LANDA® PRESSURE WASHERS

HOT

OPERATOR'S MANUAL

- HOT2-1100
- HOT2-1500
- HOT3-300
- HOT3-1100
- HOT4-2000
- HOT4-3000

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

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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 HOT2-11021D, HOT2-15021D, HOT3-11021D, HOT3-30035D, HOT4-20021A, HOT4-20021G, HOT4-20021K and HOT4-30021N 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 HOT Series was designed for maximum use of 4 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.

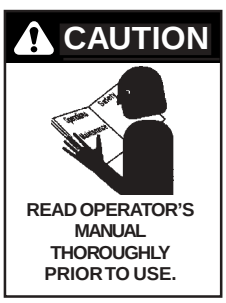
Owner and/or user must study and maintain for future reference the manufacturers' instructions.

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.

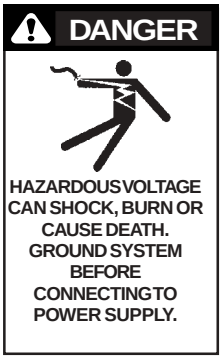
IMPORTANT SAFETY INFORMATION

WARNING: When using this machine 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 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. To comply with the National Electrical Code (NFPA 70) and provide additional protection from risk of shock, this product is provided with a ground fault circuit interrupter (GFCI) built into the power cord plug (250V 30 amp or less, 1 PH). If replacement of the plug or cord is needed, use only identical replacement parts.



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.

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

WARNING: This machine shall be installed only in locations where combustible dusts and flammable gases or vapors are not present.

5. In oil burning models, use only kerosene, No. 1 home heating fuel, or diesel.

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

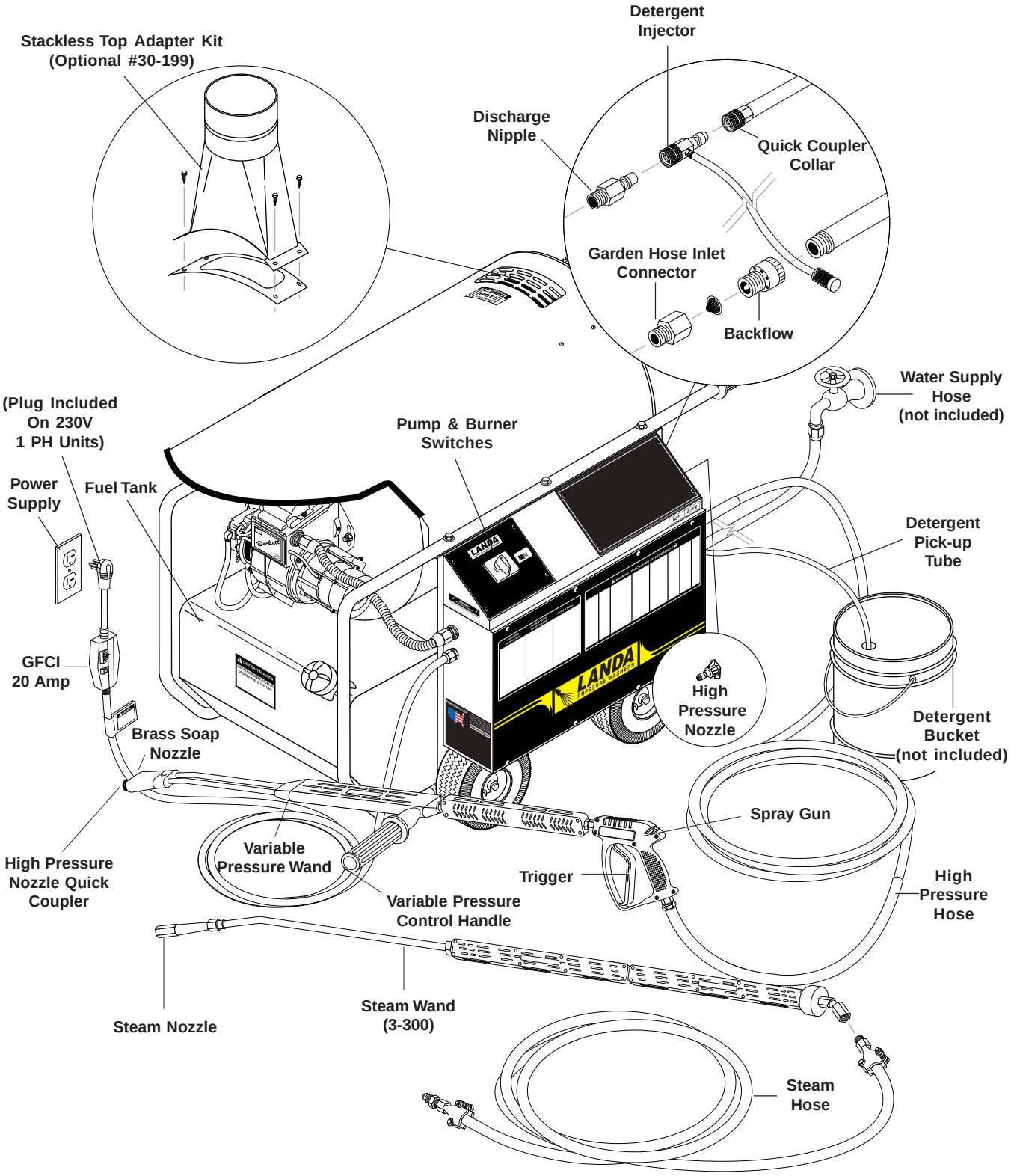
6. Risk of explosion — Do not spray flammable liquids. Operate only where open flame or torch is permitted.

WARNING: Keep water spray, wand and high pressure hose away from electrical wiring or fatal electrical shock may result. Read warning tag on electrical cord.

7. 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: Spray gun kicks back — hold with both hands.

COMPONENT IDENTIFICATION



NOTE: On some models the GFCI Reset Button must be pushed in each time the plug is disconnected from the power supply.

8. Grip cleaning wand securely with both hands before starting the cleaner. Failure to do this could result in injury from a whipping wand.

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.

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

9. High pressure developed by these machines can cause bodily injury or damage. Use caution when operating. Do not point the spray gun at anyone or at any part of the body. This machine is to be used only by qualified operators.
10. Never make adjustments on machine while it is in operation.

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

11. Eye safety devices must be worn when using this equipment.

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

12. When the machine is working, do not cover or place in a closed space where ventilation is insufficient.

WARNING: Risk of fire or explosion — Do not add fuel when machine is operating or still hot.

13. The spray gun should not be operated with the trigger in the off position for extended periods of time as this may cause damage to the pump. Check to make sure burner shuts off when spray gun trigger is closed.
14. Protect from freezing.
15. To prevent a serious injury, make certain quick coupler on discharge hose has locked before using pressure washer.
16. Do not allow acids, caustic or abrasive fluids to pass through the pump.
17. Inlet water supply must be cold and clean fresh water.
18. 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.**
19. The best insurance against an accident is precaution and knowledge of the machine.
20. Do not operate this product when fatigued or under the influence of alcohol or drugs. Keep operating area clear of all persons.
21. Landa will not be liable for any changes made to our standard machines, or any components not purchased from Landa.
22. Do not overreach or stand on unstable support. Keep good footing and balance at all times.
23. Follow the maintenance instructions specified in the manual.
24. When making repairs disconnect from electrical source.
25. Turn burner off and pull trigger on spray gun. Cool water to 100°F before turning machine off.
26. Before disconnecting high pressure hose from hot water outlet, turn off burner and allow water to cool to 100°F. Then turn off pump motor and water supply and open spray gun to relieve back pressure in hose. This will prevent coil damage from thermal expansion.

INSTALLATION

Place machine in a convenient location providing ample support, drainage and room for maintenance.

These machines are designed for indoor use. They must be stored indoors when not in use.

Location:

The location should protect the machine from damaging environmental conditions, such as wind, rain, and freezing temperatures.

The machine should be run on a level surface where it is not readily influenced by outside sources such as strong winds, freezing temperatures, rain, etc. The machine should be located to allow accessibility for refilling of fuel, adjustments and maintenance. Normal precautions should be taken by the operator of the machine to prevent excess moisture from reaching the power unit or electrical controls.

It is recommended that a partition be made between the wash area and the machine to prevent direct water spray from coming in contact with the machine. Excess moisture reaching any electrical components or controls will reduce machine life and may cause electrical shorts.

During installation of the machine, beware of poorly ventilated locations or areas where exhaust fans may cause an insufficient supply of oxygen. Sufficient 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 a machine in a poorly ventilated area, outside fresh air may have to be piped to the burner and a fan installed bringing the air into the machine.

WARNING: Avoid small areas or areas near exhaust fans.

Electrical

The machine, when installed, must be electrically grounded in accordance to local codes. Check for proper power supply using a volt meter. The HOT2-1100, HOT2-1500, and HOT3-1100 each require a 20 amp receptacle to comply to the UL 1776 Standard.

Placement

Do not locate near any combustible material. Keep all flammable material at least 20 feet away.

Allow enough space for servicing the machine.

Local code will require certain distances from floor and walls. (Two feet away should be adequate.)

Water Source

Water source for machine should be supplied by a 5/8" I.D. garden hose with a city water pressure of not less than 30 psi. If the water supply is inadequate, or if the garden hose is kinked, the machine will run very rough and the burner will not fire.

Connection

Connect the wand, nozzle, hose and spray gun, where applicable (see Component Identification). On pipe thread connections, use teflon tape to avoid water leaks.

Venting

Adding exhaust vent pipe to your oil fired burner is not recommended. The pipe restricts air flow which causes carbon buildup, which affects the operation, and increases maintenance on the coil. If a stack must be used, refrain from using 90° bends. If the pipe cannot go straight up then use only 45° bends and go to the next larger size pipe. The overall pipe length must not exceed 6 feet.

STARTING AND OPERATING INSTRUCTIONS

To Start

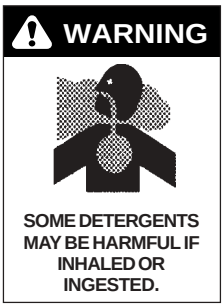
1. **STOP!** Read operator's manual before operating this machine. Failure to read operation and warning instructions may result in personal injury or property damage.
2. Connect water supply hose to inlet connector and turn water on.
3. Check fuel tank and pump oil levels.
4. Connect high pressure hose to discharge nipple by sliding quick coupler collar back. (If detergent is to be applied, insert a detergent injector.)
5. Insert quick coupler onto discharge nipple and secure by pushing quick coupler collar forward.
6. Securely attach the desired high pressure nozzle into wand coupler as described in steps 4 and 5.
7. Connect the power cord into the proper electrical outlet, then push in the GFCI reset button. (Refer to serial plate for information.)
8. Grip spray gun variable pressure wand securely. Then turn the variable pressure control handle counterclockwise.
9. Turn switch to pump position. When a steady stream of water flows from the spray gun and wand, the machine is ready for cold water cleaning by turning the variable pressure control handle clockwise to raise the pressure.
10. For hot water washing, turn the switch to the burner position. (The burner will light automatically.)

NOTE: The optional float tank siphons detergent through the pump when the detergent pick-up tube is placed into a bucket of detergent and the detergent valve, located on the control panel, is opened.

To Stop

1. If using the detergent injector, place detergent line in a bucket of water allowing detergent to be flushed from system (see "How To Use The Detergent Injector").
2. Turn switch to pump position and continue spraying water allowing the water to cool.
3. After water has cooled to less than 100°F, turn switch to the off position.
4. Turn water off. Open the spray gun to relieve remaining pressure.
5. Protect from freezing.

