



SHX5600 Owners Manual

Please read the entire manual completely prior to installing or starting your equipment. Pay close attention to the unit Advisories and Cautions located on pages 14 & 15. If you do not completely understand the functionality and maintenance of your equipment, contact your dealer or PowerClean Industries directly. All warranty paperwork must be completed and returned to PowerClean Industries within 10 days.

Your questions or comments are welcome and encouraged.



CONGRATULATIONS and Thank You!

You have purchased an industry leader in Slide in Truckmounted Multi Surface Cleaning Systems. Steam Way® International and our Dealers are committed to ensuring your satisfaction for years to come with the purchase of your new Multi Surface Cleaning System.

Steam Way® International has forged a reputation for reliability, ease of operation, hi-level performance, simplicity of maintenance and the highest manufacturing standards in our industry today.

Over 35 years of experience and a true commitment to quality and innovation truly put Steam Way® International in a class of their own. On going research, development, computer-aided design, and implementation of the latest technology are all part of our continued commitment to the cleaning industry.

Welcome to our family AND Thank you for trusting us to provide you with the equipment you need to earn your living!

From Our Team Members at Steam Way® International.

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GENERAL INFORMATION

The SHX5600 mobile cleaning plant has been engineered for the professional cleaner who demands a high performance, multi surface. Mobile cleaning plant. Dependable performance is the guiding principal in the design and construction of the SHX5600. Although all Steam Way truckmounts are designed with simplicity in mind, they perform many functions simultaneously to deliver the power and performance you need.

- Engine has to run at the desired, continuous RPM.
- High-pressure water pump provides steady pressure at the proper flow for cleaning.
- Vacuum blower provides a constant desired amount of vacuum to deliver soiled water to the recovery tank.
- Cleaning solution has to be delivered to the water at the right concentration.
- Heating system must deliver and maintain proper heat.
- The vacuum recovery tank stores soiled water for proper disposal.

As you can see, there is more to the equipment than just starting the unit and cleaning. Regular care and maintenance must be practiced in order for all of the components to function properly and simultaneously.

This manual contains operation instructions as well as information required for proper maintenance, and repair of this unit. To assist with proper diagnostics and problems, we have also included a general troubleshooting guide for your convenience.

MACHINE SPECIFICATIONS

DIMENSIONS

- 44"W x 45" H x 52" L
(Including Waste Tank)

HIGH PRESSURE PUMP

- 2000 psi / 3000 psi
Cat 3CP / 5CP,
Triplex plunger pump

VACUUM BLOWER

- Roots RAI 56 Rotary blower

CHEMICAL SYSTEM

- Injection siphon

INSTRUMENT PANEL

- Ignition switch
- Throttle Control
- Tachometer
- GPH Meter
- Rocker switch Pump
- Rocker switch APO
- Rocker Switch Accessory
- Thermostat
- Water temperature gauge
- Water pressure adjustment
- Water pressure gauge
- Vacuum gauge
- Hour meter
- Engine oil drain
- Pump oil drain
- Blower oil drains
- Blower oil lube port

RECOVERY TANK

- Standard 90 gallon stainless steel

CLEANING WAND

- Stainless steel wand
- Quad Jet S bend
- Splash guards
- Insulated handle sleeve
- Adjustable handle

STANDARD EQUIPMENT

- Main power unit
- Vacuum recovery tank
- 100ft, 2" Vacuum hose
(2-50' sections with barbs)
- 100ft, 1" Solution hose
(2-50' sections with quick connects)
- Standard carpet wand
- Chemical jug
- Battery box and accessories
(Battery not included)
- Operation manual
- Service record manual
- System status lights

OPTIONAL EQUIPMENT

- Auto Pump-Out (if equipped)
- Fuel Tap Kit (if ordered)
- Fresh Water Tanks (if ordered)
- Hose Reels (if ordered)
- Shelving units

LOCAL WATER CONDITIONS

The quality of water varies greatly throughout North America. This can influence the reliability and efficiency of your equipment. Many areas have an excess of minerals in the water, which results in what is known as hard water. These minerals adhere to the inside of the heat exchanger's and other major components causing damage and loss of cleaning effectiveness.

Cleaning effectiveness and equipment life is increased when water softeners are used in hard water areas. **The low cost of a water softener is more than made up for the increased life, reliability and overall cleaning efficiently.**

WASTE WATER DISPOSAL

There are laws that prohibit the dumping of soiled water from carpet cleaning equipment in any place but a sanitary treatment system.

The water recovered into your unit's recovery tank contains materials such as detergents and soil. These materials must be processed properly before they are safe to re-enter our streams, rivers and reservoirs.

AS PER FEDERAL, STATE AND LOCAL LAWS DO NOT DISPOSE OF WASTEWATER INTO STORM DRAINS, GUTTERS, STREAMS, and RESERIVORS ETC.

Contact your local Evinronmental Protection Agency for specific instructions on proper wastewater disposal.

CLEANING SOLUTIONS AND CLEANING

Your SHX5600 Cleaning Plant has been designed with the latest technology to produce the highest quality cleaning results possible. However it is only one of the many tools of the carpet cleaning trade, and can produce only as good as the person operating it. There are no short cuts to quality. It takes time, knowledge, and the proper use of quality cleaning products.

Steam Way recommends that you follow the label directions on all Steam Way cleaning solutions, to obtain quality results and safety. The improper use of cleaning solutions in your Truckmount can cause serious damage to the internal components of the unit. (Steam Way does not recommend running products through your unit such as solvents, or grease removers with high concentrations of solvents).

Only approved Steam Way products are recommended. Use of other cleaning agents can damage internal components and void your warranty.

If you wish to use products other than Steam Way products, Please consult your dealer prior to using products other than Steam Way.

OPERATING INSTRUCTIONS

NOTE: Before operating the unit, make sure you are in a well-ventilated area. **Exhaust fumes from the cleaning unit contain carbon monoxide and are hazardous to your health and your client's health.**

DO NOT OPERATE THE UNIT NEAR ANY BUILDING DOORWAYS, WINDOWS, OR OPENINGS OF ANY KIND. The unit must be run in an open, well-ventilated area.

