Acrylic Spa
Owner's Manual

United States and Canada

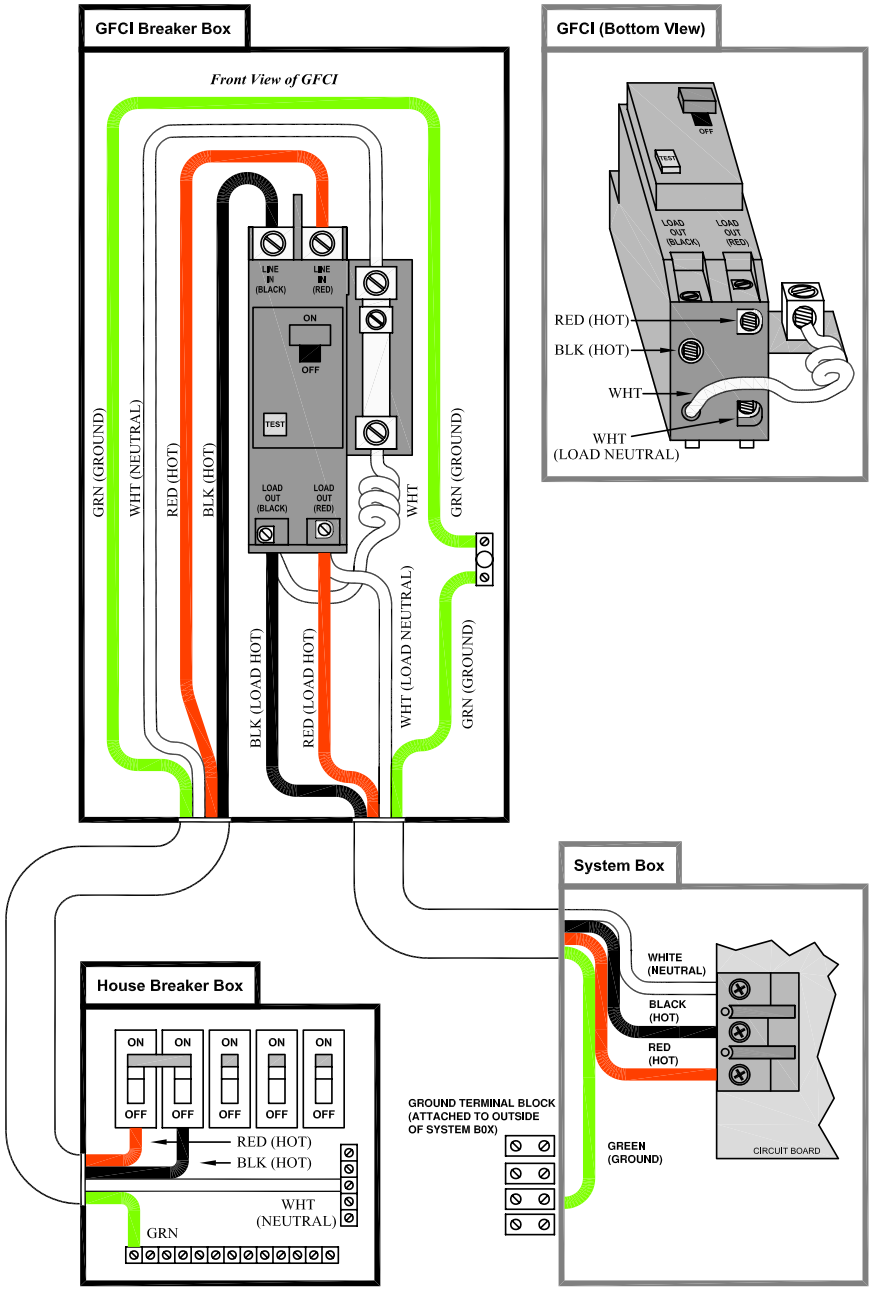
Made in USA

"From the Finest Components Around the World"™

LTR50001143
2/27/2025
Rev 1.2

Electrical Requirements

Professional installation of the spas 240v electrical system is mandatory for both the safe operation of the spa, and for warranty coverage. Failure to properly install an independent 240 volt 50 amp GFCI may lead to dangerous risks such as electrical shock, electrical fires, damage to the spa or property, and the risk of possible injury or death of persons inside of or within the perimeter of a improperly installed spa.



Mandatory Wiring Requirements

- 6 Gauge Copper Wiring for All Wires for Spas Within 100 Feet of the House Breaker Box.
- 50 Amp GFCI Breaker Certified for Use in USA & Canada.
- Use Proper Colored Wiring, the Installation Must Match the Diagram.
- This GFCI is Wired to an Independent Circuit From the House Breaker Box, With No other Electrical Loads.

Additional Information

- Aluminum wire must not be used in this installation
- 4 gauge wire is recommended if the circuit is longer than 100 feet.
- Failure to properly follow any mentioned mandatory requirements will void the warranty of your spa, American Spas is not liable for any damages (physical or monetary), injury, or fire damage from improperly installed spas. It is the responsibility of the spa owner, to comply with all specified electrical requirements within this owners manual.

For American Spas equipped with a NEO 1500 or 2100 control system refer to page 12.

IMPORTANT SAFETY INSTRUCTIONS

READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY

When using and installing this spa, basic safety precautions should always be followed, including.

Danger: RISK OF SEVERE INJURY OR DROWNING!

- NO DIVING, diving may result in injury or death.
- Do not allow children to be in or around the spa unless a responsible adult supervises them.
- Keep the spa cover on and locked when not in use
- See instructions enclosed with your cover for locking procedures.

Danger: SUCTION ENTRAPMENT HAZARD, RISK OF SEVERE INJURY OR DROWNING!

Suction in suction fittings when broken, damaged, cracked, or unsecured can cause severe injury and or death due to the following entrapment hazards.

- **Body Entrapment:** A negative pressure applied to a large portion of the body or limbs can result in entrapment.
- **Hair Entrapment:** Hair can be sucked in or caught within the suction fitting.
- **Evisceration/Disembowelment Entrapment Risk:** Negative pressure applied directly to the intestines through a damaged/unprotected suction outlet. This can result in Evisceration/Disembowelment.
- The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings, or the pump, be sure the flow rates are compatible.
- The suction fitting is made with chemical resistant plastic, that will last over a finite period of time. This component will degrade and become brittle after constant exposure to sanitizers. When performing maintenance on the spa, inspect suction fittings for any cracks or damage.
- When the spa is in operation, suction is created within the suction fittings. Persons within the spa should not be leaning on, stepping on, or making contact with suction fittings.

Danger: RISK OF SEVERE INJURY FROM ELECTRIC SHOCK OR DEATH FROM ELECTROCUTION.

- Install the spa at least 5 feet (1.5 meters) from all metal surfaces. As an alternative, a spa may be installed within 5 feet (1.5 meters) of metal surfaces if each metal surface is permanently bonded by a minimum of 8 gauge AWG solid copper conductor to the outside of the spas control box.
- DO NOT permit any external electrical appliances, such as lights, telephones, radios, television, etc, within 5 feet (1.5 meters) of the spa. Never attempt to operate any electrical device from inside the spa.
- Replace any damaged power cord immediately.
- Never bury any power cord, a proper conduit must be used.
- Connect to a proper grounding-type receptacle or to a proper grounding post in the GFCI and breaker.

Warning: RISK OF HYPERTHERMIA (OVER-HEATING) CAUSING SEVERE INJURY, BURNS, WELTS, OR DEATH

- Water temperature in excess of 104°F (40°C) may be detrimental for your health.
- The spa water should never exceed 104°F (40°C). Water temperatures between 100°F (38°C) and 104°F (40°C) are considered safe for a healthy adult.
- Lower water temperatures are recommended for young children, and when the spa use exceeds 10 minutes.
- Before using the spa, the user should measure the water temperature since the tolerance of water temperature regulating devices varies.
- **Do not use the spa if drugs, alcohol, or prescription medications were consumed before or during use. In an altered state of mind, the human body can not react properly to changes in temperature. This increases your risk of hyperthermia, injury, drowning, or death.**

Warning: REDUCE RISK OF HEAT RELATED INJURY OR DEATH

- Prolonged exposure to hot air or water can induce hyperthermia. Hyperthermia occurs when the internal temperature of the body reaches a level between 3°F (2°C) to 6°F (4°C) above the normal body temperature of 98.6°F (37°C). While using warm spa water has many health benefits, its important to make sure that your body's core temperature does not rise above 103°F (39.5°C).
- High water temperatures have a high potential for causing fetal damage during pregnancy. Women who are pregnant, or think they are pregnant should always check with their physician prior to spa usage.
- The use of alcohol, drugs or medication before or during spa use may lead to unconsciousness, with the possibility of drowning.
- Persons suffering from obesity, a medical history of heart disease, low or high blood pressure, circulatory system problems or diabetes should consult a physician before using the spa.
- Persons using medications should consult a physician before using the spa since some medications may induce drowsiness or impair judgment. Other medications or drugs may affect heat rate, blood pressure and circulation.

HYPERTHERMIA

- Symptoms of excessive hyperthermia include dizziness, lethargy, drowsiness and fainting. The effects if excessive hyperthermia may include:
  - Failure to perceive heat
  - Failure to recognize the need to exit the spa
  - Unawareness to impending hazards
  - Fetal damage to pregnant woman
  - Physical inability to exit spa
  - Unconsciousness

Swim Spa Temperatures

- When using a swim spa or deck spa for exercise or for leisurely swimming, never set the swim spa water temperature above 80°F. Temperatures above 80°F can hinder the bodies ability to cool down and cause unnecessary cardiovascular stress.

WARNING: People with infectious diseases or diarrhea should not use a spa or hot tub.

WARNING: To avoid injury, exercise caution when entering or exiting the spa/swim spa.

WARNING: Do not use the spa or swim spa immediately following strenuous exercise.

WARNING: Prolonged immersion in a spa or hot tub may be injurious to your health.

CAUTION: Maintain water chemistry in accordance with the manufacture's instructions.

WARNING: NO DIVING, diving may result in injury or death.

WARNING: The filter lid is a cosmetic item, do not sit or place heavy objects on the filter lid.

Professional Installation Only:

- **This spas electrical connection & the GFCI Connections, must be drafted by, and installed by a licensed Contractor or Electrician. Failure to do so will void your warranty, and will lead to improper & unsafe operation of your spa.**

Electrocution Risk:

- **If this spas electrical connection or GFCI Connections, are improperly installed or damaged, it will lead to an electrocution risk of any persons within the general perimeter of the spa**

Electrical Fire Risk:

- **If this spas electrical connection or GFCI Connections, are improperly installed or damaged, it may lead to an electrical fire within the control box of the spa or within the connections of the GFCI.**

READ AND SAVE THESE INSTRUCTIONS

Table of Contents

CONTACT INFORMATION
For customer service, please contact your authorized dealer immediately. If you need additional information and/or assistance, contact:

Lloyd's Material Supply Company, Inc.
Customer Service Department
1462 East Ninth Street
Pomona, CA 91766.

Toll Free: 1-800-225-7727
Fax: 1-909-629-3890

AMERICAN Spas™

Pre-Delivery Checklist

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

Before Delivery

- ☐ Plan your delivery route
- ☐ Choose a suitable location for the spa
- ☐ Lay a 5-8 cm concrete slab 3-4" Inch
- ☐ Install dedicated electric supply

After Delivery

- ☐ Place spa on Slab
- ☐ Connect electrical components

Planning the Best Location

Safety First

Do not place your spa within 10 feet (3m) of overhead power lines.

How Will You Use Your Spa?

How do you intend to use your spa will help you determine where you should position it. For example will you use your spa for recreational be sure to leave plenty of room around it for activity. If you will use it for relaxation and therapy, you will probably want to create a specific mood around it.

Plan for Your Environment

If you live in a region where it snows in the winter or rains frequently, place your spa near a house entry. BY doing this, you will have a palace to change clothes and not be uncomfortable.

Consider Your Privacy

In a cold weather climate, bare trees 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 heart that you find enjoyable? Perhaps there is an area that catches a soothing breeze during the day or a lovely sunset in the evening.

Keep Your Spa Clean

Think about the direction you will be facing when sitting in your spa. Do you have a special landscaped area in your heart that you find enjoyable? Perhaps there is an area that catches a soothing breeze during the day or a lovely sunset in the evening.

How Accessible is Your Spa?

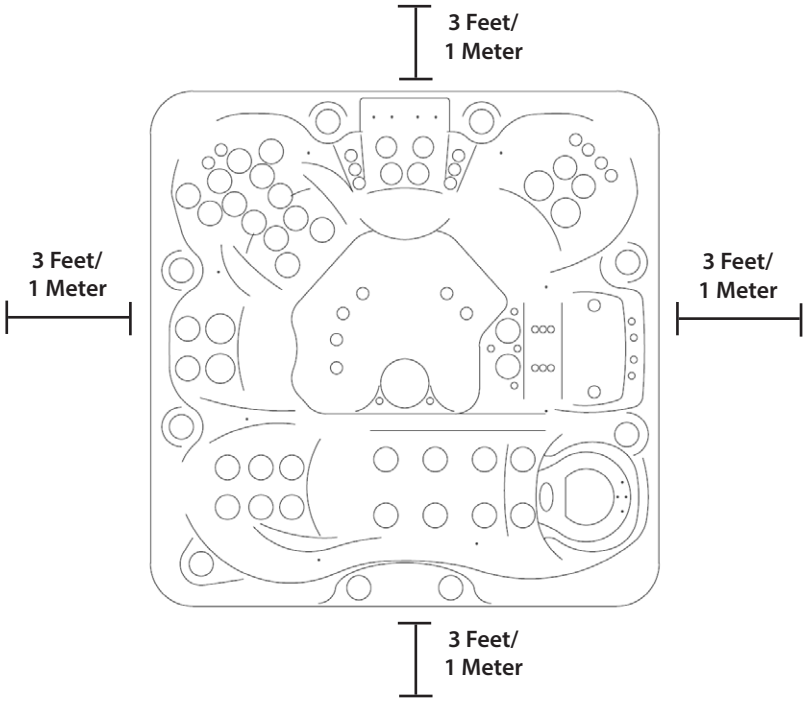
Make sure the spa is positioned so that access to the equipment compartment (front panel) and all side panels are not blocked.

Many people choose to install a decorative structure around their spa with any type of gazebo, remember to allow access to service. It is always best to design special installations so that the spa can still be moved, or lifted off the ground

Clearance for Service Access

While you are planning where to locate your spa, you need to determine how much access you will need for service. All spa models require a minimum of three feet/one meter access to all sides of the spa for potential service, for this reason the spa should never be placed in a manner where any side of the spa is blocked from access. Examples of this include placing a spa against a wall/structure, posts, columns, or any structure that can restrict access to the spa. If you are planning to surround your spa with a deck, make sure that there is easy access to the spa underneath, or that the deck is designed to be removed in segments for repair access.

Any additional labor costs on removing or accessing the spa is not covered in your warranty, proper access to the spa is the responsibility of the spa owner.



Preparing a Good Foundation

Note: We strongly recommend that a qualified, licensed contractor prepare the foundation for your spa. Damage caused by inadequate or improper foundation support is not covered in your warranty. It is the responsibility of the spa owner to provide a proper foundation for the spa.

Your spa needs a solid and level foundation. The area that it sits on must be able to support the weight of the spa, with water and occupants who use it. If the foundation is inadequate, it may shift or settle after the spa is in place, causing stress that could damage the spa shell and finish. Place the spa on a elevated 3 to 4"/30 cm concrete slab. Pavers, gravel, brick, sand, timbers, or dirt foundations are not adequate to support the spa, if you are installing the spa indoors, pay close attention to the flooring beneath it. Choose flooring that will not be damaged or stained by treated water. if you are installing your spa on an elevated wood deck or other structure, it is highly recommended that you consult a structural engineer or contractor to ensure the structure will support the weight of 150lbs per square foot (732 Kg/m^2)

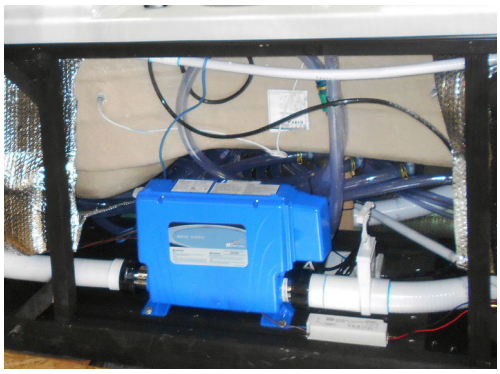
Opening the Front Door Panel for Electrical Hookup

The following electrical connections must be performed by a licensed electrical contractor. Unscrew and remove the two corner panels on each side of the spa's front door.

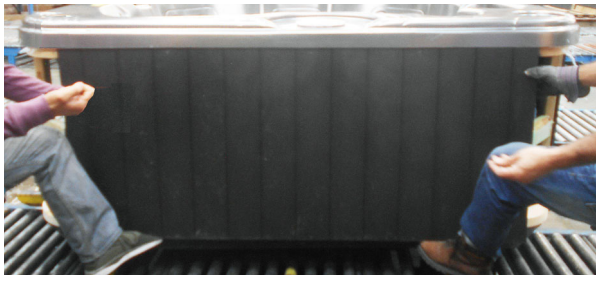
Remove the front door panel.

Note that the drain pipe is internal to the cabinet.

Pictured to the right is the inside of the spa behind the front door. The electrician now has access to connect the spa for power. While the front door is off, refer to page 10 for instructions on ensuring the plumbing fittings are secure (but do not be tempted to over-torque or over-tighten these fittings).



Reattach and screw panels back in. (Front door is installed first, then install the corner panels.)



240 Volt Electrical Installation

All 240V spas must be permanently connected (hard wired) to the power supply.

These instructions describe the only acceptable electrical wiring procedure. Spas wired in any other way will void your warranty and may result in serious injury.

When installed in the United States, the electrical wiring of this spa must meet the requirements of NEC 70 and any applicable local, state, and federal codes.

The electrical circuit must be installed by an electrical contractor and approved by a local building or electrical inspector.

Failure to comply with state and local codes may result in fire or personal injury and will be the sole responsibility of the spa owner.

The power supplied to the spa must be on a dedicated GFCI protected circuit as required by NEC 70 with no other appliances or lights sharing the power.

Use copper wire with THHN insulation. Do not use aluminum wire.

Use the table below and on the next page to determine your GFCI and wiring requirements.

Wires that run over 100 feet must increase wire gauge to the next lower number. For example: A normal 50 amp GFCI with four #6 AWG copper wires that run over 100 feet would require you to go to four #4 AWG copper wires.

GFCI and Wiring Requirements

One Pump Control System uses a VS300 control box and requires one 40 amp GFCI and four #8 AWG copper wires. Two Pump Control System uses a 5100 control box and requires one 50 amp GFCI and four #6 AWG copper wires.

120 Volt Electrical Installation

Always follow applicable local, state and federal codes and guidelines.

Use only a dedicated electrical line with a 15 amp breaker.

Cord-and-plug connections may not use a cord longer than 15 feet (4.6 m) and must be plugged into a dedicated 15 amp GFCI connection (NEC 680.42(A)(2)). Do not use extension cords!

Always use a weatherproof-covered receptacle.

Receptacle shall be located not less than 5 feet (1.5 m) from and not exceeding 10 feet (3.0 m) from the inside wall of the spa. (NEC 680.43(A))

Do not bury the power cord. If your cord becomes damaged, replace it before next usage.

All 120V spas must have a GFCI. This can be either a 15 amp GFCI receptacle or a 15 amp GFCI cord and plug kit as shown (CKIT110 - P/N ELE09700087).

Testing the GFCI

Test the GFCI plug prior to first use and periodically when the spa is powered.

1. Plug in the GFCI into the power outlet. The indicator should turn on.
2. Press the TEST button. The GFCI will trip, the indicator will turn off, and the spa will stop operating.
3. Press the RESET button. The GFCI will reset, the indicator will turn on again, and the spa will turn back on.

The spa is now safe to use.

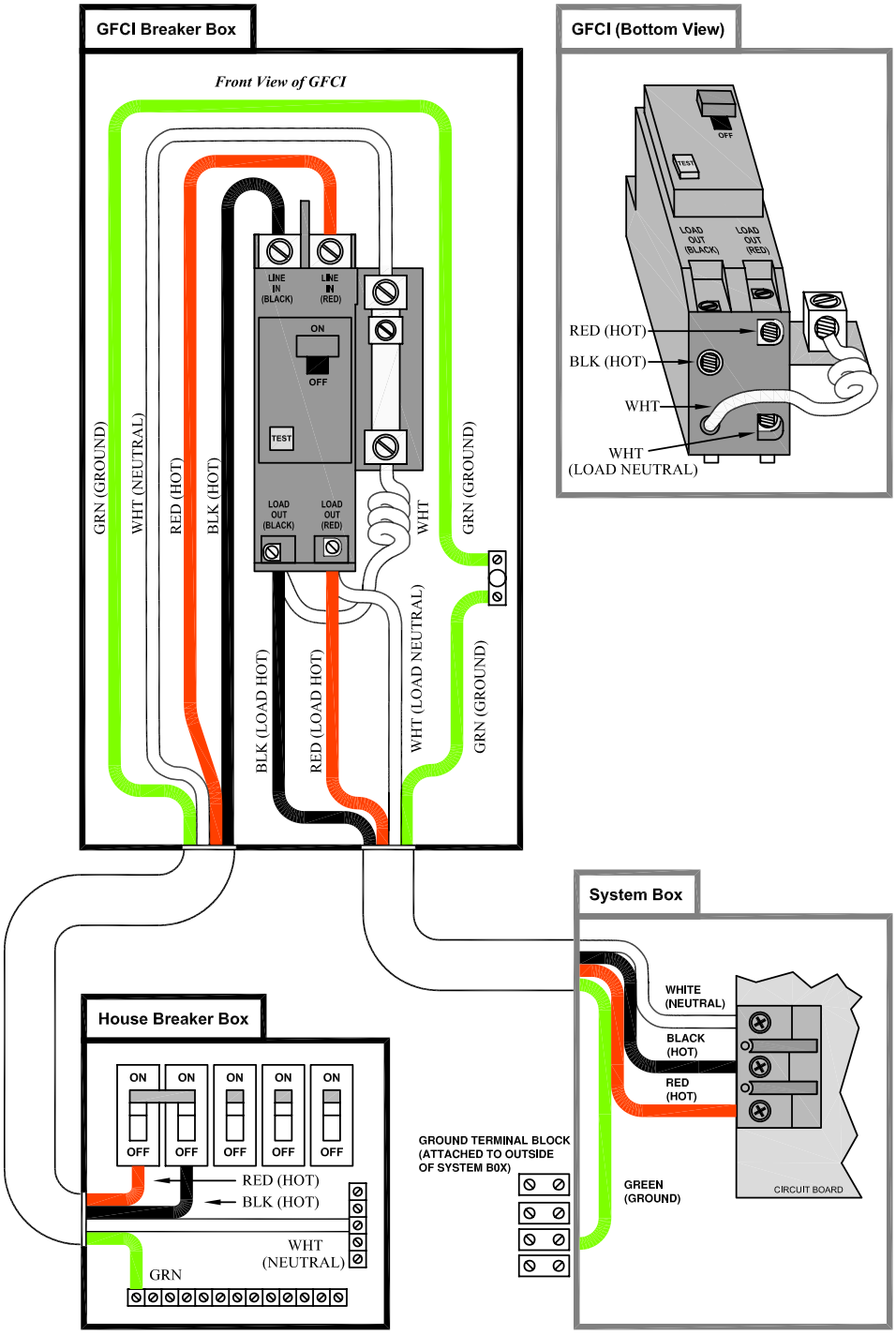
If the GFCI trips while the spa is in use, press the RESET button. If the GFCI does not reset, unplug the spa and call your local Cal Spas dealer for service. DO NOT USE THE SPA!

