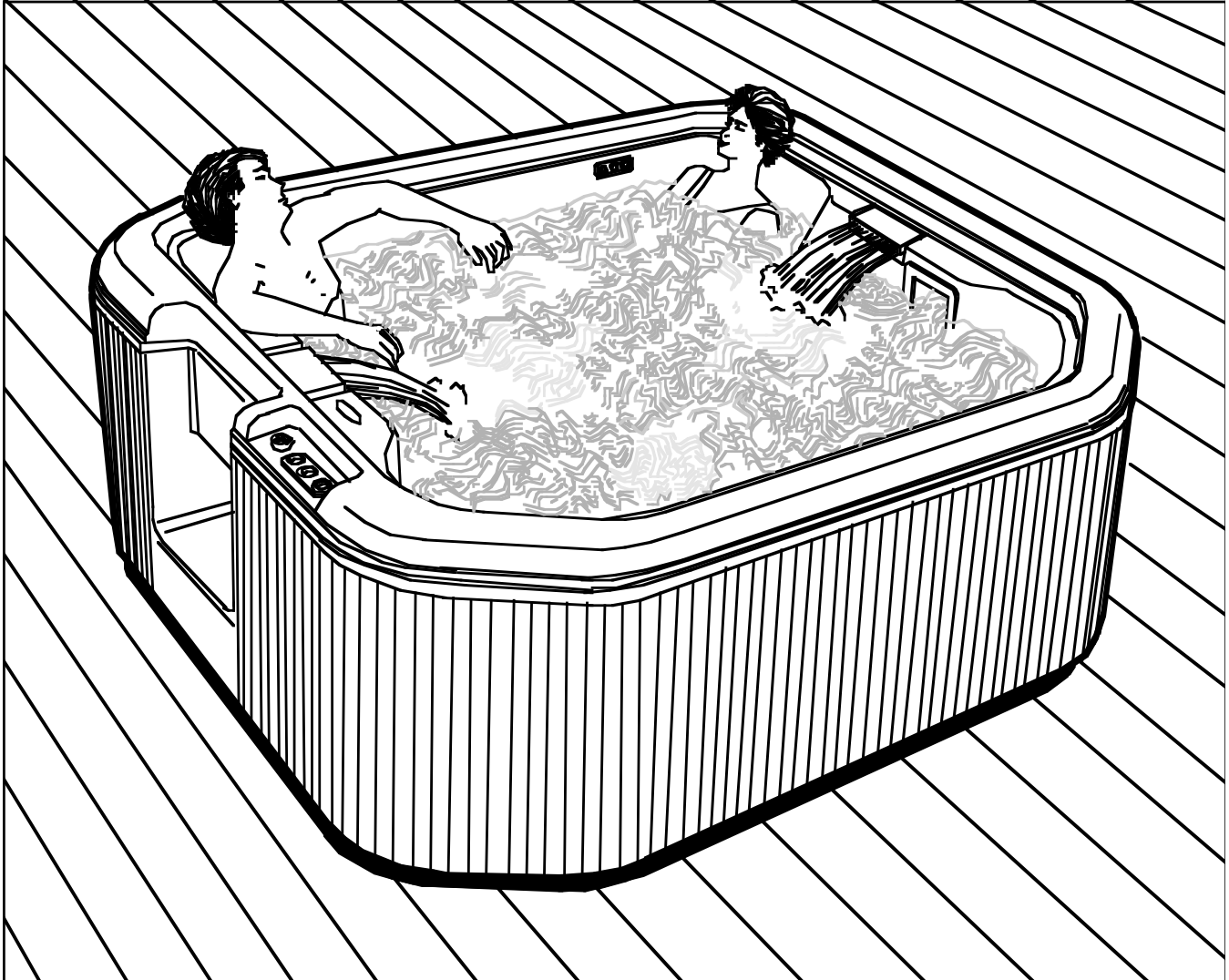


The Quantum Plus™

Portable Whirlpool Spa
Owner's Manual



IMPORTANT SAFETY INFORMATION

READ ALL INSTALLATION INSTRUCTIONS

Jacuzzi Whirlpool Bath does not recommend spa water temperatures in excess of 40°C (104°F). High water temperatures in excess of 40°C (104°F) 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 38°C (100°F). Pregnant women and people with heart conditions should consult their physicians before using the spa at water temperatures over 38°C (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 300mm (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:

This unit is equipped with an earth leakage circuit breaker (ELCB) 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 1.5m (5 feet) of the spa while the spa is being used. Lighting fixtures must not be located directly above or within 1.5m (5 feet) of the spa. If located with 3m (10 feet) of the spa, they must be on a circuit protected by an ELCB.

Do not apply power to the spa unless it is filled with water to the normal water level, which is to the water level indicator mark on the skimmer frame. 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 #7700000

(See page 2 for location of serial number.)

The Quantum Plus™ Portable Whirlpool Spa Owner's Manual Model 770000

Contents

Installation Instructions _____	3-6
Inspection and Shipping Claim _____	3
Unpacking _____	3
Positioning Your Spa _____	4
Electrical Requirements _____	4
Electrical Precautions _____	4
Outdoor Installation _____	5
Drainage _____	5
Indoor Installations _____	5
Equipment Set-Up _____	6
Operating Instructions _____	7-11
Basic Control Set-Up _____	7
Setting the Time _____	8
Controls _____	9
Temperature Control _____	10
Setting the Thermostat _____	10
Note on Determining Water Temperature _____	10
Normal Operation _____	11
Whirlpool System _____	11
Water Rainbow _____	11
Air Blower _____	11
Silent Air Induction _____	11
Filtration _____	11
Maintenance _____	12-16
Water Quality and Water Chemistry _____	12
Filtration _____	12
Water Chemistry _____	12
Disinfecting _____	12
Balancing pH _____	13
Balancing Total Alkalinity _____	13
Water Quality Definitions _____	13
Water Level/Drain _____	14
Skimmer Basket Maintenance _____	14
Filter Maintenance _____	14
Automatic Filtration/Maintenance _____	15
Winterizing _____	15
Factory Installed Redwood Skirt _____	15
Spa Light _____	16
Cleaning Your Spa _____	16
Covering Your Spa _____	16
Repairs to the Acrylic _____	16
Troubleshooting Guide _____	17-19
Alternate Use of Water Rainbow _____	20

The Quantum Plus Portable Whirlpool Spa

Installation Instructions

The Quantum Plus is a sumptuous, rectangular whirlpool spa by Jacuzzi Whirlpool Bath designed with full-featured elegance to provide the comfort and luxurious spa experience you expect from a Jacuzzi whirlpool spa. Multi-level contours allow for seating and lounging for 7 people. A built-in step and handrail allow safe entrance and exit from the spa. And for a revitalizing hydromassage, six fully adjustable color coordinated whirlpool jets and one directionally adjustable jet are located strategically to massage lumbar and upper back regions, depending on where you are seated.

For the ultimate in convenience, the Quantum Plus features two clearly labeled control panels, one located on either side of the spa and concealed by a streamlined tinted acrylic cover. One panel allows push button control of the heater, filter, whirlpool, lights and air blower functions and adjustment of silent air induction. The other control panel offers additional air induction adjustment. A 7-day timer (located on the System Control Module) can be set for automatic control of temperature and filtration. The Quantum Plus also features two low voltage lights and interchangeable colored lenses, adding even more luxury and excitement to your spa experience.

