

Owner's Manual

SPECIAL EDITION

ONE PUMP SYSTEM: DELUXE 240 VOLT

THIS IS AN IMPORTANT SAFETY DOCUMENT

- Please take a few minutes to read this manual. A thorough knowledge of the basic safety precautions and proper maintenance procedures will provide years of safe enjoyment of your spa.
 - Pass it on to any new owner.
- If lost, contact your local Marquis Spa dealer or write to Marquis Corp. and a new copy will be sent at no charge.



MARQUIS SPAS

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IMPORTANT SAFETY INSTRUCTIONS

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SAVE THESE IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should always be observed, including the following:

1. **READ AND FOLLOW ALL INSTRUCTIONS.**

2. DANGER - RISK OF ELECTRIC SHOCK! Install at least 5 feet (1.25 M) from all metal surfaces.

3. DANGER - Risk of electric shock. Do not permit any electrical appliance, such as a light, telephone, radio, or T.V. within 5 feet (1.52 M) of the spa.

DANGER - Risk of Electric Shock. Install at least 5 feet (1.5 M) from all metal surfaces. As an alternative, a spa may be installed within 5 feet of metal surfaces if each metal surface is permanently connected by a minimum #8 AWG (8.4 mm²) solid copper conductor to the wire connector on the control box that is provided for this purpose.

4. WARNING - To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times. DANGER-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.

5. DANGER - To reduce the risk of injury, do not remove suction grates or suction covers.

DANGER - Risk of Injury. The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible. Never operate spa if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.

6. This spa is designed and intended for residential use only and should not be used in a commercial, public, or semi-public installation.

7. WARNING - TO REDUCE THE RISK OF INJURY: The following spa use rules are most important. Using your spa properly and safely will give you countless hours of enjoyment. But, just as with many products, misuse can be extremely harmful. Protect yourself, your family, and your guests by following the safety rules listed here:

- A. The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning. Do not drink alcoholic beverages before or during spa use. One of the effects of alcohol is slowed reflexes and it can make people drowsy. Hot water also helps induce muscle relaxation. The two together could induce sleep and this, in turn, could possibly lead to drowning. Because of these facts, it is vitally important that you do NOT allow mixing of alcoholic beverages with spa usage.
- B. Pregnant women and people suffering from obesity or with a medical history of heart disease, low or high blood pressure, circulatory problems, or diabetes should consult a physician before using a spa. People using medication should consult a physician before using a spa because some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.
- C. The water in a spa should never exceed 104 degrees F (40 degrees C). Water temperatures between 100 degrees F (38 degrees C) and 104 degrees F are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes. Spa water temperatures should be maintained in the 98 degree to 104 degree range. An accurate underwater thermometer is a "must". 100 degree water is generally safe and enjoyable for most adults. However, remaining in 100 degree water for an extended period will raise your body temperature to this level and you may experience some discomfort. As a general rule, when you raise the temperature of the spa water, you should reduce the amount of time you soak. Twenty minutes is about the limit for 102 degrees. Never soak in water hotter than 104 degrees because temperatures above this level may raise your body temperature to a level that could cause drowsiness, fainting, heat stroke, or hyperthermia. The causes, symptoms, and effects of hyperthermia may be described as follows: 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 of hyperthermia include an increase in the internal temperature of the body, dizziness, lethargy, drowsiness, and fainting. The effects of hyperthermia include: 1. Failure to perceive heat. 2. Failure to recognize the need to exit the spa or hot tub. 3. Unawareness of impending hazard. 4. Fetal damage in pregnant women. 5. Physical inability to exit the spa. 6. Unconsciousness resulting in the danger of drowning. Warning: The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia. 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 +/-5 degrees F (3 degrees C). It is always important to check your in-spa thermometer before using your spa and to limit your time in the spa as suggested above. Use 98 degrees F to 99 degrees F - normal body temperature - for extended periods of soaking.

A WORD ABOUT CHILDREN

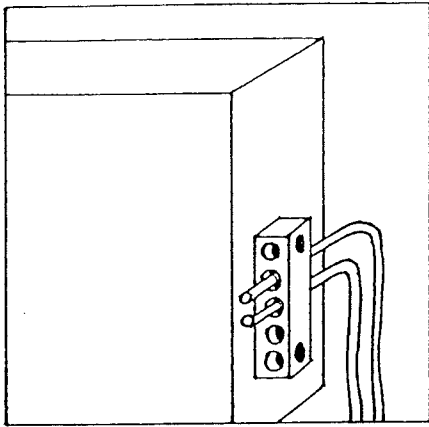
As previously explained, soaking in hot water will affect the body's temperature. In small children, the body temperature can increase more quickly than that of a full grown adult. Thus, children must not be allowed to absorb the same amount of heat as an adult. Children's time in the spa should be less than an adult's and children using a spa must be constantly supervised. Children should never be allowed to swim underwater in the spa.

A WORD ABOUT PREGNANT WOMEN

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 spa water temperatures to 100 degrees F (38 degrees C). Soaking for extended periods in water 102 degrees or higher may affect body temperatures to the point that it could affect the fetus. This is especially important during the first 90 days of pregnancy. Spa use at 100 degrees should be limited to no more than 5 minutes. It is strongly suggested that women who are pregnant (or those who are considering becoming pregnant in the near future) check with their doctors for recommendations in safe spa use.

