



1500 psi Pressure Washer Manual

Item #157893

M157893B

Thank you for purchasing a North Star pressure washer. Your machine is designed for long life, dependability, and the top performance you demand. Take time now to read through this manual so you better understand the machine's operation, maintenance and safety precautions. Everyone who operates this machine must read and understand this manual. The time you take now will prolong your machine's life and prepare you for its safe operation. Enjoy the exceptional performance of your North Star pressure washer, the industry leader!

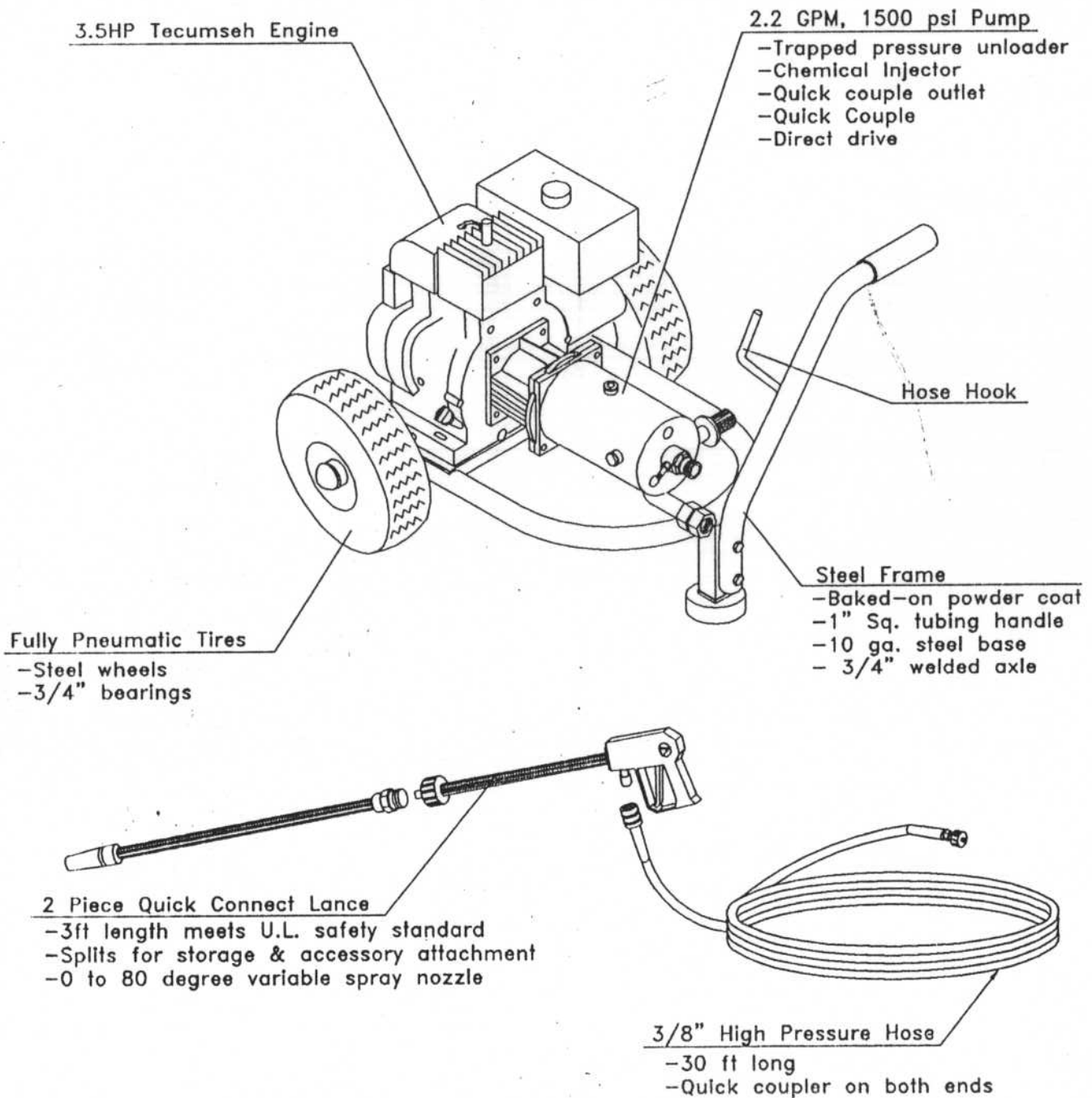


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Safety Instructions



Read and understand these instructions because they deal with safety. Pay particular attention to this safety symbol throughout this manual. Failure to comply with these instructions may result in personal injury or property damage.

BEFORE OPERATING PRESSURE WASHER

NEVER allow children to operate or play on or around the machine.

ALWAYS wear safety glasses or goggles and appropriate clothing when operating unit.

NEVER operate the machine in or around an explosive environment.

ALWAYS place the machine on a level surface.

ALWAYS locate the machine so it is protected from external damage.

NEVER operate the machine indoors. Carbon monoxide fumes are colorless and odorless. They can cause serious illness or death.

NEVER operate the machine with broken or missing parts.

NEVER alter the machine from the manufacturer's original design.

ALWAYS keep all safety devices active on the machine.

ALWAYS use water that is clear and free of particles.

NEVER run preheated water over 140 degrees F into the machine.

ALWAYS follow the chemical manufacturer's recommendations when using chemicals in the soap injector.

ALWAYS understand all safety precautions and first aid for the chemicals being used.

ALWAYS check and maintain proper oil levels in the pump and engine.

NEVER modify or adjust the unloader valve above 1500 psi.

WHILE OPERATING PRESSURE WASHER

NEVER spray flammable liquids.

NEVER point the lance or nozzle at people or animals. The high pressure the machine generates is very dangerous.

NEVER use an undersized spray nozzle.

ALWAYS keep the pressure hose connected to the machine and the spray gun while the unit is pressurized.

