



OWNER'S MANUAL

INDEX

1. Index & Introduction
2. Important Safety Considerations
3. Electrical Specifications
4. Startup Procedures
5. Shutdown Procedures & Long Term Shutdown Procedures
6. Maintenance & Care
7. Maintenance & Care Continued
8. Maintenance & Care Continued
9. Pillow Maintenance
10. Hyperthermia & Spa Water care
11. Spa Water care Continued
12. Before Adding Water Products & Required Water care
13. Winterizing your Spa
14. Troubleshooting Chart
15. Common Spa Water Problems, Important Notice, and
Spa Water Capacities
16. Warranty
17. Thank-you From Sunray



INTRODUCTION

Your choice of a Sunray Spa indicates that you're devoted to excellence. The management and staff appreciate your patronage and take pride in the tradition of Quality Spas that our company offers. In order to get the most of your spa, we strongly suggest that you take the time to read through this Manual before you hook up and operate your spa. This will acquaint you with the operating features; hook up procedures, maintenance and safety procedures, ensuring an enjoyable experience right from the start. Sunray Manufacturing has tried to anticipate all of your needs and desires; however, if you need any additional information, feel free to call your authorized Dealer.

Special Notes

- **Important!** This manual was written to ensure the proper use and
- installation of any Sunray Spa. Any modifications to the procedures outlined in this manual may result in your warranty being void.
- Please take the time to read this manual to avoid any unnecessary problems with your brand new spa and equipment.

READ & FOLLOW ALL INSTRUCTIONS:

Any occasional hot tub users

Should be informed of the:

DANGERS

**SAFETY INSTRUCTIONS,
AND CAUTIONS**

Outlined in this manual

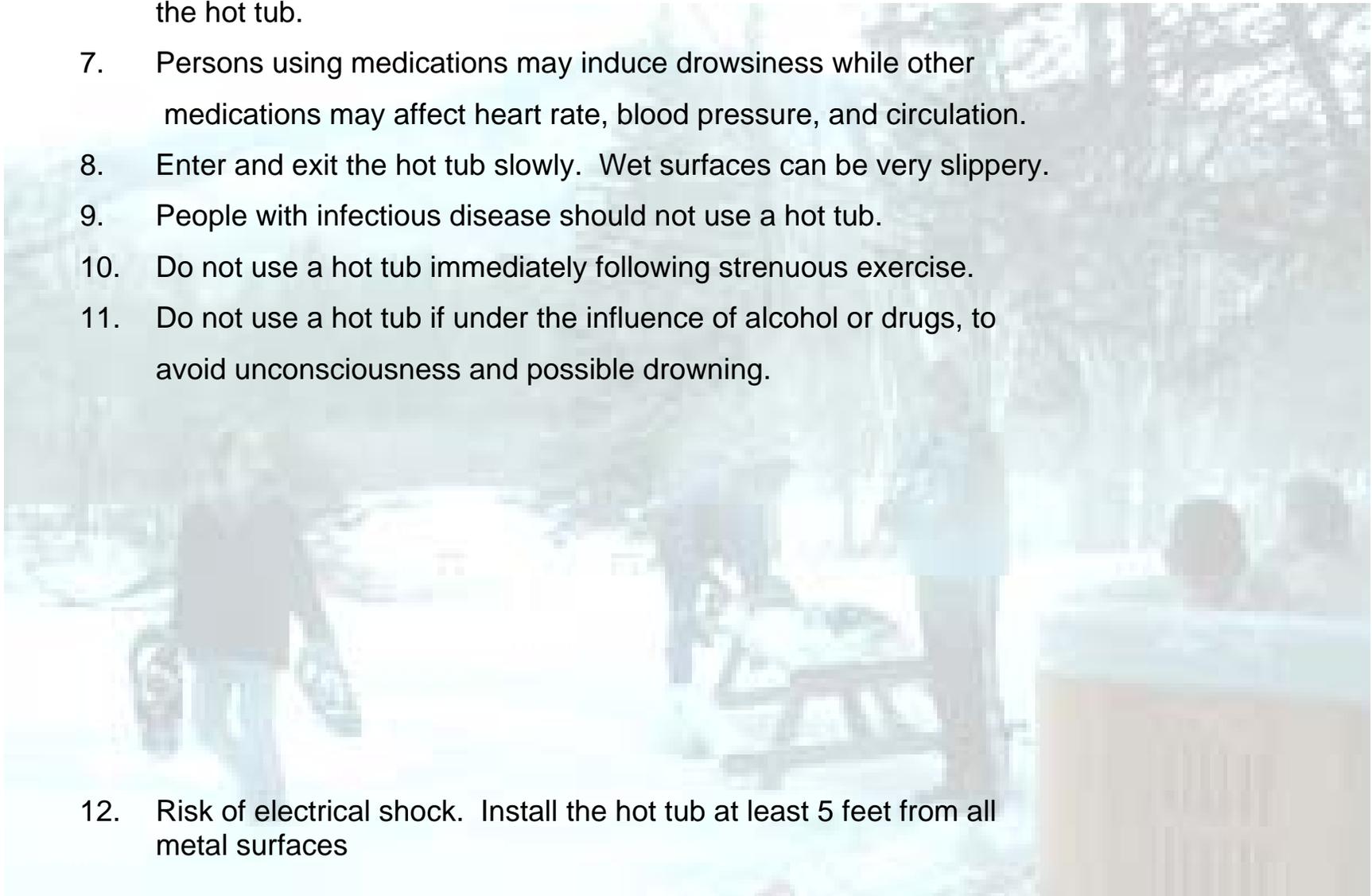
Before they use the hot tub

IMPORTANT SAFETY CONSIDERATIONS

1. Always test the hot tub water before entering.
2. Ensure that children are supervised at all times in or near the hot tub.
3. Do not use hot tub unless all suction guards are installed to prevent body and hair entrapment.
4. The water in the spa should never exceed 40°C (104°F). Water temperatures between 38°C (100°F) and 40°C (104°F) are considered safe for a healthy adult. Lower water temperatures are recommended for young children. Before entering a spa, the user should measure the water temperature with an accurate thermometer; since the tolerance of temperature regulating devices may vary as +/-3°C.
5. Consult with a physician before using the hot tub if you are pregnant, suffering from diabetes, heart disease, high or low blood pressure, circulatory system problems, or any condition requiring medical treatment.
6. The elderly or infants should consult with a physician before using

the hot tub.

7. Persons using medications may induce drowsiness while other medications may affect heart rate, blood pressure, and circulation.
8. Enter and exit the hot tub slowly. Wet surfaces can be very slippery.
9. People with infectious disease should not use a hot tub.
10. Do not use a hot tub immediately following strenuous exercise.
11. Do not use a hot tub if under the influence of alcohol or drugs, to avoid unconsciousness and possible drowning.
12. Risk of electrical shock. Install the hot tub at least 5 feet from all metal surfaces



a. Spa can be installed within 5 feet of metal surfaces if each metal surface is in accordance with Article 680 of the National Electrical Code, ANSI/NFPA 70-1984, each metal surface is permanently connected by a bonding wire which is attached to pressure wire connector provided for that purpose.

b. If bonding is required, a compression wire connector is provided in the electrical enclosure adjacent to the power supply terminals to permit connection of a bonding wire between this point and any metal equipment, metal enclosures of electrical equipment, metal water pipe or conduit within five feet of this spa as needed to comply with local requirements. The bonding wire must be at No. 8 AWG (8.4 mm²) solid copper wire.

