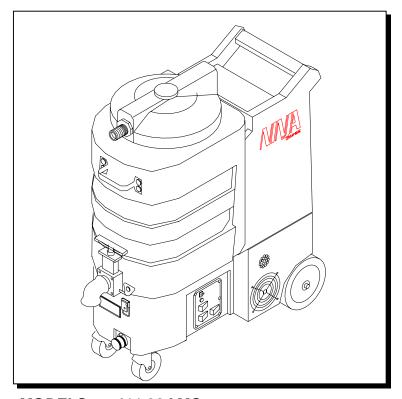




PORTABLE EXTRACTOR



Operating Instructions

MODELS: <u>411-22AMO</u> 411-221MO

411-221HMO 411-2X1MO

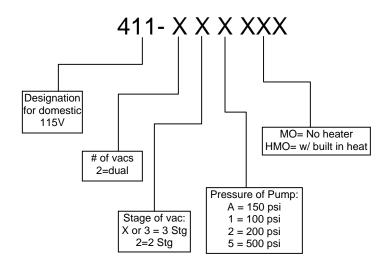
MACHINE DATA LOG/OVERVIEW

MODEL
DATE OF PURCHASE
SERIAL NUMBER
SALES REPRESENTATIVE #

YOUR DEALER					
ame:					
ddress:					
hone Number:					

OVERVIEW

The Ninja is an electric powered carpet extractor intended for commercial use. This appliance applies a cleaning solution to the carpet and then vacuums the soiled water back into the recovery tank.



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HOW TO USE THIS MANUAL

This manual contains the following sections:

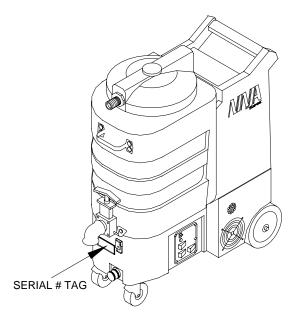
- HOW TO USE THIS MANUAL
- SAFETY
- OPERATIONS
- MAINTENANCE
- PARTS LIST

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 to the inside of the front cover of this manual.

MODEL	-
DATE OF PURCHASE	
SERIAL NUMBER	
SALES REPRESENTATIVE #	_

The model and serial number of your machine is on the front of the Frame.



The SAFETY section contains important information regarding hazard or unsafe practices of the machine. Levels of hazards are identified that could result in product or personal injury, or severe injury resulting in death.

The OPERATIONS section is to familiarize the operator with the operation and function of the machine.

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

- Maintenance
- Lubrication
- Vacuum Motor Replacement
- Solution Pump Replacement
- 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.
- SERIAL NO. FROM column indicates the first machine the part number is applicable to. When the machine design has changed, this column will indicate serial number of applicable machine. The main illustration shows the most current design of the machine. The boxed illustrations show older designs.
- 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 98# on the lower left corner of the front cover is the part number for this manual.

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IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic precaution must always be followed, including the following:

READ ALL INSTRUCTIONS BEFORE USING THIS MACHINE. This machine is for commercial use.



To reduce the risk of fire, electric shock, or injury:

Connect to a **properly grounded outlet**. See Grounding Instructions.

Do not leave the machine unattended. Unplug machine from outlet when not in use and before maintenance or service.

Use only indoors. Do not use outdoors or expose to rain.

Do not allow machine to be used as a toy. Close attention is necessary when used by or near children.

Use only as described in this manual. Use only manufacturer's recommended components and attachments.

Do not use damaged electrical cord or plug. Follow all instructions in this manual concerning grounding the machine. If the machine is **not working properly**, has been dropped, damaged, left outdoors, or dropped into water, return it to an authorized service center.

Do not pull or carry machine by electrical cord, use as a handle, close a door on cord, or pull cord around sharp edges or corners.

Do not run machine over cord. **Keep** cord away from heated surfaces.

Do not unplug machine by pulling on cord. To unplug, grasp the electrical plug, not the electrical cord.

Do not handle the electrical plug or machine with wet hands.

Do not operate the machine with any openings blocked. Keep openings free of debris that may reduce airflow.

This machine is intended for cleaning carpet only.

Do not vacuum anything that is burning or smoking, such as cigarettes, matches, or hot ashes.

This machine is not suitable for picking up health endangering dust.

Turn off all controls before unplugging.

Machine can cause a fire when operating near flammable vapors or materials. Do not operate this machine near flammable fluids, dust or vapors.

