

**LANDA<sup>®</sup>**  
PRESSURE WASHERS

# PGHW

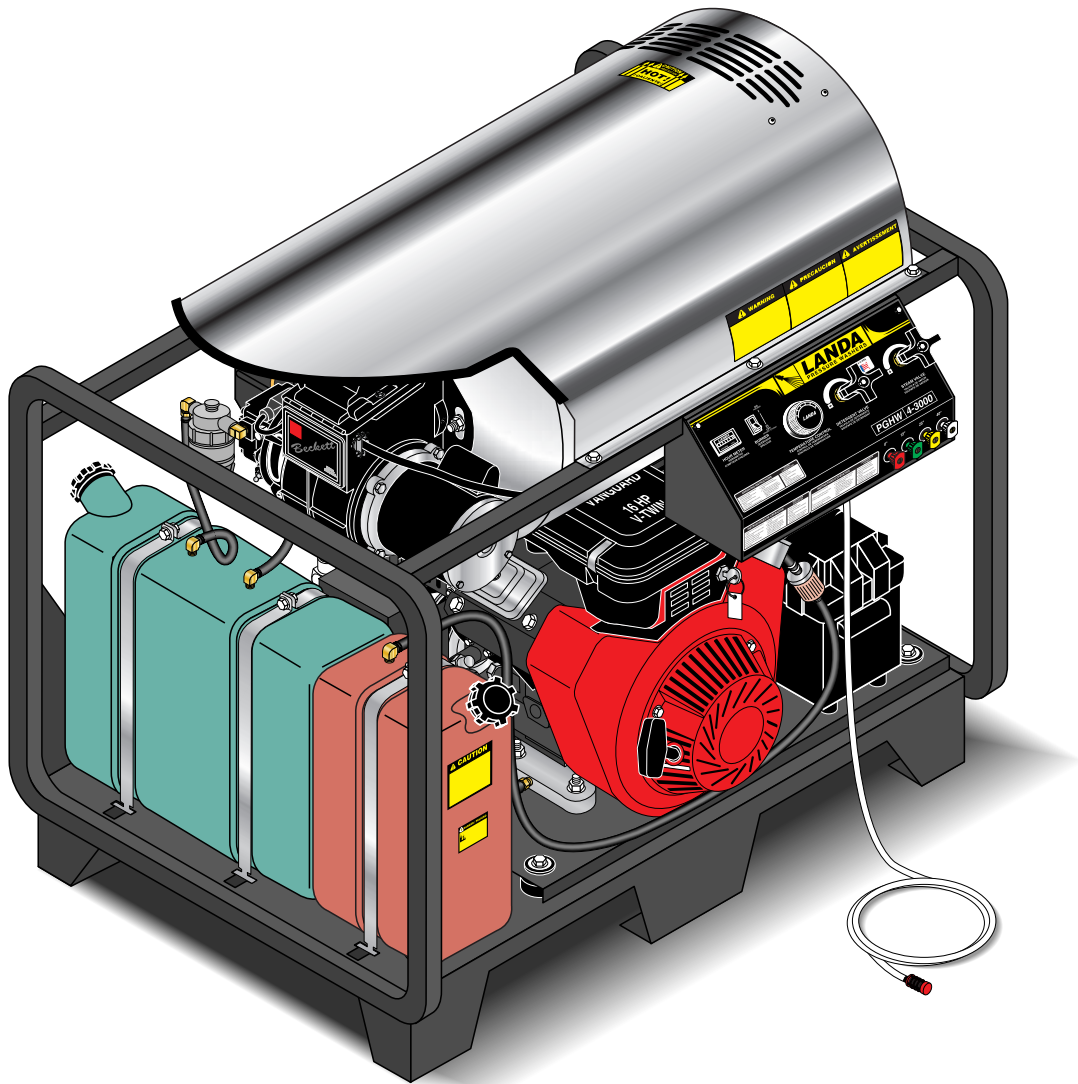
# OPERATOR'S MANUAL

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■ PGHW4-3000 ■ PGHW4-4000

■ PGHW5-3000 ■ PGHW5-3500

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**LANDA, INC. ■ 4275 N.W. Pacific Rim Blvd. ■ Camas, WA 98607 ■ USA**

For technical assistance or the Landa Dealer nearest you, call 800-LANDA-4-U (800-526-3248) or (360) 833-9100  
or consult our web page at [www.landa.com](http://www.landa.com)



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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

Thank you for purchasing a Landa Pressure Washer.

This manual covers the operation and maintenance of the PGHW4-3000E, PGHW4-4000E, PGHW5-3000E and PGHW5-3500E washers. All information in this manual is based on the latest product information available at the time of printing.

Landa, Inc. reserves the right to make changes at any time without incurring any obligation.

**The PGHW Series was designed for maximum use of 8 hours per day, 5 days per week.**

### Owner/User Responsibility:

The owner and/or user must have an understanding of the manufacturer's operating instructions and warnings before using this Landa 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.

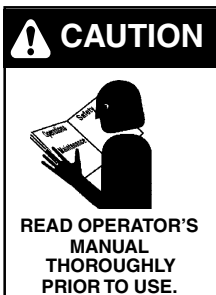
Owner and/or user must study and maintain for future reference the manufacturers' instructions.

**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.**

## IMPORTANT SAFETY INFORMATION

**WARNING: When using this product basic precautions should always be followed, including the following:**



**CAUTION: 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 a malfunction of the machine and result in death, serious bodily injury and/or property damage.
2. Know how to stop the machine and bleed pressures 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.



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

5. Avoid installing machines in small areas or near exhaust fans. Exhaust contains poisonous carbon monoxide gas; exposure may cause loss of consciousness and may lead to death. It also contains chemicals known in certain quantities, to cause cancer, birth defects, or other reproductive harm.

chemicals known in certain quantities, to cause cancer, birth defects, or other reproductive harm.



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

**CAUTION: Risk of fire. Do not add fuel when the product is operating.**

6. Allow engine to cool for 2 minutes before refueling. If any fuel is spilled, make sure the area is dry before testing the spark plug or starting the engine. (Fire and/or explosion may occur if this is not done.)

Gasoline engines on mobile or portable equipment shall be refueled:

- (a) outdoors;
- (b) with the engine on the equipment stopped;
- (c) with no source of ignition, within 10 feet of the dispensing point; and
- (d) with an allowance made for expansion of the fuel should the equipment be exposed to a higher ambient temperature.

In an overfilling situation, additional precautions are necessary to ensure that the situation is handled in a safe manner.

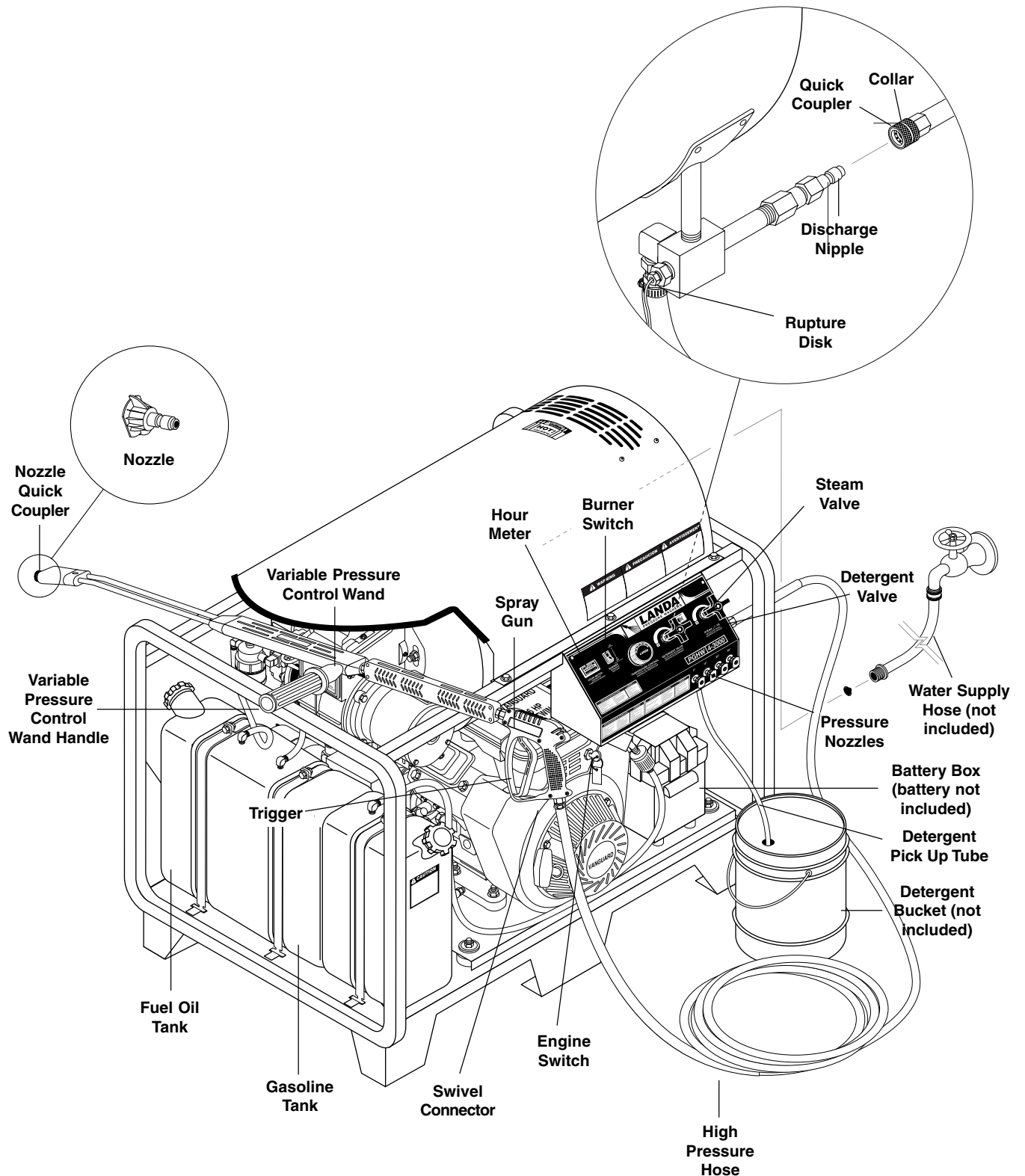
**WARNING: Risk of explosion – do not spray flammable liquids.**

7. Do not place machine near flammable objects as the engine is hot.



**WARNING: Risk of injection or severe injury to persons - Keep clear of nozzle - Do not touch or direct discharge stream at persons. This machine is to be used only by trained operators.**

**COMPONENT IDENTIFICATION**



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

8. High pressure developed by these machines will cause personal injury or equipment damage. Use caution when operating. Do not direct discharge stream at people, or severe injury or death will result.



