

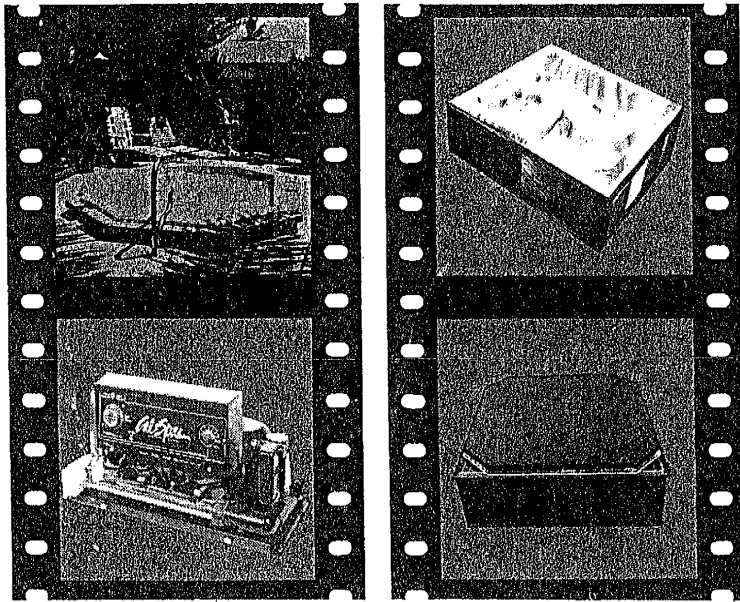
Business is
Warm Spa

Cal Spas

84-85

A DIVISION OF CALIFORNIA THERMO INDUSTRIES, INC.
1462 E. Ninth St. • Pomona, California 91768
Corporate Office (714) 623-9731

INSTALLATION and OPERATING MANUAL



PORTABLES/INGROUNDS

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- B. GENERAL INFORMATION
- C. MAINTENANCE AND CHEMISTRY
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GLOSSARY OF TERMS

MAIN DRAIN:

During the operation of the equipment the main drain works in conjunction with the skimmer to return water to the filter along with the surface and bottom debris, keeping the spa sparkling clean.

SKIMMER:

This is the rectangular outlet at the water level. The skimmer moves surface debris to the filter. The water level in the spa should be kept at the center of the skimmer for best operation.

**RETURN INLET:
(HYDROJETS:)**

After passing through the filter and heating equipment, the water is returned to the hydro jets.

PUMP:

The pump draws water from the main drain and skimmer and pushes it through the filter and heater returning to the spa through the return inlet and/or the hydrojets(s).

FILTER:

The filter cleans the spa by passing the water through a filtering system where debris and impurities are removed. Read the manufacturer's recommendations for cleaning and servicing.

HYDROJETS:

Works with water which causes a venturi action to draw in air to provide healthful spot massage and jet action.

HEATER:

The thermostatically controlled heater raises the temperature of the water to a desired degree.

THERMAL CYCLE:

The thermal cycle automatically turns on the pump, filter, and heater. This automatic thermal cycle is thermostatically controlled and will allow for a minimum of one hour per day of operation even if the spa is not used.

AIR BLOWER:

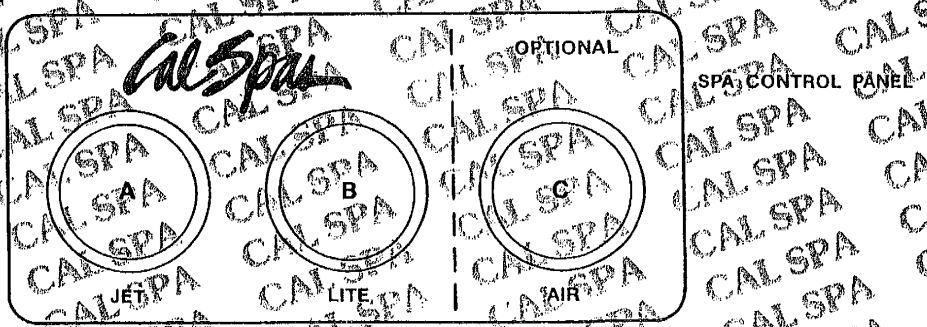
The air blower supplies air to the small holes in the lower portion of the spa, creating the hydro massage action. The blower works independently of the pump, filter, and heater.

AIR CONTROL VALVE:

Mounted generally on the lip of the spa and regulates the amount of air going to the jets.

AIR CONTROL BUTTON:

Mounted generally on the lip of spa. Buttons are used to select modes of operation (A) Jets (high pump) (B) Air (blowers) (C) Optional Lite Unit.



NO ACID

Tri-Chlor or Algecide Solution
They ruin Acrylic SPAs

SET-UP AND DELIVERY GUIDELINES:

GETTING READY FOR DELIVERY AND SET-UP OF YOUR NEW CAL-SPA:

Listed herein is a checklist of CUSTOMER REQUIREMENT AND RESPONSIBILITIES required for delivery and set-up of your new portable spa.

ELECTRICAL REQUIREMENTS:

- a. All 110vac portable spas require an ISOLATED (No other appliances or lights on this circuit at any time) 120 volt, 20 amp GROUNDED outlet within 10 feet of where spa is to be located.
- b. NO EXTENSION CORDS are to be used in conjunction with the operation of the spa. Low voltage damage could result, which is not covered by warranty.
- c. All electrical must be to NEC (National Electric Code) and any pertaining local electric codes.
- d. If you have any doubts, have your circuit checked by a qualified and licensed electrician.

SURFACE AND PAD REQUIREMENTS:

- a. Your new portable spa should be placed on a uniformly firm and flat concrete pad. Alternate decking methods require approval.
- b. If your spa is to be located near where sprinklers may hit, adjust or cap them so as not to hit the skirt or equipment.

ACCESS AND CLEARANCE:

- a. All portable spas require 30 to 40 inches of clearance through gates, between house and side fences, around corners and 7-1/2 to 9-1/2 feet of overhead clearance, depending on size of unit.
- b. Restricted clearance, second story or balcony locations that would require a crane or other special equipment or devices is the responsibility of the homeowner.
- c. All debris, limiting or blocking access to or on set up location must be removed prior to delivery.
- d. Delivery crews do not trim trees or bushes, move debris or perform other general maintenance in order to set up the spa.

REQUIREMENTS FOR DECKING, FENCES, GATES AND BALCONIES:

- a. Decking must be constructed to support 150 pounds per square foot.
 - b. Gates must be self-closing and self-locking (California requirements).
- Balconies must be constructed to current state and local codes (spa load requirements are 150 pounds per square foot).

MAINTENANCE OF YOUR SPA:

GENERAL MAINTENANCE:

- a. ACCESS TO ELECTRICAL EQUIPMENT — The power-pak system is located under the wood skirt. The equipment can be service by simply lifting the side panel up and outward. The service panel should always be replaced and secured prior to operation.
- b. SPA WATER MAINTENANCE — You should drain your spa at least every 2 to 3 months. Between this period you should chemically treat the water for a clean, healthy spa.

WARNING

Do Not Exceed 104°
Excessive Temperatures Voids Warranty

PERSONAL SAFETY AND HEALTH CONSIDERATION:

- a. Each person's body and circulation system has different tolerances and responds differently to warm/hot immersion. The amount of time that safe, health soaking and therapeutic use of Spas or Hot Tubs will vary. Most people in good health find a water temperature of about 102°F to be satisfying and limit time in water at his temperature to 20-30 minutes. Use of alcoholic beverages and certain medications may affect the way your body system reacts to warm/hot water immersion. Consult your physician for recommendations.
- b. Always check water temperature with a thermometer. Do not get into Spa if water temperature is above 104°. Prolonged immersion in water at temperature above 100°F may be detrimental to the health of the user. Before using your Spa, consider your present state of health, medical history and age. Consult your physician for recommendations.
- c. Water chemistry is very important. For maximum enjoyment and longer equipment life, refer to your chemical guide. Periodic draining of your Spa is highly recommended. Do not use acid (or any based product, I.E. Tri-Chlor) to adjust pH as this will damage your spa finish and corrode your heater.

SAFETY INSTRUCTIONS:

- a. Always check water temperature with a thermometer. Water temperature above 104°F may be detrimental to the health of the user. Before using your Spa, consider your present state of health, medical history and age. Consult your physician for recommendations.
 - Spas and Hot Tubs should not be used by persons under the influence of alcohol or medication inducing drowsiness.
 - Never touch or come in contact with any electrical accessory when in your Spa or when your body is wet.
 - Prior to performing any service to the Cal-Spa Pack, turn off ALL power to the system at the main power source breaker.
 - b. Never turn Equipment Pack on unless Spa is filled with water to the center of skimmer.
- The following steps will help lower operating costs and conserve energy: Use high speed pump mode to operate jets, only when Spa is being used. The same is true for the air blower, since the bubble action and surface agitation increases heat loss. A suitable cover for your Spa will prevent excessive heat loss. NOTE: Keep the spa covered at all times with an approved cover except when it is in use. If Spa is to be drained and left unattended for an extended period, turn off breakers. Replace cover and secure.

NO ACID

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They ruin Acrylic SPAS**

Read all instructions carefully and completely before installation. Incorrect installation of the spa may void the warranty. If you have any questions that are not explained in this manual, consult your spa dealer. Consult your local building department for any permits you may need, i.e., plumbing, electrical, etc. Some areas may require a swimming pool or building permit.

A. GENERAL INFORMATION

SPA PLACEMENT — Consider the following suggestions when deciding a site for your Cal-Spa.

- a. **AESTHETICS** — Select a location that enhances the overall aesthetics of your home and landscape.
- b. **LOCAL CODES** — Check local codes pertaining to fences, gates, and electric prior to locating your spa.
- c. **PRIVACY AND WIND SHIELDING** — Consider how your spa will be used and how wind will affect the water temperature.

ELECTRICAL SERVICE — Remember, your Spa requires a 110 volt, 20 amp, (Model 110) or a 220 volt, 40 amps (Model 220) grounded electrical circuit to operate. **SAFELY AND EFFICIENTLY.**

- a. To install the 110 volt system, you should plug directly into a grounded 110 volt 20 amp dedicated receptacle.
- b. To install the 220 volt 40 amp system, you must contact a licensed electrical contractor to install the SPA unit, as improper installation could cause damage to not only your property, but result in serious harm to spa users.

NOTE: INSTALLATION OF YOUR SPA — Select a flat, level area for placement of your spa. The surface must be concrete. Your Cal-Spa is completely self supporting when placed on a solid foundation and does not require any type of structural support.

GENERAL OPERATING INSTRUCTIONS — Your Cal-Spa is designed and constructed using the finest materials and workmanship, and will provide you with years of satisfactory performance, with a minimum of effort on your part. The following operating and maintenance instructions are very important and must be carefully followed to insure that the spa provides you with the greatest satisfaction.

- a. All portable spas include a filter, heater, pump, and blower. Regardless of specific supporting equipment, the following procedures must be followed.
- b. The pump should be operated a minimum of two hours per day for cleaning and heating.
- c. The pump and heater are thermostatically controlled. This will allow the spa to be ready to use without any further effort on your part. The length of time required to heat the spa to the desired temperature (usually about 90° F to 101° F) will vary depending on heater size, season, water temperature, wind velocity, etc. Therefore this is something each owner must determine and adjust to his personal needs. We highly recommend using a thermal blanket and/or vinyl hard cover available from your spa dealer to minimize heat losses when your spa is not in use.

d. **EXCEPTIONS:** time clock models must be programed for heating and prolong time.

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GENERAL INFORMATION (Continued)

- e. Operating the air blower should be limited to when the spa is being used. Continuous operation dissipates chlorine.
- f. The filter is the replaceable cartridge type. A routine cleaning of the cartridge is the best practice. Make sure pump is off, remove the cartridge, wash it off with a water hose and re-assemble. Be careful not to overtighten filter console. This should be done on a routine basis whether you think it really needs it or not. A routine cleaning is important.
- g. Keep the spa filled to approximately the center of the skimmer. Never allow the water to drop below the bottom of the skimmer opening. This will allow air into the main water line to the pump, causing it to lose its prime (water flo). Running without water will damage the pump seal assembly.

SKIRTED SPAS — Listed below are some items that a portable buyer should definitely be familiar with:

- a. Spas require a solid, flat foundation underneath.
- b. 110 Volt portable spas must be on a 20 amp circuit with no other items.
- c. Extension cords should not be used. If you cannot get by with the existing cord that is supplied, phone us for advice.
- d. 220V unit must be hard wired into a double 40 amp breaker, direct from your electric main.
- e. Ground fault interrupters are supplied with all 110V portables. If you have a problem with the GFI, there is a good chance that it is a fault of the equipment.
- f. If your spa has a redwood skirt keep it oiled with any suitable oil. We use linseed oil initially.
- g. Water chemistry is especially important. Try to keep it right. It is best to add chemicals with the air blower only or for about 15 minutes, after you have used the spa, or 2 hours prior to use. Do not add chemicals when in use. "DO NOT USE ACID". This will void your warranty.
- h. Heaters require both a proper thermostat setting and sufficient flow of water through the heater element to work. If you have a dirty filter it is quite possible that the heater element will not function.
- i. Pump failure is most commonly caused by pump cavitation caused by a lack of water supply. This can be caused during the filling (trapped air pocket) or draining (water level becomes too low). See Pump Priming Section.
- j. The following steps will help lower operating costs and conserve energy: Use high speed pump mode to operate jets, only when Spa is being used. The same is true for the air blower since the bubble action and surface agitation increases heat loss. A suitable cover for your Spa will prevent excessive heat loss. NOTE: Keep the spa covered at all times with an approved cover except when it is in use. Keep air venturi tightly closed when not in use.

k. Air switch modes are as follows:

- 1st Button — Jets
- 2nd Button — Lite
- 3rd Button — Air Blower

NOTES

i. When jets and air are off, thermostat will turn low pump on and off to maintain temperature.

EXCEPTIONS

- m. Time clock models must have running and heating time programmed on the clock. (220 only)
- n. 220 Volt systems will heat on high or low speed pump setting.

GENERAL MAINTENANCE (continued)

c. **USE OF SOLAR BLANKET AND/OR COVER** — A solar blanket is an optional item for use with your spa, but the solar cover is essential for proper temperature control and efficient operation. It is highly desirable and is available from your dealer. It has been proven that a cover saves considerable energy costs.

d. **CLEANING YOUR SPA** — When spa is drained, you may want to clean it. Use a liquid cleaner that contains no abrasives. Such cleaners would be, for example: 409 Fantastic, Spa Gloss. **DO NOT** use a cleanser or hard brushes. A light detergent could be used.

e. **WINTERIZING** — In areas of the country where the temperature goes below 32 degrees, follow these steps:

Step 1. If spa is not be used, drain completely and store in garage.

Step 2. If you are going to use the spa, set in "Heat" mode and spa will stay warm. **DO NOT TURN UNIT OFF** or frozen water may burst plumbing.

f. **DRAINING SPA** — Do not empty spa below drain fitting or loose prime to pump because these condition will damage pump and void warranty.

(a) Turn thermostat counter clockwise to "OFF" position.

(b) Attach garden hose to outdoor hose fitting located on equipment package.

(c) Plug off skimmer with 1½" plastic plug to maintain prime when water level drops below skimmer.

(d) Press sequence button to pump mode. Water will flow out of garden hose.

(e) Watch water level! When water level is just above drain fitting, turn power off or the water pump will cavitate.

(f) Siphon out balance of water.

g. **PUMP PRIMING** — The water pump is the heart of a spa and it is essential that the pump is operated correctly to prevent serious damage to your equipment. Therefore, knowing how to prime your pump and maintain the pump prime is very important.

Pump cavitation is caused by the formation of air pockets at the inlet of the pump which in turn prevents the pump from pushing water through the power-pak. This condition can damage the pump or heater assembly. These air pockets are formed by: 1) trapped air during initial filling, 2) spa water level dropping below the skimmer and, 3) water level dropping below the suction fittings during draining (see spa maintenance section).

When the pump is not primed, the following characteristics are present:

(a) No water jet action.

(b) Jet stream "sputters" with a "crackling" noise sound.

When these conditions occur you should refer to priming instructions.

SPA WATER CHEMISTRY

With the purchase of your spa or hot tub, you have made an important investment. We at Cal-Spas are dedicated to helping you protect that investment. With Cal-Spas proper start up and Cal-Spas program, you can keep your spa water looking beautiful, clean and safe. Cal-Spas Start Up Kit is just what you need. Packaged in a handy suitcase design with handle, it contains a SPA CHLORINE, BROMINE CARE, SPA CARE STAIN AND SCALE INHIBITOR, SPA BRIGHT CARE CLARIFIER, FOAM FREE.

WARNING

Absolutely do not purchase chemicals from a local pool supply store which are anything different from what we recommend. Pool supply stores are trained to treat large volumes of pool water in non-Acrylic finishes. They will try to sell you "Acid" or "PH Down" to lower the "PH" level. This will ruin your Acrylic Spa finish. If your "PH" level gets too high, simply empty the water and refill with fresh water.

NO ACID

Tri-Chlor or Algecide Solution
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TO START SPA WATER OFF

Add 3 level tablespoons per 250 gallons of water of SPA CARE STAIN AND SCALE INHIBITOR will extend chlorine and make clarifier work better. Stops scale and iron stain, and adds sparkle and polish to the spa. Slows metal corrosion on spa equipment, and chelates calcium, iron, and copper.

Add 6 level tablespoons per 250 gallons of water of BROMINE CARE to spa water. BROMINE CARE enhances the use of chlorine, and allows you to use less chlorine.

SPA CHEMICALS AFTER START

To make a simple and easy spa chemical program, the following is recommended.