HOW TO USE THE DETERGENT INJECTOR



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

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

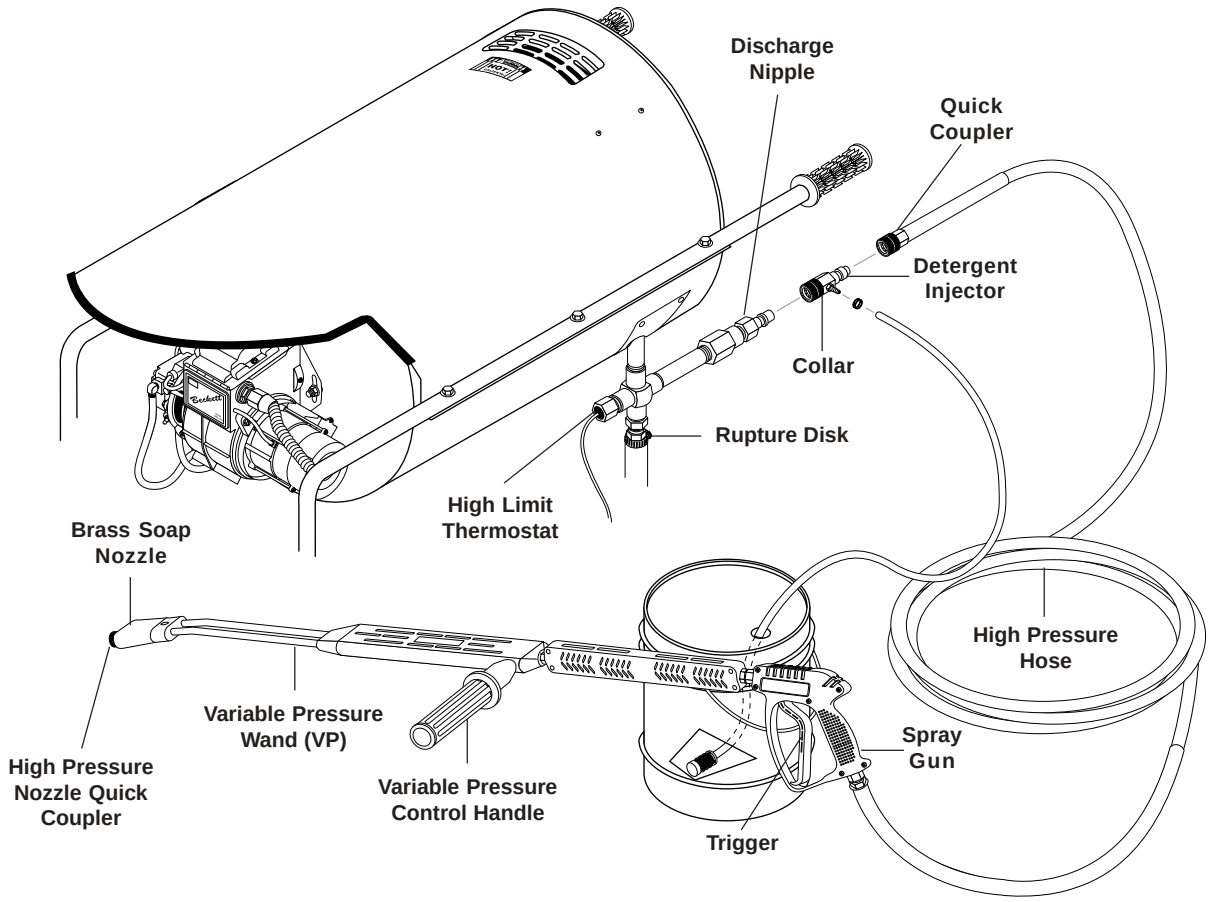
Downstream Injector

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 nipple securing quick coupler.
3. Start machine as outlined in Operating Instructions.
4. Place detergent pick-up tube into container of detergent solution.
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 trigger on 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 with 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 5 and 6 to prevent detergent deposits from damaging the injector.

Float Tank

1. Place detergent hose into detergent container and open detergent valve on control panel to desired setting.
2. When you finish washing, simply close the detergent valve.
3. For clean up, place detergent hose into container of fresh clear water to prevent detergent deposits from damaging the pump and coil.



PREVENTATIVE MAINTENANCE

1. Check to see that water pump is properly lubricated.
2. Follow Winterizing Procedures 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 Landa cleaning products.
7. Never run pump dry for extended periods of time.
8. Use clean fuel-kerosene, No. 1 fuel oil, or diesel. Replace fuel filter every 100 hours of operation. Avoid water contaminated fuel as it will seize up the fuel pump. Desoot coils monthly or use an additive if diesel is being used.
9. If machine is operated with smoky or eye burning exhaust, coils will soot up, not letting water reach maximum operating temperature (see Burner Adjustments).
10. Never allow water to be sprayed on or near the motor, the burner assembly or any electrical component.
11. Periodically delime coils per instructions.
12. Check to see that the motor 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 this equipment clean and dry.

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

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

MAINTENANCE AND SERVICE

Unloader Valves

Unloader valves trap pressure in the line when a spray gun is closed. 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 antifreeze and water into a 5 gallon bucket. Place a short section of garden hose into the bucket and connect it to the machine. Elevate the bucket and turn the pump on to siphon the antifreeze through the machine. If compressed air is available, screw an air fitting into the inlet connector. By injecting compressed air, all water will be blown out of the system.

High Limit Hot Water Thermostat

For safety, each machine is equipped with a high limit control switch. In the event the temperature of the water should exceed its operating temperature, the high limit control will turn the burner off until the water cools.

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. Oil should be maintained at that level.

Cleaning of Coils

In alkaline water areas, lime deposits can accumulate rapidly inside the coil pipes. 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 or float tank with 4 gallons of water, then add 1 lb. of deliming powder. Mix thoroughly.

Step 2 Remove wand assembly from spray gun and put spray gun into container or optional float tank. Secure trigger on spray gun into the open position.

Step 3 Attach a short section (3-5 ft.) of garden hose to machine to siphon solution from an elevated container. Turn machine on, allowing solution to be pumped through coils back into the container. Solution should be allowed to circulate 2-4 hours.

Step 4 After circulating solution flush entire system with fresh water. Reinstall high pressure nozzle into wand.

Rupture Disk

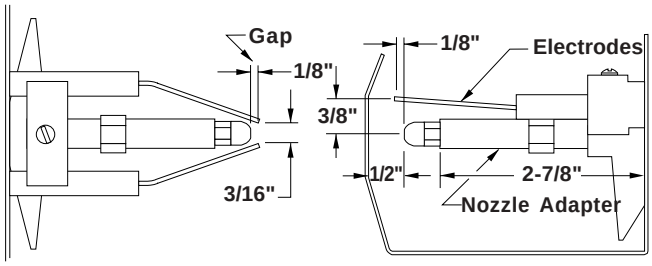
If pressure from pump or thermal expansion should exceed safe limits, the rupture disk will burst, allowing high pressure to be discharged through hose to ground. When the disk ruptures it will need to be replaced. Torque the replacement rupture disk to 35 foot pounds.

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 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.

Electrode Setting: Wayne

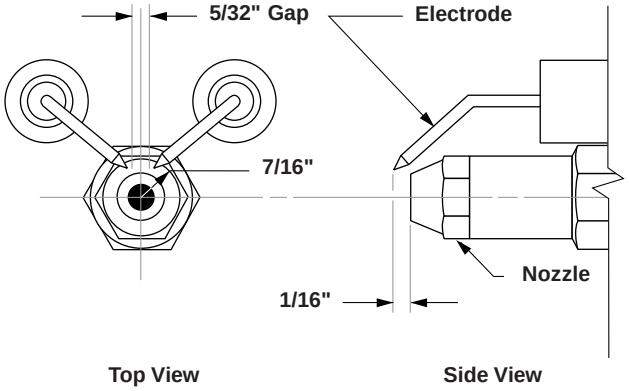
(See illustration below.)



Periodically check wiring connections. If it is necessary to adjust electrodes, use diagram.

Electrode Setting: Beckett

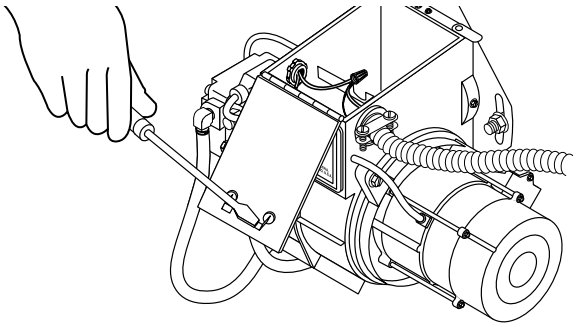
(See illustration below.)



Ignition Circuit

Periodically inspect wires, spring contact and electrodes for condition, security and proper spacing. Transformer test: **(CAUTION 10,000 VOLTS)** use defect free insulated screwdriver and keep fingers off blade! Lay blade across one contact: OK if arc will span 1/2" between end of blade and other contact (see illustration below).

Transformer Check



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.

Fuel Control System

These machines utilize a fuel solenoid valve located on the fuel pump to control the flow of fuel to the combustion chamber. This solenoid, which is normally closed, is activated by the unloader's pressure switch. When an operator releases the trigger on the spray gun, the unloader goes into a by-pass mode, thus stopping electrical current to the fuel solenoid coil. With the solenoid closed, the fuel supply to the combustion chamber ceases. 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 when the spray gun is in the OFF position the burner is not firing.

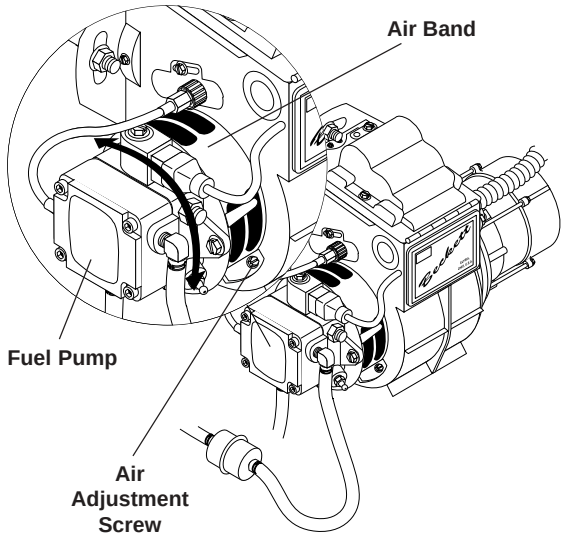
Fuel Pressure Adjustment:

To adjust fuel pressure, turn the adjusting screw (located at the regulator port) clockwise to increase, counterclockwise to decrease. Do not exceed 200 psi.

NOTE: When changing fuel pump, a by-pass plug must be installed in return line port or fuel pump will not prime.

Air Adjustment

Machines are preset and performance tested at the factory - elevation 100' above sea level. 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. An oily, black, smoky fire indicates a lack of air and the air band should be moved to allow the air to flow through the burner. Sharp eye-burning white fumes indicate too much air flowing through the combustion chamber. The air band should be moved to allow less air to flow through 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.

Initial Air Adjustments: Allow sufficient air to obtain a clean burning flame by loosening the lock screws and moving the air shutter and if necessary the bulk air band.

Reduce the air supply until the flame tips appear slightly smoky, then increase the air just enough to cause the flame tips to appear absolutely clean.

Removal of Soot and Heating Coil

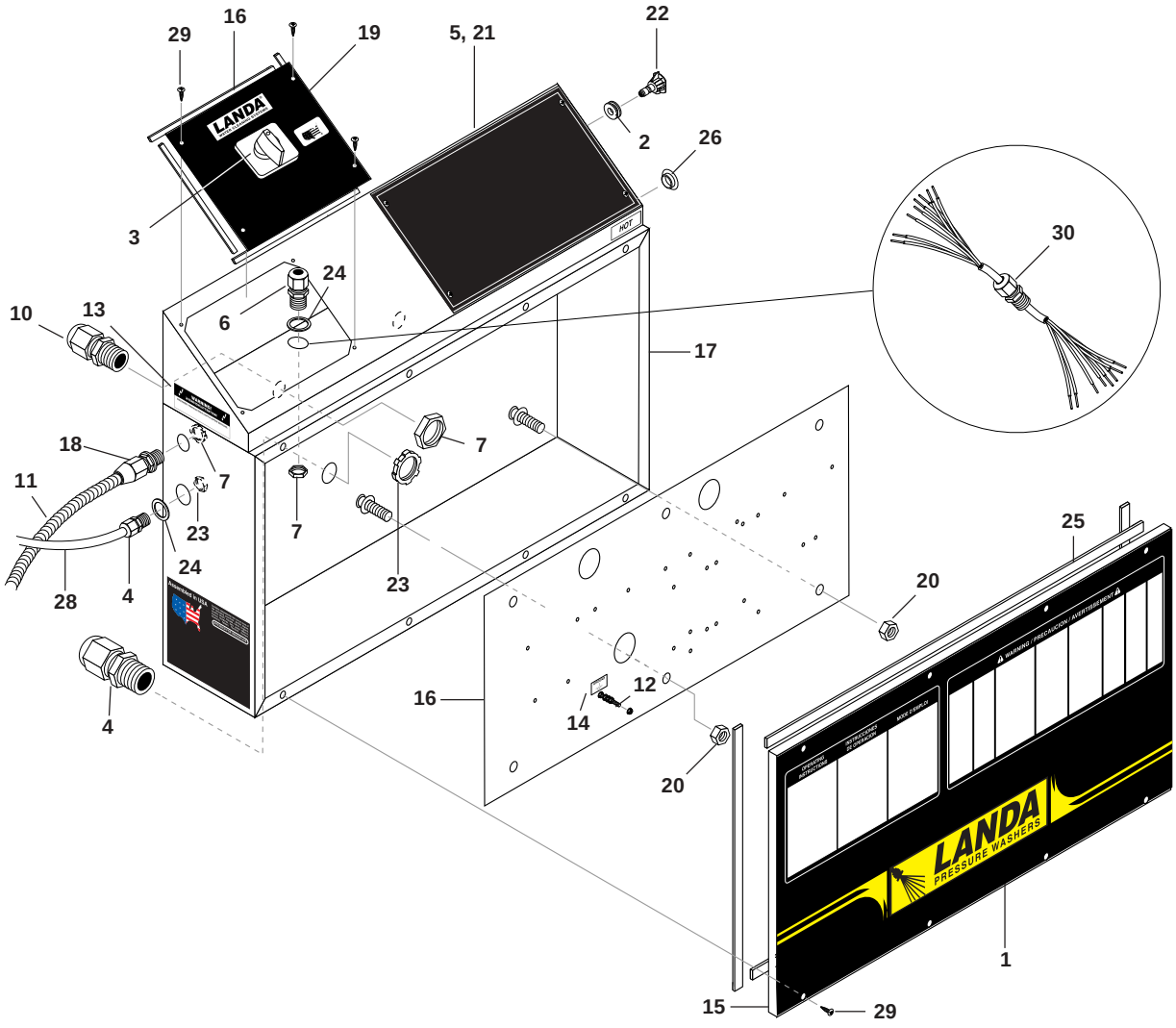
In the heating process, fuel residue in the form of soot deposits may develop between the heating coil pipe and block air flow which will affect burner combustion. When soot has been detected on visual observation, the soot on the coil must be washed off. Follow these steps to remove the coil.

