



**STARLIGHT**  
HOT TUBS™

**SPA MANUAL**



[www.starlighthottubs.com](http://www.starlighthottubs.com)



**CLEAN WATER  
SYSTEMS**



**CLEAN AIR  
FACTORY**



**MADE IN  
THE U.S.A**



**ENERGY  
EFFICIENT**



**RECYCLING  
PROCESS**

**“We reserve the right to improve our product without notice”**

Copyright © 1/1/11 Starlight Hot Tubs™ (A division of Thermal Hydra Plastics). All rights reserved. Specifications may change without notice. International products may be configured differently to meet local electrical requirements.

# TABLE OF CONTENTS

## **5 INTRODUCTION**

5 ICON Key

## **6 IMPORTANT SAFETY INSTRUCTIONS**

6 Read and Follow All Instructions

## **8 STEPS FOR A SUCCESSFUL INSTALLATION**

8 Delivery

9 Site Selection and Preparation

9 Installation – Placing Your Spa

11 Electrical Hook-Up Requirements

13 Filling Your Spa

## **14 TOPSIDE CONTROL - TURNING ON YOUR SPA**

14 Topside Control Button Reference Display

## **17 WATER PURITY & FILTRATION**

17 Keeping The Water Clean

17 Spa Chemistry 101

19 How To Use the Chemicals

19 Usage Definitions

20 Starting A Chemical Maintenance Program

22 Filtration

23 Ozone Generator

## **24 JETS**

24 Types Of Jets

25 Jet, Air & Water Controls

25 Cleaning The Rotating Jets

25 Jet Removal

**26 MAINTENANCE**

- 26 Pillows
- 26 Spa Skirt
- 26 The Shell
- 26 Spa Cover
- 27 Winterizing
- 28 Draining The Spa
- 29 Energy Efficiency

**30 APPENDIX A**

- 30 Troubleshooting
- 30 System Trouble
- 30 Controls
- 31 Pumps
- 31 Jets
- 31 Water
- 33 Frequently Asked Questions
- 34 Warranty

## INTRODUCTION

Congratulations on your purchase of a new Starlight Hot Tubs™ spa! Your spa is designed and manufactured with the finest components available and is engineered with comfort, low maintenance, and durability in mind.

You will enjoy your spa for several years to come if you are diligent with the care and maintenance of your spa. This manual will help you to determine the best way to take care of your spa based on the amount of use and the type of environment your spa is installed.

It is very important for you to read the entire manual before attempting to use your spa. Contained in this manual are important maintenance and start-up procedures as well as safety precautions that must be followed to ensure the prolonged life of your spa and the safety of the people using the spa. Failure to follow start-up procedures may damage your unit and void your warranty.

Please feel free to contact Starlight Hot Tubs™ if you have any further questions after reading this manual. We hope you enjoy many years of fun and relaxation in your new Starlight Hot Tubs™ spa.

### ICON Key

The Icon key on the left defines the type of information boxes that will appear throughout the manual. The boxes highlight helpful information that contains useful tips or warnings that apply to the use and care of your spa.

### ICON KEY



Safety Tip



Key Point



Warning!

# SAFETY FIRST

## IMPORTANT SAFETY INSTRUCTIONS!

### READ AND FOLLOW ALL INSTRUCTIONS.

### SAVE THESE INSTRUCTIONS.



Electrical  
Warning!

When installing and using this electrical equipment it is recommended that a licensed and bonded electrician perform the work. Basic safety precautions should always be followed, including the following:

- A pressure wire connector is provided on the outside of the control box to permit the connection of a solid copper bonding wire between the spa and any metal equipment, metal enclosures of electrical equipment, metal water pipe or conduit within 5 feet of the spa as needed to comply with local requirements.
- A green colored terminal (or a wire connector marked "G", "GR", "Ground", or "Grounding") is provided. To reduce the risk of electric shock, connect this terminal to the grounding terminal of your electric service or supply panel with a continuous green insulated copper wire equivalent to the circuit conductor supplying this equipment.
- The electrical supply must include a suitably rated Ground Fault Interrupter Circuit to open all underground supply conductors to comply with section 422-20 of the National Electrical Code. ANSI/NFPA 70-1987. The power supply cut off must be readily accessible to the spa occupant, but installed at least 5 feet from spa water.
- Test the performance of the GFCI according to manufacturer recommendations. If the GFCI does not perform correctly, there may be a ground current flowing indicating the possibility of electric shock. Disconnect the power until the fault has been identified and corrected.



Electrical  
Warning!

- **DANGER – RISK OF ELECTRIC SHOCK.** Install at least 5 feet from all metal surfaces.
- **DANGER – RISK OF ELECTRIC SHOCK.** Do not permit any electric appliance such as a light, telephone, radio or television within 5 feet of a spa or hot tub.



Safety  
Warning!

- **WARNING – RISK OF CHILD DROWNING.** Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use a spa or hot tub unless they are supervised at all times.

# WARNING

## PREVENT DROWNING

1. SUPERVISE CHILDREN AT ALL TIMES.
2. ATTACH SPA COVER AFTER EACH USE.
3. SPA HEAT CAN CAUSE HYPERTHERMIA AND UNCONSCIOUSNESS.
4. SPA HEAT IN CONJUNCTION WITH ALCOHOL, DRUGS, OR MEDICATION CAN CAUSE UNCONSCIOUSNESS.

## PREVENT ELECTROCUTION

1. NEVER PLACE ANY ELECTRIC APPLIANCE WITHIN 5 FEET OF SPA.

NOTE: THIS MARKING IS TO BE REMOVED ONLY BY THE CUSTOMER.



Safety  
Warning!

- **DANGER** – To reduce risk of injury, do not remove suction fittings.
- Installation should provide drainage of the electrical equipment area to prevent electrical shortage.
- Store all chemicals in a cool dry area and keep out of children's reach.
- To reduce the risk of injury:
  - A. Spa heat can cause hyperthermia and unconsciousness! The water in a spa or hot tub should never exceed 104° F (40° C). Water temperatures between 100° F (38° C) and 104° F (40° C) are considered safe for a healthy adult. Lower water temperatures are recommended for extended use (exceeding 10 – 15 minutes) and for young children.
  - B. Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit water temperatures to 100° F (38° C).
- The use of alcohol, drugs, or medication before or during spa or hot tub use may lead to unconsciousness with the possibility of drowning.
- Persons suffering from obesity or with a medical history of heart disease, low or high blood pressure, circulatory system problems or diabetes should consult a physician before using a spa or hot tub.
- Persons using medication should consult a physician before using a spa or hot tub since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.
- Before entering a spa, the user should measure the water temperature since the tolerance of water temperature-regulating devices varies.

# STEPS FOR A SUCCESSFUL INSTALLATION:

---

## 1. DELIVERY

Your new hot tub will be delivered to the **curbside** of your home. You will need to arrange to have your hot tub placed in your desired location and the connection of the electrical circuits. In most cities, permits are required for the installation of electrical circuits. When your hot tub delivery company calls to set up a delivery appointment, you may choose to make arrangements with them to place your hot tub for an additional fee. If that is not a service they can provide, we recommend consulting professionals who have experience moving large items.



