

Swimming Pool Maintenance

Frequently Asked Questions...

How often should I be cleaning my cartridge filter?

Take note of the pressure reading at the time of your Premier Pools Orientation session when your filter is in "pool" mode. Once the pressure reaches 5lbs psi over your normal operating pressure of 13 lbs or so, clean your filter. Your filter should be cleaned at least every 4 months.

How often should I be cleaning my pump basket?

You should clean your pump basket at least once a week or more depending on the season and accumulation of dirt and debris. Fall and Spring bring extra leaves, blossoms, twigs and other natural debris into your pool water. Look for an excess of these types of buildups in your basket during these seasons.

How often should I run my pump / filter?

We suggest you run your circulation pump and filter from 6 to 8 hours per day in the summer depending on usage. You will need a minimum of 4hrs in the winter. This filtration cycle could vary for salt pools or large pools (over 20,000 gal).

My RAYVAC cleaner (pool sweep) is not moving. Is there something wrong with it?

Check the finger screen in the sweep hose by the backup valve. A dirty screen restricts the water flow that pushes the cleaner through the water. Too much debris in the unit can cause it to move slowly or stop. These need to be checked and cleaned regularly. The RAYVAC sweep needs approximately 20 lbs psi to operate effectively.

If I have an automatic pool cleaner do I still have to brush my pool?

YES! Brushing your pool is an excellent way to prevent algae and other unforeseen problems. Automatic pool cleaners do not provide as much scrubbing action as brushing does. **BRUSH YOUR POOL ONCE A WEEK!!**

What is the difference between salt pools and standard chlorine pools?

With a salt chlorine generator, there are no chlorine products to store or handle and no chlorine products to leave exposed to children. In either case, the pools will be maintained on chlorine. With a salt chlorinator, a setting on a dial controls the chlorine level. This helps in avoiding uncomfortably high levels that might exist when chlorine products are manually added. Chloramines are an irritating and odorous form of combined chlorine and are a problem in most chlorine pools. However, with a salt chlorinator, all of the chloramines are destroyed, as the water passes through the cell. Your overall pool maintenance will be simplified and fewer chemicals will be required.

My pool lights won't work. How can I turn them on again?

All pool lights run off of a GFCI (Ground Fault Circuit Interrupter) and occasionally it will “trip” and interrupt the circuit connecting the lights to the power source. Push the red button in the center of the GFCI outlet to re-set and see if the lights come back on. Should your pool light(s) still not work after you reset the GFCI, a service call may be necessary.

Important: Pool lights should only be serviced by a qualified technician. Do not attempt to repair pool lights or pool electrical problems.

What is a GFCI?

A Ground Fault Circuit Interrupter is a device to protect against an electric shock resulting from contact with a live (“hot”) electrical wire. When this occurs – or when the circuit is overloaded and/or “shorted” – the GFCI interrupts the circuit by “tripping” or disconnecting the power from the source, preventing electrical shock or damage to the circuit. To reset the GFCI, push the red button in the middle of the center of the outlet marked “RESET.” *Note: some GFCI outlets have white buttons in the center – the function is the same.* Should the GFCI trip when you turn your pool lights on, there may be a problem with the light and a qualified service tech should troubleshoot the situation.

How do I set my Clock?

Set up the current Time before you enter any ON/OFF programs.

1. Keep TIME key pressed while you are setting or correcting the current time.
2. Press DAY key to advance to current day.
3. Press HR key to advance the hour.
4. Press MIN key to advance the minutes.

Note: Pressing the DAY, HR or MIN keys for more than 2 seconds will activate the fast advance.

Programming Run Times

1. Press PRG (programming) key once. You will see “PROG 1 ON” on the LCD display, which indicates the PUMP ON time entered.
2. The Default Programming is for ALL DAYS. If you would like to program for specific days of the week, Press DAY key to choose the day to activate the pump. The day groups will advance in the sequence of {MO-TU-WE-TH-FR-SA-SU}, {MO-TU-WE-TH-FR}, {SA-SU}, {MO-TU-WE-TH-FR-SA}, {MO-WE-FR}, {TU-TH-SA}. It is recommended you use the default programming ALL DAYS. Once you have selected the “Days” programming, you may proceed to the next step.
3. To set the desired Hour to operate the pump, press HR once to advance the hour.
4. To set the desired Minutes, press MIN to advance one minute at a time.
Once you have set the “ON” time, you will need to set the “OFF” time or the pump will run continuously.
5. Press the PRG key again to advance to the next “PROG 1 OFF” which indicates the switch-off time for the pump to be entered and then follow steps 2 – 4.

