

TCC Pool Operations Manual
Version 1.0 - April 2009

prepared by lobo

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General Information

Contact Information

Questions regarding the operation of the TCC pool should be directed to lobo n or Rick M. If you are unsure as to how to do something, please contact one of the above first.

lobo's contact info:

Cell: (210) 325-5672

Home: (210) 384-8707

E-mail: slvlobo@gmail.com

Approved maintainers

The TCC pool, as any other pool, requires regular maintenance. It has been retrofitted with a more powerful pump and a sand filter in order to better keep up with the very uneven bather load and maintenance windows. In order to prevent “too many cooks” syndrome, only certain people are authorized to add chemicals to the pool. As of the writing of this manual, those individuals are:

Lobo
Rick M.

Chlorinating products

Although it is a relatively small pool, we want to conserve water as much as possible. For this reason, the use of chlorinating products that contain cyanuric acid (CYA or “stabilizer”) is not permitted. This includes some forms of granular shock, and all commonly available chlorinating tablets. These products all add CYA, and eventually the pool will have to be drained if too much CYA is in the water. The following can be used to chlorinate the pool:

- **Granular calcium hypochlorite** (Leslie’s “Power Powder Plus”, HTH “Shock ‘n Swim”, HTH “Super Sock It”, etc). This is the preferred chlorinating agent.
- **Unadulterated chlorine bleach** (cheap store brands are usually best. Be sure to read ingredients to ensure it only contains sodium hypochlorite and water – no perfumes or other “enhancements”)

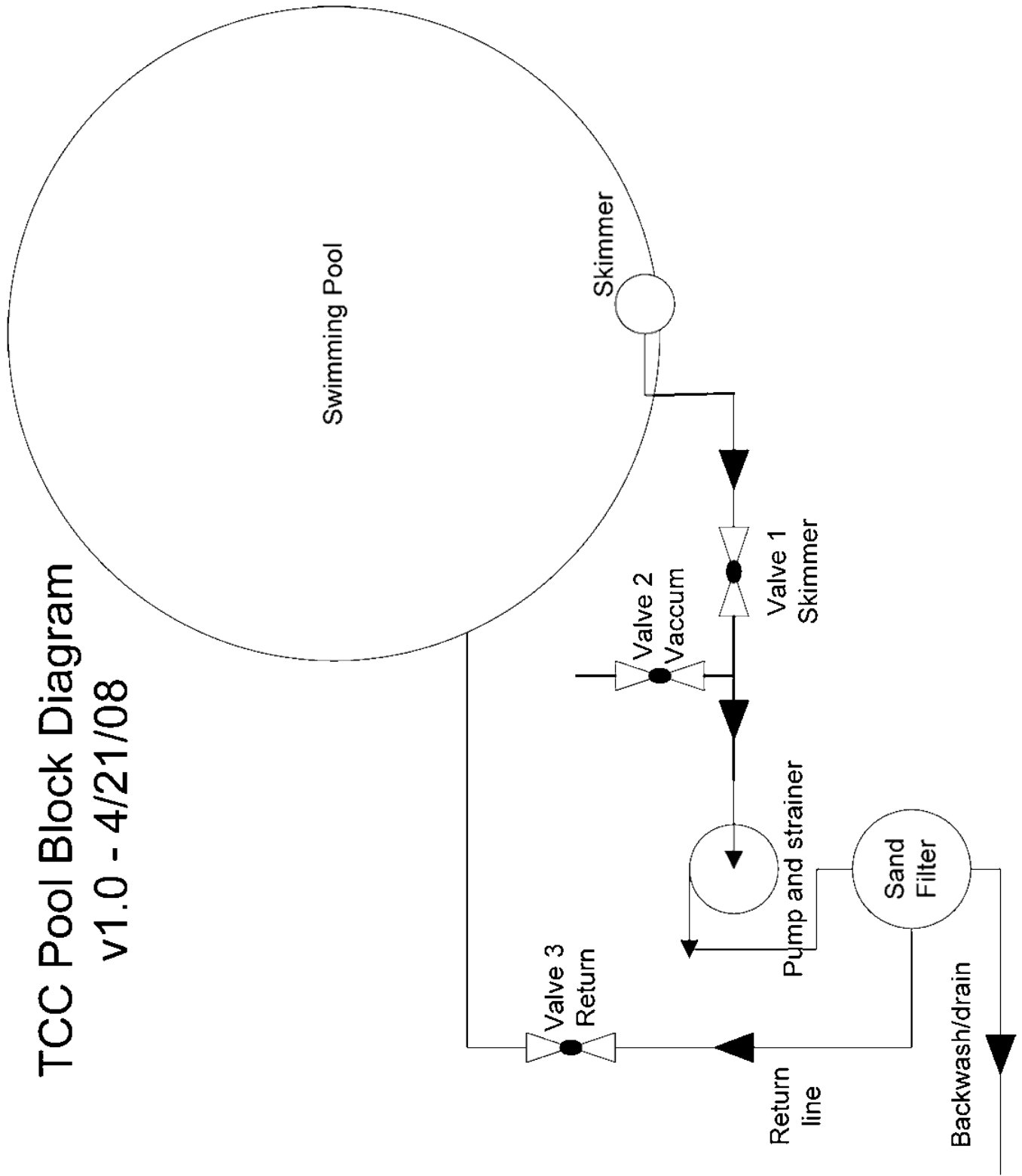
The best way to ensure that you are using non-stabilized chlorinating products is to read the ingredients label. If the words “cyanuric acid, CYA, stabilizer, dichloro-... or trichloro-... are present, do not use this product.

