



# MODEL 680SS

## OPERATING INSTRUCTIONS AND PARTS MANUAL

*Read instructions carefully before attempting to assemble, install, operate or service this pressure washer. Failure to comply with instructions could result in personal injury and/or property damage!*

### SPECIFICATIONS

- Pump Volume At Pump Head: 3.0 GPM/180 GPH
- Pump Pressure At Pump Head: 1000 PSI
- Burner Type: Fuel Oil Fired, 289,900 BTU/Hr.
- Burner Fuel Pressure: 200 PSI Max.
- Machine Voltage: 120VAC/60Hz/1Ph
- Total Machine Amperage: 20 Amps
- Machine Weight: 332 Lbs.
- Shipping Weight: 367 Lbs.
- Exhaust Stack Size: 8"
- Machine Dimensions: Length = 44", Width = 26", Height = 41"



Output specifications are based on engine power curves at 100 meters above sea level and 25° C ambient temperature in accordance with SAE J1349.



**SERIAL NUMBER:**

**DATE PURCHASED:**

**FOR SALES AND SERVICE, PLEASE CONTACT:**

# SHOP PRESSURE WASHER PARTS

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# CONTENTS

Important Safety Information	4-6
Component Identification	7
Assembly Instructions	8
Installation Instructions	9
Operation Instructions	10
General Washing Techniques & Storage	11
Maintenance	12
Troubleshooting	13-14
Exploded Views	15-16
Exploded View Parts List	17
Burner Assembly Exploded View & Parts List	18
Crossfire Burner Exploded View & Parts List	19-20
Fuel Tank Assembly & Parts List	21
Control Panel Assembly & Parts List	22
Coil Outlet Assembly & Parts List	23
Hose, Gun & Wand Assembly & Parts List	24
Pump Assembly & Parts List	25
Pump, Exploded View & Parts List	25-26
VBA Unloader Exploded View & Parts List	27
Wiring Diagram	28

Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_

Date of Purchase \_\_\_\_\_

The model and serial numbers will be found on a decal attached to the pressure washer. You should record both serial number and date of purchase and keep in a safe place for future reference.

# INTRODUCTION & IMPORTANT SAFETY INFORMATION

Thank you for purchasing this Pressure Washer.  
 We reserve the right to make changes at any time without incurring any obligation.

## Owner/User Responsibility:

The owner and/or user must have an understanding of the manufacturer's operating instructions and warnings before using this pressure washer. Warning information should be emphasized and understood. If the operator is not fluent in English, the manufacturer's instructions and warnings shall be read to and discussed with the operator in the operator's native language by the purchaser/owner, making sure that the operator comprehends its contents.

Owner and/or user must study and maintain for future reference the manufacturers' instructions.

The operator must know how to stop the machine quickly and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.

## SAVE THESE INSTRUCTIONS


This manual should be considered a permanent part of the machine and should remain with it if machine is resold.

When ordering parts, please specify model and serial number. Use only identical replacement parts.

This machine is to be used only by trained operators.

## IMPORTANT SAFETY INFORMATION

**WARNING**



READ OPERATOR'S MANUAL THOROUGHLY PRIOR TO USE.

**WARNING: To reduce the risk of injury, read operating instructions carefully before using.**

1. Read the owner's manual thoroughly. Failure to follow instructions could cause malfunction of the machine and result in death, serious bodily injury and/or property damage.
2. Know how to stop the machine and bleed pressure quickly. Be thoroughly familiar with the controls.
3. Stay alert — watch what you are doing.
4. All installations must comply with local codes. Contact your electrician, plumber, utility company or the selling distributor for specific details. If your machine is rated 250 volts or less, single phase will be provided with a ground fault circuit interrupter (GFCI). If rated more than 250 volts, or more than single phase this product should only be connected to a power supply receptacle protected by a GFCI.

**DANGER: Improper connection of the equipment-grounding conductor can result in a risk of electrocution. Check with a qualified electrician or service personnel if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician. Do not use any type of adaptor with this product**

**WARNING**



KEEP WATER SPRAY AWAY FROM ELECTRICAL WIRING.

**WARNING: Keep wand, hose, and water spray away from electric wiring or fatal electric shock may result.**

5. To protect the operator from electrical shock, the machine must be electrically grounded. It is the responsibility of the owner to connect this machine to a UL grounded receptacle of proper voltage and amperage ratings. Do not spray water on or near electrical components. Do not touch machine with wet hands or while standing in water. Always disconnect power before servicing.

**WARNING**




RISK OF EXPLOSION: OPERATE ONLY WHERE OPEN FLAME OR TORCH IS PERMITTED

**WARNING: Flammable liquids can create fumes which can ignite, causing property damage or severe injury.**

**WARNING: Risk of explosion — Operate only where open flame or torch is permitted.**

6. In oil burning models, use only kerosene, No. 1 home heating fuel, or diesel. If diesel is used, add a soot remover to every tankful.

**WARNING**



RISK OF FIRE. DO NOT ADD FUEL WHEN OPERATING MACHINE.

**WARNING: Risk of fire — Do not add fuel when the product is operating or still hot.**

**WARNING: Do not use gasoline crankcase draining or oil containing gasoline, solvents or alcohol. Doing so will result in fire and/or explosion.**

7. Oil burning appliances shall be installed only in locations where combustible dusts and flammable gases or vapors are not present. Do not store or use gasoline near this machine.
8. Do not allow acids, caustic or abrasive fluids to pass through the pump.
9. Never run pump dry or leave spray gun closed longer than 1-2 minutes.
10. Keep operating area clear of all persons.

# IMPORTANT SAFETY INFORMATION

**! WARNING**



USE PROTECTIVE EYE WEAR AND CLOTHING WHEN OPERATING THIS EQUIPMENT.

**WARNING: High pressure spray can cause paint chips or other particles to become airborne and fly at high speeds. To avoid personal injury, eye, hand and foot safety devices must be worn.**

11. Eye, hand, and foot protection must be worn when using this equipment.

**! WARNING**



EAR PROTECTION MUST BE WORN

**WARNING: This machine exceeds 85 db appropriate ear protection must be worn.**

**! WARNING**



HOT DISCHARGE FLUID: DO NOT TOUCH OR DIRECT DISCHARGE STREAM AT PERSONS.

**WARNING: Hot discharge fluid. Do not touch or direct discharge stream at persons.**

**WARNING: This machine produces hot water and must have insulated components attached to protect the operator.**

**! WARNING**



RISK OF INJURY: HOT SURFACES CAN CAUSE BURNS

**WARNING: Risk of injury. Hot surfaces can cause burns. Use only designated gripping areas of spray gun and wand. Do not place hands or feet on non-insulated areas of the pressure washer.**

12. To reduce the risk of injury, close supervision is necessary when a machine is used near children. Do not allow children to operate the pressure washer. **This machine must be attended during operation.**

**! WARNING**



TRIGGER GUN KICKS BACK - HOLD WITH BOTH HANDS

**WARNING: Grip cleaning wand securely with both hands before starting. Failure to do this could result in injury from a whipping wand.**

13. Never make adjustments on machine while in operation.

14. Be certain all quick coupler fittings are secured before using pressure washer.

**! WARNING**



RISK OF INJECTION OR SEVERE INJURY TO PERSONS. KEEP CLEAR OF NOZZLE.

**WARNING: High pressure developed by these machines will cause personal injury or equipment damage. Keep clear of nozzle. Use caution when operating. Do not direct discharge stream at people, or severe injury or death will result.**

**! WARNING**



PROTECT FROM FREEZING

**WARNING: Protect machine from freezing.**

15. To keep machine in best operating conditions, it is important you protect machine from freezing. Failure to protect machine from freezing could cause malfunction of the machine and result in death, serious bodily injury, and/or property damage. Follow storage instructions specified in this manual.

16. Inlet water must be clean fresh water and no hotter than 90°F.

**! WARNING**



RISK OF ASPHYXIATION: USE THIS PRODUCT ONLY IN A WELL VENTILATED AREA.

**WARNING: Risk of asphyxiation. Use this product only in a well ventilated area.**

17. Avoid installing machines in small areas or near exhaust fans. Adequate oxygen is needed for combustion or dangerous carbon monoxide will result.

18. Manufacturer will not be liable for any changes made to our standard machines or any components not purchased from us.

19. The best insurance against an accident is precaution and knowledge of the machine.

## IMPORTANT SAFETY INFORMATION

**WARNING**

RISK OF INJURY FROM  
FALLS WHEN USING  
LADDER.

**WARNING:** *Be extremely careful when using a ladder, scaffolding or any other relatively unstable location. The cleaning area should have adequate slopes and drainage to reduce the possibility of a fall due to slippery surfaces.*

20. Do not overreach or stand on unstable support. Keep good footing and balance at all times.
21. Do not operate this machine when fatigued or under the influence of alcohol, prescription medications, or drugs.