ALWAYS seek emergency medical care if any fluid penetrates the skin. The cut may be deeper and more serious than it appears.

NEVER move the machine by pulling on the hose.

NEVER secure the spray gun in the "ON" or "SQUEEZED" position.

NEVER use the unit when under the influence of alcohol.

NEVER operate the machine with insufficient water supply to the pump. Damage occurs to the pump if run with an insufficient or no water supply.

ALWAYS protect your machine from freezing during storage as described on page 15 of this manual.

NEVER smoke while operating or fueling this machine. Only add fuel to the machine when the engine is OFF and cool.

NEVER attempt to clean the machine with its own spray. Cleaning should only be done with a damp sponge with the unit turned OFF.

NEVER leave an operating machine unattended. Always shut the machine OFF and relieve the pressure before leaving the machine.

ALWAYS follow all other guidelines and safety instructions as described in this manual.

Any questions? CALL 1-800-270-0810
Customer Service

Unpacking Your Pressure Washer

UNPACKING

Your pressure washer is shipped in two boxes. The box where you found this manual contains the following:

- Pump and Engine
- Hose and Spray Gun with Grip
- Lance Extension
- Owner's Packet - Owner's Manual
- Parts Explosion
- Customer Video
- Pump manual
- Quick Couple Chemical Injector
- Quick Couple Socket

The second box contains the pressure washer cart.

Closely inspect the contents of the boxes against the parts explosion found in the parts bag.

Missing Components? Call 1-800-270-0810

Shipping Damage? Contact the freight company that delivered your unit and file a claim.

ASSEMBLING

Use the assembly instructions found in the cart box to help assemble your pressure washer.

Warranty Registration Card

Take the time now to fill out your warranty registration card found in the middle of this manual. It is extremely important you return the registration card. Furthermore, your comments and suggestions are very valuable to us.

Your Customer # is on your invoice if you bought this unit through mail order. If you bought this unit in a retail store, write in the city where the store is located.

The North Star Serial # is printed on the silver North Star label found on the engine. It consists of two numbers. Write both sets on the North Star Serial # line.

