

Happiness is  
a Warm Spa  
by

**CalSpas**<sup>TM</sup>

A DIVISION OF CALIFORNIA ACRYLIC INDUSTRIES, INC.  
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1988

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# Models: Portable Spas 110 & 220, California Classic and Gas Pak Units

## INSTALLATION and OPERATING MANUAL



**U.L. LISTED 110 VOLT and 220 VOLT  
PORTABLE and INGROUND SPAS**

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# IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

## 1. READ AND FOLLOW ALL INSTRUCTIONS.

2. (For all units) DANGER — To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

3. (For cord and plug connected units only) Connect only to a grounded grounding type receptacle.

4. (For cord and plug connected units) Do not bury cord.

5. (For cord and plug connected units) WARNING — To reduce the risk of electric shock, replace damaged cord immediately.

6. (For all units) DANGER — To reduce a risk of injury to persons, do not remove suction fitting.

To reduce the risk of injury:

A. The water in a spa or hot tub should never exceed 40° C (104° F). Water temperatures between 38° C (100° F) and 40° C (104° F) are considered safe for a healthy adult. Lower water temperatures are recommended for extended use (exceeding 10-15 minutes) and for young children.

B. Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit spa or hot tub water temperatures to 38° C (100° F).

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

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

E. 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.

F. Persons using medication should consult a physician before using a spa or hot tub since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.

7. (For cord and plug connected units only) A pressure wire connector is provided on the surface of the control box inside the spa (or hot tub) to permit connection of a bonding wire between this point and any metal equipment, metal enclosures of electrical equipment, metal water pipe or conduit within five feet of the spa (or hot tub) as needed to comply with local requirements. The bonding wire must be at least a No. 8 AWG (8.4mm<sup>2</sup>) solid copper wire. (See also paragraph 69.3.)

8. (for permanently installed units only) A green color terminal (or a wire connector marked "G", "GR", "Ground", or "Grounding") is provided within the control box. To reduce the risk of electric shock, connect this terminal or connector to the grounding terminal of your electrical service or supply panel with a continuous green insulated copper wire equivalent in size to the circuit conductors supplying this equipment, but no smaller than No. 12 AWG (3.3mm<sup>2</sup>). In addition, a second wire connector is provided for bonding to local ground points. To reduce the risk of electric shock, this connector should be bonded with a No. 8 AWG (8.4mm<sup>2</sup>) copper wire to any metal ladders, water pipes, or other metal within 5 feet (1.52m) of the tub.

9. (For cord and plug connected type only) This equipment is provided with a ground fault circuit interrupter (give location). Before each use of your spa (or hot tub), with the plug connected to the power, push the test button. A red light should appear. Push the reset button. The red light should disappear. If the interrupter fails to operate in this manner, there is a ground current flowing indicating the possibility of an electric shock. Disconnect the plug from the receptacle until the source of the breakdown has been identified and corrected.

10. (For permanently installed units with GFCI only) Your spa (or spa equipment) is provided with a ground fault circuit interrupter (give location). Before use of your equipment, push the test button. A red light should appear. Push the reset button. The red light should disappear. If the interrupter does not perform in this manner, a ground current is flowing indicating the possibility of an electric shock. Disconnect the power until the fault has been identified and corrected.

11. (For floor-recessed hot tubs and spas) Install to permit access for servicing from above or below floor.

12. (For all units) Install to provide drainage of compartment for electrical components.

13. (For assemblies with air blowers) Install in accordance with diagram to keep tub water out of electrical equipment. (To be accompanied with diagram and information for mounting height, routing of air hose, and use of furnished check valves, if any.)

14. (For assemblies) Install with nonmetallic pipe connections to tub and at least 5 feet (1.52m) from metal enclosure of assembly to inside wall of tub.

15. (For all spas) DANGER—RISK OF ELECTRICAL SHOCK. Install at least 5 feet (1.52m) from all metal surfaces.

(A spa may be installed within 5 feet of metal surfaces if, in accordance with the National Electrical Code, ANSI/NFPA 70—1984, and each metal surface is permanently connected by a No. 8 AWG (8.4mm<sup>2</sup>) copper conductor attached to the wire connector on the terminal box that is provided for this purpose.)

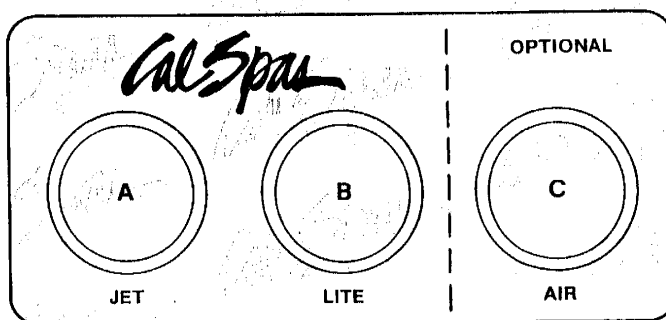
16. (For units with gas heaters that are intended only for outdoor use) WARNING—Do not install indoors. This unit employs a gas heater that requires proper ventilation and is intended for outdoor use only.

17. DANGER—RISK OF ELECTRICAL SHOCK. Do not permit any electrical appliances such as a light, telephone, radio or television within 5 feet of the spa or hot tub.

## 18. SAVE THESE INSTRUCTIONS.

# 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.



SPA CONTROL PANEL

# **THERAPEUTIC POOLS (SPAS) – SAFETY RULES**

Therapeutic pools or "spas" are usually piped and controlled so that very warm water 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 also be hazardous to the user.

Each person's body and circulation system has different tolerances and responds differently to warm/hot immersion. The amount of time that safe, 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 this temperature to 20 - 30 minutes. Use of alcoholic beverages and certain medications may affect the way your body's system reacts to warm/hot water immersion. Consult your physician for recommendations.

The Consumer Product Safety Commission has recommended the following "Safety Rules for Hot Tubs":

- a. Spa or hot tub water temperature should never exceed 104°F (40°C). A temperature of 102°F (38°C) is considered safe for a healthy adult. Special caution is suggested for young children.
- b. 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.
- c. 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.
- d. 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).
- e. Persons with medical histories of heart disease, circulatory problems, diabetes or blood pressure problems should obtain their physician's advice before using spas or hot tubs.
- f. Persons taking medications which induce drowsiness such as tranquilizers, antihistamines or anti-coagulants, should not use spas or hot tubs.
- g. Never touch or come in contact with any electrical accessory when in your spa or when your body is wet.
- h. Prior to performing any service to the Spa Pak, turn off ALL power to the system at the main power source breaker.
- i. Never turn equipment pak on unless spa is filled with water to the center of the skimmer.

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 that you may need, i.e. plumbing, electrical, etc. Some areas may require a swimming pool or building permit.

## **WARNING**

**Do Not Exceed 104°**

**Excessive Temperature Voids Warranty**

# SPA PLACEMENT

Consider the following suggestions when deciding on a site for your new spa:

**AESTHETICS** — Select a location that enhances the overall aesthetics of your home and landscape.

**LOCAL CODES** — Check local codes pertaining to fences, gates and electrical prior to locating your spa.

**PRIVACY AND WIND SHIELDING** — Consider how your spa will be used and that wind will affect the water temperature.

**ELECTRICAL SERVICE** — Remember, your spa requires a 110V, 20 amp (Model 110) or a 220V, 40 amp (Model 220) grounded electrical circuit to operate safely and effeciently.

**NOTE: INSTALLATION OF YOUR SPA** — Select a flat level area for placement of your spa. The surface **MUST** be concrete (We recommend a 3" thick slab). Your spa is completely self-supporting when placed on a solid foundation and does not require any type of structural support.

## SET-UP AND DELIVERY GUIDELINES

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

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

#### ELECTRICAL REQUIREMENTS:

- a. To install the 110V system, you should plug directly into a grounded 110V, 20 amp dedicated receptacle.
- b. To install the 220V, 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 the spa user.
- c. NO EXTENSION CORDS are to be used in conjunction with the operation of the spa. Low voltage damage could result, which is not covered in by warranty.
- d. All electrical must be to NEC (National Electric Code) and any pertaining local electric codes.
- e. If you have any doubts, have your circuit checked by a qualified and licensed electrician.

#### SURFACE AND PAD REQUIREMENTS:

- a. Your new portable spa must be placed on a uniformly firm, flat and level concrete pad (We recommend a 3" thick slab). Alternate decking methods require approval.
- b. If your spa is to be placed near where sprinklers may hit, adjust or cap them so as not to hit the skirt or spa equipment.

#### 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).
- c. Balconies must be constructed to current state and local codes (spa load requirements are 150 pounds per square foot).

# USE NO ACID

Tri-Chlor or Algecide Solutions  
They Ruin Acrylic Spas

# GENERAL OPERATING INSTRUCTIONS

Your 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.

All portable spas include a filter, heater, pump and blower. Regardless of specific supporting equipment, the following procedures must be followed.

- a. The pump should be operated a minimum of two hours per day for cleaning and heating.
- b. The pump and heater are thermostatically controlled. (NOTE: Time clock models must be programmed for heating cycle.) 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 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 conditions and needs. We highly recommend using a solar blanket and/or vinyl hard cover available from your spa dealer, to minimize heat loss when your spa is not in use.
- c. Operating the air blower should be limited to when the spa is being used. Continuous operation increases heat loss and dissipates chemicals.
- d. The filter is the replaceable cartridge type. A routine cleaning of the cartridge is the best practice. Make sure the pump is off, remove the cartridge, wash it off with a water hose and reassemble. (Be sure not to overtighten filter console.) This should be done on a routine basis, whether you feel it really needs it or not. (For more information on filter maintenance, refer to pages 9 & 10.)
- e. Keep spa filled to the center of the skimmer. Never allow water level to drop below the bottom of the skimmer opening. If the water level is too low, this will allow air into the main water line to the pump, causing it to lose its prime (water flow). Running the pump without water flow will damage the pump seal assembly.
- f. **USE OF SOLAR BLANKET AND/OR COVER** — A solar blanket is an optional item for use with your spa, but the vinyl 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.
- g. **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, or Spa Gloss. **DO NOT** use a cleanser or hard brushes. A light detergent should be used.

## WARNING

Do Not Exceed 104°

Excessive Temperature Voids Warranty

## GENERAL INFORMATION

Listed below are some items that a portable spa buyer should definitely be familiar with:

- a. Ground fault interrupters are supplied with all 110V portable units. If you have a problem with the GFI, there is a good chance that it is the fault of the equipment.
- b. If your spa has a redwood skirt, keep it oiled with any suitable oil. We use linseed oil initially.
- c. Water chemistry is especially important. Try to keep it right. It is best to add chemicals with the air blower only on 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.
- d. Heaters require both a proper thermostat setting and a sufficient flow of water through the heater element to work properly. If you have a dirty filter, it is quite possible that the heater element will not function.
- e. Pump failure is most commonly caused by pump cavitation caused by lack of water supply. This can be caused during the filling of the spa (trapped air pocket) or during draining of the spa (water level becomes too low). For more information, see Pump Priming section on page 6.

The following steps will help lower operating costs and conserve energy:

- a. Use high speed pump mode to operate jets only when spa is being used.
- b. Use air blower only when spa is being used since the bubble action and surface agitation increases heat loss and chemical dissipation.
- c. A suitable cover for your spa will aid in efficient heating and prevent excessive heat loss.

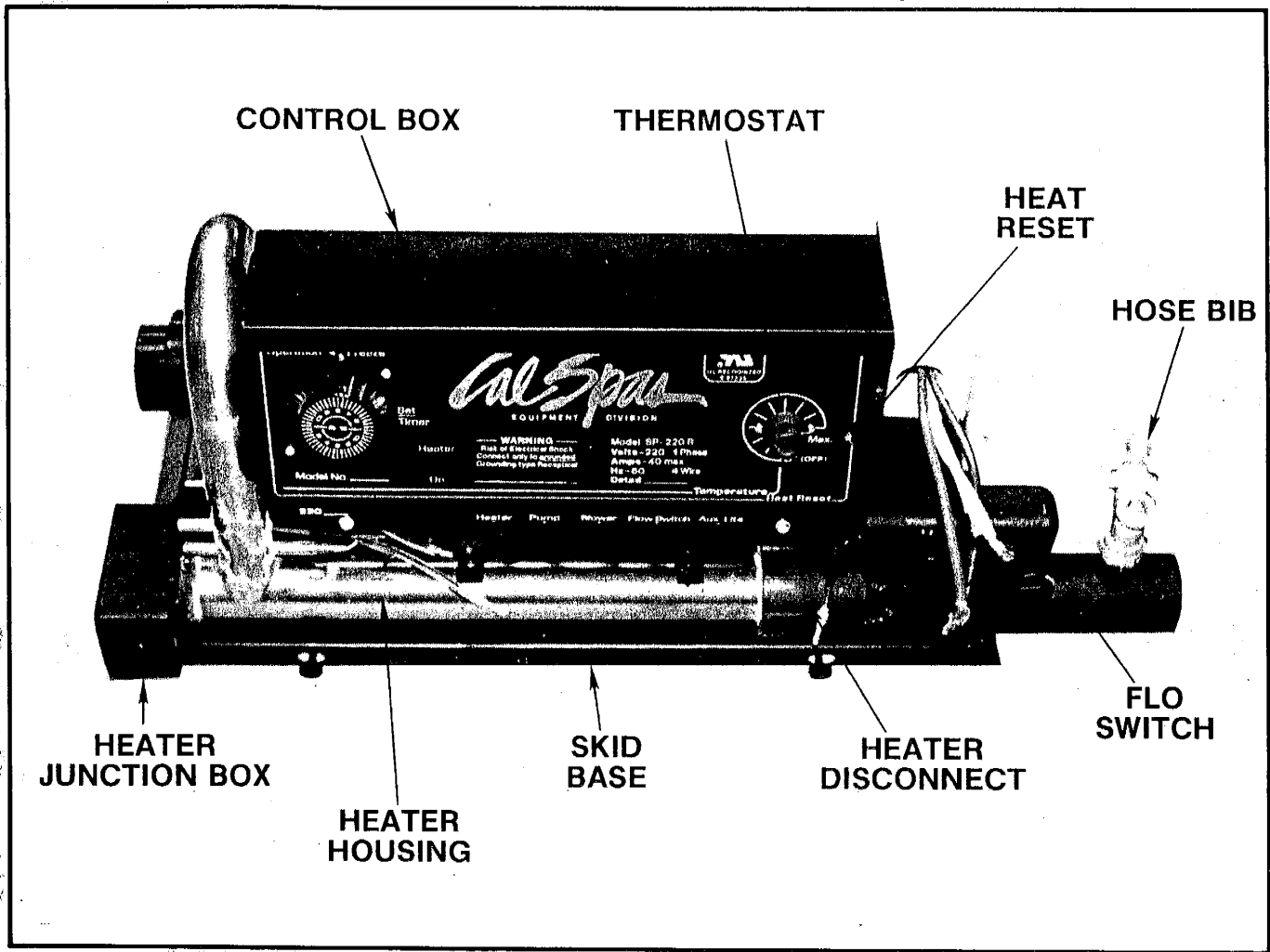
**NOTE:** Keep the spa covered at all times with an approved cover except when in use. Keep air venturi tightly closed when not in use.

- e. When jets and air are off, thermostat will turn low pump on and off to maintain temperature.
- f. The equipment access doors are equipped with a safety power shut-off switch. Because of this, the doors **MUST** be closed to operate.
- g. Air switch modes are as follows:
  - 1st Button — Jets
  - 2nd Button — Light
  - 3rd Button — Air Blower
- h. Time clock models must have running and heating time programmed on the clock (220V models only). Refer to page for more information on programming time clock.
- i. 220V systems will heat on high or low speed pump setting.
- j. The power pak system is located under the wood skirt. The equipment can be serviced by simply undoing the latch and opening the doors. Again, because of the safety power shut-off switch, the doors must be closed for equipment to operate.
- k. You should drain spa water at least every 2 to 3 months. Between this period, you should chemically treat the water for a clean and healthy spa.