Now that you have set the main ON/OFF times for the pool, you may enter other times for the pump(s) to power on. You can have up to 6 ON/OFF times. You only need to set ONE time for the pool filter.

IMPORTANT: IT IS RECOMMENDED THAT THE POOL WATER CIRCULATION PUMP RUN BETWEEN 6 – 8 HOURS IN THE SUMMER AND 4 – 6 HOURS IN THE WINTER (OR AS NEEDED FOR LARGER POOLS AND/OR SOLAR HEATED POOLS).

NOTE: If you are having trouble with your timer programs, simply push the “reset” button and start over.

How much Water is in my Pool?

There is a formula you can use to determine the volume of water in your pool. This volume – indicated in “gallons” of water – will help you decide the amount of chemicals to add to your pool.

The formula is for either a free-form (curva-linear) pool or rectangular pool and is as follows:
Average Depth X Water Surface Area X 7.5 = Total Volume in Gallons

**Example: Average Depth (3.5 ft (shallow end) + 6 ft (deep end) = 4.75 ft avg. depth
Surface Area = 400 Sq Ft
Gallons per cubic Ft. = 7.5
4.75 X 400 X 7.5 = 14,250 Gallons**

How do I drain my pool?

We equip all Premier Pools with a hose bibb at the equipment pad that is used to drain your pool when necessary. Should the water rise to the top of the tile line or above, attach a hose to the hose bibb, turn on your circulation pump and turn on the hose bibb to lower your water level. Your target water level is the middle of the waterline tile. When that tile line is even with your water level, turn off the hose bibb. **DO NOT FORGET!!**

Note: Some pools have an overflow line located in the middle of your tile line. These work well during light rains but during heavy rains, overflow lines cannot keep up with the increased water volume.

If I am losing ½” of water per day in my pool, should I be concerned that my pool has a leak?

NO. Normal evaporation during the summer months is about ½” or less per day. Anything more than ½” per day may indicate a leak. Some vanishing edge pool or pools with large waterfalls may evaporate water faster than normal. Remember, the more water features your pool has, the faster the pool water evaporates. The pool may require more water during times of heavy use.

BUCKET TEST: If you think your pool is losing water, try this test: 1) turn off the Autofill, if one is installed; 2) place a white plastic bucket on the 1st step of the pool entry; 3)

fill the bucket with enough water so it is even with the water level of the pool; 4) activate your circulation program; 5) after 48 hours, check the water level in the bucket and pool. If the water level in the bucket is higher than the pool, there may be a leak somewhere in the pool. If they are the same or very close, then no leak is indicated. Try this test also with the circulation pump off for 48 hours as well.

Maintaining Water Chemistry

Why won't my pool hold chlorine?

The most common problem is that the cyanuric acid (CYA) level is too low. This level should be approximately 75 to 85 parts per million (ppm). Salt system pools may have a low salt level or a low CYA reading. The most common solution is to add acid as a stabilizer. This is a chemical that has the ability to stabilize chlorine against loss due to sunlight. Cyanuric acid protects the chlorine from ultraviolet light destruction and releases chlorine upon demand.

I am having trouble keeping my pool clear? What should I do?

Water clarity is 50% water balance and 50% filtration. If the filter is not being run as often as it should be, or if the filter is not working efficiently, then proper water balance will not solve the problem. Clarifiers can be used to increase the size of the particles in the pool water so they can be filtered more easily. And in addition to chemical remedies, proper water circulation inside the pool is vital. Your return lines should be pointed in a direction that creates a circulation motion in the pool.

Chlorine in your Pool

Using the test kit supplied with your pool to measure chlorine levels, it is important to remember that there are three chlorine aspects that can be measured:

1. **Free Available Chlorine** (residual chlorine) – is the amount of chlorine in the pool that can sanitize or disinfect the water and is the critical measurement.
2. **Combined Chlorine** – consists of the undesirable, bad-smelling, irritating compounds, which form when there isn't enough free available chlorine.
3. **Total Chlorine** – is the total amount of chlorine in the water. It includes both **free available** and **combined chlorine**.

