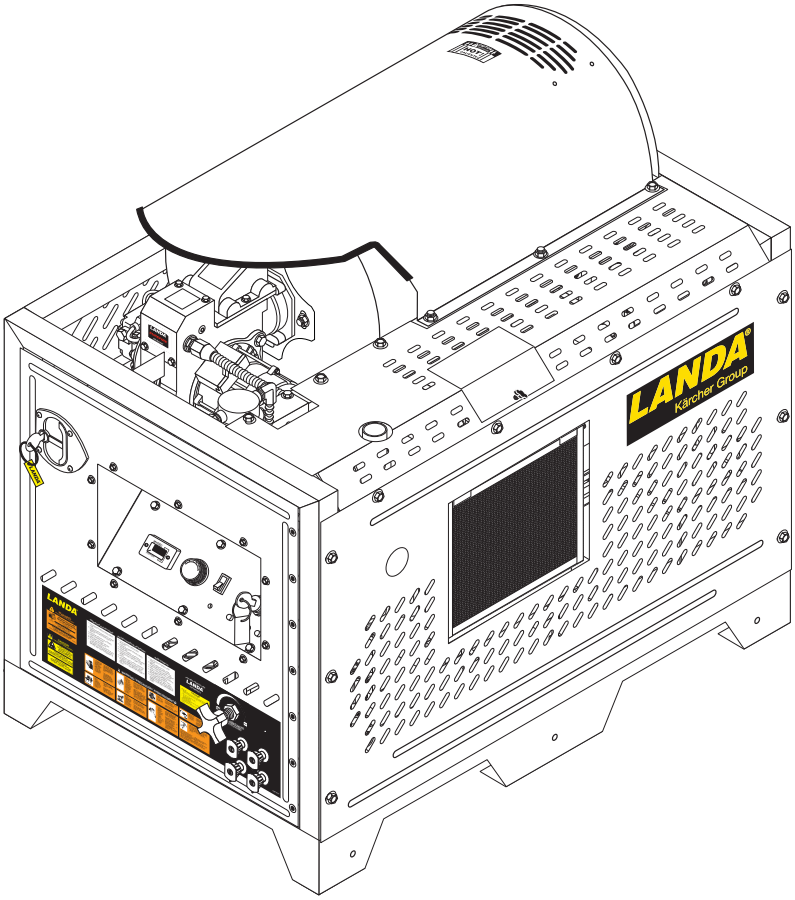
PDHW

Hot Water - Diesel Powered - Diesel/Oil Heated

LANDA®
Kärcher Group

Service Manual

Pressure Washer



MODELS: **PDHW5-35624E**
1.110-060.0

PDHW5-35624E/G
1.110-062.0

PDHW5-35624E/SS
1.110-061.0

PDHW5-35624E/G/SS
1.110-063.0

For the Landa Dealer nearest you, consult our web page at **www.landa.com**

8.920-098.0-V 08/28/17

Model: _____

Date of Purchase: _____

Serial Number: _____

Dealer: _____

Address: _____

Phone Number: _____

Sales Representative: _____

This manual contains the following sections:

- How to Use This Manual
- Maintenance
- Parts List

The HOW TO USE THIS MANUAL section will tell you how to find important information for ordering correct repair parts.

Parts may be ordered from authorized dealers. When placing an order for parts, the machine model and machine serial number are important. Refer to the MACHINE DATA box which is filled out during the installation of your machine. The MACHINE DATA box is located on the inside of the front cover of this manual.

Model: _____

Date of Purchase: _____

Serial Number: _____

Dealer: _____

Address: _____

Phone Number: _____

Sales Representative: _____

The model and serial number will be found on a decal attached to the pressure washer.

The MAINTENANCE section contains preventive maintenance to keep the machine and its components in good working condition. They are listed in this general order:

- Check list
- Unloader Valves
- Winterizing Procedure
- High Limit Hot Water Thermostat
- Pumps
- Cleaning of Coils
- Removal of Soot and Heating Coil
- Rupture Disk
- Fuel
- Burner Nozzle
- Landa Surefire Oil Burner
- Burner Air Adjustment
- Coil Removal
- Coil Reinstallation
- Preventative Maintenance
- Maintenance Schedule
- Engine Maintenance Schedule
- Troubleshooting

The PARTS LIST section contains assembled parts illustrations and corresponding parts list. The parts lists include a number of columns of information:

- **REF –** column refers to the reference number on the parts illustration.
- **PART NO.** – column lists the part number for the part.
- **QTY** – column lists the quantity of the part used in that area of the machine.
- **DESCRIPTION** – column is a brief description of the part.
- **NOTES** – column for information not noted by the other columns.

NOTE: If a service or option kit is installed on your machine, be sure to keep the KIT INSTRUCTIONS which came with the kit. It contains replacement parts numbers needed for ordering future parts.

NOTE: The manual part number is located on the lower right corner of the front cover.

Check List

1. Check to see that water pump is properly lubricated.
2. Follow winterizing instructions to prevent freeze damage to pump and coils.
3. Always neutralize and flush detergent from system after use.
4. If water is known to be high in mineral content, use a water softener on your water system, or de-scale as needed.
5. Do not allow acidic, caustic or abrasive fluids to be pumped through system.
6. Always use high grade quality cleaning products.
7. Never run pump dry for extended periods of time.
8. Use clean diesel. Clean or replace fuel filter every 300 hours or 6 months of operation. Avoid water contaminated fuel as it will damage the fuel pump.
9. If machine is operated with smoky or eye burning exhaust, coils will soot up, not letting water reach maximum operating temperature.
10. Never allow water to be sprayed on or near the engine or burner assembly or any electrical component.
11. Periodically delime coils as per instructions.
12. Check to see that engine is properly lubricated.

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

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

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

Unloader Valves

Unloader valves are preset and tested at the factory before shipping. Tampering with the factory setting may cause personal injury and/or property damage, and will void the manufacturers warranty.

Winterizing Procedure

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

During winter months, when temperatures drop below 32°F, protecting your machine against freezing is necessary. Store the machine in a heated room. If this is not possible then mix a 50/50 solution of anti-freeze and water in the float tank. Turn the engine on to siphon the anti-freeze mixture through the machine. If compressed air is available, an air fitting can be screwed into the float tank by removing the float tank strainer and fitting. Then inject the compressed air. Water will be blown out of the machine when the trigger on the spray gun is opened.

High Limit Hot Water Thermostat

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

Pumps

Use only SAE 10W-40 non-detergent oil. Change oil after first 50 hours of use. Thereafter, change oil every three months or at 500 hour intervals. Oil level should be checked through use of dipstick found on top of pump, or the red dot visible through the oil gauge window. Oil should be maintained at that level.

Cleaning of Coils

In alkaline water areas, lime deposits can accumulate rapidly inside the heating coil. This growth is increased by the extreme heat build up in the coil. The best preventative for liming conditions is to use high quality cleaning detergents. In areas where alkaline water is an extreme problem, periodic use of Landa Deliming Powder (Landa Part #8.718-911.0) will remove lime and other deposits before coil becomes plugged. (See Deliming instructions for use of Landa Deliming Powder.)

De-liming 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 de-liming powder. Mix thoroughly. Pour mixture into float tank.

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

Step 3: Turn engine on, allowing solution to be pumped through coils back into the float tank. The solution should be allowed to circulate 2-4 hours or until the color changes.

Step 4: After circulating solution, flush the entire system with fresh water. Clean out float tank and then reinstall wand assembly to spray gun.

Removal of Soot and Heating Coil

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

Rupture Disk

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

Fuel

CAUTION: Use Ultra Low Sulfur Fuel only.

Diesel fuel must be clean, fresh, meet fuel specifications and be sourced from a known and reputable supplier. Clean, fresh and properly specified diesel fuel will provide assurances of maximum engine performance and maximum fuel injection system longevity. The use of out-of-spec, dirty or questionable quality diesel fuel will result in engine performance and start ability problems as well as reductions in engine and fuel injection system life.

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

Fuel Control System

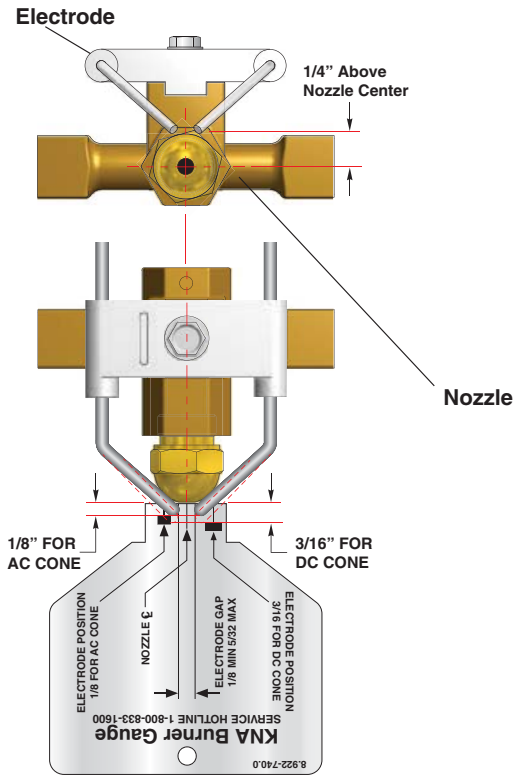
This machine utilizes a fuel solenoid valve located on the fuel pump to control the flow of fuel to the combustion chamber. The solenoid, which is normally closed, is activated by a flow switch when water flows through it. When the operator releases the trigger on the spray gun, the flow of water through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

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

Fuel Pressure Adjustment

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

Electrodes Setting



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

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.

LANDA Sure Fire Oil Burner

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

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

Burner Air Adjustment

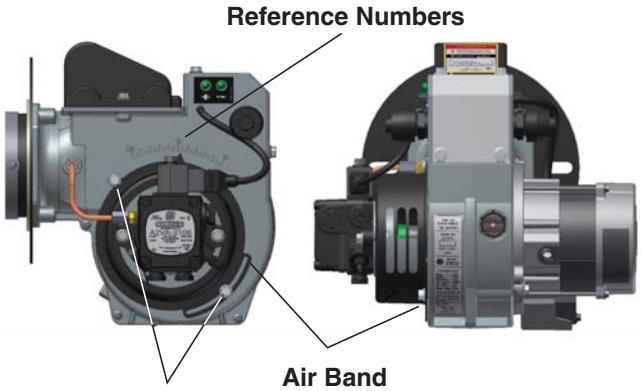
CAUTION: If white smoke appears from burner exhaust vent during start-up or operation, discontinue use and readjust air bands.

NOTE: If a flue is installed, have a professional serviceman adjust your burner for a #1 or #2 smoke spot on the Bacharach scale.

Coil Removal

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

1. Disconnect hose from pump to inlet side of the coil.
2. Carefully disconnect the thermostat sensor making sure you do not crimp the capillary tube.



3. Remove burner assembly from combustion chamber.
4. Remove the 3-3/8" bolts from each side of coil and tank assembly (these bolts are used to fasten tank to chassis).
5. Remove fittings connected to the 1/2" pipe nipples from inlet and discharge sides of coil.
6. Remove top tank wrap, bend back insulation tabs and fold back blanket.
7. Remove bolts that hold down coil to bottom wrap.
8. Remove coil.
9. Replace or repair any insulation found to be torn or broken.
10. Remove insulation retainer plates.

Coil Re-Installation

To reinstall new or cleaned coil, reverse steps 9 through 1.

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 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		
Pump Oil (Non-detergent) SAE 10W-40	Inspect	Oil level daily
	Change	After first 50 hours, then every 500 hours or annually
Replace High Pressure Nozzle		Every 6 months
Replace Quick Connects		Annually
Clean Water Screen/Filter		Weekly
Replace HP Hose		Annually

Check pump oil level before first use of your new Power Washer. Change pump oil after first 50 hours and every month or 500 hours thereafter. Use SAE 10/40W non-detergent oil

Oil Change Record.

PUMP OIL Date Changed Month/Day/Year	Estimated Operating Hours Since Last Oil Change

ENGINE OIL Date Changed Month/Day/Year	Estimated Operating Hours Since Last Oil Change

The following is the basic maintenance information for the Kubota engine:

Kubota Engine Maintenance Schedule		
Engine Oil SAE 10W-30 API CF rating Cj-4	Inspect	Oil level daily
	Oil & Filter Change	After first 50 hours, then every 200 hours
Lubrication		SAE Multi-Purpose Type Grease
Air Cleaner Element		Clean every 100 hours
Radiator Screen		Clean every 50 hours
Fuel Filter		Replace every 300 hour

NOTE: Read Kubota engine manual for any maintenance or service questions.

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. Re-tape leaks with teflon tape.
	Faulty or mis-adjusted unloader valve	Adjust unloader for proper pressure. Install repair kit when needed.
	Worn packing in pump	Install new packing kit.
	Fouled or dirty inlet or discharge valves in pump	Clean inlet and discharge valves.
	Worn inlet or discharge valves	Replace with valve kit.
	Obstruction in spray nozzle	Remove obstruction.
	Leaking pressure control valve	Rebuild or replace as needed.
	Slow engine RPM	Set engine speed at proper specifications.
	Pump sucking air	Check water supply and possibility of air seepage.
	Valves sticking	Check and clean or replace if necessary.
	Unloader valve seat faulty	Check and replace if necessary.
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.
	Mis-adjusted burner air bands	Readjust air bands for clean burn.
	Little or no fuel pressure from fuel pump	Increase fuel pressure to specification and/or replace fuel pump. Test with pressure gauge.
	Faulty burner transformer	Test transformer for proper arc between contacts. Replace as needed.
	Disconnected or short in electrical wiring	All wire contacts should be clean and tight. No breaks in wire
	Flex coupling slipping on fuel pump shaft or burner motor shaft	Replace if needed.
	On-Off switch defective	Check for electrical current reaching burner assembly with burner switch on.
	Heavy sooting on coil and burner can cause interruption of air flow and shorting of electrodes	Clean as required.
	Improper electrode setting	Check and reset according to diagram in Operator's Manual.
(continued on next page)	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.

