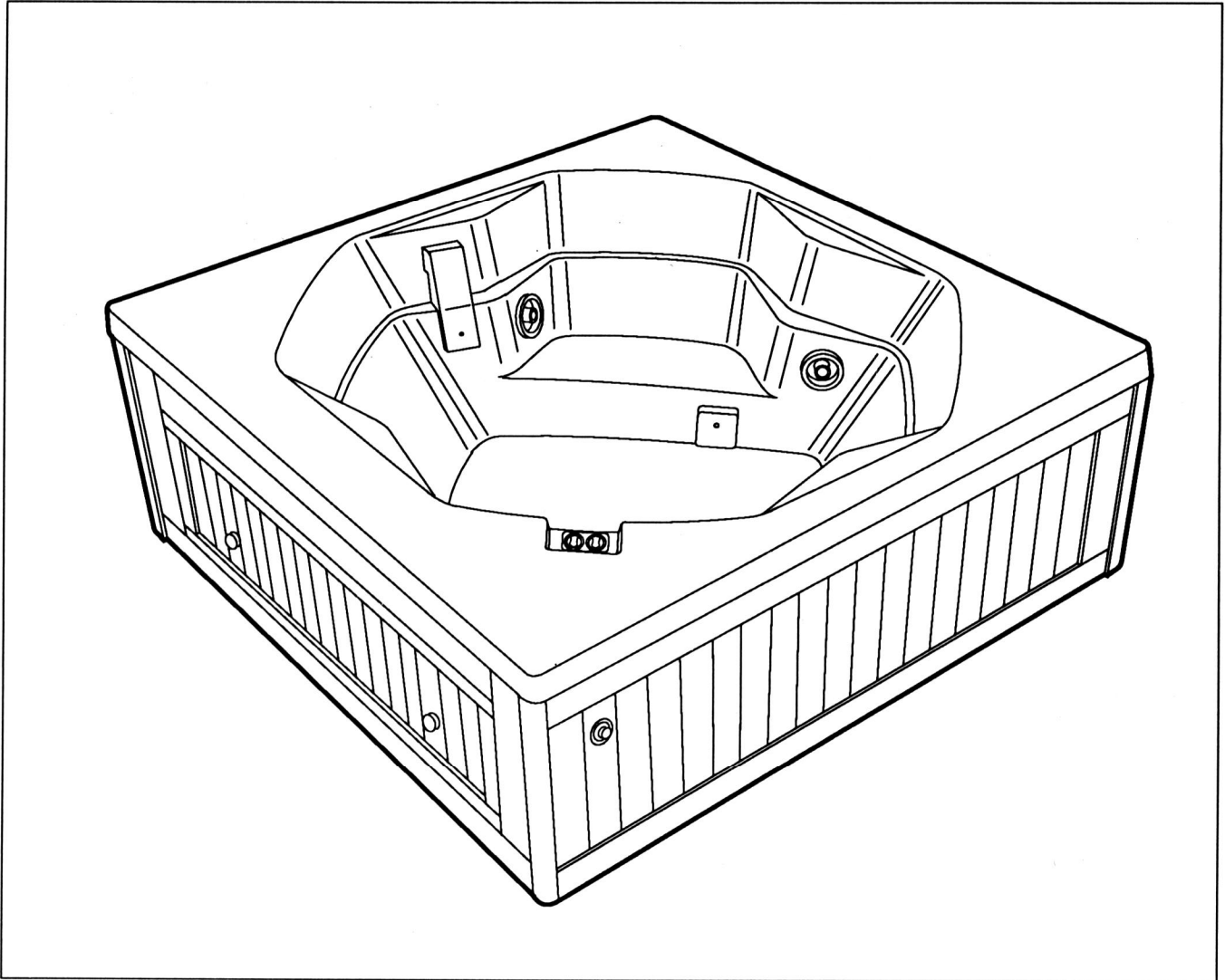


THE MODEL 5630™

Portable Whirlpool Spa

Owner's Manual



IMPORTANT SAFETY INFORMATION

READ ALL INSTALLATION INSTRUCTIONS

Asteria Co. does not recommend spa water temperatures in excess of 104°F. High water temperatures and prolonged periods of use can raise the internal human body temperature excessively and impair the body's ability to regulate its internal temperature. Limit your initial use of the spa to 10-15 minutes. High body temperatures affect people differently; consult your physician about your safety and comfort before using the spa.

The elderly, the infirm, and children should not use the spa unattended. Infants should not be permitted in the spa at water temperatures over 100°F. Pregnant women and people with heart conditions should consult their physicians before using the spa at water temperatures over 100°F.

Extra care should be taken when using the spa and consuming alcoholic beverages. Alcohol, drugs, or certain medications such as tranquilizers affect a person's ability to withstand high temperatures and may produce dangerous effects.

Keep body, hair, and clothing a minimum of 12 inches away from suction fitting and skimmers at all times when the spa is operating. Hair longer than shoulder length should be secured close to the head, or a bathing cap should be worn. Do not remove the suction grilles! They are safety devices and must always be in place on the suction fitting to minimize the potential hazard of hair entanglement or body entrapment.

The wet surface of the spa is slippery. Use care when entering and exiting.

While the optional spa cover is rigid, it is not designed to

support any weight. Therefore, as a safety precaution, do not sit, stand or lie on it.

The spa must be installed with adequate access and water drainage system. (See Installation Instructions.)

When using the electrical equipment, basic safety precautions should always be followed:

Connect the spa only to a properly grounded receptacle. (See details in Installation Instructions.)

This unit is equipped with an ground fault circuit interrupter (GFCI) located in the electrical cabinet. Check at least once a month to be sure this is operational. (The procedure for testing is described on page 7 of this manual.)

Do not use electrically connected devices such as television, radio, or stereo speakers, lights, cooking devices, or telephones within 5 feet of the spa while the spa is being used. Lighting fixtures must not be located directly above or within 5 feet of the spa. If located with 10 feet of the spa, they must be on a circuit protected by an GFCI.

Do not apply power to the spa unless it is filled with water to the normal water level, which is 6" below the top of the spa rim. Activating the spa when there is an insufficient amount of water can damage the circulation pump and may cause a fire.

Read manufacturer's safety information provided with all optional equipment.

Save These Instructions for Future Use.

Owner's Record

Date Purchased _____

Purchased From _____

Installed By _____

Spa Serial Number _____ Model #5630

(See page 2 for location of serial number.)

The Model 5630™ Portable Whirlpool Spa

Owner's Manual

Model 5630000

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The Model 5630™ Portable Whirlpool Spa

Installation Instructions

The Model 5630 by Asteria Co., is a portable whirlpool spa which comes complete with integrated electric heater, filter, skimmer and whirlpool system. The 64" X 70" spa includes a factory installed redwood shirt and a spa cover to protect the spa from debris and reduce heat loss. Foam insulation is factory-installed around the spa shell to ensure better heat retention.

The Model 5630 features two-level seating for four people. Four strategically located jets are directionally adjustable, and provide the superb hydromassage performance. Two knobs conveniently located on the rim of the spa give you control over the Silent Air Induction system. A four position switch controls heating and filtration, activates the whirlpool, and turns the unit off; the water temperature is regulated by an adjustable thermostat located on the heater assembly. Made of sun and weather resistant acrylic/FRP, the spa shell will retain its lustrous color for years.

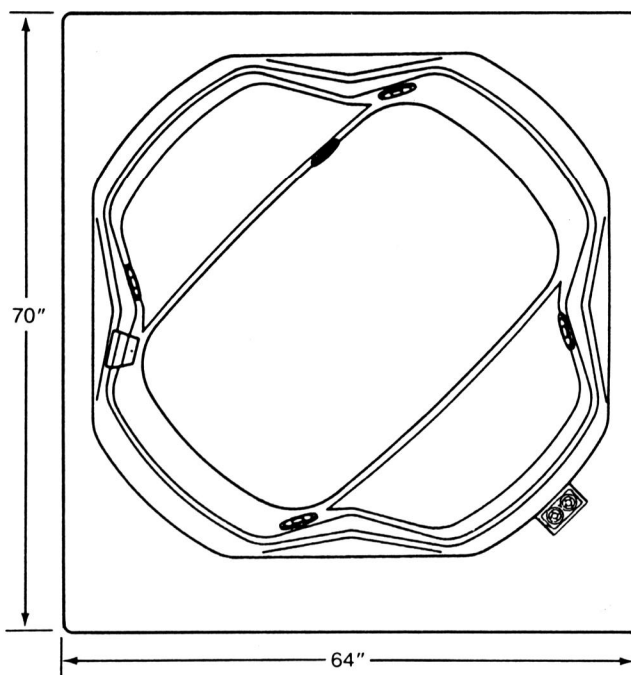
Compact and portable, the spa is easy to install. It requires a 115 VAC 20 AMP grounded, separate circuit and is equipped with a Ground Fault Circuit Interrupter (GFCI) incorporated onto the cord. The equipment is mounted within the perimeter of the shell.