**WARNING**

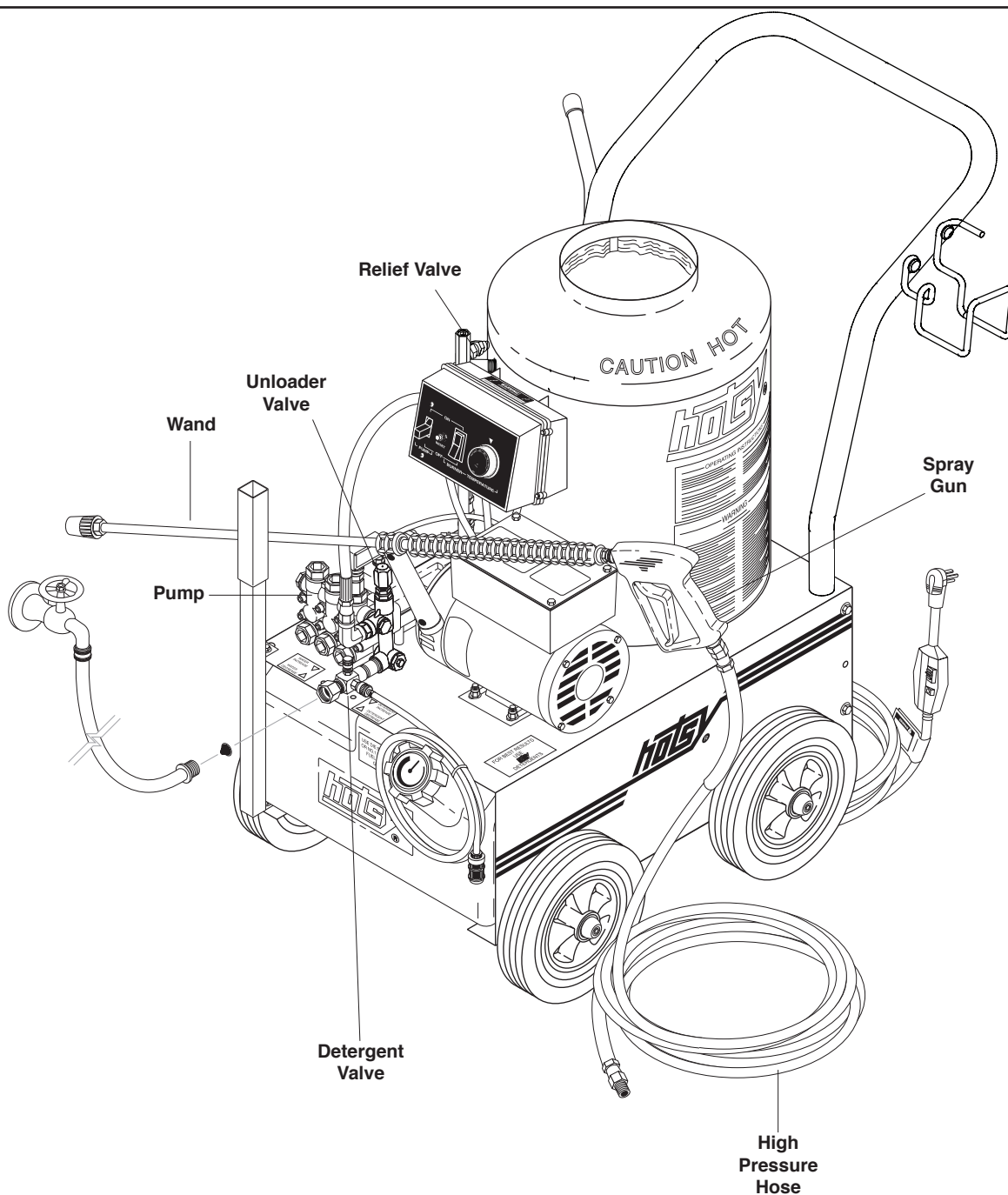
DO NOT SPRAY  
MACHINE OR ANY  
PEOPLE, ANIMALS OR  
ELECTRICAL PARTS.

**WARNING:** *Do not spray machine or any people, animals or electrical parts.*



**Follow the maintenance instructions specified in the manual.**

## COMPONENT IDENTIFICATION



**Pump** — Delivers a specific gpm to the high pressure nozzle which develops pressure.

**Spray Gun** — Controls the application of water and detergent onto cleaning surface with trigger device. Includes safety latch.

**Detergent Valve** — Allows you to siphon and mix detergents.

**Wand** — Must be connected to the spray gun.

**High Pressure Hose** — Connect one end to water pump high pressure discharge nipple and the other end to spray gun.

**Relief valve** — Secondary pressure release in the unlikely event the unloader valve fails.

**Unloader Valve** — Safety device which, when the spray gun closes, prevents over pressurization.

**Note:** If trigger on spray gun is released for more than 2 minutes, water will leak from the pump protector. Warm water will discharge from pump protector onto floor. This system prevents internal pump damage.

# ASSEMBLY INSTRUCTIONS

## Unpacking

Unpack carefully. Wear safety glasses or goggles while unpacking, assembling or operating pressure washer. If there are missing components or hidden damage immediately contact distributor or carrier concerning discrepancies.

1. Cut strapping band from pressure washer and pallet.
2. Remove pressure washer from pallet.

## Parts Included

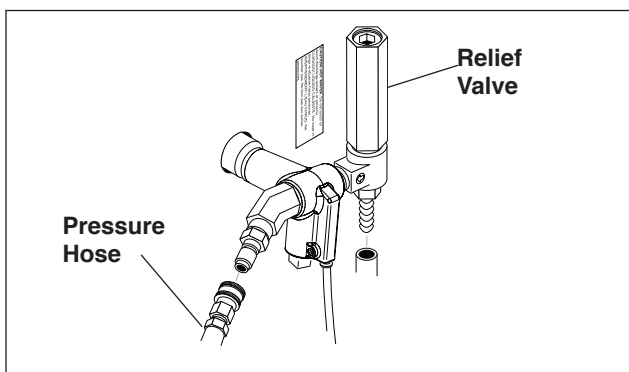
- Pressure Washer
- Pressure Hose
- Hose Hanger
- Wand
- Wheels (4 Ea.)
- Axles (2 Ea.)
- Handle
- Parts Bag Containing:
  - Bolts 5/16" x 1-1/2" (5 Ea.)
  - Vinyl Cap
  - Nuts 5/16" (5 Ea.)
  - Washers 5/8" (10 Ea.)
  - Pressure Nozzle
  - Hubcaps (4 Ea.)
  - Spring Washers (4 Ea.)
  - Quick Disconnect
  - Quick Disconnect Plug
  - Trigger Gun
  - GFCI Cord Hanger
- Operating Instructions and Parts Manual

## Tools Required

- 10" Adjustable Crescent Wrenches (2 Ea.)
- 11/16" Socket
- Hammer
- 7/16" Open End Wrench
- Teflon Tape

## Pressure Hose and Wand

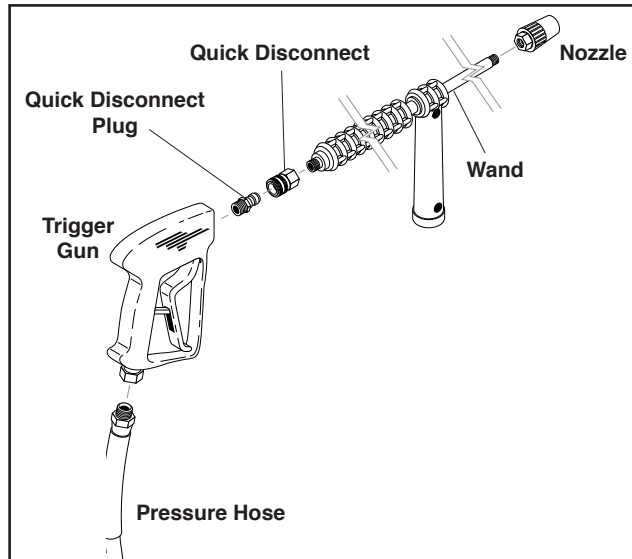
1. When assembling, use teflon tape on all plumbing connections to prevent leakage.
2. Install pressure hose on machine as shown in **Figure 2**.



**Figure 2 - Pressure Hose Installation**

**IMPORTANT:** Before installing pressure hose onto the trigger gun/wand assembly, turn on the water supply and allow water to run from the end of the hose until clear to prevent the nozzle from clogging.

3. Assemble wand components as shown in **Figure 3**. Connect pressure hose to trigger gun.
4. Make sure that all plumbing connections are tight.



**Figure 3 - Wand Components**

# INSTALLATION INSTRUCTIONS

## Getting Started

**IMPORTANT:** Proper initial installation of equipment will assure more satisfactory performance, longer service life, and lower maintenance cost.

**IMPORTANT:** The use of a backflow preventer on the water supply hose is recommended and may be required by local code.

The pressure washer should be run on a level surface and in a protected area where it is not readily influenced by outside forces such as strong winds, freezing temperatures, rain, etc. The pressure washer should be located to assure easy access for filling of fluids, adjustments and maintenance. Normal precautions should be taken by the operator to prevent moisture from reaching the pressure washer. It is recommended that a partition be made between the wash area and the pressure washer to prevent direct spray from the wand from coming in contact with the pressure washer. Moisture reaching the equipment will reduce the pressure washer's service life. All installations must comply with the local codes covering such installations.



# INSTALLATION INSTRUCTIONS

## Venting

**CAUTION:** All venting must be in accordance with applicable federal and state laws, and local ordinances. Consult local heating contractors.

If the pressure washer is to be used in an enclosed area, a flue must be installed to vent burner exhaust to the outside atmosphere. Be sure the flue is the same size as the burner exhaust vent on the pressure washer lid. Poor draft will cause the pressure washer to soot and not operate properly. When selecting the location for installation, beware of poorly ventilated locations or areas where exhaust fans may cause an insufficient supply of oxygen. Proper combustion can only be obtained when there is a sufficient supply of oxygen available for the amount of fuel being burned. If it is necessary to install the machine in a poorly ventilated area, outside fresh air may have to be piped to the burner and a fan installed to bring sufficient air into the machine. Locate the pressure washer so that the flue will be as straight as possible and protrude through the roof at a proper height and location to provide adequate draft. This oil fired pressure washer must have a draft regulator installed in the flue (available from most heating contractors). A draft regulator will permit proper upward flow of exhaust flue gases.

**Burner Air Adjustment:** The oil burner on this machine is preset for operation at altitudes below 500 feet. If operated at higher altitudes, it may be necessary to adjust the air band for a #1 or #2 smoke spot on the Bacharach scale.

To adjust, start machine and turn burner ON. Loosen two locking screws found on the air band and close air band until black smoke appears from burner exhaust vent. Note air band position. Next, slowly open the air band until white smoke just starts to appear. Turn air band halfway back to the previously noted position. Tighten locking screws.

For higher altitudes, the air band opening may need to be increased; for lower altitude, the air band may need to be decreased.

For higher humidity, the air band opening may need to be increased; for lower relative humidity, the air band may need to be decreased.

For higher ambient temperatures the air band opening may need to be increased; for lower ambient temperatures, the air band opening may need to be decreased.

Adjust to your operating location's environment as-needed for best smoke spot and performance compliant with local, state, and federal regulations.

## Crossfire Oil Burner

**Burner Air Adjustment:** The oil burner on this machine is preset for operation at altitudes below 1000 feet. If operated at higher altitudes, it may be necessary to adjust the air band for a #1 or #2 smoke spot on the Bacharach scale.

To adjust, start machine and turn burner ON. Loosen two locking screws found on the air band and close air band until black smoke appears from burner exhaust vent. Note air band position. Next, slowly open the air band until white smoke just starts to appear. Turn air band halfway back to the previously noted position. Tighten locking screws.

# OPERATION INSTRUCTIONS

## Burner Air Adjustment

The oil burner on this machine is preset for operation at altitudes near 1700 feet. If operated at higher altitudes, it may be necessary to adjust the air band for a #1 or #2 smoke spot on the Bacharach scale.