- D. People with infections, skin sores, or open wounds should not use the spa. Warm or hot water may serve as an incubator for some types of bacteria. It is vitally important to keep your spa properly disinfected with chlorine or other equally effective disinfectants.
- E. It is recommended that people shower before and after using the spa. Showering before removes deodorants, lotions, perspiration, and oils which may clog the filter. Showering after soaking will help remove any non-disinfected bacteria that may have been in the spa.
- F. NEVER allow children to use the spa without adult supervision.
- G. Adults should not use the spa without someone nearby who can be called should anything unexpected occur. As an added precaution, you should post emergency numbers near your phone so that they are handy should a need arise.
- H. Never use glass containers around the spa - all containers should be unbreakable.

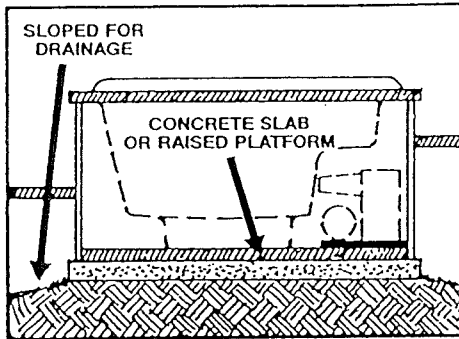
- I. Always use caution when entering and exiting the spa. Wet surfaces can be slippery. Hand rails and non-skid surfaces are recommended.
 - J. Suction through drains and skimmers can be powerful. Any drain or skimmer with a damaged cover can be dangerous, especially to small children or adults with long hair. Should any part of the body become drawn to a drain or skimmer, turn the spa off immediately! Long hair should be restrained in a bathing cap, never allow it to float in the spa. Immediately replace any broken drain or suction cover.
 - K. Keep electrical appliances, including telephones, away from the spa to avoid a possible shock hazard. Do not try to adjust or touch the spa equipment, such as a pump or the control box, or any other electrical appliance while you are in the spa.
 - L. Never walk, climb, play, or jump on the Energy Cover of your spa. Never swim or play under this cover when it is installed on the spa. Also, do NOT rely on your Energy Cover as a safety cover for children. It is a precautionary measure only and children must be supervised when they are around the spa.
 - M. A fence around your spa with a self-closing and self-latching gate can be the best protection against unauthorized entry and use. If your spa is indoors, lock the door to the room to keep out unauthorized users.
 - N. Do not use a spa in conjunction with strenuous exercise without consulting your physician and obtaining his/her approval.
- 8. Turn Off all electric power at the main circuit breaker or disconnect panel prior to performing any service to the spa equipment.
 - 9. It is the responsibility of the spa owner to ensure that all electrical connections are made in accordance with the National Electric Code and any state and local electrical codes in effect at the time of installation. For all permanently connected units 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 Electrical Code, ANSI/NFPA 70-1987. The means of disconnection must be readily accessible and installed at least 5 feet (1.52 M) from spa water.



10. A grounding wire connection is provided on the right surface of the control box inside the spa equipment bay to permit connection of a bonding wire between this point and any metal equipment, metal water pipe, and metal conduit within 5 feet of the spa as needed to comply with local requirements. The bonding wire must be at least #8 AWG (8.4 mm²) solid copper wire. This is to reduce the risk of electric shock.
11. Connections should be made with copper conductors only. All conductors, circuit breakers, and/or fuses must be sized in accordance with the Total Amperage Load as specified on the electrical control box data label.
12. All 240V support systems require a three wire plus ground electrical service (line 1, line 2, neutral, ground). All 240V connections can be made by removing the small access panel on the front of the electrical control box.
13. The spa must be installed to provide proper drainage and to keep water out of the electrical components.
14. The spa must be installed in such a manner as to provide access for the servicing of all electrical and plumbing components from above or below any decks or floors.
15. NEVER operate the spa support system when the spa is empty. This could result in severe damage to the heater, pump, and spa support components and is a potential fire risk.
16. Add only one chemical at a time to the spa water. Never mix chemicals or chemical solutions together. Always follow the manufacturer's instructions on dilution and handling precautions. When diluting, add chemical to water - not water to chemical. Avoid skin contact when working with chemicals. ALWAYS STORE CHEMICALS OUT OF THE REACH OF CHILDREN.
17. **SAVE THESE INSTRUCTIONS**

INSTALLATION AND USE

LOCATION



For your portable spa to function properly and safely, it must be located on a hard, flat, level surface. In-ground spas require special installation techniques and should be planned in conjunction with your spa dealer. Improper installation can result in structural damage to the spa and the voiding of your spa warranty. Items to discuss with your dealer include local construction codes; electrical service requirements, accessibility, and serviceability of equipment and components; present underground obstructions such as gas, water, and telephone lines; safety measures such as fences and locks; and visibility of the spa installation from the home, street, and neighbors.

You must allow for sufficient water drainage around the spa to help preserve the wood skirt and support structure and to provide adequate drainage of the equipment bay.

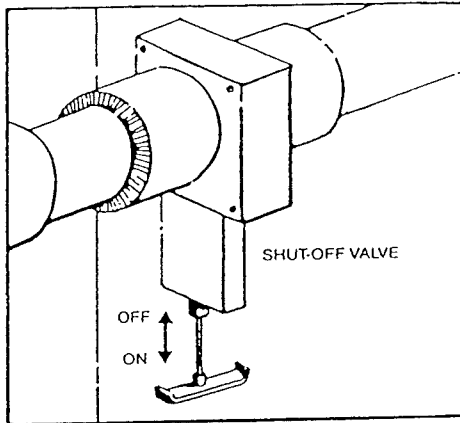
Your spa **MUST** be installed to permit access for servicing the equipment above and/or below any decks or floors. Access is essential and must allow adequate room for service personnel.

Be sure the spa is in the final position **BEFORE** filling with water. Check for power cords, tools, and hoses which may be caught underneath the spa.

CAUTION: Never try to move a spa that has not been fully drained. To do so can result in damage to the spa and physical injury to the mover.