Options available for the Model 5630 include a gas heater to be used as an additional remote heating source, and a low voltage underwater light kit with interchangeable colored lenses.

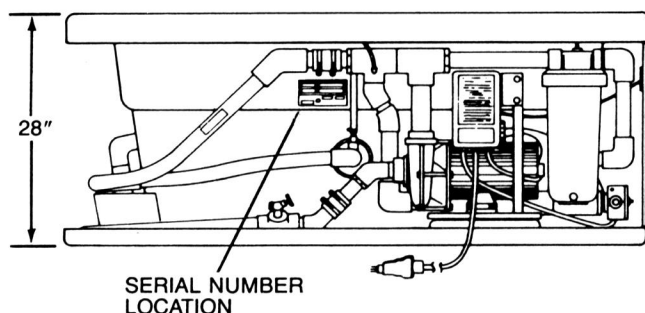
OPTIONS

- Gas or Electric Heater
- Timer
- Spa Light Kit

TOP VIEW



FRONT VIEW



SPECIFICATIONS

MODEL	DIMENSIONS	WHIRLPOOL MOTOR/PUMP*	FLOOR LOADING	OPERATING GALLONAGE	ELECTRIC HEATER	SHIPPING WEIGHT	ELECTRICAL REQUIREMENTS*
Model 5630 (5630000)	64" W. (162.5 cm) 70" L. (177.8 cm) 28" H. (71.1 cm)	1.0 HP 2 speed 115 VAC 2.7/13.8 AMPS 1725/3450 RPM Single Phase 60 Hz.	Total Weight: 2466 lbs. (1121 kg.)	170 U.S. gal. (643 ltrs.)	1.5 KW 12.3 AMPS	500 lbs. (227.3 kg.)	115 VAC 20 AMP 60Hz Separate Circuit (see page 17 for min. Voltage requirement)

PRODUCT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

INSTALLATION

Installation Instructions Inspection and Shipping Claims

Check for shipping damage upon receipt of the spa. Asteria Co. is not responsible for damage to the spa sustained during shipping. If damage is evident before unpacking, see instructions regarding shipping claims on the outside of the carton and immediately file a claim with the carrier.

Once the spa has been removed from the carton and before it is permanently installed (see below on this page for unpacking instructions), check the spa completely for damage. Fill the shell with water and operate the system (see Operating Instructions) to check for leaks which have resulted from shipping or handling. All Asteria Co. spas are factory tested for proper operation and water tight connections prior to shipping. If leaks or other problems are detected, immediately notify your dealer or Authorized Service Agent, or call, 1-(510) 938-7411, for Warranty Service.

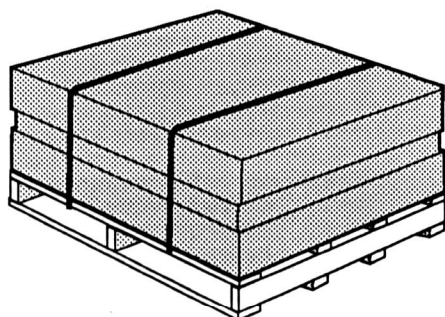
Note: Damage or defects which could have been discovered and repaired prior to installation and which are claimed after final installation of the spa, are excluded from our warranty.

Unpacking

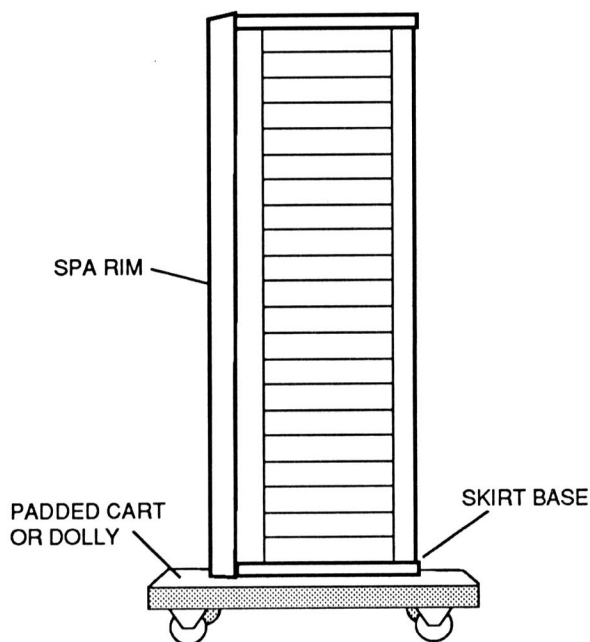
1. Remove the outer carton by cutting the bands and lifting the cover and the sides.
2. Remove the spa cover which is located on top of the spa. Leave the protective plastic sheet on the spa until installation begins. This sheet can be reused to protect the finish from damage and debris during construction.
3. Lift the spa from the carton (approximate weight 450 lbs.) and set it in place on the patio, deck, or position of intended use.
4. Before installation begins, remove the owner's packet from the accessory package. This package contains the Warranty Card and the Owner's Manual. Record the spa serial number on the inside front cover of this manual and on the warranty card. (See illustration on page 2 for the serial number location.)
5. Place the filter cartridge in a dry place for later use.

Important! Read all the instructions contained in the Owner's Manual before beginning installation.

If, after having been removed from the carton, the spa must be turned onto its side to move it, make sure the surface of the cart or dolly on which it is placed is large enough to support the entire width of the spa, including the rim and base of the skirt. The skirt is not designed to support the product weight and could be damaged if allowed to do so. For further protection of the skirt, make sure the surface of the cart or dolly is padded. Do not allow the spa to rest on the equipment door side. See illustration at lower right.



SPA CONTAINED IN SHIPPING
CARTON, SECURED BY BANDS



SURFACE MUST SUPPORT SPA
RIM AND BASE OF SKIRT

INSTALLATION

Important: Read complete instructions before beginning installation.

Positioning Your Spa

Because your spa is portable, you can locate it just about anywhere you wish—on a deck, patio, or even indoors. Be sure to position it above ground in an area with good drainage and on a level, continuous surface which can support the weight of the spa when filled with water and people; this weight is approximately 2466 lbs. You must also provide access to the spa's equipment pack for service and general maintenance.

Electrical Requirements

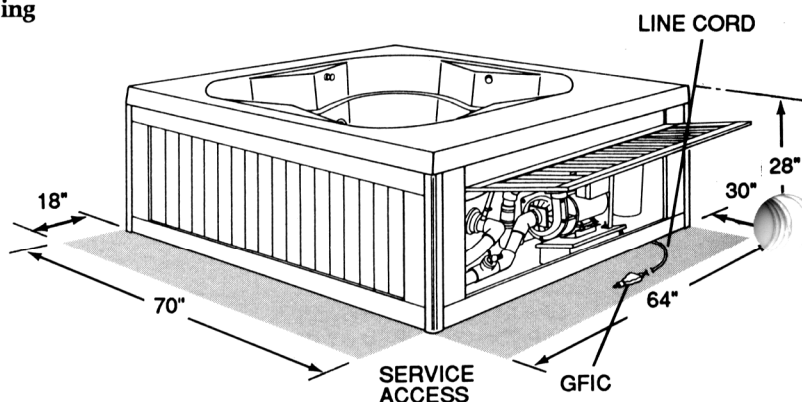
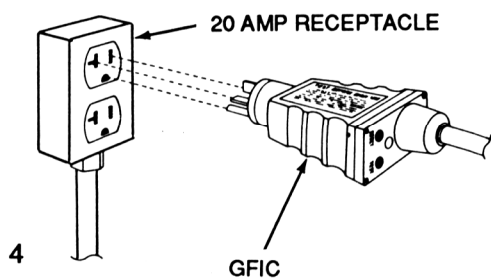
Your spa, as it comes from the factory, requires a 115 VAC 20 AMP electrical outlet and must be in a grounded separate circuit having no other appliance connected in that circuit. If you do not have 115 VAC 20 AMP circuit, a qualified electrician should be called in to install the necessary wiring. Inadequately sized wiring or locating the outlet too far from the main service panel may cause a voltage drop which might cause the unit to malfunction and bring about permanent damage to the spa's electrical system. The outlet must also have a ground wire in order to take advantage of the designed-in safety features of the spa. A bond wire must also be used. Bond according to step 5 below. **Caution: Without proper grounding and bonding, a system malfunction may cause fatal shock.**