1. Check to make sure you have enough fuel for the job.
2. Check to make sure you have an adequate amount of fresh water in your fresh water tank to complete the entire job. If not, fill the fresh water tank prior to starting the job or hook up the garden hose to the front of the unit prior to starting.
3. Check your chemical jug to ensure that you have enough concentrated solution to finish the job. If not, mix and fill the chemical jug with the desired solution.
4. Connect all hoses required. When connecting the cleaning hoses, start from the farthest point to be cleaned and work your way back towards the unit. This will ensure that you have the appropriate length required.
5. Once at the unit, connect the high pressure hose to the appropriate water "out" quick disconnect on the front panel. Then repeat the same process with the vacuum hose and connect it to the vacuum port on the waste tank.

START UP

(Always check the fluids prior to starting the unit)

1. Make sure your vehicle is in a well-ventilated area and away from windows, doors and entryways.
2. Check your water supply to make sure you have adequate water to the unit. Remember, **NEVER RUN THE MACHINE WITHOUT ADEQUATE WATER SUPPLY. DAMAGE MAY OCCUR TO THE SYSTEM IF RUN WITHOUT ADEQUATE WATER.**
3. Check the chemical supply for adequate solution.
4. Turn the ignition to the start position. The engine will start. Immediately, and the R.P.M. will increase for a few seconds then decrease to the idle position. (The increased engine speed upon start-up energizes the ignition and charging system and is pre programmed into the engine control module) Allow the engine to warm up for approximately 5 minutes prior to "throttling up" the unit. To increase the throttle, turn the throttle knob clockwise. To decrease the throttle, turn the knob counter clockwise. You will notice the engine RPM increasing or decreasing depending on how you turn the throttle.
 - For upholstery cleaning, it is not necessary to run the unit at a higher R.P.M. The most common speed for upholstery cleaning is 1600-1900 R.P.M. or lower if desired.
 - For Carpet cleaning using a single wand, the engine speed should be set between 2000 and 2700 R.P.M. Depending on the heat level required for the job. The higher the R.P.M., the more heat is produced.
 - For dual wand cleaning or pressure washing, the unit should be run between 2800 and 3150; again, this depends on the level of heat required for cleaning.
5. Once you have the engine at your desired RPM, turn the water pump switch "on". This engages the pump clutch allowing the pump to pressurize the system for cleaning. Check the pressure setting on the pressure gauge. Standard carpet cleaning pressures should be between 300 – 500 psi. Upholstery cleaning pressures should be between 100 and 200 psi.
6. Check the thermostat for the desired cleaning water temperature. Most cleaners run their unit from 180-220 degrees depending on the type of surface being cleaned. You do not need to run the unit at "full" throttle to get the desire heat from the unit. For example; to run at 200 degrees, you only need to run the engine at 2400 RPM, therefore it is not necessary to run at to full throttle. Every professional cleaner has a unique engine speed that best suits his or her needs. Remember, the higher the R.P.M., the more heat the unit generates.
7. Connect the vacuum and solution hoses to the machine and the cleaning wand.
8. You are now ready for cleaning.

NOTE: The machine will automatically shut down when the recovery tank reaches full capacity due to the high level float switch located inside the recovery tank. When this occurs, empty the recovery tank at the approved disposal site. To save time on emptying the recovery tank, PowerClean Industries recommends that you have an Automatic Pump Out in your recovery tank. Consult your authorized dealer for more details.

SHUT DOWN

1. Lay the vacuum hose out prior to shutting the unit down. This allows all of the moisture to be removed from the vacuum hose and prevents any spillage of soiled water in your vehicle when storing the hoses.
2. Slowly turn the throttle knob down until the unit is at a low idle.
3. Turn the temperature thermostat to the lowest setting and turn the chemical-metering knob off.
4. Flush the system prior to shutting it down. Run the unit with the thermostat set to the lowest position and key the wand. This will allow the unit to cool down within a short period of time. This is a very important procedure that will prevent the water from over heating if the unit shut off hot.
5. Turn the high-pressure pump switch to the "OFF" position.
6. Disconnect both the high-pressure hose and the vacuum hose.
7. While the unit is running at a low idle, wrap up all of the hoses. This will allow the unit to "COOL" while you are wrapping up the hoses.
8. Place the carpet wand and any tools that were on the job site into the van.
9. Shut the unit down by turning the ignition key to the "OFF" position.
10. Remove the lift out lint basket located inside the recovery tank,
11. Clean and replace the lint basket back into the recovery tank.
12. Drain the recovery tank at an approved disposal site.

FREEZE GUARD PROCEDURE

(If equipped)

1. Drain the fresh water and recovery tanks completely. Any water left inside the tank and hoses will freeze. To prevent any damage, make sure ALL water is drained.
2. Remove the chemical jug and store in a heated area.
(If you have an in line transfer pump, it will be necessary to purchase the freeze guard system from your local dealer.)
3. Close the ball valve, which leads from the fresh tank to the transfer pump, and open the ball valve, which leads from the inlet side of the transfer pump to the antifreeze.
4. Attach the fill/bleeder hose to the front high pressure quick disconnect on the unit.
5. Turn the ignition key to the "ON" position, this will engage the transfer pump and allow it to feed antifreeze to the unit.
6. Once the transfer pump has primed itself with antifreeze, you may start the unit with the pump clutch switch "OFF".
7. Take the fill/bleeder hose and insert the open end into the antifreeze jug. This will allow the unit to recycle the antifreeze.

(Contd)

8. Insert the chemical feed hose into the antifreeze jug and open the GPH meter two complete turns. This will allow the antifreeze to circulate through the chemical feed system.
9. Turn the pump clutch switch to the on position. You will notice water flowing into the jug at first.
10. Once you see that the GPH meter is full of antifreeze, and the fill/bleeder hose is sending antifreeze through, the freeze guard is finished.

UNIT ADVISORIES / CAUTIONS

PLEASE READ CAREFULLY.

WARNING

LEVEL OPERATION:

During operation, the van must be parked on a level surface. Failure to insure correct leveling may prevent proper internal lubrication of the engine, vacuum blower, and high-pressure pump.

WARNING

HOT SURFACES:

During operation of this unit, many surfaces become very hot! When near the van caution must be taken not to touch any hot surfaces? Serious injury will occur if proper caution is not exercised.

