



Owner's Manual

260 N. Gilbert Road
Mesa, AZ 85203
(480) 969-4034
www.cameopools.com

Warranty and Service Department
Office (480) 355-1525
Fax (480) 969-0892
Email service@cameopools.com

Welcome to the Cameo Pools Family...

Congratulations on the purchase of your new *Cameo Pool*. We are confident that this new addition to your home will bring you years of enjoyment and relaxation. *Cameo Pools* has designed this manual to assist you in the care and maintenance of your new investment. As part of the Cameo family, our *in-house warranty and service department* is available to answer any questions that you may have or to assist you in any warranty issues that may arise. The *Cameo Pools website* as well as the *manufacturers' websites* are also great tools to ensure that your pool continues to be trouble-free, clean, and inviting.

On the following pages you will find valuable subjects covered such as a description of the *components of your pool*, a guide to the *maintenance of your pool equipment*, a *water chemistry* section, and a *trouble-shooting* guide. It is important to become familiar with this manual as well as the *glossary of terms* provided to help you understand the terminology commonly used in the pool industry.

Important maintenance for your pool that must be done immediately

When your pool is first filled with water, it is very important to brush the surface (floors, walls, steps, benches) as often as possible. We suggest 3 to 4 times a day for the first three days, 2 times a day for the next four days, and at least once a day for the next week. Dust storms are especially troublesome to the new pool and the pool should be brushed more frequently during the storm season. We also suggest that you run the filter continuously until the water is clear. Continuous filtration helps speed up the elimination of plaster dust on plaster pools.

It can actually take two to three months before the pool's surface can be considered cured. During this time, dirt can cement itself to the surface. Frequent brushing will prevent this. In addition, the brushing will further smooth and "polish" the surface of a plaster pool and help clear the plaster dust. **Important note: *Keeping the dirt brushed off the new pool surface is the pool owner's responsibility. Cleaning the surface once the dirt has cemented itself can be expensive and would be the financial responsibility of the home owner.***

Proper pool brushing is simple but thorough. Begin brushing with the brush at the tile line and then forcefully drive the brush downward along the pool walls and across the bottom of the pool in the direction of the main drains. Do not forget to brush all steps and benches as well.

Initial Chemical Testing

Cameo Pools also recommends that you take a one quart sample of your pool water, in a clean plastic container, to a nearby pool chemical supply dealer for a complete water analysis. Follow the dealer's instructions for adjusting pH, total alkalinity, and water stabilizing. It will be helpful to take along this manual with the swimming pool/spa data sheet completed so they can use this information to guide you in the application of chemical treatment. ***Chemical balance is one of the most important pool owner responsibilities and begins IMMEDIATELY.*** Improper chemical balance can result in costly repairs for a pool owner but can be avoided with minor routine maintenance.



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Pool and Spa Data Sheet

POOL DATA

Surface area _____ square feet Perimeter _____ lineal feet Volume _____ gallons

FILTER

Type _____
Make _____
Model _____

Operating Pressure _____ psi
Backwash Pressure _____ psi

PUMP

Horsepower _____
Make _____
Model _____

POOL CLEANER

Make _____
Model _____

CHLORINATOR

Make _____
Length _____

HEATER

Type _____
Make _____
Model _____

LIGHT

Model _____
Watts _____

SPA DATA

Surface area _____ square feet Perimeter _____ lineal feet Volume _____ gallons

FILTER

Type _____
Make _____
Model _____

Operating Pressure _____ psi
Backwash Pressure _____ psi

CIRULATING PUMP

Horsepower _____
Make _____
Model _____

LIGHT

Model _____
Watts _____

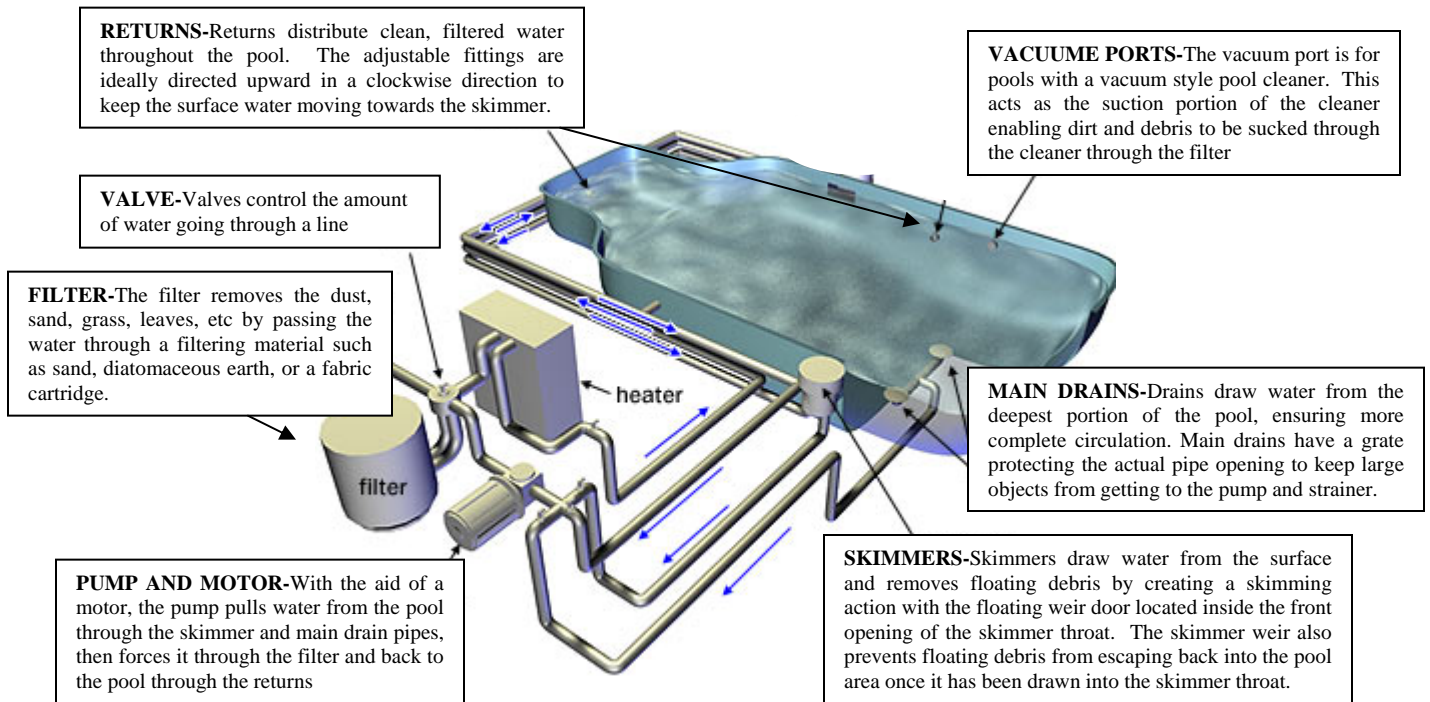
HEATER

Type _____
Make _____
BTU _____

THERAPY PUMP

Horsepower _____
Make _____
Model _____

Equipment Identification



An extensive explanation of this and other equipment on your pool is provided in the following pages including basic care and maintenance.



Operation and Maintenance of Equipment

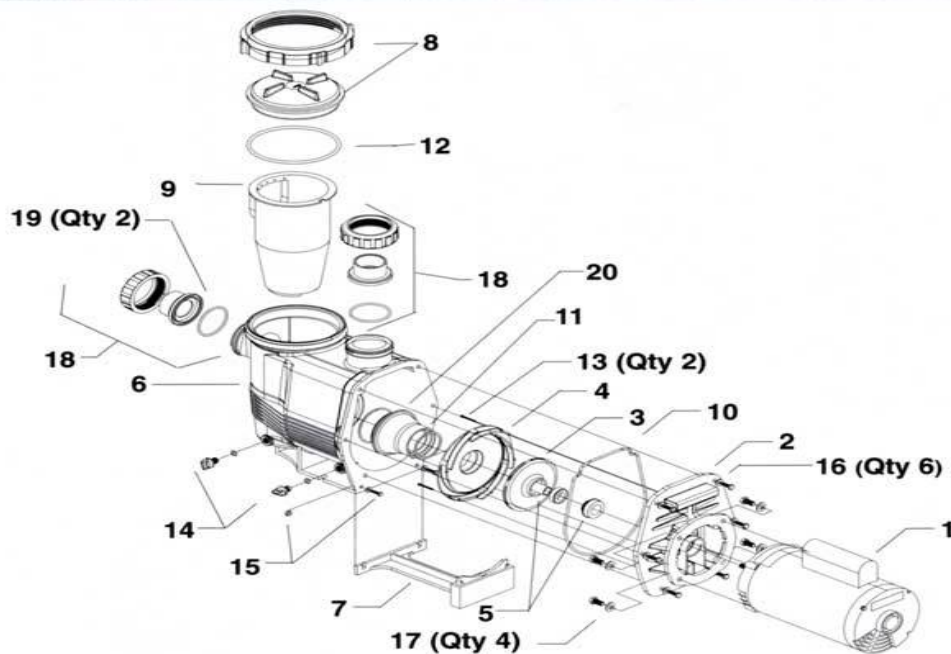
This manual is intended to cover general information and maintenance of the equipment that may be installed on your swimming pool and spa. For further details and information, please refer to the manufacturer's *Homeowner's Manual* for that specific piece of equipment. This manual is available through *Cameo Pools* or on the manufacturer's website. Additional equipment not covered can also be found in the manufacturer's *Homeowner's Manual* or through the *Cameo Pools* website at www.cameopools.com



Pump

To service the pump:

- 1-Turn off pump then remove pump lid
- 2-Empty basket and replace
- 3-Clean and lube the "o" rings with water repellent lubricant
- 4-Replace the lid and hand tighten
- 5-Turn the pump switch on
- 6-Release air from filter using the air relief valve. Leave valve open until a continuous stream of water flows from the valve opening, then close the valve.





Filter

There are three different types of filters that your pool may have. These are the *Cartridge Filter*, the *DE Filter*, and the *Sand Filter*. This manual will review all three filter types but you only need to worry about the type of filter that you have.

CARTRIDGE FILTER

For more detailed information, please refer to Operations Manual or link to the manual on line from www.cameopools.com

To Filter:

- 1-Turn on pump
- 2-Release the air from the filter using the air relief valve. Leave the valve open until a continuous stream of water flows from the valve opening, then close the valve.