Testing the GFCI Breaker

Test the GFCI breaker prior to first use and periodically when the spa is powered. To test the GFCI breaker follow these instructions (spa should be operating):

1. Press the TEST button on the GFCI. The GFCI will trip and the spa will shut off.
2. Reset the GFCI breaker by switching the breaker to the full OFF position, wait a moment, then turn the breaker back on. The spa should have power again.

GFCI Wiring Diagram (Balboa)



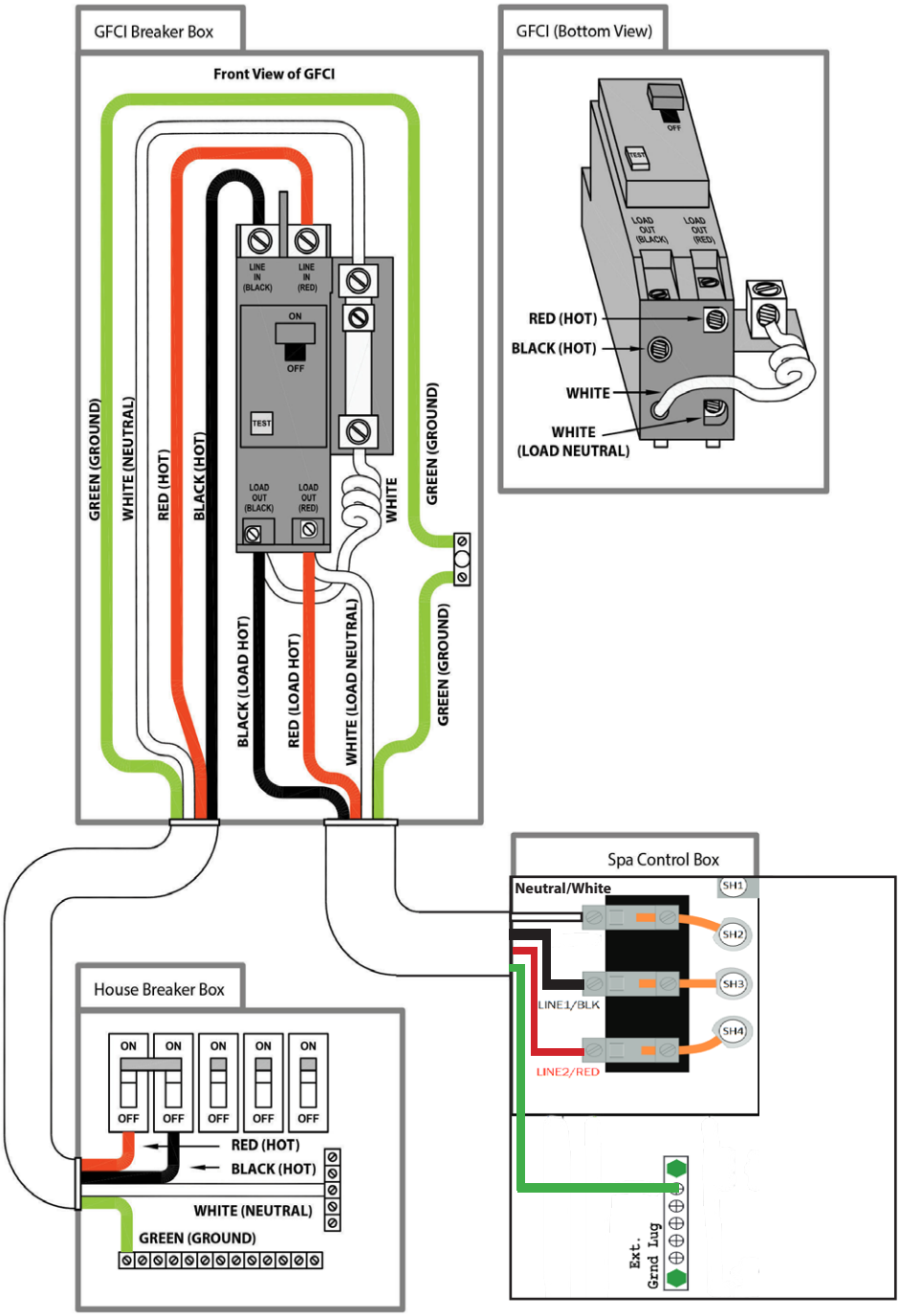
NEO Wiring Diagram

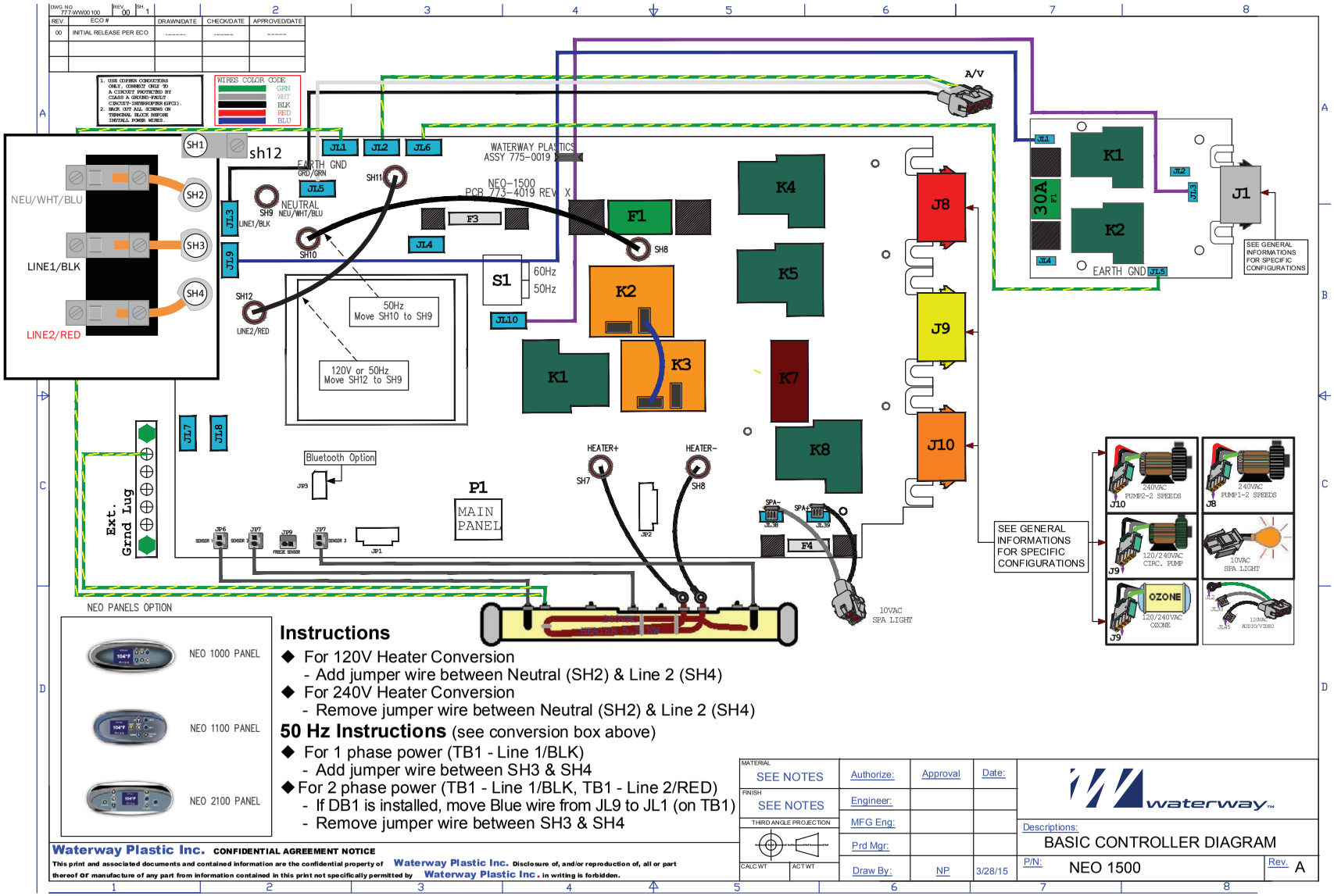
Mandatory Wiring Requirements

- 6 Gauge Copper Wiring for All Wires for Spas Within 100 Feet of the House Breaker Box.
- 50 Amp GFCI Breaker Certified for Use in USA & Canada.
- Use Proper Colored Wiring, the Installation Must Match the Diagram.
- This GFCI is Wired to an Independent Circuit From the House Breaker Box, With No other Electrical Loads.

Additional Information

- Aluminum wire must not be used in this installation
- 4 gauge wire is recommended if the circuit is longer than 100 feet.
- Failure to properly follow any mentioned mandatory requirements will void the warranty of your spa, American Spas is not liable for any damages (physical or monetary), injury, or fire damage from improperly installed spas. It is the responsibility of the spa owner, to comply with all specified electrical requirements within this owners manual.




DWG. NO. 777-WW00100 REV. 00 SH. 1
REV. ECO # DRAWN/DATE CHECK/DATE APPROVED/DATE
00 INITIAL RELEASE PER ECO
1. USE COPPER CONDUCTORS ONLY. CONNECT ONLY TO A CIRCUIT PROTECTED BY CLASS A GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI).
2. BACK OUT ALL SCREWS ON TERMINAL BLOCK BEFORE INSTALL POWER WIRES.
WIRES COLOR CODE
GRN
WHT
BLK
RED
BLU
A/V
sh12
SH1
SH2
SH3
SH4
NEU/WHT/BLU
LINE1/BLK
LINE2/RED
EARTH GND GRD/GRN
NEUTRAL NEU/WHT/BLU
WATERWAY PLASTICS ASSY 775-0019
NEO-1500 PCB 773-4019 REV X
50Hz Move SH10 to SH9
120V or 50Hz Move SH12 to SH9
S1
60Hz
50Hz
Bluetooth Option
Ext. Grnd Lug
P1
MAIN PANEL
HEATER+
HEATER-
10VAC SPA LIGHT
SEE GENERAL INFORMATIONS FOR SPECIFIC CONFIGURATIONS
240VAC PUMP2-2 SPEEDS
240VAC PUMP1-2 SPEEDS
120/240VAC CIRC. PUMP
10VAC SPA LIGHT
OZONE
120/240VAC OZONE
NEO PANELS OPTION
NEO 1000 PANEL
NEO 1100 PANEL
NEO 2100 PANEL
Instructions
◆ For 120V Heater Conversion
- Add jumper wire between Neutral (SH2) & Line 2 (SH4)
◆ For 240V Heater Conversion
- Remove jumper wire between Neutral (SH2) & Line 2 (SH4)
50 Hz Instructions (see conversion box above)
◆ For 1 phase power (TB1 - Line 1/BLK)
- Add jumper wire between SH3 & SH4
◆ For 2 phase power (TB1 - Line 1/BLK, TB1 - Line 2/RED)
- If DB1 is installed, move Blue wire from JL9 to JL1 (on TB1)
- Remove jumper wire between SH3 & SH4
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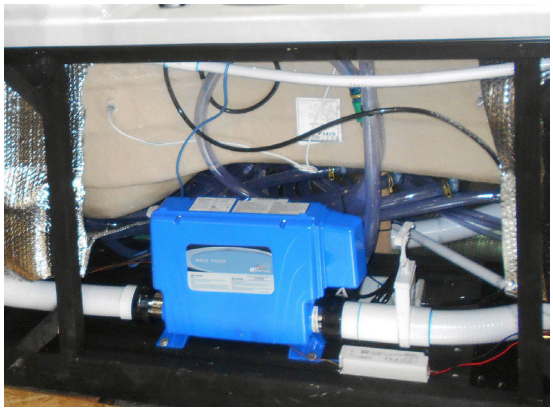
MATERIAL SEE NOTES
FINISH SEE NOTES
THIRD ANGLE PROJECTION
CALC WT
ACT WT
Authorize:
Approval
Date:
Engineer:
MFG Eng:
Prd Mgr:
Draw By: NP 3/28/15
waterway
Descriptions: BASIC CONTROLLER DIAGRAM
P/N: NEO 1500
Rev. A

Filling and Powering Up Your Portable Spa

1. Inspect the spa equipment.



After the spa has been placed on an approved surface and has been correctly wired by a licensed electrician, inspect all plumbing connections in the equipment area of your spa. Ensure that these connections are secure and that they did not loosen during shipment.

If your spa has gate valves, make sure they are all in the UP or OPEN position. **IMPORTANT NOTE: Depending on the year and model, your particular spa may not be equipped with gate valves.**

Never run the spa with the gate valves closed or without water circulating for long periods of time. Be careful not to over-tighten the plumbing fittings.

2. Remove the cartridge from filter canister.

Unscrew the cartridge and remove it.

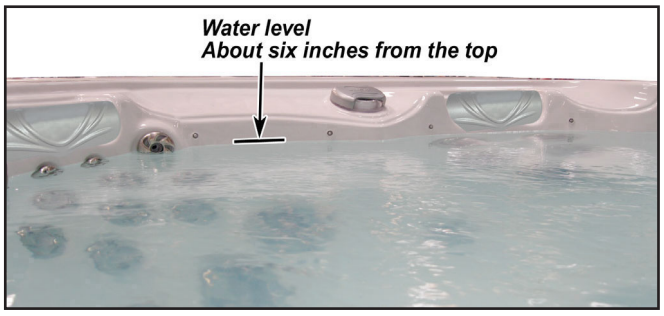
After you remove the filter, remove the plastic wrapper and soak it in water for 30 minutes before you replace it. A dry filter can allow air into the filtration system which can cause the pump to fail to prime. Never try to pull the filter cartridge while the spa is running in low or high speed (i.e., any speed).

3. Fill the spa.

Place a garden hose in the filter canister and fill your spa with ***regular tap water*** about six inches from the top.

If the water level is too low or too high, your spa will not operate properly.

Always fill the spa through the filter canister! Failure to do so may cause air to be trapped in the filtration system and prevent the pumps from operating properly.



Never fill your spa with soft water.

Soft water makes it impossible to maintain the proper water chemistry and may cause the water to foam, which will ultimately harm the finish of the spa and void your warranty.

4. Turn on power to the spa.

When the spa is filled to the correct level, turn on the power at the GFCI breaker. (Ensure that the 120V spas are connected to the proper electrical outlet.)

5. Prime the pump.

For **NEO 1100.** Press the **RETURN** button on the control panel. After two minutes, the pump should prime. If it does not, follow the priming instructions on the next page. If it does, continue with the next step.

For **TP500**. Your spa will perform a self-diagnostic check and go into Priming Moe. The control panel will display either **RUN PUMPS PURG AIR** --- or **Priming Mode,** depending on which control panel you have.

Do the following:

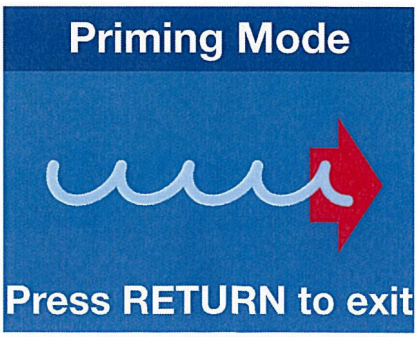
1. Press the JETS or JETS 1 button once to start the pump in low speed.
2. Press it again to switch the pump to high speed.
3. If you have other pumps, press JETS 2 or JETS 3 to turn them on also.

Running the pumps helps the pumps prime.

After two minutes, the pump should prime. If it does not, follow the priming instructions on the next page. If it does, continue with the next step.

Starting Up: Priming Mode for Neo-Pack Systems

The system will enter the priming mode. **Priming Mode** will display on the control panel. In Priming Mode, all devices such as jets and lights are operable. Jets can be turned on and off to help prime the pump. The system will exit Priming Mode and go to the Main display when the RETURN button is pressed, or after four minutes of activity.



Exiting Priming Mode for Neo-Pack Systems

You can manually exit Priming Mode by pressing the RETURN button. Note that if you do not manually exit the priming mode, the priming mode will be automatically terminated after 4 to 5 minutes. Be sure that the pumps have been primed by this time.

6. **Install the filter into the filter canister.**

Make sure the filter has soaked at least 30 minutes before you install it. Insert the filter all the way and screw it in. Do not over-torque the cartridge during installation, just hand tighten gently.

7. **Adjust water chemistry.**

   Test and adjust the water chemistry. See the section on page 30 for instructions on water clarity.

8. **Let the spa heat up.**

   When the spa has finished priming, the heater will activate. Put the cover on and let the spa heat to the set temperature.

Priming a Pump

New owners often have difficulty the first time they start their spa and the pumps fail to prime. This can be frustrating but these instructions should help you resolve any issues with air pockets inside of the primary pump or other priming issues.

Sometimes air can become trapped in the primary pump while filling up the spa, although this should be preventable by filling your spa through the filter basket, there is a chance that an air pocket can still form even when following the proper steps. Initially it may seem that the pump is not working, with some sound coming from the pump but no water movement.

Note: When a pump has an airlock, continuing to operate the pump experiencing an air pocket issue can damage the pump. Do not operate the pump until this airlock issue is fixed.

Start Up: Priming Mode

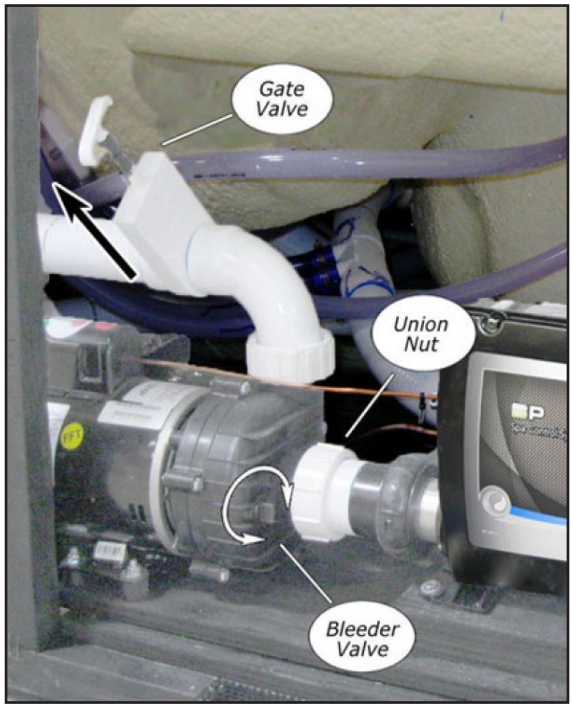
When the spa is powered up for the first time, the spa will enter priming mode. During this mode all devices within the spa are operational. You may wait for 10-15 minutes for the heater to engage, this period of time resets when a secondary pump is activated or if the primary pump is activated for high speed.

The spa will automatically exit priming mode.

Bleeding Air from the Pump

IF you have tried priming the pump by pressing the jet or jet 1 button on and off again with no results, you will need to bleed the pump manually.

1. Shut off power to the spa.
2. Using a philips head screwdriver, remove the front panel from the spa directly underneath the control panel, and locate the main pump.
3. Ensure that the gate valves are open
4. Place rags or towels under the plastic wet end of the pump where the spa plumbing connects into the pump
5. On the plastic wet end there will be a plastic hex headed bleeder valve that can be opened to bleed air trapped inside of the pump
6. Do not fully remove the nut, there are grooves within the nut that allows air to escape. Water will begin to trickle once the air pocket has been removed, tighten down the screw again with light torque.
7. If bleeding the pump is unsuccessful, loosen the pump unions with plumbing channel locks to remove any trapped air between the pump and the heater.
8. Turn the spa power back on and press the Jet button to prime the pump again.



Operating Your Spa

American Spas are uniquely designed with a different number of pumps, options, and features. Due to this our spas use different control panels based on the features and options within the unit you have purchased.

This section of the manual goes through the operation of all control panels, offered in our American Spa line. The images on the right side of this page, are provided to help you identify the control panel your spa was built with, including page numbers.

Pg 17-26

Pg 17-26

Spa Display Maintenance

In order to maintain and prolong the life of your controller, proper cleaning and care must be taken into consideration. Wipe down the controller using a microfiber towel and warm water to remove any small stains or water collected on top of the screen.

The display is coated with a plastic laminate layer, it is designed to prevent water from entering the display. Avoid using abrasive materials and solvents, as this will cause damage on the display. For stains that require additional cleaning, you can use warm soapy water created with a diluted mild detergent, using light pressure to wipe down the display.

Avoid using your fingernails or pointed objects to press buttons on the controller, as this will cause small puncture holes in the protective laminate.

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TP500S

Spa Control Panel (NEO Controllers)

NEO one-pump system

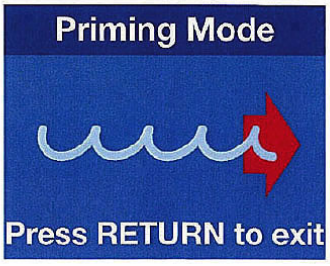
NEO two-pump system

MAIN SCREEN:

The main screen displays current time, water temperature, and status of the system accessories. The screen below from bottom, left to right indicates LIGHT ON, BLOWER ON, JET 1 at low speed.

PRIMING MODE:

When power is ON, the system will enter a priming mode with priming screen display on the panel. In this mode, all devices such as JETS, BLOWERS or LIGHT are operable. JETS can be turned on and off to prime the pump. System will exit priming mode and go to MAIN display when RETURN button is pushed, or after 4 minutes of inactivity.



SPA OPERATION:

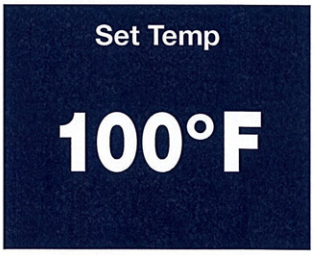
Turn system accessories ON and OFF by pushing appropriate button on the right side of panel (LIGHT, JET 1, BLOWER, JET 2…) These accessories have timeout defaults from the manufacturer and will turn OFF automatically after the time has expired. Timeout time for LIGHT default is 60 minutes; BLOWER default is 15 minutes; JET at low speed default is 60 minutes; and JET at high speed is 15 minutes. User can change these default times in "DEVICE TIMEOUT" setting menu.

MENU NAVIGATING:

- MENU button: use to enter setting menu and sub-menu screens. For screens with several settable fields (example: DATE-TIME screen), use MENU button to navigate between different fields within the screen.
- UP and DOWN button: use to navigate between different options or changing values of a field.
- RETURN button: use to confirm the setting and goes back to previous screen.

SETTING TEMPERATURE:

To change water set temperature, use UP and DOWN buttons to set the desired temperature. The screen will display "SET TEMP" with the current set temperature. After 5 seconds without any change to the set temperature, the screen will reverse back to MAIN screen with current water temperature display. Changing set temperature will make heat pump turn on to get accurate water temperature to determine if water needs to be heated up.



