



**MINI-BRUTE II
HOT WATER POWER WASHER**

MODEL# MBII

Operator's Manual

INTRODUCTION

Thank you for selecting this power washer from Simpson®.

Your power washer has been manufactured using the most advanced components in the industry.

When operated properly, our equipment has been designed and manufactured to give you years of trouble free, reliable use, with a minimal amount of regular maintenance.

Your power washer is mechanical, as with all mechanical equipment it requires proper installation, operation and maintenance as outlined in this manual.

The Operators Manual has been written for your benefit. For your safety and the safety of others, we recommend that you and all operators read and understand the contents.

*Should you experience any difficulty with your Simpson® power washer, please contact Technical Support at **1-847-348-1508**.*

THANK YOU!!!

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SIMPSON[®] LIMITED WARRANTY

At SIMPSON CLEANING SYSTEMS, we only distribute top quality industrial / commercial / personal pressure washers that are designed for light- and heavy-duty use, maximum reliability, durability, and long life. Our pressure washers are built for their respective duty applications and steady use due to higher quality levels.

The manufacturer of this product agrees to repair or replace designated parts that prove defective within the warranty period listed in the chart below. Specific limitations/extensions and exclusions apply, and are listed in the chart below. This warranty covers defects in material and workmanship and not parts failure due to normal wear, depreciation, abuse, accidental damage, negligence, improper use, maintenance, or storage. To make a claim under the terms of the warranty, all parts said to be defective must be available or returned (if requested) to a SIMPSON CLEANING SYSTEMS designated Warranty Service Center for warranty inspection. The judgments and decisions of the Warranty Service Center concerning the validity of warranty claims are final.

These warranties pass through to the end user. As a factory authorized and trained Warranty Service Center the factory will honor the terms of all component warranties and satisfy claims of the appropriate warranty provisions.

Normal wear items include, but are not limited to, Valves and Seals, which are not covered by this warranty.

This Warranty replaces all other warranties, express or implied, including without limitation any warranties of merchantability or fitness for a particular purpose and all such warranties are hereby disclaimed and excluded by the manufacturer. The Manufacturer's warranty obligation is limited to repair and replacement of defective products as provided herein and the Manufacturer shall not be liable for any further loss, damages, or expenses – including damages from shipping, accident, abuse, acts of God, misuse, or neglect. Neither is damage from repairs using parts nor purchased from the manufacturer or alterations performed by non-factory authorized personnel. Failure to install and operate equipment according to the guidelines put forth in the instruction manual shall void warranty.

This warranty does not cover the following: machines used for rental purposes, damage resulting from shipping (claims must be filed with shipping company), accident, abuse, act of God, misuse, or neglect. Neither is damage from repairs or alterations performed by non-factory authorized personnel or failure to install and operate equipment according to the guidelines put forth in the instruction manual.

The manufacturer will not be liable to any persons for consequential damage, for personal injury, or for commercial loss.

Parts / Components

Warranty Period and Details

High Pressure Electric Axial Pumps One (1) year on pump & motor workmanship, defects, or material.

Warranty does not apply to failures on other pump parts due to:

- Freight damage
- Freeze damage
- Damage caused by parts or accessories not obtained from / or approved by SIMPSON CLEANING SYSTEMS
- Normal wear of moving parts or components affected by moving parts
- Unfiltered Hard Water

SIMPSON[®] LIMITED WARRANTY

High Pressure Gas Axial Pump

One (1) year on pump workmanship, defects, or material.
Warranty does not apply to failures on other pump parts due

to:

- Freight damage
- Freeze damage
- Damage caused by parts or accessories not obtained from / or approved by SIMPSON CLEANING SYSTEMS
- Normal wear of moving parts or components affected by moving parts
- Unfiltered Hard Water

High Pressure Triplex Pump

Five (5) years on pump workmanship, defects, or material.

Lifetime Warranty on the forged brass manifold.

This warranty is covered by the Triplex Pump Manufacturer's Warranty (included with Pressure Washer when shipped).