CHLORINE RESIDUAL

Spa granules should be added daily, or as necessary to maintain 2 to 3 ppm free chlorine. The spa granules should be broadcast over the surface of the water. Add one-half (1/2) ounce of dry spa granules every day. Should your spa water turn yellow, you are using too much chlorine, cut the amount in half and let your spa sit for two (2) days. Your water will turn clear again.

NOTE: Heavy bather usage, or the use of oils and lotions may increase the chlorine demand, and call for more frequent water changes.

SPA CARE STAIN AND SCALE INHIBITOR

Add three (3) level tablespoons per 250 gallons of water of SPA CARE. REPEAT EVERY TWO WEEKS.

Add three (3) level tablespoons per 250 gallons of water of BROMINE CARE. REPEAT EVERY TWO WEEKS.

SPA BRIGHT CARE CLARIFIER

Use when spa water is cloudy or murky. For portable spas or spas up to 500 gallons, use two (2) capfuls. Add directly to spa.

FOAM FREE

Highly effective anti-foaming agent developed for spas and hot tubs. Shake well before using. Simply add two caps of FOAM FREE DIRECTLY TO SPA. Use as often as needed.

GENERAL MAINTENANCE AND CLEAN UP PROBLEMS

Drain and clean your spa every three (3) months, polish, and refill.

CAL SPAS PORTABLE SPA MAINTENANCE KIT

Has just what you need, packaged in a handy suitcase design with handle. Your package includes:

1. CAL SPAS SPA CLEANER (1 pint) Cleans, removes scale, lime, rust deposits, dirt, and grease from Gelcoat, Acrylic, and Rovel Spas.

2. CAL SPAS VINYL CARE (1 pint) Cleans, shines, softens, and preserves vinyl spa and hot tub covers with a formula that will protect your cover from chlorine, algae, mildew, and the sun's harmful ultraviolet rays.

3. CAL SPAS WOOD CARE (1 pint) Protects and enhances the natural beauty of your portable spa's wood cabinet with a formula that repels water, and helps prevent warping, decay, and fungi stains.

4. CAL-SPAS FINISH CARE (1 pint). A protectant coating containing cleaners specifically formulated to remove old wax, oxidized surface dirt, and grime from spas. An added bonus of SPA FINISH CARE is a beautiful high finish that minimizes water spotting.

5. CAL-SPAS FILTER CARE (1 pint). Concentrated 50% stronger than most cleaners and will clean up to 55 square feet of cartridge area.

BROMINE CARE

Chlorine was developed primarily for swimming pools. Due to elevated water temperatures, bromine serves as a more effective disinfectant with chlorine or an oxidizer to activate the bromine.

BENEFITS OF BROMINE CARE

1. Less bromine boiling off. Ideal for enclosed areas. Controls odors.
2. pH control. The pH level does not have to be adjusted regularly like chlorine. If water is balanced with bromine, very little adjustment is needed.
3. Corrosiveness. Bromine Care is less corrosive to copper tubing, heaters, pumps and spa covers.
4. Stops irritation. Bromine Care will not dry out skin. You feel more comfortable after using your spa.
5. The cost of Bromine Care is equivalent to chlorine but has many more benefits.

HOW TO USE BROMINE CARE

After start up of spa add three (3) level tablespoons per 250 gallons of water of Bromine Care every two (2) weeks.

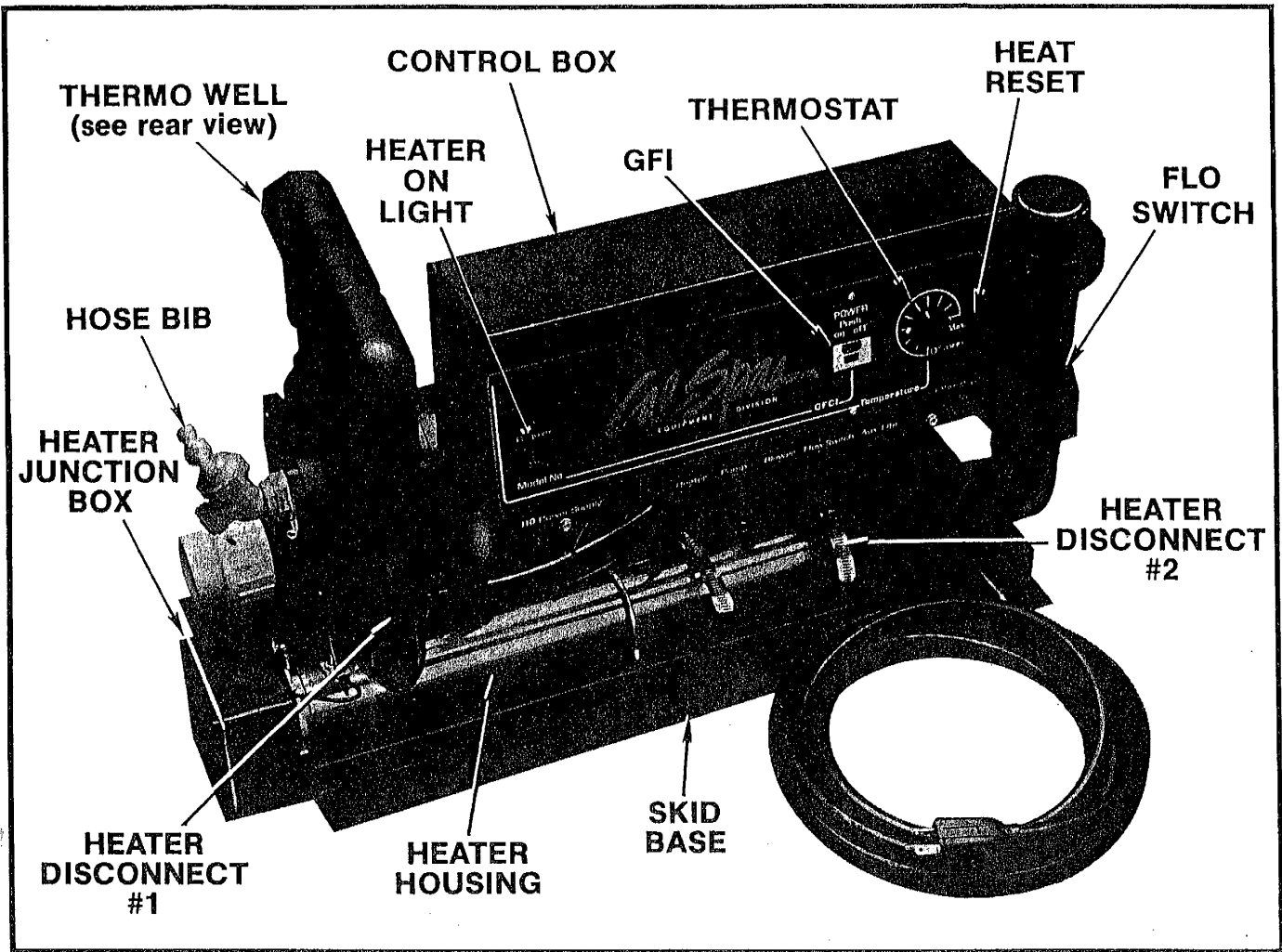
Chlorine or an oxidizer will activate the Bromine Care and allow you to use less chlorine to make your spa water sparkle. When using Bromine Care much less chlorine or oxidizing agent is needed because Bromine Care actually forms a very effective disinfectant when activated, so only small amounts of chlorine or an oxidizer is needed.

WARNING

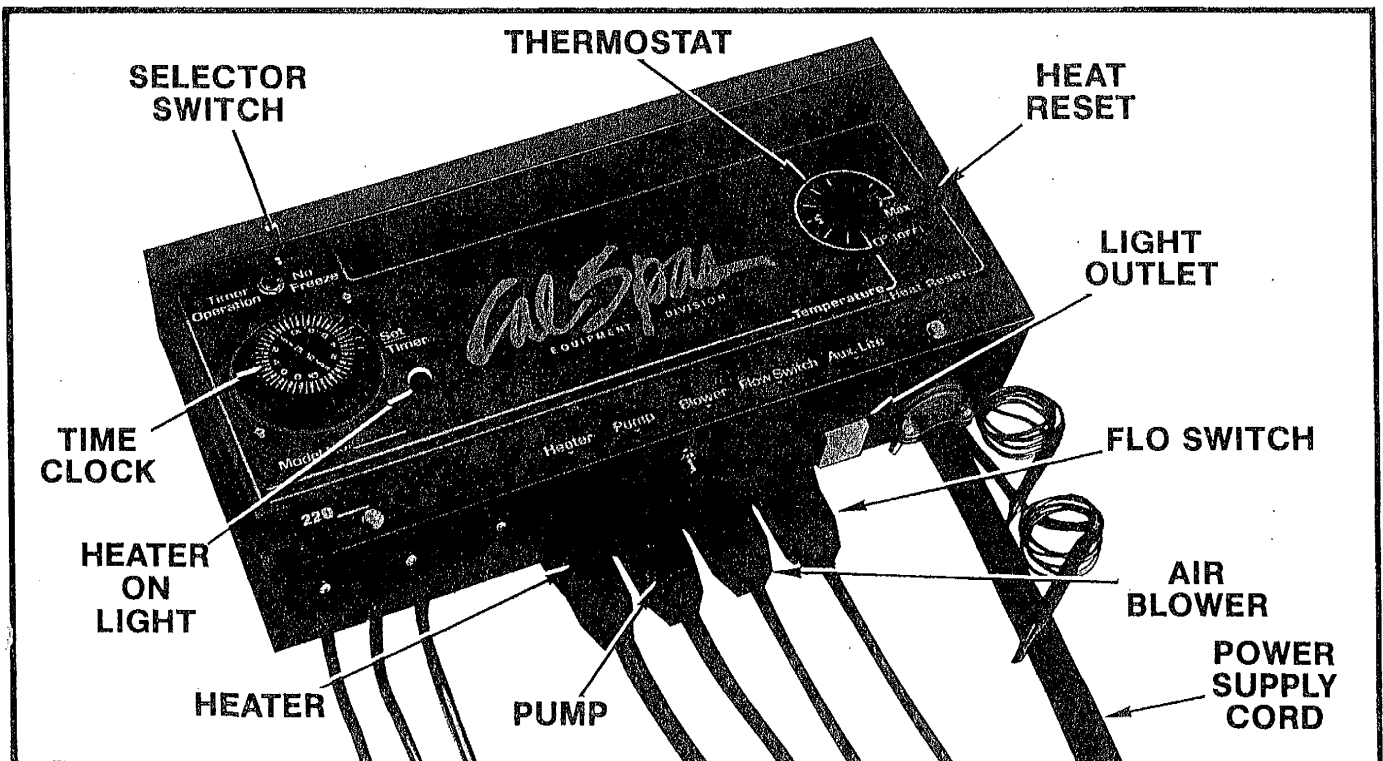
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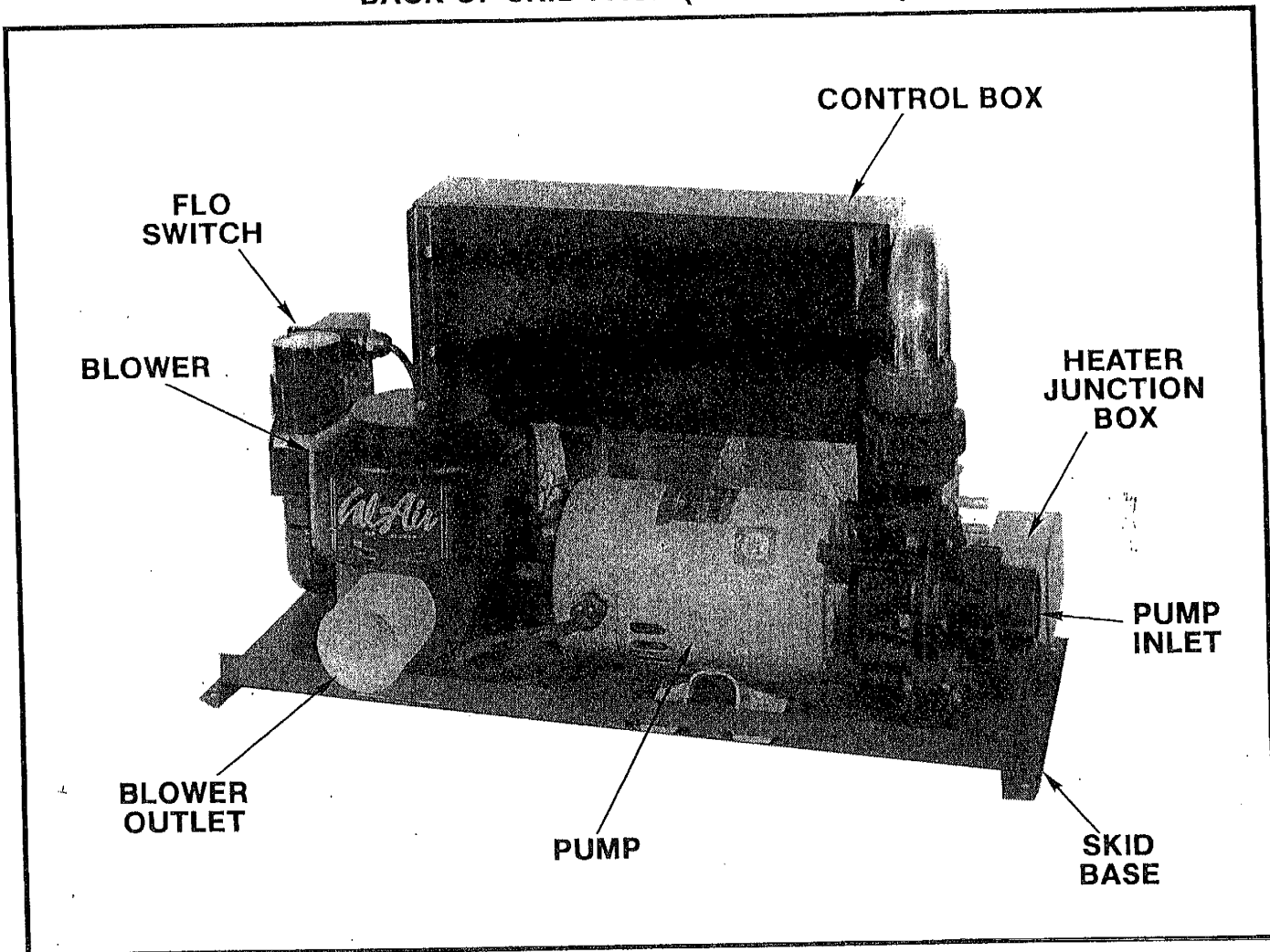
SKID PACK (w/110 volt Control Box)



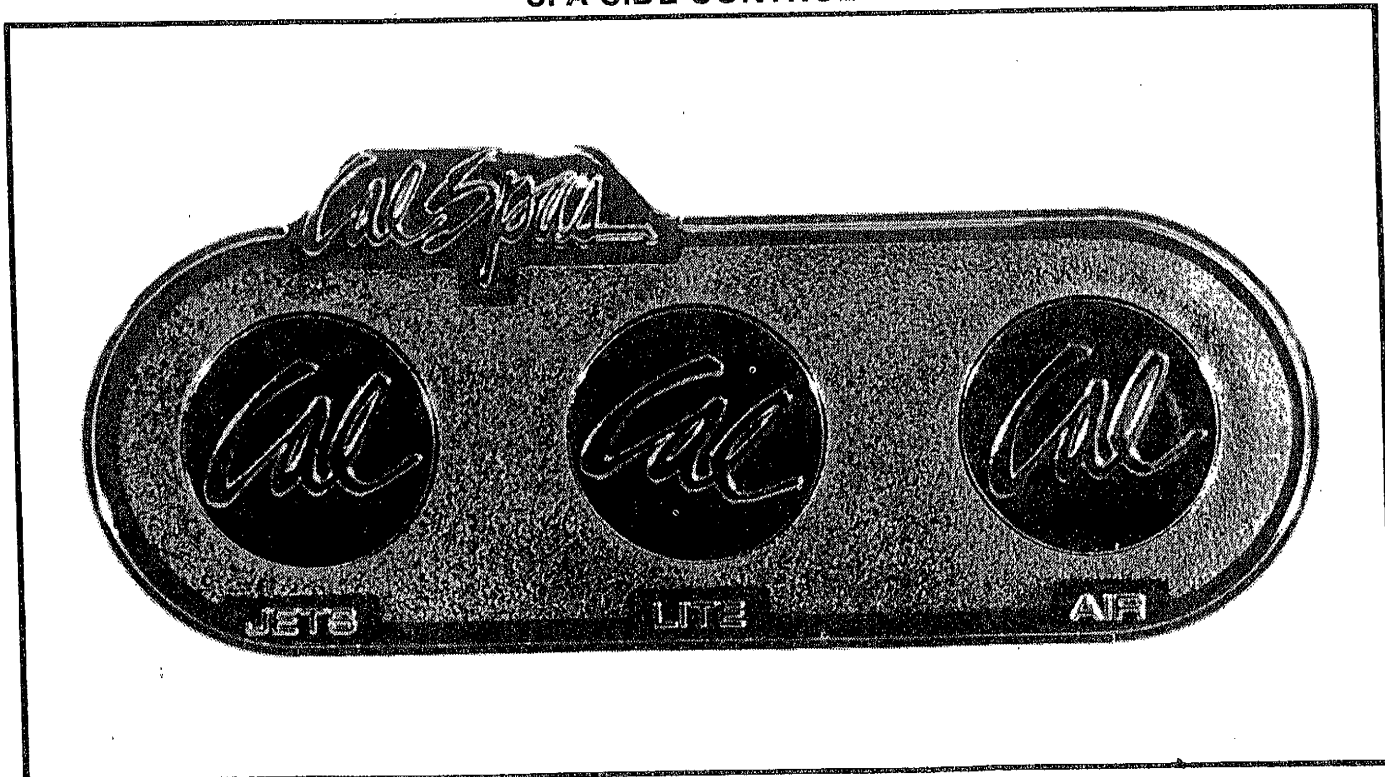
220 VOLT CONTROL BOX



BACK OF SKID PACK (110 or 220 volt)



SPA SIDE CONTROL



SPA PRE-OPERATION

- Step 1. DO NOT plug in 110 volt power cord. For 220VAC system, make sure branch breakers are OFF.
- Step 2. Make sure **ALL** electrical power to equipment is in the OFF position.
- Step 3. Make sure thermostat is rotated counter-clockwise to the OFF position.
- Step 4. Make sure the two 1-1/2 gate valves (located at the inlet and outlet) are in the OPEN position. Lift up on T handle.
- Step 5. Make sure drain (hose—bib) valve is tightly closed.
- Step 6. Fill spa with water to center of skimmer — DO NOT permit water line to drop below skimmer at anytime.
- Step 7. Wait approximately 15 minutes and:
- Step 8. Inspect spa water connections and spa perimeter for any leaks or puddles of water. If there are any leaks, call service for repair if the leak cannot be readily corrected, i.e., connections, etc.
- Step 9. Open hose bib to allow air out of piping system. When water begins to flow, close hose bib. (This process may need to be repeated if there is no water flow during power operation.)

