PACIFIC COAST SPA INSTALLATION, USE & CARE

MANUAL

GENERAL INSTRUCTIONS FOR INSTALLATIOND AND USAGE FOR FOLLOWING PRODUCTS:

MANHATTAN, CARMEL, MONTEREY, DANA, LAGUNA, VENICE, CATALINA, CLEMENTE & MALIBU



DEAR CUSTOMER

Thank you for choosing Pacific Coast outdoor SPA. Our mission is to make most relaxing SPA's in the world and we hope you will enjoy every minute in our SPA.

NOTE

Because different control systems have different features and options, this booklet is not intended to give specific details of the control system that is in your spa.

For specific instructions on how to operate and program your spa and its control system, please refer to the applicable control operation manual that was included with your spa.

LIMITED WARRANTY

Pacific Coast SPA makes the following warranties to the original buyer of a Pacific Coast SPA starting on the day of the original purchase.

STRUCTURE WARRANTY

For a period of 10 years, starting on the day of the original purchase the spa is structurally sound. For the purpose of this warranty: Structurally sound means the spa will hold water.

SURFACE WARRANTY

For a period of 5 year the spa's interior surface is defect free. A DEFECT FREE surface means the spa's interior surface will not crack, blister or delaminate.

EQUIPMENT & PLUMBING WARRANTY.

For a period of 2 year, Pacific Coast SPA warrants that the spa's electrical equipment, electronic and mechanical controls and the plumbing are free from defects in materials and workmanship.

EXCLUSIONS: The Limited Warranties described above are void if the spa has been improperly installed, altered, or subjected to improper use, abuse, neglect, water chemistry imbalance, or if the spa is not maintained in accordance with the user's manual. These warranties are void if persons other than Pacific Coast SPA or its representatives attempt repair, or if defects are caused by accidents or any causes that are beyond the control of Pacific Coast SPA or its representatives.

LIMITATIONS: The above Warranties are the only warranties provided by Pacific Coast SPA to the exclusion of all other warranties expressed or implied, in fact or at law. No other party, including dealers, distributors, factory representatives or service companies, are authorized to modify this warranty, its terms or limitations. Pacific Coast SPA does not make any warranties of merchantability or fitness for any particular purpose. Pacific Coast SPA shall not be held liable for any personal or property damage(s) whether direct, indirect, incidental or consequential, arising from the use or misuse of the spa even if Pacific Coast SPA was advised of the possibility of such damage. Pacific Coast SPA's liability shall be limited to the wholesale amount originally paid for the spa. Pacific Coast SPA shall not be held liable for products or services not manufactured or provided by Pacific Coast SPA such as but not limited to spa covers, gazebos, construction or landscaping.

IN THE EVENT OF A CLAIM: Notify Pacific Coast SPA or your authorized Pacific Coast SPA dealer as soon as practical. Use all reasonable means to prevent further damage to the spa. Pacific Coast SPA and / or its representatives will correct the defect as soon as practical subject to the limitations of the above warranties. Under certain conditions you may be requested to pay a serviceman's mileage and / or a service fee. Pacific Coast SPA at its sole discretion may decide that spa repairs are impractical, and will replace the defective spa with another one of equal value. The cost of transportation, removal of the defective spa and installation of the replacement spa will be the owner's responsibility.

This Warranty gives you specific legal right, and you may also have other rights, which vary from state to state. Some states do not allow the exclusion of limitation of consequential damages. So the above limitations may not apply to you.

IMPORTAN SAFETY INSTRUCTIONS

It is the spa owner's responsibility to read and follow all the instructions and precautions described in this manual. Failure to do so may result in personal injury. Liability rests with the spa owner.

Before operating your spa, read and follow all instructions.

Make these instructions available for reference by other spa users.

Save these instructions.

ENJOY USING YOUR SPA!