**WARNING: High pressure spray can cause paint chips or other particles to become airborne and fly at high speeds.**

9. Eye safety devices, safety clothing and foot protection must be worn when using this equipment.
10. Never make adjustments on machine while it is in operation.

**WARNING: Spray gun kicks back. Hold with both hands.**

11. Grip cleaning wand securely with both hands before starting the cleaner. Failure to do this could result in injury from a whipping wand.
12. Machines with spray gun should not be operated with the spray gun in the off position for extensive periods of time as this may cause damage to the pump.
13. The best insurance against an accident is precaution and knowledge of the machine.
14. Landa will not be liable for any changes made to our standard machines, or any components not purchased from Landa.



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

15. Read engine safety instructions provided.
16. Never run pump dry or leave spray gun closed longer than 5 minutes.

17. Inlet water must be cold and clean fresh water.
18. Use No. 1 or No. 2 Heating Oil (ASTM D306) only. **NEVER** use gasoline in your fuel oil tank. Gasoline is more combustible than fuel oil and could result in a serious explosion. **NEVER** use crankcase or waste oil in your burner. Fuel unit malfunction could result from contamination.
19. Do not confuse gasoline and fuel oil tanks. Keep proper fuel in proper tank.
20. Protect machine from freezing.
21. Be certain all quick coupler fittings are secured before using pressure washer.

22. Do not allow acids, caustic, or abrasive fluids to pass through the pump.
23. To reduce the risk of injury, close supervision is necessary when a product is used near children. Do not allow children to operate the pressure washer. **This machine must be attended during operation.**
24. Do not operate this product when fatigued or under the influence of alcohol or drugs. Keep operating area clear of all persons.
25. Protect discharge hose from vehicle traffic and sharp objects. Inspect condition of high pressure hose before using or bodily injury may result.
26. Before disconnecting discharge hose from water outlet, turn burner off and open spray gun to allow water to cool below 100°F before stopping the machine. Then open the spray gun to relieve pressure. Failure to properly cool down or maintain the heating coil may result in a steam explosion.
27. Landa will not be liable for any changes made to our standard machines or any components not purchased from Landa.
28. Do not overreach or stand on unstable support. Keep good footing and balance at all times.
29. This machine must be attended during operation.
30. **CAUTION: Risk of injury. Disconnect battery ground terminal before servicing.**

## PRE-OPERATION CHECK

- Pump oil (SAE 30W non-detergent oil, General)
- Cold water supply (6 gpm • 58" • 20 psi)
- Hose, wand, nozzle (nozzle size per serial plate)
- Water filter (intact, non restrictive)
- Engine fuel (unleaded 86 or higher octane)
- Engine oil (SAE 10W30)
- Burner fuel (No. 1 home heating fuel or diesel)

## SET-UP PROCEDURES

**This machine is intended for outdoor use only. Machine must be stored indoors when not in use.**

1. Attach a 5/8" water supply hose to inlet connector. Minimum flow should be 6 or 10 gpm depending on model of machine.
2. Attach high pressure hose to discharge nipple using quick coupler. Lock coupler securely into place by pulling back coupler collar and inserting it into discharge nipple, then pushing collar forward to lock in place.
3. Attach variable pressure control wand to spray gun using teflon tape on threads to prevent leakage.

4. Attach swivel connector on discharge hose to spray gun using teflon tape on threads.
5. Check engine and pump oil level by removing oil dipstick, making sure oil is on proper indicator marking. Oil should be visible one half way up sight glass (SAE 30W non-detergent).
6. Fill red gasoline tank.
7. Fill green fuel tank. Do not confuse gasoline and fuel oil (diesel) tanks. Keep proper fuel in proper tank.
8. Install proper battery making sure that the red cable is attached to the positive terminal. Use a 12V Group 24 battery on all models except 4-40321 and 5-35321E. These models use a U1 30 amp garden tractor style battery.

## OPERATING INSTRUCTIONS

1. Read engine warning and operating instructions.
2. Turn on water at faucet. Check for water leaks; tighten as needed.
3. Pull wand coupler collar back and insert desired pressure nozzle into wand coupler then secure by pushing coupler collar forward.

**NOTE:** Variable pressure control wand handle must be turned clockwise to enable water to flow out of the high pressure nozzle.

4. Pull spray gun trigger to relieve pressure. Read engine manual provided and pull choke. Turn engine switch to the START position and hold it there until the engine starts. **NOTE:** Do not engage electric starter for more than five (5) seconds at a time. If engine fails to start, release the switch, pull spray gun trigger to relieve pressure and wait ten seconds before operating the start again. When the engine starts, allow the engine switch to return to the ON position. If the engine is to be started without the battery, turn switch to start position and pull starter grip to start. Turn off choke.

**CAUTION: Small engines may kick back. Do not hold starter grip tightly in hand.**

5. With the spray nozzle pointed away from you or anybody else, press the trigger on the spray gun to obtain pressurized cold water spray.
6. For hot water, turn the burner switch to ON when a steady stream of water flows out of the spray gun. Burner will now light automatically.

**NOTE:** Do not start machine with burner switch on.

7. To apply detergent, place detergent pick-up tube into a container of detergent and turn the detergent valve counterclockwise (see page 8).

8. For steam, open the steam valve counterclockwise which will lower the pressure and raise the temperature.

## GENERAL WASHING TECHNIQUES

1. Hold spray nozzle approximately one foot from the surface being cleaned. Spray at an angle to get under the material and lift it off.
2. When detergent is required for cleaning, start washing from the bottom and work up. Better detergent economy and faster results will be obtained by allowing the chemical to set 5-10 minutes. After washing, rinse from the top down.
3. Cleaning heavy dirt or material away with a hard stream of clear water is recommended before using a cleaning agent.

## SHUT DOWN PROCEDURES

1. Rinse all detergent lines with clean water, to remove any soap residue.
2. Turn burner switch off and continue spraying, allowing the water to cool to below 100°F.
3. Turn engine key switch off.
4. Turn off water supply.
5. Squeeze trigger on spray gun to relieve remaining pressure.
6. Remove water supply hose.
7. In freezing conditions, disconnect water, drain float tank and add a 50/50 mixture of anti-freeze. Start the machine and squeeze trigger on spray gun to allow the mixture to flow out of the wand. Now turn off the engine. See Winterizing Procedures under Maintenance and Service.

**CAUTION: Do not allow pump to run longer than 5 minutes without water. Disconnect all hoses to allow water to drain.**

**With machine off, open spray gun to release pressure before removing discharge hose.**

## HOW TO USE THE OPTIONAL DETERGENT INJECTOR



**WARNING:** Some detergents may be harmful if inhaled or ingested, causing severe nausea, fainting or poisoning. The harmful elements may cause property damage or severe injury.

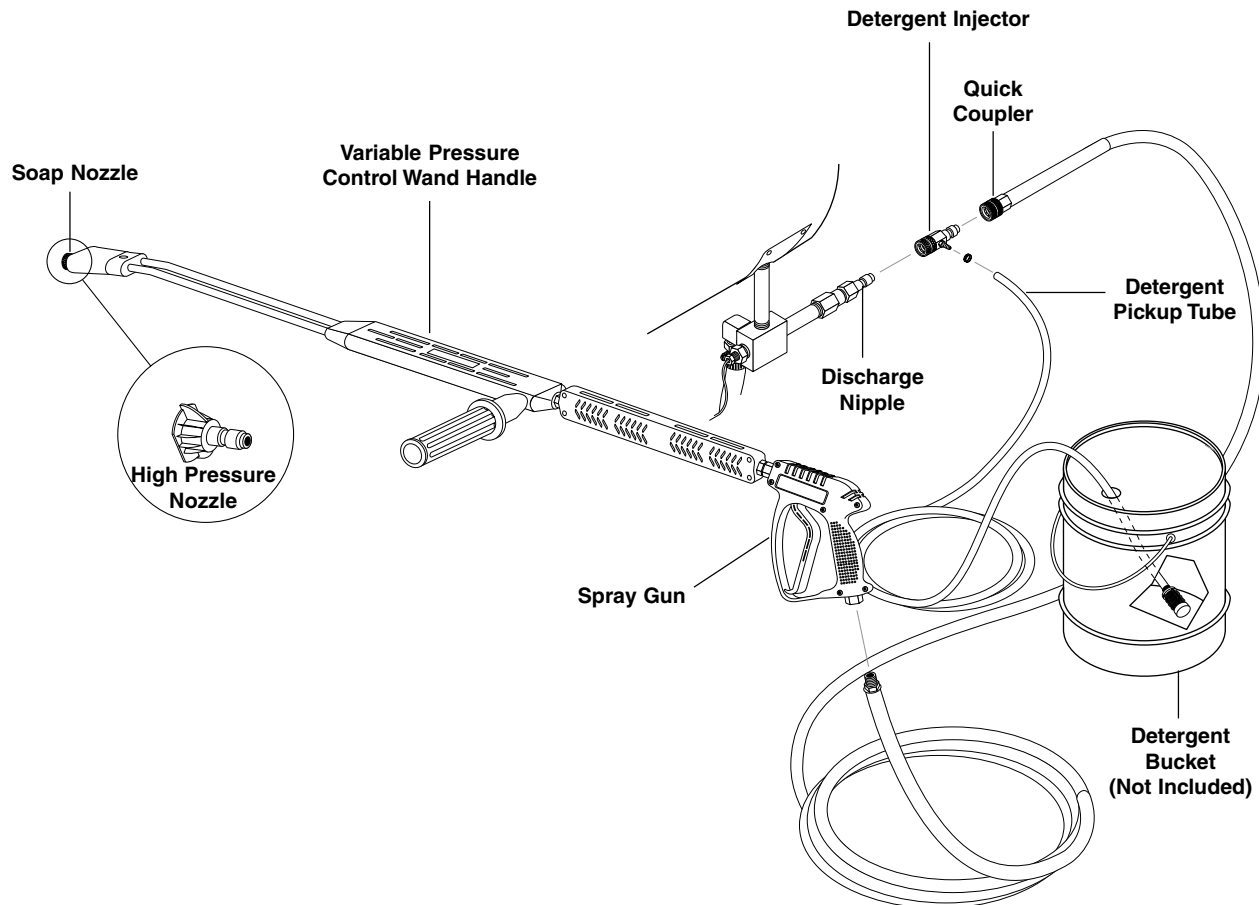
The machine can siphon and mix detergents with the use of Landa's detergent injector kit.