13. Prolonged use of the hot tub may be harmful to your health.

14. Maintain water chemistry in accordance with manufacturer's instructions.

15. Do not permit electrical appliances (such as telephone, radio, light or television) within 5 feet of the hot tub.

16. DO NOT USE SPA ALONE.

ELECTRICAL SPECIFICATIONS

VERY IMPORTANT!



A qualified and licensed electrician must perform all electrical hook ups. The following specifications must be followed in order to ensure proper performance and safety. Failure to abide by specifications listed may result in damage to the equipment and may void the warranty.

Power Input

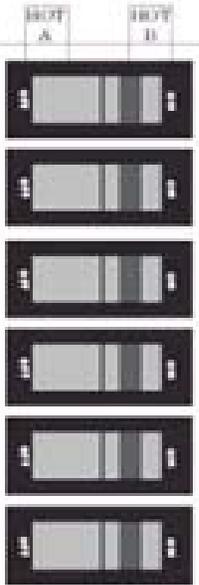
To hookup all Sunray Hot Tubs follow the diagram below:

DANGER!

Shock Hazard.

If you are not a licensed electrician,
DO NOT PROCEED. This diagram is only for reference!

INPUTS FROM TRANSFORMER



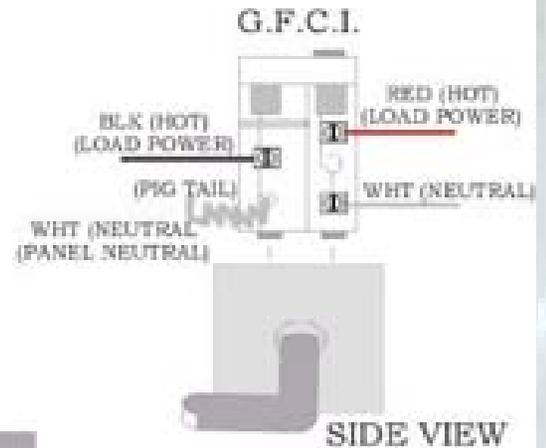
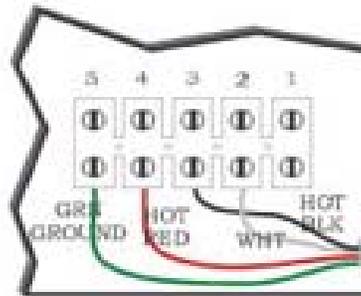
CIRCUIT BREAKER PANEL

NEUTRAL/GROUND BAR



G.F.C.I HOOK-UP

SPA
120V/240V LOAD



SIDE VIEW

CONDUIT

SIEMENS
G.F.C.I.



STARTUP PROCEDURES

IMPORTANT!

Read these step-by-step startup procedures before starting your spa.

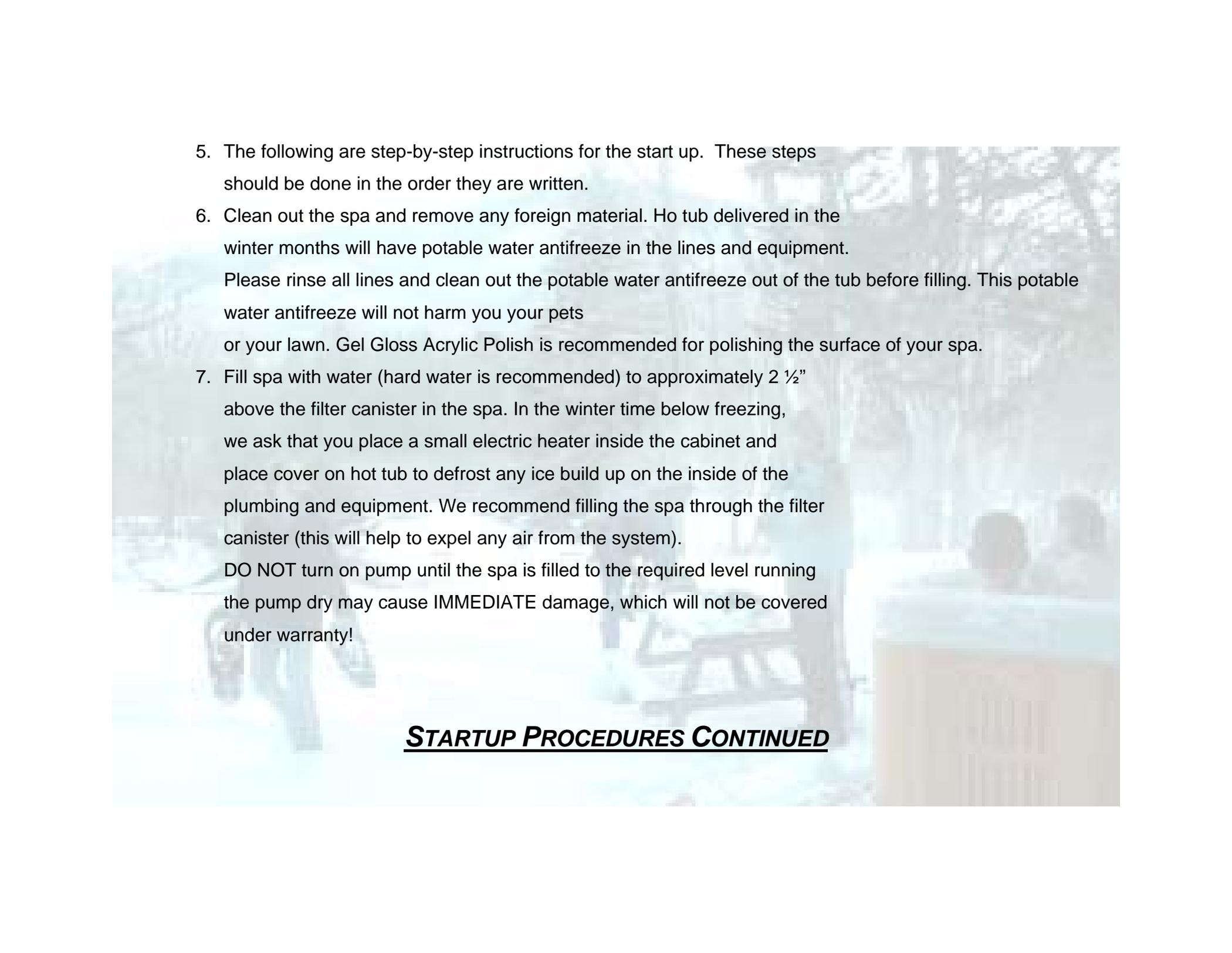
Failure to follow any of the steps listed may result in damage to the Equipment and may void the warranty.

NOTE:

**Running the spa pump dry
(Without water running through it)
Could cause IMMEDIATE damage!**

Be sure that the following conditions exist:

1. The spa has been positioned and installed properly in accordance with the instructions in this manual.
2. All valves must be open from the spa to the spa pack.
3. If a heat exchanger is being used, open the Pex ® Flexible Tubing valves.
4. The filter and plumbing have been correctly installed in accordance with this manual.

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5. The following are step-by-step instructions for the start up. These steps should be done in the order they are written.
 6. Clean out the spa and remove any foreign material. Ho tub delivered in the winter months will have potable water antifreeze in the lines and equipment. Please rinse all lines and clean out the potable water antifreeze out of the tub before filling. This potable water antifreeze will not harm you your pets or your lawn. Gel Gloss Acrylic Polish is recommended for polishing the surface of your spa.
 7. Fill spa with water (hard water is recommended) to approximately 2 ½” above the filter canister in the spa. In the winter time below freezing, we ask that you place a small electric heater inside the cabinet and place cover on hot tub to defrost any ice build up on the inside of the plumbing and equipment. We recommend filling the spa through the filter canister (this will help to expel any air from the system).
DO NOT turn on pump until the spa is filled to the required level running the pump dry may cause IMMEDIATE damage, which will not be covered under warranty!

