



Alps Spas

LS/S MODELS

OWNER'S MANUAL



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* Most cities, counties, states, and countries require permits for exterior construction and electrical circuits. In addition, some communities have codes requiring residential barriers such as fencing and/or self-closing gates on the property to prevent unsupervised access to a pool or hot tub by children. Be sure to check with your local agencies for specific requirements.



Alps Spas

LS/S MODELS

www.alpsspas.com

OWNERS RECORD

DATE PURCHASED:

DATE INSTALLED:

DEALER:

ADDRESS:

TELEPHONE:

SPA MODEL / SERIAL NUMBER:

Please read this "Owners Manual" carefully, as it is designed to provide you with the information you will need to ensure the safe, secure use of your new spa.

IMPORTANT: Alps Spas & Alps Manufacturing reserves the right to change specifications or design without notification and without any obligation.

PLANNING A LOCATION FOR YOUR HOT TUB

CONSIDER THESE THINGS WHEN DETERMINING WHERE TO PLACE YOUR NEW HOT TUB.

SAFETY FIRST:

Do not place the hot tub within 10 feet (3m) of overhead power lines. Make sure your hot tub is positioned so access to the equipment compartment and side panels will not be blocked. Be certain your installation will meet all city and local safety codes and requirements.

PLANNED USE OF HOT TUB:

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

ENVIRONMENT:

If you live in a climate with a snowy winter and hot summer, a place to change clothes or a house entry near the hot tub is convenient. A warmer climate may require shade from the hot sun. Consider placement of trees, shrubs, patio cover or perhaps a gazebo structure to provide what you will need. Indoor installations require adequate ventilation. When the hot tub is in use, considerable amounts of moisture are produced. This moisture can damage walls and ceiling surfaces over time. Special paint is available to resist moisture damage. Remember that hot tubs periodically require drainage, so plan your environment accordingly.

PRIVACY:

Think of your surroundings during all seasons to determine your best privacy options. Consider the view of your neighbors when you plan the location of your hot tub.

VIEWS:

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

KEEP CLEAN:

Prevent dirt and foliage from being tracked into your hot tub by utilizing concrete for paths and access areas. Check the location of spill paths from gutters, trees, and shrubs.

SERVICE ACCESS:

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

A GOOD FOUNDATION

Your new hot tub needs a good solid foundation. The area your hot tub sits on must be able to support the tub, the water in it and those who use it. If the foundation is inadequate, it may shift or settle after the hot tub is in place, causing stress to the shell or components.

BE AWARE:

Damage caused by inadequate or improper foundation support is not covered by the hot tub warranty. It is the sole responsibility of the hot tub owner to provide a proper foundation for the hot tub.

Make sure the foundation where the hot tub is placed drains water away from the hot tub. Proper drainage will keep components dry from rain and wet weather.

If you choose to install your hot tub indoors, pay close attention to the flooring beneath it. Always remember a hot tub is filled with water. Choose flooring that will not be spoiled or ruined from water damage. Check with your contractor to verify your flooring can support the weight and water spills or splashing from your hot tub.

Your hot tub weight must always be considered when installing your hot tub. If you are installing it on an elevated wood deck or other structure, it is advisable to consult a structural engineer or contractor to ensure the structure will support the weight.

IT IS STRONGLY RECOMMENDED THAT A QUALIFIED, LICENSED CONTRACTOR PREPARE THE FOUNDATION FOR YOUR HOT TUB.

There is a 4" (10cm) minimum depth requirement for a concrete pad.

PLACING THE HOT TUB

CHECK THE DIMENSIONS OF YOUR HOT TUB

Compare the hot tub dimensions to the width of gates, sidewalks, and doorways along the delivery route used to bring the hot tub into your yard. It may be necessary for you to remove a gate or partially remove a fence in order to provide an unobstructed passageway to the installation location.

Also, keep in mind—if you are using special equipment to place your hot tub into an area it will be necessary to include those measurements and weights.

PLANNING A DELIVERY ROUTE:

Check the width of gates, doors and sidewalks to make sure your hot tub will pass through unobstructed. You may have to remove a gate or part of a fence to allow for adequate width clearance.