To Clean:

- 1-Turn pump off
- 2-Open air relief valve on top of the filter; open the drain cap on the bottom of the filter.
- 3-CAUTION: The air relief valve should always be open before releasing any clamp on the filter system.
- 4-Loosen knob or bolt, then remove clamp assembly and remove lid
- 5-Remove the top plastic plate. This is the plastic plate the holds your cartridges in place.
- 6-Remove the cartridges for cleaning. Do this by lifting the cartridge upward.
- 7-The filter cartridge can be cleaned with a garden hose. Set nozzle for highest velocity and direct spray at proper angle to remove dirt and debris. The cartridge can also be soaked in a solution of TSP cleaner then rinsed thoroughly.
- 8-Install the clean cartridge filters back into the filter tank by placing each one into the bottom filter cartridge support.
- 9-Replace the top plastic plate.
- 10-Clean the tank o-ring
- 11-Position the tank o-ring and place the tank top on the filter. The tank top should rest on the o-ring evenly. Do not pinch the o-ring. *A leaking tank after cleaning is generally the o-ring pinched or the clamp band assembly not tightened enough.*
- 12-Replace the clamp band assembly with the bolt and/or knob and tighten completely.
- 13-Replace drain cap

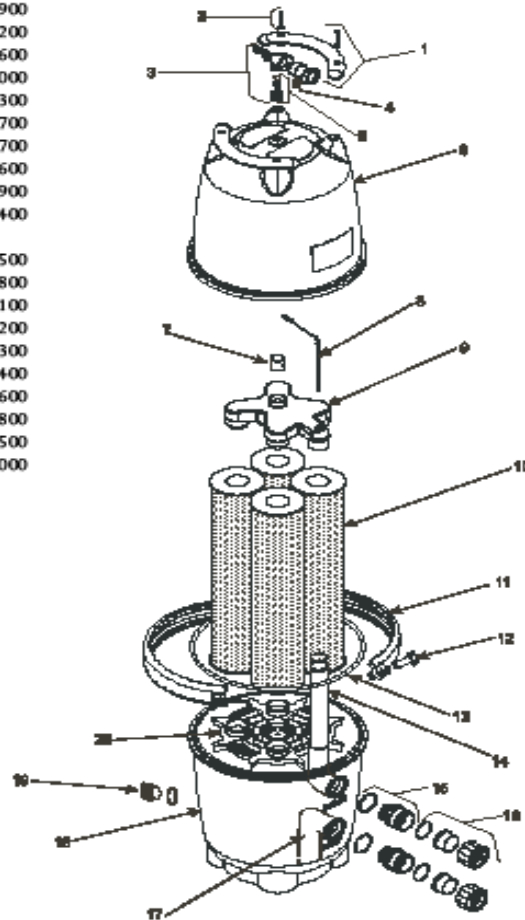
The filter is now ready for operation:

- 1-Turn your pump on.
- 2-Watch your tank for any water leaks. If any leaks are visible, turn your pump off immediately. Either the clamp is not tightened down all the way or the tank o-ring is not on straight. Correct the problem and proceed
- 3-As the pressure builds in your tank, you should begin to hear air escape from the top air relief valve. Keep this relief valve open until a continuous stream of water flows from the valve opening, then close the valve.

Jandy Cartridge Filter, CL580

Key No.	Description	Order Part No.
1	Handle Assembly w/hardware (set of 2)	R0357100
2	Handle Hardware (set of 4)	R0359900
3	Gauge/Air Release Assembly	R0357200
4	Pressure Gauge	R0359600
5	Tank Adapter w/O-ring	R0552000
6	Tank Top	R0357300
7	Top Spacer	R0357700
8	Breather Tube Assembly	R0358700
9	Manifold Assembly	R0357600
10	Filter Cartridge, 14.5 sq. ft. (4 required) ¹	R0357900
11	Tank Clamp Ring w/ Knob Assembly	R0357400
12	Clamp Ring Knob Assembly w/Threaded Rod and Retainer	R0357500
13	Tank O-ring	R0357800
14	Outlet Tube/Elbow Assembly w/O-rings	R0358100
15	Bulkhead Assembly w/O-ring	R0358200
16	Coupling Nuts w/Flange & O-ring (set of 2)	R0327300
17	Inlet Elbow w/O-ring	R0358400
18	Tank Bottom w/Drain Plug	R0358600
19	Drain Plug w/O-ring	R0358800
20	Filter Cartridge Support	R0358500
21	O-ring Replacement Kit (not shown)	R0358000
Installation/Operation Manual (not shown)		H0238700

Notes:
 1. CL580 requires four (4) 14.5 sq. ft. cartridges.



DE FILTER(Diatomaceous Earth)

For more detailed information, please refer to Operations Manual or link to the manual on line from www.cameopools.com

To Filter:

- 1-The backwash valve must be locked in the DOWN position. CAUTION: never shift valve handle while pump is running.
- 2-Turn on pump
- 3-Release the air from filter using the air relief valve. Leave valve open until a continuous stream of water flows from the valve opening, then close the valve.
- 4-Remove skimmer lid, mix recommended amount of DE in a bucket with some water, then pour into the skimmer. The DE will be drawn into the filter and deposited evenly upon the grid elements. Remember that it is always best to use less DE than to use too much in order to prevent “bridging” between grids.

MANUFACTURER'S RECOMMENDATION FOR DE QUANTITIES

36 Sq Ft Filter = 4 quarts
48 Sq Ft Filters = 5 quarts

60 Sq Ft Filters = 6 quarts
72 Sq Ft Filters = 8 quarts

To Backwash:

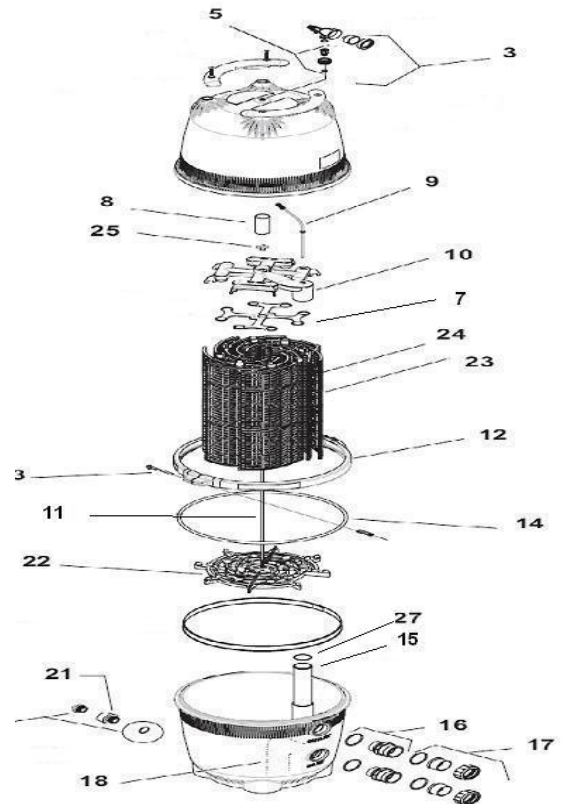
- 1-Shut off the pump and clean the debris from the pump and skimmer baskets.
- 2-Shift the handle to the backwash position (up) and lock
- 3-Start the pump. Let the filter backwash until the water appears clear out the backwash hose.
- 4-Shut off the pump
- 5-Shift valve handle to filter position (down) and lock
- 6-Turn pump on and let filter run for about two minutes.
- 7-Shut off the pump.
- 8-Shift the handle to the backwash position (up) and lock
- 9-Start the pump. Let the filter backwash, again, until the water appears clear out the backwash hose.
- 10-Shut off the pump.
- 11-Shift the handle to the filter position (down) and lock
- 12-Turn the pump on and open the air relief valve on the filter. Leave the valve open until there is a continuous stream of water coming from the valve, then close the valve.
- 13-Keeping the pump on, recharge with the recommended amount of DE (refer to step #4 under *to filter* in the above section in this manual).

MANUAL CLEANING OF THE DE FILTER

At least once a year, or when pressure is 4 to 6 pounds higher than normal after backwashing, the filter grid should be removed and cleaned. Backwash the filter before doing the following:

- 1-Turn pump off and open air relief valve. Make sure all pressure is removed
- 2-Loosen clamp nut(s) until the clamp can be removed. Remove tank top.
- 3-Lift entire grid assembly straight up off the upper piping assembly. Do not keep grid assembly in the sunlight more than two hours as this will shorten the life of the grid cloth.
- 4-Hose the grid elements thoroughly. Grid can be cleaned as a whole unit with a high pressure hose or placed in a large plastic container filled with warm detergent solution. Scrub grid cloth with soft brush. In cases where calcium deposits are evident, soak the assembly in 4 parts water to 1 part solution of muriatic acid for 20 to 30 minutes. Rinse clean and proceed with detergent scrubbing.
- 5-Inspect the grid cloth for tears and check both the small upper pipe "o" ring and the large tank seal for any nicks. Lubricate with a water repellent lubricant and clean "o" ring and tank seal seat areas. Any damaged components should be replaced.
- 6-Replace the grid assembly by setting the manifold opening directly over the connector pipe. Push down on the grid assembly to check to see that it is seated properly.
- 7- Position the tank seal o-ring and place tank top on the filter. The tank top should rest on the o-ring seal evenly.
- 8-Clean the inside of the tank clamp and replace. Tighten nut(s).
- 9-Turn pump on and release air from the filter by opening air relief valve. Leave the valve open until there is a continuous stream of water coming from the valve, then close.

- | | |
|------------------------------|-------------------------------|
| 3-Gauge/Air Release Assembly | 14-Tank O-ring |
| 5-Tank Adpt w/o-ring | 15-Elbow Assembly w/o-ring |
| 7-Top Spacer for DE Grid | 16-Bulhead Assembly |
| 8-Spacer | 17-Copling Nuts/Flange/O-ring |
| 9-Breathing Tube Assmby | 18-Inlet Elbow w/O-ring |
| 10-Manifold Assembly | 20-Drain Plug w/O-ring |
| 11-Tie Rod w/Knob | 21-Lg Tank Adapter w/O-ring |
| 12-Tank Clamp w/Knob | 22-DE Grid Support |
| 13-Clamp Ring Knob | 23/24-De Grids |
| | 25-Tie Rod Knob |
| | 27-Manifold O-ring |



SAND FILTER

For more detailed information, please refer to Operations Manual or link to the manual on line from www.cameopools.com

To Filter:

1-Backwash valve must be locked in the down or filtering position.

CATION: Never shift valve handle while pump is running.

2-Turn the pump on.

3-Release the air from filter using the air relief valve. Leave valve open until a continuous stream of water flows from the valve, then close the valve.

To Backwash:

Backwash the filter when reading on the pressure gauge reaches the psi reading for backwashing listed on your POOLS AND SPAS DATA SHEET.

1-Shut off pump and clean debris from pump and skimmer baskets.

2-Shift valve handle up to the backwash position and lock.

3-Start pump. Let the filter backwash until water appears clean through the transparent dome and the water runs clear out the backwash hose.

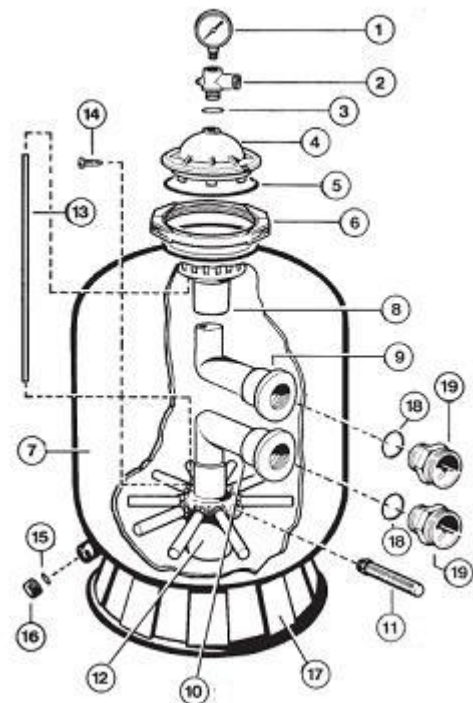
NOTE: Length of time to backwash will vary, depending on the degree of dirt built up in the filter

4-Turn pump off.