1. Pull injector quick coupler collar back and secure on discharge nipple. Injector valve body arrow should point in direction of flow.
2. Connect high pressure hose to injector discharge nipple securing quick coupler.
3. Start machine as outlined in Operating Instructions.

4. Place detergent pick-up tube into container of detergent.
5. Turn pressure control handle counterclockwise on the variable pressure wand. This lowers the pressure by directing the water flow through the soap nozzle and allows the detergent injector to siphon soap.
6. Open spray gun. Water detergent ratio is approximately 15 to 1.
7. When you finish washing, rinse by simply turning the variable pressure wand control handle clockwise to increase pressure.

**NOTE:** The detergent injector will not siphon detergent with the water flowing through the high pressure nozzle at the end of the wand.

8. For clean up, place detergent pick-up tube into container of clear water and follow steps 4 and 5 to prevent detergent deposits from damaging the injector.





## PREVENTATIVE MAINTENANCE

1. Check to see that water pump is properly lubricated.
2. Follow winterizing instructions to prevent freeze damage to pump and coils.
3. Always neutralize and flush detergent from system after use.
4. If water is known to be high in mineral content, use a water softener on your water system, or de-scale as needed.
5. Do not allow acidic, caustic or abrasive fluids to be pumped through system.
6. Always use high grade quality cleaning products.
7. Never run pump dry for extended periods of time.
8. Use clean fuel-kerosene, No. 1 fuel oil, or diesel. Clean or replace fuel filter every 100 hours of operation. Avoid water contaminated fuel as it will damage the fuel pump.
9. If machine is operated with smoky or eye burning exhaust, coils will soot up, not letting water reach maximum operating temperature.
10. Never allow water to be sprayed on or near the engine or burner assembly or any electrical component.
11. Periodically delime coils as per instructions.
12. Check to see that engine is properly lubricated.

It is advisable, periodically, to visually inspect the burner. Check air inlet to make sure it is not clogged or blocked. Wipe off any oil spills and keep equipment clean and dry.

The flow of combustion and ventilating air to the burner must not be blocked or obstructed in any manner.

The area around the Landa washer should be kept clean and free of combustible materials, gasoline and other flammable vapors and liquids.

## MAINTENANCE AND SERVICE

### Unloader Valves:

Unloader valves are preset and tested at the factory before shipping. Occasional adjustment of the unloader may be necessary to maintain correct pressure.

### Winterizing Procedure:

Damage due to freezing is not covered by warranty. Adhere to the following cold weather procedures whenever the washer must be stored or operated outdoors under freezing conditions.

During winter months, when temperatures drop below 32°F, protecting your machine against freezing is necessary. Store the machine in a heated room. If this is not possible then mix a 50/50 solution of anti-freeze and

water in the float tank. Turn the engine on to siphon the anti-freeze mixture through the machine. If compressed air is available, an air fitting can be screwed into the float tank by removing the float tank strainer and fitting. Then inject the compressed air. Water will be blown out of the machine when the trigger on the spray gun is opened.

### High Limit Hot Water Thermostat:

For safety, each machine is equipped with a temperature sensitive high limit control switch. In the event that the water should exceed its operating temperature, the high limit control will turn the burner off until the water cools then automatically reset itself. The thermostat sensor is located on the discharge side of the heating coil. The thermostat control dial is located on the control panel.

### Pumps:

Use only SAE 30 weight non-detergent oil. Change oil after first 50 hours of use. Thereafter, change oil every three months or at 500 hour intervals. Oil level should be checked through use of dipstick found on top of pump, or the red dot visible through the oil gauge window. Oil should be maintained at that level.

### Cleaning of Coils:

In alkaline water areas, lime deposits can accumulate rapidly inside the heating coil. This growth is increased by the extreme heat build up in the coil. The best preventative for liming conditions is to use high quality cleaning detergents. In areas where alkaline water is an extreme problem, periodic use of Landa Deliming Powder (Landa Part #9-028008) will remove lime and other deposits before coil becomes plugged. (See Deliming instructions for use of Landa Deliming Powder.)

### Deliming Coils:

Periodic flushing of coils or optional float tank is recommended.

- Step 1 Fill a container with 4 gallons of water, then add 1 lb. of deliming powder. Mix thoroughly. Pour mixture into float tank.
- Step 2 Remove wand assembly from spray gun and put spray gun into float tank. Secure the trigger on the spray gun into the open position.
- Step 3 Turn engine on, allowing solution to be pumped through coils back into the float tank. The solution should be allowed to circulate 2-4 hours or until the color changes.
- Step 4 After circulating solution, flush the entire system with fresh water. Clean out float tank and then reinstall wand assembly to spray gun.

**Removal of Soot and Heating Coil:**

In the heating process, fuel residue in the form of soot deposits may develop between the heating coil pipe and block air flow which will affect burner combustion. When soot has been detected on visual observation, the soot on the coil must be washed off after following the coil removal steps (See Coil Removal on page 11).

**Rupture Disk:**

If pressure from pump or thermal expansion should exceed safe limits, the rupture disk will burst allowing high pressure to be discharged through hose to ground. When disk ruptures it will need to be replaced. Torque new rupture disk to 35 ft. lbs.

**Fuel:**

Use clean fuel oil that is not contaminated with water and debris. Replace fuel filter and drain tank every 100 hours of operation.

Use No.1 or No.2 Heating Oil (ASTM D306) only. NEVER use gasoline in your burner fuel tank. Gasoline is more combustible than fuel oil and could result in a serious explosion. NEVER use crankcase or waste oil in your burner. Fuel unit malfunction could result from contamination.

**Fuel Control System:**

This machine utilizes a fuel solenoid valve located on the fuel pump to control the flow of fuel to the combustion chamber. The solenoid, which is normally closed, is activated by a flow switch when water flows through it. When the operator releases the trigger on the spray gun, the flow of water through the flow switch stops, turning off the electrical current to the fuel solenoid.

The solenoid then closes, shutting off the supply of fuel to the combustion chamber. Controlling the flow of fuel in this way gives an instantaneous burn-or-no-burn situation, thereby eliminating high and low water temperatures and the combustion smoke normally associated with machines incorporating a spray gun. Periodic inspection, to insure that the fuel solenoid valve functions properly, is recommended. This can be done by operating the machine and checking to see that the burner is not firing when the spray gun is in the OFF position.

**Fuel Pressure Adjustment:**

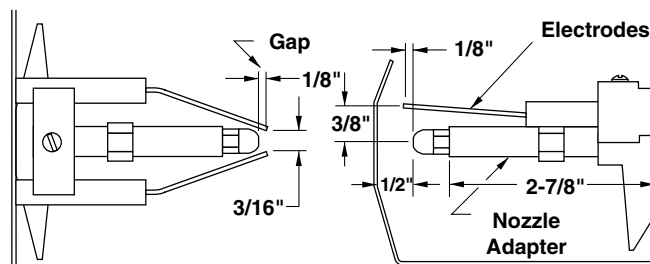
To control water temperature, adjust fuel pressure by turning the regulating pressure adjusting screw clockwise to increase, counterclockwise to decrease. Do not exceed 200 psi. **NOTE:** When changing fuel pump, a bypass plug must be installed in return port or fuel pump will not prime.

**Burner Nozzle:**

Keep the tip free of surface deposits by wiping it with a clean, solvent saturated cloth, being careful not to plug or enlarge the nozzle. For maximum efficiency, replace the nozzle each season.

**Electrodes Setting: Wayne**

(See Illustration Below)



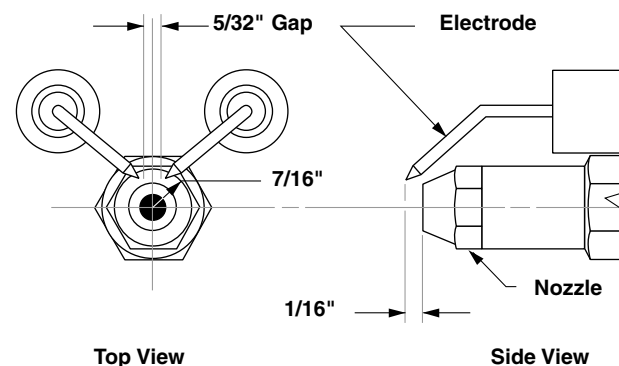
Top View

Side View

Periodically Check Wiring Connections. If Necessary To Adjust Electrodes, Use Diagram.

**Electrodes Setting: Beckett**

(See Illustration Below)



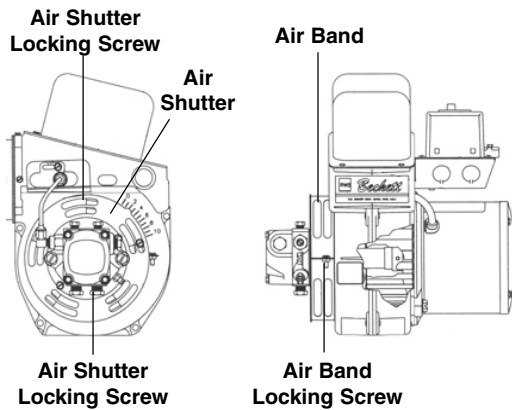
Top View

Side View

**Air Adjustment:**

Machines are preset and performance tested at the factory - elevation 100'. A one-time initial correction for your location will pay off in economy, performance, and extended service life. If a smoky or eye-burning exhaust is being emitted from the stack, two things should be checked. First, check the fuel to be certain that kerosene or No. 1 home heating fuel is being used. Next, check the air adjustment on the burner.

**To adjust:** Start machine and turn burner ON. Loosen two locking screws found in the air shutter openings (refer to illustration) and close air shutter until black smoke appears from burner exhaust vent. Note air band position. Next, slowly open the air shutter until white smoke just starts to appear. Turn air shutter halfway back to the black smoke position previously noted. Tighten locking screws.



If the desired position cannot be obtained using only the air shutter, lock the air shutter in as close a position as can be obtained, then repeat the above procedure on the air band setting.