If the delivery route will require a 90 degree turn, check the measurements at the turn to ensure the hot tub will fit.

Check for protruding gas meters, water meters, A/C units, etc., on your home which will cause obstructions along the delivery path to your yard.

Check for low roof eaves, over hanging branches or rain gutters that could be an obstruction to overhead clearances.

SPECIAL CIRCUMSTANCES

The use of a crane for delivery and installation is primarily to avoid injury to your hot tub, your property or to delivery personnel. Your dealer may be able to assist you with the arrangements. Cranes are not considered "normal delivery" and would need to be a specialty request.

IMPORTANT SAFETY INSTRUCTIONS

It is the hot tub owner's responsibility to read and follow all the instructions and precautions described in this manual. Failure to do so may result in personal injury. Liability rests with the hot tub owner. Please, make instructions available for reference by all hot tub users.

1. BEFORE OPERATING THE SPA: READ AND FOLLOW ALL INSTRUCTIONS. SAVE ALL INSTRUCTIONS.

2. A wire connector is provided on this unit to connect a minimum No. 8 AWG (8.4mm²) solid copper conductor between this unit and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet (1.5m) of the hot tub.

3. **DANGER** – Risk of Accidental Drowning. Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use this hot tub unless they are supervised at all times.

4. **DANGER** – Risk of injury. The suction fittings in this hot tub 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. Never operate the hot tub if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the original suction fitting. Always use, new, virgin, fresh parts in hot tub.

5. **DANGER** – Risk of Electric Shock. Install at least 5 feet (1.5m) from all metal surfaces. As an alternative, a hot tub may be installed within 5 feet (1.5m) of metal surfaces if each metal surface is permanently connected by a minimum of No. 8 AWG (8.4mm²) solid copper conductor to the wire connector on the power pack that is provided for this purpose.

6. **DANGER** – Risk of Electric Shock. Do not permit any electric appliance, such as a light, telephone, radio, or television within 5 feet (1.5m) of the hot tub.

7. **WARNING** – To reduce the risk of Injury:

a. Before using your hot tub, you should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices varies $\pm 5^{\circ}$ F ($\pm 3^{\circ}$ C).

b. The water in the hot tub should never exceed 104° F (40° C). Water temperatures between 100° F (37° C) and 104° F (40° C) are considered safe for a healthy adult. Lower water temperatures are

recommended for young children and when hot tub use exceeds 10 minutes.

c. The use of alcohol, drugs, or medication before or during hot tub use may lead to unconsciousness with the possibility of drowning.

d. Individuals using medications should consult their physician before using the hot tub since some medications may induce drowsiness, while other medications may affect heart rate, blood pressure, and circulation.

e. Individuals suffering from obesity or with a medical history of heart disease, high or low blood pressure, circulatory system problems, multiple sclerosis, thyroid disease, or diabetes should consult their physician before using the hot tub.

f. Since excessive water temperatures have a high potential for causing fetal damage during early months of pregnancy, pregnant or possibly pregnant women should limit hot tub water temperatures to 100° F (37° C), you should also consult your physician before using the hot tub.

g. Heat stroke is a dangerous condition brought about by excessive heat. It especially affects the very young, elderly, individuals under the influence of alcohol or drugs, and those using certain medications. The symptoms include: sweating, dizziness, nausea, light-headedness, convulsions, increased pulse rate, shallow breathing, and in the extreme, unconsciousness. If you suspect heat stroke, get medical help immediately. Lay the victim on his back, with the head slightly elevated for easier breathing, and apply ice packs to the head.

h. Emergency telephone numbers, such as: hospital, physician, ambulance, paramedics, and the police should be readily available and posted next to a close-by telephone.