PROBLEM	POSSIBLE CAUSE	SOLUTION
BURNER WILL NOT LIGHT **(continued from previous page)**	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.
	Engine altitude	The engine is preset for operation at altitudes below 1000 feet above sea level. If operated at higher altitudes, it may be necessary to adjust the engine. Contact your local authorized engine sales and service center for details.
MACHINE SMOKES WHILE BURNER UNIT IS RUNNING **OR** **UNIT SMOKES AT COLD-START ONLY WHEN BURNER IS OFF**	Improper fuel or water in fuel	Drain tank and replace contaminated fuel.
	Air adjustment is improper	Readjust air bands on burner assembly.
	Fuel pressure is low <140 psi for burner	Adjust fuel pump pressure to specifications.
	Burner nozzle spray pattern is faulty	Replace nozzle Check parts breakdown for nozzle size.
	Faulty burner nozzle spray pattern	Replace nozzle Check parts breakdown for nozzle size
	Coil and burner assembly have heavy accumulation of soot	Remove coils and burner assembly, clean thoroughly Call local dealer.
	Misaligned electrode setting	Realign electrodes to specifications.
	Smoke stack has obstruction	Check for insulation blockage or other foreign objects.
	Engine RPM is low	Increase RPM to correct specs. See serial plate.
	Fuel Pressure is too high for clean burn (fuel PSI above >140 and below 200) and smokes when burner is off	Reduce fuel pressure PSI/Increase air band set for cleaner without max water heat loss

Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
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 HOT	Incoming water to machine warm or hot	Lower incoming water temperature.
	Fuel pump pressure too high	See specifications for proper fuel pressure.
	Fuel pump defective	Replace fuel pump.
	Detergent line sucking air	Tighten all clamps. Check detergent lines for holes
	Defective temperature switch	Replace.
	Incorrect fuel nozzle size	See specifications for proper fuel nozzle.
	Insufficient water supplied	Check water G.P.M. to machine.
	Restricted water flow	Check nozzle for obstruction, proper size.
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 2 minutes.

PROBLEM	POSSIBLE CAUSE	SOLUTION
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 restricter. 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.
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.
	Nozzle incorrectly sized	Check and replace if necessary (See serial plate for proper size).
	Unloader valve seat faulty	Check and replace if necessary.
	Worn piston packing	Check and replace if necessary.
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 LEAKS WATER	Relief valve defective	Replace or repair.

Parts

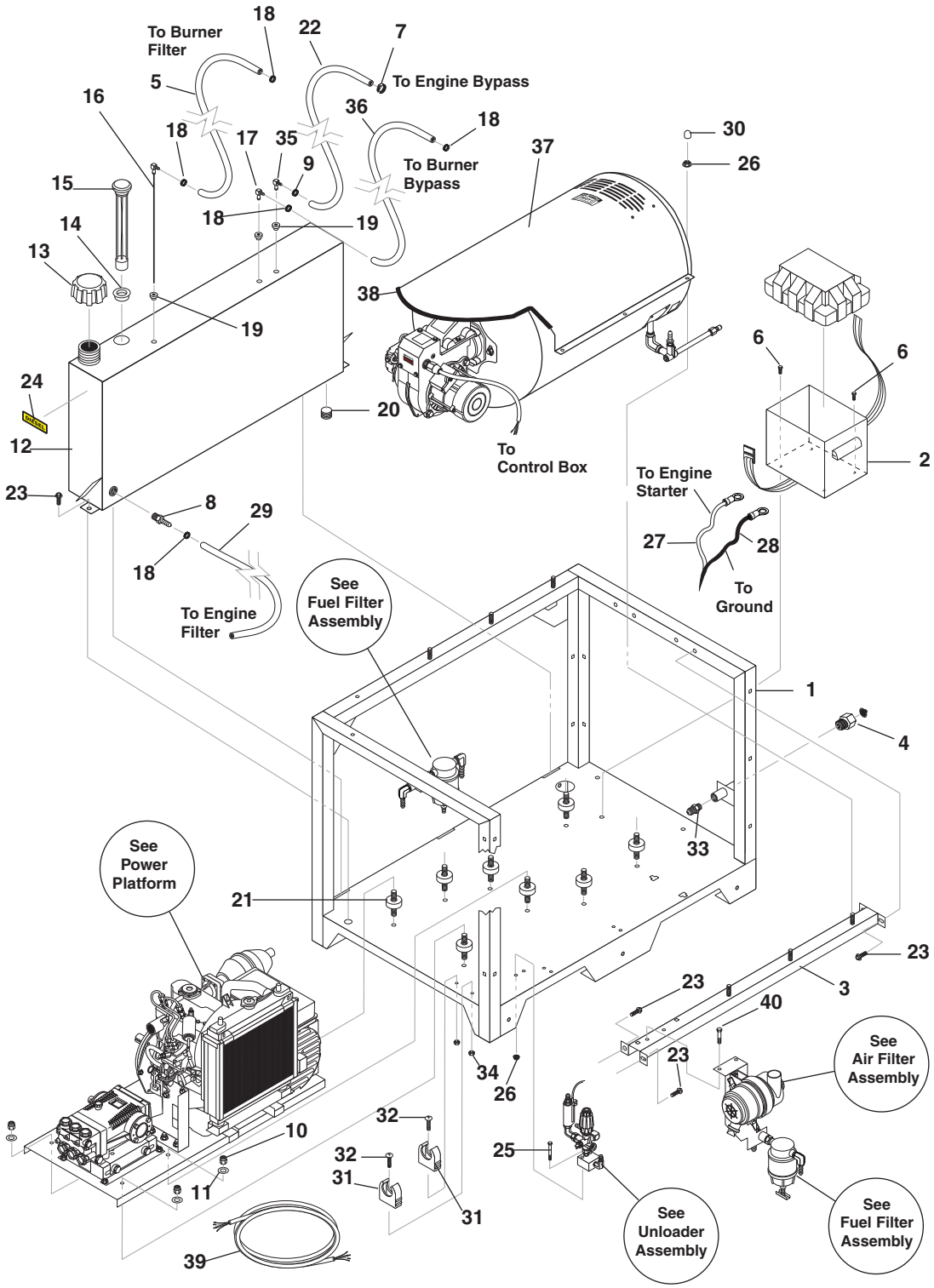
PDHW5-35624E
1.110-060.0

PDHW5-35624E/G
1.110-062.0

PDHW5-35624E/SS
1.110-061.0

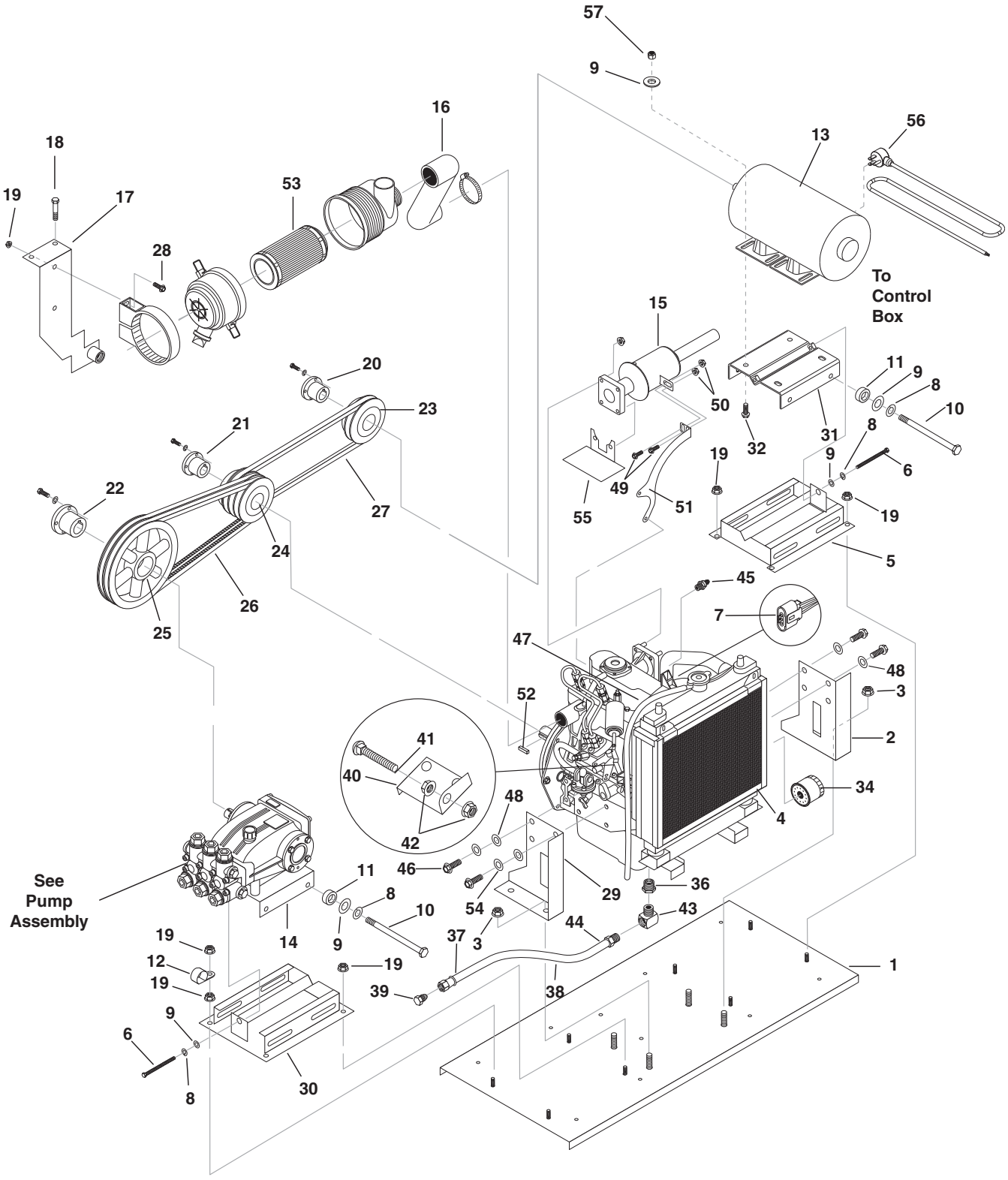
PDHW5-35624E/G/SS
1.110-063.0

LANDA PDHW



REF	PART NO.	QTY	DESCRIPTION	NOTES
1	8.919-950.0	1	WLMT, SKID, PDHW	
-	8.919-951.0	1	WLMT, SKID, PDHW, SS	
2	8.706-600.0	1	BATTERY, BOX, M-100, LARGE	
3	8.920-106.0	1	WLMT, SUPPORT, COIL PDHW	
-	8.920-173.0	1	WLMT, SUPPORT, COIL PDHW SS	

