

INSTRUCTIONS-PARTS LIST



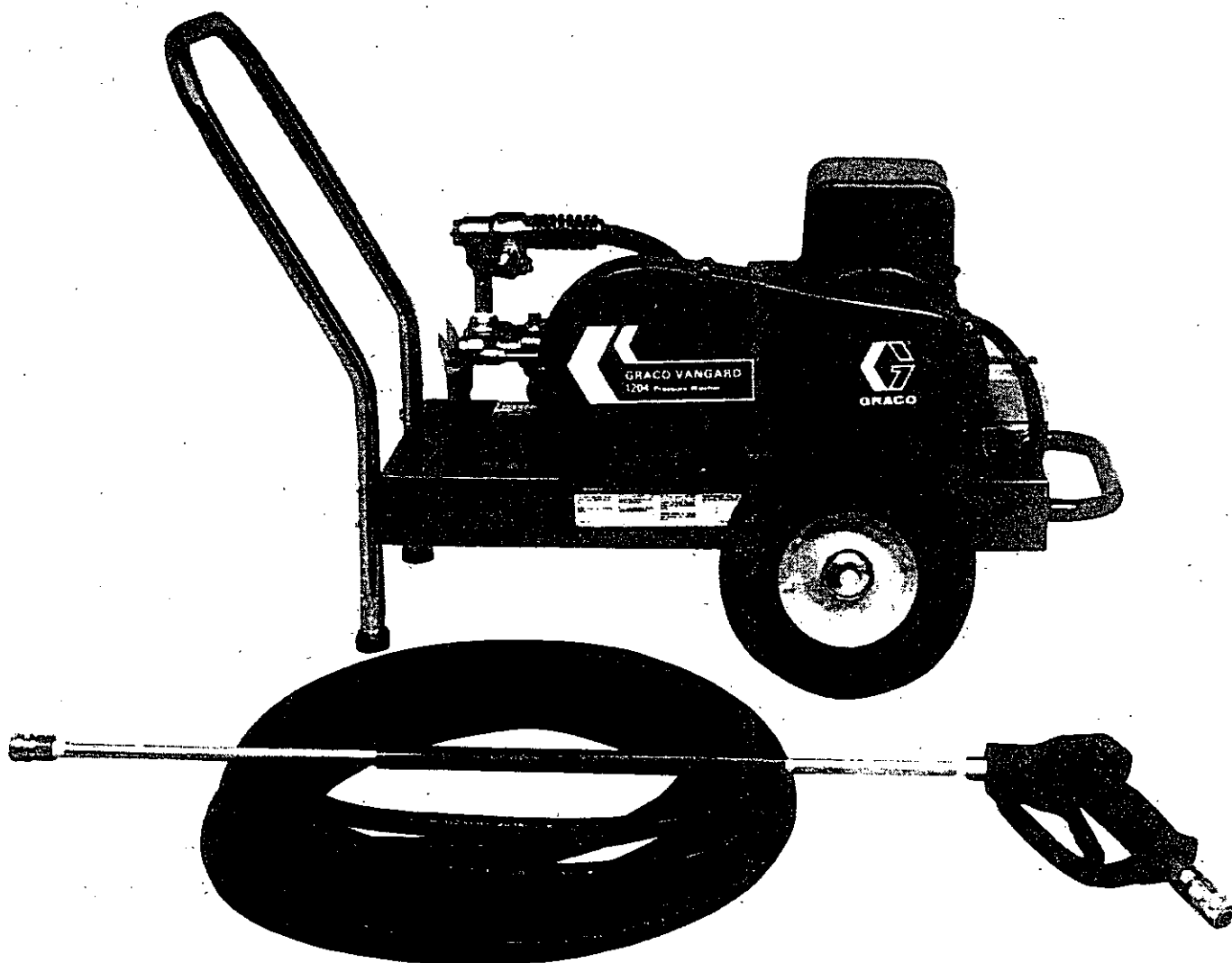
801-238
Rev B

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

HYDRA-CLEAN® 1204E

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

MODEL 800-051 SERIES B



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

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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.

ALWAYS have the tip guard in place when spraying.

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.

The electric motor has an overload protection device which *automatically* shuts off the motor if it overheats. So, before examining or working on a motor which has stopped, shut off the unit, relieve pressure and pull out the electrical plug. This will avoid the hazard of the motor starting unexpectedly.

ALWAYS CHECK to be sure the switch is OFF and that the hoses and electric cord 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.