Warranty does not apply to failures on other pump parts due to:

- Freight damage
- Freeze damage
- Damage caused by parts or accessories not obtained from / or approved by SIMPSON CLEANING SYSTEMS
- Normal wear of moving parts or components affected by moving parts.

Engine The engine warranty is covered under the terms and conditions as outlined by the engine manufacturer's warranty (included with the owner's manual) and is the sole responsibility of the engine manufacturer.

Electric Motor The motor warranty is covered under the terms and conditions as outlined by the motor manufacturer's warranty (included with the owner's manual) and is the sole responsibility of the motor manufacturer.

Burner One (1) year from date of first start up, based on Burner Manufacturer's Warranty (included with Pressure Washer when shipped).

Hot Water Burner Coil

Five (5) years from date of first start up.

Warranty only covers workmanship or defects of material.

Warranty does not apply to:

- Freeze Damage
- Over Pressure burst damage caused by improper maintenance of safety devices.

Machine Steel Frame




One (1) year from date of first start up.









Accessories



















Ninety (90) days. Includes tips, guns, wands, injectors, unloaders, hose reel, brushes, foamers, GFCI units, thermal relief, filters, tanks, wheels, tires, etc.

OPERATOR SAFETY INSTRUCTIONS

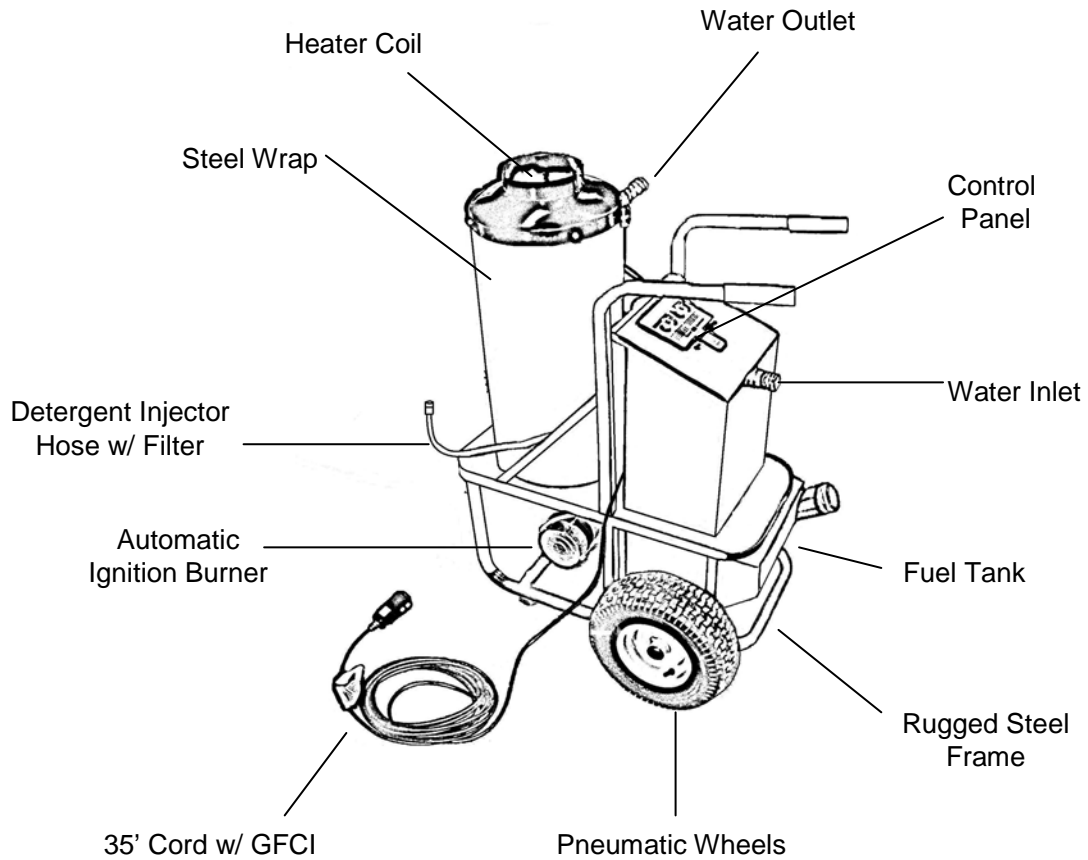
WARNING

 DANGER means:	Severe bodily injury or death can occur to you or other personnel if the DANGER statements found on your machine or in your Owner's Manual are ignored or are not adhered to. Read and observe all DANGER statements found in your Owner's Manual and on your machine.
 WARNING means:	Injury can occur to you and to other personnel if the WARNING statements found on your machine or in your Owner's Manual are ignored or are not adhered to. Read and Observe all WARNING statements found in your Owner's Manual and on your machine.
 CAUTION means:	Damage can occur to the machine or to other property if the CAUTION statements found on your machine or in your Owner's Manual are ignored or are not adhered to. Read and observe all CAUTION statements found in your Owner's Manual and on your machine.

