SoftWash SYSTEMS®

BLEND 2X/3X/6X

COMMERCIAL SOFT WASHING MODULE

OWNERS MANUAL

V1.02.2021

OWNER'S MANUAL

Blend 2X Module™
Blend 3X Module™
Blend 6X Module™

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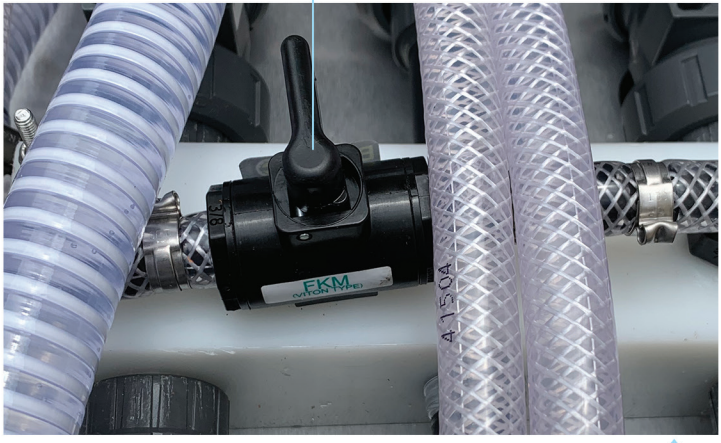
Pressure Valve *(Blend 6X Only)*



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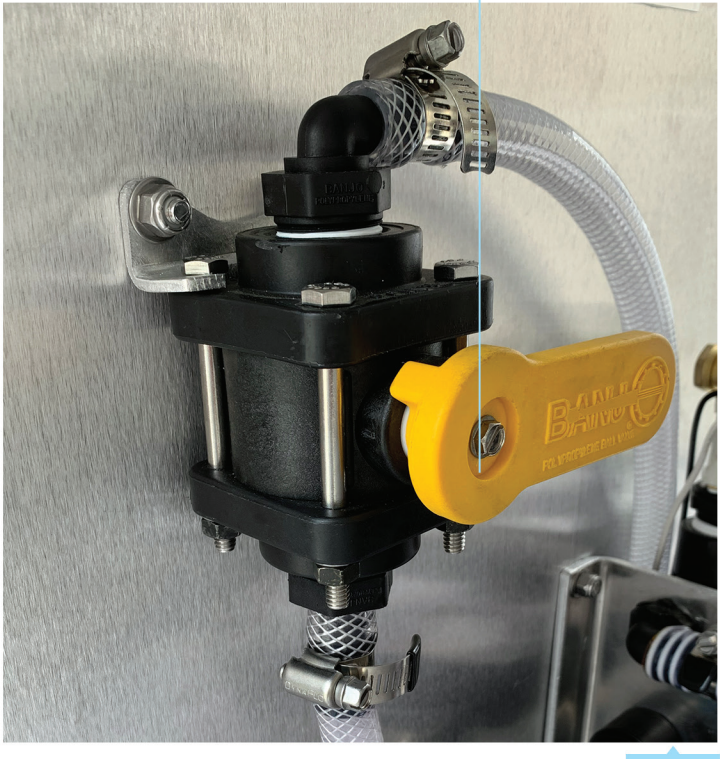
Priming Valve *(Blend 3X and Blend 6X Only)*



picture 5

Ball Valve

picture 6

picture 7 Draw Tube Assembly *(found inside tank)*

Generation III SoftWash Blend 6X Module™ Introduction

Similar for Blend 2X and Blend 3X

SoftWash Systems Generation III Blend Softwash Module has been designed to give you many years of low maintenance service. All components are assembled from the highest-grade parts and materials available. This system was designed to be easy, used daily, as well as easy to train employees on its operating instructions.

This is a high production soft washing piece of equipment. This unit is designed for use on a dedicated soft washing truck. This soft washing system can apply soft washing solutions at 4 gallons per minute. This is not the pump rating and pump ratings should not be confused as production ratings. On average a one (1) gallon soft washing solution, made up of a **TONER 12™** (bleach) and water with SoftWash Systems Green Wash additive, should clean a ***minimum*** of 100 square feet. This system is designed to clean at a rate of 300 to 600 square feet per minute. High production also means high gross revenues. Our Generation III Soft Wash Blend Module, when equipped with our SoftWash Systems Cradle Skid Format, can produce gross weekly projected revenues in excess of $7,500.00.

Where Can I Find Help?

This owner's manual is your first source for support and direction on your new SoftWash Systems Blend Module. In this owner's manual, you will find step by step directions for basic operations. Other sources for finding and getting support are:

1. The Facebook "**SoftWash Systems In-Network Companies**" group.

   Please note you need to be Certified to join this online group. You can post questions to the group about your equipment whether it's about a malfunction or to learn about its potential from others in the network. You will get much quicker answers to your questions posting on this Facebook page than anywhere else.

2. Call Technical Support at **855.763.8669** and select the extension for Technical Support when prompted, after reviewing the manual and checking for solutions in the troubleshooting section. With purchase of your equipment, Softwash Systems will provide you with six free months of technical support which begins when you receive your equipment. After six months, if you are a member of the Softwash Systems network, you will continue to receive free technical support. If you are not a member of the Softwash Systems network, all technical support calls will be timed and you will be charged a technical support service fee, which is an hourly rate that we prorate to the closest 15 minute increment. Please ask your Shield Support Agent for the current Technical Support Service Fee.