The Engine Serial # is found on the engine. See the engine manual for its location.

On the Pump Serial # line, write in the pump model number which is XB215.

Customer # _____

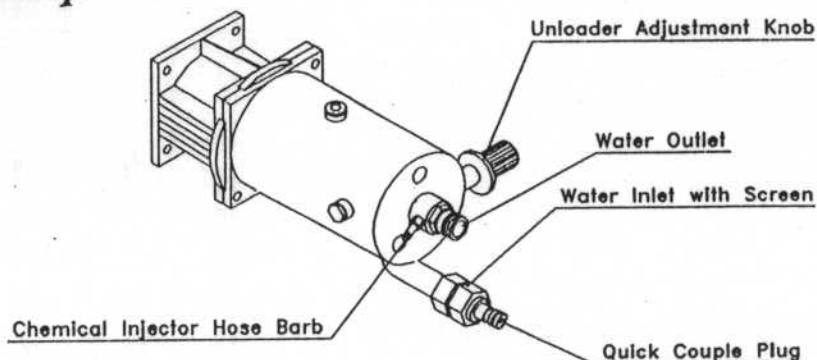
North Star Serial # _____

Engine Serial # _____

Pump Serial # _____ XB215

Your High Pressure Pump

Unloader Valve – The unloader determines the pressure the pump will start recirculating water when you release the trigger. You can adjust your unloader by turning the black adjustment knob. However, the unloader is factory pre-set to the maximum system pressure.



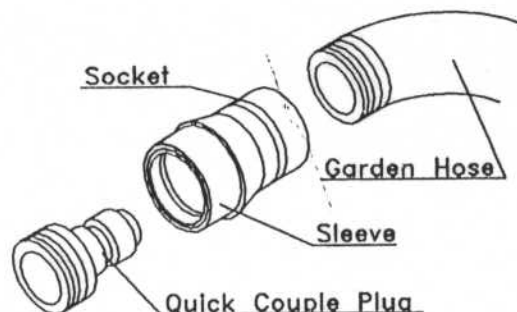
Caution



NEVER alter the unloader valve from the manufacturer's design. Excess pressures could cause serious injury and/or pump damage. Any alteration other than turning the adjustment knob will void your warranty.

Chemical Injector Hose Barb – You can spray chemicals at low pressure by using the chemical injector. The chemical injector hose barb has a small clear hose and strainer already attached. The chemical concentration can be adjusted by premixing a diluted chemical/water concentration.

Water Inlet – Attach a garden hose to the water inlet using the quick couplers supplied. Spin the socket onto your garden hose, pull back the sleeve and push it onto the quick couple plug. The screen will help stop debris from entering the pump. However, never run dirty water through the pump.



Water Outlet – Attach the high pressure hose quick coupler here.

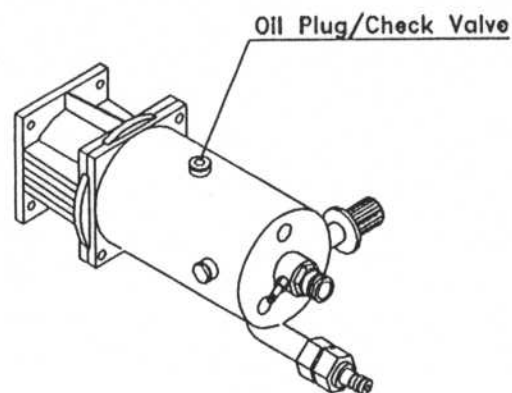
PUMP OIL

Your Pump is shipped complete with oil that should last the life of the pump. You do not need to change your pump oil.

If you want to change the pump oil, we recommend North Star pressure washer pump oil (Item# 4043) which contains oil/water separation additives. A NON-DETERGENT SAE-30W oil can also be used.

