Maintenance Guide
For Inground Pools

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Welcome to Pool Ownership 101! In this guide we will cover care and maintenance of an inground swimming pool. Preventative maintenance is a very important step in keeping the pool clean and clear. The following guide is meant as a general overview, and may not fit all pools. Please be sure and call our store at (417) 883-8827 if you have questions about any steps or procedures.

The first step to maintaining a swimming pool is understanding what kind of care one needs. The following section provides an overview of the five most important functions in a pool, listed in order of importance, as well as a small detail section. This is meant to give you a broad understanding of how a pool stays clear. Read on…

The 5 Keys to Great Pool Care:

#1: Circulation. Every pool has a pump that circulates water through the filter system and back to the pool. The more your water is motion, the less chance bacteria and algae have to take hold and grow. For best results, let your main pool pump run 24 hours a day/7 days a week. The pump should never run less than 12 hours per day.

#2: Filtration. The filter is one of your most important pieces of pool equipment. It removes both visible debris and microscopic matter. It is very important to backwash the filter weekly, and treat with a chemical cleaner once a season. Of course, the pump must be running for the filter to work. Keys 1 & 2 go hand in hand! This manual covers operations for a sand filter. If you have cartridge or DE, please see your owner’s manual for the filter for cleaning and recharging instructions.

#3: Cleaning. Most swimming pools have areas with little or no circulation (corners, steps, etc). This is where algae and bacteria can start to grow. It is important to brush the walls and floor down at least once a week to keep the entire pool clean. If you do not have an automatic cleaner, vacuum with your manual vacuum at least once a week to remove debris.

#4: Testing. Every pool has characteristics that must be measured and adjusted. This includes the active sanitizer in the water, or Free Chlorine, Ph, and Total Alkalinity. Use a 4-Way Test Strip at least once a week to monitor these readings in your pool, and adjust them accordingly. We’ll go into that more later.

#5: Chemical Care. The last step in a pool maintenance program (and yes, I said last!) is to apply the right products to your water to keep it crystal clear. Adding chemicals also helps you to provide a safe and sanitary swimming environment, and protect the pool surface and equipment from damage.

Now that you know what is involved in caring for a pool, let’s look at each key in depth. You will find instructions under each key for what is needed (Backwashing, vacuuming, etc).
Keys 1 & 2: Maintaining the Filtration & Circulation System

First rule of thumb: if at all possible, run the pump 24 hours per day. This will cut down on chemical usage and help the water stay crystal clear.

Keeping the pump and filter clean of debris is one important part of your weekly pool care program. You will want to perform the following tasks at least once each week:

- Check each skimmer basket at the side of the pool and empty the debris out.
- Check the basket in front of the pump motor and empty the debris out. Make sure you turn the pump motor off first. *To check or empty the pump basket, always be sure to turn the pump and heater off, before taking the lid off the strainer pot. The contents are under high pressure and injury could result if the system is running, and the lid is unscrewed.
- Backwash the filter.

Operating the Pump

Turning the pump on and off is easy. Follow the electrical line from the pump back to your power supply. Most pumps are on their own breaker, just flip the breaker to the off position to stop the pump. Flip the breaker back to the on position to restart the pump. If the breaker is not clearly marked for the pump, mark it now. Make sure everyone knows where the breaker is located and how to turn it off in case of an entrapment emergency. You can also unplug the pump from a wall outlet if it has a regular cord wired in. Always make sure you are away from water and your hands are dry when near the outlet or breaker box.

Before you turn the pump on, there are a few things to check:

1. Check your ball valves. These are the on/off valves that are attached to the plumbing lines coming out of the ground and into the pump basket assembly. They control the water coming from the pool. Most pools will have a minimum of two valves: one for the skimmer and one for the main drain. If the pump has been off for more than 5 minutes, a good rule of thumb is: turn the skimmer valve to the OFF position (perpendicular to the pipe), turn the main drain valve to ON (parallel to the pipe). This helps the pump to prime faster.
2. Is the pump lid on tight, with o-ring seated correctly? The pump will not prime if the lid is loose, or if the o –ring on the lid is missing.

