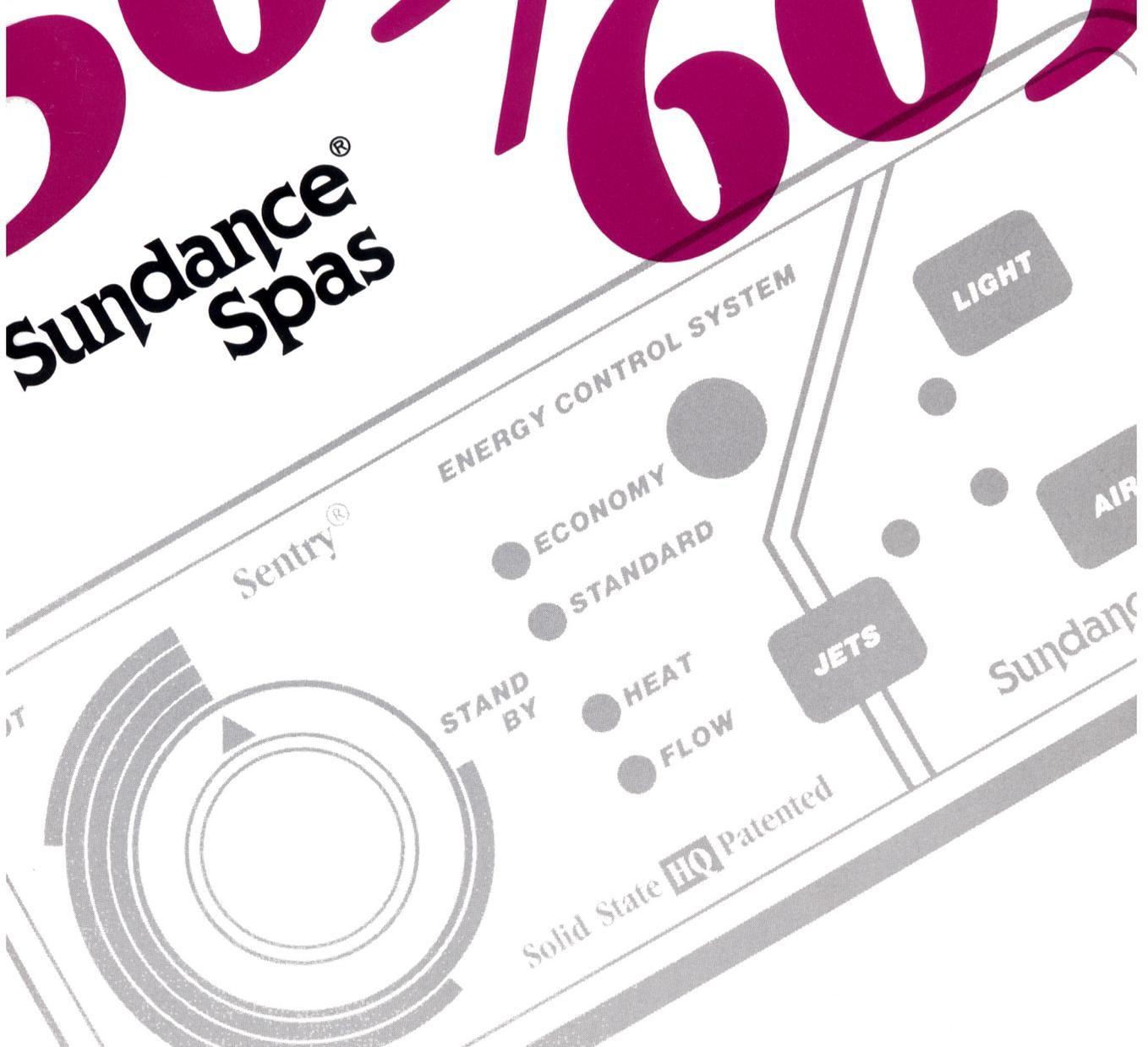


Sentry™

505/605

Sundance®
Spas



INSTALLATION & OWNERS MANUAL

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Important Spa Owner Information

Your Sundance Spa is constructed of the highest standards and is capable of providing many years of trouble-free use. However, because heat retentive materials are utilized to insulate the spa for efficient operation, an uncovered spa surface directly exposed to sunlight and high temperatures for an extended period is subject to permanent damage. Damage caused by exposing the spa to this abuse is not covered by warranty. We recommend that you always keep the spa full of water when it is exposed to direct sunlight and that you keep the Sundance insulating cover in place at all times when the spa is not in use.

Read and carefully follow the requirements for your spa's support base (found in the section titled, "Locating Your Sundance Spa").

Your Sundance Spa is designed to accept the SunZone Water Purification System.

Sundance Spas constantly strives to offer the finest spas available, therefore modifications and enhancements may be made which affect the specifications, illustrations and/or instructions contained herein.

Important Safety Instructions

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

1. **READ AND FOLLOW ALL INSTRUCTIONS BEFORE OPERATING THE SPA!**
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. **WARNING — RISK OF CHILD DROWNING.** Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use a spa or hot tub unless they are supervised at all times.
4. **DANGER** — To reduce the risk of injury, do not remove the main drain suction grate or cover.
5. **DANGER** — A wire connector marked “ground” is provided within the power box (See ILL. 1.4). To reduce the risk of electric shock, connect this terminal or connector to the grounding terminal of your electrical service or supply panel with a continuous green insulating copper wire equivalent in size to the circuit conductors supplying this equipment, but no smaller than No. 8 AWG. In addition, a second wire connector is provided for bonding to local ground points. To reduce the risk of electrical shock, this connector should be bonded with a No. 8 AWG (8.4 MM²) copper wire to any metal ladders, water pipes, or other metal within five feet (1.52 m) of the spa.
6. **DANGER — RISK OF ELECTRICAL SHOCK,** Install at least five feet (1.52 m) from all metal surfaces.

(A spa may be installed within five feet of metal surfaces, if in accordance with the National Electrical Code, ANSI/NFPA 70-1984, each metal surface is permanently connected by a No. 8 AWG (8.4 mm²) copper conductor attached to the wire connector on the terminal box that is provided for this purpose.)
7. **CAUTION** — Your Sundance Spa, whether connected to 120V or 240V, must be hardwired to your household electrical service box only. Do not use an extension cord or any other disconnectable power cord. The use of an extension cord or a disconnectable power cord is highly dangerous and will void all warranties!
8. **INSTALLATION** — The spa must be installed in such a manner as to provide drainage of the compartment for electrical components.
9. **DANGER — RISK OF ELECTRIC SHOCK.** Do not permit any electric appliance, such as a light, telephone, radio, or television, within 5 feet (1.52 m) of the spa.
10. The water in a spa or hot tub 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.
11. 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 or hot tub water temperatures to 38° C (100° F).

