PRE-DELIVERY GUIDE

Sundance® Spas

How to make delivery and installation of your new hot tub fast, easy and trouble-free.

Important Service Information

Please record of the following information below. It will be valuable if service is required.

Spa Model

Cover Type

Spa Serial Number
(located on the inside under the cabinet service panel)

Date Purchased

Date Installed

Spa Dealer

Spa Dealer's Address

Spa Dealer's Phone Number

Most cities and counties require permits for exterior construction and electrical circuits. In addition, some communities have codes requiring residential barriers such as fencing and/or self-closing gates on the property to prevent unsupervised access to a pool or spa by children under five years of age. Your Sundance Spa dealer can provide information on which permits may be required and how to obtain them prior to delivery of your spa.

The specifications published in this book (page 23) are approximate. Always measure your spa before making critical design or delivery pathway decisions.

Introduction

Congratulations! You've purchased a Sundance spa that is made to exacting ISO 9001 quality standards. With a little preparation and care, your spa will give you many years of enjoyment. This booklet has been designed to provide you with all of the information you'll need to ensure a safe, speedy and a trouble-free spa delivery and installation.

Please read this booklet before your scheduled delivery.

Table of Contents

Planning The Best Location For Your Spa

Here are factors you will need to consider when determining where to locate your new spa.

Safety first
Do not place your spa within 10 feet of overhead power lines. Make sure your spa is positioned so that access to its equipment compartment and side panels will not be blocked.

How will you use your spa?
How you intend to use your spa will help you determine where you should position it. For example, will you use your spa more for recreational or therapeutic purposes? How often will you and your family be entertaining guests? If your spa is mainly for family recreation and socializing, be sure to leave plenty of room around it for activity and lawn furniture. If you will use your spa more for relaxation and therapy, you'll probably want to create a specific mood around it.

Spa environment
If you live in a temperate climate (one with a snowy winter and hot summer), a place to change clothes or house entry near the spa is convenient. A warmer climate may require shade from the hot sun. Consider placement of trees, shrubs, patio cover or perhaps a gazebo structure to provide what you will need. Indoor spa installations require adequate ventilation.

Outdoor Installations
In selecting the ideal outdoor location for your spa, we suggest that you take into consideration:

- The proximity to changing area and shelter (especially in colder weather).
- The pathway to and from your spa (this should be free of debris so that dirt and leaves are not easily tracked into the spa).
- The closeness to trees and shrubbery (remember that leaves and birds could create extra work in keeping the spa clean).
- A sheltered environment (less wind and weather exposure can result in lowered operation and maintenance costs).
- The overall enhancement of your environment. It is preferable not to place the spa under an unguttered roof overhang since run-off water will shorten the life expectancy of the spa cover.

Indoor Installations
For indoor installations many factors need to be considered before installing a spa indoors:

- **Proper Foundation:** Consult a Structural Engineer when considering a foundation that will adequately support the spa the entire time it is in place. Proper support is critical especially if the spa is to rest on a second story or higher. For spas that are to rest on balconies, roofs or other platforms not specifically tied into the main structural support, you should consult a professional Structural Engineer with experience in this type of application.
- **Proper Drainage:** It is extremely important to have in place measures to sufficiently handle excessive water spillage. Be sure the flooring in which the spa rests on has adequate drainage and can handle the entire contents of the spa. Be sure to make provisions for ceilings and other structures that may be below the spas installation. Areas around your spa can become wet or moist so all flooring and subsequent furniture, walls and adjacent structures should be able to withstand or resist water and moisture.

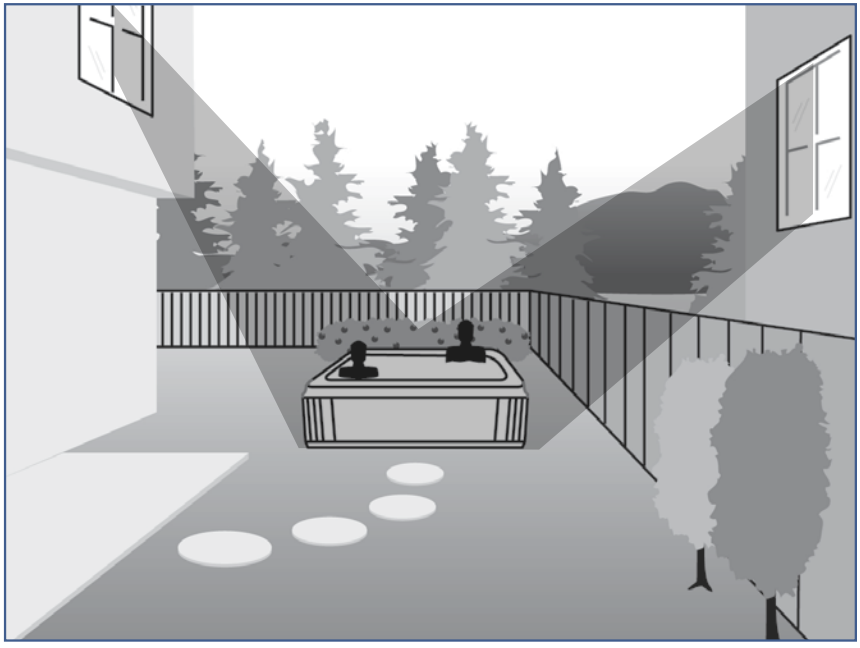
- **Proper Ventilation:** Proper ventilation should be discussed with an Engineer or authority competent enough to understand the necessary provisions needed to vent moist or heated air and air associated with chemical odors outdoors. When the spa is in use considerable amounts of moisture will escape, potentially causing mold and mildew over time which can damage certain surfaces and/or surroundings.

- **Sufficient Access:** In the unlikely event that you should ever need to access or gain entry to any portion of the spa for servicing, it is highly recommended that you plan your indoor installation to provide full access to the entire spa.

- **Warranty:** Damage caused by not following these guidelines or any improper installation not in accordance to local codes or authorities is not covered under the spas warranty. Please consult your local state or city building ordinances.

Consider your privacy

In a temperate climate, bare trees in winter won't provide much privacy. Think of your spa's surroundings during all seasons to determine your best privacy options. Consider the view of your neighbors as well, when you plan the location of your spa.



Provide a view with your spa

Think about the direction you will be facing when sitting in your spa. Do you have a special landscaped area in your yard that you find enjoyable? Can you monitor your children easily from the spa as they play in the yard? Perhaps there is an area that catches a soothing breeze during the day or a lovely sunset in the evening. Consider these things when you plan your spa location.

Keeping your spa clean

Prevent dirt and foliage from being tracked into your spa by utilizing concrete for paths and access areas. Check the location of trees and spill paths from leaves to see if wind or rain will sweep debris into your spa. And finally, use a high quality cover for when you are not using the spa.