You want to measure how much Free Available Chlorine there is in the water – chlorine that can act on foreign substances in the water to keep the pool clean and sanitized for swimmers. **Too little chlorine** results in algae and bacterial growth, waterborne illnesses, cloudy water and insufficient sanitation of the water.

Too much chlorine can result in eye, nose and skin irritations. Remember too, that the chlorine in the pool is carcinogenic and we should aim to keep the chlorine levels to the minimum require for complete disinfection.

Testing the Chlorine Levels

- Take a water sample from the pool at least 10 inches below the surface and 12 inches from the wall of the pool.
- Test the water according to the instructions included with the test kit.
- The desirable level of free available chlorine in the pool is 1.0 to 3.0 ppm with 2.0 being the ideal level.
- Add chlorine according to the test results.
- Note: chlorine requirements can only be determined by regular testing.
- Keep a log of your chlorine tests. There is a log available in the back of this manual.

Adding Chlorine to Your Pool Water

Assuming that the total alkalinity is at the right level and the pH balance is correct, chlorine can be added. The amount of chlorine to be added depends on the present chlorine level and the type of chlorine used. Refer to the manufacturers instructions for quantity. If you need to know the volume of water in the pool, you can determine that using the formulas listed above.

Remember, chlorine degrades rapidly under the influence of UV light. For this reason, chlorine should be added – if possible – in the late afternoon or early evening, when it can dissolve and mix thoroughly before the damaging sun's rays can affect it

The chlorine should be evenly scattered / poured around the pool or poured slowly in front of the return lines to ensure rapid and even distribution.

If the pool has very high levels of contamination of there is a strong smell of chlorine around the pool, you may need to “shock” treat the water. This involves adding large quantities of non-stabilized chlorine (or non-chlorine oxidizers) to the pool, which rapidly destroys the offending particles.

Why, when I shock my pool, does it turn a clear green?

Clear green water usually indicates a presence of copper in the water. A chelating agent can be added to remove the trace metals. The most common chelating agents are ethylene diamine tetracetic acid (EDTA) and nitrilo triacetate (NTA).

Why does my pool have such a strong chlorine odor? Did I add too much chlorine?

Chloramines are the cause of strong odor in chlorine. Swimmer waste, perspiration, body oils and other contaminants that often enter the pool water create chloramines. Super-chlorinating your pool should alleviate this problem.

Stabilizers (conditioners) in Your Pool

Chlorine, which is used as a sanitizer in pools, is very unstable. The effect of the sun's UV rays and high daytime temperatures reduce chlorine's effectiveness and break it down into inactive components.

Stabilizer, or cyanuric acid, (CYA) is a compound that protects the chlorine from the negative effects of UV and heat. It not only ensures that your pool remains clean and safe for the swimmers throughout the day, but it also reduces the amount of chlorine we need to add in order to maintain these levels of disinfection.

According to research results, pools without stabilizer lose about 90% of their total chlorine residual on a sunny day in about 2 or 3 hours.

Ideally, the stabilizer should be maintained at a level of about 70 to 80 ppm – acceptable limits being 40 – 90 ppm. If you use a stabilized chlorine product, you will need to add very little, if any, stabilizer. The charts listed below will help to guide you.

If the stabilizer level is too high, try using a non-stabilized chlorine product until the level falls to the recommended limits.

Adding Stabilizer (cyanuric acid)

If the stabilizer test shows that the level is low (below 50 ppm), stabilizer needs to be added. The quantity can be determined from the charts below.

To increase cyanuric Acid						
Desired Increase in PPM	Gallons of water in pool or spa					
	10,000	15,000	20,000	25,000	30,000	40,000
10	.75 lbs	1.25 lbs	1.75 lbs	2.00 lbs	2.50 lbs	3.25 lbs
20	1.75 lbs	2.50 lbs	3.25 lbs	4.00 lbs	5.00 lbs	6.75 lbs
30	2.50 lbs	3.75 lbs	5.00 lbs	6.25 lbs	7.50 lbs	10.00 lbs
40	3.25 lbs	5.00 lbs	6.75 lbs	8.25 lbs	10.00 lbs	13.25 lbs

How do I add CYA to my Pool?