INSTALLATION

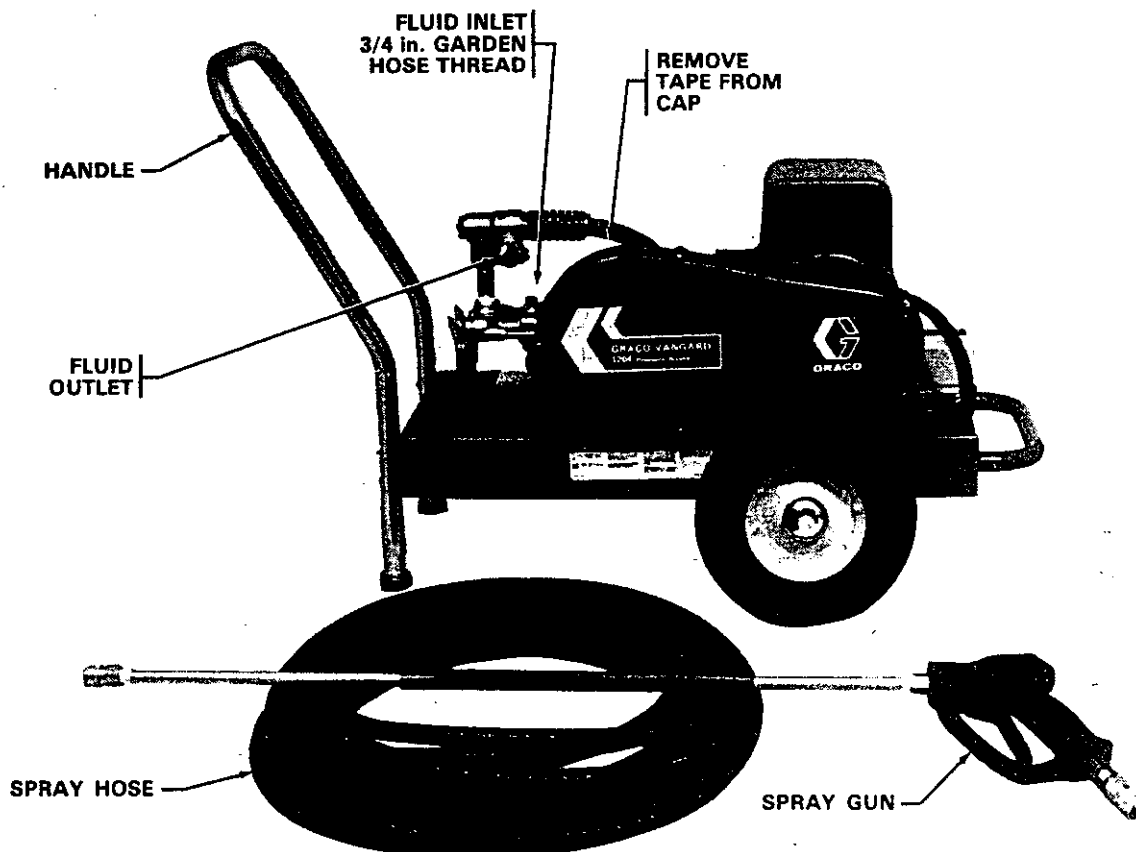


Fig 1

Check Electrical Service and Plug In

Before plugging in the sprayer, be sure the electrical service is 220 V, 60 HzAC, 20 Amp. 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 mm²) and should not be over 100 ft (30.3 m) long.

Install Wheels and Handle

Slide the axle through the frame. Slide the wheels onto the axle and secure with the cotter pins provided. Install the hub caps.

Using the two lowest holes on each leg of the frame, attach the handle with the 4 screws, flat washers, lockwashers and nuts provided.

Install Hose and Spray Gun

Connect the quick coupler on the end of the tube to the tip assembly. Connect the hose assembly to the quick coupler at the fluid inlet of the gun. Then connect the hose to the Hydra-Clean unit.

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

Clean Accessories

For spraying detergent or other cleaning solution, we

recommend using a chemical injector kit. See Accessories and instruction manual 801-192 for installation and operation.

Connect To Water Supply

CAUTION

Before attaching to the water supply, check local plumbing code regarding cross-connection to water supply. If backflow prevention is needed, use accessory check valve 801-133.

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

Connect a hose with a 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).**

If your operating conditions are different from above, contact our Customer Service Department for assistance.

OPERATION

Startup

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

Turn on the water supply.

Trigger the gun to release any back pressure.

WARNING

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

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.

Cleaning

For cleaning with harsh chemicals, see the Chemical Injector Kit manual 801-192.

For cleaning with clear water, test the distance you will need to hold the spray nozzle from the surface on a scrap piece of similar material. For soft surfaces such as wood, hold the nozzle about 3 ft (1 m) from the surface and gradually bring it closer, checking to see if the high pressure spray is damaging the surface. Always hold the nozzle at an angle to the surface and "chisel" off the dirt. When you have finished cleaning, shut off the unit and trigger the spray gun to relieve pressure.

WARNING

Follow these precautions when removing and installing nozzles:

1. Shut off the cleaning unit and trigger the gun to relieve pressure. Engage the trigger safety.
2. Keep the nozzle and the tube pointed away from you and everyone else.
3. 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.
4. Do not let anyone else touch the spray valve while you are changing nozzles.
5. 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 could 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.

DO NOT try to adjust the unloader valve or change the engine speed. Changing these settings may cause excessive pressure, intermittent unloader operation, wasted fuel and increased wear on parts and will void the warranty.

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% anti-freeze solution may be pumped prior to cold weather storage.

Use only spray tips that are matched to the unit to avoid excessive cycling and wear of the unloader valve. See ACCESSORIES.

CAUTION

Let a frozen pump thaw in a warm place. Don't pour hot water on a frozen pump. A sudden temperature change may crack the ceramic plungers.