Review the path that your hot tub will take through your property along with the size of the hot tub to ensure you have enough clearance. Refer to the chart above for the height, width and depth of a packaged hot tub on a pallet. If there are stairs or other obstacles, the spa will have to travel over to get to the site, additional clearances may be required. Use the supplied measurements to help you determine the best location for your new spa.

We have listed some key points to installing your spa that will help eliminate some of the unforeseeable situations that could occur.

- Do not install too close to a building or structure.
- Leave enough room around all sides to allow access to service panels.
- Install on a load bearing, level platform.
- Do not install less than 5 feet from ground conductors.
- Use non-conductive conduit for all wiring.
- If installing below a deck surface, leave enough room to access and remove service panels.

We recommend a level 4" thick concrete pad if you are installing on land (versus deck or platform). The dimensions of the pad should be at least 3" wider than the spa dimension on all sides. (e.g.: If the spa is 8' x 8', then the pad should be 8'6" x 8'6"). Allow a few days for curing the cement when calculating your scheduled delivery date.

Balconies and upper decks are not recommended for spa installations, but if you choose to do so, keep in mind that a large filled spa with 6 people can weigh as much as three tons. Balconies and decks must be constructed to current state and local building codes and must support at least 100 pounds per square foot.

If you are building a deck around the spa, be sure that the deck does not cover any of the service panels to the spa. If you are building stairs for getting up to the spa, it is recommended that they be installed in such a way that they can be moved out of the way if entrance to the service panels is required.



The most obvious thing to remember is to plan your installation in a location where it will be easy to move from the delivery truck to the location site. Spas are typically transported on a mover's dolly lying on their side. Check for adequate gate clearance and remove any fence panels if necessary to allow access to the installation site.

## 2. SITE SELECTION AND PREPARATION



The location of your hot tub is entirely up to you. Carefully read these instructions for various ideas of locations that your new hot tub may be placed.

By the time you have made your hot tub purchase, you probably have a spot already picked out. Prior to the hot tub delivery, please verify the following:

- Always place the hot tub on a compacted and level surface. The best surface is a level concrete pad. A hot tub, full of water, can weigh a great deal. Please ensure the spot can support the weight.
- Make sure to level your spa before filling it.
- Locate the equipment panel. The system pack, drain valve, owner's manual and optional ozone generator are usually located all in the same area. Be sure that the connections are tightened during draining. Water inside the system pack will cause the pack to fail and the breaker to trip.
- The panels, on all four sides, are removable. Be sure to have access on all four sides.
- Be sure to have easy access to the circuit breaker in the sub panel (240 volt models).
- Never let water into the sub panel (240 volt models), or into the electrical outlet that your spa is plugged in to. Your 240 volt hot tub's sub panel is rain tight when installed correctly with the door closed.

## 3. INSTALLATION - PLACING YOUR SPA

### Outdoor and patio installation

To position the spa correctly in your backyard is very important. The reason is your hot tub's warranty. The warranty on a spa is voided if the site is not level. If you install your hot tub outdoors, a concrete pad is the best method for a stable and level surface. The concrete pad should be four inches thick. All Starlight Hot Tubs hot tubs may be installed on a deck, providing the load rating can handle a full spa with people in it.

### Deck installation

When placing the hot tub on a deck, please ensure the maximum load capacity of the deck. Consult a qualified deck builder or structural engineer before you place the hot tub on an elevated deck or indoors. To determine the weight of your hot tub, please refer to the specifications on the website. This weight must not exceed the structural weight of the deck.

### Indoor installation

When installing a hot tub indoors, there are some special considerations. The combination of heat and moisture will accumulate on the floor and surrounding the hot tub. The flooring material needs to provide a grip when wet. The.....

location also needs proper drainage to prevent water build-up around the hot tub. When building a room for your hot tub, it is best to have a floor drain installed. The humidity of a room with a spa can become a problem if there is not enough proper ventilation. Otherwise, problems such as dry rot, mildew or other problems may occur.

## Ground preparation

Your hot tub has been engineered to rest on a variety of surfaces. The insulated hot tub floor base gives you the ability to find the perfect place. A concrete slab is the best for long term. There are other options available as long as the surface is level prior to delivery. The alternatives are 5/8 minus crushed packed rock, or a deck that is rated for the load.



Brick pavers



Stone, slate, granite



Cement



Decking: wood, synthetic



Packed/crushed gravel: 5/8" minus



Marble, travertine



Decorative cement, stained



Decorative cement & bricks

When placing a tub on crushed rock, the easiest way to maintain its form is to build a frame and fill it with the crushed packed rock. Remember, if the spa is placed on grass or dirt, debris will get inside the spa as the users enter and exit.

It is incredibly important to the operation and the draining of the tub for the tub to be level once it is installed. Failure to have the spa level prior to adding water can affect the warranty.

## 4. ELECTRICAL HOOK-UP REQUIREMENTS - 240V

### Removing spa panels



1. Remove the plastic 'tap-cap' decorative screw head covers from screws on access spa panel.



2. Unscrew the screws from the access spa panel.



3. Remove the spa panel for access to spa components. Reverse these steps to attach the spa panel.

### Electrical connections by licensed personnel

To ensure you will have an opportunity to use your hot tub soon after delivery, it is very important that the required electrical service has been installed.

**IMPORTANT: Electrical connections must be made by qualified, licensed personnel.** Please contact a licensed residential electrician for these services.

All models require a 50 amp single phase, 240 volt circuit breaker in the main electrical service panel. **NOTE: WE RECOMMEND THAT A SUB PANEL BE USED TO SUPPLY POWER AND PROTECT THE HOT TUB.** All 240 volt Starlight Hot Tubs™ must be wired in accordance with applicable local electrical codes, and all electrical work must be done by a licensed electrician. A licensed electrician should install a four-wire electrical service (two line voltages, one neutral, one ground) from the main electrical service panel to the sub-panel, and from the sub-panel to the spa per the appropriate wiring diagram as illustrated below. The grounding conductor must be at least #6 AWG. Your electrician should mount the sub-panel in the vicinity of the hot tub but it should not be closer than five (5) feet from the hot tub water edge (NEC 680-38 to 41-A-3).

**WARNING:** Removing or bypassing the GFCI breakers in the sub panel at any time will result in an unsafe spa and will void the warranty.

**WIRE SPECIFICATION NOTE:** Long electrical runs may require a larger gauge feed wire than stated. We recommend that a maximum voltage drop of 3% be used when calculating the larger wire size.

Refer to the Wiring Diagrams (figure 1-1) for the electrical requirements of the 240 volt models.

**Do not turn on power to the spa when the tub is not filled.**



The closer you locate the spa to the main service panel, the less money you will have to spend on wire. Wire can become expensive if you run long lengths.