1. Disconnect hose from pump to inlet side of the coil.
2. Disconnect electrical connection to the thermostat.
3. Remove quick coupler from inlet and discharge side of coil.
4. Remove burner assembly from combustion chamber.
5. Remove the 3-3/8" bolts from each side of coil and tank assembly (these bolts are used to fasten tank and handles to chassis).
6. Disconnect 1/2" pipe nipples from inlet and discharge side of coil.
7. Remove top tank wrap exposing insulation and coil and fold back insulation.
8. Remove bolts that hold down coil to bottom wrap.
9. Remove coil.
10. Replace or repair any insulation found to be torn or broken.

Coil Reinstallation

Reinstall new or cleaned coil by reversing Steps 9 through 1 above.

ELECTRICAL CONTROL PANEL



ELECTRICAL CONTROL PANEL
PARTS LIST

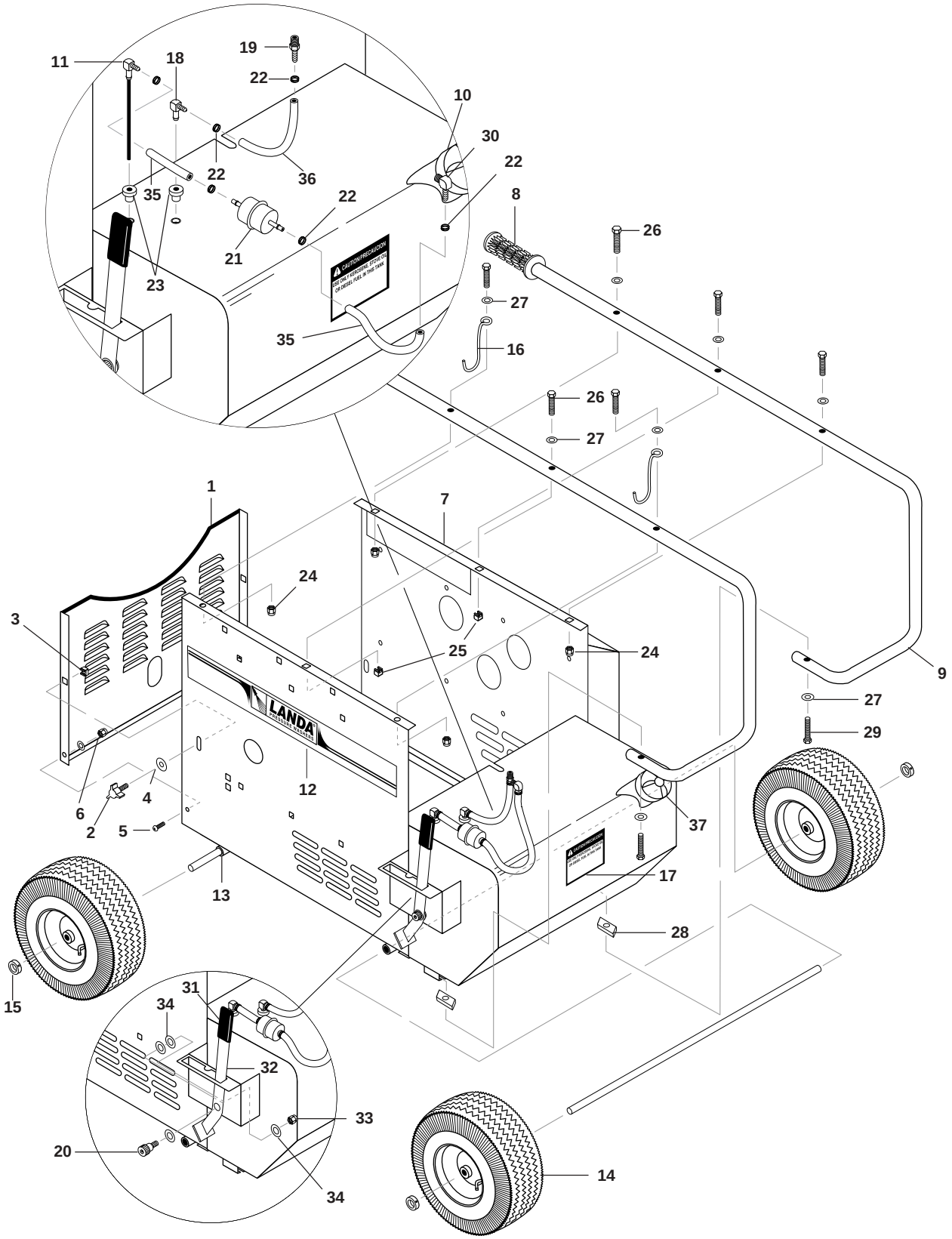
ITEM	PART NO.	DESCRIPTION	QTY
1	10-08008	Label, Control Panel w/Instr.	1
2	2-0103	Grommet, Rubber, Nozzle	4
3	Switch, See pages 24-25		1
4	6-051595	Strain Relief, LQ Tite (4-2A,G,K; 4-3N)	2
	6-051532	Strain Relief, LQ Tite (2-1100, 2-1500, 3-1100, 3-300)	2
5	95-07121118	Cover, Dual Valve Series II	1
6	6-05153	Strain Relief, STRT, LQ Tite	1
7	6-05181A	Locknut, 1/2", 8463	2
8	6-020201	Switch, Rotary, 3 Position	1
9	90-40073	▲ Washer, 5/8" Star, Internal	1
10	6-05152	Strain Relief, STRT, LQ Tite	1
11	6-0128	Conduit, Watertight	22"
12	90-1994	Screw, 10/32" x 1-1/4" RA, SL, Black	3
13	10-08021	Label, Disconnect Pwr Supply	1
14	11-1042	Label, Ground	1
15	95-07121029	Lid, Elect. Box, PHWS, HOT, OHW	1
16	95-07104154	Plate, Stand-Off, E-Bar, PHWS	1
17	95-07101242	Assy, Elect. Box, PHWS, HOT, OHW	1

ITEM	PART NO.	DESCRIPTION	QTY
18	6-05159	Connector, Straight	1
19	10-020114	Label, Series II, 3 Pos. Switch	1
20	90-20012	Nut, 5/16" Flange, Whiz Loc	6
21	10-0201177	Label, Series II, Plate Cover	1
22	See Page 22 For Nozzles		
23	6-051818	Locknut, 3/4", 8465	2
24	2-4081	Gasket Electrical Box, Short	2
25	2-40811	Gasket Electrical Box, Long	2
26	2-01411	Snap Bushing, 3/4"	1
27	95-071211172	Cover, 3 Position Switch, Series II Control Box, LQT	1
28	6-01060	Cord, W/GFCI Plug, 120V/20 Amp (2-1100,2-1500,3-1100, 3-300)	1
	10-08018	Label, Elec. Cord Warning	1
	6-01059	GFCI 240V, 30 Amp W/Cord (4-2000)	1
	6-0105	Service Cord, 12/4 (4-3000N)	36 ft.
	6-0108	Cord, Service, 10/3 (4-2000K)	36 ft.
29	90-180101	Screw, 8-32 x 1/2"	16
30	6-7103002	Wire Assy, 10 Gauge, 8 Wire 20"	1

▲ Not Shown

CHASSIS ASSEMBLY

EXPLODED VIEW



CHASSIS ASSEMBLY
EXPLODED VIEW PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY
1	95-07121017	Panel, Rear Access	1
	10-02028	▲ Label, Warning - Exposed Pulleys	1
2	90-50031	Knob, Black 3 Pt, 5/16"-18 x 1"	2
3	90-2023	Nut, Cage, 5/16"-18, Black	2
4	90-4001	Washer, 5/16", Flat SAE	2
5	90-1995	Screw, 1/4" x 1/2", BH SOC CS	2
6	90-2000	Nut, 1/4", ESNA, NC	2
7	95-07121010S	Chassis, All	1
8	2-01101	Grip, Handle (Waffle), 1"	2
9	95-07121110	Handle, "J", PHW	2
10	2-01157	Cap, PHW W/Fuel Gauge, 14"	1
11	2-010063	Dip Tube, Plastic, 12"	1
12	10-99051	Label, Landa Stripe	1
13	95-07101012	Axle, 27", All	2
14	4-0303	Wheel & Tire Assembly, 4"	4
15	90-20041	Collar, 5/8" Bore Shaft 3010	4
16	95-07121115	Holder, Wand, HOT	2
17	10-020110	Label, Use Only Kerosene	1
18	2-010066	Elbow, Fuel Tank	1
19	2-1085	Hose Barb, 1/4" Barb x 1/4" ML Pipe	1
20	90-1992	Bolt, 3/8" x 3/8" Sckt Shdr	1
21	2-99031	Filter, Diesel Fuel, Disposable	1
22	2-9040	Clamp, Hose, UNI .46 - .54	6
23	2-010061	Bushing, Rubber	2
24	90-2002	Nut, 3/8" ESNA, NC	4
25	90-2019	Nut, Cage, 3/8" x 12 Gauge	2
26	90-1020	Bolt, 3/8" x 2" NC HH	6
27	90-4002	Washer, 3/8", Flat	8
28	90-5016	Nut, 3/8" - 16 NC, Kimdorf W/Spring	2
29	90-1017	Bolt, 3/8" x 1-1/4", NC HH	2
30	2-1089	Hose Barb, 1/4" Barb x 1/4" Pipe, 90°	1
31	2-01212	Cap, Vinyl Flat, Yellow	1
32	95-07290086	Assy, Lever, Brake	1
33	90-2001	Nut, 5/16" ESNA	1
34	90-4002	Washer, 3/8" Flat	4
35	4-02100000	Hose, 1/4" x 6" Fuel Line	2
36	4-02100000	Hose, 1/2" Fuel Line	1 ft.
37	2-01157	Cap, PHWS, w/Fuel Gauge	1

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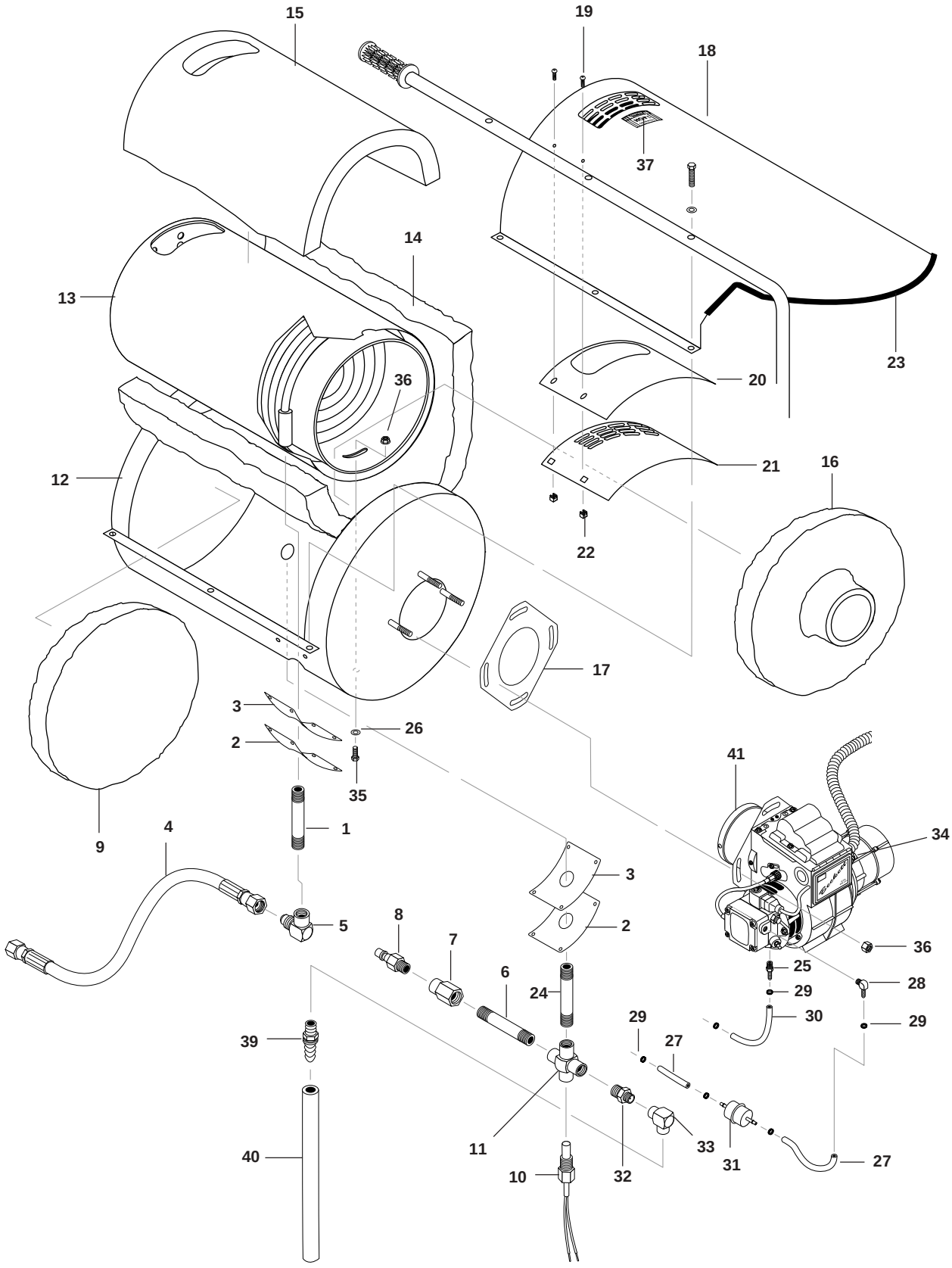
COMBUSTION ASSEMBLY