When you turn the pump on, water should start coming into the basket assembly in front of the motor, and should fill the basket with water within 30 seconds. If water does not start trickling in, follow the instructions below to manually prime the pump. The pump is fully primed when the basket assembly is full of water, with no bubbles under the lid.

Priming the Pool Pump

Some pumps need to be primed after they sit dry for a period of time. Older or undersized pumps may struggle with this. Follow the instructions below to prime your pool pump.
To prime the pump:
1. Turn off the pump. Make sure heater is off also if you have one.
2. Quickly close the skimmer ball valves on the plumbing lines that come into the pump pot.
3. Remove lid or pump strainer pot.
4. Take garden hose and fill pot entirely with water.
5. Make sure your pump lid has an o-ring in place, and that it is in good condition. Replace the lid on the pump pot and secure it, hand tight.
6. Turn on pump and watch to make sure water starts to flow in the the pot from the plumbing lines. If water does not start to flow after about a minute, shut off and repeat steps 1 – 6 again. Some pumps are hard to prime, especially if the pool sits downhill from the equipment pad.
7. Once the strainer pot fills completely and the pressure gauge on the filter builds to normal reading, open the skimmer ball valve(s) again.

Filter Maintenance
A sand filter requires very little by way of maintenance. Sand filters should be backwashed weekly, and cleaned with a chemical degreaser called Strip Kwik® once every swimming season. The sand in the filter needs to be replaced every 3 – 5 years on a chlorine program.

Backwashing the filter reverses the flow of water through the sand bed, allowing any debris, dirt or algae to be stirred up and discharged via the backwash line. This keeps the sand bed clean throughout the summer. Backwash the filter once a week, or when the pressure on the filter gauge rises to 10 psi over normal operation pressure, whichever comes first. Normal operating pressure will vary widely from filter to filter. To find what your norm is, backwash the filter thoroughly (about 2-3 minutes), then record below what the psi reads on your gauge when you start the filter back up.

Normal psi _____________

Filters will not be damaged by backwashing more frequently. If you are having problems with hazy or green water, backwash the filter daily. This will help get rid of bacteria and algae in the water faster.

To backwash sand and DE filters with multi-port valves:
1. Turn off heater (if applicable) and then shut off pump.
2. Turn valve handle to backwash.
3. Roll out backwash hose.
4. Turn pump on.
5. Allow filter to backwash until water clears in sight glass (60-90 seconds).
6. After water clears, turn pump off.
7. Turn valve handle to rinse.
8. Turn pump on.
9. Allow filter to rinse for 30 seconds.
10. Turn off pump.
11. Return the valve handle to the filter position.
12. Turn pump on, then turn heater back on (if applicable).
13. Check to make sure water has stopped flowing out of the backwash hose. Roll the hose up and store near the end of the discharge pipe.

**IMPORTANT:** Repositioning multi-port valve while pump is in operation may cause damage to the filtering system and persons close to it. Always shut pump off first.

Cartridge filters on spas, vanishing edges, and some pools cannot be backwashed. To clean cartridge element, shut pump off and remove element from the filter housing as per manufacturer’s instructions, and spray well with garden hose. Use Strip Kwik® filter cleaner at least once per swimming season to get rid of oil and scum buildup.
Key #3: Cleaning
Your swimming pool should have a regular cleaning schedule. The following tasks need to be completed at least once a week:

- Brush the pool walls and floor with a vinyl bristle pool brush.
- Clean the skimmers with Off the Wall™ to keep oils from building up.
- Vacuum the pool floor and stairs if you do not have an automatic pool cleaner.

Vacuuming a Pool
These instructions can be used to hook up a manual vacuum on a basic pool system. You will need a vacuum head, a vacuum hose, and a telescoping pole. If you have an automatic cleaner, please refer to your cleaner's instruction manual for details on how to install and run the cleaner.