SELECTION ICONS:

- FILTER CYCLE 1
- FILTER CYCLE 2
- FILTER CYCLE 3
- FILTER CYCLE 4
- LIGHT ON
- HEATER ON
- HEATER START-UP
- ENERGY SAVING HEAT MODE
- VACATION HEAT MODE
- CLEANER CYCLE
- POLLING CYCLE
- TEMPERATURE LOCK
- PANEL LOCK
- OZONE ON
- JET ON LOW SPEED
- JET ON HIGH SPEED
- BLOWER ON
- SPECIAL TEMP SELECT
- OPTION

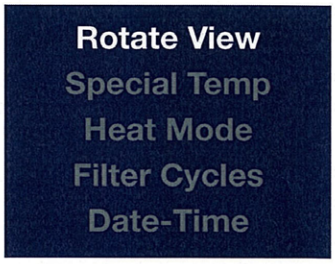
PANEL TIMEOUT:

If user is in Setting Menus and no button is pushed within 15 seconds, the screen will timeout, current screen setting will be lost and panel reverts back to MAIN screen.

In MAIN screen, if no buttons is pushed within 60 minutes, all LED and LCD lights will turn off and panel goes to sleep. Any button pushed in this time will wake the panel up, LED and LCD lights will turn back on and panel will poll for water temperature.

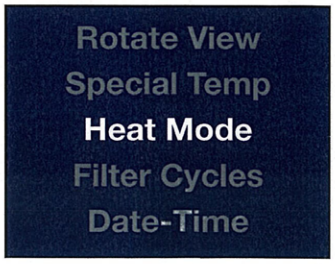
ENTER SETTING SCREENS:

Press MENU button to display a list of set up screens.



Use UP and DOWN to navigate between various set up screens.

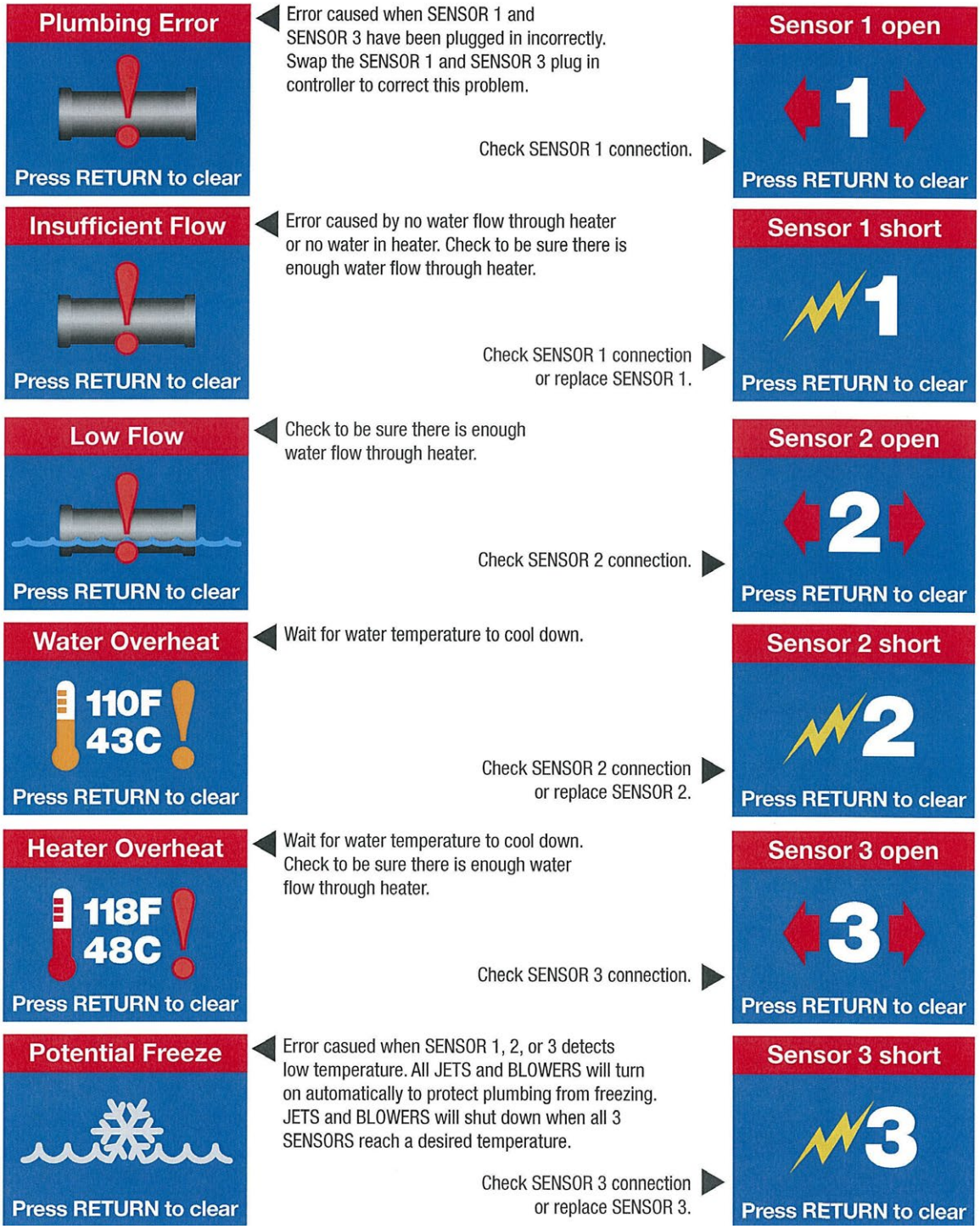
Press MENU again to enter a particular set up screen or press RETURN to goes back to MAIN screen.



Setting Screens

- **ROTATE VIEW:** rotate the view 180 degrees, the UP and DOWN button also swap when rotated. With ROTATE VIEW highlighted press MENU to enter ROTATE VIEW setting. Use UP/DOWN to select the desire setting and RETURN to exit and confirm the setting.
- **SPECIAL TEMP:** to temporarally heat spa to 105°F or 106°F once, and return to previous temperature setting. With SPECIAL TEMP highlighted press MENU to enter SPECIAL TEMP setting. Use UP/DOWN to select the desired setting and RETURN to exit and confirm the setting.
- **HEAT MODE:** select STANDARD heating mode for most users or ENERGY SAVING mode (reduces polling for water temperature) or VACATION mode (set temp set to 50°F). With HEAT mode highlighted press MENU to enter HEAT mode setting. Use UP/DOWN to select the desired setting and RETURN to exit and confirm the setting.
- **FILTER CYCLES:** set up filter cycle start time, duration and date for filtering the spa. For FILTER CYCLE 1 and 2, if duration is set to zero the system will do a purge cycle at the start time setting. With FILTER CYCLE highlight press MENU to enter FILTER CYCLE 1, 2, 3, or 4 setting. Select a FILTER CYCLE and press MENU again to enter TIME/DURATION setting screen. In this screen, press MENU to move between HOURS, MINUTES and DAYS setting; UP/DOWN to change the values and RETURN to exit and confirm the setting.
- **DATE-TIME:** set up date and time for the spa. With DATE-TIME highlighted press MENU to enter DATE-TIME setting. In this screen, pressing MENU will move and highlight various fields that can change the setting; UP/DOWN to change the values and RETURN to exit and confirm the setting.
- **DEGREE F/C**: displays spa temperature in Celsius or Fahrenheit. This option is only available for 60 Hz countries and automatically displays Celsius for 50 Hz. With DEGREE F/C highlighted press MENU to enter DEGREE F/C setting. Use UP/DOWN to select the desired setting and RETURN to exit and confirm the setting.
- **TIME DISPLAY:** display spa time in AM/PM or 24 hours time. With TIME DISPLAY highlighted press MENU to enter TIME DISPLAY setting. Use UP/DOWN to select the desired setting and RETURN to exit and confirm the setting.
- **DEVICES TIMEOUT:** allows changes to timeout setting for various devices. LIGHT can set to a maximum of 4 hours; PUMP in high speed and BLOWER can be set to a maximum of 1 hour; and PUMP in low speed can set to a maximum of 2 hours. With DEVICES TIMEOUT highlighted press MENU to enter and select various devices setting. Use UP/DOWN to select the desired time setting and RETURN to exit and confirm the setting.
- **PANEL LOCK:** locks all panel buttons except MENU button. With PANEL LOCK highlighted press MENU to enter PANEL LOCK setting. Use UP/DOWN to select the desired setting and RETURN to exit and confirm the setting.
- **TEMP LOCK:** locks TEMPERATURE setting with UP/DOWN buttons. With TEMP LOCK highlighted press MENU to enter TEMP LOCK setting. Use UP/DOWN to select the desired setting and RETURN to exit and confirm the setting.
- **SERVICE MODE:** *only available for Authorized Dealers and Spa Manufacturer.*
- **DEMO MODE:** to demonstrate all device capabilities of the spa. With DEMO MODE highlighted press MENU to enter MODE setting. Use UP/DOWN to select the desired setting and RETURN to exit and confirm the setting.
- **GENERAL INFORMATION:** displays general information for the spa. With GENERAL INFORMATION highlighted press MENU to enter GENERAL INFORMATION menu. Use UP/DOWN to view different pages and information and RETURN to exit the page.
- **LANGUAGES:** to select various languages for the spa display. With LANGUAGES highlighted press MENU to enter and select a specific language. Use UP/DOWN to select the desired setting and RETURN to exit and confirm the setting.
- **SERENITY MODE:** to turn off all outputs and provide a quiet time setting. With SERENITY MODE highlighted press MENU to enter and select a specific time. Use UP/DOWN to select the desire time setting. Press MENU again to navigate to EXIT/START. Select the desired option and RETURN to exit and confirm the setting.
- **ENERGY INTERVAL:** *only available for Non-Circ systems.* With ENERGY INTERVAL highlighted press MENU to enter ENERGY INTERVAL setting. Use UP/DOWN to select the desired minutes setting and RETURN to exit and confirm the setting.
- **SILENT TIME:** *only available for Non-Circ systems.* Set up the time for no polling. With SILENT TIME highlighted press MENU to enter SILENT TIME setting. In this screen, pressing MENU will move and highlight various fields that can change the setting; UP/DOWN to change the values and RETURN to exit and confirm the setting.
- **CLEANER CYCLE:** *only available for Non-Circ systems.* To turn on filtration after using the spa for short cleaning period. With CLEANER CYCLE highlight press MENU to enter and select a specific duration. Use UP/DOWN to select the desired time setting. Press Menu again to navigate to Exit/Start. Select the desired option and RETURN to exit and confirm the setting.

Error Screens



Adjusting Date/Time & Filtration Cycles

Shown below is the default topside screen. (Your temperature setting may vary according to your preferences.) In order to access and change the internal clock of your spa, first press MENU. **The color and button pattern of your topside panel may differ from those shown below. However, the functions of your buttons will be the same as shown in the directions.**

That action will take you to this screen

Use the COOL (Down arrow) to highlight the Date-Time option (which is now highlighted in white).

Press the MENU button to select the option.

Press the UP-DOWN buttons to increase or decrease the value of each highlighted field.

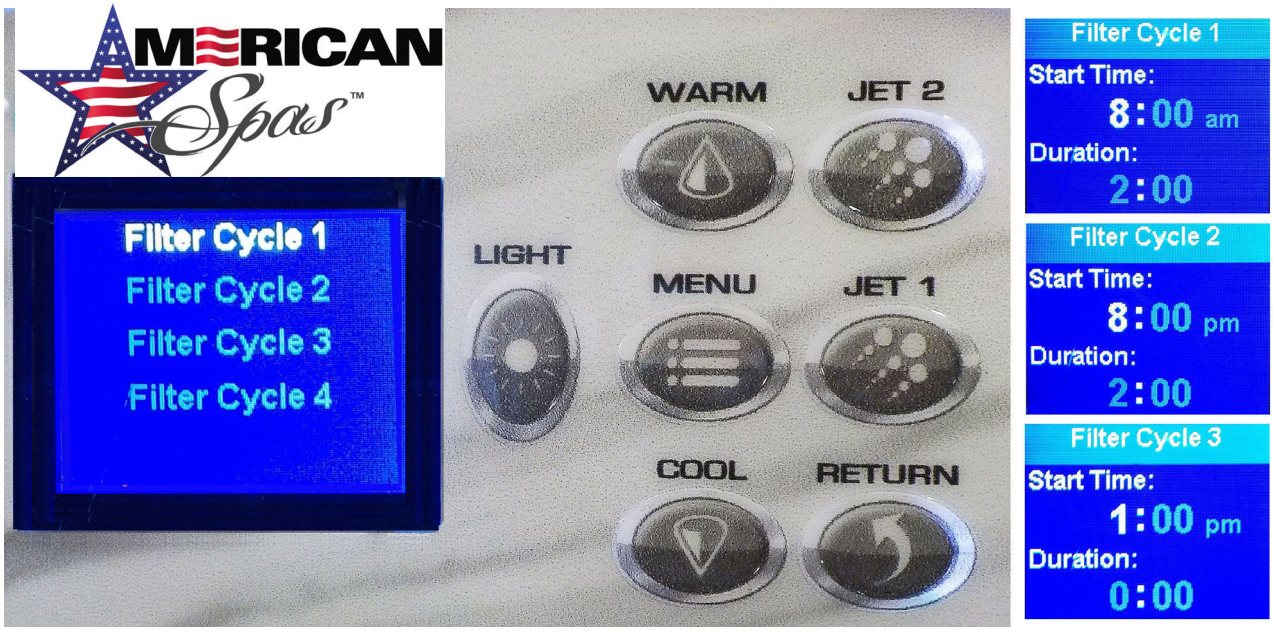
Press the MENU button to advance to the next field you wish to change.

Press RETURN when you have finished setting date and time to save your chosen settings.

Once the screen has reverted back to temperature, you can now adjust Filter Cycles. **NOTE: You do not necessarily have to adjust the Filter Cycles because the default factory settings give you two Filter Cycles per day automatically.** In any case, to access the Filter Cycles, press the MENU button.

This time select Filter Cycles. (Press the MENU button to access the sub-menus.)

Filter Cycles 1 and 2 are the factory-programmed defaults. These may be satisfactory for your needs, but can be customized if you wish. **If you leave the Filter Cycles option untouched, you will still have Filter Cycles 1 and 2 working for you every day.** Filter Cycles 3 and 4 can also be employed in addition to Filter Cycles 1 and 2 and these Cycles allow full customization as well.



Filter Cycles 1, 2, 3 and 4 can all be adjusted in 15 minute increments. Use the MENU button to move from field to field, use the UP and DOWN arrows to make adjustments and then press RETURN once you're satisfied with your selections for all Cycles. Please note that the system will not allow you to set overlapping or contradictory Cycles.

Settings for Cold Climates

It may be necessary to adjust some settings of the NEO Spa controller in cold climates. The guidance below will help to make certain you will continue to enjoy your spa despite the change in season.

Make certain:

The cover of the spa is securely fastened to the spa when the spa is not in use.

- Keeping the cover on the spa will conserve heat and energy.

The 'ENERGY INTERVAL' is set to 15 minutes:

- Press MENU
- Select 'ENERGY INTERVAL'
- Use WARM/COOL to adjust the interval to 15 minutes.
- Press RETURN to save the setting.

This will make certain the spa checks the temperature of the water every 15 minutes to maintain the Set Temperature.

A video guide can be found here:
https://www.youtube.com/watch?v=K3I9iOlTL-k

The system is in 'STANDARD' heat mode:

- Press MENU
- Press WARM/COOL to select 'HEAT MODE'.
- Press MENU to enter 'HEAT MODE'.
- Press WARM/COOL to select 'STANDARD'.
- Press RETURN to save the setting.

A temperature higher than 104 degrees (F) may be desired on occasion.
'SPECIAL TEMP' can be used for these instances:

- Press MENU
- Press WARM/COOL to select 'SPECIAL TEMP'.
- Press MENU to enter 'SPECIAL TEMP'.
- Press MENU to enter or RETURN to exit.
- Press WARM/COOL to select '105' or '106'.
- Press RETURN to save the setting.

'Special Temp' will heat the spa one time to the selected temperature.
The spa will then maintain the previous 'Set Temperature'.

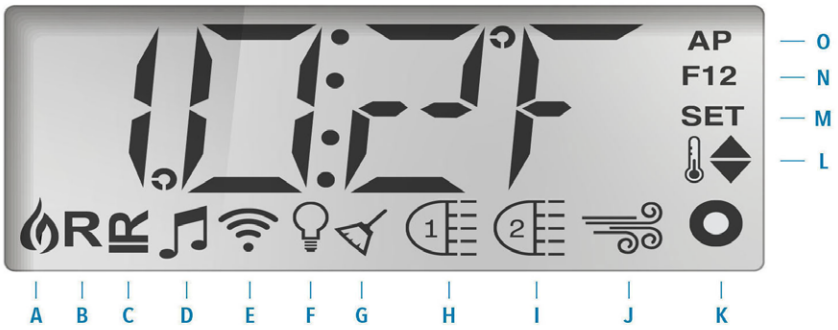
TP500S Control Panel

User Guide for Standard Menu

System Model: All BP series systems
Panel Model: TP500S Series
Panel Software Version: All versions

TP500S

Display Icons



A - Heat
B - Ready Mode
C - Rest Mode
D - bba™2 On
E - WiFi (Cloud Connection)
F - Light
G - Cleanup Cycle
H - Jets 1
I - Jets 2
J - Blower
K - Auxiliary (Jets 3 or MICROSILK®)
L - Temperature Range (High / Low)
M - Set (Programming)
N - Filter Cycle (1 or 2 or Both)
O - AM or PM (Time)

Main Menus

Navigation

Navigating the entire menu structure is done with 2 or 3 buttons on the control panel.

Some panels have separate WARM (Up) and COOL (Down) buttons, while others have a single Temperature button. In the navigation diagrams Temperature buttons are indicated by a single button icon.
Panels that have two Temperature buttons (Warm and Cool) can use both of them to simplify navigation and programming where a single Temperature icon is shown.

The MENU/SELECT Button is used to choose the various menus and navigate each section.

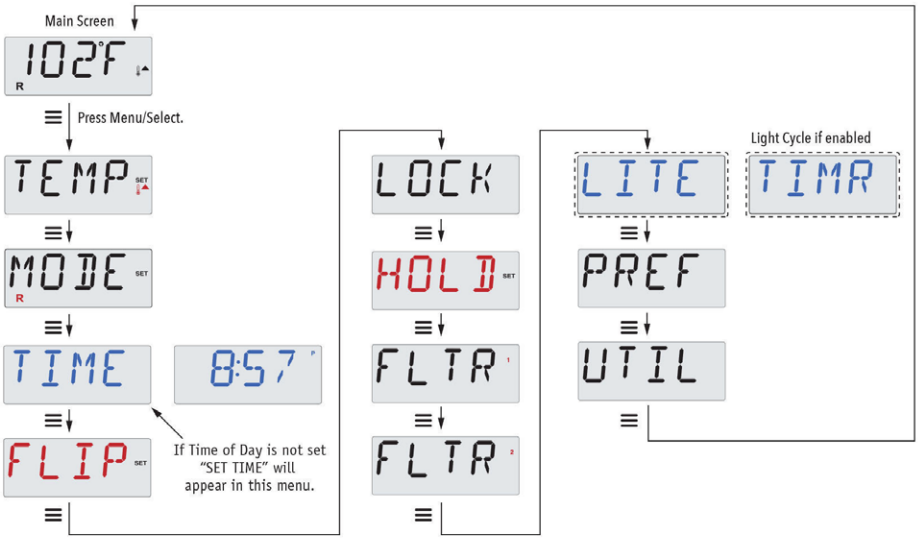
Typical use of the Temperature button(s) allows changing the Set Temperature while the numbers are flashing in the LCD. The menus can be exited with certain button presses. Simply waiting for a few seconds will return the panel operation to normal.

Power-up Screens

Each time the System powers up, a series of numbers is displayed.
After the startup sequence of numbers, the system will enter Priming Mode (See Page 3).

Key

- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message - every 1/2 second
- A temperature button, used for "Action"
- ≡ Menu/Select button
- ●●●●● Waiting time that keeps the last change to a menu item.
- ★★★★★ Waiting time (depends on menu item) that reverts to original setting and ignores any change to that menu item.



Indicates a Menu Item that Depends on a Manufacturer Configuration and may or may not appear.

Main Screen

Waiting a few seconds in the Main Menu will allow the display to revert to the Main Screen.
Most changes are not saved unless Menu/Select ≡ is pressed.
Refer to key above.

Fill it up!

Preparation and Filling

Fill the spa to its correct operating level. Be sure to open all valves and jets in the plumbing system before filling to allow as much air as possible to escape from the plumbing and the control system during the filling process.

After turning the power on at the main power panel, the top-side panel display will go through specific sequences. These sequences are normal and display a variety of information regarding the configuration of the hot tub control.

Priming Mode - MO19*

This mode will last for 4-5 minutes or you can manually exit the priming mode after the pump(s) have primed.

Regardless of whether the priming mode ends automatically or you manually exit the priming mode, the system will automatically starts normal heating and filtering at the end of the priming mode. During the priming mode, the heater is disabled to allow the priming process to be completed without the possibility of energizing the heater under low-flow or no-flow conditions. Nothing comes on automatically, but the pump(s) can be energized by pushing the “Jets”
or “Aux” buttons.

If the spa has a Circ Pump, it can be activated by pressing the “Light” button during Priming Mode.

Priming the Pumps

As soon as the above display appears on the panel, push the “Jets” button once to start Pump 1 in low-speed and then again to switch to high-speed. Also, push the “Jets 2” or “Aux” button, if you have a 2nd pump, to turn it on. The pumps will now be running in high-speed to facilitate priming. If the pumps have not primed after 2 minutes, and water is not flowing from the jets in the spa, do not allow the pumps to continue to run. Turn off the pumps and repeat the process. Note: Turning the power off and back on again will initiate a new pump priming session. Sometimes momentarily turning the pump off and on will help it to prime. Do not do this more than 5 times. If the pump(s) will not prime, shut off the power to the spa and call for service.

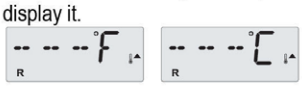
Important: A pump should not be allowed to run without priming for more than 2 minutes. Under NO circumstances should a pump be allowed to run without priming beyond the end of the 4-5 minute priming mode. Doing so may cause damage to the pump and cause the system to energize the heater and go into an overheat condition.

Exiting Priming Mode

You can manually exit Priming Mode by pressing the “Warm” or “Cool” button. Note that if you do not manually exit the priming mode as described above, the priming mode will be automatically terminated after 4-5 minutes. Be sure that the pump(s) have been primed by this time.

Once the system has exited Priming Mode, the top-side panel will momentarily display the set temperature but the display will not show the water temperature yet, as shown below.

This is because the system requires approximately 1 minute of water flowing through the heater to determine the water temperature and display it.



Spa Behavior

Pumps

Press the “Jets” button once to turn pump 1 on or off, and to shift between low and high speeds if equipped.
If left running, the pump will turn off after a time-out period.

On non-circ systems, the low-speed of pump 1 runs when the blower or any other pump is on. If the spa is in Ready Mode (See page 6), Pump 1 low may also activate once in a while for at least 1 minute to detect the spa temperature (polling) and then to heat to the set temperature if needed. When the low-speed turns on automatically, it cannot be deactivated from the panel, however the high speed may be started.

Circulation Pump Modes

If the system is equipped with a circ pump, it will be configured to work in one of three different ways:

1, The circ pump operates continuously (24 hours) with the exception of turning off for 30 minutes at a time when the water temperature reaches 3°F (1.5°C) above the set temperature (most likely to happen in very hot climates).

2, The circ pump stays on continuously, regardless of water temperature.

3, A programmable circ pump will come on when the system is checking temperature (polling), during filter cycles, during freeze conditions, or when another pump or blower is on.

The specific Circulation Mode that is used has been determined by the Manufacturer and cannot be changed in the field.