Allow for service access

Many people choose to install tile or custom wood around their spa. If you're installing your spa with custom decorative trimming, a gazebo or surrounding structure, or indoors, remember to allow access for service. Should you need service, a technician may need to remove the spa's side panels, or access it from beneath. It's always best to design special installations so that the spa can still be moved, or lifted from the ground.

Power Limitations (US Models Only)

Sundance Solo, 780 Metro and 680 Denali, Tacoma models include a ten foot GFCI cord for "plug-in" 120V operation. This cord must be connected directly to a dedicated/grounded wall outlet. NEVER USE AN EXTENSION CORD OF ANY KIND! Using an extension cord can damage the spa equipment and void the manufacturer warranty! When power runs over 10' are required, these spas must be hard wired in accordance with state and local codes.

Preparing A Good Foundation

Your spa needs a solid foundation. The area that your spa sits on must be able to support the weight of the spa, the water in it and those who use it. If the foundation is inadequate, it may shift or settle after the spa is in place.

NOTE: Damage caused by inadequate or improper foundation support is not covered by the spa warranty. It is the responsibility of the spa owner to provide a proper foundation for the spa. Example: free standing bricks, gravel, pavers, plywood, and railroad ties are not considered proper foundations.

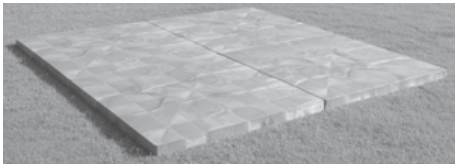
Place the spa on an elevated foundation so that water drains away from it. Proper drainage will keep components dry from rain and wet weather. A spa filled with water is heavy. If you are installing your spa on an elevated wood deck or other structure, it is advisable to consult a structural engineer or contractor to ensure that the structure will support the weight. It is strongly recommended that a qualified, licensed contractor prepare the foundation for your spa. There is a 4" minimum depth required for a concrete pad. If you are installing your spa indoors, pay close attention to the flooring beneath it. Remember, a spa filled with water can cause moisture damage. Choose flooring that won't be spoiled or stained. See page 23 for the average filled weight and overall dimensions for your spa.

Your Sundance retailer can help you with foundations and more

Your Sundance retailer has a wealth of information and experience about how to get the most out of your Sundance spa. Ask your retailer to see the Sundance Idea Book to view creative spa decorating and a wide range of installations. Your Sundance retailer also has a full line of accessories, surround kits, and gazebos that are engineered to compliment your Sundance spa. They also offer several factory approved aftermarket foundation products that are specifically designed for spa use and allow for installation without concrete.

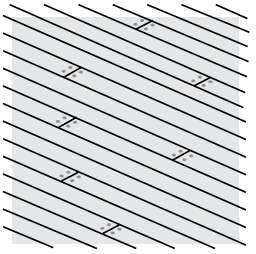
Recommended Foundations

Good!



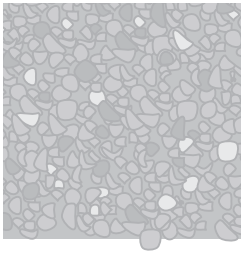
Aftermarket Spa Pad
(Concrete Not Required)

Better!!



Wood Decking
(With Concrete Foundation)

Best!!!



Concrete pad
(Minimum 4" Thickness)

Getting The Spa Into Your Yard

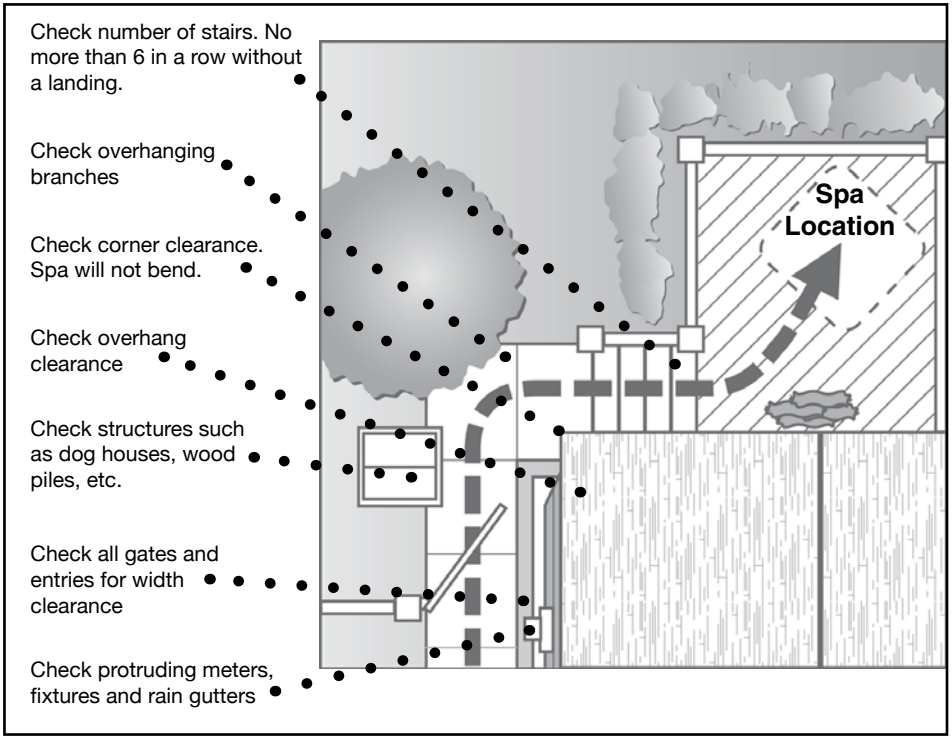
Check the dimensions of your spa

The **specification chart on page 23** lists your spa model and dimensions as it sits on the delivery cart. During delivery the spa must remain on the delivery cart at all times. Compare the spa dimensions to the width of gates, sidewalks and doorways along the delivery route used to bring the spa into your yard. It may be necessary for you to remove a gate or partially remove a fence in order to provide an unobstructed passage-way to the installation location.

Plan the delivery route

Consider the following when planning your delivery route BEFORE your new spa is delivered:

- Check the width of gates, doors and sidewalks to make sure your spa will pass through unobstructed. You may have to remove a gate or part of a fence to allow for adequate width clearance.
- If the delivery route will require a 90° turn, check the measurements at the turn to ensure the spa will fit through.
- Are there protruding gas meters, water meters or A/C units on your home which will cause obstructions along the delivery path to your yard?
- Are there low roof eaves, overhanging branches or rain gutters that could be an obstruction to overhead clearance?



- Are there more than six (6) consecutive stairs without a landing in your delivery route? If so, you must consult your Sundance dealer prior to delivery to make adequate preparations.

Special circumstances

The use of a crane for delivery and installation is necessary about 10% of the time. The procedure is inexpensive and routine. It is used primarily to avoid injury to your spa, your property or to delivery personnel. Your Sundance dealer may be able to assist you with the arrangements. If your spa delivery requires the use of a crane, the nominal cost of a crane is not included in standard delivery service.