Follow these steps for changing the pump oil:

1. Disconnect the pump from the engine.
2. Pull the black oil plug/check valve.
3. Turn the pump upside-down and let the oil drain.
4. Refill the pump with oil (3-5 ounce capacity)



Pump Maintenance Schedule

****Refer to the pump manual for complete maintenance schedule and pump component identification.**

Item	Service Period	each use
Inlet Screens	Check & Clean	X
Fittings	Check for leaks	X
Nozzle*	Check & Clean	X

*Use a pin to dislodge any debris in the nozzle orifice.

Caution



NEVER examine a nozzle orifice while the machine is pressurized.
NEVER attempt to remove a nozzle while spraying water.

Your Tecumseh Engine

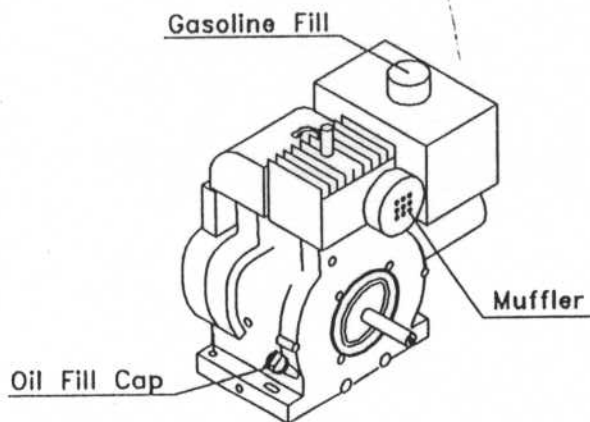
****REFER TO THE ENGINE MANUAL FOR COMPLETE MAINTENANCE SCHEDULE AND ENGINE COMPONENT IDENTIFICATION**

Oil

- 1.) Your engine is shipped without oil.
- 2.) Use SAE 30W high quality detergent oil classified "For service SF, SG, SH or SH/CD."
- 3.) Remove the oil fill plug and fill the engine with oil (21 ounces).
- 4.) Reinstall the oil fill plug.
- 5.) Refer to the engine manual for additional oil requirements.

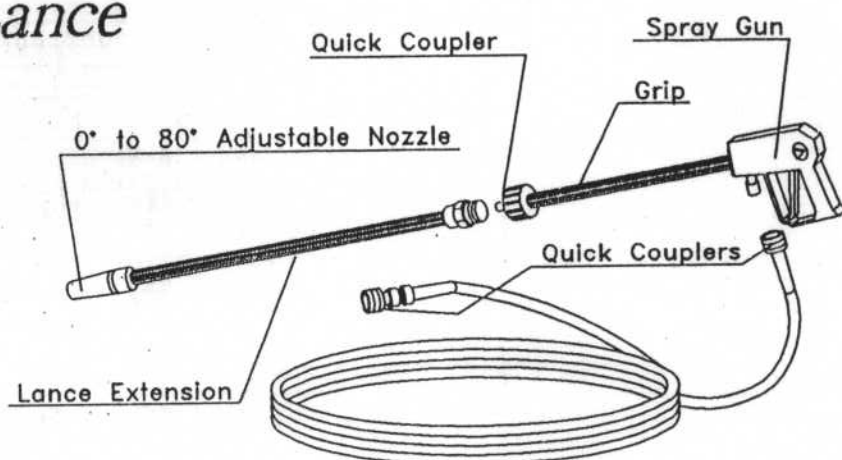
Gasoline

- 1.) Use a fresh, clean, unleaded regular automotive gasoline.
- 2.) Refer to the engine manual for additional fuel recommendations.



Your Spray Gun and Lance

The gun is equipped with a built-in trigger safety dial to guard against accidental trigger release and potentially dangerous high pressure spray. Turn the dial to the "0" position when you're not spraying.



Hose

Your pressure washer is equipped with 30 ft. of high pressure hose with quick couplers on both ends. The hose is rated at 3000 psi from 40 to 250 degrees F.

Attach either end of the high pressure hose to the pump or gun by pushing the quick coupler onto the fitting on the pump or gun and spinning the quick coupler hand tight.