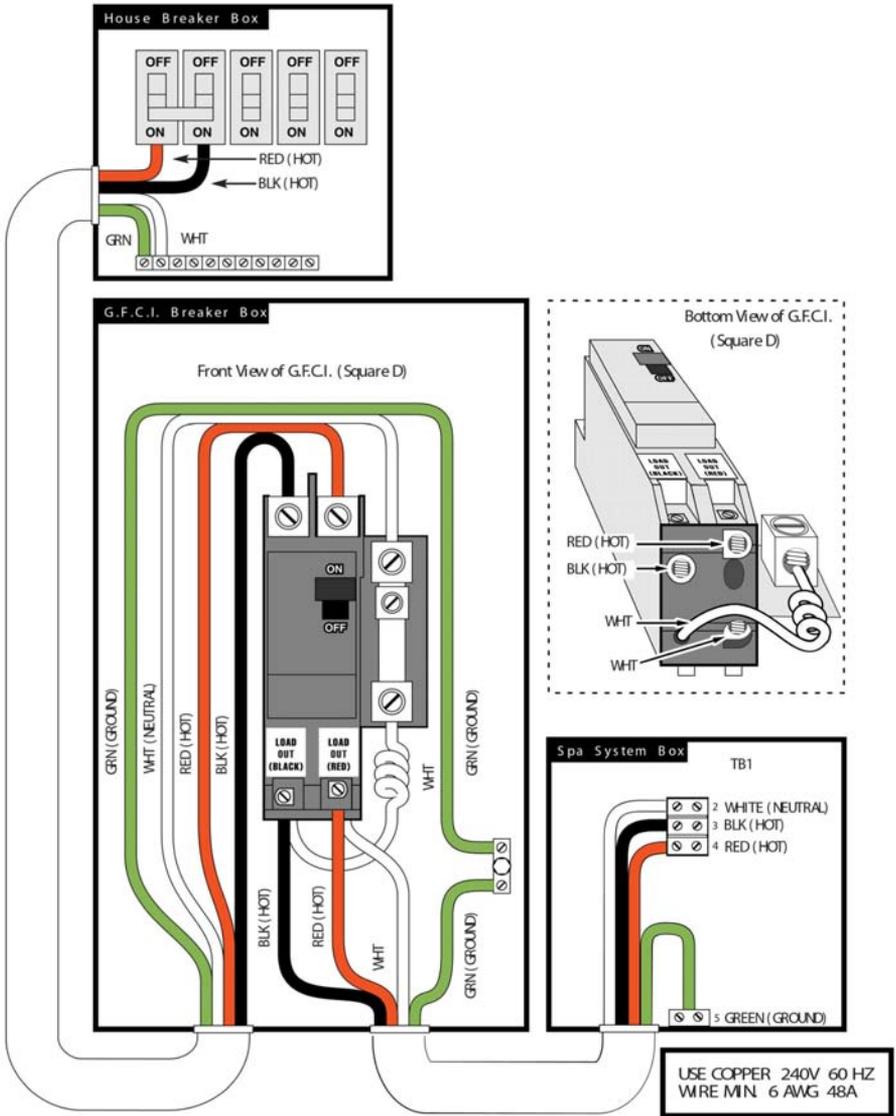


Always shut off power at the source when working with any electrical power!! Failure to do this could result in serious injury or even death!



# ELECTRICAL REQUIREMENTS - 240V (cont.)

**IMPORTANT: Electrical connections must be made by qualified, licensed personnel.**  
Please contact a licensed residential electrician for these services.



**Figure 1-1**  
240 volt wiring configuration from the house to the spa

## 5. FILLING YOUR SPA THROUGH THE FILTER CHAMBER

Before you begin to fill your spa, it is advisable to have your water tested for hardness (water rich in calcium and mineral content). Wells usually contain harder water than urban water supplies. Mineral and metal imbalances in your water can shorten the life of the equipment in your spa. Contact for proper water analysis.

We recommend that you purchase a high quality "Water Test Kit" for checking pH and sanitizer levels. Test the water daily until your "user load" is determined.

Make sure there is no dirt or sediment at the bottom of the tub and that there is nothing inside the filter compartment before filling with water. **Filling the spa through the filter housing will help to prevent air locks (trapped pockets of air) in pumps on start up.**



**IMPORTANT!**  
Improperly balanced water may damage your spa and void your warranty!



**IMPORTANT!**  
Do not fill your tub with water from your hot water heater!



1. Place your garden hose into the filter housing. This will ensure that air bubbles are removed from the lines while you fill the spa.



2. Turn the water on so that most of the water enters through the filter chamber.



3. Fill the water to the proper level – half way up the filter housing as shown in picture above.

# TOPSIDE CONTROLS: TP600

## TURNING ON YOUR SPA

---



Figure 1: TP600 control panel, 6-button (3 pumps)



Figure 1: TP600 control panel, 6-button (2 pumps)



Figure 2: TP600 control panel, 5-button (1 pump)

## Start Up

When the GFCI for the spa is switched on to supply power, a startup sequence of numbers will appear on the display. If no button is pressed, **LINK** will appear after the startup sequence. Press any button to link the panel with the system.

The spa will enter **Priming Mode**. After Linking, press the **Jets Button(s)**  to turn the pumps on and off to verify that all air is purged from the plumbing, particularly the plumbing associated with the heater. If the spa uses a circulation pump, the **Light**  Button turns the Circ Pump on an off during Priming Mode. Priming Mode will end automatically in 4 minutes. Pressing a **Temperature Button** will exit Priming Mode manually. When Priming Mode ends, Pump 1 low will start, if no circ pump is present, however the water temperature will not appear for a minute or so. Once the water temperature is recognized by the system, and if it is below the **Set Temperature**, the heater will start.

## Basic Operation

The **Up** (▲) and **Down** (▼) buttons are often referred to as **Temperature Buttons**. Some panels only have a single Temperature Button. Press a Temperature Button once and the current Set Temperature will begin to flash on the LCD. (The Set Temperature and the actual water temperature are often different.) While the numbers are flashing, press a Temperature Button again to change the Set Temperature. Press-and-hold for faster adjustment. After the new Set Temperature stops flashing, in about 10 seconds, the actual temperature is displayed again and the new Set Temperature is programmed. The spa will now heat to the new Set Temperature as needed.

The **Light** Button turns the Spa Light on and off and is also used in conjunctions with the Temperature Button(s) to navigate the system menus.

## Programming

Refer to the *TP600 User Guide (40940)* for detailed operation, programming and message instructions.



Navigating the deeper menu structure is done with only 2 or 3 buttons on the control panel. Pressing the **Light** button *while the Set Temperature is flashing* will enter the menus. Pressing **Light** after that will proceed through the menu choices. Pressing a Temperature Button while any menu item is showing will either edit it directly or begin an editing sequence.

Depending on the screen displayed, waiting between 10 and 30 seconds will allow the panel to return to normal operation and a display of spa status.

## Filtration

The system is factory-programmed with one filter cycle that will run in the evening (assuming the time-of-day is properly set) when energy rates are often lower. The filter time and duration are programmable. Refer to the *TP600 User Guide (40940)* for detailed instructions.

A second filter cycle can be enabled as needed.

## Dual Temperature Ranges

This system incorporates two temperature range settings with independent set temperatures. The High **Range** ▲ is indicated in the display and might be set between 80°F and 104°F. The Low **Range** ▼ is indicated in the display and might be set between 50°F and 99°F. Low Range may be economical during non-use periods.

More specific temperature ranges, such as 50°F to 79°F for low range, or 90°F to 104°F for High Range, may be determined by the manufacturer.