Pour the cyanuric acid slowly into the skimmer. Do not add more than two pounds through the skimmer at a time. Turn OFF your pool sweep (automatic pool cleaner). Note: One pound of CYA equals approximately 2 cups.

New pools and pools that have been drained need to be stabilized. Existing pools usually only require a “top-off” of CYA. Never neglect the stabilizer, or you will waste chlorine and \$\$\$.

Pool Water pH

The pH is one of the most important factors in pool water balance and it should be tested and corrected at least every week. PH is the measure of acid and alkaline balance in the swimming pool water. A pH of 7.0 is neutral – below 7.0 is acidic, above 7.0 is alkaline. The pH of our eyes is 7.2. It is no coincidence that the ideal pH for your pool is just that: 7.2...and the pH range should be kept within 7.2 – 7.6.

When the pH is too low: Acidic

- If your swimming pool is Marbelite or plaster, the pool water will begin to dissolve the surface, creating a roughness that is ideal for pool algae growth. A similar result occurs in the grouting of tiles swimming pools.
- Metals will corrode - and this includes swimming pool equipment, pipefittings, pump connections, etc.
- As the swimming pool walls and metal parts corrode, *sulphates* are formed. These are released from the water onto the walls and floor of the swimming pool causing ugly brown and black stains.
- Chlorine, which is used as a disinfectant in the swimming pool water, is activated and lost to the atmosphere very quickly. The water is not being sanitized, and you are wasting materials and money by adding chlorine when the pH is too low.
- When we swim, our eyes and nose burn. Our skin gets dry and itchy.

When the pH is too high: Alkaline

- The calcium in the swimming pool water combines with carbonates and forms “scale.”
- The swimming pool water starts to become cloudy or murky and it loses its sparkle. .
- As the pH rises, the power of the chlorine to act on foreign particles is lost. At a pH of 8.0 the pool can only use 20% of the chlorine you put in. So 80% of it goes to waste and you would need 5 times as much chlorine to provide the disinfection you need.
- In swimming pool water with high alkalinity, the swimmers suffer too. Our eyes and nose burn and our skin becomes dry and itchy.

By neglecting to test and correct the pH of swimming pool water, your pool plaster will scale and become unsightly. There may also be some physical discomfort.

It cannot be overstated: pH balance is critical for the maintenance and enjoyment of your pool. In addition, without pH balance, swimming pool chemicals are not effective!

Adjusting pool water pH

Assuming that the total alkalinity level is correct, we adjust the pH according to the results of the pH test. Better test kits (Taylor k-2005c) have an acid demand test, which allows you to calculate the amount of acid to add in order to correct the pH. You generally need to know the volume of the pool to calculate the quantity required. In general, the pH of pool water tends to rise. This is a result of chlorination, swimmer's wastes (sweat, urine, oil) and nature's tendency to balance the pH of standing water at about 8.5.

High pH can be reduced with an acid. The most common pool acids are:

- liquid hydrochloric acid (muriatic acid) and
- dry acid (sodium bisulphate).

Extreme care must be taken when adding acid to the pool, as negligence can result in serious burns. Before adding the acid, be sure there are no swimmers in the water and that the pump is running. You will need a plastic bucket to mix the acid in.

Always add acid to water; never add water to acid! Fill the bucket about $\frac{3}{4}$ full with water from the pool. Add the acid to the bucket and pour it **slowly** around the deep end of the pool. If you are adding a large quantity of acid, do it in stages - **DON'T** add large amounts of acid to the pool at one time. If you are adding acid directly to the pool be careful not to splash it on to yourself or on your deck. Allow the pump to circulate the water for at least 4 hours. Recheck the pool in 24 hrs and add more acid only if necessary.

