INSTRUCTIONS-PARTS LIST

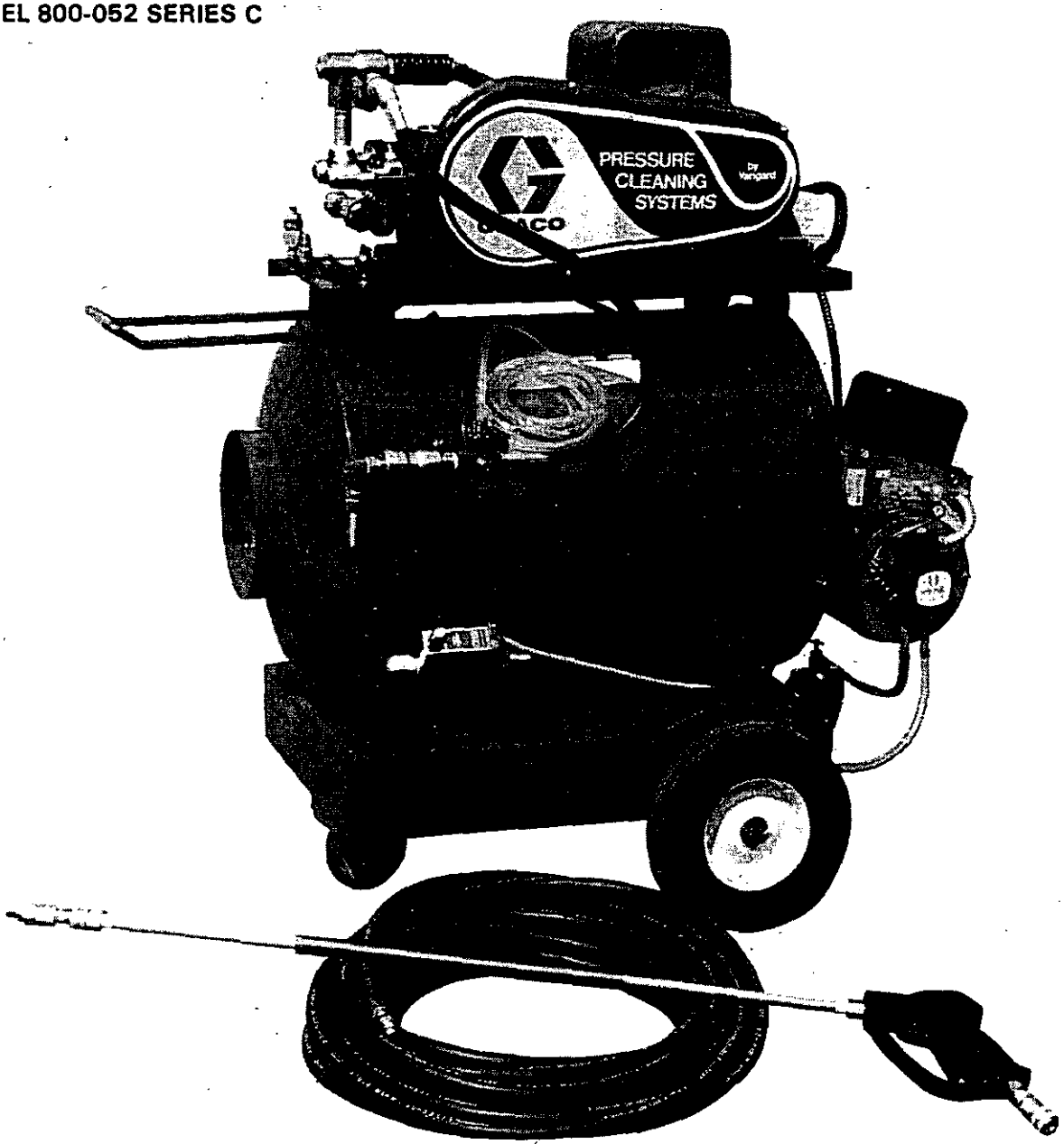
GRACO 801-237 Rev C

This manual contains IMPORTANT
WARNINGS and INSTRUCTIONS
READ AND RETAIN FOR REFERENCE

HYDRA-CLEAN® 1204HE

1200 psi (83 bar) OPERATING PRESSURE
1350 psi (93 bar) MAXIMUM WORKING PRESSURE

MODEL 800-052 SERIES C



GRACO INC. P.O. Box 1441 MINNEAPOLIS, MN 55440-1444

WARNING

HIGH PRESSURE SPRAY CAN CAUSE SERIOUS INJURY.
FOR PROFESSIONAL USE ONLY.
OBSERVE ALL WARNINGS.

Read and understand all instruction manuals before operating equipment.

INJECTION HAZARD

Fluids under high pressure from spray or leaks can penetrate the skin and cause extremely serious injury, including the need for amputation.

NEVER point the spray gun at anyone or any part of the body.

NEVER put hand or fingers over the spray tip.

NEVER try to stop or deflect leaks with your hand or body.

MEDICAL TREATMENT

If any fluid appears to penetrate your skin, get
EMERGENCY MEDICAL CARE AT ONCE.
DO NOT TREAT AS A SIMPLE CUT.
Tell the doctor exactly what fluid was injected. For treatment instructions have your doctor call the
NATIONAL POISON CENTER NETWORK
(412) 681-6669

AVOID COMPONENT RUPTURE

Even after you shut off the electric motor, there is high pressure in the pump, hose and gun until you relieve it by triggering the gun. So before removing the spray tip or servicing the unit, *always* shut off the unit *and* trigger the gun to release pressure.

Be sure that all accessory items and system components will withstand the pressure developed. *NEVER* exceed the pressure rating of any component in system. *NEVER* alter or modify equipment—your personal safety, as well as the function of the equipment, is at stake.

Before each use, check hose for weak, worn or damaged conditions caused by traffic, sharp corners, pinching or kinking. Tighten all fluid connections securely before each use. Replace any damaged hose.

Do not use chemicals or agents which are not compatible with Buna-N and PVC or neoprene cover of hose.

Do not leave a pressurized unit unattended. Shut off the unit and relieve pressure before leaving.

FIRE

Do not spray flammable liquids. Do not operate the unit where combustible fumes or dust may be present.

GENERAL

NEVER run the unit with the belt guard removed. Keep clear of moving parts when the unit is running.

Observe detergent manufacturer's safety precautions. Avoid getting detergent or other liquids in your eyes. Follow the directions on the container regarding contact with eyes, nose, and skin, breathing fumes, etc. Always wear full goggles to protect your eyes from the spray as well as any debris dislodged by the spray. If necessary, wear gloves or other protective clothing. If antidotes or treatment are recommended, be prepared to use them.

DON'T spray toxic chemicals such as insecticide or weed killer.

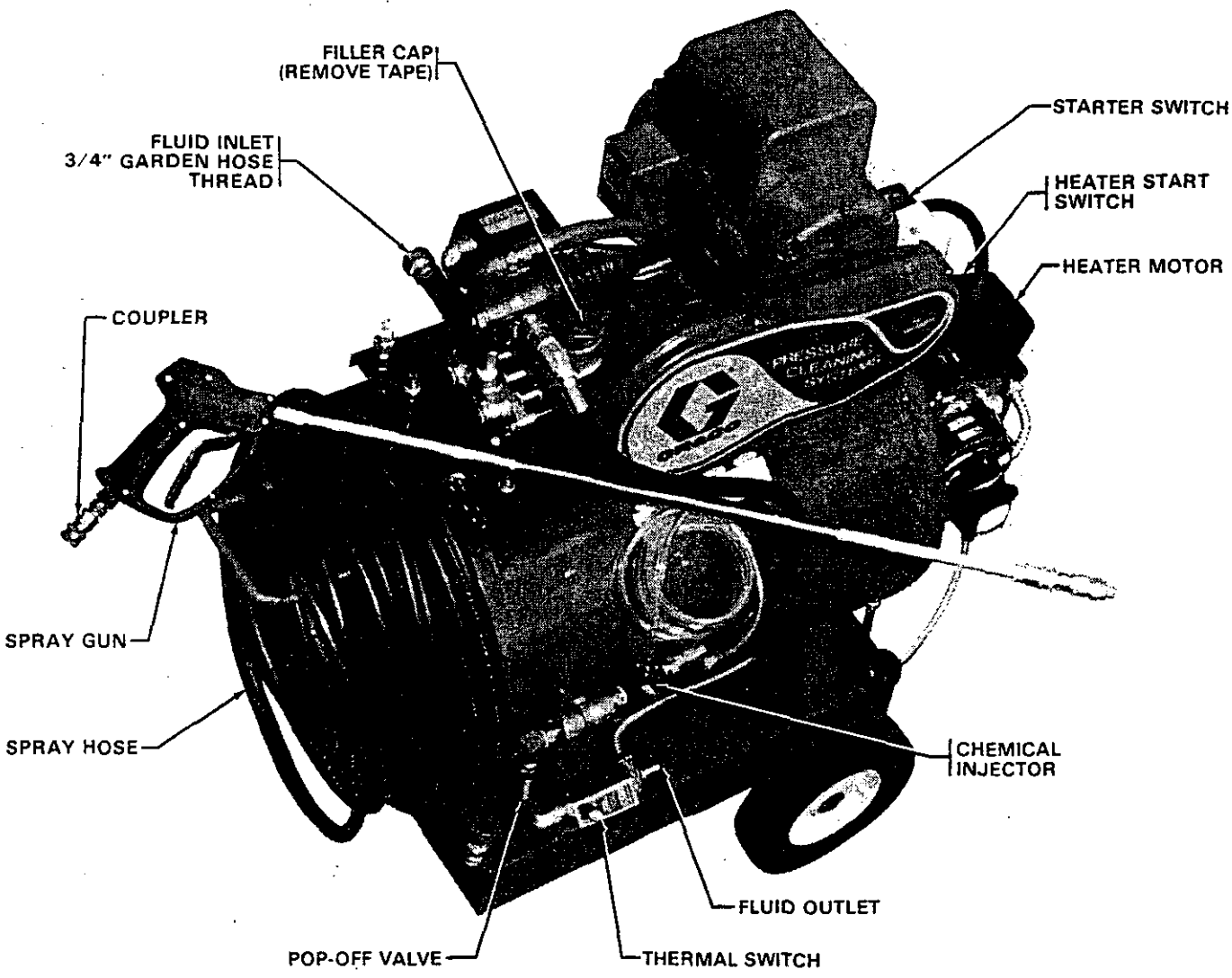
This unit has a 3-prong grounding plug to protect you from electric shock. Be sure to plug the unit into a properly grounded outlet that will accept the 3-prong plug. *Do not remove the third prong.*