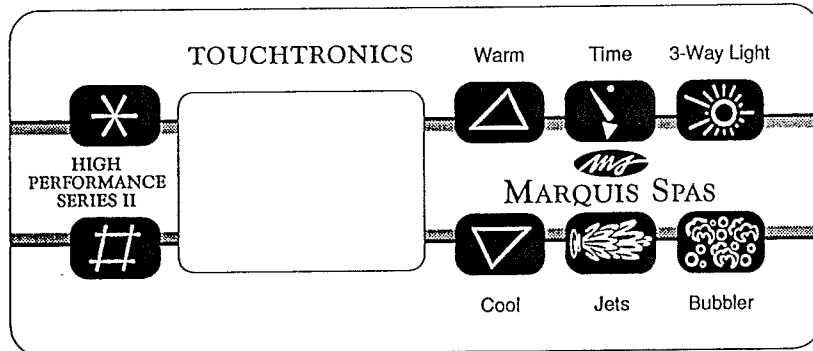
IMPORTANT: DO NOT LET AN EMPTY SPA BE EXPOSED TO DIRECT SUNLIGHT FOR MORE THAN A FEW MINUTES. Spa surface temperatures can reach in excess of 150 degrees F if left exposed to the sun. Significant damage can occur if this is allowed to happen, including warping and blistering of the surface. Damage which may occur as a result of this exposure is not covered under the warranty; all warranties have excluded this type of damage.

SHUT-OFF VALVES



Your spa is equipped with two Shut-Off Valves (see equipment diagram at the end of this manual) that completely shut off the water flow to the equipment system for dealer service. At times, a new spa or one that has recently been serviced may have the Shut-Off Valves partially closed which can restrict the water flow and hinder jet performance. Be sure the valves are fully open (T-handles fully extended).

SPA SIDE CONTROLS:



USER PADS



Temperature Controls: When either of these pads are touched once, the LCD will display the temperature which has been set, as well as the words "Set Heat". Each time either of these pads is pressed again, the set temperature will increase or decrease, depending on which pad is pressed. After 3 seconds, the LCD will automatically display the spa temperature.



High/Low Jets Control: Touch this pad once to activate pump low-speed. Touch again to start pump high-speed. Press again to deactivate pump. Note: Pump low-speed starts automatically when the heater is turned on, when a filter cycle is activated, or when a freezing condition is detected. If automatically activated, pump low-speed cannot be turned off with the "High/Low Jets" pad, however, high-speed may be activated. Whenever the pump is started with this pad, it will automatically stop after approximately 15 minutes.



Bubbler Control: Touch this pad once to start the air bubble massage of the Air Injection System. Touch once more to turn Bubbler off.

NOTE: Bubbler will automatically stop after 15 minutes. The Bubbler will automatically run for 30 seconds at the beginning of each filter cycle.

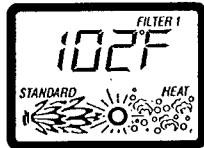


Light Control: Touch this pad once for high-intensity beam. Touch again for medium-intensity beam. Once more for low-intensity beam. Touch once more to turn light off. The light will automatically turn off after 4 hours.



Time of Day Control: Press to view Time of Day. Press again to view temperature. Current spa temperature display will automatically resume after 5 seconds.

LIQUID CRYSTAL DISPLAY



Continually shows the operating status of the spa, as well as the various monitoring functions and programming information.

OWNER CONTROL PADS



Program Function: Initiates time setting, filter programming, and panel lock routines.



Mode Function: Switches spa operation to either the Economy or Standard Mode. In the Economy Mode, the spa will heat only during the filter cycles. In the Standard Mode, the spa will be continuously heated to the set temperature. This pad also resets the High-Limit Switch in the rare instance of an overheat. (The High-Limit Switch will shut the heater and pumps off if the temperature within the heater assembly reaches a factory-set non-adjustable limit. Several conditions could cause the switch to activate, eg. low water level, Shut-Off Valves closed while heater is on, dirty filter, and restricted plumbing. To reset the High-Limit Switch, push the 

pad on the Spa Side Controls. The switch cannot be reset until water temperature within the heater assembly drops to a lower, preset temperature. If the switch trips repeatedly, the spa should not be operated until the problem has been corrected. Please consult your spa dealer.)

HOW TO OPERATE CONTROLS

Your Spa Side Controls are programmed to automatically bring your spa up to 100 degrees F and to filter for a two hour period every 12 hours. However, to fully utilize all the features of your controls, you must first set the internal time clock to the proper time of day. This is done by following the sequence shown below;

SET TIME

Once the spa has been properly connected a "Set Time" message will flash on the screen. This flashing message indicates that you can proceed with the following steps.

1. Press the time pad 
2. Press 
3. Press  or 
ascend descend

After either pad is pressed once, the internal time clock will ascend or descend in very rapid one minute increments. Press either pad to stop the time setting once it nears the proper time. You may then touch the appropriate pad to fine tune the setting to match the time of day.

NOTE: You should make sure that the time clock not only displays the correct time but that it coordinates to either a.m. or p.m. as well.

4. Press  to exit the "Set Time" procedure.

TEMPERATURE SETTINGS

Your spa water temperature will automatically rise to 100 degrees F. The length of time it takes the water to reach this temperature depends on several factors. Initial water temperature, spa size, type and insulative qualities of the cover, and consistency of electric power are all factors. DO NOT EXPECT TO FEEL HOT WATER FROM THE JETS.

While 100 degrees is generally considered to be the ideal water temperature for spa use, you can select a different temperature if you so desire. To change the water temperature setting press either  or 

You will now see "Set Heat" on the display. To raise or lower the temperature, begin pressing the pad within 3 seconds of the initial pad contact. Three seconds after you stop pressing either pad the actual temperature will be displayed.