## Ready and Rest Modes

If the filtration pump is a 2-Speed Pump 1, **READY** Mode will circulate water every 1/2 hour, using Pump 1 Low, in order to maintain a constant water temperature, heat as needed, and refresh the temperature display. This is known as “polling.”

**REST** Mode will only allow heating during programmed filter cycles. Since polling does not occur, the temperature display may not show a current temperature until the filtration pump has been running for a minute or two. **READY/REST** Mode may appear when Jets 1 is activated.

### **Complete Reference**

Download the complete User Interface and Programming Guide at [http://service.balboa-instruments.com/zz40940\\_download.zip](http://service.balboa-instruments.com/zz40940_download.zip)

You may also download a programming guide at <http://www.birchbayhottubs.com/index.cfm/page/product-resources>

The Ground Fault Circuit Interrupter (GFCI) or Residual Current Detector (RCD) is an important safety device and is required equipment on a hot tub installation.

**(The GFCI Test Feature is not available on CE rated systems.)**

### **Used for verifying a proper installation**

Your spa may be equipped with a GFCI Protection feature. If your spa has this feature enabled by the manufacturer, the GFCI Trip Test must occur to allow proper spa function.

Within 1 to 7 days after startup, the spa will trip the GFCI to test it. (The number of days is factory programmed.) The GFCI must be reset once it has tripped. After passing the GFCI Trip Test, any subsequent GFCI trips will indicate a ground fault or other unsafe condition and the power to the spa must be shut off until a service person can correct the problem.

### **Forcing the GFCI Trip Test (North America Only)**

The installer can cause the GFCI Trip Test to occur sooner by initiating it using the above menu. The GFCI should trip within several seconds and the spa should shut down. If it does not, shut down the power and manually verify that a GFCI breaker is installed and that the circuit and spa are wired correctly. Verify the function of the GFCI with its own test button. Restore power to the spa and repeat the GFCI Trip Test.

Once the GFCI is tripped by the test, reset the GFCI and the spa will operate normally from that point. You can verify a successful test by navigating to the above menu. PASS should appear after a temp button is pressed from the GFCI screen.

### **Warning:**

The end-user must be trained to expect this one-time test to occur and how to properly reset the GFCI. If freezing conditions exist, the GFCI or RCD should be reset immediately or spa damage could result.

### **CE Product:**

CE registered systems do not have an RCD Test Feature due to the nature of the electrical service. Some UL registered systems do not have the GFCI Test Feature activated. The end-user must be trained how to properly test and reset the RCD.

# WATER PURITY & FILTRATION

---

## Keeping the water clean – chemical sanitizers

One of the bigger reasons that people require service on their spa is because they haven't followed a chemical application regiment. Water can accumulate impurities that can worsen the performance or even damage the filtration system if chemicals are not applied on a regular basis. The water can even become unhealthy if chemicals are not used to sanitize the water. Improper pH levels or calcium levels can cause either corrosion of parts or scale build-up.

We recommend that you begin a routine of applying chemicals that you can get comfortable with and follow all the time. If you get into a scheduled regiment, it will be easier to remember when to apply the chemicals.

Your spa comes with an ozonator that will do a very good job at killing bacteria and oxygenating the water, but chlorine or bromine are used to compliment the job of the ozonator.

Finally, the best way to keep the water clean over long periods of time is to change the water four times a year. Connect a hose to the drain valve and open it all the way to allow the tub to drain all the way. Use a shop-vac to remove any standing water and debris at the bottom of the tub. Refer to the maintenance section for instructions on cleaning the tub before refilling it.



### IMPORTANT!

Always read directions on chemical container thoroughly before using spa chemicals.

## Spa Chemistry 101

At first, trying to understand spa chemistry can seem like a daunting task to say the least. We intend on helping you understand spa chemicals so that you can maintain the health of your spa at the best level possible.

There are three basic principals to spa water chemistry.

1. Sanitize/Disinfect (kill viruses, germs, etc.)
2. Oxidize (break down organic compounds like oils and sweat)
3. Maintain slightly base (alkaline) water (pH of 7.4 - 7.6). This controls the corrosiveness of the water, prevents excessive scaling (mineral formation on surfaces exposed to water, and insures that the water is comfortable to the skin.



The pH scale goes from 0 to 14, with zero being extremely acidic and 14 being extremely base (alkaline). Seven is considered neutral pH.

Once you have a good understanding of the chemicals that are used in your spa, you will be able to maintain proper water balance. Water balance is reached when all elements (pH, total alkalinity, calcium hardness and total dissolved solids) are within their proper ranges.

The following definitions for chemicals will help you understand what the chemical is and what it is used for:

## Sanitizers

**CHLORINE** - Chlorine is widely used as a sanitizer or disinfectant in pool and spa water to kill bacteria, viruses and algae, and oxidizes ammonia and nitrogen compounds such as swimmer waste. Its formal name is Sodium Dichlor and is referred to as a chlorinated concentrate. Sodium Dichlor is a fast-dissolving, granular, stabilized organic chlorine compound providing either 56% or 63% available chlorine. Cyanuric acid and/or stabilizers are added to prevent U.V. light destruction of the chlorine by the sun.

Chlorinated concentrate produces chlorides and chloramines, which are formed when chlorine has combined with ammonia and nitrogen in pool and spa water. Chloramines exude a foul, "chlorine" odor and causes skin and eye irritation.

**BROMINE** – Bromine is the other commonly used sanitizer or disinfectant in pool and spa water to kill bacteria and algae, and oxidizes ammonia and nitrogen compounds such as swimmer waste. This chemical does not eliminate swimmer waste unless it is combined with an oxidizer (non-chlorine shock). It is very susceptible to direct sunlight, therefore is not efficient in outdoor pools. Bromine is sometimes used as an alternative for people whom are allergic or sensitive to chlorine products.

Bromine products are available as sodium bromide and bromine tablets. The bromide ion has no effective disinfectant or sanitizing capabilities without the use of nonchlorine shock (potassium monopersulfate). Potassium monopersulfate is added to oxidize, or activate, bromide ion to bromine, which rapidly forms the active sanitizer - hypobromous acid - in spa water. Upon reaction with bacteria and other spa contaminants, hypobromous acid is reduced back to bromide ion, ready to be activated again by the next dose of potassium monopersulfate. Potassium monopersulfate begins to produce bromine immediately and continues to do so for several hours, providing sufficient time for oxidation of bather waste and other organic contamination such as ammonia and nitrogen.

**NON-CHLORINE SHOCK (Potassium Monopersulfate)** – Also known as "Oxy-Shock", is an important chemical used in the process of disinfecting and sanitizing the spa water. Non-chlorine shock is used as an oxidation agent to oxidize and eliminate organic contaminants, dead algae and debris, and will also convert the chlorine by-products (chlorides and chloramines) back into free available chlorine.

When used with bromine products, non-chlorine shock is used with sodium bromide in a two-part disinfection system. Potassium monopersulfate (non-chlorine shock) is added to oxidize, or activate, bromide ion to bromine which rapidly forms the active sanitizer - hypobromous acid - in spa water. Upon reaction with bacteria and other spa contaminants, hypobromous acid is reduced back to bromide ion, ready to be activated again by the next dose of potassium monopersulfate.