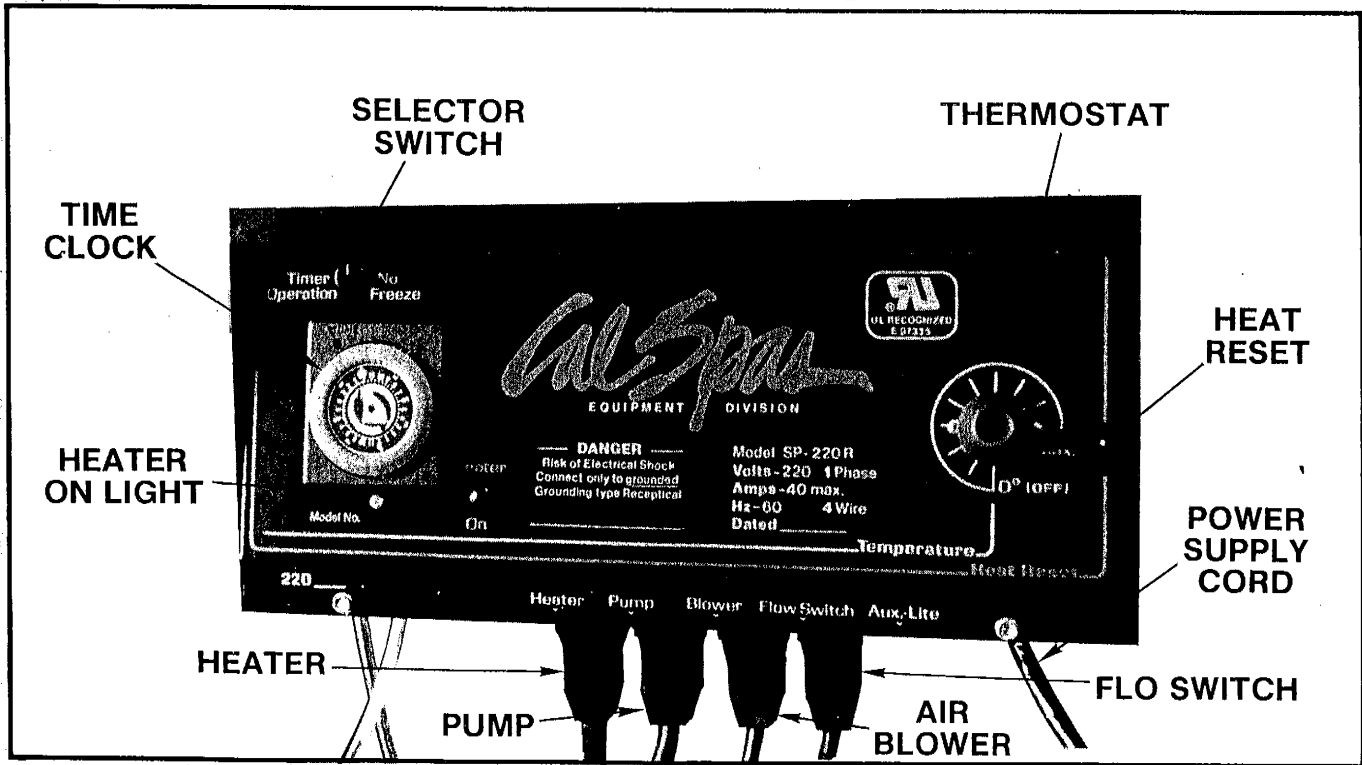
**USE NO ACID**  
Tri-Chlor or Algecide Solutions  
They Ruin Acrylic Spas



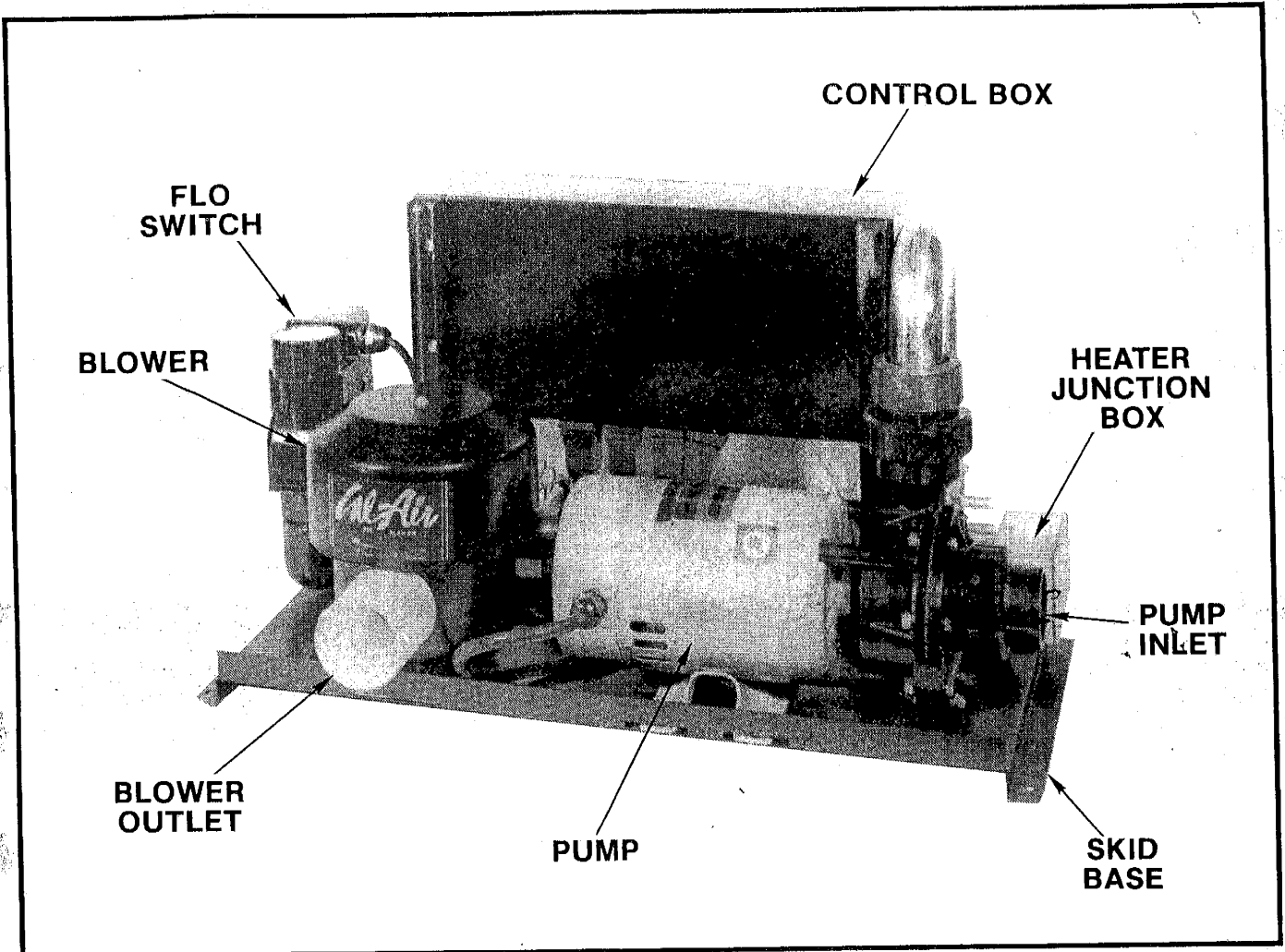
SKID PAK (with 220 Volt Control Box)



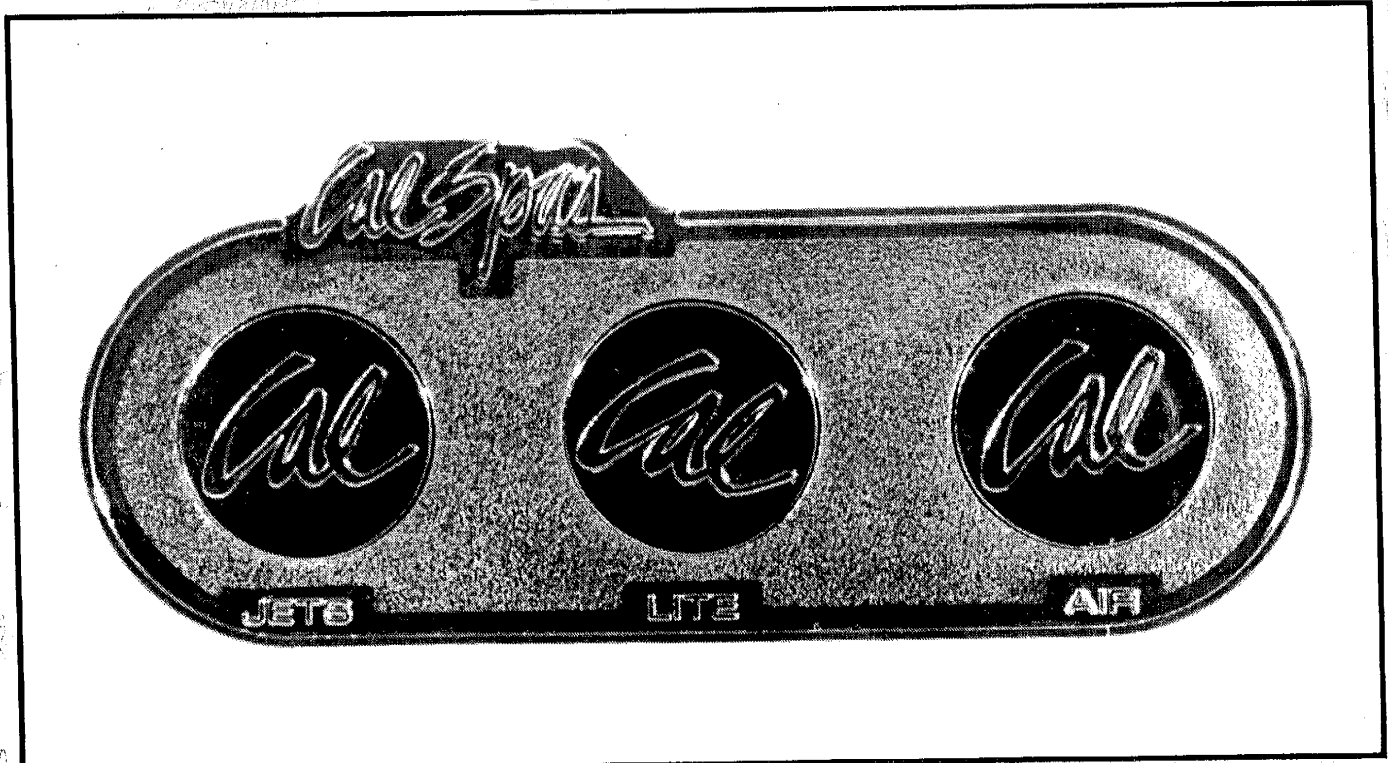
220 VOLT CONTROL BOX



BACK OF SKID PACK (110 or 220 volt)



SPA SIDE CONTROL



# SPA WATER CHEMISTRY

With the purchase of your new spa or hot tub, you have made an important investment. All of us at Cal Spas are dedicated to helping protect that investment. With Cal Spas' start-up chemical kit, and the Cal Spas program, you can keep your spa water beautiful, clean and safe.

## SPA CHLORINE:

Add 1/2 ounce concentrated chlorinating granules per 500 gallons of water to the water prior to entering the spa. Wait 5 minutes then check chlorine residual. Residual chlorine must read between 2 to 3 ppm. If it does not, additional dosages of chlorine should be added until it does.

Add chlorine daily or as necessary to maintain 2 to 3 ppm residual chlorine. Frequent checks of the chlorine level should be made with a reliable test kit. Heavy bather usage or the use of oils and lotions may increase the chlorine demand.

Refer to directions on back of chlorine bottle for further instructions.

## BROMINE COMPOUND: (Adjust a-Flo spa feeder)

Bromine is used in conjunction with chlorine as a more effective disinfectant in hot water temperatures. Twist cap of bromine spa feeder supplied and place automatic feeder in water. Test bromine residual frequently (every few hours). When 2 to 4 ppm is achieved, reduce setting to a low maintenance setting by twisting cap. (Arrows on top of cap will show you which way to decrease setting)

## SPA DEFENDER:

Spa Defender is a stain inhibitor that prevents calcium build-up on walls and in plumbing equipment. Use Spa Defender on a day that you are not using Spa Bright & Clear as it could affect the performance of Spa Defender. **USE AT LEAST ONCE A WEEK.**

Use 2 oz. for spas up to 800 gallons and 4 oz. for those over 800 gallons (add directly to water). Allow filtration system to run for 1 hour after application. As Spa Defender begins to work, it may cloud your water temporarily. This is a normal occurrence. Please refer to back of Spa Defender bottle for further instructions.

## SPA BRIGHT & CLEAR:

Spa Bright & Clear removes oil film, soap, and all suspended particles.

Use at least 2 times a week. Use 2 oz. for spas up to 800 gallons and 4 oz. for those over 800 gallons. First, turn OFF all equipment. Then turn ON air blower. Add Spa Bright & Clear directly to water. Allow air blower to run for a few minutes. Then finally, turn on filter system until spa water is clear. Please refer to back of the Spa Bright & Clear bottle for further information.

## SPA FOAM DOWN:

Spa Foam Down is an anti-foaming agent. Simply add 3 caps full of Foam Down directly to foamy area. Use as often as needed.

## SPA METAL GON:

Spa Metal Gon prevents metal build-ups from staining your spa finish. Use entire contents of the bottle provided. First, turn OFF all equipment. Then pour Spa Metal Gon around edge of water line. Then run filter for at least 30 minutes. Good to use when filling spa for the first time or when refilling.

A Chlorine and Bromine test kit has been included in your start-up kit from Cal Spas. Follow directions provided in kit to accurately determine chlorine and bromine levels. Use test kit often to help maintain proper water chemistry.

**NOTE:** We recommend you drain your spa at least every 3 months, polish and refill with clean water. This will ensure a proper PH balance as well as help maintain an overall proper water chemistry.

## 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.

# SPA PRE-OPERATION — START-UP

## PRIMING THE SYSTEM

1. Turn power OFF at the breaker box
2. Fill spa (water level should be ½ way up to the skimmer plate)
3. Open doors and bleed air from top of filter
4. Turn thermostat off, MAKE SURE SLICE VALVES ARE OPEN
5. Close doors and turn JET on
6. Run for 1 minute
7. Shut JET off
8. Open doors, turn thermostat up
9. Turn switch to "No Freeze"
10. Close doors (system will automatically heat up)
11. After spa has reached 100+ degrees, turn switch to timer and set timer

## DRAINING SPA

NOTE: Do not empty spa below drain fitting or lose prime to pump as these conditions will damage pump and void warranty.

- a. Turn thermostat counter-clockwise to OFF position.
- b. Attach garden hose to hose bib fitting located on equipment package.
- c. Plug off skimmer with 1-1/2" plastic plug to maintain prime when water level drops below skimmer.
- d. Press Jet button on top of spa. Water will flow out of the garden hose.
- e. Watch water level! When water level is just above drain fitting, turn power off or the pump will cavitate.
- f. Siphon out balance of water.

## WINTERIZING SPA

In areas of the country where the temperature drops below 32°F, follow these instructions:

- a. If spa is not going to be used, drain completely and store in garage.
- b. 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.

## 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.

## SPA POWER OPERATION

- Step 1 Plug power cord into 110V AC receptacle. Make sure the branch main breaker is ON for both 110V AC or 220V AC 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 jets have a full steady stream, then the system is ready. If no jet flow after 1 minute, repeat procedure.
- Step 4 Press "test" button on control panel — this shuts the system off. Reset button to operate. (110V system only).
- Step 5 Press jet air switch button to first 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 220V)

NOTE: Heater operates when pump is on low speed only for 110V systems only. For 220V systems, heater is on demand for all modes. (Exception — time clock 220V)

Time clock controlled units are equipped with a selector switch located above timer dial.

**TIMER OPERATION** — This setting is for the people who use their spa at about the same time of the day on a regular basis. This allows you to set the timer to run the pump and heater before you normally use the spa so when you want to go in, the water is heated and ready to use. Your pump and heater only run once a day too, so it will be less costly on the electricity.

**NO FREEZE** — When the toggle switch is on the No Freeze position, the low speed of the pump and the heater will maintain the temperature setting of the thermostat knob. So this means during the day every time the water temperature goes below the thermostat setting, the pump and heater will come on to heat it back up to that setting. If you plan to use your spa at all different times of the day you would want to use the No Freeze setting to maintain a desired water temperature. It will be a little more expensive on your electric bill though, because the pump comes on more times during the day.

The following steps will help lower operation costs and conserve energy:

- a. Use high speed pump mode to operate jets only when spa is being used.
- b. Use the air blower only when spa is in use since the increased bubble action and surface agitation increases heat loss and dissipates chemicals.
- c. Keep the spa covered at all times with an approved cover except when in use.

If spa is to be drained and left unattended, turn off breakers, replace cover and secure.