Filtration and Ozone

On non-circ systems, Pump 1 low and the ozone generator will run during filtration. On circ systems, the ozone will run with the circ pump.

The system is factory-programmed with one filter cycle that will run in the evening (assuming the time-of-day is properly set) when energy rates are often lower. The filter time and duration are programmable. (See page 10)
A second filter cycle can be enabled as needed.

At the start of each filter cycle, all water devices (other than the primary pump) will run briefly to purge the plumbing to maintain good water quality. The term “water devices” includes the Blower.

Freeze Protection

If the temperature sensors within the heater detect a low enough temperature, then the pump(s) and the blower automatically activate to provide freeze protection. The pump(s) and blower will run either continuously or periodically depending on conditions.

In colder climates, an optional freeze sensor may be added to protect against freeze conditions that may not be sensed by the standard sensors. Auxiliary freeze sensor protection acts similarly except with the temperature thresholds determined by the switch. See your dealer for details.

Clean-up Cycle (optional)

When a pump or blower is turned on by a button press, a clean-up cycle begins 30 minutes after the pump or blower is turned off or times out. The pump and the ozone generator will run for 30 minutes or more, depending on the system. On some systems, you can change this setting. (See the Preferences section on page 12)

Temperature and Temp Range

Adjusting the Set Temperature

When using a panel with Up and Down buttons (Temperature buttons), pressing Up or Down will cause the temperature to flash. Pressing a temperature button again will adjust the set temperature in the direction indicated on the button. When the LCD stops flashing, the spa will heat to the new set temperature when required.

If the panel has a single temperature button, pressing the button will cause the temperature to flash. Pressing the button again will cause the temperature to change in one direction (e.g. UP). After allowing the display to stop flashing, pressing the Temperature Button will cause the temperature to flash and the next press will change the temperature in the opposite direction (e.g. DOWN).

Press-and-Hold

If a Temperature button is pressed and held when the temperature is flashing, the temperature will continue to change until the button is released. If only one temperature button is available and the limit of the Temperature Range is reached when the button is being held, the progression will reverse direction.

Dual Temperature Ranges

This system incorporates two temperature range settings with independent set temperatures. The High Range designated in the display by a thermometer and an "up" arrow, and the Low Range designated in the display by a thermometer and "down" arrow.

These ranges can be used for various reasons, with a common use being a "ready to use" setting vs. a "vacation" setting. The Ranges are chosen using the menu structure below. Each range maintains its own set temperature as programmed by the user. This way, when a range is chosen, the spa will heat to the set temperature associated with that range.

For example:

High Range might be set between 80°F and 104°F.

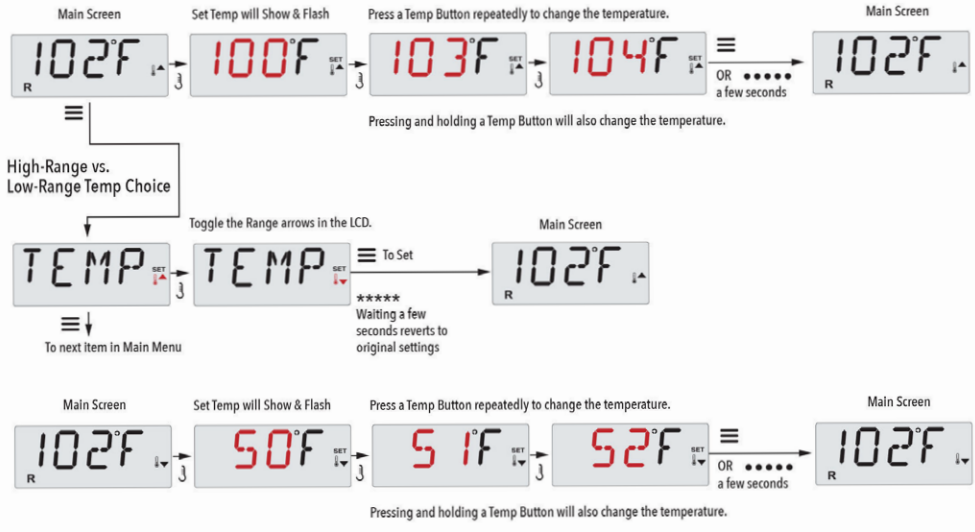
Low Range might be set between 50°F and 99°F.

More specific Temp Ranges may be determined by the Manufactui

Freeze Protection is active in either range.

Key

- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message - every 1/2 second
- A temperature button, used for "Action"
- Menu/Select button
- ●●●●● Waiting time that keeps the last change to a menu item.
- ★★★★★ Waiting time (depends on menu item) that reverts to original setting and ignores any change to that menu item.



Mode – Ready and Rest

In order for the spa to heat, a pump needs to circulate water through the heater. The pump that performs this function is known as the "primary pump."

The primary pump can be either a 2-Speed Pump 1 or a circulation pump.

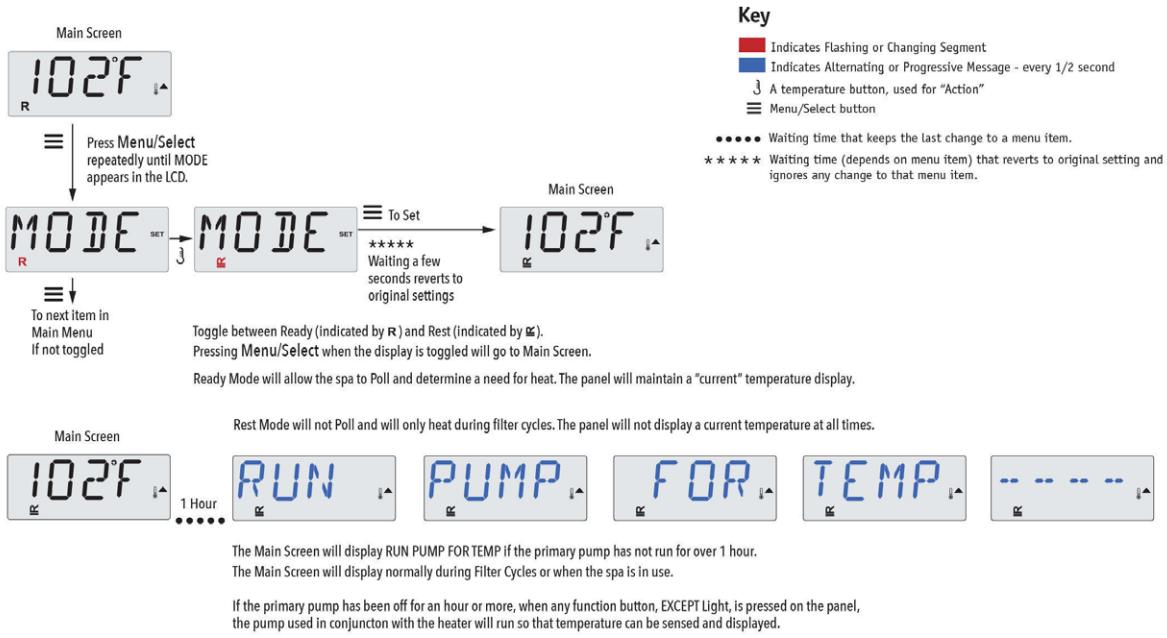
If the primary pump is a 2-Speed Pump 1, Ready Mode (indicated by **R**) will circulate water periodically, using Pump 1 Low, in order to maintain a constant water temperature, heat as needed, and refresh the temperature display. This is known as "polling."

Rest Mode (indicated by R) will only allow heating during programmed filter cycles. Since polling does not occur, the temperature display may not show a current temperature until the primary pump has been running for a minute or two.

Circulation Mode (See Page 4, under Pumps, for other circulation modes)

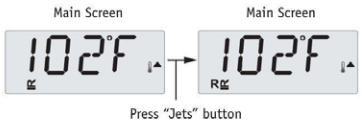
If the spa is configured for 24HR circulation, the primary pump generally runs continuously. Since the primary pump is always running, the spa will maintain set temperature and heat as needed in Ready Mode, without polling.

In Rest Mode, the spa will only heat to set temperature during programmed filter times, even though the water is being filtered constantly when in Circulation Mode.



Ready-in-Rest Mode

R R appears in the display if the spa is in Rest Mode and "Jets" is pressed. It is assumed that the spa is being used and will heat to set temperature. The primary pump will run until set temperature is reached, or 1 hour has passed. After 1 hour, the System will revert to Rest Mode. This mode can also be reset by entering the Mode Menu and changing the Mode.



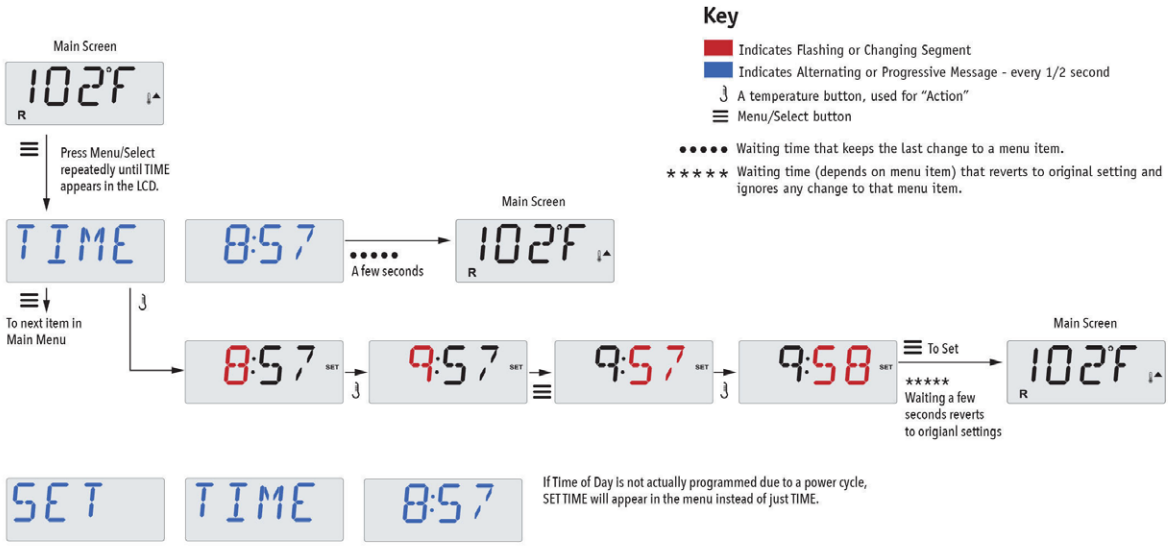
Show and Set Time-of-Day

Be sure to set the Time-of-Day

Setting the time-of-day can be important for determining filtration times and other background features.

When in the TIME menu, SET TIME will flash on the display if no time-of-day is set in the memory.

24-hour time display can be set under the PREF menu.



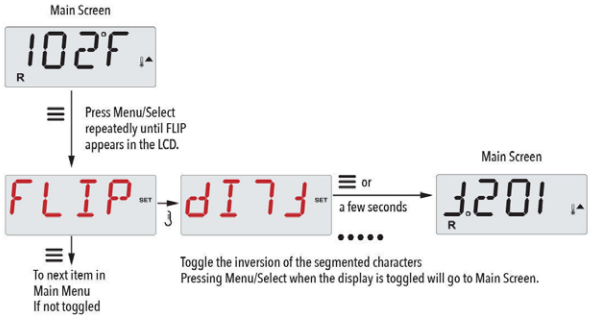
Note:

This note refers to systems that do not keep track of Time-of-Day when powered down.

If power is interrupted to such a system, Time-of-Day is not stored. The system will still operate and all other user settings will be stored. If filter cycles are required to run at a particular time of day, resetting the clock will return the filter times to the actual programmed periods.

When such a system starts up, it defaults to 12:00 Noon, so another way to get filter times back to normal is to start up the spa at noon on any given day. SET TIME will still flash in the TIME Menu until the time is actually set, but since the spa started at noon, the filter cycles will run as programmed.

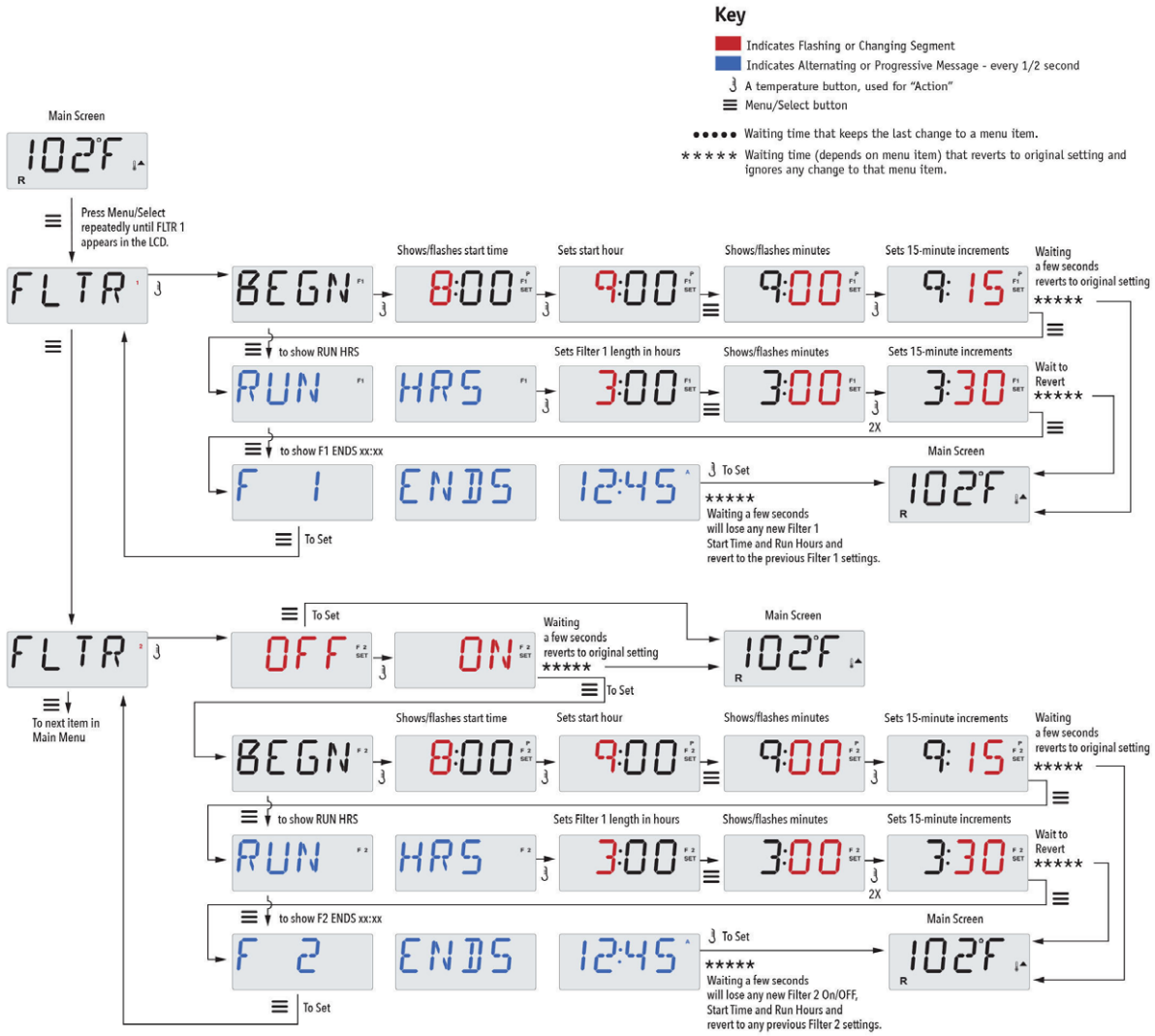
Flip (Invert Display)



Adjusting Filtration

Main Filtration

Filter cycles are set using a start time and a duration. Start time is indicated by an “A” or “P” in the bottom right corner of the display. Duration has no “A” or “P” indication. Each setting can be adjusted in 15-minute increments. The panel calculates the end time and displays it automatically.



Filter Cycle 2 - Optional Filtration

Filter Cycle 2 is OFF by default.

It is possible to overlap Filter Cycle 1 and Filter Cycle 2, which will shorten overall filtration by the overlap amount.

Purge Cycles

In order to maintain sanitary conditions, secondary Pumps and/or a Blower will purge water from their respective plumbing by running briefly at the beginning of each filter cycle.

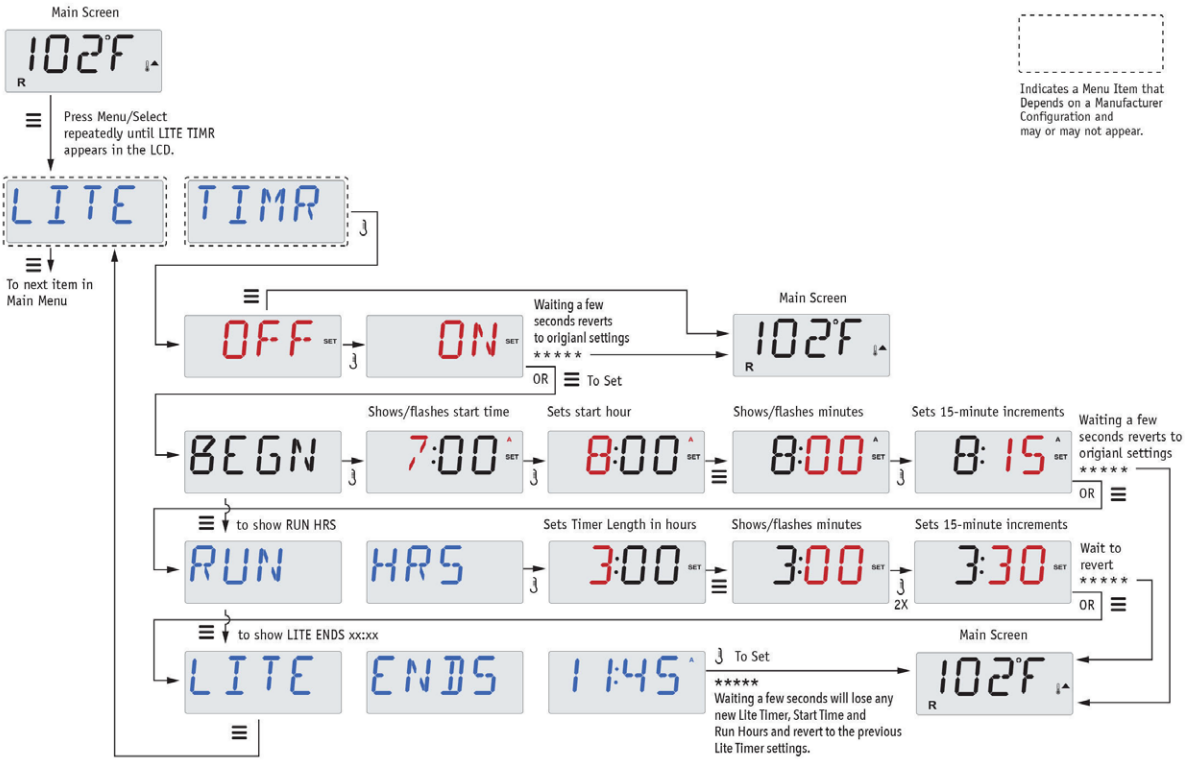
If Filter Cycle 1 is set for 24 hours, enabling Filter Cycle 2 will initiate a purge when Filter Cycle 2 is programmed to begin.

Light Timer Programming

Light Timer Option

If LITE TIMR does not appear in the Main Menu, the Light Timer feature is not enabled by the manufacturer.

When available, the Light Timer is OFF by default.



Preferences

F / C (Temp Display)

Change the temperature between Fahrenheit and Celsius.

12 / 24 (Time Display)

Change the clock between 12 hr and 24 hr display.

RE-MIN-DERS (Reminders)

Turn the display of reminder messages (like “Clean Filter”) On or Off.

Note: Reminders continue to run in the background even when not displayed. So turning the display of Reminders On or Off does not reset any Reminder counts.

CLN-UP (Cleanup)

Cleanup Cycle Duration is not always enabled, so it may not appear. When it is available, set the length of time Pump 1 will run after each use. 0-4 hours are available.

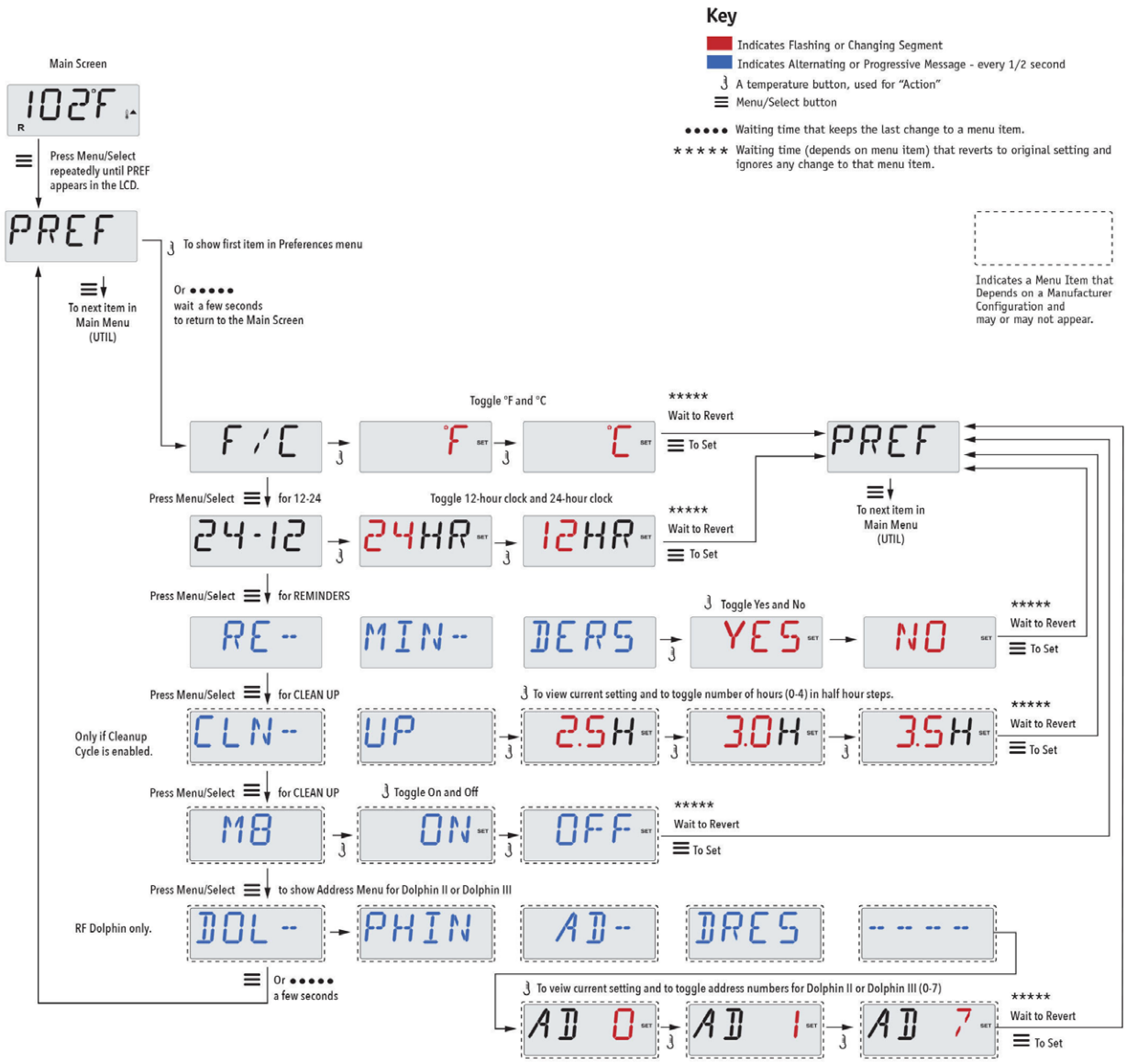
M8

(This message may not appear on all systems.) On systems that have M8, it is enabled by default. It can be disabled (or re-enabled) here. M8 reduces polling intervals when the water temperature in the spa is steady.