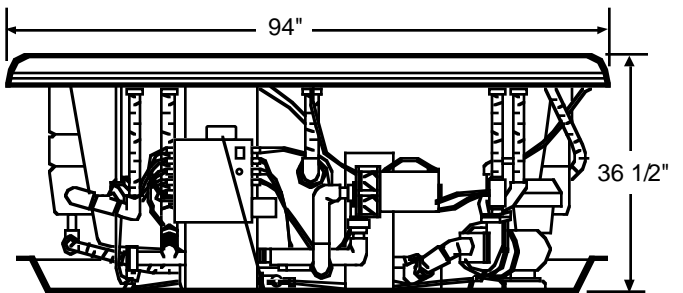
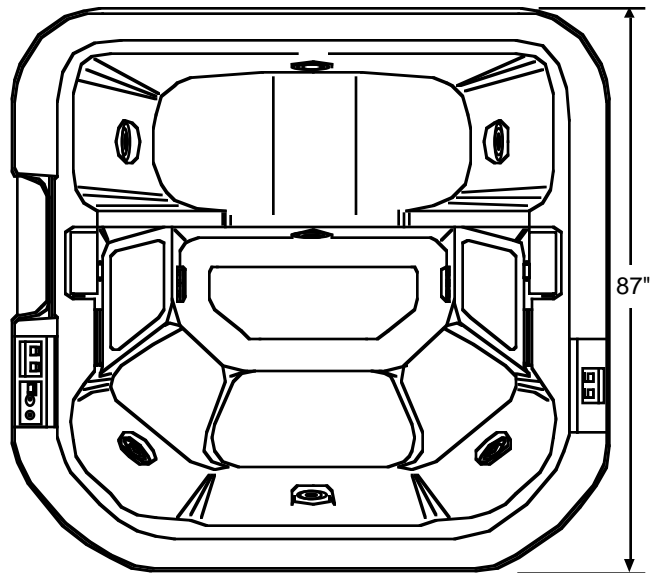
The Quantum Plus offers the convenience of two patented front-load skimmer/filters for maximum efficiency. The unique 4.65m² (50 sq feet) filtration system, designed by Jacuzzi Whirlpool Bath, allows easy access from inside the spa to both filter cartridges without having to drain the spa or open the skirt door.

A standard feature of the Quantum Plus is its two Water Rainbow spouts with flow control, which will create a dazzling, shimmering waterfall effect while recirculating the water.

The spa shell is foam insulated to save energy costs, and the spa is tastefully surrounded by a factory installed redwood skirt.

The complete equipment pack of the Quantum Plus is mounted within the perimeter of the spa, so the spa is easy to install. The spa requires a 230 VAC 50 AMP, grounded separate circuit and is equipped with an ground fault circuit interrupter (GFCI). An optional gas heater is available as an

TOP VIEW



SIDE VIEW

SERIAL NUMBER LOCATION

alternate heating source and can be used remotely. The Quantum Plus is available in several lustrous colors. (See the Jacuzzi Whirlpool Bath color guide.)

OPTIONS

- Gas Heater
- Rigid Insulating Cover
- Pillows

SPECIFICATIONS

MODEL	DIMENSIONS	WHIRLPOOL MOTOR/PUMP	FILTER MOTOR/PUMP	OPERATING GALLONAGE	ELECTRIC HEATER	PRODUCT WEIGHT	SHIPPING WEIGHT	ELECTRICAL REQUIREMENTS
Quantum Plus	94" (2388 mm) L. 87" (2210 mm) W. 36 1/2" (927 mm) H.	2.0 h.p.(1.5 kW) 230 VAC 10 AMP 3450 RPM Single Phase 60 Hz.	.75 h.p.(.6 kW) 230 VAC 4.9 AMP 3450 RPM Single Phase 60 Hz.	400 U.S. Gal. (1514 ltrs.)	6KW 26 AMPS	740 lbs. (340 kg.)	975 lbs. (443 kg.)	230 VAC 50 AMP Separate Circuit (See page 4)

INSTALLATION

Installation Instructions

Inspection and Shipping Claim

Check for shipping damage upon receipt of the spa. Jacuzzi Whirlpool Bath 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.

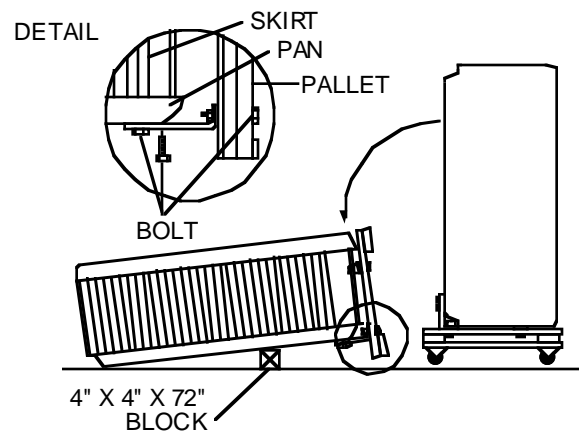
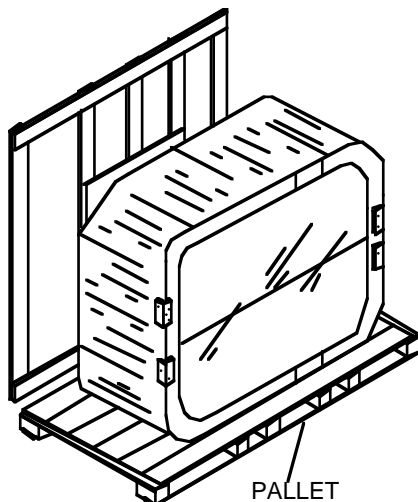
Once the spa has been removed from the carton and before it is permanently installed (see below on this page for unpacking instructions), check the spa completely for damage. Fill the shell with water and operate the system (see Operating Instructions) to check for leaks which may have resulted from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

Npte: 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 disassembling bracing and plastic bags. Leave the inner bag and corrugated wrapping in place on the skirt to protect the product until equipment set-up.
2. Remove the box containing skirt panels and the accessory package which contains the Owner's Manual, filter, cartridges, and extra lenses and bulbs. Set aside skirt panels until equipment set-up. Set aside the filter cartridges in a dry place until it is time to set up the spa equipment. Store the extra lenses and bulb for later use.
3. The spa should be moved on a dolly in its upright position while still attached to its shipping pallet. If the pallet must be detached before the spa is moved (for example, to allow it to pass through a door), detach it from the pallet as instructed below, then carefully place it vertically on a dolly which is wide enough to support the entire width of the spa. The skirt is cosmetic (not structural) and is not designed to support the spa.
4. When the spa has been moved to its final location, place a wooden block approximately 100mm x 100mm x 2m (4" x 4" x 72") beside the pan side of the spa so it is parallel with the pallet. (See illustration B.)
5. Tip the spa over onto its bottom with the block supporting the spa.
6. Remove the brackets attaching the spa to the pallet. (See detail B.)
7. Remove the bolts securing the pallet to the upper part of the spa shell.
8. Remove the 100mm x 100mm (4" x 4") block and pallet and carefully lower the spa to a horizontal position.
9. Attach two loose skirt panels included in skirt box.
10. Record the spa serial number on the inside front cover of this manual. (See illustration on page 2 for the serial number location.)