SPA POWER OPERATION:

- Step 1. Plug power cord into 110VAC power receptacle. Make sure the branch main breaker is ON for 110VAC or 220VAC systems.
- Step 2. Make certain GFCI "reset" button on control panel is pushed in. (110V system only)
- Step 3. Press air switch button labeled (jets) operate for 1 minute minimum. When the jets are noted to have a full steady jet stream, then the system is ready. If no jet flow after 1 minute, repeat (priming) - try again.
- Step 4. Press "test" button on control panel — this shuts off the system. Reset button to operate. (110V system only)
- Step 5. Press jet air switch button to 1st mode (**ALL-OFF**).
- Step 6. Turn thermostat clockwise to the desired setting. The pump (LO) and heater will turn on, and the spa will begin to heat. (exception time clock 220)

NOTE: Heater operates when pump is on low speed only for 110V system only. 220V system heater is on demand for all modes. (exception time clock 220)

- Step 7. **Cover spa** and the spa will maintain the preset temperature continuously, 24 hours per day, when pump is left on low speed.

NOTES

Portable spas must have covers to heat
110 Volt spas heat 2° - 3° per hour with cover.
220 Volt spas heat 5° - 7° per hour with cover.

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FILTER MAINTENANCE:

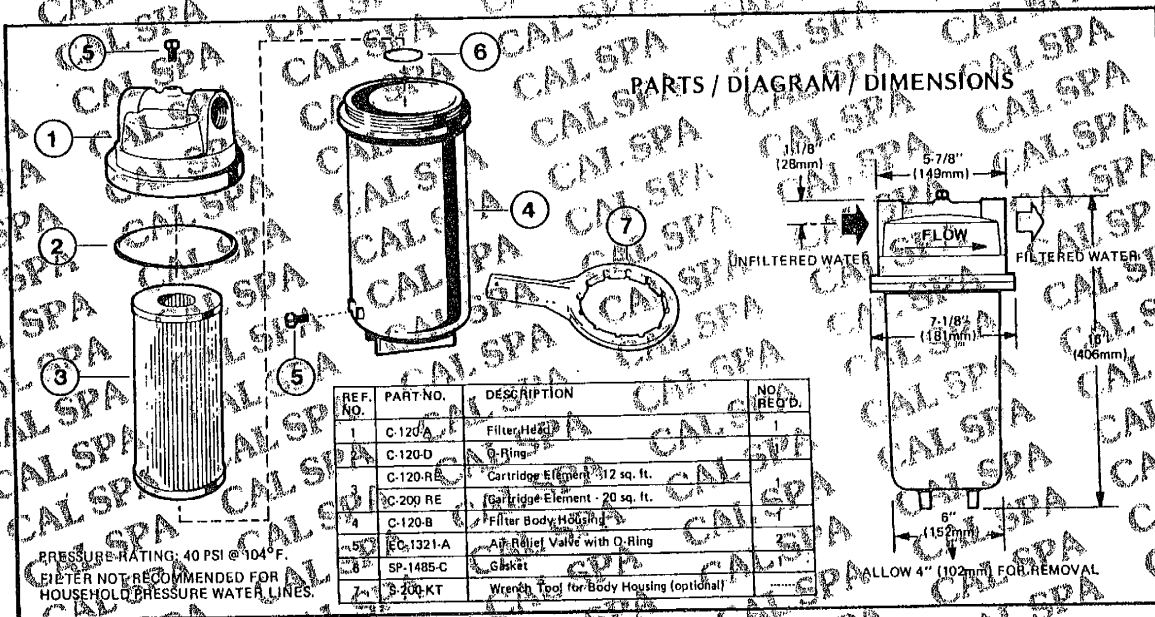
Your spa cartridge filter utilizes a reusable single element, reinforced polyester filter cartridge to provide a high degree of water clarity with minimum care. It is designed for in-line piping systems and may be used with a wide range of pumps and flow rates.

If calcium or mineral deposits are excessive, the cartridge may be restored to "like new" condition by soaking in muriatic acid. Use commercially available 20% muriatic acid added to water in 1 to 1 ratio. Use a plastic container and take extreme care when handling cleaning agents as they can be harmful to eyes, skin and clothing. After cleaning, flush with water.

A spare "standby" cartridge filter element is an excellent investment. It provides convenience and assures that your filter will always be ready to operate at peak efficiency.

WINTERIZING FILTER:

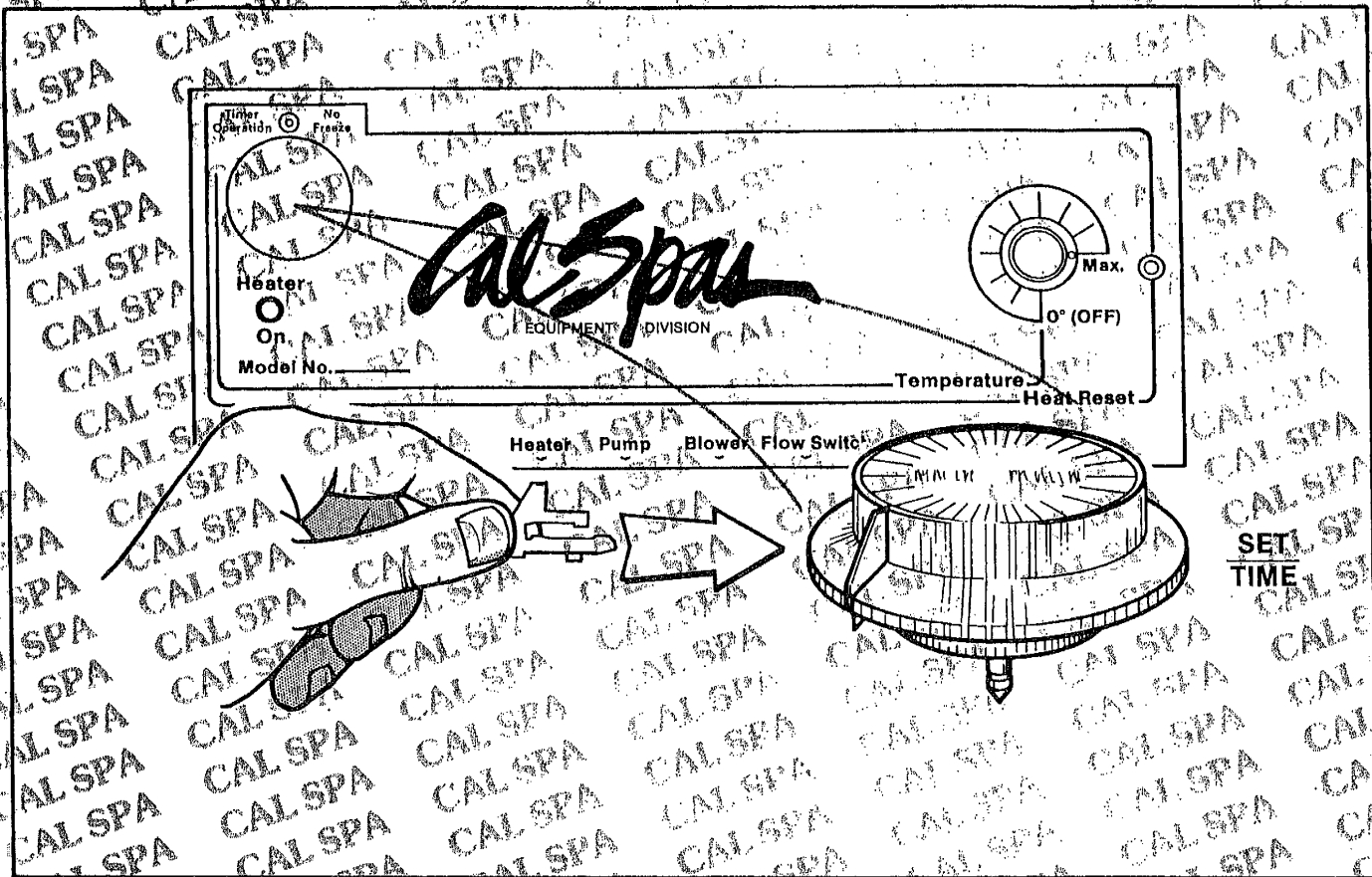
In areas where sub-freezing temperatures can be expected, the filter should be drained, and/or removed from its operating location and stored indoors. Remove and clean cartridge and store with filter housing in a secure place.



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7.0 TIME CLOCK:



7.1 TO SET TIMER:

- a. Grasp Timer Dial firmly and pull from control panel.
- b. Remove both ON trippers (silver) and both OFF trippers (brass). Put one set of trippers aside.
- c. Determine desired turn on time and insert silver tripper.
- d. Determine off time and insert brass tripper.
- e. Reinsert dial with the time of day on **SET TIME**.

Your spa pump will run each day for the programmed time, filtering the spa and heating to temperature set on thermostat.

NOTES

Your time clock controlled units are equipped with a SELECTOR SWITCH located above timer dial.

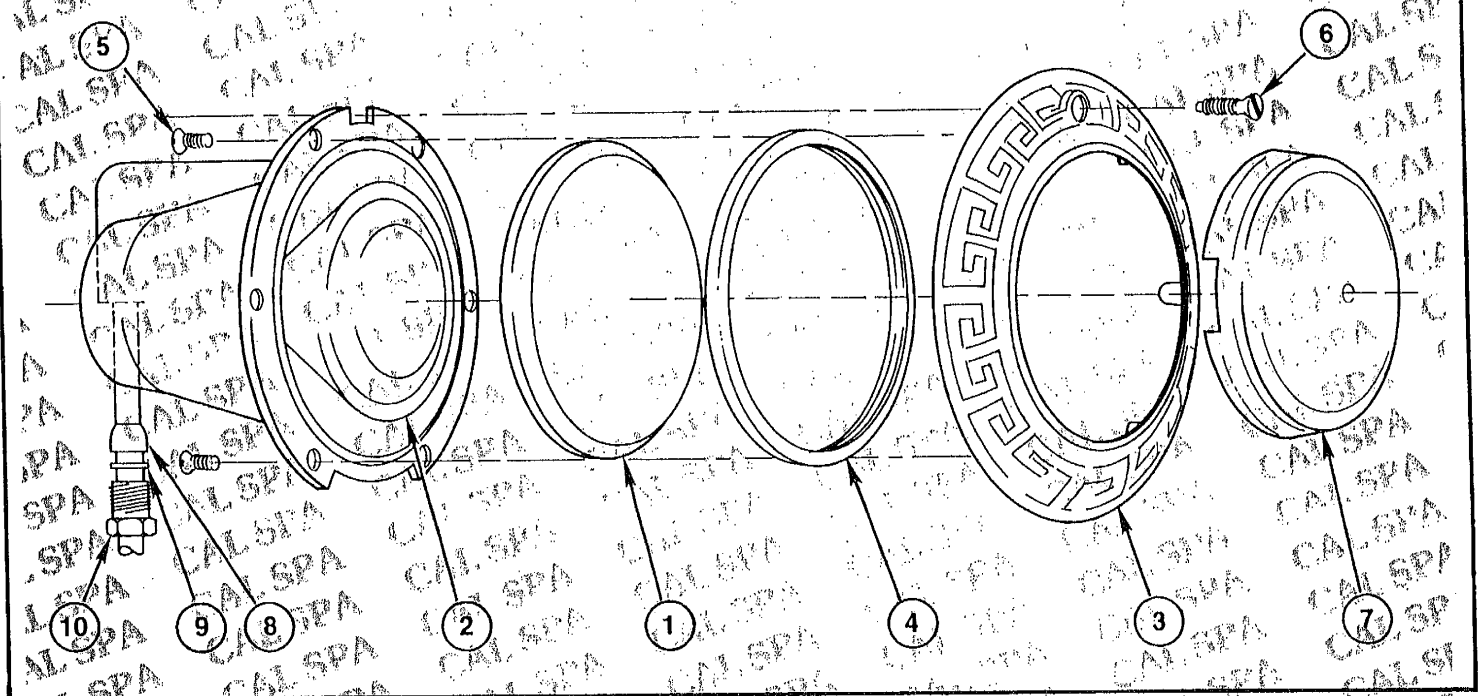
TIMER OPERATION: The time clock will turn low speed pump on or off at times selected by user. This is when the spa water is filtered and heated. (Note: water will heat to temperature set on thermostat provided running time is adequate.) Units heat 5° to 7° per hour.

NO FREEZE (automatic): This mode is thermostatically controlled and will automatically turn on or off to maintain temperature set on thermostat.

NOTES

For ease of operation, use the NO FREEZE (automatic) during the initial starting and heating of your spa. NO FREEZE (freeze protection) is the same as automatic with a lower temperature setting.

INGROUND SPA LITE UNIT

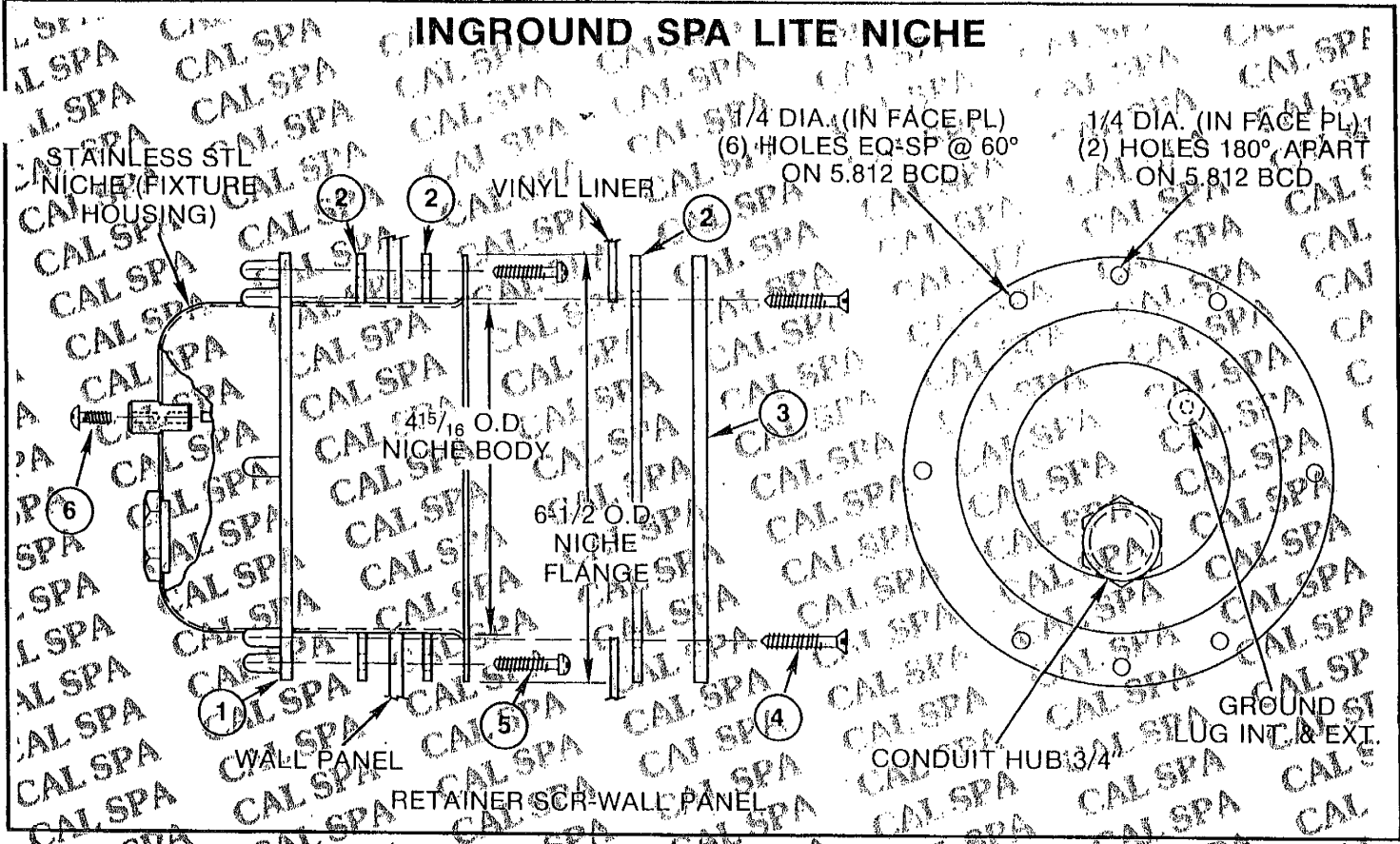


1. Lens, clear, 4" diameter, tempered
2. Floodlamp, medium base, 100 watt, 120 volt
2. Floodlamp, medium base, 100 watt, 12 volt
3. Face ring, brass-chrome
4. Gasket for 4" diameter lens
5. Screw, stainless steel 10-24 X 1/2" (6 required)
6. Pilot screw captive gum washer
7. Kwik-change color lens, red
7. Kwik-change color lens, blue
8. Grommet, 1/2"
9. Friction ring, 1/2"
10. Compression plug

NO ACID

Tri-Chlor or Algicide Solution
They ruin Acrylic SPAS

INGROUND SPA LITE NICHE



DESCRIPTION

- 1. Back up ring, brass, for #782434 niche.
- 2. Gasket, each, for #782434 niche (3 required).
- 3. Sealing ring, brass chrome for #782434 niche.
- 4. Sealing screw, each 10-24 X 1-1/8" flat head, stainless steel.
- 5. Mounting ring, brass.
- 6. Screw kit spa brite niche.
- 5. Screw, retainer, fillister head, 12-24 X 3/4"
- 6. Screw, grounding 10-24 X 1/2"

WARNING

Do Not Exceed 104°
Excessive Temperatures Voids Warranty

FILTER MAINTENANCE (Continued)

PLUMBING:

Plumbing connections are 1½" N.P.T. When making connections, use *plastic* adapters. Apply three turns of Teflon tape or plastic pipe sealant to the male threads. Screw the fitting into the thread hand tight, then using a wrench, tighten one more full turn. Additional tightening is unnecessary and could result in damage to the components. Be sure to properly support pipe connections.