5-Shift valve handle down to the filter position and lock.

6-Turn pump on and release air from the filter by opening air relief valve. Leave the valve open until there is a continuous stream of water coming from the valve, then close the valve.

- | | |
|-------------------------|--------------------------|
| 1-Pressure Gauge | 10-Bottom Elbow Assembly |
| 2-Manual Air Relief Cap | 11-Lateral |
| 3-O-ring | 12-Lateral Holder |
| 4-Top Closure Dome | 13-Plastic Air Tube |
| 5-Valve/Tank O-ring | 14-Air Tube Lock Screw |
| 6-Flange Clamp (S310S) | 15-Drain Cap Gasket |
| 7-Filter Tank (S310S) | 16-Drain Cap with Gasket |
| 8-Top Diffuser | 17-Filter Support Stand |
| 9-Top Elbow Assembly | 18-O-ring |
| | 19-Bulkead Fitting |



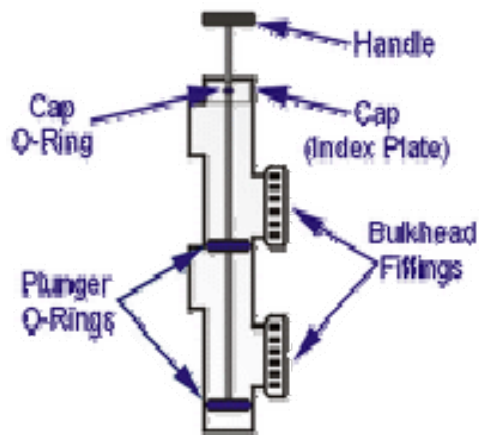


Backwash Valve

The backwash valve requires periodic lubricating with a water resistant lubricant, at least every three months. If the handle is hard to lift, it is time to disassemble and lubricate.

- 1-Turn off pump.
- 2-Pull up backwash valve handle and remove screws in the top
- 3-Pull up the shaft with twisting motion to remove
- 4-Lubricate the “o” rings.
- 5-Apply a small amount of lubricant to the shaft to lubricate the internal “o” rings.

Replace shaft and tighten screws in the top.

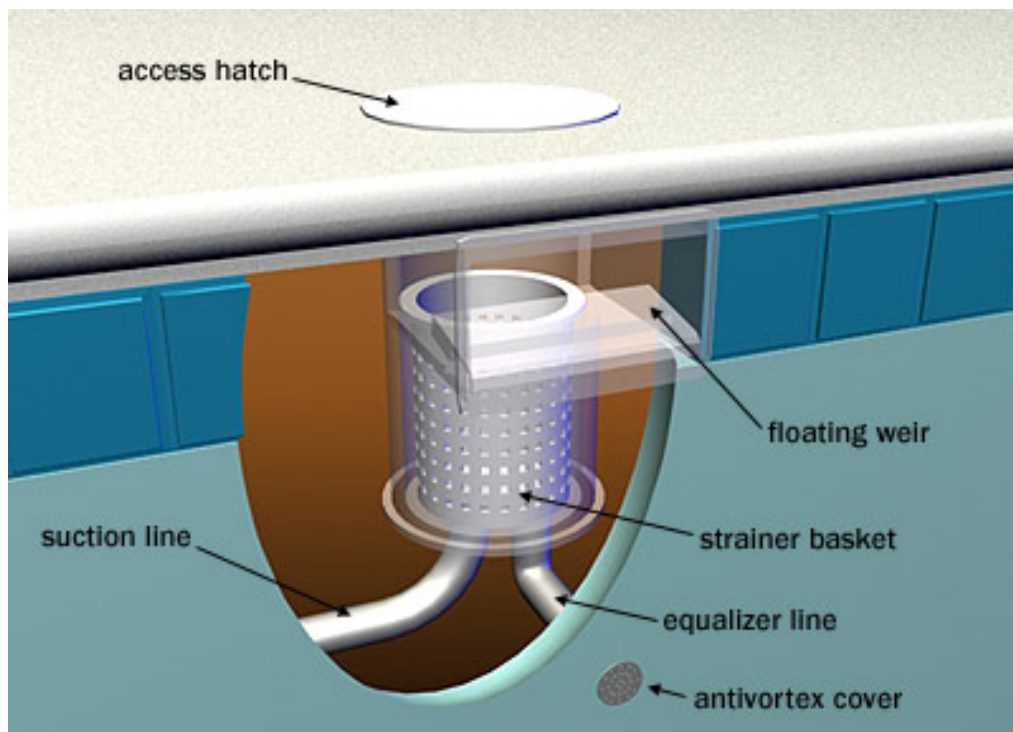




Skimmer

The skimmer draws water by sucking just the top portion of water, typically the top eighth of an inch. Any debris that floats-leaves, hair, oils, etc-leave the pool through the skimmer. The floating weir, the door at the inlet passageway, swings in and out to let a very small volume of water in at a time. To catch debris effectively, the goal is to skim just the surface level. The water flows through the strainer basket, which catches any large debris such as twigs and leaves. The strainer basket must be checked and emptied often in order to keep the surface of the pool clean and the operation of the system efficient.

To empty basket, remove lid or access hatch. Lift strainer basket out of skimmer compartment and empty. Replace strainer basket and replace access hatch.





Time Clock

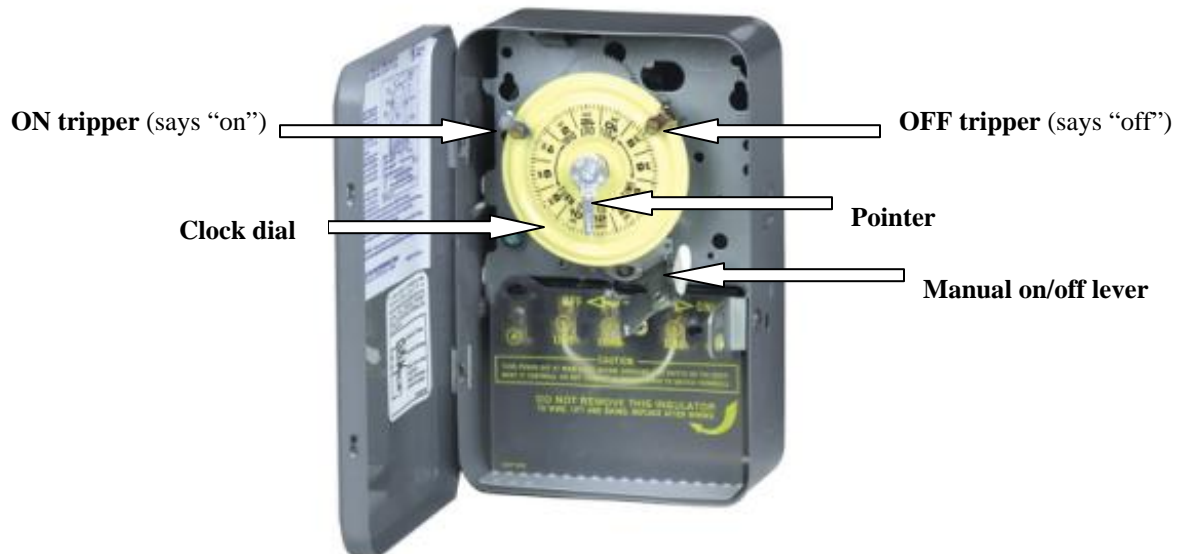
To set "ON/OFF" time:

- 1-Loosen small nut on trippers
- 2-Hold ON tripper all the way in against the edge of clock dial pointing to the time you want the pool equipment to turn *on*.
- 3-Tighten screw firmly
- 4-Hold OFF tripper all the way in against the edge of the clock dial pointing to the time you want the pool equipment to turn *off*. Tighten the screw firmly.

To set Time of Day:

- 1-Pull clock dial forward toward you.
- 2-Turn in either direction and align current time of day on the clock dial to the time on the pointer. **DO NOT** move pointer.
- 3-Release the clock dial

NOTE: The pump can be turned on or off manually by simply pushing the manual on-off lever.





Light

Brush the light frequently. Plaster dust, chemicals, etc. from your new pool or spa can accumulate on the chrome face ring and react, leaving an unsightly residue.

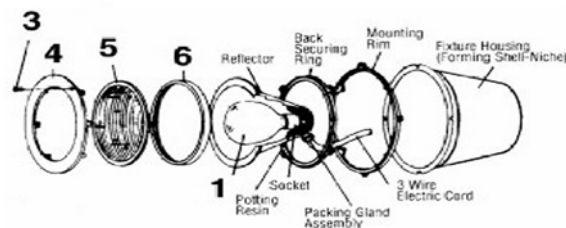
The light is equipped with a low water cutoff sensor, designed to keep the fixture from overheating. It sometimes needs to adjust to its new environment-if your light cycles on and off, turn the light on and give it about 12 hours to adjust itself. The cycling will stop. If your spa is hotter than 104 degrees, your light will go off. This indicates that the sensor is working.

To replace the light bulb:

(note: check the GFCI (see page 16) before changing your light bulb. If the GFCI is tripped, the light will not work. Hit the RESET button on the GFCI and test light)

- 1-Remove the pilot screw that attaches the light ring to the interior of the pool.
- 2-Tilt the top of the fixture forward, and lift up to remove from the pool wall.
- 3-Place the fixture on the deck
- 4-Remove the screw holding the unit tension wire, located behind the face ring. The wire sits in the extensions on the back side of the ring.
- 5-With the wire removed, remove the lens gasket and lens
- 6-Replace the bulb.
- 7-Reassemble the lens, gasket, and ring, utilizing the uni-tension wire as it was assembled prior to replacing the bulb.
- 8-Place fixture back into the light niche in the pool wall, with the top tilted forward so the fixture catches on the lip of the niche.
- 9-Replace and tighten pilot screw

IMPORTANT! Before you reassemble the fixture, make sure there are absolutely NO drops of water or any moisture whatsoever inside the lens. This can cause water vapor to build up inside and cause the lamp to overheat and burn out.



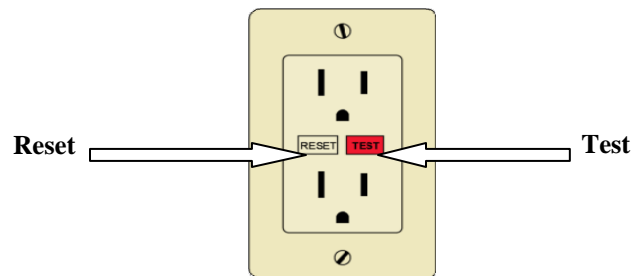


Ground Fault Circuit Interrupter (GFCI)

In conjunction with your light, there is a ground-fault circuit interrupter (GFCI), which limits the duration of any electrical fault current to the ground. This is an important safety device and should be tested on a monthly basis to assure it is working properly.