Powering Your SoftWash Blend 2X/3X/6X Module

Proper Battery Choice

The SoftWash Systems recommended battery choice is: Group 24 or

Group 31 Marine/RV Grade Deep Cycle Batteries. For van installation we recommend sealed AGM type batteries.

WARNING: Lead-acid batteries are not safe for enclosed vehicles.

Only deep cycle batteries can be used. Do not use marine/start or starting batteries. Marine deep cycle batteries can be found at any RV or Boat supply or even discount stores like Walmart or Sam's Club, etc.

The general rule of thumb is 1 battery = 2 hours of "Spray time" (when the pump is running). We usually install 4 batteries with a battery charging system (AC & DC) which lasts all day.

Battery Mounting Options

Make sure to mount batteries in either a battery tray, which can hold up to five batteries or within the battery cut out slot(s) on the Lower Skid Unit. Batteries should be secured.

Charging and Care of Your Batteries

Deep cycle batteries require daily charging. Make sure to visit your battery manufacturer's website for care and maintenance guidelines. Poorly charged batteries will diminish the performance of the modules.

BATTERY VOLTAGE STATE OF CHARGE TABLE

State of Charge	Sealed of Flooded Lead Acid battery voltage	AGM battery voltage
100%	12.70+	12.80+
75%	12.40	12.60
50%	12.20	12.30
25%	12.00	12.00

WARNING: STATIC VOLTAGE (WHEN THE PUMP POWER IS OFF) SHOULD BE NO LOWER THAN 11.5 TO OPERATE EFFECTIVELY.

General System Operation & Processes

Filling 50 or 100-Gallon TONER 12™ (bleach) Storage Tank

1. You can fill the tank directly with TONER 12™ (liquid bleach) from the black screw top lid located on the back of the unit.
2. Fill the tank leaving a little space at the top. **Do not over fill. These tanks are 52-gallon, and 104-gallon tanks respectively.**

Transferring TONER 12™ (bleach) from a Drum to Blend Tank

Multi-tap valve assembly, European Add-On.

NOT APPLICABLE FOR THE USA VERSIONS

1. Set all metering valves to zero (“0”).
2. Make sure to have at least 20 gallons of water in the water buffer tank.
3. Connect the multi-tap stinger to the fill valve.
4. Insert multi-tap stinger into Bleach drum.
5. Using the draw valve, select multi-tap by turning the handle to the right. (Multi-tap valve assembly, European Add-on)
6. Turn on the pump by selecting #2 on the Power Switch.
7. Remove wand tip, then purge application hose by opening the ball valve. When TONER 12™ (bleach) reaches the wand (indicated by the yellow color in the hose) close ball valve and insert the wand into TONER 12™ (bleach) tank.
8. When you are within 5 gallons of your desired level turn off the wand.
9. Change the draw valve back to blend by turning the handle to the left, counter-clockwise.
10. To remove the remaining TONER 12™ (bleach) standing in the application hose, insert the wand into the TONER 12™ (bleach) drum, turn the wand off when the color changes from yellow to clear.

Note: *Concentrated TONER 12™ (bleach) cannot be left in pumps for an extended period. We recommend running clean water through the TONER 12™ (bleach) pump after transferring concentrated TONER 12™ (bleach).*

Priming the Soft Washing Blend 3X and 6X Module *(Blend 2X does not have Priming Valve)*

1. Priming is a process you will need to perform whenever air is drawn into your system. To avoid losing prime, make sure you have sufficient water, TONER 12™ (bleach), and soaps in the tanks.
    a. Fill the 50- or 100-gallon poly tank below the Blend head with TONER 12™ (liquid bleach).
    b. Fill your water buffer tank with clean, clear water.
    c. Make sure the soap tanks are at least half full.
2. Make sure the TONER 12™ (bleach) and Soap metering valves are closed fully horizontally (set to “0”) AND that the spray wand ball valve is open without a spray tip. The valves turn easily. Do not use force.
3. Make sure the restrictor valve handle (red or blue valve handle) on the blend water draw tube (located inside the tank) is open (vertical) into priming position when necessary.*

***Note:** *It isn't always necessary to open the blend water restrictor valve or the priming valve inside the cabinet to achieve prime. This procedure is for an airlocked pump.*

4. Open the priming valve (*shown in picture #5*) inside the cabinet.
5. Turn on the system by switching the power switch to position two (2).
6. Allow the pump to prime and all air to evacuate from your Blend Module through the priming valve for approximate 10 seconds. Close priming valve.

WARNING: The priming valve is returning fluid to the TONER 12™ (bleach) tank.

7. Once all air has passed through the pump (you will know this when the pump changes tone), close the ball valve on your spray wand and insert spray tip (the pump will pressurize and shut off), close the water restrictor valve (located inside tank), and adjust your TONER 12™ (bleach) and Soap Metering Valves to the desired strengths to continue using the machine as normal.