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



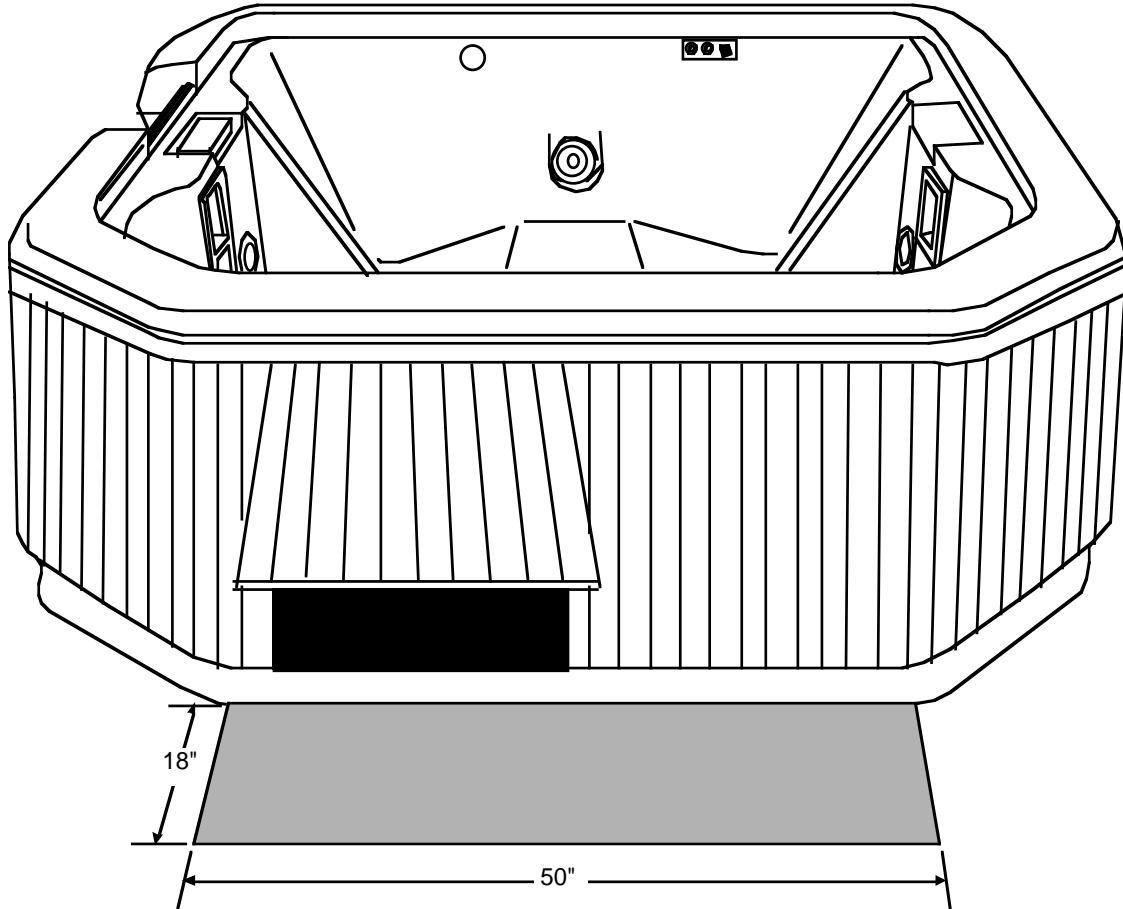
INSTALLATION

Important: Read complete instructions before beginning installation.

Positioning Your Spa

Because your Quantum Plus spa is a portable, you can locate it just about anywhere you wish—on a deck, patio, or even indoors. Just 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 5252 lbs. (92 lbs. per sq ft). You must also provide access to the spa's equipment for service and general maintenance.

SERVICE ACCESS



Electrical Requirements

Your Quantum Plus, as it comes from the factory, requires a 230 VAC 50 AMP 4-wire grounded type electrical service and must be in a separate circuit having no other appliance connected in that circuit. If you do not have this kind of circuit, a qualified electrician should be called in to install the necessary wiring. Inadequately sized wiring or locating the spa 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 circuit must also have a ground wire in order to take advantage of the designed-in safety features of the spa. Bond according to procedure described on the next page. Caution: Without proper grounding and bonding, a system malfunction may cause fatal shock.

INSTALLATION

Electrical Precautions

CAUTION

Do not apply electrical power to the spa unless it is filled with water to the normal water level, which is approximately 7" below the spa rim. (See location of water level indicator on face of skimmer on page 6.) If the spa's motor/pumps are actuated when there is not sufficient water in the unit, the circulation pumps could be irreparably damaged. In addition to damaging the unit, operating the unit with insufficient water could cause a fire.

Do not locate lighting fixtures directly above the spa; lighting and electrical receptacles must be located at least 5 ft (1.5m) from the spa. Lighting located between and 5 ft (1.5m) and 10 ft (3m) from the spa must be on a circuit protected by a ELCB. (See National Electrical Code 680-6).

Do not use electrically connected devices, such as television, radio, telephones, stereo speakers, lights or cooking devices within 5 ft (3m) of the spa when the spa is being used.

All fixed metal objects located within 5 ft (1.5m) 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 earth electrode.

An approved earth electrode may be an 8 ft. long earth 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. Bonding lugs are available at your local electrical supply store. (Bond bar location is shown on page 5.)

Outdoor Installation

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 a 8' x 8' x 4" thick level pad.

Install a #10 gauge wire mesh approximately 6" x 6" steel reinforced grid. Attach a #8 solid copper wire to the grid with a 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.

Drainage

Whether you install your spa indoors or outdoors, you can drain it completely 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 drain valve.

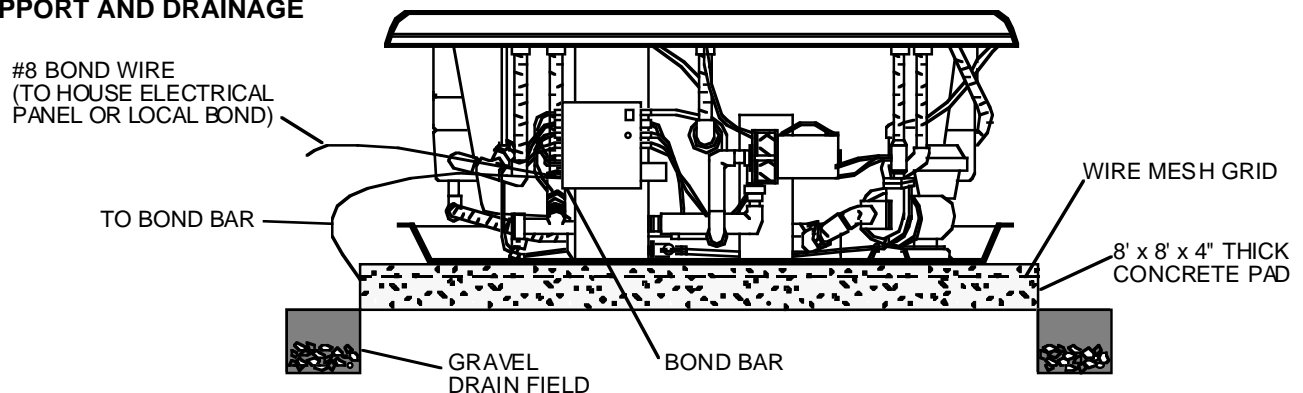
Make sure the area surrounding the spa has good drainage to keep water from collecting at the base of the

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. Jacuzzi Whirlpool Bath 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