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HEALTH SAFETY PRECAUTIONS

- Before using your spa you should check water temperature with a thermometer that is known to be accurate. Never use a spa with water temperature higher than 40 C as this is considered the maximum safe temperature for healthy adults and only for short periods - 15 to 20 minutes at a time. You may remain immersed in water for a longer period of time provided water temperature should be lower than 37 C which is approximately normal body temperature.
- 2. Alcohol consumption before or during spa usage should be totally avoided: it can cause spa users to lose consciousness and drown.
- Individuals using prescription medication(s) should check with their physician before using the spa. Certain medications may result in complications when used in conjunction with a spa.
- Individuals suffering cardiac medical conditions such as heart disease, blood pressure and circulatory system problems or diabetes should check with a physician before using the spa.
- 5. Pregnant women can use the spa at temperatures below 38 C. Higher water temperature may cause injury to the unborn child.
- 6. Hyperthermia (heat stroke) is a dangerous condition brought about by excessive heat. It especially affects the very young, the elderly, and individuals under the influence of alcohol or drugs, and those who are on certain medications. The symptoms of hyperthermia are: sweating, dizziness, nausea, faintness, convulsions, increased pulse rate and shallow breathing and in the extreme unconsciousness. If you suspect hyperthermia, immediately get medical help, lay the victim on the back, with the head slightly elevated for easier breathing, cover the body with a blanket and apply ice packs to the head.
- Emergency telephone numbers, such as a hospital, a physician, an ambulance, the paramedics and the police should be readily available and posted next to a close-by telephone.

PERSONAL SAFETY PRECAUTIONS

- 1. Please use the spa when others are present.
- 2. Children should use the spa only with adult supervision.
- 3. Children should have spa access only with the permission and supervision of an adult.
- To reduce the risk of child drowning keep the spa filter clean and unclogged. Do not remove the cover(s) of the main drain(s). Do not modify the suction or the filtration systems.
- 5. Spa surfaces are made of smooth materials and with water they become slippery. Exercise caution when entering or leaving the spa. When moving or changing positions be sure of your footing before applying your full weight as water refraction can be misleading.
- 6. Do not stay in the spa for extended periods of time. Set a reasonable time limit after which leave the spa, cool down, take a shower, relax, then return for another stay in the spa.
- 7. Test the GFCI before using your spa. The GFCI is located either on the spa control box or in the electrical panel. To test the GFCI push the TEST button and all power is disconnected from the spa, and the spa should stop operating. Push the RESET button and power will be applied. If the interrupter does not perform in this manner, then it is either defective or a ground current is flowing indicating the possibility of electric shock. Disconnect the power and do not use the spa until the fault has been identified and corrected.
- 8. Do not permit any electric appliance, such as a light, telephone, radio or television, within 5 feet (1.5meters) from your spa.

INSTALLATION SAFETY

- The spa must be installed on a concrete pad that is at least 10 cm thick. In order to prevent flooding of the electrical equipment, the pad must be such that water will drain away from the spa.
- 2. The spa must be installed at least 1,5 m away from any metal surfaces. Alternately all metal surfaces within 1,5 m from the spa must be permanently ground connected to the spa equipment control box housing. Use an 8 AWG solid wire and attach it to a grounding lug provided on the equipment control box housing.
- 3. Only a licensed electrician may install power to the spa.
- 4. Spa power supply installation must include a properly rated circuit breaker, as per label on spa's control box enclosure. When tripped, the breaker must open all current carrying lines. It must be labeled and easily accessible to spa users.
- Power supply lines must be hard wired into the spa's control box enclosure. The use of extension or plug type cords of any kind is dangerous and voids the warranty.
- Supply lines must be properly sized as regulated in law. A ground line must be provided that is as large as the largest current carrying conductor, but no less than solid 8 AWG.

SPA INSTALLATION CONSIDERATIONS

The spa should be installed on a concrete pad that is at least 10 cm in thickness. The concrete should be sloping enough to permit water drainage away from the spa and its electrical components. If you chose to put your spa on wood decking, the decking must be strong enough to support the combined weight of the spa, the water and the individuals in the spa. A 5-person 1500 L spa weighs approximately 2300 kg. When locating and installing your spa, make sure that the equipment compartment is easily accessible for maintenance.

Outdoor Location.