Pump Operating Pressure

1. The system is equipped with a SoftWash Systems 5.3 GPM (20 liters per minute) 12-volt pump.
2. The optimal PSI usage on this piece of equipment is 65-75 PSI.
3. The pump is rated for up to 110 PSI but we have preset the pump's pressure switch to turn off at about 100-105 PSI.
4. Spray tip size can influence the operating pressure of the pump on the pressure gauge. #20 orifice size spray tips are the size supplied with the system. #20 spray tips will generally allow the system to operate at between 65-75 PSI.

Note: *System's performance will be greatly influenced by the battery voltage. (Please reference chart titled* ***Battery Voltage State of Charge****.)*

5. Operating pressures above 95-100 PSI will cause the 12-volt pump to surge or the pressure switch to shut on and off rapidly. **This will cause the pump to fail prematurely.**

HELPFUL TIP: The higher you are from the ground the greater the pressure will be in the pump head causing the PSI to be raised. Use #30 Orifice tip to lower pressure.

Checking Your Shut-off Pressures

1. The system uses an "on-demand style" pump, which allows the pump to run while the application (spray) wand is open and automatically turns off when the wand is closed.
2. Place a #20 spray tip in your wand and place the wand in an empty 5-gallon bucket. Make sure the wand is in the open position.
3. Allow ALL air bubbles to clear from your system and hose reels.

4. Observe and confirm that the pressure gauge is between 65-75 PSI which indicates that all air has been evacuated from the hose.

5. Turn the spray wand off and your pump shut off pressure should be around 100-105 PSI.

Note: *When the wand is closed the system pump will automatically turn off within 3-5 seconds.*

6. Test your operating (on) and off demand pressures by turning your spray wand on and off watching to make sure you are around the 65-75 PSI when spraying and that the pump shuts off around 100-105 PSI.

WARNING: Setting the shut-off pressure above 105 PSI may cause unwanted leaks and unnecessary wear on the pump.

7. If adjustments are needed to correct the shut-off pressure refer to the trouble-shooting option, "Systems Pump is Cycling On and Off Too Frequently."

Note: *Most everything that your system is constructed of is durable polypropylene plastic. Plastic is influenced by temperature and constricts as it gets cooler and expands when it gets warmer. Therefore, you may have to from time to time, check your pressures throughout the day. You may see some variables or swing based upon altitude and temperatures.*

Directions to Spray Chemical

1. Set TONER 12™ (BLEACH) VALVE according to the surface to be cleaned.

2. Set SOAP VALVES according to the surface to be cleaned.

3. Set the power switch to "2" to turn on the pump. (*"1" powers the Pump Fan, "1 & 2" powers both the Fan and the Pump. When the outside temperature exceeds 80 degrees be sure the power to the switch is set to 1 and 2. Especially if the equipment is in direct sunlight.*)

4. Red LED light should illuminate indicating the system is ON. The GREEN light (on Blend 3X and Blend 6X) indicates that the pump motor has power.

5. When the wand is closed (off) the system pump will automatically turn off within 3-5 seconds. This will spray out of the ½" Hose connected to the 12" Wand.

IMPORTANT: The Ball valve wand must be used fully open or fully closed. Do not use a wand with it partially open.

Changing Chemical Mix, "Cracking the Bubble" - Blend 6X Module Only

Often you might decide to change soft washing ratios quickly, the below settings will allow you to put air bubbles in the line which will show you exactly when the new strength hits your wand after traveling through the hose reel.

1. Set your TONER 12™ (bleach) and Soap metering valves to your NEW desired setting.

2. Make sure the wand ball valve is open and the pump is running when doing this procedure.

3. Press the "Push To Signal" button, located on the control panel face, to create an air bubble while spraying. Push button for no longer than 2 seconds (pressure will drop temporarily).

4. Now you should have bubbles in your spray line where your chemical strength switches over, indicating the change.

5. Repeat the process whenever you have a change in settings.

Note: *Remember when changing ratios on the BLEND valves quickly, your new chemical mixture will not change over until the current strength is run through your 300' of application hose. Allow approximately 2 minutes or 500 sq. ft. of cleaning.*

End of Job Procedure

Note: *To flush chemicals out of your system between jobs, simply turn off all soaps and TONER 12™ (bleach), crack a bubble and spray until only water comes out of the wand.*

WARNING: DO NOT TRAVEL WITH PRESSURE ON YOUR SYSTEM. Turn the power switch to the "OFF" position with the application wand open to release the most pressure in the system. Once the pressure is about 10 PSI, close the wand, then wind hose on to Reel.

End of Day Procedure

We require rinsing out and neutralizing your system at the end of each workday. TONER 12™ (bleach) is corrosive and can cause damage if not properly neutralized. **The end of day procedure must be followed daily to maintain your warranty on your SoftWash Blend System.** Following this procedure also flushes the inside of your pump which extends pump life.

To limit the waste of chemicals, start this process when you are approaching your final 500 square feet of cleaning at the job. This is because there are still 300 feet of soft washing solution in the hose that will need to be used before you run Final Wash through the system.

1. Turn all metering valves on the control panel to the off position ("0").

2. Set the Final Wash valve to "2". This starts the neutralizing process inside the pump and hose or stinger.

3. Once the chemical in the line has switched to Final Wash turn the Final Wash valve to "0" (refer to the Changing Chemical Strength "**Cracking the Bubble**" instruction on page 11-12 for the indication of when chemical changes).