1. Keep sand filter valve handle on “Filter” position.
2. Close main drain ball valve (located in front of pump strainer basket).
3. Attach vacuum head to pole.
4. Attach vacuum hose to vacuum head.
5. Place head and hose in the water.
6. Feed vacuum hose straight down into the water, allowing hose to fill with water.
7. Close valves to all skimmers but one, or plug off other skimmers with winter plugs. Set vac plate over skimmer you will vacuum out of. Attach vacuum hose to vac plate. If you do not have a vac plate, take skimmer basket out and plug vacuum hose into hole at bottom of skimmer. Caution: Suction will be strong! Shut off pump if necessary, to hook up vacuum and turn pump back on when everything is in place.
8. Vacuum the pool, moving the vac head slowly around the floor to prevent stirring up debris. If the pool has a lot of debris, you may have to stop vacuuming periodically to clean out the skimmer and pump baskets.
9. After vacuuming is finished, remove vacuum hose from skimmer.
10. Remove vac plate and winter plugs from other skimmers. Turn ball valves back to open position.
11. Turn off pump.
12. Remove skimmer basket and empty. Check pump strainer basket and empty if needed.
13. Turn on pump and allow pressure to build.
14. Backwash the filter. (see previous page)
15. Remove vacuum hose and equipment from the pool.
16. For proper vacuuming suction, it is important that the filter is clean prior to vacuuming. If necessary, backwash before vacuuming also. Check and make sure pressure gauge is reading within normal psi before starting to vacuum.

To Vacuum a Pool to Waste
If the pool has algae, dirt or other very fine sediment on the pool floor, it may be necessary to vacuum this sediment to waste. This varies from a traditional vacuuming in that the water and sediment being picked up from the pool floor flows out the backwash line instead of through the sand filter and back to the pool. Very fine sediment can get through the sand bed and right back into the pool in a short amount of time. Then you will be vacuuming over again!
To vacuum a pool to waste, simply fill the pool up over the skimmer mouth (you will use at least 1 – 2" of water out of the pool vacuuming this way) and place your filter handle on the waste position instead of filter. All of the other instructions are the same as above. Make sure to monitor your water level as you vacuum, and stop to add more water to the pool if necessary before continuing. The pump cannot be allowed to run dry.
Keys 4 & 5: Testing and Chemical Care

Your pool water should be tested with a test kit or strips for free chlorine, pH and total alkalinity at least once a week.

Bioguard’s 4-Way Test Strips are the easiest way to test. There are no liquid drops to add, and the color chart is easy to use. When testing with test strips, take one strip out of bottle, and screw lid back onto bottle. (This eliminates the chance of leaning over the pool with the bottle in your hand and dumping all 50 strips in the pool!)

Dip your strip into the water, away from the jet returns, and immediately bring strip back out of water and hold level for 15 seconds. After exactly 15 seconds, match colors on strip to colors on back of bottle.

Adjust pH and total alkalinity if necessary, according to directions in Chemicals section. If chlorine is reading 5 ppm or higher, no shock treatment needs to be added for that week.

**Recommended levels for pool: (and what they mean)**

- **Free Chlorine:** 1.0 – 3.0 ppm
  - Measures good chlorine in pool water available to kill bacteria. This is the kind of chlorine you want to have.

- **Total Chlorine:** 1.0 – 3.0 ppm
  - Measures all chlorine in water, whether working or not. Ideally, this will equal the free chlorine level, so that all chlorine in the pool is free and available.

- **PH:** 7.4 – 7.6
  - Measures the comfort factor of the pool water for swimmers. Water is comfortable to skin and eyes. If pH is low, water is acidic and can cause corrosion in pool equipment, as well as red, itchy eyes. If pH is high, water is alkaline and can cause scale to form and irritation to skin.

