

GREAT LAKES SPAS®

by GPM Industries, Inc.

INSTALLATION & OPERATION MANUAL

CLASSIC Models

May, 1993



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IMPORTANT SAFETY INSTRUCTIONS

1. **READ AND FOLLOW ALL INSTRUCTIONS.**
2. **DANGER** - To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
3. Connect only to a grounded grounding type receptacle.
4. Do not bury cord.
5. **WARNING** - To reduce risk of electric shock, fire, and injury, install with non-metallic pipe and connections to tub and at least five (5) feet (1.52m) from metal enclosure of assembly to inside wall of spa.
6. **DANGER** - To reduce a risk of injury to persons, do not remove suction grate or cover.
7. A pressure wire connector is provided in the control box inside the unit to permit connection of a minimum No. 8 AWG (8.4 mm²) solid copper bonding conductor between this point and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet (1.5m) of the unit as needed to comply with local requirements.
8. Install to provide drainage of compartment for electrical components.
9. Install with nonmetallic pipe connections to tub and at least 5 feet from metal enclosure of assembly to inside wall of tub.
10. **DANGER - RISK OF ELECTRICAL SHOCK.** Install at least 5 feet from all metal surfaces.
11. **DANGER - RISK OF ELECTRICAL SHOCK.** Do not permit any electric appliance, such as a light, telephone, radio or television, within 5 feet (1.52 m) of a spa or hot tub.
12. Those who have heart disease, high blood pressure, diabetes, or other physical conditions should consult their doctor before using the spa.
13. Pregnancy is a condition which should be taken into consideration before using the spa. The approval of a physician is recommended.
14. Those who are under the influence of alcohol, drugs, tranquilizers, etc., should not be allowed to use the spa.
15. The maximum recommended water temperature is **104 degrees**. Excessive Temperatures Can Be Dangerous! Use your spa for brief periods only. A periodic break to cool off is recommended if the spa is to be used for extended periods of time. Prolonged immersion in hot water may cause hyperthermia. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6 degrees F. The symptoms include drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include (1) unawareness of impending hazard, (2) failure to perceive heat, (3) failure to recognize the need to exit the spa, (4) fetal damage in pregnant women, and (5) unconsciousness and danger of drowning. **WARNING** - The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in hot tubs and spas.

16. Small children should be supervised, and preferably some sort of fence around the spa or a locked spa area is recommended for their safety.
17. Never Use the Spa Alone!
18. Never dive or jump into a spa. A spa is intended for sitting and relaxing only. Enter and exit slowly, since the surface of the spa is slippery.
19. It is recommended that you keep important phone numbers nearby in the event of an emergency.
20. Electrical plugs and switches should not be accessible from inside the spa. Always have a licensed electrician make the necessary electrical connections.
21. **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 Unless They Are Supervised At All Times.
22. To Reduce The Risk Of Injury:
 - A. The Water In A 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 Extended Use (Exceeding 10--15 Minutes) And For Young Children.
 - B. Since Excessive Water Temperature Has A High Potential For Causing Fetal Damage During The Early Months Of Pregnancy, Pregnant Or Possibly Pregnant Women Should Limit Spa Water Temperatures To 38° C (100°F).
 - C. Before Entering A Spa, The User Should Measure The Water Temperature With An Accurate Thermometer Since The Tolerance Of Water Temperature - Regulating Devices May Vary As Much As 3°C (5°F).
 - D. The Use Of Alcohol, Drugs, Or Medication Before Or During Spa Or Hot Tub Use May Lead To Unconsciousness With The Possibility Of Drowning.
 - E. 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.
 - F. 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.
 - G. The Electrical Supply For This Product Must Include A Suitably Rated Switch Or Circuit Breaker To Open All Ungrounded Supply Conductors To Comply With Section 422-20 of The National Electric Code ANSI/NFPA 70-1987. The Disconnecting Means Must Be Readily Accessible To The Tub Occupant But Installed At Least 5 Ft From Tub Water.
23. **SAVE THESE INSTRUCTIONS.**

INSTALLATION

Location

Your Great Lakes Spa® was designed to be used in either indoor or outdoor environments. If you intend on using your spa indoors, remember that water may be splashed out of the spa, particularly as people exit the spa, so you will want to design your room accordingly. Humidity will not be a problem if the spa is used for shorter periods of time and if the cover is kept on the spa when not in use. However, if you plan on using your spa for extended periods of time, some means of venting the steam, such as an exhaust fan, is advisable.