4. Use the Final Wash coming out of the application hose to wash the equipment and exterior of your truck.

5. Once there is no longer Final Wash coming out the end of the application hose, rinse off your equipment and truck with the clean water coming out of the same

hose. This procedure also flushes the pump of residual final wash.

6. Turn the power switch to the "OFF" position with the application wand open to release the most pressure in the system. Once the pressure is about 10 PSI, close the wand.

7. While rolling up the hose, run the hose through a damp rag. To protect the hoses, saturate the rag with Armor All or a similar product to clean at least once a week.

IMPORTANT: Pumps that fail due to abuse or poor maintenance and have not been daily rinsed with clean water and Final Wash will not be eligible for warranty privileges.

Troubleshooting Options

System Pump Won't Prime

Check to ensure that all tanks are filled.

System Pump Won't Prime - Air Lock in Pump

Refer to "**Priming the Soft Washing Blend 3X and Blend 6x Module**" section *(page 9)* and make sure you open the restrictor valve when doing the procedure.

System Pump Won't Prime - Check for Kinked Hose in System

One possible issue for a pump not priming can be a kink in a suction hose. We use a suction specific ribbed hose on our systems to keep this from happening. (This only applies to the ¾" ribbed suction hose; ribbed suction hoses are not available in ½" and ⅜"). Our suction hoses will not collapse under suction. However, it is prudent to look for kinks or any other kind of obstructions on the suction side of your system when having pump-priming problems. Suction regions of the system will have a ribbed suction hose on them and are identified. Please visually inspect all of your hoses to make sure you don't have an obstruction or a kink in the hose on any of your suction lines.

System Pump Won't Prime - Check for Suction Air Leak in Plumbing

Often a pump-priming issue can be from air getting into the system through a loose or broken fitting. We take extra time to make sure every thread is sealed; every clamp is seated correctly, and every fitting is in good working condition before water testing every system that comes out of our factory. It is important to note that our factory however is in sunny, mild Florida and as these systems are shipped all over the world, they encounter varying temperatures as well as shipping mishaps. Inspect your system for possible air leaks by visually inspecting every hose connection for visible bubbles in the lines. We use all clear hoses specifically to make troubleshoot-

ing these issues easy. Once you find bubbles in your line backtrack upstream the bubbles until you find a section of line where the bubbles don't exist. Then move back up the line downstream to the fitting closest to where there is evidence of bubbles in your system. There you will find one of these below conditions to correct and solve the air intake problem.

1. Hose clamp needs to be tightened.
2. Barb fitting needs a new thread seal or may need to be tightened.
3. Cracked fitting needs replaced.
4. Cracked check valve.
5. Cracked tank flange also referred to as bulkhead fitting.

System Pump Won't Prime - Air Escaping Through Spray Wand & Low Pressure

Also related to the condition outlined above, evidence of an air leak in your system can be sputtering of air through your spray wand long after the initial priming of your system between tank refills. In other words, unexplained air keeps coming through your spray wand not related to the initial system set up at the beginning of the day. Leaks of any kind in your system will result in air being introduced into your system (suction side of the system) or a dripping or streaming of chemicals from a fitting or pinhole in a hose (pressure side of the system).

How to locate an AIR LEAK in the Blend 2X and 3X Cabinet

"Reverse Pressure Test Method"

PURPOSE: To pressurize the suction side of the system to about 90 psi. If there is an air leak, the fault will now leak water.

This will locate any air leak in the BLEND cabinet all the way back to the check valves (including the one in the water tank). If this method does not reveal any leaks, the air leak is most likely caused by a cracked tank flange or a loose hose clamp between the bleach tank and the check valve, or between the soap tanks and the check valve.

MATERIALS NEEDED: Supplied Test Hose or:

A length of hose ¾ inch in diameter, long enough to reach the water tank or bucket of water and the pump.

1 hose clamp.

A pump quick connect, two quick connects are supplied with each new pump.

Attach the length of hose to the quick connect, secure with a hose clamp.

WARNING: Before starting, make sure SYSTEM POWER switch is turned to OFF and the wand is open to bleed off all pressure.

1. Remove suction hose from the rear of the pump (spiral hose).
2. Attach the Test Hose or the hose you made earlier to the now empty port on the rear of the pump, the open end of the hose should be placed in either the water tank or a bucket of water.
3. Disconnect the hose on the right side of the pump and set aside.
4. Turn SYSTEM POWER switch to 2 until water flows from the open port on the pump.
5. Connect the suction hose that was removed in step 1 to the open port on the front of the pump.
6. Turn the SYSTEM POWER switch to 2. The pump will energize then shut off.
7. Inspect valves, fittings, and hoses for water leaks. If there is an air leak, water will be leaking from fault no matter how small.
8. Open the Toner 12 valve fully, inspect operation of check valve as well as check for leaks at the metering valve and check valve.
9. Open SOAP valve(s) fully, inspect operation of check valve as well as check for leaks at the metering valve and check valve.

If after the above procedure is performed and there is still an air leak present, check the hose clamps on the lower half of the check valve, draw tube assembly, and inspect the tank flange for cracks. Sometimes it is necessary to remove and disassemble the draw tube for inspection of components.