To test GFCI:

- 1-Turn the pool light on. The circuit must be “live” for the test to work.
- 2-Press the TEST button in. If the GFCI is functioning, the RESET button will pop out. If not, the GFCI is defective and a qualified serviceman should be contacted to replace it.
- 3-Press RESET button to reset the GFCI.

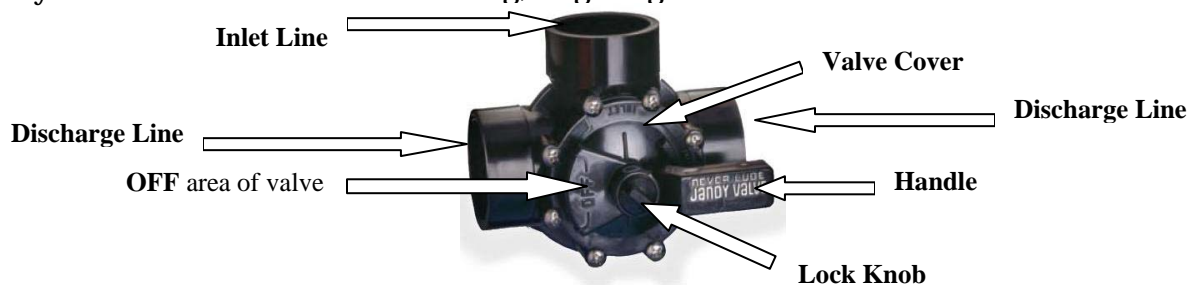


3-Way Valves

Three-way valves are used in situations that require the ability to control water flow and direction on two separate plumbing lines. Your three-way valve connects one inlet line and two discharge lines.

TO OPERATE

Loosen the **lock knob** to turn **handle**. The handle and **valve cover** have inter-locking teeth, so you must lift up slightly on the handle while turning to disengage. The **OFF** area on the valve handle represents the exact position of the internal valve diverter seal. This should be placed over the discharge pipe you want to close off. By closing off the line, you direct water to the other discharge pipe, thus controlling the operation of such things as spillway skimmers, cleaning systems, spas, etc. In the event that you want to increase or decrease the amount of water going through a pipe, adjust more or less as desired. When you have found the desired setting, finger tighten the lock knob to secure the handle.





Aerator

The aerator will be more effective as a water cooling aid if operating during the evening hours when air temperatures are lower. This also helps to keep evaporation loss to a minimum. Because the aerator utilizes the pool water, **it will operate only while the pool pump is on.**

TO OPERATE

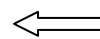
Turn ball valve: Left-*on* Right -*off*



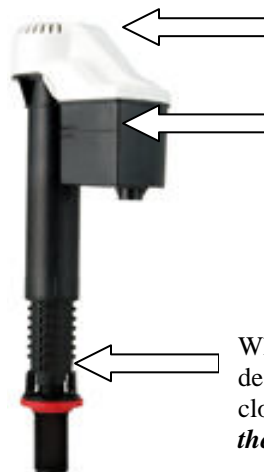
Automatic Water Leveler

If your pool or spa has been equipped with an automatic fresh water fill line, it has been adjusted to the desired water level at the initial start-up of the pool. Remember, it is necessary that you leave the valve for the water leveler (located at the hose bib) open to supply the water leveling device with a constant source of fresh water.

If your pool level is too high or too low, chances are you may have to adjust your water leveler. If your leveler is yellow and black, the directions are on the top of the leveler on which way to turn it to raise or lower the water level. Each click is $\frac{1}{4}$ inch. If your leveler has a white head, the directions are as follows: To raise the water level in your pool you need to raise the **head of the water leveler**. To lower the water level in your pool, you need to lower the **head of the water leveler**. The water will turn off when your pool water level reaches the **fill window indicator** on the water leveler itself. This is easily done by following the directions below:



Ball valve is attached to a pipe that will be labeled **aerator** at the equipment.



Grab the **head of water leveler**, turn counter-clockwise slightly to adjust up or down as needed.

Water fill window indicator – remember, water is designed to shut off when the water level reaches this window. This window should be adjusted to the height that you want the water to reach in the pool.

When water fill window is at the desired level, turn the leveler head clockwise to lock into **grooves on the shaft body**.



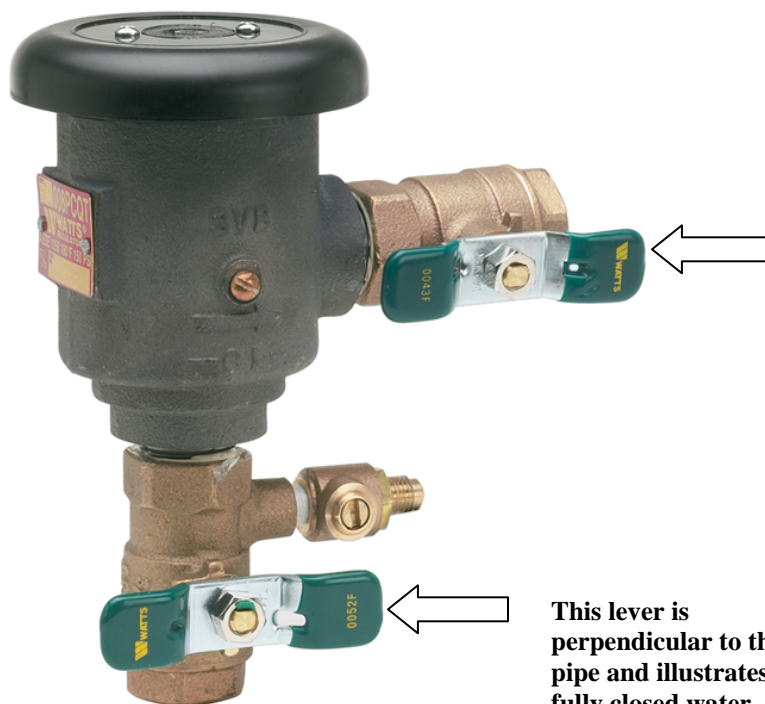
Vacuum Breaker

If your swimming pool or spa has come equipped with a fresh water fill line, there will be a vacuum breaker installed on the fresh water supply. The purpose of the vacuum breaker is to prevent back siphonage from the pool water or the fresh water supply. It consists of a single, spring loaded check valve and a spring loaded air vent. Under normal operating conditions, the check valve will open depending on the quantity of water flowing, and the poppet will seal the air vent. Under low pressure, the poppet will open the air vent, thus breaking the vacuum.

There is no necessary maintenance for the vacuum breaker and, in most cases, there should be no need to adjust the valves. In the event you need to control the flow, the *lower* valve (or lever) controls the *incoming fresh water* and the *upper* valve (or lever) controls water *flow to the fill line*.

If the vacuum breaker has levers in lieu of gate valves, remember that when the lever is in line with the pipe it is fully open. When the lever is perpendicular to the pipe, it is closed. Generally it is best when the incoming water supply line is fully open (lower valve) and the line to the pool is partially open (upper valve) .

Note that your particular situation may or may not have the gate valve plumbed in line after the upper valve.



This lever is in line with the pipe and illustrates a fully open water supply

This lever is perpendicular to the pipe and illustrates a fully closed water supply.



Air Blowers

Air blowers force air into the line, creating increased therapy action. If your pool or spa has come equipped with a blower, we recommend the running time to be limited to approximately 30 minutes for a spa and 20 minutes for “Fun Bubbles.”

Let the motor cool down 15 – 20 minutes before starting up again. Excessive use causes the motor to heat up; limiting the running time aids in protection against motor damage.



Therapies

Therapy heads are specially designed to allow air to be drawn in with the water through the wall fitting, creating the bubbling action that is found to be so relaxing to sore muscles. Occasionally, a small pebble or stone may find its way into the air line and end up lodged in the orifice of the therapy head, reducing or even eliminating flow. If this should happen, the orifice must be removed so that the debris can be removed. You will need a 12” socket wrench with an extension in order to get to the orifice. Place the socket over the orifice and turn counter clockwise a half turn. Once you have removed the orifice, let the pump run for a while to flush out any debris that was lodged in the pipe. Also, check the orifice for debris that may have wedged itself into the opening.



Heater/Heat Pump

For more detailed information, please refer to Operations Manual or link to the manual on line from www.cameopools.com

The specifics of running your heater or heat pump should be reviewed in your operation manual for your specific type of heater or heat pump. There are a few items that are universal for all heaters and heat pumps:

- 1-For safety reasons, the heater/heat pump will not work unless there is water running through the heater/heat pump. Many pools have a “by-pass” valve plumbed in by the heater or filter. When the by-pass valve is *ON*, it is “by-passing” the heater. This means that the water does not go through the heater. When the by-pass valve is *OFF*, it does not by-pass the heater and water is running through the heater. Therefore, the heater will only work if the by-pass valve is *OFF*, allowing water to run through the heater.
- 2-Chemical balance is *VERY* important to your equipment, especially heaters. If pH falls below 7.4, components in the heater will begin to corrode. If left, this acidic environment will begin to deteriorate internal parts of the heater, causing the heater to leak and creating discoloration of the pool water and interior finish of the pool. Always keep a close eye on chemical balance, especially the pH level.
- 3-If you have a gas heater, make sure the gas supply is *ON* for proper operation.



Cleaning Systems

There are several different cleaning systems that can be used on a swimming pool; this manual will briefly cover two of the most commonly used systems by *Cameo Pools*. One of them is a suction-side cleaning where a vacuum is used to suck in the dirt and debris as the vacuum travels around the floor of the pool. The other is a pressure cleaning system built into the floor of the pool called an in-floor cleaning system.



Polaris ATV Cleaner

The suction-side cleaning that is most commonly used by *Cameo Pools* is the *Polaris ATV*. This cleaner, through the aid of suction from the pool pump and motor, moves around the bottom of the swimming pool removing dirt and debris by sucking it through the bottom of the cleaner and into the filtration system. The pump basket (as well as other baskets that may be installed in-line with this cleaner) traps the larger debris while other dirt and small debris goes through the filter. The water is filtered and clean water is brought back to the pool through the returns on the wall of the pool.

OPERATION AND ROUTINE MAINTENANCE

The Polaris ATV cycles on/off with the pool filtration pump, vacuuming and cleaning all surfaces randomly throughout the pool. The climbing ability of the Polaris is dependent on the pool's shape and available water flow. It will climb better in pools without sharp angles or curves in the transition from the pool floor to the pool wall.

Approximately every 4 ½ minutes, the Polaris ATV completes one cleaning cycle. During a cycle, the Polaris travels both forward and backwards, and pivots to the right and left. The bypass door releases the cleaner from obstacles and the fan creates down force to increase cleaner stability.