The green wire of the electric cord is connected to the unit chassis and motor frame and the other two wires are connected to the motor switch for grounding continuity.

ALWAYS CHECK to be sure the switch is OFF and all lines are clear of moving parts before plugging in the power cord.

IMPORTANT

United States Government safety standards have been adopted under the Occupational Safety and Health Act. These standards—particularly the General Standards, Part 1910, and the Construction Standards, Part 1926 — should be consulted in connection with your use of airless spray equipment.



Check for Shipping Damage
The Hydra-Clean should be checked for any damage that may have occurred in shipping. Any damage should be noted and the carrier notified immediately.

Check Electrical Service and Plug In
Before plugging in the sprayer, be sure the electrical service is 230 V, 60 HzAC, 20 Amp, single phase. With the ON-OFF switch in the OFF position, plug the power supply cord into a grounded outlet. *Do not remove the third prong of the plug!* If you use an extension cord, it must have 3 wires of at least 12 gauge (2.5 mm^2) and should not be over 100 ft (30.3 m) long.

Install Hose and Spray Gun
Connect the spray hose to the spray gun by inserting the pin fitting at the end of the hose into the quick disconnect coupler on the gun. Connect the hose to the fluid outlet in the same way.

Remove the tape from the cap on top of the pump.

Connect To Water Supply

CAUTION

Before attaching to the water supply, check local plumbing code regarding cross-connection to water supply.

Do not exceed 160°F (70°C) water temperature to the pump in a direct supply system.

Connect a hose with at least a 3/4 in. (19 mm) ID from your city water supply to the unit's 3/4 in. garden hose threaded inlet. The supply hose should *not be more than 50 ft (15 m) long.*

NOTE: For a direct supply system, your water source at the unit *must* have a flow rate of *AT LEAST 4 GPM (19 LITER/MIN).*

Fuel
Fill only with #1 home heating oil or kerosene.

SAFETY

1. Disconnect the power before performing any maintenance or repair on this machine.
2. If a water leak is found, DO NOT OPERATE. Disconnect power and repair.
3. Do not operate the machine if any mechanical failure is suspected.
4. CAUTION: To insure combustion and avoid exhaust gases, have proper exhaust stacking and ventilation. The stacking and draft control are not furnished. Contact your local heating sales and service person for proper hardware and installation instructions when needed. Be sure to comply with all national, state, and local codes.
5. When operating, use basic protective clothing.
6. Do not direct the exhaust toward any combustible surface.
7. Use only the recommended fuel in the machine.
8. The discharge from an opened pop-off valve must be readily visible by the system operator. In the event that a pop-off valve opens, the system should be immediately shut down and troubleshoot procedure performed before restarting the pump. Take care that pop-off valve is installed pointed down to prevent bodily injury.

   Valves must be free of foreign material for proper operation.

OPERATION

Startup

Before starting, be sure to read the safety warnings and setup instructions.

Turn on the water supply.

CAUTION

Never run the cleaning unit dry. Costly damage to the pump will result. Always be sure the water supply is completely turned on before operating.

Inspect all connections for any leaks. Tighten if necessary.

Plug electric cord into proper outlet.

Trigger the gun to release any back-pressure.

WARNING

DO NOT wire or tie the gun trigger into the open or triggered position.

Push heater toggle switch to ON position.

Check thermostat setting.

Blower on heater should be on at all times when toggle switch is on. Remember, heater only lights when trigger on gun is pulled.

CAUTION

If heater does not light, see troubleshooting chart for heater.

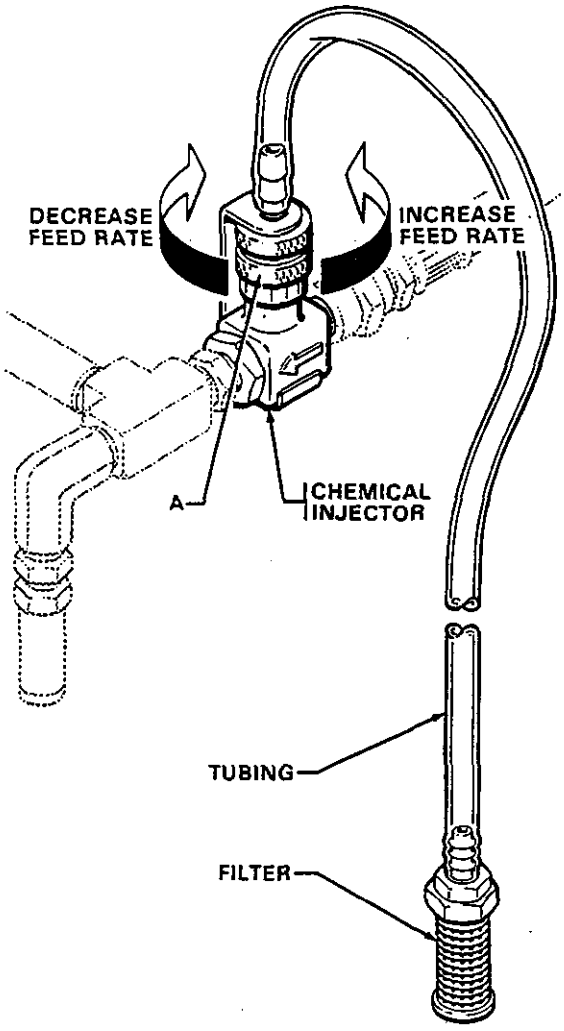
Cleaning

Chemical Injectors

Start Hydra-Clean unit and trigger gun. The injector may draw momentarily as the system is filling but normally will stop as the system builds up to full pressure. To actuate injector, turn adjustment knob (A) out, or counterclockwise until chemical begins to be drawn from container. After fluid reaches the injector, feed rate may be adjusted by turning the adjustment knob.

The chemicals used must be compatible with system components. The standard spray hose is made of Buna-N rubber, and the chemical injector is stainless steel and brass.

If chemical does not come up chemical hose, check chemical filter on end of hose. The chemical injector will only work with large orifice tip supplied with unit (brass tip P/N 801-679).



Check the distance you will need to hold spray nozzle from surface by test spraying on a scrap of similar material. For soft surfaces, such as wood, hold nozzle about 3 ft (1 m) from surface and gradually bring it closer, check to see if the high pressure spray is damaging the surface.

Mist-wet surface with cleaning solution. Let it soak briefly, then use spray rinse to "chisel" off dirt. Keep nozzle at an angle to surface, and at distance you determined to be best for surface. If some dirt remains, repeat procedure, letting it soak a little longer. Stubborn dirt can be cleaned off better with a stronger, heated cleaning solution.

When you have finished cleaning, shut off unit and trigger spray gun to relieve pressure. Protect surfaces that might be damaged by cleaning solution or high pressure spray, and rinse solution before it dries.