-  **DANGER:** Failure to read the Owner's Manual prior to using this machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well. You must have training in the operation of this machine before using it. If you or your operator(s) cannot read English, have this manual explained fully before attempting to operate this power washer.
-  **DANGER:** Machines can cause an explosion when operated near flammable materials and vapors. Do not use this machine with or near fuels, grain dust, solvents, thinners, or other flammable materials.
-  **DANGER:** This machine emits carbon monoxide. Asphyxiation could occur if the unit is used in an area with poor or inadequate ventilation. Operate unit in a well-ventilated area. Do not connect the exhaust stack directly to a flue pipe. This may cause sooting of the combustion chamber. If you must vent to the outside use a hood type vent or an exhaust fan. Install flue pipes in accordance with all local codes.
-  **DANGER:** Operating a machine that is not completely or fully assembled could result in injury or property damage. Do not operate this machine until it is completely assembled. Inspect hoses, fittings, and heat exchanger for leaks or fatigue before each use.
-  **DANGER:** Filling a machine with fuel in an explosive or poorly-ventilated area can cause an explosion. Only fill the fuel tank in an open area. Do not fill the tank near open flames or while the unit is running. Do not smoke while filling the tank. Do not over-fill the tank. Wipe up any spills. Tighten the cap on the tank when finished. Use kerosene, or #1 or #2 diesel as a fuel only. **DO NOT USE K-1 KEROSENE.**
-  **DANGER:** Tampering with the machine's factory preset unloader valve setting and/or the pressure relief valve setting could result in a machine explosion. Do not attempt to change the settings. Discontinue use if a malfunction occurs and contact Customer Service.
-  **DANGER:** Operating a power washer with a malfunctioning burner or burner controls could result in a machine explosion. Inspect burner and burner control operation before each use. If you suspect a problem with the burner, discontinue use immediately and contact Customer Service for assistance.
-  **DANGER:** Failure to properly maintain the heat exchange coil can result in a steam explosion. Scale or lime build-up will act as an insulation and decrease the efficiency of the heat exchanger coil and will also cause hot spots. This can result in a weakening of the tubing which in turn may cause a rupture.