12. Before entering a spa or hot tub, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices may vary as much as $\pm 3^{\circ}$ C (5° F).
13. The use of alcohol, drugs, or medication before or during spa or hot tub use may lead to unconsciousness with the possibility of drowning.
14. 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.
15. 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.
16. 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 disconnecting means must be readily accessible to the spa's occupant but installed at least 5 feet (1.5 m) from spa water.
17. Always enter and exit the spa slowly and cautiously. Wet surfaces will be slippery.
18. Long exposures in the spa may result in nausea, dizziness or fainting. Observe a reasonable time limit, leave the spa, then shower, cool down and, if you wish, return for another brief stay.
19. Do not use the spa alone.
20. It is recommended that the following emergency telephone numbers be listed at the nearest telephone: physician, hospital, ambulance and police.
21. Excessive temperatures may cause hyperthermia. The symptoms and first aid information are as follows:

HEAT STROKE: The most susceptible people are the very young and elderly, alcoholics and most people under the influence of drugs, medication and alcohol.

SYMPTOMS: Hyperthermia causes loss of salt, sweating, ordinary dizziness, headache, dryness of mouth and nausea, faintness and/or unconsciousness, convulsions, flushed appearance of skin and rapid pulse and/or weak, shallow breathing.

TREATMENT: Place the victim on his back, head slightly elevated. Apply wet cloths or ice packs to the head, wrap the body in a sheet, pouring on a small amount of water. Follow with a cool shower or bath. Get medical attention as soon as possible.
22. SAVE THESE INSTRUCTIONS!

Locating Your Sundance Spa

IMPORTANT: Because of the combined weight of the spa, water and users, it is extremely important that the base upon which the spa rests be smooth, level, flat and capable of uniformly supporting this weight, without shifting or settling, for the entire time the spa is in place. If the spa is placed on a surface which does not meet these requirements, damage to the skirt and/or the spa shell may result. Damage caused by improper support is not covered under warranty. It is the responsibility of the spa owner to assure the integrity of the support over time.

We recommend a poured, reinforced concrete slab (minimum of 4 inches thick). However, wood decking is also acceptable provided it is constructed so that it meets the requirements outlined above.

The spa must be installed in such a manner as to provide drainage away from the spa. Placing the spa in a depression without provisions for proper drainage could allow rain, overflow and other casual water to flood the equipment and create a wet condition in which the spa would sit.

For spas which will be recessed into a floor or deck, install so as to permit access to the equipment, either from above or below, for servicing. Make certain that there are no obstructions which would prevent removal of the cabinet side panels, especially on the side with the equipment bay doors.

In selecting the ideal outdoor location for your spa, we suggest that you take into consideration 1) the proximity to change area and shelter (especially in colder weather); 2) the pathway to and from your spa (this should be free of debris so that dirt and leaves are not easily tracked into the spa); 3) the closeness to trees and shrubbery (remember that leaves and birds could create extra work in keeping the spa clean); 4) a sheltered environment (less wind and weather exposure can result in lowered operation and maintenance costs); and 5) the overall enhancement of your environment. It is preferable not to place the spa under an unguttered roof overhang since run-off water will shorten the life expectancy of the spa cover.

For *indoor* installations, be certain to make provisions for proper ventilation. When the spa is in use, considerable amounts of moisture will escape. This can damage certain surfaces over time.

If you have any questions regarding the placement or installation of your spa, consult your authorized Sundance Dealer.

General Electrical Safety Instructions

Your new Sundance Spa is equipped with the “state-of-the-art” Sentry equipment system. It contains the most advanced safety and self-protective equipment in the industry. Nonetheless, this spa must be installed properly to insure dependable usage. Please contact your dealer or local building department should you have any question regarding your installation. In the event they are unable to answer your questions, direct your inquiries to Sundance Spas. Please refer to the back of this manual for our address and telephone number.

Proper grounding is extremely important. Sundance Spas are equipped with a current collector system. A pressure wire connector is provided on the surface of the control box, located inside the equipment door (See ILL. 2, ITEM 4) to permit connection of a bonding wire between this point and any ground metal equipment, metal water pipe or conduit within 5 feet of the spa, or copper clad grounding rod buried within 5 feet of the spa. Bonding wire must be at least No. 8 AWG (8.4 mm²) solid copper wire. Use copper wire only. Do not use aluminum wire.

Before installing the spa, check with the local building department to insure installation conforms to local building codes.

DOOR INTERLOCK

Your Sundance Spa contains a door interlock on each door to shut down the power supply to the high voltage electrical components when the door is opened. NOTE: Polarity indicator lights and low voltage circuitry will continue to function when the door is opened.

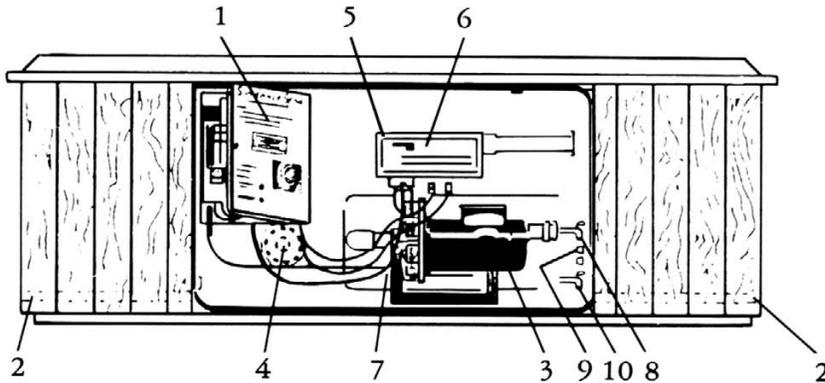
POLARITY INDICATOR LIGHTS

The polarity indicator lights allow for a visual inspection of your electrical installation. On the control box, located behind the equipment door, are two neon lights that are used to identify proper electrical hook up. (See ILL. 2, ITEM 2). The upper light indicates ground circuit, the lower light indicates line/load circuit. Check to see that both lights are brightly ON before operating the spa. Should either or both lights flicker, dim, or fail to come on when spa is energized, the spa is not properly installed. This condition must be corrected before the spa can be used.

HIGH TEMPERATURE LIMIT RESET

A manual high limit reset is located at the electrical heater connector box (See ILL. 1, ITEM 5). It is a solid red button designed to pop out in the event the spa water becomes too hot. If this occurs, the high limit reset will discontinue power to the entire spa. The high limit reset must be manually depressed to reset its function. This can only be done when the water has cooled sufficiently for the reset to hold. The high limit reset is designed to protect against overheating in the event the thermostat should fail to operate. It also protects against heat damage to the plumbing in the unlikely event the heater should remain on without a flow of water (See “Troubleshooting”).