# WARNING

Do Not Exceed 104°

Excessive Temperature Voids Warranty

# FILTER MAINTENANCE

## CAL SPAS HIGH FLO 50 FILTER

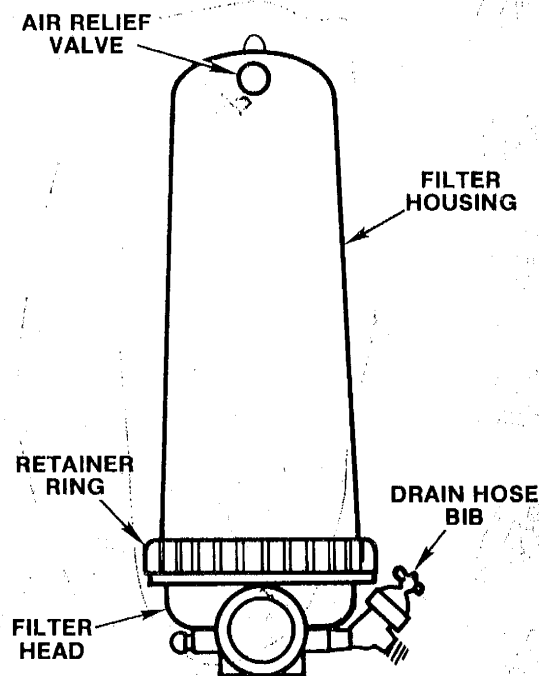
### OPERATING INSTRUCTIONS

#### STARTING FILTER

1. Close filter drain; be sure filter housing is securely in place.
2. Open suction and discharge valves. Prime filter with air relief.

#### CLEANING FILTER

1. Turn off pump. If below water level, close valves to prevent backflow.
2. Open drain valve and allow water to drain from filter (optional).
3. Unscrew retainer ring and remove filter housing.
4. Remove cartridge and clean with a high pressure garden hose.
5. Clean O-ring. Apply a very light film of vaseline to all O-rings and threads.
6. Reinstall cartridge in filter housing with o-ring in place.
7. Screw retainer ring into filter head. Do not over tighten. Close the drain valve.



Filter Size	50 sq. ft.
Filter Area	50 sq. ft.
Working Pressure	50 lbs.
Automatic Bypass Replacement Cartridge	(H) F50

**NOTE: DO NOT overtighten retaining rings or connections.**

#### 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 FILTER:

Chlorinate the water by adding diluted unstablized 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 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.

# **FILTER MAINTENANCE (Continued)**

## **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**

### **CLEANING FILTER**

Filter should be cleaned once every two weeks.

### **CLEANING OPERATION:**

- Shut power off (at breaker)
- Open doors / close slice valves
- Drain canister by removing plug at bottom of the filter
- Remove filter cartridge from canister by spinning canister ring counterclockwise.
- Soak cartridge in a low sudsing detergent at least two hours
- Spray filter with high pressure hose
- Replace canister into manifold
- Spin ring clockwise to tighten assembly
- Replace lower manifold plug and open slice valves
- Bleed air out of top of canister
- Turn thermostat off
- Close doors, turn power to spa ON
- Press JET button and run for 1 minute
- Return spa to normal function (set timer to run at least two hours a day)

**USE NO ACID**  
Tri-Chlor or Algecide Solutions  
They Ruin Acrylic Spas

# TIME CLOCK



## TO SET TIMER:

- Simply pull out on the blue keys to set time you desire your spa to run. (Each key is equivalent to 1/2 hour.)
- Keys left pushed in will turn spa off.
- Turn dial clockwise to set the time of day.
- Your spa will be heated and filtered daily, to the temperature set on thermostat, for the programmed time.

## NOTES

Your time clock controlled units are equipped with a selector switch located above the 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. (Water will heat to temperature set on thermostat, provided running time is adequate) Unit heats 5° to 7° per hour with cover on (220V).

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

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.



# SPA LIGHT

## SPECIFICATIONS:

12 volt, 20 VA  
Fusing — energy limiting  
UL — listed power supply

Cord length — 20 feet  
Bulb life — 120 hours  
Bulb type — 912

## LAMP REPLACEMENT:

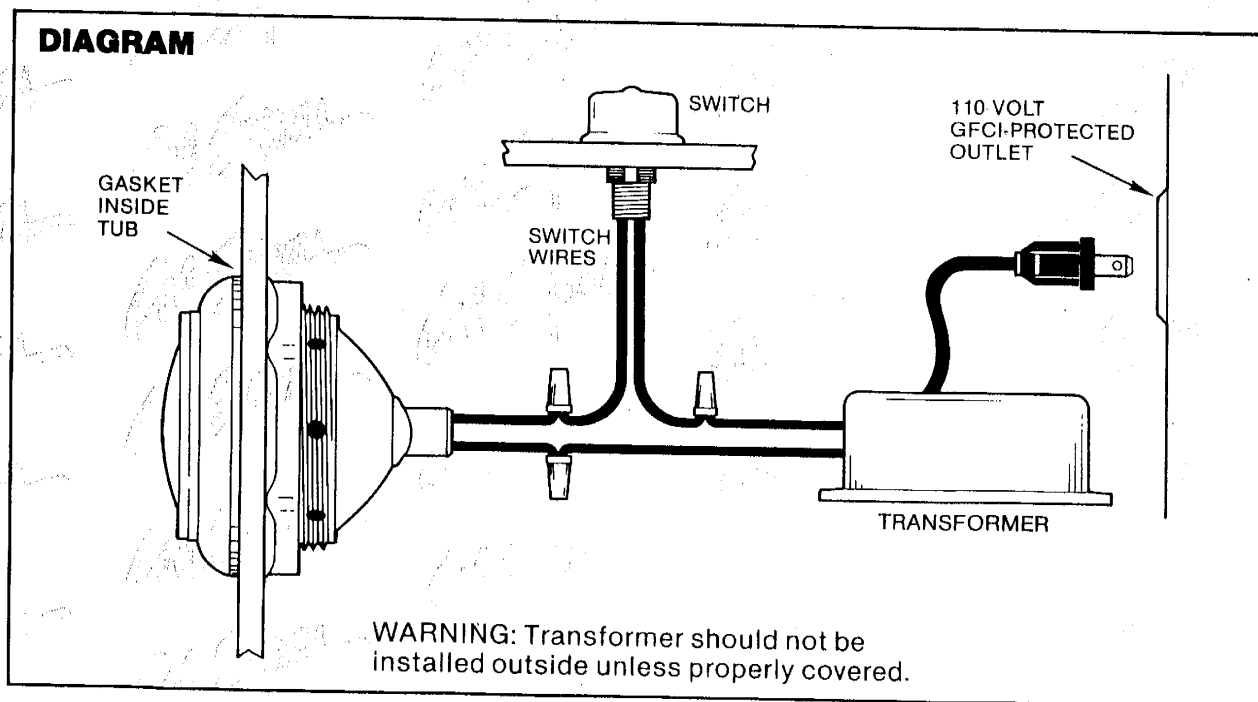
Simply remove lamp socket from back of light assembly by turning and pulling at the same time. Replace lamp with a 912 bulb and reinsert socket completely in light fixture.

## 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" hole saw. For wood tubs, use 2 3/4" hole saw.
- Step 3. Determine where you would like the switch for the light.
- Step 4. Using a 1 1/8" 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.

**WARNING :** Transformer should not be installed outside unless properly covered.

**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.



# WARNING

Do Not Exceed 104°  
Excessive Temperature Voids Warranty

# SPECIFICATIONS

## MODEL 110 VOLT

Component	Voltage	(HI)	Pump	
			Amp	(LOW)
Heater 1.5 KW	115V	—	—	12.0
Air Blower (1½ HP)	115V	6.5	—	—
Pump (¾ 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 — 102°F
Recovery Rate .....	2-3° per hour (approx.)
Filtration .....	50 sq. ft. filter
Standby Usage .....	5-10 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 220 VOLT

Component	Voltage	(HI)	Pump		(LOW)
			L1	L2	
Heater 5.5 KW	220V	21.0	21.0	21.0	21.0
Air Blower (1½ HP)	115V	—	6.5	—	—
Pump (1 HP — 2-speed)	115V	(HI) 11.0	—	—	(LO) 2.6
Total Amps		32.0	27.5	—	23.6

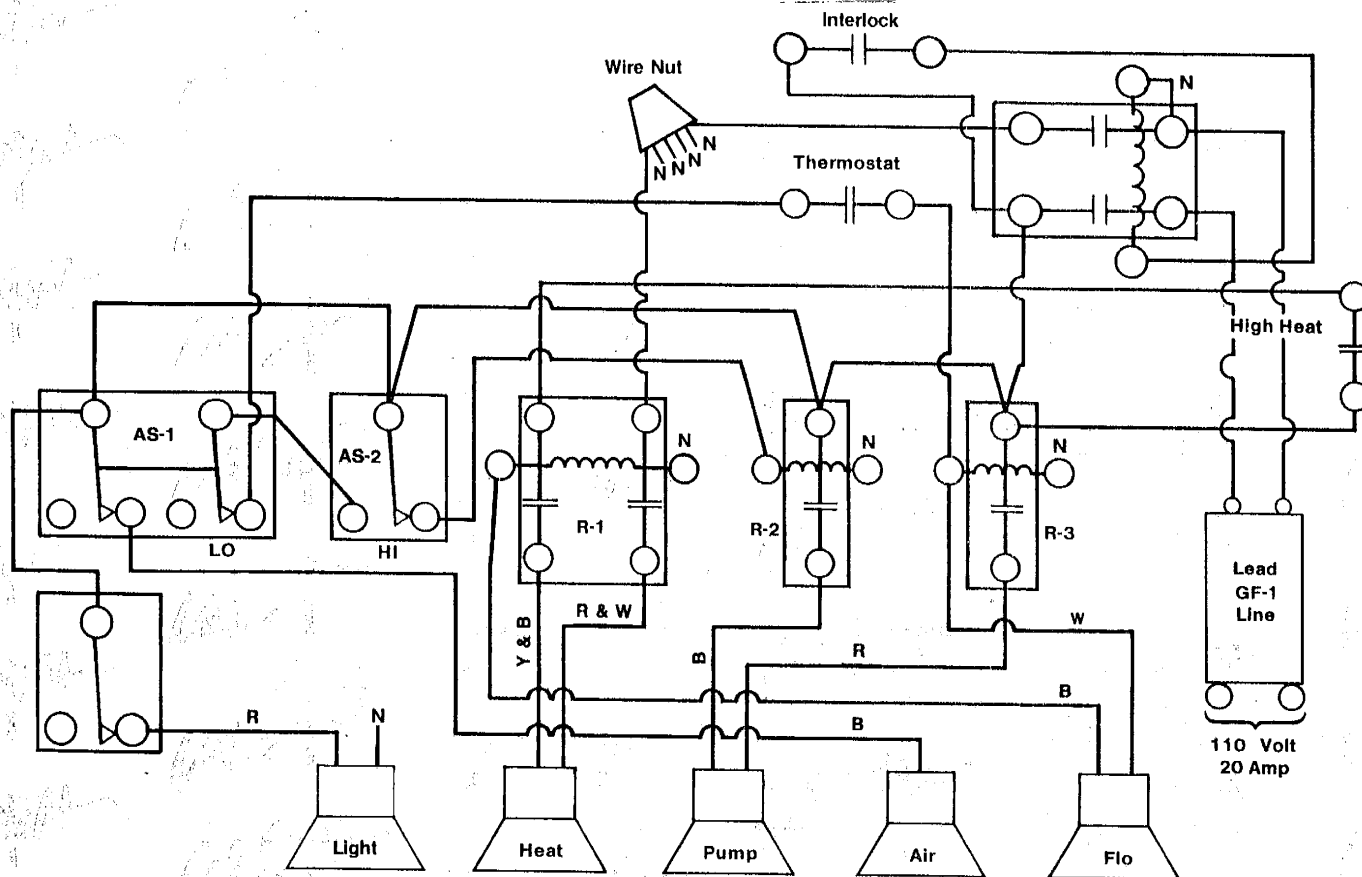
### Spa Specifications:

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 — 102°F
Recovery Rate .....	5-10° per hour (approx.)
Filtration .....	50 sq. ft. filter
Standby Usage .....	5-10 KW/hr. per day (approx.)
Operate Usage .....	6-8 KW/hr. per day (approx.)