-  **DANGER:** Operating a machine with a ground fault circuit interrupter (GFCI) that has been tampered with, or one that repeatedly trips, could result in an electrocution. Do not remove, disable, or tamper with the GFCI. If the ground fault circuit interrupter repeatedly trips, discontinue use of the machine. Contact Customer Service for assistance with the GFCI.
-  **DANGER:** Electrocution could occur if the machine is used on a power circuit that repeatedly trips or is undersized. Have a licensed electrician check the fuse, circuit breaker or power supply, and/or contact Customer Service for assistance.
-  **DANGER:** Electrocution could occur if maintenance and repairs are performed on a unit that is not properly disconnected from the power source. Disconnect the power supply before attempting any maintenance or service.
-  **DANGER:** Use of this machine with a damaged power cord could result in an electrical shock. Do not use the machine if the power cord is damaged. Do not use the electrical cord to move the machine.
-  **WARNING:** Water under high pressure can cause severe injury. Keep all persons away from the machine and the spray area. Always point the wand toward the object being cleaned.
-  **WARNING:** Injury to the operator or bystanders could occur if the machine is operated without all of the guards being in place on the unit. When operating the machine, all guards must be in place.
-  **WARNING:** Operating a power washer under high pressure without a securely fastened hose, gun, and spray nozzle(s) could result in bodily injury or property damage. Make sure the spray nozzle, gun and hose are securely fastened before operating the machine. Do not remove the nozzle or disconnect the high pressure hose while the system is pressurized and/or running.
-  **WARNING:** Machines have moving parts and hot areas that can cause injury. Keep hands, feet, and loose clothing away from the power washer while it is running. After use, allow an adequate amount of cool-down time before attempting to perform any maintenance or service to this unit.
-  **WARNING:** Failure to wear safety goggles and protective clothing when operating a power washer reduces operator safety. Always wear safety goggles and protective clothing when the machine is running or when operating machine.
-  **WARNING:** Operating this power washer without the appropriate decals could result in operator injury or damage. Make sure all labels and instructional information are fastened to the machine.
-  **WARNING:** Improper discharge of waste water may damage the environment and be illegal. The United States Environmental Protection Agency has established certain regulations regarding discharge of waste water. Also, city and state regulations regarding this discharge may be in effect in your area. Understand and follow the regulations in your area. Be aware of the environmental hazards of chemicals that you dispose.
-  **CAUTION:** Maintenance and repairs performed by unauthorized personnel could result in damage or injury. Please contact Customer Service.
-  **CAUTION:** Electrical damage can occur if the machine is exposed to direct and/or over spray. Always point the wand toward the object being cleaned.
-  **CAUTION:** Using an extension cord with your power washer will result in a voltage drop and loss of power. Use of an extension cord is not recommended. If an extension cord must be used, the cord must be 14 gauge and a maximum of 25 ft.
-  **CAUTION:** Use of this machine to move other objects or to climb on could result in injury or damage.
-  **CAUTION:** Operating a power washer with insufficient water flow can damage the pump. Water should be turned on full-force to avoid insufficient water flow.
-  **CAUTION:** Pump damage could occur if the power washer is run for more than five (5) minutes with the trigger released (closed).
-  **CAUTION:** Always use Simpson® parts for replacement.