DOL-PHIN-AD-DRES (Dolphin II and Dolphin III) Applies to RF Dolphin only. (This message may not appear depending on the configuration)

When set to 0, no addressing is used. Use this setting for a Dolphin Remote which is factory set for no address by default. When set between 1 and 7, the number is the address. (See the Dolphin manual for details.)

Preferences



Utilities and Information

INFO (System Information sub-menu)

The System Information Menu displays various settings and identification of the particular system.

SSID (Software ID)

Displays the software ID number for the System.

MODL (System Model)

Displays the Model Number of the System.

SETP (Current Setup)

Displays the currently selected Configuration Setup Number.

Heater Voltage (Feature not used on CE rated systems.)

Displays the operating voltage configured for the heater.

Heater Wattage as Configured in Software (CE Systems Only.)

Displays a heater kilowatt rating as programmed into the control system software (1-3 or 3-6).

H _ (Heater Type)

Displays a heater type ID number.

SW _ (Dip Switch Settings)

Displays a number that represents the DIP switch positions of S1 on the main circuit board.

PANL (Panel Version)

Displays a number of the software in the topside control panel.

Utilities

In addition to INFO, The Utilities Menu contains the following:

GFCI (GFCI Test)
(Feature not available on CE rated systems.)

GFCI Test is not always enabled, so it may not appear. This screen allows the GFCI to be tested manually from the panel and can be used to reset the automatic test feature. If the GFCI Test Feature is reset, the device will trip within 7 days. (See Page 17)

A / B (A/B Sensor Temperatures)

When this is set to On, the temperature display will alternate to display temperature from Sensor A and Sensor B in the heater.

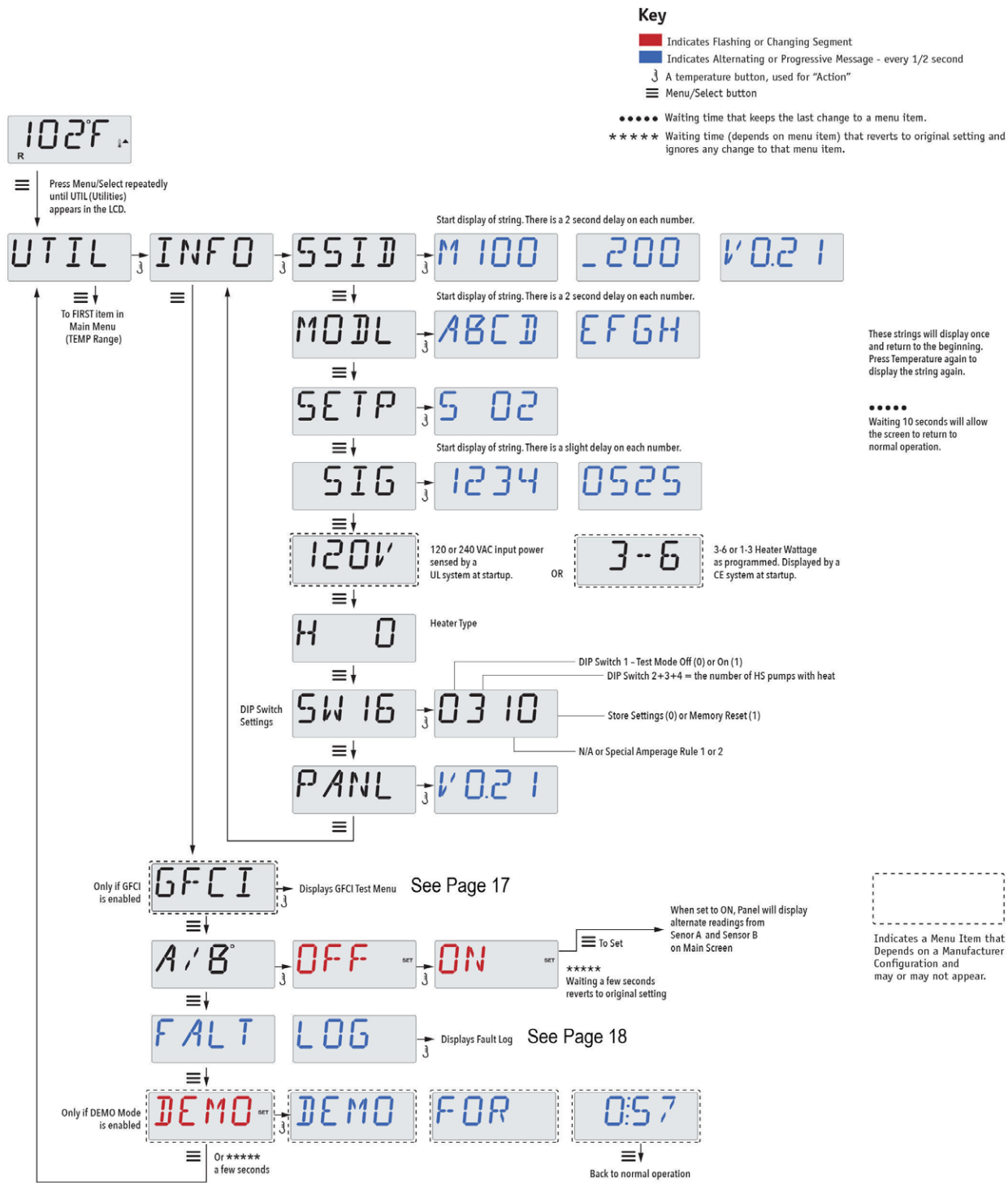
FALT LOG (Fault Log)

The Fault Log is a record of the last 24 faults that can be reviewed by a service tech.

DEMO (Demo Mode)

Demo Mode is not always enabled, so it may not appear. This is designed to operate several devices in a sequence in order to demonstrate the various features of a particular hot tub.

Utilities


Key
Indicates Flashing or Changing Segment
Indicates Alternating or Progressive Message - every 1/2 second
A temperature button, used for "Action"
Menu/Select button
••••• Waiting time that keeps the last change to a menu item.
★★★★★ Waiting time (depends on menu item) that reverts to original setting and ignores any change to that menu item.
102°F
R
Press Menu/Select repeatedly until UTIL (Utilities) appears in the LCD.
UTIL
INFO
SSID
M 100
_200
V0.21
Start display of string. There is a 2 second delay on each number.
To FIRST item in Main Menu (TEMP Range)
MODL
ABCD
EFGH
SETP
S 02
SIG
1234
0525
Start display of string. There is a slight delay on each number.
120V
120 or 240 VAC input power sensed by a UL system at startup.
OR
3-6
3-6 or 1-3 Heater Wattage as programmed. Displayed by a CE system at startup.
H 0
Heater Type
DIP Switch Settings
SW 16
0310
DIP Switch 1 - Test Mode Off (0) or On (1)
DIP Switch 2+3+4 = the number of HS pumps with heat
Store Settings (0) or Memory Reset (1)
N/A or Special Amperage Rule 1 or 2
PANL
V0.21
These strings will display once and return to the beginning. Press Temperature again to display the string again.
••••• Waiting 10 seconds will allow the screen to return to normal operation.
Only if GFCI is enabled
GFCI
Displays GFCI Test Menu
See Page 17
A/B°
OFF
ON
To Set
When set to ON, Panel will display alternate readings from Senor A and Sensor B on Main Screen
★★★★★ Waiting a few seconds reverts to original setting
FALT
LOG
Displays Fault Log
See Page 18
Only if DEMO Mode is enabled
DEMO
DEMO
FOR
0:57
Or ★★★★★ a few seconds
Back to normal operation
Indicates a Menu Item that Depends on a Manufacturer Configuration and may or may not appear.

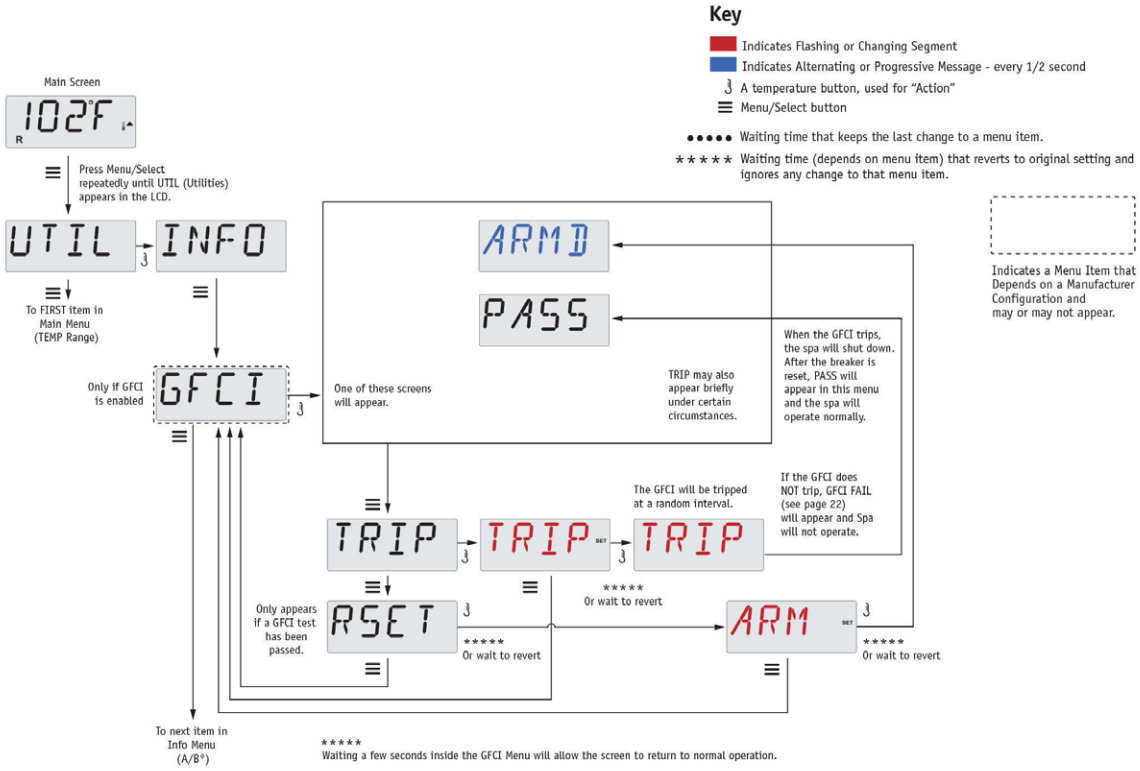
Utilities – GFCI Test Feature

Not Available on CE Rated Systems.

A GFCI is an important safety device and is required equipment on a hot tub installation.

Your spa may be equipped with a GFCI Protection feature. (UL rated systems only.) If your spa has this feature enabled by the manufacturer, the GFCI Trip Test must occur to allow proper spa function.

Within 1 to 7 days after startup, the spa will trip the GFCI to test it. (The number of days is factory programmed.) The GFCI must be reset once it has tripped. After passing the GFCI Trip Test, any subsequent GFCI trips will indicate a ground fault or other unsafe condition and the power to the spa must be shut off until a service person can correct the problem.



Forcing the GFCI Trip Test

The installer can cause the GFCI Trip Test to occur sooner by initiating it using the above menu.

The GFCI should trip within a few seconds and the spa should shut down. If it does not, shut down the power and manually verify that a GFCI breaker is installed and that the circuit and spa are wired correctly. Verify the function of the GFCI with its own test button. Restore power to the spa and repeat the GFCI Trip Test.

Once the GFCI is tripped by the test, reset the GFCI and the spa will operate normally from that point. You can verify a successful test by navigating to the above menu. PASS should appear after a temp button is pressed from the GFCI screen.

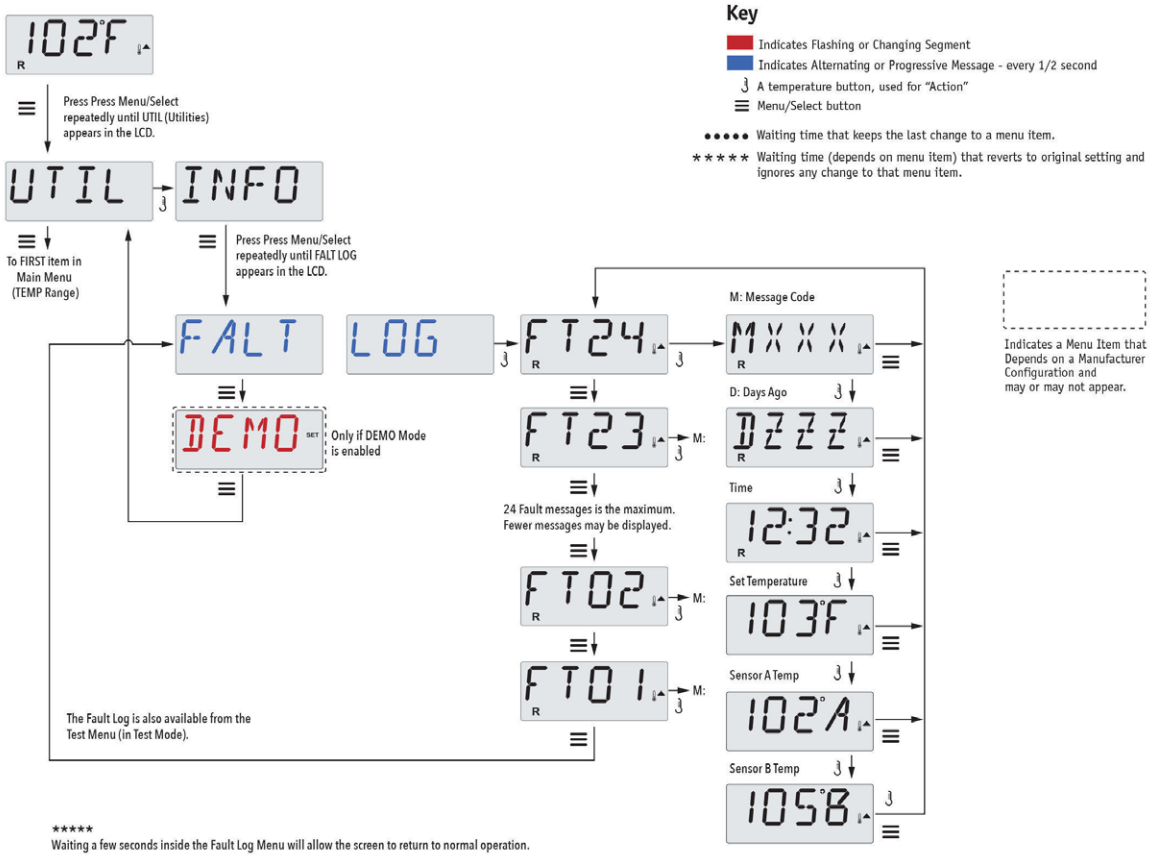
The end-user must be trained to expect this one-time test to occur and how to properly reset the GFCI.

Utilities – Fault Log

A Little History can tell a lot

The Fault Log stores up to 24 events in memory and they can be reviewed under the Fault Log Menu.

Each event captures a Fault Message Code, how many days have passed since the fault, Time of the fault, Set Temperature during the fault, and Sensor A and B temperatures during the fault.

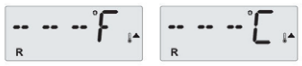


General Messages

Priming Mode – MO19

Each time the spa is powered up, it will enter Priming Mode. The purpose of Priming Mode is to allow the user to run each pump and manually verify that the pumps are primed (air is purged) and water is flowing. This typically requires observing the output of each pump separately, and is generally not possible in normal operation. Priming Mode lasts 4 minutes, but you can exit it earlier by pressing any Temp button. The heater is not allowed to run during Priming Mode.

NOTE: If your spa has a Circ Pump, it will turn on with "Light" in Priming Mode. The Circ Pump will run by itself when Priming Mode is exited.



Water Temperature is Unknown

After the pump has been running for 1 minute, the temperature will be displayed.

Too Cold - Freeze Protection

A potential freeze condition has been detected, or the Aux Freeze Switch has closed, and all pumps and blower are activated, either one at a time, or all at once, depending on how your system was built. All pumps and blower are ON for at least 4 minutes after the potential freeze condition has ended, or when the aux freeze switch opens.

In some cases, pumps may turn on and off and the heater may operate during Freeze Protection.

This is an operational message, not an error indication.

Water is too Hot (OHS) – MO29

One of the water temp sensors has detected spa water temp 110°F (43.3°C) and spa functions are disabled. System will auto reset when the spa water temp is below 108°F (42.2°C). Check for extended pump operation or high ambient temp.

J29 Warning – MO44

J29 is typically used as a Heater Disable input. As such, it should not typically be shorted at power-up. This message appears if J29 is shorted at power-up.

Heater-Related Messages

Heater Flow is Reduced (HFL) – MO16

There may not be enough water flow through the heater to carry the heat away from the heating element. Heater start up will begin again after about 1 min. See “Flow Related Checks” below.

Heater Flow is Reduced (LF)* – MO17

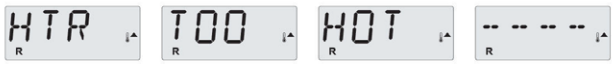
There is not enough water flow through the heater to carry the heat away from the heating element and the heater has been disabled. See “Flow Related Checks” below. After the problem has been resolved, you must press any button to reset and begin heater start up.

Heater may be Dry (dr)* – MO28

Possible dry heater, or not enough water in the heater to start it. The spa is shut down for 15 min. Press any button to reset the heater start-up. See “Flow Related Checks” below.

Heater is Dry* – MO27

There is not enough water in the heater to start it. The spa is shut down. After the problem has been resolved, you must press any button to reset and restart heater start up. See “Flow Related Checks” below.



Heater is too Hot (OHH)* – MO30

One of the water temp sensors has detected 118°f (47.8°C) in the heater and the spa is shut down. You must press any button to reset when water is below 108°f (42.2°C). See “Flow Related Checks” below.

A Reset Message may Appear with other Messages.

Some errors may require power to be removed and restored.

Flow-Related Checks

Check for low water level, suction flow restrictions, closed valves, trapped air, too many closed jets and pump prime.

On some systems even when spa is shut down, some equipment may occasionally turn on to continue monitoring temperature or if freeze protection is needed.

Sensor-Related Messages

Sensor Balance is Poor – MO15

The temperature sensors MAY be out of sync by or 3°F. Call for Service.

Sensor Balance is Poor* – MO26

The temperature sensors ARE out of sync. The Sensor Balance is Poor fault has been established for at least 1 hour.
Call for Service.

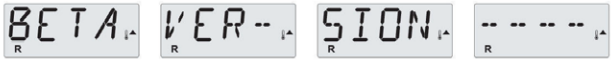
Sensor Failure – Sensor A: MO31, Sensor B: MO32

A temperature sensor or sensor circuit has failed. Call for Service.

Miscellaneous Messages

No Communications

The control panel is not receiving communication from the System. Call for Service.



Pre-Production Software

The Control System is operating with test software. Call for Service.

°F or °C is replaced by °T

The Control System is in Test Mode. Call for Service.

* This message can be reset from the topside panel with any button press.

System-Related Messages

A Pump Appears to be Stuck ON – MO34

Water may be overheated. POWER DOWN THE SPA. DO NOT ENTER THE WATER. Contact your dealer or service organization.

A Pump Appears to have been Stuck ON when spa was last powered - MO35

POWER DOWN THE SPA. DO NOT ENTER THE WATER.
Contact your dealer or service organization.

The water level is too low

Some systems have a water level detect, and this message appears if it detects that the water level is too low.

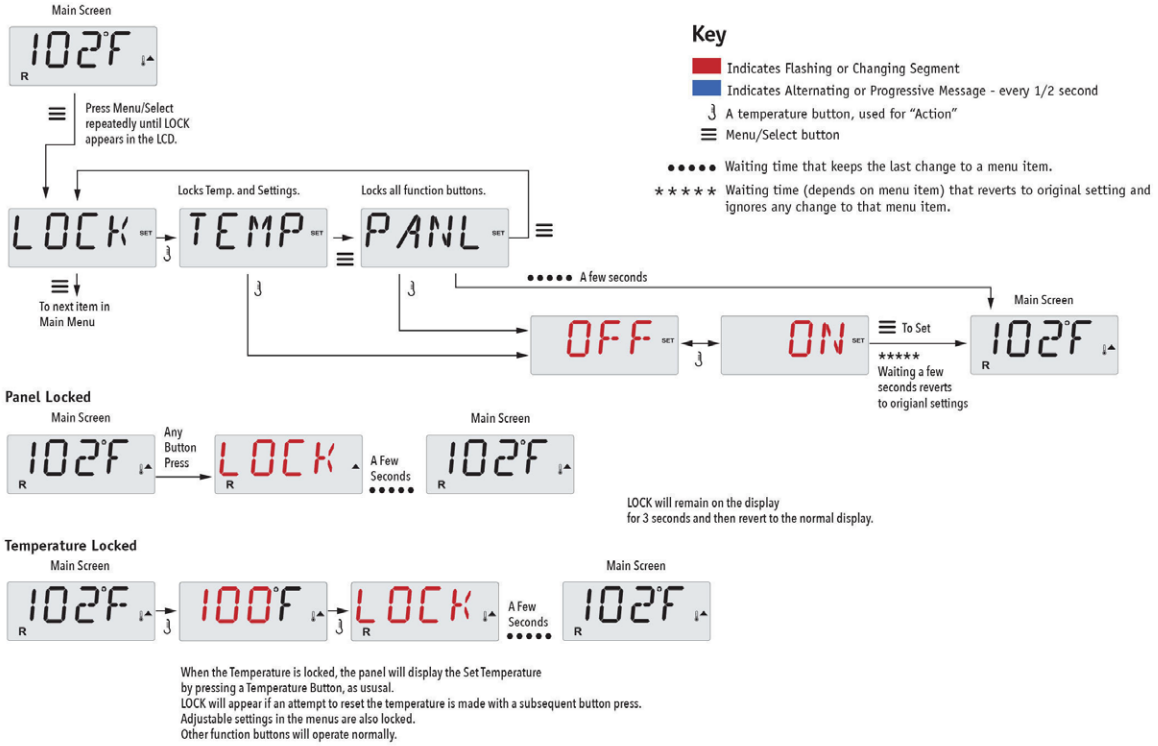
Restricting Operation

The control can be restricted to prevent unwanted use or temperature adjustments.

Locking the panel prevents the controller from being used, but all automatic functions are still active.

Locking the Temperature allows Jets and other features to be used, but the Set Temperature and other programmed settings cannot be adjusted.

Temperature Lock allows access to a reduced selection of menu items.
These include Set Temperature, FLIP, LOCK, UTIL, INFO and FALT LOG.