Most non-chlorine shock products have buffers that reduce pH instability, and corrosion inhibitors that help protect the heater and other metal surfaces.

**OZONE** – Ozone is a powerful gas that is used as a sanitizer and an oxidant to keep the spa water clean and disinfected. Although ozone is about 3000 times more powerful than chlorine, it has a tendency to dissipate quickly and does not create any sanitizer residual. By using an ozonator for your spa, you can cut maintenance time and chemical costs by as much as 60%. Ozone is manufactured by an ozonator (ozone generator) and is dispensed during the filtration mode.

---

## ***pH Controllers***

**SODIUM BICARBONATE** - Commonly used to increase pH and total alkalinity of spa water. Sodium bicarbonate is also known as natural baking soda.

**SODIUM CARBONATE** – Also known as soda ash, is a substance used to raise pH and total alkalinity.

**SODIUM BISULFATE** – Also known as dry acid, the chemical used to lower pH and total alkalinity of spa water.

**MURIATIC ACID** – A liquid acid that is most commonly used to reduce pH and total alkalinity levels. It tends to be very strong and is not recommended for use in spas.

## ***Water Conditioners***

**FLOCCULENT** – A compound which clarifies spa water by gathering oils, dirt, scum, metal deposits and small contaminant particles into larger globules, which then can be easily trapped in the filtering system allowing the filtering system to work more effectively.

**CLARIFIER** – A compound used to remove dissolved solids, metals, dirt, oils, or other contaminants from spa and pool water.

**SCUM BALL™** – A softball sized ball that is kept in the water. The ball is chemically treated so that it attracts contaminants that would normally be trapped in the filter.

**SEQUESTERING AGENT** – Stain & scale preventing compounds that sequester dissolved metals to prevent water discoloration.

**CALCIUM CHLORIDE** – A soluble white compound used to raise the calcium hardness of spa & pool water, to protect equipment from corrosion.

**ALGAECIDE** – A chemical used to kill algae and prevent it from growing back.

**DEFOAMER** – A compound used to reduce or eliminate foaming in spa water. Products containing Chitin do this naturally.

**CHITIN** – A naturally occurring polymer (pronounced KY-tin) found in crab and lobster shells. As a spa clarifier, it is the best flocculating agent available. Removes oils, dirt, scum, and metal deposits and allows the filtering system to work more effectively.

## **How To Use The Chemicals**

Now that you have some knowledge about spa chemicals, you will learn how to use those chemicals to maintain balanced water in your spa. This section will explain how to apply chemicals, how much to use, and when to use them.

## **Usage Definitions**

Before getting into how much and when, it is important to understand some of the terminology that is used to describe how the chemicals are applied:

**P.P.M.** – Parts Per Million. Expressed as a ratio of number out of 1 million.

**SHOCK** – Addition of an oxidizer (OXY SHOCK) or superchlorinator to the water to break-down the organic contaminates on which bacteria feed and to destroy ammonia and nitrogen compounds (oxidize only).

**SUPERCHLORINATION** – Means the addition of enough chlorine in the water to kill all living things (sanitize) and destroy any organic wastes present in the water (oxidize). Usually this means about double your normal dose of chlorine. Superchlorination can be done once a day for heavy bather loads or as infrequent as once a week for a moderately used spa.

**CHLORINATION** – To add chlorine to your spa on a regular basis to disinfect and oxidize your spa water.

**BREAK POINT CHLORINATION** – The process of shocking the water with significant quantities of chlorine to oxidize all contaminants and organic wastes and leave all remaining chlorine as free chlorine.

**CALCIUM HARDNESS** – A measure of the amount of calcium dissolved in water. Water with low hardness can lead to corrosion of metal parts. Water with high level of hardness can cause scale (calcium crust) build up on spa surfaces and clog filters, heaters and pumps.

**WATER BALANCE** – Water balance is reached when all elements (pH, total alkalinity, calcium hardness and total dissolved solids) are within their proper ranges.

**ENZYMES** – Biodegradable proteins which breakdown oils, films and digest scum in spa water.

**FREE CHLORINE** – The amount of chlorine available to kill bacteria or algae. Also known as “Available Chlorine”.

**COMBINED CHLORINE** – The portion of the total chlorine in water in chemical combination with ammonia, organics, and nitrogen, most of which are chloramines.

**TOTAL ALKALINITY (TA)** – The measure in PPM of all the dissolved base/alkaline material in the water. The acid-neutralizing capacity of water which indicates its buffering ability, or resistance to fluctuations in pH.



**WATER BALANCE** is reached when all elements (free chlorine, pH, total alkalinity, calcium hardness and total dissolved solids) are within their proper ranges.

**TOTAL DISSOLVED SOLIDS (TDS)** – The total amount of dissolved materials in pool or spa water. The ideal range is from 1,000 to 2,000 ppm in pools and 1,500 ppm above the start-up TDS in spas.

## Starting A Chemical Maintenance Program

Ultimately, in a chemical maintenance program, the goal is to maintain water balance. If you apply chemicals and test your water on a regular basis, water balance is easy to maintain and your spa water will stay clear and healthy. Although test strips are fairly accurate, test kits are also available that are very accurate and will test everything that you will need to monitor your water chemistry.

Three main parameters should be tracked closely:

1. pH
2. Free chlorine
3. Alkalinity

T.D.S. (Total Dissolved Solids) and calcium hardness should be checked after the first three are in the correct range. Test strips and test kits come with instructions on how to diagnose readings to determine whether the chemicals are in the right range. Table/Figure 2-1 shows how to dispense chemicals and how often to do it.



**WATER BALANCE** is reached when all elements (free chlorine, pH, total alkalinity, calcium hardness and total dissolved solids) are within their proper ranges.

In the beginning, it is a good idea to test your water daily to learn how the water changes with the addition of chemicals. By keeping a log, you will be able to keep better track of your water condition.

When adding water to your spa for the first time or changing the water, you should superchlorinate the water by doubling (1 tbsp. Per 100 gallons) the regular dose of chlorine. It is a good idea to wait for 8 hours before entering your spa after superchlorinating the water.

Remember that keeping your spa water healthy keeps you, your family, and your guests healthy too. Most service calls for spa repairs are related to problems caused by not maintaining balanced spa water.

**Figure 2-1:** Spa water care

PARAMETER	INDICATION	SCHEDULE	ACTION
pH	< 7.2 pH	Check bi-weekly or more for heavy use	Add Spa Up™
pH	> 7.8 pH	Check bi-weekly or more for heavy use	Add Spa Down™
Chlorine/Bromine	3 – 5 ppm	Check bi-weekly or more for heavy use	Add Chlorine or Bromine
Alkalinity	80 – 120 ppm	Check bi-weekly or more for heavy use	Add Alkalinity Increaser
TDS	< 3000 ppm	Check monthly	Drain and refill if > 3000 ppm
Oxy-Shock		Add bi-weekly or more for heavy use	Add Oxy-Shock
Hardness	110 – 130 ppm	Check monthly or with new water	Add calcium increaser if < 110 ppm. Drain and refill if > 200 ppm.
Ozone		Ozonator runs on FILTER CYCLES	



**CAUTION!**  
Turn off the power to the spa before removing the filter!

## Filtration

Your spa is pre-programmed to run a 2-hour filter cycle twice a day. For the system to work properly, the filters must be hosed off at least once a week and thoroughly cleaned once a month with a filter degreaser. We recommend that you buy an extra filter cartridge from your hot tub dealer to alternate with the filters included with your spa. A dirty filter will restrict water flow and will prohibit the filtering system from keeping your spa clean. If the filters are not cleaned for extended periods, it could possibly damage the pumps.