8. *This appliance should be supplied through a residual current device (RCD) with a rated tripping current not exceeding 30mA.*

9. *A means for disconnection must be incorporated into fixed wiring according to local electrical codes.*

SAFETY PRECAUTIONS

DANGER – RISK OF INJURY – READ AND FOLLOW ALL INSTRUCTIONS

1. Read, keep, and make these instructions available!
2. Children should be CLOSELY supervised at all times.

WARNING – RISK OF CHILD DROWNING - *Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use hot tub unless they are supervised at all times.*

3. **DANGER:** To avoid the risk of drowning, keep the filter clean and unclogged. Do not remove the suction drain cover. Do not modify the suction or filtration systems.
4. Exercise caution when entering or leaving the hot tub. When changing positions, be sure of your footing before applying your full weight, as water refraction can be misleading and surfaces may be slippery when wet.
5. Do not stay in the water for extended periods of time. Set reasonable time limits. Leave the hot tub, cool down, take a shower, relax, and then return for another stay.
6. The water in a spa should never exceed 104 ° F (40° C). Water temperatures between 100°F (37°C) and 104 °F (40°C) are considered safe for a healthy adult. Lower water temperatures are recommended for extended use (exceeding 10 to 15 minutes) and for young children.

7. Since excessive water temperature has a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit spa water temperatures to 100° F (37 ° C).

8. Before entering a spa, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature regulating devices may vary as much as 5°F (3°C).

9. Persons suffering from obesity or with a medical history of heart disease, low or high blood pressure, circulatory system problems or diabetes should consult a physician before using a spa or hot tub.

10. Never use hot tub alone.

11. **Danger- Risk of Injury-**
*Replace damaged cord immediately.
Do not bury Cord.
Connect to a grounded, grounding type receptacle only.*

EXTREME CAUTION

Hyperthermia: Occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6°F (37°C). The symptoms of Hyperthermia include dizziness, fainting, drowsiness or lethargy.

The effects of Hyperthermia include:

1. Unawareness of impending hazard
2. Failure to perceive heat
3. Failure to recognize the need to exit spa
4. Physical inability to exit spa
5. Fetal damage in pregnant women
6. Unconsciousness resulting in a danger of drowning

CONTROLS

Initial Start-up

Your spa will enter Priming Mode (*Pr*) when it is energized. During Priming Mode, press "Jets" button(s) repeatedly and be sure all pumps are free of air. Priming Mode lasts for less than 5 minutes. Press "Warm" or "Cool" to exit. After Priming Mode, the spa will run in Standard Mode (see Mode section).

The pump responsible for heating and filtration (pump 1 low-speed on non-circ system, or the circ pump on circ systems) will be referred to simply as the pump.

In multi-button sequences, if the buttons are pressed too quickly in sequence, they may not register.



Temp Control (80°F - 104°F / 26.0°C - 40.0°C)

The last measured water temperature is constantly displayed. The water temperature displayed is current only when the pump has been running for at least 2 minutes.

To display the set temperature, press "Warm" or "Cool" once. To change the set temperature, press a temperature button again before the display stops flashing. After three seconds, the display will stop flashing and begin to display the current spa temperature.

Jets 1

Press "Jets 1" to turn pump 1 on or off, and to shift between low and high speeds (if equipped). The low-speed will turn off after 4 hours. High-speed will turn off after 15 minutes. Low-speed may run automatically at times, during which it cannot be deactivated from the panel, but high-speed may be operated.

Jets 2/Jets 3/Blower (If equipped)

Press the corresponding button once to turn the device on or off. The device will turn off after 15 minutes. Pump 2 may be two-speed on some systems.

Light

Press "Light" to operate the spa light. Turns off after 4 hours.

Mode

Mode is changed by pressing "Warm" or "Cool," then pressing "Mode."

Standard Mode maintains set temperature. *Std* will be displayed momentarily when you switch into Standard Mode.

Economy Mode heats the spa to the set temperature only during filter cycles. *Ecn* will display when water temp is not current, and will alternate with water temp when the pump is running.

Sleep Mode heats the spa to within 20°F/10°C of the set temperature only during filter cycles. *SLP* will display when water temp is not current, and will alternate with water temp when the pump is running.

Preset Filter Cycles

The first preset filter cycle begins 6 minutes after the spa is energized. The second preset filter cycle begins 12 hours later. Filter duration is programmable for 2, 4, 6, or 8 hours or for continuous filtration (indicated by *FILL*). The default filter time is 2 hours for non-circ systems and 4 hours for circ systems.