How to locate an AIR LEAK in the Blend 6X Cabinet using the "Pressure Valve"

PURPOSE: To pressurize the suction side of the system to about 90 PSI. If there is an air leak, the fault will now leak water.

This will locate any air leak in the BLEND 6x cabinet back to the check valves (including the one in the water tank). If this method does not reveal any leaks, the air leak is most likely caused by a cracked tank flange or a loose hose clamp between the TONER 12™ (bleach) tank and the check valve, or between the soap tanks and the check valve

1. Close the ball valve on the spray wand.
2. Turn the Power on and wait for it to pressurize and shut off (tone will chnage).
3. Open TONER 12™ (bleach) and soap valves to number **3**.
4. Open the cabinet and locate the Pressure Valve (see picture 4) on the manifold inside.
5. Open Pressure Valve for approximately 5 seconds and then look for leaks.
6. Close valve. Valve should be closed when the system is in operation.

7. If no leaks found, repeat steps #5 and #6.

Note: *If this method does not reveal any leaks, the air leak is most likely caused by a cracked tank flange or a loose hose clamp between the TONER 12™ (bleach) tank and the check valve, or between the soap tanks and the check valve.*

Not Drawing Soap Properly

1. Make sure there is sufficient soap in the saddle tanks.
2. Check for an air leak in ⅜" hose at any of the barb fittings on the suction side of the pump. Check for loose hose clamps.
3. A metering valve body collar may need to be tightened. Call for technical assistance. Overtightening can cause damage.
4. Check to ensure that the ½" check valve isn't cracked. Replace as necessary.
5. The draw tube in Saddle Tank may need to be re-glued to be airtight. We recommend using 3M 5200 Adhesive.
6. Restrictor valve in water buffer tank may be open.

Loss of Pressure at Spray Tip

1. Clogged tip: Remove spray tip and check for debris.
2. Kink in Hose: Kink in ½" spray hose not visible from the hose being wound up on the reel. Unroll the hose completely to inspect.
3. Corrosion: Stainless steel hose reel riser tube is corroded and swollen almost shut or rust from within this tube clogging the ½" brass barb at end of ½" hose at the reel. Replace ½" hose barb at the manifold. Check for debris and remove it if present. This is prevalent in systems older than one year.
4. Debris has been pulled into the pump head keeping it from sealing/seating so that pump struggles to maintain pressure.
5. Low voltage: Recharge batteries or replace them as necessary.
6. The pump has aged: Pump head needs a rebuild kit or pump completely replaced.

Loss of Power to System

1. Pressure switch contacts are burnt and need to be replaced. Call for technical assistance.
2. Corrosion is present at terminals. Check terminals at batteries, breaker, switch, and terminal block. If corrosion is present, clean or replace.
3. Loose connections: Tighten or replace as needed.
4. Low voltage: Proper voltage feed is very important. Low voltage will cause

various power issues as well as premature failure of your system pump and pressure switch. The low battery voltage will also cause the pump to overheat. Charge or replace batteries as needed.

5. Resettable breaker tripped on the system firewall.

6. Pressure switch on pump triggered: Open your spray wand to make sure your system is not under pressure.

Note: *Make certain that your pressure gauge is functioning properly. When all pressure has been relieved from the system the gauge should read zero ("0").*

System Pump is Struggling to Make Pressure

If your pump is struggling and there are no visible leaks, kinks, or fouls, your battery charge may have dropped below minimum voltage for the pump to work effectively. Compare the reading of the voltmeter on the control panel to the chart below. Charge or replace batteries as necessary.

BATTERY VOLTAGE STATE OF CHARGE TABLE

State of Charge	Sealed of Flooded Lead Acid Battery Voltage	AGM Battery Boltage
100%	12.70+	12.80+
75%	12.40	12.60
50%	12.20	12.30
25%	12.00	12.00

WARNING: STATIC VOLTAGE (WHEN THE PUMP POWER IS OFF) SHOULD BE NO LOWER THAN 11.5 TO OPERATE EFFECTIVELY.

System Pump is Cycling On and Off Too Frequently

1. The pressure switch is set incorrectly. Adjust pressure switch using a 1⁄16" Allen wrench (hex wrench). Turn set-screw clockwise to raise the shut-off pressure. The set-screw is located on the edge of the blackfin on the tip of the pump.

   Note: *Adjusting the pressure switch only changes the shut-off pressure, not the spraying pressure.*

2. Restricted flow either at the tip of wand or hose reel swivel or somewhere in between. Refer to section "**Loss of Pressure at Spray Tip**".

3. Too small of a tip for the job. For example, if you are working above two stories you will likely need to use a #30 tip rather than a #20 tip to get the pressure to drop.

Maintenance

Refer to the chart below for information about how often to perform maintenance on each part of your system.

MAINTENANCE INTERVALS

Maintenance Tasks	**DAILY**	**WEEKLY**	**MONTHLY**	**QUARTERLY**	**YEARLY**	**AS NEEDED**
End-of-Day Procedure	X					
Wipe off hose when winding	X					
Rinse exterior of system	X					
Apply Armor-All to hose		X				
Check for loose hose clamps		X				
Test circuit breaker		X				
Charge battery with AC charger		X				
Wipe down system's aluminum with Pledge		X				
Check electrical connections			X			
Lubricate fasteners			X			
Reverse-pressure test			X			
Check/ fill battery water level			X			
Check for loose fasteners			X			
Vacuum tanks			X			
Rotate Hose on Reel					X	
Replace valves						X

Helpful Tip: Set calendar reminders to do these items.