- **Total Alkalinity:** 125 – 150 ppm for vinyl pools, 100 – 125 for plaster pools
  - Measures pH resistance to change. If TA is low, pH will usually follow. Same with high TA. Always adjust total alkalinity first if necessary, before adjusting pH level.

If testing with a drop kit, make sure you test for a **free** chlorine level. Refer to the instructions on your kit to see whether your test is for total or free chlorine.

Bring in a 12 oz. water sample for free computerized analysis at least once a month during the summer season.

If you have a solar blanket, make sure you take it off the pool every 2 – 3 days so the pool can breathe, and gas off bacteria that has been killed.
Pool Chemicals

Basic chemicals you will need to have on hand:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>What It Does</th>
</tr>
</thead>
<tbody>
<tr>
<td>3” Silk Tablets</td>
<td>Constant Sanitizer for pool, added weekly</td>
</tr>
<tr>
<td>Smart Shock</td>
<td>Oxidizes bacteria out of water, added weekly</td>
</tr>
<tr>
<td>Back Up</td>
<td>Helps prevent algae, added weekly</td>
</tr>
<tr>
<td>Lo N Slo</td>
<td>Ph and Total Alkalinity Decreasers</td>
</tr>
<tr>
<td>Balance Pak 200</td>
<td>Ph Increaser</td>
</tr>
<tr>
<td>Balance Pak 100</td>
<td>Total Alkalinity Increaser</td>
</tr>
<tr>
<td>Stabilizer 100</td>
<td>Keeps chlorine from evaporating under the sun</td>
</tr>
<tr>
<td>Off the Wall</td>
<td>Pool wall and skimmer cleaner</td>
</tr>
<tr>
<td>Test Strips</td>
<td>Test for free chlorine, ph, total alkalinity</td>
</tr>
</tbody>
</table>

Spring Start Up and/or Fresh Fill

Step 1: If more than 12” of fresh water needs to be added upon start up, add Stabilizer 100 first. Use 1 pound for every 3,000 gallons of water added. For exact dosage, bring water sample into store for professional analysis.

Step 2: If water is clear, follow these instructions:
- Add 3” Silk Tabs to the chlorinator, or Smart Sticks to the skimmer basket. Fill chlorinator or add 1 Smart stick per 5,000 gallons.
- Add Burn Out 35 shock directly to pool with pump running. Use 1 bag per 6,000 gallons.
- Add Back Up algaecide directly to pool. Use 1 ounce per 1,000 gallons.

If water is cloudy or green, follow these instructions:
- Add 3” tablets to the chlorinator, or Smart Sticks to the skimmer basket. Fill chlorinator, or add 1 Smart stick per 5,000 gallons.
- Add Super Soluble shock directly to pool with pump running. Use 1 lb per 3,000 gallons for initial treatment. Test for free chlorine level with test strip every 12 – 24 hours. Repeat this shock treatment if chlorine level shows less than 2 ppm after testing, repeat for as long as necessary to establish chlorine level of at least 3 ppm. When chlorine level stays at 3 ppm for more than 24 hours, pool will start to clear.
- Add Back Up algaecide if water is cloudy. Use 1 ounce per 1,000 gallons. Add Banish algaecide is water is green. Use 1 ounce per 1,000 gallons. Do this step with first shock treatment.

ALWAYS run pump 24 hours per day if water is not clear. This will help water clear faster. Backwash every 24-48 hours as needed to relieve filter pressure.
3 Step Program for Weekly Maintenance

Step 1: Refill chlorinator with 3” Silk Tabs or add Smart Sticks to skimmer basket.

Usage for Smart Sticks:
- Pools 15,000 – 20,000 gallons: 4 sticks per week
- Pools 20,000 – 25,000 gallons: 5 sticks per week
- Pools over 25,000 gallons: 6 sticks per week

To refill chlorinator:
1. Turn off pump (and heater if running).
2. Remove lid from chlorinator.
3. Insert 3” tablets, as many as needed to fill chamber.
4. Replace lid on chlorinator. Make sure o-ring is in place under the lid.
5. Turn on pump and heater if running.
6. Adjust metering valve if necessary to maintain chlorine reading.