Add granular calcium hypochlorite a little at a time (1/4 pack every 10 minutes or so). Adding too much of it at once will cause the pool to cloud.

Pool Maintenance Log

A waterproof notebook with an extract of this manual is located at the pool. Any maintenance done to the pool, and especially any chemicals added, should be recorded in this log book. This ensures that multiple maintainers are not interfering with each other. The log book should also reflect the results of any pool water tests conducted (chlorine levels, pH, etc).

TCC Pool Block Diagram



TCC Pool Block Diagram
v1.0 - 4/21/08

Normal Operation (filter)

1. **Turn off pump**
2. Open valve 1
3. Close valve 2
4. Open valve 3
5. Set multiport valve on top of sand filter to “filter” (12 o'clock position)
6. Turn on pump
7. Observe strainer basket at pump intake. If there is considerable air:
 - a. **Turn pump off**
 - b. Slightly open strainer basket cover by rotating counter-clockwise to release trapped air.
 - c. Close strainer basket cover once air is purged and water is coming out
 - d. Turn pump on
 - e. Repeat steps a-d until strainer basket remains full of water

Backwash filter

Filter backwashing is needed on a regular basis to flush out debris collected in the sand filter. A backwash should be considered when the pressure reading on the pressure gauge on the sand filter is above 15 PSI, and is necessary if the pressure is above 20 PSI. Pressure should **NEVER** be allowed to rise above 25 PSI.

1. **Turn pump off**
2. Ensure valves are set as follows:
 - a. Valve 1: Open
 - b. Valve 2: Closed
 - c. Valve 3: Open
3. Turn the multi-port valve on top of the sand filter to “Backwash” (6 o'clock position)
4. Turn pump on
5. Observe the discharge from the backwash drain pipe, or the observation capsule on the side of the multi-port valve. Water will be initially clear, and then turn dark as the debris is flushed out.
6. Continue backwashing until the discharge water is clear (usually about 20-30 seconds)
7. **Turn pump off**
8. Turn multi-port valve on top of sand filter to “Rinse” (11 o'clock position)
9. Turn pump on
10. Allow to rinse for about 10 seconds
11. **Turn pump off**
12. Turn multi-port valve on top of sand filter to “Filter” (12 o'clock position)
13. Turn pump on
14. Verify filter pressure is between 10 and 15 PSI. If it is not, turn off pump and contact Rick or lobo

Cleaning out strainer basket

Periodically check the strainer basket to ensure that it is clear of debris. This is especially important if you vacuumed the pool.

1. **Turn pump off**
2. Close valve 1
3. Close valve 3
4. Turn multi-port valve to “closed”
5. Remove the strainer basket cover
6. Remove and clear out strainer basket
7. Replace the strainer basket cover
8. Turn multi-port valve to “filter”
9. Open valve 1
10. Open valve 3
11. Slightly open strainer basket cover to fill strainer with water
12. Close strainer basket cover once air is purged and water is overflowing
13. Turn pump on

Vacuuming the pool

Using the pool vacuum allows the removal of dirt, sand, and other debris from the pool bottom. Large quantities of large debris, such as leaves, should be removed by other means. Use the vacuum only for routine maintenance, not for initial pool openings.