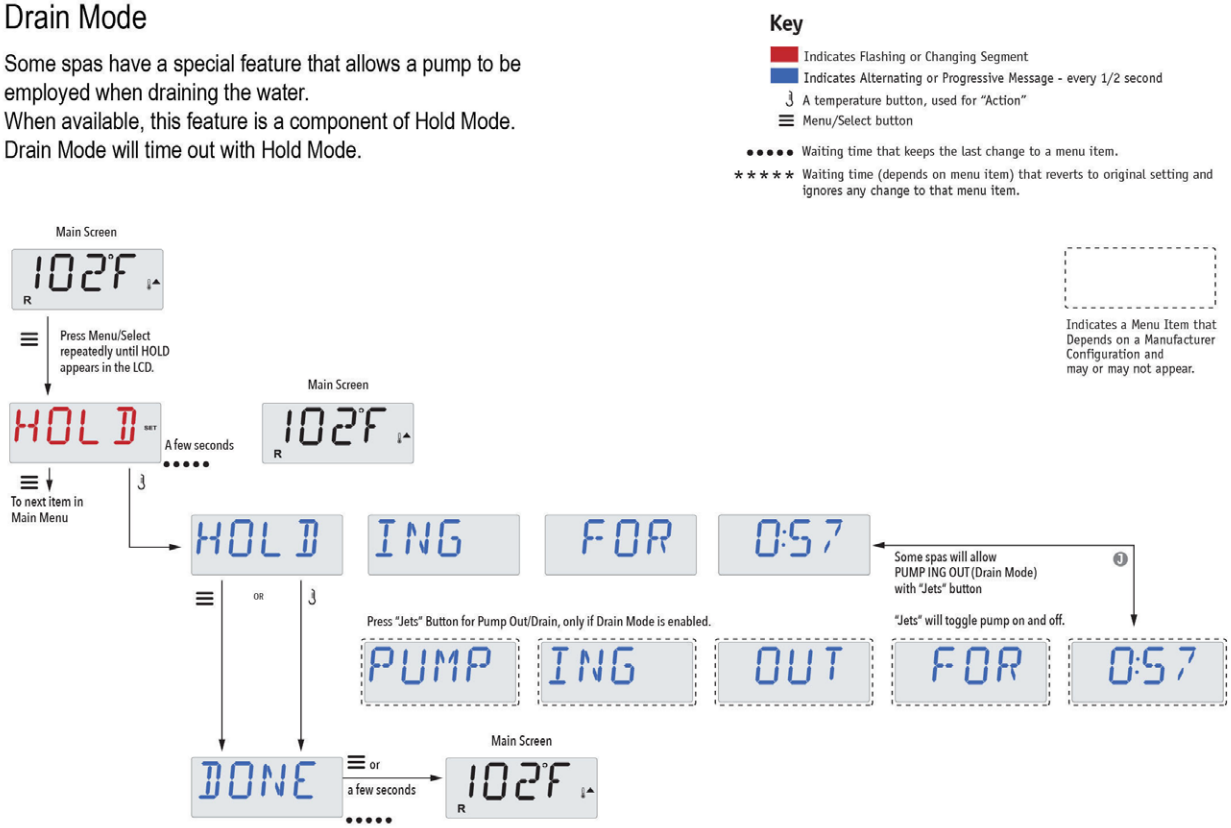
Hold (Standby)

Hold Mode –MO37*

Hold Mode is used to disable the pumps during service functions like cleaning or replacing the filter. Hold Mode will last for 1 hour unless the mode is exited manually.

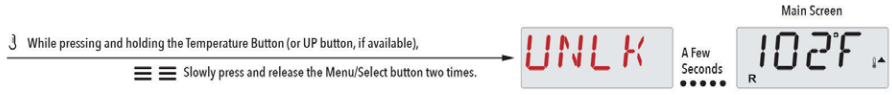
Drain Mode

Some spas have a special feature that allows a pump to be employed when draining the water.
When available, this feature is a component of Hold Mode.
Drain Mode will time out with Hold Mode.



Unlocking

This Unlock sequence may be used from any screen that may be displayed on a restricted panel.



NOTE: If the panel has both an UP and a Down button, the ONLY button that will work in the Unlock Sequence is the UP button.

The temperature will not Unlock if the Unlock sequence is done while the panel is displaying "LOCK".

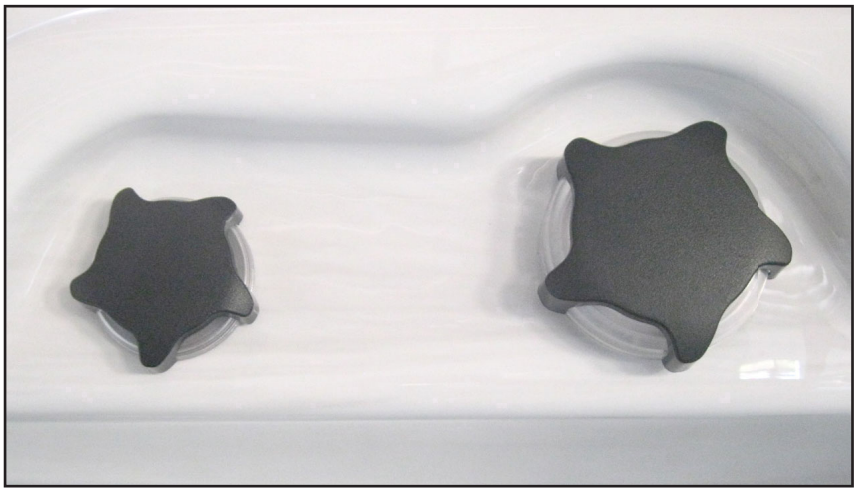
Jets

Almost all of the jets in your spa are adjustable. Rotating the face of an adjustable jet to the left (counter-clockwise) will decrease the amount of water flow through the jet. Rotating the face of an adjustable jet to the right (clockwise) will increase the amount of water flow through the jet. (See example shown below.)

Neck jets adjust in the opposite directions (counter-clockwise to increase, clockwise to decrease).

Water Diverters

Water diverter knobs are 1" and 2" knobs located around the top of your spa. They allow you to divert water through jets from one side of the spa to the other, or from floor jets to wall jets. This is accomplished by rotating the knob to the left or right to increase or decrease the flow of water through the jets.



Air Control

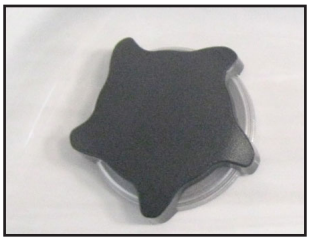
The air controls is the 1" knob located around the top of your spa. The air control will let you add a mixture of air with the jet pressure. This is accomplished by rotating the knob to the left or right to increase or decrease the amount of airflow through the jets.

Waterfall (Option)

Some spa series include a waterfall. When the booster pump is on, rotate the knob on top to adjust the force of the cascade waterfall as shown here or use the knob to turn off the waterfall completely.

Hydro Streamer Waterfall / Optional Feature

Your spa may include two to eight streamer waterfalls. When the booster pump is on, turn the 1" diverter knob to adjust the rate of flow to the waterfall jets.



The waterfall jet faces are not adjustable. Do not turn the jet faces because you may accidentally remove them.

Always shut off water to the hydro streamer jets before you place the cover on the spa. Water from the hydro streamer jets sprays in an arc that is higher than the top surface of the spa. When water from the hydro streamer sprays the bottom of the cover, it will collect and run to the edge of the spa and drip over the top.

Cover Latches

When your hot tub is not in use, make sure you place the cover on top and latch it securely. Besides protecting your hot tub from sun damage and keeping out contaminants, it will prevent small children from drowning in the hot tub.

Your cover will have four clips attached to the ends of the four latches, two on each end of the hot tub cover. There will also be a small bag with eight wood screws.

After you place the cover on the hot tub, attach the clips to the side of the hot tub using the wood screws.

Spa Cover and Locking System

The spa cover can be considered one of the most important parts of your spa. The spa cover helps retain the heat inside of your spa in all different types of weather. The cover works as a lid on a thermos, when the spa is not in use the cover helps lower the amount of time the spas heater has to run for. Using the cover will help lower your operating cost of your spa when the spa is not in use.

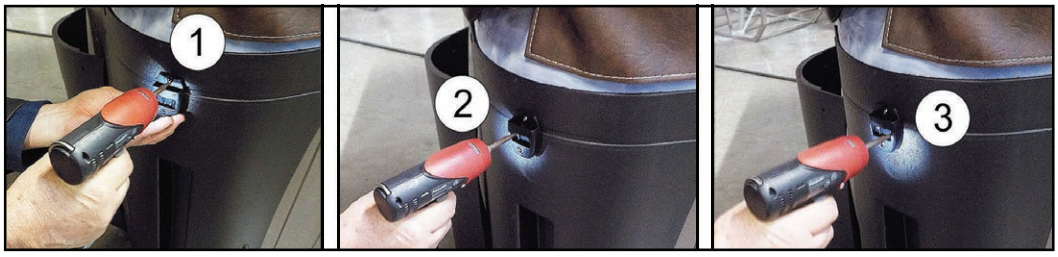
Note: The cover is constructed of rigid foam and metal, but it is not meant to support weight for your safety, do not sit, stand, or lie on the cover, nor should you place objects on top of the spa cover

- Covered spas will protect your spas finish from the suns ultraviolet rays.
- You are required to use the spa cover to maintain warranty coverage.
- Covering your spa prevents children or pets from drowning in your spa.

Step 1 Place cover on spa. Make sure it is correctly positioned, with the skirt of the cover wrapping over your spa shell. This helps prevent blistering and cracking from sun exposure.

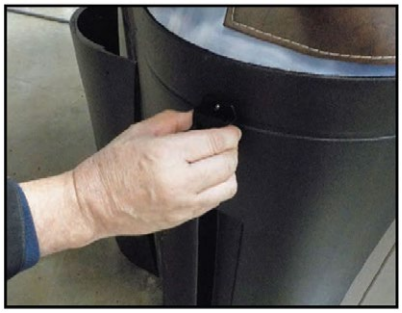
Step 2 Position the tie-down hardware (attached to the straps of your cover) on the side of the spa so they are easily reached by the cover tie-down straps.

Step 3 With the straps pulled tight (but not overly right), lightly pre-drill the location for screw placement. Gently drill 3 holes - one for each screw slot in the lock.
Note: Use a low torque drill, or use the lowest setting on your drill, do not drill in the screw all the way as the corners are designed with an air pocket inside to retain heat inside of your spa. Too much force lay deform the shape of the corner and would not look as appealing.



Step 4 Use a screwdriver to finish screwing in the three screws, repeat this process for the remaining 3 corners.

Step 5 Keep the cover fastened down at all times when not in use, locking hardware may be locked with a key (provided in the packaging of the spa cover)



Step 6 The provided key will allow you to lock down your spa cover. We recommend locking your spa cover when the spa is not in use. Store your key somewhere safe, away from children.

WARNING
AVOID
DROWNING
RISK

FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN INJURY OR DROWNING
NON-SECURED OR IMPROPERLY SECURED COVERS ARE A HAZARD.
REMOVE COVER COMPLETELY BEFORE ENTRY OF BATHERS.
ENTRAPMENT POSSIBLE.
KEEP COVER ON SPA AND LOCKED WHEN NOT IN USE

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Clear Water Plan

This section is intended for new spa owners who are not familiar with adjusting spa water chemistry. Everyone's knowledge with maintaining water quality is different, but there are some general concepts you need to know.

Water maintenance is not difficult, however it is something that requires regular attention. The most important thing to understand about taking care of your spa water, is that preventative action is easier than corrective action when balancing chemistry and maintaining water clarity

Before beginning, we recommend you become familiar with some water quality terms and their definitions within this following section.

The 4 Steps of Water Clarity

1. Chemical Balancing

Learning how to properly balance your water.

You will need to test and adjust the chemical balance of your spa water, this is not a difficult task but it must be done regularly. Important areas to focus on with water chemistry is the calcium hardness, total alkalinity, and the pH range.

Spa owners with salt generators will need to perform a total dissolved solids and phosphate test. This must be done before dissolving salt into the water.

2. Sanitation and Shock

Learning how to properly sanitize and shock your spa.

Sanitizers kill bacteria and viruses and keeps your water clean. A low sanitizer level will allow microbes to grow quickly in the spa water . We recommend using either granulated chlorine or bromine as your sanitizer.

You also need to add shock to the water to stimulate the chemical sanitizer. How much you use and how often you use sanitizers, depends on how frequently the spa is used.

3. Filtration

Learn how to properly clean your filter

Cleaning your filter cartridge is the easiest and most effective thing you can do to keep your spa water clear.

A clogged dirty filter will cause the heater and pump to work harder than they need to, possibly causing them to fail.

The spa's heating system will only function with the proper amount of water flow through the system.

4. Consistency

Make checking your spa part of your daily routine.

Clear water requires regular maintenance. Establish a routine based on a regular schedule, testing your water on a daily basis.

Maintaining your water quality helps the enjoyment of your spa and extends the lifetime of spa components by preventing damage from neglect and chemical abuse.

Water Testing Methods

There are two testing methods to choose from:

Test strips are a convenient testing method commonly used by spa owners.

The reagent test kit is a method which provides a high level of accuracy but is more expensive and more difficult to use if not experienced with this testing method.

Adding & Balancing Spa Chemicals

IMPORTANT: All spa water chemicals, including MPS (Shock), chlorine, granulated pH increaser or decreaser, granulated total alkalinity increaser, calcium hardness increaser, liquid stain and scale inhibitor, and liquid de-foamer must always be added into or in front of the filter compartment while the primary jet is running for a minimum of 10 minutes.

1. - Fold back the cover.
2. - Press the Jets button or Jet 1 button (Touch devices, activate pump 1)
3. - Carefully measure the recommended amount of chemical and slowly pour it into the filter area. Use care not to splash chemicals on your hands, clothes, eyes, or spa surface/siding
4. - Close the spa cover

Warning: High sanitizer levels can cause discomfort to the user's eyes, lungs, and skin. Always allow the sanitizer level to fall into the recommended range before using the spa.

IMPORTANT NOTE REGARDING SHOCK TREATMENT: After administering shock to your spa, leave the cover open for a minimum of 20 minutes to allow the oxidizer gas to vent into the atmosphere. A high concentration of trapped oxidizer gas which may exist as a result of the shock treatment (not daily sanitation) may eventually cause discoloration or vinyl degradation to the bottom of the cover. This type of damage is considered chemical abuse and is not covered under the terms of the limited warranty.

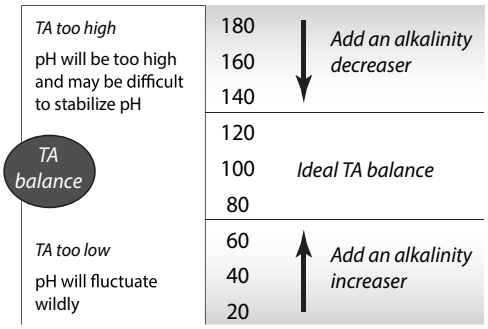
Spa Chemical Balancing

Maintaining spa water chemistry can be tricky, especially since there are many methods of keeping your water clear and clean. Note: We do not recommend a specific brand of chemicals.

See a spa dealer for guidance and recommendations on spa chemicals and supplied needed, as water chemistry varies from region to region. Various chemicals often sold under brand names, but a spa dealer can advise you on generic chemicals that are often less expensive than proprietary brands.

Balancing the Total Alkalinity (TA)

Total Alkalinity is a measure of the total levels of carbonates, bicarbonates, hydroxides, and other alkaline substances in the water. TA is referred to as the waters "pH Buffer". In other words its a measure of the ability of spa water to resist chemical changes in the pH level.



If the TA is too low, the pH level will fluctuate widely from high to low. Fluctuations in pH level can cause corrosion or scaling of the spa components. Low TA can be corrected by adding sodium carbonate (pH/Alkalinity Up).

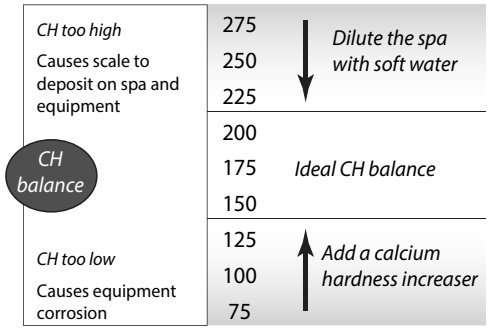
If the total Alkalinity is too high, the pH level will tend to be high, and my be difficult to bring down. ilt can be lowered by using sodium bi-sulfate (pH/Alkalinity Down).

Once the TA is balanced, it normally remains stable, although the addition of more water with a high or low alkalinity will raise or lower the TA reading of the water.

When the Total Alkalinity is within the recommended range. Proceed to the next step.

Balancing the Calcium Hardness (CH)

Calcium Hardness is a measure of the total amount of dissolved calcium in the water. Calcium helps control the corrosive nature of spa water, thats why Calcium - low water (Soft Water) is not recommended. It is very corrosive to the equipment and can cause stains in the spa shell.



if the CH is too high (Hard Water) formation of scale on the spa shell & surface can result. You can use a generic calcium remover to remove hardness from water. CH can also be decreased by dilution (75% Hard water, 25% Soft water) will usually yield a reading within the correct range. If soft water is not available or practical for you, a stain and scale inhibitor should be added to the spa water, according to label instructions.

If the CH is too low, add CH Increaser.

Once the CH is balanced, it normally remains stable, although the addition of more water with a high or low calcium content will raise or lower the CH reading of the water.

When the CH is within the recommended range proceed to the next step.

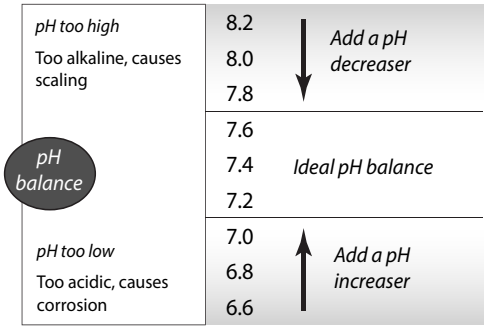
Balancing the pH

The pH level is the measure of acidity and alkalinity. Values above 7.8 are alkaline; those below 7.2 are acidic. Maintaining the proper pH level is extremely important for optimizing the effectiveness of the sanitizer, maintaining water that is comfortable for the user, and preventing equipment deterioration.

If the spas water's pH level is too low, the following may result:
The sanitizer will dissipate rapidly

- The water may become irritating to spa users
- The spas equipment may corrode
- Bacteria and algae spikes can occur.

If the pH is too low it can be increased with sodium hydrogen carbonate (pH/Alkalinity Up) to the spa water.



If the pH level is too high, the following may result:

- The sanitizer is less effective
- Scale will form on the spa shell surface and equipment
- The water may become cloudy
- The filter cartridge may become obstructed.

If the pH is too high, it can be decreased by adding sodium bi-sulfate (pH/Alkalinity Down) to spa water.

Note: After adding sodium hydrogen carbonate or sodium bi-sulfate, wait two hours before testing the spa water again for pH. Compounds take time to fully dissolve into the spa water, initial reading may not be accurate

Its important to check the pH on a regular weekly basis. The pH will be affected by the bather load, the addition of new water, the addition of various chemicals, and other sanitizer used. When the pH is within the recommended range, proceed to begin the sanitation process.

Sanitation and Shock

Sanitizers kill bacteria and other organic waste by breaking them down to non-harmful level which are filtered out. Before you fill your spa, you need to decide which chemical sanitizer you wish to use. Consult your Cal Spas dealer for the right decision with regards to your lifestyle and spa usage.

We recommend granulated chlorine or bromine as your sanitizer. Both work well when maintained regularly. DO NOT USE TABLET OR COMPRESSED SANITIZERS. Use of these sanitizers will void your warranty.

Note: DO NOT USE Trichlor. Trichlor is very acidic and the hot temperature of the spa causes it to dissolve too fast, it will cause damage to your spa and will void your warranty.

Whichever chemical you decide to use, do not take shortcuts. It will provide you with clean, safe, clear, spa water with a minimum of effort. Spa owners with an ozonator still need to use a chemical sanitizer. Whenever you test chemical levels, your test strip will likely have a test for chlorine or bromine. Make sure you sanitizer falls within the range shown on the next page.

Whenever you test your chemical levels, your test strip will likely have a test for chlorine or bromine. Make sure your sanitizer falls within the range shown on the next page.

Starting & Maintaining Sanitizer Levels

After you choose a sanitizer, you will need to establish a baseline and maintain it regularly.

Sanitizing your spa with chlorine or bromine is very similar. Each sanitizer has its advantages and disadvantages. Sanitizer helps neutralize bacteria that can cause illness and other organic matter.

Bromine: Creates less odor and skin irritation than chlorine, bromine is less likely to do so. Additionally, unlike chlorine when bromine combines with bather waste and other contaminants in the water it remains an effective sanitizer. Bromine is also far less pH dependent than chlorine. Always remember that bromine itself is not a sanitizer, it needs to be activated with a bromine shock chemical in order to be effective, speak with your spa dealer for more information.

Chlorine: The most commonly recognized sanitizer is chlorine. However, the effectiveness of chlorine depends heavily on the pH level of the spa water. In order to get the most effective and economical benefit of chlorine, you must maintain a consistent pH level of between 7.2-7.6; a disadvantage of using chlorine is that when chlorine combines with bather waste and other contaminants, not only does it loose its sanitizing ability, it can cause odors and irritate eyes and skin to individuals with sensitive skin or prolonged spa exposure.

Testing For:	Ideal Range (ppm) Minimum Maximum
Chlorine Level	**3.0 - 5.0**
Bromine Level	**6.0 - 11.0**

Note: If you choose to use bromine or chlorine we do not recommend the use of a floater. You have more control over the sanitizer levels by adding sanitizer as needed. Chemical abuse will void your warranty.

Starting with fresh water/pre-filtered well water:

1. Establish a baseline by adding either granulated chlorine or bromine.
   - Use a half ounce of chlorine for every 500 gallons of water
   - Use half an ounce of bromine for every 100 gallons

2. Run the Jets for 10 minutes (Press/toggle the pump 1 button/icon)

3. Test the water, make sure the pH, TA, and CH levels all fall within the ranges shown in the previous pages, make adjustments as needed.

4. After balancing the water, if you are using bromine to sanitize your spa, you must activate your bromine. You will need to shock-oxidize the bromine inside of your spa. Depending on the size of your spa, usually you must add one to two ounces of shock, refer to the instructions inscribed in your chemical of choice.

5. Test the water again, when the water is balanced, your spa is ready to use.

Shocking the Water

In addition to using a chemical sanitizer, you will periodically need to shock the water. Shocking the water helps remove burned-out chemicals, bacteria, and other organic material from your spa's water and improves your sanitizer's effectiveness.

Do not use chlorinating shock, which can damage the spas jets and pump seals. Only use Oxidizer shock. It can be used with either bromine or chlorine sanitizers.

Add two ounces of oxidizer shock per 500 gallons once a week, after heavy bather loads, or if the water has a strong odor. The spa must be running with all of the jets on high for 30 minutes with the cover open. If necessary repeat the oxidizer shock in 30 minute intervals.

Filtration and Cleaning

The filter is the part of your spa that removes big and microscopic debris from the water to maximize your spas water clarity. Regular maintenance must be done to maximize the spas filtering performance and heat efficiency.

It is extremely important that you never run the spa without a filter, there is a possibility that debris may be sucked into the plumbing, damaging the spa pumps and heater.

Cleaning the Filter

In addition to spraying the filter down with a hose to remove surface debris, the filter must be deep cleaned every so often to dissolve scale and particles that are trapped within the pleats of the filter. Even if the filter looks clean, scale and other particles hide deep within the filter fibers restricting water flow. If the filter is not properly cleaned this will cause flow issues within the spa heater creating a heater malfunction. We recommend cleaning your filter at least once a month or every two weeks depending on spa usage.