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.

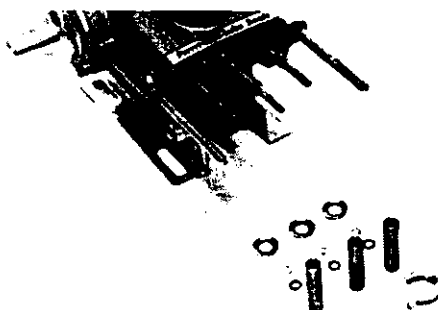
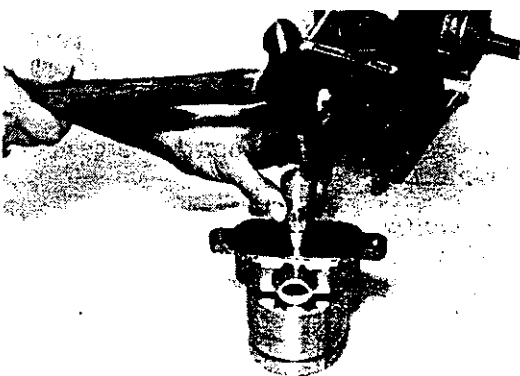
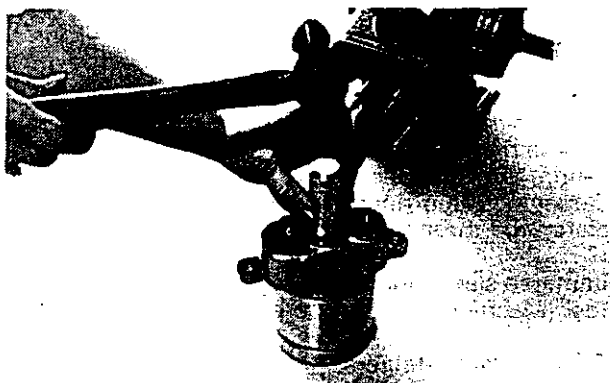
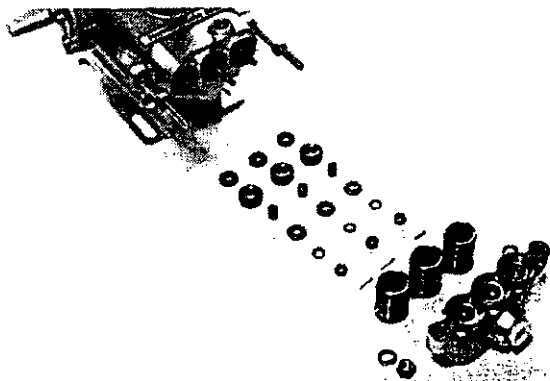
Lubrication and Care

Fill the pump crankcase to the dot on the oil gauge window with 25 oz (0.75 liters) of crankcase oil (801-144) or equivalent SAE 40 weight hydraulic oil with antiwear and rust inhibitor additives. Change the oil after the first 50 hours of operation and then 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.



DISCHARGE VALVES & VALVE SEATS

Disassembly

1. Loosen the 2 (M8) locking nuts about one turn.
2. Then remove the 2 (M8) flange nuts.
3. Grasp the discharge manifold with 3 fingers on the underside and tap with a soft mallet to remove.
4. Valve assemblies will remain with the manifold. Invert manifold and discharge valve assemblies should fall out.
5. Inspect discharge valves for wear of ridges. (Spherical valves must be replaced when worn.)

Reassembly

1. Place retainer in manifold chamber.
2. Next insert spring into center of retainer.
3. Place valve over spring with spherical side down.
4. Next insert the valve seat.
5. Position manifold back onto pump.

NOTE: Exercise caution when inserting cylinders into manifold to avoid damaging cylinder o-rings.

6. Replace flange nuts on studs and hand tighten both sides. Then torque each side to 125 in-lb.
7. Hand tighten locking nut.

CAUTION

When restarting the pump, check to see that there is no cylinder motion as this will cause premature failure of the cylinder o-rings. Center cylinder motion can be eliminated by switching with one of the end cylinders.

PUMPING SECTION

Disassembly

1. Remove discharge manifold as described above.
2. Slip cylinders out of inlet manifold.

NOTE: Identify cylinders so they will be replaced in their original position. (Front to back.)

3. Remove cotter pin, nut, and washer.
4. Next remove piston retainer, spacer, and piston assembly.
5. Remove inlet valve.

