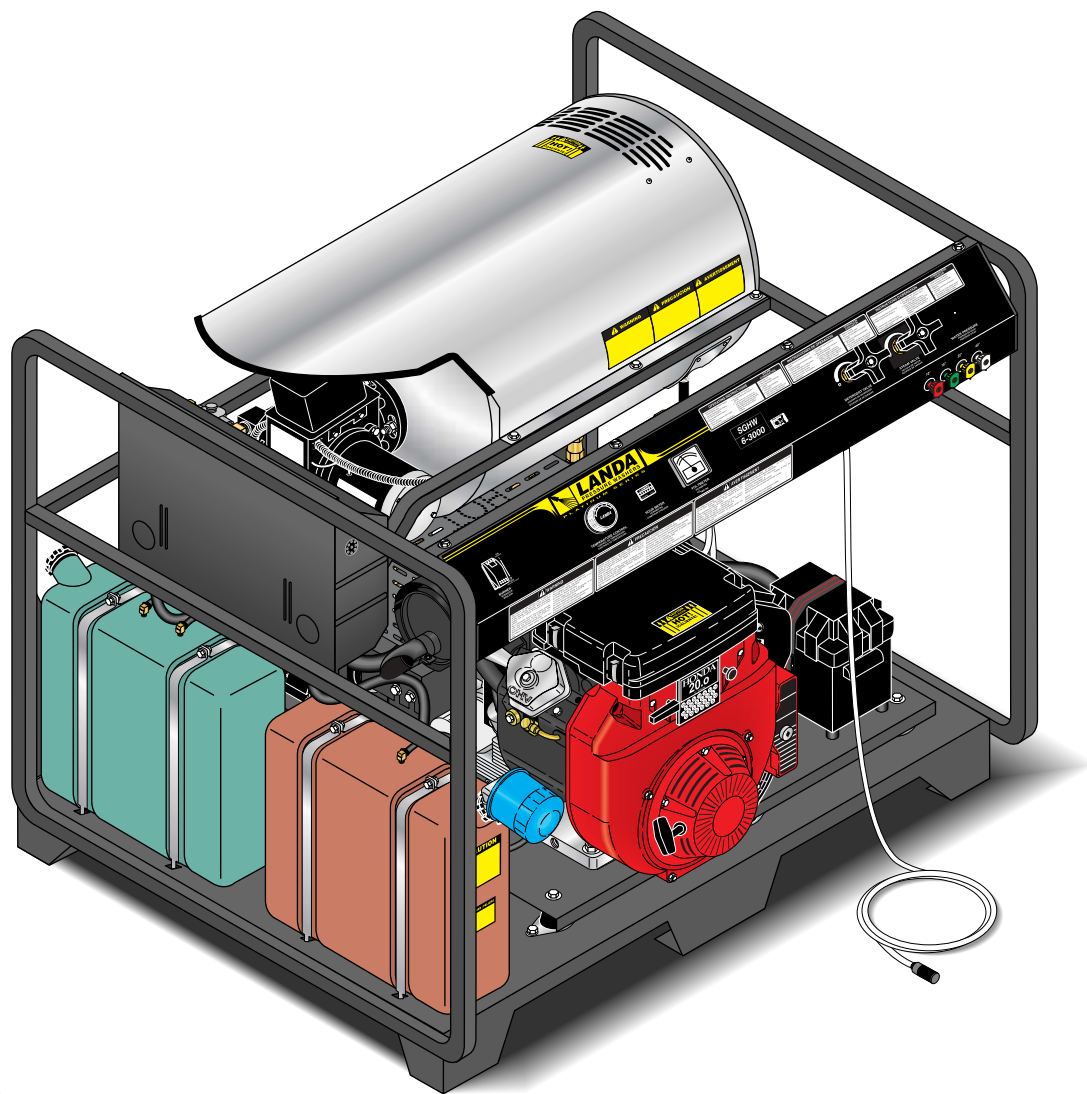




SGHW

OPERATOR'S MANUAL

■ SGHW6-3500



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

CONTENTS

Introduction	4
Important Safety Information	4, 6
Component Identification	5
Pre-Operation Check	6
Set-Up Procedures	6 - 7
Operating Instructions	7
General Washing Techniques	7
Shut Down Procedures	7
Preventative Maintenance	7 - 8
Maintenance and Service	8 - 10
Unloader Valves	8
Winterizing Procedures	8
High Limit Hot Water Thermostat	8
Pumps	8
Cleaning of Coil	8
Deliming Coils	8
Removal of Soot and Heating Coil	8
Pressure Relief Valve	8
Rupture Disk	9
Fuel	9
Fuel Control System	9
Fuel Pressure Adjustment	9
Electrode Setting	9
Burner Nozzle	9
Air Adjustment	9
Coil Reinstallation & Installation	10-11
Exploded View, Left Side SGHW6-35324E	12
Exploded View, Right Side SGHW6-35324E	13
Parts List SGHW6-35324E	14 - 15

CONTENTS

Exploded View, SGHW Control Panel 16

SGHW Control Panel Parts List 17

Float Tank Assembly SGHW6-35324E 18

Float Tank Parts List SGHW6-35324E 19

SGHW Hose, Spray Gun & Wand Assy 20

Burner Specifications 21

Pump Parts Specifications 22-23

Troubleshooting 24-26

Preventative Maintenance and Maintenance Schedule 27

Oil Change Record 27

Warranty 28

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

INTRODUCTION

Thank you for purchasing a Landa Pressure Washer.

This manual covers the operation and maintenance of the SGHW6-35324E washer. 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 SGHW 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.

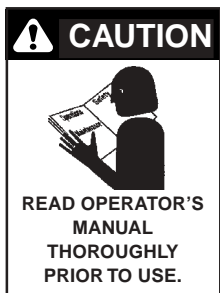
Owner and/or user must study and maintain for future reference the manufacturers' instructions.

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.

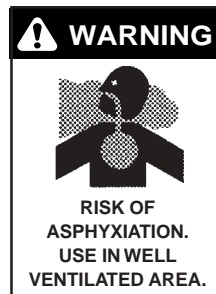
IMPORTANT SAFETY INFORMATION

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



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

- 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.
- Know how to stop the machine and bleed pressures quickly. Be thoroughly familiar with the controls.
- Stay alert — watch what you are doing.
- 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.

- 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.



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.

- 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 engine. (Fire and/or explosion may occur if this is not done.)

Gasoline engines on mobile or portable equipment shall be refueled:

- outdoors;
- with the engine on the equipment stopped;
- with no source of ignition within 10 feet of the dispensing point; and
- 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.