For outdoor placement of your spa, be sure to keep in mind natural elements such as wind, view, falling leaves, etc. You will want to locate your spa in such a way as to provide maximum enjoyment. In either case it is recommended that you locate your spa in either a locked room or fenced area to prevent access to the spa by children.

Site Preparation

For all applications, be sure that the equipment compartment area is easily accessible and that the spa is located far enough from walls to allow the compartment door to swing fully open.

Your portable Great Lakes Spa® must be placed on a flat surface that supports the entire spa. Most sites such as patios, decks, rooms, etc. are structurally sound and will support a spa since the weight is distributed over a wide area. However, it is always a good idea to have your dealer or a contractor review your proposed site to assure that there are no support problems. Also, do not place your spa on grass or dirt since the moisture will seep into the cabinet over time and cause staining. Place the spa on either a concrete base or on patio stones when locating the spa on the ground.

If your spa does not have a cabinet and is intended for flush-mount in a deck or other surface, be sure the perimeter coping of the spa is supported as well as the foot-well and seat areas. Again, it is important that the equipment is accessible and this must be a consideration when planning your installation.

Electrical Hookup

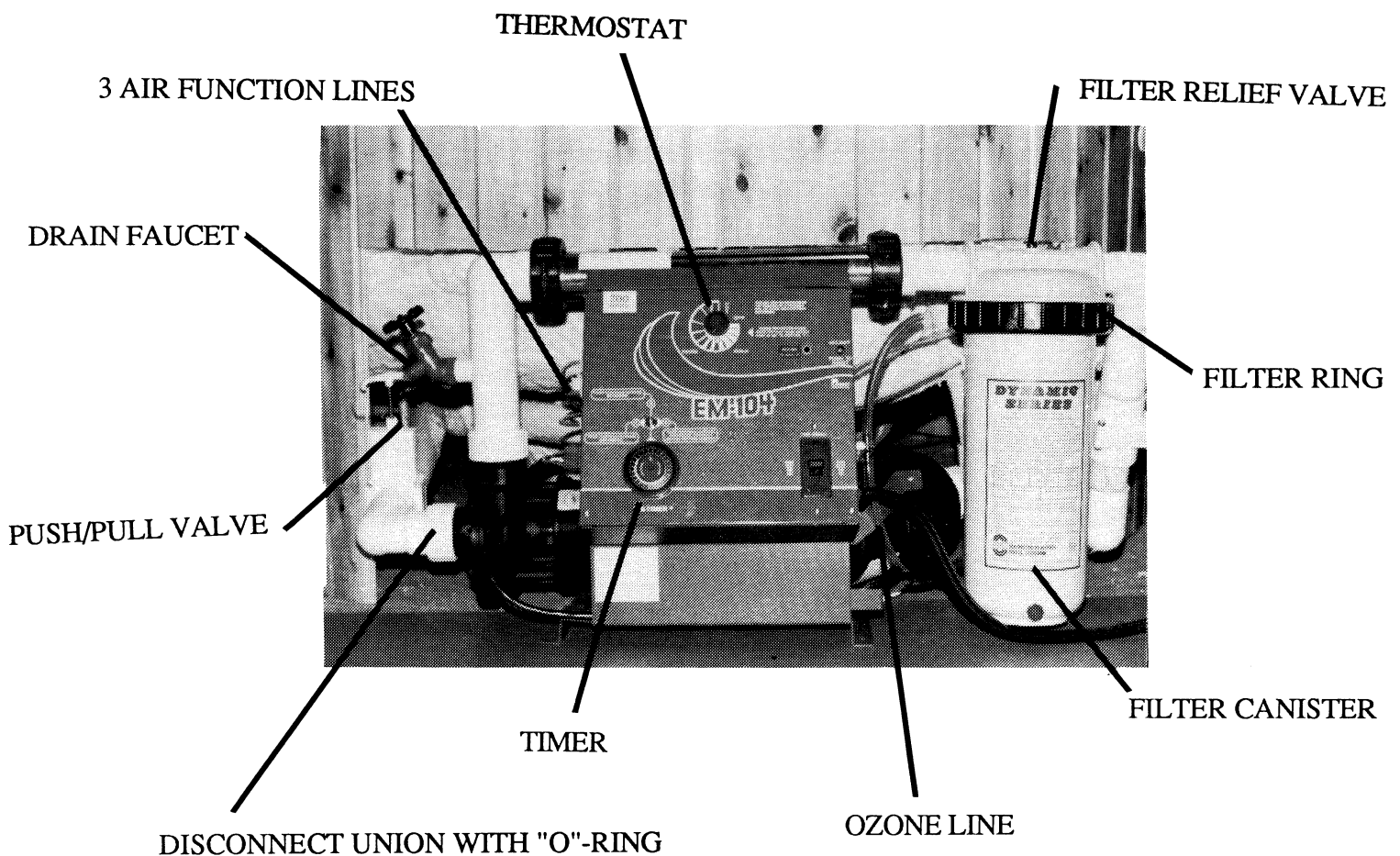
All electrical hookups and preparations for the spa must be done by a qualified electrician and in accordance with the National Electrical Code. The Series 200 is a 110V, convertible to 220V, system, and detailed instructions on wiring the spa and converting it to 220V are located in the equipment manual provided with each spa.