If you install your spa outdoors, consider the following:

- 1. Walking areas around the spa and the path to it should be free of dirt, sand and other debris you don't want in the spa
- 2. The spa should not be installed close to, or under trees. Tree leaves and birds are detrimental to spa cleanliness.
- 3. A spa sheltered from weather factors is less expensive to maintain and operate.
- 4. Thoughtful location of your spa can enhance your privacy safety and security and add to your enjoyment of your spa.

Indoor Location

If you install your spa indoors extra ventilation is needed, to remove extra humidity rising from SPA.

ELECTRICAL CONNECTION INSTRUCTIONS

NOTICE : All spa electrical wiring must be performed by a qualified licensed electrician and must meet all state and local codes and requirements.

- 1. The lines carrying power to the spa must be dedicated to the spa and should not be shared with any other appliance(s).
- All electrical wiring lines must originate from the electrical panel and terminate, hard wired, into the electrical wiring compartment. The use of extension cords or plug type termination is expressly prohibited and voids the warranty.
- 3. Do not use aluminum wiring. **Use only copper wiring**.
- 4. For a 240 volt 4 wire system, connect Line1, Neutral and Ground wires as in # 6 above. The fourth wire is the Line2 wire (red) and it is connected to the lug labeled LINE2.

Note: When connecting power to a 3 lug terminal block inside the control box, **the center lug is always NEUTRAL**. Connecting a line wire to this lug other than neutral will result in damage to the controller and / or the spa pump(s).

BRANCH CIRCUIT BREAKER (FUSE) REQUIREMENTS

240 Volt, 4 Wire System - Line1, Line2, Neutral & Ground. 50 Amp 2 Pole Breaker

240 Volt, 3 Wire System - Line 1 , Line 2 & Ground 50 Amp 2 Pole Breaker

120 Volt, 3 Wire System - Line 1, Neutral & Ground20 Amp Single Pole Breaker

CAUTION

A new breaker (fuse) must be used for a new spa installation. Do not use an existing or used breaker.

SPA STARTUP DIRECTIONS

The following procedure should be followed on initial startup and whenever the spa is drained for maintenance. Read each step in its entirety before proceeding with that step.

1. Fill the spa with water

- a. Clear all debris from your spa.
- b. Using a garden hose, start filling the spa with water.
- c. **DO NOT** use water from a home water heater or softener.
- d. As water level rises, check inside equipment compartment for water leaks. It may be necessary to tighten loose unions and / or fittings.
- e. Make sure **SLIDE VALVES** atpump(s) and heater are open. (Fully extended position)
- f. Continue filling spa until water level is midway in the skimmer opening. All jets will be under water except neck & upper shoulder jets which will be above water level but are pointing downwards.

2. Apply power

- a. Rotate thermostat knob (if so equipped) counterclockwise to the lowest temperature setting.
- b. Apply power by turning on the spa-dedicated circuit breaker.
- c. Test the GFCI: push the TEST button and power is cut off. Push RESET and power is restored. If these do not seem to work STOP do not use your spa: there is no power, the GFCI is defective or the equipment is malfunctioning. Only a qualified person should do further inspection.
- Bleed the system. A certain amount of air is trapped in the lower plumbing. Trapped air causes poor performance and may cause heater failure. To bleed it
 - a. Run the jets pump in low speed.
 - b. Locate and loosen the heater output union a quarter turn.

c. After all the air has escaped, and when water starts dripping, hand-tighten the union.

4. Add startup chemicals

You should have an adequate supply of spa chemicals at hand. Please familiarize yourself with the necessary types and amounts of chemicals necessary to maintain your spa clean and healthful. Your spa dealer stocks the necessary chemicals and is usually a good source of information on chemicals and procedures.

The importance of chemical balance in the spa cannot be over emphasized. At this time you should apply the proper chemicals. Please refer to the instructions included with your chemical kit for the proper procedures, amounts and the correct sequence of chemicals to be added.

If your spa is equipped with a digital electronic system please skip to the section titled "Digital Systems".