To adjust, Loosen locking screw found on the air band. Start machine and turn burner ON and close air band until black smoke appears from burner exhaust vent. Note air band position. Next, slowly open the air band until white smoke just starts to appear and note air band position, again. Rotate the air band halfway between to the previously noted positions. Tighten locking screws. Typical distance from the 'black smoke' position is roughly 3/8"-1/2" more open from the point of visible black smoke, but may vary based upon local operating conditions.

- For higher altitudes, the air band opening may need to be increased; for lower altitude, the air band may need to be decreased.
- For higher humidity, the air band opening may need to be increased; for lower relative humidity, the air band may need to be decreased.
- For higher ambient temperatures the air band opening may need to be increased; for lower ambient temperatures, the air band opening may need to be decreased.

Adjust the burner to your operating location's environment as-needed for best smoke spot and performance compliant with local, state, and federal regulations.

Example: a unit preset at a factory at 1700 feet altitude with an air band of 1.1" and fuel pressure of 190 PSI with Ambient temperature of 72 °F and a relative humidity of 84% using #2 Diesel fuel oil. The unit is shipped to a location at 5300 feet altitude with ambient air temperature of 59 °F and a relative humidity of 25%. The air band required adjustment to 1.8" opening and fuel pressure lowered to 150 PSI for a high altitude adjustment for both heat input adjustments and combustion air intake with the same fuel type.

## Before Starting

**WARNING: Check hoses, trigger guns, fittings, and fuel connections daily for signs of wear, cracks and looseness, and replace as required.**

1. Connect water supply hose to the standard garden hose connector. The water faucet and supply hose must be capable of providing 3.0 GPM at 20 to 80 PSI.
2. Fill fuel tank. Use kerosene, #1 grade home heating oil, #1 or #2 diesel fuel. **DO NOT USE GASOLINE.**
3. Check pump oil level.
4. If detergents are to be used, only use detergents intended for pressure washers. Follow instructions on the detergent container.

## Electrical Connections

**WARNING: Make sure all switches and controls are in the OFF position prior to plugging in.**

**CAUTION: This cleaner is equipped with a UL approved ground fault circuit interrupter (GFCI) power cord. Use UL grounded type receptacles of proper voltage and amperage ratings. Where a properly grounded receptacle is not available, it is the personal responsibility of the owner to have one installed. Always disconnect power before servicing your cleaner.**

Connect electrical cord and test the GFCI using the reset and test procedures conveniently located on the GFCI device. The GFCI must be reset and tested with every use. Do not use machine if the GFCI device fails test.

## To Start

**IMPORTANT: The water must be turned on before starting. Running the pump dry will cause damage and void warranty.**

**IMPORTANT: Do not allow the machine to run in bypass for more than 10 minutes at any one time or damage to pump may occur.**

1. Turn water on.
2. Hold trigger gun firmly, squeeze trigger and turn pump switch ON. Allow air to purge from system.
3. If HOT water is desired, turn burner switch ON. Adjust thermostat to desired temperature. The burner will fire immediately with a small puff of smoke. If smoke continues refer to the **Troubleshooting Guide** in this manual. When the trigger gun is closed or temperature setting is reached, the burner will automatically turn off.

## To Stop

1. If detergents were used, draw clear water through the detergent line to purge detergent.
2. If burner was used, turn off burner switch and allow pump to run cold water through coil.
3. Turn OFF pump switch.
4. Turn OFF water supply.
5. Squeeze trigger gun open to relieve system pressure.

**NOTE: If the machine is unplugged from receptacle, you must reset the GFCI power cord when machine is plugged in. Always test GFCI before each use. See instructions in the Electrical Connections section of this manual.**

## GENERAL CLEANING TECHNIQUES & STORAGE

Pre-rinse cleaning surface with fresh water. Place detergent suction tube directly into cleaning solution and apply to surface at low pressure (for best results, limit your work area to sections approximately 6 feet square and always apply detergent from bottom to top). Allow detergent to remain on surface 1-3 minutes. Do not allow detergent to dry on surface. If surface appears to be drying, simply wet down surface with fresh water. If needed, use brush to remove stubborn dirt. Rinse at high pressure from top to bottom in an even sweeping motion keeping the spray nozzle approximately 1 foot from cleaning surface. Use overlapping strokes as you clean and rinse any surface. For best surface cleaning action spray at a slight angle.

### Recommendations:

- Before cleaning any surface, an inconspicuous area should be cleaned to test spray pattern and distance for maximum cleaning results.
- If painted surfaces are peeling or chipping, use extreme caution as pressure washer may remove the loose paint from the surface.
- Keep the spray nozzle a safe distance from the surface you plan to clean. High pressure wash a small area, then check the surface for damage. If no damage is found, continue to pressure washing.

### CAUTION - Never use:

- Bleach, chlorine products and other corrosive chemicals
- Liquids containing solvents (i.e., paint thinners, gasoline, oils)
- Tri-sodium phosphate products
- Ammonia products
- Acid-based products

These chemicals will harm the machine and will damage the surface being cleaned.

## RINSING

It will take a few seconds for the detergent to clear. Apply safety latch to spray gun. Select and install desired high pressure nozzle. **NOTE:** You can also stop detergent from flowing by removing detergent siphon tube from bottle.

## STORAGE

**DANGER: DO NOT store flammable liquids (gasoline, diesel fuel, solvents, etc.) near pressure washer, or in non-ventilated areas.**

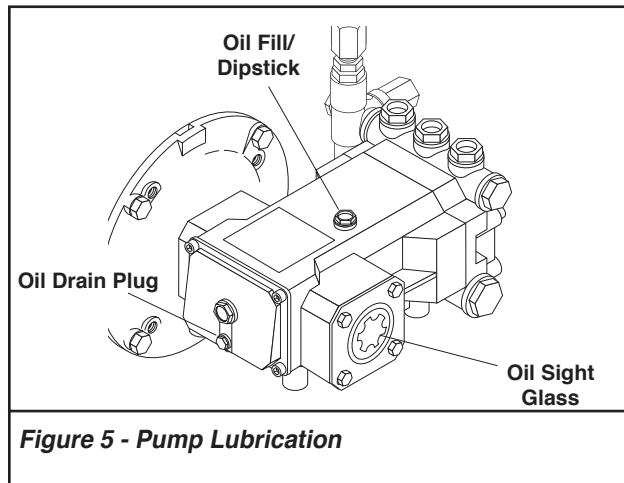
Protect from freezing by storing in a heated area, or by flushing the system with antifreeze (use an automotive engine antifreeze or windshield washer solvent to antifreeze). To flush the system fill the float tank with antifreeze and remove pressure nozzle from wand. Start the machine and allow it to run until antifreeze flows from the end of the wand. Place end of wand into float tank and circulate the antifreeze through system for several minutes. Squeeze and release the trigger of the trigger gun several times to antifreeze the unloader system. Also draw antifreeze through the detergent inlet line to antifreeze the detergent system. For added protection after anti-freezing, disconnect the pressure hose from machine and remove the coil drain plug (refer to **Figure 12** Item 15 for location). After coil has drained, replace pressure hose and coil drain plug. If the pressure washer is not to be used for an extended length of time, it is recommended that the system be flushed with antifreeze for rust protection.

## MAINTENANCE

**WARNING:** *Unauthorized machine modification or use of non-approved replacement parts may cause personal injury and/or property damage and will void the manufacturer warranty.*

### Pump

**Lubrication:** To lubricate pump, use 30W non-detergent oil for pump crankcase. Crankcase must be filled to center of sight glass window found on the rear of the pump, refer to **Figure 5**. During the break-in-period, make sure the oil is changed after the first 25 hours of operation. After that, replace oil every 3 months or 300 hours of operation, whichever comes first.



**Figure 5 - Pump Lubrication**

### Proper Pump Care:

- Do not pump acids.
- Do not allow pump to run dry.
- Winterize if storing in freezing temperatures, refer to **Storage** for details.
- Use a water softener on the water system if known to be high in mineral content.
- Use only high quality detergents and follow mix recommendations.
- Flush the system with clear water immediately after using detergent solutions.
- Clean filter screen on detergent inlet line periodically.
- Flush the pressure washer system with antifreeze if storing for an extended period of time, refer to **Storage** to details.

### Pump Motor

On a yearly basis, oil pump motor per instructions on motor nameplate.

**NOTE:** *Some motors may be equipped with permanently lubricated bearings and will not require additional lubrication.*

### Relief Valve

**WARNING:** *The relief valve on this pressure washer has been factory set and sealed and is a field non-adjustable part. Tampering with the factory setting may cause personal injury and/or property damage, and will void the manufacturer warranty. For replacement parts refer to **Coil Outlet Assembly**.*

If pressure from pump or thermal expansion should exceed safe limits, the relief valve will open, allowing high pressure to be discharged through hose to ground.

**Caution:** *Inspect relief valve annually for any obstruction.*

### Unloader Valve

**WARNING:** *The unloader valve on this pressure washer has been factory set and sealed and is a field nonadjustable part. Tampering with the factory setting may cause personal injury and/or property damage, and will void the manufacturer warranty. For replacement refer to **Pump Assembly, Item 4**.*

### Burner Fuel Filter

Drain any water which has accumulated in fuel filter and clean or replace filter element as needed. Refer to **Burner Assembly**.

### Heating Coil

**Coil Descaling:** In hard water areas, scale buildup within the heating coil will occur. Scale deposits will decrease the water temperature rise and may eventually clog the heating coil. Contact your local service center when descaling is needed.

**Coil Desooting:** Poor grades of fuel oil or inadequate combustion air will cause heavy soot buildup on the outside surface of the heating coil. These deposits will insulate the coil. This will restrict the air flow through the coil, further aggravating the soot buildup. Contact your local service center when desooting is needed.

## TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
<b>PUMP MOTOR WILL NOT RUN</b>	GFCI tripped	Reset and test GFCI with every use. Follow Instructions under <b>Operation</b> .
	No voltage to machine	Test power supply and correct.
	Pump motor reset button (thermal overload protector) tripped	Push reset button on control box. If tripped, check for proper voltage or clogged water nozzle.
	Excessive pressure due to clogged water nozzle	Clean water nozzle.
<b>NO WATER SPRAYS FROM WATER NOZZLE</b>	Water nozzle completely clogged	Clean water nozzle.
	Inlet water screen clogged	Check screen and clean if necessary.
	Pump sucking air	Fill the detergent container and check for loose hose clamps or fittings.
<b>LOW PRESSURE FROM WATER NOZZLE</b>	Inlet water screen clogged	Check screen and clean if necessary.
	Water nozzle worn or incorrect size	Replace nozzle with proper size.
	Water supply low	Correct water supply.
	Pump sucking air	Fill the detergent container and check for loose hose clamps or fittings.
<b>POOR OR NO DETERGENT FLOW</b>	Low detergent level	Fill the detergent container.
	Detergent screen clogged	Clean if necessary.
	Detergent valve not opening	Check that handle or knob is not slipping on shaft.
	Water nozzle clogged	Clean water nozzle.
	Excessive inlet pressure (more than 80 PSI)	Install pressure regulator on the inlet line.
<b>BURNER WILL NOT IGNITE WHEN TRIGGER GUN IS OPEN</b>	Defective pressure switch	Replace pressure switch.
	No fuel	Fill fuel tank with proper fuel.
	Fuel valve closed	Check that fuel valve on fuel tank is open.
	Thermostat set too low	Raise thermostat setting.
	Burner motor reset button (thermal overload protector) tripped	Push reset button on burner motor. If tripped, check for proper voltage.
	Clogged fuel filter	Clean fuel filter.
<b>BURNER SMOKES OR HAS OBNOXIOUS ODOR</b>	Air intake adjustment needs to be adjusted	Readjust air intake per the oil burner section of this manual.
	Improper fuel	Use proper fuel.

## TROUBLESHOOTING

### IMPORTANT

If the pressure washer demonstrates other symptoms or the corrective actions listed do not correct the problem, contact the local authorized Hotsy Service Center. The Hotsy Service Center can be identified by visiting [www.hotsy.com](http://www.hotsy.com).