Electrical Requirements

Important!

If installed in the United States, the electrical wiring of this spa must meet the requirements of the National Electric Code (NEC) and any applicable state or local codes. The electrical circuit must be installed by an electrical contractor and approved by a local building/electrical inspection authority.

Electrical Setup Before Delivery Of Your Spa

1. All 240V spas must be permanently connected (hard wired) to the power supply. All 120V powered models (Denali, Metro, and Tacoma) must use the spa's provided 10 foot GFCI cord plugged directly into a **dedicated grounded wall outlet** or must be hard wired. **Never lengthen the supplied 10 foot GFCI cord or use an extension cord with it for any reason!** If the spa is to be located greater than 10 foot from a **dedicated grounded wall outlet**, the spa must be hard wired. See page 16-22 for specific power supply requirements by model. Supplying power to the spa which is not in accordance with these instructions will void both the independent testing agency's listing and the manufacturer's warranty.

2. The power supplied to the spa must be a dedicated circuit with no other appliances or lights sharing the power.

3. To determine the specific configuration for your hot tub's power connection, refer to Power Supply Requirements on pages 16-22.

- Wire size must be appropriate per NEC and/or local codes.
- Wire size is determined by length of run from breaker box to spa and maximum current draw.
- We recommend THHN copper core wire.
- All wiring must be copper to ensure adequate connections. **Do not use aluminum wire.**
- When using wire larger than #6 (10mm^2), add a junction box near the spa and reduce to short lengths of #8 (8.4mm^2) wire between the junction box and the spa.

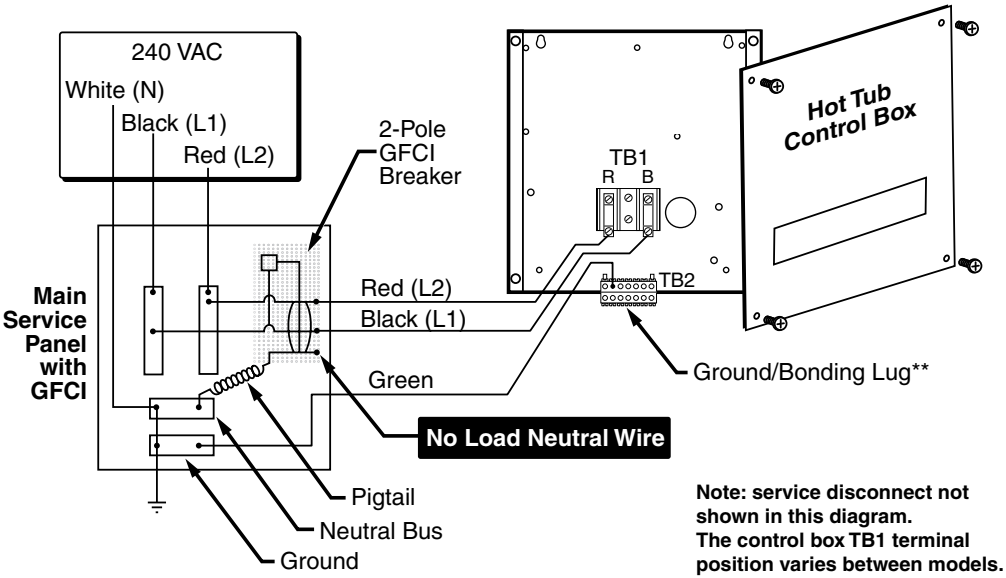
4. The electrical supply for the hot tub must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors to comply with Section 422-20 of the National Electric Code, ANSI/NFPA 70. The disconnecting means must be readily accessible to the spa's occupant but installed at least 5 feet (1.5 m) from the spa water.

5. The electrical circuit for the spa must include a suitable ground fault circuit interrupter (GFCI) as required by NEC Article 680-42 (See illustrations on the following pages for the proper wiring configuration for your spa model).

3 - Wire 240VAC Wiring Diagrams (US/Canada 60Hz)
(Includes 880 Altamar, Cameo, Capri, Majesta, Marin, Maxxus, Optima Models, 780 Camden, Certa, Chelsee, Hamilton Models, And 680 Burlington, Hartford, Hawthorne Models)

Diagrams Illustrate Standard Wiring Practices.

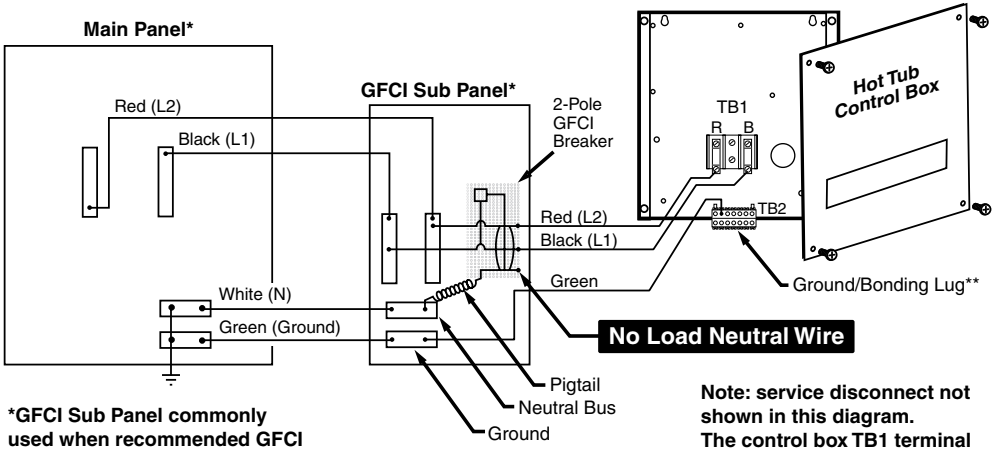
2-Pole Circuit Breaker with 2-Wire Grounded Load Connection
(3 Wires to Hot Tub, 2-Hot (L1-L2), 1-Ground)



Note: service disconnect not shown in this diagram. The control box TB1 terminal position varies between models.

Note: A pressure sensitive terminal block is provided on the outside surface of the load box to permit connection of a bonding wire between this point and any metal equipment chassis, metal water pipe, or metal conduit within 5 feet (1.5 m) of the spa. The bonding wire must be at least #8 AWG (8.4 mm^2) solid copper wire. Before installing this spa, check with local the local building department to ensure installation conforms to local building codes.