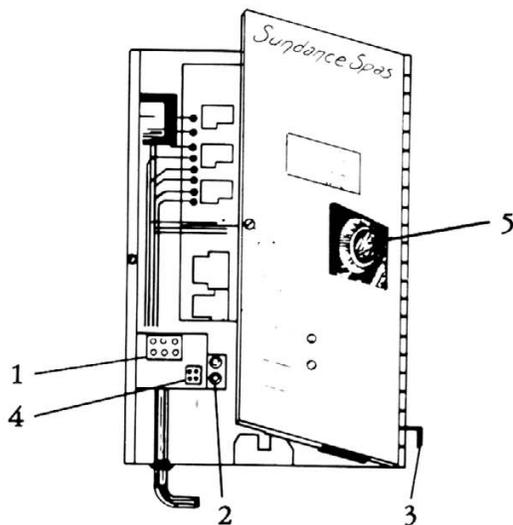
ILL. No. 1
Equipment Bay



- | | |
|--------------------------|--|
| 1. Sentry Control Box | 7. Pump Drain |
| 2. Power Supply Entrance | 8. Filter Bay Drain (605 ONLY) |
| 3. Pump | 9. Connections For Optional
Ozone Purification System (605
ONLY) |
| 4. Blower Inlet | 10. Spa Drain |
| 5. High Limit Reset | |
| 6. Heater | |

(Note: On 505 Spas, Pump and Heater Face Opposite From Direction Shown)

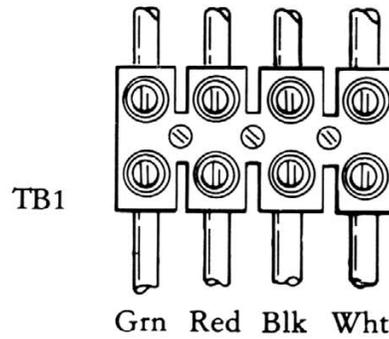
ILL. No. 2
Sentry Control Box



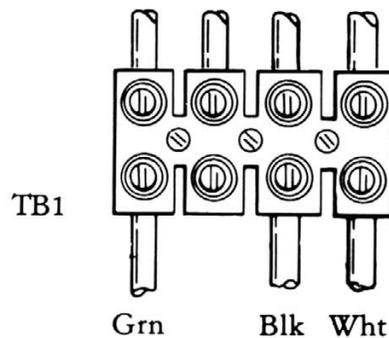
1. Terminal Strip
2. Polarity Indicator Lights
3. Grounding Lug
4. Receptacle for Optional
Ozone Purification System
5. Time Clock

ILL No. 3
Terminal Strip

240V CONNECTION



120V CONNECTION



Electrical Installation Instructions for Sentry™ 505/605 120V or 240V Convertible Spas

1. This spa must be permanently connected (hard-wired) to the power supply. No plug-in connections or extension cords are to be used in conjunction with the operation of this spa. Supplying power to the spa which is not in accordance with these instructions will void both the U.L. listing and the manufacturer's warranty.
2. The power supplied to this spa must be a dedicated circuit with no other appliances or lights sharing the power provided by the circuit.
3. All electrical work must be done to National Electric Code (NEC) and any other applicable electrical codes.
4. The spa's electrical circuit must be installed by a qualified electrician and checked by a local building inspector.
5. The wire size required depends on the length of the electrical run. See chart for proper sizing.
6. To gain access to the 605 spa's power junction box, unlock and slide open the left door of the spa's equipment bay. For a 505 Spa, unlock and remove the door. The terminal strip is located inside the main control box (See ILL. #2).
7. A separate #8 copper ground wire should be connected between the spa current collectors (grounding lug on the right side of the power junction box) and a local water pipe, electrical ground system or local UL-recognized ground rod fully driven into the ground.
8. **IMPORTANT:** All wires must be hooked up. Do not neglect to run the ground line as serious damage could result.
9. **IMPORTANT:** All wiring must be copper to ensure reliable connections. Do not use aluminum wire.

This spa is capable of either 120V or 240V operation. Although connecting either type of power is relatively simple, there are very important differences in how each is done. Follow the directions for only the power supply you choose.

FOR 120V OPERATION (Hard-Wired Only)

1. 120V installation of this spa requires a 30 ampere circuit breaker dedicated to the spa. Wire size must be 12/3 or larger (refer to chart), hot, neutral and ground.
2. Using the proper connector for the type of cable being used, install connector in the bottom of the power junction box.

3. Feed cable through the power supply entrance provided and install cable through connector.
4. Connect color to color — green to green, white to white, and black to black — on terminal strip (see illustration). **TIGHTEN SECURELY!**
5. Ignore the red wire terminal.
6. A separate #8 ground wire should be connected between the spa current collectors (grounding lug on the right side of the power junction box) and a local water pipe, electrical ground system or a local UL-recognized ground rod fully driven into the ground.
7. All 505 and 605 spas are configured for 240V operation when manufactured. For 120V operation, the system must be converted as follows:
 - A. Locate the heater relay and remove the two wires at “C” and “D” (See ILL. #4) and reconnect them at terminals “A” and “B”.
 - B. Locate the jumper just below the “C-28” designation near the center of the circuit board. Remove this jumper and replace it one pin higher.

