

SOLANA™

Serenity made simple.™

Watkins
Manufacturing
Corporation



PRE-DELIVERY INSTRUCTIONS

Please take the time to read this booklet carefully, as it will provide you with the information you will need to ensure the safe, secure, and timely installation of your new spa. The following sections are guidelines on how to prepare for delivery and set-up of your new spa. Specifically covered are site selection, delivery access, ground preparation, and electrical requirements.

Remember to carefully read the Owner's Manual that accompanies your spa, and to complete the warranty card within 10 days of delivery. These items, along with other valuable information, will be found in the Owner's Package that has been placed behind the front access panel of your spa, where you will also find its serial number.

Watkins Manufacturing Corporation reserves the right to change features, specifications and design without notification and without incurring any obligation.

SOLANA™

DATE PURCHASED: _____

DATE INSTALLED: _____

DEALER: _____

ADDRESS: _____

TELEPHONE: _____

IMPORTANT: This spa has been engineered primarily for indoor applications; therefore, it is recommended that the spa be installed indoors. If the spa is installed outdoors, a location that is protected from extreme weather conditions is recommended. If the ambient temperature falls below 32°F, the heater may not be able to raise the spa water to the desired temperature, and the heater and low speed cycle will run continuously, resulting in substantially higher operating costs.

In most cities and counties, permits will be required for the installation of electrical circuits or the construction of exterior surfaces (decks and gazebos). In addition, some communities have adopted residential barrier codes which may require fencing and/or self-closing gates on the property to prevent unsupervised access to a pool (or spa) by children under 5 years of age. Your Solana™ Spa is equipped with a locking cover and is usually exempt from most barrier requirements. As a general practice, your local Building Department will inform you of any applicable barrier requirements at the time a permit is obtained for the installation of an electrical circuit. Your Solana™ Spa Dealer can provide information about which permits may be required.

SITE SELECTION AND PREPARATION

IMPORTANT: Site selection and preparation are your responsibility. Carefully read these instructions and consult your authorized Solana™ Spa Dealer if you have any questions.

You probably have selected a location for your new spa, whether it's indoors or outdoors, on a patio or on a deck. Just make sure you check the following:

- Always place your spa on a structurally sound, level surface. A filled spa can weigh a great deal. Make certain that the location you choose can support the weight of your filled spa.
- Don't forget to level your spa before filling it. (See Spa Leveling Instructions included in Owner's Manual.)
- Locate your equipment compartment (located behind the front access panel), which houses all of the electrical components, in a place where water will drain away from it. Allowing water into the equipment compartment can damage the electronics, or may result in tripping your house's circuit breaker.
- Leave yourself easy access to the circuit breakers in the sub-panel (converted 30 amp models), or to the interrupter switch on the end of the power cord (standard models).
- Never let water get into the sub-panel (converted 30 amp), into the interrupter switch (standard models), or into the electrical outlet that your spa is plugged into.
- Leave access to the front access panel for periodic spa care and maintenance.

INDOOR INSTALLATION

Be aware of some special requirements for indoor spas. Water will accumulate around the spa, so flooring materials must provide a slip-resistant surface when wet. Proper drainage is essential to prevent a build-up of water around the spa. It is highly recommended that a carpet remnant, carpet pad or rubber mat be cut to the footprint of the spa, and that the spa be placed directly on it. This minimizes noise associated with spa operation. When building a new room for the spa, it is recommended that a floor drain be installed. The humidity will naturally increase when water is added to the spa. Water may get into woodwork and produce dryrot, mildew, or other problems. Check for airborne moisture's effects on exposed wood, paper, etc. in the room. To minimize these effects, it is best to provide plenty of ventilation from the spa area. An architect can help to determine if more ventilation must be added.

Your Solana™ Spa Dealer can help you with local information such as zoning regulations and building codes.

CAUTION: Do not install the spa on a heated floor surface. This will damage the bottom of the spa.

DECK INSTALLATION

To be certain your deck can support your spa, you must know the deck's maximum load capacity. Consult a qualified building contractor or structural engineer before you place the spa on an elevated deck or indoors. To find the weight of your spa, its contents and occupants, refer to the Spa Specification chart. This weight per square foot must not exceed the structure's rated capacity, or serious structural damage could result.