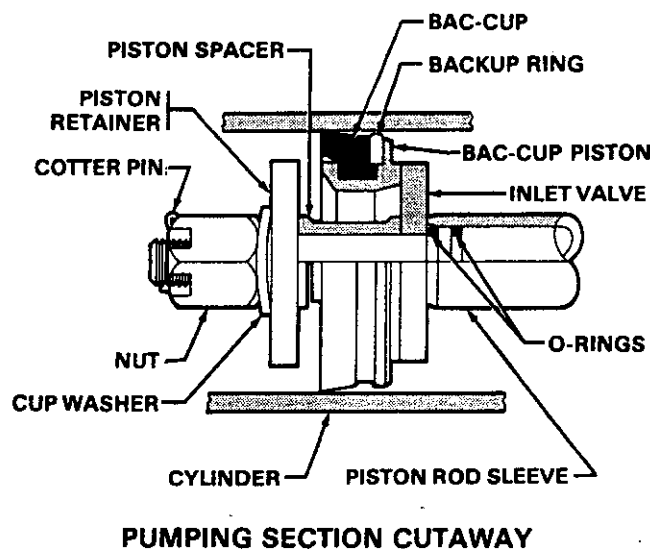
Reassembly

1. Examine inlet valve surface and reverse if damaged. (Both sides are lap surfaces.)
2. Examine piston assembly for clean inlet surface. If damaged, replace and lubricate.

NOTE: CUP INSTALLATION

Wipe cup inserter lightly with oil. Slip backup ring onto piston. Force cup over inserter and square with all surfaces. Faulty cup installation causes premature failure.

3. Next replace piston spacer and retainer.
4. Slip washer onto rod, screw on nut and torque to 60 in-lb. ALWAYS USE NEW COTTER PIN.
5. Examine cylinder walls for scoring or etching. These conditions will cause premature wear of piston assemblies. Replace if worn or damaged.
6. Lubricate cylinder and replace o-rings and backup rings (if defective).
7. Position cylinders in their original order into manifold chambers and carefully slip over rod ends onto the pump.
8. Replace flange nuts on studs and hand tighten both sides. Then torque each side to 125 in-lb.
9. Hand tighten locking nuts.



SEALS AND SLEEVES

Disassembly

1. Remove discharge manifold and piston assemblies as described.
2. Remove both (M8) locking nuts from studs.
3. With soft mallet, tap inlet manifold loose from crankcase.
4. Place inlet manifold on pair of clearance blocks with crankcase side down, and drive out seals.
5. Invert inlet manifold with CRANKCASE SIDE UP.
6. Lubricate circumference of new Prrrrm-A-Lube seals, position in manifold with GARTER SPRING DOWN and drive into place.
7. Examine sleeves for scoring or other damage before removing.
8. If worn, grasp sleeve with pliers and pull off.

NOTE: This procedure will mar the sleeve so use only if sleeve is to be replaced.

9. Remove o-ring and backup rings from piston rod.

Reassembly

1. Place barrier slinger on rod.
2. Lubricate new o-rings and backup rings. Install first o-ring in the o-ring groove on the piston rod. Position backup ring against the shoulder in front of the first o-ring, then the second o-ring. Be careful to avoid damaging the o-rings when slipping them over the piston rod threaded ends.
3. Immerse sleeve in oil, carefully twist and push onto rod. (Machined counter bore end first.)
4. Replace seal retainers.
5. Be careful when replacing inlet manifold, so the inlet seals are not damaged by the threaded rod ends.
6. Replace locking nuts on studs.
7. Reassemble piston assemblies and discharge manifold as described.

Consult factory for your local distributor for crankcase servicing.

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 suction strainer clogged.	Clean. Check more frequently.
	Worn plunger cups. Abrasives in pumped fluid or severe cavitation. Inadequate water supply.	Install proper filter.

DIAGNOSIS AND MAINTENANCE CONT.

PROBLEM	PROBABLE CAUSE	SOLUTION
Low pressure (Cont.)	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	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	Pressures in excess of rated PSI.	Check for plugged nozzle, closed valves or improperly adjusted by-pass valve.
	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 shimming of the discharge manifold.	Exchange middle and outboard cylinder.
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	May be caused by excessive oiling of the wick lubricators.	Wipe free of oil. Do not oil lubricators for a short period. If leakage continues, replace the crankcase piston rod seals.
	Worn crankcase piston rod seals.	
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.	Check key and tighten set screw.
	Broken or worn bearing.	Replace bearings.
Frequent or premature failure of the inlet manifold seals	Scored rods or sleeves.	Replace rods and sleeves.
	Overpressure to inlet manifold.	Reduce inlet pressure per instructions.
Short cup life	Damaged or worn chrome plating of the cylinders.	Replace the cylinders.