WARNING

NEVER OPERATE THE EQUIPMENT WITH THE COVERS REMOVED:

The covers and panels are guards against moving parts. Never operate the equipment with the covers removed. This is a serious safety hazard and serious injury can occur.

UNIT ADVISORIES / CAUTIONS

PLEASE READ CAREFULLY.

WARNING

MOVING PARTS:

Never touch any part of the machine that is in operating motion. Also, caution must be used if wearing loose clothing when near machinery with moving parts. Severe bodily injury may occur. Never remove the covers while the unit is running! Serious injury can occur.

WARNING

CARBON MONOXIDE:

The unit produces carbon monoxide exhaust fumes, which must be directed away from the job site.

WARNING

MAINTENANCE:

It is very important that when performing your regular maintenance routines such as oil changes to use only factory approved lubricants. Improper lubricants will void your warranty on those specific components.

HIGH PRESSURE PUMP

The SHX5600 is equipped with a state of the art Cat Triplex plunger pump. Triplex pumps are built to last, with three ceramic plungers, high-pressure valves and an oil cooled crankshaft system.

With the Triplex pump, you have the ability of performing carpet cleaning and high power washing, with the pressure outlet ranging from 30 psi to 2800 psi. If 2800 psi is exceeded, it can cause damage to the heat exchange system and drive system of the unit. All units are equipped with a high-pressure pop off (located on the exhaust heat exchanger) valve to release the pressure if it exceeds the operating specifications. This is a safety valve and by no means will it prevent the system from over pressurizing.

Your Steam Way distributor will present your machine with the pressure preset to 300 –500 psi during installation. We have found this pressure range to be the optimal setting for carpet cleaning. When cleaning upholstery a simple adjustment of the unloader on the lower front panel will lower your pressure to 200 psi, which is recommended for upholstery cleaning.

When power washing you must remember that your SHX5600 is a multi surface cleaning system. Even though your Triplex pump has a maximum rating of 3000 psi, this pump is set up for carpet cleaning and will give you a maximum rating of 2800 psi for power washing. With 2800 psi and the heat from the heat exchangers it makes power washing simple. Never perform power washing with the engine rpm lower than full throttle, always run the engine at full throttle when power washing.

NOTE: Pressure settings in excess of 2800 psi can cause damage to the unit. And void your warranty. Do not exceed these parameters.

WATER FLOW SYSTEM

The water flow system on the SHX5600 has been designed to be simple and trouble free. The incoming water flows from either the transfer pump or garden hose through the incoming water shut off solenoid. The incoming solenoid is what controls the water level inside the mix tank. As the water passes the solenoid, it flows through the dema chemical injector. It automatically picks up the predetermined quantity of cleaning solution that you set on the GPH meter.

The predetermined quantity of cleaning solution is determined by the chemical flow meter located on the front panel. Usually 2-4gph on the meter is adequate. With this advanced chemical injector, the chemical flow is injected only when there is a demand for water in the mix tank.

Once the water has been injected with the correct amount of chemical it then passes through the high-pressure pump, where it is pressurized. Having chemical mixed with water before it enters the pump has a few advantages over other systems. The chemical acts as a lubricant and increases the life expectancy of the pump providing it is mixed according to the directions. The pump also aids in the mixing of the chemical if is injected before the pump.

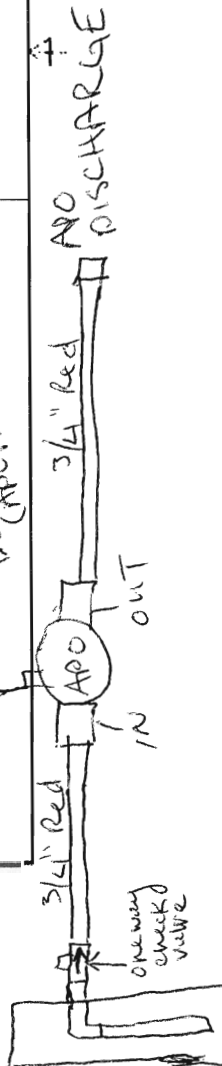
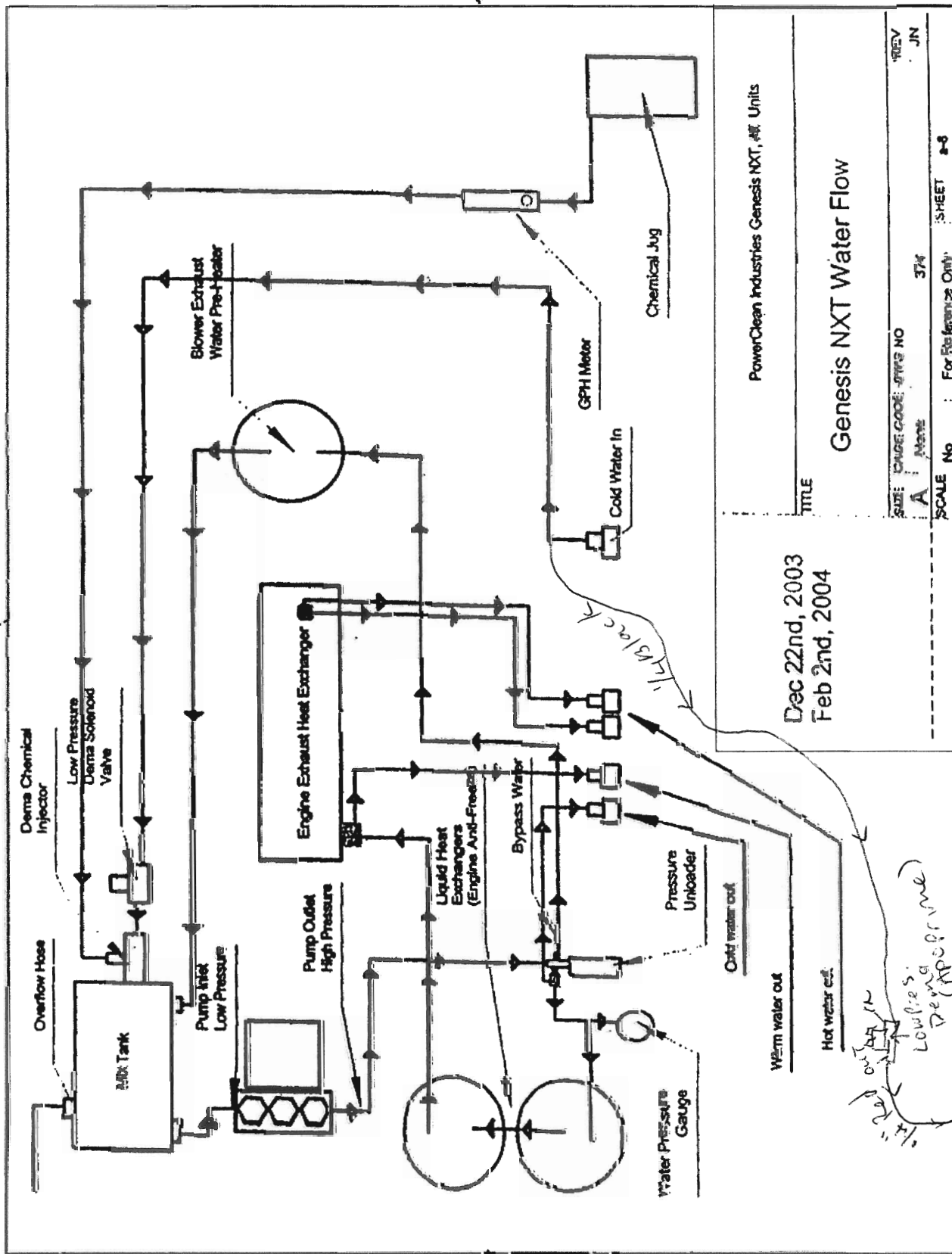
After passing through the high-pressure pump the pressure is then controlled by the unloader valve located on the front panel of the unit.