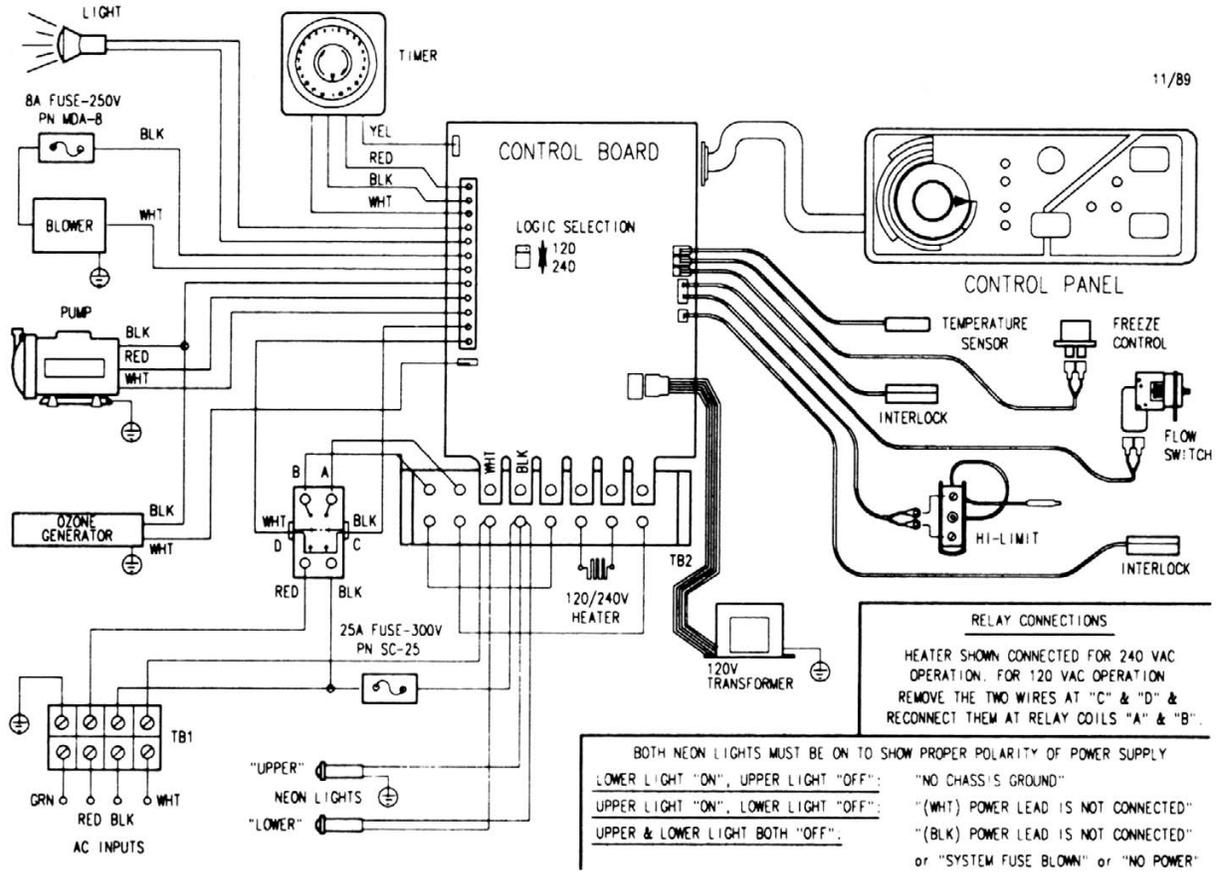
FOR 240V OPERATION (Hard-Wired Only)

1. 240V installation of this spa requires a special kind of 240V circuit which consists or a 50 ampere, 2 pole breaker dedicated to the spa and 4 wires.
 - (a) Two wires rated 50 amps will be hot (preferably one black and one red) #8 or larger, depending on length of run (see chart).
 - (b) One wire will be neutral (white) #8 or larger (see wire guide chart page 12).
 - (c) The fourth wire will be ground (green or bare) #8, and will connect to the inside ground terminal lug.
2. Using the proper connector for the type of cable being used, install connector in the bottom of the power junction box.
3. Feed cable through the power supply entrance provided and install cable through connector.
4. Connect wires, color to color, on terminal strip (see illustration, **TIGHTEN SECURELY**).
5. A separate #8 ground wire should be connected between the spa current collectors (grounding lug on the right side of the power junction box) and a local water pipe, electrical ground system or a local UL-recognized ground rod fully driven into the ground.

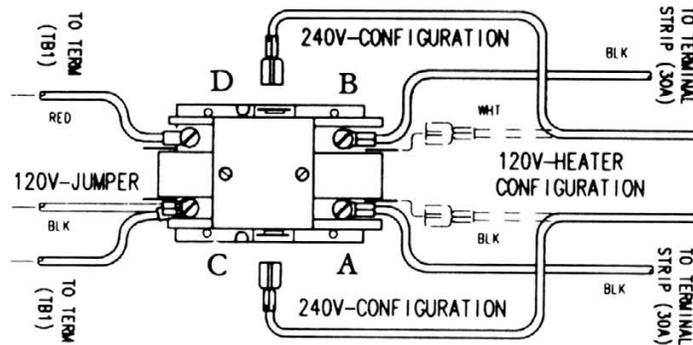
CHECKING POLARITY

At this point, you should be ready to check polarity. Turn on the breaker to the spa circuit. With the equipment bay door open, both indicator lights on the Sentry Control Box should come on (See ILL. 2., ITEM 2). If neither light is on, check to see that power is being supplied to the spa. If the lights still fail to light, or if only one lights, then there is an error in the electrical supply. Disconnect power immediately and correct the problem. Both lights must be lit to insure the electrical safety systems in the spa will function. (See “POLARITY INDICATOR LIGHTS.”)

ILL. No. 4 505/605 Wiring Diagram



Relay Connections

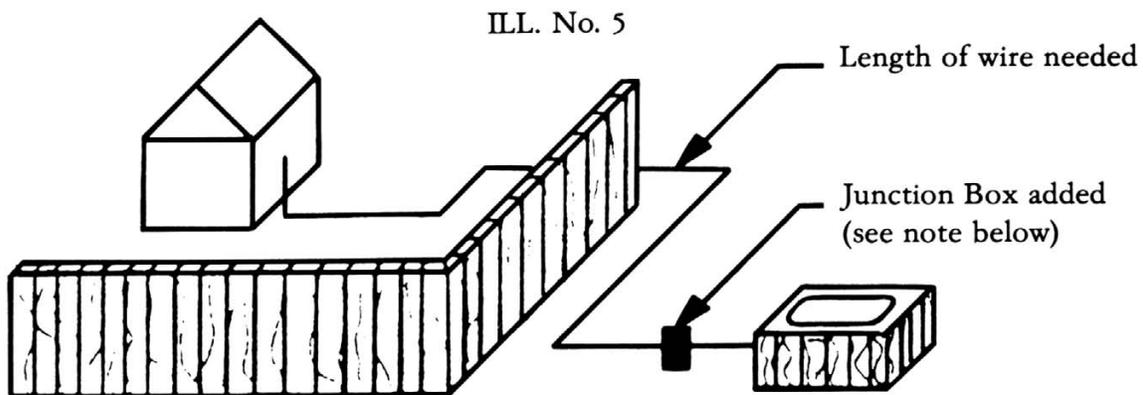


**WIRE SIZE GUIDE — 505/605 CONTROL SYSTEM
120V/240V DEDICATED ELECTRICAL EQUIPMENT**

The chart below is pre-calculated to indicate the proper size wire for any given length of wire run to the spa. (See drawing)

WIRE SIZE	=	WIRE DISTANCE (INCLUDE ALL UPS, DOWNS, INCREASES FOR CORNERS)	
#12*	=	40'	120V Only
#10*	=	62½'	120V Only
# 9*	=	80'	120V Only
# 8	=	100'	120 - 240V
# 7	=	125'	120 - 240V
# 6	=	158'	120 - 240V
# 5	=	200'	120 - 240V
# 4	=	250'	120 - 240V
# 3	=	317'	120 - 240V
# 2	=	400'	120 - 240V
# 1	=	501'	120 - 240V

*Not *ever* suitable for 240 volt operation.



NOTE: When using wire larger than #6 add J box in NEAR vicinity of spa and reduce to short lengths of #8 to connect to spa.

These figures apply to any 120V or 240V Sundance spa. All wires in the systems must be the same size except the ground wire, which should always be #8 copper wire or larger. Use copper wire only. Do not use aluminum.