OUTDOOR INSTALLATION *(See Important note on inside front cover)*

No matter where you install your new spa, it's important that you have a solid foundation to support it. Structural damage to the spa resulting from incorrect installation or placement on an inadequate foundation is not covered under the spa's limited warranty.

If you install the spa outdoors, a reinforced concrete pad at least four inches thick is recommended. The reinforcing rod or mesh in the pad should be attached to a bond wire (see your Owner's Manual).

If you place the spa on the ground, even temporarily, place stepping stones under the leveling areas (see Spa Leveling Instructions in your Owner's Manual). The stones should be at least two inches thick and twelve inches square. Even with stones in place, the spa will inevitably settle and become unlevel. A spa surrounded by dirt or grass will soon be filled with dirt or grass from users' feet; therefore, it is important to get the spa onto a solid foundation as soon as possible.

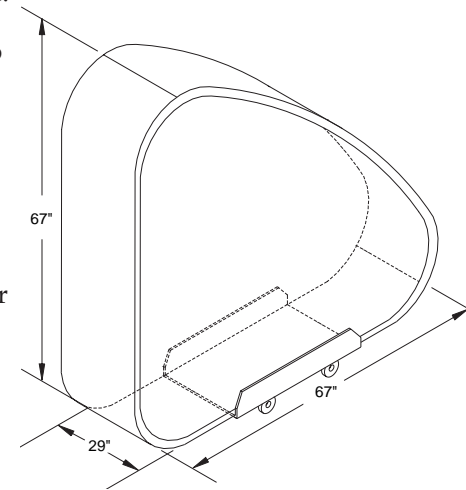
DELIVERY ACCESS

The Solana™ Spa has been designed to fit easily inside your home; however, it is still recommended that you do the following:

First, note the dimension of the spa in the vertical position, laid on its side (67").

Next, contact your dealer to find the height and width added by the delivery cart that the dealer will use to deliver your new spa. Use the height of the cart plus 67" to determine the vertical clearance required to pass the spa and cart. Use the width of the cart, or 29", whichever is greater, to determine the maximum width of clearance necessary.

NOTE: It may be necessary to allow for additional over-head clearance if the spa will be rolled up or down an incline or moved up or down a short flight of stairs.



Use the information at right to determine the requirements for access to your desired location.

It may be necessary to remove a gate, part of a fence, or other movable obstructions in order to roll the spa to its installation site. About ten percent of the time, a crane is the only way to install the spa by lifting it to its final destination.

If the spa has to be taken off of the cart to go over a wall (either because the entry area is too narrow, the eaves are too low, the corner is too tight, or the stairway is too steep), a crane may be required. Don't be alarmed!

The crane has a truck-mounted boom which can fit right in your driveway. It is run by a licensed and insured operator. For a charge, the crane operator will lift your spa over walls, buildings, or any other obstruction and place it as close to the installation site as possible. The Solana™ Spa delivery personnel will supervise the crane delivery and complete the spa installation. Crane delivery typically takes an average of 30 minutes to complete.

NOTE: If your spa delivery requires the use of a crane, you may be required to pay for its services at the completion of the delivery.

GROUND PREPARATION

How is your width clearance?

Check all gates

Protruding electric meters

Gas meters

A/C units

Do you have sufficient overhead clearance?

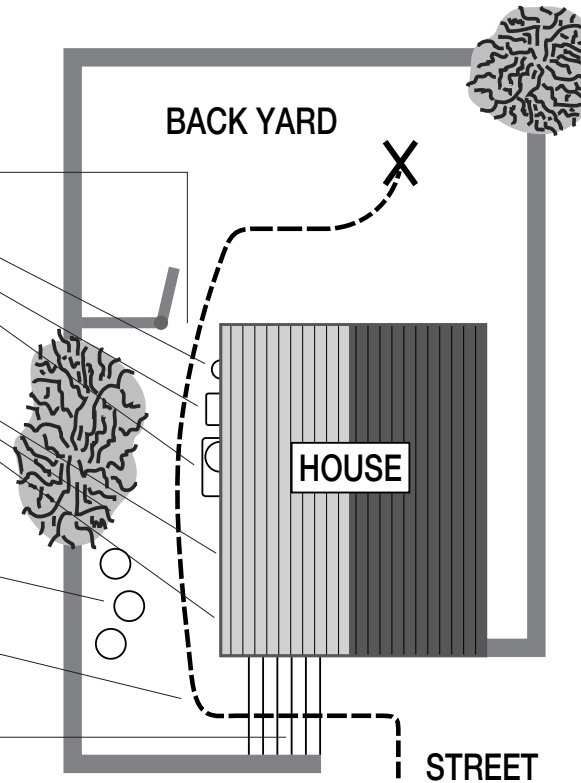
Check low roof eaves, overhanging branches, rain gutters

Is the path clear?