Electrical Precautions

1. The spa is supplied with a 15 ft. line cord which terminates with an integral Ground Fault Circuit Interrupter (GFCI) plug; locate the spa near enough to a weather protected outlet, but no closer than 10 ft. **DO NOT USE AS EXTENSION CORD!** Using an extension cord is hazardous and will decrease the amount of power to the unit, causing slow heating, poor whirlpool performance, or system malfunction.
2. Bring the line cord out from under the skirt at one of the corners, lifting the spa slightly to allow the GFCI to pass through. Make sure the line cord does not lie across a walkway or in a heavily traveled area where it may be a safety hazard or become damaged. To prevent the skirt from resting on the cord, cut a small notch in the skirt to allow the cord to pass through, if necessary.
3. Do not locate lighting fixtures directly above the spa. If lighting is located within 5 feet of the spa, it must be on a circuit protected by a GFCI (Ground Fault Circuit Interrupter).
4. Do not use electrically connected devices, such as television, radio, telephones, stereo speakers, lights or cooking devices within 5 ft. of the spa while the spa is being used.
5. All fixed metal objects located within 5 ft. of the spa, such as fence posts, railings, door frames, greenhouse structures, gutters, etc., must be attached to the bonding bar on the outside of the spa System Control Module using #8 solid copper wire. **With #8 solid copper wire, bond the spa to the house electrical panel or approved local bond. Bonding lugs are available at your local electrical supply store. (See illustration on page 5 for bond bar location.)**
6. An approved ground may be an 8 ft. long ground rod, a plate electrode, or a buried metal water pipe with at least 10 ft. of buried pipe. Check your local building code for requirements.

CAUTION

Do not plug in the spa unless it is filled with water to the normal water level, which is approx. 6" below the spa rim. If the spa's motor/pump is actuated when there is not sufficient water in the unit, the circulation pump could be irreparably damaged. Not heeding this caution will nullify the warranty. In addition to damaging the unit, operating the unit with insufficient water could cause a fire.



INSTALLATION

Outdoor Installations

If you install the spa outdoors, we recommend that you provide a concrete pad for it to rest on. To do this, construct forms for an 7' x 6' x 4" thick level pad. Install a #10 gauge wire mesh 6" x 6" steel reinforced grid. Attach a #8 solid copper wire to the grid with a water pipe type ground clamp. This wire should be long enough to reach the bond bar on the spa System Control Module (min. 36"), but should not be located under the base of the spa. Then pour the concrete pad.

Optional Timer Installation

It is possible to install a timer if you wish to control the on/off function of your spa and thus automatically filter and heat your spa water at a specific time of day. Such a timer must be an outdoor type (although it can also be used indoors) having a rating of 20 AMPS for 1HP with the required 20 AMP receptacle and plug configuration. This kind of timer is typically plugged into the house receptacle, and the spa line cord is plugged into the timer. Several appropriate timers are available, including one made by Intermatic, Model #P171-32, which you can buy from your Dealer (PN 5400000). Follow the timer manufactures's instructions for installation and operation.

Drainage

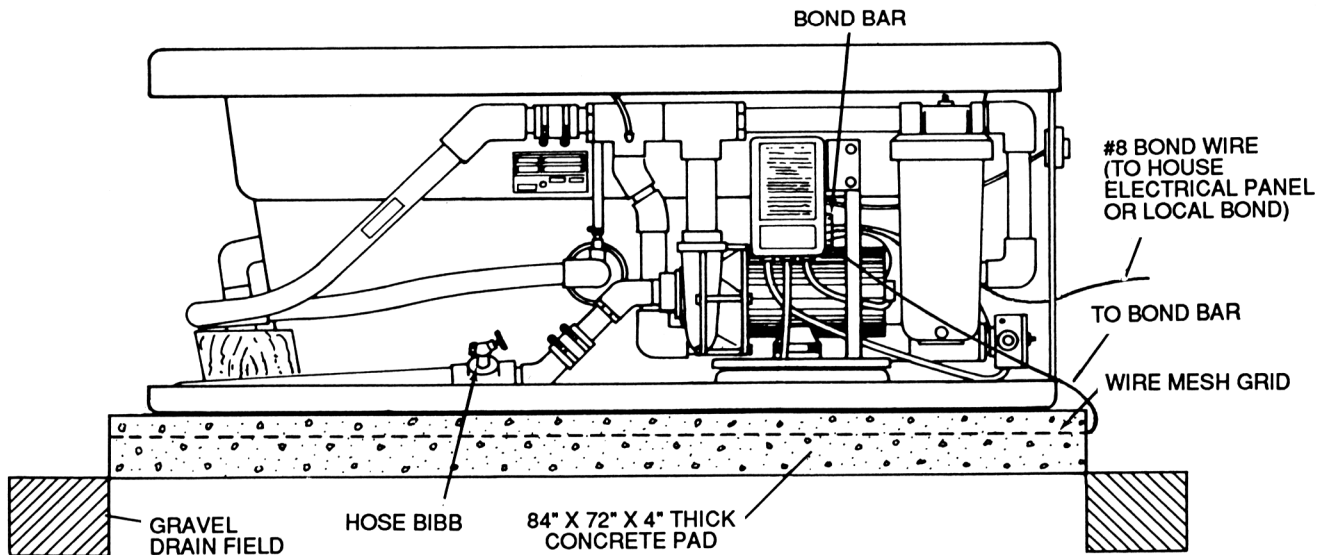
Whether you install your spa indoors or outdoors, you can drain it by attaching a garden hose to the drain valve located on the suction tee of the spa. Simply run the hose to the house sewer line or drain field and open the hose bibb.

Make sure the area surrounding the spa has good drainage to keep water from collecting at the base of the spa—especially near the equipment area. If drainage is poor, install a drain line and/or gravel drain field. (See illustration below.)

Indoor Installations

Water which splashes on the floor during use of the spa may cause a walking hazard and/or structural damage unless good drainage is provided and proper waterproof building materials are used in the area surrounding and beneath the spa. Take into consideration also, the high room humidity which will exist due to high spa water temperatures. Providing natural or forced ventilation of the room will help maintain comfort and minimize moisture damage to the building. The Asteria Co. is not responsible for damages resulting from excess moisture or water spillage. Consult an architect or engineer for aid in designing your indoor installation.