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

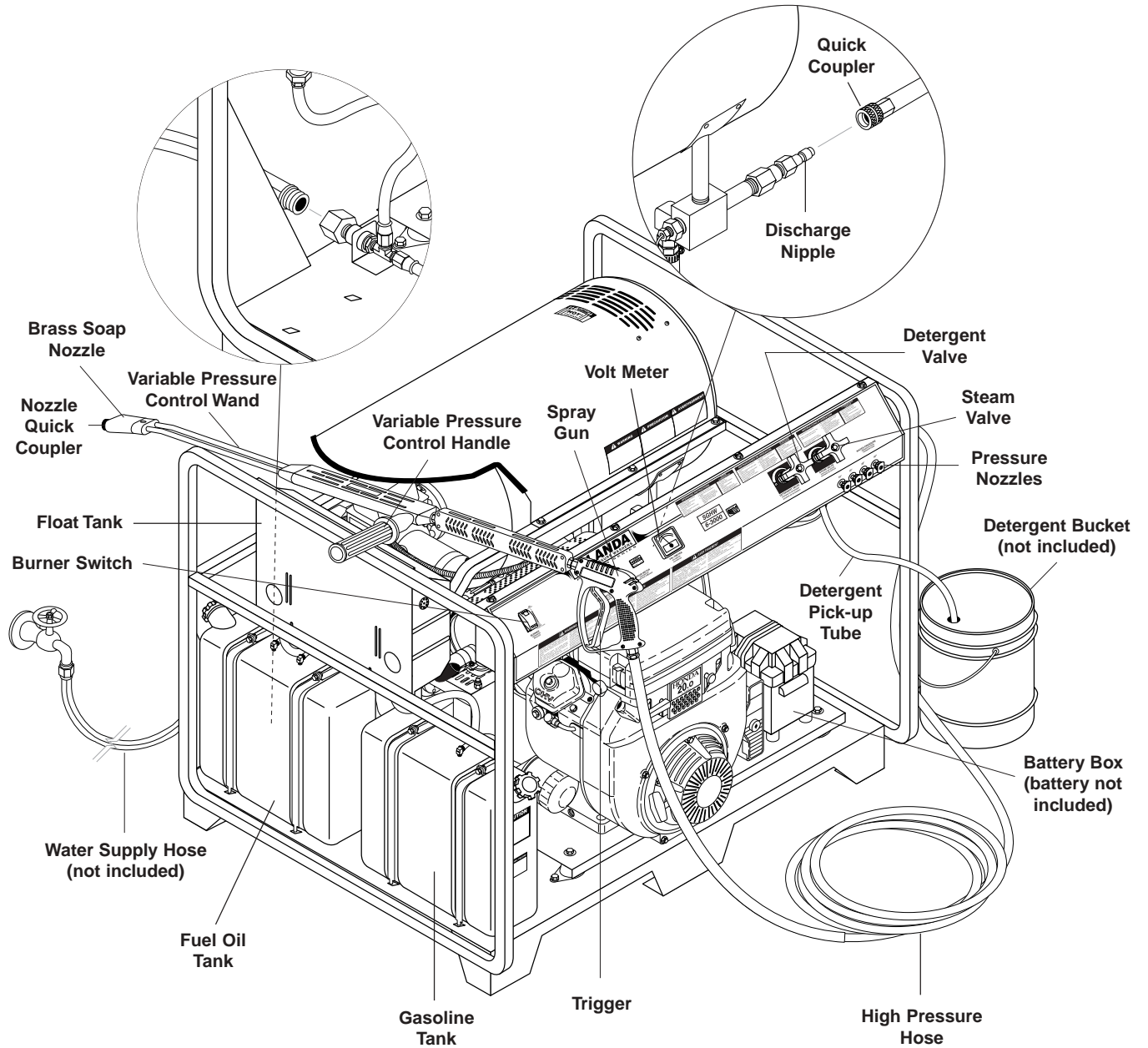


WARNING: High pressure stream of fluid that this equipment can produce can pierce skin and its underlying tissues, leading to serious injury and possible amputation.

- High pressure developed by these machines will cause personal injury or equipment damage. Use caution when operat-

ing. Do not direct discharge stream at people, or severe injury or death will result.

COMPONENT IDENTIFICATION





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

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



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

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

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.

- Grip cleaning wand securely with both hands before starting the cleaner. Failure to do this could result in injury from a whipping wand.
- Machines with shut-off 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.
- The best insurance against an accident is precaution and knowledge of the machine.
- 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.

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

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

- Do not confuse gasoline and fuel oil tanks. Keep proper fuel in proper tank (see page 5).
- Protect machine from freezing.
- Be certain all quick coupler fittings are secured before using pressure washer.
- Do not allow acids, caustic, or abrasive fluids to pass through the pump.
- Inlet water must be cold, clean fresh water.
- Do not operate this product when fatigued or under the influence of alcohol or drugs. Keep operating area clear of all persons.
- Protect discharge hose from vehicle traffic and sharp objects. Inspect condition of high pressure hose before using or bodily injury may result.
- Before disconnecting discharge hose from water outlet, turn burner off and open spray gun to allow water to cool below 100° 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.
- Do not overreach or stand on unstable support. Keep good footing and balance at all times.
- This machine must be attended during operation.

PRE-OPERATION CHECK

- Pump oil (SAE 30W non-detergent oil, General)
- Cold water supply (10 gpm • 5/8" • 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 10W40)
- Burner fuel (No. 1 home heating fuel or diesel)

SET-UP PROCEDURES

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

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

- Check oil level on sight glass on side of pump. Oil should be visible one half way up sight glass (SAE 30W non-detergent). If sight glass is not visible, use the oil dip stick on top of the pump.
- Fill gasoline tank and check engine oil.
- Fill fuel tank. Do not confuse gasoline and fuel oil (diesel) tanks. Keep proper fuel in proper tank. (The red tank is for gasoline, and the green tank is for fuel oil.)
- Install proper battery making sure that the red cable is attached to the positive terminal. Use a 12V Group 24 style battery.

OPERATING INSTRUCTIONS

- Read engine warning and operating instructions.
- Turn on water at faucet. Check for water leaks; tighten as needed.
- 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.

- Read engine manual provided and pull choke. Pull spray gun trigger to relieve pressure. Then turn the engine switch to the START position and hold it there until the engine starts. **NOTE:** Do not engage the electric starter for more than five (5) seconds at a time. If the engine fails to start, release the switch, pull spray gun trigger and wait ten seconds before operating the starter again. When the engine starts, allow the engine switch to return to the ON position. Push the choke in.
- With the spray nozzle pointed away from you or anybody else, press the trigger on the spray gun to obtain pressurized cold water spray.
- 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.
- To apply detergent, place detergent pick-up tube into a container of detergent and turn the detergent valve counterclockwise (see page 5).
- For steam, open the steam valve counterclockwise. This lowers the pressure and raises the temperature.

GENERAL WASHING TECHNIQUES

- Hold spray nozzle approximately one foot from the surface being cleaned. Spray at an angle to get under the material and lift it off.
- 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 detergent to set 5-10 minutes. After washing, rinse from the top down.
- Cleaning heavy dirt or material away with a hard stream of clear water is recommended before using a cleaning agent.

SHUT DOWN PROCEDURES

- Rinse all detergent lines with clean water, to remove any soap residue.
- Turn burner switch off and continue spraying, allowing the water to cool to below 100°.
- Turn engine key switch off.
- Turn off water supply.
- Squeeze trigger on spray gun to relieve remaining pressure.
- Remove water supply hose.
- In freezing conditions, disconnect water, drain float tank and add a 50/50 mixture of antifreeze. 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 procedure 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.

PREVENTATIVE MAINTENANCE

- Check to see that water pump is properly lubricated.
- Follow winterizing instructions to prevent freeze damage to pump and coils.
- Always neutralize and flush detergent from system after use.
- If water is known to be high in mineral content, use a water softener on your water system, or de-scale as needed.
- Do not allow acidic, caustic or abrasive fluids to be pumped through system.

- Always use high grade quality cleaning products.
- Never run pump dry for extended periods of time.
- 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.
- If machine is operated with smoky or eye burning exhaust, coils soot up and prevent water from reaching maximum operating temperature. (See section on Burner Adjustments.)
- Never allow water to be sprayed on or near the engine or burner assembly or any electrical component.
- Periodically delime coils per instructions.
- 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 this 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 antifreeze and water in the float tank. Turn the engine on to siphon the antifreeze 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. 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 prevention for liming conditions is to use high quality cleaning chemicals. 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.