REF	PART NO.	QTY	DESCRIPTION	NOTES
4	9.802-146.0	1	SWIVEL, 1/2" MP X 3/4" GHF W/STRAINER	
5	9.802-254.0	28"	HOSE, 1/4" PUSH-ON	
6	9.802-708.0	2	SCREW, 5/16 X 3/4	
7	8.709-069.0	1	CLAMP, SCREW	
8	8.706-941.0	1	HOSE BARB, 1/4" BARB X MPT, BRASS	
9	8.709-116.0	2	CLAMP, .40 -.48	
10	9.802-776.0	8	NUT, 5/16" ESNA, NC	
-	9.802-777.0	8	NUT, 5/16" ESNA, NC, SS	
11	8.718-980.0	8	WASHER, 5/16" FLAT, SAE	
-	9.802-805.0	8	WASHER, 5/16" FLAT, SAE, SS	
12	8.919-956.0	1	WLMT, FUEL TANK, PDHW	
-	8.919-957.0	1	WLMT, FUEL TANK, PDHW, SS	
13	9.802-082.0	1	CAP, FUEL, PLASTIC H60-AV1	
14	9.803-604.0	1	SLEEVE, FUEL LEVEL/SWITCH	
15	8.750-574.0	1	GAUGE, FUEL LEVEL 19"	
16	8.751-448.0	1	DIPTUBE ASSY, PLASTIC, 19.50" LONG	
17	9.802-054.0	1	ELBOW, 1/4" ZINC	
18	6.390-126.0	5	CLAMP, HOSE, .46- .54 ST	
19	9.802-053.0	3	BUSHING, FUEL LINE, RUBBER	
20	8.706-246.0	1	PLUG, 1/4" ALLEN COUNTER SUNK	
21	8.751-816.0	8	MOUNT, RUBBER	
22	9.802-255.0	48"	HOSE, 3/16 PUSH-ON	
23	9.802-767.0	6	SCREW, 3/8" X 3/4" NC,WHIZ LOC FLANGE	
-	8.751-864.0	6	SCREW, 3/8" X 3/4" NC,WHIZ LOC FLANGE, SS	
24	8.932-960.0	1	LABEL, DIESEL FUEL	
25	9.802-728.0	2	BOLT, 3/8"-16 X 2" HH ZINC	
-	8.718-668.0	2	BOLT, 3/8"-16 X 2" HH SS	
26	9.802-781.0	8	NUT, 3/8" NC, WHIZ LOC FLANGE	
-	9.802-788.0	8	NUT, 3/8" NC, WHIZ LOC FLANGE, SS	
27	9.802-503.0	1	CABLE, BATTERY, 32" RED, 4 GA	
28	9.802-504.0	1	CABLE, BATTERY, 36" BLACK, 4 GA	
29	9.802-254.0	36"	HOSE, 1/4" PUSH-ON	
30	8.750-435.0	6	CAP, BLACK VINYL, .365 X 1/2"	
31	9.802-203.0	2	CLAMP,1/2" RO-CLIP, KLEINHUIS	
32	8.718-812.0	2	SCREW, 10/32" X 3/4"	
33	8.706-902.0	1	NIPPLE, 3/4" JIC X 1/2" NPT	
34	9.802-696.0	2	NUT, 10/32" NF, KEP	
35	8.706-500.0	1	ELBOW, 3/16 ZINC	
36	9.802-254.0	39"	HOSE, 1/4" PUSH-ON	
37	8.912-192.0	1	WRAP, TOP, STAINLESS	
38	9.802-071.0	33"	TRIM, 750	
39	8.920-286.0	1	WIRING HARNESS PDHW	
40	9.802-708.0	2	SCREW, 5/16" X 3/4" WHIZ LOC	
-	8.751-837.0	2	SCREW, 5/16" X 3/4" WHIZ LOC, SS	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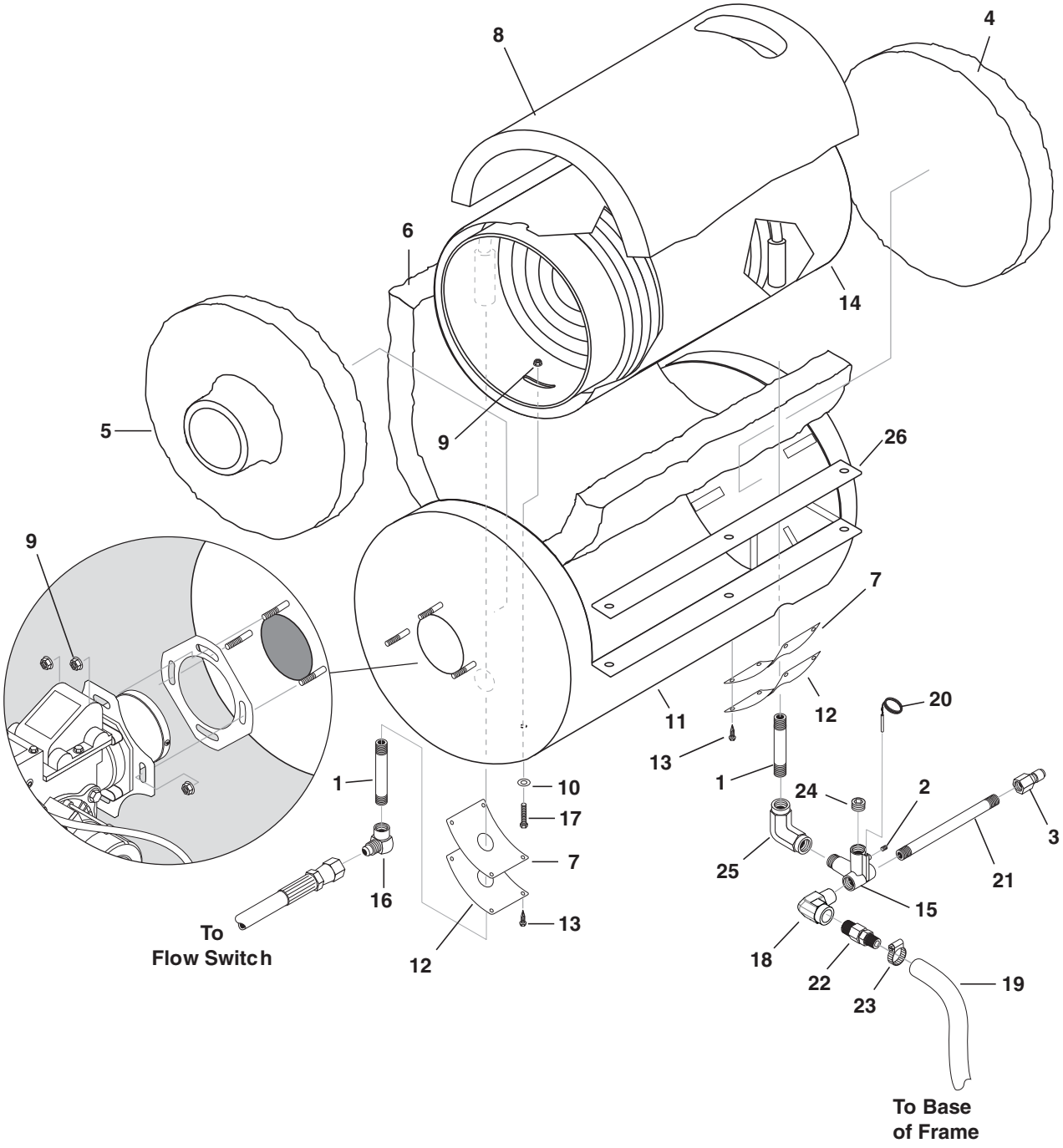
REF	PART NO.	QTY	DESCRIPTION	NOTES
1	8.919-952.0	1	WLMT, PLATFORM, KUBOTA	
-	8.919-953.0	1	WLMT, PLATFORM, KUBOTA, SS	
2	8.920-091.0	1	BRACKET, ENGINE KUBOTA, RIGHT	
-	8.920-167.0	1	BRACKET, ENGINE KUBOTA, RIGHT SS	
3	8.718-830.0	4	NUT, 1/2", FLANGE, SS	
4	8.751-398.0	1	ENGINE, KUBOTA Z602-E3B-DEA-2	
5	8.917-389.0	1	WLMT, PUMP RAIL, BLACK AC MODELS	
-	8.920-163.0	1	WLMT, PUMP RAIL, SS AC MODELS	
6	9.802-733.0	1	BOLT, 3/8" X 3-1/2",TAP ,GRADE 2"	DC MODELS
-	-	2	BOLT, 3/8" X 3-1/2",TAP ,GRADE 2"	AC MODELS
-	8.718-682.0	1	BOLT, 3/8" X 3-1/2",TAP, GRADE 2", SS	DC MODELS
-	-	2	BOLT, 3/8" X 3-1/2",TAP, GRADE 2", SS	AC MODELS
7	8.751-414.0	1	CONNECTOR KIT, ALTERNATOR	(REPLACEMENT PART)
8	9.802-814.0	3	WASHER, 3/8" SPLIT RING LOCK, ZINC	DC MODELS
-	-	6	WASHER, 3/8" SPLIT RING LOCK, ZINC	AC MODELS
-	8.719-024.0	3	WASHER, 3/8" SPLIT RING LOCK, SS	DC MODELS
-	-	6	WASHER, 3/8" SPLIT RING LOCK, SS	AC MODELS
9	9.802-807.0	3	WASHER, 3/8", SAE, FLAT, ZINC	DC MODELS
-	-	10	WASHER, 3/8", SAE, FLAT, ZINC	AC MODELS
-	9.802-808.0	3	WASHER, 3/8" SAE, SS(936631)	DC MODELS
-	-	10	WASHER, 3/8" SAE, SS(936631)	AC MODELS
10	8.725-549.0	2	BOLT, 3/8" X 7-1/2" HH	DC MODELS
-	-	4	BOLT, 3/8" X 7-1/2" HH	AC MODELS
-	8.751-705.0	2	BOLT, 3/8" X 7-1/2" HH, SS	DC MODELS
-	-	4	BOLT, 3/8" X 7-1/2" HH, SS	AC MODELS
11	8.719-047.0	2	WASHER, NYLON, .390 ID X 1 OD X .25 THK	DC MODELS
-	-	4	WASHER, NYLON, .390 ID X 1 OD X .25 THK	AC MODELS
12	9.802-207.0	2	CLAMP, WIRE TUBE	
13	8.716-610.0	1	GENERATOR, 2FSM2PC-1/A, WINCO	
14	8.917-387.0	1	MOUNT, PUMP RAIL WLMT	
-	8.920-161.0	1	MOUNT, PUMP RAIL WLMT, SS	
15	8.752-028.0	1	MUFFLER, HAPCO, KUBOTA, Z602	
16	8.751-814.0	1	HOSE, AIR INTAKE KUBOTA DIESEL	
17	8.920-257.0	1	WLMT, BRACKET AIR CLEANER KUBOTA	
-	8.920-292.0	1	WLMT, BRACKET AIR CLEANER KUBOTA, SS	
18	9.802-708.0	8	SCREW, 5/16" X 3/4" NC, WHIZ LOC FLANGE	DC MODELS
-	-	18	SCREW, 5/16" X 3/4" NC, WHIZ LOC FLANGE	AC MODELS

REF	PART NO.	QTY	DESCRIPTION	NOTES
-	8.751-837.0	8	SCREW, 5/16" X 3/4" NC, WHIZ LOC FLANGE, SS	DC MODELS
-	-	18	SCREW, 5/16" X 3/4" NC, WHIZ LOC FLANGE, SS	AC MODELS
19	9.802-778.0	12	NUT, 5/16" WHIZ LOC FLANGE	
-	8.718-887.0	12	NUT, 5/16" WHIZ LOC FLANGE, SS	
20	9.802-397.0	1	BUSHING, H X 5/8	
21	9.802-405.0	1	BUSHING, P2 X 1-1/8"	AC MODELS
-	9.802-400.0	1	BUSHING, H X 1-1/8"	DC MODELS
22	9.802-403.0	1	BUSHING, H X 25 MM	
23	9.802-378.0	1	PULLEY, BK 34 H	AC MODELS
24	9.802-392.0	1	PULLEY, 3 TB 34	AC MODELS
-	9.802-382.0	1	PULLEY, 2 BK 34 H	DC MODELS
25	9.802-391.0	1	PULLEY, 2BK 100 H	
26	8.715-701.0	2	BELT, BX 40	
27	8.715-695.0	1	BELT, BX 34,	AC MODELS
28	9.802-756.0	2	SCREW, 5/16" X 1", WHIZ LOC FLANGE	DC MODELS
-	-	9	SCREW, 5/16" X 1", WHIZ LOC FLANGE	AC MODELS
-	8.751-874.0	2	SCREW, 5/16" X 1"	DC MODELS
-	-	9	SCREW, 5/16" X 1"	AC MODELS
29	8.920-092.0	1	BRACKET, ENGINE KUBOTA, LEFT	
-	8.920-168.0	1	BRACKET, ENGINE KUBOTA, LEFT SS	
30	8.921-663.0	1	WLMT, PUMP RAIL	
-	8.921-666.0	1	WLMT, PUMP RAIL, SS	
31	8.924-186.0	1	WLMT, PUMP MOUNT, GEN	
-	8.924-188.0	1	WLMT, PUMP MOUNT, GEN, SS	
32	9.802-720.0	4	BOLT, 3/8" X 1", NC HH	
-	9.802-721.0	4	BOLT, 3/8" X 1" HH/NC, 316 SS	
33	9.802-503.0	1	CABLE, BATTERY, 32" RED, 4 GA	NOT SHOWN
34	8.751-857.0	1	FILTER, OIL, KUBOTA	(REPLACEMENT PART)
35	9.802-504.0	1	CABLE, BATTERY, 36" BLACK, 4 GA	NOT SHOWN
36	8.751-740.0	1	BUSHING, 3/8" NPT X 22MM	
37	9.802-151.0	1	SWIVEL, 1/2" BARB X 1/2" JIC	
38	9.802-259.0	17"	HOSE, 1/2" PUSH-ON	
39	9.802-126.0	1	PLUG, 1/2" JIC	
40	8.920-241.0	1	PLATE, THROTTLE	
41	8.718-608.0	1	BOLT, 1/4-20 X 1-1/2"	
42	9.802-775.0	2	NUT, 1/4-20 WHIZ	
43	8.706-828.0	1	ELBOW, 3/8" STREET	
44	8.707-019.0	1	PUSH-ON 1/2" BARB X 3/8" NPT	
45	8.751-826.0	1	SWITCH, THERMO	(REPLACEMENT PART)
46	8.751-870.0	8	SCREW, 10MM X 25MM	
47	9.802-251.0	24"	HOSE, 1/4" VINYL	
48	8.751-823.0	8	WASHER, 7/16" FLAT SS	