SUPPORT AND DRAINAGE



INSTALLATION

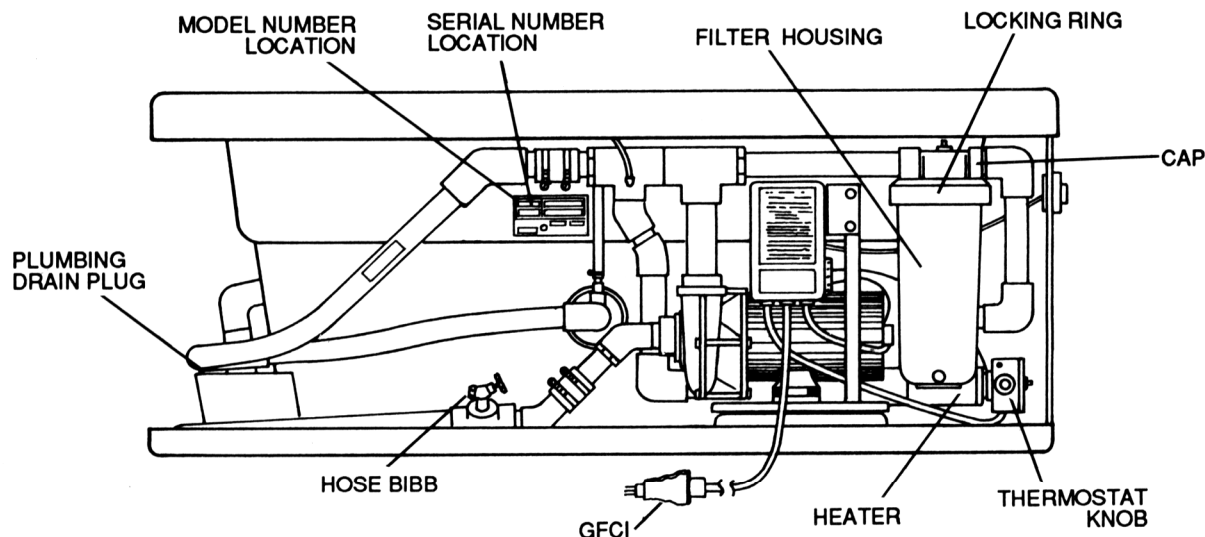
Equipment Set-Up

1. Remove the plastic sheet covering the spa. Use care; stepping into the spa with shoes will scratch the acrylic surface.
2. Remove any packing materials from the spa.
3. Open the door panel.
4. Pull open the filter housing. To do this, first turn the locking ring at the top of the housing to the left until it snaps loose. Then, grasping the housing firmly and rocking it gently side to side, pull downward until the housing is free from the cap.
5. Remove the filter cartridge from its plastic bag and insert into the filter housing. Then place the filter housing in reverse order of step 4.
6. Clean the interior of the spa of any remaining construction debris. Remove stubborn stains, paint, or tar with turpentine, isopropyl alcohol or paint thinner. A mild liquid dishwashing detergent on a damp cloth is fine for cleaning off other dirt. Plaster can be removed by scraping with a wooden edge; do not use a metal scraper, wire brush, or other metal tools, as they will damage the spa's surface.
7. On initial start-up, it is necessary to purge and sanitize the system as stated below. Carefully follow the procedure described here to purge and sanitize your spa.
 - Remove the spa cover completely.
 - Close the hose bibb located on the suction tee plumbing.
 - Fill the spa with water to its normal operating level, which is to the water level indicator mark on the skimmer/filter frame. (6" below the spa rim)
8. Insert the line cord plug into the proper receptacle in a 115 VAC 20 AMP circuit
9. Select WHIRLPOOL on the function selector switch.
10. Add $\frac{1}{4}$ cup sodium dichlor (a fast dissolving granular type of chlorine) to the water and let the whirlpool only run for 15-20 minutes.
11. Turn off WHIRLPOOL.
12. Unplug the line cord. Next, open the redwood skirt door.
13. Immediately open the hose bibb and drain the spa completely.

CAUTION: Leave the cover off the spa during this procedure. Do not use the spa during this procedure. Drain the spa immediately afterward.

8. Close the hose bibb and fill the spa with water to approx. 6 inches below the spa rim, or to water line indicator mark on the skimmer frame.
9. Set the heater thermostat for the maximum temperature. Close the skirt door.
10. Test the spa for proper operation. (Refer to "Operating Instructions.")
11. Refer to Water Quality section of the "Operating Instructions." Test for water quality, then add treatment chemicals to ensure proper levels.

All Asteria Co. spas are factory tested for proper operation and water tight connections prior to shipping. If leaks or other malfunctions are detected, immediately notify your dealer or Authorized Service Agent, or call Asteria Co. , 1-510-938-7411 for Warranty Service.



OPERATION

Operating Instructions

Now that your spa is in place, you are probably eager to take advantage of its unique designed-in features—especially the patented hydromassage performance. Besides being a beautiful addition to your indoor decor or outdoor landscaping, your Asteria spa will provide you with the ultimate in spa pleasure.

Basic Control Set-Up

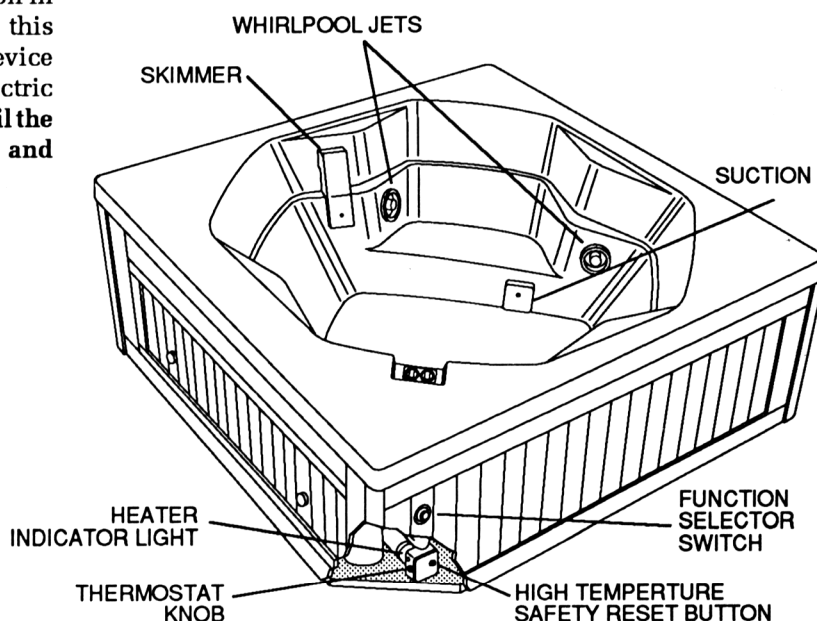
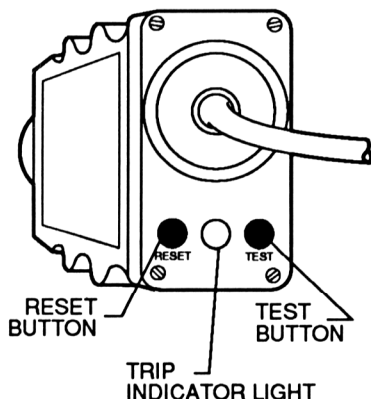
The control set-up on your spa is designed to give you fingertip control of the heater, air induction, and whirlpool/filter pump and blower systems of your unit from inside or outside your spa. Follow the basic control set-up described on page 9 to familiarize yourself with the several functions of the control panels located on the top of the spa.

CAUTION

Do not turn on power to the spa unless it is filled with water to the normal water level, which is 6" below the spa rim. If the spa's motor/pump is actuated when there is not sufficient water in the unit, the circulation pump could be irreparably damaged. Not heeding this caution will nullify the warranty. In addition to damaging the unit, operating the spa with insufficient water could cause a fire. If an optional timer is used, be sure it is disconnected when there is insufficient water in the spa.

- Using a garden hose, fill the spa with water to the water line at 6" below the spa rim.
- At the house service panel, turn on the circuit breaker or a switch that controls the electrical service to your spa. Plug the line cord into a 115VAC 20 AMP receptacle. (Make sure there is no other appliance on that circuit.)
- Open the skirt door giving access to the System Control Module.
- Your spa is provided with a Ground Fault Circuit Interrupter (GFCI). At initial start-up and at least once a month thereafter, with power on, push the test button located on the spa System Control Module. The reset button should pop out. Push this button in to reset. If the interrupter fails to operate in this manner, there is a ground current flowing or a device malfunctioning, indicating the possibility of electric shock. Turn off power and do not use the spa until the source of the breakdown has been identified and corrected.
- Lift up the skirt door.
- Locate the HIGH TEMPERATURE SAFETY SWITCH, which is a button on the end of the heater. Push this button to be sure it is in the reset mode. The purpose of this switch is to turn off the heater in case of excessive heat in the heater housing. If, for some reason, the switch is tripped, the reset button must be pushed in the heater to operate again after the water has cooled to 90°F.
- Close the redwood skirt door.

Model 5630 (Shown with heater exposed.)



OPERATION

Function Selector Switch

To ensure your safety and allow easy operation, your spa is equipped with an air-activated function selector switch located on the side panel of the redwood skirt, near the front corner of the spa. This push-button switch selects the following four functions in the continuous sequence indicated:

1. OFF
2. WHIRLPOOL
3. HEATER/FILTER
4. FILTER ONLY

(The next selection is OFF again.)

You know which function you are selecting when the whirlpool system is activated; use that function as a reference to indicate your location in the function sequence, since that function is the most obvious when operating.

For best performance, pause a second or two between push-button selections.

Setting the Thermostat

Turn on the heater by selecting the HEATER/FILTER mode on the selector switch.