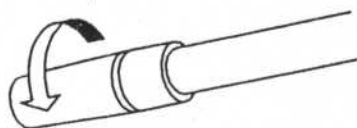
Lance Extension

Your pressure washer has a 4ft lance for easy cleaning and for safety. The lance splits in half for quick accessory changes and easier storage.

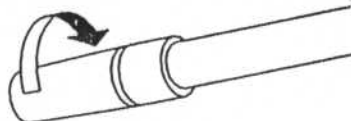
Attach the lance extension to the spray gun using the quick coupler the same way you attached the high pressure hose to the pump.

Changing the Spray Angle

The 0 to 80 degree adjustable nozzle is designed to tackle a variety of cleaning jobs. Generally narrow spray angles have greater cleaning impact, wider angles cover large areas in less time. Change the spray angle by turning the adjustable nozzle counter-clockwise for narrow angles and clockwise for wide angles.



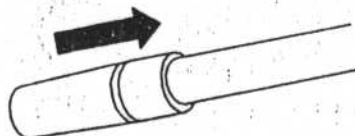
NARROW ANGLES



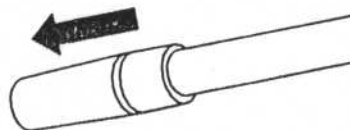
WIDE ANGLES

Changing between High and Low Pressure

You can change between high and low pressure by pushing or pulling the adjustable nozzle. Pull the nozzle back for high pressure. Push the nozzle forward for low pressure. You need to change to low pressure if you want to spray chemicals onto the cleaning surface.



HIGH PRESSURE

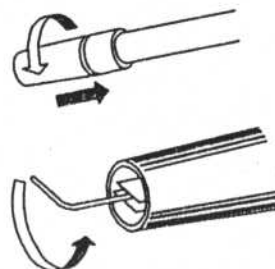


LOW PRESSURE

Cleaning and Changing the Nozzle Orifice

The nozzle orifice has a small hardened stainless steel body. It is located inside the adjustable nozzle between the two thin metal plates. Follow these steps to remove the nozzle orifice.

- 1) Pull the adjustable nozzle back and turn counter-clockwise spreading the metal plates.
- 2) Remove the nozzle orifice by unscrewing with a 2mm hex key.
- 3) Clean the nozzle by blowing with air.
- 4) Replace the nozzle orifice if it is worn.



Operation Instructions

CAUTION



Read and understand the entire manual before operating the pressure washer. Pay particular attention to all safety instructions.

PRE-OPERATION CHECK LIST

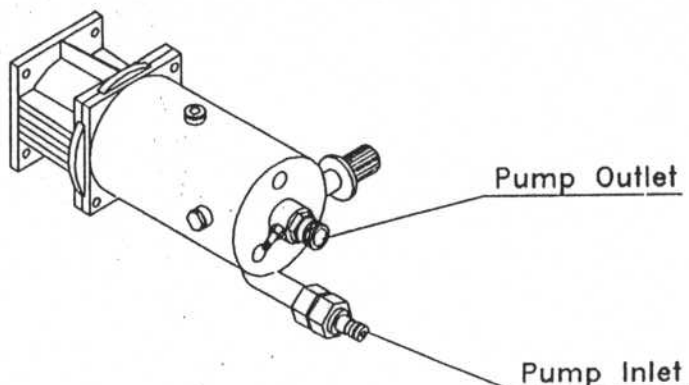
- ☒ 1.) Check the engine oil. Use a high quality detergent oil, SAE 30.
- ☒ 2.) Check the gasoline supply. Use unleaded regular gasoline.
- ☒ 3.) Check for worn or damaged equipment. Replace if necessary.
- ☒ 4.) Check nozzle orifice. Remove any debris.
- ☒ 5.) Check inlet screens behind the quick couple plug and in the quick couple socket. Remove any debris.