5. Set Filtration Time Clock.

- a. Locate time clock on the front of the control box in the equipment compartment. Rotate clock dial CLOCKWISE only to set the correct time of day.
- b. Observe small tabs on the outer perimeter of the dial. Each set tab will filter for 15 minutes. Select the time of day when you need the spa to filter, observe the AM / PM markings, and set as many tabs as you wish. (Minimum recommended filtration is 2 hrs. / day).
- c. Locate the mode switch next to timer dial. Position the switch in the AUTO mode.

6. Set spa to heat

a. On the control panel, observe the ECONOMY light off.

- b. Turn off the JETS. Observe the jets indicator light off.
- c. Rotate thermostat knob clockwise so that pointer is in the vertical position. Do not at this time go all the way to maximum temperature.
- d. Rotate all air control valves to the OFF position.
- e. At this time the panel heater indicator light should be on, the red neon on the equipment box should also be on.

DIGITAL SYSTEMS

If your spa is equipped with a digital control system then it is already set for startup and default conditions and no further programming necessary.

Temperature Setting. To set the temperature on a digital system, press and hold the TEMP key (up arrow) for 2 seconds; the display will blink the previously selected temperature. Change the selection using the TEMP & TIME (up and down arrow) keys. When done push the SET key to lock in the selection. The control will revert to the previously set temperature if now keys are pressed for 1 minute.

Time Setting. Push on hold the TIME key for 2 seconds. The display will blink the current hours. Scroll up or down to the selected hour. Push SET. The minutes portion will blink. Set the minutes by scrolling up or down. Push the SET key to lock in the new time of day.

Digital controls have many programmable options and settings including preprogrammed filtration cycles. Please consult the control manual that was included with your spa for specific procedures to program other parameters and options including, split filtration cycles and no-operation silence cycle.

CHEMICALS & ADDITIVES

Water chemistry balance is extremely important in maintaining good water quality and the preservation of spa equipment. It is a simple task to maintain your spa chemistry in balance. It must be done on a regular basis. The 2 parameters that have to be maintained are the pH and chlorine content.

pH BALANCE : pH is a measure of water acidity. On a scale of 0 to 14, 7.6 is the ideal point of balance. A measure below 7.6 indicates that spa water is more acid. Such a condition results in corrosion to spa equipment metal components. Above 7.6 means that spa water is more alkaline. This causes salt deposits, and scaling in the equipment and in the spa. Both conditions are detrimental and can cause damage.

CHLORINE / BROMINE: One of these sanitizers must be used to remove bacteria and other organic matter from the spa. Low sanitizer causes water to turn green and unhealthful. A high level makes water smell pungent, irritate the eyes and the skin and can cause damage to the metal components of the spa equipment.

Do not use chlorine other than what is designated for spa use. Specifically do not use chlorine intended for pool use.

The booklet that came with your spa's chemical kit contains detailed procedures for maintaining spa chemistry. Your dealer stocks a variety of chemicals to maintain spa chemistry and can help you in the selection of the right chemicals and their methods of application.

A number of other additives are available to enhance spa usage. These include additives to remove dissolved metals, reduce foaming and sudsing, remove body oils, some make the water feel and smell better. Your dealer can help you select the right additives.

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Chlorine vs Bromine: Both these sanitizers if properly applied will maintain a sanitary spa. There are pros and cons on both sides, but the choice is up to the user. Please note these sanitizers are caustic, excessive dissolved amounts of which will cause damage to the spa equipment. It is therefore necessary to maintain the proper balance by periodic measurement of sanitizer content.

OZONE & OZONE GENERATORS

If your spa is equipped with an ozonator, you will have to set the spa to filter for at least 6 hours per day, preferably in 2 or 3 time periods. Please note that ozonators and chemical treatment are complimentary. Ozonators cannot totally eliminate the need of chemicals such as chlorine or bromine.

Ozone is a bactericide. The active component in an ozonator is the ultraviolet light bulb. When power is applied to the bulb, ozone is generated. A tube links the ozone compartment with one or more jets. When the these jets are activated, water movement within the jet creates a venture action that draws the ozone out of the ozone compartment, mixes it with the moving water purifying the water in the process.