EXPLODED VIEW



COMBUSTION ASSEMBLY
EXPLODED VIEW • PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY
1	2-00101	Nipple, 1/2" x 4" Galv. Sch. 80	1
2	95-07121113	PHW Insulation Retainer	2
3	7-0144	Gasket, Burner Plate	2
4	4-02047725	Hose, 25" x 3/8", Pressure Loop, 100R2(Except 2-1100, 2-1500, 3-300)	1
	4-02047722	Hose, 22" x 3/8",Pressure Loop, 100R2,(2-1100, 2-1500, 3-300)	1
5	2-00602	Elbow, 1/2" JIC x 1/2" Fem	1
6	2-00120	Nipple, 1/2" x 5", Galv, Sch. 80	1
7	2-00241	Coupling, 1/2" x 3/8", Pipe	1
8	2-2007	Nipple, 3/8" x 3/8" NPT ST Male	1
	2-0079	▲ Swivel, 1/2" JIC Fem, 3/8" Male (3-300)	1
9	7-0140	Insulation, Front Head, No Hole	1
10	4-0509	Switch, Snap, 225° Hi Limit	1
	4-0510	Switch, Snap, 340° (3-300)	1
11	2-0039	Cross, Female, 1/2" Pipe, Steel	1
12	95-07121012	Bottom Wrap, Yellow	1
13	95-07121212	Coil Replacement, Schedule 80 W/Steel Wrap	1
14	7-01430	Insulation, Blanket W/No Foil, 24" x 57"	1
15	7-01484	Insulation Blanket, Die Cut	1
16	7-0141	Insulation, Burner Head, W/Hole	1
17	7-12484	Gasket, Standard - Large (4-3000)	2
	7-31332	Burner Gasket	2
18	95-07121011S	Top Wrap, (All) Yellow	1
19	90-19995	Screw, Cap, 10/32" x 3/4" BM, NF, SS, SOC	4
20	7-01470	Insulation, Gasket, Stackless Top Wrap	1
21	95-07101257	Exhaust, Plate, SS, Stackless Top Wrap	1
22	90-2018	Nut, 10/32", Cage	4
23	2-01104	Trim, 1/16" Black, 750B-2	3.25 ft.
24	2-00091	Nipple, 1/2" x 3", Galv, Sch. 80	1
25	2-1085	Hose Barb, 1/4" Barb x 1/4" ML Pipe	1

ITEM	PART NO.	DESCRIPTION	QTY
26	90-4002	Washer, Flat, SAE, 3/8"	2
27	4-02100000	Hose, 1/4" x 6", Fuel Line	2
28	2-1089	Hose Barb, 90°, 1/4" Barb x 1/4" Pipe	1
29	2-9040	Clamp, Hose, UNI .46 - .54	6
30	4-02100000	Hose, 1/4" Fuel Line	12"
31	2-99031	Filter, Diesel Fuel, Disposable	1
32	2-3409	Rupture Disk Assy, 7000 PSI	1
33	2-1019	Elbow, 3/8" Female	1
34	6-05159	Connector, Straight, Watertight	1
35	90-1019	Bolt, 3/8" x 1-1/2"	2
36	90-20040	Nut, 3/8" Flange, Whiz Loc	5
37	10-02025A	Label, "Hot/Caliente" W/Arrows	1
38	4-02100000	Hose, 1/4", Fuel Line	6"
39	2-1108	Hose Barb, 1/2" Barb x 3/8" MPT Push-On	1
40	4-02110000	Hose, 1/2" Push-On	1.2 ft.
41		Burner Assembly, See Burner Spec's Page 24	

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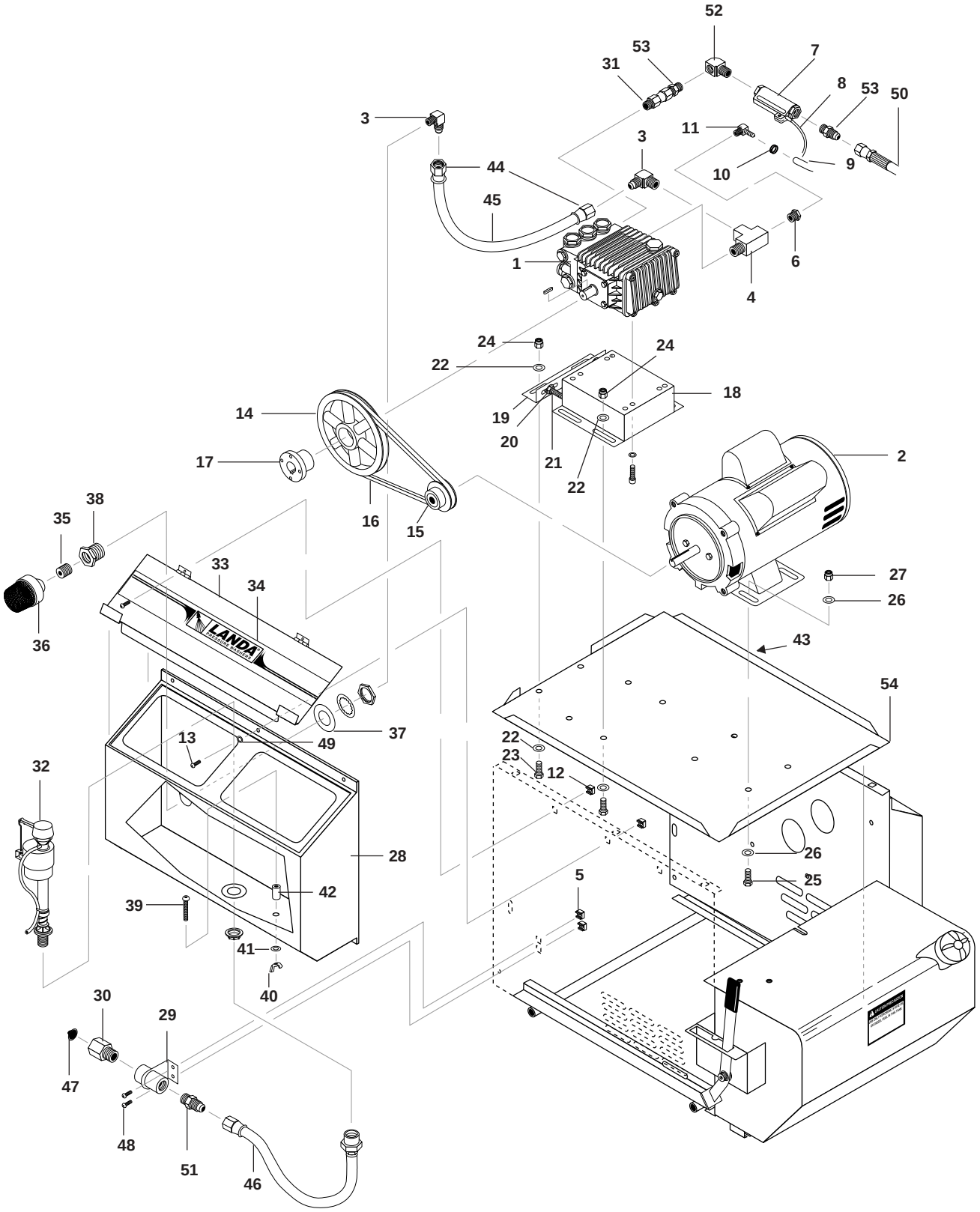
PUMP ASSEMBLY

HOT3-30035D



PUMP ASSEMBLY

HOT3-30035D PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY
1	5-2273	Pump, AR, XMA35G25N	1
2	5-1046	Motor, 1.5 HP 1 PH 3450 RPM Baldor	1
3	2-1062	Elbow, 1/2" JIC x 1/2", 90°	2
4	2-1042	Tee, 1/2", Street	1
5	90-20231	Nut, Cage, 1/4" x 12 Gauge	2
6	2-1076	Bushing, 1/2" x 1/4"	1
7	6-021730	Switch Flow, MV 60	1
8	6-021740	Switch, Reed, Replacement, MV 60	1
9	4-02090000	Hose, 1/4" x 1/2", Braided Vinyl	3 ft.
10	2-9040	Clamp, Hose, UNI .46 - .54	1
11	2-1089	Hose Barb, 1/4" Barb x 1/4" Pipe, 90°	1
12	90-2018	Nut, Cage, 10/32" x 16 Gauge	6
13	90-1999	Screw, 10/22" x 3/4", BH SOC CS	6
14	5-40108401	Pulley, AK 84 H	1
15	5-40102258	Pulley, Bore, AK 22 x 5/8"	1
16	5-602034	Belt, AX 34	1
17	5-512024	Bushing, H x 24 mm	1
18	95-07121112	Rail, Pump, Combo	1
19	95-07141110	Retainer, Pump Take Up	1
20	90-2007	Nut, 3/8" Hex, NC	2
21	90-10220	Bolt, 3/8" x 3-1/2" Tap	2
22	90-4002	Washer, 3/8" Flat	16
23	90-1016	Bolt, 3/8" x 1", NC, HH	6
24	90-2002	Nut, 3/8" ESNA	6
25	90-1007	Bolt, 5/16" x 1", NC, HH	4
26	90-4001	Washer, 5/16" Flat	8
27	90-2001	Nut, 5/16" ESNA	4
28	2-01164	Tank, Plastic Universal Float	1
29	95-07162007	Hose Connection Bracket, PHW/PHWS/OHW	1
30	2-10942	Swivel, 1/2" MP x 3/4" GHF W/Strainer	1
31	2-0079	Swivel, 1/2" JIC Fem, 3/8" Male	1
32	2-3014	Valve, Fluidmaster, 400A, Float	1
33	95-07121207	Lid & Hinges, Plastic Float Tank	1
34	10-99051	Label, Landa Stripe	1
35	2-10065	Modified Close Nipple, 1/2" NPT 1/4"	1
36	2-1906	Strainer, 1/2" Basket	1
37	90-4017	Washer, 1-3/16" x 2-1/4", STL RBR	1
38	2-11041	Connector, 1/2" Anchor	1
	2-0151	Plug, Float Tank Assembly	1
39	90-4030	Screw, 5/16" - 18" x 1-1/2" SS, Button Socket	1
40	90-4031	Nut, 5/16"-18, Wing, SS	1
41	90-4032	Washer, 5/16", SS	1
42	4-02140000	Tubing, 5/16" x 9/16" Rubber	.125 ft.
43	2-3015	▲ Valve, Float Control/Metering	1
	4-02080000	▲ Tube, 1/4" x 1/2", Clear Vinyl	8 ft.
	2-1085	▲ Hose Barb, 1/4" Barb x 1/4" ML Pipe	2
	90-4005	▲ Washer, 5/8" Flat	1
	90-40073	▲ Washer, 5/8" Star	1
	2-9040	▲ Clamp, Hose, UNI .46 - .54	3
	2-01411	▲ Bushing, 1" Snap	1
	2-1905	▲ Strainer, 1/4" W/Check Valve	1
44	2-1105	Swivel, 1/2" JIC Fem, Push-on	2
45	4-02110000	Hose, 1/2", Push-on	1 ft.
46	4-02100009	Inlet Hose, 11" Supply Water	1
47	2-1902	Strainer, Inlet GH	1
48	90-1995	Screw, 1/4" x 1/2", BH SOC CS	2
49	90-40002	Washer, 1/4", Black Zinc	4
50	4-02047722	Hose, 3/8" x 22", 2 Wire, Pressure Loop	1
51	2-1053	Nipple, 1/2" JIC x 3/8" Pipe	1
52	2-0031	Elbow, 3/8" Street	1
53	2-0051	Nipple, 1/2" JIC, 3/8" Pipe	2
54	95-07121013	Platform, Power	1