STARTUP PROCEDURES CONTINUED

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8. Once the spa is filled to the proper level, check to make sure the valves are open at the pump(s). Start the pump(s) and leave it at low speed.
Watch for water coming out of the jets.
 9. If the water is running smoothly through the lines, turn the pump on to high speed by pushing the jet symbol on the topside control. Open the air valve(s) to the jets and you should see a great increase in jet pressure.
 10. Turn on the heater (not necessary with digital controls. Make sure the pump is on low speed and the air valve is closed. This will make the heating process much quicker.

Refer to the separate Spa Control Reference Card for further details.

HINT: By keeping the air control valve(s) closed, when spa is not in use, will reduce operation costs).

CAUTION! Watch the temperature of the water as it is heating.

Excessive water temperatures may cause damage to the finish of your spa.

11. Check for potential union leaks. Inspect all jets, supply and return lines.

HINT: Unions may loosen during shipping and can be tightened by hand or a strap wrench.

12. Adjust the chemicals, and balance the water according to the instructions

in this manual.

CAUTION!

Be careful with the above procedure.

Be advised that water from your hot water tank will be extremely hot and could cause a severe burn!

In addition, it may damage the spa shell surface (this may void the surface warranty)

CAUTION!

Do not turn on pump until the hot tub is filled to the required level.

**Running the pump dry may cause IMMEDIATE damage,
This will not be covered under warranty**

SHUTDOWN PROCEDURES

**Refer to the following step-by-step procedures below
whenever you need to empty your spa.**

- ✓ **Turn off the GFCI Breaker to the Spa**
- ✓ **Close the valve that is connected to the Filter Canister. Place a sump pump with**

a plastic bottom in the hot tub and pump as much of the water out as possible.
In the winter time when the weather is below freezing place a small electric heater in the cabinet to keep the piping from freezing. Another method of draining is to place a garden hose into the spa and drain the water by gravity flow.

- ✓ Allow the Spa to gravity drain until the water line is just above the bottom
- ✓ suction of your spa in the foot well.

IMPORTANT!

DO NOT let the pump run.

IMMEDIATE DAMAGE may result, which could void the Warranty.

Vacuum or Scoop out any remaining Water

LONG TERM **SHUTDOWN PROCEDURES**

If you own an outdoor spa and wish to shut it down

For an extended period of time, certain requirements must be met.

A long-term shutdown may be due to an extended vacation or mechanical failure.

Due to possible cold weather, the following steps are necessary to facilitate
A long-term shutdown:

1. Refer to Shutdown Procedures for instructions to drain the spa.
2. Vacuum out Jets, Pump(s), Heater and Filter Canister(s) with a Wet or Dry Vacuum to evacuate any spa water
3. Attach a small diameter piece of Vinyl Tubing to a RV Antifreeze container and inject into the Jets, Pump(s), Heater, Filter Canister (s), etc.

LONG TERM
SHUTDOWN PROCEDURES
CONTINUED

IMPORTANT!

If these steps are not taken during cold weather when the spa is shut down, serious damage to the lines and spa may result! Freezing of



the spa and/or equipment will void all warranties on your spa . It is your responsibility to ensure that the spa does not freeze at any time.

Call your authorized Sunray Dealer to answer any questions, should trouble arise.

CAUTION!

Your Hot Tub must be properly Shutdown during Cold Weather.
Serious damage could occur to the
Shell & Plumbing.

Maintenance & Care

**You're new Sunray Spa
was built to give you years of enjoyment and pleasure.
However, certain maintenance steps must be taken
In order to extend the life and usability of the Spa.**

IMPORTANT!

The Warranty on your Spa and Equipment is dependent on proper Water Balance through the use of Water Care Products. See “Water Care Products” for the usage and requirements of spa maintenance. In addition to Spa water balancing, the following maintenance procedures must be followed periodically.

FILTERS

The Filter in your spa should be cleaned at least every 3-6 weeks, depending on usage. This will ensure that the water is being filtered properly, and there is no restriction in the Filter due to dirt and grease. Cleaning the Filter can be done easily using a Filter Degreaser solution and following the directions on the bottle. It is recommended to have a second filter, which can be cleaned between changes. This will enable you to quickly exchange the dirty filter with the clean one and immediately start your spa again. (SEE Startup Procedures)

CHANGING THE WATER

Depending on usage, the water in your spa should be changed approximately every 3 months. Even if the water looks clean, the use of Water Care Products on an on going basis may make them less effective. Upon each change of water, it is a good practice to wipe down the spa with a 20% solution of Bleach and warm water.

SPECIAL NOTE

It is recommended to polish your spa using acrylic cleaner.
This will clean the acrylic and help keep the water scum line to a minimum.

SPA PACK

The spa pack requires very little maintenance over its life span.

When changing the Filter, simply inspect the Spa Pack visually

To check for leaks or moisture. Once every 3 month when draining water check electrical connection to ensure that they are snug.

Check at the same time that there is no corrosion on the heater element leads and the seals on the pumps are not leaking.

If you note any problems please call Sunray Service for proper parts and service.

Sunray has a full service Department that can provided prompt service of your hot tub and your next door neighbors hot tub of any make

Wipe off dust from the spa pack;

This can increase its life by allowing better ventilation.



CEDAR SKIRTING

Sunray builds all of its hot tubs with Canadian Red Cedar. This is one of the most eye-catching Cedar Skirt built for a hot tub. It will last you for many years and cedar is a naturally rot and insect-resistant wood.

Cedar is a naturally soft wood that requires a loving touch to maintain in its beautiful state. Maintenance on your skirt is minimal.

It is recommended to treat the skirt periodically with a water-resistant stain to protect the wood.

HINT:

Refrain from using any film-forming finishes.

They will prevent moisture from escaping out of the cedar.

This can cause the Cedar to become black with mold or mildew.



JETS

To maintain the proper Jet performance, you should remove all possible Jets and Clean them when necessary. Please replace with original equipment as soon as possible. Sunray has a full stock of replacement jets with different spray patterns. Please come to the service department for your replacement part needs

See your Dealer for a demonstration.

SPA COVER

The hard cover on your Spa is made from a Weatherproof Marine Vinyl Material Vinyl can dry and become brittle. Not only does it look bad, but dry, brittle vinyl can tear at the seams and stress points. Quality Materials, internal sewn reinforcing, and careful workmanship cannot help against the ravages of Mother Nature unless the cover is properly cared for.



Your cover will last much longer if you take note of the following instructions:

We recommend that you use a *Spa Cover Cleaner and Protectant* on your Spa Cover.

These product are gentle to the vinyl. As long as the product you use does not damage the vinyl your cover warranty will be in force. Each month remove your cover from the spa and lay it on a flat surface convenient to a garden hose. Douse the cover with a healthy amount of water from a hose or bucket to rinse away any loose dirt or debris.

Using a soft bristly brush and a mild solution of dishwashing liquid- about one teaspoon of soap to two gallons of water. Use a gentle circular motion of the soft bristle brush, being cautious not to let any areas of the cover dry before it can be rinsed with water.

Rinse thoroughly.

Now it is time to apply the vinyl conditioner.