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 on 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 pages 10-11).

Pressure Relief Valve

Each machine is equipped with a relief valve to relieve pressure in the system when higher than normal operating pressures are encountered or if the unloader valve should fail. Unusually high pressures come from an ob-

ject plugging the spray nozzle. If operating pressure is found to be normal and the relief valve continues to leak, repair or replace valve.

CAUTION: *This valve must be opened each year to check operation.*

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. The ruptured disk needs to be replaced.

Fuel

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

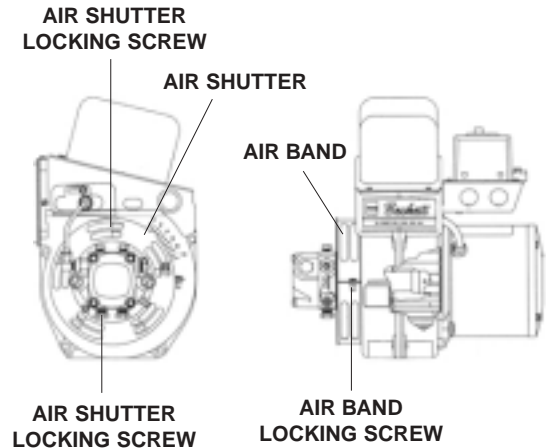
Use No. 1 or No. 2 heating oil (ASTM D306) only. **NEVER** use gasoline in your burner fuel tank. Gasoline is more combustible than fuel oil and could result in a serious explosion. **NEVER** use crankcase or waste oil in your burner. Fuel unit malfunction could result from contamination.

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 combustion smoke normally associated with machines incorporating a spray gun.

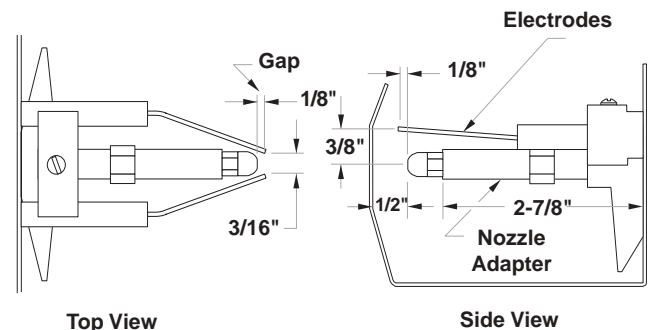
CAUTION: Periodic inspection, to insure that the fuel solenoid valve functions properly, is recommended. This can be done by operating the machine and checking to see that the burner is not firing when the spray gun is in the off position.



Fuel Pressure Adjustment

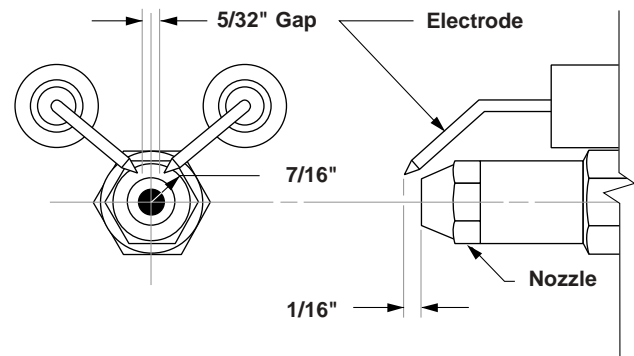
To control water temperature, adjust fuel pressure by turning the regulating pressure adjusting screw clockwise to increase, counterclockwise to decrease. Do not exceed 200 psi. **NOTE:** When changing fuel pump, a bypass plug must be installed in return port or fuel pump will not prime.

ELECTRODE SETTING: WAYNE



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

ELECTRODE SETTING: BECKETT



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.

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.

Adjustment

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

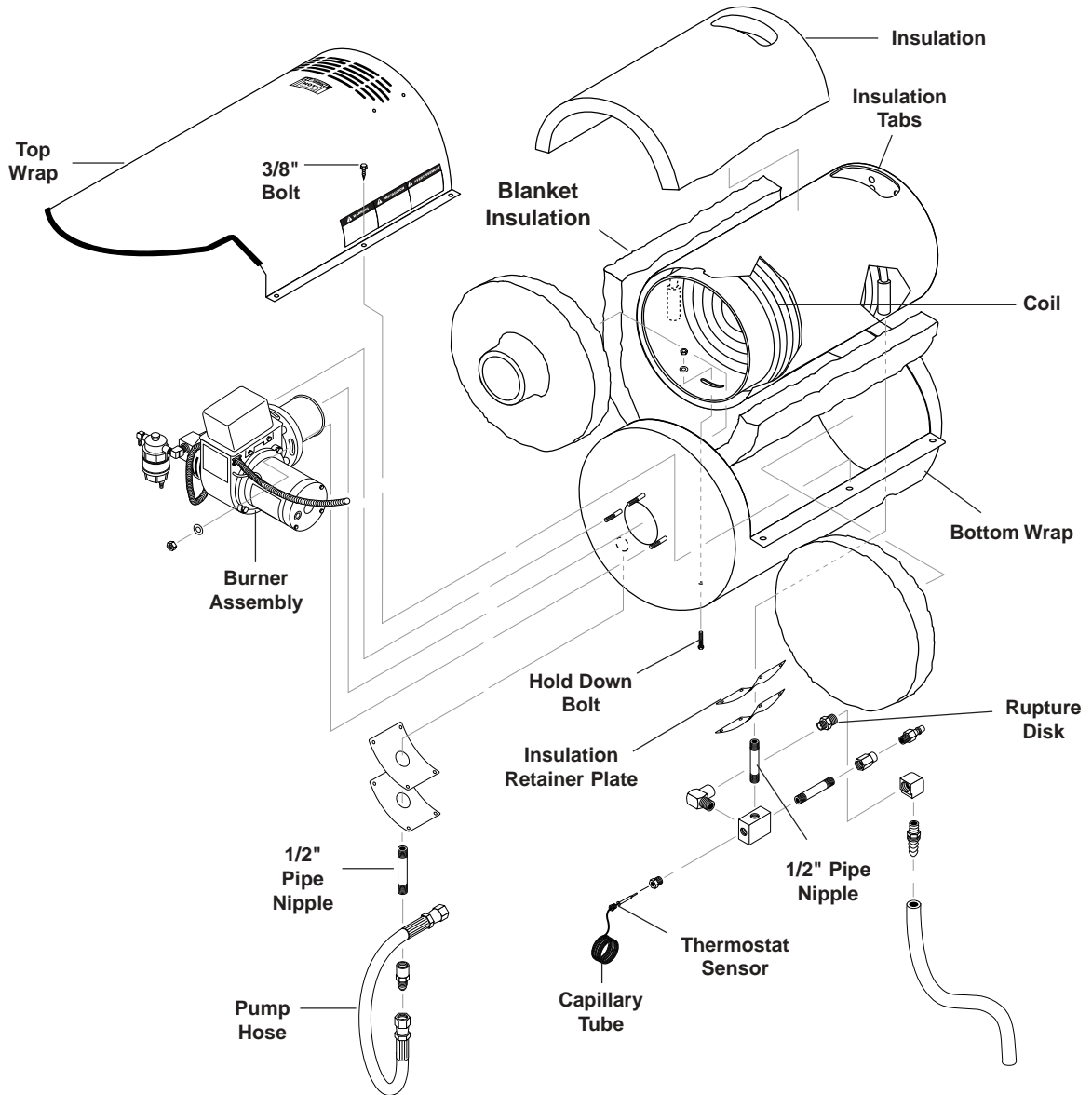
Coil removal, because of freeze breakage or to clean soot from it, can be done quickly and easily.