REF	PART NO.	QTY	DESCRIPTION	NOTES
49	9.802-767.0	2	SCREW, 3/8" X 3/4" WHIZ LOC	
50	9.802-781.0	2	NUT, 3/8" WHIZ LOC	
51	8.920-369.0	1	BRACKET, MUFFLER	
52	9.802-673.0	1	KEY SHAFT	
53	8.751-856.0	1	FILTER, AIR, KUBOTA	(REPLACEMENT PART)
54	8.718-961.0	8	WASHER, M10 SPLIT RING	
55	8.920-244.0	1	PLATE, HEAT SHIELD, KUBOTA	
56	8.752-150.0	1	CORD, MOLDED, 14/3, SJEOW, 6 FT.	
57	9.802-779.0	4	NUT, 3/8", ESNA, NC	
-	9.802-780.0	4	NUT, 3/8" STAINLESS, ESNA, NC	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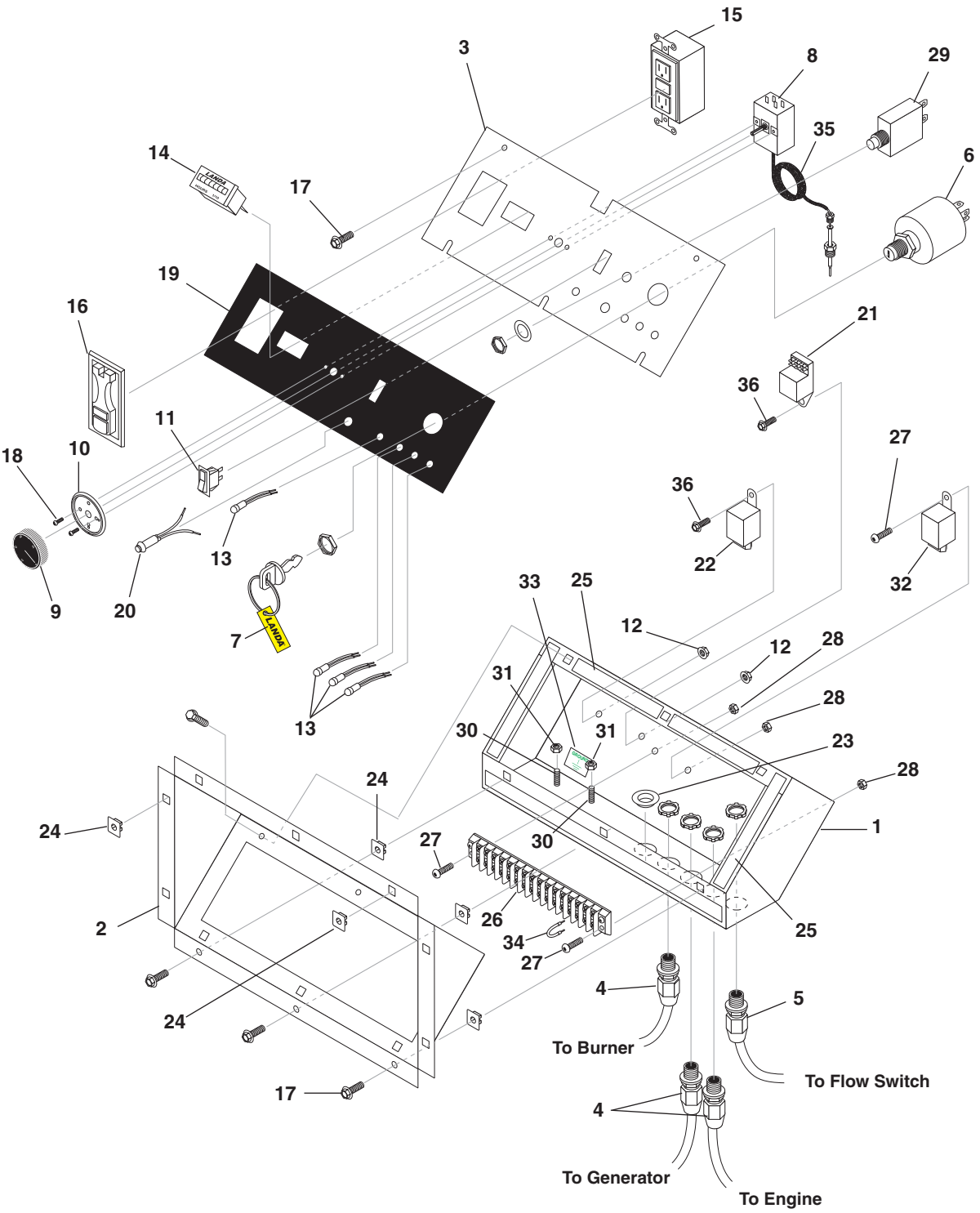
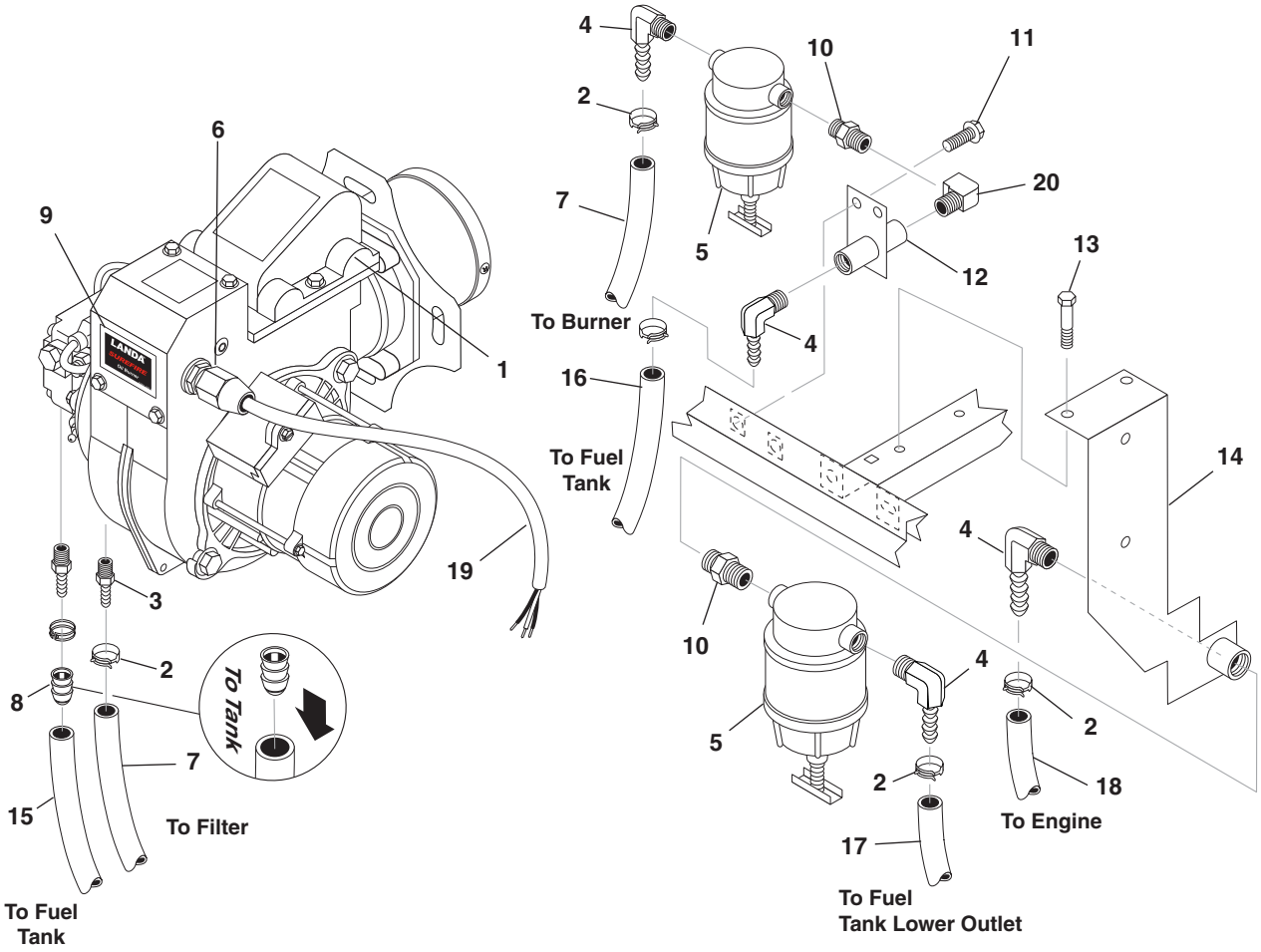
To
Flow Switch
To Base
of Frame

REF	PART NO.	QTY	DESCRIPTION	NOTES
1	9.802-014.0	2	NIPPLE, 1/2" X 3" GALV. SCH 80	
2	9.196-012.0	1	SCREW, 10 X 24 X 1/4"	
3	9.802-170.0	1	NIPPLE, 3/8" X 3/8" NPT ST	
4	9.802-883.0	1	INSULATION, FRONT HEAD, NO HOLE	
5	9.802-894.0	1	INSULATION, BURNER HEAD, W/HOLE	
6	9.802-896.0	1	INSULATION, BLANKET, NO FOIL 24" X 57"	
7	8.933-009.0	2	GASKET, BURNER PLATE	
8	9.802-902.0	1	INSUL/BLANKET, DIE CUT 28" X 24" X 1"	
9	9.802-781.0	5	NUT, 3/8" FLANGE WHIZ LOC, NC	
10	9.802-807.0	2	WASHER, FLAT 3/8"	
11	8.916-486.0	1	WLMT, BOTTOM WRAP	
-	8.916-514.0	1	WLMT, BOTTOM WRAP, SS	
12	9.803-132.0	2	INSULATION RETAINER PLATE	
13	9.802-797.0	8	SCREW, SS #10 X 1/2 HEX HEAD TEK	
14	8.912-239.0	1	COIL, LANDA DURA, SCH 80 W/ALUMINIZED STEEL WRAP	
15	9.149-003.0	1	MANIFOLD COIL OUTLET	
16	9.802-043.0	1	ELBOW, 1/2 JIC X 1/2 FEM 90°	
17	9.802-727.0	2	BOLT, 3/8" X 1-3/4" TAP	
18	9.802-024.0	1	ELBOW, 3/8" MPT X 1/2" FPT STREET, STEEL	
19	9.802-260.0	45"	HOSE 5/8"	
20	8.750-095.0	1	THERMOSTAT 120°C/240°F	
21	8.725-553.0	1	NIPPLE, 3/8" X 8"	
22	8.707-381.0	1	RUPTURE DISC ASSY, 8500	
23	9.803-559.0	1	CLAMP,SCREW, 9/16"W, 1-1/4"OD, SS	
24	8.706-248.0	1	PLUG, 3/8" NPT	
25	8.706-172.0	1	ELBOW, 1/2" FEMALE STEEL	
26	8.928-283.0	2	SPACER, COIL WRAP, SS	



REF	PART NO.	QTY	DESCRIPTION	NOTES
1	8.919-974.0	1	CONTROL, BACK, PDHW	
-	8.919-975.0	1	CONTROL, BACK, PDHW, SS	
2	8.919-976.0	1	CONTROL, FRONT, PDHW	
-	8.919-977.0	1	CONTROL, FRONT, PDHW, SS	
3	8.920-210.0	1	PANEL, CONTROL, PDHW AC	