Move away branches, dog houses, firewood, etc.

If there is a 90° turn, can we clear it? (The spa will not bend)

No more than 6 consecutive stairs without a landing



Your Solana™ Spa has been engineered to perform on all kinds of common yard surfaces. While a concrete slab is best for long-term use, other foundations are acceptable as long as a level base is prepared prior to delivery. Three foundation base pictures, shown at right, represent examples of alternatives to a concrete slab for spas installed without gazebos or other accessories.

INSTALLATION NOTES:

- If stepping stones or railroad ties are selected for the spa foundation, they should be placed at the designated leveling areas of your spa to maintain even distribution of the spa weight.
- It is important to note that soft surfaces, even when stepping stones are used to distribute the weight of the spa as evenly as possible, will still have a tendency to settle unevenly, resulting in an unlevel spa.
- Remember, placing the spa on grass or dirt may increase the amount of debris which is inadvertently brought into the spa water on the user’s feet.

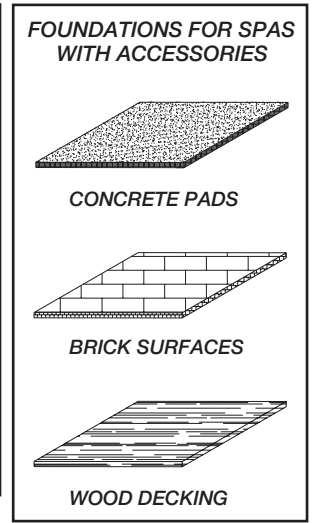
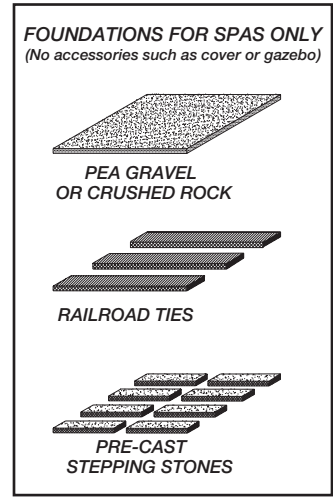
If you are purchasing a deck package or a gazebo with your spa, a solid foundation becomes mandatory. Placing them on any surface other than a single level pad could create problems with their installation. Pictured at right are a few of the recommended surfaces.

As a homeowner, it is your responsibility to provide a suitable, level foundation for your spa. Keep in mind that most delivery crews are not equipped to level and prepare spa sites.

If you are interested in having a concrete slab, brick surface, or wood deck installed, your Solana™ Spa Dealer should be able to suggest a qualified, licensed contractor.

NOTE: In order for the spa to operate properly and for the internal plumbing to drain completely, you must ensure that the spa is leveled after it has been installed. The diagram on the following page indicates the recommended shimming points on your spa’s base support system. Your Solana™ Spa delivery crew can help you perform the procedure.