Your controls are designed to allow a maximum programmable temperature of 104 degrees F, and a minimum programmable temperature of 80 degrees F.

CAUTION: The spa should never be operated at temperatures above 104 degrees. An accurate underwater thermometer is vital in monitoring water temperatures. If the thermostat allows the heater to heat the spa to temperatures greater than 104 degrees, contact your dealer.

PRESET FILTERING

With the internal time clock properly set, your spa will automatically filter itself twice a day. The filter cycles are set to operate in the following manner.

Filter Cycle 1:

Begins filtering at 2:00 a.m. and stops filtering at 4:00 a.m. During the filter cycle, the pump will operate on low-speed and the heater will operate in the Economy Mode.

Filter Cycle 2:

Begins filtering at 2:00 p.m. and stops filtering at 4:00 p.m. During the filter cycle the pump will operate on low-speed and the heater in the Economy Mode.

Changing the Filtering Cycles:

Should you find that the two preset filtering cycles are not conveniently set for your schedule or should you want to increase the length of either cycle, you can change the filtering cycle times.

To gain access to the filter cycle time program, you must press the following three pads within 3 seconds of each other:



"Set Start Filter" will now be displayed on the screen. (At this time, each time the  pad is touched it will

display a "Set Start", "Heater Enable", or "Set Stop" message for either the first or second filter cycle.)

To adjust the "Set Start Filter 1" time, use either the  or  pad as described earlier.

Once you have set the new start time you must press the  again.

"Set Heat" will now be shown on the display screen. To activate the heater during the filter cycle press the  pad.

To inactivate the heater during the filter cycle press the  pad.

In the On position the heater will bring the water to the preset temperature during the filter cycles. In the Off position the heater, in the Economy Mode, will not be activated during the filtering cycle.

Once you have selected the "Heater" function you can adjust the end of the first filter cycle by pressing the  pad.

"Set Stop Filter 1" will now be shown on the display screen. Once again you use the  or the 

pad to adjust the timer to the selected stop time. You have now reprogrammed the first filter cycle. You may either press  to begin the resetting process

for the second filter cycle (using same procedure) or you may press  to exit the filter time program.

Note: To properly clean and maintain your spa water a total daily filtering time of at least 4 hours is recommended. Longer filtering cycles may need to be programmed depending on sanitation methods and user load.

PANEL LOCK

Your controls feature a Panel Lock to prevent unauthorized operation of your spa controls. When either activating or deactivating the Panel Lock, each pad must be pressed within a 3 second interval.

To lock the panel, press the following 3 pads in sequence, within a 3 second interval:



The display will now show a  indicating that the Panel Lock is activated.

To unlock the panel, press the following 3 pads in sequence, within a 2 second interval:



The small  will disappear. This indicates that the panel lock has been deactivated.

LCD DISPLAY MESSAGES

The advanced technology built into the spa allows it to perform a number of self-diagnostic system checks. As the system performs these various checks, it can display a variety of messages on the LCD panel. Below are some of the messages you may see on the LCD panel.

ILOC: Interlock (spa is deactivated);
The equipment has malfunctioned. Turn off power and contact your dealer or service organization.

Pd: Battery backup;
Power has been cut off to the spa, and it is using its battery backup to preserve its settings (for up to 30 minutes). The control panel will be disabled until power returns to the unit.

OH: Overheat protection (spa is deactivated);
If a malfunction occurs and the spa water reaches 112 degrees F, the system will completely shut down. In such a condition, DO NOT ENTER THE WATER. Turn off all power to the spa and contact your dealer or service organization.

NOTE: If you set pump-one low-speed to operate for extended periods of time (in Economy Mode), overheating may occur. If this happens, remove the spa cover and allow the water to cool to below 110 degrees F. Touch the Mode pad  to reset the

system. If the water is still hotter than the set temperature, touch the Bubbler pad to cool the spa.

FLO: (Constantly displayed) A pressure switch has malfunctioned. Contact your dealer.
(Flashing) 1. The filter may be plugged. 2. The spa water level may be too low. 3. A Shut-Off Valve may be closed. 4. A pressure switch may have malfunctioned, contact your dealer.

COOL: Temperature set back; If the spa water is more than 20 degrees F cooler than the temperature set point, the heater will automatically activate to provide freeze protection. This is a normal spa function, no corrective action is necessary.

ICE: Freeze protection;

If a freeze condition is detected, both pumps are automatically activated. This is also a normal spa function, no corrective action is necessary.

Sn.1:Open Sensor (spa is deactivated);

The high-limit temperature sensor is non-functional. This must be repaired only by a qualified serviceman.

SN.3:Open sensor (spa is deactivated);

The main sensor is non-functional. This also must be repaired by a qualified serviceman.

AIR CONTROLS

Your spa is equipped with Air Control Valves located near the Spa Side Control panel. These control valves allow you to regulate the air/water mixture at the spa jets. To induce air with the water action simply rotate the valve to the On position. To shut the air off simply rotate the valve to the Off position. This valve rotates 360 degrees with two On and two Off positions.

NOTE: Because heat loss occurs as air is injected into the water, close the Air Control Valves completely when the spa is not in use.

INTERCHANGEABLE JETS

Your spa is equipped with Interchangeable Jets. This allows the ability to switch the Orbital Jets with the Marquis Therapy Jets. This can be done by turning the jet face counter clockwise and removing the jet eyeball assembly. Simply insert either assembly back into the open socket, and turn the jet face clockwise to secure.