REF	PART NO.	QTY	DESCRIPTION	NOTES
-	8.920-182.0	1	PANEL, CONTROL, PDHW AC, SS	
-	8.920-181.0	1	PANEL, CONTROL, PDHW DC	
-	8.920-289.0	1	PANEL, CONTROL, PDHW DC, SS	
4	9.802-514.0	3	STRAIN RELIEF, LT, STR, 1/2 NPT, .23-.45D	
5	8.716-598.0	1	STRAIN RELIEF, .18-.31 (.51 HOLE)	
6	8.751-410.0	1	E02 KEYSWITCH	(REPLACEMENT PART)
7	8.913-902.0	1	KEY RING, LANDA	
8	8.750-095.0	1	THERMOSTAT, 120°C/240°F, 2 METER CAPILLARY	
9	8.750-097.0	1	KNOB, THERMOSTAT 120°C/248°F	
10	8.712-190.0	1	BEZEL, PLASTIC, THERMOSTAT (915390)	
11	9.802-453.0	1	SWITCH, CURVETTE RA901VB-B-1-V.CARLING.	
12	9.802-775.0	2	NUT, 1/4" FLANGE	
-	8.718-817.0	2	NUT, 1/4" FLANGE, SS	
13	8.750-817.0	4	LIGHT, INDICATOR, GREEN 14V	
14	9.802-283.0	1	HOUR METER, 24-240VAC 50/60HZ	
15	8.751-732.0	1	RECEPTACLE, ELECTRICAL GFCI	(AC MODELS ONLY)
16	8.751-733.0	1	COVER, ELECTRICAL RECEPTACLE	(AC MODELS ONLY)
17	8.726-103.0	16	SCREW, 1/4" X 5/8" WHIZ LOC BLACK	
-	8.751-836.0	16	SCREW, 1/4" X 1/2" WHIZ LOC FLANGE, SS	
18	8.718-779.0	2	SCREW, 4MM X 6 MM, PAN HEAD	
19	8.919-979.0	1	LABEL, CONTROL PANEL, PDHW	
20	8.753-258.0	1	LIGHT, INDICATOR, AMBER 125V	(AC MODELS ONLY)
21	8.751-412.0	1	TIMER, LAMP QUICKGLOW KUBOTA	(REPLACEMENT PART)
22	8.751-413.0	1	RELAY, SOLENOID KUBOTA	(REPLACEMENT PART)
23	8.706-755.0	1	BUSHING, 5/8" SNAP	
24	9.802-074.0	16	NUT, 1/4" NYLON	
25	9.802-073.0	88"	WEATHER, STRIPPING	
26	9.802-493.0	1	BLOCK, TERMINAL, 16 POLE	
27	9.802-749.0	3	SCREW, 8/32" X 3/4" BHSOC, CS	
-	8.718-746.0	3	SCREW, 8/32" X 3/4" BHSOC , CS, SS	
28	9.802-785.0	3	NUT, 8/32" KEP	
-	8.718-866.0	3	NUT 8/32" KEP, SS	
29	9.802-485.0	1	CIRCUIT BREAKER	(DC MODELS ONLY)
30	9.802-762.0	2	SCREW, 10/32" X 1-1/4"	
-	9.802-763.0	2	SCREW, 10/32" X 1-1/4", SS	
31	9.802-695.0	10	NUT, 10/32" KEP	
-	9.802-696.0	10	NUT, 10/32" KEP, SS	
32	9.802-470.0	1	RELAY 12V PICKER	(DC MODELS ONLY)
33	9.800-040.0	1	LABEL, GND	
34	9.802-494.0	4	BAR JUMPER	
35	9.804-072.0	6 ft	CONDUIT, WIRE COVER	
36	9.802-754.0	2	SCREW, 1/4 X 1/2 NC WHIZ LOC FLANGE	
-	8.751-836.0	2	SCREW, 1/4-20 X 1/2" WHIZ LOC FLANGE SS	
37	8.716-533.0	2	CLAMP, TIE WRAP	NOT SHOWN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To Fuel Tank
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To Engine
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To Fuel Tank Lower Outlet
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To Tank
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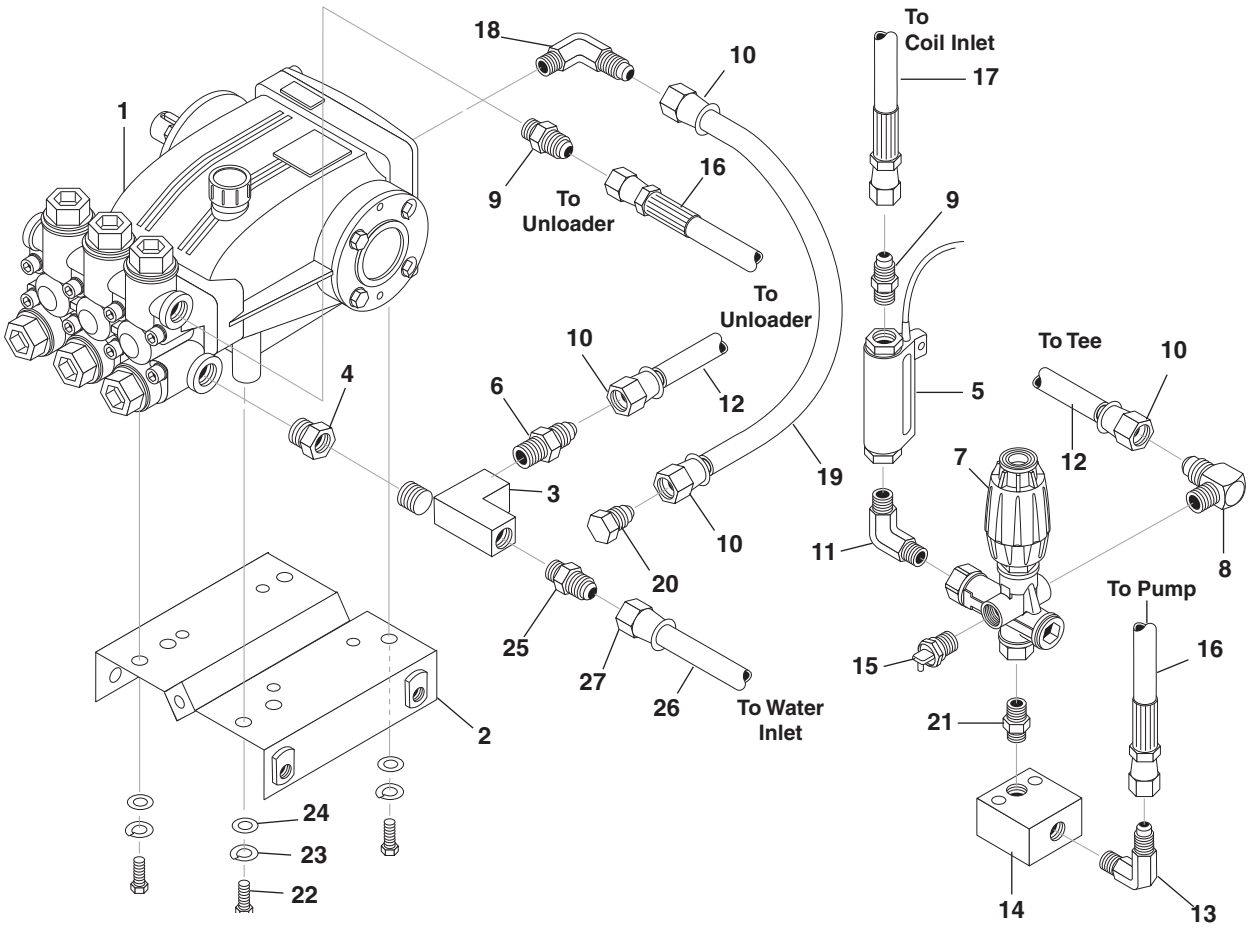
To Filter
To Fuel Tank

REF	PART NO.	QTY	DESCRIPTION	NOTES
1	8.920-645.0	1	BURNER, KNA 120 V 3" F22 SOL	
-	8.918-919.0	1	BURNER, KNA 12V HORZ F22 12-24V SOL ST	
2	8.709-069.0	6	CLAMP, SCREW, 5/16"W, 1/4-5/8"D, SS	
3	8.706-941.0	2	HOSE BARB, 1/4" BARB X 1/4" MPT, BRASS	
4	8.706-958.0	4	HOSE BARB, 1/4" BARB X 1/4" MPT, 90 °	
5	8.709-158.0	2	FILTER, LANDA, FUEL OIL/H20 SEPARATOR	
6	9.802-514.0	1	STRAIN RELIEF, LT, STR, 1/2 NPT,.23-.45D	
7	9.802-254.0	16"	HOSE, 1/4" PUSH-ON	
8	8.754-911.0	1	CHECK VALVE, 1 WAY, 1/4" BARB	
9	9.801-265.0	1	LABEL, LANDA SUREFIRE	
10	8.706-780.0	2	NIPPLE, 1/4" HEX	
11	9.802-767.0	2	SCREW, 3/8" X 3/4" WHIZ	
-	8.751-864.0	2	SCREW, 3/8" X 3/4" WHIZ, SS	
12	8.920-245.0	1	WLMT, BRACKET, FUEL FILTER PDHW	
-	8.920-293.0	1	WLMT, BRACKET, FUEL FILTER PDHW, SS	
13	9.802-708.0	2	SCREW, 5/16" X 3/4" NC, WHIZ LOC FLANGE	
-	8.751-837.0	2	SCREW, 5/16" X 3/4" NC, WHIZ LOC FLANGE, SS	
14	8.920-257.0	1	WLMT, BRACKET, AIR FILTER, KUBOTA	
-	8.920-292.0	1	WLMT, BRACKET, AIR FILTER, KUBOTA, SS	
15	9.802-254.0	39"	HOSE, 1/4" PUSH-ON, /FT	
16	9.802-254.0	28"	HOSE, 1/4" PUSH-ON, /FT	
17	9.802-254.0	36"	HOSE, 1/4" PUSH-ON, /FT	
18	9.802-254.0	15"	HOSE, 1/4" PUSH-ON, /FT	
19	9.802-424.0	60"	CORD, 16/4 AC MODELS	
-	9.802-428.0	60"	CORD, 12/3 DC MODELS	
20	8.706-827.0	1	ELBOW, 1/4" STREET	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To Coil Inlet
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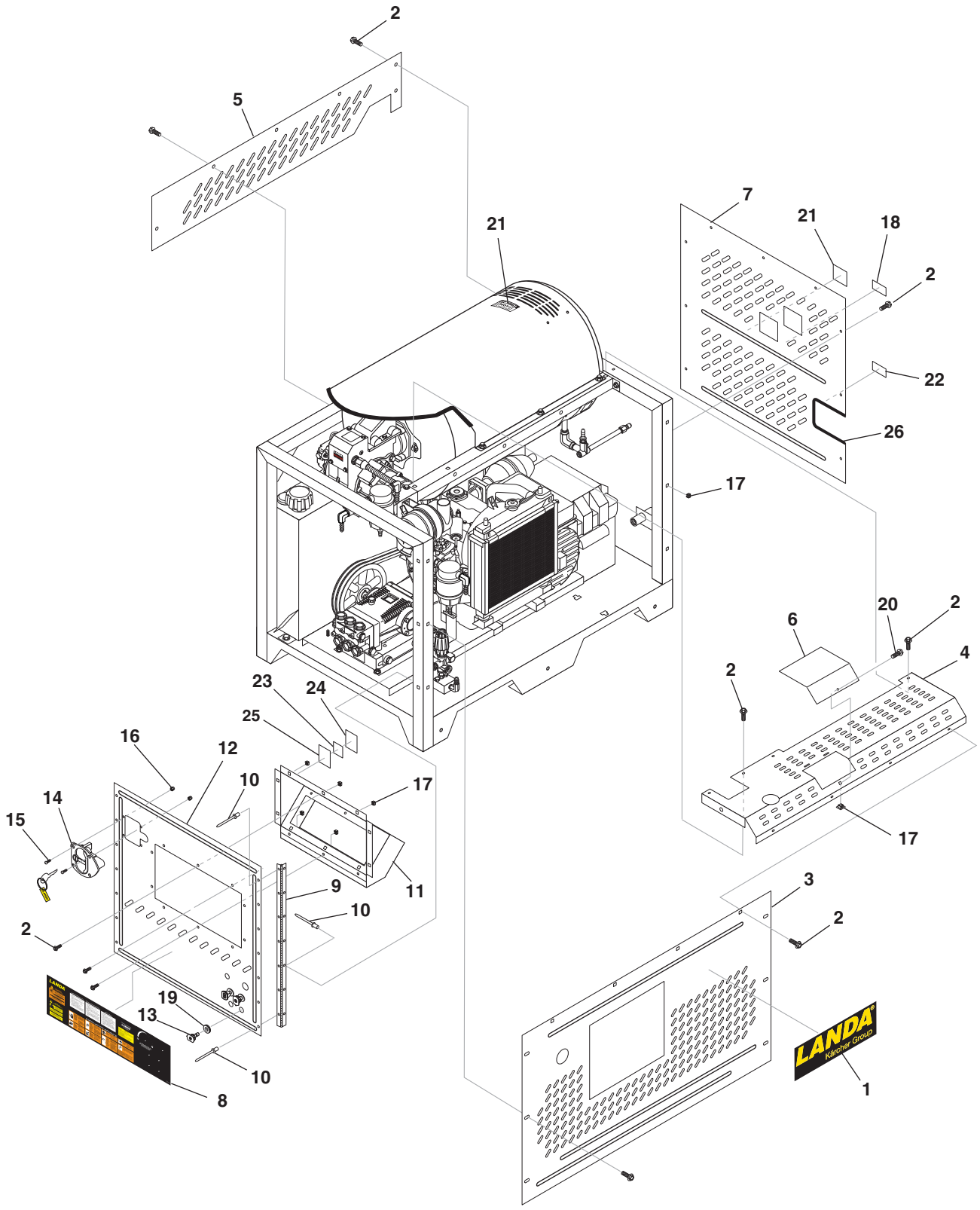
To Tee
To Pump
To Water Inlet

REF	PART NO.	QTY	DESCRIPTION	NOTES
1	8.921-713.0	1	PUMP, LANDA LT6036L.2, 6@3600, 1450 RPM	
2	8.917-387.0	1	MOUNT, PUMP RAIL WLMT	
-	8.920-161.0	1	MOUNT, PUMP RAIL WLMT, SS	
3	8.706-860.0	1	TEE, 1/2" STREET, BRASS	
4	8.706-984.0	1	ADAPTER, 1/2" FPT X 1/2" MPT, BRASS	
5	8.933-006.0	1	SWITCH, FLOW MV 60	
6	9.802-128.0	1	NIPPLE, 1/2" JIC X 1/2" MPT PIPE BRASS	
7	8.750-299.0	1	UNLOADER, VRT3, 8 GPM @4500 PSI	
8	9.802-129.0	1	ELBOW, 1/2" JIC X 3/8", 90° BRASS	
9	9.802-036.0	2	NIPPLE, 1/2" JIC X 3/8" NPT, STEEL	
10	9.802-151.0	4	SWIVEL, 1/2" BARB X 1/2"JIC, FEM/BRASS	
11	8.706-168.0	1	ELBOW, 3/8" MPT-P/N-TF 3529 X 6	
12	9.802-259.0	11"	HOSE, 1/2" PUSH-ON	
13	9.802-039.0	1	ELBOW 1/2" JIC X 3/8" MPT	
14	9.802-870.0	1	BLOCK, UNLOADER, 3/8 X 3/8, 1.25, STEEL	
15	8.707-254.0		PUMP PROTECTOR , 3/8" 145°	
16	8.918-210.0	1	HOSE, 3/8" X 16" 2 WIRE, PRESSURE LOOP	
17	8.918-211.0	1	HOSE, 3/8" X 40", 2 WIRE, PRESSURE LOOP	
18	9.802-129.0	1	ELBOW, 1/2" JIC X 3/8", 90°	
19	9.802-259.0	15"	HOSE, 1/2" PUSH-ON	
20	9.802-126.0	1	PLUG, 1/2" JIC FLARE, 639F-8	
21	8.705-974.0	1	NIPPLE, 3/8" HEX STEEL	
22	9.802-744.0	4	BOLT, 10MM X 20MM, HH ZINC	
23	8.718-961.0	4	WASHER,M10 SPLT RNG LCK 8.8 CLSS ZINC PLTD	
24	9.802-807.0	4	WASHER, 3/8", SAE, FLAT ZINC	
25	8.706-902.0	1	NIPPLE, 3/4"JIC X 1/2" PIPE	
26	9.802-261.0	48"	HOSE, 3/4" PUSH-ON	
27	9.802-152.0	2	SWIVEL, 3/4" SAE FEM, PUSH-ON	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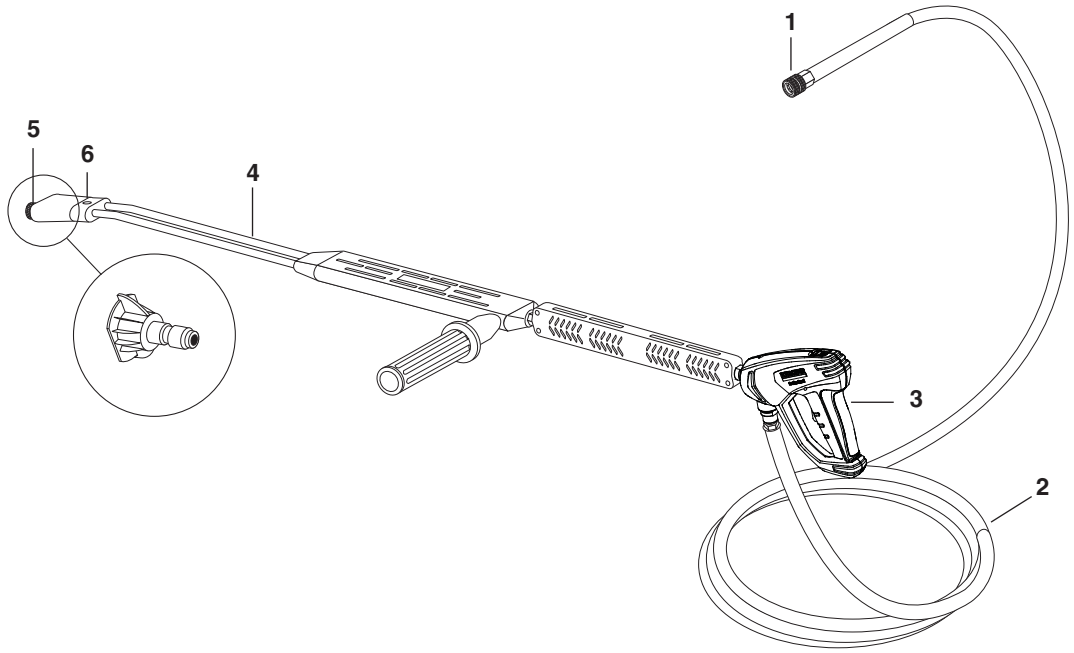
LANDA
Kärcher Group