Massage the conditioner into the cover in a gentle but firm manner. Before replacing the cover on your spa, wipe and rinse any dirt from the bottom side of the cover. When you are ready, put the cover on the spa.

Be sure to clean and condition your cover At least once a month – more often if needed.

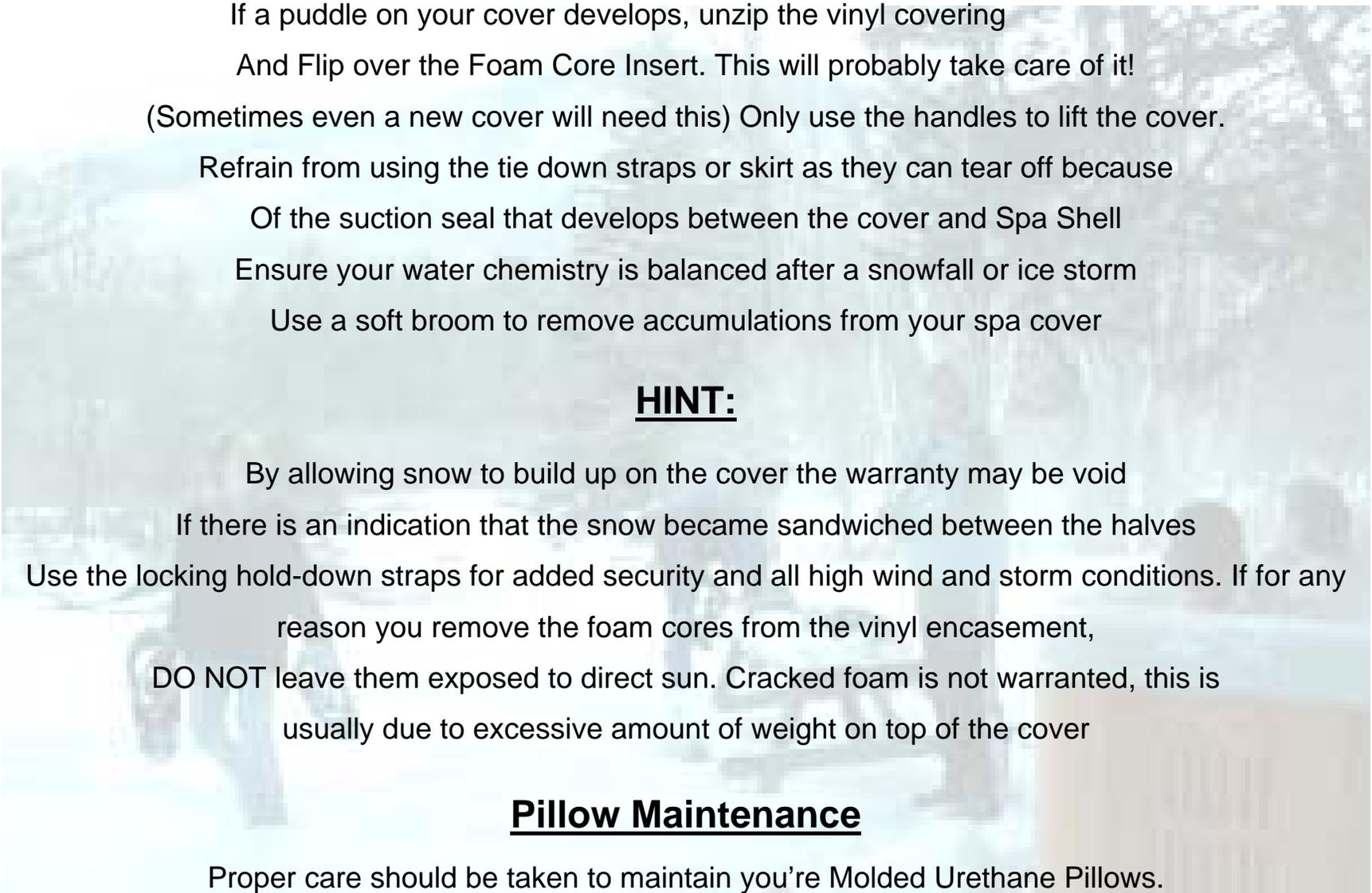
A Floating Cover on the spa surface keeps humidity off of the hard cover, which may double the life expectancy of the cover. Sunray has a full line of floating and hard covers available for your spa. Sunray will also custom make covers for other manufacturers spa at a complete price.

A few things you can expect your cover to do under Certain common conditions.

For instance, you can expect the vinyl underside to become darker or lighter
And the texture raised due to the Water Care Products and heat in your spa water.
This will not diminish the function of your cover.

Do Not: Walk Sit, Crawl, Jump, Place objects, etc. On your cover. Your cover is designed to hold the weight of a adult, but is not a place to do the above things. They could cause the failure of your cover prematurely. If your cover is damaged get it repaired quickly. Sunray can provide replacement covers for all spas.

SPA COVER TIPS:



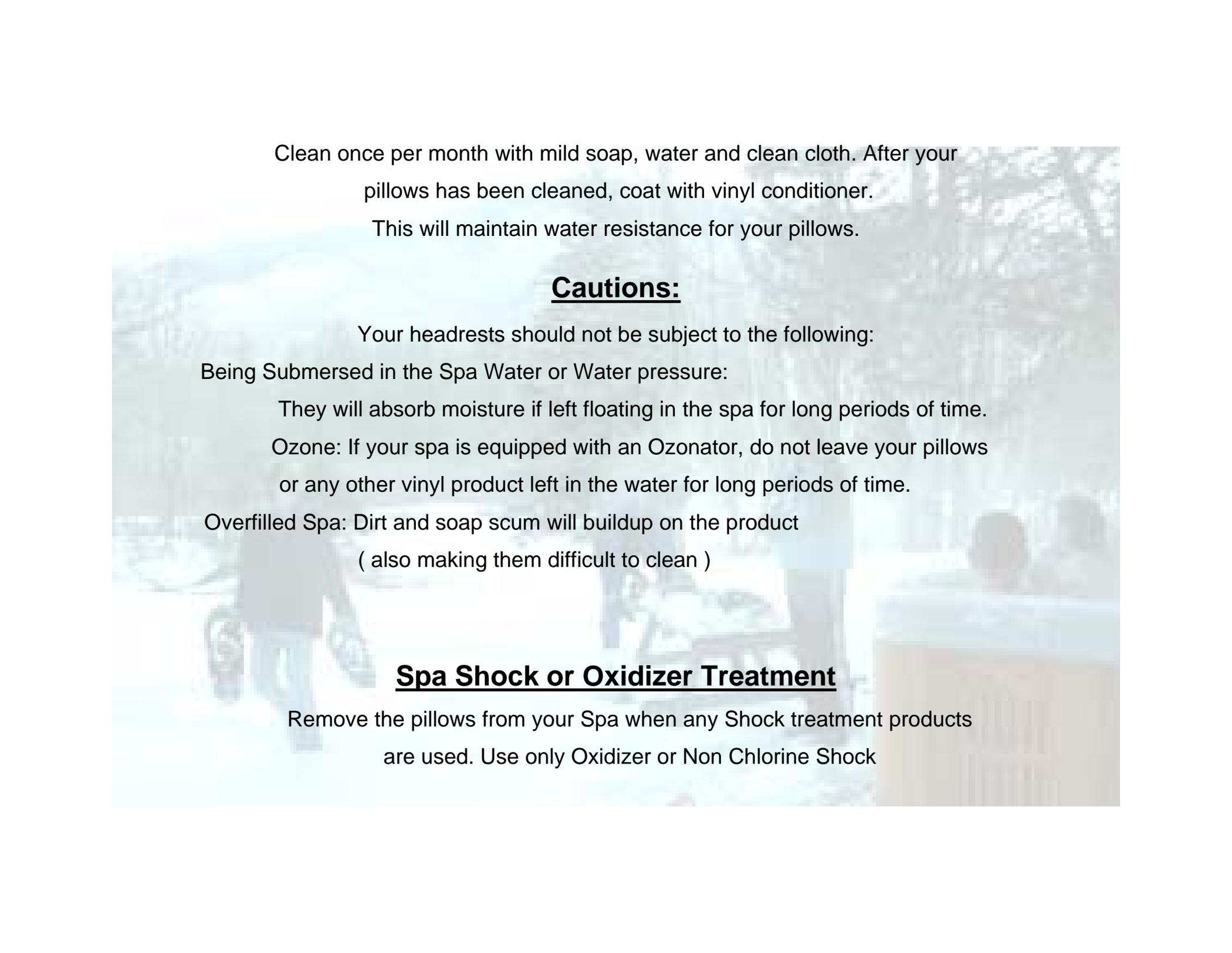
If a puddle on your cover develops, unzip the vinyl covering
And Flip over the Foam Core Insert. This will probably take care of it!
(Sometimes even a new cover will need this) Only use the handles to lift the cover.
Refrain from using the tie down straps or skirt as they can tear off because
Of the suction seal that develops between the cover and Spa Shell
Ensure your water chemistry is balanced after a snowfall or ice storm
Use a soft broom to remove accumulations from your spa cover