ELECTRICAL REQUIREMENTS



SOLANA™

Dimensions and Specifications

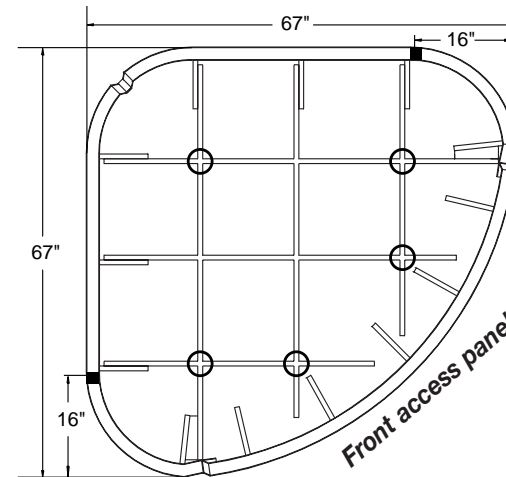
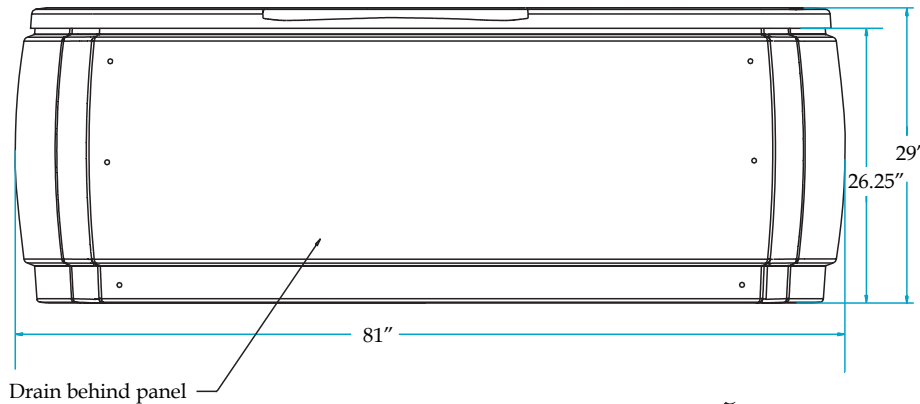
All dimensions are approximate; measure your spa before making critical design or pathway decisions.

	Footprint dimensions	Height	Effective filter area	Heater (Watts)	Water capacity	Dry weight	Filled weight*	Dead weight*	Electrical Requirements
Solana™	67" x 67" 1.70m x 1.70m	29" 73.7cm	30 Square feet 2.7 sq. m	1,000 (115 volt)	130 Gallons 492 Litres	265 Lbs. 120 Kg.	1,655 Lbs. 751 Kg.	105 Lbs. per square foot	15 amp grounded circuit (standard) 115 V 30 amp grounded circuit (optional) - Requires 30 amp sub-panel

CAUTION: Watkins Manufacturing suggests a structural engineer or contractor be consulted before the spa is placed on an elevated deck.

* **NOTE:** The "Filled weight" and "Dead weight" of the spa includes the weight of the occupants (assuming an average occupant weight of 175 lbs).

FRONT VIEW OF SPA



UPSIDE DOWN VIEW OF SPA
5 possible shimming points circled
■ = Power cord exits

To ensure use of your spa soon after its delivery, it is very important that the required electrical service has been installed. Unless otherwise stipulated by your dealer, THIS IS YOUR RESPONSIBILITY.

IMPORTANT: All electrical circuits must be installed by a qualified, licensed electrician.

The spa must be connected to a 115 volt, 15 amp (30 amp for converted models) grounded circuit. The equipment pack requires a MINIMUM of 104 volts under load. A dedicated circuit is required; the term “dedicated” means the electrical circuit is not being used for any other high-load electrical items (patio lights, appliances, garage circuits, etc.). If the spa is connected to a non-dedicated circuit, overloading will result in “nuisance tripping” of the internal fuses or of the breaker switch at the house electrical breaker panel.

The circuit must be properly wired; that is, it must have the following:

Standard (cord-connected) 115 volt 15 amp - A minimum 15 amp circuit breaker in the house breaker panel, #14 AWG or larger wire (including the ground wire) and the correct polarity throughout the circuit.

Each spa comes equipped with approximately 15 feet of usable power cord. (This is the maximum length allowed by Underwriters Laboratory.) When the spa is installed, the power cord will come out of the bottom of one of the side panels. For your safety, if you are having an electrician install the electrical outlet for the spa outdoors, it should be no closer than ten (10) feet and no farther than fifteen (15) feet from the spa. If the spa is being installed indoors, the outlet should be no closer than five (5) feet and no further than ten (10) feet from the spa. (Reference National Electric Code 680-6a(1) and 680-41a.)