For the best performance possible, clean the filter weekly.

If you have a problem with floating contaminants, you may want to purchase a skimmer net to easily remove bugs, leaves, etc...

Details on cleaning the filters are included in the maintenance section, but as a reminder, it is important to first turn off the power to the spa. Leaving the power on while changing the filters could allow objects to be drawn into the heater and/or pump and may damage your equipment.

### ▼ To remove FRONT LOADING FILTERS, DOUBLE CARTRIDGE (OR SINGLE CARTRIDGE, NOT SHOWN):

(filter component colors and styles may vary)



Slide door face upwards.



Remove door face.



Pull out leaf basket.



Gently unscrew and remove both filters.



Clean or replace filters.  
Note: be sure not to over tighten filters when replacing.

\* Ensure that the leaf / skimmer basket flange is aligned in the grooves when returning leaf / skimmer to the housing.

Ask your hot tub dealer for more information on the new Microban Filters, a new technology with antimicrobial protection that will inhibit the growth of bacteria and mold.

## Ozone Generator

The spa manufacturing company offers an optional Ozonator made to our specifications. Ozonators supply the spa water with ozone, which is an extremely effective oxidant that will kill bacteria and microorganisms. The Ozonator will distribute ozone into your spa automatically during the filter cycles and will keep your spa and water sparkling clean. Even though ozone is effective at keeping your water clean, it cannot replace the use of chlorine or bromine. Refer to the chemical section for more information.

No maintenance is necessary on the ozonator. The ozonator works during the filter cycles set by the controller only. If your spa did not include an optional ozonator and you would like to have one installed, contact your spa dealer.

# JETS

---

## Types of Jets

Your Starlight Hot Tubs™ spa comes with different types of jets and jet configurations. All jets with the exception of the fixed jets in the foot well by the light are adjustable and can be turned on or off. They all combine to create a luxurious and invigorating hydrotherapy environment that can't be beat.

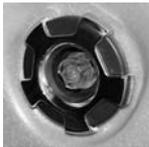
Most of the jets are removable for easy cleaning. It is not uncommon for particulates to get caught in the jets causing them to stop rotating, especially in environments where there are trees overhead or nearby. Refer to the next section for jet cleaning instructions. Most of the jets are easiest to adjust or remove when the pumps are off.

**Many of our jets are illuminated by our multi-colored LED mood lighting to illuminate your spirit.**



### **2.25" Adjustable & directional**

Target areas: Leg, back, wrist. This jet allows strategic placement to group multiple jets together in a small area. These jet groupings allow the hydrotherapy to be maximized in leg, back and wrist areas for your ultimate comfort.



### **3.25" Adjustable & directional**

Target areas: Leg, foot, neck, shoulder, back. This jet can be directed to maximize your ultimate comfort, as it is fully adjustable.



### **5.25" Massage with 14 flow nozzles**

This massage jet delivers an extreme massage action through fourteen concentrated jets. These jets provide unbelievable hydro therapeutic relief to your body at the end of a hard day.



### **5.25" Deep tissue, adjustable & directional**

This adjustable jet provides a high water flow for a deep tissue massage to loosen the extremely tight muscle groups.



### **5.25" Single nozzle, deep tissue, power rotating**

This single nozzle jet rotates an extravagant swirl of water and air bubbles emulating a 'kneading' deep tissue massage.



### **5.25" Dual nozzle, deep tissue, power rotating**

This dual nozzle jet rotates two extravagant swirls of water and air bubbles emulating a 'kneading' deep tissue massage.

## Jet, air and waterfall controls



### Jet Controls

The button 'JETS 1' turns on and off the pump/jets for the lounge. The button 'JETS 2' turns on and off the pumps/jets for all the seating area.

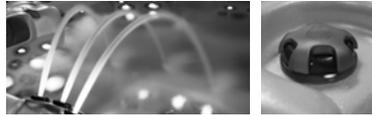
### Waterfall Control

Soothing triple waterfall arches are a featured item and are a focal point of beauty and fun. A handy turn of the knob control allows for complete adjustable of flow to match your every mood.



### Air Controls

These valves, which are located on the top-side, are used to control the air that flows through the jets. By introducing air into the jets, they effectively double their power. Because there are so many tub models, it would be impractical to describe which air controls correspond with what jets. Experiment by opening all the jets and turn on one motor at a time. Turn the air controls one at a time and take note as to what jets are affected. Air controls will only affect the jets that are operating.



## Cleaning The Rotating Jets

Occasionally debris will get caught in the housing of the rotating jets causing the jet to either slow down the rotation or stop rotating altogether. This can easily be fixed by removing the jet and cleaning it. Always turn pumps off before removing jets. After removing the jet, they can easily be cleaned by vigorously shaking the jet while in the water. If the jet nozzle does not spin freely after doing this, move the nozzle to the outside rotating position and turn the nozzle in the rotating pattern until it starts to bind. Move the nozzle back and forth over the binding spot until it starts to free up. Shake the jet in the water again and check for free rotation.

## Jet Removal

To remove jets simply turn the outside ring of the jet counterclockwise approximately one quarter turn and pull jet out (Figure 3-1). To replace the jet, simply place the jet in the shell and turn the jet until the slots line up, then turn jet one quarter turn clockwise until secured. The jet will easily push into place and "snap" when it is locked.



# MAINTENANCE

---

## Pillows

Your spa is equipped with high quality polyurethane foam pillows. These pillows can be removed by simply pulling them off. To replace them, line the receptacle holes up with the buttons on the spa.

## Spa Skirt

Starlight Hot Tubs™ uses a weather-resistant and impact-resistant material for their exterior cabinetry. This material offers the beautiful look of tongue and groove wood cabinetry and comes pre-stained in the color selections provided by Starlight Hot Tubs™.

If access to the plumbing, motors or the controller is required, remove the screws on the service panels using a screwdriver. Panels can then be easily removed by pulling the panel away from the spa.



1. Remove the plastic 'tap-cap' decorative screw head covers from screws on access spa panel.



2. Unscrew the screws from the access spa panel.



3. Remove the spa panel for access to spa components. Reverse these steps to attach the spa panel.

## The Shell

Your Spa is constructed with a high quality, impact resistant, thermoplastic shell that requires very little maintenance. Make sure that when you drain and clean your spa that you use a mild, non-abrasive cleaner and cleaning pads. We recommend that you use a cleaner made specifically for cleaning spas. They tend to be non-abrasive and easy to rinse off completely.



**WARNING!**  
Do not sand  
quarite  
finishes.

## Spa Cover

If you purchased a cover with your spa, you will want to be sure to keep it clean and protected. Spa covers exposed to the outdoors take a beating from the elements. Use a vinyl protectant to discourage deterioration caused by the UV rays from the sun. This will also minimize rain penetration.