Spa Setup

The spa can be moved by either pushing it across the floor on its base, or by placing the spa on its side on a cart. When placing the spa on its side, be sure the equipment doors are either to the side or in the up position. Never transport the spa on its side resting on the equipment doors.

Place the spa in the desired location and position the spa pack into the equipment opening so the thermostat, timer, etc. are facing you. Hook up the three plumbing lines and air function switch line as specified in figure 1. Be sure the "O"-Ring is positioned in the the fittings before tightening. Remember, **HAND TIGHTEN FITTINGS ONLY.**

FIGURE 1



Arrange for a qualified electrician to make the required electrical hookups in accordance with the National Electric Code.

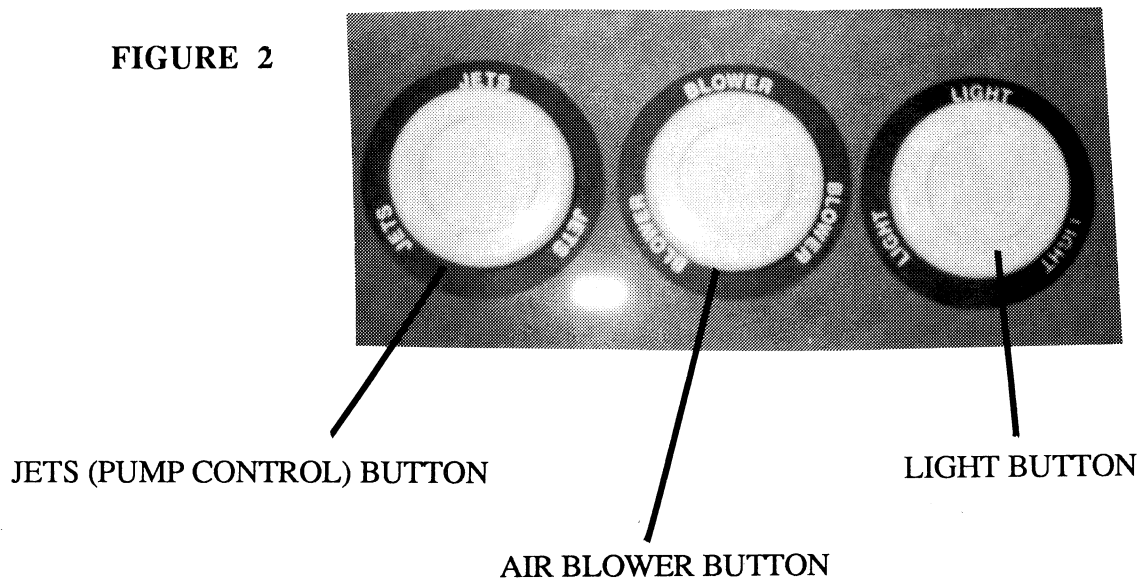
Prior to filling the spa with water, be sure that the push/pull valves to the support system are pulled out in the open position (see figure 1). You can now fill your spa with a garden hose and fill spa to within 6-8 inches of the top of the spa. Always fill your spa with hard (not softened) water. NOTE: *Do not overflow your spa as damage will occur to the air blower unit.* After the spa is filled, remove the garden hose and check the equipment module area for water leaks. If there is water dripping, it is probably a loose connection and you should recheck the tightness of the fittings and placement of the rubber "O"-rings. If there are no drips, you should now test the water chemistry according to the instructions provided by your dealer and add the necessary chemicals once the spa is operating. Your spa is now ready to operate.