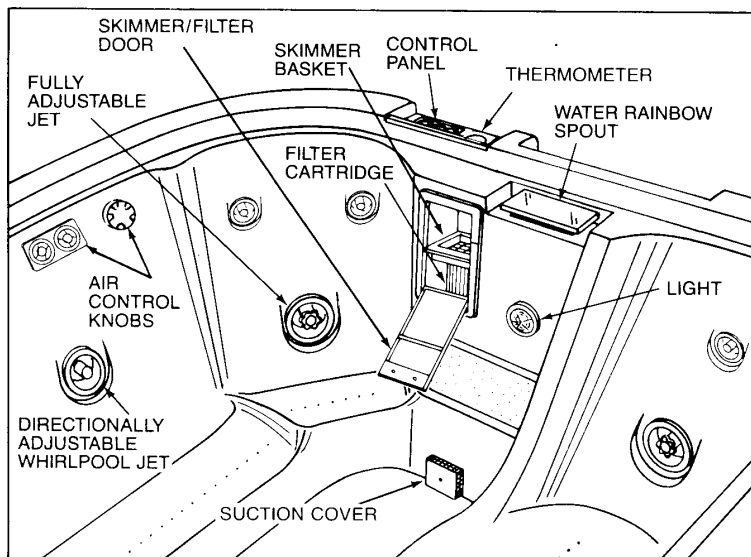
INSTALLATION

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. Remove each filter cartridge from its plastic bag.
4. Pull open each skimmer/filter door by the handle located in the middle of the door and remove the skimmer basket. Then insert the filter cartridge into the filter housing and re-insert the basket so that it fits in place over the filter cartridge and close the skimmer/filter door.
5. 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.
6. Install the skirt panels which were not installed on the spa at the factory. To do this, secure with the screws provided in your spa accessory package and follow instructions provided with panels.
7. On initial start-up, it is necessary to purge and sanitize the system. Carefully follow the procedure described here to purge and sanitize your spa.
 - Remove the spa cover completely.
 - Close the drain valve located on the suction tee.
 - Fill the spa with water to its normal operating level, which is to the water level indicator mark on the skimmer/filter frame.
 - Turn on circuit breakers at the main electrical panel.
 - Select JETS on the SYSTEM switch.
 - Add 60cc sodium dichlor (a fast dissolving granulartype of chlorine) to the water and let the whirlpool run for 15-20 minutes only.
 - Turn off JETS.
 - Turn off circuit breakers.
 - **Immediately** open the drain valve and drain the spa completely.
8. Close the drain valve and fill the spa with water to approximately 180mm (7") below the spa rim, or to water line indicator mark on the skimmer frame. (See illustration on this page.)
9. Turn on circuit breakers at the main service panel.
10. Set the heater thermostat for the maximum temperature.
11. Test the spa for proper operation. (Refer to Operating Instructions.)
12. Refer to Water Quality section of the Operating Instructions. Test for water quality; then add treatment chemicals to ensure proper levels.

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

All Jacuzzi Whirlpool Bath spas are factory tested for proper operation and watertight connections prior to shipping. If leaks or other problems are detected, immediately notify your Jacuzzi Whirlpool Bath dealer or Authorized Service Agent, or call Jacuzzi Whirlpool Bath, (510) 938-7411 (510-938-7070 in California), for Warranty Service.



OPERATION

Operating Instructions

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

Basic Control Set-Up

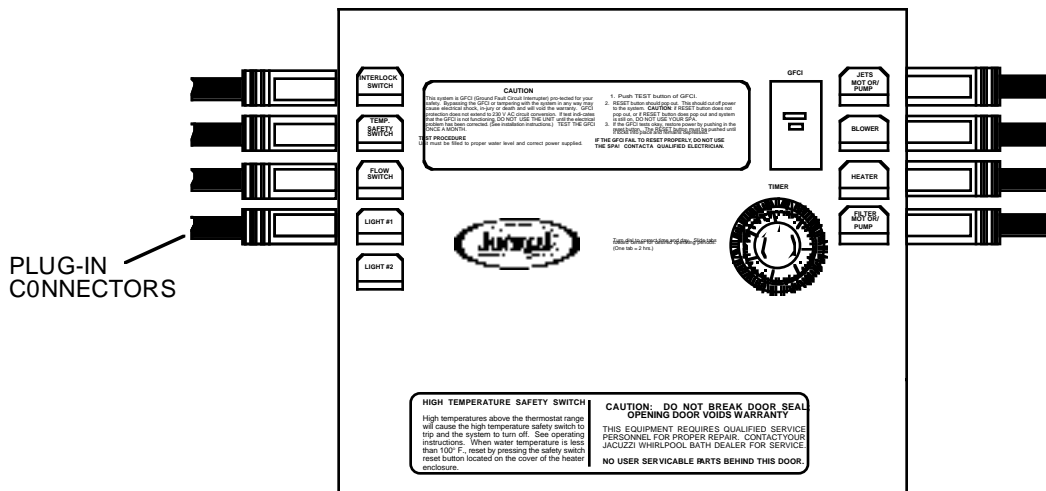
The control set-up on your Quantum Plus spa is designed to give you fingertip control of the heater, lights, air induction, Water Rainbow and whirlpool/filter pump and blower systems of your unit from inside or outside your spa. Follow the basic control set-up described below to familiarize yourself 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. (See water line indicator mark on skimmer frame.) When the power is on, the built-in timer may activate the system even though the SYSTEM is turned off at the control panel. If the spa's motor/pump is actuated when there is not sufficient water in the unit, the circulation pump and heater could be irreparably damaged. In addition to damaging the unit, operating the spa with insufficient water could cause a fire.

- Using a garden hose, fill the spa with water to the waterline indicator mark on the skimmer frame. (See page 20 for information on using Water Rainbow as a fill spout if desired.)
- At the house service panel, turn on the circuit breaker or switch that controls the electrical service to your spa. (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 earth leakage circuit breaker (ELCB). At initial start-up and at least once a month thereafter, with power on, push the button located on the spa System Control Module. The switch should move to the OFF (O) position. Move the switch to the ON (1) position 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.

SYSTEM CONTROL MODULE



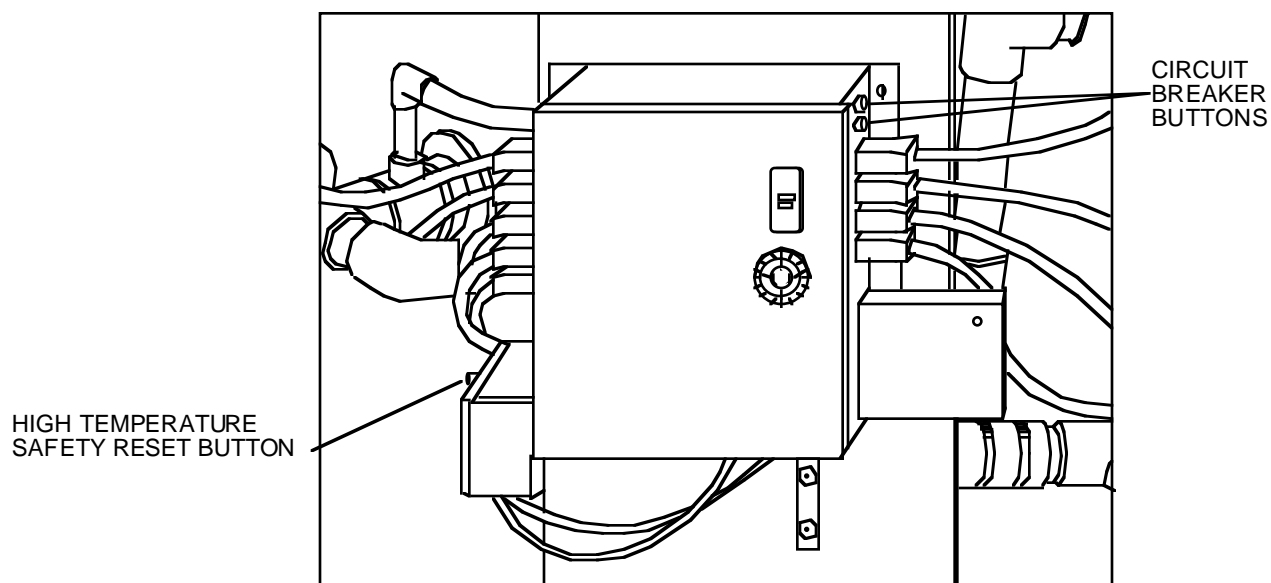
OPERATION

Basic Control Set-Up (continued)