To program, press "Warm" or "Cool," then "Jets 1." Press "Warm" or "Cool" to adjust. Press "Jets 1" to exit programming.

For non-circ systems, low-speed pump 1 and the ozone generator (if installed) run during filtration.

For 24 hour circulation systems, the circ pump and the ozone generator (if installed) run 24 hours. In hot environments, the circ pump may turn off for 30 minute periods, except during filter cycles.

For non-24 hour circulation systems, the circ pump and ozone generator (if installed) run during filtration (and may also run automatically at other times).

At the beginning of each filter cycle all other equipment will run briefly to purge the plumbing.



FEATURE OPERATIONS

AIR CONTROL VALVE

Located around the top of the spa are air control valves. The air control valve serves to regulate the amount of air mixed with the water when the jets are operational. Rotate the air control to "AIR" to achieve the maximum jet pressure and therapeutic action. Rotating the air control to "OFF" turns the air off and allows the jets to work with water only. Turn the air controls to "OFF" when the hot tub is not in use. This will prevent cold air from entering the hot tub and will keep heating cost to a minimum.

HYDROTHERAPY JETS

The Hydrotherapy jets are recessed and located in the wall of the hot tub. Rotate the jet face clockwise to turn the jets on, counterclockwise to turn the jets off. Not all jets have a rotational face to turn off and on the jets. Turning off or on a jet will increase or decrease the effects of any jets "not" in the closed position.

LED MULTI COLOR LIGHT (when equipped)

If your hot tub is installed with a LED Multi Color light at factory, firmly and quickly turning the light switch on and off will cause the light color effect to change to your desired program.

OZONATORS (when equipped)

If your hot tub is installed with an ozonator at the factory, your hot tub will automatically filter water at preset times. Please note that ozonator and chemicals work together to kill bacteria. An ozonator cannot totally eliminate the need for chlorine. Ozone is a bactericide. A tube links the ozone compartment with the ozone jet. During the filter cycle, when the water pump is on low speed, the water movement through the ozone jet draws the ozone out of the compartment, mixes with and purifies the water in the process.

WHIRLPOOL JET (when equipped)

Located below the water line at control panel, in the wall, is the whirlpool. This jet has a diverter valve and is a high capacity jet, with a larger diameter than the hydrotherapy jets. Because there is a substantial amount of water pressure when the jet is in operation, you must turn the pump off or to low speed before attempting to rotate the diverter valve.

ADDING START-UP CHEMICALS

You should have an adequate supply of chemicals on hand for your hot tub. You should familiarize yourself with the necessary types and amounts of chemicals to maintain your water at clean and healthy levels. Your dealer should stock the necessary chemicals and is a good source of information on chemicals, procedures, and testing conditions in your area.

NOTE: The importance of the chemical balance in the hot tub can not be over-emphasized.

WATER MAINTENANCE

It may be necessary to replace the hot tub's water every 3 to 6 months. The frequency depends on a number of variables including the frequency of use, number of users, attention paid to water quality maintenance, if equipped with an ozone unit, etc. You will know it is time for a change when you cannot control sudsing and/or you can no longer get the normal feel or sparkle to the water, even though the key water balance measurements are all within the proper parameters.

CAUTION: Never store spa chemicals inside the spa's equipment bay!

PH BALANCE

PH is a measure of water acidity. On a scale of 0 to 14, 7.6 is the ideal point of balance. A measurement below 7.2 indicates that your water is more acidic. This water condition results in corrosion of the equipment's metal components. A measurement above 7.8 indicates that your water is more alkaline. This water condition causes calcium deposits and scaling in the equipment and hot tub. Both conditions are detrimental and cause damage.

NOTE: Calcium deposits can also cause a restriction of air through your jets. Using a stain & scale remover regularly, will greatly reduce the chance of this occurring.

CHLORINE

Granulated chlorine must be used to remove bacteria and other organic matter from the water. Little or no chlorine causes water to turn green and unhealthy. Too much chlorine causes water to smell pungent, irritates the eyes and skin, and can cause damage to the heater tube on the power pack.