WHIRLPOOL JETS

Your spa is equipped with Whirlpool Jet(s). The control knob for this jet is located on the jet face. By fully turning the face of this jet in one direction you can concentrate the flow of water from the therapy jets to the Whirlpool Jet. To return the flow of water to the therapy jets, turn the jet face in the opposite direction. NOTE: For ease of operation, turn the pump high-speed off when adjusting the Whirlpool Jet.

BODY JET

Your spa may be equipped with a large Body Jet. This jet is designed to massage a large portion of your back with an ever-changing circular massage. This Body Jet works in conjunction with the Interchangeable Jets.

PERSONAL THERAPY JETS

Your spa is equipped with small Personal Therapy Jets. These jets are strategically located throughout the spa seating area and operate in conjunction with the Interchangeable Jets.

DEDICATED OZONE JET

Your spa is equipped with a dedicated Ozone Jet. This jet is located in the footwell of your spa which is the best location to evenly disperse ozone. (Ozone systems are standard on MTS II spas and are optional on HPS II spas, see your authorized dealer.)

SUCTION FITTINGS

There are Suction Fittings (drains) in the footwell of your spa. These are the openings through which the pumps draw water. These openings have been equipped with safety covers. Water is also drawn through the skimmer/filter area. The suction fittings in this spa are sized to match the specific flow of the pump. Should the need arise to replace a suction fitting or a pump, be sure that the flow rates are compatible. Suction through the drains and skimmer can be strong. All safety covers must remain in place and undamaged. A drain or skimmer with a damaged cover can be dangerous, especially to small children or people with long hair. Should any part of the body become drawn to a drain or skimmer, turn the spa off immediately. Long hair should be restrained in a bathing cap, never allow it to float freely in the spa. Immediately replace any missing or damaged suction covering.

FILTER CARTRIDGE

Your portable spa is equipped with the Spa Filtration System. This system includes a floating weir, debris catch basket, and top-loading filter cartridge.

Do not operate your spa without a clean filter cartridge in place.

WATER CHEMISTRY GUIDELINES

The proper chemical balance of the spa water is essential. There are several methods available to sanitize the water in your spa. We recommend using chlorine or bromine and ozone. No other oxidizing agents are suggested. Use of other oxidizing agents may damage equipment and void the warranty.

Consult your spa dealer for the proper chemicals and their recommended usage. **NEGLECT IN MAINTAINING THE CORRECT WATER CHEMISTRY CAN VOID YOUR SPA WARRANTY.**

NOTE: If your spa is equipped with an ozone sanitation system, refer to the supplemental booklet dealing with the ozone system for complete instructions and chemical guidelines. The use of an ozone generator will reduce the needed amount of chemical sanitizers, such as chlorine and bromine, but it will not eliminate their use entirely.

CAUTION: It is essential that you shock chlorinate your spa after filling it with water **BEFORE** you begin to use it. Directions should be on the chlorine concentrate container. This shock treatment will give an initial sterilization to your water, kill any algae spores that may be present, and oxidize undesirable minerals and organic matter in the raw water.

This treatment must be repeated anytime the spa is refilled or the water has lost its chemical control due to neglect or lack of use.

It is recommended that sodium dichlorocyanurate (DyCloro) or lithium hypochlorite be used in spas. Calcium hypochlorite is the type of chlorine which is used in swimming pools and is **NOT** recommended for spa usage.

CHEMICAL LEVELS

The pH level should be kept between 7.2 and 7.6. Failure to maintain this level can result in irritation of the eyes, skin rashes, and other discomforts as well as clogged pipes, staining, and equipment damage.

Alkalinity should be maintained between 100-150 parts per million (ppm).

Chlorine levels should not exceed 3 ppm except during periods of super chlorination. Super chlorination is used only to treat raw water after completely draining the spa and after periods of heavy use.

Since water chemistry and water hardness vary from region to region, you should consult your spa dealer about how to best treat your water. He has a complete line of chemicals to help you get optimum use and enjoyment from your spa.

CHEMICAL SAFETY

It is important that you read and follow the safety tips for chemical usage and storage listed here. This valuable information is contained on pages 11 and 12 of the "Sensible Way to enjoy Your Spa or Hot Tub" issued by the National Spa and Pool Institute (NSPI) which has granted us permission to use this information here.

The chemicals needed for your spa help make it clean, disinfected, and more attractive to use. But remember that these chemicals are potentially dangerous and may present some hazards if not used properly. Carefully follow the manufacturer's instructions for chemical use and storage.

In general, here are some tips for chemical use and storage:

- * Before using chemicals, read the labels and directions carefully. Follow label instructions.
- * Keep all chemicals out of the reach of children.

STORAGE

- * Chemicals for test kits should be replaced each year.
- * Keep the original lids on all chemical containers and make sure the lids are closed tightly when not in use.
- * Do not stack different chemicals on top of one another.
- * Store your spa chemicals in a clean, cool, dry, and well-ventilated area, preferably off the floor, to prevent contamination from other materials. Keep them away from chemicals and equipment used in garden and lawn maintenance.
- * Keep liquid chemicals away from dry chemicals. Keep separated those chemicals which are different forms of

oxidizing compounds. Physically separate all different forms of chemicals.

- * Do not store your spa chemicals where flammable items may mix with them. The mixing of some chemicals and fertilizers can cause a fire explosion.