OPERATION

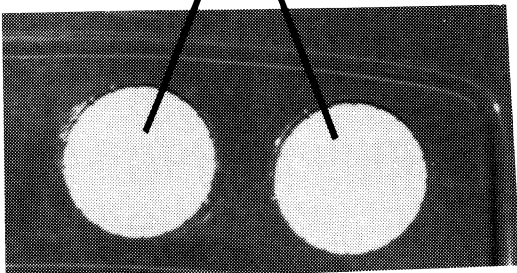
Equipment Startup

Your spa is equipped with three air-pressure function buttons which are located on the top of the spa above the equipment module area (see figure 2). When looking at the buttons from the outside of the tub, the button on the left is for jets, the center button for the air blower and the button on the right for the light. (NOTE: the Ontario Classic does not include the button for the light, since light kits are not available for the Ontario Classic).

FIGURE 2



AIR CONTROLS



Turn the on/off switch on the equipment module to "on" and you will hear the motor start. You should see water coming out of the jets within a few seconds. If water does not come out of the jets after 15 seconds, turn the equipment module "off" and refer to the Troubleshooting section. Once the water is flowing through the jets and with the motor running, you can now push the "pump" function button to change the speeds of the pump. Pushing the button once brings the pump to high speed. Pushing it again brings the pump back to low speed. You cannot turn the motor off by way of the function switch, and if you desire the motor to be "off", you need to do so with the on/off switch located on the equipment or by way of the timer (discussed in the equipment module manual).

The air blower is controlled by the middle button. Pushing the button once will turn on the air blower, and pushing it again will shut off the air blower. After the air blower is turned on, it will take 20-30 seconds for all of the air injectors to operate. The light will operate in the same manner as the air blower. Push the light button once and the light will turn on, push it again and the light will turn off. Detailed operation instructions of the equipment system itself are covered in Equipment Module Owners Manual provided with your spa.

After running through the function button operation, set the pump speed back to low speed. Set the timer according to the instructions provided in the Equipment Module Owners Manual. Turn the thermostat on the equipment module to HOT and place the thermal cover over the spa. The spa will take between 8-12 hours to heat, and adjustments to temperature can be made by turning the thermostat up or down. Once the spa is HOT, BE SURE TO CHECK THE TEMPERATURE OF THE WATER BEFORE GETTING INTO THE SPA.

CAUTION: SPA TEMPERATURE SHOULD NOT EXCEED 104°. SEE SAFETY INSTRUCTIONS FOR MORE INFORMATION.

For complete operation instructions for the equipment module, please refer to the Equipment Module Owners Manual.

Controls/Fittings

AIR CONTROLS: There are two air controls located next to the three function buttons (see figure 2). These are air controls which allow air to flow through the jets when the pump is on high speed, and each control regulates the air flow through three jets. Simply turn the air control to the "on" position while the pump is on high speed and you will see the jets produce added agitation. Turning the control to "off" will return the jets to water-only operation. If the controls are "on" while the spa is on low speed, you may see a small amount of air coming from the jets. While this does not hurt the operation of the spa, it will have a tendency to cool the water and is therefore undesirable.

OZONE READY: Your spa has a footwell ozone jet and line factory-installed. It is very simple to add an optional GPM Ozonator to your spa. The ozone line end should be cut off and cleared of any debris and attached to the fitting on the optional GPM Ozonator. The ozonator plug mates with the special ozonator receptacle on the Support Module. The optional GPM Ozonator comes with detailed installation instructions, or you can ask your dealer for further information.