During normal operation, the 120V system will draw as much as 19 amps and 38 amps on the 240V system. However, during pump start-up there is a brief period (.05 seconds) when an 80 ampere surge is experienced. Without proper wire sizing, the voltage drop caused by this surge will damage both the pump and control equipment, which will result in excessive service calls.

Start-Up Instructions

CONGRATULATIONS! You are now all set to get your new spa ready to use. Simply follow this step-by-step procedure and, before long, you will be enjoying your first glorious experience in your Sundance Spa.

FOR BEST RESULTS, read each step in its entirety before proceeding with that step.

FILL THE SPA

First, clear all debris from the spa and fill the spa with water from a garden hose. As the spa is filling, check the plumbing connections inside the equipment bay to see that there are no leaks. Occasionally, it may be necessary to tighten one of these fittings as they can loosen during shipping. Continue to fill the spa until the water level is midway in the skimmer opening and above all jets. For 505 model spas, fill to a level approximately one-half inch below the top of the floating skimmer.

NOTE: Never fill with water from a water softener. If your water is extremely “hard,” it is preferable to fill half-way with hard water and the rest of the way with softened water.

TURN ON POWER

Second, close equipment bay doors and turn power on to the spa. It may be necessary to cycle the jet sensor “on.” This causes the pump to activate water flow to the jets. If the pump is well primed, you should be able to feel a strong flow of water. If not, turn the jet sensor “on” and “off” until the pump is primed.

ADD START-UP CHEMICALS

Third, add spa water chemicals (See SPA MAINTENANCE).

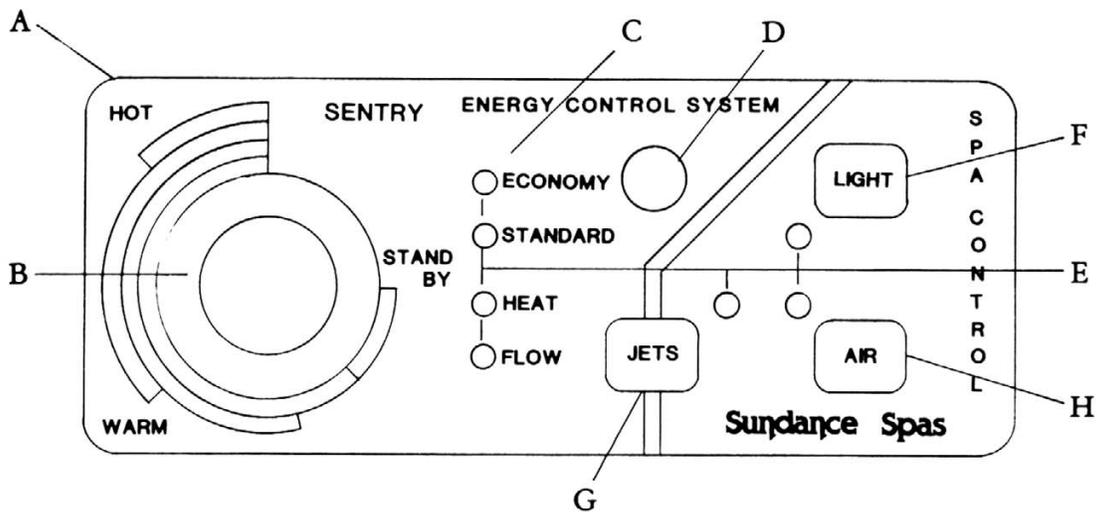
SET SPA TO HEAT

Fourth, to heat the spa, turn the thermostat knob clockwise. The top range of temperature is approximately 104°F. By turning the thermostat knob counter-clockwise, you will find the sensitivity to temperature will change geometrically. A minimum temperature setting is programmed into the Sentry™ controls to provide automatic freeze protection. Cycle the energy selector to “standard” and the jets to low speed. Note that a red indicator light marked “heater” and a red indicator light marked “flow” are now on. They will remain on until the spa reaches the temperature selected by the thermostat. Cover the spa with the Sundance insulating cover and allow the spa to heat. Initial heat-up time will vary depending on the starting water temperature and whether the spa is configured to 120 or 240 volts. A 120 volt system will raise temperature approximately 1.5 degrees per hour and the 240 volt system will heat approximately 6 degrees per hour. This will vary depending on the gallon capacity of your spa.

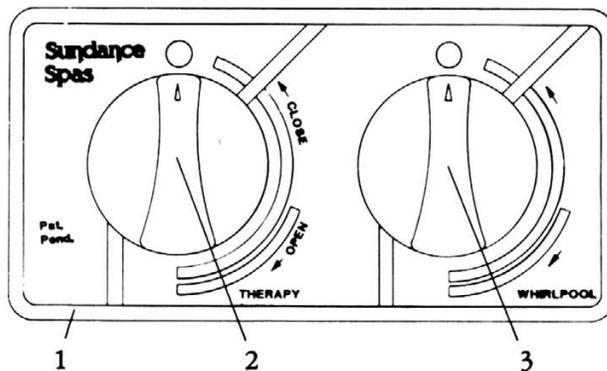
Use an accurate thermometer designed for spa use to monitor the water temperature. Always check the thermometer before entering the spa.

NOTE: Contrary to popular belief, setting the thermostat at maximum will not accelerate the heating process. This will only result in a higher ultimate temperature.

ILL. No. 6
Sentry™ 505/605 Control Panel
and Air Control Knobs



- | | |
|----------------------------|---------------------|
| A. Control Panel | E. Indicator Lights |
| B. Thermostat Control Knob | F. Light Sensor |
| C. Energy Control System | G. Jet Sensor |
| D. Energy Control Sensor | H. Air Sensor |



1. Air Control Panel
 2. Therapy Air Control Knob
 3. Whirlpool Air Control Knob
- (NOTE: One knob controls both on 505)

Operating Instructions

Your Sundance Spa has touch sensitive control panel and air control knobs located on the top lip of the spa (See ILL. 6). These control panels let you operate many of the special functions of your Sundance Spa.

LIGHT

The sensor pad designated “Light” (F) activates the light when touched. The LED light (E) next to the pad will light, indicating the condition of the light.

There are two color lenses included with your spa which may be placed over the light lens.

CAUTION: Do not allow a colored light lens which is not in use to rest on the surface of a Rovel surfaced spa, as permanent staining can result.

JETS AND AIR INJECTION

The jet (G) and air (H) functions are controlled the same way. A sensor marked “Jets” controls the hydrotherapy jets (located in the seatback areas), and a sensor marked “Air” controls the air injectors (found on the seat tread areas, See ILL. 8, ITEM 5). Indicator lights on the panel signal when these functions are on.

Both of these functions are also controlled by an electronic timer which will automatically shut these functions off approximately 15 to 20 minutes after they are started. This is a self-protective mechanism designed to insure the spa cannot be accidentally allowed to run while not in use. To restart, simply depress the sensor.