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 the coil and any insulation found to be broken or torn.
10. Remove insulation retainer plates.

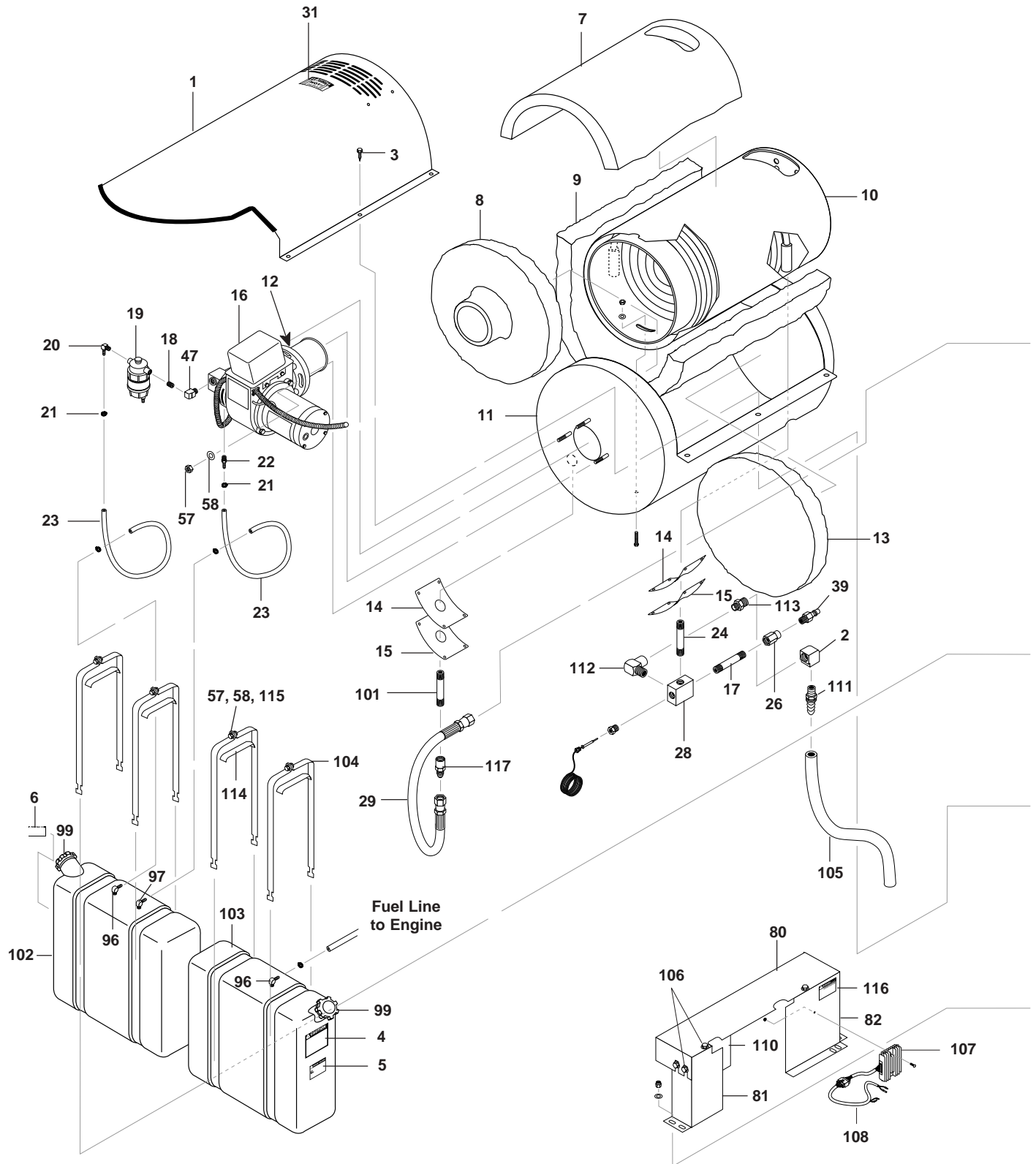
Coil Reinstallation

Reinstall new or cleaned coil reversing Steps 9 through 1.

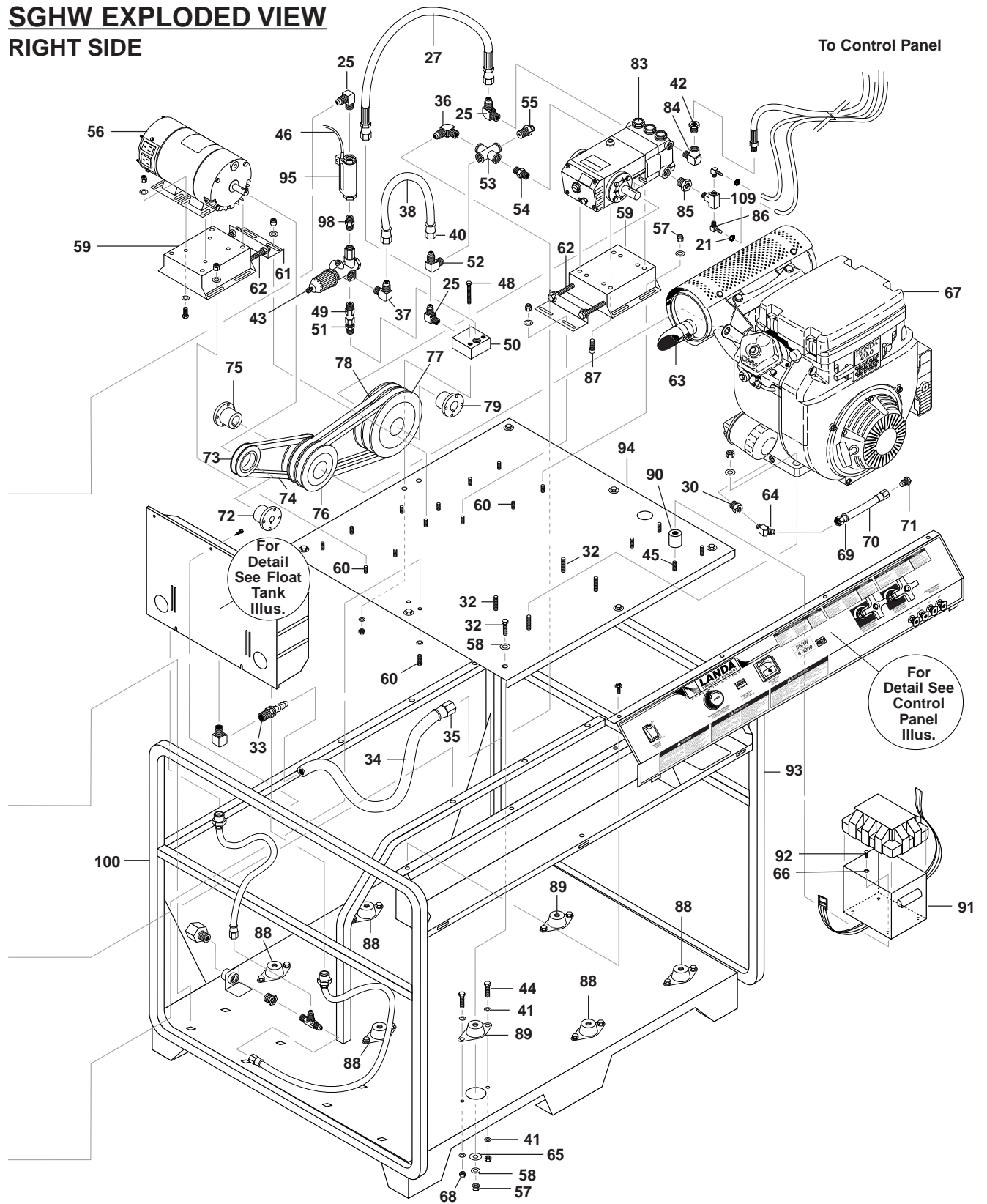
**COIL REMOVAL AND INSTALLATION
EXPLODED VIEW**