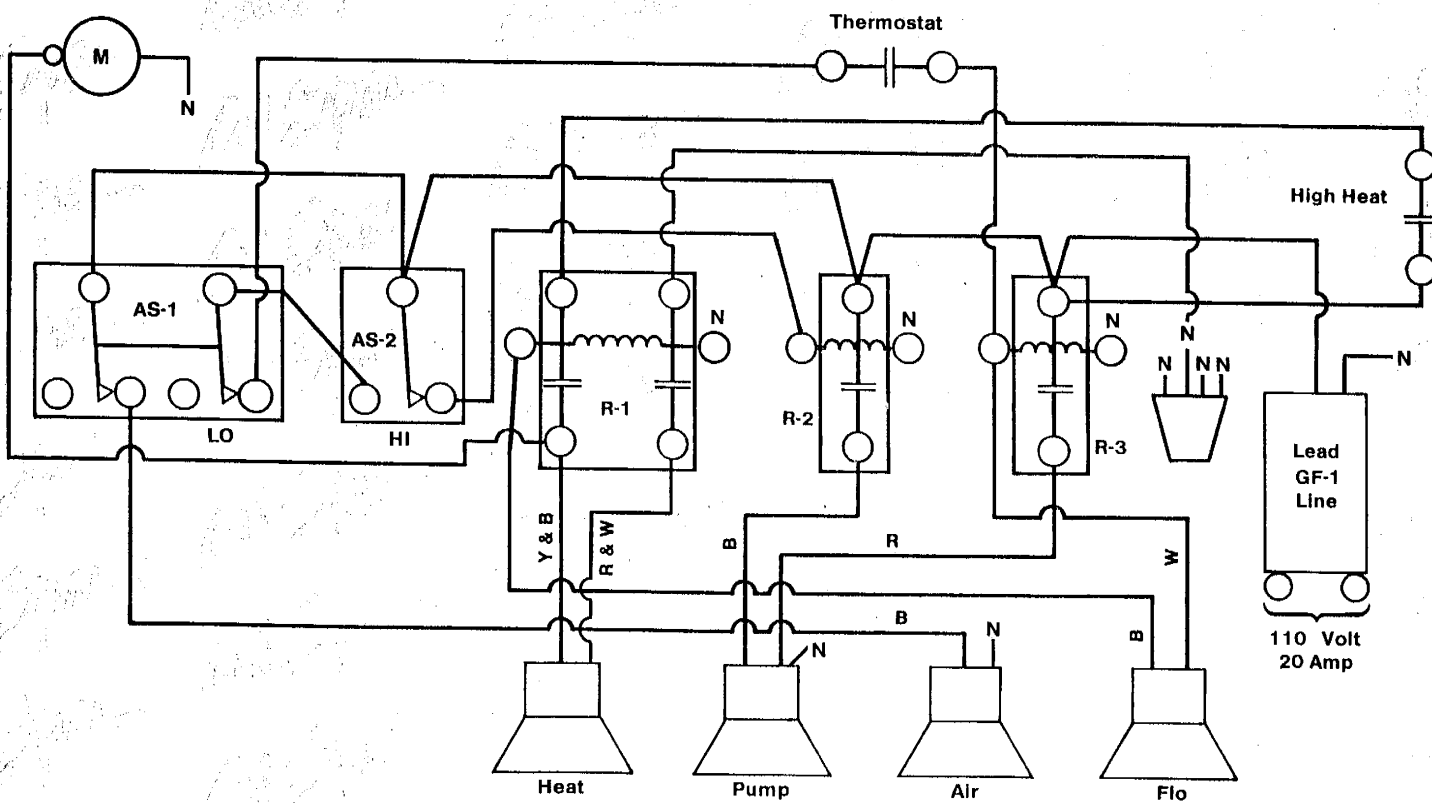
### Wiring: 4 #8 wires

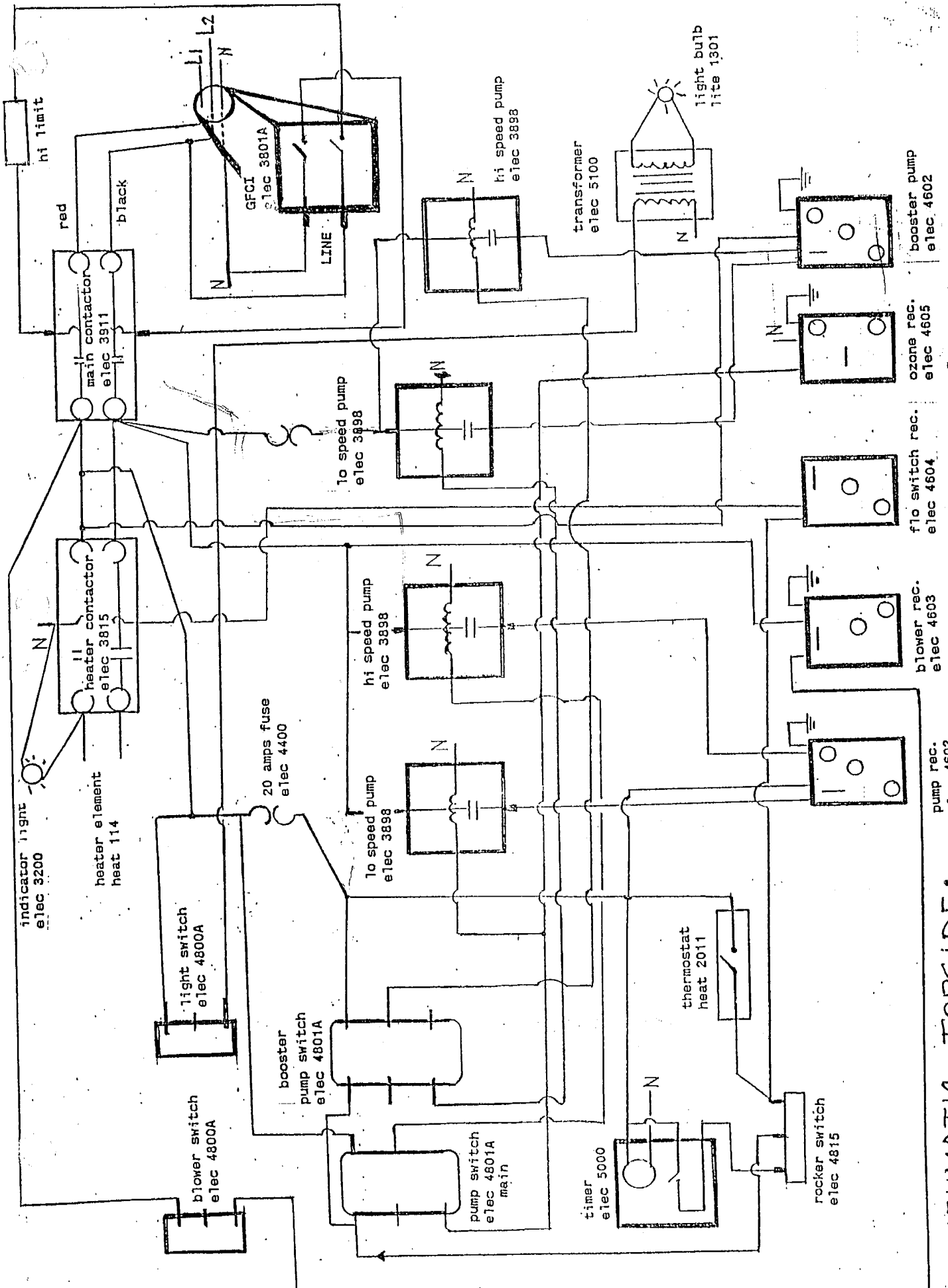
Red Wire	—	Hot
Black Wire	—	Hot
White Wire	—	Neutral
Green Wire	—	Ground

# 110 Volt U.R. Electrical Schematic



# 110 Volt U.L. Electrical Schematic

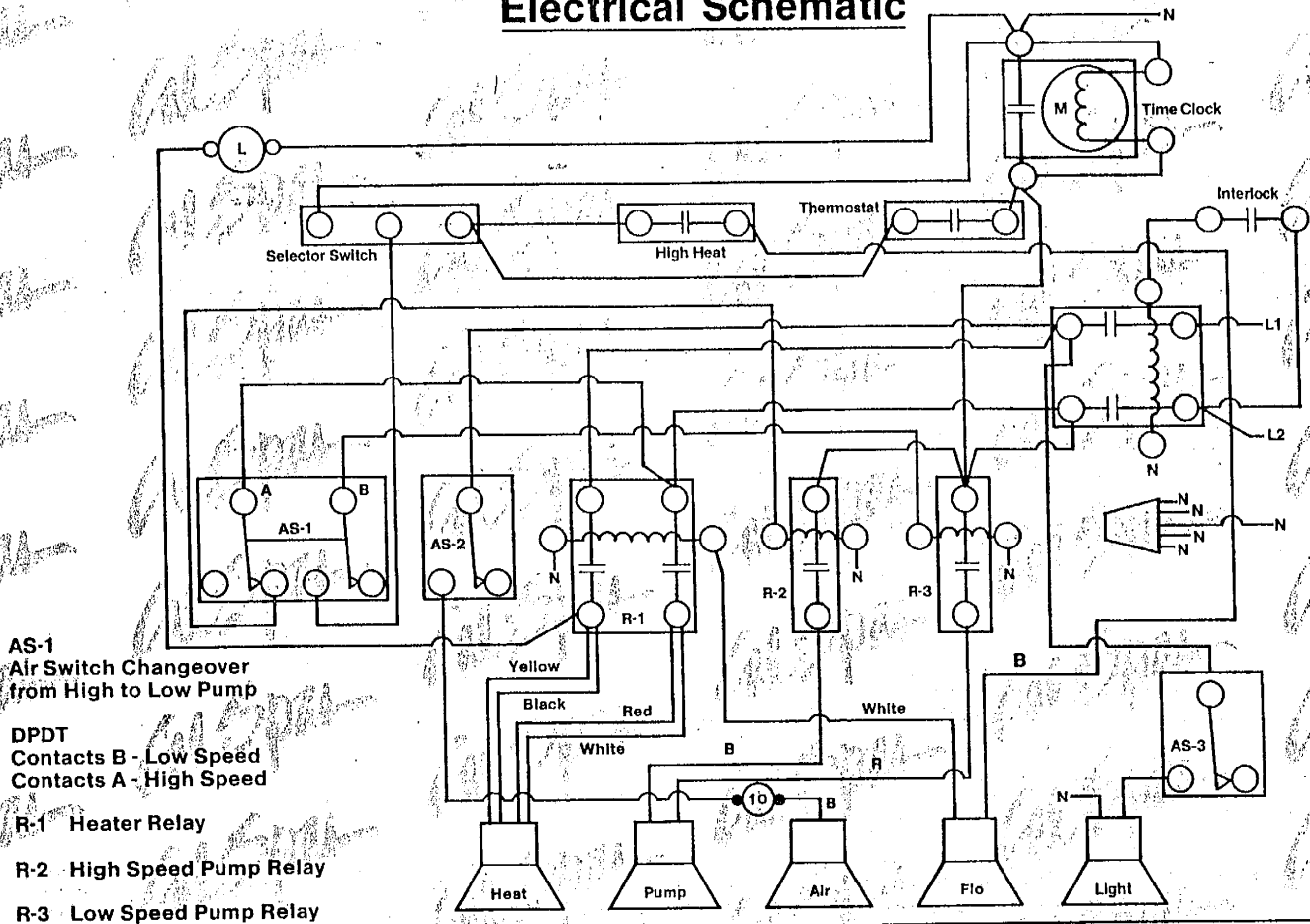




PNEUMATIC TOPSIDE.  
 220 V. 2 PUMPS.  
 PS5-B  
 PS4-B 1993-94

- indicator light elec 3200
- heater element heat 114
- light switch elec 4800A
- blower switch elec 4800A
- booster pump switch elec 4801A
- pump switch elec 4801A main
- timer elec 5000
- rocker switch elec 4815
- thermostat heat 2011
- 20 amps fuse elec 4400
- main contactor elec 3911
- heater contactor elec 3815
- hi limit
- GFCI elec 3801A
- hi speed pump elec 3898
- hi speed pump elec 3898
- hi speed pump elec 3898
- booster pump elec 4801A
- transformer elec 5100
- light bulb lite 1301
- booster pump elec 4602
- ozone rec. elec 4605
- f1o switch rec. elec 4604
- blower rec. elec 4603
- pump rec. elec 4602

## 220 Volt U.R. Electrical Schematic

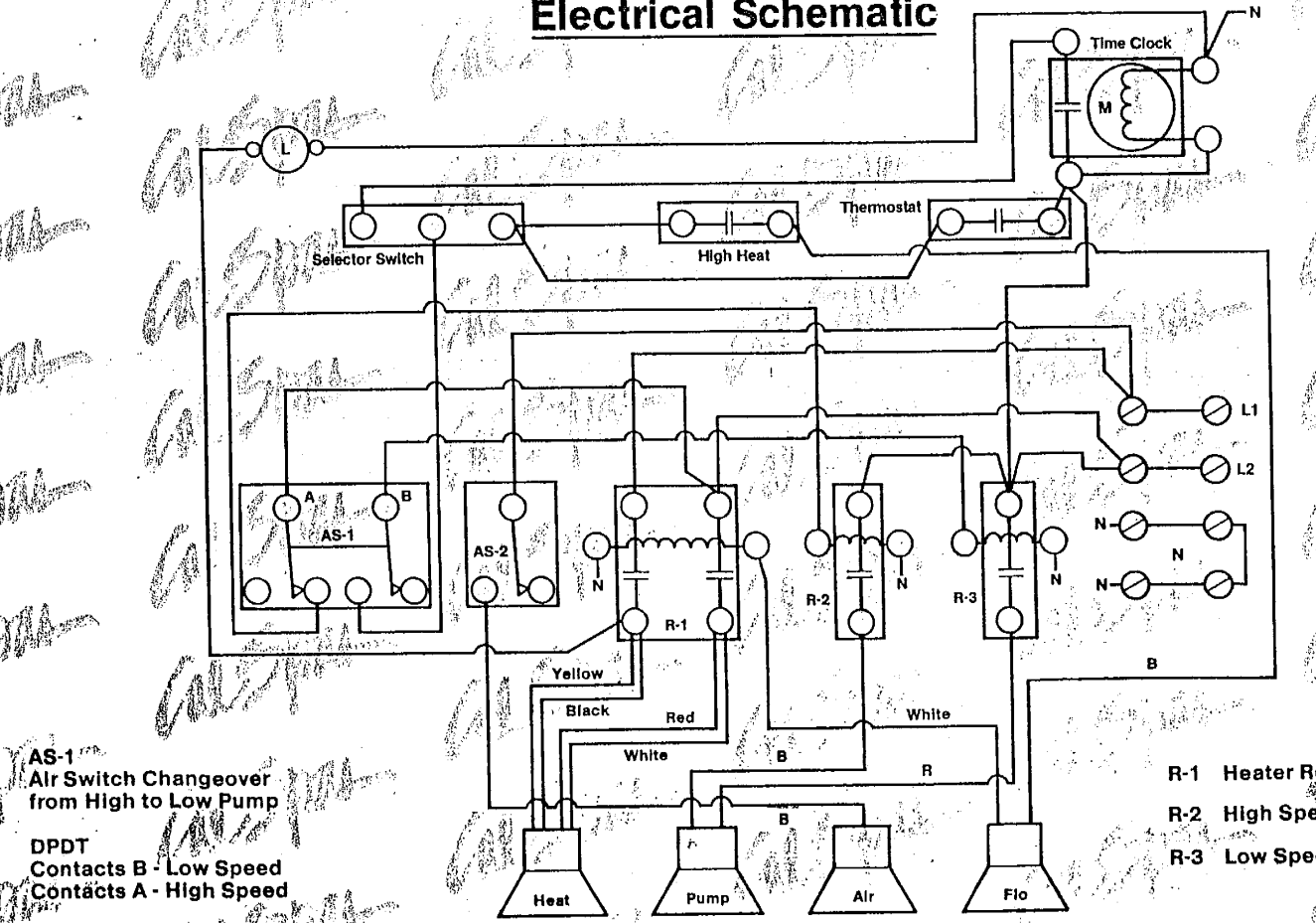


**AS-1**  
Air Switch Changeover  
from High to Low Pump

**DPDT**  
Contacts B - Low Speed  
Contacts A - High Speed

- R-1** Heater Relay
- R-2** High Speed Pump Relay
- R-3** Low Speed Pump Relay

## 220 Volt U.L. Electrical Schematic



**AS-1**  
Air Switch Changeover  
from High to Low Pump

**DPDT**  
Contacts B - Low Speed  
Contacts A - High Speed

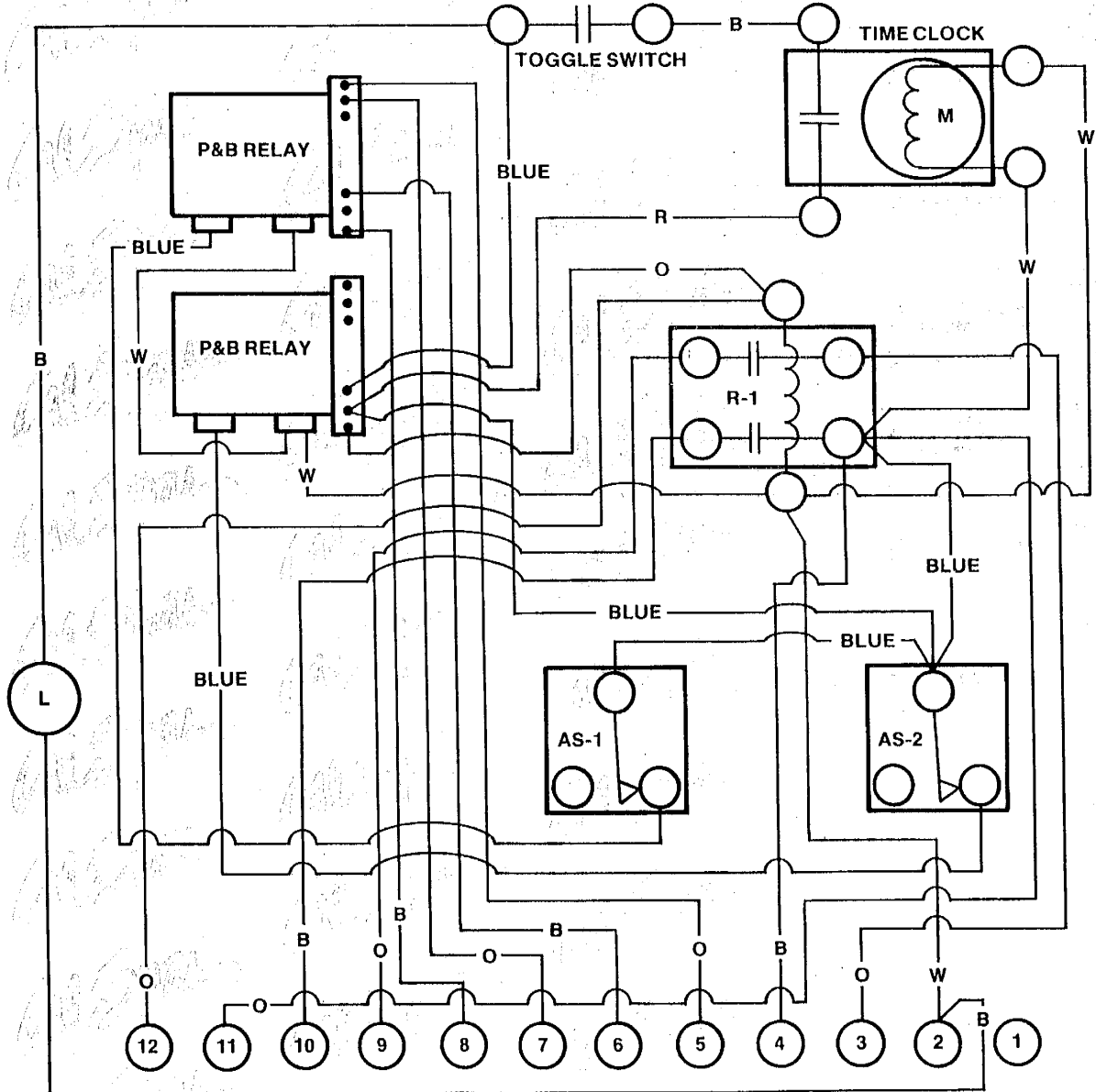
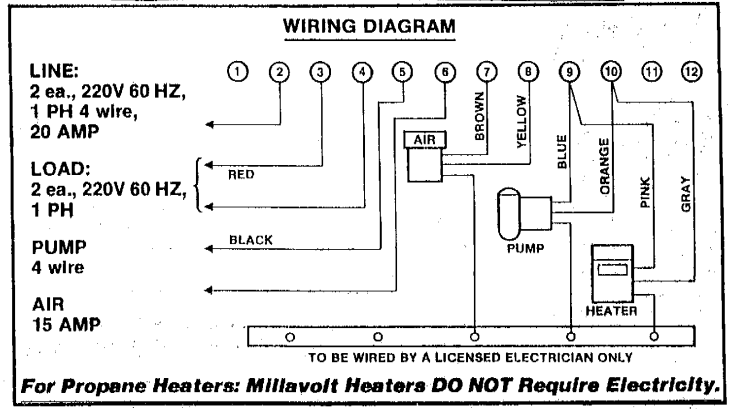
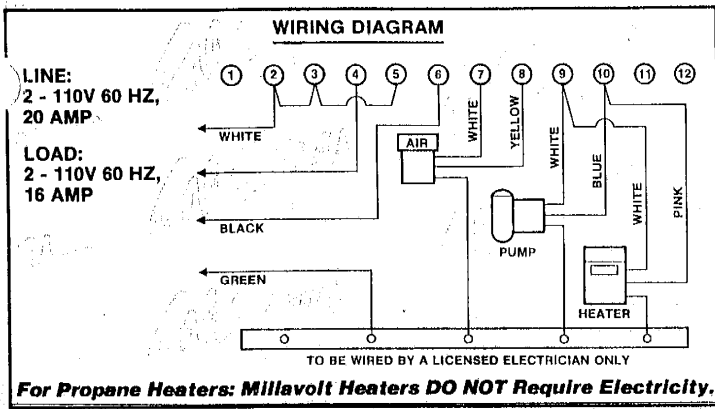
- R-1** Heater Relay
- R-2** High Speed Pump Relay
- R-3** Low Speed Pump Relay