**When ordering from your dealer, please provide the following:**

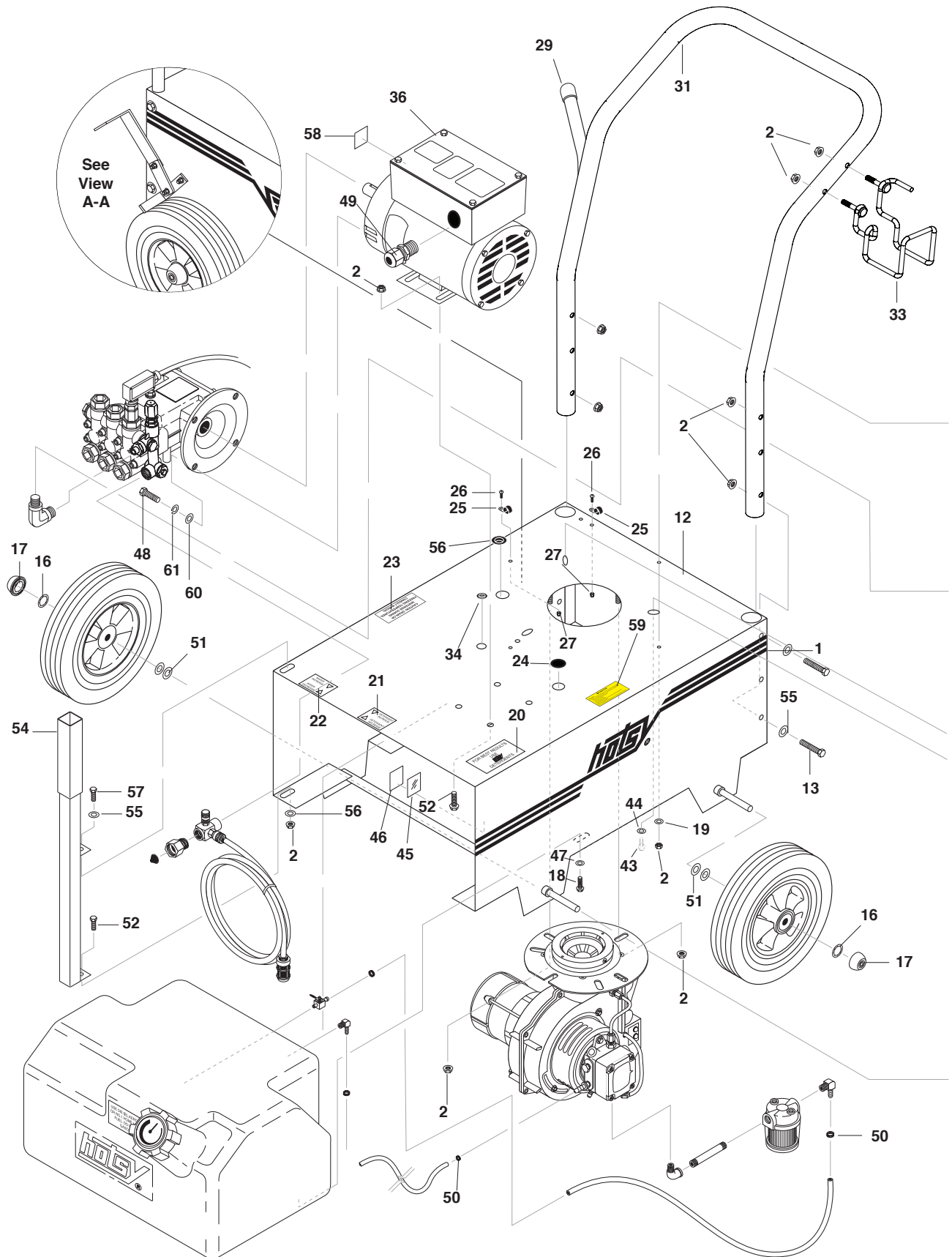
**Model Number: 680SS**

**Machine Serial Number:** \_\_\_\_\_

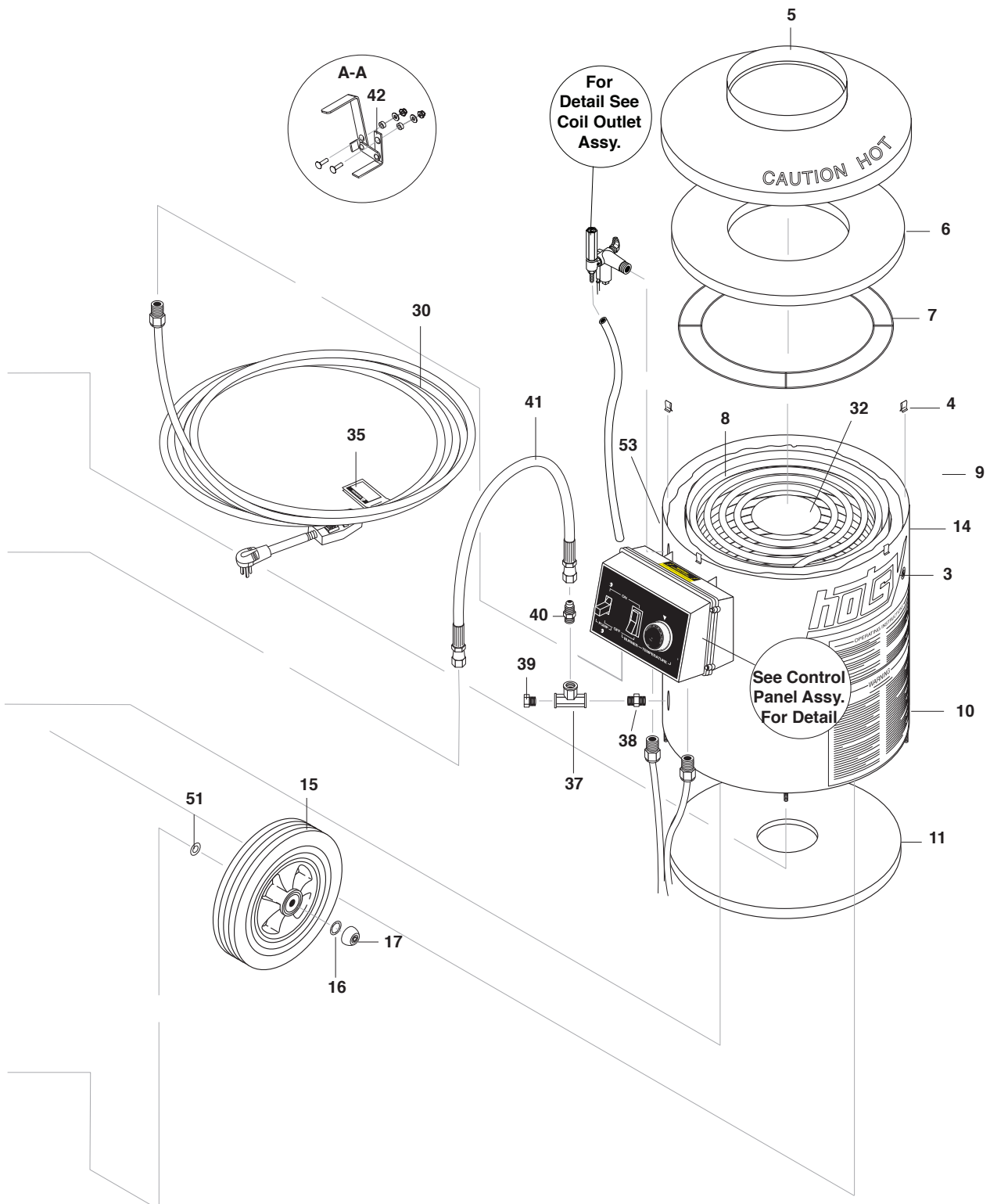
**Component Part Number:** \_\_\_\_\_

**Description:** \_\_\_\_\_

# EXPLODED VIEW - LEFT



# EXPLODED VIEW - RIGHT

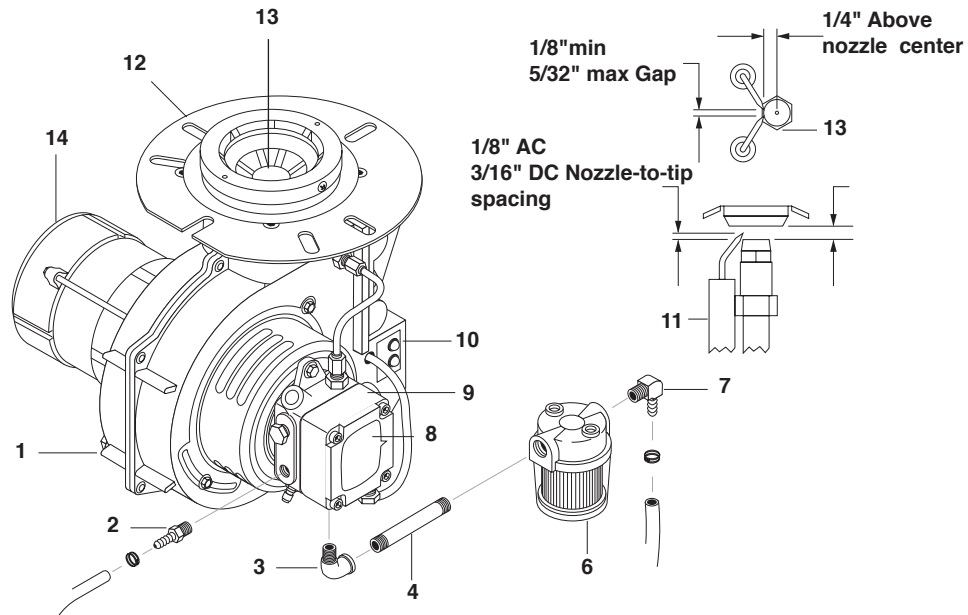




## EXPLODED VIEW PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	8.901-106.0	Label, Hotsy Logo Stripe	2	41	8.918-425.0	Hose, 3/8" x 29", 2 Wire, Pressure Loop	1
2	9.802-778.0	Nut, 5/16" Whiz Loc Flange	16	42	8.928-977.0	Assembly Brake High Flow Red	1
3	8.704-654.0	Label, Hotsy logo Red	2	43	9.802-710.0	Screw 5/16" x 1" NC	3
4	9.802-825.0	Clip, Retaining U-Type	4	44	9.802-819.0	Washer, 7/16" x 2 1/2", Zinc, PG Foot	3
5	8.719-913.0	Top Hat, Weld Assy, 16"	1	45	9.800-034.0	Label, Clear Lexan	1
6	9.802-904.0	Insulation, Top Head, 16 Od x 8.0 Id, Fiberglass	1	46	8.932-968.0	Label, Intended for Outdoor Use 1	
7	9.803-108.0	Insulation Retaining Ring	1	47	9.802-802.0	Washer, 1/4" Flat Sae Zinc	2
8	8.717-438.0	Insulation Blanket 22.5 x 52	1	48	9.802-720.0	Bolt, 3/8" x 1", Nc Hh	4
9	8.719-946.0	Hanger, Hose	1	49	8.752-969.0	Strain Relief, Lt, Str, 1/2 Npt	1
10	8.900-894.0	Label, Operating/Warning	1	50	6.390-126.0	Clamp, Hose, .46-.54 St	2
11	9.802-903.0	Insulation, Bottom, 16 Od x 4.5	1	51	9.802-810.0	Washer, 5/8", Flat, Sae Zinc	4
12	8.911-832.0	Frame, Welded Assy Hotsy	1	52	8.718-625.0	Bolt, 5/16"-18 x 3/4", Nc Carriage Zinc	5
13	9.802-716.0	Bolt, 5/16 x 2", Nc Hh	4	53	9.800-021.0	Label, Hot Water Outlet	1
14	8.911-804.0	Outer Wrap Assy	1	54	8.911-807.0	Bracket, Hose Reel Mount	1
15	9.802-274.0	Wheel & Tire Hard Rubber	4	55	8.718-980.0	Washer, 5/16" Flat, Sae	5
16	8.718-870.0	Nut, .61 Id, Push Flat	4	56	9.802-104.0	Bushing, 1" Snap	1
17	9.182-506.0	Cap Blk Plastic 5/8" Fastener	4	57	8.718-618.0	Bolt, 5/16-18 x 3/4", Hh Gr Cs Zinc	1
18	8.718-582.0	Bolt 1/4-20 x 1/2", Nc Hh	2	58	9.800-032.0	Label, Motor Overload Reset	1
19	8.719-000.0	Washer, 5/16" x 1-1/4", Fender, Sae	3	59	9.800-049.0	Label, Manufacturers Cleaning Solution	1
20	8.901-136.0	Label, Use Hotsy Detergent	1	60	9.802-807.0	Washer, 3/8" Sae, Flat, Zinc	4
21	8.901-124.0	Label, Water Metering	1	61	9.802-814.0	Washer, 3/8" Split Lock Zinc	4
22	8.901-125.0	Label, Detergent Metering	1				
23	8.901-135.0	Label, Caution Winterize	1				
24	8.706-744.0	Plug, Plastic 1"	1				
25	8.709-090.0	Clamp, Wire/Tube, 0.750D	2				
26	8.718-588.0	Screw, 10-24" x 1/2", Ph, Ms	2				
27	8.718-863.0	Nut, 10-24, Esna, Nf	2				
29	8.706-698.0	Cap, 0.812 Od x 1", Vinyl Black	1				
30	9.802-431.0	CFCI, 120V 20A, 36' 12-3 Cord	1				
31	8.920-274.0	Handle, Hotsy	1				
32	8.925-218.0	Spare Coil Assy Hotsy 790 MTY	1				
33	9.803-098.0	Holder	1				
34	8.706-731.0	Bushing, 3/4" Snap	1				
35	8.932-969.0	Label, Warning Service Cord	1				
36	8.754-709.0	Motor, 2Hp 1Ph 115V, 1750 RPM 56C ODP	1				
37	8.757-615.0	Tee steel 1/2" NPTF (F)	1				
38	8.757-338.0	Nipple, 1/2" Hex Steel, W/SLNT	1				
39	8.757-625.0	Plug 1/2 NPTF Square Head	1				
40	8.757-508.0	Adapter, 3/4"-16SAE X 1/2" NPTF(M), Steel	1				

# BURNER ASSEMBLY



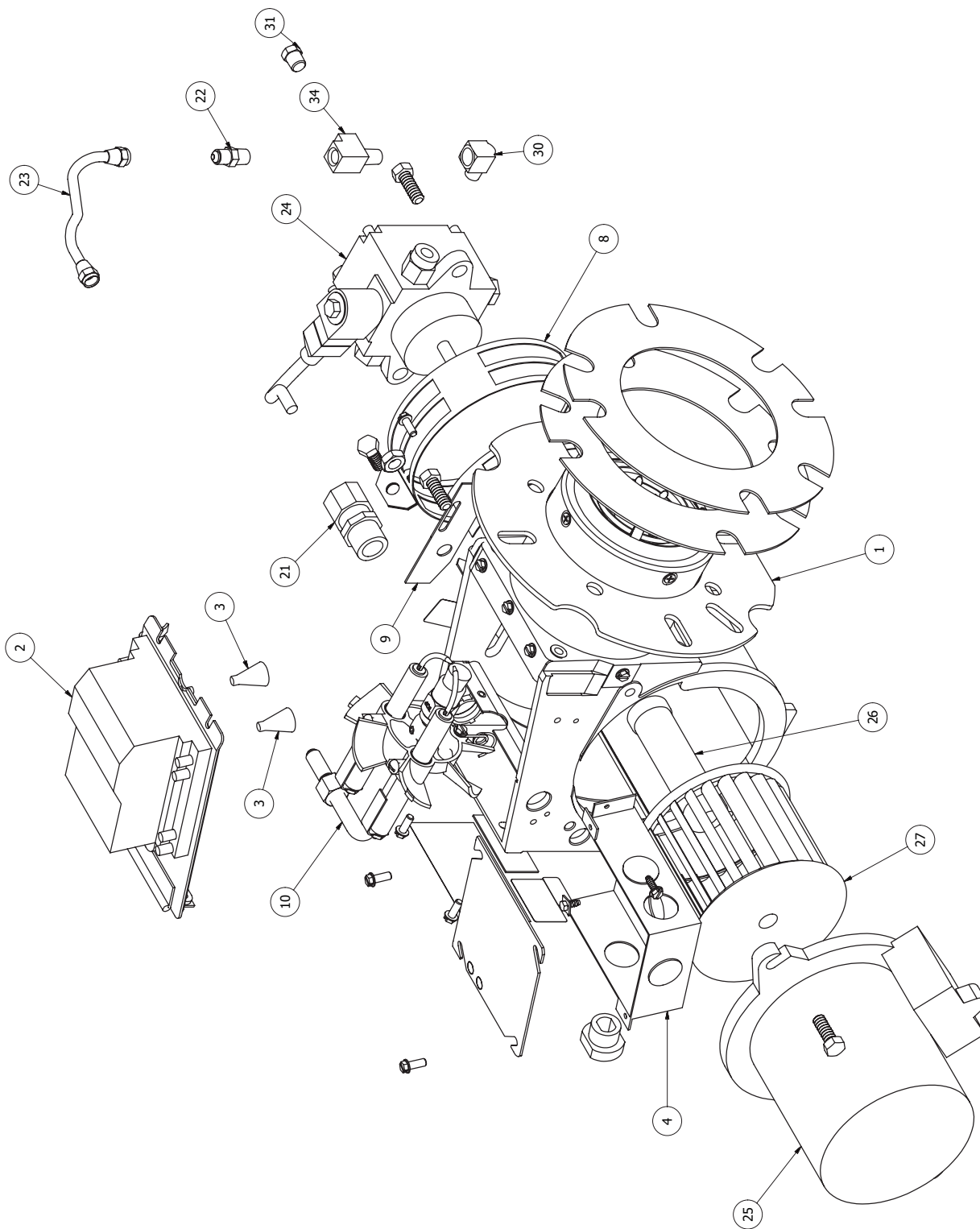
## BURNER ASSEMBLY PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	8.756-253.0	Burner MSR 3.75 120V 1T7A 120V S	1	14	9.802-642.0	Burner Motor, 120V, 3450 Rpm 1/7 Hp	1
2	8.757-199.0	Hose Barb, 1/4" Barb x 1/4" M-NPTF, Brass	1		8.750-517.0	Motor, 115V Crossfire	1
3	8.757-339.0	Elbow, 1/4" Street 90 DEG, Steel W/SLNT	1	15	8.717-711.0	▲ Filter Screen Replacement	1
4	8.757-366.0	Nipple, 1/4" X 3", W/SLNT	1	16	9.802-649.0	▲ Blower Wheel 4.25 x 2.5 Afg/Turb	1
5	9.802-519.0	▲ Strain Relief, 1/2" Metal	1		8.750-520.0	▲ Fan, Crossfire	1
6	8.757-652.0	Filter Fuel Hotsy 1/4" female	1	17	8.717-853.0	▲ Coupling	1
7	8.757-205.0	Hose Barb, 1/4" Barb x 1/4" M-NPTF, 90°	1		8.751-543.0	▲ Coupling, Crossfire	1
8	9.802-645.0	Fuel Pump Cleancut 110V	1	18	9.802-646.0	▲ Valve Stem kit Cleancut Pump	1
	8.700-759.0	Fuel Pump, 120V Crossfire	1	19	9.802-666.0	▲ Screen, Fuel Pump	1
9	8.700-779.0	Oil Solenoid Valve, 110V	1			▲ Not Shown	
10	9.802-647.0	Burner Ignitor, Afg/LoAmp Mount, 120V	1				
	8.919-114.0	Igniter, 120V Crossfire	1				
11	9.802-670.0	Electrode kit	1				
	8.750-778.0	Electrode, Crossfire	1				
12	825676	Air Cone, 5-16	1				
	8.750-781.0	Air Cone F22 Crossfire	1				
13	8.754-916.0	Fuel Nozzle, 1.50 x 90 BZ	1				