Once a month, take the cover off the spa and use a sponge and dish soap to scrub the cover clean. Keeping the cover free of dirt and debris is the most important maintenance task for the cover. Be sure to clean the seams extra well.

Your cover comes with screws that are used to fasten the receiving end of the strap locks. Simply align the cover on the spa and stretch out the straps until

they are tight. Mark the location of the strap receptacles, then fasten them to the spa skirt with the screws supplied.

## Winterizing

If you live in a climate where winter temperatures are below freezing and power to the spa will be disconnected, follow these procedures for draining:



**WARNING!**

Damage caused  
by freezing is  
not covered  
under warranty.

1. Add an algaecide to the water and run pumps for half an hour to evenly disperse algaecide.
2. Turn off power to the unit at the circuit breaker.
3. Drain the spa by attaching a garden hose to the open the drain valve (See section on 'Draining your spa'). After the spa is empty, remove the hose and leave the drain valve open.
4. For freeze protection – Access motor area by removing the outer front panels to the right and left of the controller panel and unscrew the plumbing collars from the pumps. Leave union couplings disconnected. Vacuum out lines with a wet/dry shop vacuum.
5. Soak up any excess water that drains from motors and associated plumbing with a towel. Keep water and debris out by covering with a rigid spa cover.
6. Before using the spa again, reattach pump couplings, close drain valve, and review startup instructions.

If the spa is to be used during the winter, save energy by turning the temperature down and keeping the spa covered. If the spa reaches freezing temperatures, the main pumps will automatically turn on to circulate the water.



## Draining The Spa

We recommend that you drain and clean your spa no more than 3 or 4 times per year, depending on how frequently you use it and how well you maintain your water. In most cases this simple process will only take about an hour to accomplish.



Innermost closed position



Middle open position



Outermost closed position



### Drain Location:

The drain is located in the lower right hand corner of the cabinet under the topside control panel. This position is the innermost closed position.



### Step 1:

Using your hand, pull and slide out the drain plug to the outermost extended closed position.



### Step 2:

In the outermost extended closed position, unscrew the cap. Water should not drain out in this position.



### Step 3:

Screw on a garden hose. Place the other end of the hose in the area you want the water to drain to.



### Step 4:

Once the hose is in place, push in the hose/drain valve half way to the middle 'open drain position' and drain your spa.

\*Note: if you push it in all the way to the innermost closed position, the water will not drain.



### Step 5:

When you are done draining your spa, reverse these steps to close the drain, screw on the cap and push in the valve to the innermost closed position.

## Quality, Energy Efficient Spas



energy efficient spas  
engineered with

**eco**  
**effect**  
technology



**CLEAN WATER  
SYSTEMS**



**CLEAN AIR  
FACTORY**



**ENERGY  
EFFICIENT**



**RECYCLING  
PROCESS**



## Our environmental footprint is green

### Providing a greener spa.

Starlight Hot Tubs™ is strongly committed to protecting the health of our environment and manufacturing energy efficient hot tubs that help to conserve our natural resources.

### Eco-Effect Technology.

This technology is built into every hot tub to help save you money in electricity. From the floor to the top cover, every hot tub is thermally insulated with 2" of rigid EPS insulation and lined with a reflective layer to further capture heat and prevent it from escaping. Each hot tub's insulation rating is an R-20 value and our covers are rated with an R-18 value. These ratings are similar to the insulation standards in new home construction

### Recycling.

Starlight Hot Tubs™ takes pride in using 100% recycled ABS to fabricate our flooring systems on all of our spas. We also recycle 100% of our wood, plastic and cardboard waste.

# APPENDIX A

---

## Troubleshooting

For error message on your topside control, see control reference from the Initial Start-up.

PROBLEM	PROBABLE CAUSE	REMEDY
GFCI trips (on startup)	Improper or defective wiring.	Electrician should inspect for wiring mistakes.
GFCI trips	A) Ozone generator defective.	Unplug from controller and reset breaker to verify problem.
	B) Unknown cause.	Unplug all components, then plug in one at a time until problem is identified.
	C) Heater element burned out.	Contact customer service.
System not operating	A) System lockup.	Reset power source or GFCI.
	B) Improper or defective wiring.	Electrician should inspect for wiring mistakes.
	C) House circuit breaker tripped to off position.	Reset circuit breaker.
	GFCI tripped to off position.	Reset GFCI. If still tripping, Check installation guide for proper wiring.

## Controls

PROBLEM	PROBABLE CAUSE	REMEDY
System overheating, shutdown	A) Restricted filter.	Clean filter overnight with filter degreaser.
	B) Water too low.	Fill water to fill line on filter door.
Control response poor	A) Low water level.	Fill water to fill line on filter door.
	B) Dirty filter.	Clean filter overnight with filter degreaser.
	C) Closed slice valves.	Remove service panels and open slice valves.
Water won't heat	A) Same suggestions as system overheating and poor control response.	If problem persists, contact customer service.
	B) Improper or defective wiring.	Electrician should inspect for wiring mistakes.

## Pumps

PROBLEM	PROBABLE CAUSE	REMEDY
Noisy pump or motor	A) Clogged filter or pump inlets.	Clean filter, filter basket and pump inlets
	B) Low water level.	Fill water to fill line on filter door.
	C) Slice valves not open.	Remove service panels and open slice valves.
	D) Debris in pump(s).	Contact customer service.
	E) Damaged or worn motor bearings.	Contact customer service.
Motor not functioning	A) Cord unplugged or damaged.	Check wiring to controller. Contact customer service.
	B) Motor overloaded.	Let motor cool for one hour, open all jets. Motor will reset automatically.
	C) Defective start switch.	Contact customer service.
	D) Blockage in line.	Contact customer service.
	E) Kink in hose.	Remove service panels and check for a kinked hose.
	F) Slice valves not open.	Remove service panels and open slice valves.
	G) Blown fuse.	Check fuses. Replace if bad.

## Jets

PROBLEM	PROBABLE CAUSE	REMEDY
Rotating jets won't rotate	Debris in jet housing.	See 'Cleaning the rotating jets' section of the JETS chapter.

## Water

PROBLEM	PROBABLE CAUSE	REMEDY
Water leak	A) Compression fittings (unions) have loosened.	Tighten fittings.
	B) Leak at barbed fitting.	Cut off hose clamp through the raised ear portion and reseal hose. Reconnect with a new hose clamp or a 'worm drive clamp'.

## Water (Continued)

<b>PROBLEM</b>	<b>PROBABLE CAUSE</b>	<b>REMEDY</b>
Cloudy water	A) Clogged or blocked filter fitting.	Remove filter and clean fitting.
	B) Dirty filter.	Clean filter.
	C) Poor water chemistry.	Balance water.
	D) Insufficient filter time.	Increase filter time to a minimum 4 hours per filter cycle.
	E) Particles too small for filter.	Add flocculent and clarifier.
	F) High pH and / or alkalinity.	Adjust pH with pH Down.
	G) Trace metals in water.	Use metal remover.
	H) Too much clarifier used.	Wait to be filtered out.
Green water	A) Algae.	Add algaecide, superchlorinate and add Oxy Shock. Check ozonator.
	B) Metal corrosion in equipment.	PH too low, adjust to 7.2 to 7.6 with pH Up.
Brown water	Iron present in water.	Superchlorinate and add Oxy Shock. Add metal remover.
Blue-green water	Copper present in water. Usually only found in spas with gas heaters.	PH too low, adjust to 7.2 to 7.6 with pH Up.