This machine is suitable for commercial use, for example in hotels, schools, hospitals, factories, shops and offices for more than normal housekeeping purposes.

Maintenance and repairs must be done by qualified personnel.

If foam or liquid comes out of machine, switch off immediately.

SAVE THESE INSTRUCTIONS

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HAZARD INTENSITY LEVEL

The following symbols are used throughout this guide as indicated in their descriptions:

HAZARD INTENSITY LEVEL

There are three levels of hazard intensity identified by signal words **-WARNING** and **CAUTION** and **FOR SAFETY.** The level of hazard intensity is determined by the following definitions:

A WARNING

WARNING - Hazards or unsafe practices which COULD result in severe personal injury or death.

A CAUTION

CAUTION - Hazards or unsafe practices which could result in minor personal injury or product or property damage.

FOR SAFETY: To Identify actions which must be followed for safe operation of equipment.

Report machine damage or faulty operation immediately. Do not use the machine if it is not in proper operating condition. Following is information that signals some potentially dangerous conditions to the operator or the equipment. Read this information carefully. Know when these conditions can exist. Locate all safety devices on the machine. Please take the necessary steps to train the machine operating personnel.

FOR SAFETY:

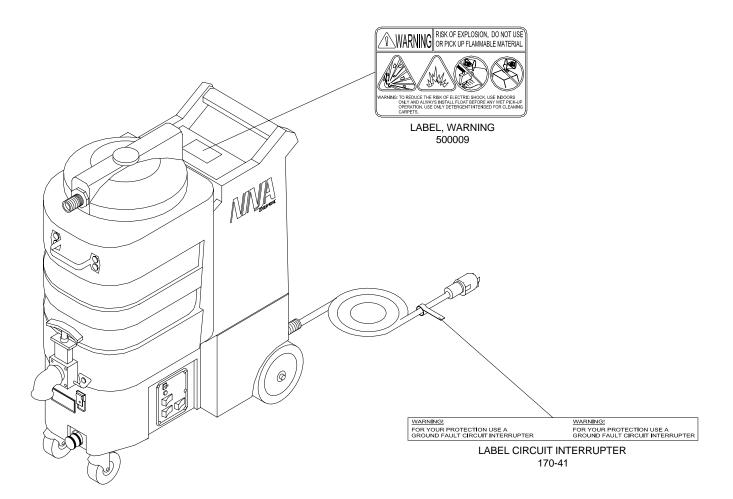
DO NOT OPERATE MACHINE: Unless Trained and Authorized. Unless Operation Guide is Read and understood. In Flammable or Explosive areas. In areas with possible falling objects.

WHEN SERVICING MACHINE:

Avoid moving parts. Do not wear loose clothing; jackets, shirts, or sleeves when working on the machine.

SAFETY LABEL LOCATION

NOTE: These drawings indicate the location of safety labels on the machine. If at any time the labels become illegible, promptly replace them.



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GROUNDING INSTRUCTIONS

THIS PRODUCT IS FOR COMMERCIAL USE ONLY.

ELECTRICAL:

In the USA this machine operates on a standard 15 amp 115V, 60 hz, A.C. power circuit. The amp, hertz, and voltage are listed on the data label found on each machine. Using voltages above or below those indicated on the data label will cause serious damage to the motors.

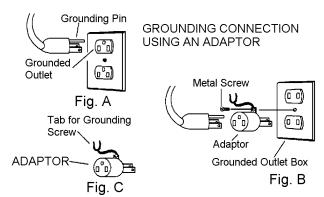
EXTENSION CORDS:

If an extension cord is used, the wire size must be at least one size larger than the power cord on the machine, and must be limited to 50 feet (15.5m) in length.

GROUNDING INSTRUCTIONS:

This appliance must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

This appliance is for use on a nominal 120-volt circuit, and has a grounded plug that looks like the plug in "Fig. A". A temporary adaptor that looks like the adaptor in "Fig. C" may be used to connect this plug to a 2-pole receptacle as shown in "Fig. B", if a properly grounded outlet is not available. The temporary adaptor should be used only until a properly grounded outlet (Fig. A) can be installed by a qualified electrician. The green colored rigid ear, lug, or wire extending from the adaptor must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adaptor is used, it must be held in place by a metal screw.