You can verify that the spa's heater is operating by looking through the small factory-drilled hole located in the door panel of the spa and checking that the red indicator light is illuminated.

The thermostat adjustment knob is located on the front of the heater. To set the thermostat, rotate the knob to the desired temperature. If the water temperature reaches a level higher than you wish, turn the thermostat knob back to a lower setting. The spa's water temperature will stabilize after a while and fall a few degrees before the

heater turns on again. When the water temperature reaches the temperature set on the thermostat, the heater and motor/pump will turn off.

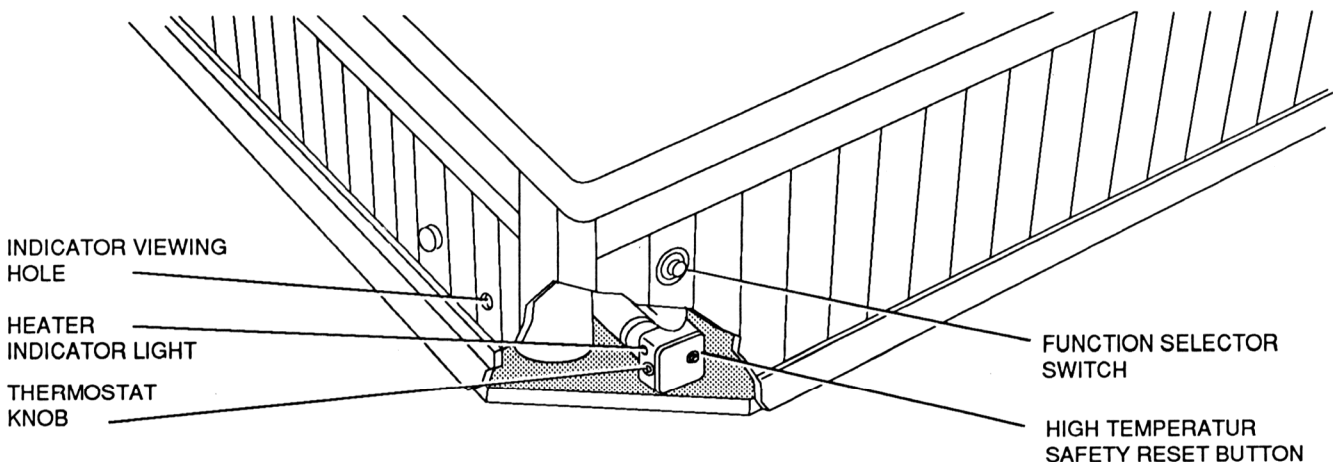
The water temperature will rise at a rate of about 2°F per hour, depending on the temperature of the air surrounding the spa. This rate will necessitate a waiting period before using the spa, the length of which will be determined by the temperature of the water before turning on the heater. For example, if the water in the spa is kept at about 70° when the spa is not in use, and the water temperature at which you plan to use the spa is 100°, it will take about 15 hours to heat up sufficiently.

Once you have determined the desired setting on the thermostat knob, it is not necessary to change or readjust it again during normal operation unless you decide on a different setting.

The spa cover provided for your spa will help control heat loss from the water surface and thereby reduce energy consumption. You can improve the spa's heat retention by keeping the spa cover in place on the spa while heating the water.

Notes on Determining Water Temperature:

As spa products generally perform in a narrow range of operating temperatures, we recommend that you use a medical (clinical) type thermometer for an accurate measurement of spa water temperature. Other types of thermometers generally available, such as those used for swimming pools, are not sufficiently accurate to determine spa water temperatures. Take water temperature readings in the HEATER/FILTER mode when the heater has just turned off; the indicator lamp on the heater housing will turn off at this time.



MODEL 5630 SPA
(SHOWN WITH HEATER EXPOSED)

OPERATION

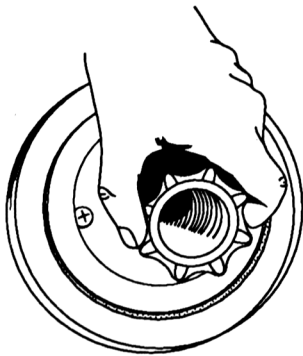
Normal Operation

Whirlpool System

You can enjoy the spa with or without activating the whirlpool. Either way, bathing in your spa can be pleasurable, as well as therapeutic. After a busy, stressful day, you can look forward to soaking in your spa in still water with no turbulence—only the gentle warmth of the soothing and relaxing water.

For a more invigorating spa experience, you can take advantage of the built-in whirlpool system. To do this, select the WHIRLPOOL mode. Sit or recline in the spa so you are comfortable. Since the four whirlpool jets are adjustable, you can direct a jet toward any location on the body, particularly toward any area that feels tense or stiff. The warmth of the water and the stimulating water flow from the jet will pleasantly increase circulation to that area.

HIGH VOLUME FULLY ADJUSTABLE WHIRLPOOL JET



TOTAL WHIRLPOOL EFFECT



Special Suction Features:

A special feature has been designed into the pump suction of the spa which will reduce the amount of suction power should an object or part of the body block the suction fitting. The bather will know that such a situation is happening by an additional "gulping" sound in the system. When this **does** happen, remove the object, and the normal water flow will be restored automatically.

Note: Refer to Safety Information on the inside front cover of this Manual.

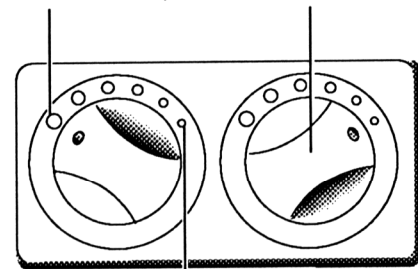
Silent Air Induction

The intensity of the whirlpool action is determined by how much air is inducted into the water. You have control of this by adjusting the two air induction control knobs located on the control panel. For maximum air induction, rotate each control knob fully counter clockwise to the largest dot. For fewer air bubbles, decrease the amount of air induction by rotating the control knob clockwise. When the knobs are turned to the smallest dot, only water is being circulated.

CONTROLS FOR FULLY ADJUSTABLE JETS

INCREASE AIR FLOW
(COUNTER CLOCKWISE)

WHIRLPOOL
WATER JETS ONLY



DECREASE AIR FLOW
(CLOCKWISE)

Filtration

When you are ready to leave the spa, select the HEATER/FILTER mode to maintain the water quality and temperature. If you want to filter the water without heating, select the FILTER ONLY mode.

The filter pump should be run at least one hour per day to allow filtration of the water and maintain water clarity. Select the FILTER mode and run the filter each day. If the HEATER/FILTER mode is selected and the spa heater operates at least one hour per day, it will be filtering at the same time, and it will not be necessary to turn the filter pump on separately.

MAINTENANCE

Maintenance

Water Quality and Water Chemistry

Maintaining water quality and water chemistry in your spa is extremely important and should be a regular part of your spa maintenance program, as a neglected spa can be a breeding place for dangerous bacteria.

The water quality of your spa is maintained by a combination of filtration and chemistry. The spa's integral filter system helps maintain the water cleanliness and clarity by trapping most solid materials such as body oils, hair, and other debris resulting from normal use. However, the most important part of maintaining water chemistry is keeping the proper level of disinfectant in the water at all times. This is accomplished by adding chlorine or bromine to the water, which will control particles too small to be trapped by the filter, such as bacteria and algae, and will oxidize any organic materials. Follow instructions provided here, and with water quality products, for the health and safety of spa users, as well as to make your spa bathing as enjoyable as possible.

Filtration

The filtration system of your spa will keep your water clear and clean if used properly. We recommend that you run your filter system for at least one hour each day. The filter cartridge elements will trap most solid materials and debris in the water. However, the presence of materials such as body oils or other particles which are too small to be captured in the filter may bring about various undesirable water quality conditions. These conditions can be corrected with the use of spa treatment chemicals which are available from your dealer. Such conditions include the following:

Foaming: A defoamer is available to minimize foaming of the water. This condition is usually caused by the addition of soaps or oils, or other fatty substances to the spa water. The interaction of these with hot water, especially at high pH (more alkaline), will cause the water to foam. (See "Water Quality Definitions.")

Oil Film or Cloudy Water: Add clarifier to congeal oil film on the water surface into globules sufficiently large to be trapped by the system's filter. Cloudiness is caused by particles that are too small to be trapped in the filter and is also due to the presence of human body oils, lotions, and cosmetics. During normal use, these materials can accumulate on the filter element and clog its pores. The addition of clarifier will make the water clearer, but clogged filters must be cleaned as prescribed under the section entitled "Filter Maintenance" in this manual.