**SGHW EXPLODED VIEW
LEFT SIDE**



SGHW EXPLODED VIEW RIGHT SIDE



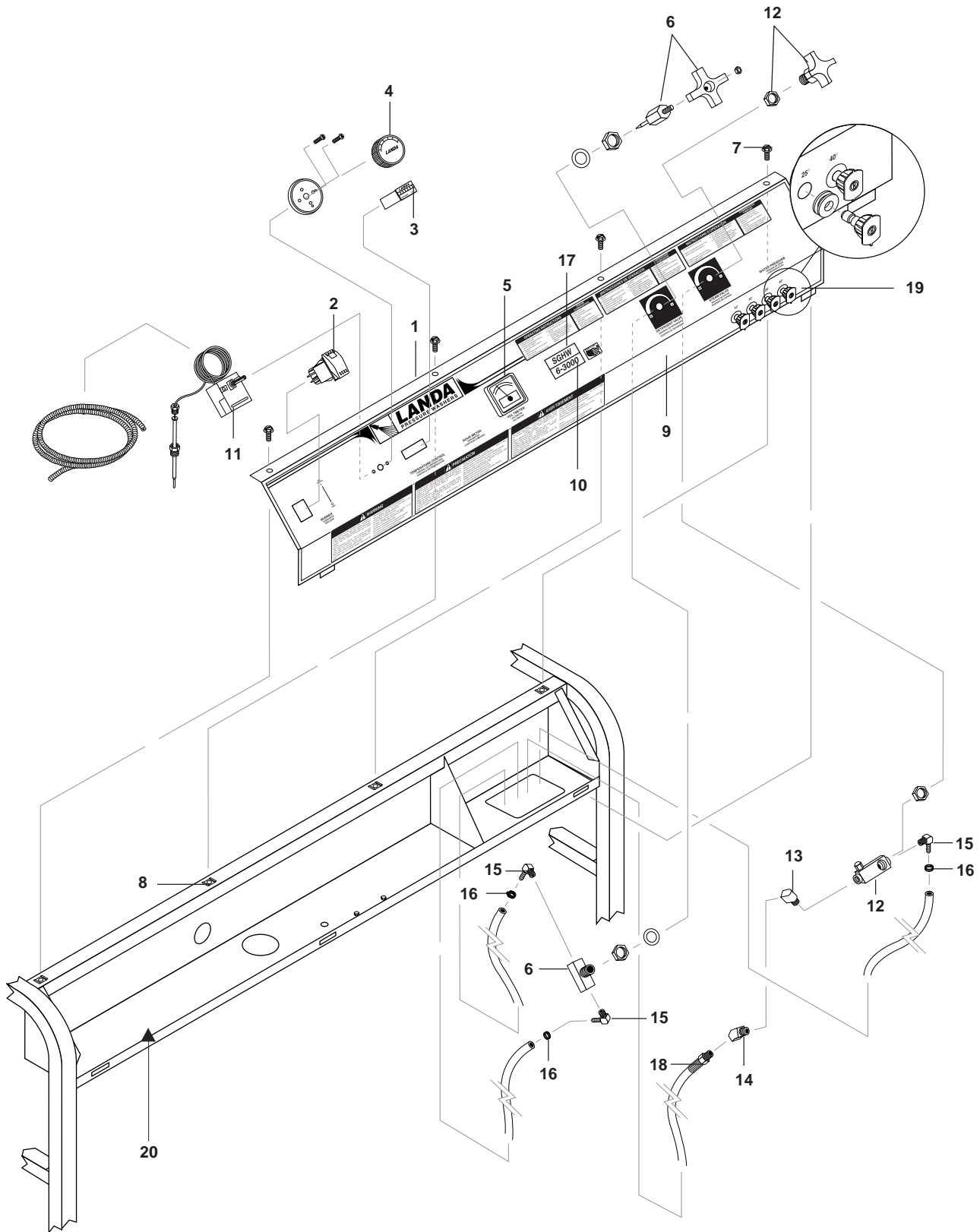
**SGHW EXPLODED VIEW
PARTS LIST**

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	95-07121014S	Top Wrap, SS, PHW Series II	1	30	2-1101	Adaptor, 3/8" x 1/4", 90° (Honda Only)	1
2	2-1019	Elbow, 3/8" Female	1	31	10-02025A	Label, "Hot Caliente"	1
3	90-19959	Screw, 3/8" x 1" Hex Wash Head, Sheet Metal	6	32	90-1021	Bolt, 3/8" x 2-1/2" HH	12
4	10-02011	Label, This Tank for Gas Only	1	33	2-11080	Push-On, 3/4" x 1/2" Male	1
5	10-02029	Label, Danger Cool Engine	1	34	4-02120000	Hose, 3/4", Push-On	5 ft.
6	10-020110	Label, Use Only Kerosene	1	35	2-11050	Swivel, 3/4" JIC Fem, Push-On	1
7	7-01484	Insulation/Blanket, 28" x 24", Die Cut	1	36	2-10630	Elbow, 3/4" JIC x 1/2", 90°	1
8	7-0141	Insulation, Burner Head, w/Hole	1	37	2-1060	Elbow, 1/2" JIC x 3/8", 90°	1
9	7-01430	Insulation, Blanket, No Foil 24" x 57"	1	38	4-02110000	Hose, 1/2"	2 ft.
10	95-07121212	Coil Replacement Schedule 80 w/Mild Steel Wrap	1	39	2-2007	Nipple, 3/8" x 3/8" NPT ST MAL	1
11	95-07121015	Wrap, Bottom, Stainless Steel	1	40	2-1105	Swivel, 1/2" JIC Fem, Push-On	2
12	7-31332	▲ Gasket, Burner, AFG	2	41	90-4001	Washer, 5/16" Flat	37
13	7-0140	Insulation, Front Head, No Hole	1	42	2-00682	Bushing, 3/8" x 1/4" Pipe	1
14	7-0144	Gasket, Burner Plate	2	43	5-3208	Unloader, AR, AL 607,	1
15	95-07121113	Insulation, Plate Retainer, PHW/ VNG Insulation	2	44	90-1008	Bolt, 5/16" x 1-1/4", NC HH	16
16	Burner Assembly, See Burner Spec's Page 21		1	45	90-1006	Bolt, 5/16" x 3/4"	4
17	2-0009	Nipple, 1/2" x 3", Galv.	1		90-4008	▲ Washer, 5/16", Lock Split Ring	4
18	2-1002	Nipple, 1/4" Close	1	46	6-021740	Switch, Reed Replacement MV60	1
19	2-9905	Filter, Fuel/Oil H ₂ O Separator	1	47	2-1022	Elbow, 1/4" Street	1
20	2-1089	Hose Barb, 1/4" Barb x 1/4" Pipe, 90°	1	48	90-1020	Bolt, 3/8" x 2", NC HH	2
21	2-9040	Clamp, Hose, 1/4"	13	49	2-0079	Swivel, 1/2" JIC x 3/8" Male	1
22	2-1085	Hose Barb, 1/4" Barb x 1/4" ML Pipe	1	50	95-07101216/B	Block, Unloader, 3/8" x 3/8" Brass	1
23	4-02100000	Hose, 1/4", Push-on	9 ft.	51	2-0051	Nipple, 1/2" JIC, 3/8" Pipe	1
24	2-00120	Nipple, 1/2" x 5", Galv.	1	52	2-1062	Elbow, 1/2" JIC x 1/2", 90°	1
25	2-0053	Elbow, 1/2" JIC x 3/8"	3	53	2-1035	Cross, 1/2" Female, Pipe	1
26	2-200241	Coupler, 1/2" x 3/8"	1	54	2-1007	Nipple, 1/2" Hex	1
27	4-02047725	Hose, 25" x 3/8", 100R2, Pressure Loop	1	55	2-30082	Pump Protector, 1/2" PTP	1
28	95-07101226	Discharge Block, 1/2"	1	56	6-0601	Generator, Winco (2000 Watt)	1
29	4-02047716	Hose, 16" x 3/8", 100R2, Pressure Loop	1	57	90-2002	Nut, 3/8", ESNA, NC	20
				58	90-4002	Washer, 3/8", SAE, Flat	40
				59	95-07121112	Rail Pump or Generator Combo (PHW/Skid)	2
				60	90-1016	Bolt, 3/8" x 1" NC HH	20
				61	95-07141110	Retainer, Pump Take-Up, Plated	2
				62	90-10220	Bolt, 3/8" x 3-1/2", Tap	4