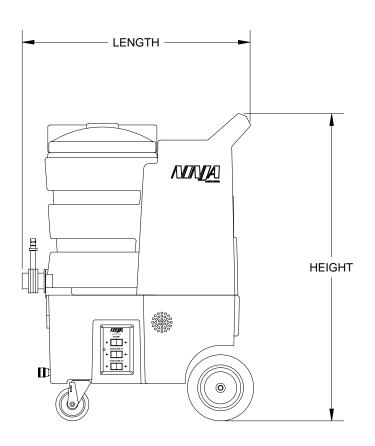
Note: Adaptors are not allowed in Canada.

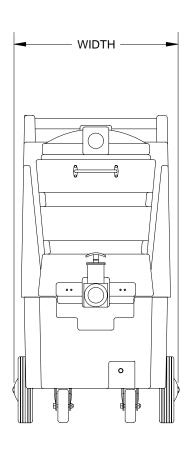
Improper connection of the equipmentgrounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

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TECHNICAL SPECIFICATIONS

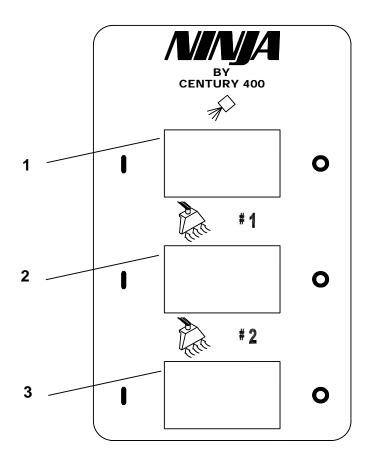
ITEM	MEASURE	
ELECTRICAL	115 Volt, 60 hz	
Vacuum Motor	Dual 3 stage	
Solution Pump	100 psi	
	150 psi	
Solution Capacity	10 gal (38 L)	
Recovery Capacity	8 gal (240 kg)	
Weight- Empty	110 lbs (240 kg)	
Weight-Full Solution	200 lbs (440 kg)	
Height	36 inches (91.44 cm)	
Length	29 inches (73.66 cm)	
Width	19.5 inches (49.53 cm)	
Power cord	22 feet (6.71 m)	





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CONTROLS



- 1. Pump Switch
- 2. Vacuum #1 Switch
- 3. Vacuum #2 Switch

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PRE-RUN INSPECTION

- 1. Check all fittings and connectors for proper assembly.
- 2. Check all hoses for leaks. Repair or replace any damaged hoses.
- 3. Check power cord(s) for any damage. If damaged, replace.

EQUIPMENT SET-UP

- 1. Plug power cord from machine into properly grounded wall outlet.
- 2. Turn vacuum motor switch on and off to make sure there is electrical power at machine.
- 3. Connect vac hose to machine. Slide the swivel cuff over the outlet on the tank.
- 4. Connect the hose to your machine and wand. Pull back the knurled collar on the quick disconnect coupler and push onto the connection on the chassis. To avoid leaks, check to be that a positive connection was made.
- Using a clean container, fill the solution tank with clean hot water. Mix in a non-foaming cleaning concentrate for use in hot water extraction machines, following the manufacture's instructions printed on container.

NOTE: When using a powder cleaner, pre-mix with hot water in a clean container before adding to the solution tank.

- 6. Turn pump and vacuum switch(s) to the on position.
- 7. Start cleaning.

EMPTYING AND CLEANING



Always use defoamer if foaming occurs. Foam will suspend large particles that may damage vacuum(s) as well as allow liquid into the vacuum motor(s) without activating the float shutoff.

- 1. Before proceeding, make certain that the nozzle is functioning properly.
 - To check, hold the wand about one foot above the surface to be cleaned and open the wand valve. A full spray should be observed from the nozzle.
 - b. If the nozzle is not showing a full spray pattern, adjust nozzle for proper pattern, clean, or replace nozzle.
- Normally, chemical is applied on the push stroke
 of the wand when cleaning. Vacuuming is done
 on the pull stroke. For heavily soiled carpets the
 wand may be used in a scrubbing manner,
 applying chemical in both the push and pull
 stroke.
- 3. When cleaning, keep the working opening (wand mouth) flat on the surface being cleaned. Keep the wand moving when the valve is open.
- 4. The shutoff float inside the vacuum tank will impede the vacuum flow when the vacuum tank is full.
 When this occurs, empty the vacuum tank by opening the dump valve and dispose of the waste in a proper manner.
- 5. Once the vacuum tank has been emptied, you may once again proceed with cleaning

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MAINTENANCE



Unplug power cord(s) before servicing or making any repairs.