REF	PART NO.	QTY	DESCRIPTION	NOTES
1	8.900-271.0	1	LABEL, LANDA LOGO, 16" X 4.75"	
2	8.726-103.0	30	SCREW, 1/4" X 5/8" NC, WHIZ LOC BLK CAD	
-	8.751-836.0	30	SCREW, 1/4" X 1/2" NC, WHIZ LOC, SS	
3	8.920-086.0	1	PANEL, PDHW FRONT	
-	8.920-154.0	1	PANEL, PDHW FRONT, SS	
4	8.920-090.0	1	PANEL, PDHW TOP	
-	8.920-158.0	1	PANEL, PDHW TOP, SS	
5	8.920-159.0	1	PANEL, PDHW BACK	
-	8.920-160.0	1	PANEL, PDHW BACK, SS	
6	8.920-113.0	1	COVER, RADIATOR CAP	
-	8.920-291.0	1	COVER, RADIATOR CAP, SS	
7	8.920-088.0	1	PANEL, PDHW RIGHT	
-	8.920-156.0	1	PANEL, PDHW RIGHT, SS	
8	9.801-367.0	1	LABEL, INSTRUCTIONS - WARNING, PDHW	
9	8.920-243.0	1	HINGE, PIANO 25.25" OAL, SS	
10	8.751-055.0	14	RIVET, ALUMINUM 3/16" DIA. 062-.125 GRIP	
11	8.919-974.0	1	CONTROL, BACK, PDHW	
-	8.919-975.0	1	CONTROL, BACK, PDHW, SS	
12	8.920-087.0	1	PANEL, PDHW LEFT	
-	8.920-155.0	1	PANEL, PDHW LEFT, SS	
13	8.712-353.0	1	NOZZLE, SAQCMEG 0005, RED	
-	8.712-354.0	1	NOZZLE, SAQCMEG 1505, YELLOW	
-	8.712-355.0	1	NOZZLE, SAQCMEG 2505, GREEN	
-	8.712-356.0	1	NOZZLE, SAQCMEG 4005, WHITE	
14	8.751-128.0	1	HANDLE, LOCKING, VECTOR T HNDL	
15	8.718-813.0	4	SCREW, 10/32 X 1/2 BH SOC,	
16	8.718-860.0	4	NUT, 10/32", ESNA, SS"	
17	9.802-074.0	1	NUT, 1/4" SQUARE HEAD GROMMET, NYLON	
18	9.800-021.0	1	LABEL, HOT WATER	
19	9.802-064.0	4	GROMMET, RUBBER, NOZZLE HOLDER	
20	8.750-246.0	1	SCREW, 1/4" X 1/2" WHIZ LOC	
21	9.800-006.0	1	LABEL, HOT	
22	9.800-020.0	1	LABEL, COLD WATER INLET	
23	-	1	SERIAL PLATE	
24	9.800-034.0	1	LABEL, CLEAR LEXAN	
25	8.932-968.0	1	LABEL, INTENDED FOR OUTDOOR USE	
26	9.802-071.0	12"	TRIM, 750	
27	8.753-255.0	30	EXTRUDED SCREW NUT, 1/4"-20	NOT SHOWN



REF	PART NO.	QTY	DESCRIPTION	NOTES
1	9.802-166.0	1	COUPLER, 3/8" FEMALE	
-	9.802-100.0	1	O-RING, 3/8", REPLACEMENT ONLY	NOT SHOWN
2	8.917-061.0	1	HOSE, 3/8" X 50'	
3	4.775-054.0	1	EASY! FORCE ADVANCED KNA	
4	8.711-308.0	1	VP WAND W/COUPLER, SOAP NOZZLE	
4	83-SSVPKIT	1	REPAIR KIT, AL STAINLESS SEAT	NOT SHOWN
5	9.802-165.0	1	COUPLER, 1/4" MALE	
-	9.802-096.0	1	O-RING, REPLACEMENT ONLY	NOT SHOWN
6	9.802-286.0	1	NOZZLE, 1/8" SOAP, BRASS	NOT SHOWN
7	8.707-139.0	1	COUPLER, 1/4"PLUG, MALE, STEEL/ZINC	NOT SHOWN
8	9.802-164.0	1	COUPLER, 1/4"SOCKET, FEMALE, BRASS	NOT SHOWN

Landa Burner Specifications

Model Number	Burner Assy No.	Fuel Nozzle w/ 100 PSI Check Valve	Transformer	Burner Motor	Fuel/Pump Solenoid/ Coil	Electrode	Fuel Solenoid/ Coil
1.110-060.0	8.918-919.0	8.754-889.0	8.919-116.0	8.751-074.0	8.754-705.0	8.751-342.0	8.700-794.0
1.110-061.0	8.918-919.0	8.754-889.0	8.919-116.0	8.751-074.0	8.754-705.0	8.751-342.0	8.700-794.0
1.110-062.0	8.920-645.0	8.754-892.0	8.919-114.0	8.752-930.0	8.754-706.0	8.752-778.0	9.802-645.0
1.110-063.0	8.920-645.0	8.754-892.0	8.919-114.0	8.752-930.0	8.754-706.0	8.752-778.0	9.802-645.0

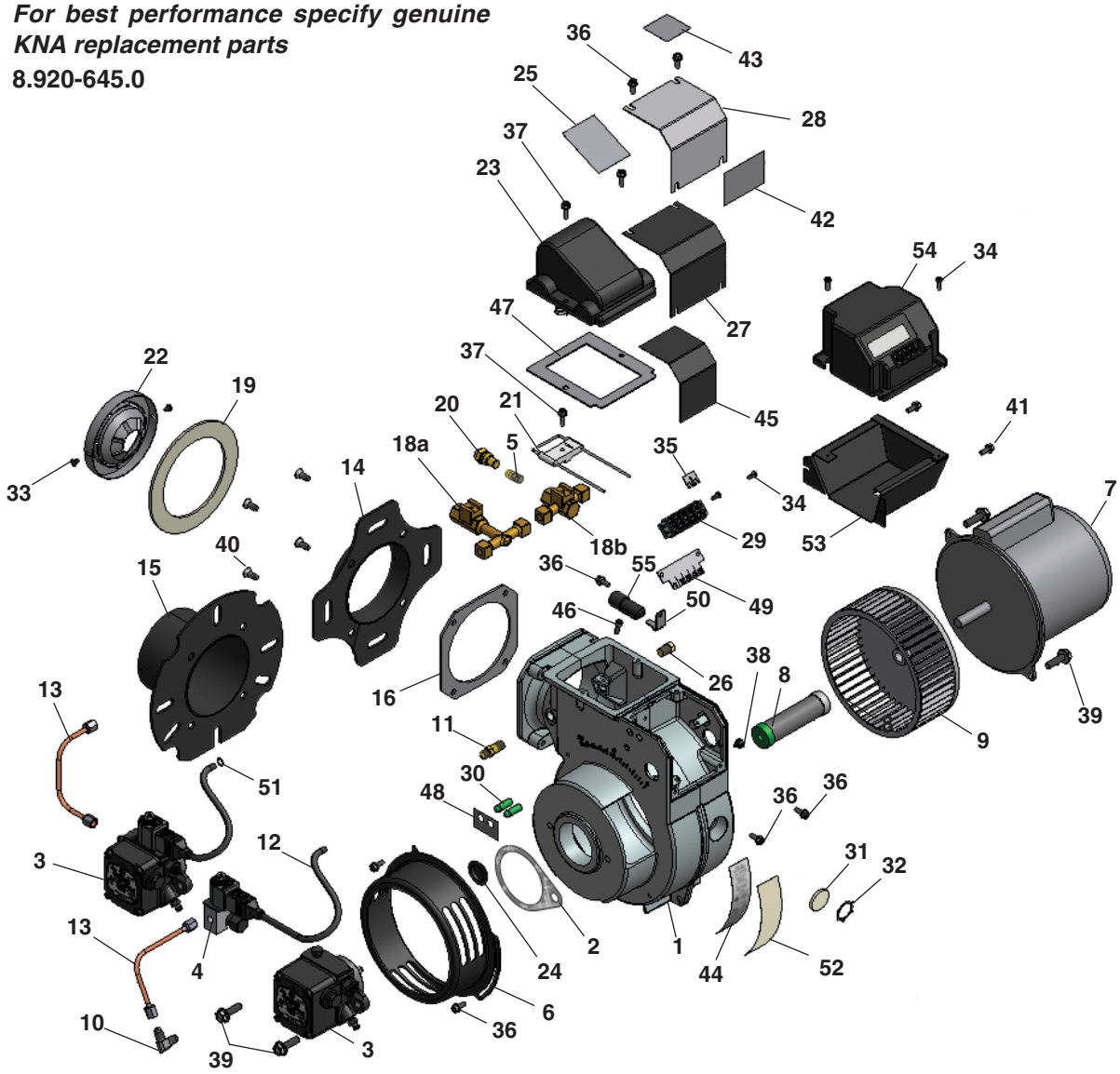
For best performance specify genuine Sure Fire replacement parts

REF	PART NO.	QTY	DESCRIPTION	NOTES
1	8.919-050.0	1	BURNER HOUSING ASSEMBLY	
2	8.751-160.0	1	AIR GUIDE	
3	8.754-705.0	1	FUEL PUMP, SUNTEC OL35 12-24 V SOL	
-	8.754-706.0	1	FUEL PUMP, SUNTEC OL35 120 V SOL	
-	8.700-760.0	1	FUEL PUMP, SUNTEC A2VA-3106 230 V SOL	
4	9.807-348.0	1	LABEL, CLEAR MYLAR	
5	9.802-510.0	2	CABLE, TIE, 4” BLACK	
6	8.750-541.0	1	AIR BAND	
7	8.750-517.0	1	MOTOR,1/6 HP 115V 60HZ	
-	8.750-518.0	1	MOTOR,1/6 HP 230V 60HZ	
-	8.750-074.0	1	MOTOR,1/7 HP 12VDC AMETEK	
8	8.750-543.0	1	COUPLING, FLEX, 1/2” X 5/16”	
-	8.751-073.0	1	COUPLING, FLEX, 5/16” X 5/16”	
9	8.750-520.0	1	FAN, 4.53” X 2.42”,1/2” BORE, F115-62S	
-	8.751-072.0	1	FAN, 4.53” X 2.42”, .313 BORE, F115-625	
10	8.900-083.0	1	100 PSI SNAP CHECK VALVE	
11	8.750-547.0	1	CONNECTOR, 37° FLARE X 1/8” NPT, LONG	
12	8.750-545.0	1	CONNECTOR, 37° FLARE X 1/8” NPT	
13	8.749-000.0	1	FUEL LINE ASSEMBLY	
14	8.752-034.0	1	FLANGE, KNA BURNER, 1” TUBE	
15	8.752-035.0	1	FLANGE, KNA BURNER, 3” TUBE	
16	8.750-539.0	1	GASKET, FLANGE	
17	8.751-354.0	1	GASKET, BURNER TUBE	
18	8.750-526.0	1	GUN, ELECTRODE/NOZZLE, 3”	
19	8.750-525.0	1	GUN, ELECTRODE/NOZZLE, 1”	
20	8.717-273.0	1	FUEL NOZZLE 2.00 X 90B	
21	8.750-778.0	1	ELECTRODE, IGNITION, AC	
-	8.751-342.0	1	ELECTRODE, IGNITION, DC	
22	8.750-779.0	1	CONE, AIR F4	
-	8.750-782.0	1	CONE, AIR F6	
-	8.750-780.0	1	CONE, AIR F12	
-	8.750-781.0	1	CONE, AIR F22	
23	8-919-114.0	1	IGNITER, BURNER 120V	
-	8-919-115.0	1	IGNITER, BURNER 230V	
-	8-919-116.0	1	IGNITER, BURNER 12VDC	
24	8.751-165.0	1	PLUG, HOLE 0.875 PLASTIC	
25	8.754-905.0	1	GASKET, KNA BURNER PUMP SUNTEC	
26	8.751-134.0	1	PLUG, 1/8” NPT X HEX SHOULDER	
27	8.918-454.0	1	GASKET, JUNCTION BOX	
28	8.750-542.0	1	COVER, JUNCTION BOX	
29	8.750-116.0	1	BLOCK, TERMINAL, 5 POLE	