### **Coil Removal:**

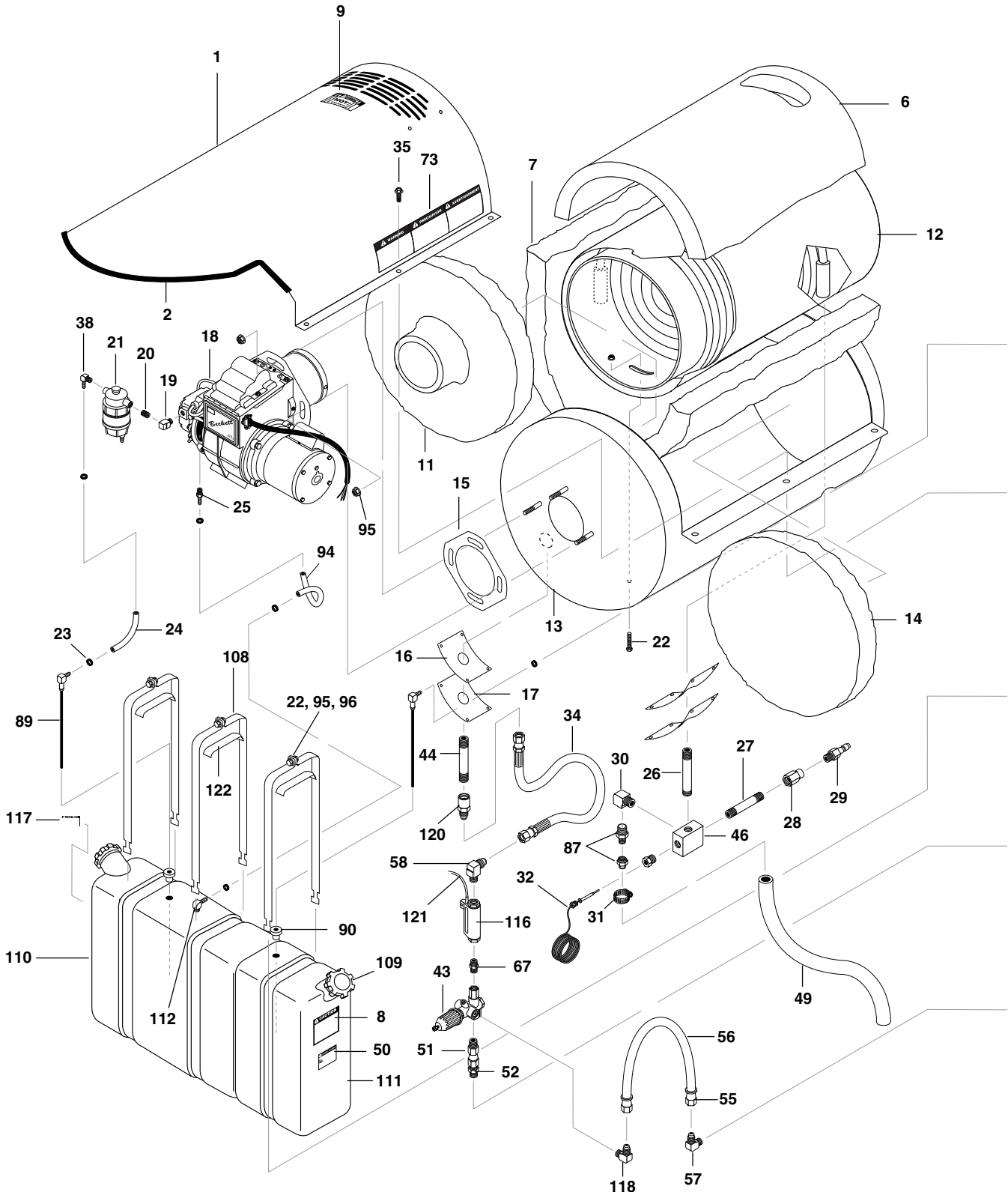
Removal of coil because of freeze breakage, or to clean soot from it can be done quickly and easily.

1. Disconnect hose from pump to inlet side of the coil.
2. Carefully disconnect the thermostat sensor making sure you do not crimp the capillary tube.
3. Remove burner assembly from combustion chamber.
4. Remove the 3-3/8" bolts from each side of coil and tank assembly (these bolts are used to fasten tank to chassis).
5. Remove fittings connected to the 1/2" pipe nipples from inlet and discharge sides of coil.
6. Remove top tank wrap, bend back insulation tabs and fold back blanket.
7. Remove bolts that hold down coil to bottom wrap.
8. Remove coil.
9. Replace or repair any insulation found to be torn or broken.
10. Remove insulation retainer plates.

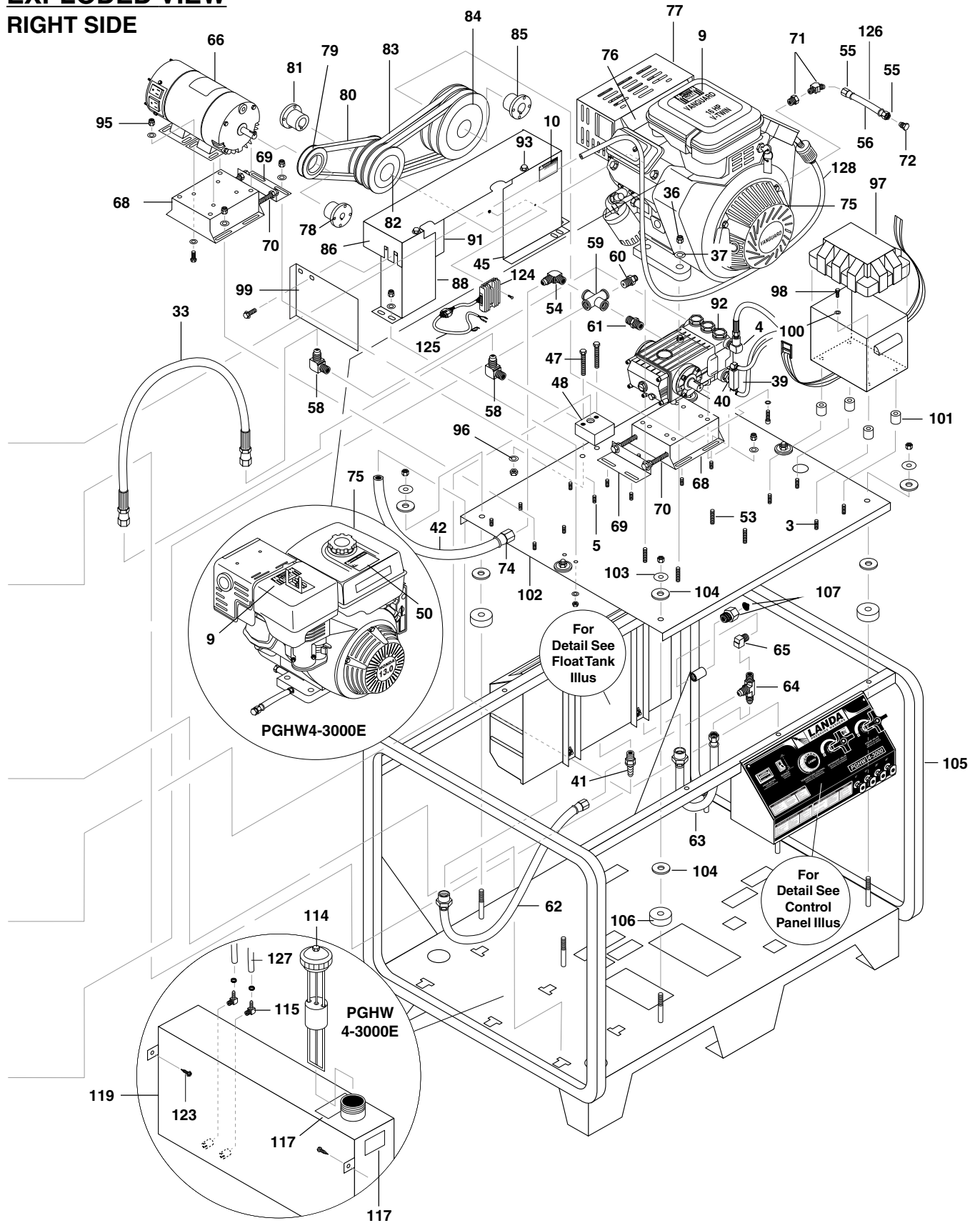
### **Coil Reinstallation:**

Reinstall new or cleaned coil reversing Steps 9 through 1.