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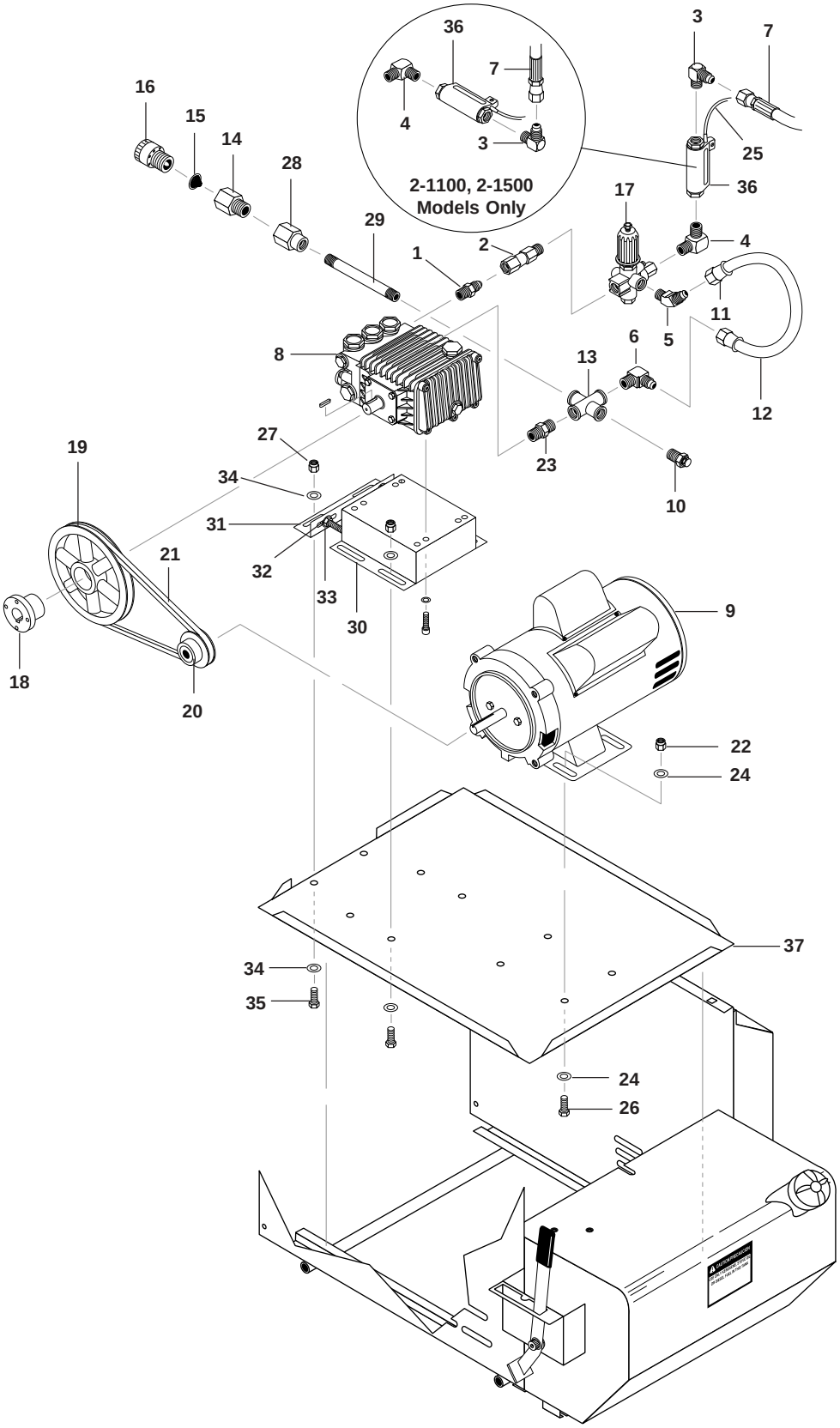
PUMP ASSEMBLY

HOT2-1100 • HOT2-1500 • HOT3-1100 • HOT4-2000 • HOT4-3000



PUMP ASSEMBLY

HOT2-1100 • HOT2-1500 • HOT3-1100 • HOT4-2000 • HOT4-3000 PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY
1	2-0051	Nipple, 1/2" JIC x 3/8" Pipe (4-2,4-3)	1
	2-00512	Nipple, 1/2" JIC x 1/4" Pipe (2-1100, 2-1500, 3-1100)	1
2	2-0079	Swivel, 1/2" JIC Fem, 3/8" Male	1
3	2-0053	Elbow, 1/2" JIC x 3/8" Steel	1
4	2-00270	Elbow, 3/8" Male	1
5	2-106301	Nipple, 1/2" JIC x 3/8", 45°	1
6	2-1060	Elbow, 1/2" JIC x 3/8"	1
7	4-02047725	Hose, 25" x 3/8", 100 R2, Pressure Loop (Except 2-1100, 2-1500)	1
	4-02047722	Hose, 22" x 3/8", 100 R2 Pressure Loop (2-1100, 2-1500)	1
8	5-23011	Pump, Gen, TT9111 (2-1100, 2-1500, 3-1100)	1
	5-23123	Pump, Gen, TX-1812S17 (4-20021A,G,K)	1
	5-2307	Pump, General, TS-2021 (4-3000)	1
9	5-1046	Motor, 1.5 HP 1 PH, Baldor (2-1100)	1
	5-1047	Motor, 2 HP 1 PH, Baldor (2-1500, 3-1100)	1
	5-1053	Motor, 5 HP 1 PH, Baldor (4-2000)	1
	5-1063	Motor, 7.5 380V 3HP 1425 RPM (4-3000N)	1
	5-10531	Motor, 5 HP 1Ph, 3450 RPM, 200V (4-2000G)	1
	5-1059	Motor, 5HP 1PH, 220V 2850RPM 50 Hz (4-2000K)	1
	6-051532	▲ Strain Relief, 1/2" LQ Tite (2-1100, 2-1500, 3-1100, 3-300)	1
	6-051595	▲ Strain Relief, 3/4" LQ Tite (4-2A,G,K; 4-3N)	1
10	2-300816	Pump Protector 3/8"	1
11	2-1105	Swivel, 1/2" JIC Female, Push-On	2
12	4-02110000	Hose, 1/2" Push-On	1 ft.
13	2-1034	Cross, 3/8" Female	1
14	2-10942	Swivel, 1/2" MP x 3/4" GHF W/Strainer	1
15	2-1902	Strainer, Inlet Garden Hose	1
16	2-30062	Valve, Anti-Siphon, Watts 8B	1
17	5-3208	Unloader, AL607	1
18	5-512024	Bushing H x 24 mm	1
19	5-40106401	Pulley, AK64H (2-11021, 2-15021, 3-11021)	1
	5-40208401	Pulley 2AK84H (4-20021K)	1
	5-40407501	Pulley, BK75H (4-20021A,G)	1
	5-40506701	Pulley, 2BK67H (4-30021N)	1
20	5-40102158	Pulley, Bore, AK 21 x 5/8" (2-1100, 2-1500)	1
	5-40204401	Pulley, 2AK44 (4-20021K)	1
	5-40403601	Pulley, BK36H (4-2000A,G)	1
	5-40102758	Pulley, Bore, AK 27 x 5/8" (3-11021)	1
	5-511075	▲ Bushing, H x 3/4" (4-2000A,G,K)	1
	5-511138	▲ Bushing, H x 1-3/8" (4-3000)	1
	5-40504501	Pulley, 2BK45H (4-30021N)	1
21	5-602033	Belt, AX 33 (3-11021D)	1
	5-604034	Belt, BX 34 (4-20021A,G; 4-30021N)	1
	5-602031	Belt, AX 31 (2-11021, 2-15021)	1
	5-602037	Belt, AX37 (4-2000K)	1
22	90-2001	Nut, 5/16" ESNA	4
23	2-1005	Nipple, 3/8" Hex (2-1100, 2-1500, 3-1100)	1
	2-1058	Nipple, 1/2" Pipe x 3/8" Pipe (4-20021A,G,K;4-30021N)	1
24	90-4001	Washer, 5/16" Flat	8
25	6-021740	Replacement Reed, MV 60	1
26	90-1007	Bolt, 5/16" x 1" NC HH	4
27	90-2002	Nut, 3/8" ESNA	6
28	2-1099	Coupling, 1/2" x 3/8" Reducing	1
29	2-100510	Nipple, 3/8" x 4" Brass	1
30	95-07121112	Rail, Pump Combo (4-2A,G,K)	1
	95-07121111	Rail, Pump, W/TT Pumps (2-1100, 2-1500, 3-1100)	1
31	95-07141110	Retainer, Pump Take Up	1
32	90-2007	Nut, 3/8" Hex, NC	2
33	90-10220	Bolt, 3/8" x 3-1/2", Tap	2
34	90-4002	Washer, 3/8" Flat	16
35	90-1016	Bolt, 3/8" x 1" NC HH	6
36	6-021730	Switch, Flow MV 60	1
37	95-07121013	Platform, Power	1

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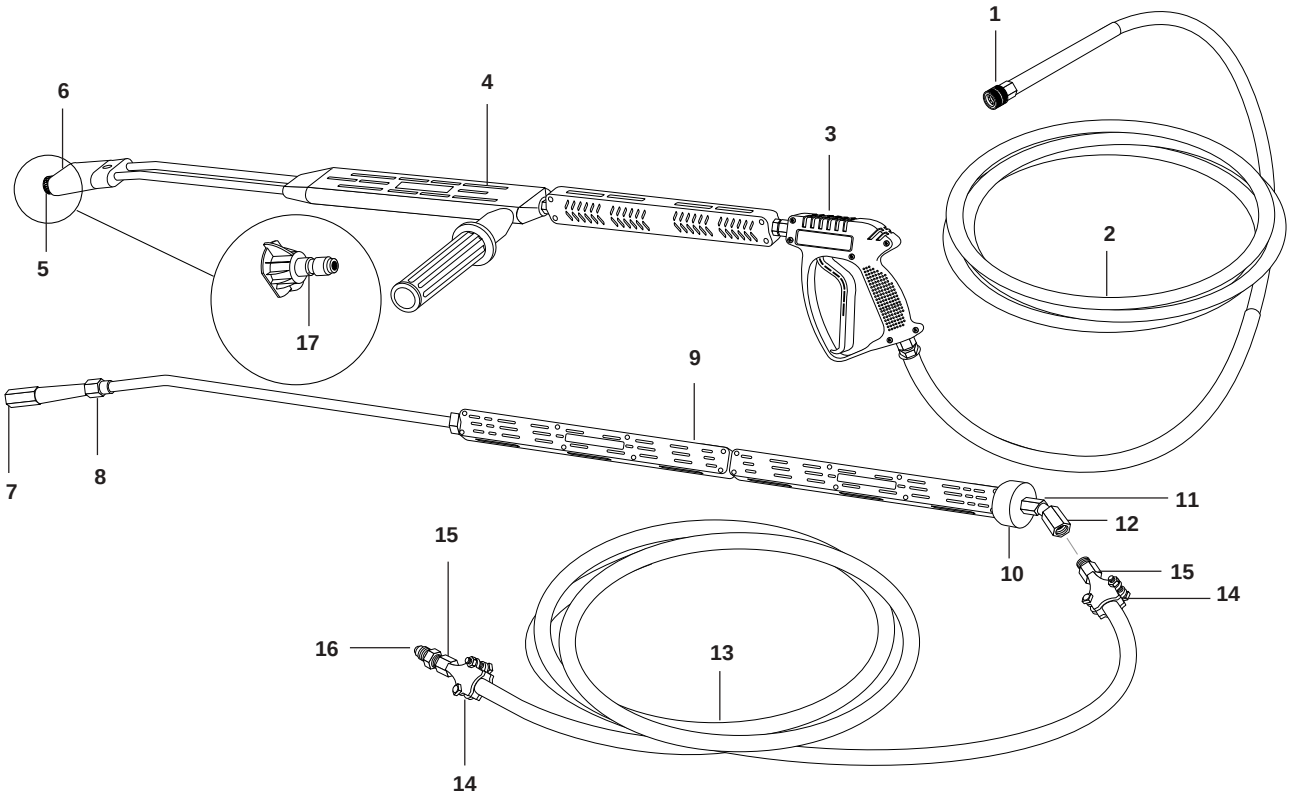
HOSE, SPRAY GUN & WAND ASSEMBLY
ALL MODELS