Hard Water: Add a de-mineralizer to break down or deionize mineral particles present in the spa water.

Follow the "Filter Maintenance" procedure described in this manual to ensure optimum performance of your spa's filtration system.

Water Chemistry

You can ensure better water chemistry by testing your spa water every day and adjusting the chemical balance frequently. Obtain a water quality test kit, designed especially for spas, from your dealer. The test kit must be of the type which allows you to test for the disinfectant (chlorine) level, pH, and total alkalinity. Make sure, also, that chemicals used in your spa are especially for spa use, and not for swimming pools, as water quality maintenance of spas and swimming pools is very different.

Set up a daily program, at first, to check the disinfectant level, pH, and total alkalinity of the water. Familiarize yourself with the amount of chemicals to add and determine how often to make chemical adjustments during normal use. Remember that the more heavily the spa is used, the more often you should check the water chemistry.

When adding any chemicals, always run the filter system to ensure complete dilution with the water. Do not add chemicals directly into the skimmer opening.

MAINTENANCE

Water Chemistry (continued)

Disinfecting:

When filling the spa for the first time, follow the purge/sanitizing instructions in the "Equipment Set-Up procedure" of the Installation Instructions.

Add a disinfectant to the water on a regular basis to help control the amount of bacteria, algae and organic materials. Such bacterial contaminants, if not controlled, could cause skin rashes or other physical problems. To disinfect the spa for normal use, first establish the amount of chlorine or bromine to add and determine how often you need to add it.

We recommend that you maintain a free chlorine level of 2.0-5.0 ppm at all times except when you must exceed that during the initial purge/sanitizing procedure or during superchlorination (see "Water Quality Definitions" below). Superchlorinate your spa every two weeks with heavy use. If using sodium dichlor, add one heaping tablespoon for each 150 gallons of spa water. Scrub the spa surfaces with this solution to remove any oily deposits. This will ensure that any bacteria or algae which are resistant to the normal disinfectant level are killed. After adding the disinfectant, run the filter system and allow the free chlorine level to return to the 2.0 to 5.0 ppm range before using the spa again. **Do not install a cover until the disinfectant level is back to normal. High concentrations of chlorine or bromine will damage metallic plated finishes if the cover is in place.**

Balancing pH:

For good hygiene and equipment longevity, maintain the pH of your spa water according to the instructions provided. pH is the measure to determine if the spa water is too acid (low pH) or too alkaline or basic (high pH). The ideal range for spa water is 7.2 to 7.6 pH. For excessive acidity (below 7.2 pH) add soda ash or sodium bicarbonate to the spa water. For excessive alkalinity above 7.6 pH add dry acid to the spa water. **Caution:** Refer to the spa chemical manufacturer's instructions for the initial amount of chemicals to add for the gallonage of your spa. Low pH can cause equipment damage, as acidic water will dissolve metals, while high pH can cause scale or calcium deposits to build up in the system or on the shell. After adding chemicals, run the filter system for at least 30 minutes before testing water quality again for accurate readings.

Balancing Total Alkalinity:

Total alkalinity is the measure of base materials in the water. The recommended range for total alkalinity is between 80 ppm and 150 ppm. If the chemistry of the water is not within this range, you will have difficulty adjusting the pH level, which will affect your adjustments for the proper amount of free available chlorine. If the alkalinity of your spa water is high, it is advisable to drain the water from the spa and begin the balancing process over again. If the spa is used heavily, change the water at least every month.

WATER QUALITY DEFINITIONS

pH: A chemical term used in expressing relative acidity or alkalinity in numeric values with 7.0 usually regarded as neutral, and for purposes of this manual, indicating pure water. From 7 to 0 indicates increasing acidity, and 7 to 14 indicates increasing alkalinity.

PPM: Parts per million.

Free chlorine: Chlorine that has not combined with other chemicals and that is available to destroy bacteria in the spa water.

Trichlor: A form of chlorine used in pool or spa water treatment; usually supplied in tablet form. Not recommended because of its higher acidic nature and slow dissolving action. Prolonged contact with the spa shell may bleach or permanently mark the shell.

Sodium dichlor: The type of chlorine that is recommended for spa use, as it is available in fast dissolving granular form. It is neither excessively acid nor alkaline in character and does not readily dissipate in higher water temperatures.

Calcium hypochlorite: A granular chlorine product that is inexpensive and effective but not recommended because

it often tends to form calcium deposits on heater parts and plumbing fittings and leaves an unattractive film on the spa at the water line.

Sodium hypochlorite: A liquid chlorine product that is inexpensive and effective but not recommended because the liquid is readily spilled onto the spa or a surrounding area, causing permanent damage. It has limited effectiveness at high water temperatures and readily affects pH balance.

Total alkalinity: The measure of the amount of alkaline materials (such as carbonates, bicarbonates and hydroxides) in the water. High alkalinity inhibits the effectiveness of chemicals to change the pH. If the alkalinity of your spa water is high (above 150 ppm), it is advisable to drain the water from the spa and begin the balancing process over again. Low total alkalinity (below 60 ppm) could be corrosive and damage your spa system.

Superchlorination: (Also referred to as "shock treatment".) The addition of an above-normal level of disinfectant to kill any bacteria or algae that might have become resistant to normal levels of disinfectant.

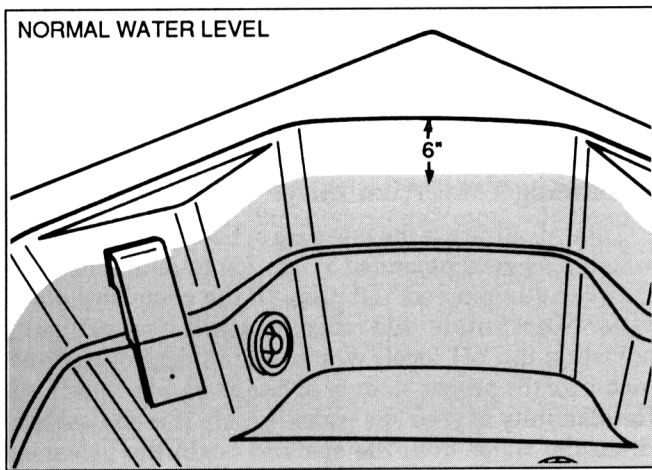
MAINTENANCE

Water Level/Drain

The water level in the spa must be maintained at its normal level. Evaporation and splashing will cause the water level to drop.

When concentrations of impurities from evaporation, water quality chemicals, body oils, perfumes, dirty feet, and winds, etc., accumulate in the spa and cannot be filtered out, it is necessary to drain your spa and refill it with fresh water. This should be done every 2 months or more often depending on the amount of use.

To drain the spa, turn all controls to OFF, then turn off circuit breakers at the main electrical panel. Connect a garden hose to the hose bibb on the suction plumbing. Turn the handle and drain the spa.



After draining the spa, clean the spa shell and the suction strainer and refill the spa with fresh water; then check the pH level and maintain water quality.

WARNING: Remove the skimmer cover and suction strainers only for cleaning. The strainer is a safety device and must be in place over the suction fitting to minimize potential hazard of hair and body entrapment.

If heavy rains raise the spa water level, drain the spa to its normal level, which is 6" below the spa rim.

A spa cover (available as an option), when in place over the spa, will help reduce evaporation and control the amount of debris entering the spa when the spa is not occupied. In addition, its use will reduce energy consumption.

Suction Strainer Maintenance

There are two suction strainers on your spa. One is located in the foot well area of the spa; the other is located under the skimmer cover, which can be pulled off easily for access to the suction strainer. The strainers should be checked at least once a week for collected debris, such as leaves, hair, etc., and cleaned as necessary. Remove the center screw with a Phillips type screwdriver and clean each strainer by flushing with water from a hose.

WARNING: Be sure to replace the suction strainer immediately after cleaning. It is a safety device and must be in place over the suction fitting at all times!