HINT:

By allowing snow to build up on the cover the warranty may be void
If there is an indication that the snow became sandwiched between the halves
Use the locking hold-down straps for added security and all high wind and storm conditions. If for any
reason you remove the foam cores from the vinyl encasement,
DO NOT leave them exposed to direct sun. Cracked foam is not warranted, this is
usually due to excessive amount of weight on top of the cover

Pillow Maintenance

Proper care should be taken to maintain you're Molded Urethane Pillows.



Clean once per month with mild soap, water and clean cloth. After your pillows has been cleaned, coat with vinyl conditioner.
This will maintain water resistance for your pillows.

Cautions:

Your headrests should not be subject to the following:

Being Submersed in the Spa Water or Water pressure:

They will absorb moisture if left floating in the spa for long periods of time.

Ozone: If your spa is equipped with an Ozonator, do not leave your pillows or any other vinyl product left in the water for long periods of time.

Overfilled Spa: Dirt and soap scum will buildup on the product
(also making them difficult to clean)

Spa Shock or Oxidizer Treatment

Remove the pillows from your Spa when any Shock treatment products are used. Use only Oxidizer or Non Chlorine Shock

Warranty Invalidations and Conditions:

Staining caused by water conditions or chemicals used in spa maintenance

Products subjected to higher than recommend Chlorine or Bromine levels

Products subjected to Chlorine Shock Treatment

Products left in while shocking the Spa

Products left in Ozonated water for long periods of time

Products left in untreated water for long periods of time

Headrests submerged in water

Products with any markings i.e. Pen or Felt tip marked will not be Warrantied

Heater elements, all seals, jet internals and all other parts in direct contact with spa water are not covered by warranty.

Spas and all spa parts that have been frozen at anytime are not covered by warranty.

You are responsible for cost of water, power to heat, any chemicals and the moving of your spas for access for any warranty claims.

In home warranty service is provided for 30 days from date of delivery within 50 km of your dealer. After 30 days service and travel charge will apply.

Warranty must be registered within 14 days of delivery. Return warranty registration to Sunray or your local dealer.

HYPERTHERMIA

Hyperthermia is an acute condition which occurs when the body produces or absorbs more heat than it can dissipate

Symptoms are:



Headaches

Nausea

Fatigue.

Hyperthermia effects:

Failure to recognize the need to exit the spa,

Physical inability to exit the spa,

Fetal damage in pregnant women

Unconsciousness resulting in a danger of drowning.

SPA WATER CARE

IMPORTANT:

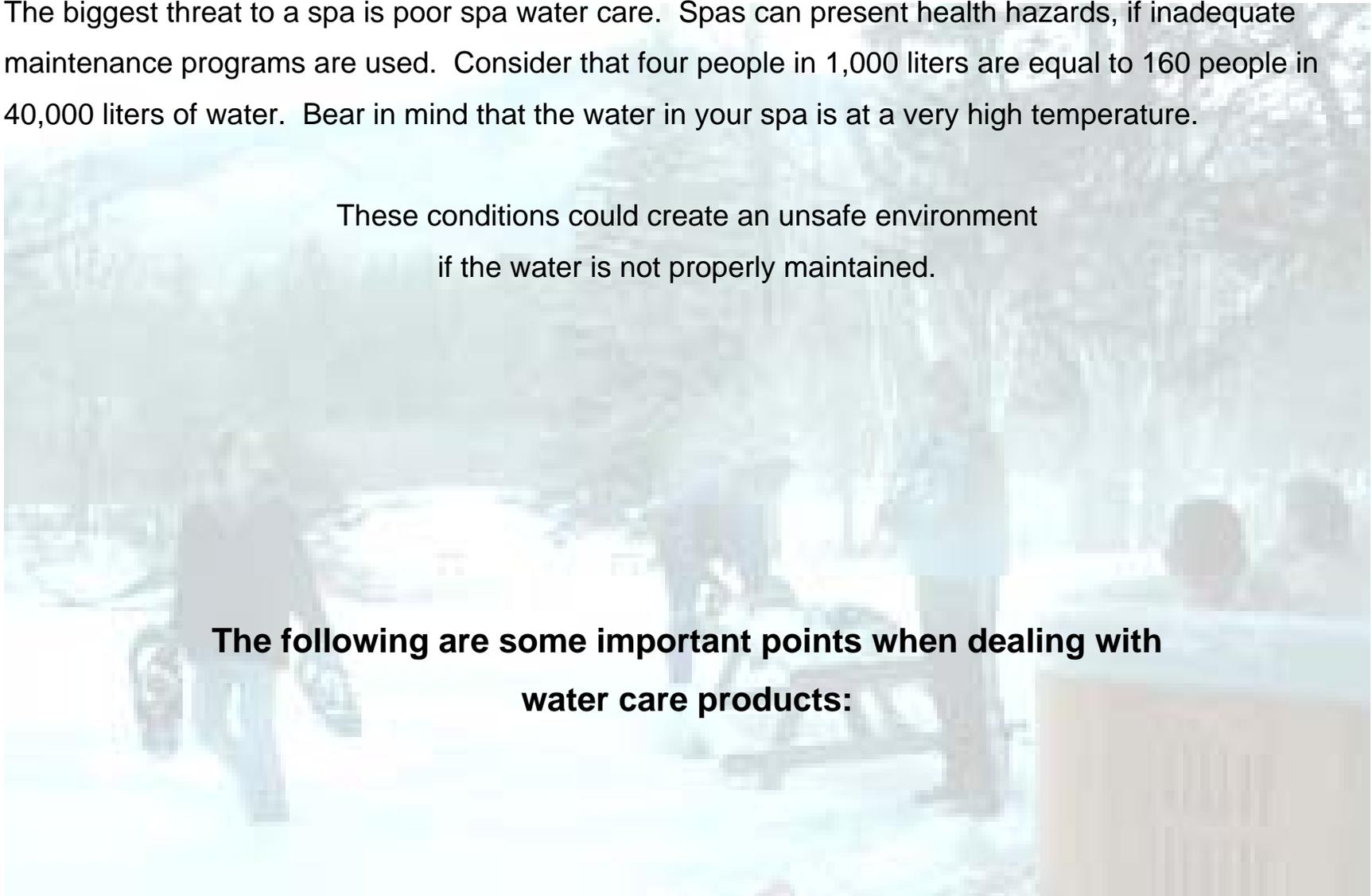
The following section on Water Care Products must be read and fully understood!