The light bulb has a limited service life. Its production of ozone is degraded with use. Consult the manual of the ozonator's manufacturer to determine when the bulb should be replaced.

Ozone is harmful. Do not inhale ozone for an extended period of time.

Ultraviolet rays are harmful to human eyesight. Do not look directly at a burning ozone bulb.

SPA MAINTENANCE

Your spa is designed to give you many years of enjoyment. Care and regular maintenance of your spa are important to keep it beautiful and operating properly. Your spa dealer can supply you with chemicals, detergents and the necessary tools and products to maintain you spa.

SPA SURFACE CARE: Do not use abrasive solvents or cleaners to clean your spa as they dull the surface sheen. Do not use soaps or sudsy type detergents to clean your spa. Consult your dealer for the proper cleaners and detergents.

FILTER MAINTENANCE: Your spa may have 1 or 2 filter elements. To remove the filters, open the weir gate to the outside, slide the basket out with the horizontal flats in the vertical plane. When filters are removed from the spa make sure that no object fall into the filter cavity. They can cause obstruction to water movement.



Every 2 months, more often withheavy use, filter must be cleaned toget rid of objects and particles thatare lodged in the filter pleats. Using agarden hose with a pressurized nozzle push water from the inside to the outside of the filter pleats forcing all trapped particles out. If the filter is far too dirty to be cleaned as described above, obtain from your dealer filter cleaner material. Soak the filter overnight, then hose it down. Filters will last many years if properly maintained.

WOOD SKIRT MAINTENANCE: Wood skirting will have a tendency to fade and lose its like new appearance with time. About once every 6 months you should re-stain the spa's skirting. Lightly sand the skirting surfaces to remove any dirt and to smooth rough surfaces. Re-stain wood surfaces using factory approved stain. Do not use varnishes, shellacs or surface sealants. Contact your dealer to obtain an approved stain. (It is preferable to use the same stain as the one originally used.)

HYDROTHERAPY JETS: There are 3 types of hydrotherapy jets : Moving jets, Adjustable jets and Micro jets. Moving jets rotate in a circular or random pattern and are not adjustable either pressure or direction. Adjustable jets are directional and may be adjusted for optimum water pressures. Move the jet's nozzle to change direction. Rotate the face of the jet to increase or decrease water pressure. It is possible to completely shut off a jet. Please note that if you shut off enough jets in the spa pressure may build up in the plumbing to unsafe levels.

Micro jets are fixed; they are neither directional nor adjustable. They are usually installed to deliver therapy to specific areas of the body.

Moving and Adjustable jets are interchangeable. Your spa dealer will be happy to show you how to exchange these jets.

DRAINING YOUR SPA: Every 3 or 4 months or depending upon water condition, you need to renew spa water. To drain your spa, power must be disconnected at the circuit breaker. Within the equipment access compartment locate the drain faucet. Attach a garden hose to the faucet and then open it. Water will start draining. You may use it to water your garden.

The drain faucet will not remove all the water in the spa. You may have to remove a small amount of water by hand, using a towel or a plastic container so as not to scratch spa surfaces.

Once the spa is drained and dry, you may want to carry out other maintenance chores, such as surface cleaning and waxing.

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To refill your spa with water please refer to and follow the instructions describe in the SPA STARTUP DIRECTIONS section.

WINTERIZING & LONG TERM STORAGE: If you intend not to use your spa for an extended period of time, drain it as described above. You will also have to drain the pump(s) and the air channel.

To drain the pumps you need to disconnect 2 hoses attached to each pump. These hoses are attached using unions that are hand tight. Be sure to attach the hoses after you are done.

COMMONLY ASKED INSTALLATION QUESTIONS

Can I run the spa on 120 volts.?

No. All spas use 240 volt water pumps, as well as 240 volt heaters.

Can I do the electrical installation myself?

Yes if the work meets laws, regulations and local code. It is best to have a licensed electrician do the installation.

Do I need to pour a concrete slab for the spa?