Tanks & Hoses

1. Coat the tanks from time to time with a plastics care product like Armor All, Tire Foam or alike product. Allow soaking overnight and then wipe away excess in the morning. You can also use these types of dressing sprays on your hoses throughout the system as well.
2. Vacuum out residual trash from inside the tanks every month. Then rinse the tanks out with clean, clear water.
3. Remove and rinse the in-tank sediment filter monthly when you vacuum out the tanks.
4. Look for corrosion on any of the stainless-steel hardware on tank lids, hose clamps, and tank straps and replace if anything looks worn.

Float Valves

The Float Valves should be routinely cleaned to maintain optimal performance. Depending on your water source, cleaning should take place between 2-6 times per year. The more silt, rust, debris, etcetera in your water, the more often you need to clean the valve. Moss, algae and other debris can clog the small holes that run through the valve causing it to stop working properly.

1. Turn your water source off and remove the valve.
2. Unthread the cap from the body of the valve.
3. Remove diaphragm and retainer ring.
4. Turn valve over and, using a screwdriver, remove screw to drop float out of the valve body.
5. Wash all parts with warm soapy water and rinse thoroughly.
6. Hold the silicone diaphragm up to the light to make sure that the hole running through the stem is open and clear.
7. If the stem is not clear, try to run water or compressed air through it. **Do Not** try to stick a needle or pin through the hole as this could alter the size of the diaphragm hole causing the valve to fail. If you are unable to clear the debris, contact us.
8. Hold the body of the valve up to the light to make sure that the stainless steel insert running through the body of the valve is open and clear.
9. If the insert is not clear, try to run water or compressed air through it. **Do Not** try to stick a needle or pin through the hole as this could alter the size of the insert hole causing the valve to fail. If you are unable to clear the debris, contact us.
10. Check the shut-off pad on the float. Look for any tears or indentations on the shut-off pad. The valve will not be able to shut off if the shut-off pad is damaged in any way.

11. If the shut-off pad is damaged, contact us.

12. Reassemble the valve.

Stainless Steel Hardware, Brass Connections & Aluminum

1. Look for corrosion on any of the stainless-steel hardware on tank lids, hose clamps, and tank straps and replace if anything looks worn.

2. Apply WD-40 to these hardware items regularly.

Winterizing the System

BEFORE YOU BEGIN: Remove all pure water [Phantom Window Works] cartridges (unscrew caps and remove filters) VERY important to do this BEFORE starting to run antifreeze through your system. Place filters inside or somewhere warm. Replace caps on filter housings after completion.

Please note each system is configured differently and instructions may differ slightly from system to system.

1. Completely remove all the TONER 12™ (bleach) solution from your system and rinse the entire system out with water.

2. In the TONER 12™ (bleach) and water buffer tanks place 5 gallons in each tank (10) gallons of RV-20 antifreeze (the hose reel and hose will hold up to 5 gallons, so you will need 5 gallons in each tank).

3. Run the antifreeze through the system pushing all the water out of the valves, pumps, and hoses.

4. Open spray wand.

5. Set TONER 12™ (bleach) TANK valve to "0"

6. Place your wand in the tank after all the clear water has been pushed from the hose reel and recirculate the antifreeze through the reel.

7. Make sure your entire system has the colored antifreeze in every line that is visible.

AFTER YOU'RE FINISHED: *Remove 12 Volt pump from Blend Cabinet – Put inside or somewhere warm. There is no reason to risk this pump when it is so easily removed.*

Recommended Parts to Keep on Hand

Because of the nature of the chemicals that we spray through these systems some components will fail before others. Here is a list of these parts so you can plan for their life cycle and replacement in order of life longevity.

5.3 GPM System Pump

General Life Span 3-4 Months or 300 hours

It is a fact that few pumps will hold up to transferring TONER 12™ (bleach). In the price range, we as contractors can afford there are none. Your TONER 12™ (bleach) pump will get you about 300 hours of spraying service before it will possibly need to be replaced. This is three BUSY months of soft washing. The average cleaning season is nine months. This means that you will need to replace your pump possibly three times a year. There have been many examples of those who take extraordinary care of their pumps, flushing them nightly with Final Wash neutralizing soap, lasting more than a full year. There are also just as many examples of contractors that kill their first pump in under a month. Generally, this is directly attributed to the end of day procedure as well as other general care items.

IMPORTANT: It is a general rule that if you are going through many pumps it is because you are shortcutting on the care needed to keep them in service.

Hose Reel Swivel

General Life Span – Around 6 Months

The O-Rings in the hose reel swivel will begin leaking at around 6 months. We have several different types of swivels in stock as well as a rebuild kit available for you at SoftWash Systems.

150 PSI Liquid Filled Pressure Gauge

General Life Span – Around 1 year

This part, though sealed and filled with protective oil, fails yearly. Care as discussed above helps this gauge last longer.