1. Uncoil vacuum hose and place inside pool. Ensure that it is not caught or wrapped around any plumbing or other obstacles
2. Pre-fill vacuum hose with water. The best method for this is to use the fresh water hose to fill the vacuum hose with water
3. Attach vacuum head and pole to vacuum hose, and carefully place on bottom of pool while avoiding disturbing settled debris
4. Pump should be on, and in normal filter mode. If not, follow instructions for “Normal Operation”.
5. SLOWLY open valve 2. Open it slightly, and allow the system to stabilize before continuing to open. If you have too much air in the vacuum hose, the pump may lose prime. If this happens:
 - a. Close valve 2 completely
 - b. Turn pump off**
 - c. Slightly open the strainer basket cover to release trapped air and fill strainer basket with water
 - d. Close strainer basket cover
 - e. Turn on pump and ensure it is operating properly.
 - f. Slowly open Valve 2 again
 - g. Repeat as needed until you are able to fully open valve 2 while keeping the pump primed
6. For routine maintenance, it is acceptable to vacuum into the filter, and you may begin vacuuming at this point. However, if there is a large amount of debris on the pool floor, it may be necessary to vacuum to waste. To vacuum to waste:
 - a. Turn off pump
 - b. Turn multi-port valve to the “Waste” position
 - c. Turn pump on
 - d. Vacuum pool. Keep in mind that when vacuuming to waste, the water being vacuumed is being discarded, so work as quickly as possible in order to conserve water.
7. If vacuuming through the filter, keep an eye on the filter pressure. Once it is between 15 and 20 PSI, it will be necessary to backwash the filter before continuing. Follow the instructions for “Backwash filter” to do this.
8. Once you are done vacuuming:
 - a. Turn pump off**
 - b. Place multi-port valve in the “closed” position
 - c. Close valve 1
 - d. Close valve 3
 - e. Remove vacuum head and pole from vacuum hose and store
 - f. Take vacuum hose out from pool
 - g. Fully open the strainer basket cover and allow water to flow out.
 - h. Drain water out of the vacuum hose and coil hose over pipes
 - i. Close valve 2
 - j. Remove strainer basket and clean out trapped debris and replace in strainer
 - k. Replace strainer cover
 - l. Open Valve 1
 - m. Open Valve 3
 - n. Place multi-port valve in the “filter” position
 - o. Slightly open strainer cover to allow strainer to fill with water to top
 - p. Turn pump on. Ensure it maintains prime.

Winterizing

Winterizing the pool requires that the water be taken down below the skimmer entry port, and that excess water be removed from the pump and filter.

1. Pump down the pool level
 - a. Turn off pump
 - b. Place multi-port valve in the “waste” position
 - c. Open Valve 1
 - d. Close Valve 2
 - e. Close Valve 3
 - f. Remove skimmer and flex hose from pool connection (inside pool. pressure fitting – just pull off)
 - g. Turn pump on
 - h. Watch water level closely. Once water begins to lower below skimmer port the pump may loose prime.
 - i. Once pump loses prime, turn off pump and allow remainder to drain via gravity/siphon.
 - j. Open strainer basket cover and clean out strainer
 - k. Ensure water is below skimmer entry port level. It may be necessary to use alternate means such as a siphon to lower to this point.
2. Empty water from sand filter
 - a. Place multi-port valve on a setting between any two other settings. This “inactivates” the valve and allows water to drain
 - b. Remove winterizing plug from lower back part of sand filter. Replace plug once water has drained completely
3. Remove any excess water from pump assembly/strainer basket
4. Replace strainer basket cover.
5. Close Valves 1, 2 and 3
6. Cover pool and secure cover with bungee cords
7. Turn pump switch (on pump motor) off
8. Turn pump receptacle switch (in green case on power board) off
9. Remove timer on/off studs from timer (in gray case on power board). Store timer studs at bottom of timer case. Manually slide timer on-off lever to “off”

Opening the pool

This procedure should be followed to open the once the season starts. This assumes that the pool was winterized as described above.

1. Ensure winterizing plug on bottom of sand filter is securely tightened
2. Valve setup:
 - a. Valve 1: Open
 - b. Valve 2: Closed
 - c. Valve 3: Open
 - d. Multi-port valve: in “filter” position (12 o’ clock)
3. Fill pool to above return port
4. Prime the pump if needed:
 - a. Slightly open the strainer basket cover to allow it to fill completely
 - b. Once water is overflowing out of strainer basket, close strainer basket cover
5. Replace timer studs in timer (gray box on power board). Manually slide timer on-off lever to “on”
6. Turn on pump switch (on the pump itself near the power cord)
7. Turn on the pump receptacle switch (in green box on power board)
8. The pump should start up. Observe for any issues such as losing prime
9. Balance the water.
 - a. pH should be near 7.2
 - b. Shock to obtain high levels of chlorine. Use DPD chlorine test kit and measure Free Chlorine (FC). Continue shocking and balancing pH until there is at least 4 PPM Free Chlorine
 - c. Measure Cyanuric Acid (CYA or “stabilizer”) levels. If level is above 80 PPM, drain ½ water from pool and re-fill.
 - d. Re-balance pH and chlorine as above if needed
 - e. Measure Total Alkalinity. Adjust appropriately if it is not between 80 – 110.
 - f. Add algaecide (polyquat only. Do not use copper-based algaecide)
10. Clean out pool.
 - a. For large debris on pool floor (large quantities of leaves, etc) use the nets and the leaf vacuum attachment. The leaf vac attachment is the one that is hooked up to the garden hose. Do not use the system vacuum until most large debris has been removed
 - b. Use system vacuum (see above) to remove small debris and dirt.
 - c. Allow pool to run on “filter” for at least 24 hours, monitoring pressure and backwashing as appropriate. Also monitor Free Chlorine levels, and add chlorine as needed.

BIG NOTE: Do not use chlorinating products that add “stabilizer”, as this will build up and render the chlorine ineffective. You can identify these by reading the ingredients. If any of the ingredients list di-chloro... or tri-chloro..., these should not be used.