ITEM	PART NO.	DESCRIPTION	QTY
1	2-2002	Coupler, 3/8" Female	1
	2-0121	▲ Quick Coupler O-Ring Large	1
2	4-02033450C	Hose, 50' x 3/8", 100R1	1
3	4-01212	Spray Gun, Shut-Off, Series 2000	1
4	4-0111351A	Wand, VP, AL 344L, 2 MC W/SP Nzl QC	1
	83-SSVPKIT	Repair Kit, AR, SS, Seat	1
5	2-2001	Coupler, 1/4" Male	1
	2-0119	▲ Quick Coupler O-Ring Small	1
6	4-06540	Brass Soap Nozzle	1
7	4-2000	Nozzle, Steam, 1/16" Thread End	1
8	2-1097	Coupling, 3/8" x 1/4" Reducing	1
9	4-0111424	Spray Lance, 47" (3-300)	1
10	2-01041	Pad, Soft Rubber, 50 Duro (3-300)	1
11	2-0058	Elbow, 1/4", Pipe, 45°, Steel (3-300)	1
12	2-0069	Adapter, 1/4" x 3/8", Steel (3-300)	1

ITEM	PART NO.	DESCRIPTION	QTY
13	4-02228850	Hose, 50' x 1/2", Steam Only (3-300)	1
14	2-9018	Clamp, 3/8", Steam Hose (3-300)	2
15	2-9019	Hose Barb, 3/8", NPT, Steam Hose (3-300)	2
16	2-10633	Nipple, 1/2" JIC x 3/8" FP #46 (3-300)	1
	4-01111	Steam Wand Complete W/Nozzle (includes Items 7-12) (3-300)	1
17	4-12804015	Nozzle, SAQCMEG, 1504, Yellow (2-1100, 4-3000)	1
	4-12803015	Nozzle, SAQCMEG, 1503, Yellow (2-1500)	1
	4-12805015	Nozzle, SAQCMEG, 1505, Yellow (4-2000)	1
	4-12805515	Nozzle, SAQCMEG, 1505.5 Yellow (3-1100)	1

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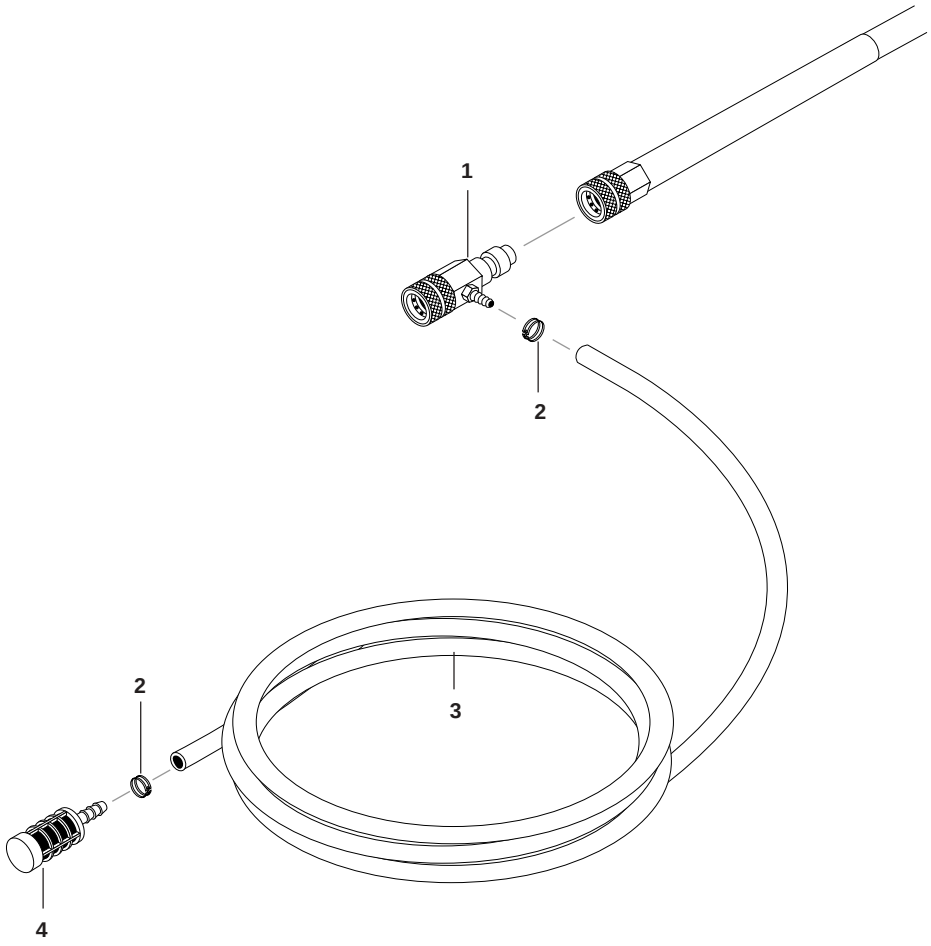
DOWNSTREAM INJECTOR ASSEMBLY

#4-011183 • 2-1100, 2-1500
#4-011184 • 3-1100, 4-2000, 4-3000



ITEM	PART NO.	DESCRIPTION	QTY
1	3-1202	Injector, Detergent, Non Adjust, .070 (2-1100, 2-1500)	1
	3-12021	Injector, Detergent, .083 (3-1100, 4-2000, 4-3000)	1
2	2-9040	Clamp, Hose, UNI .46 - .54	2
3	4-02080000	Tube, 1/4" x 1/2", Clear Vinyl	6 ft.
4	2-1904	Strainer, 1/4", Hose Barb	1

BECKETT BURNER SPECIFICATIONS

Model No.	Burner Assy No.	Fuel Nozzle	Transformer	Burner Motor	Fuel Pump/ Solenoid/Cord	Fuel Solenoid Coil	Electrode
HOT2-11021D	7-00012	7-01244	7-23581	7-21805U	7-21844U	7-21755U	7-578727
HOT2-15021D	7-00012	7-01244	7-23581	7-21805U	7-21844U	7-21755U	7-578727
HOT3-11021D	7-00013	7-01245	7-23581	7-21805U	7-21844U	7-21755U	7-578727
HOT3-30035D	7-00013	7-0102	7-23581	7-21805U	7-21844U	7-21755U	7-578727
HOT4-20021A	7-00010	7-0101	7-21176U	7-2899U	7-21844U	7-21755U	7-578727
HOT4-20021G	7-00010	7-0101	7-21176U	7-2899U	7-21844U	7-21755U	7-578727

WAYNE BURNER SPECIFICATIONS

Model No.	Burner Assy No.	Fuel Nozzle	Transformer	Burner Motor	Fuel Pump	Fuel Solenoid Coil	Electrode
HOT2-11021D	7-00035	7-0121	7-20358	7-0005	7-0009	7-0009611	7-13286
HOT2-15021D	7-00035	7-0121	7-20358	7-0005	7-0009	7-0009611	7-13286
HOT3-11021D	700034	7-0123	7-20358	7-0005	7-0009	7-0009611	7-13286
HOT3-30035D	7-00034	7-0126	7-20358	7-0005	7-0009	7-0009611	7-13286
HOT4-20021A	7-00033	7-0124	7-21153	7-0005	7-0009	7-0009611	7-13286
HOT4-20021G	7-00033	7-0124	7-21153	7-0005	7-0009	7-0009611	7-13286
HOT4-20021K	7-00040	7-0124	7-20394	7-20388	7-13645	7-0009611	7-13286
HOT4-30021N	7-00042	7-0124	7-20393	7-20383	7-13645	7-0009611	7-13286

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
LOW OPERATING PRESSURE	Faulty pressure gauge	Install new gauge.
	Insufficient water supply	Use larger garden hose; clean filter washer at water inlet.
	Old, worn or incorrect spray nozzle	Match nozzle number to machine and/or replace with new nozzle.
	Plumbing or hose leak	Check plumbing system for leaks. Retape leaks with teflon tape.
	Faulty or misadjusted unloader valve (Where applicable)	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.
LOW WATER TEMPERATURE	Soot buildup on coils not allowing heat transfer	Clean coils.
	Lime deposits on inside of coil	Delime coil.
WATER TEMPERATURE TOO HOT	Defective high limit switch	Replace.
	Insufficient water supplied	Check water G.P.M. to machine.
	Restricted water flow	Check nozzle for proper size or obstruction.
DETERGENT NOT DRAWING	Air leak	Tighten all clamps. Check detergent lines for holes.
	Valve in the injector head may be blocked, dirty or damaged	Clean or replace valve in injector.
	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.
	Variable pressure control handle set for high pressure	Turn variable pressure control handle to allow water to flow out of brass soap nozzle.
PUMP RUNNING NORMALLY BUT PRESSURE LOW ON INSTALLATION	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.
	Nozzle incorrectly sized	Check and replace if necessary (See serial plate for proper size).
	Worn piston packing	Check and replace if necessary.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
FLUCTUATING PRESSURE	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.
PUMP NOISY	Air in suction line	Check water supply and connections on suction line.
	Broken or weak inlet or disharge valve springs	Check and replace if necessary.
	Excessive matter in valves	Check and clean if necessary.
	Worn bearings	Check and clean if necessary.
PRESENCE OF WATER IN OIL	Oil seal worn	Check and replace if necessary.
	High humidity in air	Check and change oil twice as often.
WATER DRIPPING FROM UNDER PUMP	Piston packing worn	Check and replace if necessary
	O-Ring plunger retainer worn	Check and replace if necessary.
	Pump protector	Reduce inlet water pressure. Do not close trigger on spray gun for longer than five (5) minutes.
OIL DRIPPING	Oil seal worn	Check and replace if necessary.
MACHINE SMOKES	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.
	Weak fuel pump	Check fuel pump pressure. Replace pump if needed.
	Fuel filter partially clogged	Replace as needed.
	Soot build up on coils	Clean coils with soot remover.
	Lime build up in coils	Clean inside of coils using Landa's coil cleaner.
	Improper burner nozzle	See combustion assembly breakdown.
WATER TEMPERATURE TOO HOT	Incoming water to machine warm or hot	Lower incoming water temperature.
	Fuel pump pressure too high	Lower fuel pressure.
	Fuel pump defective	Replace fuel pump.
	Detergent line sucking air	Tighten all clamps. Check detergent line for holes.
	Defective high limit switch	Replace.
	Incorrect fuel nozzle size	See exploded view parts list for proper size.
	Insufficient water supplied	Check G.P.M. to machine.
	Restricted water flow	Check nozzle for obstruction, proper size.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
BURNER LIGHT WILL NOT LIGHT	Disconnected or short in electrical wiring	All wire contacts should be clean and tight. No breaks in wire.
	Burner motor thermal protector tripped	If tripped, check voltage, connections, and extensions for cause. Check fuel pump shaft rotation for binding causing motor to overheat.
	Flex-coupling slipping on fuel pump shaft or burner motor shaft	Replace if needed.
	ON-OFF Switch defective	Check continuity through burner switch.
	Heavy sooting on coil and burner, can cause interruption of air flow and shorting of electrodes	Clean as required.
	Improper electrode setting	Clean and test according to diagram in Operators 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	Replace.
	Water not turned on	Turn on water to activate burner flow switch.
	Reed switch malfunction	Remove, test for continuity and replace as needed.
	Fuel solenoid malfunction	Replace if needed.
	Pressure switch malfunction	Test for proper operation. Replace if needed.
PUMP MOTOR STOPS AFTER A FEW MINUTES OF OPERATION, OR STARTS SLOW	Insufficient voltage	Use heavier drop cord and check voltage at receptacle. Check name plate for amperage draw.
	Plugged nozzle	Remove and clean nozzle. Turn on water pump, flush lines, and replace nozzle.
	Wrong spray nozzle	See serial plate for minimum nozzle size.
	Automatic overload switch tripped	Allow motor to cool - then push Red reset button.
	Motor wet	Allow to dry.
	Short in electrical wiring	Wire contacts should be clean and tight. No breaks in wires.
	Coil liming up causing excessive pressure	See section on Preventative Maintenance.
	Water pump low or out of oil causing the pump to bind up	Fill to correct level.

PREVENTATIVE MAINTENANCE

This pressure washer was produced with the best available materials and quality craftsmanship. However, you as the owner have certain responsibilities for the correct care of the equipment. Attention to regular preventative maintenance procedures will assist in preserving the performance of your equipment. Contact your Landa, Inc. dealer for maintenance. Regular preventative maintenance will add many hours to the life of your pressure washer. Perform maintenance more often under severe conditions.