Main Panel with Secondary GFCI Shut-Off Box Using a 2-Pole GFCI Breaker with 2-Wire Grounded Connection
(3 Wires to Hot Tub, 2-Hot (L1-L2), 1-Ground)



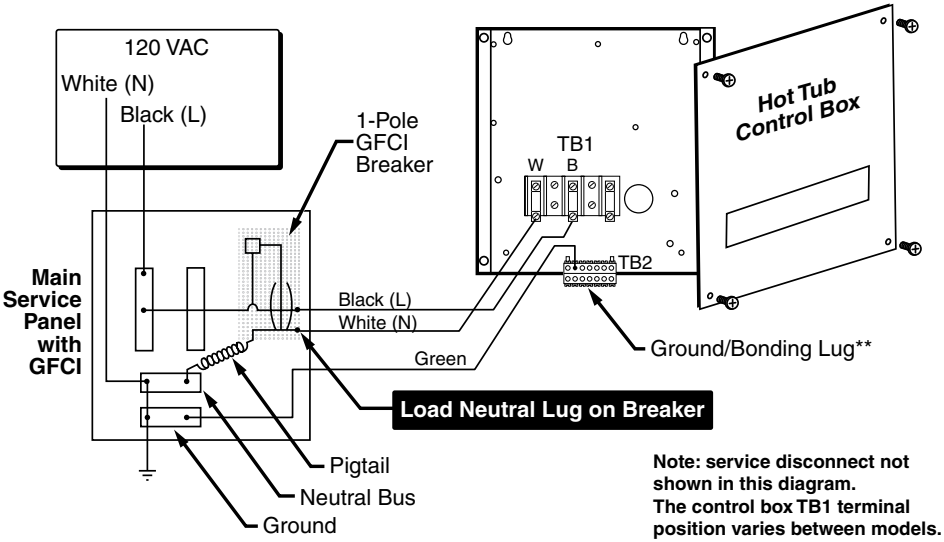
***GFCI Sub Panel commonly used when recommended GFCI does not install in Main Panel.**

Note: service disconnect not shown in this diagram. The control box TB1 terminal position varies between models.

3 - Wire 120VAC Wiring Diagrams (US/Canada 60Hz)
(Includes Solo, 780 Metro And 680 Denali, Tacoma Models)

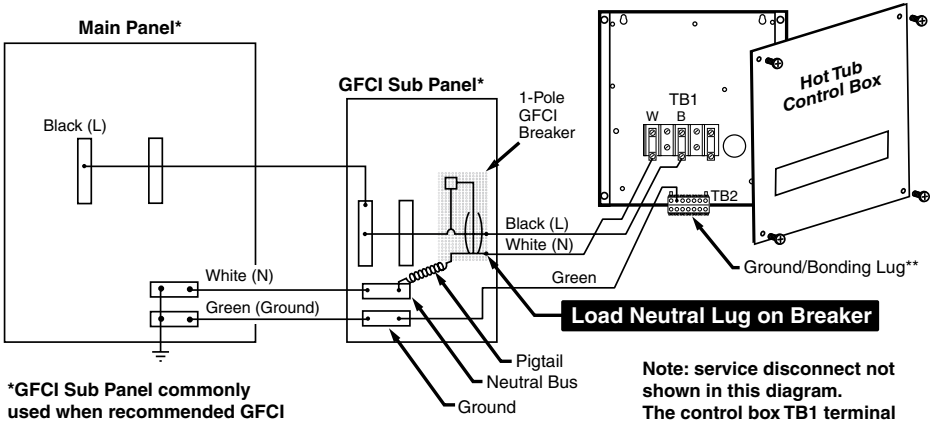
Diagrams illustrate discarding the provided 10 foot GFCI power cord (US Models Only) for a 3-wire hard-wired connection. This action is necessary when the provided GFCI cord does not reach a dedicated/grounded wall outlet. Canadian models do not include the GFCI power cord and must be hard-wired per CSA requirements. See page 11 for enhanced heater performance using a 4-wire power connection.

1-Pole Circuit Breaker with 3-Wire Grounded Load Connection
(3 Wires to Hot Tub, 1-Hot (L), 1-Neutral (N), 1-Ground)



Note: service disconnect not shown in this diagram. The control box TB1 terminal position varies between models.

Main Panel with Secondary GFCI Shut-Off Box Using a 1-Pole GFCI Breaker with 3-Wire Grounded Connection
(3 Wires to Hot Tub, 1-Hot (L), 1-Neutral (N), 1-Ground)



***GFCI Sub Panel commonly used when recommended GFCI does not install in Main Panel.**

Note: service disconnect not shown in this diagram. The control box TB1 terminal position varies between models.

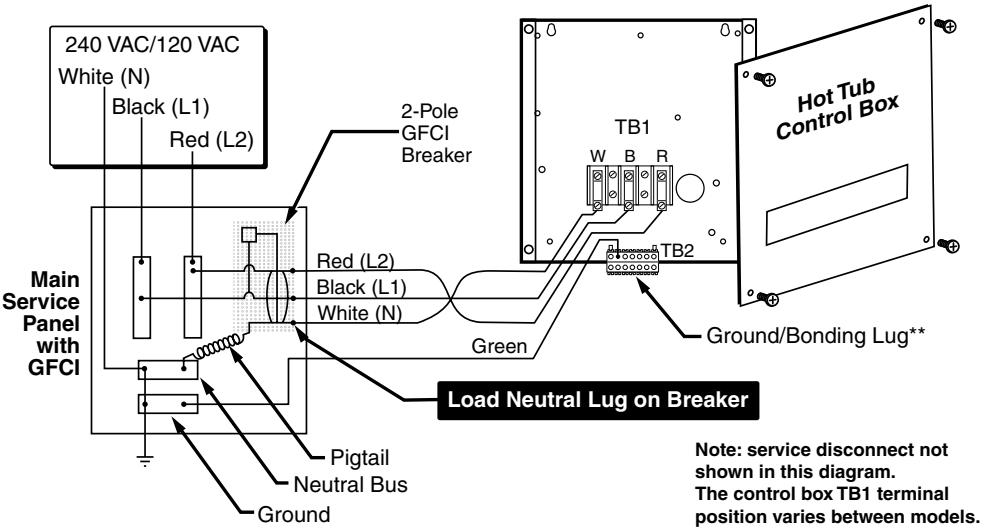
Note: A pressure sensitive terminal block is provided on the outside surface of the load box to permit connection of a bonding wire between this point and any metal equipment chassis, metal water pipe, or metal conduit within 5 feet (1.5 m) of the spa. The bonding wire must be at least #8 AWG (8.4 mm^2) solid copper wire. Before installing this spa, check with local the local building department to ensure installation conforms to local building codes.

4 - Wire 240/120VAC Wiring Diagrams (US/Canada 60Hz)
(Includes Solo, 780 Metro And 680 Denali, Tacoma Models)

This connection enhances heater performance to 4kW over the standard 120 VAC 3-wire power connection which provides a 1kW heater output. This type of power connection must be hard wired. For US models, the provided GFCI cord is not used. The GFCI cord is not provided for Canadian models.