Bottom Plate

The bottom plate helps the Polaris travel over sharp corners or high spots.. periodically, check the bottom plate for wear and replace as necessary. Please note: this is not a warranty part covered on your manufactures warranty and can be obtained from your local pool store.

Propeller

Keep propeller free of debris. To access the propeller area, remove the top housing assembly.

Emptying the Pump Basket

For the cleaner to operate at optimum efficiency, empty the pump basket regularly. The more debris in the pool, the more often the pump basket should be cleared.

Cleaning the Pool Filter

Always disconnect the Polaris from the pool wall before cleaning or backwashing the pool filter. After cleaning or backwashing, let the filtration system run for at least five minutes to flush out the suction lines before re-connection the Polaris.

Storage

Never store the Polaris in direct sunlight. Always store hoses straight and in sections. A coiled hose will create a memory in the hose and impede the movement of the cleaner in the pool. Should the hose obtain a "coiled" memory, lay each hose section flat in the sun to straighten the coil memory.

BASIC THINGS TO REMEMBER ABOUT YOUR POLARIS ATV CLEANER

The following are some common things to remember about the Polaris ATV cleaner:

1-DO NOT PUT THE CLEANER SUCTION ON 100%: Generally, the cleaner is set at 80% cleaner and 20% skimmer, meaning that 80% of the pool's suction is being utilized by the navigator and 20% is being utilized by the skimmer (see page 16 on 3-way valves). NEVER set the suction on 100% cleaner, this is because the opening for the cleaner is not large enough to handle 100% of the pool's suction. This will cause the pump to cavitate and eventually burn-up.

2-DO NOT PULL THE CLEANER OUT OF THE WATER WITH FILTRATION SYSTEM RUNNING: This will cause large amounts of air to be sucked into the filtration system.

3-ALWAYS CHECK THE CLEANER DAILY: It is important to make sure the cleaner is free from obstructions daily, especially during the stormy season when large debris often blow into the pool. If the cleaner is moving around the bottom of the pool freely, there is no need to remove it from the pool to check for obstructions.

4-CHECK HOSES FOR CLOGS: Often, when no suction is getting to the cleaner but there is suction at the wall fitting that the hoses plug into, the hoses themselves are plugged with leaves or debris. Check hoses for debris before calling for service.

5-EMPTY BASKETS OFTEN: The cleaner will remove large amount of debris from the pool so it is important to keep all baskets clean to ensure proper operation of the system.

6-CLEAN YOUR POOL FILTERS AS NEEDED: The Polaris ATV will not move around the pool well if the filtration system does not have good flow. As filters get dirty, water can not circulate as well. If the operating pressure on your tank raises to 10 pounds higher than right after it is cleaned, it is time to clean the filters (for a cartridge filter) or backwash the system (for a DE filter or a sand filter)



In-floor System

For more detailed information, please refer on line at www.paramountpoolproducts.com

Built right into the pool shell, the *PV3 in-floor cleaning system* is engineered to clean your entire pool, including floors, steps, benches, and even spas. When not operating, PV3 disappears back into the pool floor making it virtually invisible.

PV3 is custom-designed for your unique pool shape. It is so effective that it will clean 99% of your entire pool as well as significantly reduce heating and chemical costs for the life of your pool.

Strategically placed nozzles sweep up dirt and debris and keep it in suspension so it is removed through the skimmer and drain as the water is turned over by the filtration system. The nozzles have an offset hole that thrust the nozzle forward while it transitions from the up to down position. Each time the nozzle comes on it is in a new position and cleans a new area of the pool. A patented water valve controls the cleaning and circulation systems. Water flows through the valve and out to the strategically placed nozzles in the pool. The zones switch automatically in a set sequence with no electrical hookup.

Basic trouble-shooting for the *PV3 in-floor cleaning system* is located on the Paramount web site. Some of the systems come with a debris basket that does need to be emptied periodically as needed. Aside from the debris basket, no maintenance of the *PV3 in-floor cleaning system* is necessary.

The in-floor cleaning system does have a feature that is important to note. It is the “pause/run” function. When placed in the “pause” mode, the system will stay in one zone of nozzles and will not rotate to the other zones. The system can resume normal rotation of zones by simply switching the system to the “run” mode.

Pause/Run Function Lever





Manual Vacuuming

Manual vacuuming works through the skimmer suction line, or in the case of semipublic pools, from a vacuum line. The cleaner itself consists of a vacuum head with wheels, a vacuum hose, and a handler (pole).

A freshly plastered pool should NOT be vacuumed during the first two weeks. The plaster is in the first states of curing at this time, and vacuuming may cause damage to the plastered surface.

TO VACUUM POOL

1-Check for normal operating pressure: if pressure reading is high, backwash the filter first (for DE or sand filters) or clean cartridges first (for cartridge filters). High pressure can indicate a dirty filter and may cut down on the suction required to properly vacuum the pool.

2-Empty the pump strainer basket if it is full. The basket will need ample space to catch debris as it is vacuumed up.

NOTE: Both steps #1 and #2 may need to be repeated during the vacuuming stage if the pool is extremely dirty and/or full of debris.

3-Remove the deck lid, basket, and float valve assembly from the skimmer

4-Attach the vacuum head to the pole. Connect the hose to the head and place this assembly in the pool

5-Rid the hose of air by submerging it or filling it with water by holding it over a return fitting. A garden hose may also be used to fill vacuum hose. Whichever means you choose, it is important to eliminate as much air in the hose as possible. This aids against the pump losing prime.

6-When all the air has been removed from the hose, cup your hand over the end to keep air from entering, then quickly place the free end of the hose into the suction line in the skimmer. This is the opening at the bottom of the skimmer furthest away from the water's edge.

7-Slowly move the vacuum head over the pool walls, bottom, and steps until the pool is clean.

8-When you have completed vacuuming, disconnect the hose from the skimmer, and then remove the vacuum assembly from the water. By disconnecting from the skimmer first, you once again help to avoid losing prime in the pump because you are eliminating the opportunity of introducing air into the plumbing lines. Replace float valve assembly, basket, and deck lid on the skimmer.

9-Now, turn off the pump and empty the pump strainer basket. Remember to lube the "o" ring on the lid, replace the lid, hand tighten, and start pump again.



Water Chemistry

Filtration, chemical treatment, and cleaning are the three essential methods of keeping your pool water clear, clean, and free of bacteria. Proper water testing and maintenance not only ensures sparkling clean pool water but also protects the interior, plumbing, and equipment from possible corrosion, scale formation, and staining. A clean, inviting pool is not difficult to achieve. It just requires an understanding of the equipment, presented to you in the previous sections, and the water in your pool or spa, and the factors that influence both.

Treating the pool or spa with water chemicals maintains the balance, disinfects, and keeps it clear. Because the formulation of chemicals varies between manufacturers, be sure to follow the instructions on the container.

Testing your pool water

Test kits provide the information necessary to determine the chemical requirements of the water. A basic test kit will allow you to test your pH and chlorine levels. Other kits include these tests as well as test for alkalinity, combined and total chlorine, alkali, and acid demands.

Each test kit contains instructions for performing these tests. To help you test accurately, remember these important guidelines:

- 1-Rinse test tubes before and after each test.
- 2-Avoid surface water when you fill the tube: take a sample from a depth of 12" to 18".
- 3-When adding the specified amount of reagent, mix gently-do NOT place your thumb over the top of the tube-body acid can affect the reading.
- 4-Hold dropper bottle vertically and add required number of drops slowly, to make sure they are full drops.
- 5-Look at color comparison against a light background, but not against the sun.
- 6-Store test kit in a cool, dark place.

Ideally, chlorine and pH tests should be performed daily, and in the first few weeks, with your newly plastered pool, this is very important. During the summer months, after initial water balance, the tests should be done no less than three times a week. In the winter, once a week should be sufficient. Remember to always check chlorine levels before and after heavy swimming loads, and following dust storms or any time water has been subject to large quantities of debris.

The shelf life of testing reagents is limited, and should be purchased new each season. OTO, used to test chlorine, is a strong acid, so avoid contact with skin, clothes, or decking. Rinse immediately if any is spilled. Phenol red, used to test pH, is sensitive to hands, perspiration, pool water, and air. Make sure you keep the container tightly capped when not in use. Particular

care is needed to avoid touching the phenol red container and sample test tubes. It should have a deep red color. If it turns orange, discard and replace it with a new bottle.

Water Balance

Controlling the chemical balance of pool water is VITAL. The ideal range is slightly on the alkaline side, between 7.2 and 7.8 on the pH scale. If the pH is too high, chlorine is less effective in destroying bacteria and algae, water becomes cloudy, scale and staining can develop on equipment and interior finish very quickly. If the pH is too low, it will cause eye and skin irritation, corrosion of metal parts (especially heaters), and etching and discoloration of the interior finish. If a pool is newly plastered, it will be necessary to adjust your pH more frequently because of the tendency of new plaster to increase pH values during the curing period. Again, it is strongly advised to have a sample of your pool water professionally tested before administering chemicals ***including salt for salt chlorinator pools.***

Total Alkalinity and pH

Alkalinity prevents wide variations in pH. Though pH is quickly controlled by adding chemicals, it can bounce around on the scale daily or even hourly. The fluctuation can be considerably lessened by adjusting the total alkalinity to within 80 to 125 parts per million (ppm) range.

If your test kit does not allow for a total alkalinity test, take a water sample to a nearby testing station. If the pool's alkalinity is high and the pH is over 7.8, add small doses of acid frequently to bring the pH down to 7.4. The pH will probably rise again. Continue the treatment until the water tests out consistently at 7.4 to 7.5 over a period of a few days. As the total alkalinity level approaches the correct range, the pH should be checked often to make sure it does not drop below 7.2 at anytime. Once the total alkalinity level has been reached, the pH will be "buffered" to a point where further acid control will be minimal.

CHEMICALS USED FOR CONTROLLING pH AND TOTAL ALKALINITY

Muriatic acid (liquid) is the most commonly used chemical to lower pH and alkalinity. It stores well, and small amounts can adjust the pH significantly. However, if incorrectly applied, it can be very damaging. Add no more than one pint per 10,000 gallons of water at a time, and wait at least one hour before adding more acid. Handle it carefully to prevent splashing yourself or decking, and wash off any spills immediately. NEVER add acid through the skimmer. Always add acid when pump is running and try to place it in front of surface returns for rapid dilution. Do not add near steps and benches.

Soda ash is an inexpensive, quick acting method to raise pH. The need to raise the pH is an occurrence commonly found in testing the water in a spa. This seems largely due to the fact it is a small body of water and the introduction of too much acid is not properly controlled. Because pH readings lower than 7.2 are very destructive to equipment and plaster surfaces, keep a strict watch on the pH of all water, especially in spas.

Remember, equipment and material warranties are void when the damage caused is due to chemical imbalance.

The following charts are an easy guide to the amount of chemicals needed to bring a pool to its ideal water balance. Charts are only a guide. Water balance should always be re-tested after addition of chemicals have circulated through the pool's filtration system.