The Micro filter features an automatic by-pass orifice for use on spa systems. The by-pass allows for greater flow rates through the filter and system. To use by-pass — remove plug inside filter body.

BEFORE STARTING THE FILTER:

Chlorinate the water by adding diluted unstabilized granular or liquid chlorine. Stabilized forms of chlorine are recommended for normal daily use *after* the initial clean-up of the water. Follow dealer and chemical manufacturer's recommendations for chlorination and normal daily use. **DO NOT USE TRI-CHLOR OR ALGECIDE SOLUTION.**

STARTING THE FILTER:

Be sure filter drain valve and air relief valve are closed. Open the suction and return valves (when used). Be sure filter knob is secure (hand-tight).

Prime and start the pump following the manufacturer's instructions. Air trapped in the system will automatically vent to the pool.

FILTERING:

Filtration starts as soon as flow is steady through the filter. As the filter cartridge removes the dirt from the pool water, the accumulated dirt causes a resistance to flow. As a result, the flow will decrease. When flow decreases below desired rate, clean or replace the filter cartridge.

CLEAN/REPLACE CARTRIDGE:

Removing Cartridge Element

1. Shut off the pump.
2. If filter is located below water level, close valves (or block off suction and discharge lines) to prevent back-flow of water from pool.
3. Open top air relief valve, and bottom drain valve to allow water to drain from filter.
4. Hold filter knob firmly and unscrew. Then remove dome.
5. Remove cartridge element and clean. Or, replace with clean, spare cartridge. (See Cleaning Cartridge).

Reinstalling Cartridge Element

1. Clean any collected debris from the bottom of the filter housing.
2. Reinstall cartridge in filter housing. Be sure O-ring is in place on threads.
3. Clean O-ring. For ease of future disassembly, apply a very light film of silicone lubricant to O-ring and threads, on upper part of filter.
4. Screw top knob onto filter head. Do not overtighten. Tighten drain valve and top air relief valve.

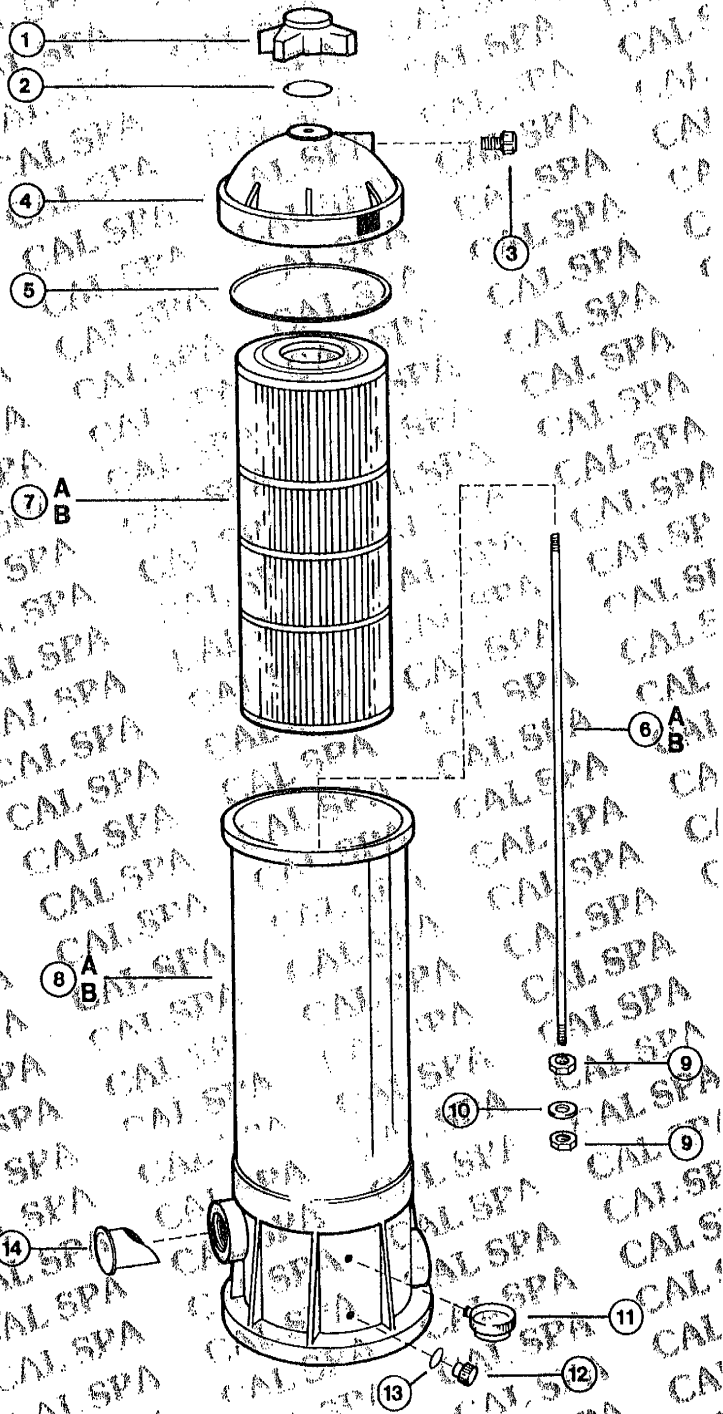
Cleaning Cartridges:

The cartridge filter element can be cleaned by pressure washing inside and out with a garden hose. Rotate cartridge, hosing from top down. (The cartridge is easier to clean when dry.) After hosing the cartridge, for best results, allow cartridge to dry and carefully brush pleated surface areas to remove fine particles.

Algae, suntan oil and body oils can form a coating on the cartridge pleats which may not be thoroughly removed by hosing. To remove such materials, soak the cartridge in a solution of filter element cleaner (various brands available at pool dealer). Follow manufacturer's directions for use and allow an hour for soaking. Hose thoroughly before re-installing in filter.

PARTS
Models C-250 and C-500 Filters

REF. NO.	PART NUMBER	DESCRIPTION	NO. REQ'D.
1	C-250-G	Locking Knob	1
2	C-250-Z-7	O-Ring	1
3	EC-1321-A	Air Relief Valve w/O-Ring	1
4	C-250-C	Filter Head (Dome)	1
5	C-250-F	Filter Head Gasket	1
6-A	C-250-Z-2	Tie Rod	1
6-B	C-500-Z-2		
7-A	C-250-RE	Cartridge Element	1
7-B	C-500-RE		
8-A	C-250-AA	Filter Tank Body w/Tie Rod Assembly	1
8-B	C-500-AA		
9	C-250-Z-3	Nut, 7/16" x 14	2
10	C-250-Z-16	Seal Washer	1
11	EC-2708	Pressure Gauge	1
12	C-250-Z-14	1/2" Drain Plug	1
13	SP-605-Z-2	Drain Plug O-Ring	1
14	EC-4077-B-1	Check Valve	1



NO ACID

Tri-Chlor or Algecide Solution
They ruin Acrylic SPAs

ELECTRICAL COMPONENT MAINTENANCE:

THERMOSTAT:

Allows you to select and maintain desired temperature. Rotating dial clockwise increases temperature setting; counterclockwise decreases temperature. Maximum temperature setting is 106°F with a design tolerance of + or -3°F. For safety purposes do not allow water temperature to exceed 104°F maximum.

HI-LIMIT SWITCH:

A protection switch to prevent system damage in event of excess heat build-up. Excess heat build-up is usually caused by operating the Heater without adequate water flow to dissipate heat through your piping system. If Hi-Limit switch "trips", power to heater will be shut off until heater has cooled below shut-off temperature. The cool down time is 15-30 minutes after which the system will automatically turn the heater on except in models that employ a manual reset Hi-limit switch.

AIR-BLOWER REMOVAL:

Step 1. To avoid shock hazard, disconnect main power supply from spa outlet being serviced.

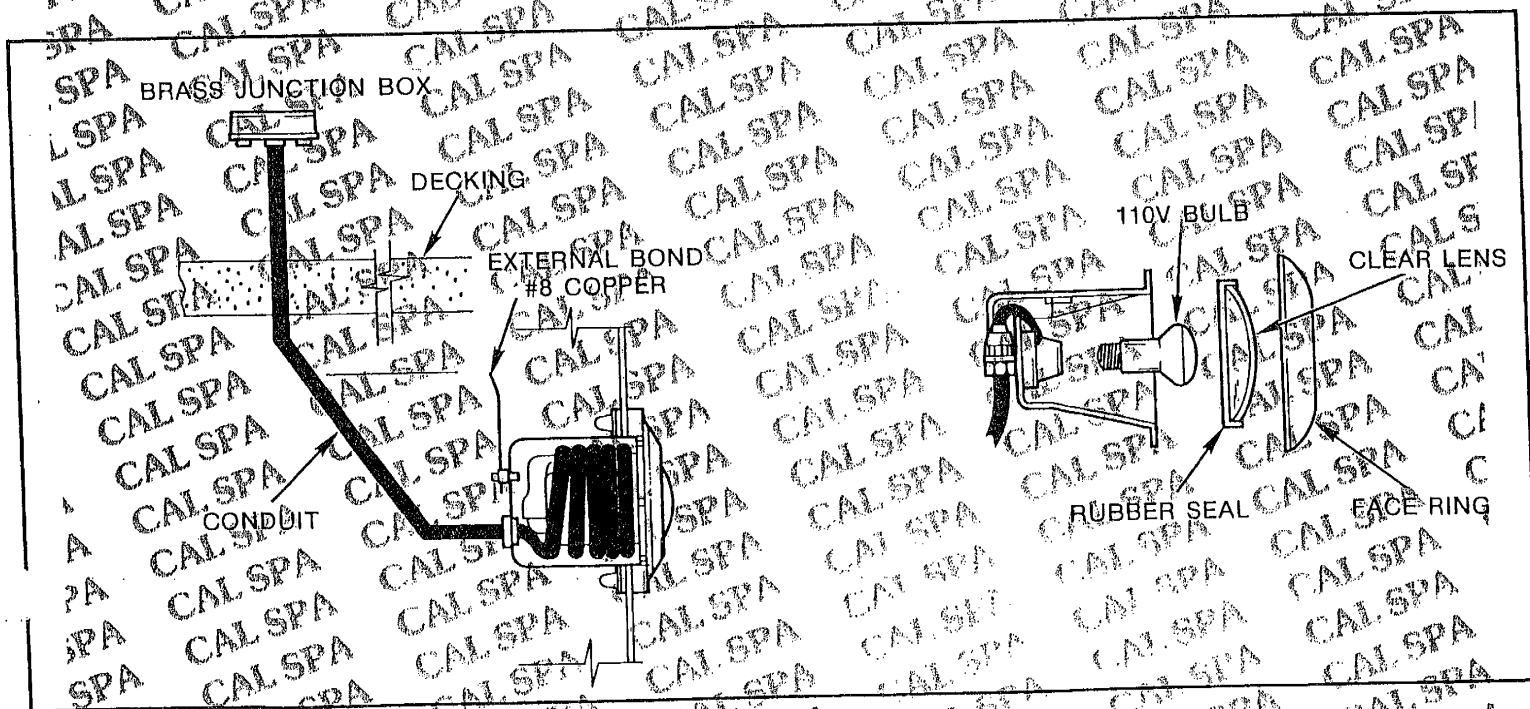
Step 2. Disconnect electrical cord.

Step 3. To remove Air Blower from system, loosen the quick disconnect fitting and unfasten screws from metal skirt.

LIGHT AND REPLACEMENT:

The light, incorporated in some spas, is located under the skirt (Cal-Spa above ground light). The light is secured to a high temperature plastic plate which is threaded into a lens assembly. The light (12 volt) is actuated by an on/off switch mounted at the top of the spa. To replace the light, make sure you turn the branch breaker power OFF and then unfasten the light back plate. The bulb is replaceable and can be purchased at your local spa dealer or any motor (RV) supply outlet.

For installation of your inground light, follow owner's manual which is included in a box together with the light. Installation must be made by a qualified electrician. NOTE: A ground fault interrupter is required.



CAL-SPA-LIGHT

SPECIFICATIONS

12 volt, 20 VAPA
Fusing Energy Limiting
UL-listed power supply

Cord length - 20 feet
Bulb life - 1200 hours
Bulb type - 912

LAMP REPLACEMENT

Simply remove lamp socket from back of light assembly by turning and pulling at the same time.

Replace lamp with 912 bulb and reinsert socket completely in light fixture.

INSTALLATION INSTRUCTIONS

STEP 1. Determine the placement of your light. For best results, place light at the same level as jets.

STEP 2. Make hole for wall fitting. For spas, use 3-5/8 inch hole saw. For wood tubs, use 2-3/4 inch hole saw.

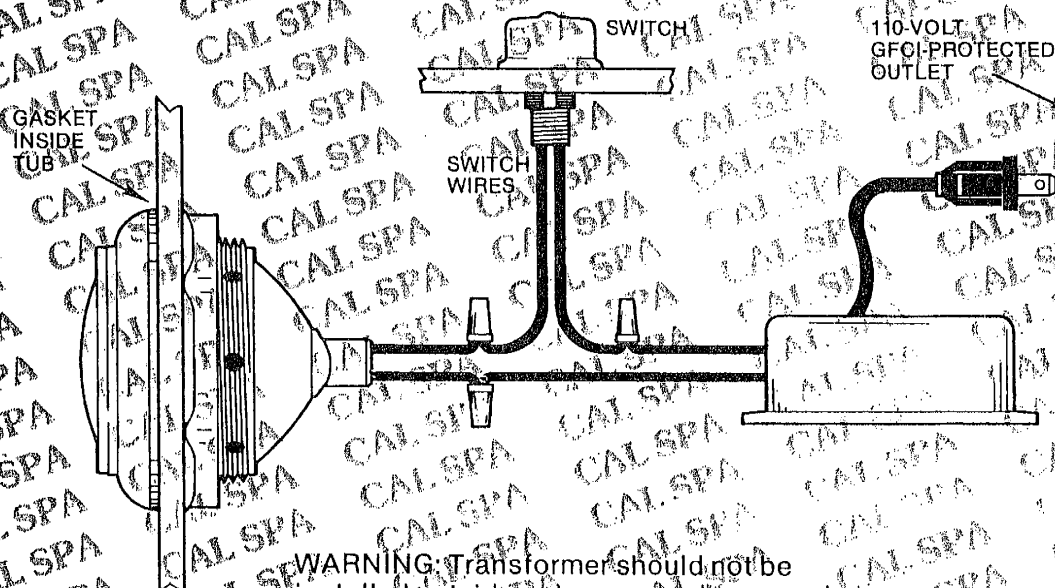
STEP 3. Determine where you would like the switch for the light.

STEP 4. Using a 1-1/8 inch hole saw make a hole for the switch.

STEP 5. Attach 12-volt power supply cord to light and run 12-volt power cord to switch. Connect switch as shown in diagram.