You will note that occasionally, when the “Jets” sensor is cycled off, the jets are continuing to operate at low speed. This happens when the thermostat is calling for heat or when the time clock is on. (For further clarification, see section titled “Choosing the Standard or Economy Mode.”)

AIR CONTROLS

When operating the therapy jets (Item 2) or the whirlpool jet (Item 3), you may regulate the amount of air that is mixed with the water by adjusting the appropriate air control knob. (NOTE: On Sentry 505 equipped spas, one air control knob regulates air flow to both the therapy jets and the whirlpool jet).

CHOOSING THE “STANDARD” OR “ECONOMY” MODE

Your Sundance Sentry™ controls have been designed to give you maximum convenience, as well as economy of operation. By selecting the appropriate operating mode, you can ensure that your spa will be ready to use anytime with the lowest possible energy consumption.

Standard Mode

In the “standard” mode, the spa water temperature will always be held at the set temperature. The low speed pump and the heater will turn on as needed to maintain the spa water temperature within one degree of the temperature you have set with the temperature control. When the desired temperature has been achieved, both the pump and heater will turn off.

In addition, when in the “standard” mode, the filter cycles will operate the low speed pump as programmed to give your spa the required filtration.

In summary, we suggest you use the “standard” mode in the following situations:

1. Upon initial fill-up to bring the water up to the desired temperature.
2. Anytime you desire a temperature rise prior to the next “heater on” filter cycle.
3. Anytime you desire temperature maintenance while using the spa (unless it is during a “heater on” filter cycle).

At all other times, it is advisable to use the “economy” mode.

Economy Mode

In the “economy” mode, your spa will turn on automatically *only* during the filter cycles. During these cycles, the heater will operate *only* if the actual water temperature is lower than the set desired temperature.

Because of the exceptionally high heat retention capabilities of your Sundance Spa, you will find that the “economy” mode is more than adequate for normal day-to-day operation.

IMPORTANT: In 120 volt systems, heating will occur *only* when the jets are on low speed; that is, activating the high-speed jets will automatically de-activate the heater. In 240 volt systems, heating can take place during high-speed operation provided that the thermostat is set high enough to demand heat and, if the economy mode has been selected, the timer is in its “ON” cycle. For convenience, we recommend that you select the standard mode while using the spa if you want it to heat on high speed. You can monitor the functions by watching the “flow” and “heat” indicator lights (E).

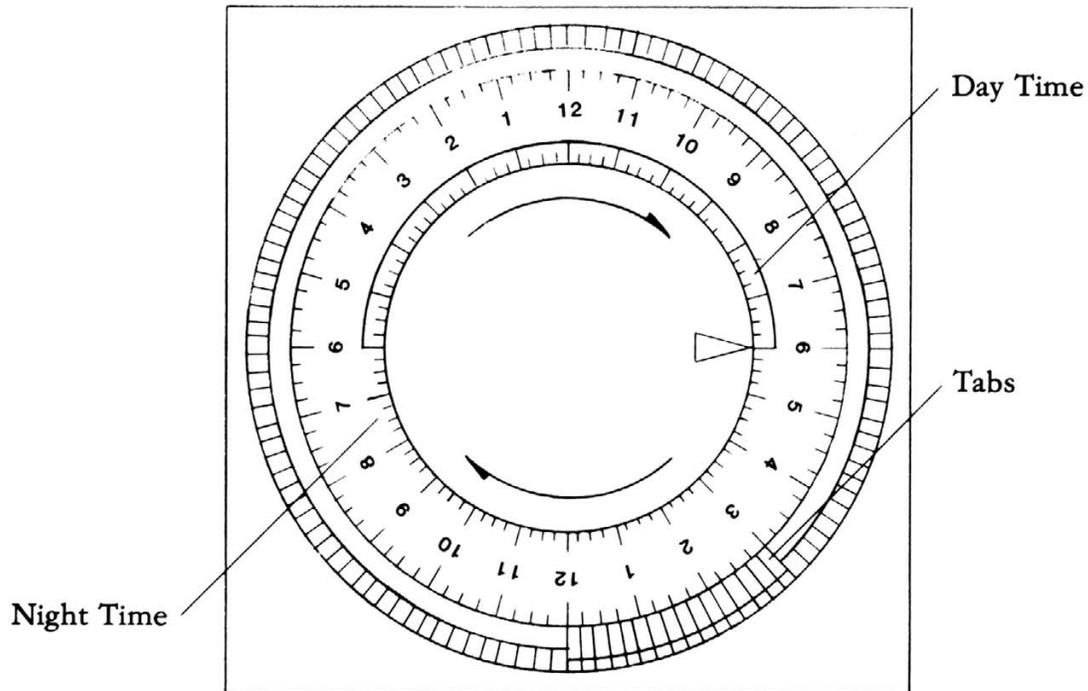
NOTE: If your spa behaves differently (in the reverse of what your power supply calls for) contact the dealer immediately as you may need a programming change.

THE THERMOSTAT

The solid state thermostat has been designed to provide you with an optimum control of the spa water temperature. The maximum setting is 104°. As the knob is turned counter-clockwise, the temperature will drop in ever increasing proportions. This geometric temperature scale allows you much greater precision and control at the upper temperature levels.

The Sentry™ thermostat is a highly precise electronic temperature control. We suggest that once you find the temperature you like best, identify its location on the panel. The thermostat is calibrated at the factory and should remain set for years.

ILL. No. 7
Time Clock



TIME CLOCK

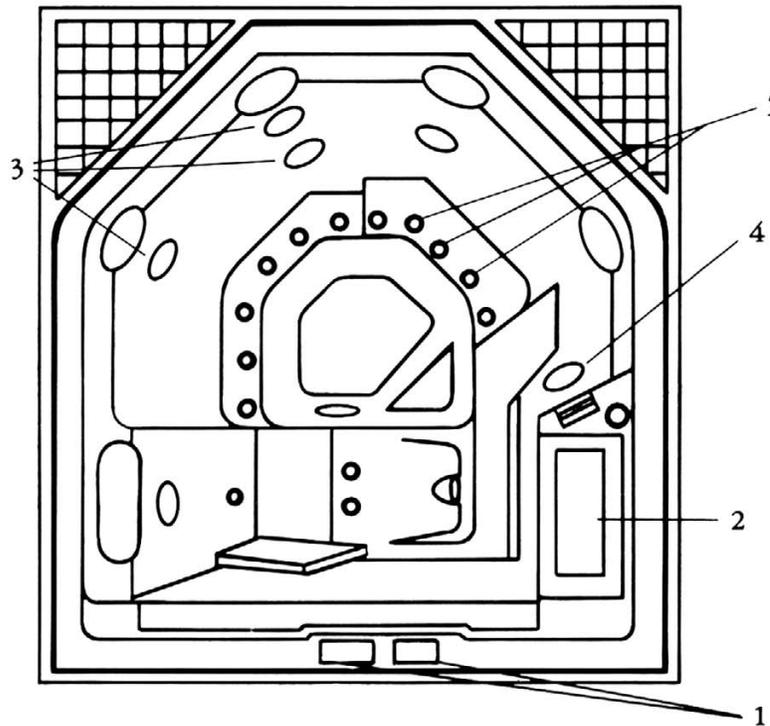
The time clock is intended to operate your filtration cycle (See ILL. 2, Item 3). To set the time of day, rotate the entire dial until the arrow on the top is indicating the correct time.