2-Pole Circuit Breaker with 3-Wire Grounded Load Connection

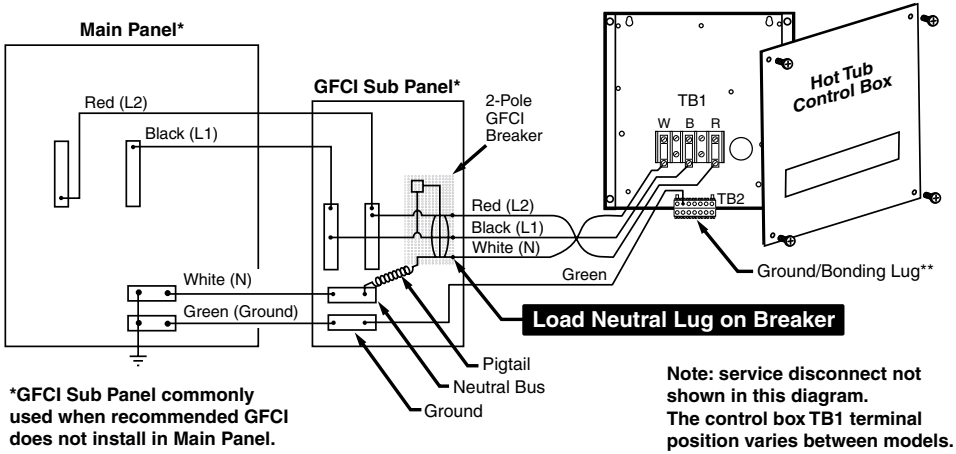
(4 Wires to Hot Tub, 2-Hot (L1-L2), 1-Neutral (N), 1-Ground)



Note: service disconnect not shown in this diagram. The control box TB1 terminal position varies between models.

Main Panel with Secondary GFCI Shut-Off Box Using a 2-Pole GFCI Breaker with 3-Wire Grounded Connection

(4 Wires to Hot Tub, 2-Hot (L1-L2), 1-Neutral (N), 1-Ground)



***GFCI Sub Panel commonly used when recommended GFCI does not install in Main Panel.**

Note: service disconnect not shown in this diagram. The control box TB1 terminal position varies between models.

**Note: A pressure sensitive terminal block is provided on the outside surface of the load box to permit connection of a bonding wire between this point and any metal equipment chassis, metal water pipe, or metal conduit within 5 feet (1.5 m) of the spa. The bonding wire must be at least #8 AWG (8.4 mm^2) solid copper wire. Before installing this spa, check with local the local building department to ensure installation conforms to local building codes.

Electrical Installation of Spa After Delivery

Safety Notice for 3-Wire 240 VAC Models

(Includes 880 Altamar, Cameo, Capri, Majesta, Marin, Maxxus, Optima Models, 780 Camden, Certa, Chelsee, Hamilton Models And 680 Burlington Hartford, Hawthorne Models)

Refer to page 14 for 3-wire 120 VAC or 4-wire 120/240 VAC powered models.

Proper grounding is extremely important. A pressure wire connector is provided to permit connection of a bonding wire between the spa and any metal object or appliance within 5 feet. Bonding wire must be at least #8 AWG (8.4 mm^2) solid copper wire.

1. To gain access to the spa's power terminal strip, remove the four screws securing the center synthetic cabinet panel on the control panel side of the spa. After removing the cabinet panel, remove the four control box cover screws (Figures 2-3).

2. Inlets are provided to allow the power supply to enter the equipment area from either side of the spa near the base (Figure 2). Select the inlet you want to use, then feed the power cable through to the control box.

3. Install the power cable with a connector through the large opening provided at the bottom of the control box (Figure 3).

4. Connect power wires, color to color, to main TB1 terminal strip (Figures 4A-4B) and tighten securely.

5. Reinstall control box door and side cabinet panel. Electrical installation is now complete.

Figure 2:
Spa equipment compartment

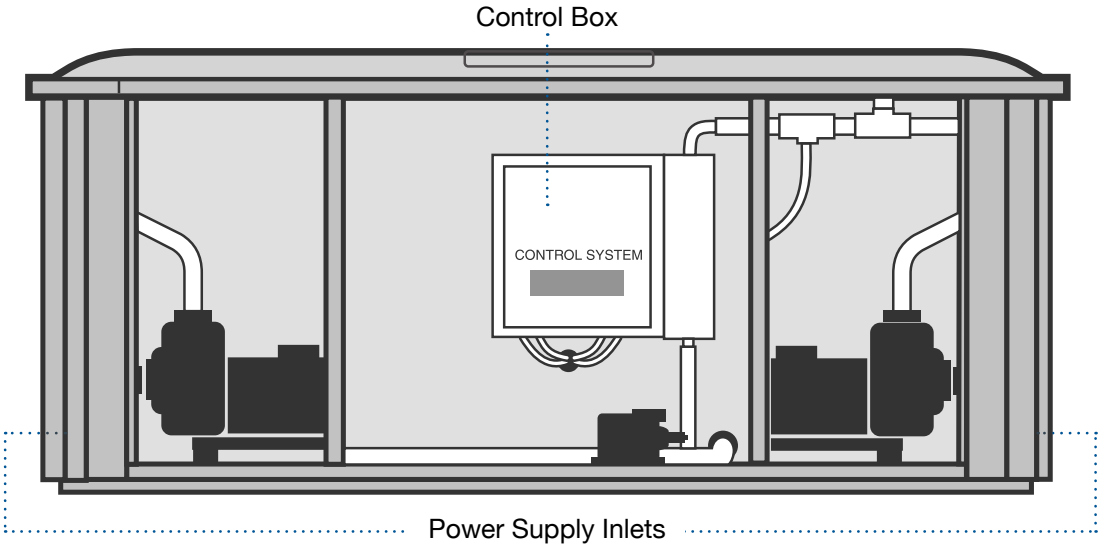
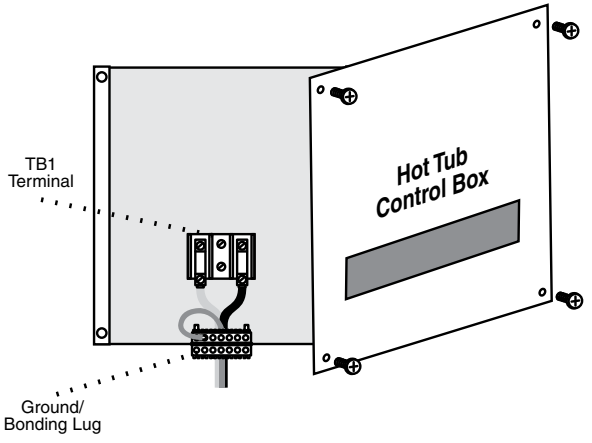


Figure 3:
Control Box



Note: TB1 terminal location will vary between models; 3-wire/240 VAC connection illustrated

Figure 4A:
3-Wire/240 VAC Connection for 880 Altamar, Cameo, Capri, Majesta, Marin, Maxxus, Optima, Models.

Hard Wired Connections Only.