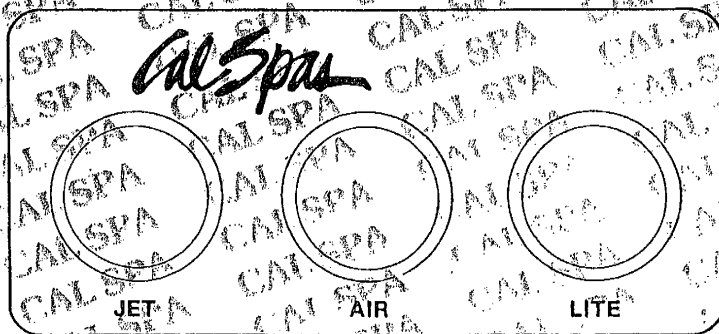
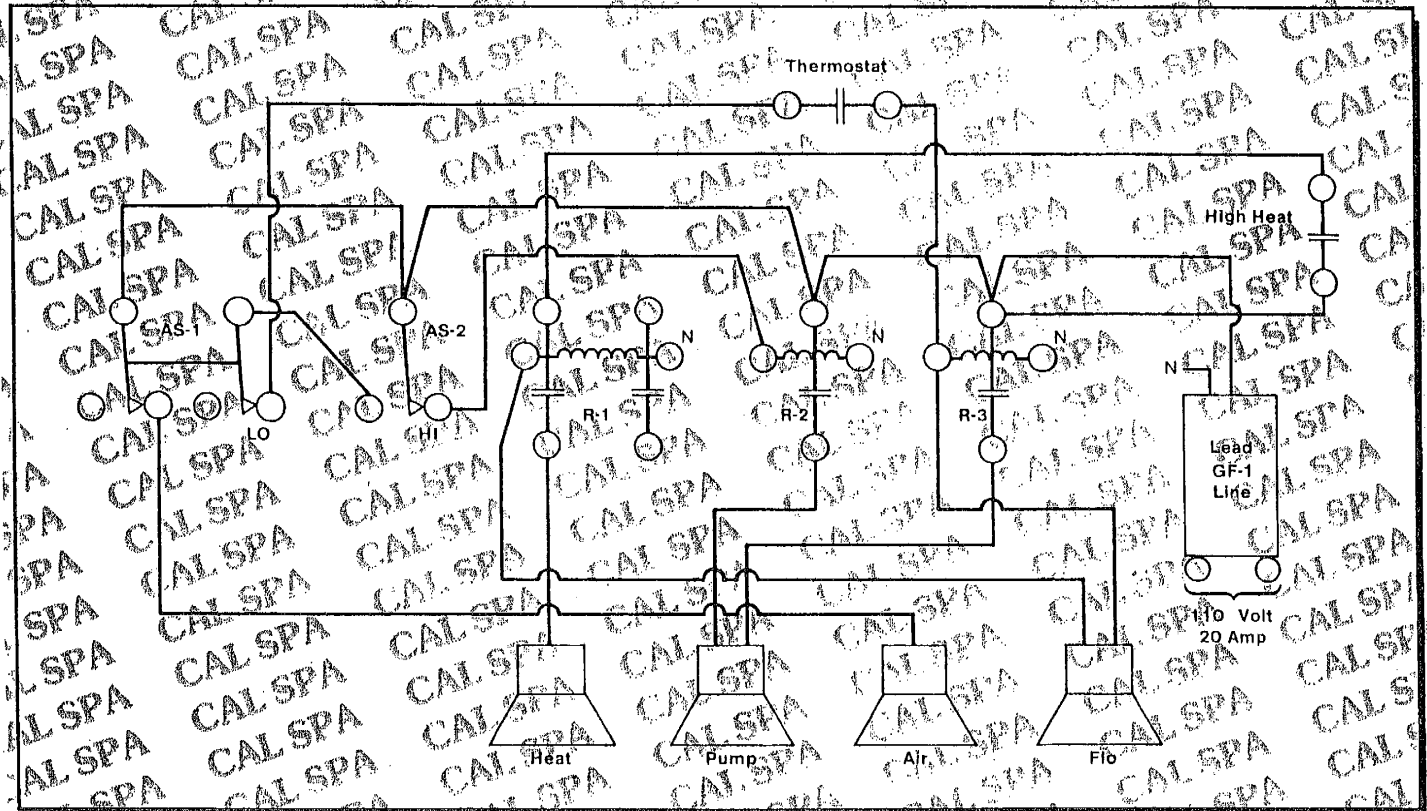
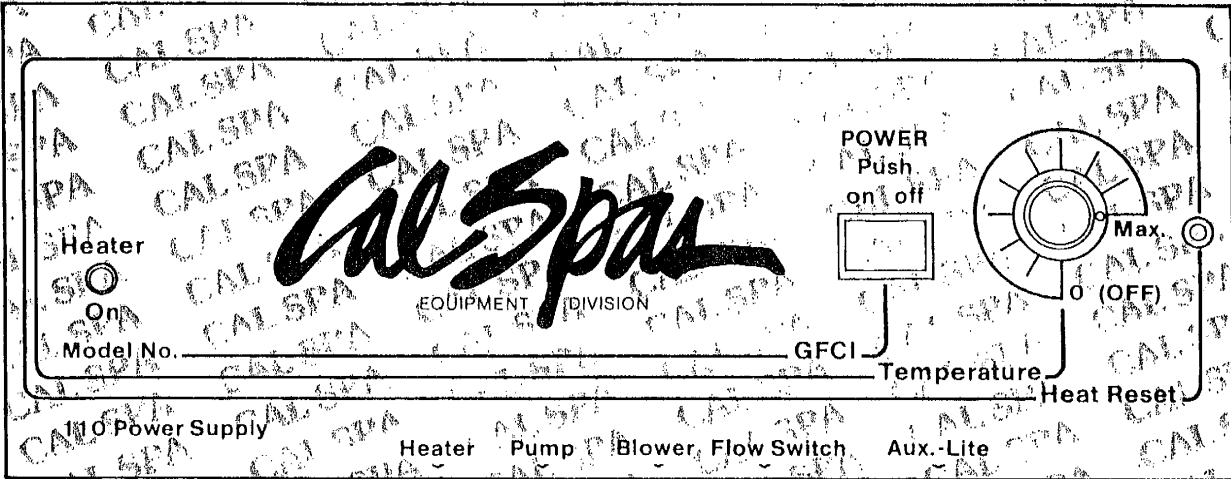
STEP 6. Plug power supply into 110-volt GFCI-protected outlet.

DIAGRAM

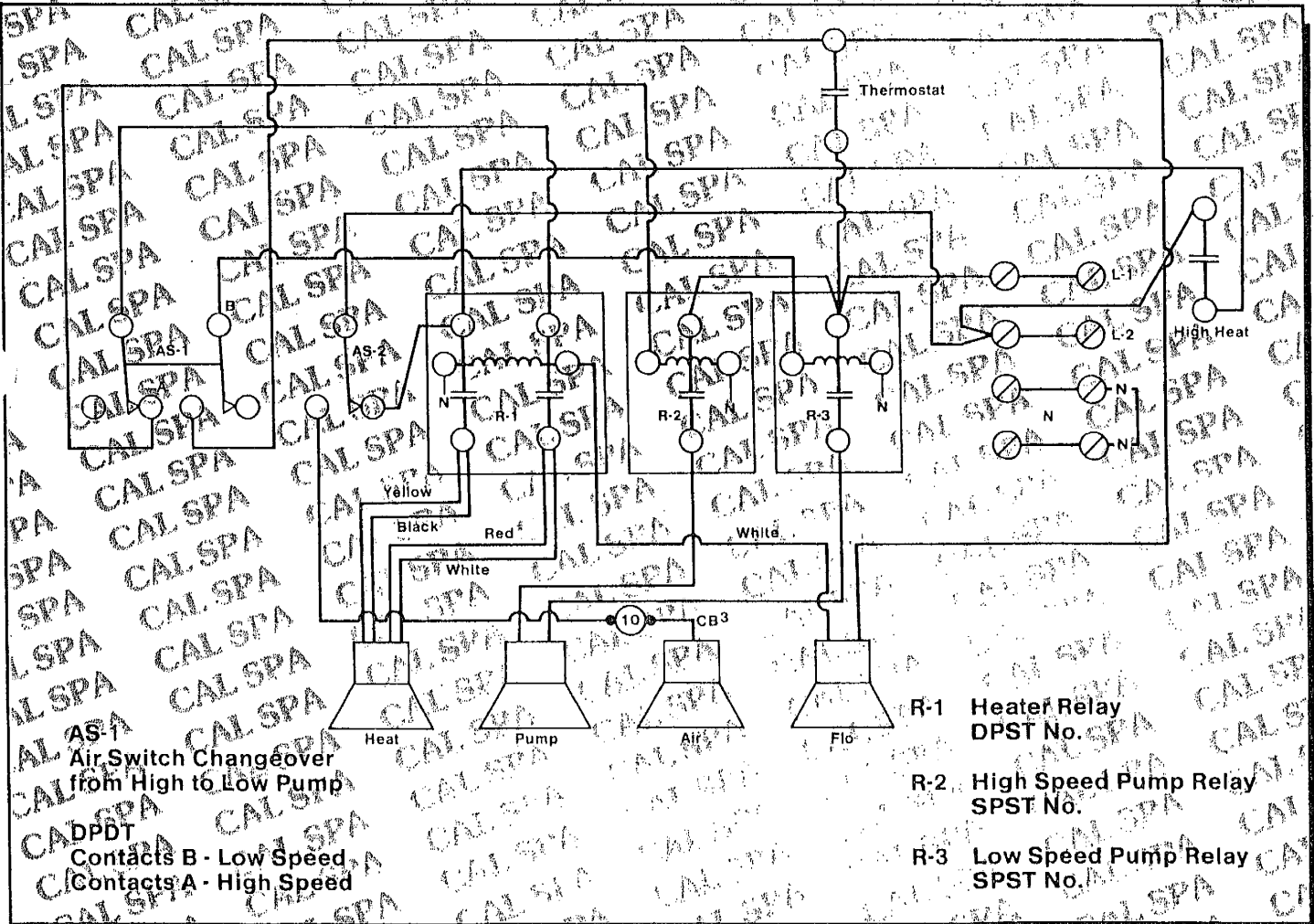
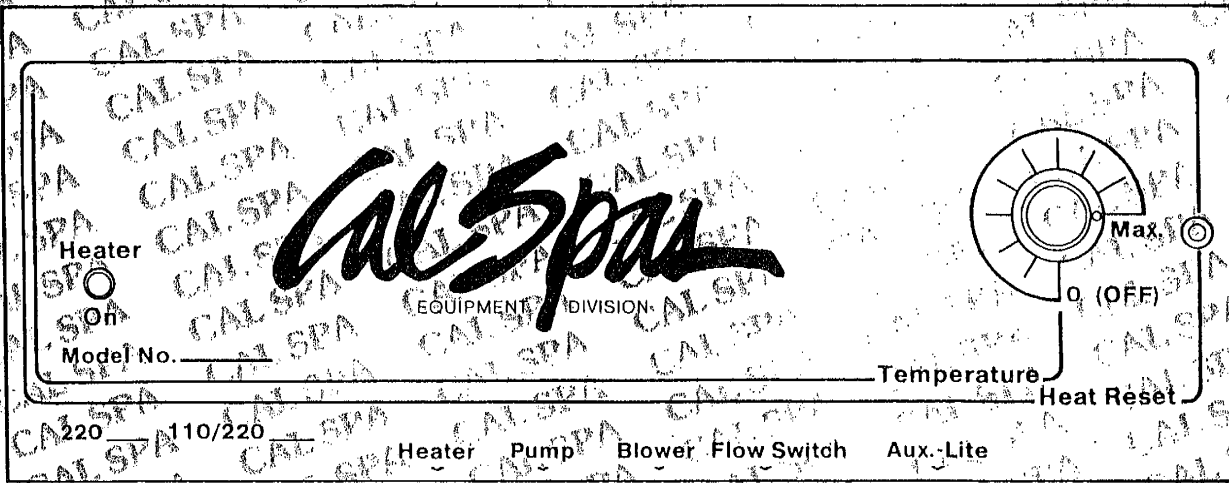


CAUTION: Due to possible overheating, the vent holes at the back of the light housing must be left open. Do not insulate to the point of contact with this part of the light.

110 Volt

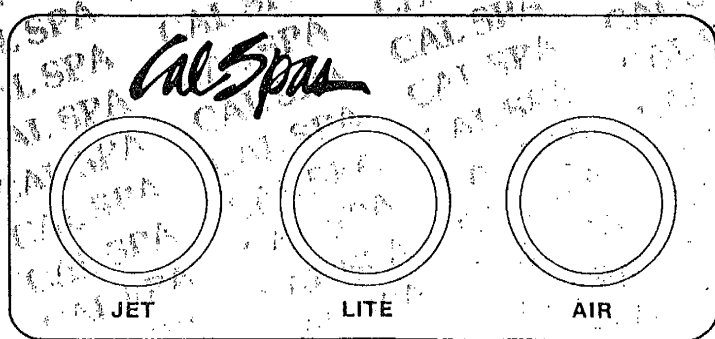


220 VOLT

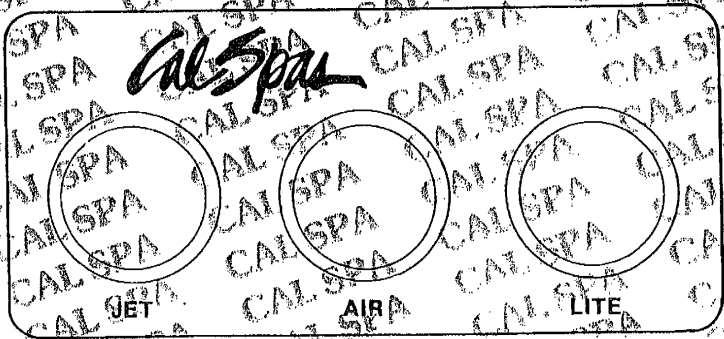
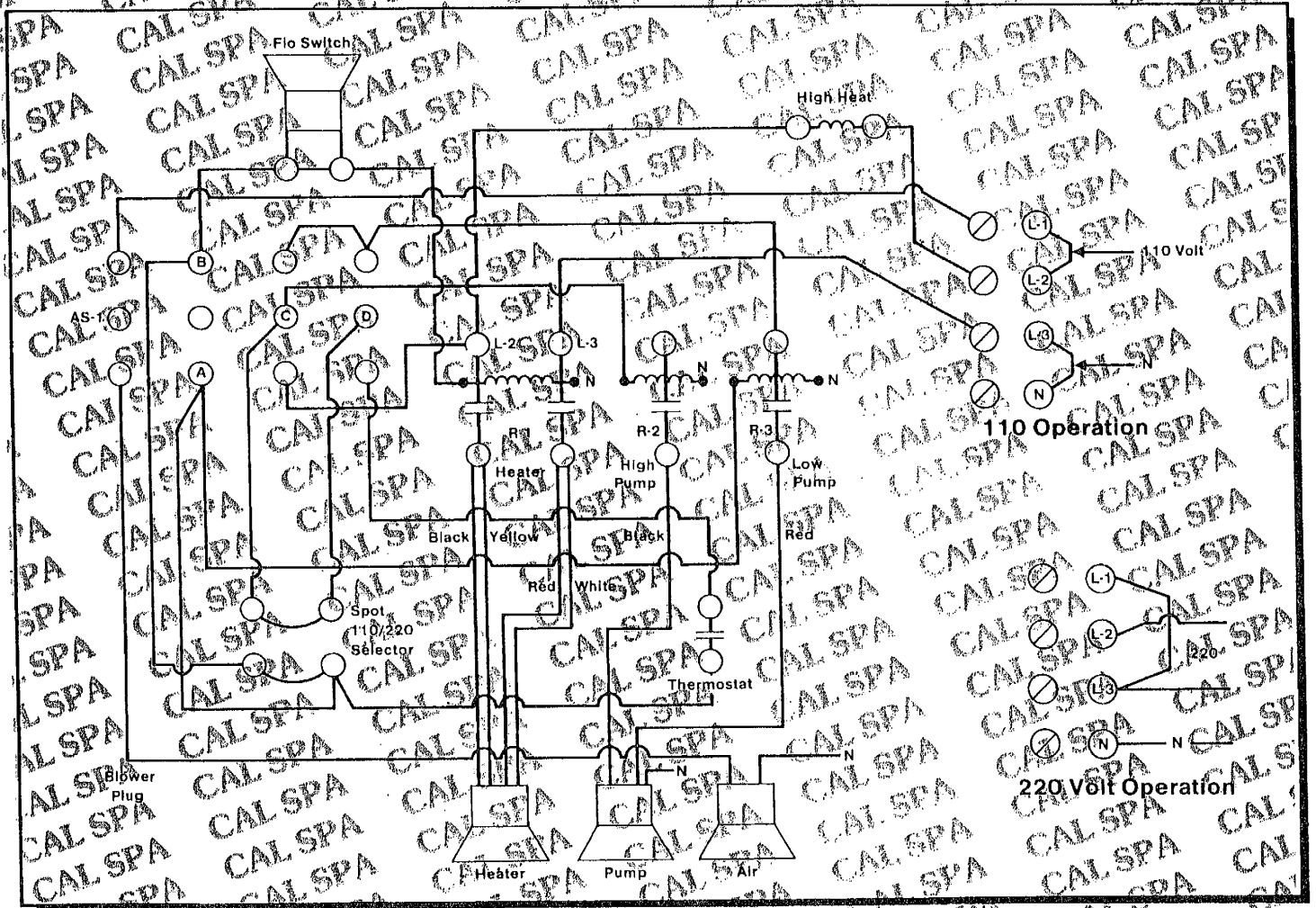
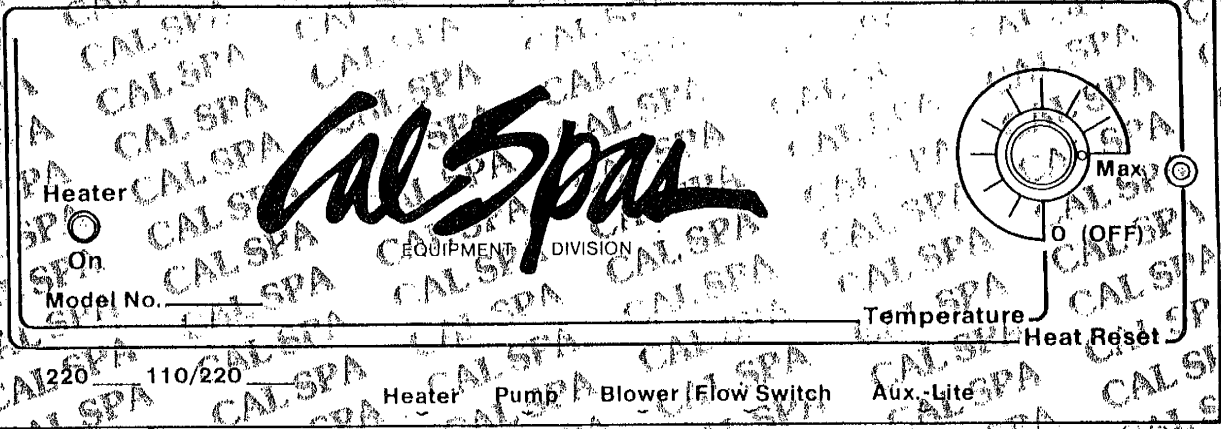


AS-1
Air Switch Changeover
from High to Low Pump
DPDT
Contacts B - Low Speed
Contacts A - High Speed

- R-1 Heater Relay
DPST No.
- R-2 High Speed Pump Relay
SPST No.
- R-3 Low Speed Pump Relay
SPST No.