REF	PART NO.	QTY	DESCRIPTION	NOTES
30	8.750-817.0	2	LIGHT, INDICATOR, GREEN,14V	
-	8.750-818.0	1	LIGHT, INDICATOR, GREEN, 28V	
-	8.750-819.0	1	LIGHT, INDICATOR, GREEN, 125V	
-	8.750-820.0	1	LIGHT, INDICATOR, GREEN, 250V	
31	8.750-784.0	1	SITE GLASS	
32	8.750-785.0	1	RING, PUSH ON INTERNAL, 1305-112	
33	8.733-001.0	2	SCREW, 8 X 1/4” HI LOW THREAD CUT PPH	
34	8.718-762.0	2	SCREW, 8-32 X 1/2”,M PH RDH PL	
35	9.807-345.0	1	LABEL, IGNITER 120V	
-	9.807-346.0	1	LABEL, IGNITER 230V	
-	9.807-347.0	1	LABEL, IGNITER 12VDC	
36	8.718-810.0	6	SCREW, 10/32 X 1/2”, WHIZ LOC FLANGE	
37	8.750-770.0	3	SCREW, 10/32 X 5/8’, WHIZ LOC FLANGE	
38	8.750-816.0	1	SCREW, 10/32 X 1/4”, GROUNDING	
39	8.750-768.0	4	SCREW, 1/4-20 X 1”, PHIL FHMS	
40	8.750-771.0	4	SCREW, 1/4-20 X 1/2”, WHIZ LOC FLANGE	
41	9.802-745.0	1	SCREW, 10/32 X 1/2” SHCS	
42	-	1	S LABEL, BRAND NAME	
43	9.801-268.0	1	LABEL, DISCONNECT POWER SUPPLY	
44	-	1	LABEL, SERIAL PLATE	
45	8.750-830.0	1	PLUG, HOLE 0.285 PLASTIC	
46	9.807-339.0	1	LABEL, WIRING DIAGRAM, BURNER 115V-115V	
-	9.807-340.0	1	LABEL, WIRING DIAGRAM, BURNER 230V-230V	
-	9.807-341.0	1	LABEL, WIRING DIAGRAM, BURNER 230V-115V	
-	9.807-342.0	1	LABEL, WIRING DIAGRAM, BURNER 115V-24V	
-	9.807-343.0	1	LABEL, WIRING DIAGRAM, BURNER 230V-24V	
-	9.807-344.0	1	LABEL, WIRING DIAGRAM, BURNER 12VDC	
47	9.801-274.0	1	LABEL, BURNER LIGHTS	
48	8.919-105.0	1	PLATE, TERMINAL BLOCK NUMBERS	
49	8.716-451.0	1	TERMINAL, JUMPER SPADE	

For best performance specify genuine KNA replacement parts

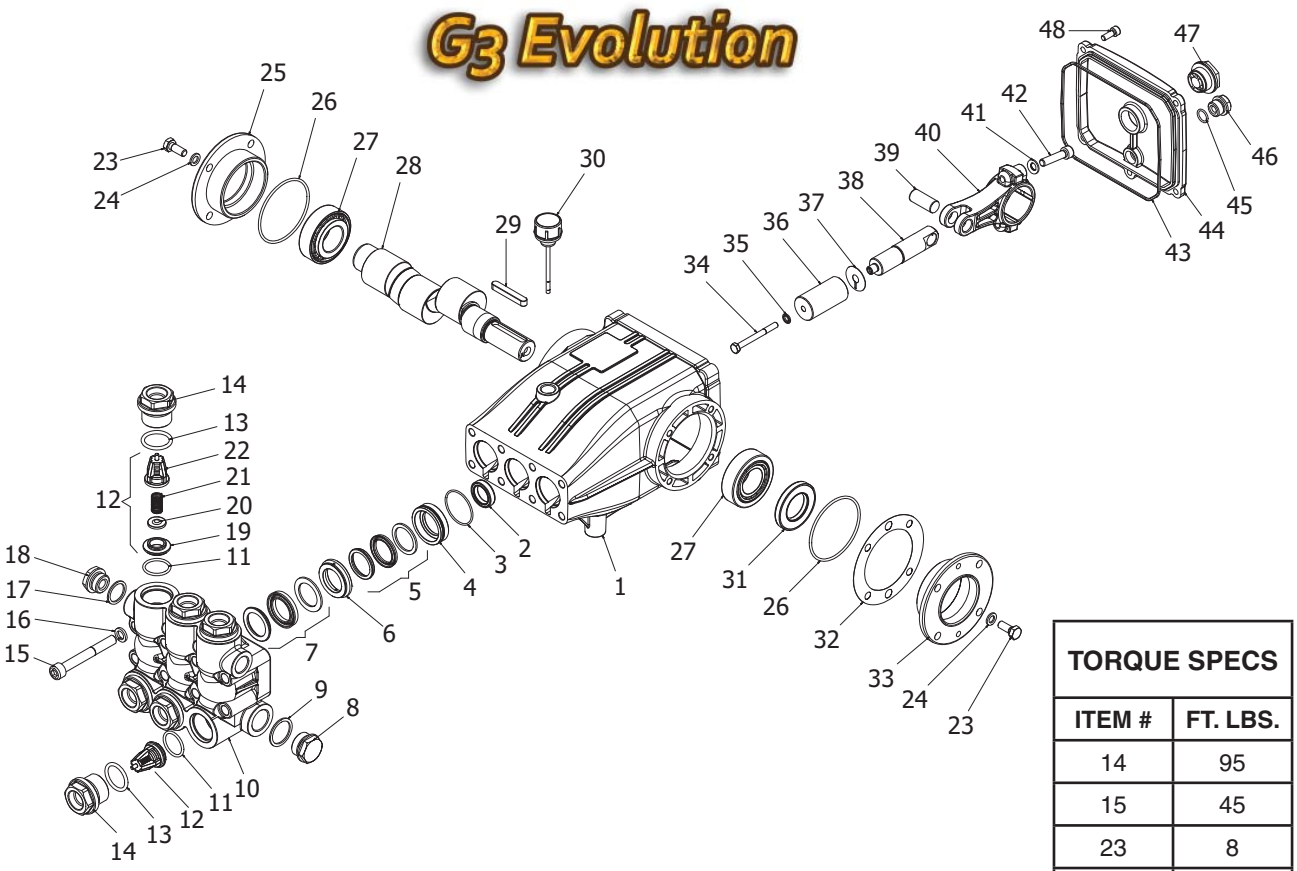
8.920-645.0



REF	PART NO.	QTY	DESCRIPTION	NOTES
1	8.919-865.0	1	BURNER HOUSING ASSEMBLY-ML	
2	8.754-905.0	1	GASKET, KNA BURNER PUMP SUNTEC	
3	8.754-705.0	1	FUEL PUMP, SUNTEC OL35 12-24 V SOL	
-	8.754-706.0	1	FUEL PUMP, SUNTEC OL35 120 V SOL	
-	8.700-760.0	1	FUEL PUMP, SUNTEC A2VA-3106 230 V SOL	
-	8.752-923.0	1	FUEL PUMP, SUNTEC A2YA-7916	
4	8.752-924.0	1	SOLENOID VALVE, SUNTEC R642NL, 115V	
-	8.752-925.0	1	SOLENOID VALVE, SUNTEC R753NL, 220V	
-	8.752-030.0	1	SOLENOID VALVE, SUNTEC R261NL, 12/24V	
5	8.900-083.0	1	100 PSI SNAP CHECK VALVE	
6	8.752-919.0	1	AIR BAND M/L	

REF	PART NO.	QTY	DESCRIPTION	NOTES
7	8.752-933.0	1	MOTOR, 1/5 HP 13.5VDC AMETEK N1CPM-156	
-	8.752-932.0	1	MOTOR, 1/7 HP 115V EMERSON K41	
-	8.753-054.0	1	MOTOR, 1/7 HP 230V EMERSON K41	
8	8.753-061.0	1	COUPLING, FLEX, 1/2" X 5/16" X 3-7/8" L	
-	8.753-062.0	1	COUPLING, FLEX, 5/16" X 5/16" X 3-7/8" L	
9	8.752-928.0	1	FAN, 6.25 X 4.25 X .50 BORE	
-	8.752-929.0	1	FAN, 6.25 X 4.25 X .313 BORE	
10	8.752-920.0	1	ELBOW, 37° FLARE X 1/8" NPT 90°	
11	8.750-547.0	1	CONNECTOR 37° FLARE X 1/8" NPT, LONG	
12	9.804-072.0	1	CONDUIT, WIRE COVER	
13	8.752-934.0	1	FUEL LINE ASSEMBLY, M	
-	8.753-055.0	1	FUEL LINE ASSEMBLY, L	
14	8.752-034.0	1	FLANGE 1" TUBE ASSY BURNER	
15	8.752-035.0	1	FLANGE 3" TUBE ASSY BURNER	
16	8.750-539.0	1	GASKET, FLANGE	
17	8.700-794.0	1	COIL, OIL VALVE 12/24V W/O CORDSET	NOT SHOWN
-	9.802-641.0	1	COIL, OIL VALVE 230V W/O CORDSET	NOT SHOWN
-	9.802-640.0	1	COIL, OIL VALVE 120V W/O CORDSET	NOT SHOWN
18a	8.750-526.0	1	GUN ELECTRODE/ NOZZLE, 3"	
18b	8.750.525.0	1	GUN ELECTRODE/ NOZZLE, 1"	
19	8.751-354.0	1	GASKET, BURNER TUBE	
20	8.717-366.0	1	FUEL NOZZLE 2.50 X 90B	
21	8.750-778.0	1	ELECTRODE, IGNITION AC	
-	8.751-342.0	1	ELECTRODE, IGNITION DC	
22	8.750-781.0	1	CONE, AIR F22	
-	8.752-935.0	1	CONE, AIR F310	
23	8.919-114.0	1	IGNITER, BURNER 120V	
-	8.919-115.0	1	IGNITER, BURNER 230V	
-	8.919-116.0	1	IGNITER, BURNER 12VDC	
24	8.706-745.0	1	PLUG, HOLE 0.812 PLASTIC	
25	9.807-345.0	1	LABEL, IGNITER 120V	
-	9.807-346.0	1	LABEL, IGNITER 230V	
-	9.807-347.0	1	LABEL, IGNITER 12VDC	
26	8.751-134.0	1	PLUG, 1/8" NPT X HEX SHOULDER	
27	8.752-922.0	1	GASKET, JUNCTION BOX ML	
28	8.920-654.0	1	COVER, JUNCTION BOX ML	
29	8.750-116.0	1	BLOCK, TERMINAL, 5 POLE	
30	8.750-817.0	2	LIGHT, INDICATOR, GREEN, 14V	
-	8.750-818.0	1	LIGHT, INDICATOR, GREEN, 28V	
-	8.750-819.0	1	LIGHT, INDICATOR, GREEN, 125V	
-	8.750-820.0	1	LIGHT, INDICATOR, GREEN, 250V	
31	8.750-784.0	1	SITE GLASS	

REF	PART NO.	QTY	DESCRIPTION	NOTES
32	8.750-785.0	1	RING, PUSH ON INTERNAL	
33	8.733-001.0	2	SCREW 8 X 1/4" HI LOW THREAD CUT	
34	8.718-762.0	2	SCREW, 8-32 X 1/2", MPH RDH PL	MEDIUM
-	-	4	SCREW, 8-32 X 1/2", MPH RDH PL	LARGE
35	8.716-451.0	1	TERMINAL, JUMPER SPADE	
36	8.718-810.0	6	SCREW, 10/32 X 1/2", WHIZ LOC FLANGE	MEDIUM
-	-	7	SCREW, 10/32 X 1/2", WHIZ LOC FLANGE	LARGE
37	8.750-770.0	3	SCREW, 10/32 X 5/8", WHIZ LOC FLANGE	
38	8.750-816.0	1	SCREW, 10/32 X1/4" GROUNDING	
39	9.802-756.0	4	SCREW, 5/16" X 1", WHIZ LOC FLANGE	
40	8.750-771.0	4	SCREW, 1/4-20 X 1/2", PHIL FHMS	
41	9.802-750.0	2	SCREW, 8-32 X 1/2 M TPG PH PNH, BLACK	LARGE ONLY
42	-	1	LABEL, BRAND NAME	
43	9.801-268.0	1	LABEL, DISCONNECT POWER SUPPLY	
44	-	1	LABEL, SERIAL PLATE	
45	9.807-343.0	1	LABEL, WIRING DIAGRAM BURNER 230V-24V	
-	9.807-339.0	1	LABEL, WIRING DIAGRAM BURNER 115V-115V	
-	9.807-340.0	1	LABEL, WIRING DIAGRAM BURNER 230V-230V	
-	9.807-341.0	1	LABEL, WIRING DIAGRAM BURNER 230V-115V	
-	9.807-342.0	1	LABEL, WIRING DIAGRAM BURNER 115V-24V	
-	9.807-344.0	1	LABEL, WIRING DIAGRAM BURNER 12VDC	
-	9.807-551.0	1	LABEL, WIRING, BURNER 115V PRIMARY	
46	9.802-745.0	1	SCREW. 10/32" X 1/2" SHCS	
47	8.753-036.0	1	GASKET, IGNITER	
48	9.801-273.0	1	LABEL, BURNER LIGHTS	
49	8.919-105.0	1	PLATE, TERMINAL BLOCK NUMBERS	
50	8.921-214.0	1	BRACKET FLAME SENSOR	LARGE ONLY
51	9.802-510.0	3	CABLE, TIE, 4" BLACK	MEDIUM
-	-	4	CABLE, TIE, 4" BLACK	LARGE
52	9.807-348.0	1	LABEL, CLEAR MYLAR, 1.125 X 4.50	
53	8.920-656.0	1	JUNCTION BOX, KNA BURNER ML	LARGE ONLY
54	8.753-100.0	1	PRIMARY CONTROL, HONEYWELL R7284U	LARGE ONLY
55	8.753-036.0	1	CAD CELL FLAME DETECTOR, C554A	LARGE ONLY