SPA CARE & MAINTENANCE

Draining Your Spa

Every 3-4 months you should change the water in your spa. This is made easy by way of the drain faucet which is included in your Great Lakes Spa®. The drain faucet is located in the equipment module area (see figure 1). Simply attach a garden hose to the faucet and run the hose to where you want to drain the water. Once the hose is positioned, turn the pump on LOW speed and be sure the thermostat is "OFF". Turn the faucet open to begin pumping the water out of the spa. After the water is pumping through the hose, PARTIALLY close the push/pull valve on the discharge side of the equipment module (see figure 1). Close the valve no more than half-way, as too much pressure can build in the lines if the valve is closed all the way. When the water reaches the suction drains in the bottom of the spa, turn the pump off by way of the on/off switch on the equipment module and close the drain faucet. The remaining water in the spa can be scooped out or removed with a sponge, and you are now ready to clean the acrylic surface. You should now open the push/pull valve completely.

Do not pump your water directly onto your lawn or flowers/shrubs/etc., as the body oils and residual chemicals may do damage to the plants.

Acrylic Shell Care

Your Great Lakes Spa® is manufactured with Dupont Lucite "XL" Acrylic, and the quality finish is very durable and easy to maintain. When the spa is empty, wipe the spa shell with warm water and a sponge. Do not use an abrasive brush or cleaning agent as it will scratch the acrylic finish. If you have a stubborn dirt or scum mark, use an acrylic spa cleaner which is available at your local spa dealership. Also, do not use detergent or soap to clean the spa as the residue will remain on the surface and appear in the water upon refilling and cause foaming.

Refilling Your Spa

Once your spa has been cleaned, you can now refill with clean water. The same procedure is to be followed as when you first filled your spa. Be sure that all push/pull valves are open (handles pulled out), and the drain faucet closed. Fill the spa by way of a garden hose to within 6-8 inches of the top of the spa. Once the spa is filled, turn the spa equipment module to "on", turn up the thermostat and place the thermal cover on the spa and allow the spa to heat for 8-12 hours. You should again test the water chemistry of the water according to instructions provided by your dealer.

Thermal Spa Cover

It is important that you properly care for your spa cover. Do not sit or stand on the cover as it will break with weight of this type. Do not let snow build on your cover, but keep the snow brushed off your cover before it accumulates. Tie-down tabs are included with your cover, and if your spa is outdoors it is important that you use the tie down tabs to prevent the wind from lifting the cover off your spa. Periodically clean your cover as described in the maintenance and cleaning instructions provided with the cover. When handling your cover, take care not to drag it over rough surfaces which will scuff or tear the fabric. Never lift or carry the cover by the tie down tabs but always lift by the handles.

Cabinet Care

Your portable Great Lake Spa® cabinet has been manufactured with Northern Michigan White Cedar. Your cabinet has been water-sealed at the factory and is able to withstand the elements in an outdoor setting. The cedar will naturally weather over time, especially when located outdoors, and this is the preferred look of many spa buyers.

If you wish to minimize the weathering effect, you should treat your spa with an exterior penetrating oil-based stain. Remember that treating the wood with a varnish will give a much brighter look to the cabinet, so you may want to do some testing on the back side of the cabinet first. Many people choose to stain the cabinet to reflect their individual tastes, and your local paint supply store can assist you in various options you have in wood treatment.

Filter Maintenance

Your Great Lakes Spa® has been equipped with an in-line filter system which is located on the equipment module. Every two weeks you should clean your filter which has picked up hair, body oils and other debris that may have come into the spa water. Also, while in the spa periodically run your hand over the suction fittings in the bottom of the spa and pick off any hair or lint that might be blocking the flow of water.

To clean your filter, first turn the on/off switch on the equipment module off. Close the push/pull valves shown in figure 1, and open the relief valve located on the top of the filter to release the pressure within the filter (see figure 1).

Since water is likely to spill out of the filter canister when you open it, you may want to put a tray or towel under the filter to catch spilled water if your spa is located indoors.

Turn the filter ring counter clockwise until it is loose from the housing. You can now remove the filter housing from the equipment module and remove the filter element for cleaning. Note: be sure the "O"-Ring on the filter housing remains in place.