110/220



**SPECIAL INSTRUCTIONS
FOR
110/220 CONVERTABLE WITH TIME CLOCKS**

1. WHEN UNIT IS WIRED FOR 110 VOLTS

- A. The GFCI is located on the end of power card. Follow test procedure indicated by the manufacturer.
- B. The time required for heating with the 110 volt system is 4 times that of a 220 volt system and must be allowed for in the timer setting. We suggest you set timer for a minimum of 16 hours per day on 110V systems, 8 hours a day on a 220V systems.
- C. Initial Heat Up. Set selector switch to no freeze and set thermostat 1 notch from maximum and cover. 110 spas will not heat without adequate spa cover.

2. FOR UNITS WIRED 220 VOLTS

- A. The conversion from 110V to 220V must be done by a qualified electrician.
- B. The 110V GFCXI must be removed.
- C. The unit must be hard wired with #8 wire copper conductors only, 40 amp 4 wire conduit.
- D. 2 Hots
1 Ground
1 Neutral
- E. The unit must be bonded with #8 bare copper wire.

3. ADVANTAGES OF A 220 VOLT SYSTEM

- A. Heats 4 times faster.
- B. Heats in all modes.
- C. Will maintain heat while in use.

WARNING

Do Not Exceed 104°
Excessive Temperatures Voids Warranty

THERAPEUTIC POOLS (SPAS)—SAFETY RULES:

Therapeutic pools or "spa" pools are usually piped and controlled so that very warm or hot water, often with air injection, is forced at high velocity into a confined area of a swimming pool or into a small separate pool. Both the energy of the water and the heat furnish certain hydro-therapeutic benefits. These pools are excellent for relaxation, body-conditioning and for arthritic and rheumatic problems, but can be hazardous. The Consumer Product Safety Commission has recommended the following "Safety Rules for Hot Tubs":

1. Spa or hot tub water temperature should never exceed 104°F (40°C). A temperature of 100°F (38°C) is considered safe for a healthy adult. Special caution is suggested for young children.
2. Drinking of alcoholic beverages before or during spa or hot tub use can cause drowsiness which could lead to unconsciousness and subsequently result in drowning.
3. Pregnant women beware! Soaking in water above 102°F (39°C) can cause fetal damage during the first three months of pregnancy (resulting in the birth of a brain-damaged or deformed child). Pregnant women should stick to the 100°F (38°C) maximum rule.
4. Before entering the spa or hot tub, users should check the water temperature with an accurate thermometer; spa or hot tub thermostats may err in regulating water temperatures by as much as four degrees Fahrenheit (2/2°C).
5. Persons with medical history of heart disease, circulatory problems, diabetes or blood pressure problems should obtain their physician's advice before using spas or hot tubs.
6. Persons taking medications which induce drowsiness, such as tranquilizers, antihistamines or anti-coagulants, should not use spas or hot tubs.

NO ACID

Tri-Chlor or Algecide Solution
They ruin Acrylic SPAS

SPECIFICATIONS:

Model **110V:**

Component	Voltage	Pump	
		(HI) Amp	(LOW)
Heater 1.5 KW	115V	—	12.0
Air Blower (1 1/2 HP)	115V	6.5	—
Pump (3/4 HP — 2-speed)	115V	(HI) 8.8	(LO) 2.4
Total Amps		15.3	14.4

Spa Specifications:

Power Service	20 Amp (115V)
Power Operating	16 Amp (115V)
Power Connection	115V Flex cord-plug-in
Power Protection	GFI built-in
Temperature Range	70°F — 110°F
Temperature Operate	100°F — 103°F
Recovery Rate	2/3° per hour (approx.)
Filtration	25 sq. ft. filter
Standby Usage	6-10 KW/hr. per day (approx.)
Operate Usage	6-8 KW/hr. per day (approx.)

Wiring: 3 #10 wires

- Black Wire — Hot
- White Wire — Neutral
- Green Wire — Ground

Model **220V:**

Component	Voltage	Pump		
		(HI) L1	L2	(LOW) Amp
Heater 5.5 KW	220V	21.0	21.0	21.0
Air Blower (1 1/2 HP)	115V	—	6.5	—
Pump (1 HP — 2-speed)	115V	(HI) 11.0	—	(LO) 2.6
Total Amps		32.0	27.5	23.6

Spa Specifications:

Power Service	40 Amp (220V)
Power Operating	32 Amp (220V)
Power Connection	220V hard conduit
Power Protection	40 amp breaker
Temperature Range	70°F — 110°F
Temperature Operate	100°F — 103°F
Recovery Rate	5-10° per hour (approx.)
Filtration	25 sq. ft. filter
Standby Usage	5-10 KW/hr. per day (approx.)
Operate Usage	6-8 KW/hr. per day (approx.)

Wiring: 4 #8 wires

- Red Wire — Hot
- Black Wire — Hot
- White Wire — Neutral
- Green Wire — Ground

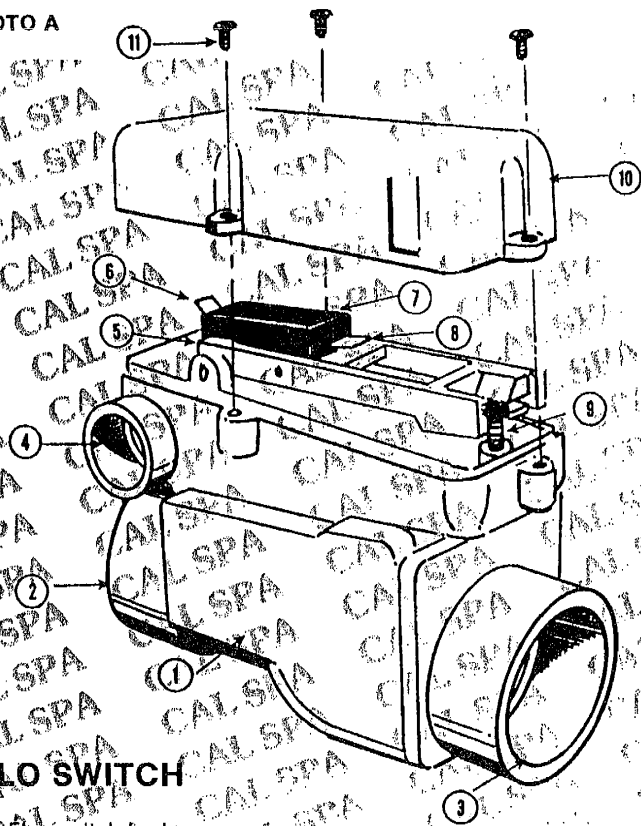
TROUBLESHOOTING GUIDE — AIR BLOWER ASSEMBLY

SYMPTOMS	PROBABLE CAUSE	RECOMMENDED ACTION
Air Blower will not operate	Improper setting of air button control switches.	Air button sequencer is on air position.
	Brushes in Air Blower motor worn or defective.	Replace brushes.
	Blower not plugged in.	Plug Blower in.
Air supply low	Improper line voltage.	Have electrician check line voltage.
	Leak in air line.	Check for air leak at coupler and fittings. Correct accordingly.

TROUBLESHOOTING GUIDE — PUMP ASSEMBLY

SYMPTOMS	PROBABLE CAUSE	RECOMMENDED ACTION
Pump will not prime	No water in pump.	Make sure water level in Spa is midway in skimmer mouth.
	Air Lock	Bleed off air in hose bib.
	Closed valves or blocked lines.	Open all valves (2) in system.
Motor does not run	No power to motor.	Check that all power switches and circuit breakers. Check motor wiring at terminals.
	Not plugged in.	Plug in pump.
	Pump jammed.	With power off, turn shaft. It should turn freely. If not, an electrician should disassemble and repair.
	Pump ran dry	Remove pump face, free impeller.
Low water flow	Dirty filter.	Remove filter cartridge and clean.
	Closed valves or blocked lines.	(See above under "Pump will not prime.")
	Low voltage or incorrect voltage.	Wiring to be corrected by licensed electrician.
Motor runs hot: These motors will feel "hot" to the touch. This is normal. Internal overload protector will turn the motor off if there is an overload or high temperature problem. Excessive heat can be caused by:	Poor ventilation.	Do not tightly cover or enclose pump motor.
	Restricted suction line.	Make sure all valves are open.
Foreign matter in pump impeller.	Have qualified technician disassemble pump to remove matter from impeller.	

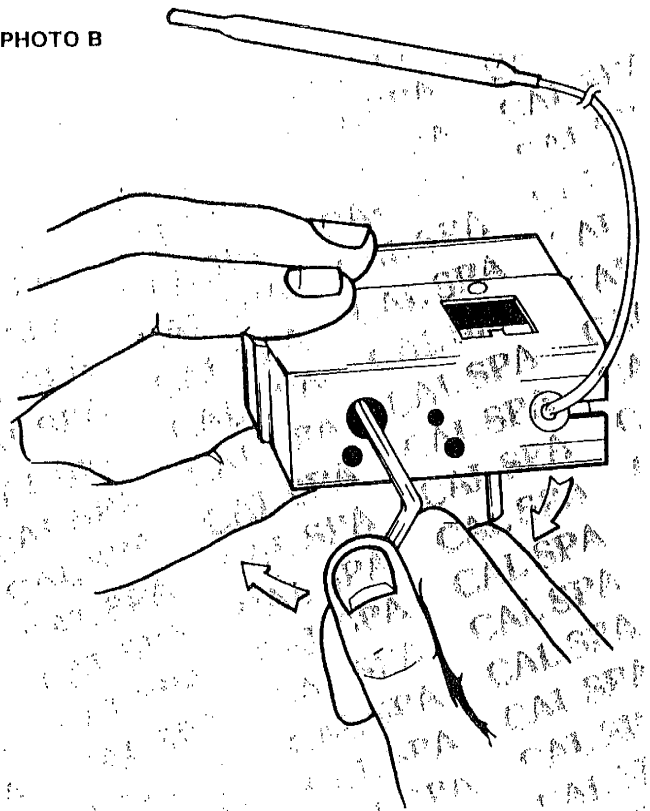
PHOTO A



FLO SWITCH

- 1. Flowswitch body
- 2. Outlet 1 1/2" slip PVC
- 3. Inlet 1 1/2" slip PVC
- 4. 1/2" conduit socket, (both sides)
- 5. Electrical connection N.C. (load)
- 6. Electrical connection N.O. (load)
- 7. Switch
- 8. Electrical connection (line)
- 9. Calibration screw
- 10. Cover
- 11. Cover screw (3)

PHOTO B



THERMOSTAT
CLOCKWISE INCREASES
MAX TEMP. CALIBRATION

WARNING
DO NOT EXCEED 1/4 TURN

9.3 TROUBLESHOOTING GUIDE — HEATER ASSEMBLY

SYMPTOMS

PROBABLE CAUSE

RECOMMENDED ACTION

No heat, or heat too low

Operation Thermostat on Control Console set too low

Increase setting of Operating Thermostat.

High-Limit Thermostat kicked out.

Push Reset

Improper setting of air button control switches

Hi pump off/Air off

Improper line voltage.

Have an electrician check line voltage.

Inadequate water flow.

Dirty filter, blocked pump, reset flo switch (photo A #9)

Thermostat defective or Max. Temp. Calibration too low.

Reset Thermostat Max. Temp. Calibration (Photo B). If above does not correct, replace thermostat.

Heat too high

Operating thermostat on Control Console set too high.

Decrease setting of Operating Thermostat.

"Snapping" or "crackling" noises from heater

Inadequate or blocked water flow from water pump.

Turn heater OFF immediately. Check items in PUMP ASSEMBLY and FILTER ASSEMBLY sections.

Check water pump prime.

SECTION II
INGROUND SPAS
INSTALLATION PROCEDURE

PRE-PLANNING STEPS FOR INSTALLATION

Selecting the right site for installing your spa is very important. Ease of access, surrounding architectural styling, landscaping and other recreational areas are factors in choosing your location.

In order to determine the amount of supplies and length of pipes needed, carefully lay out the measurements of the spa site on paper. A number of considerations that will be helpful in planning follow:

1. Local codes pertaining to fences, gates, electrical, and plumbing.
2. Finished height of spa rim.
3. Location of pump, filter, and heater.
4. Good site drainage.
5. Wind direction and shielding.
6. Surrounding decking.

DO NOT INSTALL PUMP AND HEATER MORE THAN 25 FEET FROM SPA IF POSSIBLE.

DO NOT INSTALL EQUIPMENT HIGHER THAN SIX INCHES ABOVE WATER LEVEL OF SPA OR SLOWER THAN THE BOTTOM LEVEL OF THE SPA.

EXCAVATION

Check local codes for trench depths. Dig hole 4 inches deeper than finished spa depth for sand base and one foot larger all around to allow for plumbing and backfill. See drawing.

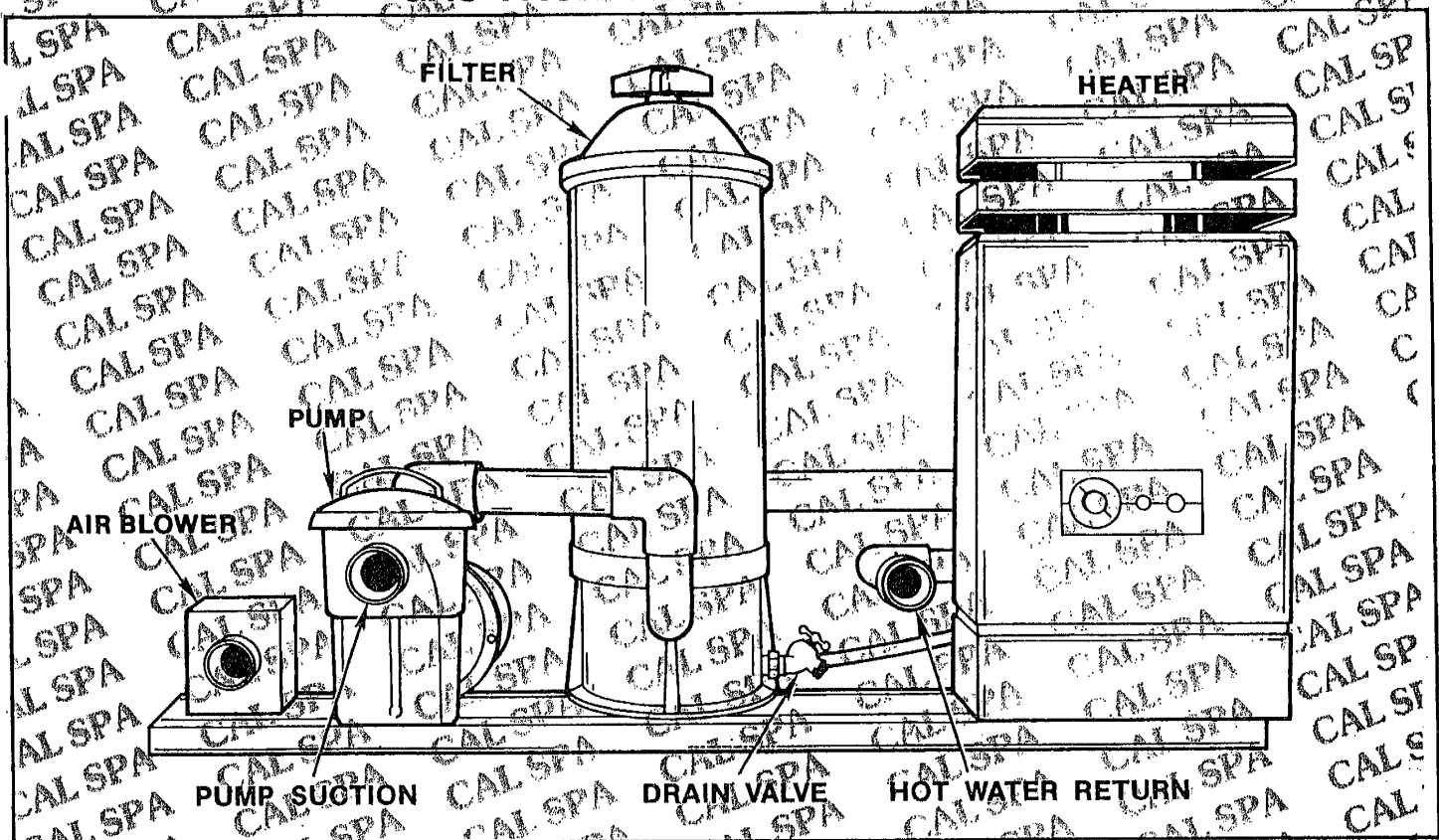
PRE-PLUMBING SPA

The spa should be pre-plumbed and "water tested" before setting it into the hole. Without enough people to help carefully set this spa into the hole, pipes and fitting can be knocked loose so be sure to have plenty of help at this critical time.