**EXPLODED VIEW**  
**LEFT SIDE**



**EXPLODED VIEW  
RIGHT SIDE**



**EXPLODED VIEW  
PARTS LIST**

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	95-07121014S	Top Wrap, SS, PHW Series II	1	29	2-2007	Nipple, 3/8" x 3/8" NPT St Mal	1
2	2-01104	Trim, 1/16" Black	3 ft.	30	2-0032	Elbow, 1/2" Street	1
3	90-1006	Bolt, 5/16" x 3/4"	4	31	2-90041	Clamp Screw #16	1
	90-4008	▲ Washer, 5/16", Lock, Split Ring	4	32	4-05088	Thermostat, General, 302°	1
4	2-0031	Elbow, 3/8" Street	1	33	4-02047725	Hose, 25" x 3/8", 100R2, Pres Loop	1
5	90-1016	Bolt, 3/8" x 1", NC HH	12	34	4-02047716	Hose, 16" x 3/8", 100R2 Pres Loop	1
6	7-01484	Insulation/Blanket - Die Cut 28" x 24"	1	35	90-19959	Screw, 3/8" x 1" HX Wash	6
7	7-01430	Insulation Blanket - No Foil, 24" x 57"	1	36	90-2001	Nut, 5/16" ESNA	4
8	10-02011	Label, Use Only Gasoline (All Models Except 13HP Honda)	1		90-2002	Nut, 3/8" ESNA (20 HP Honda only)	4
9	10-02025A	Label, Hot/Caliente	2	37	90-4001	Washer, 5/16" Flat SAE	8
10	10-02028	Label, Warning-Exposed Pulleys	2		90-4002	Washer, 3/8" SAE, Flat (20 Honda only)	4
11	7-0141	Insulation, Burner Head, w/Hole	1	38	2-1089	Hose Barb, 1/4" Barb x 1/4" Pipe, 90°	3
12	95-07121212	Coil Replacement Schedule 80 W/Aluminum Steel Wrap	1	39	2-1037	Tee, 1/4" Branch Male	1
13	95-07121015	Wrap, Bottom, Stainless Steel	1	40	2-1076	Bushing, 1/2" x 1/4" Pipe	1
14	7-0140	Insulation, Front Head, No Hole	1	41	2-11080	Push-on 1/2"MPT x 3/4" Barb	1
15	7-12484	Gasket, Standard - Large	1	42	4-02120000	Hose, 3/4", Push-on	1.5 ft.
16	7-0144	Gasket, Burner Plate	2	43	5-3208	Unloader, AR, AL607	1
17	95-07121113	PHW/VNG Insulation Retainer Plate	2	44	2-00101	Nipple, 1/2" x 4" Gal Sch 80	1
18	Burner Assembly, See Burner Specifications Page 21				2-00122	Nipple, 1/2" X 4" Black Pipe (4-4000 only)	1
19	2-1022	Elbow, 1/4" Street	1	45	95-071410273	Belt Guard, End Support, Pump End (all models)	1
20	2-1002	Nipple, 1/4" Close	1	46	95-07101226	Discharge Block, 1/2"	1
21	2-9905	Filter, Fuel/Oil H <sub>2</sub> O Separator	1	47	90-1020	Bolt, 3/8" x 2", NC HH	2
22	90-1019	Bolt, 3/8" x 1-3/4" Tap	5	48	95-07101216/B	Block, Unloader, 3/8" x 3/8" Brass	1
23	2-9040	Clamp, Hose, 1/4"	6	49	4-02130050	Hose, Conduit 7/8"	1.75 ft.
24	4-02100000	Hose, 1/4", Push-on (All Models Except 13HP Honda)	10"	50	10-02029	Label, Danger Cool Engine	1
25	2-1085	Hose Barb, 1/4" Barb x 1/4" ML Pipe	1	51	2-0079	Swivel, 1/2" JIC x 3/8" Male	1
26	2-00120	Nipple, 1/2" x 5"	1	52	2-0051	Nipple, 1/2" JIC x 3/8" Pipe	1
	2-00123	Nipple, 1/2" x 5" Black Pipe (4-4000)	1	53	90-1010	Bolt, 5/16" x 1-3/4", NC HH (All Models Except 20HP Honda)	4
27	2-00091	Nipple, 1/2" x 3", Galv.	1		90-1020	Bolt, 3/8" x 2" NC HH (20HP Honda)	4
	2-00122	Nipple, 1/2" x 4" Black Pipe (4-4000)	1	54	2-10630	Elbow, 3/4" JIC x 1/2", 90°	1
28	2-00241	Coupling, 1/2" x 3/8" Reducing	1	55	2-1105	Swivel, 1/2" JIC Fem, Push-on (All Models Except 13HP Honda)	4
						(13HP Honda)	2
				56	4-02110000	Hose, 1/2" Push-on	1.5 ft.

**EXPLODED VIEW  
PARTS LIST (continued)**

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
57	2-1062	Elbow, 1/2" JIC x 1/2" 90°	1	84		Pulley, Pump, See Specifications Page 22	
58	2-0053	Elbow, 1/2" JIC, 3/8" 90°	3	85		Bushing, Pump, See Specifications Page 22	
59	2-1035	Cross, 1/2" Female, Pipe	1	86	95-071410294	Belt Guard, Cover, (4-3000)	1
60	2-30082	Pump Protector, 1/2" PTP	1		95-071410293	Belt Guard, Cover, (4-4000, 5-3000, 5-3500)	1
61	2-1007	Nipple, 1/2" Hex	1	87	2-3408	Rupture Disk Assy, 8000 PSI	1
62	4-02100030	Inlet Hose, Supply Water	30"		2-3480	Rupture Disk Replacement Only, 8000 PSI	1
63	4-02100013	Inlet Hose, Supply Water	13"	88	95-071410274	Belt Guard, End Support, Gen End (16, 20, 21 HP Engines)	1
64	2-10712	Tee, 1/2" x 1/2" JIC 51#	1		95-071410230	Belt Guard, End Support, Gen End (13 HP Engines)	1
65	2-1024	Elbow, 1/2" Street, Brass	1	89	2-010064	Diptube, Plastic, w/Elbow (All Models Except 13HP Honda)	2
66	6-060150	Generator, Winco, 50HZ, 220V	1	90	2-010061	Bushing, Rubber, Nitrile (All Models Except 13HP Honda)	2
	6-0107	▲ Cord, Molded, Royal, K1426, 14-3	1	91	95-071410292	Face Plate, Belt Guard	1
67	2-0006	Nipple, 3/8" Hex	1	92		Pump, See Pump Specifications Page 22	
68	95-07121112	Rail, Pump or Generator Combo (PHW/Skid)	2	93	90-1996	Bolt, 3/8" x 3/4", NC HH, Whiz	5
69	95-07141110	Retainer, Pump Take Up, Plated	2		90-2020	▲ Nut, Cage, 3/8" x 12 GA	5
70	90-10220	Bolt, 3/8" x 3-1/2", Tap	4	94	4-02100000	Hose, 1/4" Push-On (All Models Except 13HP Honda)	7"
	90-2007	▲ Nut, 3/8", HEXNC	4	95	90-2002	Nut, 3/8" ESNA, NC	35
71	2-0053	Elbow, 1/2" JIC, 3/8", 90°, LBG (All Models Except 13HP Honda)	1	96	90-4002	Washer, 3/8", SAE, Flat	50
	2-1101	▲ Adaptor, 3/8" x 1/4" (20 HP Honda only)	1	97	2-0115	Box, Battery, M-100 (All Models Except 20HP Honda)	1
72	2-1050	Plug, 1/2" JIC, Flare (All Models Except 13HP Honda)	1		2-0117	Box, Battery (20HP Honda)	1
73	10-99087	Label, Warning	1		2-011500	▲ Plate, Battery Box, Large, Polypro (All Models Except 20HP Honda)	1
74	2-11050	Swivel, 3/4" JIC FEM, Push-on	1		2-011700	▲ Plate, Battery Box, Small Polypro (20HP Honda)	1
75		Engine, See Engine Specifications Page 23			6-051030	Cable, Battery, Red (All Models Except 20HP Honda)	1
76	76-807964	Muffler, Exhaust Skid, 16 HP Van.	1		6-05104	Cable, Battery, Black Molded (All Models Except 20HP Honda)	1
	76-808597	▲ Muffler, Van. 21 HP	1		6-0117	▲ Wire, 6 Ga. Red (20HP Honda)	1.5 ft
	77-VHLM4	▲ Muffler, (20 HP Honda)	1		6-0503	▲ Terminal Ring (20HP Honda)	1
77	95-07101149	Guard, Muffler, Van. 16 HP	1		6-0118	▲ Wire, 6 Ga. Black (20HP Honda)	1.5 ft.
	95-07101153	Guard, Van. 21 HP	1		6-05030	▲ Terminal Ring (20HP Honda)	3
	95-071011491	▲ Brace, Van. Muff. Bracket (16HP Vanguard)	2				
78		Bushing, Generator, See Specifications Page 23					
79		Pulley, Generator, See Specifications Page 23					
80		Belt, Generator, See Specifications Page 23					
81		Bushing, Engine, See Specifications Page 23					
82		Pulley, Engine, See Specifications Page 23					
83		Belt, Pump/Engine, See Specifications Pages 22 & 23					

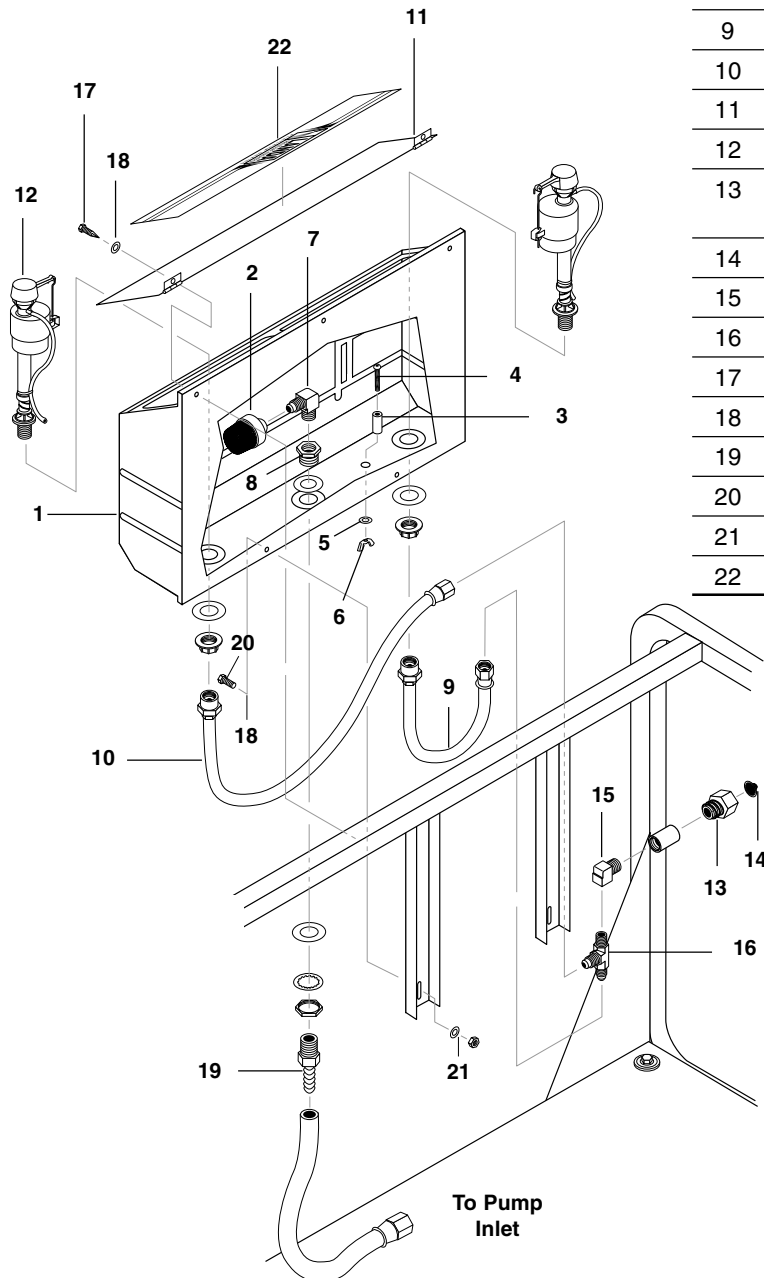
**EXPLODED VIEW**  
**PARTS LIST (continued)**