NOTE: The white line represents day time.

To set the filtration cycle(s), locate the black tabs opposite the time you wish cycling to occur. Press from the outside toward the center. Press one (1) tab for each 15 minute filter period. It is suggested that cycle times should be a minimum of one (1) hour long and the spa should filter for at least six (6) hours in a 24-hour period. For best results, space the filtration cycles to two or more times during this 24-hour period.

NOTE: The entire group of tabs between on-time and off-time must be depressed.

ILL. No. 8
Top View - Spa



1. Control Panels
2. Filter
3. Hydrotherapy Jets
4. Whirlpool Therapy Jet
5. Air Injectors

THE WHIRLPOOL JET

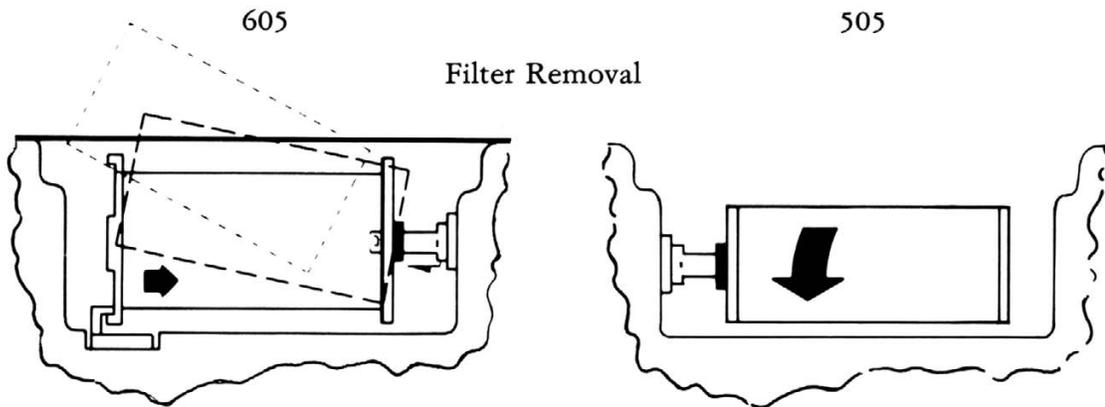
All Sundance 605 spas come equipped with a whirlpool jet (optional on 505 spas). By rotating the molded ring surrounding this jet clockwise, flow is directed to the whirlpool jet; counter-clockwise rotation directs the flow to the hydrotherapy jets.

IMPORTANT: ALWAYS CYCLE THE JETS OFF OF HIGH SPEED BEFORE ATTEMPTING TO ROTATE THIS KNOB.

Spa Maintenance

Proper and regular maintenance of your spa will help it retain its beauty and performance. Your authorized Sundance Dealer can supply you with all the information and accessory products you will need to accomplish this.

ILL. No. 9
Cartridge Filter



CLEANING THE FILTER

Each Sundance Spa is equipped with a cartridge filter. It is located in the skimmer/filter well (ILL. 9) near the top edge of the spa and is uniquely designed for easy removal and cleaning. Filtering is accomplished by causing water to flow through the fine polyester mesh of the filter, and as water flows through the filter, suspended particles become trapped on its surface.

It is necessary to remove the filter and clean the cartridge surface, generally every 4 to 8 weeks, depending on usage and water quality.

605 Spas- On 605 Spas, this is done by loosening the large retainer nut on the pipe at the base of the filter and rotating the cartridge gently. When the cartridge pops loose (up), slide the cartridge off the filter pipe. Cleaning is accomplished by washing all the entrapped dirt from the filter with a garden hose with a high pressure nozzle.

NOTE: When replacing the filter cartridge, rotate the retainer nut around the pipe until it touches the base of the cartridge. **DO NOT OVERTIGHTEN!** This retainer nut is intended only to hold the filter in place and is not intended to act as a positive seal.

505 Spas- On 505 Spas, the filter cartridge is removed by simply “unscrewing” it (i.e. rotating it counter-clockwise). To replace, rotate the cartridge clockwise into the wall fitting.

Occasionally, the cartridge will need a better cleaning to remove oils and grime from its surface. For this we suggest you remove the cartridge, clean with a high-pressure nozzle, then place the cartridge in a Sundance filter cleaning bag, soaking the cartridge three to six hours or overnight in a solution of specially formulated cartridge filter cleaner, available from your Sundance Dealer.

The average life expectancy of a Sundance filter cartridge is approximately two years with proper care and water quality maintenance. A replacement cartridge may be purchased from your Sundance Dealer.

DRAINING & REFILLING

CAUTION: There are certain precautions to keep in mind when draining your spa. If it is extremely cold, and the spa is outdoors, freezing could occur in the lines or the equipment. On the other hand, if it is hot outdoors, do not leave the spa surface exposed to direct sunlight for long periods.

One method of draining your spa is by natural siphon. First, slide open one of the equipment doors to discontinue power to the spa so that none of the automatic functions will come on during this process. Second, place the outlet end of an ordinary garden hose in the bottom of the spa. Third, connect the other end to an outside faucet and turn on the faucet to fill the hose with water. Next, shut off the faucet, disconnect the hose and place this end of the hose in the area to which you want the water to drain, making sure it is lower than the bottom of the spa. Repeat this process with as many hoses as you like in order to speed the draining of the spa.

There is also a spa drain faucet within the equipment bay which can be used. (See ILL. 1, ITEM 10). Connect a hose and open the faucet. Be sure to close the faucet before refilling.

To drain the filter bay of the 605 Spa, remove the cap from the end of the filter bay drain tube (See ILL. 1, ITEM 8) and allow water to run out. You may wish to catch the approximately one gallon of water in a pail for disposal elsewhere. Be sure to replace the cap before refilling.

After refilling, follow the steps listed under "Start Up Instructions."

CLEANING THE SPA SURFACE

To preserve the sheen of your spa's surface, it is crucial that you avoid using abrasive cleansers or cleansers which have adverse chemical effect on the surface. If you are not certain as to the suitability of a particular cleanser, consult your authorized Sundance Dealer.

Regardless of the cleanser used, use extreme care to assure that no soap residue is left on the surface. This could cause severe sudsing when the spa is refilled.