MAINTENANCE SCHEDULE		
Replace Fuel Lines		Annually
Pump Oil	Inspect	Daily inspect the oil level
	Change	After first 50 hours, then every 500 hours or annually
Clean Burner Filter		Monthly (More often if fuel quality is poor)
Remove Burner Soot		Annually
Burner Adjustment/Cleaning		Annually
Descale Coil		Annually - (more often if required)
Replace High Pressure Nozzle		Every 6 months
Replace Quick Connects		Annually
Clean Water Screen/Filter		Weekly
Replace HP Hose		Annually if there is any sign of wear
Grease Motor		Every 10,000 hours
Replace Burner Nozzle		Annually

OIL CHANGE RECORD

DATE OIL CHANGED MONTH/DAY/YEAR	NO. OF OPERATING HOURS SINCE LAST OIL CHANGE

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 five 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.

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.

INTRODUCCION

Gracías por comprar un Lavadora a Presión Landa.

Estas instrucciones y advertencias corresponden a los modelos HOT.

Landa, Inc. se reserva el derecho de hacer cualquier cambio en cualquier momento sin contraer ninguna obligación.

Responsabilidades del Dueño/Usuario:

El dueño y/o usuario debe estar al tanto de las instrucciones de operación y de las advertencias del fabricante antes de usar su lavadora a presión Landa. La información de advertencia debe ser enfatizada y comprendida. Si el operador no domina el inglés, el comprador/dueño deberá leer y discutir con éste las instrucciones y las advertencias del fabricante en el idioma natal del operador, asegurándose de que éste entienda su contenido.

El dueño y/o usuario debe estudiar y mantener las instrucciones del fabricante para futuras referencias.

Este manual debe ser considerado una parte permanente de la máquina y deberá entregarse con la máquina en caso de que se venda.

Cuando ordene las partes, por favor especifique el modelo y el número de serie.

INSTRUCCIONES DE SEQURIDAD IMPORTANTES

ADVERTENCIA: Cada vez que utilice esta máquina debe respetar las precauciones básicas, que incluyen las siguientes:

ADVERTENCIA: Para reducir el riesgo de accidentes, lea las instrucciones cuidadosamente antes de usar la unidad.

1. Lea todo el manual para operadores cuidadosamente. Al no seguir las instrucciones puede causar el malfuncion- amiento de la unidad y provocar la muerte, o causar serias heridas y/o daños en la propiedad.
2. Sepa cómo detener la máquina y cómo eliminar presión con rapidez. Debe estar totalmente familiarizado con los controles.
3. Permanezca alerta: preste atención a lo que está haciendo.
4. Todas las instalaciones deben cumplir con los códigos locales. Póngase en contacto con un técnico eléctrico, plomero, compañía de servicios públicos o distribuidor de ventas para mayores detalles.

ADVERTENCIA: Riesgo de asfixia. Use este producto solo en areas bien ventiladas.

5. Evite instalar unidades en áreas pequeñas o cerca de ventiladoresde gases de escape. Losgasesde escape contienengas venenoso de monóxido de carbono; la exposición puede causar pérdida del conocimiento y causar la muerte. Los gases de escape también contienen detergentes, en ciertas cantidades, que se sabe, causan cáncer, defectos de nacimiento, o daños al sistema reproductivo.

ADVERTENCIA: Liquidos inflamables pueded crear gases que se encienden causando daños a la propiedad y heridas severas.

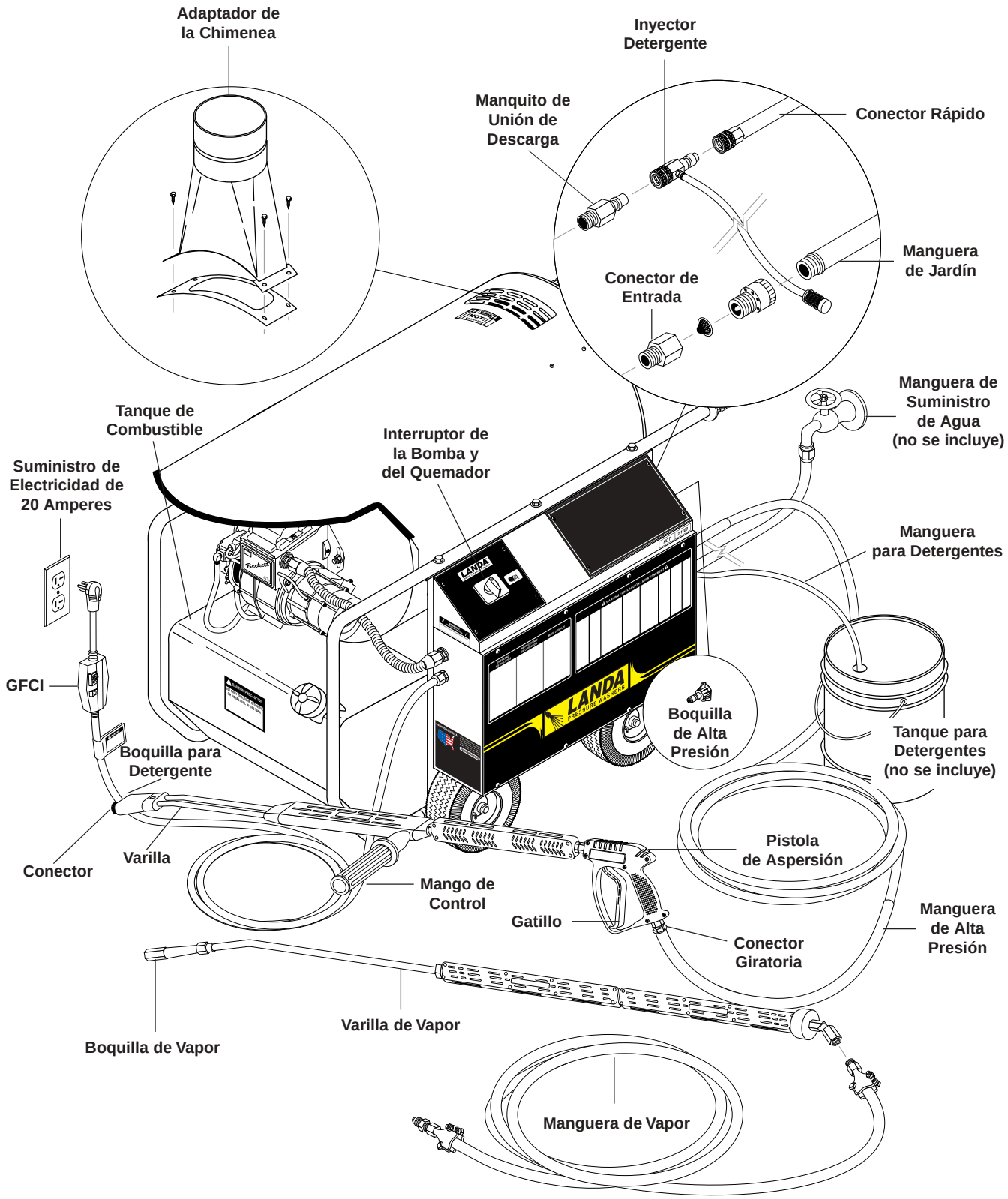
6. Aparatos de encendido con petróleo deberán de ser instalados en lugares donde residuos de combustibles, vapores o gases inflamables no estén normalmente presentes. En modelos de encendido con petróleo utilice únicamente kerosene #1 o diesel. No utilize gasolina, solventes o alcohol. El utilizarlo resultará en fuego y/o explosión.

ADVERTENCIA: Mantenga el chorro de agua, la varilla y la manguera de alta presión lejos del cableado eléctrico ya que puede ocurrir un choque fatal. Lea la etiqueta de avertencia del cable eléctrico.

7. Para proteger al operador de un choque eléctrico, la máquina deberá de estar conectada a tierra. Es la responsabilidad del dueño de conectar esta máquina a un receptáculo a tierra aprobado por UL con el amperage y voltaje indicados. No moje sobre o cerca de los componentes eléctricos; no toque la máquina con las manos mojadas o cuando esté parado sobre agua. Siempre desconecte la máquina cuando le dé servicio de mantenimiento.

ADVERTENCIA: Sostenga la pistola aspersora con ambas manos ya que con la alta presión esta puede tener retroceso.

IDENTIFICACION DE COMPONENTES



8. Sujete firmemente con ambas manos la varilla aspersora antes de encender la maquina; de no seguir esta recomendación puede resultar en heridas por golpe de la misma.
9. No coloque la máquina cerca de objetos inflamables si el motor esta caliente.

ADVERTENCIA: Este equipo puede producir un fluido de alta persión a chorro que puede penetrar la piel y sus tejidos, causando graves heridas y posible amputacion.

10. Las altas presiones desorrolladas por esta unidad causarán heridas personales o daño al equipo. Use precaución cuando esté operando el equipo. No dirija el chorro de descarga hacia la gente porque de lo contrario puede causarles heridas graves incluyendo la muerte.
11. Nunca haga ajustes en la máquina mientras esté operando.

ADVERTENCIA: Un chorro de alta presión puede ocasionar que trozos de pintura y otras particulas vuelen a altás velocidades por el aire.

12. Elementos de seguridad para la protección de los ojos y los pies deben ser usados con este equipo.
13. Unidades con pistola de apagado no deben ser operadas con la pistola en la posición apagada por largos períodos de tiempo pues ésto puede causar daños a la bomba.
14. El mejor seguro contra un accidente es la precaución y el conocimiento de la máquina.
15. Landa no se hará responsable de ninguno de los cambios hechos a nuestras unidades estándar, o por ningún componente que no sea comprado directamente a Landa.

ADVERTENCIA: Mantenga el chorro de agua lejos de cables eléctricos para prevenir graves choques eléctricos.

16. Lea las instrucciones de seguridad proporcionadas para el motor.
17. Nunca opere la bomba en vacio o deje la pistola cerrada más de 5 minutos.
18. Para reducir el riesgo de lesión, es necesaria una supervisión rigurosa al momento de utilizar una máquina cerca de niños. No permita que los niños operen la máquina para lavado a presión. **Es necesario supervisr la máquina durante su funcionamiento.**
19. Para prevenir una herida grave asegúrese que el conector rápido de la manguera de descarga este bien ajustado ántes de usar la máquina lavadora a presión.
20. No permita que ácidos a fluídos abrasivos pasen a través de la bomba hidráulica.
21. No opere esta máquina estando fatigado o bajo la influencia del alcohol o drogas. Mantenga el área de operación lejos de las personas.
22. El agua de entrada deberá ser fría.
23. No se sobreestire o pare en soportes inestables, mantenga el balance y pie firme en todo momento.
24. Siga las instrucciónes de mantenimiento especificados en el manual.
25. Siempre desconecte la máquina cuando realice reparaciones a la misma.
26. Apague el quemador y libere de presión la pistola y manguera de aspersión., Enfríe el serpentín a 100°F antes de apagar la máquina.
27. Este equipo es para uso en interior.

PRECAUCION: Asegúrese que el quemador esté apagado y que el gatillo de la pistola de aspersión este cerrado.

VERIFICACION ANTES DE OPERACION

- Aceite para bomba (aceite SAE 30W sin detergente, general)
- Suministro de agua fría (5 gpm • 5/8" • 20 psi)
- Manguera, varilla, boquilla (tamaño de boquilla según placa de serie)
- Filtro de agua (intacto, no restrictivo)

PROCEDIMIENTOS DE INSTALACION

Este equipo es para uso en interior. Este equipo debe ser guardado bajo techo cuando no esta en operacion.

1. Conecte una manguera de jardin de 5/8" al conector de entrada. El flujo mínimo debe ser de 5 gpm.
2. Conecte una manguera de alta presión a la boquilla de descarga usando una conexion rápida. Asegure el conector ajustándolo en su lugar tirando el collar del enganche trasero hacia atrás e insertádolo en la boquilla de descarga y empujando el collar después hacia adelante para asegurarlo en su lugar.
3. Conecte la varilla a la pistola de riego usando cinta de teflón en la rosca para prevenir fugas.

4. Conecte el conector giratorio (swivel) en la manguera de descarga a la pistola de riego usando cinta de teflon en la rosca.
5. Remueva el tapón del aceite de encima de la bomba de la lavadora a presión y reemplácelo con el medidor de nivel (dipstick) proporcionado.
6. Verifíque el nivel del aceite en el vidrio de observación que está al lado de la bomba. El aceite debe ser visible hasta la mitad del vidrio de observación (30W no-detergente).
7. Esta unidad cuando esté instalada deberá de estar eléctricamente conectada a tierra y en concordancia con las reglas locales de servicio público.