# Gas Paks

## CTC-221 110 Volt U.L.

## CTC-221 220 Volt U.L.



**CTC-221 110V**  
**LINE: 2-110 Volt**  
**60 HZ 20 Amp Circuits**

**LOAD: 2-110 Volt**  
**60 HZ 16 Amp Circuits**

**CTC-221 220V**  
**LINE: 2 each 220 Volt**  
**60 HZ 1 PH**  
**4 Wire 20 Amp Circuit**

**LOAD: 2 each 220 Volt**  
**60 HZ 1 PH**  
**4 Wire 15 Amp Circuit**

# TROUBLESHOOTING GUIDE

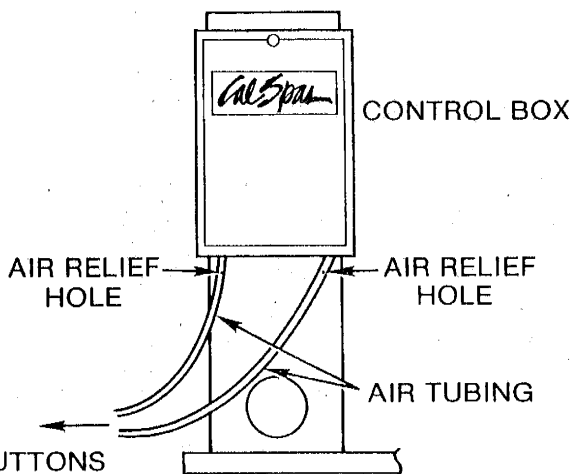
## AIR BLOWER ASSEMBLY

SYMPTOMS	PROBABLE CAUSE	RECOMMENDED ACTION
Air Blower will not operate.	Improper setting of air button control switches. Blower not plugged in. Air tubing disconnected.	Air button sequencer is on air position. Plug Blower in. Connect air tubing.

**For Gas Paks Only:**

NOTE: Air lines require small relief holes to keep pressure from building in air lines which could cause equipment to stay on or come on by itself. To correct this, puncture air lines with a hot safety pin where noted in diagram.

Simple solutions to small problems as this can and should be learned by owner as this will be considered a maintenance call and not a warrantee call. A trip charge could result if the service department is called out on this account.



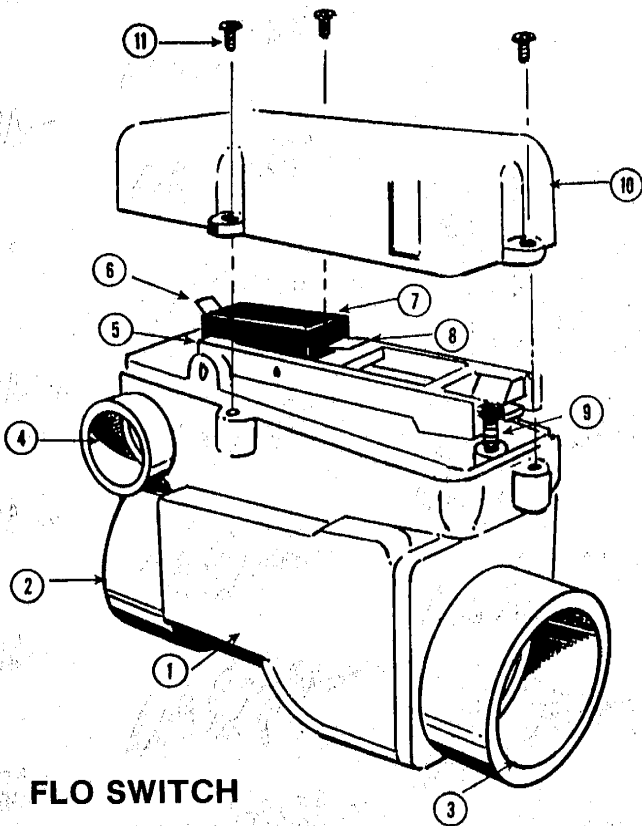
Air supply low.	Improper line voltage. Leak in air line.	Have electrician check line voltage. Check for air leak at coupler and fittings. Correct accordingly.
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## PUMP ASSEMBLY

SYMPTOMS	PROBABLE CAUSE	RECOMMENDED ACTION
Pump will not prime.	No water in pump. Air lock. Closed valves or blocked lines.	Make sure water level in spa is midway in skimmer mouth. Bleed off air at Air Relief Valve. Open all valves (2) in system.
Motor does not run.	No power to motor. Not plugged in. Pump jammed from foreign matter in impeller. Pump ran dry.	Check all power switches and circuit breakers. Check motor wiring at terminals. Plug in pump. Call Cal Spas for recommended action. Call Cal Spas for recommended action.
Low water flow.	Dirty filter. Closed valves or blocked lines. Low voltage or incorrect voltage.	Remove filter cartridge and clean. (See above under "Pump will not prime") Wiring to be corrected by licensed electrician.
Motor runs hot. These motors will feel hot to the touch. This is normal. The 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. Restricted suction line.	Do not tightly cover or enclose pump motor. Make sure all valves are open.

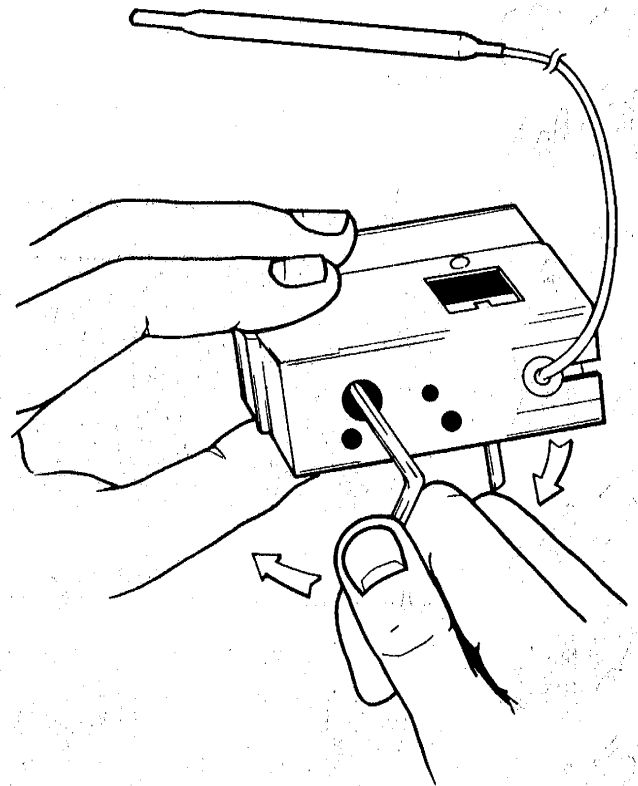


# TROUBLESHOOTING GUIDE (Continued)



## FLO SWITCH

- |                                      |                                  |
|--------------------------------------|----------------------------------|
| 1. Flowswitch body                   | 7. Switch                        |
| 2. Outlet 1½" slip PVC               | 8. Electrical connection. (line) |
| 3. Inlet 1½" slip PVC                | 9. Calibration screw             |
| 4. ½" conduit socket, (both sides)   | 10. Cover                        |
| 5. Electrical connection N.C. (load) | 11. Cover screw (3)              |
| 6. Electrical connection N.O. (load) |                                  |



## THERMOSTAT

CLOCKWISE INCREASES  
MAX TEMP. CALIBRATION

**WARNING**  
DO NOT EXCEED 1/4 TURN

## HEATER ASSEMBLY

### SYMPTOMS

No heat or heat too low.

### PROBABLE CAUSE

- Not adequate heating time.
- Thermostat Max. Temp. Calibration set too low.
- High-Limit Thermostat kicked out.
- O-rings in Air Venturi caps not sealing properly
- Improper line voltage.
- Inadequate water flow due to dirty filter.
- Pump not primed.

### RECOMMENDED ACTION

- Reset timer dial to allow longer heating period.
- Reset Thermostat Max. Temp. Calibration. (Refer to diagram above)
- Push reset button.
- Check O-rings in Air Venturi caps for proper seal. Replace and/or lubricate, if needed.
- Have licensed electrician check line voltage.
- Clean filter. (May have to adjust Flo Switch)
- Refer to Pump Priming on page 6.

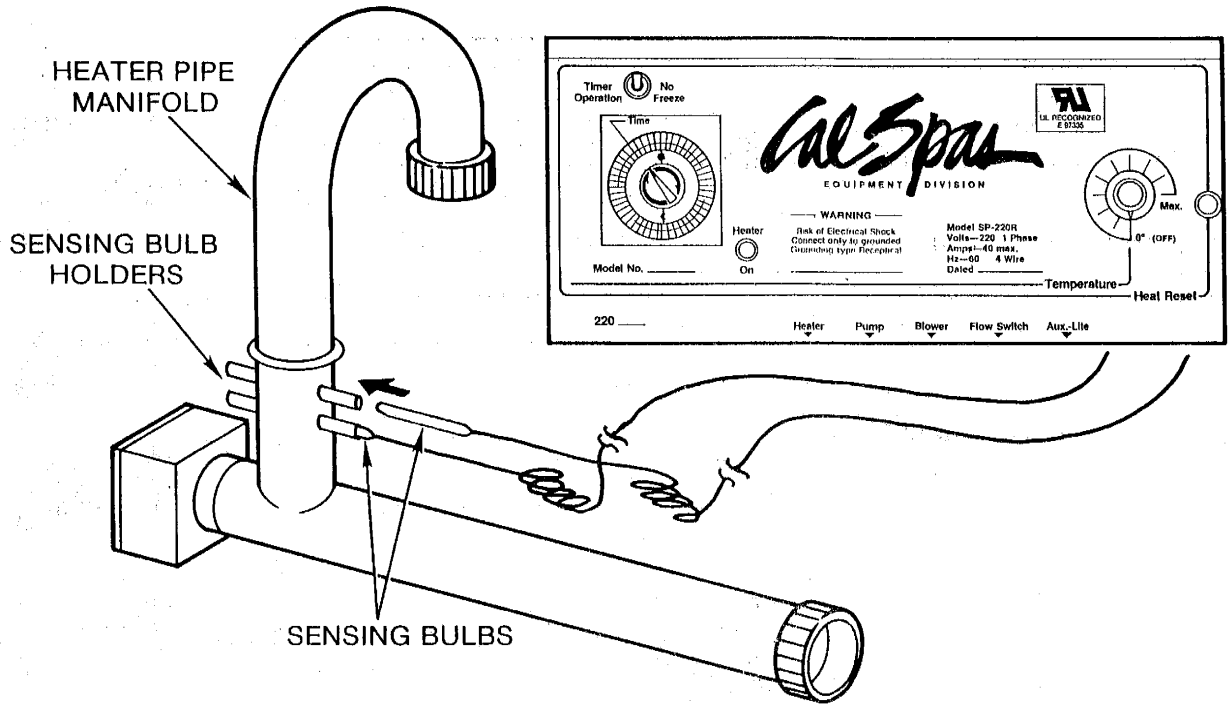
NOTE: Use of Air Blower and/or Air Venturi's while heating, will result in water temperature below desired setting.

NOTE: If after trying the above solutions your heater is still not operating, there is a good chance the wiring done by your electrician is incorrect. We advise you call a licensed electrician to check on this.

# TROUBLESHOOTING GUIDE (Continued)

## HEATER ASSEMBLY (Continued)

SYMPTOMS	PROBABLE CAUSE	RECOMMENDED ACTION
Heat too high.	Thermostat setting too high.	Decrease setting on Thermostat.
	Thermostat sensing bulbs out of holders in Heating Manifold.	Reinsert sensing bulbs into holders in Heating Manifold. (See diagram)



"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.
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## SPA LIGHT

SYMPTOMS	PROBABLE CAUSE	RECOMMENDED ACTION
Light does not operate.	Light GFI may need to be reset.	Reset button.
	Bulb may be burnt out.	Replace bulb.
	Faulty light switch button.	Replace switch.
	Transformer may not be plugged in.	Plug transformer into control box.

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Tri-Chlor or Algecide Solutions.  
They Ruin Acrylic Spas

## **TROUBLESHOOTING GUIDE (Continued)**

To aid in troubleshooting, we have listed below quick and easy solutions to the most common service calls reported by spa owners.

### **Spa is Leaking**

1. Hand tighten all quick disconnects
2. Check gaskets and o-rings.
3. If leak is at filter dome, it may need to be tightened.

### **Jets Inoperable**

1. Check to see if airline tubing is disconnected at either end of tubing.
2. Make sure pump is plugged in.

### **Low Jet Pressure**

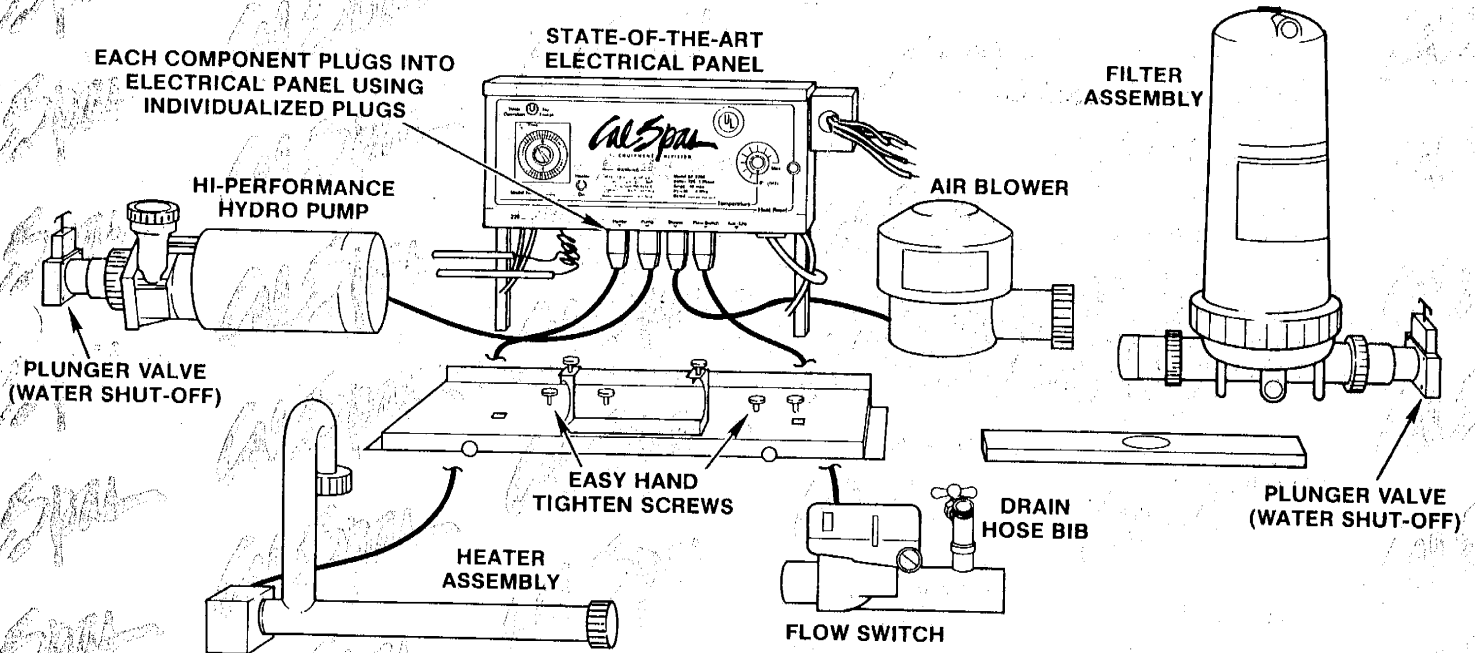
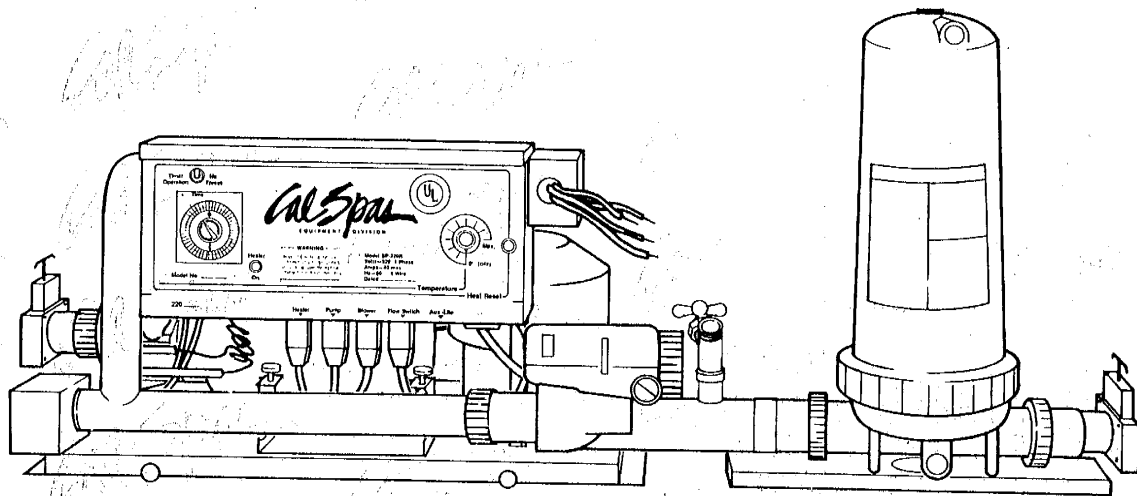
1. Filter may need to be cleaned.
2. Make sure plunger valves are all the way open.