A concrete slab is the best spa foundation. A spa can be installed on a deck designed for a load of 60 kg per square meter. A spa may not be set on dirt or gravel.

How often do I need to drain the spa?

Once every 4 months on the average. More often with heavier usage. Turn the power off. Attach a garden hose to the hose bib in the equipment compartment and let the spa drain. An immersion pump available at the Depot will drain the spa faster.

How often do I need to clean the filters?

On the average once a month the filters should be hosed off (from the inside out). Whenever the spa is drained, it is a good time to rinse the filters overnight in a solution of TSP (Tri Sodium Phosphate). The filters should be hosed off before re-use. A set of filters will last many years. It is a good idea to have a spare set for use alternately between cleanups.

What chemicals do I need to use and how often?

Chlorine (dichlor) or Bromine tablets to disinfect the water weekly or as needed. Anti foam to reduce foaming if necessary.

Demineralizer such as to remove minerals from the water. Brightener to eliminate cloudy water.

How often do I have to treat the cabinet?

About every 6 months the mahogany needs to be re-stained. The spa cabinet should not be subjected to routine soaking from water sprinklers.

CHEMICAL SAFETY TIPS

- Read all labels and instructions carefully prior to use.
- Never mix or combine chemicals.
- When mixing or combining chemicals always add chemicals to water, not water to chemicals.
- Always store chemicals in a cool, dry place.
- Store chemicals out of the reach of children.
- When not in use keep chemical containers tightly closed.
- Never inhale chemical fumes or allow contact chemicals to come in contact with your eyes, nose or mouth.
- Wash your hands thoroughly after handling chemicals.
- Use chemicals especially formulated for hot tubs & spas.
- Do not use chemicals formulated for pools they may damage your spa.
- Never drain chemically treated water on plants, lawns or in streams or lakes.
- Test your spa water weekly.
- Maintain the pH level at 7.2 to 7.5
- Maintain a sanitizer level of 3.0 to 5.0.

HOT WATER SAFETY TIPS

- Never use the spa at temperatures above 104F (40C).
- Do not drink alcoholic beverages while using the spa.
- If you are on medication, consult your physician before using the spa.
- Use the spa for 10 to 20 minutes at a time. Leave the spa to cool off for an equal amount of time.
- Do not submerse your head below water. The water in the spa may have high concentration level of chemicals.
- Pregnant women should consult their doctor before using the spa.
- Shower before and after using the spa.
- Children should never use the spa without adult supervision.
- When not in use keep the spa covered and locked.

ELECTRICAL INSTALLATION INSTRUCTIONS

A qualified, licensed electrician must perform all electrical wiring in order to meet laws and regulations.

- This unit is a "Permanently Connected Equipment Assembly with Pump(s), Heater, Blower and Control."
- The lines carrying power to the spa must be dedicated and should not be shared with other appliances. Use copper wiring only. Use # 6 AWG conductors.
- A pressure wire connector is provided on this unit to connect a minimum 8 AWG (8.4mm2) solid copper conductor between this unit and any metal equipment, metal enclosures of electrical equipment, metal pipe, or conduit within 5 feet (1.5m) of the unit
- The electrical supply for this unit must include a suitably rated GFCI/ CIRCUIT BREAKER to open all ungrounded supply conductors to comply with Section 422-20 of the National Electric Code.
- A quick disconnect marked OFF must be readily accessible to the tub occupant, installed at least 5 feet (1m) from the tub.
- All electrical wiring lines must originate from the main electrical panel and terminate, hard wired, into the electrical wiring compartment. The use of extension cords, or plug type termination is expressly prohibited and voids the warranty.
- Minimum supply conductor capacity must be 125 percent of the current rating stated on the ID label affixed to, equipment control enclosure.

BREAKER CAPACITY 50 AMPS 240V SINGLE PHASE

VOLTS	AMPS	HZ	PHASE	
240	41	60	1	
PERMANENTLY CONNECTED USE #6 AWG COPPER				
CONDUCTOR				

3-WIRE 220V CONNECTIONS + GROUND



240V