The warranty on your spa is dependent on the proper use of these Water Care Products.

The biggest threat to a spa is poor spa water care. Spas can present health hazards, if inadequate maintenance programs are used. Consider that four people in 1,000 liters are equal to 160 people in 40,000 liters of water. Bear in mind that the water in your spa is at a very high temperature.

These conditions could create an unsafe environment
if the water is not properly maintained.

**The following are some important points when dealing with
water care products:**



1. Always pre-dissolve all Water Care Products separately before adding them to the Spa water. Un-dissolved Water Care Products can remain on the spa surface causing discoloration and oxidation which is not covered under warranty.
2. Always follow the directions on the individual (Bromine & Chlorine) Water Care Products containers. Use a Floating Dispenser with this product.
3. Never mix different types of Water Care Products; it could cause a Fire or Explosion.
4. Never store Water Care Products in anything but their original containers
5. Test the amount of Sanitizer (Chlorine / Bromine) and PH level every day. The Alkalinity and Hardness level should be monitored every 1-2 weeks. Keep all Water Care Products clean, dry and properly sealed. Do not inhale fumes from chlorine products and properly wash hands and area after use.

6. Only add on product at a time.
7. Always turn the jets on high for approximately 20 minutes to properly circulate water.
8. Chlorine quality is decreased when the cover is left off, through excessive use of the spa and sunlight. Sunlight diminishes chlorine quickly.

CHLORINE & BROMINE:

A highly concentrated chemical, which is used in spas for Sanitization

These products will disinfect your spa.

Chlorine: A residual of 1.0 – 3.0 ppm (parts per million) is needed.

Bromine: A residual of 3-5 ppm is needed.

Both Chlorine and Bromine are available in a tablet form.

They are also available in a granular form.

When using tablet form, use a proper floating dispenser available from your Factory Authorized Dealer.

Test daily and follow instructions.

When using Bromine, it will be necessary to build a residual in the water by using liquid or granular Bromine.

Use of a properly running **ozonator** will reduce the amount of chlorine or bromine required in your spas

PH LEVEL:

The pH level of water represents the amount of acid or alkaline in the water.

This can promote scaling, cloudy water, eye irritations, and difficulty in maintaining a proper chlorine level. Too low pH makes the water in the spa corrosive. This could lead to damage to the spa itself or the spa pack.

NOTE THIS DAMAGE IS NOT COVERED UNDER WARRANTY.

A pH level of 7.2 – 7.6 ppm is to be maintained in your spa.

Test daily and follow instructions on container label.

CHLORINE AND PH TEST KIT:



An accurate, high quality Test Kit or Test Strips is needed
To properly test and maintain the Chlorine and PH levels in the spa water.

SPA SHOCK:

This Water Care Product oxidizes or “burns-out” most organic contaminants in the spa water and restores the effectiveness of the Sanitizer. It works together with the Chlorine or Bromine in your Spa and is most often a weekly treatment.

(This product is mandatory when using a tablet form of chlorine or bromine).

STAIN & SCALE REMOVER:

Prevents water discoloration due to certain minerals in the water.

It also prevents scaling which could corrode the pump(s) or heater and shorten their lifespan. Depending on the brand, a stain and scale remover is most often a weekly treatment.

WATER CLARIFIER:

Will clot any super fine particles that flow through the filter media that cause

cloudy water and make them larger enough to filter out. As with the
Stain & Scale remover is most often a weekly treatment.

Use of this Water Care Product will prolong your filtration system and filter in the spa.

DEFOAMER:

Is a Water Care Product which removes unwanted foam in the Spa water.

Use only when needed. (See Troubleshooting Guide).

ALKALINITY INCREASER:

Raises the Alkalinity in Spa Water. Low Alkalinity will cause the pH levels to drop excessively. The ideal range for total alkalinity is between 90 – 150 ppm ranges.

(A special test kit is required).

CALCIUM HARDNESS INCREASER:

Will raise the Calcium level in the Spa Water, low calcium level will corrode the spa equipment and increase foam buildup. A high calcium level will promote calcium scaling. The ideal range of Calcium in the spa ranges between 150 – 280 ppm.

(A special Test Kit or 5 Way Test Strips are required)

HINT!

Water Care Products will dissolve better
In warm water than cold water

BEFORE ADDING WATER CARE PRODUCTS

Know your spa water capacity in Liters:

SPA WATER CAPACITIES

Listed below you should find the model of your spa
And the approximate amount of water that it holds:

Albertan: 345 US Gallons / 1342 Liters
Gateway: 340 US Gallons / 1322 Liters
Canadian: 460 US Gallons / 1790 Liters
Capital: 550 US Gallons / 2140 Liters
Wildrose: 380 US Gallons / 1478 Liters

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1. As you fill the spa add 2 oz. (60ml) of **Stain & Scale** per 1000 liters to inhibit staining and scale formation.
 2. Once the spa has sufficient water for circulation, turn on the filtering equipment
 3. Test the total alkalinity. The ideal range is 80-150ppm.
Adjust with **Alkarise** or **pH Reducer**
 4. Test the pH. The ideal range is 7.2 to 7.6.
Adjust if necessary with **pH Booster** or **pH Reducer**
 5. Circulate the water for 30 minutes

REQUIRED WATER CARE

Daily	Weekly	Bi- Weekly	Monthly
1. Check pH level 2. Sanitize (Chlorine/Bromine)	1. Add Stain & Scale 2. Shock spa with non Chlorine Spa Shock / Oxidizer 3. Refill Floating Dispenser	1. Check Alkalinity level 2. Check Hardness level	1. Clean Filter with Cartridge Cleaner

WINTERIZING

YOUR SPA

Any Sunray Spa is designed for year-round use.

If you decide to store the spa for the winter, store it in a warm, dry location.

Follow the steps below to winterize your spa.

1. Drain the Spa
2. Remove all remaining water from the spa shell.
3. Dry the shell with towels
4. Set the air control on the console to the lowest setting.
5. Use a wet/dry vacuum to pull any remaining water from the system.
To do this, place the vacuum nozzle over each jet, Starting with the highest jet and finishing with the lowest one.
6. If you have a blower assist spa, unplug spa pumps and power up the spa.
Once it completes the boot cycle, turn on the blower to clean out lines.
Turn off power plug in pumps
7. Set the air controls on the console to the highest setting and repeat step 3
8. Drain the pump. To do this, remove the access panel from the spa unit.

Remove the drain plug from the pump and place the vacuum nozzle over the drainage hole and vacuum any additional water from the pump.