# **WARNING**

**Do Not Exceed 104°**

**Excessive Temperature Voids Warranty**

# MODULAR EQUIPMENT PAK



Included with your new Cal Spa is our exclusive "hands only" modular equipment pak. It is designed to make spa equipment troubleshooting safe, uncomplicated and tool free. In the event that you feel your equipment pak may need servicing, you can completely disassemble it in about five minutes.

The diagrams below are supplied as reference to help you in disassembly, assembly and to accurately identify individual parts.

## USE NO ACID

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**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 LOWER 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.

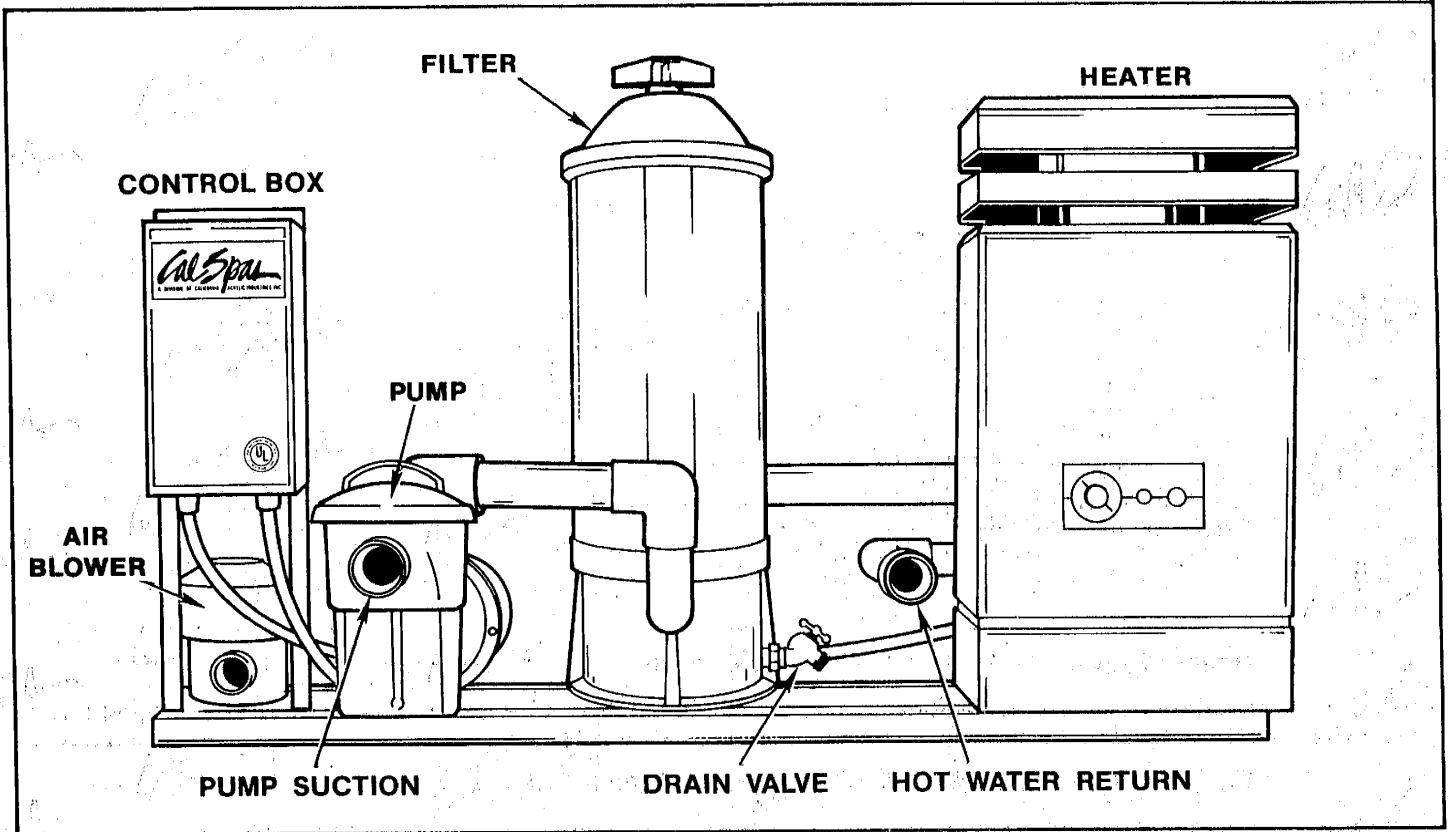
## **PRE-PLUMBING SPA**

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.

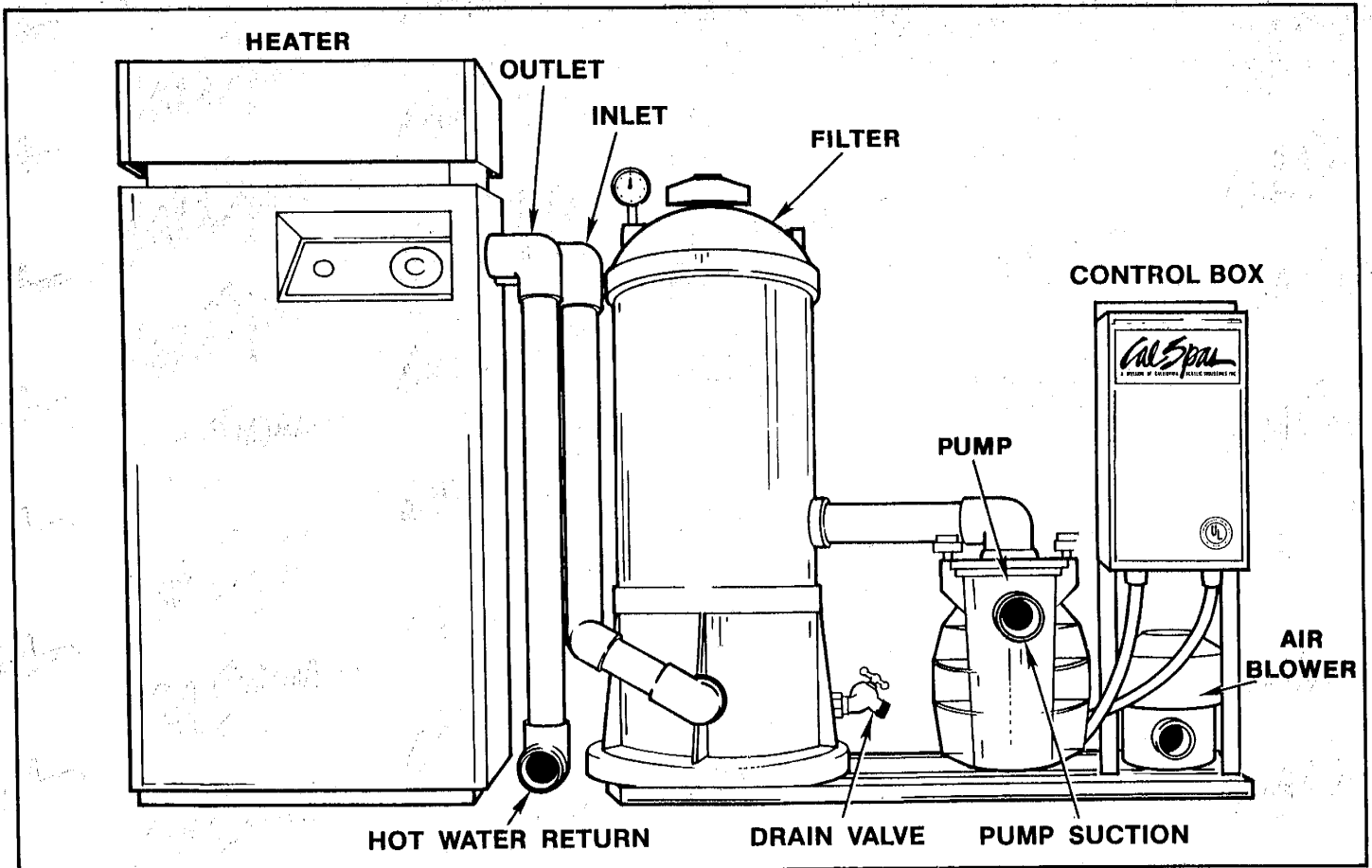
# **WARNING**

**Do Not Exceed 104°  
Excessive Temperature Voids Warranty**

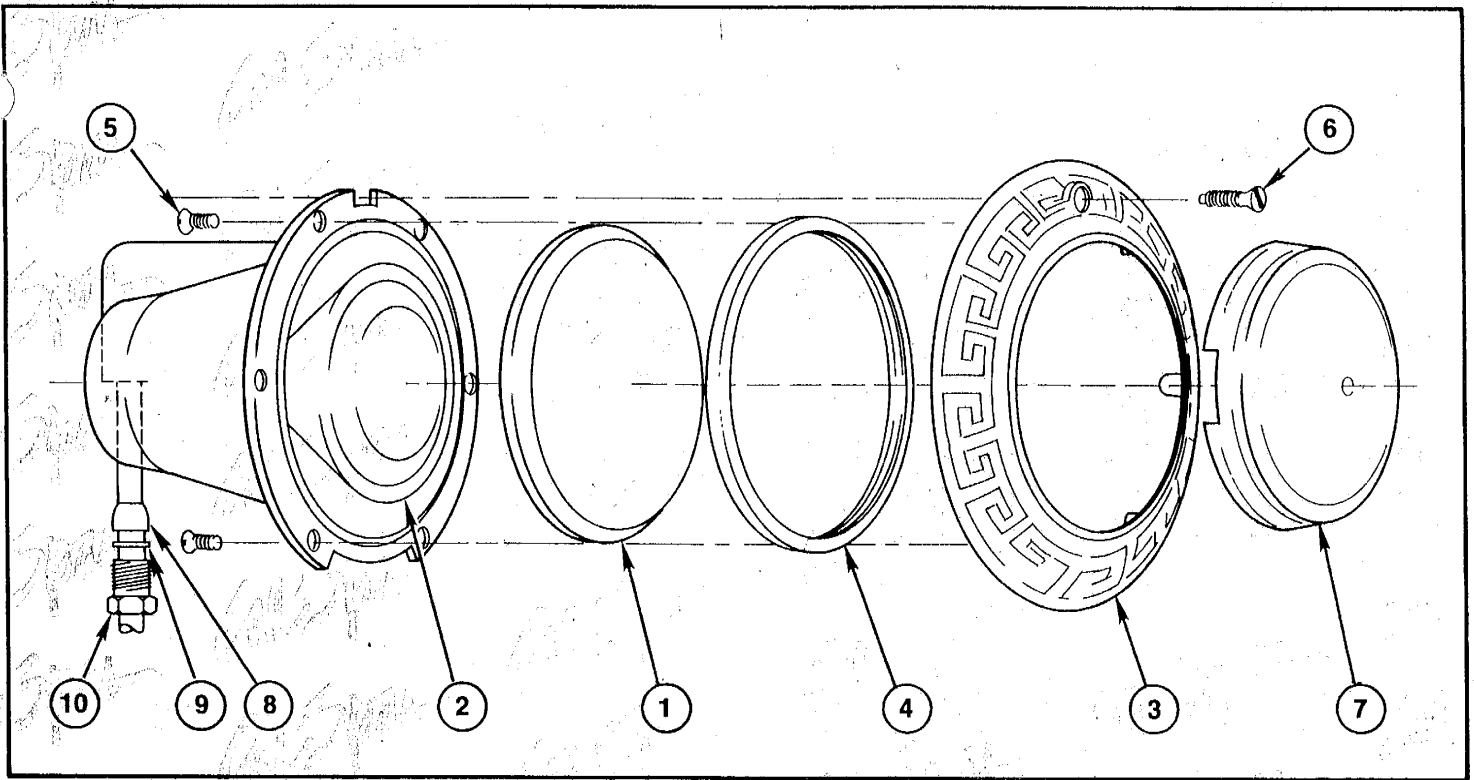
# GAS PAK PLUMBING DIAGRAM



# ADD-A-PAK PLUMBING DIAGRAM



# INGROUND SPA LIGHT UNIT



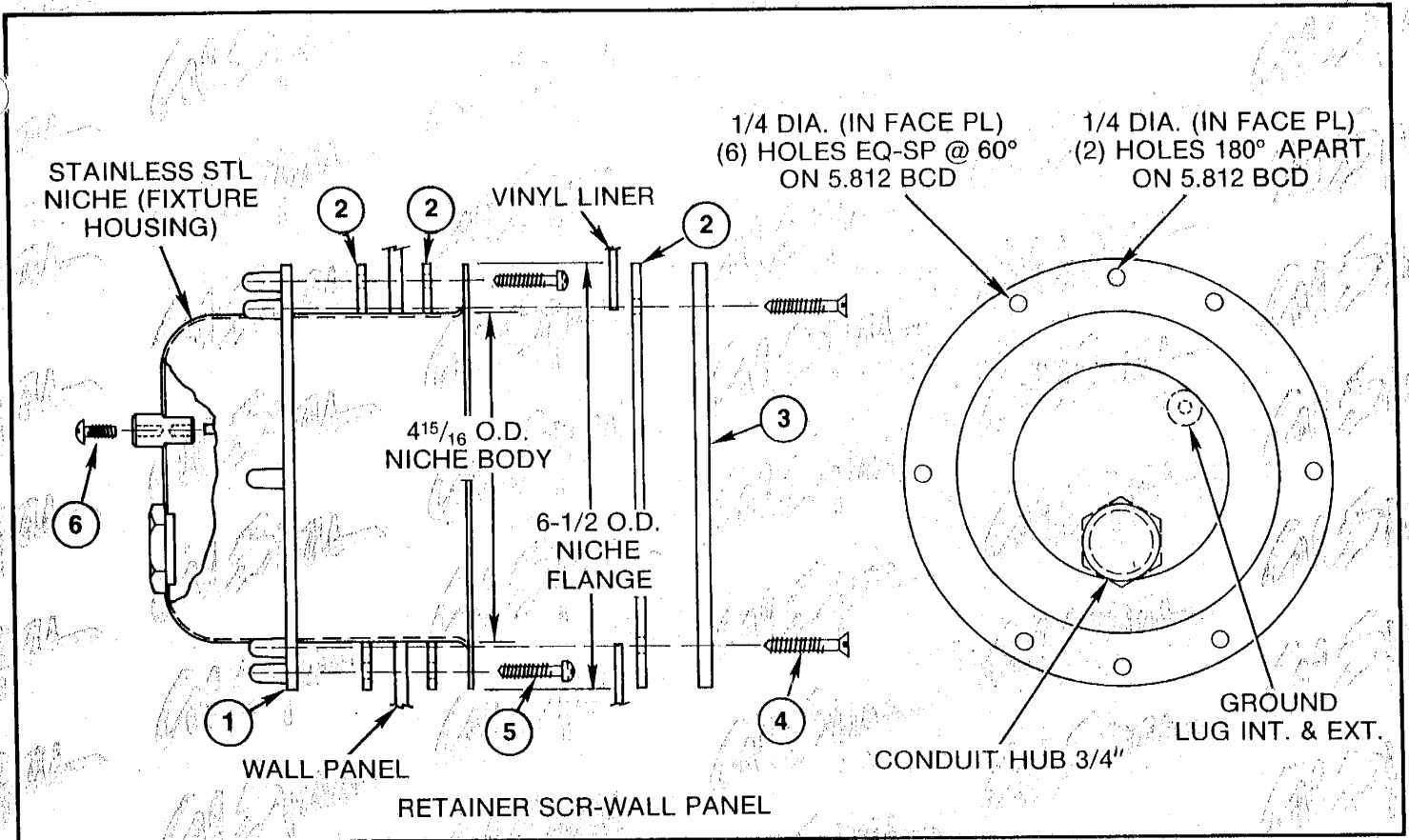
1. Lens, clear, 4" diameter, tempered
2. Floodlamp, medium base, 100 watt, 120 volt
2. Floodlamp, medium base, 100 watt, 12 volt
3. Face ring, brass-chrome
4. Gasket for 4" diameter lens
5. Screw, stainless steel 10-24 X 1/2" (6 required)
6. Pilot screw captive gum washer
7. Kwik-change color lens, red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