SGHW EXPLODED VIEW PARTS LIST (CONTINUED)

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
63	77-VHLM4	▲ Muffler Kit , Honda 20 HP	1	93	95-07141010	Cage, Large Skid	1
	73-4723704	▲ Clamp, Muffler, Honda 20 HP1		94	95-07141018	Platform, Power, SGHW	1
	73-2426507	▲ Deflector, Exhaust, Honda 20 HP	1	95	6-021730	Switch, Flow MV 60	1
64	2-0056	Elbow, 1/2" JIC x 3/8", 90°	1	96	2-010064	Dip Tube, Plastic, w/Elbow	2
65	2-011981	Washer, Snubbing	8		2-010061	▲ Bushing, Rubber, Nitrile	2
66	90-4011	Washer, 5/16" Star	4	97	2-010066	Elbow, Fuel Tank	1
67	Engine, See Parts Spec's Page 22-23		1		2-010061	▲ Bushing, Rubber	1
68	90-2001	Nut, 5/16" ESNA	18	98	2-0006	Nipple, 3/8" Hex	1
69	2-1105	Swivel, 1/2" JIC Fem, Push-On	2	99	2-01167	Cap, Fuel Tank, Plastic	2
70	4-02110000	Hose, 1/2", Push-On	.40 ft.	100	95-07141010	Cage, SGHW	1
71	2-1050	Plug, 1/2" JIC, Flare	1	101	2-00101	Nipple, 1/2" x 4", Galv, Sch 80	1
72	Bushing, Generator, See Spec's Page 22-23		1	102	2-011501	Tank, Fuel, 10 Gallon, Poly, Green	1
73	Pulley, Generator, See Spec's Page 22-23		1	103	2-011503	Tank, Fuel, 10 Gallon, Poly, Red	1
74	Belt, Generator, See Spec's Page 22-23		1	104	95-07164010	Strap, Fuel Tank w/Hole	4
75	Bushing, Engine, See Spec's Page 22-23		1	105	4-02110000	Hose, 1/2" Push-On	2 ft.
76	Pulley, Engine, See Spec's Page 22-23		1	106	90-1996	Bolt, 3/8" x 3/4", Whiz Loc	5
77	Pulley, Pump, See Spec's Page 22-23		1		90-2020	▲ Nut, Cage, 3/8" x 12 Ga	3
78	Belt, Pump, See Spec's Page 22-23		2	107	77-31620-ZG5-003		
79	Bushing, Pump, See Spec's Page 22-23		1		REG/REC Honda		1
80	95-071410293	Belt Guard, Cover, Top	1	108	77-32105-ZJ1-800		
81	95-071410274	Belt Guard, End Support Gen	1		Harness, Honda, 20 AMP		1
82	95-071402733	Belt Guard, End Support Pump	1	109	2-1037	Tee, 1/4" Branch Male	1
83	Pump, See Spec's Page 22-23		1	110	95-071410292	Face Plate, Belt Guard	1
84	2-0031	Elbow, 3/8", Street	1		90-19711	Screw, 1/4" x 1/2" HH NC, Whiz Loc	2
85	2-1076	Bushing, 1/2" x 1/4" Pipe	1		90-2022	▲ Nut, Cage 1/4" x 16 Ga	2
86	2-1089	Hose Barb, 1/4" Barb x 1/4" Pipe, 90°	2	111	2-1108	Hose Barb, 1/2" Barb x 3/8" MPT, Push-On	1
87	90-10343	Bolt, 10 mm x 20 mm, HH	4	112	2-0032	Elbow, 1/2" Street, Steel	1
88	2-01012	Vibration, Isolator, LR1-75	6	113	2-3409	Rupture Disc Assy, 7000 PSI	1
89	2-01013	Vibration, Isolator, LR1-100	2	114	2-4019	Gasket, Fuel Tank	4
90	2-01011	Isolator, 5/16", F x F, 1"	4	115	90-1019	Bolt, 3/8" x 1-3/4"	4
91	2-0117	Box, Battery, Small	1	116	10-02028	Label, Warning, Exposed Pulleys	2
	2-011700	▲ Plate, Battery Box, Small, Polypro	1	117	2-0083	Adapter, 1/2" JIC x 1/2" Female	1
92	90-10051	Screw, 5/16" x 1/2", Button Head	4			▲ Not Shown	