Adjusting pH

Lowering pH with Muriatic Acid

current pH	Pool volume			
	10000 gal	15000 gal	20000 gal	25000 gal
7.8-8.0	16oz	24oz	1 qt	1 ¼ qt
8.0-8.4	24oz	1 ¼ qt	1 ½ qt	2 qts
8.5-up	1 qt	1 ½ qt	2 qts	2 ½ qts

Raising pH with Soda Ash

current pH	Pool volume			
	10000 gal	15000 gal	20000 gal	25000 gal
7.0-7.2	8oz	12oz	1 lb	1 ¼ lb
6.7-7.0	12oz	1 lb	1 ½ lb	2 lbs
Under 6.7	1 lb	1 ½ qt	2 lbs	2 ½ lbs

Adjusting Total Alkalinity

Lowering Alkalinity with Muriatic Acid

Decrease in total alkalinity ppm	Pool Volume			
	10000 gal	15000 gal	20000 gal	25000 gal
10	2/3 qt	1 qt	1 1/3 qt	1 2/3 qt
20	1 1/3 qt	2 qt	2 2/3 qt	3 ¼ qt
30	2 qt	3 qt	1 gal	1 ¼ gal
40	2 2/3 qt	1 gal	1 1/3 gal	1 2/3 gal
50	3 ¼ qt	1 ¼ gal	1 2/3 gal	2 gal

Raising Alkalinity with Sodium Bicarbonate

Increase in total alkalinity ppm	Pool Volume			
	10000 gal	15000 gal	20000 gal	25000 gal
10	1 ½ lb	2 ¼ lbs	3 lbs	3 ¾ lbs
20	3 lbs	4 ½ lbs	6 lbs	7 ½ lbs
30	4 ½ lbs	6 ¾ lbs	9 lbs	11 ¼ lbs
40	6 lbs	9 lb	12 lbs	15 lbs
50	7 ½ lbs	11 ¼ lbs	15 lbs	18 ¾ lbs

Disinfecting the Pool Water

Chlorine is definitely the most popular disinfecting agent. It is effective in killing bacteria and algae common in swimming pools. If properly used, it will remain in sufficient quantity called "residual chlorine", which effectively controls new algae or bacteria entering the pool water.

Chlorine also helps keep the water sparkling clear. Perspiration, urine, suntan lotion, hair spray, deodorant, etc. can dull the water. In sufficient quantity, chlorine will absorb these particles and polish the water.

When you put chlorine in your pool, part of it will be used up at once, immediately killing algae and bacteria. Some of it must stay in the water until the next time you add chlorine. The amount that remains is the chlorine residual.

Pool water also contains ammonia nitrogen. Nitrogenous compounds (urine, perspiration, fertilizers) used near the pool are primary sources. Chlorine and ammonia combined form chloramines, which cause burning eyes, skin irritation, and the unpleasant "chlorine" odor, particularly strong if pH is low. If you can smell "chlorine", there is not enough residual chlorine in the water. Chlorine in the uncombined state is practically odorless.

The chlorine residual should never drop below 1.0 ppm. It can range up to 3.0 ppm or even a little higher, but 1.0 ppm is considered ideal. Chlorine residual is tested much the same way as pH. Follow the instruction in your test kit.

CHLORINE TYPES

Chlorine is available in almost every form. It comes in liquid, gas, granule, and tablet form. Most swimming pool service companies recommend a tablet type made of trichlore-s-triazentrione because of the high concentration of available chlorine.

Never toss tablets directly into the pool or spa because they leave yellowish stains on the interior finish. Tablets are best for use in automatic chlorinators. Tablets can be placed in a floating chlorine dispenser if no automatic chlorine feeder is installed. This will allow the chlorine tablets to dissolve slowly. Whatever form of disinfectant used, always apply according to manufacturers instructions.

SUPER-CHLORINATION

Super-chlorination involves adding 5 to 7 times the normal dose of chlorine to the pool water to "burn out" chloramines. This is easily accomplished by the direct manual addition of a pound of granular chlorine to each 10,000 gallons of water.

You will want to super-chlorinate about every two weeks during the swimming season and possibly after heavy swimming loads or storms. Super-chlorination should be done after sundown, since the ultra violet rays can destroy some of the chemical. Close the pool to swimmers until the chlorine residual drops to normal (1.0 to 3.0 ppm free chlorine).

STABILIZING/CONDITIONING POOL WATER

Stabilizers are chemical compounds added to pool water to prevent the rapid loss of chlorine by sunlight (ultra violet rays). Pools which are un-stabilized use as much as 3 to 4 times more chlorine than is needed in a stabilized pool.

Cyanuric acid is the compound used to stabilize or condition the water. It is a semi-permanent additive, because it does not get used up, evaporate, or wear out. Losses of cyanuric acid occur through splash out, backwash, or leakage. The recommended level of cyanuric acid is 40-80 ppm. The test for this is referred to as a turbidity type test. Kits are available at pool supply stores or the pool supply dealer can test this for you.

Increasing the Cyanuric Acid Level

Increase in CYN acid level ppm	Pool Volume			
	10000 gal	15000 gal	20000 gal	25000 gal
10	12 ¾ oz	1 ¼ lb	1 2/3 lb	2 lbs
20	1 ¾ lb	2 ½ lbs	3 1/3 lbs	4 lbs
30	2 1/2 lbs	3 ¾ lbs	5 lbs	6 1/4 lbs
40	3 1/3 lbs	5 lbs	6 2/3 lbs	8 1/3 lbs

Specific Water Problems

ALGAE

Algae are microscopic plants that grow in water. They enter the pool water through air currents. Free chlorine is an excellent algae killer and, if there is a constant and adequate free chlorine residual (1.0 ppm or more), algae growth is virtually non-existent.

There are three common types of algae: green, mustard, and black algae.

Green algae first appears as a green tint in the water and can spread very rapidly in a matter of hours. Green algae is easily destroyed by super-chlorinating during the early stages of growth. If the super-chlorinating does not clear up the problem, add a recommended amount of algaecide, following the direction on the label.

Mustard algae has a yellowish-green color and clings loosely to walls and steps. To treat mustard algae, brush the entire surface of the pool and super-chlorinate. Maintain a high chlorine residual, and apply a good algaecide. Remember, mustard algae brushes off the pool surface easily, but this does not destroy it.

Black algae does not generally show itself until it has a good start. It usually is first seen as a black spot about ¼ inch in diameter. The spots most often appear first around the steps or in corners. The algae cells are so small they can actually penetrate the hairline cracks in the interior finish and in the shotcrete behind the interior finish. This is what makes black algae very difficult to kill.

To treat black algae, vacuum the pool so the spots are clearly seen. Remove the surface of the algae to speed up the killing process by attaching a small stainless steel brush or pool block to the pole and brush the spots. Stainless steel brushes and pumice can be tough on the plaster surface, so always use them with care, trying not to mar the plaster surface. Next, super-chlorinate and add algaecide at the recommended dosage rate for black algae.

SCALE

Scale is normally rough to the touch and grayish or light brown in color. It can appear on the walls at the bottom of the pool. This situation is generally found in hard water areas. With proper pH and total alkalinity control, in addition to total hardness control, scale can be prevented from forming in your pool. Once a year, take a pool water sample to your pool supply dealer and have it analyzed for hardness content. When it gets over 600 ppm, you should drain at least one third of the pool water, and refill it with fresh water. Ideal calcium hardness ranges from 200 ppm to 400 ppm.

STAINS

A pool surface can be stained by fertilizers, leaves, metal objects, algae, and mineral deposits. Too much acid added to the water at one time or too close to the skimmer can cause corrosion particles to appear as stains. Blue-green or turquoise stains are generally due to copper. The copper found in heater elements is dissolved in the water and deposited on the interior finish.

Hairpins, toys, and other metal objects dropped into the pools should be removed immediately to prevent rust stains. Remember to maintain proper pH to help prevent these problems. Buffing ordinary stains with waterproof sandpaper may remove them. Use the sandpaper with as light of a touch as feasible to reduce chances of defacing the interior pool surface.



AquaPure Chlorinator

The AquaPure Salt Chlorinator is a piece of equipment that many pools have. It is such an important part of a salt pool that a chapter is dedicated strictly to the AquaPure system. It is easy to operate and maintain but it is essential that the owner of an AquaPure pool understands the operation and maintenance of this chlorinator completely. Please refer to the manufacturer's *Homeowner Manual* provided by *Cameo Pools* or link to the manual from the *Cameo Pools* website at www.cameopools.com.

WHEN YOUR POOL IS FIRST FILLED

When your pool is initially filled with water after construction, *Cameo Pools* will add the initial dose of chemicals to the water. This is when it becomes the pool owner's responsibility to keep the chemicals in balance (*see water balance section of this manual*). For a salt-chlorinated pool, the salt can not be added to a new pool for two to four weeks after the initial interior finish has been applied to the pool interior. This allows extra time for the interior finish to go through the curing process before introducing it to the salt environment. Please note that the pool owner will need to use manual chlorine for the pool until the salt has been added and the salt chlorinator is operational. After the two-to-four week waiting period, salt can be added to your pool. Either *Cameo Pools* will add the salt or you may add it yourself. The amount of salt need for your pool is located on a chart in the AquaPure Homeowner Manual on page 20. How to add the salt is located on page 19 of the manual but note: **DO NOT LET SALT SIT ON THE SURFACE OF THE INTERIOR OF THE POOL FOR A LONG PERIOD OF TIME AS IT WILL STAIN THE INTERIOR FINISH.**

Once salt is added to the pool, the salt needs to circulate for 24 hours before the AquaPure should be turned on and expected to begin chlorinating. This will allow the salt to disperse through the pool, making salt levels more evenly mixed.

HOW THE AQUAPURE SYSTEM WORKS

Complete operating instruction for the AquaPure System is located on pages 22-26 of the manufacturer's Homeowner's Manual. Please read thoroughly to familiarize yourself with the basic operation.

The AquaPure system has a sensor. When water runs through the pipes over the sensor, this sensor measures the salt levels (or salinity) of the water. It allows the chlorine generator or "cell" to produce chlorine under the proper salinity conditions (between 3.0 and 3.5 gpl.) The cell uses the salt to create a chemical reaction that creates chlorine but the salt is **NOT USED UP**. Addition of salt once levels have been reached is only necessary through splash out or through backwashing (if you have a DE or sand filter). **DO NOT ADD SALT UNTIL THE SALT LEVELS**

ARE VERIFIED AT THE LOCAL POOL STORE EVEN IF THE SYSTEM SAYS TO ADD SALT. (sometimes the sensor may be dirty and reading the wrong salinity level!)

The cell is programmed, through the *Control Center Front Panel*, as to how often to produce chlorine. This is the control panel the the pool owner programs. If the cell is programmed at 50%, this means that chlorine will be generated 50% of the time that the pool filtration system is on. If the system is programmed for 90%, the system will produce 90% of the time (see manual for further explanation)

COMMON ISSUES WITH THE AQUAPURE SYSTEM

Although easy to operate, there are several conditions that will logically interrupt the chlorine production of the AquaPure system. Because of this, it is important that the pool owner check chemicals as often as recommended in the *Water Balancing* section of this manual and not rely on the AquaPure system as being a “maintenance free” way to chlorinate the pool. In the event that the AquaPure system fails to produce chlorine, a supply of chlorine should be kept on hand until the issue can be resolved.