## Frequently asked questions

**Q: Why is my spa not heating?**

A: Check which mode you are in: standard, sleep or economy. See 'Topside Control' section on pages 14 – 18. Standard and Economy mode will allow temperature to drop 10 degrees. Sleep mode will allow temperature to drop 20 degrees.

**Q: The system is receiving proper voltage, why doesn't anything function?**

A: 1. Check for blown fuses, burn marks or signs of tampering in the box.  
2. Power down the spa, and reset the GFCI. If problem persists, contact customer service for tech support.

**Q: What does the ozone generator do?**

A: An ozonator purifies naturally. It produces an active oxygen that attacks bacteria at microscopic levels reducing the amount of chemicals needed for perfect water. Ozone is also useful in coagulation of metals and other contaminants found in some areas.

**Q: How do I know if my ozonator is working?**

A: During a filter cycle, a green LED light on the ozonator will light and bubbles will move through the clear water line that connects to the ozonator.

**Q: How do I fill the spa with water?**

A: See instructions on page 13.  
1. Place your garden hose into the filter housing. This will ensure that air bubbles are removed from the lines while you fill the spa.  
2. Turn the water on so that most of the water enters through the filter chamber.  
3. Fill the water to the proper level – half way up the filter housing.

**Q: How do I drain the spa?**

A: See instructions on page 30. Drain Location: The drain is located in the lower right hand corner of the cabinet under the topside control panel. This position is the innermost closed position.

**Step 1:** Using your hand, pull and slide out the drain plug to the outermost extended closed position.

**Step 2:** In the outermost extended closed position, unscrew the cap. Water should not drain out in this position.

**Step 3:** Screw on a garden hose. Place the other end of the hose in the area you want the water to drain to.

**Step 4:** Once the hose is in place, push in the hose/drain valve half way to the middle 'open drain position' and drain your spa.

\*Note: if you push it in all the way to the innermost closed position, the water will not drain.

**Step 5:** When you are done draining your spa, reverse these steps to close the drain, screw on the cap and push in the valve to the innermost closed position.

8-1-11

Starlight Hot Tubs™

## LIMITED WARRANTY

Every Starlight Hot Tubs™ spa is manufactured to our exacting standards and requirements.

Your long-term enjoyment of your hot tub is our ultimate goal. Therefore, we are proud to provide these comprehensive warranties with our products.

**5 yr.**  
Structural  
Warranty

**2 yr.**  
Equipment  
Warranty

**1 yr.**  
Hardcover  
Warranty

### 5-YEAR SPA STRUCTURAL

Starlight Hot Tubs™ structural system (shell surface, cabinet integrity\*, pillar supports and floor base) are warranted against water loss occurring from defects in material or workmanship for five years from the original purchase date. Starlight Hot Tubs™ also warrants their spa shell interior surface against blistering, cracking and delamination for five years from the original purchase date.

### 2-YEAR EQUIPMENT

Starlight Hot Tubs™ warrants the operating plumbing and equipment against defects in workmanship for two years from the original purchase date. This includes two year warranty for authorized labor.

### 1-YEAR INSULATED HARDCOVER

Starlight Hot Tubs™ warrants the insulated hardcover against defects in workmanship for one year from the original purchase date.



**STARLIGHT**  
HOT TUBS™

"We reserve the right to improve our product without notice"

\* Does not include the surface color finish (stain or paint).

## LIMITED WARRANTY DETAILS

<b>Structural System:</b>	<b>5-Year Warranty</b> (shell surface, cabinet integrity*, pillar supports and floor base)
<b>Plumbing &amp; Equipment:</b>	<b>2-Year Warranty</b>
<b>Authorized Labor:</b>	<b>2-Year Warranty</b>
<b>Hardcover:</b>	<b>1-Year Warranty</b>

### HOW THE WARRANTY WORKS

In the event of a covered defect under this Limited Warranty, Starlight Hot Tubs™ or its agent will make repair in accordance with conditions contained in this Limited Warranty. The homeowner is required to provide full access to the cabinet's entire service side panels, without any obstructions, to service all internal components. There will be no charge for parts or labor to repair the spa. There may be repair person travel costs if the spa is located outside the normal service area. If the covered defect cannot be repaired, as determined by Starlight Hot Tubs™ we reserve the right to provide a replacement exchange spa of equal value. In such an event, the spa owner will be responsible for the cost associated with the removal of the defective spa and the installation of the replacement spa. The liability of Starlight Hot Tubs™ under this Limited Warranty, if any, shall not exceed the original amount paid for the defective product. It is the responsibility of the spa owner to notify the factory in writing immediately upon discovery of a warranty claim. Neglecting this notification may void your claim.

### LIABILITY LIMITATIONS

This warranty does not cover any defects, malfunctions or damages that result from improper installation, commercial use or improper maintenance. The spa shell is made of high quality impact resistant thermoplastic. The spa surface cannot be subjected to periods of direct sunlight without being filled with water. Exposure to direct sun can cause deformation of the spa surface. Such exposure will void the warranty. This Limited Warranty is limited to the original owner, installed at the original site. Any requests for change of site location must first be approved in writing by Starlight Hot Tubs™. This Limited Warranty is void if the spa has been altered, neglected, abused or misused or if any repairs have been made by an unauthorized agent. Misuse and abuse include any installation, maintenance or operation not in accordance with the owner's operations manual. Starlight Hot Tubs™ is not responsible for incidental or consequential damages of any nature, acts of God or other causes beyond the control of Starlight Hot Tubs™. All warranties, implied or otherwise, including implied warranties for merchantability and fitness for a particular purpose, are limited to the terms set forth in this warranty. This Limited Warranty only covers those items manufactured by Starlight Hot Tubs™, excluding pillows, filter cartridges and ozonators which are covered under their separate manufacturer's warranty. Exterior structural integrity of the cabinet is warranted to be free of defects at time of delivery and for five years thereafter\*. No representative of Starlight Hot Tubs™, not its agents, distributors or dealers, has any authority to alter in any manner the terms of this Limited Warranty and Starlight Hot Tubs™ is not responsible for any undertaking, representation of warranty made by any other person beyond those expressly set forth in this warranty.

\* Does not include the surface color finish (stain or paint).







# STARLIGHT HOT TUBS™

## Starlight Hot Tubs™ Customer Service Center

[a division of Hydra Plastics, Inc.]

[www.starlighthottubs.com](http://www.starlighthottubs.com)

Email: [customerservice@starlighthottubs.com](mailto:customerservice@starlighthottubs.com)

Customer Service Hours:

Mon - Fri 8:00 am - 5:00 pm PST

P.O. Box 2140 • Woodinville, WA 98072

[www.starlighthottubs.com](http://www.starlighthottubs.com)