INTRODUCTION AND MACHINE SPECIFICATIONS

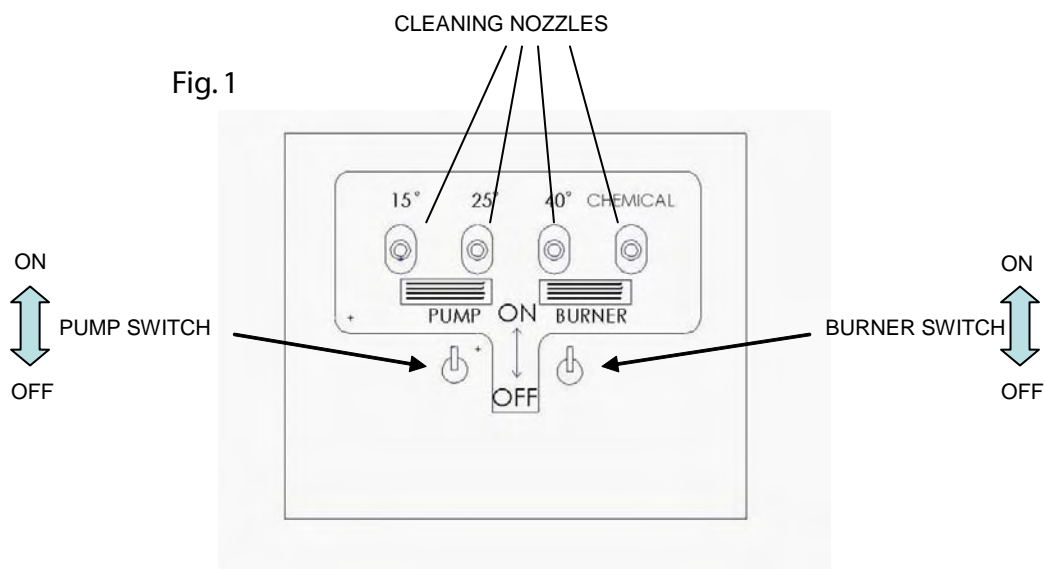


	MB II
Flow GPM	2.3
Pressure (psi)	1200
Amps	13 Max
Min. Circuit Amp.	15 / 20 Dedicated
Fuel	#1 or #2 Diesel
BTU H Input	189,000
Temperature Rise (°F)	100° F
Motor	120V, 60Hz, 3450 rpm
Pump	Axial Cam
Heat Exchanger	7/8" O.D.
Coil	Schedule 80 tubing
Power Cord	35' with GFCI
Spray Control	Trigger gun
Hose	5/16 x 25' steel braided
Wheels	12" pneumatic
Dimensions (in.)	42 x 33 x 25
Weight (lbs)	200

OPERATING INSTRUCTIONS

NOTE: Following delivery of your Simpson® power washer, inspect the unit for shipping damage and follow these directions:


1. Read all DANGER, WARNING, and CAUTION labels. Read the Owner's Manual that came with your machine before attempting to operate the power washer.
2. Fill the fuel tank with kerosene, or #1 or #2 diesel. **DO NOT USE K-1 KEROSENE.**
3. Locate the unit in a convenient, well-ventilated location.
4. Connect 3/4" garden hose to quick connect. (Fig.2)
5. Attach the garden hose with quick connect to the inlet nipple on the rear of the machine. (Fig.2)
6. Connect the high pressure hose to machine outlet. (Fig.2)
7. Connect the gun to high pressure hose. (Fig.2)
8. Turn on water supply.
9. Check all hose connections for leaks.
10. Connect the extension wand to the gun. (Fig.2)
11. Connect the GFCI power plug to a dedicated 120V, 60Hz, 15 Amp minimum power supply. Press the TEST button and then press the RESET button. The red light should be illuminated.
12. Point the wand in a safe direction and squeeze the trigger on the gun allowing air to purge from the system. Check the system for leaks.
13. Move the Pump switch to the ON position. (Fig.1)
14. Move the Burner switch to the ON position. (Fig.1)





OPERATING INSTRUCTIONS - Cont'd

15. For high pressure cleaning, install the 15°, 25°, or 40° nozzle to the gun wand.
16. Point the wand towards the object to be cleaned and squeeze the trigger to start the motor and begin cleaning.

NOTE: This power washer is equipped with Automatic Total Stop®, a stop device which will sense when the trigger on the gun is released. It will open the power circuit to the motor and cause the power washer to stop.

 **DANGER:** If Automatic Total Stop® fails to operate, DO NOT USE THE MACHINE. Contact our Customer Service department. Further use will damage the machine and/or cause personal injury.

 **DANGER:** Operating a power washer that doesn't have proper water flow could result in an explosion. If water should stop flowing from the gun, turn unit off immediately and contact our Customer Service department.

 **DANGER:** This power washer is equipped with a main power ON/OFF switch located on the unit. It should always be moved to the OFF position when the power washer is not being used to prevent possible injury or damage.

17. For chemical application,
 1. Place the chemical suction tube into a container of power washer cleaning solution. USE ONLY APPROVED POWER WASHER CLEANERS. DO NOT USE BLEACH, CHLORINE, OR ANY CLEANERS CONTAINING ACIDS.
 2. Connect the black low pressure nozzle to the gun wand quick connect.
 3. Point the wand towards the object to be cleaned and squeeze the trigger to start the motor and begin cleaning.