Cleaning the filter

1. Remove the filter by unscrewing the filter counterclockwise from the top of the filter, do not use excessive force when removing or installing the filter.
2. Place the dirty filter into a bucket of water where the filter is completely submerged in water. Add the desired filter cleaner of choice, on average most manufactures recommend 8 ounces of chemical cleaner, verify the amount used on your chemical instructions.

Note: It is recommended to obtain a spare filter to use in the spa when performing maintenance on the dirty filters. This way you can rotate the filters and extend their lifespan.

3. Soak the filter for a minimum of 24hrs
4. Spray the filter with a water hose, with careful attention between filter pleats.
5. Reinstall the filter, Do not over-tighten.

Bather Load

"Bather Load" is the term used to describe the number of people using a spa, combined with the length of usage, and the frequency of usage. All these factors have a great effect on the spa water. The higher the bather load, the more chemicals need the be added and a longer filtration time will be needed.

Recommendations are designed for spas with average bather load (3 to 4 people=, 15 minutes of usage, three times a week at 100 degrees). If your bather load exceeds these guidelines, and you experience water quality problems, increase the amount of filtration first, (go to the next higher filtration number) then if water quality is still not adequate, consult the advice of your spa dealer for additional chemical or system recommendations. Be sure to give them your bather load information.

Ozonator

The ozone generator releases ozone into the spa water. You will still need to test for chlorine/bromine and occasionally replenish it to return the sanitizer level back to baseline. **For spas without a circulation pump, "Pump 1" will run at low speed and the ozonator will run during filtration.**

The spa's control system is factory programmed with one filter cycle that will run in the evening, aligning with lower energy rates in that time slot. The time and duration of the filter cycle can be set according to your needs. In addition, a second filter cycles can be enabled. Filtration time may need to be increased with a heavy bather load.

Make sure water diverter valves are turned all the way to the left or right, and never left in the center position during filtration cycles. When the diverter valve is in the center potion, there is not enough suction from the pump in order to inject ozone into the spa. The ozonator will generate ozone, but it would not be injected into the water effectively.

Common Water Chemistry Question

Question : Why is the use of a floater not recommended to sanitize my spa water?

Answer: We do not recommend the use of a floater for three reasons:

- The floater is unable to control the rate at which the sanitizer is dissolved into the water. When a floater is placed into a spa the sanitizer levels inside the spa can be extremely high. High sanitizer levels over a period of time will cause chemical burns and discolor the spa shell, jets, pillows, and spa cover underside. The use of floaters tends to lead to negligence of spa water sanitizer levels as well. Once the sanitizer is all dispensed and the floater is not checked daily, the low sanitizer level will allow viruses, algae and harmful bacteria like Legionella (Legionnaires disease) and E-Coli to grow.

- Floaters tend to stay in one area of the spa most of the time, causing this area to be exposed to extreme sanitizer levels. Most commonly a floater will become trapped near the filter weir or a seat, causing chemical damage to the section of the spa.

- The floater may allow small chunks or pieces of the concentrated sanitizer to fall out of its housing causing the chunks to settle at the bottom, causing pitting or chemical blisters to the spa shell. For this reason we advise you to use granulated chlorine or bromine as granulated sanitizers are designed for dissolve quickly inside of the spa with your jets activated. Chemical abuse is not covered under the terms of the limited warranty.

Question : When I open my spa, I smell chlorine. How to I get rid of the smell?

Answer: There are two types of chlorine in your spa. the first is "Free Chlorine" which is chlorine molecules that are available to sanitize your spa. This free chlorine does not have an odor. The second is chloramine, which is a byproduct of chlorine that has already been used/expended to sanitize. Chloromanes generate the strong chlorine smell most spa owners experience. This can be eliminated by shocking your spa water, if you smell chlorine in the water, its time to shock.

Question: Why can't I fill my spa with soft water?

Answer: Soft water is essentially the same as regular water except in one regard that is important for spa chemistry and that is calcium levels. The calcium inside of the water has been replaced by sodium, which can be corrosive to heaters, pumps, and other plumbing equipment which will become expensive to replace. Calcium is needed for certain chemicals to properly function as well. Only use potable water that has not been treated with a water softener.

Question: I am concerned about the amount of chemicals my family is exposed to, do I really need to use as many chemicals in large amounts?

Answer: While there should be concern of over exposure to any chemical being unhealthy, spa chemicals when used correctly are designed to be effective and beneficial. In the case of spa water, the chemicals we recommend are import ant to protect the user from waterborne illness, including skin infections and disease causing pathogens, chemicals also help to prevent corrosion of spa components.

Question: Why isn't water chemistry damage (chemical abuse) covered under warranty?

Answer: The chemical levels and water quality of the water in the spa are directly under your control. With proper basic care the spa will provide many years of hot water relaxation. If you are unsure about water chemistry, reach out to your spa dealer.

General Water Care Schedule

Prior to each use	Test the spa water. Adjust chemical levels as necessary. Shock the water by adding ½ teaspoon of sodium dichlor per 250 gallons or 1 teaspoon of MPS per 250 gallons.
After each use	Add an ounce of oxidizer after heavy bather loads
Once a week	Check the filter well and inside the filter pipe for leaves and foreign matter. Test the spa water. Adjust chemical levels as necessary. Shock the water by adding ½ teaspoon of sodium per 250 gallons or 3 teaspoons of MPS per 250 gallons. If your water source is high in calcium, add stain and scale preventer.
Every two to four weeks	Deep clean your spa's filter . How often you clean your filter depends on how much you use your spa. There is no harm in frequently cleaning your filter and will only help your spa's efficiency.
Every two to four months	Change the spa water. How often you change the water depends on how much you use the spa. When you change the water, you will need to: • Clean and polish the acrylic surface • Clean and treat the spa cover and pillows • Deep clean the filter • Refill your spa
Each time you refill the spa	Follow the section "Filling and Powering Up Your Portable Spa"

Generic Names for Chemicals

Water Chemistry Common name	Usual chemical name	Common brand names
pH Up	sodium hydroxide	pH Increaser, pH Up, pH Plus, pH Booster
pH Down	sodium bisulfate sodium bicarbonate (baking soda) sodium carbonate	pH Decreaser, pH Down, pH Minus, pH Subtracter, Dry Acid
Alkalinity increaser	sodium carbonate sodium bicarbonate (baking soda)	Alkalinity Increaser, Alkaline Up
Alkalinity decreaser	sodium bisulfate	Alkalinity Decreaser, Alkaline Down
Calcium increaser	calcium chloride	Calcium Increaser, Calcium Up, Calcium Plus, Hardness Increaser
Calcium decreaser	N/A To decrease calcium hardness, drain several gallons of water from the spa and refill using a mixture of 75% hard water and 25% soft water, or use a stain and scale inhibitor.	

Sanitizers		
Common name	**Usual chemical name**	**Common brand names**
Chlorine	sodium dichlor	Both chlorine and bromine are available under numerous brand names
Bromine	sodium bromide	

Shock		
Common name	**Usual chemical name**	**Common brand names**
MPS	monopersulphate	MPS Shock, Oxy-Spa, SeaKlear
Dichlor	sodium dichlor	Dichlor Shock

Note: Dichlor (chlorine) is both a sanitizer and a shock. Monopersulphate (MPS), when used as a shock, can be purchased alone as non-chlorinated shock or combined with dichlor, which makes it significantly more effective than MPS alone.

Other chemical additives		
Common name	**Usual chemical name**	**Common brand names**
Stain and scale inhibitor	These are usually proprietary chemical formulations and cannot be purchased as a single generic chemical.	Metal Stain Gone, Scale Inhibitor, Stain and Scale Preventer, Stain and Scale Defense
Foam inhibitor		Foam Gone, Foam Down, Defoamer
Clarifier		Water Brite, Spa Bright, Water Clarifier, Clear Water, Natural Clarifier, Brite & Clear

Do NOT use these in your spa:

- Sodium hypoclorite (household bleach)
- Trichlor

Chemical Abuse

Chemical abuse is defined as negligent/careless use of both recommended spa chemicals, and use of prohibited chemicals. The spa shell is designed to last for many years, but when the shell is exposed to excessive chemicals, or improper chemical application; this can cause reactions on the shell that can cause pitting, cracks, bubbling, and other blemishes on the shell.

Spa jets, pillows, and other components are designed to withstand sanitizer levels within the range mentioned in this manual. Excessive sanitizer use will cause oxidation of the interior of the spas metals and other components, which can cause rust/oxidation of jets, deterioration of spa pillows, speakers and plastics, and damage/oxidation of the spa cover.

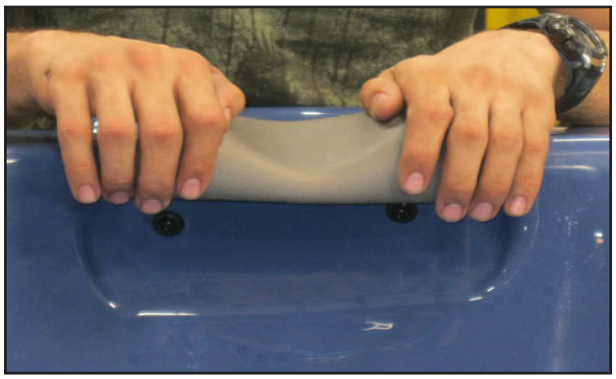
Components & materials damaged by chemical abuse are not covered under warranty. Depending on the extent of damage the entire spa warranty can be voided, as stated in the limited warranty. Questions of chemicals you intend to use in your spa, can be directed to a customer service representative by calling American Spas directly.

Removing and Reseating the Pillows

You can remove the pillows for cleaning and maintenance quickly and easily. This method works for all types of pillows.

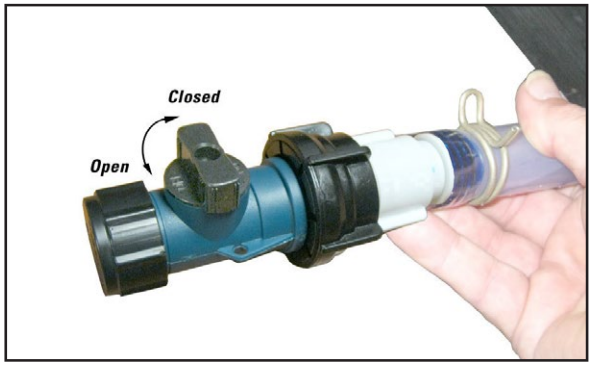
Grab the lower edge of the pillow with both hands firmly and pull up. As you do this, the pillow inserts will pop out of the holes.

Reseat the pillows by aligning the pillow inserts with the holes and tapping the pillow hard enough to insert the pegs back into the holes.



Draining Your Portable Spa

1. Turn off the power at the breaker.
2. Remove all filters.
3. Using a Phillips screwdriver, remove the screws to the access panel and open it.



4. Locate hose ending with the ¾ inch hose-bib fixture.
5. Unscrew the cap.
6. Hook up the female end of a garden hose to the drain fitting.
7. Place the other end of the garden hose where you would like the water to drain to.
8. Turn the valve on the hose-bib fixture to open the drain.
9. Let spa drain completely, then remove garden hose.
10. Turn the valve on the hose-bib fixture to close the drain.
11. Replace the cap.

Winterizing (Cold Climate Draining)

In many areas of the country, the temperature drops below 32˚F (0°C). We recommend that you always have your spa full of water and running at normal spa temperatures (80˚F to 100˚F, 26.7°C to 37.8°C). This will help reduce the risk of freezing in your spa and your spa's equipment.

Warning: If you find the need to drain your spa, be aware of the potential of freezing in your spas equipment and plumbing. Even if the directions below are followed perfectly, there is no guarantee that your spa will not suffer freeze damage. Freeze damage is not covered by your warranty.

1. Open all filter covers.
2. Remove the filter baskets and filters.
3. Drain your spa completely as described in the instructions above.
4. Vacuum water from the spa's main drain fitting with a wet/dry vacuum.
5. Open the bleeder valves on the pumps.
6. For spas with the UV lamp chamber mounted flat on the equipment floor:

   Loosen the quartz tube nut at the top of the UV lamp chamber and pull up the quartz tube to let the water drain from the UV lamp chamber.
7. Disconnect the unions from both sides of the pump.
8. Blow any remaining water out of the jets and equipment area with the wet/dry vacuum.
9. When it has completely finished draining, replace the quartz tube in the UV lamp chamber and retighten the nut. Close the bleeder valves and re-connect the unions on the pumps. Replace the filter baskets and filters.
10. Cover your spa with a good spa cover and an all-weather tarp to ensure that neither rain nor snow enters the spa.

Vacation Care

You can leave your spa unattended for up to two weeks if you follow these instructions.

ALWAYS lock your cover using the cover locks if you plan to be away from home and the spa is filled with water.

1. Refer to control panel type, you may have access to a vacation mode, if not set to lower temperatures of 80F°.
2. Adjust the pH of your water, refer to page 51 to balance your water chemistry.
3. Shock the water (add either chlorine or bromine sanitizer).
4. When you return, check and adjust the pH and shock the water.

If you will not be using your spa for longer than 14 days and a spa maintenance service is not available, we strongly recommend you drain or winterize your spa.

Jet Removal and Replacement

Jets can be easily removed for cleaning.

Grasp the outer rim of the jet and turn it counter-clockwise. The jet will unscrew from the fitting until it is free.

(Shown below in the sequence from left to right is the process for removing the jet. A quarter turn counter-clockwise will turn off the jet. Another quarter-turn will allow you to pull out the jet from the spa.)

To replace the jet, place it in the fitting and turn it clockwise until it is snug in place. Do not overtighten the jet.

Cleaning and Replacing the Filter

Filtration is one of the most important steps you can take to ensure clean, clear water. It is far less expensive to fix water clarity problems by filtering your spa than by using excessive amounts of chemicals, excessive filtration times, or by water replacement. See the section "Clear Water Plan" for more information on cleaning your filter.

Cleaning Your Spa

Spa Cover and Pillows

Due to the constant punishment your spa cover and pillows receive, you should protect them by applying a vinyl and leather cleaner as part of your monthly maintenance plan. Use a product that is specifically designed to protect spa covers and pillows from chemical and ultraviolet light damage without leaving an oily residue behind that is normally associated with common automotive vinyl protectants.

Warning: ***Do not*** use automotive vinyl protectants on spa covers or pillows. These products are generally oil-based and will cause severe water clarity issues that are difficult to correct.

Spa Shell

Each time you drain your spa, before you refill it you should clean your spa shell with an all-purpose cleaner and apply a coat of surface protectant.

Use a low detergent, non-abrasive cleaner specifically formulated to clean the spa without damaging its acrylic finish.

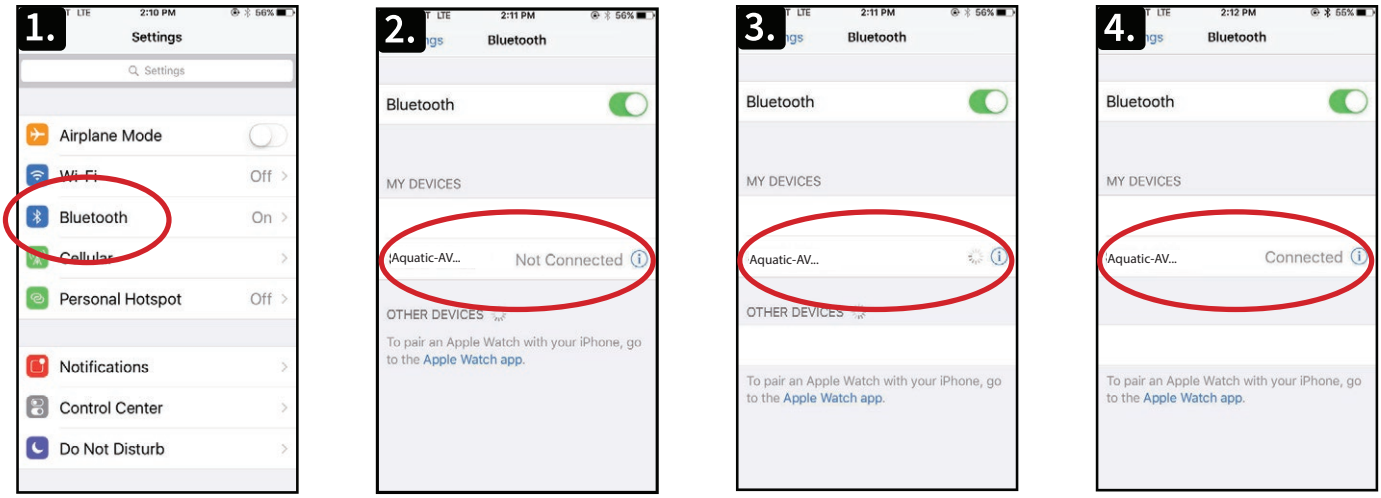
Use a non-oil based surface protectant that is specifically formulated to protect the spa's finish from the chemicals and minerals associated with normal spa use.

Using the Freedom Sound System

The Freedom Sound System entertainment option contains a Bluetooth-enabled speaker system that is available for certain spa models. Any Bluetooth-enabled device can be used to play audio though your spa. Before you can use the sound system you need to pair the Bluetooth module to your device. The antenna is located within the spa cabinet. The speaker system takes a direct input from your device, Bass and treble can be adjusted within your device/app settings. Follow the Pairing procedure, the example shown below is from an iPhone device. Your device may appear differently.

1. Select Bluetooth from your device's options list ensure that Bluetooth is turned on.
2. Select "Aquatic AV" from the list of available devices to pair.
3. Your iPhone may ask for a code to pair with the speakers, the code is 0000 (Android devices-no code needed)
4. Allow your device to pair with the spas Bluetooth module.
5. When the devices have been connected, the device Aquatic AV will be highlighted.

Note: All sounds from your device will be played through the sound system, including system sounds and telephone notifications.



LED Lighting

Press the LIGHT button on the topside control panel to turn the spa light on. If your spa has perimeter LED lights, they will also light up at the same time as the spa light.

The LEDs operate in three modes:

1. **Cycle:** When you continually press the LIGHT button, the LEDs will cycle through the three main LED colors (Red, Green, and Blue) or combinations of the three that produce the following colors: light green, purple, light blue, yellow, etc.

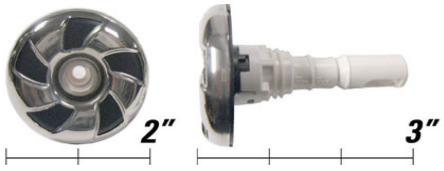
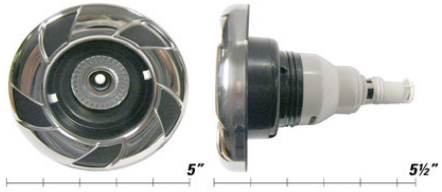
   Each time you press the button, you immediately advance to the next color in sequence or eventually a different light pattern.

2. **Flashing:** When you are cycling through all the colors, the next time you push the LIGHT button, the LED lights may start flashing. This is another normal operational pattern option.

3. **Fading cycle:** The next phase of operation when you push the LIGHT button is a slow and/or fast fade random transition from one color to the next.

Spas with exterior corner LED lighting generally work in the same mode as described above. The variations in color and patterns provide you with multiple options to suit almost any lighting preference.

Replacement Parts

Screw-in Jet Inserts	Screw-in Jet Inserts
ELE 2” Euro No Eyeball PLUCS2295021S 	**MFD 3.5” Maxi Flow Directional** PLUCS2295091S 
ED 2” Euro Directional PLUCS2295051S 	**PSD 5” Power Storm** PLUCS2295131S 
MED 3” XL Cluster Storm Directional PLUCS2295031S 	**ET 2” Cluster Storm Twin** PLUCS2295161S 
mfd 3” Micro Flow Directional PLUCS2295061S 	**MMP 3” Mini Multi-Massage** PLUCS2295171S 

Replacement Cabinet Panels

The complete selection of replacement cabinets for all models is very extensive and too lengthy for this owner's manual. To order replacement panels for your spa, visit www.quickspaparts.com.

ALX Waterfall / optional features

Waterfall Snap Lid #212903-MG (ALX)

PLU21800831

Waterfall Body #212900-WHCL (ALX)

PLU21800832

Waterfall Gasket #212904 (ALX)

PLU21800833

Graphite Gray Cap, Silver Handle; 3/4" Smooth Barb; 2-1/16" (25056-101-000)

PLU25056-101-000

Filter / Cartridge

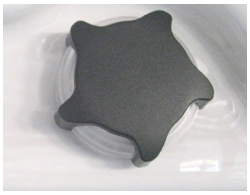
FIL50-5D13H15FCT-3

Please visit www.quickspaparts.com to order your replacement parts.

Water Diverter Valves

Diverter Valve 2" Star Fire, Textured Black

PLU21300468



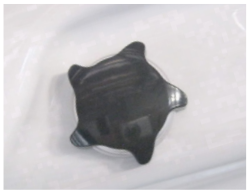
Diverter Valve 1" Star Fire, Textured Black

PLU21300469

Air Control Valve

Air Control Valve Star Fire Black

PLU21300526



LED Lights

1-LED light string
Part #: LIT16100330

2-LED light string
Part #: LIT16100331

4-LED light string
Part #: LIT16100332

Cover Lock and Keys

Part #: ACC01800026, ACC01800020

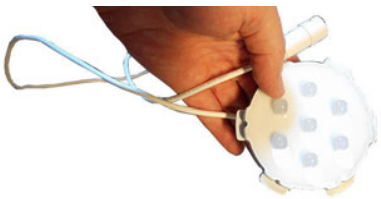
LED Lights

1 to 3 ext. cord
LIT16100335

1 to 1 port ext. cord
LIT16100338

Interior light with logic (7 LED)
LIT16100333

Interior light without logic (7 LED)
LIT16100337



Main light housing, LED lens, fitting nut
LIT630-7048

Replacement of Cabinet Panels

The complete selection of replacement cabinets for all models is very extensive and too lengthy for this owner's manual. To order replacement panels for your spa, visit **www.quickspaparts.com**

Please visit www.quickspaparts.com to order your replacement parts.

Covers

All spa covers are designed with a tapered height, angling downward from the center to the sides to drive off rain and prevent water from pooling.

The covers listed below are filled with 1 lb. foam.

Basic
4" - 2.5"
1.0 Lb. foam

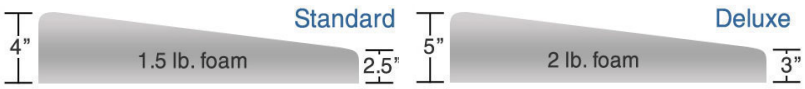
64" x 84" AM-534LS Basic Gray COV6484B42G-CC-2

SIZE	FITS SPA MODELS	TYPE	PART NUMBERS	
84" x 84"	AM-739L AM-739B	Basic	Gray Slate	COV8484B42G-CC-2 COV8484B42G-WN-2
93" x 93"	AM-839L AM-839B	Basic	Gray Slate	COV9393B42G-CC2 COV9393B42S-WN-2
93" x 93"	AM-851L AM-851B	Basic	Gray Slate	COV9393B42G-CC2 COV9393B42S-WN-2
93" x 151"	AM-1325	Deluxe	Gray Dark Brown	COV 93151DG-3 COV 93151DDB-3
93" x 200"	AM-1681	Deluxe	Gray Dark Brown	COV 93200G-3 COV93200DDB-3
84" x 84"	AM-745L	Basic	Slate	COV8484B42S-WN-2
84" x 84"	AM-745L	Basic	Brown	COV8484B42S-WN-2
84" x 84"	AM-7100L	Basic	Slate	COV8484B42S-WN-2
84" x 84"	AM-7100B	Basic	Brown	COV8484B42S-WN-2

The Valentine model covers listed below are filled with either 1.5 lb or 2.0 lb foam.