ITEM	PART NO.	DESCRIPTION	QTY
98	90-10051	Bolt, 5/16" x 1/2", Button Head	4
99	95-07141057	▲ Heat Shield (20 HP Honda, 21 HP Vanguard Only)	1
100	90-4011	Washer, 5/16" Star	4
101	2-01011	Isolator, 5/16", F x F, 1"	4
102	95-07141043	Power Platform, PGHW	1
103	90-4007	Washer, 3/8" x 1-1/2", Fender, SAE	8
104	2-0108	Bumper Pad, Engine	16
105	95-07141004	Cage, PGHW	1
106	2-01041	Pad, Soft Rubber, 50 Duro	8
107	2-10942	Swivel, 1/2" MP x 3/4" GHF W/Strainer	1
108	95-07164010	Strap, MHP Fuel Tank W/Hole	6
109	2-01167	Cap, Fuel Tank, Plastic (All Models Except 13HP Honda)	2
110	2-011501	Tank, Fuel, 10 Gallon Poly, Diesel, Green (4-4000, 5-3000, 5-3500)	1
111	2-011502	Tank, Fuel, 5 Gallon Poly, Gasoline, Red (4-4000, 5-3000, 5-3500)	1
112	2-010066	Elbow, Fuel Tank (All Models Except 13HP Honda)	1
	2-010061	▲ Bushing, Rubber (All Models Except 13HP Honda)	1
114	2-01157	Cap, 14" w/Fuel Gauge, (13HP Honda)	1
115	2-1088	Hose Barb 1/4" Barb x 1/8" ML Pipe 90° (13HP Honda)	2

ITEM	PART NO.	DESCRIPTION	QTY
116	6-021730	Switch, Flow MV60	1
117	10-020110	Label, Use Only Kerosene	2
118	2-1060	Elbow 1/2" JIC x 3/8", 90°	1
119	95-07141045	Tank, Fuel, PGHW (13HP Honda)	1
	90-1008	▲ Bolt, 5/16" x 1-1/4" (13HP Honda)	2
	90-4007	▲ Washer, 3/8" x 1-1/2", Fender (13HP Honda)	4
	90-2001	▲ Nut, 5/16", ESNA (13HP Honda)	2
120	2-0083	Adapter, 1/2" JIC x 1/2" Fem.	1
121	6-021740	Switch, Reed Replacement MV60	1
122	2-4019	Gasket, Fuel Tank (All Models Except 13HP Honda)	1.75 ft.
123	90-19959	Screw, 3/8" x 1" HX Wash (13HP Honda)	2
124	77-31620-ZG5-003	REG/REC Honda (20 HP Honda Only)	1
125	77-32105-ZJ1-800	Harness, Honda 20 AMP (20 HP Honda Only)	1
126	4-02110000	Hose, 1/2" Push-On	.75 ft.
127	4-02100000	Hose, 1/4" Push-On, 34" (13HP Honda)	2
128	4-02100000	Hose, 1/4" Push-On (All Models Except 13HP Honda)	44"
		▲ Not Shown	

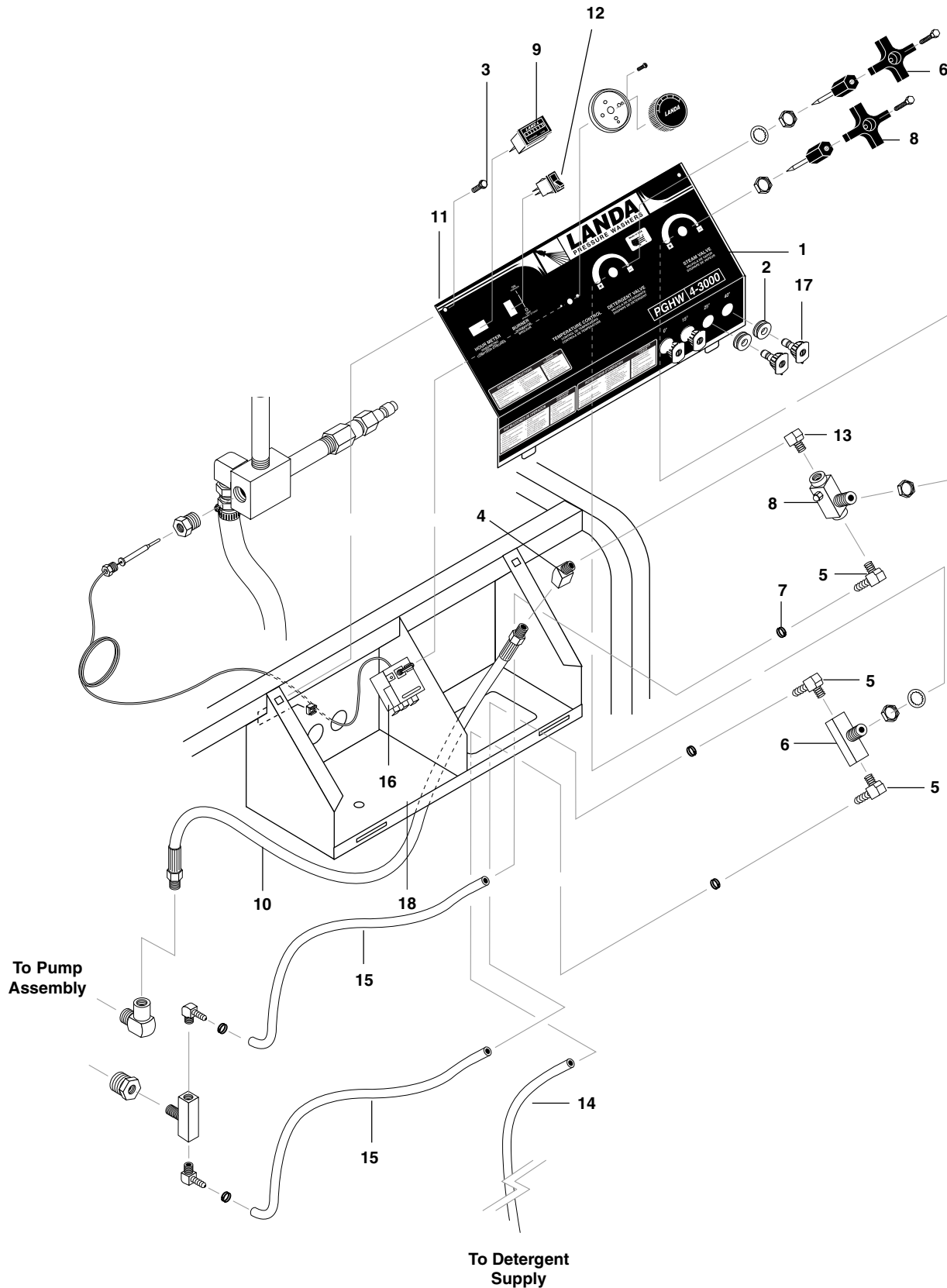


**PGHW FLOAT TANK ASSEMBLY  
EXPLODED VIEW**



ITEM	PART NO.	DESCRIPTION	QTY
1	2-01164	Tank, Plastic Universal	1
2	2-1906	Strainer, 1/2" Basket	1
3	2-0151	Plug, Float Tank (Items 3 - 6)	1
	4-02100000	Hose, 1/4" Push-on	1
4	90-4030	Screw, 5/16" - 18 x 1-1/2" SS, Button Socket	1
5	90-4032	Washer, 5/16", SS	1
6	90-4031	Nut, 5/16" - 18, Wing, SS	1
7	2-1062	Elbow, 1/2" JIC x 1/2", 90°	1
8	2-11041	Connector, 1/2" Anchor	1
9	4-02100013	Inlet Hose, 13" Supply Water	1
10	4-02100030	Inlet Hose, 30" Supply Water	1
11	95-07121207	Lid and Hinges	1
12	2-3014	Valve, Fluidmaster 400A Float	2
13	2-10942	Swivel, 1/2" MP x 3/4" GHF W/Strainer	1
14	2-1902	Strainer, Inlet Garden Hose	1
15	2-1024	Elbow, 1/2" Street, Brass	1
16	2-10712	Tee, 1/2" x 1/2" JIC #51	1
17	90-300210	Screw, #14 x 1", Tek, Blk	3
18	90-40002	Washer, 1/4", SAE, Blk	3
19	2-11080	Push-on, 3/4" x 1/2" Male	1
20	90-19980	Screw, 1/4" x 1"	2
21	90-20231	Nut, Cage, 1/4" x 12 GA	2
22	10-99079	Label, Landa Stripe	1