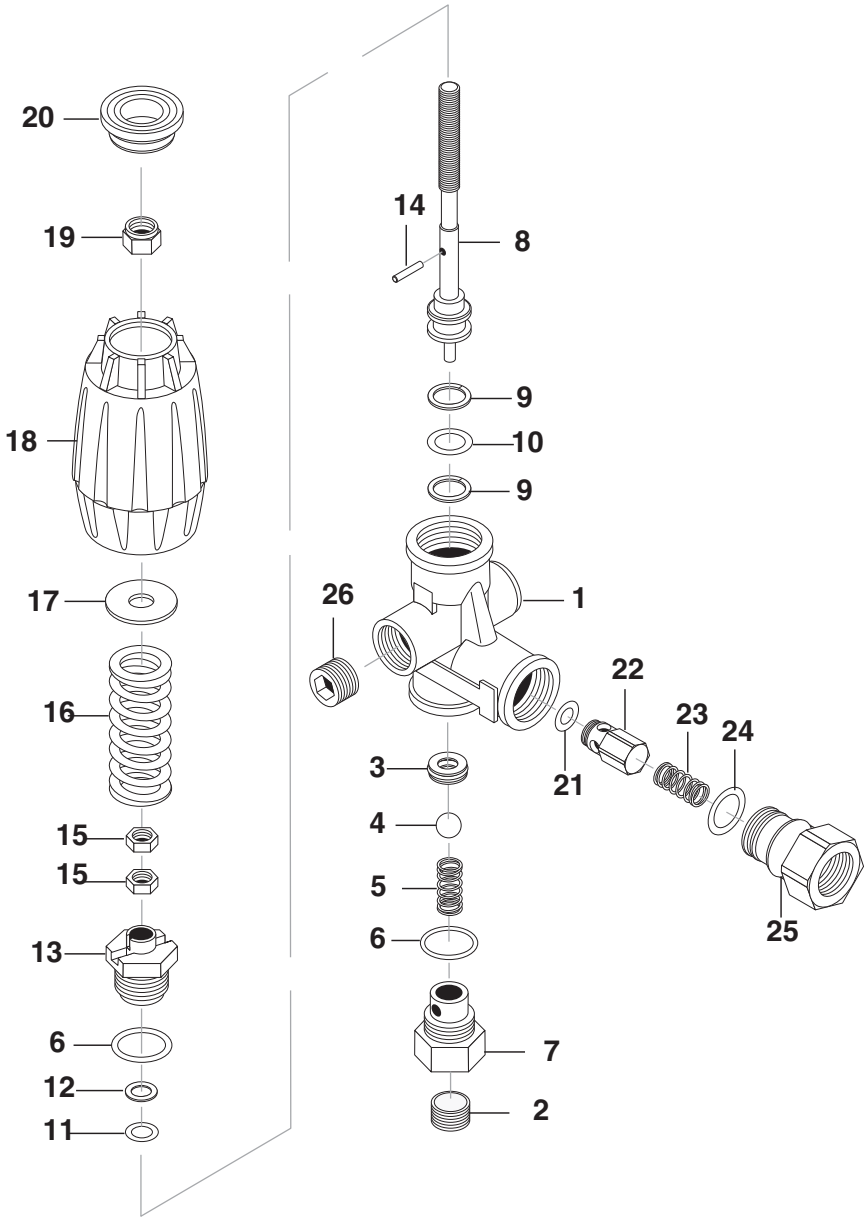
TORQUE SPECS	
ITEM #	**FT. LBS.**
14	95
15	45
23	8
34	10
42	30
48	8

REF	PART NO.	QTY	DESCRIPTION	NOTES
1	8.752-825.0	1	CRANKCASE	
2	-	3	PLUNGER OIL SEAL	SEE KITS TABLE
3	-	3	O-RING Ø1.78 X 37.82	SEE KITS TABLE
4	-	3	PRESSURE RING, 18MM	SEE KITS TABLE
5	-	3	U-SEAL, 18MM	SEE KITS TABLE
6	-	3	INTERMEDIATE RING, 18MM	SEE KITS TABLE
7	-	3	U-SEAL, 18MM	SEE KITS TABLE
8	9.802-926.0	1	BRASS PLUG, G1/2	
9	9.803-199.0	1	COPPER WASHER 1/2	
10	8.753-816.0	1	MANIFOLD HOUSING	
11	9.804-498.0	6	O-RING Ø2.62 X 25.1	SEE KITS TABLE
12	-	6	VALVE ASSEMBLY	SEE KITS TABLE
13	9.803-193.0	6	O-RING 3068	SEE KITS TABLE
14	9.802-928.0	6	VALVE PLUG	
15	8.753-817.0	8	MANIFOLD STUD BOLT	
16	9.802-890.0	8	LOCK WASHER	

REF	PART NO.	QTY	DESCRIPTION	NOTES
17	8.719-008.0	1	COPPER WASHER 3/8	
18	8.707-262.0	1	BRASS PLUG 3/8	
19	-	6	VALVE SEAT	SEE KITS TABLE
20	-	6	VALVE PLATE	SEE KITS TABLE
21	-	6	VALVE SPRING	SEE KITS TABLE
22	-	6	VALVE CAGE	SEE KITS TABLE
23	8.752-830.0	8	HEX SCREW	
24	9.802-884.0	8	WASHER	
25	9.803-182.0	1	CLOSED BEARING HOUSING	
26	9.803-186.0	2	O-RING Ø2.62 X 71.12	
27	9.803-160.0	2	ROLLER BEARING	
28	8.753-818.0	1	CRANKSHAFT Ø25 (4540)	
-	8.752-827.0	1	CRANKSHAFT Ø25 (6036)	
29	9.803-167.0	1	CRANKSHAFT KEY	
30	8.752-834.0	1	OIL DIP STICK	
31	9.803-139.0	1	CRANKSHAFT SEAL	
32	9.803-177.0	2	SHIM	
33	9.803-181.0	1	BEARING HOUSING	
34	8.752-841.0	3	PLUNGER BOLT	SEE KITS TABLE
35	8.752-820.0	3	BONDED SEAL	SEE KITS TABLE
36	8.753-819.0	3	PLUNGER, 18MM	SEE KITS TABLE
37	8.752-823.0	3	COPPER SPACER	SEE KITS TABLE
38	8.753-820.0	3	PLUNGER ROD	
39	8.752-822.0	3	CONNECTING ROD PIN	
40	8.752-821.0	3	CONNECTING ROD	
41	9.802-889.0	6	SPRING WASHER	
42	9.802-937.0	6	CONNECTING ROD SCREW	
43	9.803-194.0	1	O-RING Ø2.62 X 152.07	
44	8.752-826.0	1	CRANKCASE COVER	
45	9.803-906.0	1	O-RING Ø1.78 X 14.00	
46	8.707-262.0	1	BRASS PLUG G3/8	
47	9.803-202.0	1	SIGHT GLASS G3/4	
48	8.752-824.0	5	COVER SCREW	

KIT NUMBERS	**8.753-821.0**	**8.753-822.0**	**8.753-823.0**	**8.753-824.0**	**8.752-835.0**
KIT DESCRIPTION	Plunger Seals 18 mm	Seal Packing 18 mm	Plunger 18 mm	Complete Valve	Plunger Oil Seals
ITEMS NUMBERS INCLUDED	3, 5, 7	3, 4, 5, 6, 7,	34, 35, 36, 37	11, 12, 13	2
NO. OF CYLINDERS KIT WILL SERVICE	3	1	1	6	3

8.750-297.0, 8 GPM, 2320 PSI
8.750-298.0, 8 GPM, 3630 PSI
8.750-299.0, 8 GPM, 4500 PSI



REF	PART NO.	QTY	DESCRIPTION	NOTES
25	8.750-713.0	1	OUTLET FITTING	
18	8.750-712.0	1	KNOB, UNLOADER	
-	8.750-709.0	-	REPAIR KIT, VRT3, 2320/3630 PSI	
-	8.750-710.0	-	REPAIR KIT, VRT3, 4500 PSI	
-	-	-	(KIT ITEMS: 3, 4, 6, 9-12, 21, 24)	

Unloader Adjustment Procedures

1. Remove lock nut (Item 19).

2. Remove adjustment knob (Item 18).

3. Loosen the two (2) nuts (Item 15), move them upward on stem (Item 8) until you see 4 or more threads below the nut.

4. Re-attach adjusting knob (Item 18).

5. Start machine. Open the trigger of the spray gun. Increase pressure by turning adjustment knob (Item 18) clockwise until pressure is at the desired operating pressure.

6. Remove the adjustment knob (Item 18), tighten the lower nut (Item 15) tightly against the upper nut (Item 15). Re-attach adjustment knob (Item 18) and screw down until contact is made with the nuts (Items 15). Screw down lock nut (Item 19) onto the stem (Item 8) until the threads cut into the nylon insert of the lock nut (Item19).

*****If adjustment knob (Item 18) **DOES NOT** make contact with upper nut (Items 15), remove adjusting knob (Item 18), re-adjust (raise) nuts (Items 15) on stem (Item 8) and re-attach adjustment knob (Item 18), then repeat step #6.

******If adjustment knob (Item 18) **DOES** make contact with upper nut; release the trigger of the spray gun and watch the pressure gauge for the pressure increase (“spike”). This “spike” **SHOULD NOT** exceed 500 psi above the operating pressure. If “spike” pressure exceeds the 500 psi limit, remove the adjusting knob (Item 18) and re-adjust (lower) the nuts (Items 15) on the stem (Item 8). Re-attach the adjusting knob (Item 18), then repeat step #6.

ELECTRIC MOTOR CHART
Approximate Current Requirements

HORSE POWER	RUNNING WATTS	STARTING WATTS			
		UNIVERSAL MOTOR (sm appliance)	INDUCTION MOTOR	CAPACITOR MOTOR	SPLIT PHASE MOTOR
1/6	275	400	600	850	1200
1/4	400	500	850	1050	1700
1/3	450	600	950	1350	1950
1/2	600	750	1300	1800	2600
3/4	850	1000	1900	2600	x
1	1000	1250	2300	3000	x
1-1/2	1600	1750	3200	4200	x
2	2000	2350	3900	5100	x
3	3000	x	5200	6800	x
5	4800	x	7500	9800	x

NOTE: For pumps, air compressors, air conditioners, inverters add at least 25% to starting current.

EXTENSION CORD CHART

CONTINUOUS LOAD (use either Amps or Watts below)			MINIMUM GAUGE (AWG)		
AMPS	WATTS				
	@120 volts	@240 volts	0-50 ft	50-100 ft	100-150 ft
2	240	480	22	20	18
3	360	720	22	18	16
4	480	960	20	16	16
5	600	1200	18	16	14
6	720	1440	18	16	14
8	960	1920	16	14	12
10	1200	2400	16	12	12
12	1440	2880	16	12	10
14	1680	3660	14	12	10
16	1920	3840	14	10	10
18	2160	4320	14	10	8
20	2400	4800	12	10	8
22	2640	5280	12	10	8
25	3000	6000	12	10	6
30	3600	7200	10	8	6
35	4200	8400	10	8	4
40	4800	9600	8	6	2
50	6000	12000	6	4	2
60	7200	14400	4	2	

THE FORMULA FOR WATTAGE IS:
Volts x Amperage = Wattage
EXAMPLE: 120v x 10 = 1200

APPROXIMATE POWER
Requirements for Equipment

		EQUIPMENT WATTAGE REQUIREMENTS	
		STARTING	RUNNING
Battery Charger, 10 AMPS		-	200
Compressor (see motor charts)	3/4 HP	1900	850
	1 HP	2500	1100
	2 HP	3600	1800
	3 HP	4800	2400
	1/4”	400	300
	3/8”	650	475
	1/2”	900	750
	1”	1250	1000
Welder 100 Amps DC		-	3600
Floodlight		-	1000
Grain Cleaner	1/4 HP	1000	650
Grain Elevator	3/4 HP	3000	1400
Grinders (by motor size)		-	-
Heater Radiant Portable		-	1300
Heater Portable Liquid Fuel	50,000 BTU	675	225
	100,000 BTU	1260	420
	150,000 BTU	1875	625
Impact Wrench	1/2"	750	600
	3/4”	900	750
	1"	1400	1200
Milk Cooler		1800	1100
Mixer, 3-1/2 Cubic Feet		2300	1000
Motors		-	-
Belt Sander		2600	1200
Disk Sander		2600	1200
Orbital Sander		2600	1200
Chain Saw		3400	1200
6" Circular Saw		2200	950
7-1/4" Circular Saw		2600	1200
8-1/2" Circular Saw		3000	1500
10" Circular Saw		3900	2000
Jig Saw		400	300
Cut-off Saw		3500	2500
Screwdriver		800	550
Soldering Iron/Gun		-	150
Sump Pump		1300	400
Water Pump Submersible	3,000 GPH	1750	500
	5,000 GPH	2500	650
	10,000 GPH	3750	1000
	15,000 GPH	5000	1500
Water Pump Non-Submersible	3000 GPH	2250	600
	5,000 GPH	2850	750
	10,000 GPG	4100	1100
	15,000 GPH	5250	1600

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