SYMPTOM	PROBABLE CAUSE	SOLUTIONS
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Replace the drain plug.
Note: For additional protection can remove

you

the pump/motor from the spa to store it in a climate controlled room

9. Use RV antifreeze putting a little bit in each jet, into the wet end of each pump and each filter canister. There should be a total of 4L used in the spa
10. Clean the Spa Shell
11. Clean the Filter
12. Re-attach the access panel (door) to the spa
13. Put Spa Cover Back on

TROUBLESHOOTING CHART

MOTOR SPA WILL NOT NOT FUNCTION	Motor Overload Condition	Let Cool for one Hour. Internal Overload Switch will reset
	Temperature set too Low	Set Control Panel to a higher Temperature
	House Circuit Breaker	Reset Circuit Breaker
	Dirty Filter Cartridge	Clean or Replace Filter Cartridge
	Defective or Misaligned Valve(s) Close	Contact your Dealer Open Valve(s)
	Damaged Electrical Cord	Contact your Dealer
	GFCI Tripped or in Off	Reset GFCI
NOISY PUMP OR MOTOR	Leakage of air into suction	Locate and repair leak (Tighten
	Low water level	Add water to normal level
	Debris inside pump	Contact your Dealer
	Valve(s) Closed	Open Valve(s)
	Clogged Floor Suction or	Clean Floor Suction or Skimmer
	Improper or defective	Contact your Dealer

	Spa Cover improperly	Align Spa Cover
	Improper Water Level	Add water to normal level
	Improper Electrical Service	Contact your Dealer

PUMP MOTOR RUNS WITH IMPROPER FLOW	Airlock in Pump (Pumps are <u>not</u> self priming)	Release Airlock by forcing water through the pump. E.g. Turn off valve on right side of Hose Bib. Open Hose Bib for 5 – 10 seconds (Should hear air purging out)
	Clogged or blocked Suction or Skimmer	Clean Suction or Skimmer
	Dirty Filter Cartridge	Clean or Replace Filter Cartridge
	Valve(s) partially or fully closed	Open Valves
	Low Water Level	Add water to normal level
	Air Control Valve Closed or blocked	Open and clean air valves
	Jet(s) turned off or blocked	Open Jet(s) or remove jet and clean
	Improper or Defective Wiring	Contact your Dealer

COMMON SPA WATER PROBLEMS

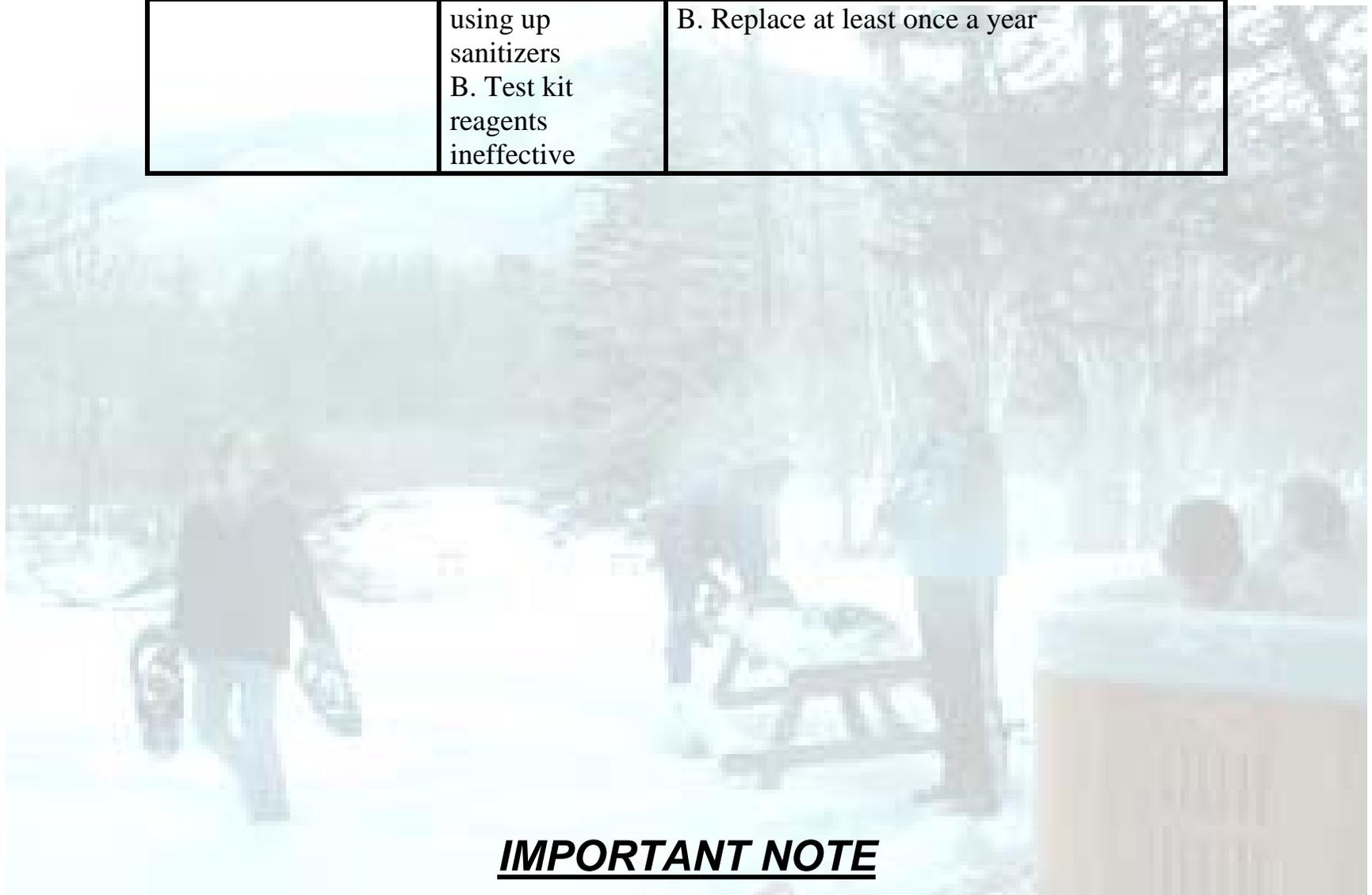
PROBLEM	POSSIBLE CAUSE	SOLUTIONS
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<p style="text-align: center;">CLOUDY WATER</p>	<p>A. Organic Contaminants build up B. Suspended particles C. pH high D. Total alkalinity high E. Hardness too high G. High dissolved solids H. Combined chlorine in the water</p>	<p>A. Shock treatment with SPA SHOCK. Add DESCUMMER B. Add CLARIFIER, add DESCUMMER C. Add pH DOWN until level reads 7.2-7.6 D. Add pH DOWN adjust T/A level to 100-130 ppm E. Add Stain & Scale until level reads 150-280 ppm G. Empty spa and refill H. Shock treatment until combined chlorine is eliminated (see container instructions)</p>
<p style="text-align: center;">COLOURED WATER</p>	<p>A. Dissolved metals from equipment or water source B. Low Chlorine/Bromine levels C. Fragrance</p>	<p>A. Use STAIN & SCALE and have your dealer check your water balance B. SHOCK treatment and test chlorine/bromine levels C. Stop the use of fragrance</p>

FOAMING	A. High concentration of oils and organics being agitated by the jets B. Soft Water	A. Squirt DEFOAMER on foam, add DESCUMMER B. Add CAL RISE until hardness is 150-280 ppm
SCALE DEPOSITS	A. High Calcium level, high pH, high alkalinity	A. Drain partially, add STAIN & SCALE, correct pH level to 7.2-7.6 and alkalinity to 100-130 ppm
ODOR	A. High level of organic contaminants, combined with chlorine	A. Shock with SPA SHOCK, add sanitizer
EYE/SKIN IRRITATION EYE/SKIN IRRITATION	A. pH to low B. Combined chlorine due to high concentration of organic contaminants	A. Add pH UP until level reads 7.2-7.6 ppm B. Shock with Non-Chlorine SHOCK, add sanitizers. Drain and refill spa if necessary
NO CHLORINE/ BROMINE READING	A. High concentration of contaminants	A. Add sanitizers until levels are up to the recommended levels

using up
sanitizers
B. Test kit
reagents
ineffective

B. Replace at least once a year



IMPORTANT NOTE

This manual and its contents are subject to change without notice.