# WAYNE BURNER EXPLODED VIEW

## Replacement Parts

For best performance specify genuine WAYNE replacement parts



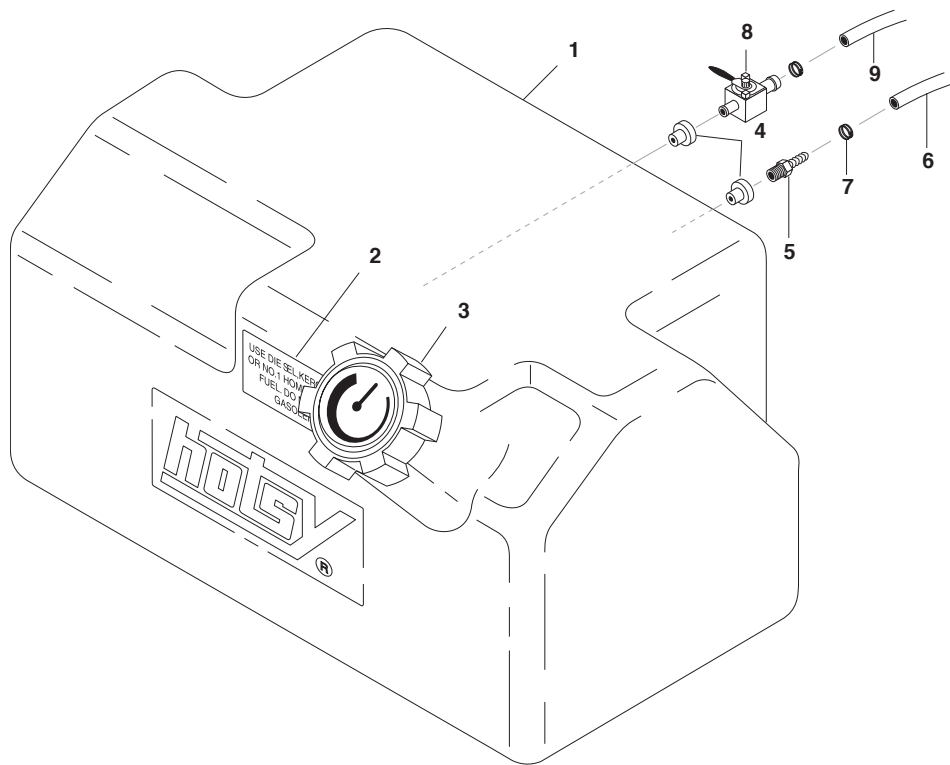
## WAYNE BURNER PART LIST

### Replacement Parts

*For best performance specify genuine WAYNE replacement parts*

ITEM	PART NO.	DESCRIPTION	QTY
1	101396-002	Tube/Hous-21922-001/7A/3.75"/.88"l	1
2	101295-002	Ignitor-D W/M Plate 120V	1
3	100990-001	Spring,Contact	2
4	8.756-295.0	Junction Box, MSR	1
7	8.700-707.0	Air Band Inner "M"	1
8	20602-002	Band, Air Outer 8-Hole Mod-M	1
9	13392	Plate, Slot Cover	1
10	8.756-328.0	Gun-RG/*CST/*1 1/4"BB2	1
21	31954-001	Strain Relief-Low Profile	1
22	14222	Connector, Male-3/16" x 1/8"IPT	1
23	8.700-704.0	Oil Line Assembly 6"	1
24	8.756-290.0	Pump - Combo/W Solenoid 120V	1
25	8.756-292.0	Motor 1/7 HP 120/60	1
26	8.700-822.0	Coupling "M"	1
27	8.700-728.0	Fan-3.44"W x 4.25"D 1/2" Bore	1
30	550053	Fitting, Elbow 90* Street 1/8	1
31	15766	Plug, Pipe HXHD 1/8" NPT	1
34	101274-001	TEE, Street-1/8 x 1/8 Brass	1
35	12407	Stopper, #4 Cork	1
36	8.700-692.0	Flange Gasket (2 Each)	2

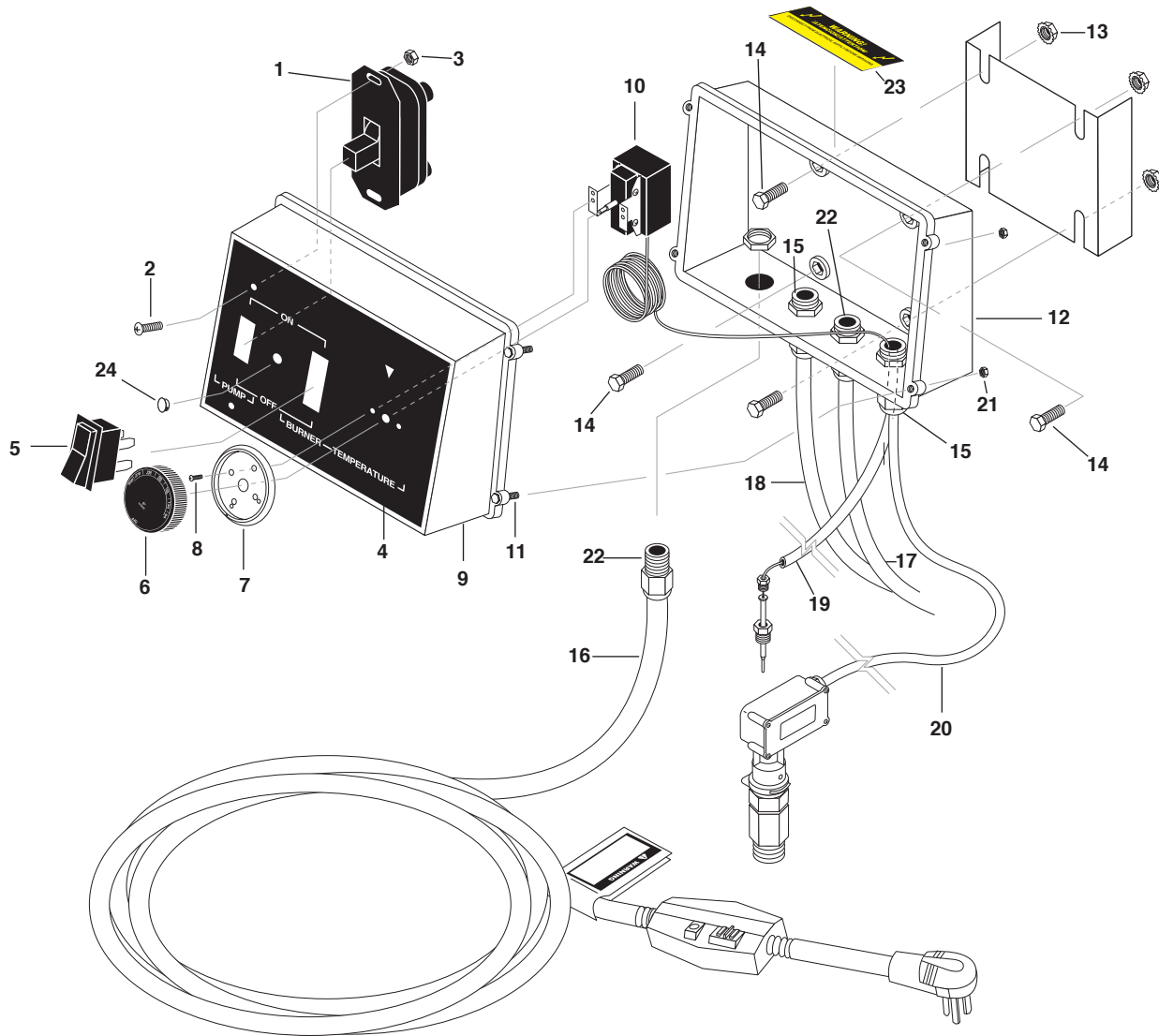
# FUEL TANK ASSEMBLY



## FUEL TANK ASSEMBLY PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY
1	8.931-594.0	Fuel tank 8 Gal Hotsy	1
2	8.757-732.0	Label, Fuel Type	1
3	9.803-535.0	Cap With Fuel Display 14"	1
4	9.802-053.0	Bushing, Fuel Line, Rubber	2
5	9.802-141.0	Hose Barb, 1/4" Barb x 3/8", Barb, Dou	1
6	9.802-254.0	Hose, 1/4" Push-On, Ft	18"
7	6.390-126.0	Clamp, Hose, .46-.54 St	4
8	9.802-177.0	Valve, 1/4" Shut Off, 180 Deg	1
9	9.802-254.0	Hose 1/4" x 20" Push-On, Fuel Line	20"