- Make sure the circuit breakers are in the ON (1) position.
- Locate the HIGH TEMPERATURE SAFETY SWITCHES which are raised buttons on the end of the heater. Push both buttons to be sure it is in the reset mode. The purpose of both switches is to shut down the spa if the water becomes excessively hot. If, for some reason, the switches are tripped, the reset button must be pushed in for the heater to operate again after the water has cooled to about 38°C (100°F).
- Set the built-in timer (see below). Use of the timer allows two modes of operation: timed HEATER/FILTER and FILTER ONLY. With the SYSTEM switch turned OFF

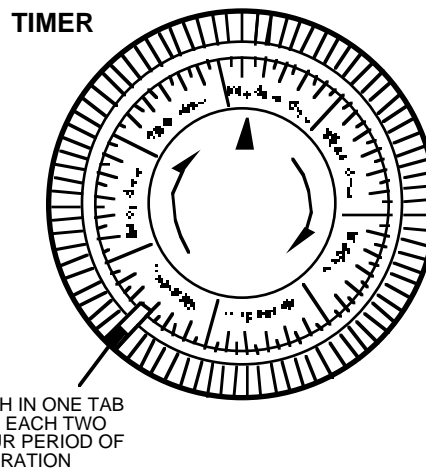
and the HEATER knob set to the desired temperature, the timer will activate the heater and filter pump to operate during the time period set on the timer. With the SYSTEM switch turned OFF and the HEATER CONTROL knob turned to its lowest setting, the water will be filtered without heat during the time period set on the timer.

- Close the redwood skirt door.



Setting the Timer

The built-in 7-day timer is located in the System Control Module. The tooth-like tabs that are located on the dial can be set to activate the filter system for two-hour period on any day(s) of the week. First turn the program dial gradually clockwise until the day of the week (7-day timer) and time of day on the outer dial is aligned with the triangle marker on the inner dial (two o'clock position). For to-the-minute setting turn the minute hand clockwise to the exact time of day. NOTE: Both the correct time and day must be set. Next slide one of the tabs outward to the time at which you wish the filter system to operate. Note that the timed mode can begin at any time of day or night at any specified day of the week.



OPERATION

Controls

A switch panel giving you convenient control of the whirlpool filter, heater/filter, blower and light is located under the tinted acrylic cover on the rim of the spa.

To ensure your safety and allow easy operation, your spa is equipped with two air-activated switches. One, the SYSTEM switch, controls the whirlpool jets, heat, and filtration. The other switch, ACC (Accessory) controls the air blower and the light.

System

The SYSTEM switch controls the following four functions in the continuous sequence indicated:

1. OFF
2. JETS
3. HTR/FILTER
4. FILTER
(The next selection is OFF again.)

Use the JETS function as a reference to indicate your location in the function sequence, since that function is the most obvious when operating.

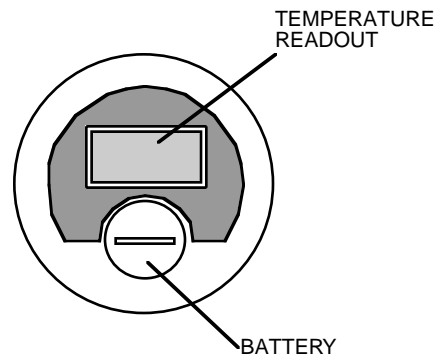
For best performance and increased equipment life, pause a second or two between pushbutton selections.

ACC (Accessory)

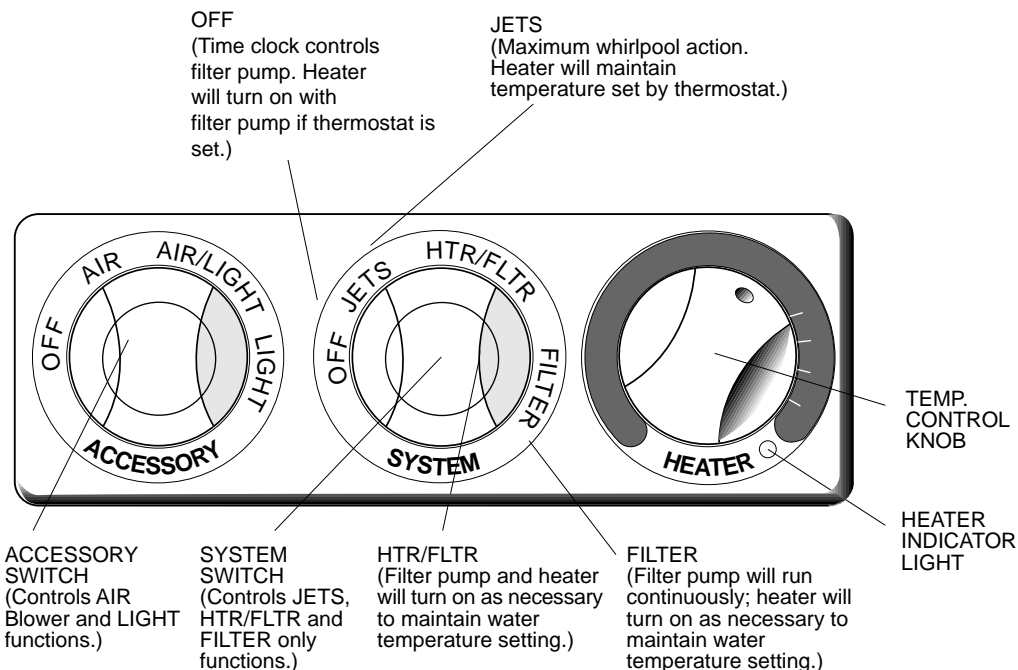
The ACC (Accessory) switch controls these functions in this sequence.

1. OFF
2. AIR
3. AIR/LIGHT
4. LIGHT

THERMOMETER



CONTROL PANEL



OPERATION

Temperature Control

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

With this selection, you can verify that the spa's heater is operating by viewing the HEATER ON light on the spa side panel.

Set the Temp. Control knob by rotating it to the desired temperature. (The temperature will be higher as the knob is rotated clockwise.) When the water temperature is lower than that set by the heater control, the heater and filter motor/pump will be activated. The heater and filter functions will automatically turn off when the desired temperature is reached. When the heater is on, the water is also being filtered. The heater will also maintain water temperature in the JETS mode.

The heater control is designed to maintain a minimum temperature of approximately 7-10°C (45-50°F), its lowest setting. This does not necessarily protect the spa from freezing. See page 15 for winterizing procedures.

Setting the Thermostat

You will notice by the indicator light that the heater is on when the water temperature falls below the desired temperature and will turn off when that temperature has been reached.

When the spa is not in use, you can set the thermostat to a lower temperature; then, when you wish to use the spa, adjust the TEMP CONTROL knob to the desired temperature. The water temperature will rise at a rate of about 2°C

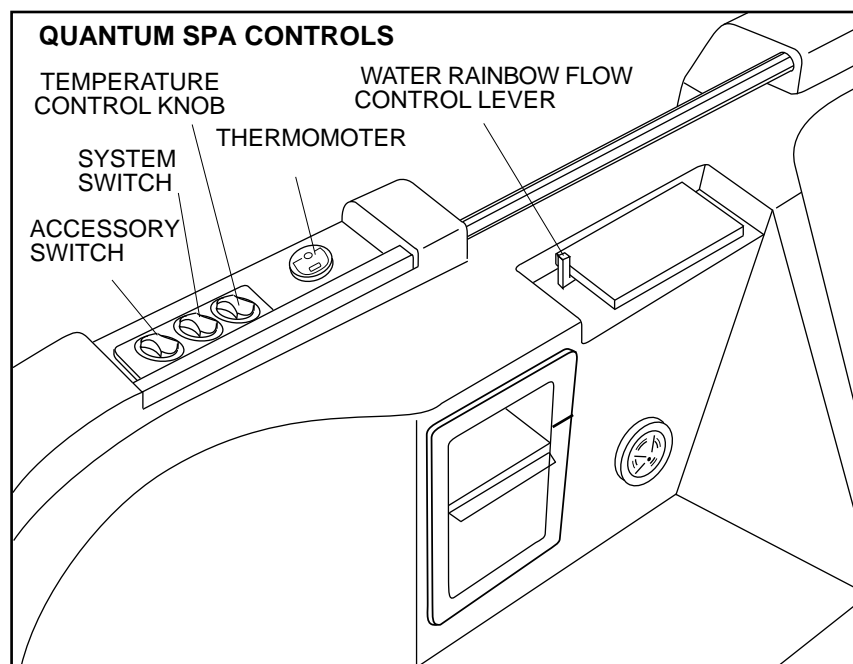
per hour with the optional spa cover, foam insulation and skirt panels in place and if the air temperature is 10°C (50°F) or warmer. This rate will necessitate a waiting period before using the spa, the length of which will be determined by the temperature of the water before turning on the heater. For example, if the water in the spa is kept at about 21°C (70°F) when the spa is not in use, and the desired temperature is 38°C (100°F), it will take about 8.5 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 optional spa cover available 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.