Adding Muriatic Acid to Lower pH Level

Add the Muriatic Acid to 5-10 parts water and pour around the deep end of the pool. Keep the pool circulating so that the acid does not drop to the bottom and etch the plaster. Note that acid is heavier than water. See the chart below:

To Decrease pH using Muriatic Acid						
Drops of acid demand reagent (ADR)	Volume of water in pool or spa					
	1,000	5,000	10,000	20,000	50,000	100,000
1	.92 oz.	4.58 oz.	9.16 oz.	1.15 pt	1.43 qt	.75 gal
2	1.83 oz.	9.16 oz.	1.115 pts	1.15 qt	.75 gal	1.5 gal
3	2.75 oz.	13.7 oz	1.72 pts	1.72 qt	1 gal	2.1 gal
4	3.67 oz.	1.15 pts	1.15 qt	2.29 qts	1.43 gal	2.75 gal
5	4.58 oz.	1.43 pts	1.43 qt	2.86 qts	1.79 gal	3.5 gal
6*	5.50 oz.	1.72 pts	1.72 qts	3.44 qts.	2.15 gal	4.25 gal
7*	6.41 oz.	1 qt	2 qts	1 gal	2.51 gal	5 gal
8*	7.33 oz.	1.15 qts	2.29 qts	1.15 gal	2.8 gal	6 gal
9*	8.25 oz.	1.29 qts	2.58 qts	1.29 gal	3.25 gal	6.5 gal
10*	9.16 oz.	1.43 qts	2.86 qts	1.43 gal	3.5 gal	7 gal

* Note: To prevent adding too much of any chemical to your pool only add what is recommended for 5 drops even if it requires 7. This will help to keep you from over treating a pool if you make a mistake. Recheck pool in 24hrs and make further adjustments as necessary.

BEWARE OF THE DANGEROUS NATURE OF THE CHEMICALS YOU ARE HANDLING. DO NOT MIX ANY CHEMICALS WITH EACH OTHER! WATCH OUT FOR FUMES. SOME CHEMICALS GIVE OFF STRONG FUMES THAT CAN CAUSE SERIOUS PERSONAL INJURY IF INHALED IN SUFFICIENT QUANTITIES. Muriatic tends to cloud in cold weather so pour acid in the deep end of the pool and try to stay up wind.

Note: If you add too much acid to the pool at one time, you risk etching the walls, corroding the pipes (in older pools), Heaters, and pump parts and you lower the total alkalinity of the water.

Low pH is increased with an alkali - this is most commonly soda ash (sodium carbonate). The amount of sodium carbonate required to raise the pH can be obtained from the charts listed below.

To raise the pH level

Add the pH test solution to the test sample to determine the pH of the water. Don't pour the test sample out yet. If the pH is too low and needs to be increased, add base demand reagent to your test sample drop by drop until the color changes a 7.4 - 7.6 reading.

Adding Soda Ash to a Pool

Mix the soda ash in a bucket and pour the dissolved solution into the pool. Another possible solution would be to pour the soda ash around the edge of the pool in the deep end. Don't pour it all in one place or it will cloud up the water very badly.

To increase pH using Soda Ash						
Drops of base demand reagent	Volume of pool or spa					
	1,000	5,000	10,000	20,000	50,000	100,000
1	1 1/2Tsp	1/4 Cup	1/2 Cup	10.3 oz	1.6 Lbs	3.20 Lbs
2	1 TBS	1/2 Cup	1 Cup	1.28oz	3.20 Lbs	6.41 Lbs
3	1 1/2 TBS	3/4 Cup	1 1/2 Cups	1.92 Lbs	4.81 Lbs	9.61 Lbs
4	2 TBS	1 Cup	2 Cups	2.5 Lbs	6.41 Lbs	12.8 Lbs
5	1/4 Cup	1 1/4 Cups	2 1/2 Cups	3.20 Lbs	8 Lbs	16 Lbs
6*	1/4 Cup	1 1/2 Cups	3 Cups	3.85 Lbs	9.61 Lbs	19.2 Lbs
7*	1/4 Cup	1 3/4 Cups	3 1/2 Cups	4 .5 Lbs	11.2 Lbs	22.4 Lbs
8*	1/2 Cup	2 Cups	4 Cups	5.13 Lbs	12.8 Lbs	25.6 Lbs
9*	1/2 Cup	2 1/4 Cups	4 1/2 Cups	5.77 Lbs	14.4 Lbs	28.8 Lbs
10*	1/2 Cup	2 1/2 Cups	5 Cups	6.4 Lbs	16 Lbs	32 Lbs

*Note: To prevent adding too much of any chemical to your pool only add what is recommended for 5 drops even if it took 7. This will help to keep you from over treating a pool if you make a mistake. Recheck pool in 24hrs and make further adjustments as necessary.