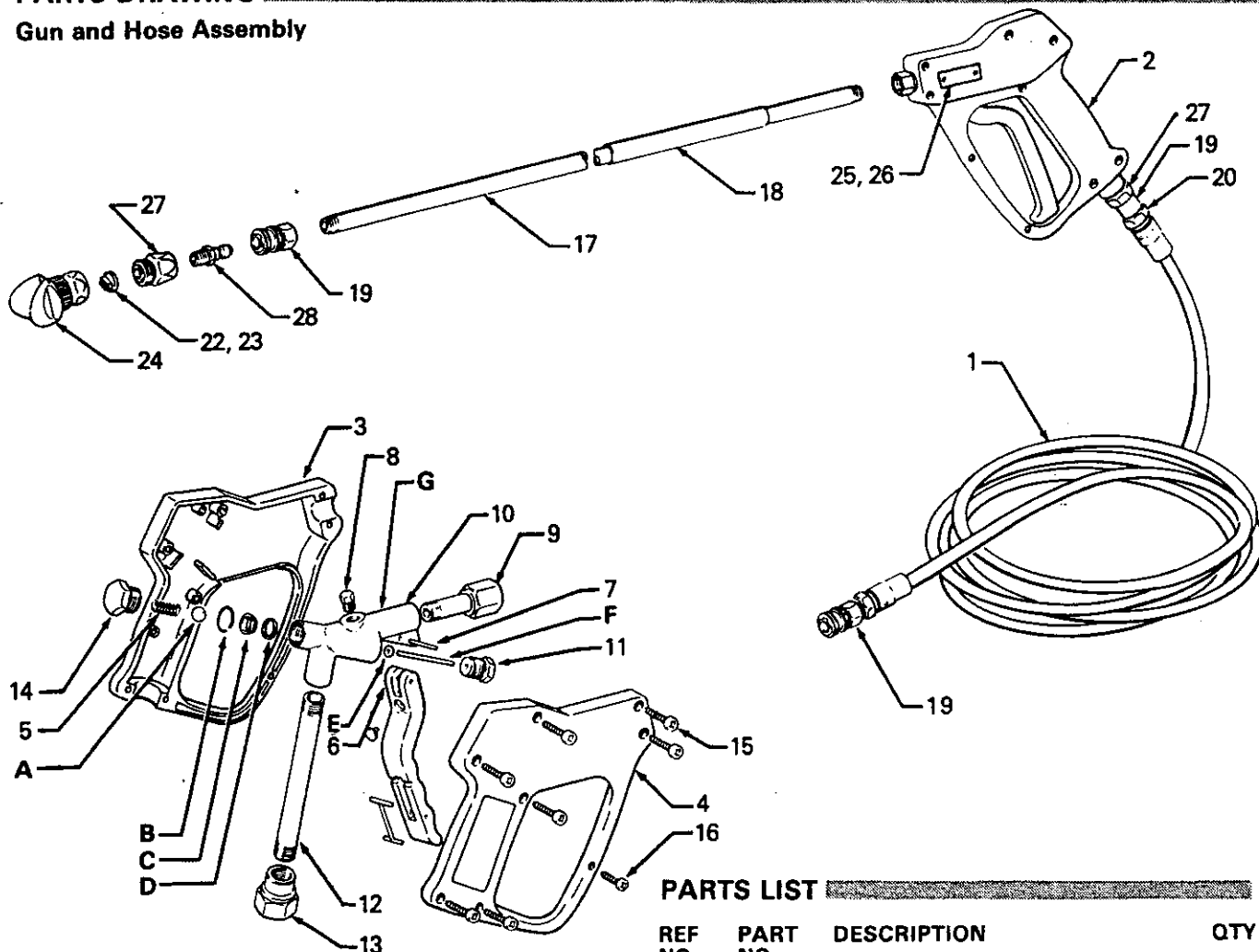
DIAGNOSIS AND MAINTENANCE CONT.

PROBLEM	PROBABLE CAUSE	SOLUTION
Short cup life (Cont.)	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.	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. Reduce pressure. 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. Loose cleanout port nut. Leak in discharge hose.	Replace seal assembly. Tighten nut. Replace hose.
Water leaking from valve stem	Loose stuffing box.	Tighten.
Short piston seal life.	Scored piston sleeve. Abrasives in water.	Replace piston sleeve. Flush with clean water.
Electric motor won't run.	Power cord unplugged, or building circuit fuse blown. Overload switch has opened.	Check, replace. Unplug power cord*, decrease pressure.
Electric motor stops while spraying	Power cord unplugged, or building circuit fuse blown. Overload breaker has opened. Extension cord. Tip plugged.	Check, replace. Unplug power cord*, relieve pressure-allow to cool. Don't use more than 100 ft of 12 ga extension cord. Remove and clean.
Electric motor runs, but no output	Displacement pump frozen or gear train damage.	Thaw
Electric motor labors when starting; blows fuses	Capacitor failure.	Replace capacitor.

*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. Always use the lowest pressure setting needed.

PARTS DRAWING

Gun and Hose Assembly



Repair Kit 801-083

Includes items A, B, C, D, E and F

SERVICE

1. Remove the 8 screws from the body halves (3) and (4). See the Parts Drawing. Separate the body halves.
2. Remove the plug (14), spring (5) and ball (A) from the valve body (G).
3. Remove the snap ring (B). Then remove the valve seat (C) and o-ring (D).
4. Remove the sleeve nut (11) and o-ring (E) with the actuator rod (F).
5. After installing the new seat (C) and ball (A), tap the ball lightly with a hammer to assure a proper seating between the ball and seat.
6. Reassemble in reverse order, using the remaining new parts from the repair kit.