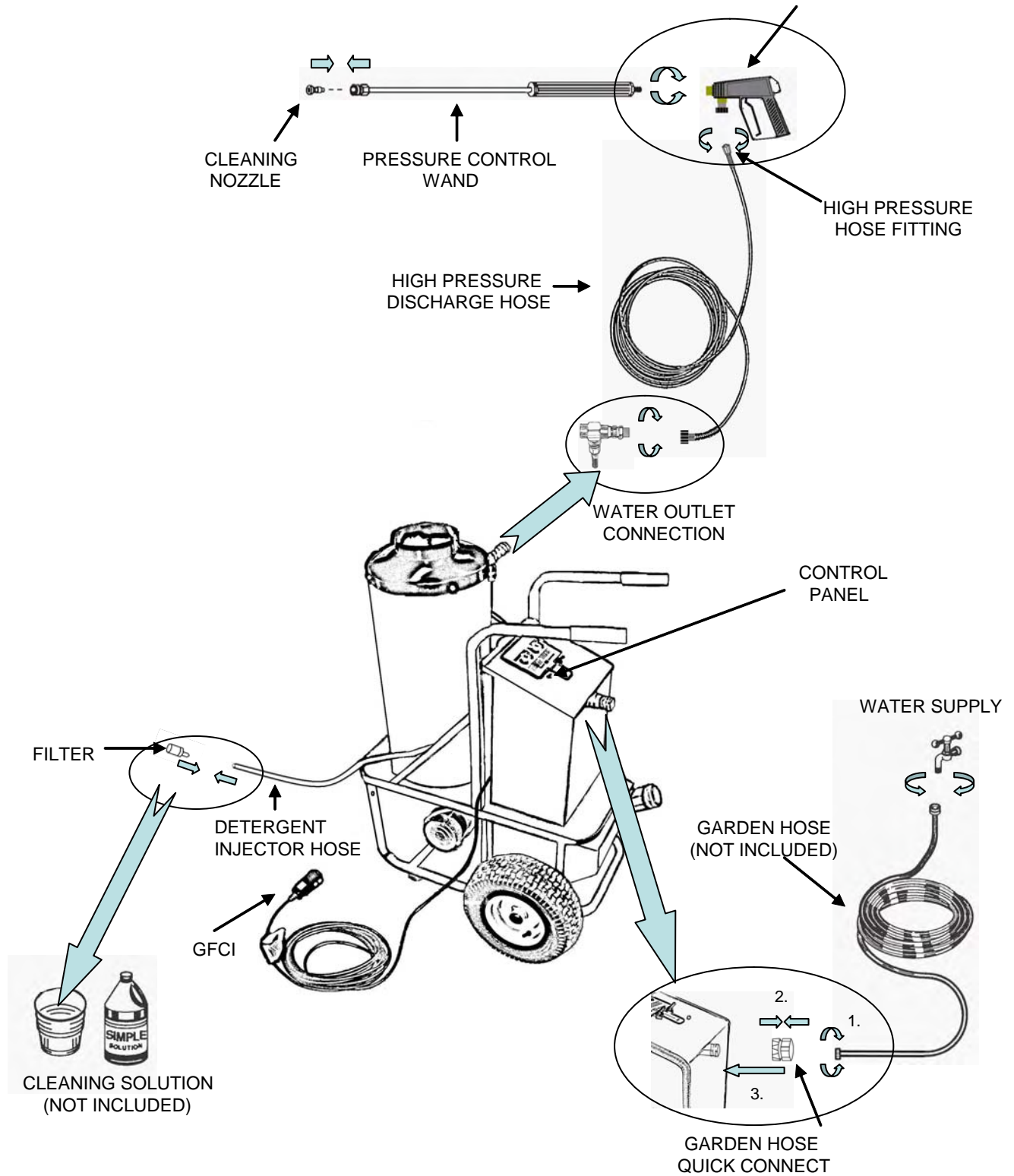
 **DANGER:** Allowing the detergent level to fall below the chemical feed line opening feeds air into the system which could cause a steam explosion. Air introduced into the system will cause pump damage and create steam space if the burner is on. The detergent level should never fall below the chemical feed line opening.