Salt Sensor Malfunction

If the sensor can not read the salinity of the water, the sensor can not tell the cell that it is safe to produce chlorine. The sensor needs to be cleaned periodically in order to be able to read the salinity of the pool water. If the pool water pH is too high (over 7.8), scale will begin to form on the sensor and it will be unable to read the salinity level. Keeping your pool water at approximately 7.5 will keep scale off your sensor and keep you from having to clean that sensor as often. If pH is kept at a high level, you will always have problems with the sensor scaling and shutting off the chlorine production of the cell.

Cell Becoming Dirty or Clogged

If the chlorine generating cell becomes clogged or dirty, it is unable to produce chlorine. Periodic cleaning of the cell (page 28 of manufacturer's Operations Manual) will increase the life of the cell and ensure that it continues to produce chlorine throughout it's life. The same thing that creates scale on the sensor is what creates calcium and clogs the chlorine generating cell, high pH levels. Keeping the pool at the ideal pH (approximately 7.5) will keep the cell clean and help you avoid having to manually clean the cell as often. Keeping your pH at a high level will require frequent cleaning of the cell and will interrupt the chlorine production of the cell quite often.

Cold Weather Operation

When pool water is cold, it needs far less chlorine and chlorine is not used up as it is in warm weather. This is why the salt production needs to be AquaPure Salt Chlorinator (con't)
 Since very cold water is damaging to the chlorine generator, freeze protect that will shut down the system in water below may show on the system panels but this is normal (see page 29 in Aqua Pure manual)

Filtration / Production Time

Many times, home owners do not adjust the pool's length of filtration to match the weather. A good rule to follow is one hour of filtration time to every 10 degrees of the high temperature. For instance, when the high for the day is 100 degrees, a pump/filtration system should run no less than 10 hours. This is why it is important to adjust filtrations time between summer and winter months. It can vary anywhere from 4 hours to 12 hours per day.

Recalling how the AquaPure system operates, if a pool filtration system is not running long enough, the chlorinator is unable to keep up with the chlorine demands of the pool. Many home owners find that, during the hot summer months, the chlorine generator is unable to keep up with the demands of the pool. Even if the generator is turned up to 100% (meaning the cell is producing constantly), the cell will only produce when the filtration system is on. Utilize the 10 degree per hour rule and adjust the production percentage needed from there, depending on your pool. ***In hot climates, the chlorinator will never be able to keep up if the filtration system is not running long enough.***

Water Conditioner

An essential element needed to maintain proper chlorine levels is the level of conditioner or cyanuric acid in the pool. Cyanuric acid is considered a "sun screen" for the chlorine. Without it, chlorine is essentially used up by the ultraviolet rays of the sun before it is even able to be utilized by the pool. Low cyanuric acid levels often disguise themselves as a malfunction of the chlorinator since whenever water chemistry is tested the chlorine will always test low or completely absent.

Additional Trouble-shooting Items

Additional items are listed in the troubleshooting section of the manual (page 30 through 33) This section includes service codes that may appear on your *Control Center Front Panel*. Please contact the *Cameo Pools* service department for any further questions or details.



Acrylic Deck Care

Many pools have a traditional, acrylic lace deck. This deck is cooler on the feet than many surfaces and holds up well in the elements.

With a new acrylic topping, you will notice what looks like soap suds when you hose off the deck. This is a normal occurrence and will fade away after the first swim season.

Efflorescence

A white, chalky substance on the surface of the acrylic deck may be observed. This is a natural occurring phenomenon known as efflorescence. Efflorescence is defined as a white, crystalline deposit that forms on the surfaces of masonry, stucco, and concrete. Efflorescence is the result of water penetrating through the concrete substrate and evaporating off. This action leaves behind a salty film, which leaves the white chalky appearance. This film is actually salts and limes from the original concrete and/or the different compositions of aggregate and cement within the concrete.

This occurrence can occur on a new or older deck when new decking is applied to the surface. The topping will act as a surface sealer, which will cause the moisture to migrate to the surface. This is actually a benefit because it allows the system to “breathe,” versus having the top surface flake off like a lot of epoxy deck paints. This is very similar to a piece of plastic or bucket on the ground. When it is lifted up, there is moist ground underneath.

Efflorescence is a seasonal problem and should clear up after the weather warms up. In extreme cases, the efflorescence may reoccur the following year if the weather is, once again, wet and damp.

Concrete/Acrylic Lace Care and Maintenance

In order to care for your new acrylic lace deck, please follow these basic care and maintenance guidelines:

- 1-Maintain proper water drainage away from decking
- 2-During the swim season, all decking should be washed off with water a minimum of once a week.
- 3-Hairline cracking can occur with concrete and can be repaired with the touch-up paint. Any cracking outside of the expansion joints which is greater than the width of a dime should be reported to your pool builder within the first two years.

4-Never install grass within 2 feet of acrylic decking. The water can leave stains. It also can cause the deck to lift due to water build-up in the soil.

Planting anything within two feet of the acrylic deck will void the deck warranty.

Touch-up Deck Paint

A small amount of touch-up paint will be left once the acrylic deck has been finished. It will usually be found in a small pint canister or in a five-gallon bucket with any of the remaining paint from the installed deck. This is used for you to touch-up any small damages that may occur as well as for any hairline cracks that may begin to form. Simply apply the paint with a small paintbrush, toothbrush, or sponge. These can be cleaned with water afterwards. If you have saltillo or flagstone tile work done, there will not be anything left behind for touch-ups due to the application process that is used to apply it.

Please be aware that, over the years, when touch-ups are done, the paint will not match exactly upon application. Over time, the paint color will fade into the original color once it ages a bit.

Stain Removal

Remove stubborn stains by using a stiff nylon brush and mild detergent. Scrub area well and then rinse off. Other stains can be removed as follows:

1-***Algae Stains*** (red, black, or green): use a mixture of 70 parts water to 30 parts liquid pool chlorine. Allow mixture to set 10 to 20 minutes, then hose completely off. **USE WITH CARE: USING TOO MUCH POOL CHLORINE WILL DAMAGE SEALER.**

2-***Calcium Deposits***: To remove calcium deposits that appear as a whitish stain, use Limeaway, scrubbing thoroughly, allow it to set 10 minutes, then rinse completely to remove residue.

3-***Coffee, Soda, Tire Marks, Etc***: Use mild detergent, some water, and a stiff brush to get down into the texture.

4-***Grease and Oil***: Use Gumout.

5-***Rust Stains***: Use Whink, a rust remover jelly, or Naval Jelly.



Troubleshooting

The following is a list of common issues that may arise over the life of your pool. Please review this troubleshooting guide prior to calling for service.

PUMP WILL NOT PRIME

Problem

- 1-No water in the strainer pot
- 2-Strainer pot lid is not tight
- 3-Damaged pot lid “o” ring
- 4-Water level below skimmer

- 5-Pump basket or skimmer basket clogged
- 6-Air leak in suction line

Solution

- 1-Fill pump with water from garden hose. Then lube the “o” ring and replace lid.
- 2-Remove lid. Lube “o” ring and hand tighten.
- 3-Replace pot lid “o” ring.
- 4-Fill pool with water until it reaches center of waterline tile. Adjust auto water Leveler if needed (see page 17)
- 5-Empty baskets (see pages 6 and 13).

- 6-Check for loose packing nuts on suction side gate valves.

LOW FLOW/HIGH FILTER PRESSURE

Problem

- 1-Filter is dirty
- 2-Restriction in return line
- 3-Salt chlorinator cell is dirty

Solution

- 1-Hose off filter cartridges or backwash filter(see pages 7, 9, or 11).
- 2-Open any valve that may be closed (see Page 16, 3-way valves).
- 3-Remove cell and clean according to instructions in *Salt Chlorinator Manual*

LOW FLOW/LOW FILTER PRESSURE

Problem

- 1-Pump basket or skimmer basket clogged
- 2-Clogged impeller

- 3-Air leak in suction line.

Solution

- 1-Empty basket (see pages 6 and 13).
- 2-Remove basket. Remove debris from impeller. Replace basket.
- 3-Check for loose packing nuts on suction side gate valves. Check for dry grease cup on suction side 3-way valve.

MOTOR DOES NOT TURN ON

Problem

- 1-Power switch is off.
- 2-Circuit breaker has tripped.
- 3-Motor shaft is locked by bad bearing.
- 4-Impeller is lock by debris.*

Solution

- 1-Turn power on at switch on time clock per page 14.
- 2-Check breaker and reset.
- 3-Call for service
- 4-Remove debris from impeller.

*Always replace cracked or broken skimmer and pump baskets, as they are often the reason for clogged impellers. If you continuously have a problem with the impeller clogging with fine debris such as hair or palm fronds, replace the basket with one that has a finer mesh. This should help cut down on the amount of debris getting through.

SKIMMER LID BLOWS OFF WHEN PUMP SHUTS OFF

Problem

- 1-Back pressure in suction line.
- 2-Internal automatic air-relief tube in filter is plugged

Solution

- 1-Check for air in pump lid. Remove “o” ring, lube, replace lid, and hand tighten.
- 2-Open filter tank and unclog. NOTE BELOW HOW THIS IS DONE FOR EACH TYPE OF TANK.

IMPORTANT: BE SURE THAT ALL PRESSURE IS RELIEVED FROM THE FILTER TANK BEFORE DISASSEMBLING BY TURNING OFF PUMP AND OPENING THE AIR RELIEF VALVE ON THE TANK.

Cartridge Filter: Remove bank clamp and tank top. Remove the strainer from the plastic cap located on the top of the cartridge assembly. Blow air through the element until all dirt is removed. Reinstall the strainer. Lube the “o” ring, replace the tank top and clamp.

DE Filter: Remove bank clamp and tank top. On the top of the grid assembly is the small strainer screen element. Remove and blow air through the element until all dirt is removed. Reinstall the strainer. Lube the “o” ring, replace the tank top and clamp.

Sand Filter: Remove dome. Pull the strainer cap from the tubing. Blow air through the tubing until all dirt is removed. Reinstall the strainer cap on the tubing. Lube the dome “o” ring and replace dome. Do not lube threads which hold dome in place.