**PGHW CONTROL PANEL  
EXPLODED VIEW**



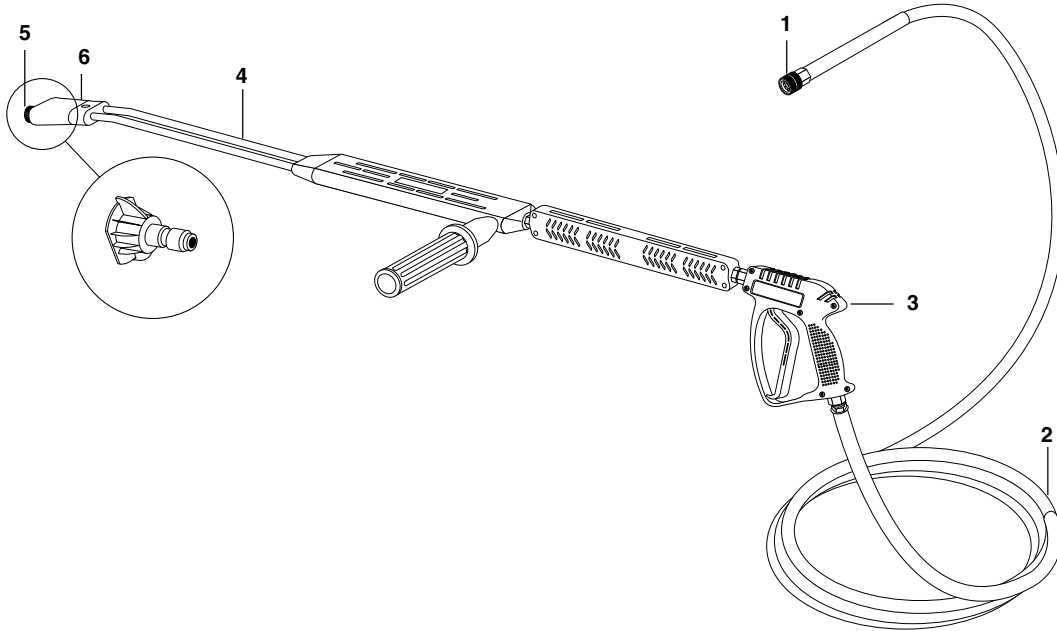
**PGHW CONTROL PANEL  
EXPLODED VIEW**

ITEM	PART NO.	DESCRIPTION	QTY
1	10-07998	Label, PGHW Control Panel	1
2	2-0103	Grommet, 1/8" Rubber	4
3	90-19942	Screw, 10/32" x 3/4"	2
4	2-00220	Elbow, 1/4" Street, 45°	1
5	2-1089	Hose Barb, 1/4" Barb x 1/4" Pipe	3
6	2-3015	Valve/Control, Metering (Detergent)	1
	90-4005	▲ Washer, 5/8" SAE Flat Zinc	1
	90-40073	▲ Washer, 5/8" Internal Star-Zinc	1
7	2-9040	Clamp, Hose 1/4"	5
8	2-30151	Valve, Flow Control w/Meter (Steam)	1
	90-4005	▲ Washer, 5/8" SAE, Flat, Zinc	
	90-40073	▲ Washer, 5/8", Star, Zinc	1
9	4-050822	Hour Meter, ENM, 115Vac 50/60 Hz	1
10	4-02021226	Hose, Pressure Loop, 100R2, 26" x 1/4"	1
11	95-071410460	Control Panel, PGHW	1
12	6-020251	Switch, Curvette 120V and 220V	1
13	2-0030	Elbow, 1/4" Steel	1
14	4-02080000	Tube, 1/4" X 1/2" Clr Vinyl	8 ft.
15	4-02100000	Hose, 1/4" x 34"	2
16	4-05088	Thermostat, General 302°	1

ITEM	PART NO.	DESCRIPTION	QTY
17	4-12804000	Nozzle, 0004, Red (4-3000, 4-4000)	1
	4-12804015	Nozzle, 1504, Yellow (4-3000, 4-4000)	1
	4-12804025	Nozzle, 2504, Green (4-3000, 4-4000)	1
	4-12804040	Nozzle, 4004, White (4-3000, 4-4000)	1
	4-12805500	Nozzle, 0005.5, Red (5-3000)	1
	4-12805515	Nozzle, 1505.5, Yellow (5-3000)	1
	4-12805525	Nozzle, 2505.5, Green (5-3000)	1
	4-12805540	Nozzle, 4005.5, White (5-3000)	1
	4-12805000	Nozzle, 0005, Red (5-3500)	1
	4-12805015	Nozzle, 1505, Yellow (5-3500)	1
	4-12805025	Nozzle, 2505, Green (5-3500)	1
	4-12805040	Nozzle, 4005, White (5-3500)	1
18	90-1994	▲ Screw, 10/32" x 1-1/4" (Ground)	1
	90-017	▲ Nut, 10/32"	4
	11-1042	▲ Label, Ground	1

▲ Not Shown

**PGHW HOSE & SPRAY GUN ASSEMBLY**  
**ALL MODELS**



ITEM	PART NO.	DESCRIPTION	QTY
1	2-2002	Coupler, 3/8" Female	1
	2-0121	▲ O-Ring, 3/8", Replacement Only	1
2	4-02043450C	Hose, 50' x 3/8" 100R2	1
3	4-01212	Spray Gun, Shut-Off Series 2000	1
4	4-011143A	VP Wand SS (AL344) W/Coupler, Soap Nozzle	1

ITEM	PART NO.	DESCRIPTION	QTY
4	83-SSVPKIT	▲ Repair Kit, AL Stainless Seat	1
5	2-2001	Coupler, 1/4" Male	1
	2-0119	▲ O-Ring, Replacement Only	1
6	4-06540	▲ Nozzle, Soap, 1/8" Brass	1
		▲ Not Shown	

**BECKETT BURNER SPECIFICATIONS**

<b>Model No.</b>	<b>Burner Assy No.</b>	<b>Fuel Nozzle</b>	<b>Transformer</b>	<b>Burner Motor</b>	<b>Fuel/Pump Solenoid/Cord</b>	<b>Fuel Solenoid Coil</b>	<b>Electrode</b>
PGHW4-3000E	7-00011	7-0103	7-51824	7-21344U	7-21844U	7-21755U	7-578703
PGHW4-4000E	7-00011	7-0103	7-51824	7-21344U	7-21844U	7-21755U	7-578703
PGHW5-3000E	7-00011	7-01284	7-51824	7-21344U	7-21844U	7-21755U	7-578703
PGHW5-3500E	7-00011	7-01284	7-51824	7-21344U	7-21844U	7-21755U	7-578703

**WAYNE BURNER SPECIFICATIONS**

<b>Model No.</b>	<b>Burner Assy No.</b>	<b>Fuel Nozzle</b>	<b>Transformer</b>	<b>Burner Motor</b>	<b>Fuel Pump</b>	<b>Fuel Solenoid Coil</b>	<b>Electrode</b>
PGHW4-30321E	7-00034	7-0125	7-20358	7-0005	7-0009	7-0009611	7-13286
PGHW4-40221E	7-00034	7-0125	7-20358	7-0005	7-0009	7-0009611	7-13286
PGHW4-40321E	7-00034	7-0125	7-20358	7-0005	7-0009	7-0009611	7-13286
PGHW5-30221	7-00034	7-0127	7-20358	7-0005	7-0009	7-0009611	7-13286
PGHW5-30221E	7-00034	7-0127	7-20358	7-0005	7-0009	7-0009611	7-13286
PGHW5-35321E	7-00034	7-0127	7-20358	7-0005	7-0009	7-0009611	7-13286

**PARTS SPECIFICATIONS: LANDA PUMP**

**PUMP**

Machine	PSI	Pump		Pulley	Bushing	Belt	Belt						
Model	Nozzle	Model	Part #	Pulley	Part #	Bushing	Part #	Size/Qty	Part #	Size	Type	Part #	Pulley
4-30324E	04	LT4035/L	5-1725	2AK94	5-40209401	25mm	5-512025	AX38 (2)	5-602038	13 HP	HONDA	5-010722	3TB34
4-40324E	04	LT4035/L	5-1725	2BK90	5-40509001	25mm	5-512025	BX36 (2)	5-604036	20 HP	HONDA	5-01093	3TB36
5-30224E	05.5	LT6035/L	5-1733	2BK90	5-40509001	25mm	5-512025	BX36 (2)	5-604036	16 HP	"VAN"	5-0309	3TB34
5-35224E	05	LT6035/L	5-1733	2BK90	5-40509001	25mm	5-512025	BX36 (2)	5-604036	21 HP	"VAN"	5-0316	3TB34
5-35324E	05	LT6035/L	5-1733	2BK90	5-40509001	25mm	5-512025	BX36 (2)	5-604036	20 HP	HONDA	5-01093	3TB34

**PARTS SPECIFICATIONS: GENERAL PUMP**

**PUMP**

Machine	PSI	Pump		Pulley	Bushing	Belt	Belt						
Model	Nozzle	Model	Part #	Pulley	Part #	Bushing	Part #	Size/Qty	Part #	Size	Type	Part #	Pulley
4-30321E	04	TS-1511/L	5-2332	2AK84H	5-40208401	24mm	5-512024	AX35 (2)	5-602035	13 HP	HONDA	5-010722	3TB34H
4-40321E	04	T-9281/L	5-2321	2BK67H	5-40506701	24mm	5-512024	BX32 (2)	5-604032	20 HP	HONDA	5-01093	3TB34H
5-30221E	05.5	TS-2021/L	5-2306	2BK90H	5-40509001	24mm	5-512024	BX36 (2)	5-604036	16 HP	"VAN"	5-0309	3TB34H
5-35321E	05	TS-2021/L	5-2306	2BK90H	5-40509001	24mm	5-512024	BX36 (2)	5-604036	20 HP	HONDA	5-01093	3TB34H

ENGINE				GENERATOR					
Model (Con't)	Pulley Part #	Bushing Bushing	Bushing Part #	Pulley	Pulley Part #	Bushing	Bushing Part #	Belt Size/Qty	Belt Part #
4-30324E	5-407034	P2x1"	5-531112	BK34	5-40403401	5/8"	5-511063	BX22 (1)	5-604022
4-40324E	5-407036	P2x1"	5-531112	BK36	5-40403601	5/8"	5-511063	BX22 (1)	5-604022
5-30224E	5-407034	P2x1"	5-531112	BK34	5-40403401	5/8"	5-511063	BX22 (1)	5-604022
5-35224E	5-407034	P2x1"	5-531112	BK34	5-40403401	5/8"	5-511063	BX22 (1)	5-604022
5-35324E	5-407034	P2x1"	5-531112	BK34	5-40403401	5/8"	5-511063	BX22 (1)	5-604022

ENGINE				GENERATOR					
Model (Con't)	Pulley Part #	Bushing Bushing	Bushing Part #	Pulley	Pulley Part #	Bushing	Bushing Part #	Belt Size/Qty	Belt Part #
4-30321E	5-407034	P2x1"	5-531112	BK34H	5-40403401	5/8"	5-511063	BX22 (1)	5-604022
4-40321E	5-407034	P2x1"	5-531112	BK32H	5-40403201	5/8"	5-511063	BX22 (1)	5-604022
5-30221E	5-407034	P2x1"	5-531112	BK32H	5-40403201	5/8"	5-511063	BX22 (1)	5-604022
5-35321E	5-407034	P2x1"	5-531112	BK32H	5-40403201	5/8"	5-511063	BX22 (1)	5-604022