## USE NO ACID

Tri-Chlor or Algecide Solutions  
They Ruin Acrylic Spas



# INGROUND SPA LIGHT 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 for #782434 niche (6 required)  
Mounting ring, brass  
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°

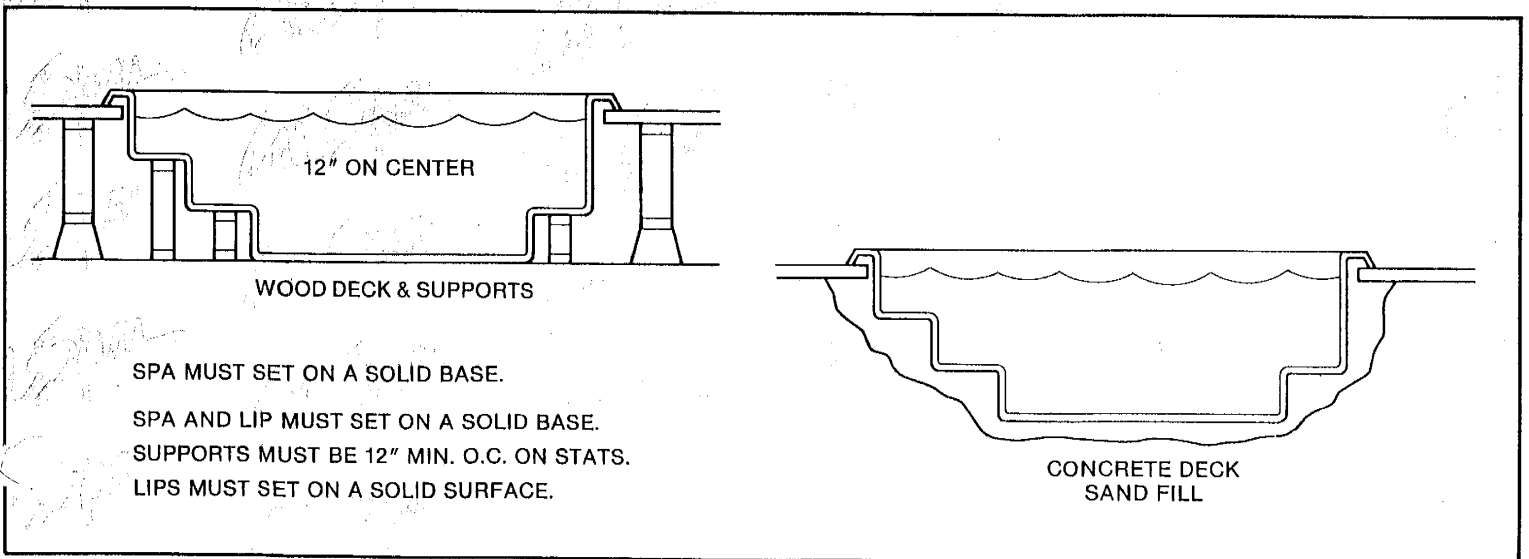
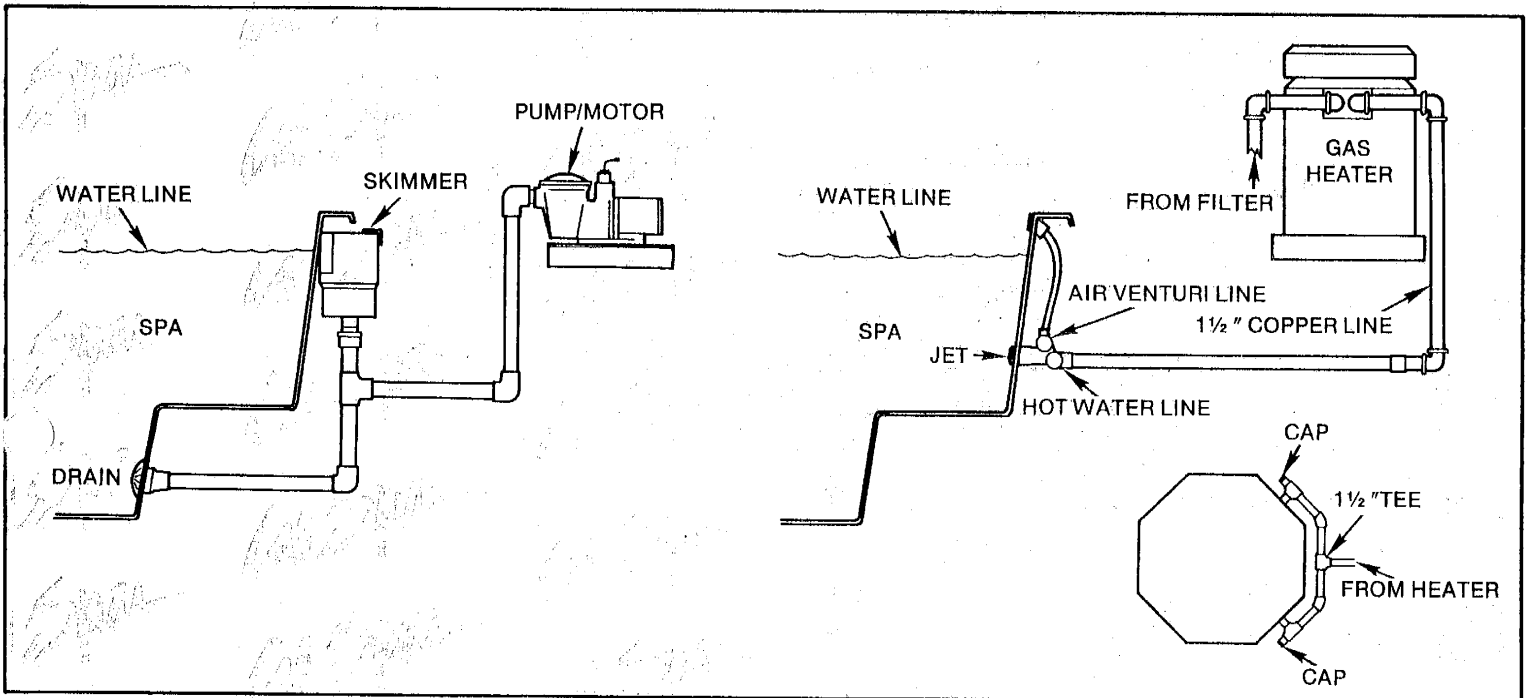
Excessive Temperature Voids Warranty

# PLUMBING

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.



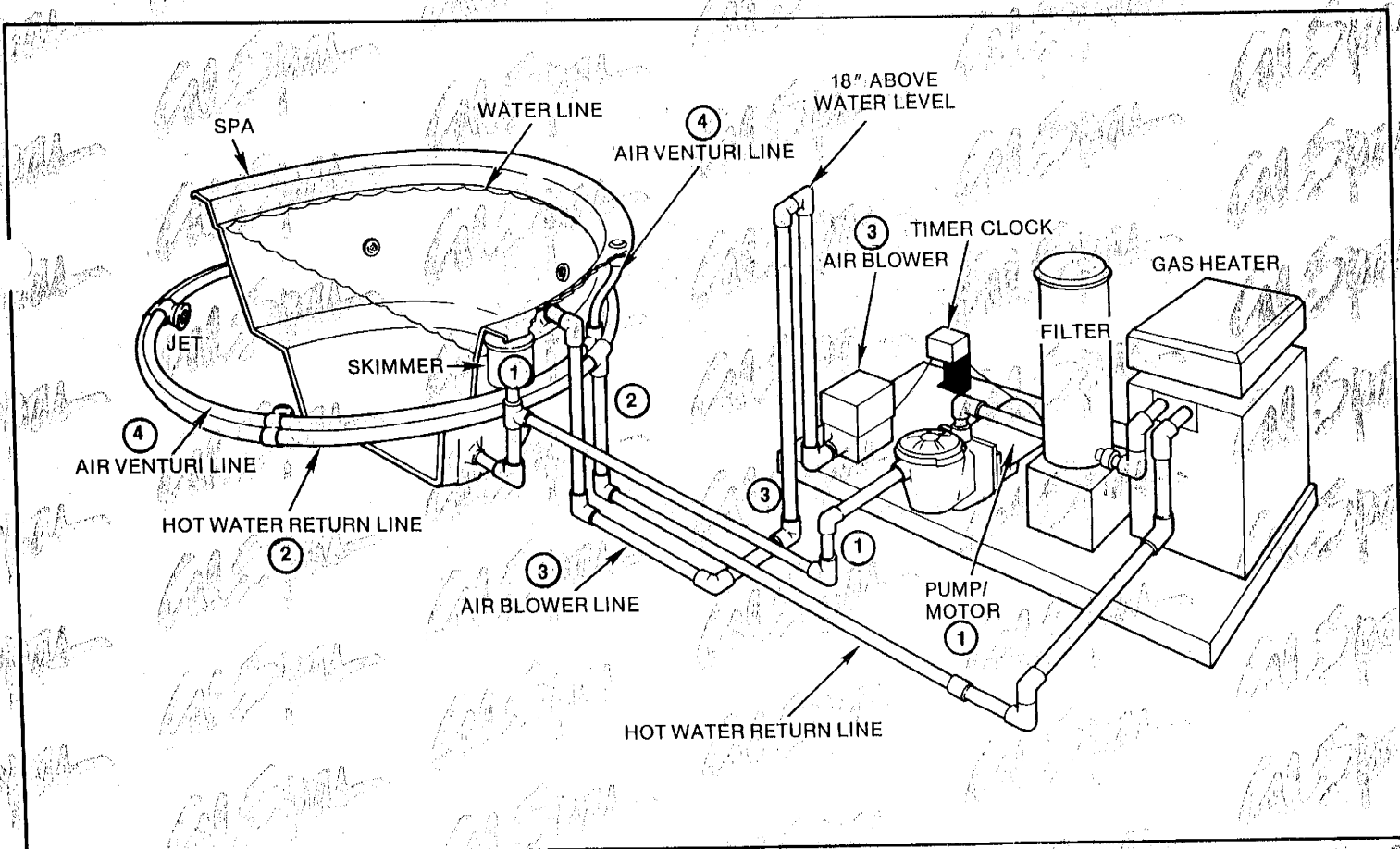
- SPA MUST SET ON A SOLID BASE.
- SPA AND LIP MUST SET ON A SOLID BASE.
- SUPPORTS MUST BE 12" MIN. O.C. ON STATS.
- LIPS MUST SET ON A SOLID SURFACE.

## PLUMBING (Continued)

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 1½ 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.



**USE NO ACID**  
Tri-Chlor or Algecide Solutions  
They Ruin Acrylic Spas

# 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.

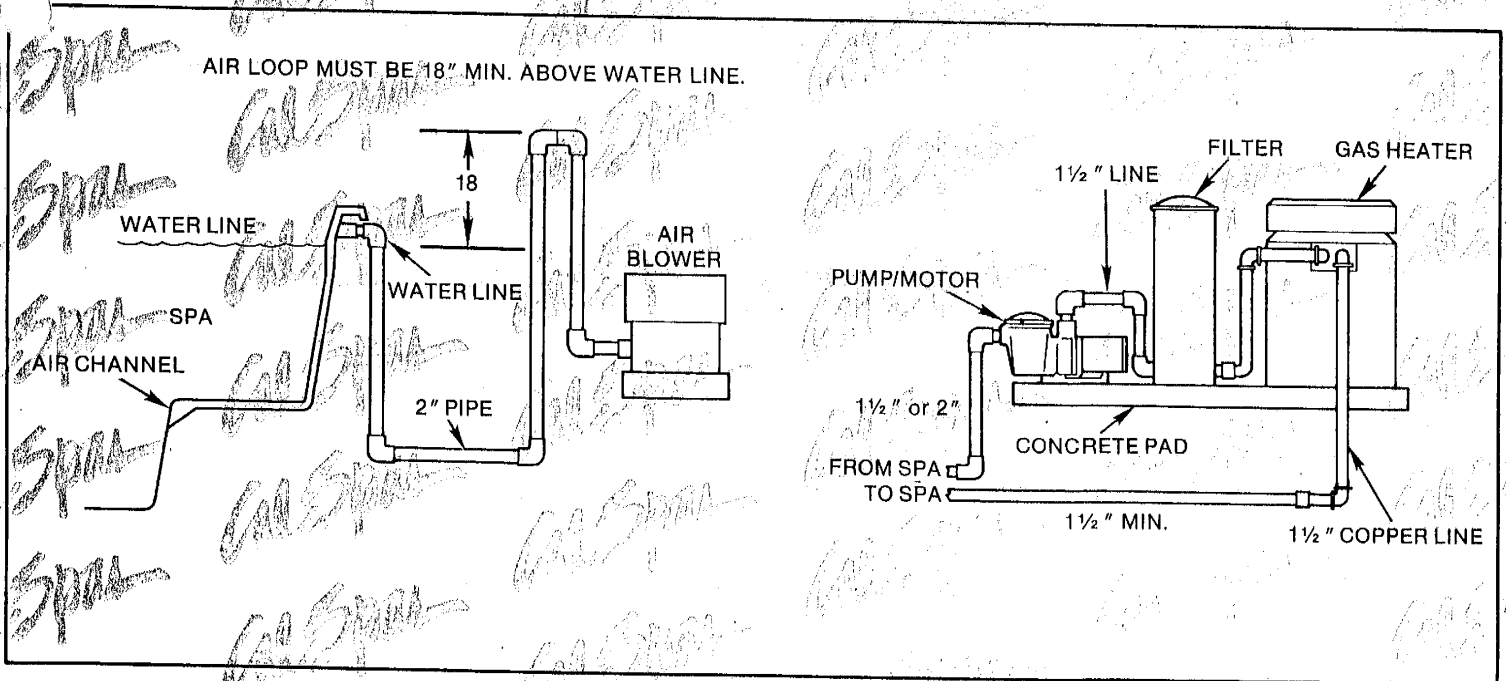
Carefully lower spa into excavation centering on the mound of sand. With a downward force and slightly rotating back and forth, work spa into measured level. Pack sand around main drain and under bottom of spa, leaving no voids.

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 leaks. Backfill sand around the plumbing of the spa until spa has been completely hooked to the equipment and run to check for possible leaks.

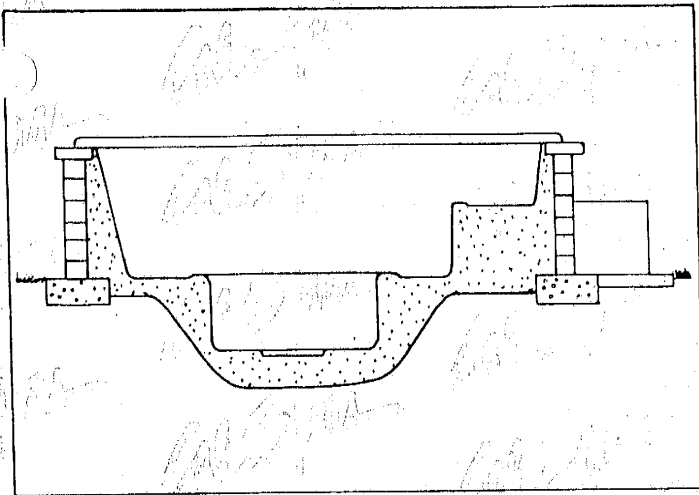
For equipment hook-up, refer to diagrams in this manual.