Note 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 for determining spa water temperatures. Take water temperature readings in the HTR/FILTER mode when the heater has just turned off; the indicator lamp on the control panel will turn off at this time.



OPERATION

Normal Operation Whirlpool System

You can enjoy the Quantum Plus 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, push the SYSTEM switch button to select the JETS mode. Sit or recline in the spa so you are comfortable. The six fully adjustable whirlpool jets can be adjusted to control the force of the water coming into the spa. For stimulating action, increase the force of the flow by rotating the jet handles to the left. For a more relaxing effect, rotate the handles to the right (clockwise). The directionally adjustable whirlpool jet located on the wall of the spa opposite the lounge side of the spa, can be directed toward any location on the body, particularly toward any area that feels tense or stiff. The jets are located at various heights around the seating area to allow a hydromassage of the upper or lower back. The warmth of the water and the stimulating water flow from the jet will pleasantly increase circulation.

Or, for the total whirlpool effect, you can adjust all jets so they point in a clockwise or counterclockwise direction to circulate the air and water mixture in a circular motion all about the spa.



FULLY ADJUSTABLE WHIRLPOOL JET

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 both control panels. 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.

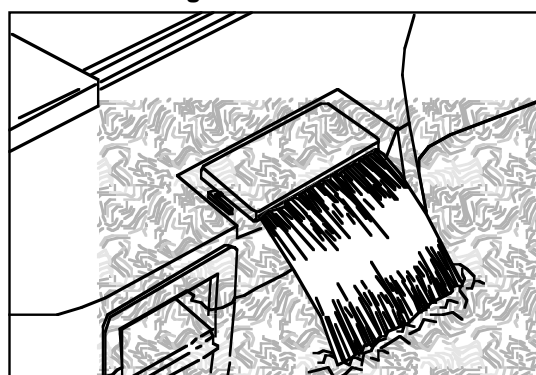
Water Rainbow™

The Water Rainbow spouts will add the soothing sound of a waterfall to your bathing pleasure, as well as providing

beautiful cascades of shimmering water for an exciting visual effect.

Activate the waterfall feature by first turning on the JETS, HTR/FILTER, or FILTER function, then rotate downward the flow control lever located on the left side of the spout. Use this lever to adjust the amount of water flowing through the Water Rainbow spout. The waterfall effect will be greatest in the JETS mode. Turning off the flow at the fully adjustable jets will dramatically increase the Water Rainbow flow.

CAUTION: The water circulating through the Water Rainbow spouts is not fresh water and therefore is not suitable for drinking.



WATER RAINBOW SPOUT

Air Blower

The Quantum Plus features a built-in air blower and factory drilled air holes in the seats of the spa.

The blower sends air to a channel located under the spa's seats; this air is distributed through the air holes, and as the pressurized air is released from the holes, tiny bubbles are formed. These bubbles travel upward through the water and expand until they reach the surface and burst. The exciting visual effect of the bursting bubbles contributes to the overall hydromassage experience.

Activate the blower by pushing the ACC switch.

Filtration

When you are ready to leave the spa, push the SYSTEM switch button to turn off the whirlpool. Then select the HTR/FILTER mode. Adjust the TEMP CONTROL knob to the temperature at which you want the water maintained. In this way, the water will be filtered when the heater goes on to maintain the temperature. Running the filter pump for at least two hours per day is sufficient. Another way to be sure the water will be filtered is to turn the SYSTEM off and set the timer in the System Control Module to turn the system on at a preset time everyday. Maintain the water level to the indicator mark on the skimmer/filter frame. (See page 8 for instructions on setting timer.)

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 two hours 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 filters 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 Jacuzzi Whirlpool Bath 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 alkali) 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. After adding clarifiers, these materials will 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 de-ionize 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 espe-

cially for spas. The test kit must be of the type which allows you to test for the disinfectant (chlorine) level, pH, and total alkalinity. Make sure, 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 to familiarize yourself with the amount of chemicals to add and to determine how often to make chemical adjustments during normal use. Remember that the more heavily the spa is used, the more often you must 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.

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 to 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 15cc (1 tablespoon) for each 565 ltrs. (150 gallons) of spa water. Scrub the 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

MAINTENANCE

Water Chemistry

Disinfecting (continued)

return to the 2.0 to 5.0 ppm range before using the spa again. Do not install a rigid cover during this procedure 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 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 your 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. Purge and sanitize your spa (according to instructions in "Equipment Set-Up" section of the Installation Instructions) and clean the spa surfaces thoroughly before refilling with fresh water. Then re-establish water chemistry. 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 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 recom-

mended 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.

Total Alkalinity: The measure of 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

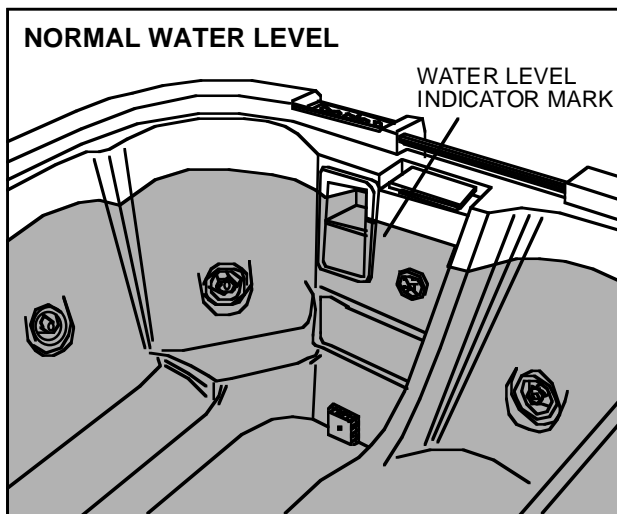
Water Level/Drain

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 in the suction plumbing. Turn the handle and drain the spa.

After draining the spa, clean the spa shell, suction strainers, skimmers, and filters; then close the hose bibb and refill the spa with fresh water. Check the pH level and maintain water quality.



The suction strainers located in the foot well area should be checked at least once a week for collected debris, such as leaves, hair, etc., and cleaned as necessary. It may not be necessary to remove the strainer to clean it, but should you need to, remove the center screw with a Phillips type screwdriver and clean the strainer by flushing with water from a hose.

CAUTION: Be sure to replace the suction strainer immediately after cleaning. It 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.