Once the water passes through the unloader, the unused portion of the water is sent through the blower exhaust pre-heater and to the mix tank. The high-pressure water is then sent to the liquid heat exchangers, which pre-heats the water.

After the pre-heated water exits the liquid heat exchangers, it is then sent to the exhaust heat exchanger for the added heat boost needed for high temperature cleaning. The exhaust heat exchanger consists of a single heat exchanger. The exhaust heat exchanger heats the water to the pre determined setting set by the thermostat on the front control panel. The water is then sent out the front of the machine for cleaning.

NOTE: The water flow plumbing system will need to be flushed regularly with descaler to prevent abnormal chemical or hard water build-up. This can be done by filling the mix tank with descaler and running or flushing the system.

Consult your authorized dealer for specific descaling instructions. Never use over the counter descalers, internal damage may occur to the unit. Use only PowerClean Industries recommended descaler.



VACUUM SYSTEM

The vacuum system of the SHX5600 is a Roots Universal RAI 56 positive displacement rotary lobe blowers. This high performance blower provides incredible air flow and water lift making sure carpets are left as dry as possible. The blower is factory set for maximum efficiency and longevity at 13-14 h.g. Never exceed 15 h.g. On the vacuum gauge. Damage may occur to the system if 15 h.g is exceeded. The performance and life of the blower greatly depends on the care and proper maintenance it receives.

The Roots blower has a very close internal tolerance between the lobes. Solid objects entering the inlet of the blower can damage the interior. To prevent this, Steam Way installs dual stainless steel filter screens on the vacuum inlet inside the recovery tank. These stainless steel filters should be removed daily and cleaned. When reinstalling the filter only thread the filter on until finger tight and use a WD-40 type of lubricant on the threads for easy replacement and removal.

For further information on the Roots Vacuum Blower refer to the enclosed Roots Universal Blower manual.

ELECTRICAL SYSTEM

The SHX5600 electrical system has been specifically designed with simplicity in mind. The SHX5600 wiring has two harnesses, one connects the engine to the ignition switch and the other connects all other related components to the fuse panel and terminal block.

These harnesses are specifically designed with plug ends for easy removal that enable service center's easy removal and diagnostics if necessary. The fuse panel located behind the front panel fuses all components, which require power from the engine source. This will aid in the prevention of electrical problems, which could occur from loose wires, or damaged components.

WARNING

NOTE: Whenever working on your unit, You must disconnect the battery power cable for safety. Failure to do so could result in damaged components or physical harm.

HEAT EXCHANGE SYSTEM

The SHX5600 heat exchange system is custom engineered and designed to meet our exacting standards for performance. The heat transfer is quick and efficient, with no potentially damaging heat swings or peaks. The SHX5600 heat exchange system is designed with a burst rating of 4000 psi and operating pressures up to 2800 psi. The heat exchange system consists of four heat exchangers, they are;

1. **Blower pre heater.** This heat exchanger is designed to take the chill of the water and pre heat it.
(Located below the vacuum blower)
2. **Engine antifreeze heat exchangers.** These 2 heat exchangers capture unused heat generated from the engine anti-freeze. The engine anti-freeze does not come in contact with the cleaning solution in any way.
(Located on the right side of the machine between the waste tank and engine)
3. **Lower engine exhaust heat exchanger.** The heat exchanger feature state of the art "bundle" design. It is designed to capture as much heat as possible from the engine exhaust without restricting the engine exhaust in any way.

This unique heat exchange system gets the most heat from every avenue on the SHX5600 that produces it. Our unique design delivers the highest heat to flow ratio in the industry. The heat exchangers require little maintenance other than regular descaling, flush & bleed.

NOTE: It is very important to remember that you should never allow your unit to freeze. This will cause costly damage to the heating system of the unit and void your warranty.

SHX5600 POWER PLANT

Each SHX5600 unit features the Nissan 1.5 Liter, A-15 Liquid cooled, Fuel Injected power plant. Steam Way has chosen this engine because the service / track record for this engine has been proven itself to be a reliable, powerful engine. The Nissan engine is entirely liquid cooled. What this means to you is that you are assured that the engine will run at consistent temperature regardless of the temperature outside. Your cleaning temperatures will remain steady because the engine temperature is always consistent.

With regularly scheduled maintenance, Your SHX5600 power plant will run for many years to come trouble free.

Please refer to the engine service guide provided in this manual for specific maintenance and service routines.