USAGE

- * Never mix two chemicals together. Use a clean scoop for each chemical and avoid combining materials from "old" and "new" containers.
- * Test the water in your spa with a reliable test kit on a schedule recommended by your spa dealer. Add the necessary chemicals according to the test results and the manufacturer's instructions. The hot water environment of a spa allows disinfectants to rapidly break up and spread out. This requires more frequent water testing. Follow your manufacturer's instructions in this regard. The more people who use the spa, the more frequently you should test the water.
- * Do not inhale dust or fumes from any chemicals. If necessary, use proper devices for breathing, handling, and eye protection. Promptly wash off any chemicals which get on your skin.
- * Never reuse old containers unless specified by the manufacturer.
- * If you have any questions regarding safe handling, storage, or use of spa chemicals, contact the manufacturer of the chemicals.
- * Always add the chemical directly to the spa by; using a suitable feeder, distributing it across the surface of the water, or diluting and pouring it into the water. Follow label use instructions.
- * When preparing water solutions for feeder application, pour the chemical slowly into the appropriate amount of water, stirring constantly to provide mixing and dilution.
- * Always add chemicals to water. Never add water to chemicals.
- * Never add chemicals to the spa water while people are using the spa.

- * Carefully clean up any spilled chemicals with large amounts of water, to dilute and wash away the chemicals. Disinfectants and pH adjustment chemicals can usually be sent to the sewer with large quantities of water, since they are intended for use at low levels.
- * Wash out empty disinfectant containers before disposing to eliminate danger of fire, explosion, and poisoning.

ELECTRICAL REQUIREMENTS

Prior to start-up or performing any service to the spa equipment, turn off all electric power at the main circuit breaker or disconnect panel.

It is the responsibility of the spa owner to ensure that all electrical connections are made by a qualified electrician in accordance with the National Electric Code and any state and local electric codes in effect at the time of installation.

All connections must be made in accordance with the wiring diagram found on the inside of the control box cover.

Connections should be made with copper conductors only. All conductors, circuit breakers, and/or fuses must be sized in accordance to the Total Amperage Load as specified below:

- * Permanently connected
- * Rated 240V, 60HZ, 40A, 3 wire plus ground
- * Minimum Supply Conductor Ampacity: 50 Amp based on 60 degree C ambient
- * Fuse or Circuit Breaker Size: 50 Amp

This equipment is designed to operate on 60Hz Alternating Current only at a voltage of 240.

A pressure wire connector is located on the exterior of the control box. If the installation includes a common bonding grid (reinforced concrete slab, ground plate beneath the spa, or any metal water pipe connection), then this pressure wire connector should be bonded with at least #8 AWG copper wire to any metal ladder, water pipe, or other metal within 5 feet of the spa.

240 VOLT INSTALLATION

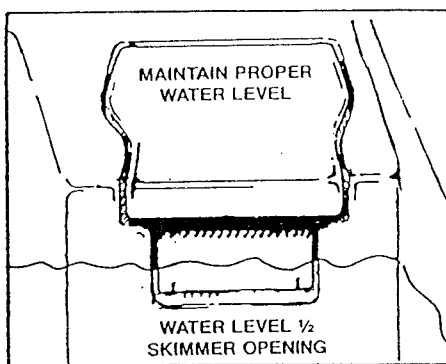
Units to be operated at 240V must have all connections made by a qualified electrician in accordance with the National Electric Code and any state and local electric codes in effect at the time of installation. All 240V units require a three wire plus ground (line 1, line 2, neutral, ground). Refer to label below the terminal block.

STARTING YOUR SPA

Make sure power supply is off. The circuit breaker in the residence electrical panel must be off.

Tighten all disconnects, close the hose bib, open all Shut-Off Valves, and clean all debris from the spa.

Make sure the suction fitting covers are in place in the footwell of your spa. This unit is not to be installed without approved suction fitting covers which prevent the entrapment of hair and other body parts. Approved fittings are supplied by the factory with your spa.



Fill the spa to the middle of the skimmer opening. Shock chlorinate the water before using the spa. It is essential that this shock treatment be done after each refill.

Note: If the spa is equipped with an optional ozone sanitation system, refer to the supplemental manual for instructions on the sanitation steps needed prior to spa use.

Turn on electrical power to the spa. Flip on the circuit breaker in the residence electrical panel.

OPERATING THE SPA

Allow the spa to circulate on high-speed (see instructions for Spa Side Controls) for 4-5 minutes to discharge air from the plumbing system. Do not expect hot water immediately from the jets; the heater will take several hours to heat the water. NOTE: Your spa has been filled and test run at the factory. The first time your spa is filled with water, some discoloration from residual test water may appear. This will disappear when the spa is completely filled and the filtration system is activated.

Test the water for the proper chemical balance and adjust as necessary. PROPER BALANCE IS IMPORTANT.

ENERGY COVER

When the spa is not in use, the Energy Cover should be kept on the spa to retain the water's heat and to keep out dirt, leaves, etc. Your heater thermostat will maintain a constant water temperature between spa uses.

REGULAR MAINTENANCE

WOOD CABINET

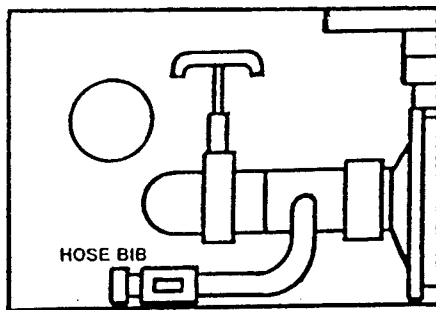
Your spa cabinet has been treated with a sealant at the factory. It is suggested that the cabinet be treated twice a year with an additional coat of sealant for maximum weather protection. You should contact your dealer for advice on which sealants work best in your environment.

DRAINING THE SPA

It is recommended that you completely drain your spa at least four times a year. More frequent draining may be required depending on use. Unless this is done regularly, the water becomes chemically "saturated" and will no longer respond to regular chemical upkeep. The spa should also be drained before long periods of disuse or for major equipment repair. An empty spa should be covered, direct sunlight on the spa surface can cause severe damage or blemishing and can result in the voiding of any surface warranties.