WARNING

Follow these precautions when removing and installing nozzles:

1. Use only spray tips that are matched to unit.
2. Shut off the cleaning unit and trigger the gun to relieve pressure. Engage the trigger safety.
3. Keep the nozzle and the tube pointed away from you and everyone else.
4. Do not put your hand over the tip to push the nozzle into place. Grasp it from the side and keep your fingers away from the tip.
5. Do not let anyone else touch the spray valve while you are cleaning nozzles.
6. Be sure the slip ring is pushed forward to lock the nozzle in place before triggering the spray gun.

Shutdown and Care of Unit

When the unit is not in use, turn off the water supply.

When shutting down for the day or weekend, shut off the unit, shut off the water supply valve, and trigger the gun to relieve pressure. Wipe off the unit with a damp rag.

CAUTION

Shut off the cleaning unit when not actually spraying, for longer pump life. The pump will overheat if left running for over 10 minutes without spraying.

Check the filter screen in the water inlet connection as often as necessary, at least daily. Do not operate the unit with the inlet and filter screen removed.

THE PUMP MUST NOT BE RUN DRY and must be drained of water before exposure to freezing temperatures. Use and store the unit where it will not be subjected to freezing temperatures. If water does freeze in the unit, thaw before trying to start. A 50% antifreeze solution may be pumped prior to cold weather storage.

CAUTION

Let a frozen pump thaw in a warm place. Don't pour hot water on a frozen pump.

Do not pump caustic materials.

Before extended storage, flush the pump with light oil.

Avoid dragging hose over an abrasive surface such as cement. This causes excessive wear and shorter hose life.

Clean the intake line strainer daily.

Lubrication and Care

Fill the pump crankcase to the dot on the oil gauge window with crankcase oil (801-144) or equivalent SAE 40 weight hydraulic oil with antiwear and rust inhibitor additives. Change the initial fill after a 50 hour running period. Change oil every 3 months or at 500 hour intervals.

WARNING

NEVER alter adjustment or modify the unloader valve.

Altering or adjusting unloader *will not* increase performance of unit and will void manufacturer warranty.

Winter Maintenance

1. Turn off and disconnect water supply and discharge lines.
2. Pump a 50% antifreeze solution through the machine making sure all water has been displaced.
3. When machine is needed, connect the water supply and circulate the antifreeze from the machine to containers for reuse. When the water flowing from the outlet becomes clear, reconnect discharge lines.

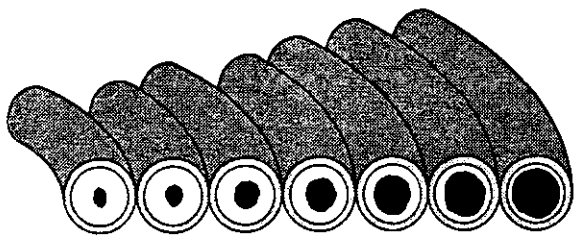
TROUBLESHOOTING — FUEL OIL HEATER

PROBLEM	PROBABLE CAUSE	SOLUTION
Burner will not light	No fuel.	Fill fuel tank. You might have to bleed the fuel pump.
	Thermostat set too low.	Check thermostat setting.
	Plugged fuel lines or nozzle.	Check oil flow from fuel pump and solenoid. Check fuel nozzle, clean or replace.
	No electricity.	Check electric plugs, fuses, etc. Check breaker button on blower motor.
	No spark.	Check transformer and high tension insulators.
	Switch off.	Turn heater toggle switch to ON position.
	Flow switch.	Call for service.
Burner smokes	Not enough air to burner.	Open airdraft ring on burner 3/4 inch.
		Use only kerosene or No. 1 home heating oil.
Burner does not shut off	Flow switch is not working.	Call for service.

PREVENTIVE MAINTENANCE .....

1. *DO NOT* — pump acids through pump.
2. *DO NOT* — fail to winterize in freezing temperatures.
3. *DO NOT* — allow pump to run dry.

COIL MAINTENANCE



Above is a sectional cut-away view showing the progressive liming of coils. This is caused by mineral deposits from the water and occurs much faster in hard water areas. The deliming procedure requires special caution and tools to perform. We recommend that you call your local service person if problems arise.

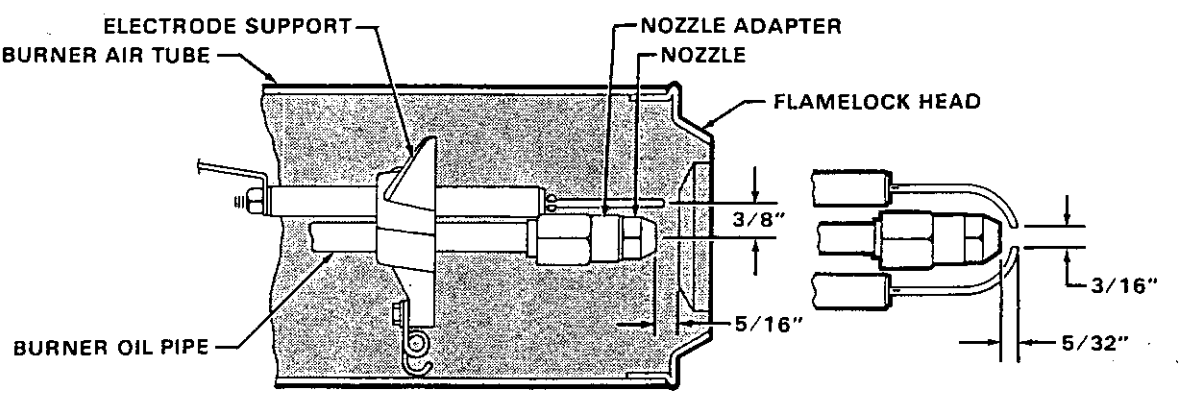
OIL BURNER MAINTENANCE

Adjusting Electrode Assembly

1. Disconnect the fuel line (item 11) from the electrode assembly oil line fitting (item 14). Loosen the other end of the line (fuel pump end) and swing line out of the way. Remove jam nut on oil pipe.
2. Loosen the bolts and open the transformer cover (item 3).
3. Carefully remove the burner electrode assembly.
4. a. Check and replace electrode insulators if cracked.
   b. Clean burnt electrode strips.
   c. Clean carbon off electrodes.
   d. Clean carbon off oil nozzle.
   e. Check for a loose oil nozzle. Tighten or replace if required.

CAUTION

If replacement of the nozzle adapter is required, only replace with the proper size nozzle (part no. 801-341).



ELECTRODE ASSEMBLY — BURNER ELECTRODE SPACING

5. Loosen screws holding electrodes.

6. Raise the electrode tips 5/32 inches above the surface plane or end of the oil nozzle.

7. Place each electrode tip 3/8 inches from the center of the spray nozzle hole, maintaining the previous measurement.

8. Spread the electrode tips to 3/16 inch gap maintaining the previous measurements.

9. When the proper measurements are received, gently tighten the screws that hold the electrodes in place. CAUTION: Do not over-tighten—this will cause electrode failure.

10. Gently replace the burner electrode assembly. CAUTION: Do not force. Forcing will cause electrode misalignment.

11. Partially close the transformer cover. Check if the electrode strips align and contact the transformer buttons. If electrode strips do not contact, gently bend them into place.