MAINTAINING THE WOOD SKIRT

With time and exposure to the elements, the wood on your spa will tend to lose its new appearance. Protecting or reviving the wood surfaces is a fairly simple process.

Light sanding with fine-grit sandpaper will help smooth any roughness, and regular applications of All Climate Stain™, a penetrating, wood preservative specially developed for Sundance Spas, will enhance and protect the richness of the wood.

NOTE: Do not apply varnish, shellac or other surface sealants to the wood.

These tend to react with the chemicals in the wood and the UV rays of the sun, causing yellowing, flaking and peeling.

MAINTAINING THE COVER

Using the optional Sundance insulating spa cover anytime the spa is not in use will significantly reduce your operating costs, heat-up time and maintenance requirements. To prolong the life of the cover, handle it with care and clean it regularly using mild soap and water. Periodic treatments with a special conditioner developed for Sundance Spa covers will help protect against deterioration caused by U.V. rays from the sun. Never allow anyone to stand or sit on the cover, and avoid dragging it across rough surfaces.

WINTERIZING

Your Sundance Spa is designed to automatically protect itself against freezing when operating properly. During periods of severe freezing temperatures, you should check periodically to be certain that the electrical supply to the spa has not been interrupted.

If you do not intend to use your spa, or if there is a prolonged power outage, during periods of severe freezing temperatures, it is important that all water be removed from the spa and equipment to protect against damage from freezing.

For expert winterization of your spa, contact your authorized Sundance Dealer. If this is not practical in your situation, damage can be minimized or avoided by taking the following steps. Follow the directions on page 23 for draining the spa. Then, as the water level drops below the seats, turn on the air blower momentarily to evacuate the injector lines. Open the filter compartment drain to allow all the water to run out of it. Finally, when the entire spa is drained, remove the black bolt-type plug located at the bottom of the left side of the pump (See ILL. 1.1, ITEM 7).

NOTE: When this plug is removed, approximately one quart of water will escape. Be prepared with a shallow pan to catch this water so as not to allow it to remain in the equipment bay.

Cover the spa so that no casual moisture can enter the spa.

Consult your Authorized Sundance Dealer if you have any questions regarding winter use or winterizing.

Water Quality Maintenance

Maintaining the quality of the water within specified limits will serve to enhance your enjoyment and prolong the life of the spa's equipment. It is a fairly simple task, but it requires regular attention because the water chemistry involved is a balance of several factors. There is no simple formula, and there is no avoiding it. A careless attitude in regard to water maintenance will result in poor conditions for soaking and even damage to your spa investment.

For specific guidance on maintaining water quality, refer to the instructions in the Sundance Spa Chemical Kit supplied with your spa. If you have further questions, please consult your Authorized Sundance Dealer.

CAUTION: Never store spa chemicals inside the spa's equipment bay.

pH CONTROL

pH is a measure of relative acidity or alkalinity of water and is measured on a scale of 0 to 14. The midpoint of 7 is said to be neutral, above which is alkaline and below which is acid. In spa water, **IT IS VERY IMPORTANT TO MAINTAIN** a slightly alkaline condition of 7.2 to 7.8. Problems become proportionately severe when this range is exceeded or diminished. A low pH will be corrosive to metals in the spa equipment. A high pH will cause minerals to deposit on the interior surface (scaling). In addition, the ability of the sanitation agents to keep the spa clean is severely affected as the pH moves beyond the ideal range. That is why almost all spa water test kits contain a measure for pH as well as sanitizer.

SANITIZING

To destroy bacteria and organic compounds in the spa water, a sanitizer must be used regularly. Your Sundance Spa is equipped with The Brominator™, a special compartment built into the floating skimmer gate to hold bromine tablets. By regulating the number of bromine tablets in The Brominator, and the length of the filtration cycles, you can control the amount of bromine which is actively working in your spa water. A bromine residual of 2 to 3 ppm is generally considered desirable.

A two-part bromine system or granular chlorine (dichlor) are also acceptable sanitizers.

IMPORTANT: Do not use chlorine tablets (Trichlor) in your spa.

OPTIONAL SUNZONE WATER PURIFICATION SYSTEM

If you have elected to have your spa equipped with the optional Sundance ozone water purification system – the SunZone – you will find that your water stays fresh and clear with significantly less bromine usage. You will also probably be able to go longer between complete spa drainings.

Read and follow the instructions included with your Sundance ozone water purification system to determine how to adjust your bromine usage and filter cycles.

OTHER ADDITIVES

Many other additives are available for your spa. Some are necessary to compensate for out-of-balance water, some aid in cosmetic water treatment and others simply make the water feel or smell better.

Your Authorized Sundance Dealer can advise you on the use of these additives.

TROUBLESHOOTING

Your Sundance Spa is the result of many years of careful engineering and a quality first commitment of Sundance personnel. We find that many “problems” are the result of either a misunderstanding of how the spa operates or improper installation.

In the unlikely event your spa is not working the way you believe it should, please first review all the installation and operating instructions in this manual; second, if you are still not satisfied it is working properly, please follow the appropriate troubleshooting instructions.

PROBLEM

PROCEDURE

Spa does not operate.

Check control panel lights. (ILL. 6)

If they are ON go to 1.

If they are OFF go to 2.

1. Make sure equipment door is closed.
2. Check resets. If resets fail to hold, call your serviceman.
3. Check for proper power connection.
4. Check power at circuit breaker.
5. Check power supply for full 240 volts, 50 amps, or 120 volts, 30 amps.
6. If spa still won't run, call your serviceman.

High speed pump (jets) does not operate.

Check 1 through 4

Check jet indicator light on panel.

If OFF go to 2.

If ON go to 1.

7. Depress jet sensor.
8. Check resets again.
9. Check flow valves in equipment bay.

Low Speed Pump (jets) does not operate.

Check that the energy control system is in “Standard.”

Check 1 through 8.

9. Verify thermostat knob is ON.

Poor jet action.

10. Check jet is in High Speed.
11. Rotate whirlpool knob.
12. Check for adequate water level.
13. Check for dirty filter.
14. Open air controls.

No or low heat.

- Check 1 through 8.
15. Check operating mode (is it in “Economy” or “Standard”). Spa will not heat in “Economy” unless the time clock is engaged.
 16. Check that the flow indicator light (on panel) is ON.
 17. Check that the pump is ON.
 18. Check that thermostat knob is ON.

Your authorized Sundance Dealer is a trained service repair center. Should checking the above steps fail to correct the problem, please call your dealer so that he may arrange service.

Your Sundance Dealer’s phone number: _____

Sundance builds the best spas in the industry. Nonetheless, we are always striving to improve the quality and features of our products. Your input as a Sundance Spa owner is a cherished part of this process. If you have any comments or suggestions, or if you wish to be informed on any new products for your spa, please write to us.

CONGRATULATIONS on your good taste and welcome to the happiest and most relaxed family in the world!