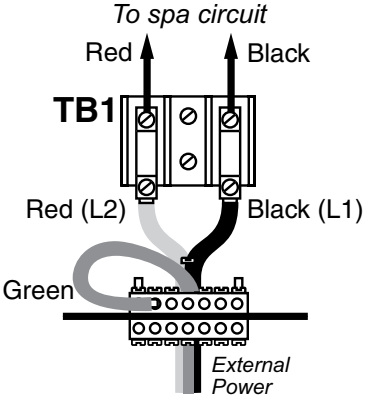
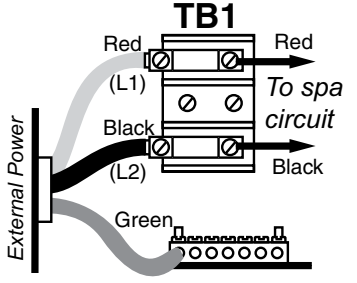


Figure 4B:
3-Wire/240 VAC Connection for 780 Camden, Certa, Chelsee, Hamilton, and 680 Burlington, Hartford, Hawthorne Models.

Hard Wired Connections Only.



Electrical Installation Of Spa After Delivery

Safety Notice for 3-Wire 120 VAC or 4-Wire 120/240 VAC Models

(Includes Solo, 780 Metro And 680 Denali, Tacoma Models)

Refer to page 12 for 3-wire 240 VAC powered models.

Proper grounding is extremely important. A pressure wire connector is provided to permit connection of a bonding wire between the spa and any metal object or appliance within 5 feet. Bonding wire must be at least #8 AWG (8.4 mm^2) solid copper wire.

1. To gain access to the spa's power terminal strip, remove the four screws securing the center synthetic cabinet panel under the control panel. After removing the cabinet panel, remove the four control box cover screws (Figures 5-6).

2. Inlets are provided to allow the power supply to enter the equipment area from either side of the spa near the base (Figure 5). Select the inlet you want to use, then feed the power cable through to the control box.

3. Install the power cable with a connector through the large opening provided at the bottom of the control box (Figure 6).

4. Connect power wires, color to color, to main TB1 terminal strips (Figures 7A-7B) and tighten securely.

5. Reinstall the control box door and side cabinet panel. Electrical installation is now complete.

Figure 5:
Spa equipment compartment

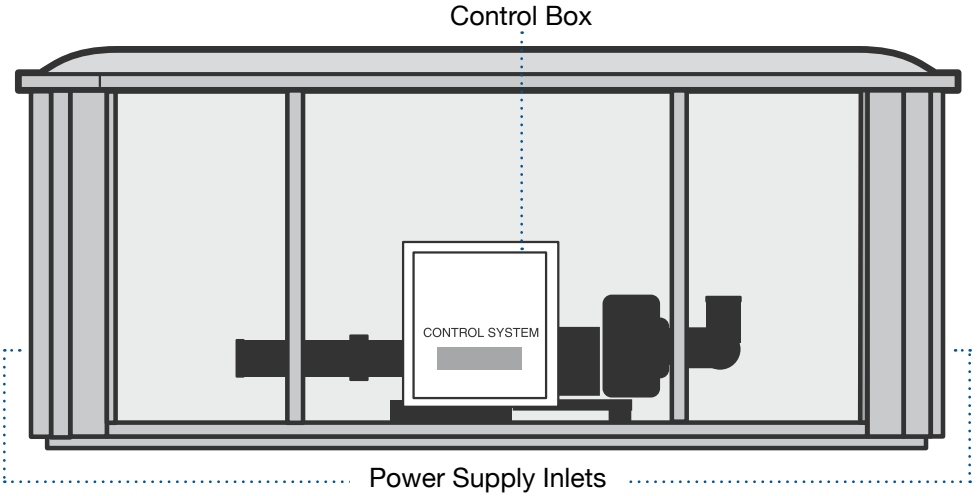
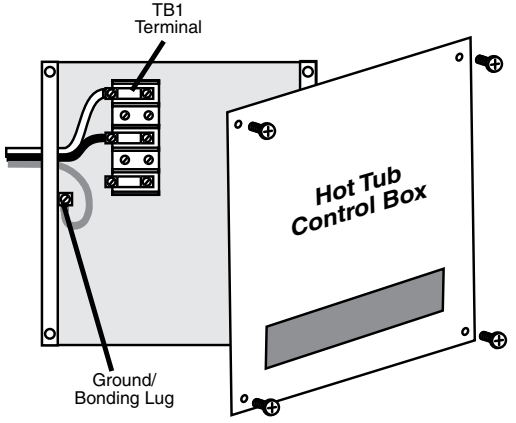


Figure 6:
Control Box



Note: TB1 terminal location will vary between models

Figure 7A:
Standard 3-wire, 120 VAC connection for Denali, Metro, Solo, Tacoma models. Use the provided 10' GFCI cord (US Only) or hard wire for runs over 10' (3m) or for all Canadian models.

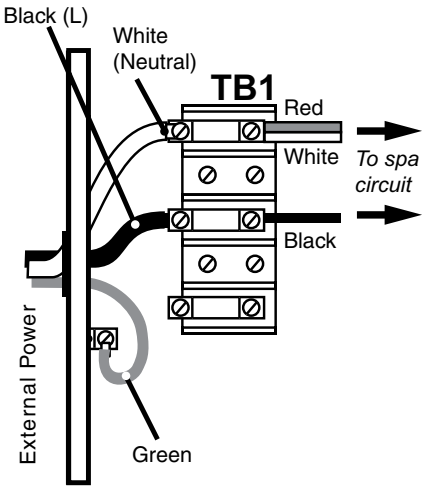
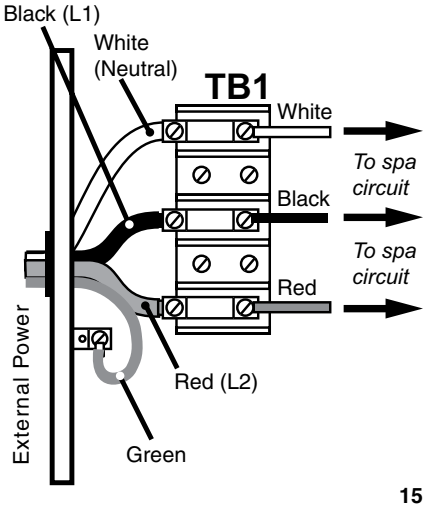


Figure 7B:
Optional 4-wire, 240/120 VAC connection for Denali, Metro, Solo, Tacoma models.
Move Red Wire to terminal position #3 as shown.
(*Hard wired connections only).*



Power Supply Requirements
880 Maxxus Models

Important: Your qualified technician must perform minor circuit board modifications when either models' alternate electrical configuration is used. To avoid damage to the spa, do not activate power until circuit board modifications have been made. We recommend Square-D or Cutler Hammer Breakers.