NOTE: Improper pH will destroy the pump seals and heater elements. Damage to components caused by improper pH balance or other improper chemistry will not be covered under warranty.

Alps Spas strongly discourages the use of chemicals that contain Hydrogen Peroxide. Hydrogen peroxide will eventually cause the light body and lenses (used on all spas) to become brittle and crack.

**Read all labels on chemicals— Do not use any products that omit usage in hot tubs or with ozonators.*

CLEANING OR WINTERIZING

Every three to six months, depending upon the water condition, you may need to renew your water.

CAUTION: READ THIS BEFORE DRAINING YOUR HOT TUB

To prevent damage to the hot tub's components, turn off power to the spa at the circuit breaker before draining the hot tub. Do not turn power back on until your spa has been refilled with water.

There are certain precautions to keep in mind when draining your hot tub. If it is extremely cold, and the hot tub is outdoors, freezing could occur in the plumbing or the equipment. On the other hand, if it is hot outdoors, do not leave the hot tub's surface exposed to direct sunlight for long periods.

DRAINING YOUR SPA

- Trip all GFCI breakers in sub-panel, main electrical panel or unplug your spa
- Locate end of the drain hose bib and turn gate at hose bib to closed position.
- Unscrew and remove the drain cap.
- Attach drain hose to a garden hose and direct to an appropriate draining area, keeping the hose below the water line. Open gate at hose bib to begin draining.
- After your hot tub is empty, clean the shell and filter cartridge. See "Spa Maintenance" and Surface care.
- After cleaning, remove garden hose, close gate at hose bib, replace drain cap and push hose valve back into cabinet.
- Follow the "Start-up Instructions" to refill your spa.

Before draining, power must be turned off at the GFCI circuit breaker. Located on the front corner of cabinet, locate the drain hose bib. Attach a garden hose to the hose bib; make sure the garden hose exit spout will drain away from hot tub toward a previously selected safe drain area, and open the shut off lever on the hot tubs hose bib. Water will start to drain. You can also siphon the water from the hot tub. The drain faucet will not remove all the water. You may have to remove a small amount of the water by hand, using a towel or plastic container.

If you plan to store your tub for the winter, you must also use a wet-vac to clean out the water lines to ensure they are free of any water. Water left in the lines might freeze and damage the lines and jets. To adequately clean out the lines, place the wet-vac over each jet face for 10-15 seconds. On the whirlpool jet, rotate it to the open position and vacuum for 10-15 seconds. Remove the filter cartridge and do the same. Also, let the water drain from the heater tube by loosening the black spit-nuts on each side of the heater tube. Remember to re-tighten the split-nuts when completed. Use the wet-vac to vacuum up any water that may have drained on to the hot tub floor.

Note: damage caused by improper winterizing will not be covered under warranty. You will want to contact a professional for proper winterizing.

SPA MAINTENANCE

FILTER CARTRIDGE MAINTENANCE

Alps hot tubs use a screw in cartridge that is easily removed. When the filter cartridge is removed, make sure no objects fall into the filter cavity. They can cause obstructions to the water movement.

Every two weeks, the filter cartridge must be cleaned to remove the objects and particles that have lodged in the cartridge pleats. Using household water pressure and a garden hose with a pressurized nozzle, push water from inside to outside of the pleats, forcing all the trapped particles out. If the cartridge is far too dirty to be cleaned as described above, contact your Alps dealer for a replacement.

NOTE: Never run your hot tub without a filter cartridge!!!

NOTE: Filter cartridges must be replaced every six months. Restrictions in Filter quality can cause your hot tub pump to burn out and will not be covered under warranty.

FILTER CARTRIDGE REMOVAL AND CLEANING INSTRUCTIONS

Turn the power to the spa off, and then follow directions below:

- Remove weir by pulling upward. Remove basket then unscrew cartridge by turning counterclockwise.
- *Carefully* lift the filter cartridge and bring it out of the spa.
- *Rinse* cartridge using a garden hose. Rotate and separate filter pleats while spraying water to remove all dirt and debris possible. Let filter dry and look for calcium deposits (scaling) or an oil film. If you find these, you will need to deep clean your filter cartridge with a "spa filter cleaner" solution to break down and remove unwanted deposits and oils. (For longer filter life you should soak filter regularly.)