12. Close the transformer cover and tighten the bolts.

13. Reconnect fuel line.

TRANSFORMER CHECK

1. Loosen bolts and swing the transformer away from the drawer assembly.

2. Dry the porcelain insulators if wet. Clean the contacts if pitted or discolored.

3. Turn on burner switch and make sure the electric blower motor is running.

4. Partially close transformer cover until one transformer button contacts *electrode strip.*

5. Replace the transformer if the spark does not jump between other transformer button and electrode strip.

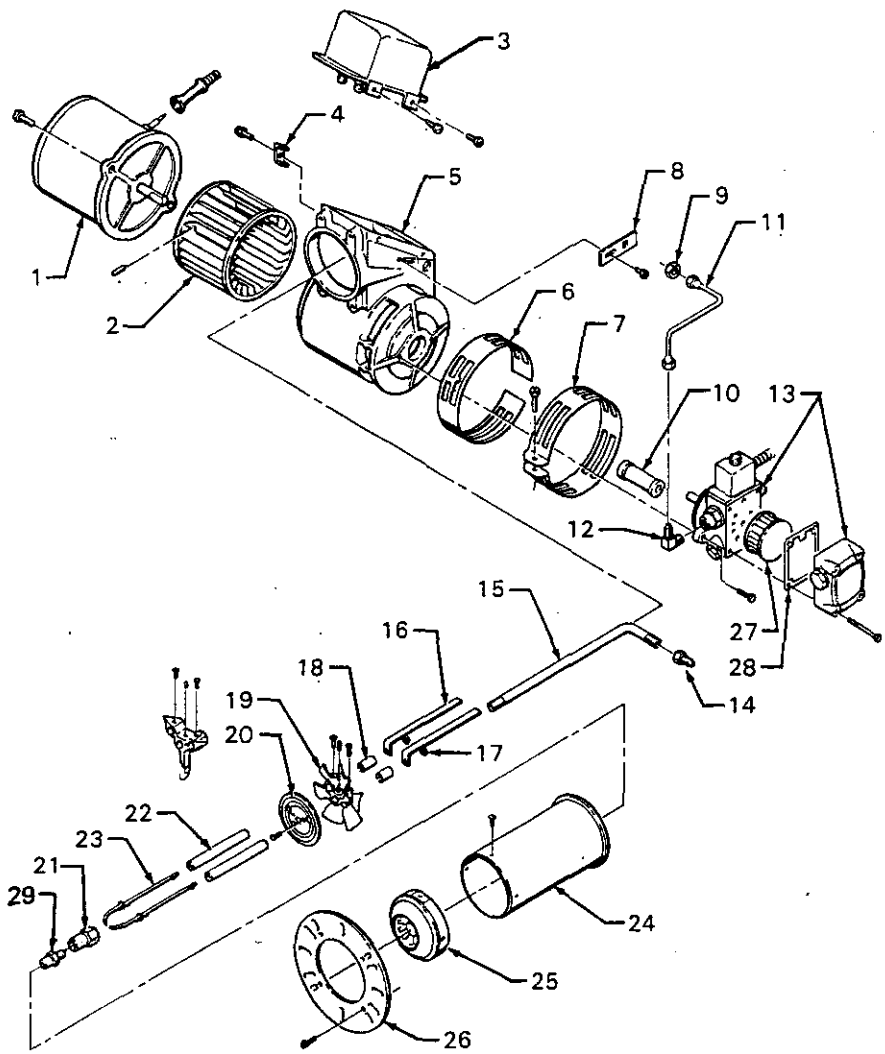
6. Turn off the burner switch.

7. Partially close the transformer cover. Check if the electrode strips align and contact the transformer *buttons. If electrode strips* do not contact, gently bend them into place.

8. Close the transformer and tighten the bolts. Be careful to not pinch any wires between cover and case.

PARTS DRAWING

Burner Assembly 801-739



PARTS LIST

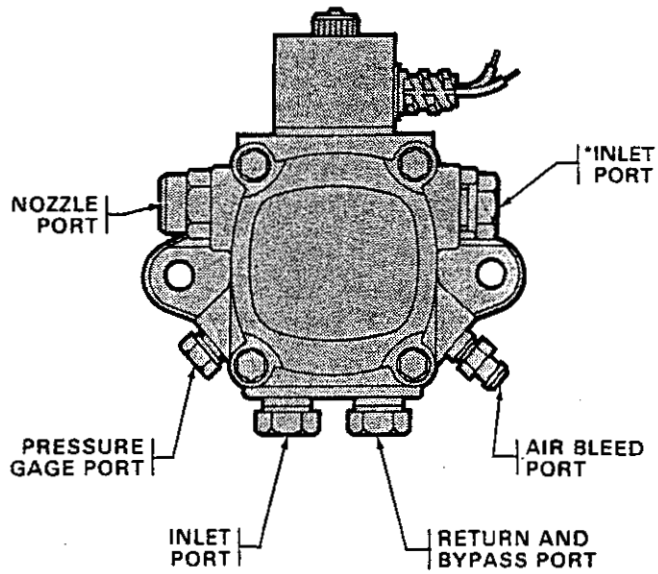
REF NO.	PART NO.	DESCRIPTION
1	801-323	MOTOR, 3450 — 220V/60 Hz
2	801-324	FAN, 6-1/4"
3	801-325	TRANSFORMER, 220V/60 Hz
4	801-326	CLIP, transformer hold down
5	801-327	HOUSING
6	801-328	BAND AIR ADJUSTMENT, inner
7	801-329	BAND AIR ADJUSTMENT, outer
8	801-330	COVER, oil line adjustment
9	801-331	LOCKNUT OIL LINE
10	801-332	COUPLING PUMP
11	801-333	LINE, fuel
12	801-334	ELBOW, oil line
13	801-347	FUEL UNIT, 60 cycle
14	801-335	OIL LINE FITTING
15	801-336	PIPE, oil
16	801-348	BAR, buss
17	801-337	ELECTRODE, lock nut
18	801-338	INSULATOR, bushing
19	801-339	STABILIZER, reversed
20	801-340	PLATE BAFFLE
21	801-413	ADAPTER, nozzle
22	801-349	INSULATOR
23	801-350	ELECTRODE STEM & WASHER
24	801-342	TUBE, air
25	801-343	CONE, air — FL-8
26	801-344	FLANGE
27	801-345	STRAINER, fuel pump
28	801-346	GASKET, cover
29	801-341	NOZZLE

TO BLEED FUEL LINES: Hydra-Clean unit must be in operation with fuel in tank. Turn on heater switch, blower motor must be running, open air bleed port until fuel sprays out. Close air bleed port.

TO CHECK FUEL PRESSURE: Remove pressure gauge plug and insert gauge in hole. Turn on the burner. Normal operating pressure is 100 PSI ± 5 PSI.

TO ADJUST FUEL PRESSURE: (See illustration.) Insert small screwdriver in screwhead located next to side inlet port* and turn clockwise for more pressure and counterclockwise for less pressure. (One complete turn equals 10 PSI.)

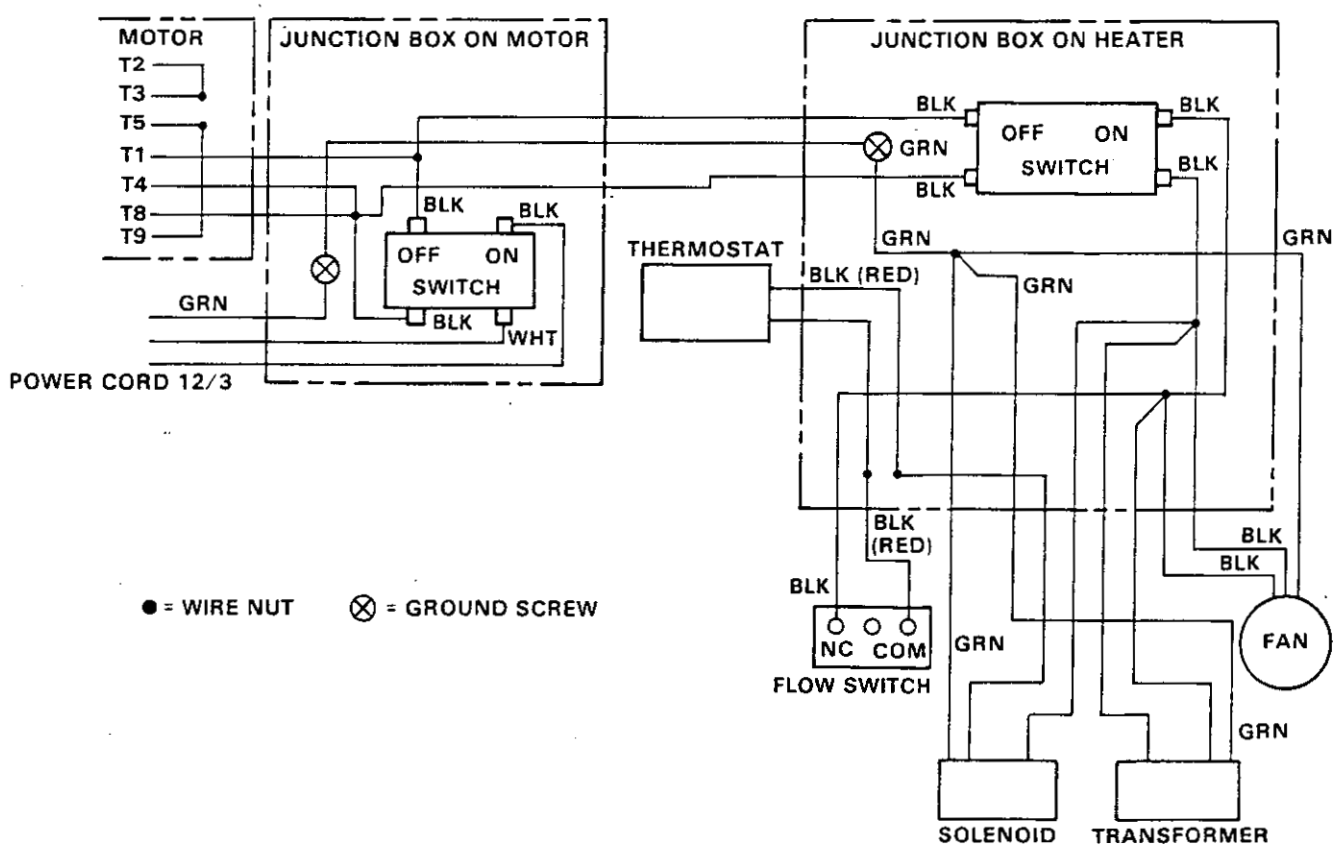
SERVICING THE FUEL PUMP: Periodically clean fuel strainer. A clogged strainer may cause fuel starvation.