Standard 60 Amp 3-Wire Power Configuration
(Factory Setting for Maximum Heater Performance)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 60 Amp Dual-pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 48 Amps

*In the 60A configuration, the heater **will operate** while any two jets pumps are running. This may be preferable for owners of hot tubs in cold climates because it will help the spa maintain water temperature during use.*

Alternate 50 Amp 3-Wire Power Configuration
(For Homes Where 240V/60A Power Is Unavailable)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 50 Amp Dual-pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 38 Amps

*If the household's electrical service does not have the full 240V/60A power available, the spa may be connected to 240V/50A service if a minor circuit board modification is performed by your qualiified technician. In this configuration, the heater will yield the same rapid temperature increase as in 60A operation but **will not operate** while two jets pumps are running.*

**All models: wire size must meet NEC recommendations and is determined by maximum current draw and length of run.*

Power Supply Requirements

880 Series Altamar, Cameo, Majesta, Marin, Optima Models

(See Page 18 for Capri Models)

Important: Your qualified technician must perform minor circuit board modifications when either models' alternate electrical configuration is used. To avoid damage to the spa, do not activate power until circuit board modifications have been made. We recommend Square-D or Cutler Hammer Breakers.

Standard 50 Amp 3-Wire Power Configuration
(Factory Setting)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 50 Amp Dual-pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 40 Amps

*In 50A configuration, the heater **will not operate** while both jets pumps are running.*

Alternate 40 Amp 3-Wire Power Configuration
(For Homes Where 240V/60A or 240V/50A Power Is Unavailable)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 40 Amp Dual-pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 26 Amps

*If the household's electrical service does not have the full 240V/50A power available, the spa may be connected to 240V/40A service if a minor circuit board modification is performed by your qualified technician. In this configuration, the heater will yield the same rapid temperature increase as in 50A operation but **will not operate** while either jets pump is running or when the air blower is running.*

Alternate 60 Amp 3-Wire Power Configuration
(For Maximum Heater Performance)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 60 Amp Dual-pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 48 Amps

*In this configuration, the heater **will operate** while both jets pumps and the blower are running. This may be preferable for owners of spas in cold climates because it will help the spa maintain water temperature during use.*

**All models: wire size must meet NEC recommendations and is determined by maximum current draw and length of run.*

Power Supply Requirements
880 Capri Models

Important: Your qualified technician must perform minor circuit board modifications when either models' alternate electrical configuration is used. To avoid damage to the spa, do not activate power until circuit board modifications have been made. We recommend Square-D or Cutler Hammer Breakers.

Standard 50 Amp 3-Wire Power Configuration
(Factory Setting)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 50 Amp Dual-pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 40 Amps

*In 50A configuration, the heater **will operate** while the jets pump and air blower are running.*

Alternate 40 Amp 3-Wire Power Configuration
(For Homes Where 240V/50A Power Is Unavailable)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 40 Amp Dual-pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 26 Amps

*In this configuration, the heater will yield the same rapid temperature increase as in 50A operation but **will not operate** while the jets pump or air blower is running.*

**All models: wire size must meet NEC recommendations and is determined by maximum current draw and length of run.*

Power Supply Requirements

Solo And 780 Metro Models

(See Page 20 for Camden, Certa, Chelsee, Hamilton Models)

Important: Your qualified technician must perform minor circuit board modifications when either models' alternate electrical configuration is used. To avoid damage to the hot tub, do not activate power until circuit board modifications have been made. We recommend Square-D or Cutler Hammer Breakers.

Standard 15 Amp 3-Wire Power Configuration
(Factory Setting with 1KW Heater Output)

- Required Voltage: 120 VAC (1 Hot, 1 Neutral, 1 Ground); See diagram page 10.
- Required GFCI Breaker: *Supplied 15 Amp Single-Pole GFCI Cord (US Only) or 15A Single-Pole GFCI Breaker (Purchased Separately)
- Number of Wires: Three - Copper Only (Black, White, Green)*
- Max Spa Current Draw: 12 Amps

*In 15A configuration, the heater **will not operate** while the jets pump is running in high-speed. *The spa must be located no more than 10 feet from a dedicated grounded, grounding type electrical outlet so that the supplied GFCI power cord can be plugged directly into it (US Models Only). DO NOT USE AN EXTENSION CORD. If spa is more than 10 feet from an outlet it must be hard wired to a 15A single-pole GFCI breaker (purchased separately).*

Alternate 30 Amp 4-Wire Power Connection
(For Enhanced 4kW Heater Performance)

- Required Voltage: 240 VAC (2 Hots, 1 Neutral, 1 Ground); See diagram page 11.
- Required GFCI Breaker: 30 Amp Dual-Pole (Hard Wired Only)
- Number of Wires: Four - Copper Only (Red, Black, White, Green)*
- Max Spa Current Draw: 21 Amps

*If the household's electrical service does not have the full 240V/40A power available, the spa may be connected to 240V/30A service if a minor circuit board modification is performed by your qualified technician. In this configuration, the heater will yield the same rapid temperature increase as in 40A operation but **will not operate** while the jets pump is running in high speed.*

Alternate 40 Amp 4-Wire Power Connection
(For Enhanced 4KW Heater Operation)

- Required Voltage: 240 VAC (2 Hots, 1 Neutral, 1 Ground); See diagram page 11.
- Required GFCI Breaker: 40 Amp Dual-Pole (Hard Wired Only)
- Number of Wires: Four - Copper Only (Red, Black, White, Green)*
- Max Spa Current Draw: 30 Amps

*In the 40A configuration, the heater **will operate** while the jets pump is running in high speed. This may be preferable for owners of spas in cold climates because it will help the spa maintain water temperature during use.*

**All models: wire size must meet NEC recommendations and is determined by maximum current draw and length of run.*

Power Supply Requirements

780 Camden, Certa, Chelsee, Hamilton Models

Important: Your qualified technician must perform minor circuit board modifications when either models' alternate electrical configuration is used. To avoid damage to the hot tub, do not activate power until circuit board modifications have been made. We recommend Square-D or Cutler Hammer Breakers.

Standard 50 Amp 3-Wire Power Configuration
(Factory Setting)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 50 Amp Dual-pole (Hard Wired Only)*
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 36 Amps

*In 50A configuration the heater **will not operate** while both jets pumps are running in high speed. Note: pump 2 runs only in high speed.*

Alternate 40 Amp 3-Wire Power Configuration
(For Homes Where 240V/50A or 240V/60A Power is Unavailable)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 40 Amp Dual-pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 26 Amps

*If the household's electrical service does not have the full 240V/50A or 240V/60A power available, the spa may be connected to 240V/40A service if a minor circuit board modification is performed by your qualified technician. In this configuration, the heater will yield the same rapid temperature increase as in 50A or 60A operation but **will not operate** while either jets pump is running in high speed. Note: pump 2 runs only in high speed.*

Alternate 60 Amp 3-Wire Power Configuration (Not Available on 1-Pump Camden Models)
(For Maximum Heater Performance)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 60 Amp Dual-pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 45 Amps

*In 60A configuration, the heater **will operate** while both jets pump are running in high speed. This may be preferable for owners of hot tubs in cold climates because it will help the hot tub maintain water temperature during use. Note: pump 2 runs only in high speed.*

**All models: wire size must meet NEC recommendations and is determined by maximum current draw and length of run.*

Power Supply Requirements
680 Denali, Tacoma Models

Important: Your qualified technician must perform minor circuit board modifications when either models' alternate electrical configuration is used. To avoid damage to the hot tub, do not activate power until circuit board modifications have been made. We recommend Square-D or Cutler Hammer Breakers.