CAUTION! Always use proper eye protection when using chemicals, or high pressure water. Read instructions on cleaning products and follow applicable safety and warning instructions listed on label.

- Replace filter cartridge, then return basket and weir, before turning the spa's power back on.

CAUTION! Never scrub the polyester mesh filter cartridge with a brush, as this will cause the polyester mesh to wear out and come apart. Never let the spa pump run or have a filter cycle come on without a filter cartridge in the skimmer compartment. Running the spa without a filter cartridge may permit debris to enter the spa plumbing and void the warranty!

SURFACE CARE

Do not use solvents or abrasive cleaners to clean the hot tub. Consult your Alps dealer for the proper cleaners. Typically, a mild detergent and water will resolve cleaning issues.

CAUTION! Never spray cabinet with a garden hose for any reason since this action may induce an electrical short in the hot tubs electrical equipment.

TROUBLESHOOTING PROCEDURES

In the event your Alps hot tub is not working the way it should, please first review all the installation and operating instructions in this manual and check the message on the panel display. If you are still not satisfied it is working properly, please follow the appropriate troubleshooting instructions.

Note: If any of the manufactured installed supply cords are damaged, they must be replaced by authorized service personal.

CAUTION! WARNING! SHOCK HAZARD! No User Serviceable Parts.

Do not attempt service of this control. Contact your dealer or service organization for assistance. Follow all owners' manual power connection instructions. Installation must be performed by a licensed electrician and all grounding connections must be properly installed.

NO COMPONENT OPERATION

Check the following:

1. Is there power to the hot tub?
2. Is the household circuit breaker tripping?
3. If 1 & 2 are yes, call your authorized dealer for service.

PUMP DOES NOT OPERATE, BUT THE LIGHT DOES

Press the JETS button:

The pump operates but no water flows to jets. Pump may not be properly primed. This can happen after the spa is drained and refilled. Press the JETS button several times, never leaving the motor on for more than 5-10 seconds at-a-time.

POOR JET ACTION

1. Press the JETS button to make certain the pump is on.
2. Rotate the air control to the "max" position.
3. Make sure the water level is at the texture line.
4. Check for dirty filter. Clean, if necessary.
5. Make sure all jets are in the open position

WATER IS TOO HOT

1. Check desired temperature on topside control
 2. Check for a diagnostic Message (see Control System manual for details)
- OH - Overheat (spa is deactivated) **DO NOT ENTER THE WATER.**

If the spa water has reached overheated you can remove the cover to promote heat reduction. Overheating may occur if the filter cycle is set too long. The hot tub Control System should reset itself when the water temperature reduces below 106°F or 43°C. When the hot tub falls below the reset temperature you can push any button on the topside control to reset the Control System. If the hot tub will not reset, then shut off power to the spa and call your dealer or service organization.

FL – Flow

A pressure switch is not working. Call your dealer or service organization.

Sn – Sensor (spa is deactivated)

The high-limit sensor or water temperature sensor is not working. Call your dealer or service organization.

Your authorized Alps Spa dealer is a trained service repair center. Should checking the above steps fail to correct the problem, please call your dealer so they may arrange service of your product.