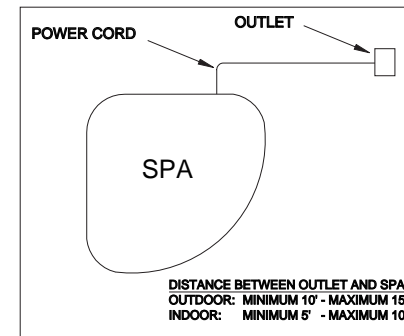
One GFCI is used in the cord-connected 15 amp configuration. The GFCI module is located near the end of the power cord near the plug. To test the GFCI, simply press the TEST button. The GFCI should trip into the “Off” position, disconnecting power to the spa. To reset the GFCI, press the reset button. If the GFCI does not reset, restoring power to the spa, unplug the cord and contact an authorized Solana™ Spa Service Technician.

WARNING: Do not connect your spa to an extension cord!

NOTE: Consult your local code authority to determine if an electrical outlet with a cover is required for your installation. If it is, a suitable outlet cover may be purchased from your authorized Solana™ Spa Dealer. Ask for Part #71591.

Your Solana™ Spa has been carefully engineered to provide maximum safety against electric shock. Remember, connecting the spa to an improperly wired circuit will negate many of its safety features.

A pressure wire connector is provided on the exterior surface of the spa’s electrical control box, located inside the equipment



compartment. This is to permit the connection of a bonding ground wire between this point and any metal equipment, enclosures, pipe or conduit within five feet of the spa (if needed to comply with local building code requirements). The bonding wire must be at least a #8 AWG solid copper wire.

Converted (hard-wired) 115 volt 30 amp - A minimum 30 amp circuit breaker in the house breaker panel, #10 AWG or larger wire (including the ground wire), a sub-panel with an appropriate GFCI breaker, and the correct polarity throughout the circuit.

We recommend that a sub-panel be used to supply power and protect the spa. The sub-panel containing GFCI breakers must be purchased separately.

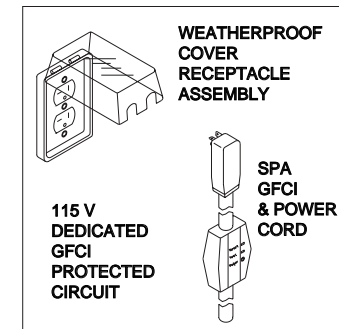
NOTE: The Sub-panel must be placed within 100 feet of the main electrical service panel, and between 5 and 50 feet away from the spa. Refer to the wiring diagram. Complete step-by-step installation and wiring instructions are included in the Owner's Manual.

INSTALLATION NOTE: After the spa has been installed by the dealer's delivery crew, your electrician can connect the conduit from the sub-panel to the spa's control box, then complete the wiring connections inside the control box.

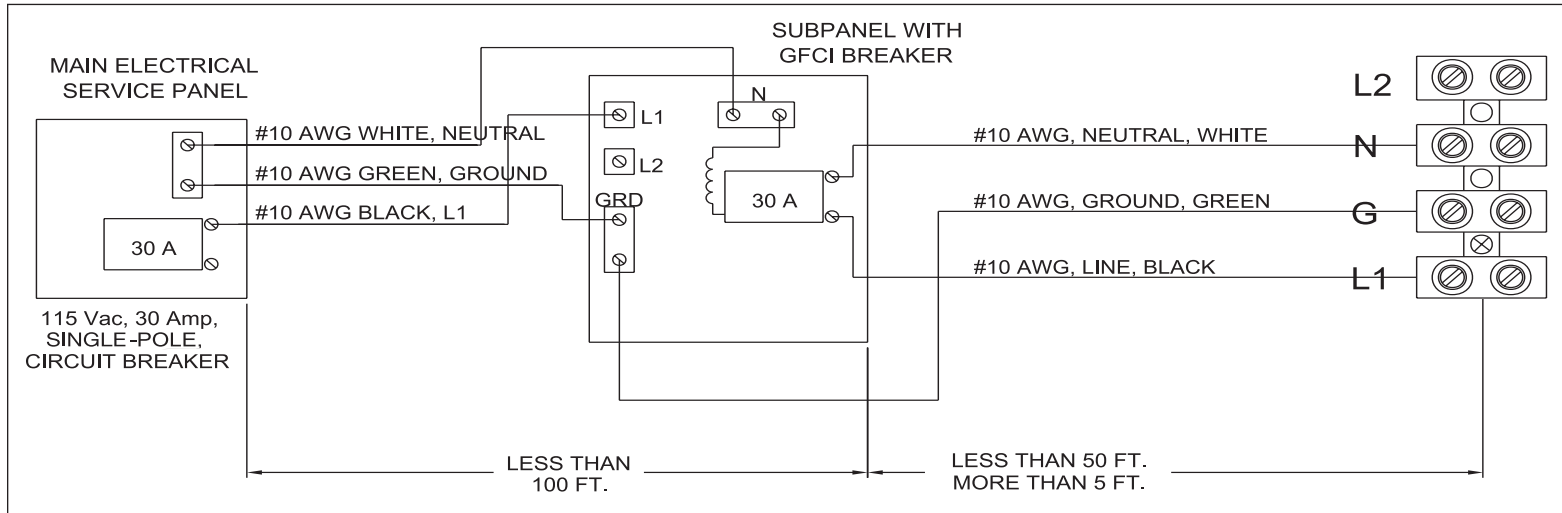
WARNING: Removing or bypassing the GFCI breakers in the sub-panel at any time will result in an unsafe spa and will void the warranty.