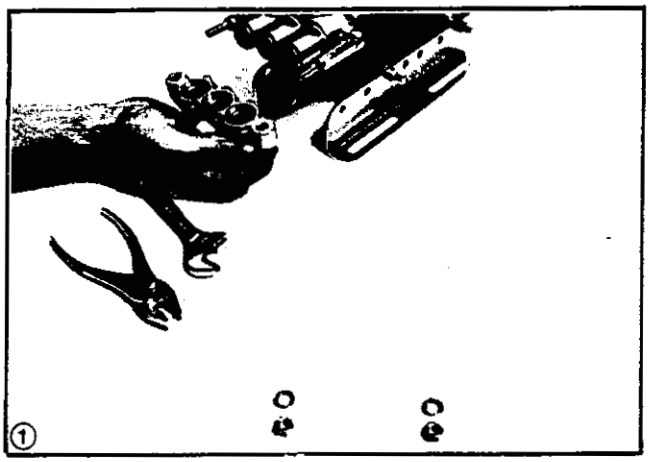


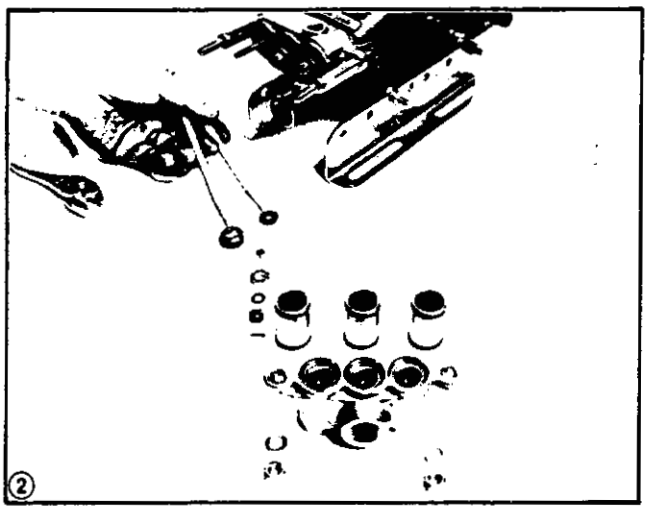
WIRING DIAGRAM

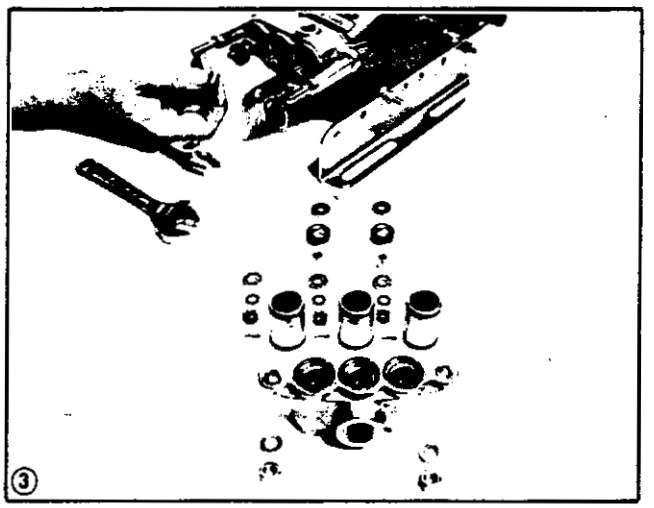
CAUTION

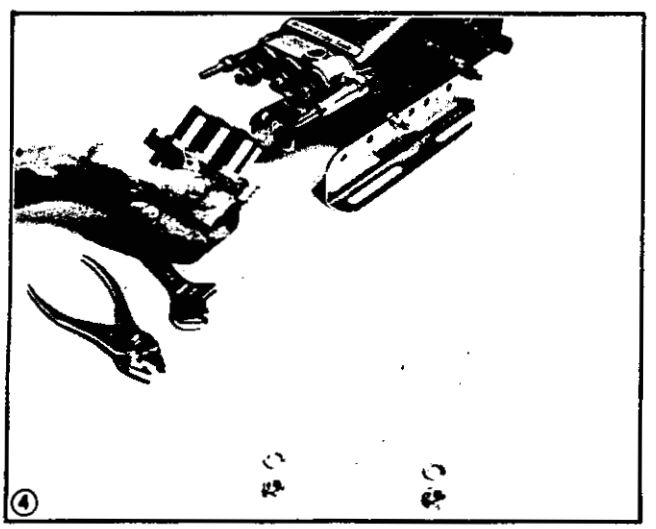
Unit must be properly wired to 220V/60 cycle (single phase) current.











SERVICING THE PUMPING SECTION

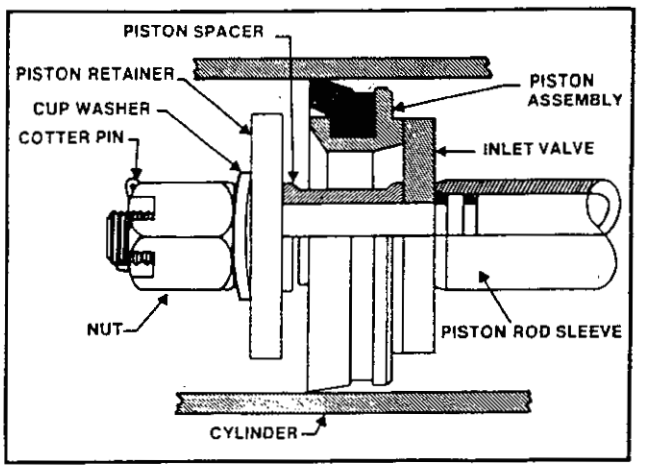
Remove the nuts on the manifold studs. Grasp the manifold and the discharge valve seats with three fingers on the underside and tap with a soft mallet to remove. Photo 1. When the manifold is removed in this manner, the separation is between the discharge valve seats and the cylinders. Discharge valves seats, discharge valve, discharge valve springs and retainers remain with the manifold. (They must be properly placed in the manifold before it is replaced.)

Slip cylinders out of the inlet manifold. Photo 2. Cylinders must be identified so they will be replaced in their original position. Remove cotter pins, nuts, cup washers, and piston assemblies. Inspect inlet valves and inlet valve surfaces (at the rear of the piston assembly). If inlet valve is damaged, reverse it; other side also has a lap surface. If piston inlet surface is damaged, replace piston assembly. Photo 3.

The inlet valve surface of the piston assembly *must be inserted first* on the piston rod (Photo 4)... the side that is *entirely* metal. Replace the piston spacer, the piston retainer, cup washer and the piston retainer nut. Tighten with a torque wrench to 60 in-lb. *Always use a new cotter pin!* After cups have been replaced, lubricate with a thin film of oil so cups will be lubricated *before* liquid enters the cylinders.

Check condition of cylinder interior walls. If chrome plating is scored, worn or etched, it will cause rapid wearing of piston cups. Replace with new cylinders and cylinder o-rings.

Replace the manifold studs as they were originally oriented. Reinstall cylinders by inserting them first into the discharge manifold and then positioning the manifold and cylinder assembly back on the pump. Do not extrude or damage the cylinder o-rings when slipping the cylinders into the manifolds. Replace the lock washers and nuts. Tighten with a torque wrench to 125 in-lb.