ERROR CODES

Diagnostic Messages

Message	Meaning	Action Required
	No message on display. Power has been cut off to the spa.	The control panel will be disabled until power returns. Spa settings will be preserved until next power up.
--	Temperature unknown.	After the pump has been running for 2 minutes, the current water temperature will be displayed.
OHH	"Overheat" - The spa has shut down.* One of the sensors has detected 118°F/47.8°C at the heater.	DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. Once the heater has cooled, reset by pushing any button. If spa does not reset, shut off the power to the spa and call your dealer or service organization.
OHS	"Overheat" - The spa has shut down.* One of the sensors has detected that the spa water is 110°F/43.5°C.	DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. At 107°F/41.7°C, the spa should automatically reset. If spa does not reset, shut off the power to the spa and call your dealer or service organization.
SnA	Spa is shut down.* The sensor that is plugged into the Sensor "A" jack is not working.	If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat condition.)
SnB	Spa is shut down.* The sensor that is plugged into the Sensor "B" jack is not working.	If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat condition.)
SnS	Sensors are out of balance. If alternating with spa temperature, it may just be a temporary condition. If flashing by itself, spa is shut down.*	If the problem persists, contact your dealer or service organization.
HFL	A significant difference between temperature sensors has been detected. This could indicate a flow problem.	If the water level is normal, make sure all pumps have been primed. If problem persists, contact your dealer or service organization.
LF	Persistent low flow problems. (Displays on the fifth occurrence of HFL message within 24 hours.) Heater is shut down, but other spa functions continue to run normally.	Follow action required for HFL message. Heating capability of the spa will not reset automatically; you may press any button to reset.
dr	Possible inadequate water, poor flow, or air bubbles in detected in the heater. Spa is shut down for 15 minutes.	If water level is normal, make sure all pumps have been primed. Press any button to reset. This message will reset within 15 minutes. If problem persists, contact your dealer or service organization.
dry	Inadequate water detected in heater. (Displays on third occurrence of dr message.) Spa is shut down.*	Follow action required for dr message. Spa will not automatically reset. Press any button to reset manually.
ICE	"Ice" - Potential freeze condition detected. * - Even when spa is shut down, some equipment will turn on if freeze protection is needed.	No action required. All equipment will automatically activate regardless of spa status. The equipment stays on 4 minutes after the sensors detect that the spa temperature has risen to 45°F/7.2°C or higher. An optional freeze sensor may be added to protect against extraordinary freeze conditions. Auxiliary freeze sensor protection is advisable in colder climates. See your dealer for details.

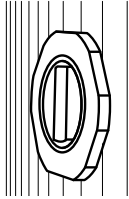
Warning! Shock Hazard! No User Serviceable Parts.

Do not attempt service of this control system. Contact your dealer or service organization for assistance. Follow all owner's manual power connection instructions. Installation must be performed by a licensed electrician and all grounding connections must be properly installed.

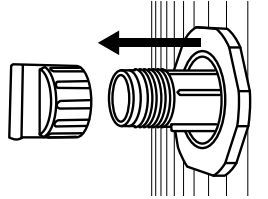
ERROR CODES (continued)

Message	Meaning	Action Required
--F or --E	Temperature unknown.	After the pump has been running for 1 minute, the temperature will be displayed.
---	Temperature not current in Economy or Sleep mode.	In Economy or Sleep mode, the pump may be off for hours outside a filter. If you wish to see the current spa temperature, either switch to Standard mode or turn Jets 1 on for at least 1 minute.
SbY	Standby Mode has been activated by pressing a button combination on the user panel.	Press any button, except "Jets 1", to leave Standby Mode and return to normal operation.
PHL	pH is low.	Add pH increaser according to manufacturer's instructions.
PHH	pH is high.	Add pH reducer according to manufacturer's instructions.
SAL	Sanitizer is low.	Add sanitizer according to manufacturer's instructions.
SAH	Sanitizer is high.	Remove spa cover and allow sanitizer to dissipate.
drn	The pump is on during Standby Mode to assist in draining the spa.	Press "Jets 1" to turn off the pump when water has drained (or power off the spa.)
rEE	Hardware failure.	Contact your dealer or service organization.
PSE	Hardware failure.	Contact your dealer or service organization if message appears on more than one power up.
Ere	Firmware install problem.	Contact your dealer or service organization if message appears on more than one power up.
CFE	Configuration error. Spa cannot start up.	Contact your dealer or service organization.
GF I	Spa could not trip GFCI.	Contact your dealer or service organization. Continued operation may be unsafe.
SEU	A pump appears to be stuck on, causing the water temperature to creep up, possibly to hazardous levels.	POWER DOWN SPA IMMEDIATELY. DO NOT ENTER THE WATER. Contact your dealer or service organization.
HDE	A pump appears to have been stuck on the last time spa was powered.	POWER DOWN SPA IMMEDIATELY. DO NOT ENTER THE WATER. Contact your dealer or service organization.