PARTS LIST

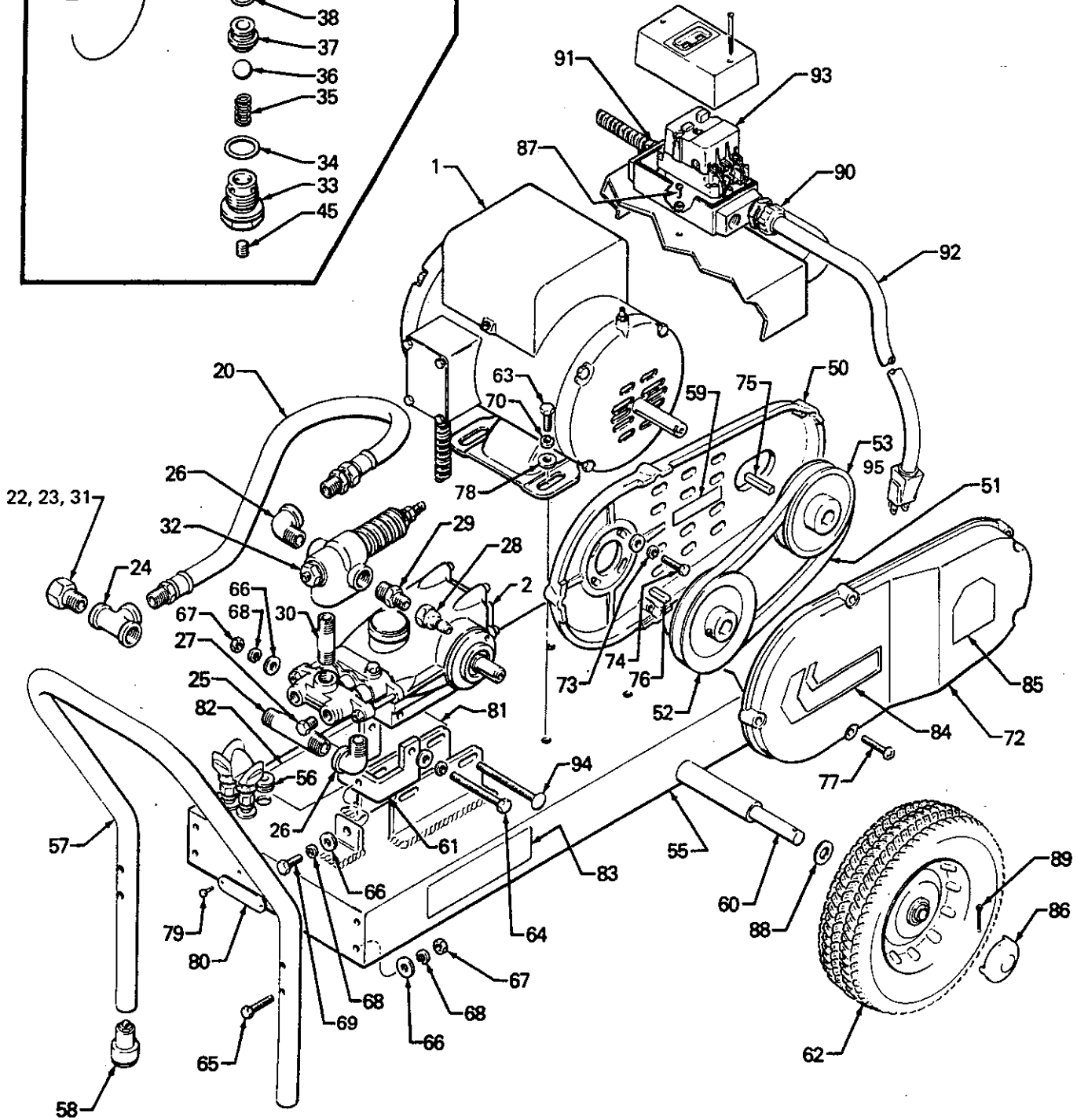
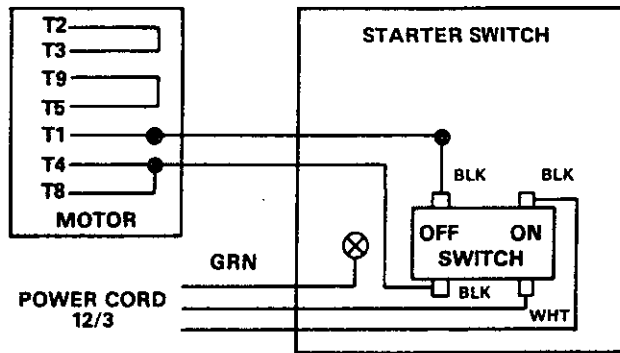
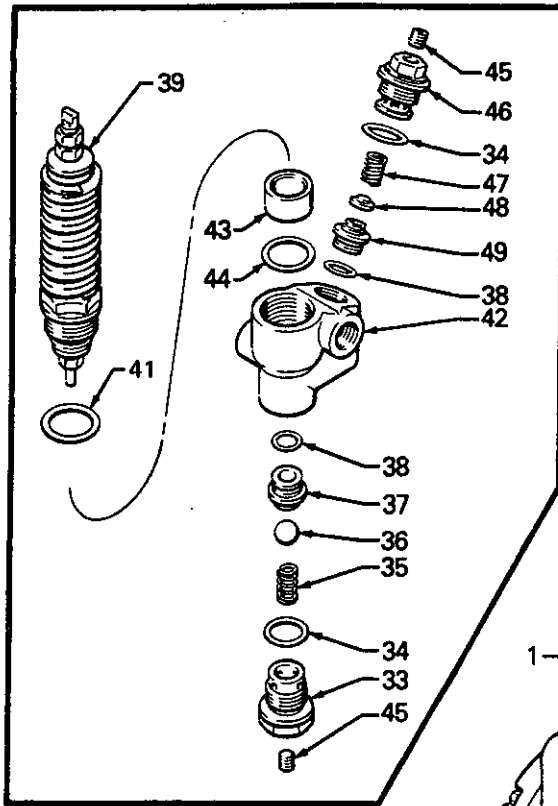
REF NO.	PART NO.	DESCRIPTION	QTY
1	801-007	SPRAY HOSE, 3/8" ID, 50 ft. (15 m) lg	1
2	800-017	SPRAY GUN, (replaceable parts include items 3-16)	1
3	801-244	. HANDLE, left	1
4	801-245	. HANDLE, right	1
5	801-249	. SPRING	1
6	801-254	. LEVER	1
7	801-256	. NEEDLE	1
8	801-262	. HEX PLUG	1
9	801-261	. DISCHARGE FITTING	1
10	801-247	. VALVE BODY	1
11	801-253	. GUIDE SLEEVE	1
12	801-246	. TUBE	1
13	801-263	. INLET FITTING	1
14	801-250	. CAP	1
15	801-264	. SCREW	7
16	801-265	. SCREW	1
17	801-134	TUBE, 32"	1
18	801-029	GRIP	1
19	**801-009	COUPLER, female quick disconnect	3
20	*801-090	COUPLER, male quick disconnect	1
21	801-073	HOUSING, nozzle	2
22	*801-374	TIP, blasting; 0°	1
23	*801-373	TIP, cleaning; 15°	1
24	801-074	GUARD, tip	2
25	801-076	PLATE, warning	1
26	801-077	RIVET	2
27	801-103	NIPPLE, hex; 1/4 x 3/8" npt; brass	1
28	*801-091	COUPLER, male quick disconnect	2