PUMPING SECTION CUTAWAY

DIAGNOSIS AND MAINTENANCE		
PROBLEM	**PROBABLE CAUSE**	**SOLUTION**
Low pressure	Worn nozzle.	Replace nozzle, of proper size.
	Belt slippage.	Tighten or replace; use correct belt.
	Inlet strainer clogged or improper size.	Clean. Check more frequently.
	Worn plunger cups. Abrasives in pumped fluid or severe cavitation. Inadequate water supply.	Install proper filter.
	Fouled or dirty inlet or discharge valves.	Clean inlet and discharge valve assemblies.
	Worn inlet or discharge valves. Leaky discharge hose.	Replace worn valves, valve seats and/or discharge hose.
Pump runs extremely rough, pressure very low	Restricted inlet or air entering the inlet plumbing.	Proper size inlet plumbing check for airtight seal.
	Inlet restriction and/or air leaks. Damaged cup or stuck inlet or discharge valve.	Replace worn cup or cups, clean out foreign material, replace worn valves.
	Worn inlet manifold seals.	Replace worn seals.
Cylinder o-rings blown next to discharge manifold	Warped manifold.	Replace manifold.
Leakage at the cylinder o-rings at the discharge manifold and black, powdery substance in the area of the o-rings	Loose cylinders. Cylinder motion caused by improper spaced discharge manifold.	Snug up external nuts on manifold studs making sure manifold is bottomed on all three cylinders. Then tighten inboard jam nuts on both manifold studs.
Water leakage from under the inlet manifold	Worn inlet manifold seals.	Install new seals. If piston rod sleeves are scored, replace sleeves and sleeve o-ring.
	Leaking sleeve o-ring.	O-rings.
Oil leak between crankcase and pumping section	Worn crankcase piston rod seals.	Replace crankcase piston rod seals.
Oil leaking in the area of crankcase	Worn crankcase seal or improperly installed oil seal retainer packing.	Remove oil seal retainer and replace damaged gasket and/or seals.
	Bad bearing.	Replace bearing.
Excessive play in the end of the crankcase pulley	Worn main ball bearing from excessive tension to drive belt.	Replace ball bearing. Properly tension belt. Check shaft shims.
Water in crankcase	May be caused by humid air condensing into water inside the crankcase.	Change oil every month or 200 hours.
	Leakage of manifold inlet seals and/or piston rod sleeve o-ring.	Replace seals, sleeve and o-rings.
Oil leakage from under side of crankcase	Worn crankcase piston rod seals.	Replace the crankcase piston rod seals.

DIAGNOSIS AND MAINTENANCE CONT.		
PROBLEM	**PROBABLE CAUSE**	**SOLUTION**
Oil leaking at the rear portion of the crankcase	Damaged or improperly installed oil gauge or crankcase rear cover o-ring, and drain plug o-ring.	Replace oil gauge or cover o-ring, and drain plug o-ring.
Oil leakage from drain plug	Loose drain plug or worn drain plug o-ring.	Tighten drain plug or replace o-ring.
Loud knocking noise in pump	Pulley loose on crankshaft. Broken or worn bearing.	Check key and tighten set screw. Replace bearings.
Frequent or premature failure of the inlet manifold seals	Scored rods or sleeves. Overpressure to inlet manifold.	Replace rods and sleeves. Reduce inlet pressure per instructions.
Short cup life	Damaged or worn chrome plating of the cylinders. Abrasive material in the fluid being pumped. Excessive pressure and/or temperature of fluid being pumped. Improper installation of cups. Overpressure of pumps. Running pump dry. Front edge of piston sharp. Chrome plating of cylinders damaged causing excessive wear of cups. May be caused by pumping acid solution.	Replace the cylinders. Install proper filtration of pump inlet plumbing. Check pressures and fluid inlet temperature; be sure they are within specified range. Properly install lip of new cup into groove on the piston. If not properly installed, the cup will be extruded past the piston. Piston will run eccentric; premature failure will result. Check for foreign material in hose and tips. Flush out system. Do not run pump without water. Replace with new piston. Install new cups and cylinders. Pump only fluid compatible with chrome.
Strong surging at the inlet and low pressure on the discharge side	Foreign particles in the inlet or discharge valve or worn inlet and/or discharge valves.	Check for smooth lap surfaces on inlet and discharge valve seats. Discharge valve seats and inlet valve seats. Discharge valve seats and inlet valve seats may be lapped on a very fine oil stone; damaged cups and discharge valves cannot be lapped but must be replaced.
Unloader cycling	Worn piston seal. Leak in system. Leak in discharge hose.	Replace seal assembly. Find and repair. Replace hose.
Water leaking from valve stem	Loose stuffing box. Worn o-rings on valve stem.	Tighten. Replace o-rings.

DIAGNOSIS AND MAINTENANCE CONT.		
PROBLEM	**PROBABLE CAUSE**	**SOLUTION**
Short piston seal life	Scored piston sleeve.	Replace piston sleeve.
	Abrasives in water.	Flush with clean water.
Electric motor won't run	Power cord unplugged, or building circuit fuse blown.	Check, replace.
	Overload switch has opened.	Unplug power cord*, decrease pressure.
Electric motor stops while spraying	Power cord unplugged, or building circuit fuse blown.	Check, replace.
	Overload switch has opened.	Unplug power cord*, relieve pressure—allow to cool.
	Tip plugged.	Remove and clean.
Electric motor labors when starting; blows fuses	Capacitor failure.	Replace capacitor.
	Not wired properly.	Wire to 220V/60 Hz. See wiring diagram.

*This unit has an overload breaker built into the switch assembly. If it opens, unplug power cord and let sprayer cool for 30 to 60 minutes. Also, try to correct the cause of overheating.

SERVICE

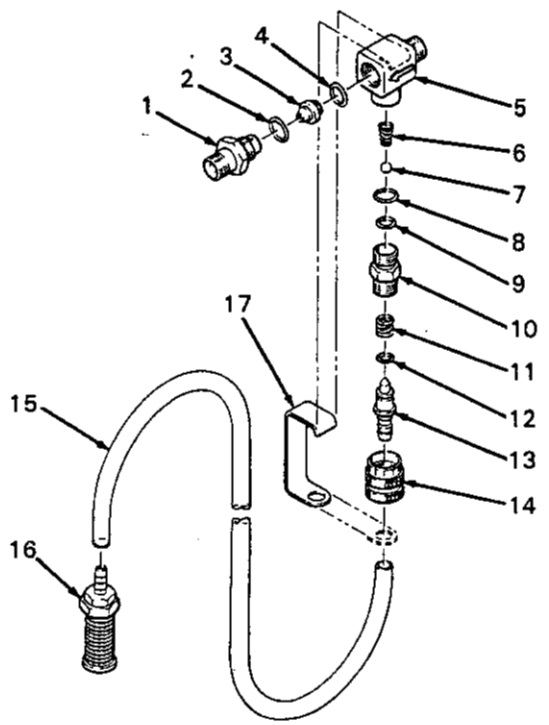
Chemical Injector

The nozzle, check valve, valve seat, and needle valve may be cleaned by disassembling the chemical injector if clogging occurs within.

As with any injector, if the spray tip becomes clogged or if downstream restriction increases in any manner, the injector will stop drawing chemical. The restriction should be eliminated before continuing.

A retaining spring (20) has been installed at the factory to prevent the adjustment knob (15) from being unscrewed too far and the internal parts from falling out. This spring can be removed if the injector needs to be taken apart for cleaning. Be sure to leave spring in place whenever the pressure washer is being used. Removal of spring will not improve chemical flow but could cause chemical injector to quit working.

