed from your water system until the cartridge is removed and thoroughly cleaned. Thus your filter cartridges should be cleaned regularly. Spa Bright (water clarifier) should be used at least once a week in your spa to assist in the filtration process. Spa Bright will coagulate and floc suspended particles from the spa water allowing them to be filtered much easier.

Filter Maintenance

Your spa filter cartridge(s) should be inspected weekly for signs of debris or discoloration. Typically you will need to clean the filter cartridge once or twice a month at the least, more often for heavier bathing loads. Follow these directions to clean your filter cartridge.

1. Remove your filter cartridge(s) from your spa.
2. Put a spare set of filter cartridges back in your spa. Add 2 ounces of Spa Bright to your spa. Run your spa pump for 20 minutes. Your spa is ready to use.
3. Using a garden hose or power washer (on medium to low pressure), rinse off the filter cartridge.
4. Brush the pleats with a soft brush to dislodge debris.
5. Soak the filter cartridge in Liquid Filter Cartridge Cleaner following the label directions. The filter cleaner will remove oil based contaminants that will not normally be removed by rinsing the cartridge alone. If the filter cartridge is not a white color but brownish, you'll need to use the Liquid Filter Cartridge Cleaner.
6. Brush the pleats once again to dislodge any debris.
7. Rinse off the filter cartridge again trying to get most of the debris out from in between the pleats.

8. Allow your filter cartridge to dry about 24 to 48 hours. It will be easier to remove the majority of the debris between the pleats when the cartridge is dry.
9. Use a soft brush to remove the remainder of the debris from between the pleats of the cartridge.
10. The cartridge can be soaked in a 50 ppm chlorine solution (strong) to disinfect it, then allowed to dry.

Foam Control

Circulation of spa water combined with oils, lotions, and soap residues of bathers can cause the water to foam during use. In addition, soft water has a tendency to foam. Use Foam Gone to quickly eliminate foam when it develops. Spa water that has not been drained in the past 90 days may foam as a result of over saturation. Draining, cleaning, and refilling the spa is the only cure for this type of foaming.

Spa Fragrances

Using spa fragrances may enhance your spa experience. If you select a fragrance, be sure the fragrance is for use in a spa and does not contain a high oil base concentration to prevent possible damage to your spa.

General Spa Maintenance

Your spa should be drained, cleaned and refilled with fresh water at least every 6 months, sooner under heavy bather loads. We recommend changing your spa's water more frequently versus continuing to add chemicals to cure a bad water condition.

To clean your spa, drain it and scrub it out with All Surface Cleaner (a non-abrasive, super strength degreaser/cleaner).

After the spa is dry, apply 1 to 2 coats of Fast Sheen (spa polish) to restore luster and protect the spa finish.

Clean your filter cartridge following the steps in Filter Maintenance.

Many stains around drains and inlets have to be cleaned by hand, but they can be kept from returning. Stain & Scale Defense and Metal Protector can reduce or eliminate the buildup of stains.

If your spa is equipped with a skimmer, clean it of hair and debris after each use. In addition, check the skimmer frequently.

Clean your spa cover regularly and apply Cover Treat conditioner to protect the surface.

Troubleshooting Your Spa Water Problems

Spa Water is Not Clear

Many times we get calls regarding water clarity problems. The following is a list of common problems you should check before calling for service since it very rare that your spa is not functioning or filtering properly.

1. Your spa should be drained, cleaned and refilled with fresh water at least every 6 months, sooner under heavy bather loads. We recommend changing your spa's water more frequently versus continuing to add chemicals to cure a bad water condition.
2. Check to be sure your filter is clean. Be sure you are following the Filter Maintenance steps. Commonly the filter is not being cleaned properly or completely and be sure to soak the filter in Liquid Filter Cartridge Cleaner.
3. Add 2 ounces of Spa Brite and run the filter or jets for 2 hours. If your spa has an air venturi or blower then turn it on. Spa Brite coagulates particles together that may be too small to be trapped by your filter. Scum will most likely form around the water line of your spa after several minutes. This indicates that the Spa Brite is doing its job. It is much easier to wipe up the scum line off with a sponge shortly after it forms versus trying to get it off after it has set for several hours.
4. Your spa filter timer should be set to run a minimum of 2 hours twice daily for minimal bather use. For average use set your filter timer for 4 hours twice daily. If you are experiencing water clarity problems, set your filter timer to run continuously for the next 24 hours.
5. Be sure your pH and sanitization levels are correct, see the Easy Spa Water Maintenance steps.
6. Shock your spa water using Shock Out which will help eliminate dull or hazy looking water as well as reducing the "chlorine smell". Shocking your spa's water will oxidize the dissolved organic impurities and restore water clarity. Oxidation is a supplement to filtration. Filters remove the dirt and debris suspended in the water, but no filter can remove dissolved impurities that are not physically separate from the water.
7. When all else fails, drain and refill your spa. Some people have attained good results draining 1/2 of the spa every other month along with following the Easy Spa Water Maintenance steps.

Water Smells of Chlorine/Bromine

Test your water to be sure that the chlorine or bromine level is within the desired range using your Qwik-Dip test strips. If your chlorine/bromine is too high then that is most likely the problem. The sanitization level will gradually disappear over time (shorter with chlorine). If your sanitization level is within the desired range then shock your spa's water using Shock Out which will help eliminate dull or hazy looking water as well as reducing the "chlorine smell". Shocking your spa's water will oxidize the dissolved organic impurities and restore water clarity. Oxidation is a supplement to filtration. Filters remove the dirt and debris suspended in the water, but no filter can remove dissolved impurities that are not physically separate from the water.

After reading and following the above instructions and you are still having problems with your spa's water condition, please feel free to call us at 877-687-7727.