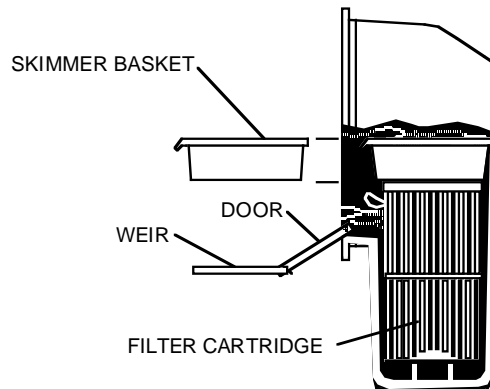
A rigid spa cover (available as an option), when in place over the spa, will help reduce evaporation and control the amount of debris entering the spa when the spa is not

occupied. In addition, its use will reduce energy consumption.

Skimmer Basket Maintenance

The basket located in each skimmer of the spa should be checked at least once a week for collection of debris, such as leaves, hair, etc., and cleaned as necessary. To clean the basket, remove it from the skimmer by pulling it out; then backflush it with a garden hose and re-install.

FRONT ACCESS SKIMMER/FILTER



Filter Maintenance

The filters should be checked periodically. In normal use, check the filters at least once a month. Keep the filters clean; obstructed filters reduce water quality and inhibit proper system performance.

A removable filter cartridge is located inside each skimmer. To remove it, pull open the skimmer door by the handle located in the middle of the door. Slide the basket out; then pull the filter cartridge upward and out of the housing by the loop at the top of the filter. Clean the filter by separating the folds of the filter and spraying with fresh water from a garden hose; then reinstall the cartridge in the housing and replace the basket, reversing the above procedure.

Oils will coat the filters, resulting in a reduced flow. To remove such materials, soak the cartridges in a plastic pail containing a commercial filter cleaning solution (available from most pool supply stores). Follow the manufacturer's instructions for use. Another method is to soak the filter cartridges in a plastic pail containing a mild solution of tri-sodium 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 cartridges become clogged with clay or vegetation.

Replacement cartridges (P/N 6199000) are available through your dealer.

MAINTENANCE

Automatic Filtration/Maintenance

If you plan to be away, you should maintain minimum water quality by running the filter system. To do this, set the timer to turn the system on for at least two hours each day. This will cause the filter system to turn on at a desired time. Set the timer according to instructions on page 8 with the SYSTEM switch OFF.

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. **We do not recommend using this procedure more than 1 week 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 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.
4. Remove the filter cartridges, clean them, and store them dry.
5. Keep water and debris out by covering with a rigid spa cover.
6. Before using the spa again, review the Operating Instructions.

Factory Installed Redwood Skirt

Your Quantum Plus spa is supplied with a factory-installed redwood skirt which completely surrounds the spa. The door can be opened for routine maintenance, setting the timer, and for testing the ELCB before use.

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. **NOTE: WE RECOMMEND A WATER BASED MATERIAL. OIL OR SOLVENT BASED FINISHING MATERIALS DEGRADE THE SKIRT BACKING MATERIAL.**

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, first remove all screws from the panel being detached.

The panels can be re-attached to the spa by reversing the above procedure.

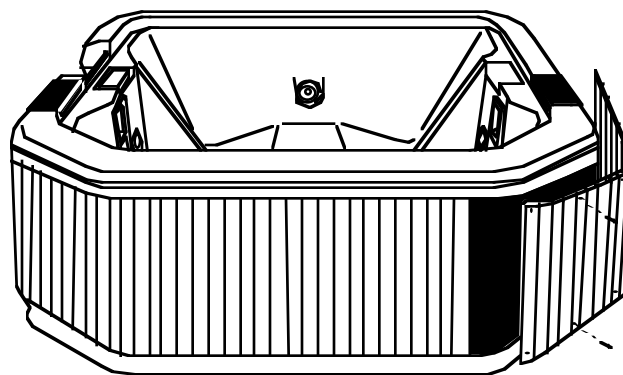
CAUTION: Not winterizing will cause irreversible damage (at freezing temperatures) to the pump and/or plumbing lines.

Note: If the spa is to be used during winter in a cold climate, see warm climate instructions below.

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

1. Select the HTR/FILTER mode.
2. Set the thermostat to its minimum temperature 7° to 10°C (45° to 50°F) by turning the dial all the way counterclockwise.
3. Maintain a chemical balance. (See "Water Quality" section.)
4. Keep the spa covered.

FACTORY INSTALLED REDWOOD SKIRT



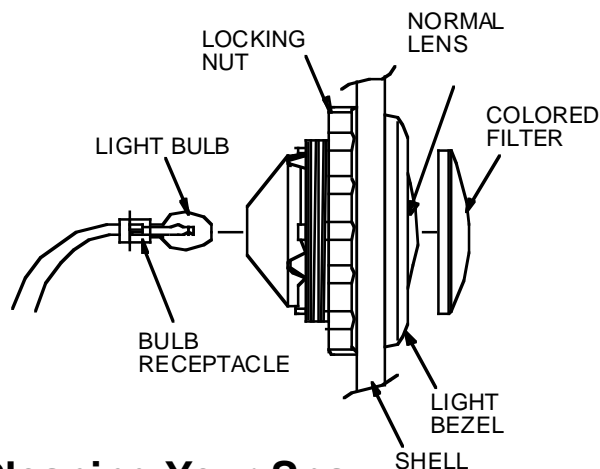
**DOUBLE ROW OF STAPLES
DENOTES TOP OF SKIRT**

MAINTENANCE

Spa Light

Two lenses, one blue and one red, are provided with your spa. To change the lens, simply pull the lens out of the fitting and replace it with the desired colored lens. Two replacement bulbs (GE Model 912, 12W, 12V) are also included. Put them in a safe place for future use. When a bulb burns out, replace it from the back of the light fitting, pulling out the bulb receptacle.

SPA LIGHT BULB REPLACEMENT



Cleaning Your Spa

Your Quantum Plus 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, isopropyl alcohol, or commercially prepared spa cleaner. Do not use abrasive cleaners. You can protect and restore the gloss to a dulled surface by applying a plastic polish specifically designed for use on acrylic finishes (methylmethacrylate). If an acrylic polish is not available, an 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 to 3 inches before cleaning; then refill to normal level.

Covering Your Spa

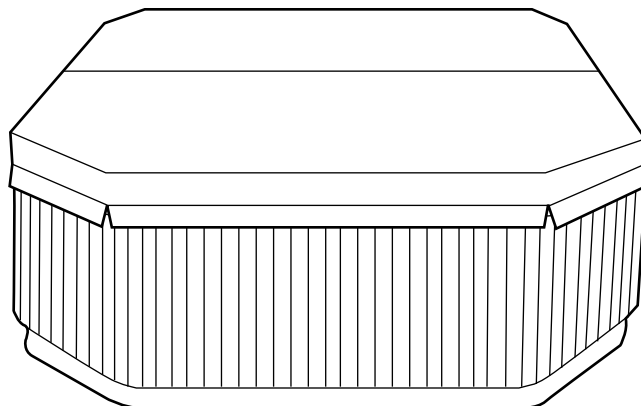
An optional rigid spa cover is available to place on top of the spa. Use of this cover will help to minimize heat loss and evaporation, and thus reduce energy costs. The cover is also an attractive and efficient means of preventing debris such as leaves and dirt from entering your spa when not in use. Follow the instructions for use and care provided with the spa cover.

CAUTION

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

Jacuzzi Whirlpool Bath does not guarantee or warrant this cover.

QUANTUM SPA WITH RIGID INSULATING COVER



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 an acrylic polish or a comparable automotive paste wax.