PARTS DRAWING

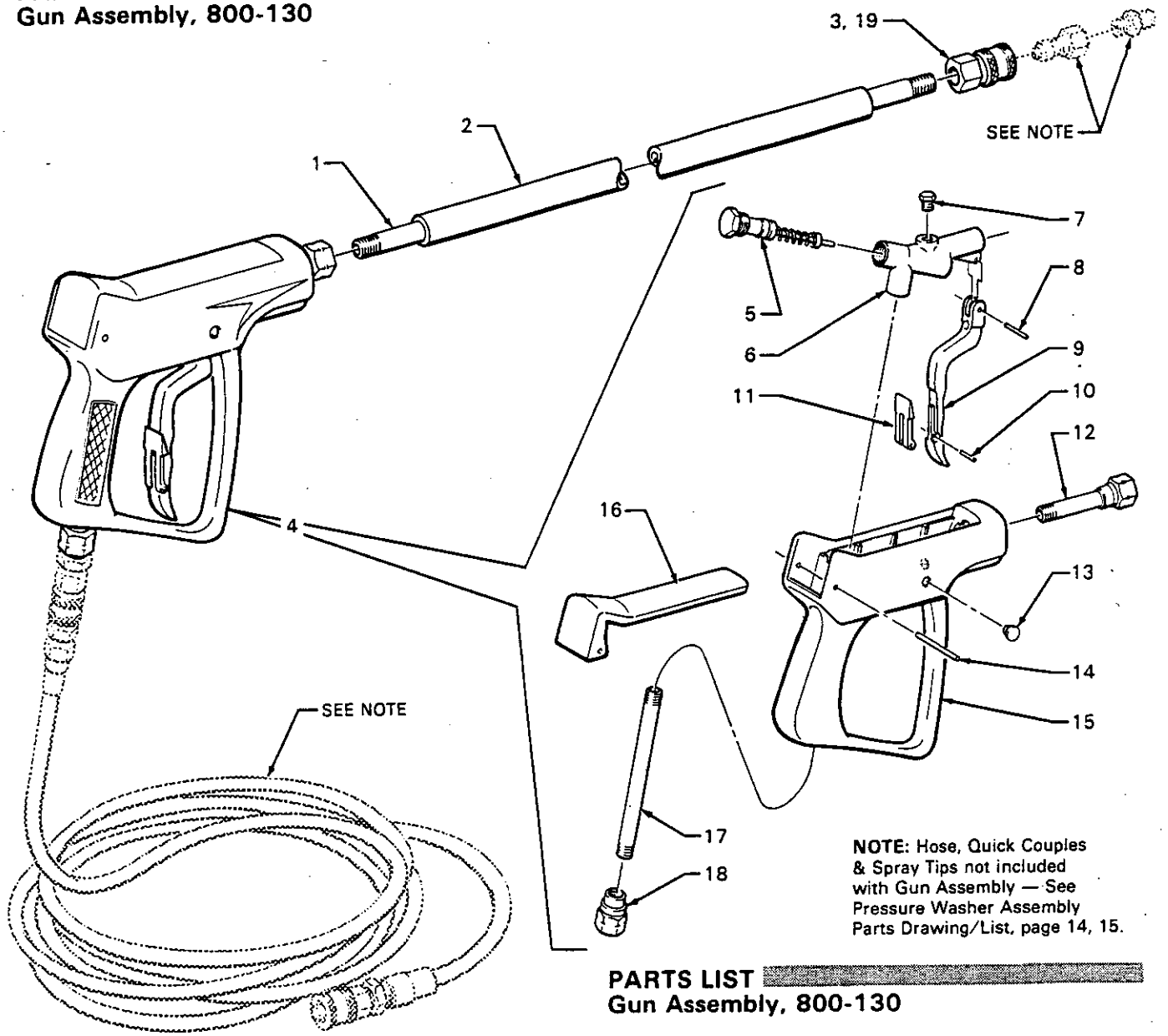


PARTS LIST

REF NO.	PART NO.	DESCRIPTION	QTY
1	801-684	NIPPLE, hex, brass	1
2	801-685	O-RING	1
3	801-686	NOZZLE, no. 1	1
4	801-688	O-RING	1
5	801-689	BODY, chemjet	1
6	801-690	SPRING, cone	1
7	801-691	BALL	1
8	801-692	O-RING	1
9	801-693	O-RING	1
10	801-694	VALVE SEAT	1
11	801-695	SPRING	1
12	801-696	O-RING	1
13	801-697	NEEDLE/HOSE BARB	1
14	801-698	ADJUSTMENT KNOB	1
15	801-677	TUBING, vinyl	1
16	801-683	STRAINER	1
17	801-682	RETAINER, spring	1

Order parts by name and series letter of the assembly for which you are ordering.

PARTS DRAWING
Gun Assembly, 800-130



NOTE: Hose, Quick Couples & Spray Tips not included with Gun Assembly — See Pressure Washer Assembly Parts Drawing/List, page 14, 15.

SERVICE
Gun, Cartridge Replacement

1. Press access pin (14) from gun handle and remove access plate (16) by sliding plate backwards. Remove cartridge (5) from housing (6) by using a 19 mm socket wrench.

2. Check inside housing to be sure all o-rings came out when cartridge was removed. If o-ring can be seen inside the housing, remove it, being careful not to damage internal threads in housing.

3. Throw away old cartridge and install new cartridge using a small amount of pipe sealant on threads. Be sure to tighten cartridge firmly against housing.

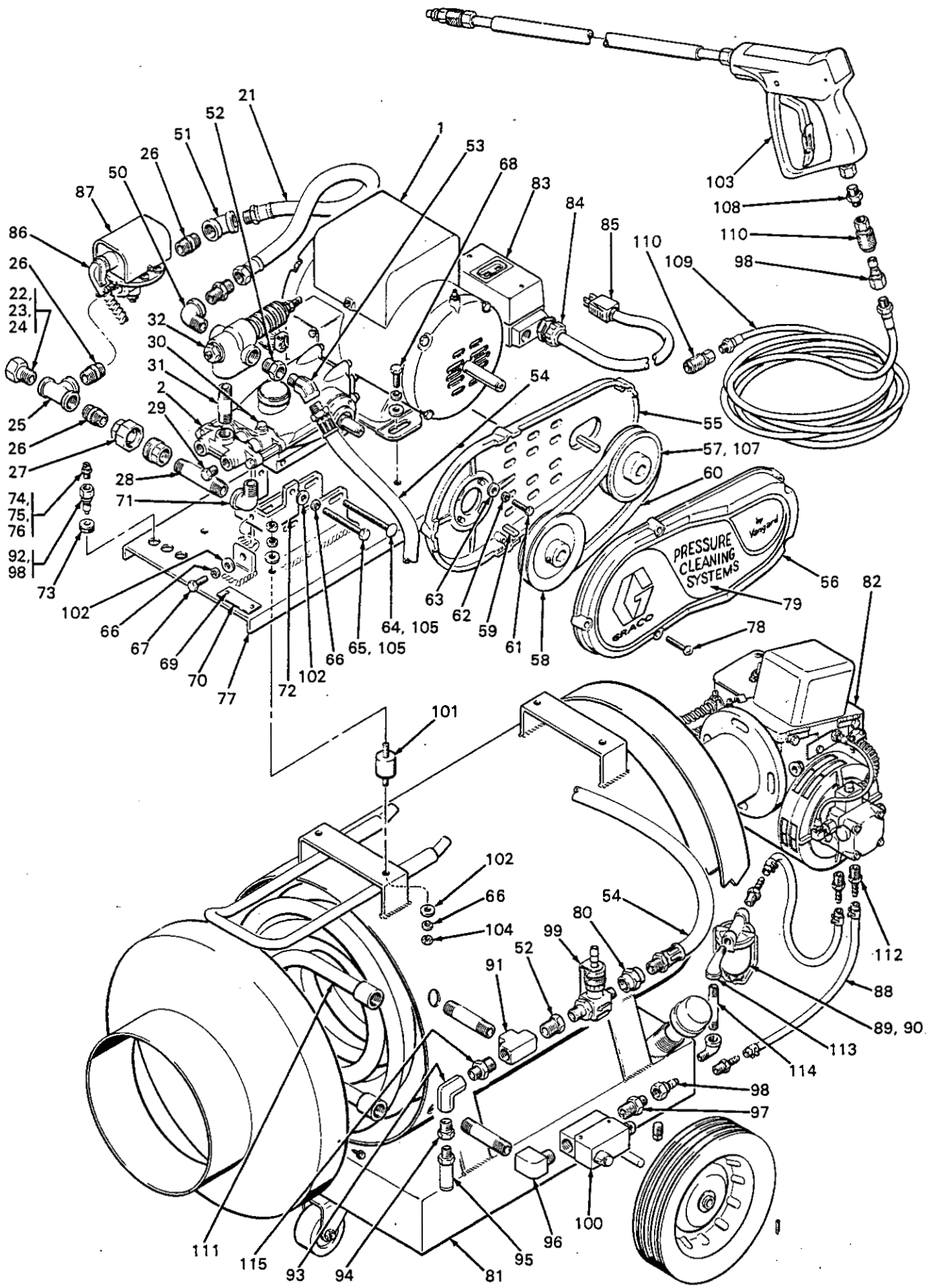
4. Slide access plate into place and install access pin.