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

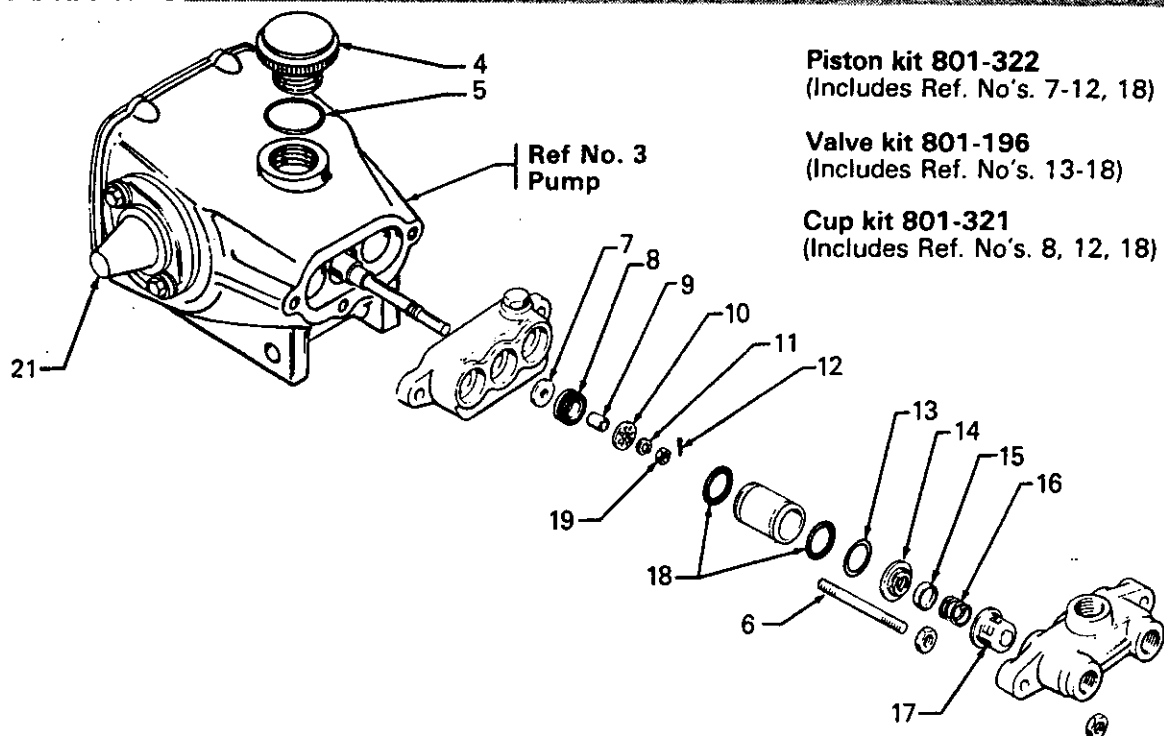
*Recommended "tool box" spare parts.