## CONTROL PANEL - EXPLODED

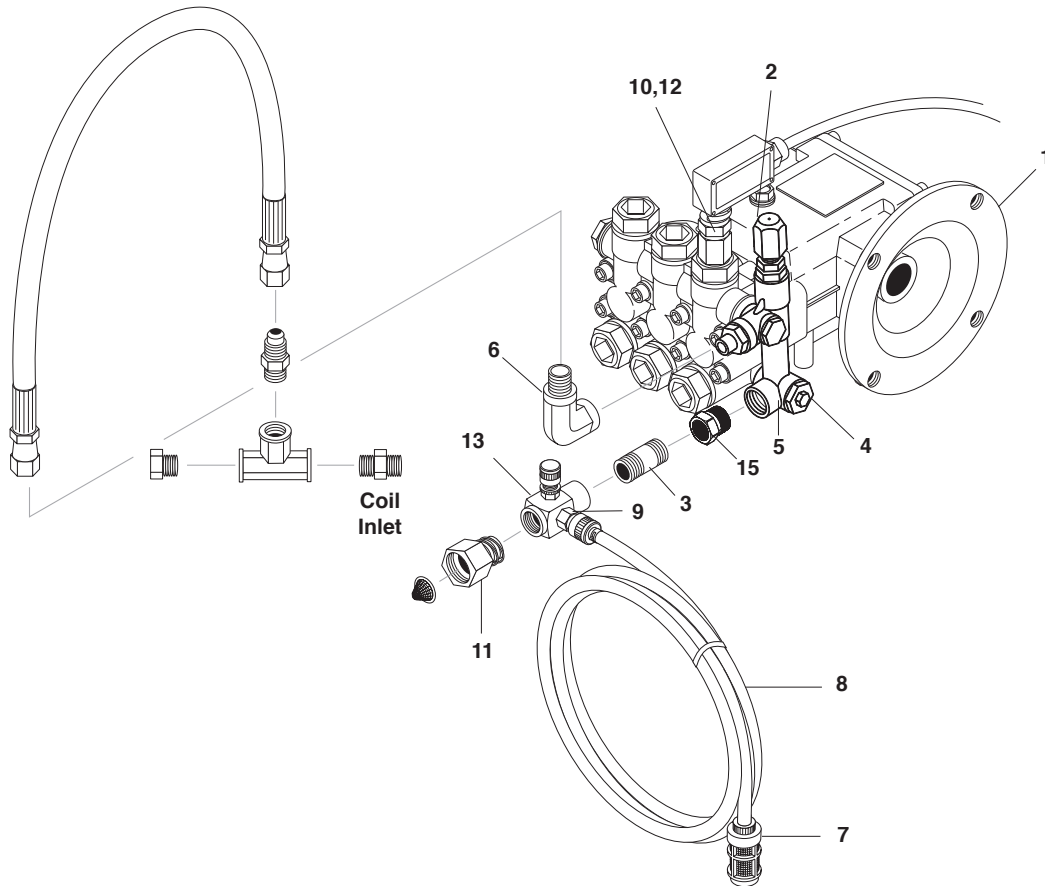


### CONTROL PANEL PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	8.716-053.0	Pump Switch	1	16	9.802-431.0	Power Cord W/ Gfci	1
2	8.718-569.0	Screw, 10-32 x 1/2 PL RDH PH M(935337)	2	17	9.802-427.0	Cord 12/3 SOWA	36"
3	9.804-567.0	Nut, 10/32', ESNA	2	18	9.802-424.0	Cord 16/4 SJO	53"
4	8.901-142.0	Label, Control Box	1	19	9.804-072.0	Wire Cover	18"
5	8.716-054.0	Burner Switch	1	20	8.716-125.0	Pressure Switch	1
6	8.750-097.0	Thermostat Dial	1	21	9.803-250.0	Nut	4
7	8.712-190.0	Thermostat mounting Plate	1	22	8.752-969.0	Strain Relief, Lt, Str, 1/2 NPT	2
8	8.718-779.0	Screw 4 mm x 6 mm	2	23	9.800-016.0	Label, Disconnect Power	1
9	8.716-282.0	Control Box Front	1	24	8.706-741.0	Plug, Plastic 7/16"	1
10	8.750-095.0	Thermostat	1	<b>REPLACEMENT PARTS</b>			
11	9.803-249.0	Screw, M4 x 10	4		8.717-667.0	O-Ring Kit	1
12	9.802-480.0	Control Box Back	1		8.717-256.0	Switch	1
13	9.802-775.0	Flange Nut 1/4" - 20	4				
14	9.802-700.0	Bolt 1/4" x 3/4"	4				
15	9.802-514.0	Strain Relief	2				



# PUMP ASSEMBLY

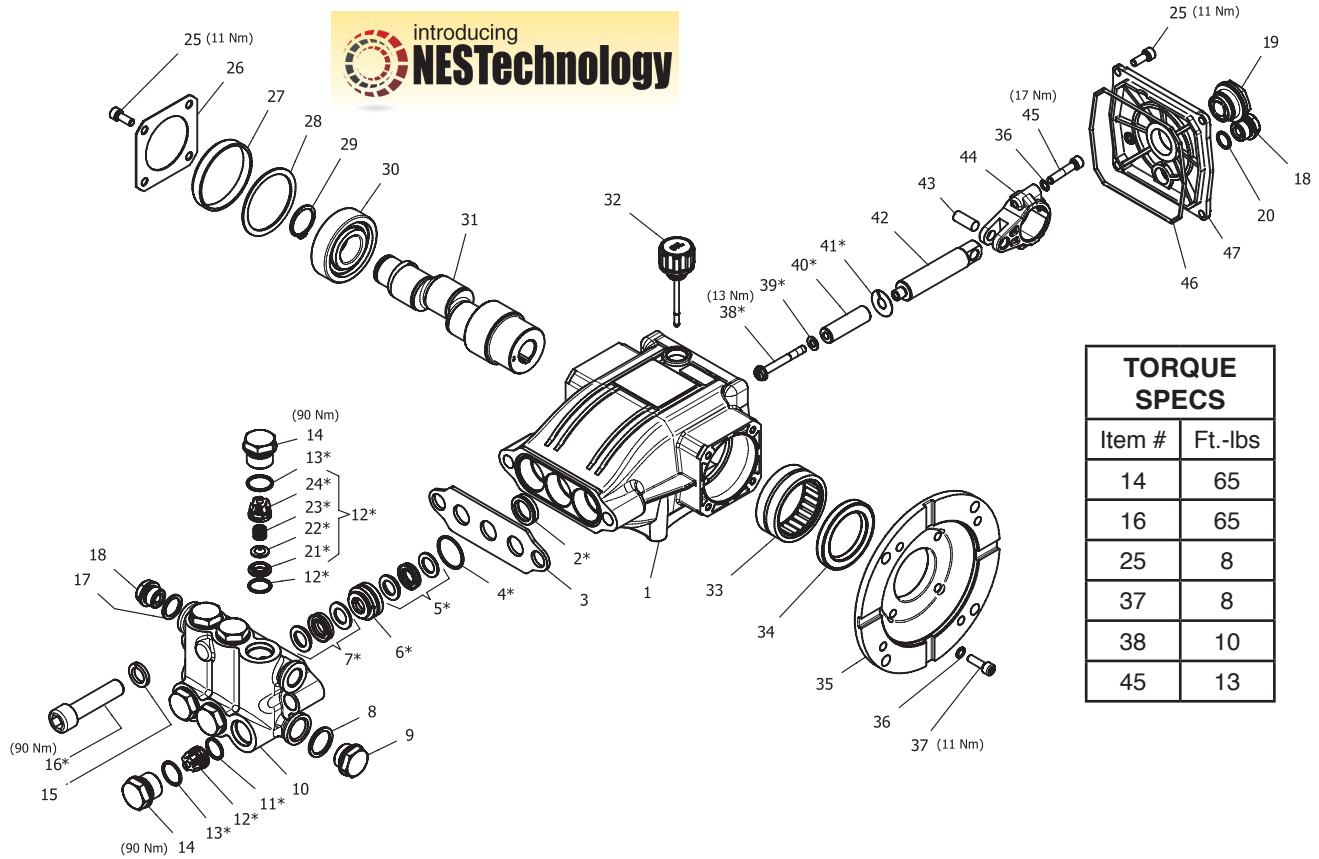


## PUMP ASSEMBLY PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY	REPLACEMENT PARTS
1	8.758-077.0	Pump LEUCO LFP2830S, 2.8@3000, 1725RPM	1	8.717-672.0 O-Ring Repair Kit
2	8.754-696.0	Unloader, VBT Banjo 1/2M 3/8M, 3000PSI	1	8.717-673.0 Discharge Repair Kit
3	8.706-880.0	Nipple, 1/2" MPT X 3/8" MPT Brass	1	8.717-674.0 Stem Repair Kit
4	9.803-919.0	Bolt Unloader Valve	2	8.717-667.0 O-Ring Kit
5	9.802-893.0	Washer Unloader Valve	4	8.717-256.0 Switch
6	9.802-042.0	Elbow, 1/2 Jic X 3/8 Fem, 90°	1	
7	8.707-056.0	Detergent Screen	1	
8	9.802-252.0	Vinyl Tubing 1/4"	4 ft.	
9	6.390-126.0	Hose Clamp	1	
10	9.804-022.0	Cap, valve 22MM, W/1/4" Gauge Port LG/LD	1	
11	9.802-147.0	Garden Hose Connector	1	
12	8.719-008.0	Copper Washer	1	
13	9.803-275.0	Detergent Injector	1	
14	9.802-179.0	Valve, Anti-Siphon	1	
15	8.756-874.0	Adapter steel 1/2 NPTF(F) x 1/2 BSPP(M)	1	



## HFP.1 PUMP - EXPLODED VIEW



## HFP.1 PUMP - EXPLODED VIEW PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	8.754-841.0	Crankcase	1	23*	See Kits Below	Valve Spring	6
2*	9.850-005.0	Plunger Oil Seal	3	24*	See Kits Below	Valve Cage	6
3	9.853-555.0	Spacer	1	25	9.802-939.0	Screw, M6 X 16	8
4*	9.850-780.0	O-ring Ø1.78 X 26.7	3	26	8.717-137.0	Bearing Cover	1
5*	See Kits Below	"U" Seal kit	3	27	9.803-954.0	Bearing Seal	1
6*	See Kits Below	Pressure Ring Kit	3	28	8.754-843.0	Seal Spacer, Crankshaft	1
7*	See Kits Below	"U" Seal kit	3	29	9.802-914.0	Snap Ring, 25 mm	1
8	9.803-199.0	Washer, Copper G1/2	1	30	9.803-955.0	Bearing, Ball	1
9	8.929-348.0	Plug, Brass G1/2	1	31	8.754-835.0	Shaft, 5/8" Hollow 2030F 1	
10	8.759-027.0	Manifold 14mm	1		8.754-836.0	Shaft, 5/8" Hollow 2030S 1	
	8.759-028.0	Manifold 16mm	1		8.754-837.0	Shaft, 5/8" Hollow 2830F 1	
11*	8.717-233.0	O-ring Ø1.78 X 15.6	6		8.754-838.0	Shaft, 5/8" Hollow 2830S 1	
12*	See Kits Below	Valve Assembly	6		8.754-839.0	Shaft, 5/8" Hollow 3530F 1	
13*	9.803-948.0	O-ring Ø1.78 X 18.77	6	32	8.754-219.0	Oil Dipstick	1
14	9.803-949.0	Valve Plug	6	33	8.754-840.0	Bearing Needle	1
15	8.754-850.0	Washer, Lock	2	34	8.754-826.0	Seal, Crankshaft	1
16*	8.929-349.0	Bolt, Manifoild M14X60	2	35	8.754-844.0	Flange, Motor	1
17	9.803-198.0	Washer, Copper G3/8	1	36	9.803-210.0	Washer	10
18	8.707-262.0	Plug, Brass G3/8	2	37	8.752-824.0	Screw, 6 mm	4
19	9.803-202.0	Sight Glass, G3/4	1	38*	8.754-855.0	Bolt, Plunger	3
20	9.803-906.0	O-ring Ø1.78 X 14	1	39*	8.754-092.0	Spacer, Copper	3
21*	See Kits Below	Valve Seat	6	40*	8.754-848.0	Plunger, 16mm (2030S, 2830S)	3
22*	See Kits Below	Valve Plate	6		8.754-849.0	Plunger, 14mm (2030F, 2830F, 3530F)	3