It is recommended that you have a second filter so that while one is being cleaned the other can be in the spa. If you have a clean second filter, place it back into the filter housing now. Place the filter housing back on the equipment module (be sure the "O"-Ring is in place) and turn the filter ring clockwise onto the threads (HAND TIGHTEN ONLY). Close the relief valve on the top of the filter housing and pull the push/pull valves open. Restart the spa by turning the on/off switch "on".

To clean the dirty filter you should first spray the filter with a hard water spray to remove any lint and hair. You should then soak it in a filter cleaning solution to remove all the oils, minerals, residues and debris. Detailed filter cleaning instructions as well as supplies can be obtained from your spa dealer.

WATER CARE

General

Due to the warm temperatures in your spa, it is important to properly test and maintain your spa water for health and appearance reasons. Chemical imbalance can cause skin irritations and dirty water is both unsightly and undesirable to soak in. With a minimum of effort you can have sparkling clean water for your constant enjoyment. This can be attained by the use of spa chemicals or by way of a spa ozonator. It is recommended that you consult your dealer as to the water treatment method that is best for you. A reminder: always use hard (not softened) water in your spa.

Chemicals

If you choose to maintain your spa water by means of chemicals, there are basically three types of chemicals you will use: bromine, which sanitizes the water; PH controls, which maintain the PH level, and a water clarifier which keeps the water clear. Since there are many types of chemical water treatment programs available, you should consult your dealer on the details of the program he offers.

Ozone

Many spa owners now use spa ozonators which purify the water by means of ozone. The GPM ozonator is an aluminum unit which contains a special ultra-violet light. When the unit is activated, ozone is generated which is drawn into the spa via the ozone jet located in the footwell of your spa. The ozone gas appears as tiny bubbles which come from the ozone jet.

The ozone coming into your spa purifies the water without the skin irritation and chemical smell which often occur with the use of conventional chemicals. The ozone unit operates when installed according to the instructions provided with the ozone unit and when the equipment module is on.

For most effective ozone purification, the following chart gives suggested operating times:

<u>SPA SIZE</u>	<u>USAGE</u>	<u>RUNNING TIME PER 12 HOURS</u>
Up to 300 gal.	Low	2-1/2 Hours
Up to 300 gal.	High	3 Hours
300-500 gal.	Low	3 Hours
300-500 gal.	High	3-1/2 Hours
500-750 gal.	Low	3-1/2 Hours
500-750 gal.	High	4 Hours

Low usage is considered up to 4 times per week for 2-4 people. Actual running time should be adjusted to meet personal requirements.

If the spa is heavily used, you may find that the ozonator can't quite keep up with the purification needs. If the water develops discoloring or cloudiness when using the ozone system, you will want to "shock" the water by putting bromine in the water periodically. Ozone and bromine are an ideal combination in residential spas. Ozone does the primary sanitizing of the water, and bromine provides backup sanitizing support. Bromine is available in powder, sticks or floating dispenser form, and your dealer can advise you as to the best treatment program for your spa.

NOTE: You must monitor the PH level of your spa water no matter what sanitizer you use. Over a period of time, as minerals are filtered out of the water, the PH level can drop below 7, creating acidic water that can seriously damage the metal components of your spa such as the heater element and stainless steel fittings. Your dealer can instruct you as to the proper methods of testing and treating your spa water for PH level maintenance.

WINTERIZING

Your Great Lakes Spa® is manufactured to operate in any outdoor environment. If you live in an area where the danger of freezing exists, however, you must take extra precautions to insure that your spa will operate properly. If you plan to operate your spa throughout the winter, be sure that the thermostat is set to keep the water warm. In addition, in freezing temperatures it is recommended that the timer not be used to shut the system off.

If you intend on closing down your spa for the winter, you should follow the winterizing procedures listed below:

1. Drain the spa as explained in the "Draining Your Spa" section.
2. Briefly (15 seconds) run the air blower to be sure the air blower lines are clear of water.
3. Be sure that all water is removed from the spa.
4. Shut off all electrical power at the breaker box.
5. Disconnect the equipment module from the spa and bring it to a warm area. You should have a qualified electrician disconnect electric. Removing the equipment module will also allow the water in the spa lines to drain .
6. Cover your spa with a waterproof, water shedding cover. You can use your thermal cover over the spa, but be sure that it is securely fastened and will not accumulate snow.