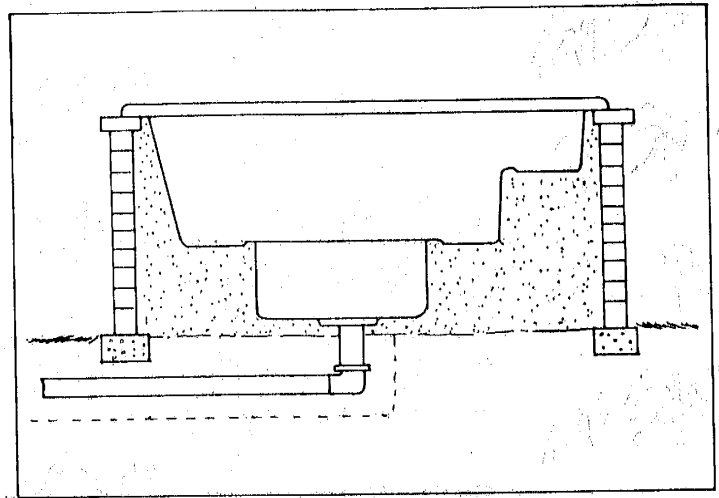
## WARNING

Do Not Exceed 104°  
Excessive Temperature Voids Warranty

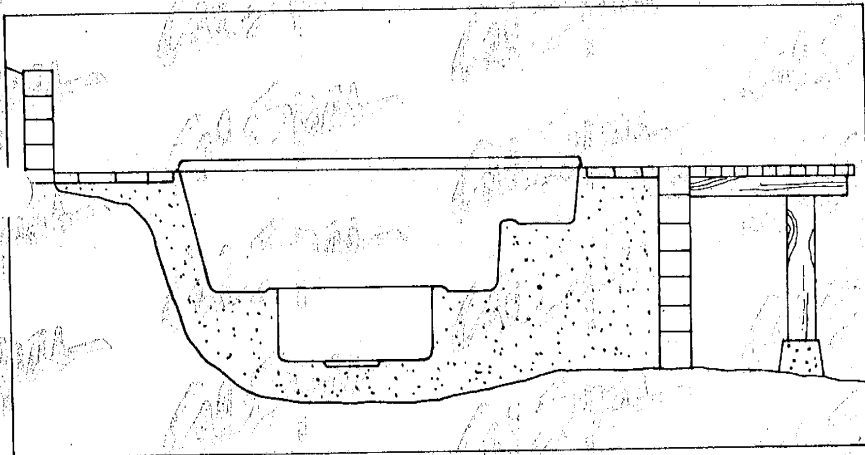
# INSTALLATION TECHNIQUES



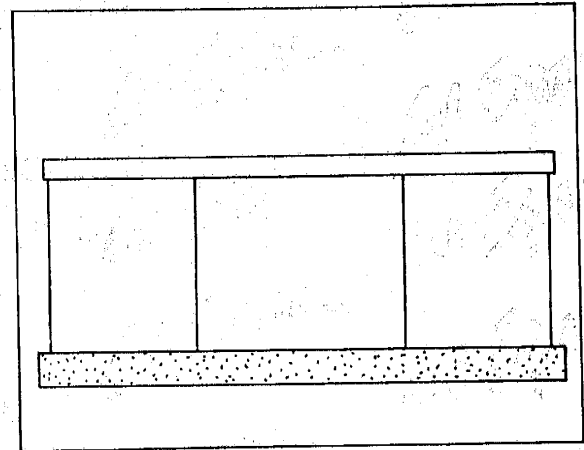
Left: Excavation for partially above-ground spa will depend on how deep you want to set it. In this example excavation is required for the footwell area of the spa and for concrete footings for retainer walls.



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.



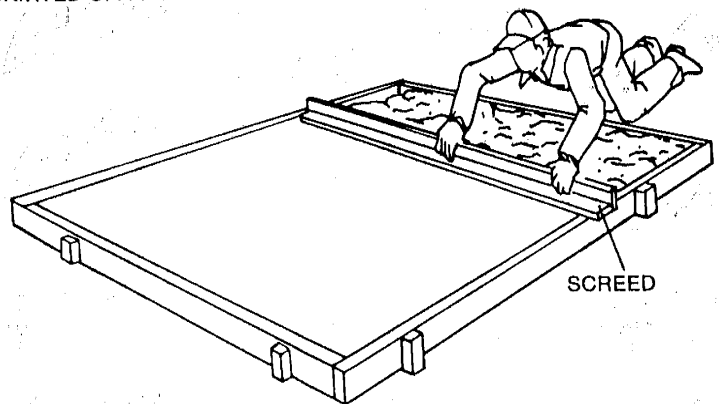
Hillside tub must have a retainer wall on uphill side only. This installation requires a minimum of decking. Deck should have safety railing.

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.

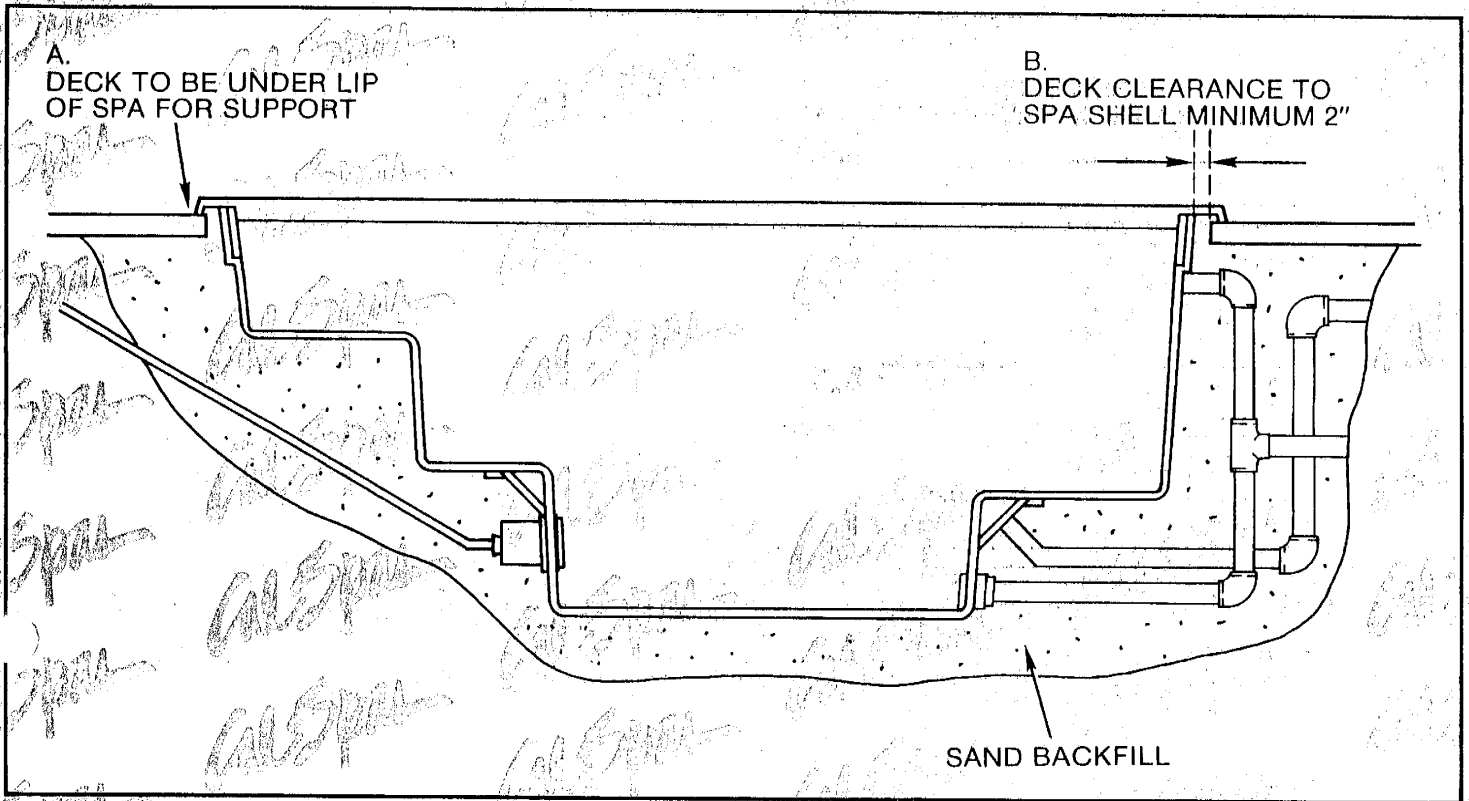
Level concrete with a screed built from 1x4s as shown. Pull the screed toward you with a side-topside zigzag motion. When concrete is leveled, smooth out with a large mason's float. Allow concrete to cure at least two days before setting tub.

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.



## USE NO ACID

Tri-Chlor or Algecide Solutions  
They Ruin Acrylic Spas

**Equipment Warranty  
Limited Warranty**

CAL SPAS (seller), warrants each of the designated pumps, filters, heaters, air blowers and Cal control boxes against defects in materials and workmanship for a period of one year from the date of original purchase. If any component fails to perform in normal use during the warranty period, the parts that prove to be defective will either be repaired or replaced at Seller's option. The right is reserved by the Seller to replace the whole product in lieu thereof. The Seller will warrant the replacement or repair for only the unexpired portion of the original warranty. Should repair become necessary during the warranty period, return the component, postage or freight, prepaid, to the Seller's factory.

**EXCLUSIONS.** This contract does not cover services made necessary as a result of fire, theft, vandalism, acts of God, accidental damage, abuse, neglect (dirt or lack of routine recommended maintenance), unauthorized alterations, or any other cause originating outside the product(s) covered, including failures or inadequacies in customer's water, gas, or electric supply. Also excluded from coverage are all parts exterior to the equipment pak including but not limited to the plumbing.

**IMPORTANT.** CAL SPAS warrants its products against defective materials and workmanship, not against failure due to improper installation techniques. It is the responsibility of the purchaser to assure that those installing this equipment are well trained in correct and proper installation techniques.

**SERVICE AND/OR REPAIR.** Should your equipment require service following the warranty period, or should it require service and/or repair for non-warranty failure, return it to the factory, freight prepaid. In writing, indicate the problem you are experiencing with your component. A reasonable charge will be made for labor and material, if any.

ALL LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, TIME CHARGES OR ANY OTHER LOSSES INCURRED IN CONNECTION WITH THE PURCHASE, INSTALLATION, REPLACEMENT OR REPAIR OF THE SELLER'S PRODUCT IS DISCLAIMED AND EXCLUDED HEREFROM.

**ASSIGNMENT.** This contract is personal to and for the sole benefit of the original purchaser at the original site of purchase and, except with the consent in writing of California Acrylic Industries, Inc., is not assignable.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**HOMEOWNER - COMPLETE AND RETAIN FOR YOUR RECORDS**

EQUIPMENT MODEL # \_\_\_\_\_ SERIAL # \_\_\_\_\_  
DATE OF PURCHASE \_\_\_\_\_  
BUILDER/DEALER \_\_\_\_\_  
HOMEOWNER'S NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
TELEPHONE # ( ) \_\_\_\_\_ DATE OF START UP \_\_\_\_\_

**The World's Largest  
Spa Manufacturer**

**CalSpa**  
A DIVISION OF CALIFORNIA ACRYLIC INDUSTRIES, INC.

**California Acrylic Industries, Inc.**  
1462 E. Ninth St., Pomona, CA 91766  
(714) 623-8781

CALIFORNIA ACRYLIC INDUSTRIES, INC.

LIMITED WARRANTY

THIS IS TO CERTIFY that the portable in-ground SPA, MODEL \_\_\_\_\_,  
SERIAL NUMBER \_\_\_\_\_, is hereby registered to:

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CITY: \_\_\_\_\_  
STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_  
TELEPHONE: ( ) \_\_\_\_\_

and is warranted to be free of all defects in material and workmanship for the following periods from this date of registration, the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_, TO THE ORIGINAL PURCHASER AND THE ORIGINAL PURCHASER ONLY AT THE ORIGINAL SITE OF DELIVERY:

**FIVE (5) YEARS:** The spa shell, excluding its finish and factory installed accessories and pre-plumbing. In the event of a defect in material and/or workmanship within the said period, the spa shell shall be repaired or replaced, at the option of the manufacturer, and shall assume as its warranty period only the remaining time under this original five (5) year warranty.

**ONE (1) YEAR:** The acrylic finish applied to the interior surface of the spa shell. In the event of a defect in material and/or workmanship within said period, the spa finish shall be repaired or replaced, at the option of the manufacturer, and shall assume as its warranty period only the remaining time under this original one (1) year warranty.

**THREE (3) MONTH:** Pre-plumbing and factory installed accessories, including air jets, skimmer, suction fittings, tile, air-switch, and skirting. In the event of a defect in material and/or workmanship within said period, the defective item shall be repaired or replaced, at the option of the manufacturer, and shall assume as its warranty period only the remaining time under this original three (3) month warranty.

**EQUIPMENT:** Any and all equipment sold in conjunction with the above identified spa is excluded from this Limited Warranty. All such equipment, if expressly warranted, is in accordance with its manufacturer's warranty, a copy of which is provided with each piece of equipment sold herewith. Buyer is instructed to comply with and follow the instructions contained in said warranties for service in the event of a claimed defect.

**THIS WARRANTY DOES NOT APPLY** to any defects caused by negligence, misuse, accidents or intentional vandalism. Examples of the more common act of negligence which will invalidate this warranty is (1) the use of acid or acid products in said spa. **NO ACID OR ACID PRODUCT MAY BE UTILIZED IN THIS SPA.** Please refer to your owner's manual for instructions on properly maintaining the required chemical balance; (2) failure to adequately protect your spa from the extremes in temperature; spa covers and other accessories are available to assist you in this regard; and (3) improper installation by Buyer's who either install or personally arrange installation of their spa. **AS SPECIFIED IN YOUR OWNER'S MANUAL, YOUR SPA MUST BE INSTALLED ON A LEVEL SURFACE, IF PORTABLE, OR ADEQUATELY BACKFILLED WITH SAND IF INSTALLED IN-GROUND.** Failure to follow these simple precautions will result in excessive stress in areas of your spa with resulting cracking.

Within the above specified periods, **CALIFORNIA ACRYLIC INDUSTRIES, INC.** is obliged to repair or replace any specified part proving defective in material and/or workmanship. Buyer is instructed to contact directly the Dealer from whom he or she had purchased the spa who will arrange warranty service. **IN THE EVENT THE BUYER SHOULD BE UNABLE, FOR ANY REASON, TO EITHER OBTAIN SUCH SERVICE OR OBTAIN SATISFACTORY SERVICE, HE OR SHE IS INSTRUCTED TO CONTACT MANUFACTURER'S SERVICE CENTER, CUSTOMER SERVICE DEPARTMENT, LOCATED AT 1462 9TH STREET, POMONA, CALIFORNIA 91766, TELEPHONE: (714) 623-8781, WHICH WILL IMMEDIATELY TAKE STEPS TO PROVIDE ALL SERVICE TO WHICH BUYER MAY BE ENTITLED UNDER THIS WARRANTY.** All expenses related to replacing or repairing a defective spa, finish, or part under this warranty shall be assumed by the manufacturer, **EXCEPT THAT BUYER SHALL ASSUME AND BE RESPONSIBLE FOR ANY AND ALL EXPENSES INCURRED IN TRANSPORTATION COSTS, OR IN OBTAINING ACCESS TO SAID SPA, FINISH OR PART FOR ITS REPAIR OR REMOVAL AND/OR REPLACEMENT.**

**BUYER MUST NOTIFY** manufacturer of any defect, malfunction, or nonconformity promptly upon discovery. Notification by Buyer to his or her selling Dealer will satisfy this requirement. Within **TWENTY (20)** days after giving notice to said Dealer, Dealer will commence and diligently pursue warranty service to completion or Buyer is advised to contact manufacturer as specified hereinabove.

Manufacturer neither assumes nor authorizes any Dealer or other representative or person to assume for it any other liability in connection with the sale or shipment of the above specified products. Manufacturer reserves the right to make changes or improvements in our products without incurring any obligation to similarly alter products previously purchased.

**THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.** The Buyer has the right to bring any action at law or equity to resolve disputes concerning or to enforce the provisions of this warranty.

CALIFORNIA ACRYLIC  
INDUSTRIES, INC.  
1462 East Ninth St.  
Pomona, CA 91766  
(714) 623-8781

EFFECTIVE DATE: 10/1/87



Happiness is  
a Warm Spa  
by

# Cal Spa

A DIVISION OF CALIFORNIA AQUATIC INDUSTRIES, INC.  
1462 E. Ninth St. • Pomona, California 91766  
Corporate Office (714) 623-8781

## Owners Information

Dealer \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Installer \_\_\_\_\_

Company \_\_\_\_\_

Lic. # \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Spa # \_\_\_\_\_

Equipment Pak # \_\_\_\_\_

Date of Delivery: \_\_\_\_\_

\_\_\_\_\_  
Signature of Sales Representative