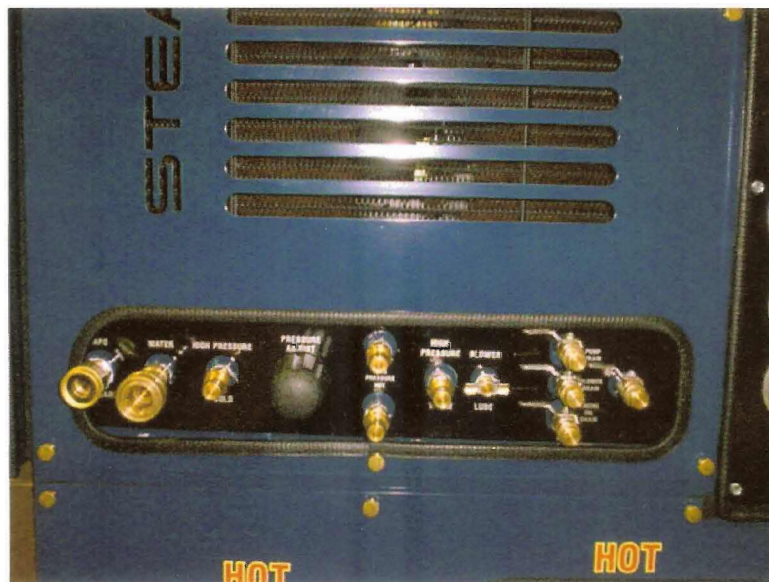
SHX5600 FRONT UPPER AND LOWER CONTROL PANELS

(See photo on next page)

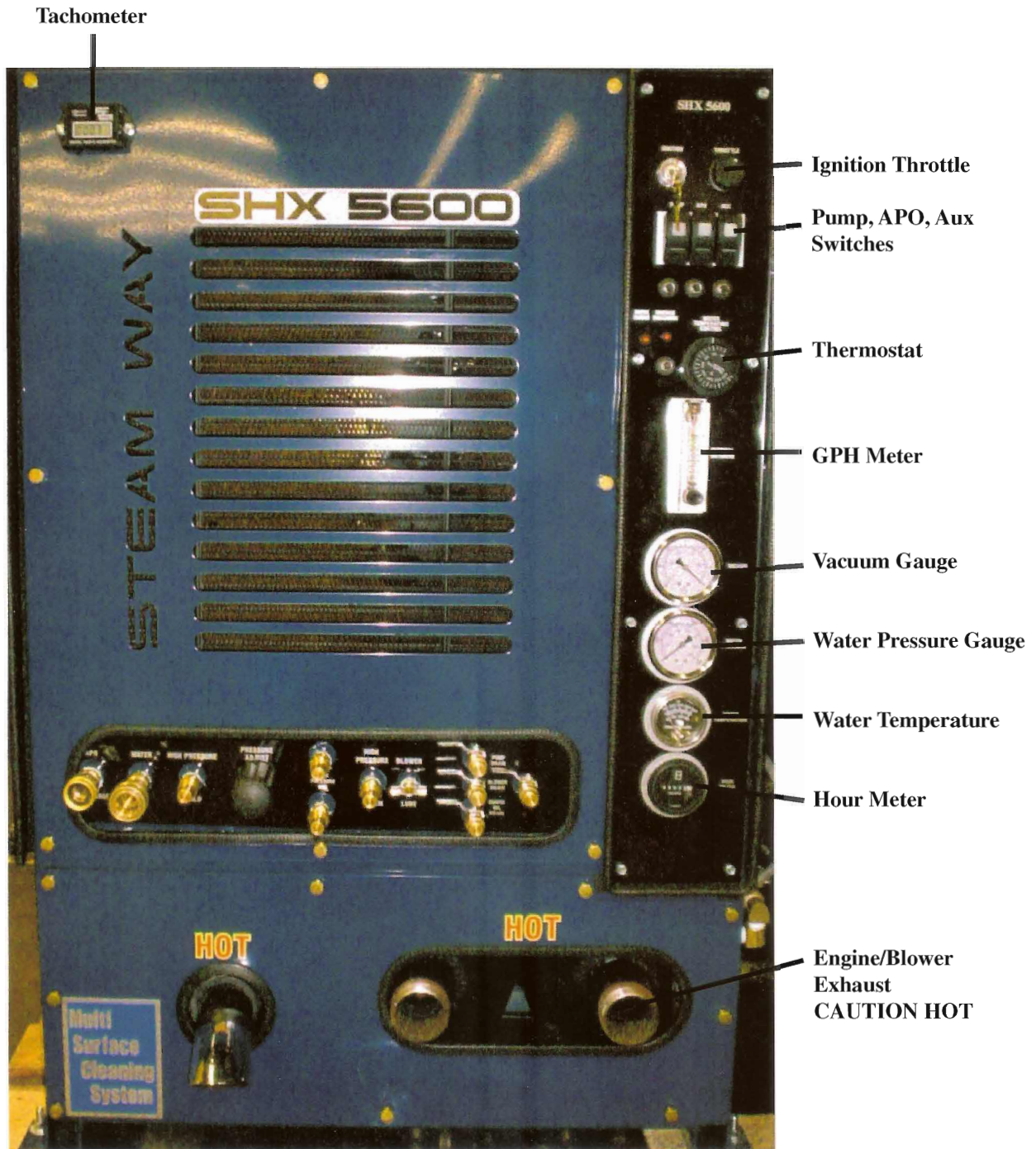
The upper control panel of your SHX5600 puts everything at your fingertips. Complete with Vacuum gauge, Hour meter, Pressure gauge, Water temperature gauge, Thermostat, GPH meter, Ignition and other critical operating components.

The lower control panel is where your quick disconnects; Pressure regulator valve, Water inlet quick disconnect and maintenance ports are located. You will notice that we have remote oil drain ports and grease fitting located on the front panel to give you easy access to these components for fast, clean maintenance routines.

Lower Control Panel



Upper Control Panel



WASTE WATER RECOVERY TANK

The recovery tank of the SHX5600 incorporates many unique features to protect your equipment, and save you time. The tank is made from 3/16" powder coated stainless steel and contains baffles and stress bends for strength and durability. The recovery tank holds approximately 90 gallons of soiled water. The safety and convenience features built into the tank include a high water shut-off switch, built in stainless steel lift out lint basket, sloped tank bottom, stainless steel blower inlet filters and a large drain port.