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

TROUBLESHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	REMEDY
1 .Control Switches do not respond.	A Actuated too rapidly B. No power to the unit.	A. Wait 60 seconds; system will be restored automatically. B. Turn on circuit breakers.
2 .Heater not functioning.	A. Heater mode not selected. B. No power to heater. C. Thermostat set lower than water temperature. D. High temperature safety switches tripped. E. Abnormally low water flow. F. Heater relay not operating. G. Heater element failure. H. Flow switch not operating.	A. Select Heater/Filter mode. B. Check house circuit breaker and ELCB. C. Turn to desired temperature. D. Reset buttons on heater after water has cooled; see *Note if switches continue to trip. E. See Remedy 6 below. F. * G. * H. Check Flow switch and plug-in connection on System Control Module
3. Heater not functioning but heater light on.	A. Relay malfunction. B. Element malfunction. C. Loose wires	A. * B. * C. *
4. Water not clean.	A. Clogged or blocked suction strainer or skimmer basket. B. Filter clogged (dirty). C. Poor water chemistry. D. Insufficient filtering time. E. Improper maintenance. F. High content of solids in water. G. Filter motor not operating	A. Clean strainer/skimmer basket. B. Clean or replace. C. See "Chemistry" section. D. Run filter. E. See Maintenance section. F. Use clarifier or drain and refill spa. G. *
5. Abnormal water usage.	A. Leak in suction line, discharge line, or connections. B. Excessive evaporation and/or splashing.	A. Repair leak. B. Use rigid spa cover; lower thermostat setting.
6. Low water flow from jets.	A. Normal operation in FILTER mode. B. Normal operation when Water Rainbow on. C. Low water level.	A. Select JETS mode for maximum flow. B. Turn off Water Rainbow C. Fill to water level indicator mark on skimmer/filter frame.

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

TROUBLESHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	REMEDY
6. Low water flow from jets. (Continued)	E. Dirty filter. F. Suction or discharge line partially plugged. G. Pump running at subnormal speed. H. Worn or damaged pump seal. I. Subnormal voltage.	E. * F. * G. * H. * I. Call an electrician or your power company.
7. No water flow from jets.	A. Power turned off. B. Selector switch in OFF. C. House circuit breaker tripped; no power to system. D. Spa circuit protector tripped. E. High temperature safety switch(es) tripped. F. ELCB tripped. G. Faulty pump or motor. H. Motor(s) not connected. I. Jet (or jets) closed.	A. Turn on power at service panel. B. Select other function. C. Reset circuit breaker. D. Reset circuit protector. E. Reset button(s) on heater after water has cooled; see *Note if switch continues to trip. F. Reset ELCB G. * H. Check motor plug connection on System Control Module I. Open jet.
8. Noisy pump and motor.	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 pump. G. Debris inside pump.	A. Clean strainer(s). B. Locate and repair leaks. C. Tighten fasteners. D. Add water to normal water level. E. * F. * G. *
9. Water leakage at pump shaft (rotating connection between pump and motor).	A. Worn or damaged pump seal.	
10. Motor will not start.	A. Power off. B. OFF mode selected. C. House circuit breaker tripped or in OFF position. D. Spa circuit breakers tripped. E. ELCB tripped.	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 ELCB.

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

TROUBLESHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	REMEDY
10. Motor will not start. (Continued)	F. Improper or defective wiring. G. High temperature safety switches tripped. H. Subnormal voltage. I. Locked shaft or impeller. J. Motor windings burned out. K. Defective starting switch inside motor.	F. * G. Reset buttons on heater after water has cooled; see *Note if switches continue to trip. H. Call an electrician or your power company. I. * J. * K. *
11. Motor stops.	A. Motor overload condition. B. Selector switch failure. C. Relay failure. D. Inadequate supply wiring. E. High temperature safety switches tripped.	A. Let cool for one hour. Motor overload protector will reset; if problem persists, see *Note. B. * C. * D. Consult electrician to correct wiring to unit. E. Reset buttons on heater after water has cooled; see *Note if switches continue to trip.
12. Air Blower does not operate.	A. Power off. B. ACC switch in OFF. C. House circuit breaker tripped, no power to system. D. ELCB tripped. E. Faulty motor.	A. Turn on power at service panel. B. Select other function. C. Reset circuit breaker. D. Reset ELCB. E. *

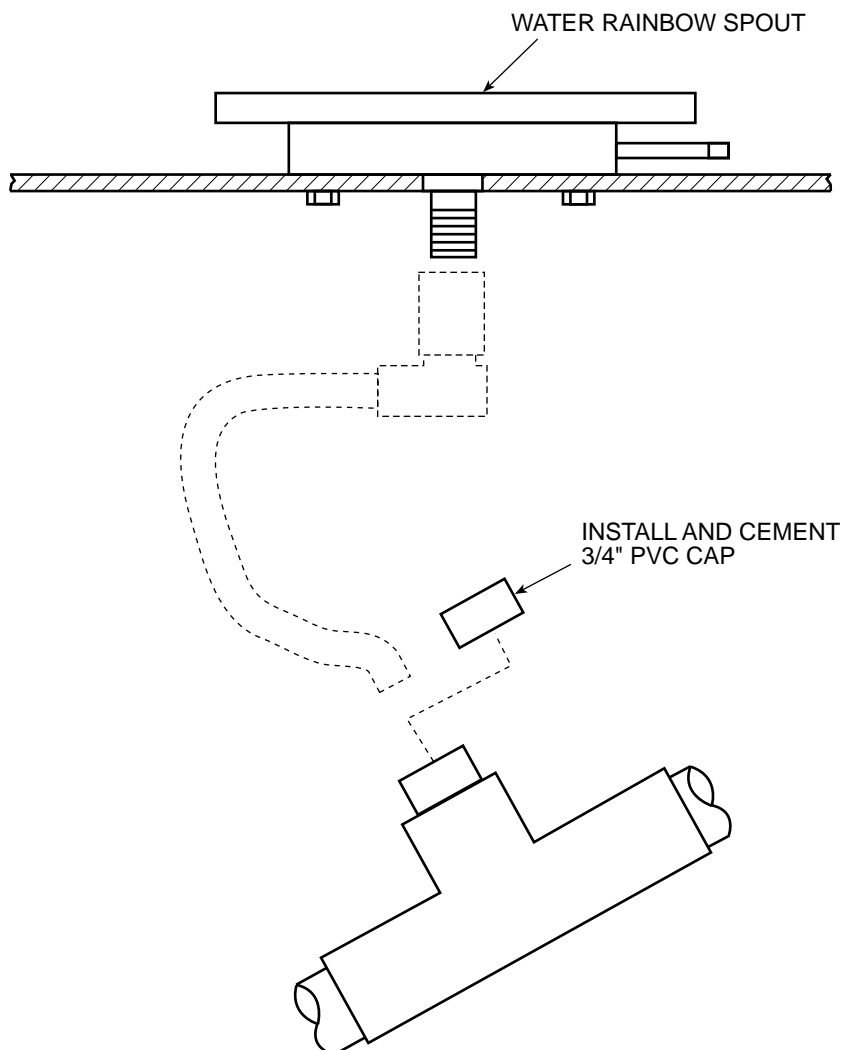
***Note:** The skills and tools necessary for the safe repair of this spa require the services of qualified service personnel. Contact your Jacuzzi Whirlpool Bath dealer.

Alternate Use of Water Rainbow Spout as Fill Spout

You can use your Water Rainbow spout as a fill spout by permanently plumbing it to a fresh water supply if local codes permit. Local plumbing codes may require the use of an anti-siphon valve for such a connection. **Do not interconnect water supply with recirculating system of the spa.**

To make the connections necessary to use the Water Rainbow as a fill spout, follow this procedure:

- Make sure spa is unplugged and completely drained.
- Unscrew the spout from the 3/4" pipe.
- Cut 3/4" piping as shown in illustration below.
- Cap off the piping by cementing a 3/4" PVC cap where cut has been made.
- Connect permanent plumbing line to the spout.



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

Jacuzzi Whirlpool Bath 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. Jacuzzi Whirlpool Bath makes no representation or warranty regarding, and will not be responsible for any code compliance.

JACUZZI WHIRLPOOL BATH

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