**Never** put chemicals in the chlorinator other than the ones recommended by your pool dealer. Read danger tag on chlorinator.

Step 2: Add Smart Shock directly to pool water with pump running. Use 1 lb per 12,000 gallons of water.

If pool water is cloudy or green, or no free chlorine level is present, you should add Burn Out 35 or Super Soluble instead of Smart Shock. Bring a sample into store for accurate analysis as soon as possible.

Step 3: Add Back Up algaecide after you shock the pool (at least 2 hours after). Use 1 ounce per 5,000 gallons of water.

**NOTE:** If you have a water feature or spa attached to the pool, use Algae All 60 in place of Back Up. Algae All 60 will not cause foam.

Balancers: Test water with test strips at least once a week. Dip strip into water, and hold strip level for exactly 15 seconds. This is very important to get accurate levels. Adjust pH and total alkalinity if necessary. Lo N Slo and Balance Pak 200 should only be added when the test strip indicates the pH is off. These products will raise or lower pH. Add products per directions on back of bottle, or bring a water sample in to the store to be tested.
Stabilizer should be added to the pool whenever a partial drain or fresh fill is required. After water is brought back up to mid-skimmer level, refer to instructions on the bottle to add stabilizer. Only water loss can decrease stabilizer levels. 

NOTE: This product is very slow to dissolve. If possible, predissolve before adding to water, or add product through slowly through skimmer.

If there is ever a problem with your water, or if you just want to check yourself, we test water every day for FREE! Bring a 12 oz sample in, and we’ll let you know how you’re doing.

**STEP 4: MOST IMPORTANT.** For your own sanity and overall well-being, get into the pool and swim around at least 30 minutes each day. Get the kids, have a huge splash fight. You'll remember why you wanted this pool in the first place!
Last, But Never Least: Troubleshooting Tips

Most problems with the pool can be easily fixed yourself. Some common problems and solutions are:

Problem: No suction when vacuuming.
Solution: Make sure all other skimmers are either plugged off, or that the ball valves are closed (including the one to the main drain(s)). Are you getting good suction through the skimmer you are using? If not, try backwashing first, or check the strainer baskets and clean them if necessary.

Problem: Pool filter pressure running too high, water pressure weak at return jet.
Solution: Filter needs to be backwashed. If you have recently backwashed already, try backwashing for longer, 2-3 minutes. Remember, sand also needs to be replaced every 3 – 5 years.

Problem: Pool filter pressure low or zero, and/or bubbles coming out of return jet.
Solution: Make sure water level in pool is at mid-skimmer. Make sure the skimmer itself is full of water. Make sure pump basket is full of water, and water is circulating through system. If you can see water churning in pump basket, there is air getting into system. Check pump lid and o-ring for cracks, lid or o-ring may need to be replaced or lubricated. Make sure pump lid is tightened securely.

Problem: Pool pump making loud surging or gurgling noise.
Solution: Water level in pool is probably low, add water to pool until it hits mid-skimmer level.

Problem: Filter valve is leaking out the backwash line.
Solution: Check the handle on the valve to make sure it is seated firmly in the position. If it is, a gasket may be bad in the valve itself. For instructions on how to change gaskets or to schedule a service call, give us a call at (417) 883-8827. Be sure to have your Filter’s model number handy and we can instruct you over the phone.

Other Helpful Tips:
- Never turn pool lights on when pool is drained. Lights should be turned on only when they are submerged.
- Never add chemicals to pool while swimmers are in the water.
- Absolutely do not mix chemicals. Always add chemicals to water. Never add water to dry chemicals, even when pre-mixing product. Pool chemicals can be dangerous. Read all labels and use products according to directions. Store chemicals in a cool, dry place.