## HFP.1 PUMP - EXPLODED VIEW PARTS LIST

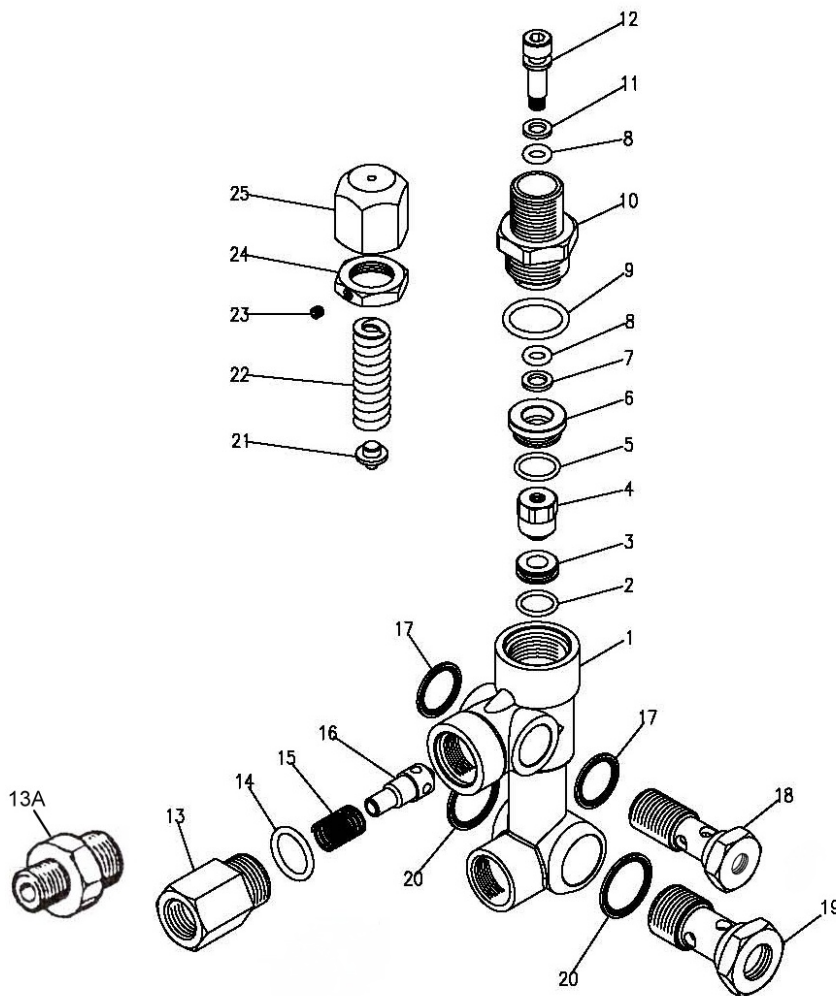
ITEM	PART NO.	DESCRIPTION	QTY
41*	9.803-962.0	Spacer, Copper	3
42	8.759-032.0	Plunger Rod	3
43	9.803-965.0	Connecting Rod Pin	3
44	9.803-966.0	Connecting Rod	3
45	8.933-020.0	Screw, Connecting Rod	6
46	8.754-847.0	O-ring Ø2.62 X 111.62	1
47	8.754-842.0	Cover, Crankcase	1

\* Available in kit (See below)

KIT NUMBERS	8.759-031.0	8.759-015.0	8.758-218.0	8.929-348.0	8.754-862.0	8.754-858.0	8.754-859.0	9.803-937.0
KIT DESCRIPTION	Plunger Seals 14 mm	Plunger Seals 16 mm	Seal Packing 14 mm	Seal Packing 16 mm	Plunger 14 mm	Plunger 16 mm	Complete Valve	Plunger Oil Seals
ITEM NUMBERS INCLUDED	4, 5, 7, 16	4, 5, 7, 16	4, 5, 6, 7,16	4, 5, 6, 7,16	38, 39, 40, 41	38, 39, 40, 41	11,12,13	2
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	3	3	1	1	6	3

# VBA UNLOADER EXPLODED VIEW

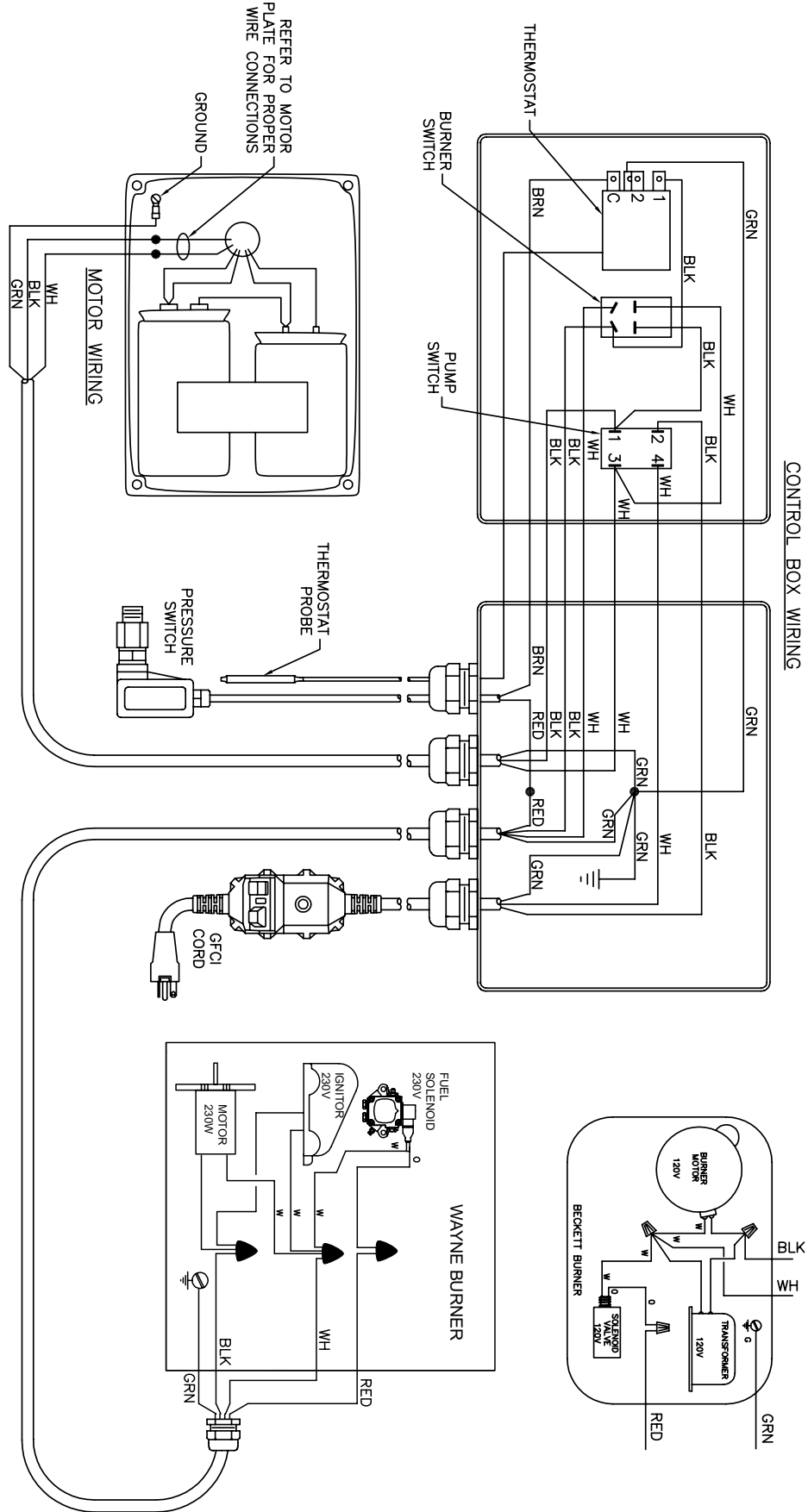
8.715-491.0  
5-3303  
#921460



## VBA UNLOADER EXPLODED VIEW PARTS LIST

ITEM	PART NO.	DESCRIPTION	KIT	QTY	ITEM	PART NO.	DESCRIPTION	KIT	QTY
1		Body Valve (KG)		1	16		Poppet	B	1
		Body Valve (KS)		1	17	9.802-893.0	Seal Washer 3/8		2
2		O-Ring	A,C	1	18	9.803-915.0	Banjo Bolt 3/8" w 1/8" Pilot		1
3		Seat	C	1		9.803-919.0	Banjo Bolt 3/8" Solid Cap		1
4		Ball, Sub-Assy	C	1	19	9.803-920.0	Banjo Bolt 1/2" w 1/4" Pilot		1
5		O-Ring	A	1		8.750-105.0	Banjo Bolt 1/2" Solid Cap		
6	9.803-907.0	Guide Bushing		1		9.803-919.0	Banjo Bolt 3/8" Solid Cap		
7		Teflon Ring		1	20	9.803-921.0	Seal Washer 1/2		2
8		O-Ring	A	1	21		Plate	C	1
9		O-Ring	A	2	22		Spring	C	1
10	9.803-911.0	Connector		1	23	8.933-021.0	Set Screw		1
11		Teflon Ring	A	1	24	9.803-925.0	Nut		1
12	70-120207	Stem	C	1	25	9.803-926.0	Brass Handle		1
13	9.803-941.0	Connector Female		1	Kit A	8.717-672.0	O-Ring Repair Kit		
13A	9.702-892.0	Connector Male			Kit B	8.717-673.0	Outlet Kit		
14		O-Ring	A,B	1	Kit C	8.717-674.0	Stem Repair Kit		
15		Spring	B	1					

# WIRING DIAGRAM





If you need **SERVICE** on your pressure washer, contact your local Hotsy dealer or visit [www.Hotsy.com](http://www.Hotsy.com). Smart phone users scan the code below to link directly to the Service Request page.



To **REGISTER** your pressure washer, please visit our Warranty Registration page at [www.hotsy.com/WarrantyRegistration.aspx](http://www.hotsy.com/WarrantyRegistration.aspx) or scan the code below with your smart phone.