Standard
4" - 2.5"
1.5 Lb. foam

Deluxe
5" - 3"
2.0 Lb. foam



	Gray Standard	Slate Standard
86" x 48" Fits spa models: V418B, V420B, V422B	OPT86480B42G	OPT86480B42S

Please visit www.quickspaparts.com to order your replacement parts.

Spa Cover Lock and Key
ACC01800020
Pillows
Counter Lounge Pillow  ACC01401500NL

Troubleshooting

Symptom	Possible Causes	Possible Solutions
System / Power Problems		
System does not work	Power is turned off	Reset spa
Control pad and spa equipment do not operate	No electrical power to spa	Turn on or reset the GFCI circuit breaker. If this does not solve the problem, have a qualified electrician check the electrical service.
	The 20 or 30A fuse, depending on the system, has blown	Contact your dealer
The spa does not turn off	Spa is trying to heat up	Check the temperature setting is in Standard mode
	Spa is in filter cycle	Normal. No adjustment necessary
	Spa is in Standard mode	Check setting
Control panel displays a message	An error may have has occurred	See Diagnostic Messages for message code meanings
GFCI breaker trips repeatedly	Improper wiring to spa or GFCI breaker is defective	Consult with a qualified electrician
	There is a defective component on the spa	Contact American Spas
Heat Problems		
Spa does not heat	Heating mode not selected	See control panel instructions
	Water level is too low	Add water to correct level
	No electrical power to spa	Turn on or reset the GFCI circuit breaker. If this does not solve the problem, have a qualified electrician check the electrical service.
	Heater is defective	Contact your dealer
	Gate valve is partially or fully closed	Open gate valves. Note: Never operate your spa with the gate valves closed!

Symptom	Possible Causes	Possible Solutions
Spa gets warm but does not get hot	Thermostat has been turned down	Set control panel to a higher temperature
	Insufficient filtration time	Increase filtration time
	Water level is too low	Add water to correct level
	No electrical power to spa	Turn on or reset the GFCI circuit breaker. If this does not solve the problem, have a qualified electrician check the electrical service.
	Dirty filter cartridge	Clean filter cartridge
	Gate valves closed	Open gate valves
	Spa cover improperly positioned	Align spa cover
Spa gets too hot	Filtration time is set too long	Reduce filtration cycles, especially during summer months
Water Problems		
Water is not clean	Review the "Water Clarity" section of our manual	
High water consumption	Very high evaporation or heavy splashing	Use the cover and refill as necessary
Low water stream from the jets	Running in FILTER mode - slow speed	Select high speed jets
	Block wall suctions or skimmer	Clean the wall suction/skimmer. Remove blockage
	Dirty filter	Clean filter and replace
	Jets are closed	Open jets
	Valves closed	Open valves
No water stream from the jets	Pump has airlock	Remove airlock by priming spa
	Jets are closed	Open jets
	Power switched off, system off	Reset power
	Pump is defective	Contact your dealer
	Pump fluctuations	Low water. Check level on skimmer flap
Water leakage from below the spa	Check the connections and empty the hoses	Close or turn off empty cycle if necessary
Water Pressure Problems		
Jets surge on and off	Water level is too low	Add water to normal level
Jets are weaker than normal or do not work at all	Jet valves are partially or fully closed	Open jet valves
	Filter cartridge is dirty	See Cleaning the Filter
	Air is trapped in the pump	Open the air bleed valve on each pump's housing and allow air to bleed out of the system. Be sure to tighten each air bleed valve as soon as water starts to flow.
	The suction fittings are blocked	Remove any debris that may be blocking the suction fittings
	Gate valve is closed	Open gate valves. Note: Never operate your spa with the gate valves closed!

Symptom	Possible Causes	Possible Solutions
Air and Jets Problems		
No airstream from the jets	Air control not open	Open the control
	Jet spout opening not fixed properly	Check jet spout openings
	Jet spout opening missing	Check jets and replace as necessary
Light Problems		
Standard spa light does not work	Light bulb has burned out	Replace light bulb
	Lighting system is defective	Contact your dealer
Pump Problems		
Pump runs constantly – will not shut off	Problem with circuit board	Contact your dealer
Noisy pump	Water level is too low	Add water to normal level
	Blocked wall suctions or skimmer	Clean the wall suction/skimmer
	Damaged or worn-out motor block	Contact your dealer
	Clogged floor suction or skimmer	Clean floor suction or skimmer
	Leakage of air into suction line	Contact your dealer
	Debris is inside pump	Contact your dealer
	Gate valves are closed	Open gate valves. Note: Never operate your spa with the gate valves closed!
	Damaged or worn motor bearings	Contact your dealer
	Improper or defective wiring	Contact your dealer
Pump turns off during operation	Automatic timer has completed its cycle	Start the cycle again
	Pump has overheated due to the vents on the equipment door being blocked	Clear items away from vents
	The pump motor is defective	Contact your dealer
Pump has a burning smell while running	Damaged or worn motor bearings	Contact your dealer
Pump does not work	Power may be turned off	Reset power
	Pump has over heated	Let cool for one hour
	Incorrect or faulty wiring of electrical supply	Contact your dealer
	Switch is off	Auto reset after the motor has cooled down
	House circuit breaker tripped or in OFF position	Reset circuit breaker Contact your dealer
	Motor overload condition	Motor overload will reset automatically. If problem persists, contact your dealer
	Damaged electrical cord	Contact your dealer
	Pump cord not plugged in	Plug pump cord into red receptacle
	GFCI tripped or in OFF position	Reset GFCI

“Thermal Creep”

Cal Spas are designed with energy-efficient components and systems that are meant to sustain heat generated by the equipment, which is then cycled back into the spa water. In hot weather or in situations where the spa is set to extended run times, Thermal Creep may occur. Thermal Creep is a condition where the measured water temperature can be higher than the set temperature. To manage Thermal Creep you may:

Vent your cover. This means placing a folded cloth about ¾” (2cm) thick under all four corners of the cover before you lock the cover down.

Open your cover. Opening the cover at night will also quickly cool the water down if desired.

Open all air controls. Set your filtration cycles to run during the cooler times of the day or night.

Reduce the length of your filter cycles.

Visit your local dealer for additional guidance.

Since Thermal Creep only occurs in well-insulated hot tubs, it is not indicative of something that is wrong with your spa or its equipment.

LIMITED WARRANTY

This Limited Warranty is extended to the original purchaser of the spa produced by Lloyd's Material Supply company, Inc. Which manufactures the American Spas brand portable spa manufactured after January 1st, 2025 and installed for residential use in the United States of America and Canada. This Warranty begins on the date of delivery of the spa, but in no event later than one year from the date of manufacture.

American Spas

Structural	Warrantied against spa shell collapse, leaks caused by the shell, or dangers of structural integrity due to defects in the spa shell.	**5 Years**
Shell Surface	Warrantied against spontaneous blistering, cracking, or delaminating of the interior spa shell.	**2 Years**
Equipment & Controls	Electrical Equipment- limited to spa pumps, standard heater, and control system/panels, are warranted against malfunction due to defects in workmanship or materials.	**2 years**
Plumbing	Warrantied against leaks/cracks due to defects in workmanship or materials	**2 Years**
Spa Cabinet	Warrantied against defects in workmanship or materials. Normal wear and weathering of the finish will occur naturally over time and are not defects.	**1 Years**
LED Lighting	LED lights are warranted against malfunction due to defects in workmanship and materials	**1 Years**
Ozone/UV	Ozone Generators and UV treatment systems are warranted against defects in workmanship and materials. (Excluding UV bulbs older than one year)	**1 Years**
Sound System	The Freedom Sound System is warranted against malfunction due to defects in workmanship and materials. This does not cover normal wear and tear.	**1 Year**

Warranty for Other Components

The Fuses, headrests, cabinet finish, and filters are warrantied to be free of defects in workmanship and material at the time of delivery. The factory installed water purification system is warranted against malfunction due to defects in workmanship or material for one year from the original date of the spa delivery. All stereo-related components (receiver, speakers, power supply, Bluetooth antenna, etc) and Wifi modules are warranted against malfunction due to defects in workmanship and material for one year from the original date of delivery. All other factory-installed components non mentioned specifically, including, but not limited to the wood frame, jets, diverter vales, filter lids, and mechanical components, are warranted against malfunction due to defects in workmanship and material for 90 days from the original date of delivery. The insulating spa cover is warrantied for 90 day from original date of delivery.

All warranty claims and orders for warranty parts is processed by American Spas, contact American spas directly to assist in any warranty claims or authorization for repairs under your warranty.

Structural

This limited warranty covers defects within the spas fiberglass structural shell. This includes sudden spa shell collapse, leaking through the shell, and separation between the spa shell and spa acrylic, caused by faulty bonding. This does not include separation due to micro-abrasions, pin holes in the shell, or warping/bubbling due to sun exposure. This limited warranty does not apply when abuse of the spa shell is evident. This includes but is not limited too, heavy impact craters, fractures on the spa surface due to poor spa care, sun exposure, or reckless use of the spa, and chemical abuse of the spa. This warranty does not cover damage caused by unleveled ground/ foundation. Spas must rest on level ground, ideally on a cement slab of 3-6" of thickness depending on the spa weight. Spas that are not placed on a leveled foundation are prone to cracks, delamination, and compromised structural rigidity of the spa. It is the responsibility of the spa owner to ensure that the spas foundation is leveled and inspected before placing the spa. Damage caused by poor foundation leveling is not covered in this limited warranty.

Shell Surface

This limited warranty covers defects on the spas acrylic surface due to workmanship or materials. This covers wrinkles on the acrylic, blistering, peeling, delamination, or spontaneous cracking. This warranty does not cover shell damage caused by chemical abuse, improper water chemistry, excessive sun exposure, micro-abrasions, or damage caused by impacts or sharp objects. This warranty does not cover discoloration, or deterioration of the spa shell when exposed to improper chemistry levels, hard water, soft water, or chemical abuse.

Equipment and Controls

This limited warranty covers malfunction of factory installed spa control systems, spa control panels, spa heater, and spa pumps due to defects in workmanship or materials. This covers sudden control box failure, malfunction of control panels or control boxes, malfunctioning heaters, and malfunctioning spa pumps. This warranty coverage is void if the electrical installation of the spa does not follow the outlined diagrams and specifications, mentioned in this manual. Failure to properly follow the specified GFCI requirements, wire type, wire thickness, compliance with NEC guidelines and local codes will void your warranty. This warranty does not cover acts of god or nature that can damage spa equipment, such examples are flooding, lighting strikes, wildfires, or other scenarios out of the control of the manufacturer.

Plumbing

This limited warranty covers leaking of water through plumbing joints, tees, hoses, water features, and jet body grommets due to defects in workmanship and materials. This warranty does not cover damage caused by chemical abuse, improper water chemistry, or use of unapproved chemicals/sanitizers. This warranty does not cover freeze damage caused by frozen water expanding within the plumbing of the spa. The winterization procedure within this manual does not guarantee freeze damage prevention. The best method to ensure the spa does not encounter frozen water within the plumbing is to have the spa operating during the colder months of the year. This warranty does not cover freeze damage or damage to the plumbing due to acts of god and/or nature including but not limited too snowstorms, blizzards, power outages, etc. This warranty does not cover oxidation or warping of jets due to chemical abuse or exposing the spa to the elements without a secured cover, approved by American Spas.

Spa Cabinet

This limited warranty covers defects in workmanship and materials of spa cabinet panels. This warranty applies for warping of spa panels, cracking of corners and panels without clear impact markers, and buckling of spa panels. This warranty does not cover natural wear and tear, which occurs with plastics exposed to the sun. This warranty does not cover panel damage from excessive heat sources, calcium/water-spot build up from sprinklers or irrigation systems, or impact damage. Each claim for spa cabinets are evaluated on a case by case basis, it is the responsibility of the spa owner to acknowledge environmental factors, that can affect the maintenance of the spas cabinet panels. Using plastic spa protectants can prolong the life of your spa panels, and is highly recommended in high UV index climates. Deterioration/fading of color, natural wear and tear of plastic materials is expected over time, and is not considered a defect in materials. This coverage does not extend nor cover acts of god or nature that can damage spa panels, such examples are flooding, high winds, wildfires, tornadoes or other scenarios out of the control of the manufacturer

Sanitation

This limited warranty covers malfunctions of factory installed sanitation system, which is warranted against malfunction due to defects in workmanship or materials. This warranty does not cover negligent operation of sanitizer systems, chemical abuse, damage caused by improper water chemistry, or disregard of specified data points for safe operation; including but not limited to, incorrect ppm levels in water chemistry, improper maintenance of sanitation components, and high TDS levels. The spa filter is not a part of this warranty, and is considered a disposable item subject to regular wear and tear.

Ozone/UV Systems

This limited warranty covers malfunctions of the optional factory installed Ozone and/or UV water treatment systems. This includes leaks through welded components, water back-flow into the ozone generator, and short circuited Ozone or UV systems. This warranty does not cover UV bulbs that are older than 12 months, the UV light must be replaced every 10-12 months as this is normal wear and tear of component. This warranty is voided if alterations/modifications of these systems are evident, or if the spa electrical connections were not installed in accordance to defined specifications within this manual, evidence of chemical abuse, and acts of god and/or nature.

Sound System

This limited warranty covers malfunctions of factory installed sound system components. This includes the subwoofer/amplifier, speakers, speaker grills, power supply, or Bluetooth antenna. Natural wear and tear of speaker cones is not covered by this warranty, nor are deterioration of speakers exposed to chemical abuse.

Spa Cover

The spa cover is warranted against defects of materials and workmanship for the defined period mentioned in this warranty. Exposure to UV rays on untreated or poorly maintained spa covers are not covered by this warranty. It is the responsibility of the spa owner to use spa UV plastic protectants on their spa covers, especially in high UV index climates. Exposure to UV light without proper treatment leads to problems such as cracking/peeling of vinyl covers, and sudden fading of color. This warranty does not warrant against damage caused by chemical abuse, nor yellowing or oxidation of the spa cover when exposed to excess sanitizer. If a defect is found within the first 90 days of ownership, American Spas can directly assist the spa owner by filing a claim and replacing the spa cover if deemed necessary. This warranty will cover the material cost of issuing a new vinyl sleeve for the cover, and/or replacement foam for your cover. Shipping/freight costs are not covered in this warranty, and are the sole responsibility of the spa owner. Images of the cover from all sides including the top and underside are necessary to file a claim.

Genuine Parts & Accessories

This Limited Warranty is void if Lloyd's Material Supply Company, Inc., Manufacturer of the American Spa brand or its designated representative determines that the spa has been subjected to damage or failure due to installation of aftermarket parts that are not genuine factory parts and accessories. This disclaimer includes, but is not limited to filters, UV bulbs, ozone systems, salt systems, replacement parts and other accessories. Genuine American Spas brand parts and accessories are built to our highest standards of quality, durability and performance, and they are designed to work with your spa to ensure optimal performance and function. Only parts/components approved by American Spas, should used when preforming a warranty repair. If parts are required to complete a warranty claim, the cost of the parts are covered by this warranty. Approved labor and genuine part costs are covered when a warranty claim is approved, the cost of shipping parts/components is not covered by this warranty, and its the sole responsibility of the spa owner.

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Performance

This warranty begins on the date of delivery of the spa, but in no event later than one year from the date of manufacture. To obtain service in the event of a defect covered by this Limited Warranty, notify American Spas as soon as possible, and use all reasonable means to protect the spa from further damage. Upon presenting proof of purchase to American Spas, a designated representative will assist in the correction of the defect, subject to the terms and conditions contained in this Limited Warranty. If deemed necessary, the designated service representative may advise on contacting a 3rd party to contract a warranty repair. There will be no charge for parts or Labor to repair the defect, although providing access to affect the repair is your responsibility as the spa owner. Freight charges for replacement parts is the responsibility of the spa owner. Parts and components can be shipped to the servicing contractor or to the spa owner. The servicing contractor may charge the owner a travel/service fee as well as a diagnose fee if the cause of the issue is unknown, these charges are not covered under warranty. Lloyd's Material Supply company is not responsible for damages or costs to rebuild decks, cement structures, or other decor/structures placed against the sides of the spa. Minimum clearance of 3 feet on each side is mandatory for all spas. In the event that the spa is removed to a repair facility for repair and reinstalled, the cost of removal and re-installation will be your responsibility as the spa owner. If Lloyd's Material Supply Company Inc., The manufacture of the American Spa brand determines that repair of the covered defect is not feasible, it reserves the right to provide a replacement spa of equal or lesser value to the original purchase price. In such an event reasonable costs for removal of the original spa, shipping costs from the factory for the replacement spa, and delivery and installation of the replacement spa will be the responsibility of the spa owner. The replacement spa will carry the balance of the original spa's warranty. Spa covers are not included. This warranty ends either by specified time frame, owner-transfer of the spa, relocation, or installation of any component other than by the manufacture. If the desired spa is more expensive than what the spa owner originally financed or paid for, the price difference shall be paid by the spa owner. Additional costs can be incurred if the use of heavy machinery such as a crane, bulldozer, etc, is considered necessary to access, remove, or perform a repair/correction to the affected spa.

Warranty limitations

This Limited Warranty is void if American Spas or its designated representative determines that the spa has been subjected to alteration, neglect, misuse or abuse, or freight damage caused by the common carrier; any repairs have been attempted by anyone other than a designated representative; or if the failure is caused by accident, acts of God or other causes beyond the control of the Manufacturer including acts of nature (damage caused by animals, rodents, or other pests) are not covered by this warranty. Additionally; the limited warranty is void for spas that were subject to neglect, misuse and abuse including any installation, operation or maintenance of the spa other than in accordance with the instructions contained in the owner's manual provided with the spa, including but not limited to the failure to maintain proper water chemistry, chemical balancing, the use of abrasives or improper cleaners, and the use of non-genuine parts and accessories. This Limited Warranty does not provide coverage for any item attached to or installed on the spa after the date of manufacture or for gaining access to any component for repair or replacement. Spa units in commercial use are excluded from any coverage whatsoever, this includes but is not limited to, rental properties with non resident rotating tenants, Airbnb, Vrbo, or any other property sharing app or program/organization. The spa owner accepts liability for repair work performed by anyone other than Lloyd's Material Supply Company Inc, or a designated American Spas representative. This Limited Warranty is void if damage occurs to the spa shell because of excessive heat buildup due to failure to cover a spa that is empty while exposed to direct sunlight.

Proration of Warranty

Units determined by the manufacture to be non-repairable will be replaced on a prorated basis with the same or a comparable unit. The owner will be charged 1% of the current retail cost for each full month of ownership from the date of purchase through the date failure is determined to be non-repairable. This charge will be waived during the first 6 months of ownership. [example]: Product failure is determined during seven months of ownership. Owner will be responsible to pay for 7% of the products current cost. As the spa owner you have the choice to replace the spa, with a spa equal to or less than the value of the originally financed/purchased spa; if the desired replacement spa is of a higher cost than the originally financed/purchased spa, the spa owner will pay the difference of price, including any percent value lost over time through the spas proration period. The cost of shipping a new spa and its installation is not covered by this warranty as stated in the "Performance" section of this warranty.

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Limitations

The manufacturer disclaims all warranties, expressed or implies, in fact or in law, to the extent allowed by your State's law, including the warranty of merchantability and fitness for use, except as stated specifically herein. All warranty service must be performed by the manufacture or its designated representative using authorized American Spa parts. No agent, distributor, service company, or other party is authorized to change, modify, or extend the terms of this limited warranty in any manner whatsoever. The manufacture will not be responsible for any statements or representations made in any form that go beyond, are broader than, or are inconsistent with any authorized literature or specifications furnished by American Spas. Extended warranties or care plans offered to you by a vendor is an agreement strictly between the spa owner and the vendor, out of the control of the manufacturer of American Spas.

Disclaimers

Lloyd's Material Supply Company, Inc., manufacturer of the American Spas brand and its representatives shall not be liable for any injury, loss, cost, or other damage whether incidental or consequential, arising out of any defect covered by this limited warranty, including without limitation, loss of use of the spa and cost for removal of defective produce even if the manufacture was advised of the possibility of damage. The liability of the manufacture under this limited warranty, if any shall not exceed the original amount paid for the defective product. Coverage under this limited warranty shall commence as of the original date of delivery and the duration of such coverage shall not extend for any reason whatsoever beyond the stated time periods. These disclaimers shall be equally applicable to any service provided by the manufacturer and its designated representatives.

Legal Rights

This limited warranty gives you specific legal rights. You may also have other rights that vary from state to state depending on consumer regulations. Some states do not allow limitations on how long an implied warranty lasts, so this time limitation may not apply to you.

Chemical Abuse

Chemical abuse is defined as improper use of approved spa chemicals, and the usage of unapproved chemicals, including but not limited to sanitizers, water chemistry adjustment chemicals, water clarifier's, etc. Abuse of chemicals can cause damage to the spas finish, acrylic shell, jet body seals, jets, pillows, and other spa internals. Chemical abuse damage is not covered by this limited warranty, such damage to the spa can be avoided with proper maintenance of the spa waters chemistry.

Additional Disclaimers

Spa owners who have purchased an American Spa, and the spas final resting place is not in the United States or Canada, American Spas will be able to send components and parts directly to the spa customer. Additional freight charges for equipment and parts is the responsibility of the spa owner. It is the responsibility of the spa owner to find a experienced electrician, plumber, or technician to perform the necessary repairs. A preliminary over the phone technical meeting with an American Spa representative is necessary, to ensure the experienced laborer is familiar with the spas operation, and recommended repair methods. Labor costs of a repair in such circumstances must be first approved by a American Spas representative, before moving forward with any repairs covered in this warranty. It is advised to request a labor quote from said experienced laborer, and to send this quote to a American Spa representative. If all prerequisites are met and the repair is approved, Lloyd's Material Supply Company the manufacturer of American Spas will reimburse the cost of labor, directly to the spa owner upon completion of repairs. Reimbursements of charged labor will be sent as a check to the spa owners residence, with a varying estimated disbursement window. For all repairs/warranty claims within the United States and Canada and other nations, may be required to send parts/components back to the manufacturer of American Spas when deemed necessary. In some circumstance where shipping the component/part is necessary, American Spas will provide a shipping label to send the affected or requested components/parts. It is the responsibility of the spa owner to properly package and secure the package for shipping. In some circumstances only images and proof of purchase would be necessary to file a warranty claim, in such circumstances if a American Spas representative deems that the replaced parts do not have to be returned, follow all local regulations and laws to properly dispose of said components.

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Locating the Product Serial Number

The serial number of your spa is located on a metal plate attached to the lower right front panel of the spa. You will need this number to properly register your spa and activate coverage. Write this information in the space provided below.

Spa Model: _____

Spa Serial Number: _____

Date Purchased: _____

Date Installed: _____

Dealer's Phone Number: _____

Dealer's Address: _____

Removing the Support Block (Not Applicable to Valentine Models)

There is a 2" x 2" wooden support block attached to the frame of your hot tub. It is necessary during ship to keep the hot tub stable while it is on the pallet. When your hot tub is on the ground and placed on its foundation, the support may be removed. Use a ratchet and socket to remove the four bolts that attach the block to the frame.

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