**Replacement O-Ring for Coupler Part No. 801-202.

PARTS DRAWING



PARTS DRAWING



PARTS LIST

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	800-016	MOTOR, 3 hp	1	54	800-004	SPRAY GUN ASSEMBLY, see parts on page 9	1
2	800-009	PUMP ASSEMBLY, includes items 3-49	1	55	800-014	CHASSIS	1
3	801-270	PUMP, Ref No. 4-6 are replaceable parts. Ref No. 7-19 are sold in kits only	1	56	801-012	GROMMET	4
4	801-198	.. CAP	1	57	801-013	HANDLE	1
5	801-028	.. O-RING	1	58	800-015	FOOT	2
6	801-356	.. STUD	2	59	801-231	LABEL, caution	1
20	801-273	.. HOSE, cpld 1/2 npt(mbe), 19" long	1	60	801-240	AXLE	1
21	801-181	.. PROTECTOR, shaft	1	61	801-293	TENSIONER, belt	1
22	801-111	.. NUT, brass, garden hose adapter	1	62	801-241	WHEEL	2
23	801-112	.. SCREEN, inlet, 1/2"	1	63	801-214	BOLT, hex hd, 3/8-16 x 1-3/4"	4
24	801-106	.. TEE, brass, 1/2 npt	1	64	801-291	BOLT, carriage, 5/16-18 x 3.5	1
25	801-105	.. NIPPLE, straight, brass, 1/2 npt x 3-1/2"	1	65	801-022	SCREW, hex hd, 5/16-18 x 1-3/4	4
26	801-178	.. ELBOW, street, 90°, 1/2 npt	2	66	801-023	WASHER, flat, 1/4"	12
27	801-269	.. PLUG, hex, brass, 3/8 npt	2	67	801-024	NUT, hex, 5/16"	6
28	801-090	.. COUPLER, male quick disconnect	1	68	801-025	LOCKWASHER, 5/16"	8
29	801-108	.. BUSHING, hex reducing brass, 1/4 x 1/2 npt	1	69	801-298	BOLT, hex hd, 5/16-18 x 2-1/2"	1
30	801-182	.. NIPPLE, straight, steel, 1/2 npt x 2-1/2"	1	70	801-363	WASHER, lock, 3/8	4
31	801-110	.. ADAPTER, 1/2" garden hose	1	72	801-177	COVER, belt guard	1
32	801-203	.. UNLOADER, includes items 33-49	1	73	801-139	LOCKWASHER, 1/4"	4
33	801-045	.. CAGE, valve	1	74	801-170	SCREW, hex hd mach, M6 x 25 mm	4
34	801-046	.. O-RING	2	75	801-137	KEY, pulley	2
35	801-047	.. SPRING	1	76	801-173	KEY, pulley	1
36	801-048	.. BALL	1	77	801-087	SCREW, mach, cross recessed, 1/4-20 x 1-3/4"	5
37	801-049	.. SEAT	1	78	801-015	WASHER, flat, 5/16	4
38	801-050	.. O-RING	2	79	801-132	RIVET	2
39	800-013	.. UNLOADER	1	80	801-131	PLATE, serial	1
40	801-143	.. TAG	1	81	801-130	LABEL, warning	1
41	801-059	.. O-RING	1	82	801-129	LABEL, warning	1
42	801-060	.. HOUSING	1	83	801-141	LABEL, warning	1
43	801-061	.. CYLINDER	1	84	801-204	LABEL, identification	1
44	801-062	.. GASKET	1	85	801-008	LABEL, identification	1
45	801-063	.. PLUG	2	86	801-242	CAP, hub	2
46	801-068	.. HOUSING, valve	1	87	811-292	SCREW, self-tpg, flat hd, 6-32 x 1/2	2
47	801-069	.. SPRING	1	88	801-235	WASHER, flat	2
48	801-070	.. VALVE	1	89	801-243	PIN, cotter	2
49	801-071	.. SEAT	1	90	801-225	STRAIN RELIEF	1
50	801-176	BASE, belt guard	1	91	801-296	CONNECTOR, flexible conduit	1
51	801-375	BELT, drive	1	92	801-294	CORD, power	1
52	801-300	PULLEY, pump	1	93	801-295	SWITCH, starter	1
53	801-299	PULLEY, motor	1	94	801-290	BOLT, carriage, 5/16-18 x 3"	1
				95	801-376	HUB, pulley	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.

CHEMICAL INJECTOR KIT 800-102

For injecting harsh cleaning chemicals downstream from pump.

TECHNICAL DATA

ELECTRIC MOTOR :

WATER PUMP : 1200 PSI max. pressure;
(15 liter/min) 4 GPM

WETTED PARTS : Stainless Steel, Aluminum,
Phenolic Plastic, Nitrile Rubber

WEIGHT : 165 lb

OVERALL DIMENSION : Length: 30" (810 mm)
Width: 28" (710 mm)
Height: 25.5" (650 mm)

MAX. WATER TEMPERATURE : 160° (70°C)

INLET HOSE CONNECTION : 3/4" garden hose (f)

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 Vanguard 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 MERCHANTABILITY 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.

Factory Branches: Atlanta, Dallas, Detroit, Los Angeles, West Caldwell (N.J.)
Subsidiary and Affiliate Companies: Canada; England; Switzerland; France; Germany; Hong Kong; Japan
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