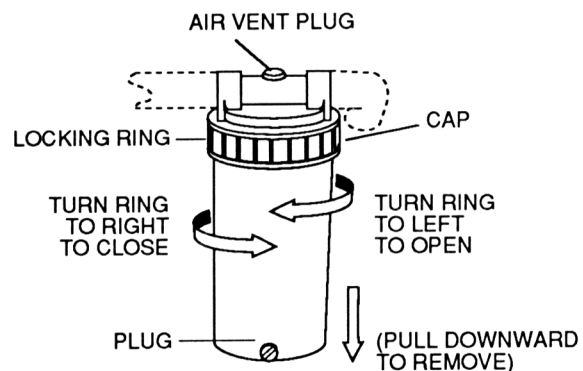
Filter Maintenance

The filter should be checked periodically. In normal use, check the filter at least once a month. Keep the filter clean; an obstructed filter reduces water quality and inhibits proper system performance.

To clean the filter, first drain the water from the spa until the water level is just below the cap of the filter housing. Then drain the filter housing by loosening the drain plug at the bottom of the housing. Turn the locking ring to the left until it snaps loose. Grasp the filter housing firmly, and rocking it gently side to side, pull the housing downward until it is free of the cap. To remove the filter cartridge, turn the housing upside down. Clean the filter by separating the folds of the filter and spraying with fresh water from a garden hose; then re-install the cartridge in the housing and replace the housing, reversing the above procedure. A tube of silicone lubricant is provided with the product. Apply a film of lubricant to the rubber o-ring on the filter housing cap when necessary.

Oils will coat the filter, resulting in a reduced flow. To remove such materials, soak the cartridge in a plastic pail containing a commercial filter cleaning solution (available from your dealer or most pool supply stores). Follow the manufacturer's instructions for use. Another method is to soak the filter cartridge in a plastic pail containing a mild solution of trisodium phosphate (TSP) and water. An hour of soaking time is usually required to break down oil coatings from the cartridge. Use a stronger solution of TSP and water to remove algae. Most hardware or paint stores stock TSP. Use the same method of cleaning when the cartridge becomes plugged with clay or vegetation. Replacement cartridges are available through your Asteria Co. dealer.

FILTER ACCESS



MAINTENANCE

Automatic Filtration/Maintenance

If you plan to be away, you should maintain minimum water quality by running the filter system. To do this, select the FILTER mode. In this mode, the filter system will run continuously until you return, unless you use the optional timer.

If you will be away for an extended period, however, we recommend that you drain the spa (following the procedure described under Winterizing on this page), as long periods without maintenance of water quality could be detrimental to the spa.

Another means of maintaining minimum water quality while away for less than two weeks is to follow the procedure outlined for winterizing your spa in a warm climate. (See Winterizing.) Note: We do not recommend using this procedure if you are absent during the summer, when algae build-up is most likely.

Always keep your spa covered when not in use to reduce heat loss and evaporation and to prevent debris from falling in.

Winterizing

In a climate where winter temperatures are below freezing, follow this procedure when the spa will NOT be used:

1. Select the OFF mode.
2. Turn off power to the unit at the house circuit breaker.
3. Drain the spa.
4. Drain the spa completely by attaching a garden hose to the hose bibb on the suction plumbing. Then remove the hose and leave the hose bibb open to completely drain the spa. Close the hose bibb.
5. Remove the lowest 1/8" plug from the face of the pump housing, then replace the plug after all water has drained out.
6. Remove the filter cartridge, clean it, and store it dry.
7. Keep water and debris out by covering with the spa cover provided.
8. Before using the spa again, review the Operating Instructions.

CAUTION: Not winterizing will cause irreversible damage (at freezing temperatures) to the pump and/or plumbing lines.

In a warm climate where there are occasional freezing temperatures, follow this procedure:

1. Select the HTR/FLTR mode.
2. Set the thermostat to its minimum temperature (45-50°F.) by turning the HEATER KNOB all the way counterclockwise.
3. Maintain a chemical balance. (See Water Quality section.)
4. Keep the spa covered.

Spa Cover

The spa cover which has been provided with your spa has been designed to help reduce energy costs by minimizing heat loss and evaporations from your spa. In addition, the attractive spa cover is an effective means of preventing debris such as leaves and dirt from entering your spa when it is not in use. Clean accumulations of dust and dirt off the spa cover using a mild liquid detergent solution.

CAUTION: The spa cover is not designed to support any weight. Therefore, as a safety precaution and to preserve the life of your cover, you must not sit, or lie it; nor should you place objects of any kind on top of it.

Asteria Co. does not guarantee or warrant this cover. Refer to spa cover manufacturer's information provided with the cover.

MAINTENANCE

Factory Installed Redwood Skirt

Your spa is supplied with a factory installed redwood skirt which completely surrounds the spa. The door can be opened for routine maintenance.

CAUTION: Do not attempt to lift the redwood skirt door panel higher than the top of the spa. Doing so may cause damage to the skirt door.

The skirt is made of kiln-dried redwood and can be left natural to weather or, you may choose to apply a stain or clear finish. Consult your local paint dealer for the appropriate product. **Do not use oil based stains or sealers.**

It may become necessary to remove one or more of the skirt panels for major service access, **but all the panels must be securely in place during use of the spa.**

To detach any of the panels or the short door rear panel on the opposite side of the spa, remove all screws from the panel being detached. Then pull the bottom of the panel downward and outward from the bottom of the panel.

To detach either of the long side panels, it is first necessary to removed one one short panel (door or rear). Remove the screws from the panel; then slide the panel horizontally and pull downward.

The panels can be reattached to the spa by reversing the above procedure.

Cleaning Your Spa

Your spa shell consists of two layers of plastic materials. Its smooth top surface of acrylic is tough and durable and contains concentrated color. This is supported by a substantial thickness of fiberglass-reinforced polyester resin. A catalyst causes a chemical reaction during manufacture that bonds these layers permanently into a hard, strong material. With a minimum amount of care and cleaning, your whirlpool spa will look new for years.

To clean your spa, simply use a mild, non-abrasive liquid detergent, or commercially prepared spa cleaner. **Do not use abrasive cleaners.** You can protect and restore the gloss to a dulled surface by applying Meguiar's #10 Mirror Glaze, which is a product specifically designed for use on acrylic finishes. If Meguiar's is not available, an acrylic polish of equal quality or automotive paste wax will do.

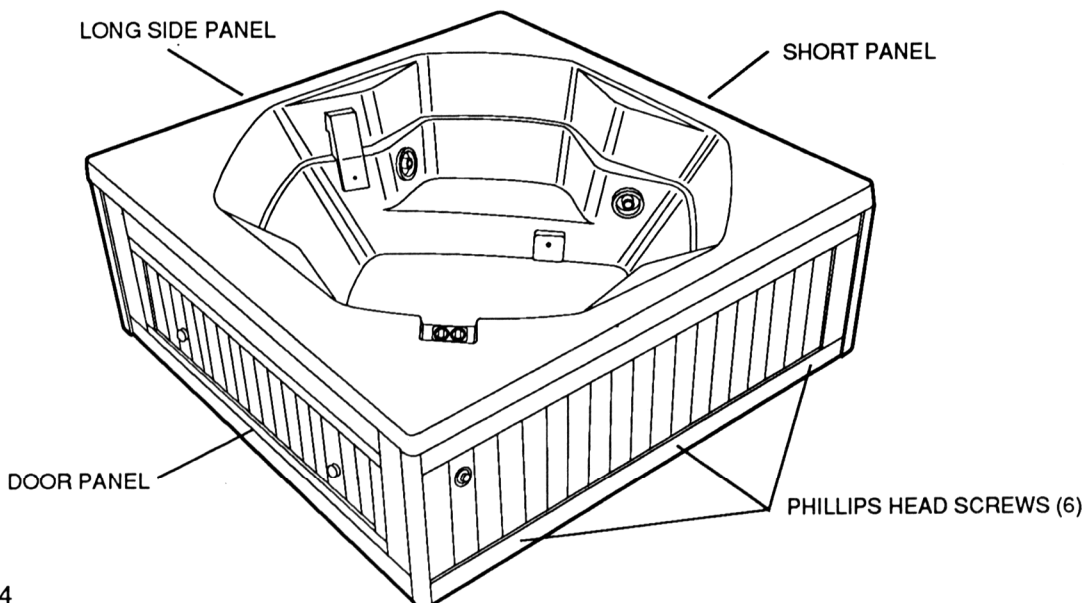
Use a spa cleaner for residue buildup at the water level of the spa surface. This may be applied to the acrylic surface with a soft cloth and wiped clean. Use sparingly in small amounts to avoid contaminating the spa water. If heavily soiled, it may be advisable to lower the water level 2 - 3 inches before cleaning, then refill to normal level.