**TROUBLESHOOTING**

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
<b>LOW OPERATING PRESSURE</b>	Faulty pressure gauge	Install new gauge.
	Insufficient water supply	Use larger supply hose; clean filter at water inlet.
	Old, worn or incorrect spray nozzle	Match nozzle number to machine and/or replace with new nozzle.
	Belt slippage	Tighten or replace; use correct belt.
	Plumbing or hose leak	Check plumbing system for leaks. Retape leaks with teflon tape.
	Faulty or misadjusted unloader valve	Adjust unloader for proper pressure. Install repair kit when needed.
	Worn packing in pump	Install new packing kit.
	Fouled or dirty inlet or discharge valves in pump	Clean inlet and discharge valves.
	Worn inlet or discharge valves	Replace with valve kit.
	Obstruction in spray nozzle	Remove obstruction.
	Leaking pressure control valve	Rebuild or replace as needed.
	Slow engine RPM	Set engine speed at proper specifications.
	Pump sucking air	Check water supply and possibility of air seepage.
	Valves sticking	Check and clean or replace if necessary.
Unloader valve seat faulty	Check and replace if necessary.	
<b>BURNER WILL NOT LIGHT</b>	Little or no fuel	Fill tank with fuel.
	Improper fuel or water in fuel	Drain fuel tank and fill with proper fuel.
	Clogged fuel line	Clean or replace.
	Plugged fuel filter	Replace as needed.
	Misadjusted burner air bands	Readjust air bands for clean burn.
	Little or no fuel pressure from fuel pump	Increase fuel pressure to specification and/or replace fuel pump. Test with pressure gauge.
	Faulty burner transformer	Test transformer for proper arc between contacts. Replace as needed.
	(continued on next page)	Disconnected or short in electrical wiring

**For parts or information contact your local LANDA dealer.**



**TROUBLESHOOTING**

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
<b>BURNER WILL NOT LIGHT</b> (continued from previous page)	Flex coupling slipping on fuel pump shaft or burner motor shaft	Replace if needed.
	On-Off switch defective	Check for electrical current reaching burner assembly with burner switch on.
	Heavy sooting on coil and burner can cause interruption of air flow and shorting of electrodes	Clean as required.
	Improper electrode setting	Check and reset according to diagram in Operator's Manual.
	Fuel not reaching combustion chamber	Check fuel pump for proper flow. Check solenoid flow switch on machines with spray gun control, for proper on-off fuel flow control.
	Clogged burner nozzle	Clean as required.
	Thermostat faulty or slow engine speed	Increase engine RPM to increase voltage.
	Flow switch malfunction	Remove, test for continuity and replace as needed.
	Flow solenoid malfunction	Replace if needed.
<b>FLUCTUATING PRESSURE</b>	Valves worn	Check and replace if necessary.
	Blockage in valve	Check and replace if necessary.
	Pump sucking air	Check water supply and air seepage at joints in suction line.
	Worn piston packing	Check and replace if necessary.
<b>MACHINE SMOKES</b>	Improper fuel or water in fuel	Drain tank and replace contaminated fuel.
	Improper air adjustment	Readjust air bands on burner assembly.
	Low fuel pressure	Adjust fuel pump pressure to specifications.
	Plugged or dirty burner nozzle	Replace nozzle.
	Faulty burner nozzle spray pattern	Replace nozzle.
	Heavy accumulation of soot on coils and burner assembly	Remove coils and burner assembly, clean thoroughly.
	Misaligned electrode setting	Realign electrodes to specifications.
	Obstruction in smoke stack	Check for insulation blockage or other foreign objects.
	Low engine RPM	Increase RPM.

**For parts or information contact your local LANDA dealer.**

**TROUBLESHOOTING**

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
<b>LOW WATER TEMPERATURE</b>	Improper fuel or water in fuel	Replace with clean and proper fuel.
	Low fuel pressure	Increase fuel pressure.
	Weak fuel pump	Check fuel pump pressure. Replace pump if needed.
	Fuel filter partially clogged	Replace as needed.
	Soot build-up on coils not allowing heat transfer	Clean coils.
	Improper burner nozzle	See specifications. (page 21)
<b>WATER TEMPERATURE TOO HOT</b>	Incoming water to machine warm or hot	Lower incoming water temperature.
	Fuel pump pressure too high	See specifications for proper fuel pressure.
	Fuel pump defective	Replace fuel pump.
	Detergent line sucking air	Tighten all clamps. Check detergent lines for holes.
	Defective temperature switch	Replace.
	Incorrect fuel nozzle size	See specifications for proper fuel nozzle. (page 21)
	Insufficient water supplied	Check water G.P.M. to machine.
	Restricted water flow	Check nozzle for obstruction, proper size.
<b>PUMP NOISY</b>	Air in suction line	Check water supply and connections on suction line.
	Broken or weak inlet or discharge valve springs	Check and replace if necessary.
	Excessive matter in valves	Check and clean if necessary.
	Worn bearings	Check and replace if necessary.
<b>PRESENCE OF WATER IN OIL</b>	Oil seal worn	Check and replace if necessary.
	High humidity in air	Check and change oil twice as often.
<b>WATER DRIPPING FROM UNDER PUMP</b>	Piston packing worn	Check and replace if necessary.
	O-Ring plunger retainer worn	Check and replace if necessary.
	Cracked piston	Check and replace if necessary.
	Pump protector	Lower water supply pressure. Do not run with spray gun closed longer than 2 minutes.

**For parts or information contact your local LANDA dealer.**

## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
<b>OIL DRIPPING</b>	Oil seal worn	Check and replace if necessary.
<b>EXCESSIVE VIBRATION IN DELIVERY LINE</b>	Irregular functioning of the valves	Check and replace if necessary.
<b>DETERGENT NOT DRAWING</b>	Air leak	Tighten all clamps. Check detergent lines for holes.
	Restrictor in float tank is missing	Replace restrictor. Check for proper orifice in restrictor.
	Filter screen on detergent suction hose plugged	Clean or replace.
	Dried up detergent plugging metering valve	Disassemble and clean thoroughly.
	High viscosity of detergent	Dilute detergent to specifications.
	Hole in detergent line(s)	Repair hole.
	Low detergent level	Add detergent, if needed.
<b>PUMP RUNNING NORMALLY BUT PRESSURE LOW ON INSTALLATION</b>	Pump sucking air	Check water supply and possibility of air seepage.
	Valves sticking	Check and clean or replace if necessary.
	Nozzle incorrectly sized	Check and replace if necessary (See serial plate for proper size).
	Unloader valve seat faulty	Check and replace if necessary.
	Worn piston packing	Check and replace if necessary.
<b>BURNER MOTOR WILL NOT RUN</b>	Fuel pump seized	Replace fuel pump.
	Burner fan loose or misaligned	Position correctly, tighten set screw.
	Defective control switch	Replace switch.
	Loose wire	Check and replace or tighten wiring.
	Defective burner motor	Replace motor.
<b>RELIEF VALVE LEAKS WATER</b>	Relief valve defective	Replace or repair.

**For parts or information contact your local LANDA dealer.**





## **LANDA LIMITED NEW PRODUCT WARRANTY PRESSURE WASHERS**

### **WHAT THIS WARRANTY COVERS**

All LANDA pressure washers are warranted by LANDA, INC. to the original purchaser to be free from defects in materials and workmanship under normal use, for the periods specified below. This Limited Warranty is subject to the exclusions shown below, is calculated from the date of the original purchase, and applies to the original components only. Any parts replaced under this warranty will assume the remainder of the part's warranty period.

### **FIVE YEAR PARTS AND ONE YEAR LABOR WARRANTY:**

Components manufactured by LANDA, such as frames, handles, top and bottom wraps, float tanks, fuel tanks, belt guards, and heating coils. Internal components on the oil-end of all branded pumps have a 5 year warranty.

### **ONE YEAR MINIMUM ON PARTS AND ONE YEAR LABOR WARRANTY:**

All other components, excluding normal wear items as described below, will be warranted for one year on parts and labor. Parts and labor warranty on these parts will be for one year regardless of the duration of the original component manufacturer's part warranty.

### **WARRANTY PROVIDED BY OTHER MANUFACTURERS:**

Motors, generators, and engines, which are warranted by their respective manufacturers, are serviced through these manufacturers' local authorized service centers. LANDA cannot provide warranty on these items.

### **WHAT THIS WARRANTY DOES NOT COVER**

This warranty does not cover the following items:

1. Normal wear items, such as nozzles, guns, discharge hoses, wands, quick couplers, seals, filters, gaskets, O-rings, packings, pistons, pump valve assemblies, strainers, belts, brushes, rupture disks, fuses, pump protectors.
2. Damage or malfunctions resulting from accidents, abuse, modifications, alterations, incorrect installation, improper servicing, failure to follow manufacturer's maintenance instructions, or use of the equipment beyond its stated usage specifications as contained in the operator's manual.
3. Damage due to freezing, chemical deterioration, scale build up, rust, corrosion, or thermal expansion.
4. Damage to components from fluctuations in electrical or water supply.
5. Normal maintenance service, including adjustments, fuel system cleaning, and clearing of obstructions.
6. Transportation to service center, field labor charges, or freight damage.

### **WHAT YOU MUST DO TO OBTAIN WARRANTY SERVICE**

While not required for warranty service, we request that you register your LANDA pressure washer by returning the completed registration card. In order to obtain warranty service on items warranted by LANDA, you must return the product to your Authorized LANDA Dealer, freight prepaid, with proof of purchase, within the applicable warranty period. If the product is permanently installed, you must notify your Authorized LANDA Dealer of the defect. Your Authorized LANDA Dealer will file a claim with Landa, who must subsequently verify the defect. In most cases, the part must be returned to LANDA freight prepaid with the claim. For warranty service on components warranted by other manufacturer's, your Authorized LANDA Dealer can help you obtain warranty service through these manufacturers' local authorized service centers. If you are unable to resolve the warranty claim satisfactorily, write to LANDA at 4275 N.W. Pacific Rim Blvd., Camas, WA 98607, ATTN: Warranty Dept., detailing the nature of the defect, the name of the Authorized LANDA Dealer, and a copy of the purchase invoice.

### **LIMITATION OF LIABILITY**

LANDA'S liability for special, incidental, or consequential damages is expressly disclaimed. In no event shall LANDA'S liability exceed the purchase price of the product in question. LANDA makes every effort to ensure that all illustrations and specifications are correct, however, these do not imply a warranty that the product is merchantable or fit for a particular purpose, or that the product will actually conform to the illustrations and specifications. **THE WARRANTY CONTAINED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.** LANDA does not authorize any other party, including authorized LANDA Dealers, to make any representation or promise on behalf of LANDA, or to modify the terms, conditions, or limitations in any way. It is the buyer's responsibility to ensure that the installation and use of LANDA products conforms to local codes. While LANDA attempts to assure that its products meet national codes, it cannot be responsible for how the customer chooses to use or install the product.



4275 NW Pacific Rim Blvd. • Camas, WA 98607 USA

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