Fig. 2



SHUT DOWN / STORAGE INSTRUCTIONS

1. Move the Burner switch to the OFF position.
2. Pull trigger allowing motor to run for 3 minutes and then move the Pump switch to the OFF position.
3. Unplug the GFCI and turn off the water supply.
4. Remove the pressure nozzle and pull trigger to release pressure in system.
5. Disconnect and drain all hoses.
6. Wipe down the unit and store the machine, hoses, and any accessories in a dry place where the temperature will not fall below 40°F.

 **DANGER: All fuel must be empty before storage in heated building.**

To prevent freeze-up follow these instructions:

1. Attach the garden hose with quick connect to the machine inlet on the rear of the machine.
2. Remove the spray nozzle from the wand.
3. Pour RV antifreeze into a large container.
4. Put the end of the chemical line in the antifreeze mixture.
5. Move the Pump switch to the ON position but leave the Burner switch in the OFF position.
6. Let the pump run until the antifreeze moves through the pump, coils, and pressure hose.

NOTE: The trigger on the gun must be pulled to allow antifreeze to pass through the coils, and then the trigger must be released to allow the antifreeze to pass through the bypass line.

7. Move the Pump switch to the OFF position.
8. Disconnect the garden hose from the machine inlet.
9. Move the Pump switch to the ON position and run for several seconds to clear out any water that may be remaining in the pump. Then move the Pump switch back to the OFF position.
10. Unplug the cord and store the machine, hoses, and any accessories in a dry building where the temperature will not fall below 40°F.

 **DANGER: All fuel must be empty before storage in heated building.**

HOW TO CORRECT PROBLEMS IN THE MACHINE

Problem	Cause	Action
The motor will not start	Power cord may not be connected.	Connect the power cord.
	Switch may not be turned "ON".	Turn switch to "ON".
	Ground fault circuit interrupter did not reset.	Reset the ground fault circuit interrupter.
	The power cord may be connected to a dead outlet.	Contact a licensed electrician.
	May have a defective motor, GFCI, or switch.	Contact Customer Service.
	The thermal overload switch tripped.	Allow motor to cool.
The motor has difficulty starting or is overheating.	Circuit may be too long, overloaded, or conductors may be undersized.	Locate the outlet nearest to the circuit panel which can be reached with the cord supplied with the machine.
	Incorrect voltage or frequency.	Check the voltage and frequency.
	The motor is wet.	Contact Customer Service.
	The coils are limed.	Delime the coils.
	The nozzle is dirty.	Remove and clean the nozzle.
	Improper extension cord.	Ensure that the extension cord is 14 gauge and no longer than 25 ft.
The pump overheats.	The oil level is low.	Contact Customer Service.
	Inadequate water supply.	Ensure that the water faucet is fully open and the hose is not leaking or kinked.
The pump vibrates.	The pump is sucking air.	Contact Customer Service.
	The pump check valves are dirty.	Contact Customer Service.
The pump surges when the trigger gun is off.	There is a leak.	Check all fittings. Keep fasteners tight. Contact an authorized service person.
	The unloader valve is not adjusted correctly.	Contact Customer Service.
The pump is running but the pressure is low on installation.	The pump is sucking air.	Make sure the water supply is correct. Ensure that the chemical suction tube is submerged in the chemical solution.
	The pump valves are sticking.	Contact Customer Service.
	The unloader valve is worn.	Contact Customer Service.
	The nozzle is not the correct size.	Replace the nozzle.
	The pump plunger packing is worn.	Contact Customer Service.
The pressure is changing.	The pump valves are worn.	Contact Customer Service.
	The pump valves are dirty.	Contact Customer Service.
	The pump is sucking air.	Contact Customer Service.
	The pump plunger packing is worn.	Contact Customer Service.
The pressure is low after normal use.	The nozzle is worn.	Replace the nozzle.
	The pump check valves are worn or dirty.	Contact Customer Service.
	The unloader valve is worn.	Contact Customer Service.
	The pump plunger packing is worn.	Contact Customer Service.