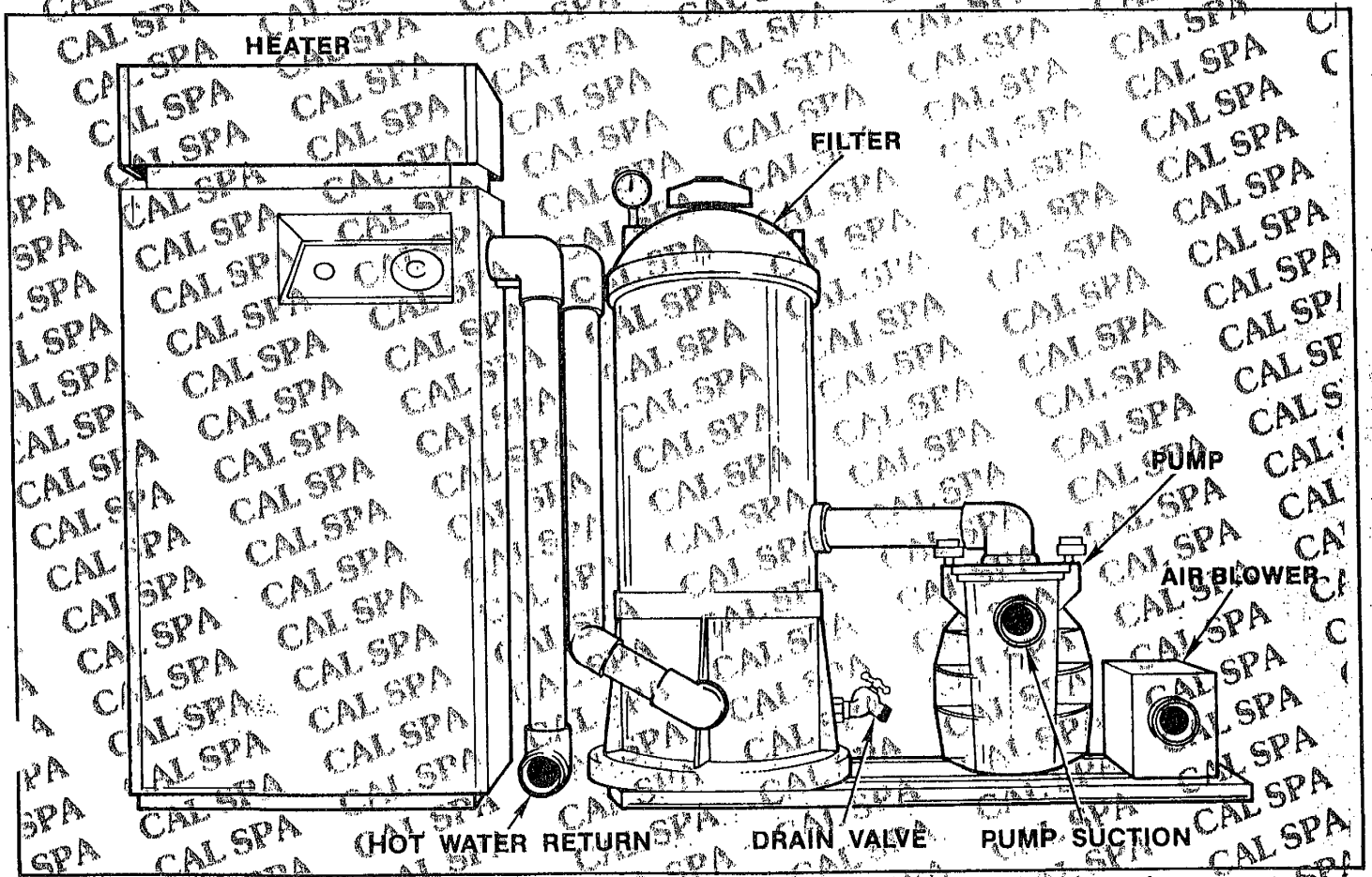
NO ACID

Tri-Chlor or Algecide Solution
They ruin Acrylic SPAs.

GAS PACK PLUMBING DIAGRAM



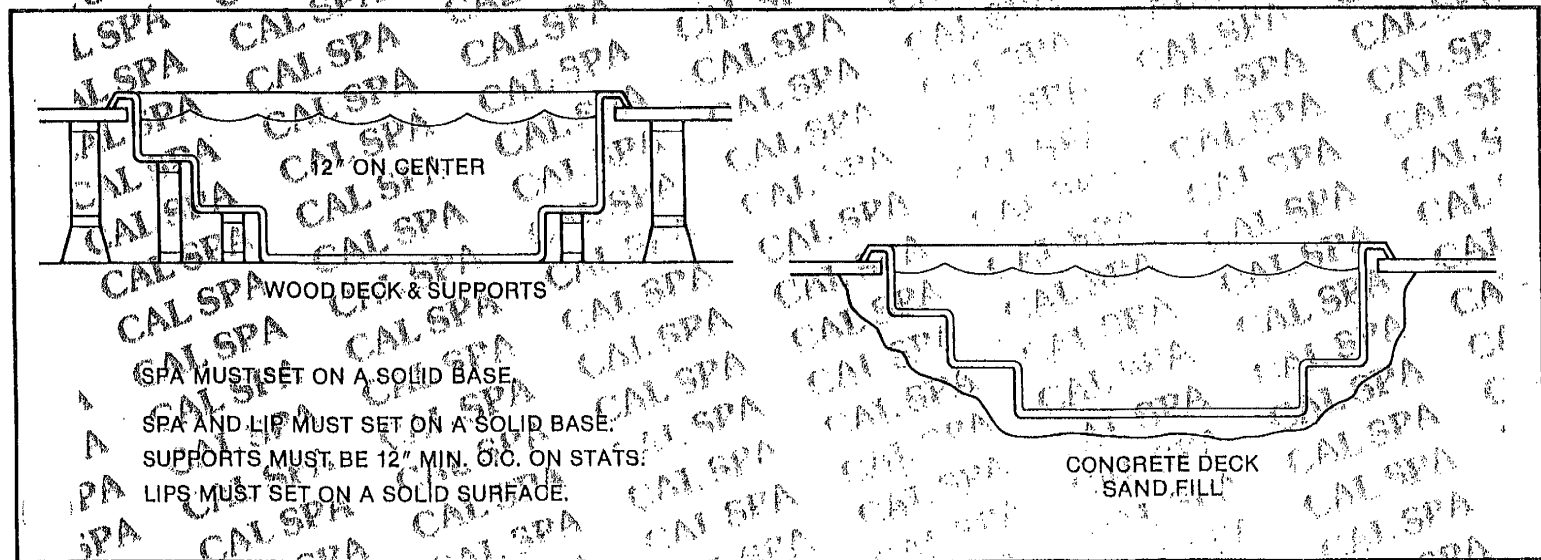
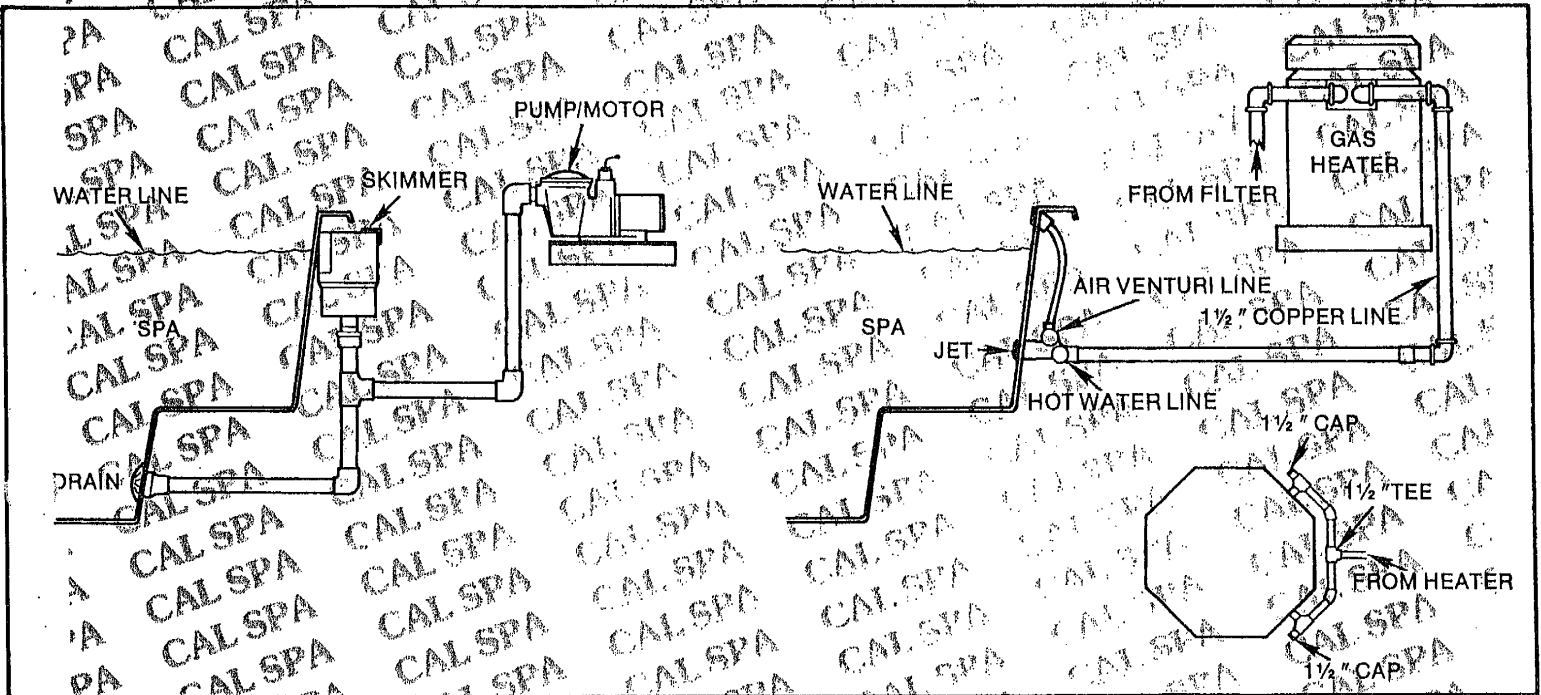
ADD-A-PACK PLUMBING DIAGRAM



After it has been decided where the jets are to be installed and marked, the holes can be cut in the spa wall. A standard hole saw of the proper size can be used. Next the thru-wall fittings and the jets can be installed. Depending on the fitting manufacturer and how the assembly of the jet is accomplished, it is recommended that a fine bead of clear silicone be placed on the inner flange flush to the spa wall. If you are working with a spa that has a tight radius, it may be necessary to place the gasket to the inside of the spa wall and possibly use two gaskets.

When tightening the jet to the wall fitting, never over tighten. A good rule is approximately one and one-half turns beyond tight.

Prior to plumbing the spa it should be predetermined at which point on the spa the plumbing will be stubbed out. The plumbing should be stubbed out to line up with all piping that goes to the equipment.

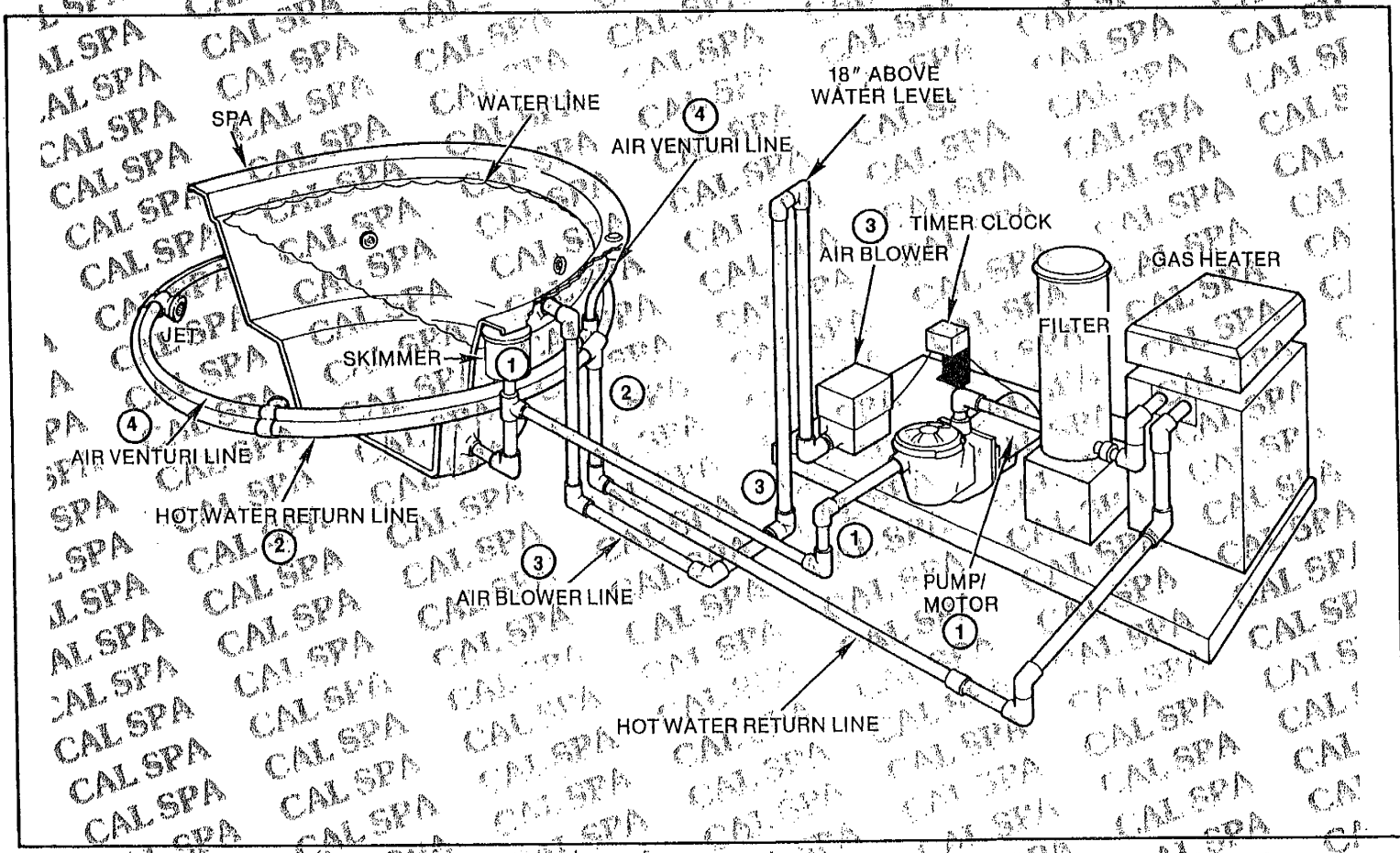


- SPA MUST SET ON A SOLID BASE.
- SPA AND LIP MUST SET ON A SOLID BASE.
- SUPPORTS MUST BE 12" MIN. O.C. ON STAIRS.
- LIPS MUST SET ON A SOLID SURFACE.

The manifold piping around the spa can now be completed. The jets that have been installed in the spa can now be joined together through common plumbing. It isn't necessary to completely loop the plumbing to all the jets to get equal flow. It is, however, necessary that the inlet from the pump be split equally among the jets. The line that supplies the air to the venturi should be also be plumbed in the same manner. This air line should be brought up to the highest point possible on the spa. The reason for this is when the system is turned on the air line will clear itself of water much faster than if it is plumbed at a lower depth.

The main drain can be installed in the same manner as the jets using a holesaw or a jigsaw to cut the hole, and silicone to insure a proper seal. The main drain plumbing should be interconnected with the skimmer plumbing by the way of a "T" fitting. The line from this "T" to the pump should be 1 1/2 inches. The main drain should be equipped with an approved anti-vortex cover or other safety device.

The main lines that run from the equipment to the spa should never be reduced in size from that recommended by the manufacturer. Any reduction in size could dramatically impair the performance. Straight runs of pipe, eliminating turns and 90 degree els, will also improve performance. Several diagrams are included in this booklet that should be helpful in pre-plumbing and setting up the equipment.



WARNING

Do Not Exceed 104°
Excessive Temperatures Voids Warranty

INSTALLATION OF SPA

Water test spa above ground prior to placing in ground. Also install no decking around spa until spa has operated for an adequate amount of time to assure all parties that there are no leaks.

Mound 8" of wet sand in bottom of excavation for spa to rest on.

Before lowering spa into excavation, be sure that the finished rim elevation is established in relation to ground level.

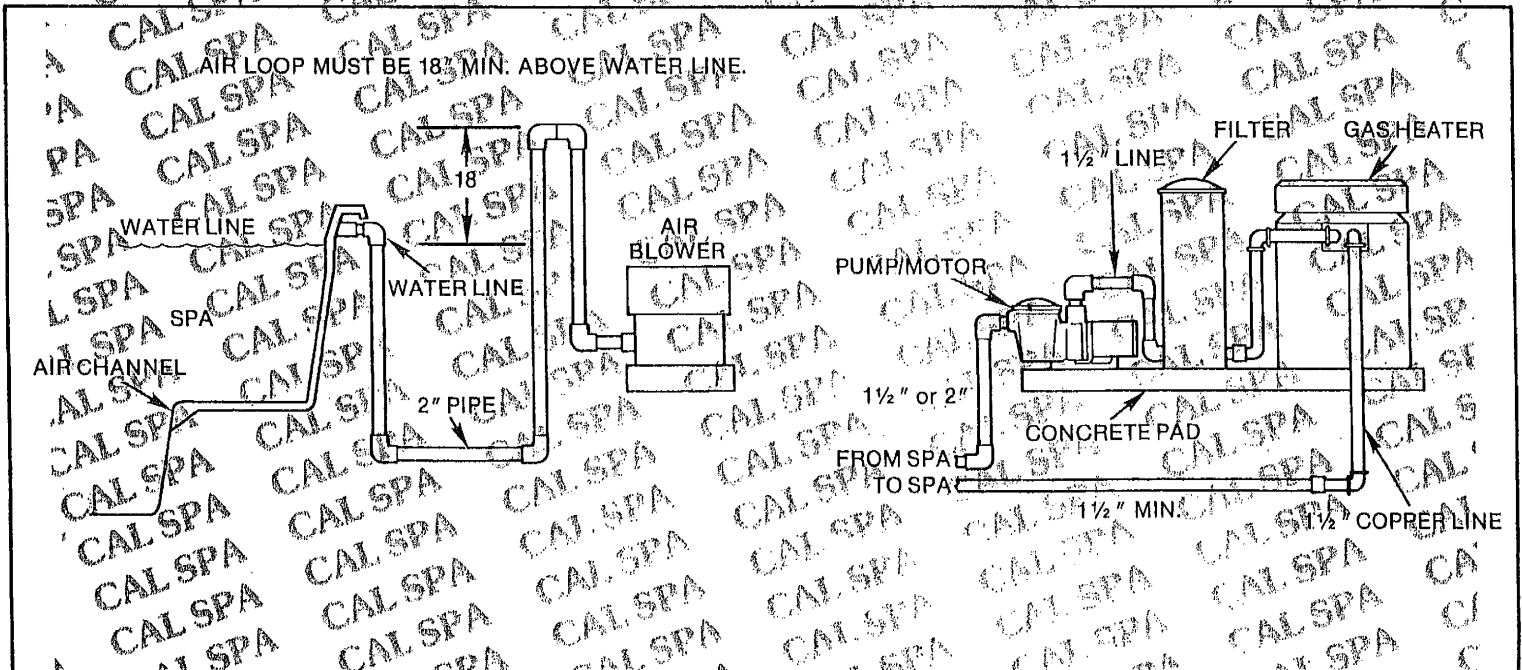
Carefully lower spa into excavation centering on the mound of sand. With a downward force and slightly rotating back and forth, work spa into measured level. Pack sand around main drain and under bottom of spa, leaving no voids.