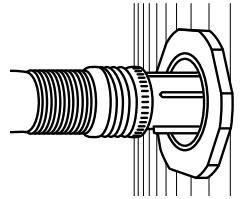
CABINET DRAIN INSTRUCTIONS



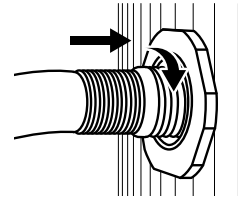
1. Inset closed position



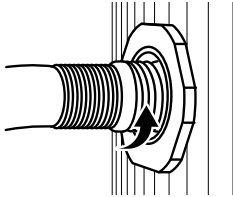
2. Extended closed position (pull out to fully extended position and remove cap); place cap in safe place.



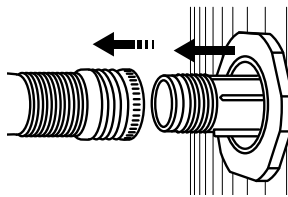
3. Full extended closed position (attach garden hose in the full extended closed position).



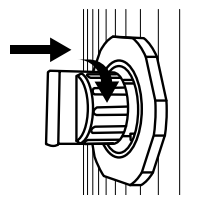
4. Open position for draining (turn hose and fitting □ turn clockwise and insert □ way to open position for draining).



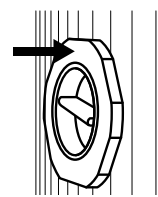
5. Open position for draining (turn hose and fitting □ turn counter clockwise and pull out to full extended closed position).



6. Full closed extended position (remove hose and replace cap).

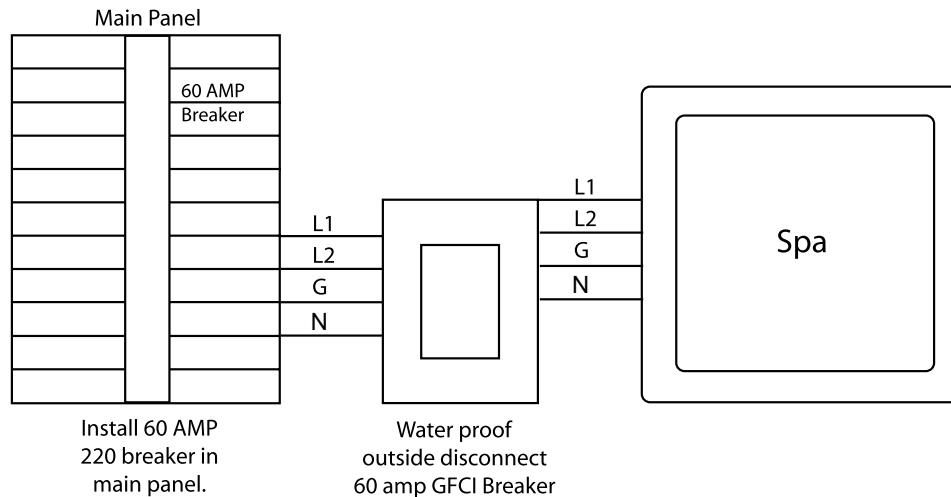


7. With replaced cap screwed on, turn □ turn clockwise and push in all the way to inserted closed position.



8. Closed inserted position.

ELECTRICAL REQUIREMENTS AND GUIDELINES



U.S. Only / For European wiring diagram please consult with your dealer.

- From main panel, run 6-3 with ground to outside disconnect.
- Run 6-3 with ground from outside disconnect to spa.
- ALPS SPAS recommends that a 60 AMP 220 GFCI must be used in disconnect.
- Disconnect must be at least 6 ft. from spa!
- Any of the four panels can be drilled out and removed for easy electrical entry.
- Wire may be drilled thru bottom consult dealer for drilling specifications.
- All exposed wire must be INSTALLED IN CONDUIT and have proper connectors.
- ALPS SPAS is not responsible for any mis-wiring of control panel.
- All models require a 60 AMP GFCI.