WATER SUPPLY CHECK LIST

- ☒ 1.) Make sure the water supply is clean. Debris can cause excess pump wear and reduced performance.
- ☒ 2.) Make sure the water supply is steady and is more than 2 GPM. An insufficient water supply will damage your pump. If you can fill a 1 gallon pail in less than 30 seconds, then you have a sufficient water supply.
- ☒ 3.) The water supply garden hose must have an inside diameter of at least 5/8". If the hose is more than 100 ft. long, the inside diameter must be at least 3/4".

PREPARING THE SYSTEM FOR OPERATION

- 1.) Attach quick couple socket to garden hose. Quick connect garden hose to the pump inlet.
- 2.) Attach the high pressure hose to the pump outlet and gun inlet. Refer to the Spray Gun and Lance section for proper attachment.
- 3.) Attach the lance extension to the spray gun. Refer to the Spray Gun and Lance section.
- 4.) Turn ON the water supply.
- 5.) Squeeze the spray gun trigger until a steady flow of water sprays out the nozzle. Make sure all the air is out of the hoses before running the pressure washer. This step is very important, it will prolong the pump's life. NEVER run the pump dry.



Operation Instructions

CAUTION



Read and understand the entire manual before operating the pressure washer. Pay particular attention to all safety instructions.

STARTING YOUR PRESSURE WASHER

- 1.) Refer to the engine manual to start your engine.
- 2.) Once your engine is started, begin cleaning.
- 3.) Never let the engine run in bypass without spraying water for more than three minutes. When the gun is not squeezed, water circulates inside the pump. This water heats up each time it recirculates. Eventually, the water gets hot enough to damage some pump components. So, make sure to squeeze the trigger at least once every three minutes to prevent premature pump damage.

STOPPING YOUR PRESSURE WASHER

- 1.) Turn the engine OFF. Refer to the engine manual.
- 2.) Turn the water supply OFF.
- 3.) Squeeze the spray gun trigger to relieve the system pressure.
- 4.) Remove the water supply garden hose from the pump inlet.
- 5.) Remove the high pressure hose from the pump outlet.

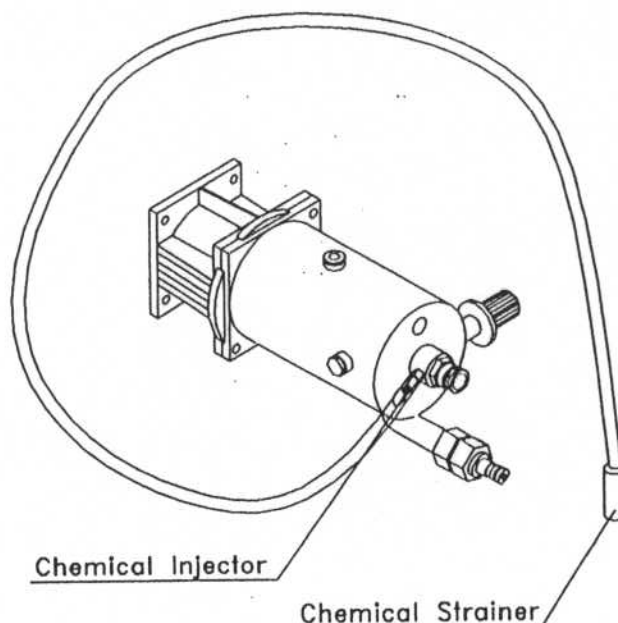
CAUTION



NEVER disconnect the high pressure hose from the pump or spray gun while the system is pressurized. Depressurize the system by squeezing the spray gun trigger after the engine is turned OFF.

SPRAYING CHEMICALS

- 1.) Submerge the chemical strainer in a chemical solution.
- 2.) Adjust the nozzle holder to low pressure. Refer to the Spray Gun and Lance section for changing to low pressure.
- 3.) Squeeze the spray gun trigger to discharge chemical from the nozzle.
- 4.) Adjust the chemical adjustment knob to increase or decrease the chemical concentration.



CAUTION



ALWAYS follow the chemical manufacturer's recommendations when using chemicals in the chemical injector.