To drain the spa for cleaning or servicing complete the following steps:

- A. Set on Economy Mode.
- B. Turn off the main circuit breaker or disconnect panel.



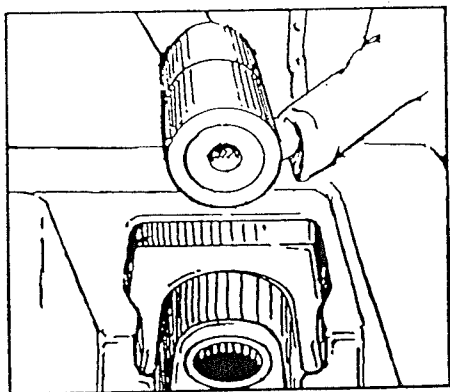
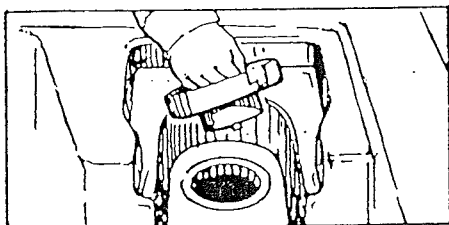
- C. Attach a garden hose to the hose bib in the equipment area.
- D. Open the hose bib by turning the lever counter clockwise. Gravity will cause the water to drain out of the hose.

- E. When the spa is empty, close the hose bib and remove the hose.

CLEANING

Should the tile or water line become soiled, it can be cleaned with a soft sponge or cloth. Do not use any abrasive cleaners as they can scratch or dull the spa surface or tile.

Your Energy Cover can be cleaned with a non-abrasive household cleaner on both top and bottom sides. A good quality NON-SILICONE based vinyl restorer will help protect the surface from the sun's rays.



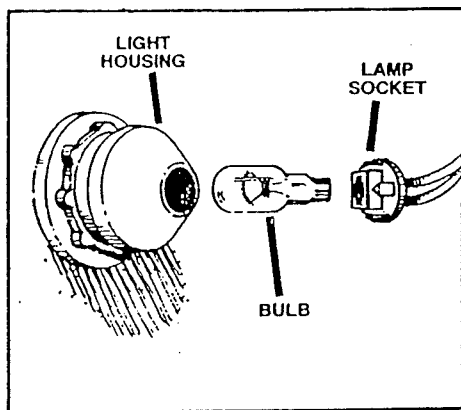
REMOVING THE FILTER

Refer to the Spa Maintenance Schedule for cleaning frequency and instructions. The filter cartridge can be removed by completing the following steps:

- A. Remove the skimmer lid.
- B. Twist the catch basket counter clockwise and lift out.
- C. Lift out the filter cartridge. Note the position of the filter. The end with the hole faces DOWN.
- D. To reinstall the filter, simply reverse the procedure outlined above.

REFILLING

Fill your spa with fresh water from a garden hose and add the necessary chemicals. Remember, it is essential to shock chlorinate after each refill before using your spa. Be sure to follow the same procedures as outlined in STARTING YOUR SPA.



LIGHT BULB REPLACEMENT

To replace a bulb, open the equipment area door to find the spa light located at the rear of the equipment. Remove the lamp socket from the back of the light assembly by turning and pulling at the same time. Gently pull the bulb out of the lamp socket and replace it with a bulb from your dealer. Install the lamp socket back into the light assembly and close the equipment door.

WINTERIZING

Your spa was designed for year around use and enjoyment and many people find the combination of hot water, therapy jets, and cool air temperatures to be especially soothing. However, if you decide to discontinue the use of your spa for the winter, or for any other extended period of time, we suggest you follow the steps below:

NOTE: During long periods of inactivity or non-use damage can occur to equipment from condensation within the equipment.

- A. Set on Economy Mode.
- B. Turn Off the main circuit breaker or disconnect panel.
- C. Drain the spa.
- D. Remove all residual water from the seating and footwell. If necessary, use a bucket to bail out the remaining water then dry the spa with towels. A wet/dry vacuum may also be used.
- E. Close the Air Control Valves.
- F. Using the wet/dry vacuum, place nozzle over each jet orifice to remove water from plumbing lines, starting with the highest jet and finishing with the lowest jet.
- G. Unscrew and disconnect plumbing lines at the heater and both the suction and discharge of the pump.
- H. Again, using the wet/dry vacuum, place nozzle over the pump parts to remove excess water. For maximum winterizing protection the pumps should be removed from the spa and stored in a climate controlled room.
- I. Wipe down the tile line.
- J. Remove, clean, and reinstall the filter cartridge.
- K. Reinstall the Energy Cover.

MAINTENANCE SCHEDULE

DAILY

Replenish the water level by filling up to 1/2 the skimmer opening. Check and clean the catch basket.

Check the water pH balance. Adjust if needed.

Check chlorine level and adjust if needed.

For proper filtration, the water should be circulated for at least 4 hours a day.

WEEKLY

Wipe down the water line.

Remove the filter cartridge and rinse thoroughly with a hose and high pressure nozzle. Soak in a solution of trisodium phosphate (TSP) if the spa is equipped with an ozone sanitation system.

MONTHLY

Soak the filter cartridge in a solution of TSP. Rinse thoroughly in clean water.

Clean the spa Energy Cover.

EVERY THREE MONTHS

Drain the spa completely, refill with water and replenish the chemicals.

While the spa is drained, the interior can be sponged with a spa cleaner and rinsed.

NOTE: Do not wax the surface as the wax will dissolve into the water and clog the filter.

EVERY SIX MONTHS

Treat the wood cabinet with protective sealant.