DIRTY, CLOUDY WATER OR SAND RETURNING TO POOL

Problem

- 1-Poor filtration
- 2-High pH
- 3-Beginning stages of algae.
- 4-Water chemistry is out of balance
- 5-Damaged cartridge or not assembled properly (cartridge filter)
- 6-Damaged grid or “o” ring (DE filter)
- 7-Filter lateral damaged (sand filter)

Solution

- 1-backwash filter or clean cartridges. Check valves for proper position during filtration
- 2-Adjust to 7.4-7.6 range per page 27
- 3-Adjust pH to 7.4-7.6 range per page 27. Super chlorinate and filter for 24 hours, brush after 24 hours. If water does not clear up an algaecide may need to be used. Make sure filtration cycle is set for 1 hour every 10 degrees /outside air temp.
- 4-Take sample of pool water to local pool store for testing. Follow recommended procedures for adjusting.
- 5-Remove cartridge from the filter, replace if damaged. Reassemble and replace in the filter tank.
- 6-Remove grid assembly and replace any damaged grid elements and/or upper piping assembly “o” ring. Re-assemble filter as described in manual.
- 7-Call for service

BACKWASH VALVE DIFFICULT TO MOVE

Problem

- 1-Internal “o” rings require lubrication

Solution

- 1-See page 12

WATER FLOWS FROM BACKWASH LINE IN FILTER MODE

Problem

- 1-Broken “e” clip or damaged “o” ring inside backwash assembly.

Solution

- 1-See page 12

LIGHT WILL NOT COME ON

Problem

- 1-GFCI has tripped.
- 2-Breaker at main panel has tripped.
- 3-Turned off at the time clock.
- 4-Bulb has burned out.

Solution

- 1-Press the reset button on the GFCI.
- 2-Reset tripped breaker.
- 3-Turn the light switch on manually.
- 4-Replace bulb. See page 15.

TIME CLOCK FAILS TO OPERATE/MALFUNCTIONS

Problem

- 1-Breaker at main panel has tripped.
- 2-Trippers out of position or missing.
- 3-Time incorrect on time clock.

Solution

- 1-Reset the circuit breaker.
- 2-Reposition the trippers. See page 14
- 3-Set time. See page 14.

AUTOMATIC FILL LINE WILL NOT SHUT OFF

Problem

- 1-Pool overflowing with water
- 2-Water filler will not shut off even when adjusted below water line.

Solution

- 1-Follow directions per page 17.
- 2-Turn off water supply at the vacuum breaker per page 18 and call for service.

HEATER GOING ON AND OFF CONTINUOUSLY

Problem

- 1-Dirty filter
- 2-Low water level in pool.

Solution

- 1-Backwash filter or clean cartridges.
- 2-Raise water leveler per page 17.

PILOT WILL NOT LIGHT

Problem

- 1-Low gas pressure.
- 2-Pilot will light then turn off

Solution

- 1-Check gas supply
- 2-Check gas supply. If system equipped with a bypass valve, make sure the valve is in the position allowing water to pass through the heater. If bypass is "on" it will bypass the heater. The heater will not stay lit if no water is running through it.

HEATER LEAKING AT WELL/HEAT EXHCANGER

Problem

- 1-pH too low (over acid)

Solution

- 1-Replace well/heat exchanger and Maintain proper water chemistry. See pages 26 and 27.

POOL/SPA WILL NOT STAY HEATED

Problem

- 1-Losing heat from surface of water
- 2-Blower pulling cold air into spa
- 3-Heat Pump starts to heat but then water will cool down.

Solution

- 1-Utilize a pool/spa cover to retain heat during the heating stages.
- 2-Turn off blower until spa is heated
- 3-Heat pump only works when filtration system is on. Filtration system must be on continuously for heat pump to maintain heat.

CHLORINE READING TOO HIGH/LOW

Problem

1-Check valve clogged on the Deck Chlor System.

2-Salt chlorinating system not keeping up

Solution

1-Remove the tablet chamber from the bottom collar assembly. Gently unscrew the check valve from the bottom of the tablet chamber. Clean off the residue from the valve and replace. Lube the "o" ring and replace the tablet chamber and hand tighten.

2-Make sure filtration system is running for one hour per 10 degrees of outside air temperature. Turn chlorinator up to 100 percent, test frequently over the next few days and adjust down as needed.

BURNING OR RED EYES

Problem

1-pH too low or too high
2-Chloramines.

Solution

1-Adjust pH to 7.4-7.6 per page 27.
2-Superchlorinate the pool.

COLORED STAINS ON PLASTERED SURFACE

Problem

1-Corrosion caused by low pH.

Solution

1-Raise pH to 7.4-7.6 per page 27.
Replace damaged equipment.

ROUGH DISCOLORED PLASTER/TILES

Problem

1-Scale: Excessively hard water. High pH. High level of dissolved solids.

Solution

1-Have a sample of water tested for chemical balance and hardness. Adjust as required.



Glossary of Common Pool Terms

ACID-A chemical which lowers the pH when added to the water.

ACID DEMAND-The amount of acid required to lower pH and total alkalinity of pool water to the correct level.

ALGAE-Microscopic aquatic plant life which can grow on pool surfaces or float freely in the water. Though harmless, algae will discolor the water, may stain pool surfaces, and indicates improper sanitation.

ALGAECIDE-Chemical used to kill or inhibit the growth of algae.

ALKALINITY-Various chemicals and salts in the pool water that increase the pH.

AVAILABLE CHLORINE-Free or combined chlorine used to disinfect the pool water.

BACKWASHING-Cleaning the pool filter by reversing the water flow.

BROMINE-The chemical used for disinfecting spas mainly (in the same family as chlorine).

CAVITATION-Occurs in a pump when the flow of water from the suction lines is restricted. This is commonly recognized by a rumbling noise in the pump. The water is actually boiling, which causes a vapor lock at the impeller.

CHLORAMINE-The chemical compound of nitrogen and hydrogen that combines with free chlorine in pool water. Chloramine causes burning eyes, skin irritation, and chlorine odor.

CHLORINE-The chemical used for disinfecting swimming pools.

CHLORINE DEMAND-The amount of chlorine required to destroy the bacteria in the pool water.

CHLORINE RESIDUAL-The amount of chlorine remaining in the pool water after chlorine demand has been satisfied.

CORROSION-The chemical reaction that causes deterioration of metal.

CYANURIC ACID-(conditioner/stabilizer) Acid used in pool water to prevent chlorine loss.

DIATOMACEAOUS EARTH (DE)-A white powder that is manufactured from microscopic skeletons or diatoms.

DISSOLVED SOLIDS-Calcium, copper salts, magnesium, and other minerals that are suspended in the water.

DPD-A chemical reagent which reacts with active chlorine/bromine and turns the water sample pink.

FREE CHLORINE-Basic chlorine, not combined with other chemicals, allowing it to be released immediately for disinfecting. This is usually the kind of chlorine used to super chlorinate.

HARDNESS-A measurement of dissolved solids in the water.

MURIATIC ACID-A diluted solution of hydrochloric acid used to lower alkalinity.

OTO-(orthotolidine) A chemical reagent which reacts with total chlorine/bromine, and turns the water sample yellow.

pH-Used to describe the acid/alkalinity balance in the pool. A pH of 7 is neutral. pH values below 7 are acidic and values above 7 are basic. The recommended pH for pool water is 7.4-7.6. NEVER allow pH to drop below 7.0 or go above 8.0

PHENAL RED-A chemical reagent used to measure pH.

PPM-Parts Per Million, the accepted measurement of a quality of substance in water.

REAGENT-Liquid or powder chemicals used to test concentrations of specific compounds in water.

SCALE-Mineral deposits formed on pool surfaces, inside piping, and on the filter as a result of high calcium hardness and high pH.

SODA ASH-Sodium carbonate used to adjust the total alkalinity by increasing pH.

SUPERCHLORINATION-Heavy dose of chlorine added to pool water to “burn out/shock” nitrogen compounds when bacteria, algae, or chloramines build-up cannot be reduced by normal treatment

TOTAL ALKALINITY-(TA) The measurement of the alkaline chemicals in the water. TA acts as a pH buffer. Too high of a TA prevents easy adjustment of pH. Low TA causes pH to change and fluctuate widely. Proper pool TA is 100-125 ppm.

TOTAL DISSOLVED SOLIDS-The total dissolved material in the water. High total dissolved solids in pool water (over 1500 ppm) can cause poor sanitizer efficiency, cloudy water, and odors.



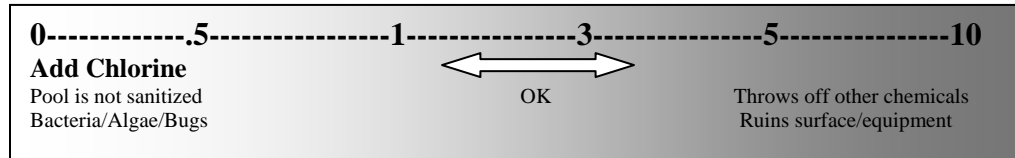
Quick Reference Guide to Pool Care

At Least Twice Per Week	At Least Monthly	At Least Every 3 Months	At Least Every 6 Months	At Least Every 1-2 Years
Test Chemicals (page 25) Brush (page 2) Empty Baskets (page s 6 and 13)	Check Salt Cell And/or Clean Cell (see salt system manual) Clean Cartridges Or Backwash (see pages 7-11; may be done less often depending on demands of the pool)	Complete Water Chemistry Analysis (local pool store) Lube pump lid o-ring, filter o-ring, backwash valve o-ring (pages 6, 7-11, 12)	Remove and Clean DE Filter Grids (DE Filter only. May be done once per year in low-dirt areas. See page 10)	Drain Pool Completely and Refill (outside air should not be above 85 degrees)

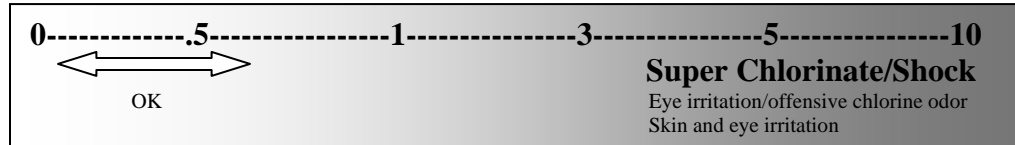
Water Chemistry

The following charts illustrate ideal chemical readings (\longleftrightarrow), what action to take and what will happen if proper action is not taken.

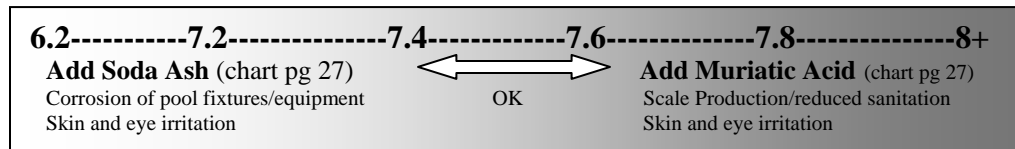
Free Chlorine



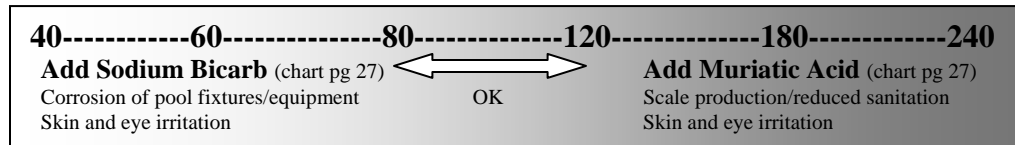
Total Chlorine



pH



Total Alkalinity



Cyanuric Acid



Calcium Hardness