Problem	Cause	Action
The pump is noisy.	There is air in the suction line.	Check the water supply. Make sure all fittings are tight.
	The valves are dirty.	Contact Customer Service.
	The bearings are worn.	Contact Customer Service.
	The incoming liquid is too hot.	Reduce the temperature to below 140°
	The pump check valve springs are worn.	Contact Customer Service.
There is/has been water in the oil.	The oil seal is worn.	Contact Customer Service.
	The humidity is high.	Contact Customer Service.
	The plunger packing is worn.	Contact Customer Service.
There is water dripping from under the pump.	The plunger packing is worn.	Contact Customer Service.
	The plunger retainer o-ring is worn.	Contact Customer Service.
Oil is dripping.	The oil seal is worn.	Contact Customer Service.
The pressure is too high and is released at the unloader or pressure relief valve	The coils are limed.	Delime the coils.
	The spray nozzle is obstructed.	Clean the nozzle.
The machine does not pick up the cleaning solution.	The solution control valve is leaking.	Tighten all fittings on the valve.
	The nozzle is incorrect.	Use the black chemical nozzle.
	The screen on the chemical line is dirty.	Clean the screen. Replace if damaged.
The gun and the hose are vibrating.	The nozzle is obstructed.	Clean the nozzle.
	The nozzle is not the correct size.	Install a new nozzle. Use only a nozzle recommended for the machine.
	There is an air leak around the solution control valve.	Tighten all fittings on the valve.
	There is not enough water.	Check the water level in the tank.
	The check valve in the pump is damaged.	Contact Customer Service.
The unloader or pressure relief valve is leaking.	The valve is not correctly adjusted.	Contact Customer Service.
	The seat is worn or damaged.	Contact Customer Service.
	The nozzle is dirty.	Clean the nozzle.
	There is a restriction in the discharge hose.	Remove the nozzle and flush the line.
	There is a restriction in the coil.	Clean the coil.
The burner will not start.	The fuel tank is empty.	Fill the fuel tank with either #1 or #2 diesel, or kerosene.
	The fuel filter is stopped-up or dirty.	Change the fuel filter.
	The burner motor does not run.	Push the reset button on the burner motor. If the burner still does not start, contact an authorized service person.
	The burner is not turned on.	Turn the switch to the "ON" position (II).

Problem	Cause	Action
The pressure is low.	There is a leak in the pump.	Contact Customer Service.
	The nozzle is worn.	Install a new nozzle.
	The water supply is too low.	Increase the water supply. Make sure the garden hose is 3/4" I.D or larger.
	The check valves in the pump are worn or dirty.	Contact Customer Service.
	The plunger packing is worn.	Contact Customer Service.
	The nozzle is the wrong size.	Use only the nozzle recommended for the machine.
The water temperature is too low.	The fuel filter is dirty.	Replace the fuel filter.
	The coils are limed or sooted.	Delime or desoot the coils.
	There is water in the fuel.	Drain and replace the fuel.
	The fuel pressure is low.	Contact Customer Service.
	The fuel pump pressure is weak.	Contact Customer Service.
	Dirty fuel nozzle.	Contact Customer Service.
There is smoke coming from the machine	The wrong type of fuel is being used.	Use only #1 or #2 diesel or kerosene.
	There is not enough air to the burner.	Contact Customer Service.
	The fuel nozzle components are loose.	Contact Customer Service.
	The coils are sooted.	Clean the soot from the outside of the coils.

READ THIS BOOK

This book has important information for the use and safe operation of this machine. Failure to read this book prior to operating or attempting any service or maintenance procedure to your machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well.



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