The high water shut-off switch is located on the highest point of the tank giving you full use of the tanks capacity. The high water shut-off cuts the power to the engine and shuts it down before water can enter the blower system. **(The float will not shut the system down if there is foam present; foam can enter the blower if it is present. Make sure a de-foamer is used when foaming is or may be present).** The stainless steel lint basket prolongs the blower inlet filters life by capturing larger debris before they can enter the blower inlet filter. The stainless steel blower inlet filters prevent smaller debris from entering the blower chamber, which could cause damage to the blower itself. The recovery tank has a large lift off lid, which allows easy access to all of the filters for easy maintenance. *These filters require regular daily cleaning and maintenance.*

NOTE: To keep your recovery tank like new, regular cleaning is necessary to keep unwanted debris from adhering to the inner walls of the tank. The tank should be flushed daily or after every use.

MAINTENANCE

To avoid costly repairs and downtime, it is imperative to develop and practice good maintenance procedures. These procedures must be performed on a daily, weekly, monthly and quarterly schedule according to the maintenance booklet included in your manual.

As part of your SHX5600 package, you receive a maintenance booklet. This booklet provides you with a convenient format for recording the required maintenance of your machine.

You are required to perform all maintenance items in the maintenance schedule and record that you have done so in this booklet as part of your warranty. It is your responsibility to keep a copy of all repair orders and receipts that relate to your unit. These records of services and purchases will be required to substantiate proper maintenance to your unit and for any warranty claim.

DAILY

- Check engine oil.
- Check engine coolant level.
- Check high-pressure pump oil.
- Check vacuum blower oil.
- Clean vacuum tank lint basket. (Should be cleaned after every job)
- Clean the blower inlet filter.
- Lubricate the blower with lubricant.
- Winterize if necessary

WEEKLY

- Check engine air cleaner filter.
- Check belts for wear and tightness.
- Check high-pressure pump belt.
- Check mix tank inlet filter
- Flush chemical system with 50/50 mixture of water and vinegar.
- Inspect unit for loose wires, oil leaks, and water leaks.
- Check all gauges for functionality.
- Visually inspect the unit for loose nuts / bolts.
- Clean wand and inspect for clogged jets.
- Clean recovery tank thoroughly with high-pressure water.

MONTHLY

- Change engine oil.
- Check engine coolant and replenish if necessary.
- Bleed liquid heat exchangers.
- Check engine air cleaner and replace if needed.
- Grease vacuum blower bearings.

QUARTERLY SERVICE

- Change oil in high-pressure pump.
- Change oil in vacuum blower.
- Check that all nuts and bolts are tight.
- Descale unit thoroughly.

AS REQUIRED / HEAT EXCHANGER FLUSH

If your area has hard water you may see evidence of hard water deposits form in the water system, or in the quick disconnects. If scale is present, the water system should be flushed with descaler. This procedure may have to be increased to a monthly level if you notice excessive scale build up is present. For information on flushing the system, contact you're nearest Steam Way dealer.

Overall machine maintenance and appearance is very important. It represents your company's professional appearance and is how you make your living. A clean well maintained machine would give you years of reliable performance. Maintenance, troubleshooting, and repair are much easier on a clean well-maintained unit. Regular cleaning and maintenance will give you the opportunity to spot any problems normally before they occur.

It is important that you follow and record the maintenance on your unit according to the Maintenance Guide to insure complete warranty coverage.

TROUBLESHOOTING GUIDE INDEX

Section

Problem / Possible cause

- Loss of water pressure
- Water temperature low
- Water temperature too high
- Pressure on the gauge, but no water coming out of the wand
- There is water coming out of the exhaust
- Engine will not start
- Engine runs rough and keeps dying
- Water mix tank is overflowing
- Insufficient chemical
- Poor vacuum

Number	Problem / Possible Causes	Solution
1	There is a loss of water pressure.	
1.1	The mix tank inlet water hose fell off or is missing. This will cause aeration and turbulence in the tank.	Check the inside of the tank to see if the hose is missing or not in place. Reinstall hose or replace.
1.2	Foreign material is blocking the pump inlet filter located inside the tank. If the filter is clogged, it will cause wide pressure fluctuations.	Inspect the filter and clean or replace if needed.
1.3	The water supply from the mix tank to the pump is kinked, cracked or loose. This will cause pressure fluctuations.	Check the Gray hose on the mix tank. Check both the mix tank and the pump fittings for tightness. Check the hose for leaks or cracks.
1.4	The float inside the mix tank is hung up or malfunctioning.	Remove the mix tank lid and inspect the float. If it is stuck, free it up. If the float is sinking and not floating, it is full of water and needs to be replaced. Check the float alignment and make sure it is securely fastened.
1.5	The water solenoid is not functioning and not allowing the water to enter the tank.	Check the wiring on the valve itself; make sure they are firmly attached. Check the fuse on the panel to make sure it is not blown. Replace the fuse if necessary.

1.6	There is foreign material in the inlet or outlet valves of the pump.	Inspect the valves and clean or replace if necessary.
1.7	The inlet solenoid is clogged with foreign material not allowing water to pass through.	Remove and inspect the inlet solenoid for obstructions and clean or replace if necessary.
1.8	The inlet solenoid is not engaging allowing water to pass through.	Check the wiring on the solenoid. Make sure the two connections are firm. Check the float wire on the inside of the mix tank. Float or solenoid may need to be replaced.
1.9	The pump seals may be worn or damaged from lack of water.	Remove the pump head and inspect the seals. Please refer to the pump manual for this operation.
1.10	The pressure regulator is malfunctioning.	Remove the regulator and disassemble. Clean and grease the unloader main piston. Inspect for wear and replace if necessary.
1.11	Quick disconnect on the front of the machine is malfunctioning.	Try installing the high-pressure line on the secondary front quick disconnects. Inspect the quick disconnect for wear and replace if necessary.
1.12	The pump clutch is not engaging.	Check the wire, which leads from the pump clutch, and make sure it did not come unplugged. Check the fuse on the control panel, it may be blown.
2.	Water temperature too low	
2.1	Depending on what type of tool you are using, you may experience lower heat levels with higher flow rates.	Check the flow rate of the tool. Are the jets worn? If so, replace them.
2.2	Engine anti freeze level low. This causes inadequate heat transfer in the liquid heat exchangers.	Check the engine antifreeze level and top off if needed. ONLY PERFORM THIS TASK WHEN THE ENGINE IS COOL SERIOUS INJURY CAN OCCUR.
2.3	Liquid heat exchangers may need to be bled. Air pockets sometimes form if the antifreeze is allowed to run below the required level.	Bleed the liquid heat exchangers by loosening the drain ports on the top of the. Leave the ports open until straight antifreeze is present.