Hose Reel Manifold

General Life Span – Around 1 year

The inner pipe that the hose reel spins upon, as well as the cleaning solution flows through, is stainless steel and will last much longer than a common steel manifold. However again based upon daily care and end of day procedures, some will see this manifold lasting more than a year and some not as long. This is a component that we STRONGLY recommend you order a replacement and keep it in stock. We have them available for purchase at SoftWash Systems.

Definitions / Glossary

50 or 100-Gallon Poly Tank

This system comes with a 50/100-gallon polyethylene mixing tank. This is a square tank and it fits universally into our SoftWash System Generation III Cradle Skid. The tank is chemical resistant and meets US DOT standards.

Blend Metering Ball Valves *(Indicated by a vertical identification of the word BLEND)*

On the control panel, the top most valves are the Metering Ball Valves. The top valve is the TONER 12™ (BLEACH) VALVE. These valves allow the user to control flow rates for TONER 12™ (BLEACH) and soaps for "on the fly" adjustments of soft washing strength rates. You will find if you ordered your SoftWash Blend Module separately and not part of a skid package that there will be open hoses connected to these valves protruding from the rear of the control box. These rear hoses will be labeled with which tank you should run your hose to. The ½" clear braid hose is equipped with a drawtube with a limiting valve and will be plumbed to a water source such as a buffer tank. The other is a ⅜" clear braid hose that is equipped with a primer bulb and a drawtube. This hose will be placed into the container that holds your soft washing soap.

Graduated Tank Strap

The 50/100-gallon Poly Tank is secured to the skid with our patent-pending Graduated Tank Strap. Not only does this strap act to secure the tank to the skid but it also provides mounting brackets atop for our pumps, plumbing, electrical, and control panel. The tank strap has been laser cut with graduations that approximate the level of the fluids in your tank. These graduations and the sight gauge are laser cut through so that you can view your fluid level through the graduations.

Power Switch

The control panel is equipped with a marine rated, corrosion-resistant, power switch. Turn the switch to "2" on the dial position to power your system on. Position 1 activates the internal fan only.

Valve Panel Assembly

The control panel is a considerable upgrade from our systems in the past. Now all your valves and switches are mounted to a single panel atop the mixing tank and set curbside for safe and easy access. The control panel houses all plumbing and electrical systems along with Metering Ball Valves. The panel decal is applied with valve positions and other control identifications.

System Weight Estimator

Equipment Category	Dry Weight LB	Dry Weight KG	Wet Weight LB	Wet Weight KG	QTY	Your Weight LB	Your Weight KG
**All weights are rounded up to the nearest whole number.*							
Skids							
Small	28	13	NA	NA			
Medium	45	20	NA	NA			
Large	58	26	NA	NA			
Xtra Large	80	36	NA	NA			
Single Module Extension			NA	NA			
Aluminum Accessories							
Ladder Rack Standard			NA	NA			
Ladder Rack Commercial			NA	NA			
Reel Stand Light	25	11	NA	NA			
Reel Stand Extension	18	8	NA	NA			
Battery Tray	5	2	NA	NA			
Graduated Tank Strap	17	8	NA	NA			
Cradle & Ladder Rack Combo	95	43	NA	NA			
Hose Hanger	3	1	NA	NA			
Flat Surface Cleaner Rack	34	15	NA	NA			
Tanks with Graduated Straps							
6 Gallon Saddle	17	8	77	35			
7 Gallon Saddle	18	8	88	40			
50 Gallon	49	22	549	249			
100 Gallon	105	48	1105	501			
Modules	**Wet weights are for maximum possible fluid weight calculation.*						
Blend 2X 50	95	43	595	270			
Blend 2X 100	151	68	1151	522			
Blend 3X 50	95	43	595	270			
Blend 3X 100	151	68	1151	522			
Blend 6X 50				0			
Blend 6X 100				0			
Rinse DC Plus 50	129	59	546	248			
Rinse DC Plus 100	185	84	1019	462			
Phantom Shadow RODI 50	170	77	620	281			
Phantom Shadow RODI 100	209	95	1069	485			
Power Wash 50	255	116	672	305			
Power Wash 100	311	141	1145	519			
Power Washer Alone	206	93					

System Weight Estimator

Equipment Category	Dry Weight LB	Dry Weight KG	Wet Weight LB	Wet Weight KG	QTY	Your Weight LB	Your Weight KG
*All weights are rounded up to the nearest whole number.							
Reels	*Dry weights are reels alone. Wet weights include fluid, hose, wand and spray tips.						
12" U Frame	25	11	105	48			
12" Full Frame	27	12	107	49			
12" Electric	49	22	129	59			
18" U Frame	28	13	108	49			
18" Full Frame	30	14	110	50			
18" Electric	56	25	136	62			
Stacking Kit	7	3	NA	NA			
Hoses	*Includes spray wand and tips.						
3/8 Clear Braid 300'	28	13	68	31			
1/2 Clear Braid 200'	27	12	67	30			
1/2 Clear Braid 300'	40	18	80	36			
5/8 Clear Braid 200'	33	15	73	33			
5/8 Clear Braid 300'	49	22	89	40			
3/8 Two Wire Powerwash Hose	64	29	104	47			
Additional Accessories							
DC Charging System	6	3	NA	NA			
In Tank LED Lights			NA	NA			
30" LED Light Bar			NA	NA			
			Your Trucks Payload Rating				
			Your Skids Total Weight Wet Is				
			Your Remaining Truck Capacity				