**SGHW CONTROL PANEL
ALL MODELS**

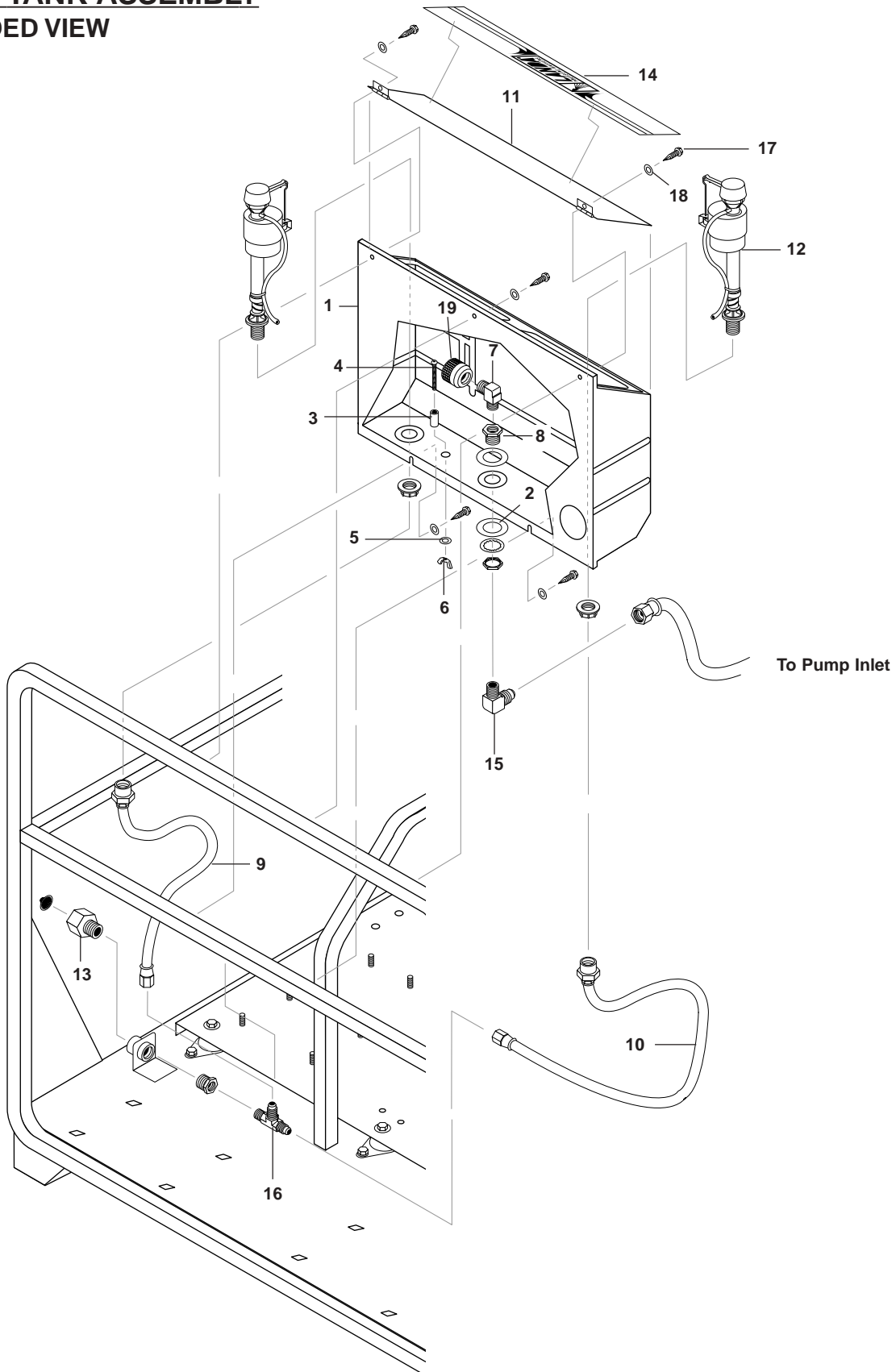


**SGHW CONTROL PANEL
PARTS LIST**

ITEM	PART NO.	DESCRIPTION	QTY
1	95-07141019	Panel, SGHW Control	1
2	6-020240	Switch, Rocker	1
3	4-050822	Hour Meter, 115 Vac	1
4	10-02033	Label, Thermostat w/Numbers	1
5	4-0507	Volt Meter, 120V AC	1
6	2-3015	Valve/Control Metering	1
	90-4005	▲ Washer, 5/8" SAE Flat Zinc	1
	90-40073	▲ Washer, 5/8" Internal Star-Zinc	1
7	90-19942	Screw, 10/32" x 3/4" Hex	4
8	90-2018	Nut, Cage, 10/32" x 16 Ga.	4
9	10-07999	Label, SGHW/SDHW Control Panel	1
10	10-2063500	Label, 6-3500 Lexan	1

ITEM	PART NO.	DESCRIPTION	QTY
11	4-05088	Thermostat, General, 302°	1
12	2-30151	Valve, Flow Control w/Metering	1
	90-4005	▲ Washer, 5/8" SAE, Flat, Zinc	1
	90-40073	▲ Washer, 5/8" Star, Zinc	1
13	2-1022	Elbow, 1/4" Street 90°	1
14	2-10260	Elbow, 1/4" Street 45°	1
15	2-1089	Hose Barb, 1/4" Barb x 1/4" Pipe	3
16	2-9040	Clamp, Hose, 1/4"	3
17	10-020SGHW	Label, SGHW Lexan	1
18	4-02021236	Hose, 36" x 1/4", 100R2, Gauge Line	1
19	2-0103	Grommet, 1/8", Rubber	4
20	90-1994	▲ Screw, 10/32" x 1-1/4" (ground)	1
	90-017	▲ Nut, 10/32"	3
	11-1042	▲ Label, Ground	1
		▲ Not Shown	

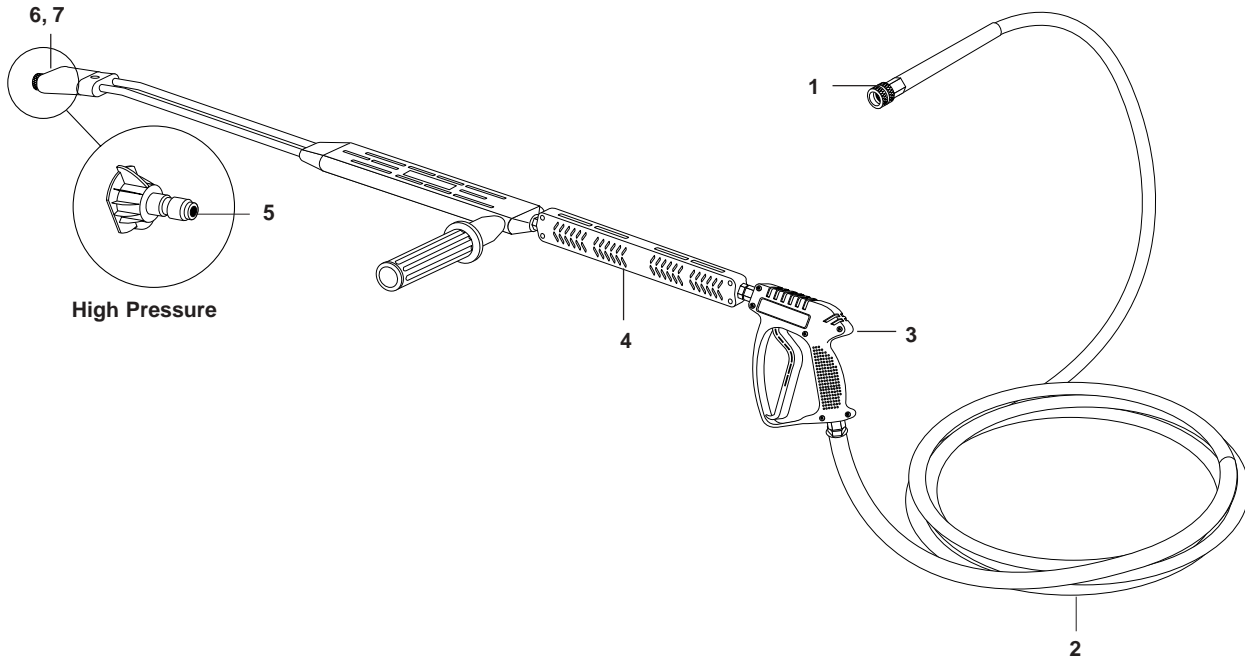
**FLOAT TANK ASSEMBLY
EXPLODED VIEW**



**FLOAT TANK ASSEMBLY
EXPLODED VIEW PARTS LIST**

ITEM	PART NO.	DESCRIPTION	QTY
1	2-01164	Tank, Plastic Universal	1
2	90-4017	Washer, 1-3/16" x 2-1/4", Steel Rubber	1
3	4-01240000	Tubing, 5/16" x 9/16", Rubber	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
	2-0151	Plug, Float Tank Assembly (Items 3-6)	1
7	2-1062	Elbow, 1/2" JIC x 1/2", 90°	1
8	2-11041	Connector, 1/2" Anchor	1
9	4-02100030	Hose, Inlet, 30" Supply Water	1
10	4-02100045	Hose, Inlet, 45" 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
	2-1902	Strainer, Inlet Garden Hose	1
14	10-99057	Label, Landa	1
15	2-10630	Elbow, 3/4" JIC x 1/2", 90°	1
16	2-10712	Tee, 1/2" x 1/2" JIC #51	1
17	90-300210	Screw, #14 x 1", Tek, Blk	5
18	90-40002	Washer, 1/4", SAE, Blk	5
19	2-1906	Strainer, 1/2" Basket	1