2.4	The diverter solenoid is stuck open in divert mode.	Check the diverter and solenoid for proper operation. Make sure the diverter moves freely.
2.5	The engine rpm is too low.	Check your engine rpm, If the engine is run at a lower rpm, it will not produce the higher heat levels needed.
2.6	Thermostat is malfunctioning. This usually occurs when the system overheats.	Consult your dealer for more information on recalibrating your thermostat.
2.7	Exhaust leak in one of the fittings.	Inspect all exhaust fittings for leaks or loose clamps. Replace or tighten as needed.
3	The water temperature is too high.	
3.1	The heat exchanger solenoid is not engaging or is stuck closed.	With the ignition key in the on position and the tattletale pushed in, turn the thermostat to the lowest setting. You should hear the solenoid engage the diverter. If not, check the wiring, it may be loose. Once the diverter is cool, check the diverter to see if it is hung up. If so, free it up.
3.2	The thermostat is out of calibration.	Check the thermostat to make sure it is engaging at the appropriate temperature. Consult your dealer for specific instruction on how to perform the thermostat calibration.
3.3	Engine rpm too high for the desired cleaning task	For upholstery cleaning, set the engine to a lower rpm. The engine will not produce as many Btu's therefore the heat will also decrease.
3.4	Diverter may not be opening entirely.	Check the diverter to make sure it is disengaging or opening entirely. If not, check the linkage to see if something came loose. If so, consult your dealer for proper calibration instructions.
4	There is pressure on the gauge, but no water coming out at the wand.	
4.1	The wand jets are clogged.	Remove the jets and clean as needed.

4.2	The quick disconnects on one or more of the hoses or machine are defective.	Remove and clean or replace the quick connects as needed.
4.3	The cleaning tool has a clogged valve.	Remove the valve stem and clean or replace as needed.
4.4	The inner lining of the hose is clogged.	Remove all internal high-pressure stainless steel braided hoses and inspect for clogs. Replace if needed.
5	There is water coming out of the exhaust.	
5.1	There are small amounts of condensation, which can be seen upon initial start-up.	This is normal, no service is required.
5.2	One of the heat exchangers is damaged from frozen water.	Determine which heat exchanger is bad and replace it.
5.3	The recovery tank is full.	Empty the tank and check for obstructions.
5.4	There is excessive foam in the recovery tank.	Apply a liquid or powdered defoamer to counter act the excessive chemical, which was left in the carpet.
6	Engine will not start.	
6.1	Fuel level in truck low.	Check fuel in truck and fill if necessary.
6.2	Gas line to machine clogged or has something sitting on it.	Check the gas line running on the floor, it may have something sitting on it.
6.3	Gas line hose clamp may be loose.	Check all clamps on the fuel lines; make sure they are tight. Tighten if necessary.
6.4	Blower or Pump stuck or locked up.	Loosen the belts and make sure the blower and pump are spinning freely.
6.5	Waste tank full or float stuck.	Empty the tank and check the float for obstructions. Make sure the float moves up and down freely.
6.6	Battery water level low.	Check the battery, it may need to be recharged / re filled.
6.7	Engine oil low.	Check the engine oil level and add or change as needed.

6.8	Engine fuel pump not functioning or fuel filter clogged.	Check the fuel pump and make sure it functioning. If not check the fuse panel for a blown fuse. Check the wiring to make sure nothing has broken the contact to the pump. Check the filter and replace if needed.
6.9	Spark plugs fouled or dirty.	Remove the plugs and replace if needed.
6.10	Ignition has a loose wire.	Check all wires located behind the front control panel. Check for looseness and tighten where needed.
7	Engine runs rough and keeps dying.	
7.1	Filter on the engine is clogged.	Check the fuel filter and air filter and replace as needed.
7.2	Engine rpm too low.	Increase throttle to full rpm.
7.3	Engine spark plugs fouled or dirty.	Remove and replace if needed.
7.4	Belts too tight.	Check the blower belts. They may be too tight causing undue stress on the engine crankshaft. The belt should have 1/4" of slack in the center once tightened.
7.5	Vacuum relief valve on waste tank may be stuck or too tight.	Check the vacuum, if the relief valve is stuck or set too high, it will cause the engine to run hard and therefore "wetting" the cylinders.
8	Mix tank overflows.	
8.1	Mix tank float may be stuck, damaged or frozen.	Check the float for obstructions and replace if needed.
8.2	Ground wire to float is loose or disconnected.	Check the wiring from the float to the dema valve. If loose, tighten.
8.3	Low-pressure dema may be clogged.	Check the low-pressure dema and clean it. It may be clogged and cannot shut off properly.
8.4	Check the relay on the mix tank float wiring.	It may have been bumped or loose. Make sure it is tightly secured in the socket.

9	Insufficient chemical	
9.1	The float box may be full.	Remember, the system only meters chemical, as the mix tank requires it.
9.2	Red chemical injector hose from the injector may be loose or damaged.	Check both ends of the hose, one at the mix tank and other at the GPH meter. If loose or damaged, tighten or replace it.
9.3	Inadequate inlet flow to the machine.	If the inlet pressure is below 45 psi, the system may not meter chemical properly. Check the inlet hose and find another connection if the pressure is too low.
10	Poor vacuum	
10.1	Engine rpm too low.	Increase throttle to full.
10.2	Vacuum filters in waste tank full.	Remove filters in waste tank and clean or replace as needed.
10.3	Vacuum relief on waste tank open too far.	Reset relief valve to register appropriate vacuum on the gauge. NEVER EXCEED 15" ON THE VACUUM GAUGE.
10.4	Kink in hoses or clogged port on tank.	Check vacuum hoses for kinks and check port on tank for obstructions. Clean as needed.
10.5	Wand head is clogged.	Check wand head for blockage and clean as needed.
10.6	Belts worn or loose.	Check belt tension and re-tension or replace as needed.