Sub-Panel wiring instructions

1. Connect the #10 AWG, WHITE (NEUTRAL) wire from the main electrical service panel to the sub-panel NEUTRAL bar.
2. Connect the #10 AWG, GREEN (GROUND) wire from the main electrical service panel to the sub-panel GROUND bar.
3. Connect the #10 AWG, BLACK (L1) wire from the main electrical service panel to the sub-panel (terminal L1).
4. Check the connections internal to the sub-panel and be sure that a pigtail wire exists between the neutral bar and the 30 amp breaker. NEVER remove the pigtail wires!
5. Inside the control panel, locate the terminal block (TB-1).
6. Remove the existing power cord.
7. Connect the #10 AWG, BLACK wire from the sub-panel 30 amp GFCI breaker (terminal L1) to TB-1 terminal L1.
8. Connect the #10 AWG, WHITE wire from the sub-panel 30 amp GFCI breaker (terminal N, load neutral) to TB-1 terminal N.



9. Connect the #10 AWG, GREEN wire from the sub-panel GROUND bar to TB-1 terminal GROUND.
 The GFCI breaker inside the sub-panel supplies all of the power to the spa. Before each use, open the sub-panel and press the TEST



button located on the sub-panel GFCI breaker. The breaker should snap into the “tripped” position and the spa should stop operating. Reset the sub-panel GFCI breaker by pressing the breaker all the way down, into the “Off” position. Then flip the breaker switch up, into the “On” position. Power should be restored and the spa should resume operation.

If the GFCI breaker fails to operate in this manner, it is an indication of an electrical malfunction and the possibility of an electric shock. Disconnect the power until the fault has been identified and corrected.

IMPORTANT: Should you ever find the need to move your Solana™ Spa, it is essential that you understand and apply these installation requirements. Your Solana™ Spa has been carefully engineered to provide maximum safety against electric shock. Remember, connecting the spa to an improperly wired circuit will negate many of its safety features.

ADDITIONAL PRODUCTS AVAILABLE FROM YOUR SOLANA™ SPA DEALER

- Hot Spring® chlorine-free oxidizer (MPS)
- Freshwater Ag+® silver ion cartridge
- Replacement filter cartridges
- Vinyl covers
- Spa vacuums
- Hot Spring® Cover Shield™
- Spa upgrade jet kits
- Pillows
- Others

SERVICES AVAILABLE FROM YOUR SOLANA™ SPA DEALER

<i>SERVICE</i>	<i>COST</i>
Pre-Delivery site inspection	_____
Deliver spa to installation site	_____
Unwrap spa and haul away packaging material	_____
Set up & level spa	_____
Fill the spa with water	_____
Connect the spa to its power source (115 volt)	_____

SERVICE

COST

Explain and test the spa's operation	
• Jet system	
• Comfort Control® system	
• Install and test lamp	
• Set temperature control	
• Control panel functions	
Explain the safety features	
• GFCI	
• Heater high limit	
• Heater thermal cut-off	
General spa operation & maintenance orientation	_____
Water quality and maintenance orientation	_____
Adjust the water's TA, CH and pH	_____
Sanitize the water	_____
Inspect the spa cover, place on spa	_____
Review winterizing instructions	_____
Review Owner's Manual & Warranty Card	_____
Follow-up call	_____
In-store spa water analysis	_____
TOTAL COST	_____



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Part #61417 Rev. A (3/00)