Although Sunray Manufacturing has prepared this manual as accurate and precise
As possible, Sunray Manufacturing will not be liable for any loss, injury or damages caused by improper
installation or by use of spa (improper or otherwise).

CUSTOMER

For the purpose of this document “customer”
Shall mean the original purchaser of the spa

SINGLE PUMP WARRANTY

10 Year Shell Structure



Sunray will warranty the spa shell against water loss due to structural failure for a period of ten years to the original owner only.

3 Year Shell Surface

Sunray will warranty the interior spa surface against blistering, cracking, or delaminating for a period of three years to the original owner only.

2 Year Spa Equipment

Sunray will warranty the spa's electrical equipment against malfunctions due to defects in materials or workmanship for a period of two years to the original owner only. Products modified in any way without the express written consent of Sunray Mfg. voids your complete warranty on our spa.

2 Year Spa Plumbing

Sunray will warranty the spa's factory installed plumbing components against leakage for a period of two years to the original owner only. This warranty will specifically cover the jet components (excluding jet internals), flex hoses, and glued connections.

1 Year Ozonator Warranty

Sunray will warranty the ozonator to be free from defects in material and workmanship for a period of one year to the original owner only.

30 day in Home Warranty

Sunray will provide from date of delivery, free in home warranty within 50 km of Sunray or your dealer to all new original customers.

Outside of the 50 km the current KM charge will apply.

DOUBLE PUMP WARRANTY

30 Year Shell Structure

Sunray will warranty the spa shell against water loss due to structural failure for a period of thirty years to the original owner only.



7 Year Shell Surface

Sunray will warranty the interior spa surface against blistering, cracking, or delaminating for a period of seven years to the original owner only

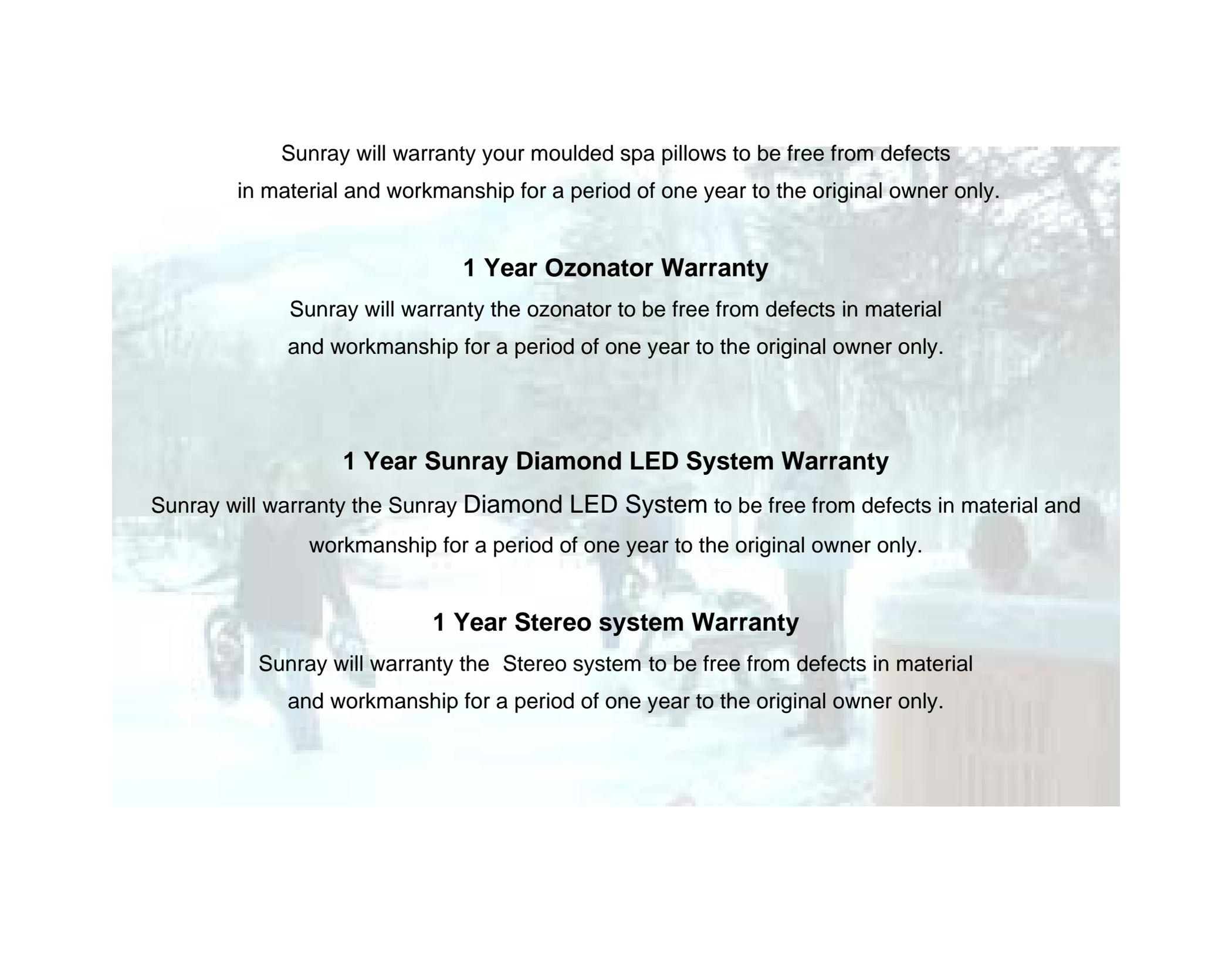
5 Year Spa Equipment

Sunray will warranty the spa's electrical equipment against malfunctions due to defects in materials or workmanship for a period of five years to the original owner only. Products modified in any way without the express written consent of Sunray Mfg. voids your complete warranty on our spa.

5 Year Spa Plumbing

Sunray will warranty the spa's factory installed plumbing components against leakage for a period of five years to the original owner only. This warranty will specifically cover the jet components (excluding jet internals), flex hoses, and glued connections.

1 Year Pillow Warranty



Sunray will warranty your moulded spa pillows to be free from defects in material and workmanship for a period of one year to the original owner only.

1 Year Ozonator Warranty

Sunray will warranty the ozonator to be free from defects in material and workmanship for a period of one year to the original owner only.

1 Year Sunray Diamond LED System Warranty

Sunray will warranty the Sunray Diamond LED System to be free from defects in material and workmanship for a period of one year to the original owner only.

1 Year Stereo system Warranty

Sunray will warranty the Stereo system to be free from defects in material and workmanship for a period of one year to the original owner only.



30 day in Home Warranty

Sunray will provide from date of delivery, free in home warranty within 50 km of Sunray or your dealer to all new original customers.

Outside of the 50 km the current KM charge will apply.

Sunray Spas takes pride in each and every spa that we build. The employees of Sunray build each spas as if they was their own. Sunray and it employees hope that you will enjoy your new Spa for many years and look forward to helping you in anyway possible.

**Thank You
From
Sunray Spas**

Proudly Canadian

**Build in Alberta
For the whole planet
Your business is really appreciated!**