Standard 15 Amp 3-Wire Power Configuration
(Factory Setting with 1KW Heater Output)

- Required Voltage: 120 VAC (1 Hot, 1 Neutral, 1 Ground); See diagram page 10.
- Required GFCI Breaker: *Supplied 15 Amp Single-Pole GFCI Cord (US Only) or 15A Single-Pole GFCI Breaker (Purchased Separately)
- Number of Wires: Three - Copper Only (Black, White, Green)*
- Max Spa Current Draw: 12 Amps

*In 15A configuration, the heater **will not operate** while the jets pump is running in high-speed. *The spa must be located no more than 10 feet from a dedicated grounded, grounding type electrical outlet so that the supplied GFCI power cord can be plugged directly into it (US Models Only). DO NOT USE AN EXTENSION CORD. If spa is more than 10 feet from an outlet it must be hard wired to a 15A single-pole GFCI breaker (purchased separately).*

Alternate 30 Amp 4-Wire Power Connection
(For Enhanced 4kW Heater Performance)

- Required Voltage: 240 VAC (2 Hots, 1 Neutral, 1 Ground); See diagram page 11.
- Required GFCI Breaker: 30 Amp Dual-Pole (Hard Wired Only)
- Number of Wires: Four - Copper Only (Red, Black, White, Green)*
- Max Spa Current Draw: 21 Amps

*If the household's electrical service does not have the full 240V/40A power available, the spa may be connected to 240V/30A service if a minor circuit board modification is performed by your qualified technician. In this configuration, the heater will yield the same rapid temperature increase as in 40A operation but **will not operate** while the jets pump is running in high speed.*

Alternate 40 Amp 4-Wire Power Connection
(For Enhanced 4KW Heater Operation)

- Required Voltage: 240 VAC (2 Hots, 1 Neutral, 1 Ground); See diagram page 11.
- Required GFCI Breaker: 40 Amp Dual-Pole (Hard Wired Only)
- Number of Wires: Four - Copper Only (Red, Black, White, Green)*
- Max Spa Current Draw: 30 Amps

*In the 40A configuration, the heater **will operate** while the jets pump is running in high speed. This may be preferable for owners of spas in cold climates because it will help the spa maintain water temperature during use.*

**All models: wire size must meet NEC recommendations and is determined by maximum current draw and length of run.*

Power Supply Requirements

680 Burlington, Hartford, Hawthorne Models

Important: Your qualified technician must perform minor circuit board modifications when either models' alternate electrical configuration is used. To avoid damage to the hot tub, do not activate power until circuit board modifications have been made. We recommend Square-D or Cutler Hammer Breakers.

Standard 50 Amp 3-Wire Power Connection
(Factory Setting)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 50 Amp Dual-Pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 36 Amps

*In the 50A configuration, the heater **will not operate** while both jet pumps are running in high speed. Note: jets pump 2 runs only in high speed.*

Alternate 40 Amp 3-Wire Power Connection
(For Homes Where 240V/50A Or 240V 60A Power is Unavailable)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 40 Amp Dual-Pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 26 Amps

*If the household's electrical service does not have the full 240V/50A power available, the spa may be connected to 240V/40A service if a minor circuit board modification is performed by your qualified technician. In this configuration, the heater will yield the same rapid temperature increase as in 50A or 60A operation but **will not operate** while either jets pump is running in high speed. Note: jets pump 2 runs only in high speed.*

Alternate 60 Amp 3-Wire Power Connection
(For Maximum Heater Performance)

- Required Voltage: 240 VAC (2 Hots, 1 Ground); See diagram page 9.
- Required GFCI Breaker: 60 Amp Dual-Pole (Hard Wired Only)
- Number of Wires: Three - Copper Only (Red, Black, Green)*
- Max Spa Current Draw: 45 Amps

*In the 60A configuration, the heater **will operate** while both jet pumps are running in high speed. Note: jets pump 2 runs only in high speed. This may be preferable for owners of spas in cold climates because it will help the spa maintain water temperature during use.*

**All models: wire size must meet NEC recommendations and is determined by maximum current draw and length of run.*

Technical Specifications

Model	Overall Width (Short Side)	Overall Length (Long Side)	Overall Height	Average Filled Weight	Minimum Concrete Pad Thickness
880 Series					**4" (10cm) Minimum Thickness**
Altamar	6'9" 206cm	7'2" 218cm	3'1.5" 95cm	4056lbs 1840kg	
Cameo	7'5" 226cm	7'5" 226cm	3'1.5" 95cm	4646lbs 2107kg	
Capri	5'9" 176cm	6'10" 208cm	2'6.5" 77cm	2642lbs 1198kg	
Majesta	6'9" 206cm	7'2" 218cm	3'1.5" 95cm	3998lbs 1814kg	
Marin	6'3" 191cm	7'7" 231cm	2'9" 84cm	3604lbs 1635kg	
Maxxus	7'6" 229cm	9'2" 279cm	3'5.5" 105cm	6032lbs 2736kg	
Optima	7'5" 226cm	7'5" 226cm	3'1.5" 95cm	4933lbs 2238kg	
780 Series					
Camden	6’4” 193cm	6’11” 211cm	2’10” 86cm	3499lbs 1587kg	
Certa	6’9” 206cm	7’2” 218cm	3’1.5” 95cm	3616lbs 1640kg	
Chelsee	7’4” 224cm	7’4” 224cm	3’ 91cm	3849lbs 1746kg	
Hamilton	7’8” 234cm	7’8” 234cm	3’ 91cm	4186lbs 1899kg	
Metro	5'2" 157cm	6’10” 208cm	2'6" 77cm	2110lbs 957kg	
Solo	4' 122cm	5'11" 180cm	2'5" 74cm	1235lbs 560kg	
680 Series					
Burlington	7' 213cm	7' 213cm	3' 91cm	3452lbs 1566kg	
Denali	6'6" 198cm	6'6" 198cm	2'11.5" 90cm	2330lbs 1057kg	
Hartford	7’4” 223cm	7’4” 223cm	3’ 91cm	3,815lbs 1,730kg	
Hawthorne	7’8” 233cm	7’8” 233cm	3’ 91cm	4,137lbs 1,877kg	
Tacoma	5'8" 173cm	5'8" 173cm	2'7" 79cm	1606lbs 729kg	

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P/N 6890-558S, Rev.C 07/07