INSTRUCCIONES DE ENCENDIDO Y OPERACION

1. ¡ALTO! Lea el manual de operación antes de operar ésta máquina. Omisión de leer el instructivo de seguridad y operación pueda resultar en lesión personal o daño a la propiedad.
2. Conecte la manguera del suministro de agua al conector de entrada y abra la llave de paso.
3. Revise los niveles de aceite y combustible.
4. Conecte la manguera de alta presión al niple de descarga deslizando el acople rápido hacia atrás (si se va a utilizar algún detergentes, instale - el inyector apropiado para detergentes como se muestra en la página E).
5. Inserte el cople rápido al niple de descarga y aségurelo empujando el collar del conector rápido hacia adelante.
6. Instale firmemente la boquilla de alta presión que desee a la varilla de aspersión como se describe en los pasos 4 y 5.
7. Conecte el cable eléctrico a la fuente de poder apropiado y oprima el - botón de encendido del cable eléctrico GFCI.
8. Sujete firmemente la varilla de aspersión y abra la válvula de presión en sentido inverso a las manecillas del reloj.
9. Oprima el switch en posición de la bomba hidráulica cuando obtenga un flujo contínuo de agua por la varilla de aspersión. La unidad se encuentra lista para utilizar agua fría para limpieza al abrir la válvula de presión en sentido de las manecillas de reloj para alcanzar la presión deseada.
10. Para utilizar agua caliente oprima el switch en posición del quemador. (El quemador se encenderá automáticamente).

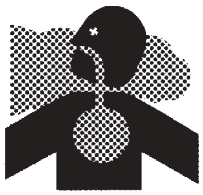
NOTA: El modelo HOT3-30035D y el flotador opcional para máquinas con sifón para detergentes operan al colocar la toma de la manguera al contenedor con detergentes y abriendo la válvula para entrada de detergentes localizada en el panel de control.

TECNICAS GENERALES DE LAVADO

1. Sostenga la boquilla de riego aproximadamente a 30 cm de la superficie a lavar. Riegue a cierto ángulo a modo que golpée debajo de la sucidad o materia y la deprenda.
2. Cuando esté lavando objetos grandes, use un inyector detergente opcional para aplicar el detergente. Empiece el lavado de abajo hacia arriba. Se ahorrará detergente y obtendrá resultados más rápidos si permite que el detergente se asiente de 5 a 10 minutos. Después de lavar, enjuage de arriba hacia abajo.
3. Para la limpieza de mugre o materia pesada se recomienda un fuerte chorro de agua limpia antes de usar el agente limpiador.

ADVERTENCIA: Con la maquina apagada, abra la pistola para dejar salir la presión antes de remover la manguera de descarga.

⚠ ADVERTENCIA



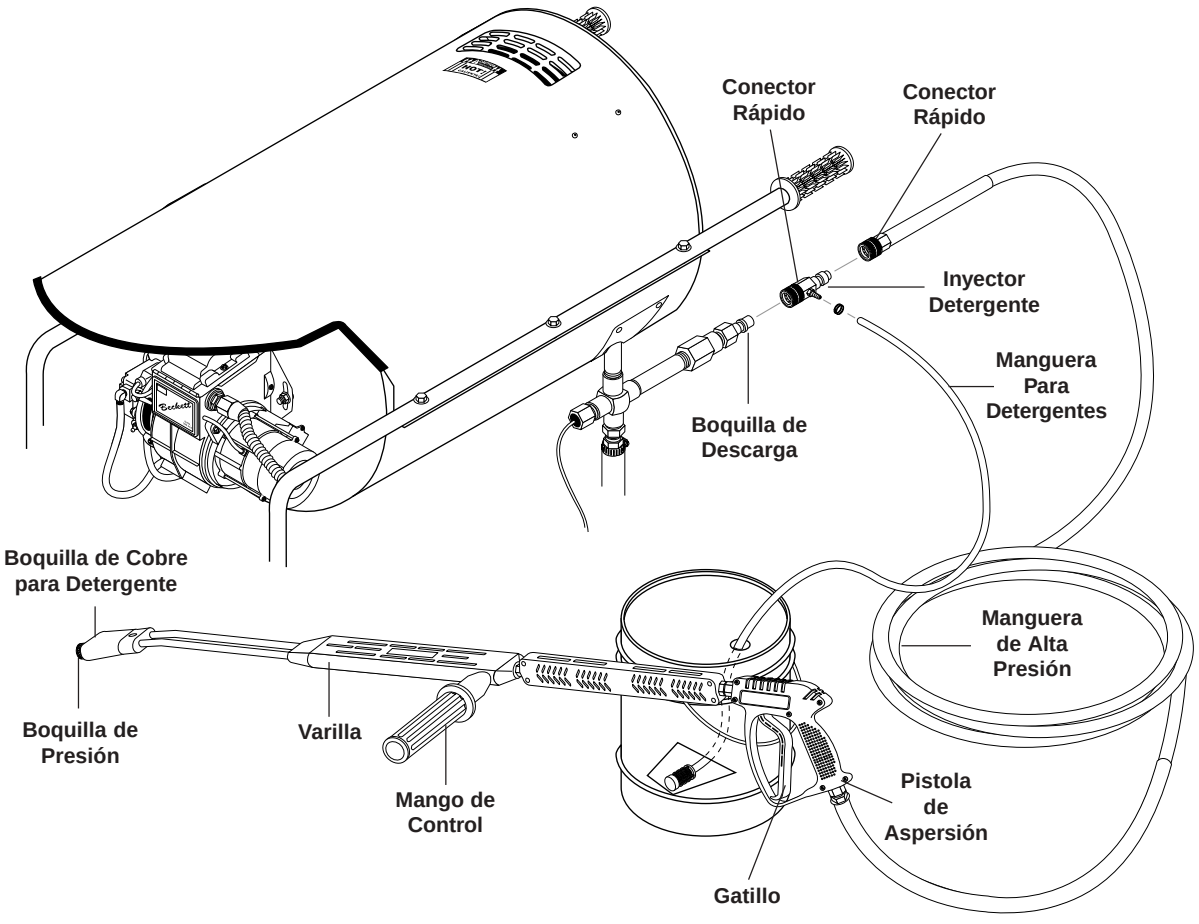
ADVERTENCIA: Algunos detergentes pueden ser peligrosos si son inhalados o digeridos, causando nausea severa, desmayos o envenenamiento. Elementos peligrosos pueden causar daño a la propiedad o heridas severas.

COMO USAR EL INYECTOR DETERGENTE

La máquina puede actuar como sifón y mezclar los detergentes con el uso del juego de inyectores detergentes Landa.

1. Tire el collar de enganche rápido del inyector hacia atrás y asegúrelo en la boquilla de descarga. La flecha del cuerpo de la válvula del inyector debe apuntar en la dirección del flujo.
2. Conecte la manguera de descarga a presión a la boquilla de inyector asegurando el conector rápido.
3. Arranque la máquina como se indica en las instrucciones de operación.
4. Coloque el tubo de la toma de detergent en el recipiente de la solución de detergente.
5. Abra el gatillo de la pistola. La proporción de solución de detergent es aproximadamente de 15 a 1.
6. Cuando termine de lavar, enjuague simplemente soltando el gatillo de la pistola, removiendo la boquilla para detergente, y reemplazando la boquilla de presión hacia atrás en el conector rápido.

   NOTA: El inyector detergente no puede actuar como sifón con la boquilla de alta presión en el extremo final de la varilla.
7. Para la limpieza, coloque el tubo para tomar los detergentes en el recipiente con agua transparente y siga los pasos 5 y 6 para prevenir que depósitos detergentes dañen el inyector.



GARANTÍA DE LANDA PARA SUS PRODUCTOS EQUIPOS DE LAVADO A PRESIÓN

QUÉ CUBRE ESTA GARANTÍA

LANDA, INC. garantiza al primer comprador que todos los equipos LANDA de lavado a presión están libres de defectos de materiales y de fabricación durante el uso normal de la unidad y durante el tiempo que se indica más abajo. Esta Garantía Limitada está sujeta a las exclusiones que se muestran a continuación. Dicha garantía entra en vigencia a partir de la fecha de la compra del equipo y se aplica únicamente a los componentes originales. Cualquier parte que se reemplace durante el período cubierto por esta garantía estará comprendida en el período de garantía restante para dicha parte.

GARANTÍA DE CINCO AÑOS PARA LAS PARTES Y DE UN AÑO PARA LA MANO DE OBRA:

Esta garantía cubre los componentes fabricados por Landa, como por ejemplo bastidores, manijas, envoltura de bobinas, tanques con flotador, tanques para combustible, cubiertas de correas y bobinas. Los componentes internos relacionados con el aceite de las bombas marca bombas propietarias tienen una garantía de 5 años.

GARANTÍA DE UN AÑO MÍNIMO PARA LAS PARTES Y DE UN AÑO PARA LA MANO DE OBRA:

El resto de los componentes, sin incluir el desgaste normal de los artículos que se describen abajo, estará cubierto por el período que especifique su fabricante original, con un año como mínimo. La garantía para la mano de obra que se aplica a estas partes será de un año, sin perjuicio de la duración de la garantía del fabricante del componente original.

GARANTÍA SUMINISTRADA POR OTROS FABRICANTES:

Los motores, generadores y máquinas están cubiertos por la garantía de sus fabricantes. Los centros de servicios locales autorizados por sus fabricantes prestan el servicio de mantenimiento y reparación de dichas unidades. LANDA no puede proporcionar garantía alguna para estos artículos.

REPUESTOS NO CUBIERTOS POR LA GARANTÍA:

Estas partes, sin incluir el desgaste normal de los artículos que se describen abajo, estarán cubiertas por el período que especifique su fabricante original. Estas partes no están cubiertas por la garantía de mano de obra.

ESTA GARANTÍA NO CUBRE:

Esta garantía no cubre los siguientes artículos:

1. Artículos que tienen un desgaste normal, como ser boquillas, pistolas, mangueras de descarga, extensiónes, acopladores de conexión rápida, sellos, filtros, juntas, anillos en “O”, empaquetados, pistones, montaje de válvulas, filtros de malla, correas, cepillos, etc.
2. Daño o malfuncionamiento debido a accidentes, abuso, modificaciones, alteraciones, instalación inapropiada, servicio inapropiado, incumplimiento de las instrucciones de mantenimiento del fabricante o uso del equipo con otros fines que no se adhieran a las especificaciones contenidas en el Manual del operador.
3. Daño a causa de heladas, deterioro debido a productos químicos, acumulación de escamas, oxidación, corrosión o expansión térmica.
4. Daño a los componentes debido a fluctuaciones en el suministro eléctrico o al abastecimiento de agua.
5. Servicio de mantenimiento normal, incluso los ajustes, limpieza del sistema de combustible y de obstrucciones.
6. Transporte al centro de servicios, cargos por mano de obra en planta o daño ocurrido durante el flete.
7. El trabajo de mano de obra se excluye especialmente para todas las máquinas que se utilizan como equipos de alquiler.

QUÉ DEBE HACER PARA OBTENER EL SERVICIO DE LA GARANTÍA

A pesar de no ser necesario para el servicio de garantía, le solicitamos que registre su unidad para el lavado a presión. Para ello, llene la tarjeta de registro y envíela a vuelta de correo. Para obtener el servicio de LANDA de la garantía, debe hacer llegar el producto a un Distribuidor de LANDA autorizado, con flete prepago, acompañado del comprobante de la compra, dentro del período prescrito por la garantía. En caso de que el producto esté instalado de forma permanente, deberá notificar el defecto a su Distribuidor Autorizado de LANDA. El distribuidor Autorizado de LANDA presentará un reclamo a Landa la cual deberá verificar el defecto. En la mayoría de los casos, deberá enviar la parte a LANDA con flete prepago junto con el reclamo. Para el servicio de la garantía de los componentes garantizados por otros fabricantes, su Distribuidor Autorizado de LANDA le ayudará a obtener el servicio que necesite de estos fabricantes por medio de sus centros locales de servicio autorizado.

LIMITACIÓN DE LA RESPONSABILIDAD

LANDA especificamente renuncia a la responsabilidad de todo daño y perjuicio especial, incidental, o consecuencial. La responsabilidad de LANDA con respecto a todo reclamo de cualquier índole, no superará, bajo circunstancia alguna, el precio de compra del producto en cuestión. LANDA ha puesto todo su empeño para asegurarse de que las ilustraciones y especificaciones son las que corresponden; no obstante, estas no implican la garantía de comerciabilidad o de aptitud para un fin en particular o que el producto sea un fiel reflejo de las ilustraciones y especificaciones. **LA GARANTÍA CONTENIDA EN LA PRESENTE REEMPLAZA A CUALQUIER OTRA GARANTÍA, SEA EXPRESA, IMPLÍCITA, INCLUSO TODA GARANTÍA IMPLÍCITADE APTITUD PARA UN FIN EN PARTICULAR. LANDA no autoriza a terceros, incluso a los Distribuidores Autorizados de LANDA** , a efectuar manifestación o promesa alguna en nombre de LANDA ni a modificar los términos, condiciones o limitaciones en modo alguno. Es responsabilidad del Comprador asegurarse de que la instalación y el uso de los productos LANDA se realice de acuerdo con los códigos locales. Bien que Landa intenta asegurarse de que sus productos cumplan con los códigos nacionales, no se responsabiliza por el procedimiento de utilización del producto ni por su instalación por parte del Comprador.

LANDA®
WATER CLEANING SYSTEMS

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