Liquid Weights				
One Gallon of Water	NA	NA	8	4
One Gallon of Bleach	NA	NA	10	5
One Gallon of Soap	NA	NA	11	5
50 Gallon Tank of Water	NA	NA	417	189
100 Gallon Tank of Water	NA	NA	834	378
50 Gallon Tank of Bleach	NA	NA	500	227
100 Gallon Tank of Bleach	NA	NA	1000	454

WARRANTY

Other Manufactures of Components

Some of the components of our equipment carry their own manufacturer's warranties which supersede SoftWash Systems expressed warranties. A partial list of those components are but not limited to:

Hose Reels

Pumps

Switches

Breakers

The owner of the SoftWash Systems equipment will need to contact that manufacturer directly, for all other than the pumps, see "Pump Warranty Procedures" below. For help identifying the correct manufacturer, please call SoftWash Systems Customer Service at **855-763-8669**.

Pump Warranty Procedures

To send your pump in for warranty, please follow the below instructions:

1. Email **info@SoftWashSystems.com** a picture of your pump that clearly shows the Model # and Serial # on it.

2. Enclose within the email what the problem is with the pump.

SoftWash Systems will fill out an RMA request for you and return to the manufacturer.

Once the manufacturer opens the RMA for you, you will send the pumps back to the address provided to you on the official RMA. Softwash Systems will provide you with the paperwork as soon as we receive it ourselves. DO NOT send back to SoftWash Systems.

The pumps will be reviewed and either fixed, replaced, or credited back. SoftWash Systems will let you know what the manufacturer has approved or denied the claim and will provide you with options based on the manufacturer's decision.

You will be responsible for shipping of pump both to the manufacturer and back to you if they approve the warranty claim on it.

Proper Care

Discussed in this Owner's Manual are procedures for caring for and cleaning your equipment daily. This Soft Washing Blend System requires neutralization daily to protect the inner workings of the system from the corrosive effects of TONER 12™ (bleach). SoftWash Systems has developed a product called Final Wash that is a TONER 12™ (bleach) neutralizing / buffering soap. It is required that your equipment

be flushed internally daily and washed externally with Final Wash to keep your warranty in force. If SoftWash Systems finds that you are not performing the correct end of day procedure on your equipment we may deny your warranty claim.

Technical Support

With the purchase of your equipment, SoftWash Systems will provide you with **6 Months FREE Technical Support** via phone, which begins when you receive your equipment. After 6 months, if you are a member of the SoftWash Systems Network, you will continue to receive free Technical Support over the phone.

If you are not a member of the SoftWash Systems Network, all Technical Support calls will be timed and you will be charged a Technical Support Service Fee, which is an hourly rate that we prorate to the closest 15-minute increment.

Please ask your Shield Support Agent for the current Technical Support Service Fee.
be flushed internally daily and washed externally with Final Wash to keep your warranty in force. If SoftWash Systems finds that you are not performing the correct end of day procedure on your equipment we may deny your warranty claim.

LIFETIME LIMITED WARRANTY

SoftWash Systems offers a Lifetime Limited Warranty to the original purchaser of any of our skid mounted / SoftWash Systems branded equipment. As long as the original purchaser is the current owner of the skid mounted system SoftWash Systems will stand behind our Aluminum Structure (Skids, Tank Straps, Control Panels, Reel Stands, Brackets) and our poly holding tanks, manufactured by SoftWash Systems for the lifetime of the equipment when installed into a truck or a van. Trailers are excluded from this warranty.

SoftWash Systems also provides to the original purchaser a one-year (12 months) full bumper to bumper guarantee on all components attached to our branded skids - for workmanship defects, as part of the original build performed by SoftWash Systems. Workmanship defects are defined as defects in the system that inhibit normal operating performance.

Items like hose reels, booster pumps, banjo fittings/valves and pressure washers are manufactured by third party companies and have their own factory warranty. These items are not covered by SoftWash Systems warranty. We strive to help you with factory warranties – however, only items manufactured by SoftWash Systems should be returned to our location. All factory warranties will need to be sent to the proper address, with shipping at the customer's expense. Please see (page 25 & owner's manual bag) "Other Manufacturers of Components"

Wear items like chemical pumps, hoses and pressure gauges are not covered by this warranty. The term wear is described as the wear that should be expected in the course of normal operating usage of SoftWash equipment. Additionally, equipment must be cared for in a manner consistent with the SoftWash Systems skid owner's manual and must not suffer from abuse or neglect as determined by SoftWash Systems. System rust and / or corrosion are indications that your system has not been properly cared for (*see page 25, Proper Care*) and will result in your warranty claim being denied.

In the event of failure SoftWash Systems will repair the deficiency or replace at its option. Parts will be replaced at no cost to the original customer. Shipping and installation will be at customers expense.

SoftWash Systems
855.763.8669
production@SoftWashSystems.com
www.SoftWashSystems.com

SoftWash SYSTEMS™

LIFETIME LIMITED WARRANTY

Certificate

PRESENTED TO THE ORIGINAL OWNER OF:

SERIAL NUMBER

SIGNATURE

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TOGETHER WE ACCOMPLISH MORE

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