TROUBLESHOOTING:

PLEASE NOTE: The following corrective actions may be performed by the spa owner. If the trouble cannot be corrected in the steps below, please refer to your spa dealer for service. (Improper servicing by an unauthorized serviceman or spa owner could result in damage that will not be covered by the warranty and could cause serious injury.)

EQUIPMENT WILL NOT OPERATE

Check control panel LCD display code.

Check the circuit breaker on the main circuit panel.

PUMP(S) DOES NOT WORK

Push the Jets control pad(s) on the Spa Side Controls.

Be sure the Shut-Off Valves are completely open.

Check for obstructions or restrictions at the drain and filter basket.

Check the filter cartridge for dirt and debris. Clean or replace.

INADEQUATE JET ACTION

Check the spa water level; water must be 1/2 the depth of the skimmer opening.

Be sure the Shut-Off Valves are completely open.

Check that the Air Control Valves are open.

The filter cartridge may be clogged. Remove the cartridge from the canister. If the jet action improves, clean or replace the filter.

NO HEAT

Check all steps in "Equipment Will Not Operate" above.

Activate heater during filtering cycles.

Check that the thermostat is set to the desired position.

Switch to Standard Mode.

NOTE: Do not expect instant hot water from the jets. It will take the heater several hours to heat the spa to the temperature you desire.

Inspect the filter cartridge for dirt and debris.

Prolonged use of the jets (and Bubbler if so equipped) will have a significant cooling effect on the water. Turn off the jet action to allow the heater to raise the spa temperature.

UNDERWATER LIGHT DOES NOT WORK

Push the Light pad on the Spa Side Controls.

Tighten the light bulb in the socket.

Replace the light bulb.

WATER IS CLOUDY

Check the water chemistry and balance as needed.

Clean or replace the filter cartridge.

BUBBLER DOES NOT WORK (if so equipped)

Push the Bubbler pad on the Spa Side Controls.

Check all steps in "Equipment Will Not Operate" above.

SERIAL NUMBER LOCATION

On your spa, the serial number is engraved directly above the filter canister area. On those models which are listed by Underwriters Laboratories (U.L.), you will also find the serial number engraved on the foil tag attached to the equipment bay.

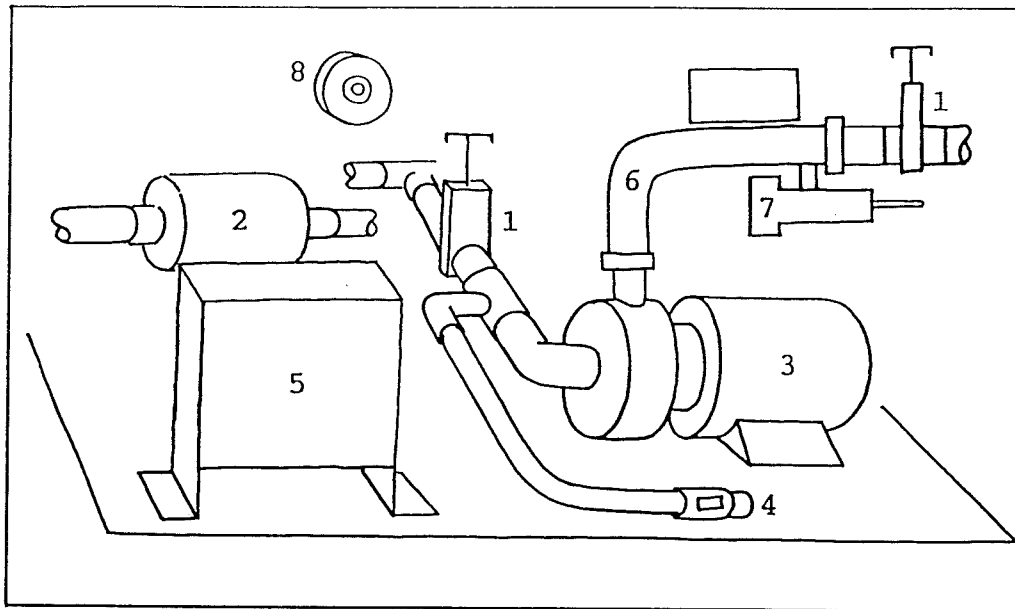
Please fill out for future reference.

Spa Model

Serial Number

Capacity (gallons) _____

SUPPORT SYSTEM



1. SHUT-OFF VALVES
2. BUBBLER
3. TWO-SPEED PUMP
4. DRAIN VALVE
5. CONTROL BOX
6. HEATER
7. OZONATOR (OPTIONAL)
8. LIGHT

WARRANTY REGISTRATION

MAIL PROMPTLY

REGISTRATION MUST BE RETURNED WITHIN TEN (10) DAYS OF PURCHASE.

NAME OF PURCHASER

DATE PURCHASED

ADDRESS

CITY

STATE

ZIP

YOUR SIGNATURE

TELEPHONE

SPA MODEL/COLOR

SPA SERIAL #

PACK SERIAL #

DEALER'S NAME

DEALER'S ADDRESS

I HAVE RECEIVED AND READ THE OWNERS MANUAL ☐

I HAVE READ THE SAFETY PRECAUTIONS FOR MY SPA ☐

OPTIONAL INFORMATION:

Age: ☐ 18 to 30, ☐ 31 to 45, ☐ 46 to 60, ☐ 60 and older

☐ Single ☐ Married ☐ Children

How do you plan to use your spa/bath?

[A] Recreation [B] Entertainment

[C] Health Therapy

How did you find out about your spa?

[A] Friend [B] Newspaper [C] Magazine [D] TV

[E] Radio [F] Other _____

Have you owned a pool or spa before? YES NO

How do you plan to install your spa?

[A] Self [B] Contractor [C] Dealer