Repairs to the Acrylic

Minor scratches which do not penetrate the color finish (acrylic) can be removed with 600-grit wet/dry sandpaper. Restore the glossy finish with Meguiar's #10 Mirror Glaze. If that is not available, use automotive rubbing compound followed by an application of automotive paste wax.

Major scratches or gouges which penetrate the acrylic surface will require refinishing. Ask your spa dealer for special instructions.

FACTORY INSTALLED REDWOOD SKIRT



TROUBLESHOOTING GUIDE

CAUTION: This equipment may require qualified service personnel for proper repair. Contact your dealer for service.

PROBLEM	PROBABLE CAUSE	REMEDY
1. Heater not functioning.	A. Heater mode not selected.	A. Select HEATER/FILTER mode.
	B. No power to heater.	B. Check house circuit breaker and GFCI.
	C. Thermostat set lower than water temperature.	C. Turn to desired temperature.
	D. High temperature safety switches tripped.	D. Reset button on heater after water has cooled; see *Note if switch continues to trip.
	E. Abnormally low water flow.	E. *
	F. Heater relay not operating.	F. *
	G. Heater element failure.	G. *
2. Water not reaching set temperature.	A. Inaccurate thermometer used.	A. Use medical (clinical) thermometer to verify temperature.
	B. See category #1 above.	B. See category #1 above.
3. Water not clean.	A. Clogged or blocked suction strainer or skimmer basket.	A. Clean strainer skimmer basket.
	B. Filter clogged (dirty).	B. Clean or replace.
	C. Poor water chemistry.	C. See "Chemistry" section.
	D. Insufficient filtering time.	D. Run filter.
	E. Improper maintenance.	E. See "Maintenance" section.
	F. High contents solids in water.	F. Use clarifier or drain and refill spa.
4. Abnormal water usage.	A. Leak in suction line, discharge line, or connections.	A. Repair leak.
	B. Use spa cover; lower the thermostat setting.	B. Use optional spa cover; lower thermostat setting.
5. Low water flow from jets.	A. Normal operation in FILTER mode.	A. Select JETS mode for maximum flow.
	B. Plugged strainers.	B. Fill to water level indicator mark on skimmer/filter frame.
	C. Dirty filter.	C. Clean or replace.
	D. Suction of discharge line partially plugged.	D. *
	E. Pump running at subnormal speed.	E. *
	F. Worn or damaged pump seal.	F. *
	G. Malfunctioning safety suction valve.	G. *
6. No water flow from jets.	A. Unit not plugged in.	A. Plug unit in.
	B. Selector switch in OFF.	B. Select other function.
	C. House circuit breaker tripped, no power to system.	C. Reset circuit breaker.

* Note: The skills and tools necessary for the safe repair of this spa condition require the services of qualified service personnel. Contact your Asteria Co. dealer.

TROUBLESHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	REMEDY
6. Low water flow from jets. (Continued)	<ul style="list-style-type: none"> C. Clogged or blocked suction strainer or skimmer basket. D. Dirty filter. E. Suction or discharge line partially plugged. F. Pump running at subnormal speed. G. Worn or damaged pump seal H. Subnormal voltage. 	<ul style="list-style-type: none"> C. Clean strainers or skimmer basket. D. Clean or replace. E. * F. * G. * H. Call an electrician or your power company.
7. No water flow from jets.	<ul style="list-style-type: none"> A. Power turned off. B. Selector switch in OFF. C. House circuit breaker tripped, no power to system. D. Spa circuit breaker tripped. E. High temperature safety switch tripped. F. GFCI tripped. G. Faulty pump or motor. H. Motor(s) not connected. I. Jet (or jets) closed. 	<ul style="list-style-type: none"> A. Turn on power at service panel. B. Select another function. C. Reset circuit breaker. D. Reset circuit breaker. E. Reset button on heater after water has cooled; *Note if switch continues to trip. F. Reset GFCI. G. * H. Check motor plug connection on System Control Module. I. Open jet.
8. Noisy pump and motor.	<ul style="list-style-type: none"> A. Clogged strainer(s). B. Leakage of air into suction line. C. Vibrating parts attached to motor or support brackets. D. Low water level E. Damaged or worn motor bearings. F. Impeller rubbing inside case. G. Debris inside pump. 	<ul style="list-style-type: none"> A. Clean strainer(s). B. Locate and repair leaks. C. Tighten fasteners. D. Add water to normal level. E. * F. * G. *
9. Water leakage at pump shaft (rotating connection between pump and motor)	<ul style="list-style-type: none"> A. Worn or damaged pump seal. 	<ul style="list-style-type: none"> A. *
10. Motor will not start	<ul style="list-style-type: none"> A. Power off. B. OFF mode selected. C. House circuit breaker tripped or in OFF position. D. Spa circuit breakers tripped. E. GFCI tripped. 	<ul style="list-style-type: none"> A. Turn on power at service panel. B. Select FILTER, HTR/FILTER, or JETS mode. C. Reset circuit breaker. D. Reset circuit breakers. E. Reset GFCI.

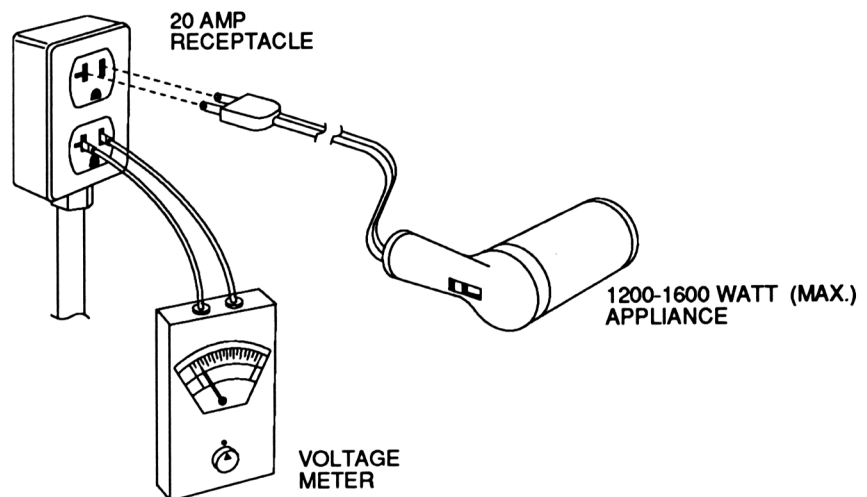
* Note: The skills and tools necessary for the safe repair of this spa require the services of qualified service personnel. Contact your Asteria Co. dealer.

IMPORTANT

The Model 5630 Portable Whirlpool spa requires a separate 115 VAC 20 AMP capacity electrical supply. If the wiring for the circuit in which your spa is connected is not sized properly for 20 AMPS, or if the outlet used is too distant for the main service panel, there may be a considerable voltage drop. Such a voltage drop would not only cause the unit to malfunction, but it may also cause permanent damage to the spa's electrical system.

Before operation your spa, therefore, we recommend that you test the spa's intended electrical supply circuit for sufficient voltage. To do this, you will need an AC voltage meter and a small electric appliance rated at 1200 (min.)-1600 (max.) watts—a hair dryer or toaster will do. Plug the appliance into one receptacle and turn it on; take a voltage meter reading from the adjacent receptacle. If the voltage is measured at 115 VAC (a voltage drop of 5%, or if there is less than the 105V minimum operating voltage at the receptacle, the electrical is insufficient. The minimum voltage must be maintained during spa operation.

If your test reveals insufficient electrical supply, several solutions are possible: First, you could have your electrical supply upgraded and provide a dedicated, properly wired circuit with 20 AMP capability to be used for the spa only. Second, you can install a transformer which would boost your existing power supply. We recommend that you seek the advice and service of a qualified electrician who can determine your particular electrical needs for installation of your spa.



**PRODUCT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.
USE INSTALLATION INSTRUCTIONS SUPPLIED WITH PRODUCT.**

Asteria Co. has obtained applicable code (standards) listings generally available on a national basis for products of this type. It is the responsibility of the installer/owner to determine specific local code compliance prior to installation of the product. Asteria Co. makes no representation or warranty regarding, and will not be responsible for any code compliance.

Asteria Co.

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