ALWAYS understand all safety precautions and first aid for the chemicals being used.

Winterizing Your Pressure Washer

Follow these instructions to help keep internal pump parts lubricated and prevent the pump from rust and freezing during storage. During cold weather store the pressure washer indoors and move it outdoors before starting the engine.

- 1.) Disconnect the high pressure hose. Drain all the water from the hose.
- 2.) Combine 1 gallon of water with one gallon of antifreeze in a pail.
- 3.) Attach a short garden hose (4-5 ft long) to the pump inlet. Submerge the other end in the antifreeze solution.
- 4.) Run the pressure washer until antifreeze discharges from the pump outlet. Immediately turn the engine OFF. The pressure washer is ready for storage.
- 5.) After storage, run clean water through the pressure washer until the antifreeze is removed. Spray the antifreeze where it will not be harmful to the environment, people, or animals.

Cleaning Tips

CAUTION



Read and understand the entire manual before operating the pressure washer. Pay particular attention to all safety instructions.

Spray Angle

Your pressure washer comes with a 0 to 80 degree adjustable nozzle. Changing the nozzle's spray angle does not change the operating pressure, it just changes the cleaning impact. Small spray angles impact the cleaning surface harder. Wide angles cover larger areas in less time. Use small angles for the toughest cleaning jobs. Use wide spray angles for rinsing large surfaces and water sweeping.

General Cleaning

- 1.) Adjust the nozzle's spray angle for your application.
- 2.) Hold the nozzle 6" to 12" from the cleaning surface.
- 3.) Use long, slow, deliberate strokes from side to side similar to using a paint sprayer. This technique will provide the most effective cleaning impact and minimize streaks and skips in the cleaning surface.

CAUTION



NEVER point the nozzle or lance at people or animals. The high pressure the machine creates is very dangerous.

ALWAYS keep the high pressure hose connected to the machine and the spray gun while spraying water.

Applying Chemicals

- 1.) Apply chemicals evenly to the cleaning surface. Allow the chemicals to react with the dirt, then rinse at high pressure.
- 2.) Never use more chemical than is necessary to clean the surface.

CAUTION



ALWAYS follow the chemical manufacturer's recommendations when using chemicals in the chemical injector.

ALWAYS understand all safety precautions and first aid for the chemicals being used.

Troubleshooting

LOW NOZZLE PRESSURE	
Causes	Solutions
Plugged nozzle orifice.	Remove nozzle orifice, check for blockage and clean if necessary.
Worn nozzle orifice.	Replace nozzle orifice
Plugged water inlet screen	Pull screen out carefully and clean.
Unloader valve stuck open	Contact Customer Service.
Restrictive water supply hose	Use larger diameter water supply hose and/or hose fittings.
Insufficient flow of water to the pump	Increase water flow. Check for kinked or pinched water supply hose.
Leak in high pressure hose	Check connections. Replace if cracked or punctured.

SURGING PRESSURE	
Causes	Solutions
Restrictive water supply hose	Use larger diameter water supply hose and/or hose fittings.
Plugged water inlet screen	Pull screen out carefully and clean.
Insufficient flow of water to the pump	Increase water flow. Check for kinked or pinched water supply hose.
Air trapped in pump head	With unit off, purge air by squeezing spray gun until water flows steadily out the nozzle.
Leak in high pressure hose	Check connections. Replace if cracked or punctured.

CHEMICAL INJECTOR NOT WORKING	
Causes	Solutions
Nozzle set to high pressure	Twist the nozzle holder counterclockwise for low pressure.
Back pressure from extra long hose	Don't use additional high pressure hose.
Chemical adjustment knob turned too low or off.	Turn chemical adjustment knob on (counterclockwise).
Plugged chemical injector.	Check and clean chemical injector.
Leak in clear chemical hose.	Replace hose. Use hose clamp to seal the hose around the chemical hose barb.
Chemical strainer not submerged in chemical solution.	Completely submerge strainer in chemical solution.

For Customer Service Call: 1-800-270-0810