SHX 5600

TRIED AND TRUE... WORTHY OF BLUE

Steam Way is bringing innovation to the playing field to fill out the equipment line. If you are looking for extreme power, convenience, and options on your cleaning plant, here it is. This new addition to the Steam Way family is a true powerhouse and is capable of cleaning more than 1000 feet away. (Hoses optional equipment)

POWERFULLY EQUIPPED

SHX 5600 will show you the performance you deserve. It's equipped with a powerful 49 HP 4 cylinder Nissan Engine driving the proven vacuum performance of the dual splash Roots 56 Blower. Using a four stage, multi source heat exchange system, the SHX 5600 can reach cleaning temperatures up to 250°F and waterflow enough for 3000 psi pressure washing. (Hot or cold pressure outputs.) A 100 gallon waste recovery tank with filter basket in the tank and a automatic pump out system is standard with every machine. This powder coated steel frame construction or any upgrade frame will out last even your cleaning van.

INNOVATIVE FEATURES

The front panel of the SHX 5600 features maintenance and fluid drain ports, allowing you to drain your engine, pump, and blower oils direct from the front of the unit, saving time. Quick and easy removal of the lower front panel reveals the Steady-Temp™ exhaust diverter system, blower pre-heater and exhaust heat exchanger. This diverter system can be rebuilt while in place on the unit. A Multi-Temp™ Cleaning System allows for dual wand cleaning while at different temperatures.

Work more effeciently, get more work done.

- **High Pressure Rinsing Capable (Hot or Cold)**
- **Dual Wand Equipped**
- **Stainless Steel Chemical Tank**
- **Powder Coated Steel Frame**
(Aluminum and Stainless Steel options available)
- **Rebuildable Heat Exchange System**
- **EZ-Glide Drive System**
- **Clean with Adjustable Temperatures (140° - 250°F)**
- **Color Coded Hoses**
- **Auto Pump-Out**



SHX 5600

49 Hp Fuel Injected Nissan Engine

5CP CAT Pump with High Temperature Seals (100 - 3000psi)

56 DSL Blower (570 cfm)

Steady-Temp II Exhaust Diverter System For Constant Heat

Easy Access Service Design

"Add a Starter Kit to your machine to get you what you need to go."

Machine part number - 0005600
Starter Kit part number - 00-1110

Quick Reference Guide

SHX 5600

Solution Heating	Four stage, multi-source heat exchange system produces up to 250°F at 5.0 gpm
Solution Pressure	CAT 5 CP Industrial Solution Pump produces up to 3000 PSI
Vacuum	Roots 56-DSL Blower produces up to 570 cfm
Engine	Nissan 49 Hp Fuel Injected Engine



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SHX 5600 STANDARD FEATURES

MACHINE SPECIFICATIONS

- **ENGINE:** Nissan 49 HP fuel injected liquid cooled engine.
- **VACUUM:** Roots 56-DSL (Dual Splash Lobe) Blower produces up to 570 cfm.
- **HEATER:** 4 Stage Heat Exchange System can attain and maintain solution temperatures up to 240°F (116°C) at 1.8 gpm.
- **PUMP:** Clutch Operated Industrial Heavy Duty Cat 5 CP Solution Pressure System. The most powerful, heavy duty pressure system available for truck mounted equipment. Adjustable and usable pressures up to 3000 P.S.I. of solution pressure up to 5 gpm. Thermo sensing (pump saver).
- 95 Gallon Stainless Steel Waste Recovery System
- Automatic High Volume Pump-Out System 26 gpm (Clutch Controlled)
- Instrumentation
 - Marine Grade Electrical Switches
 - Tachometer/Hour Meter
 - Water Temperature Is Thermostatically Controlled
 - Water Temperature Monitoring Gauge
 - Glycerin Filled Shock Absorbing Solution Pressure Gauge
 - Chemical Flow Metering System
 - Front Access Oil Filter And Oil Drain
 - Inlet Water System Prevents Backflow
 - Vacuum Blower Oiler
- Dimensions: 32"W x 46"H x 56"L
- Waste Tank Dimensions: 19"W x 41"H x 47"L
- Weight: 1300 lbs.

STANDARD STARTER KIT

- 12" (30.5 cm) Stainless Steel "Protection Shield" Scrub Wand
- 150' (45.75 meters) High Pressure And Temperature Solution Hose
- 150' (45.75 meters) Industry Strength Vacuum Hose
- 50' (15.2 meters) Water Hose With Intake Valve Assembly
- Battery Storage Box (Battery Not Included)
- Installation Hardware
- Machine Operations And Maintenance Manual

WARRANTY INFORMATION

- Waste tank and frame - 5 years
- Engine - 2 years
- Heat Exchangers - 2 years
- Blower - 30 months
- Gauges - 1 year
- Pump & diverter - 1 year
- Hoses, fittings, brass & soft goods - 90 days

PERFORMANCE ENHANCING FEATURES

✓ Reduce Wear and Tear

Heavy duty electric safety clutch allows independent operation of vacuum and pressure system for water damage restoration and pressure washing, which reduces wear and maintenance.

✓ Blower Protection System

Screens foreign objects from damaging blower system. The front side access valve allows for easy daily maintenance (ie the blower oiler). Automatic shut-off prevents waste water blowout when waste tank is full, protecting the blower.

✓ Safety Protection Housing

Mounted safety housing prevents access to moving parts. Quick removal allows for easy maintenance access.

✓ Troubleshooting System

Color coded lights to indicate problems during operation and help with troubleshooting.

✓ Multi-Surface Cleaning System

True 3000 psi heated pressure washing ability for tile and grout cleaning.

OPTIONAL ENHANCEMENT FEATURES

- Vacuum & Pressure Hose Reels
- AquaTank® Fresh Water Tank/Chemical Rack
- Additional Solution Pressure And Vacuum Hose
- Truck Pan
- Hard Surface Cleaning Tools
- Upholstery Cleaning Tools

Part # SHX7205600 4/06

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