Set 2 x 4 on rim of spa with level, then rotate 2 x 4 checking level in all directions. Make sure that sand is filling all voids under bottom.

Prior to backfilling the remainder, fill the footwell area of the spa with water to assist in leveling. During the backfilling, fill all voids under bottom.

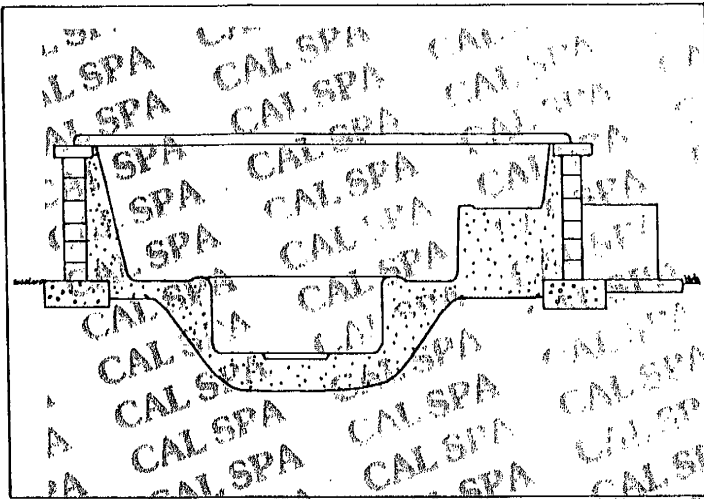
Backfill in one foot increments. After each level, use a water hose to swirl water in and around backfill, being careful not to flood the excavation. This process will ensure that all the sand is formed around the sides of the spa leaving no voids after the water has drained through. Do not backfill sand around jet plumbing of the spa until spa has been completely hooked to the equipment and run to check for possible leaks.

For equipment hook-up, refer to diagrams in this manual.

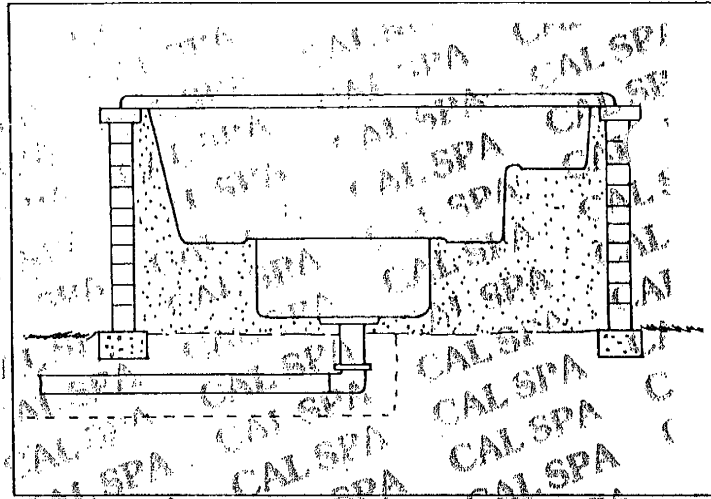


NO ACID

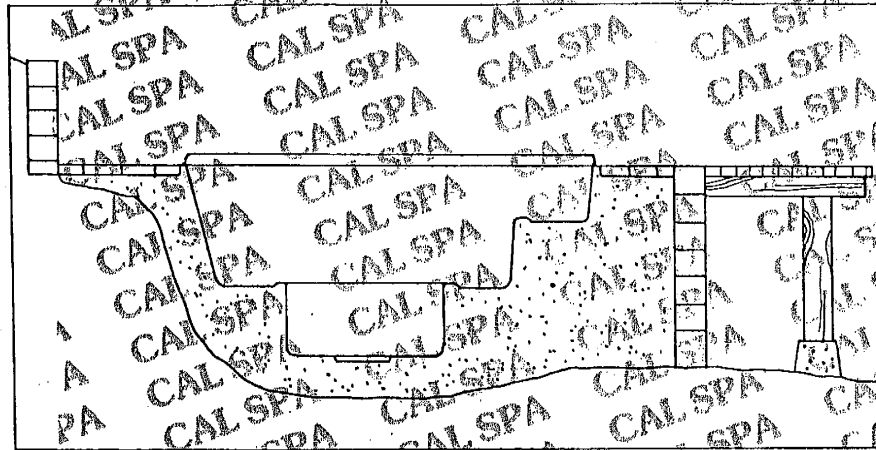
Tri-Chlor or Algecide Solution
They ruin Acrylic SPAS



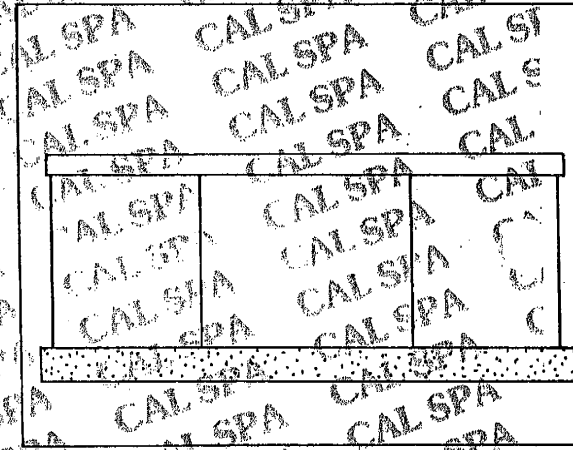
Left: Excavation for partially above-ground spa will depend on how deep you want to set it. In this example excavation is required for the footwell area of the spa and for concrete footings for retainer walls.



Right: Above-ground spas require a trench under wall footings for plumbing. Walls can be brick, concrete block or poured concrete.



On a steep hillside, retainer walls are used on both the uphill and downhill sides of the spa excavation. In some situations this method may be easier than trying to level a large area around the spa.



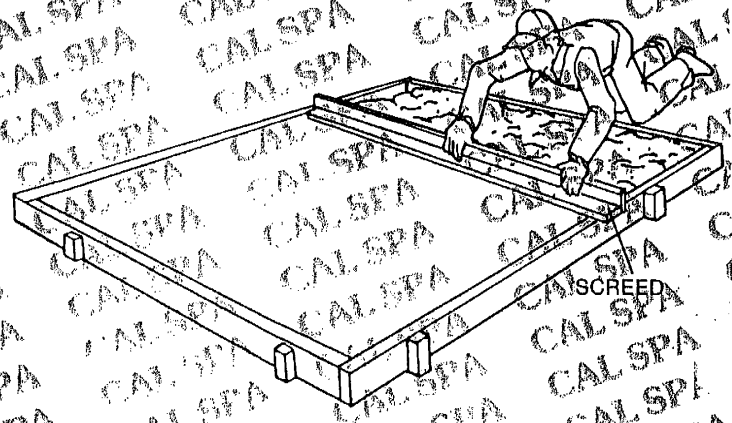
Hillside tub must have a retainer wall on uphill side only. This installation requires a minimum of decking. Deck should have safety railing.

Build concrete form of 2x4s and 1x2 stakes as shown. Excavate 2 inches below bottom of forms and fill with clean sand.

Lay a 1-foot-square grid of 1/2-inch reinforcing rods over leveled sand bed. Tie rods together with bailing wire. Mix concrete and pour it in the form. Spread concrete evenly with a sturdy steel rake.

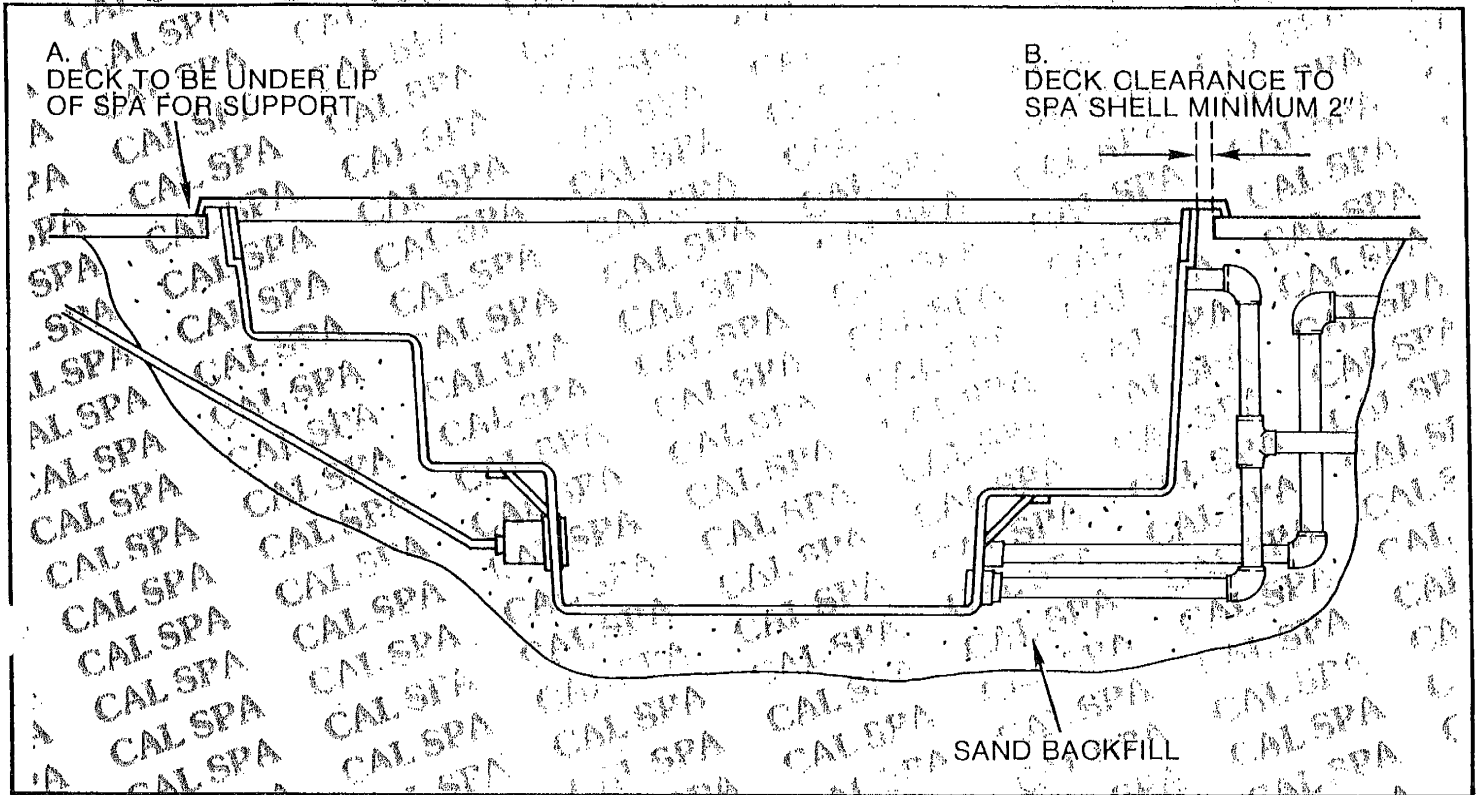
Level concrete with a screed built from 1x4s as shown. Pull the screed toward you with a side-to-side zigzag motion. When concrete is leveled, smooth out with a large mason's float. Allow concrete to cure at least two days before setting tub.

SKIRTED SPA FOUNDATION.



INGROUND SPA DECK REQUIREMENTS

- A) Deck must go under lip of spa uniformly for proper lip support, lip is not to bear any weight from spa. Deck is only to stop lip from flexing when stepped or sat on.
- B) Deck must not be poured up against spa shell as cement expands and contracts as temperature changes, leave a gap of 2" from shell for proper structure protection.



WARNING

Do Not Exceed 104°
Excessive Temperatures Voids Warranty

CALIFORNIA ACRYLIC INDUSTRIES, INC.

SPA LIMITED WARRANTY

FIVE-YEAR WARRANTY: This spa shell and **SPA SHELL ONLY** is warranted to the ORIGINAL PURCHASER ONLY to be free from defects in material and workmanship under normal use and maintenance for a period of FIVE (5) YEARS from the date of original purchase, specifically excluding its finish and factory installed attachments or modifications the warranties for which are set forth below. In hot climates it is mandatory that a cover is kept on the spa to keep the direct **SUN** off the spa. In the event of a defect or failure in the SPA SHELL, California Acrylic Industries, Inc. will repair or replace said SPA SHELL at its sole option. Any replacement SPA SHELL, whether new or remanufactured, shall assume as its warranty period only the remaining time under this warranty.

ONE YEAR AND THREE MONTH WARRANTIES: The factory applied finish on the spa shell is warranted to the ORIGINAL PURCHASER ONLY to be free from defects in material and workmanship under normal use and maintenance for a period of ONE (1) YEAR from the date of original purchase. Factory installed attachments and modifications on date of original purchase, examples of the more common including without limitation air jets, skimmer, suction fittings, plumbing, lights, tile, air switch, and skirting, are warranted to the ORIGINAL PURCHASER ONLY to be free from defects in material and workmanship under normal use and maintenance for a period of THREE (3) MONTHS from the date of original purchase. Although the spa finish and attachments and modifications represent the finest available in both material and workmanship, their warranty period must be limited as set forth herein because of the proven extremes in both usage and environmental exposure to which they may be subjected after leaving the factory, over which the manufacturer can exercise no control. If these items are used in accordance with instructions furnished herewith, they should provide long and reliable service. In the event of a defect or failure in the spa finish or any factory installed attachment or modification, California Acrylic Industries, Inc. will repair or replace said finish or item at its sole option. Any spa finish repaired or replaced or any replacement parts furnished under this warranty, whether new or remanufactured, shall assume as its warranty period only the remaining time under this warranty for the original finish or replacement part, whichever is applicable.

SERVICE-LABOR-SHIPING COSTS: Any costs incurred for diagnosis of defects and/or failures not covered under this warranty, or for labor in the removal and/or reinstallation of the spa shell or any attachment or modifications thereto, is not provided for under the terms of this warranty and shall be the responsibility of purchaser. Transportation charges for any replacement spa or other part covered under the terms of this warranty will not be assumed by California Acrylic Industries, Inc. Any spa shell or other part judged to be defective upon inspection by California Acrylic Industries, Inc. will be repaired or replaced, during the warranty period, F.O.B. California Acrylic Industries, Inc., free of charge, providing merchandise is returned freight prepaid to California Acrylic Industries, Inc. service department; at 1462 East Ninth Street, Pomona, California 91766. All such items should be accompanied with customers written description of the claimed defect or failure, serial number of the item, if any, and the date of original purchase and dealer from whom purchased. If customer should have any questions as to the procedure to be followed for warranty claims, or the availability of other warranty service facilities, they should contact California Acrylic Industries, Inc. service facility at the above address, or telephone (714) 623-8781.

EXCEPTIONS TO WARRANTIES: Improper installation, operation or maintenance resulting in defects or failures in the spa shell, its finish, or any attachment or modification thereto, will void this warranty. Abuse, negligence, or accidents resulting in defects or failures in the spa shell, its finish, or any modification or attachment thereto, will also void this warranty. Any spa installed in conflict with the written instructions furnished herewith for installation, or installed in violation of any building code governing the area in which installed, or failing to conform with acceptable trade practices, or moved from the original installation site, are excluded from coverage under the provisions of this warranty, as are its finish and any factory installed attachments or modifications. **THE USE OF ACID OR ANY ACID PRODUCTS, OXIDIZERS, TRI-CHLOR, OR ALGECIDE SOLUTIONS IN SAID SPA SHALL VOID THIS WARRANTY.** Non skid may fade and this is not covered by warranty.

LIMITATIONS OF WARRANTIES: All implied warranties, including the implied warranty of merchantability and where present the implied warranty of fitness, are co-extensive in duration and are limited to the duration of the express warranties set forth herein. The express warranties set forth herein are exclusive and may not be altered, enlarged or changed by any distributor, dealer, or other person whatsoever. This warranty excludes liability for any and all incidental or consequential damages which may result from any use, defect, failure or malfunction of the warranted product. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

**NO ACID,
OXIDIZERS, TRI-CHLOR, OR ALGECIDE SOLUTIONS
RUIN ACRYLIC SPAS.**

appiness is
Warm Spa



A DIVISION OF CALIFORNIA ACRYLIC INDUSTRIES, INC.
14621 E. North St. • Pomona, California 91766
Corporate Office (714) 623-8781

Owners Information

Dealer _____

Company _____

Address _____

Phone _____

Installer _____

Company _____

Lic. # _____

Address _____

Phone _____

Service Center _____

Company _____

Address _____

Phone _____