PARTS LIST
Gun Assembly, 800-130

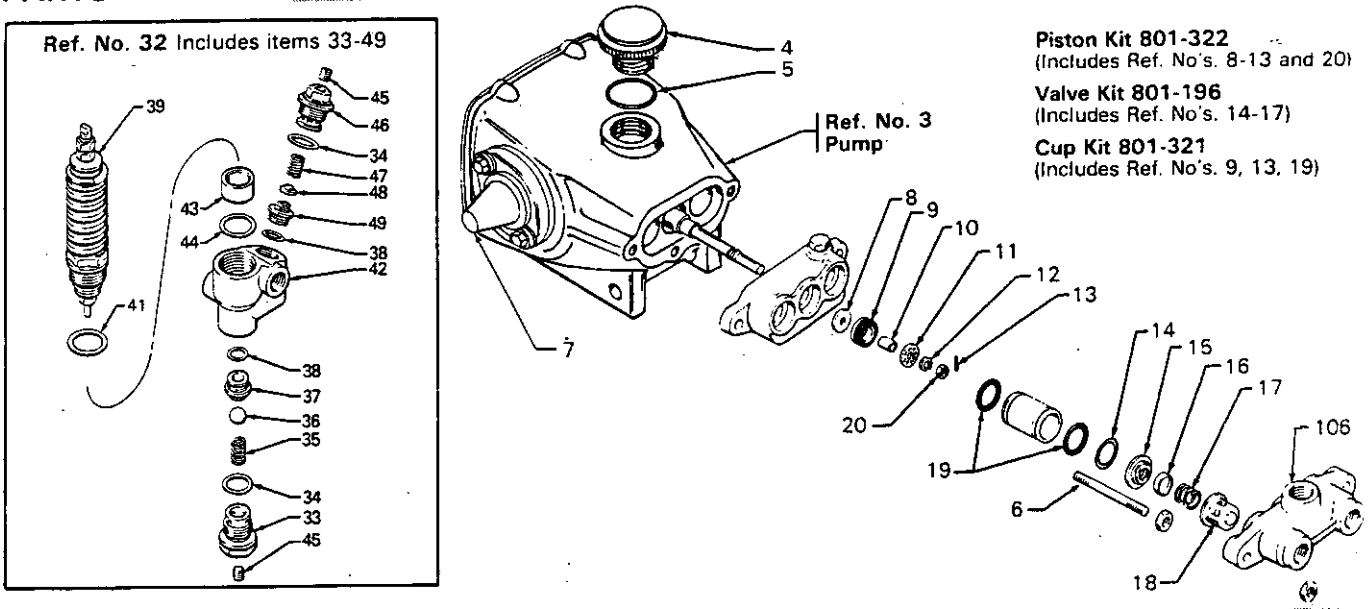
REF. NO.	PART NO.	DESCRIPTION	QTY
1	801-134	TUBE, 32"	1
2	801-674	GRIP	1
3	801-009	COUPLER, female quick disconnect	1
4	801-638	SPRAY GUN, (replaceable parts include items 5-18)	1
5	801-639	. CARTRIDGE	1
6	801-671	. HOUSING	1
7	801-670	. HEX PLUG	1
8	801-256	. TRIGGER PIN	1
9	801-424	. TRIGGER	1
10	801-426	. LATCH PIN	1
11	801-425	. SAFETY LATCH	1
12	801-672	. OUTLET	1
13	801-673	. PIN COVER	2
14	801-428	. ACCESS PIN	1
15	801-419	. HANDLE	1
16	801-427	. ACCESS PLATE	1
17	801-420	. TUBE	1
18	801-423	. INLET FITTING	1
19	*801-202	O-RING, quick couple	1

Order parts by name and series letter of the assembly for which you are ordering.

**Recommended "tool box" spare parts.*


PRESSURE CLEANING SYSTEMS
GRACO

PARTS DRAWING



PARTS LIST

REF NO.	PART NO.	DESCRIPTION	QTY
1	800-016	MOTOR ASSEMBLY	1
2	800-024	PUMP ASSEMBLY, includes items 3-53 and 71, 86, 87	1
3	801-270	. PUMP, Ref. Nos. 4-7 and 106 are replaceable parts. Ref. Nos. 8-20 are sold in kits only.	
4	801-027	. FILLER CAP	1
5	801-028	. O-RING	1
6	801-356	. STUD, pump	2
7	801-181	. SHAFT PROTECTOR	1
8-20		SEE REPAIR KITS	
21	801-113	HOSE, coupled	1
22	801-111	NUT, garden hose adapter	1
23	801-110	ADAPTER, garden hose	1
24	801-112	SCREEN, inlet	1
25	801-106	TEE, brass	1
26	801-275	NIPPLE, brass	3
27	801-280	COUPLING, steel	1
28	801-105	NIPPLE, brass	1
29	801-269	PLUG	2
30	801-271	PLUG, hex hd.	1
31	801-182	NIPPLE, steel	1
32	801-203	UNLOADER, includes items 33-49	1
33	801-045	.. CAGE, valve	1
34	801-046	.. O-RING	2
35	801-047	.. SPRING	1
36	801-048	.. BALL	1
37	801-049	.. SEAT	1
38	801-050	.. O-RING	2
39	800-013	.. UNLOADER ADJUSTMENT ASSY	1
40	801-143	.. TAG	1
41	801-059	.. GASKET	1
42	801-060	.. HOUSING	1
43	801-061	.. CYLINDER	1
44	801-062	.. GASKET	1
45	801-063	.. PLUG	2
46	801-068	.. HOUSING, valve	1
47	801-069	.. SPRING	1
48	801-070	.. VALVE	1
49	801-071	.. SEAT	1
50	801-178	ELBOW, street, 90°	1
51	801-278	ELBOW, plated steel, 45°	1
52	801-274	BUSHING, hex	3
53	801-279	ELBOW, plated steel, 45°	1
54	801-306	HOSE, coupled	1
55	801-176	BELTGUARD, base	1
56	801-177	BELTGUARD, cover	1
57	801-299	PULLEY, motor	1
58	801-300	PULLEY, pump	1
59	801-173	KEY, pulley	1
60	801-375	BELT, drive	1
61	801-170	SCREW, mach. (M6 x 25 mm)	4
62	801-139	WASHER, lock	4
63	801-023	WASHER, flat	4
64	801-290	BOLT, carriage	1
65	801-291	BOLT, machine	1
66	801-025	WASHER, lock	16
67	801-298	SCREW, machine	1
68	801-302	SCREW, machine	4
69	801-132	RIVET, drive	2
70	801-131	PLATE, serial no.	1
71	801-272	ELBOW, street, 90°	1
72	801-293	BELT TENSIONER, weldment	1
73	801-012	GROMMET	4
74	801-666	TIP, cleaning	1
75	801-665	TIP, blasting	1
76	801-679	TIP, chemical	1
77	800-025	CHASSIS WELDMENT	1
78	801-087	SCREW, machine	5
79	801-542	LABEL, identification	1
80	801-728	COUPLING, pipe, 3/8	1
81	801-732	HEATER, coil included	1
82	801-739	BURNER ASSEMBLY(for details see pg 7)	1
83	801-295	SWITCH, starter	1
84	801-225	STRAIN RELIEF	1
85	801-294	CORD, power	1
86	801-276	CONNECTOR, electric	1
87	801-277	FLOW SWITCH	1
88	801-736	FUEL LINE, 1/4 I.D.	2
89	801-710	FILTER, housing and filter element	1
90	801-737	FILTER ELEMENT, replacement only	1
91	801-314	TEE, high pressure	1
92	801-126	COUPLER, male, 1/4 brass	1
93	801-747	ELBOW	1
94	801-313	BUSHING, hex	1
95	801-320	VALVE, relief	1
96	801-316	ELBOW, street	1
97	801-108	NIPPLE, hex	1
98	801-090	COUPLER, male, 1/4	4
99	800-121	INJECTOR, chemical (for detail see injector drawing)	1
100	800-028	SWITCH, thermal	
101	801-369	DAMPENER, vibration	4
102	801-015	WASHER, flat	16
103		SPRAY GUN, for details see gun drawing	1
104	801-370	NUT, hex (5/16-24 NF)	8
105	801-024	NUT, hex (5/16-18 NC)	2
106	801-200	MANIFOLD	1
107	801-376	HUB, pulley	1
108	801-103	NIPPLE, hex, 1/4 x 3/8 NPT	1
109	801-007	HOSE, H.P. 3/8 I.D. x 50'	1
110	801-009	COUPLER, female, 1/4	2
111	801-669	COIL, for replacement only	1
112	801-733	HOSE BARB, 1/4 x 1/4 brass	4
113	801-735	ELBOW, 1/4 x 1/4 NPT x 90°	2
114	801-734	NIPPLE, 1/4 x 3"	1
115	801-107	NIPPLE, hex	1

Order parts by name and series letter of the assembly for which you are ordering.

ACCESSORIES (Must be purchased separately)

CHECK VALVE 801-133
Prevents back-up of contaminated water into fresh supply. Install upstream from pump.

TECHNICAL DATA

Pressure	1,200 PSI
Flow	3.5 GPM
Heater Capacity	330,000 BTU/H
High Temperature	200°
Horsepower	3 HP
Fuel Capacity	12 Gal.
Current	230 V, 60 HzAC, 20 Amp, Single Phase
Heater	Oil Fired
Heater Coil	1/2 I.D. SKD40 — 88 Feet
Hose	50 Ft. 3/8 I.D.
Shipping Weight	400 Lbs.
Dimensions	37" L, 16" W, 39" H

LIMITED WARRANTY

We warranty each new machine sold by us to be free from manufacturing defects in normal service for a period of one (1) year commencing with delivery of the machine to the original owner.

Our obligation under this warranty is expressly limited at our option, to the replacement or repair at Vangard Mfg., Minneapolis, Minnesota or a service facility designated by us, of such part or parts as inspection shall disclose to have been defective. This warranty does not apply to defects caused by damage or unreasonable use (including failure to provide reasonable and necessary maintenance) while in the possession of the consumer. THIS WARRANTY DOES NOT APPLY TO THE WATER NOZZLE OR V-BELTS.

WE SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES OF ANY THING, including but not limited to, consequential labor costs or transportation charges in connection with the replacement or repair of defective parts.

We make no warranty with respect to trade accessories. They are subject to the warranties of their manufacturers.

ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTIBILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. We make no other express warranty, nor is anyone authorized to make any in our behalf.

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