SGHW HOSE, SPRAY GUN & WAND



ITEM	PART NO.	DESCRIPTION	QTY
1	2-2002	Coupler, 3/8" Female	1
	2-0121	▲ Quick Coupler 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	Wand, SS, VP (AL344) w/Coupler & Soap Nozzle	1
	83-SSVPKIT	▲ Repair Kit AR, Stainless Seat	1
5	4-12805500	Nozzle, SAQ MEG 0005.5, Red	1

ITEM	PART NO.	DESCRIPTION	QTY
5	4-12805515	Nozzle, SAQ MEG 1505.5, Yellow	1
	4-12805525	Nozzle, SAQ MEG 2505.5, Green	1
	4-12805540	Nozzle, SAQ MEG 4005.5, White	1
6	4-06540	▲ Brass Soap Nozzle Only, 1/8"1	
7	2-2000	▲ Quick Coupler, 1/4" Female	1
	2-0119	▲ Quick Coupler O-Ring 1/4" Replacement Only	1
		▲ Not Shown	

BECKETT BURNER SPECIFICATIONS

Model No.	Burner Assy No.	Fuel Nozzle	Transformer	Burner Motor	Fuel/Pump Solenoid/Cord	Fuel Solenoid Coil	Electrode
SGHW6-35324E	7-00011	7-01284	7-51824	7-21344U	7-21844U	7-21755U	7-578703

WAYNE BURNER SPECIFICATIONS

Model No.	Burner Assy No.	Fuel Nozzle	Transformer	Burner Motor	Fuel/Pump Solenoid/Cord	Fuel Solenoid Coil	Electrode
SGHW6-35321E	7-00034	7-0128	7-20358	7-0005	7-0009	7-0009611	7-13286

PARTS SPECIFICATIONS: LANDA PUMP

PUMP										ENGINE			
Machine	PSI	Pump		Pulley		Bushing	Belt	Belt					
Model	Nozzle	Model	Part #	Pulley	Part #	Bushing	Part #	Size/Qty	Part #	Size	Type	Part #	Pulley
6-35324E	5.5	LT6035/L	5-1733	2BK90H	5-40509001	25mm	5-512501	BX36 (2)	5-604036	20HP	HONDA	5-01093	3TB36H

PARTS SPECIFICATIONS: GENERAL PUMP

PUMP										ENGINE			
Machine	PSI	Pump		Pulley		Bushing	Belt	Belt					
Model	Nozzle	Model	Part #	Pulley	Part #	Bushing	Part #	Size/Qty	Part #	Size	Type	Part #	Pulley
6-35321E	5.5	TS2021/L	5-2306	2BK80H	5-40508001	24mm	5-512401	BX34 (2)	5-604034	20HP	HONDA	5-01093	3TB34H

ENGINE (CON'T)

GENERATOR

Model (Con't)	Pulley Part #	Bushing Bushing	Bushing Part #	Pulley	Pulley Part #	Bushing	Bushing Part #	Belt Size/Qty	Belt Part #
5-35324E	5-407036	P2x1"	5-531112	BK34H	5-40503401	5/8"	5-511063	BX22 (1)	5-604022

ENGINE (CON'T)

GENERATOR

Model (Con't)	Pulley Part #	Bushing Bushing	Bushing Part #	Pulley	Pulley Part #	Bushing	Bushing Part #	Belt Size/Qty	Belt Part #
6-35321E	5-407034	P2x1"	5-531112	BK32H	5-40503201	5/8"	5-511063	BX22 (1)	5-604022

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
LOW OPERATING PRESSURE	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.
	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.
BURNER WILL NOT LIGHT	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	Replace air bands for clean burn.
	Little or no fuel pressure from fuel pump	Increase fuel pressure to specifications and/or replace fuel pump. Test with pressure gauge.
	Faulty burner transformer	Test transformer for proper arc between contacts. Replace as needed.
	Disconnected or short in electrical wiring	All wire contacts should be clean and tight. No breaks in wires.
	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.
	(Continued on next page)	Improper electrode setting

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
BURNER WILL NOT LIGHT (Continued from previous page)	Fuel 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.
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.
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.
	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.
	Obstruction in smoke stack	Check for insulation blockage or other foreign objects.
	Low engine RPM	Increase RPM.
LOW WATER TEMPERATURE	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.
WATER TEMPERATURE TOO HIGH	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 pressure.
	Insufficient water supplied	Check water GPM to machine
	Restrict water flow	Check nozzle for obstruction, proper size.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
PUMP NOISY	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.
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.
	Cracked piston	Check and replace if necessary.
	Pump protector	Lower water supply pressure. Do not run with spray gun closed longer than 5 minutes.
OIL DRIPPING	Oil seal worn	Check and replace if necessary.
EXCESSIVE VIBRATION IN DELIVERY LINE	Irregular functioning of the valves	Check and replace if necessary.
DETERGENT NOT DRAWING	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.
BURNER MOTOR WILL NOT RUN	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.
RELIEF VALVE/ RUPTURE DISK LEAKS WATER	Excessive pressure, thermal expansion	Replace or repair.

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		
Engine Oil (30W Motor Oil)	Inspect	Daily
	Change	Every 50 hours or monthly
	Filter	Every 50 hours
Air Cleaner	Inspect	Every 50 hours
	Clean	Monthly
Battery Level		Check monthly
Engine Fuel Filter		500 hours or 6 months
Spark Plug Maintenance		500 hours or annually
Clean Fuel Tank(s)		Annually
Replace Fuel Lines		Annually
Pump Oil (Non detergent 30W)	Inspect	Oil level daily
	Change	After first 50 hours, then every 500 hours or annually
Replace High Pressure Nozzle		6 months
Replace Quick Connects		Annually
Discharge Pressure Relief Valve		Annually
Clean Water Screen/Filter		Weekly
Replace HP Hose		Annually
Belts	Tighten	6 months
	Inspect/Replace	6 months

DATE OIL CHANGED MONTH/DAY/YEAR	ESTIMATED OPERATING HOURS SINCE LAST OIL CHANGE

DATE OIL CHANGED MONTH/DAY/YEAR	ESTIMATED 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 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 LANDA pumps have a 7 year warranty.

ONE YEAR 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 is not authorized and has no responsibility to provide warranty service for such components.

WHAT THIS WARRANTY DOES NOT COVER

This warranty does not cover the following items:

1. Normal wear items, such as nozzles, spray 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. Our obligation under this warranty is expressly limited at our option to the replacement or repair at a service facility or factory designated by us, of such part or parts as inspection shall disclose to have been defective. **THE WARRANTY CONTAINED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY.** 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. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.



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