- 1. Flush the entire system, including floor tool, hand tool, etc., with 1 to 3 gallons of clean, hot water.
- 2. Vacuum out the solution tank.
- 3. Rinse tank with fresh water. Periodically inspect the recovery tank and decontaminate if necessary, using a Hospital Grade Virucide or a 1-10 bleach to water solution. Wastewater should be disposed of properly.
- Occasionally check filter screen at the bottom of the solution tank and rinse clean with hot water if necessary.
- Inspect hoses for wear. Frayed or cracked hoses should be replaced to avoid vacuum or solution pressure loss.
- Inspect power cord for wear or damage. This
 cable will lie on wet carpet. To prevent electrical
 shock replace cords that are frayed or have
 cracked insulation immediately.
- Clean all dirt and obstructions from drain valve and gaskets to prevent possible leakage and premature wear.
- Run clean water through solution pump when work is complete.
- 9. Empty both tanks and rinse, run vacuum (s) for at least one minute to dry motor(s).
- Store with access covers removed to allow tanks to dry.

A WARNING:

DO NOT attempt to repair hose! Repairing highpressure hoses may result in severe burns and serious injury.

PERIODIC MAINTENANCE

- Twice a month, flush a white vinegar solution (One quart vinegar to two gallons of water) or anti-browning solution (mixed as directed) through the extractor, turning pump switch on/off several times, flush with clean water. This will prevent build-up of alkaline residue in the system.
- Check hoses for wear, blockages, or damage.
 Frayed or cracked hoses should be repaired or
 replaced to eliminate vacuum or solution
 pressure.
- Check all handles, switches, knobs, electrical cables and connections on your machine for damage. If the cable insulation is broken or frayed, repair or replace it immediately. Don't take chances with electrical fire or shock.
- 4. Clean out solution tank. Remove and clean solution screen.
- 5. Clean outside of all tanks and check for damage.

MONTHLY MAINTENANCE

- 1. Check all bearings for noise and wear.
- 2. Check all gaskets for wear and leakage.
- 3. Check pump pressure; observe spray pattern and check gauge if necessary.
- 4. Check overall performance of machine.

SEMI-ANNUALLY

1. Check vacuum motor brushes.

STORAGE

Thoroughly clean machine if it is to be stored. You must protect this machine from freezing while in storage.

Make sure both recovery and solution tanks are empty. Empty any remaining water and wipe dry.

HEAT MODELS ONLY: Be sure to thoroughly drain water out of heater lines prior to storage in colder climates. This heater will freeze and possibly crack voiding your warranty.

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maintenance personnel

are to perform the following repairs.

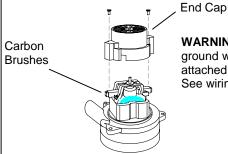
VACUUM MOTOR REPLACEMENT

- 1. Turn off all switches and unplug machine.
- 2. Remove recovery tank.
- 3. Locate the vacuum motor wires and disconnect at the connector.
- Remove the vacuum motor.
- Reverse process to install vacuum motor.

SOLUTION PUMP REPLACEMENT

- 1. Turn off all switches and unplug the machine.
- 2. Remove recovery tank.
- 3. Remove solution hoses from fittings in pump.
- 4. Remove the screws that fasten the pump to the frame.
- 5. Reverse process to install pump.

Vacuum Motor Carbon Brushes Replacement (Windsor)



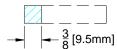
WARNING: The green ground wire must be attached for safe operation. See wiring diagram.

If armature commutator is grooved, extremely pitted or not concentric, the motor will need to be replaced or sent to a qualified service center.



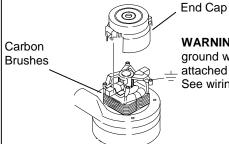
Important:

These brushes wear quicker as the length shortens due to increased heat. Spring inside brush housing will damage motor if brushes are allowed to wear away completely.



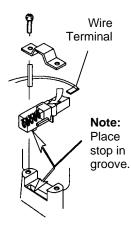
Periodically check the length of the carbon brushes. Replace both carbon brushes when either is less than 3/8" (9.5mm) long.

Vacuum Motor Carbon Brushes Replacement (Ametek)

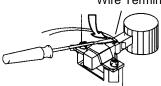


WARNING: The green ground wire must be attached for safe operation. See wiring diagram.

Note: When replacing carbon brushes loosen wire terminal BEFORE removing screws on bracket.

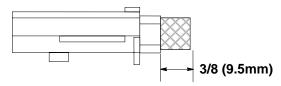


If armature commutator is grooved, extremely pitted or not concentric, the motor will need to be replaced or sent to a qualified service center. Wire Terminal



Important:

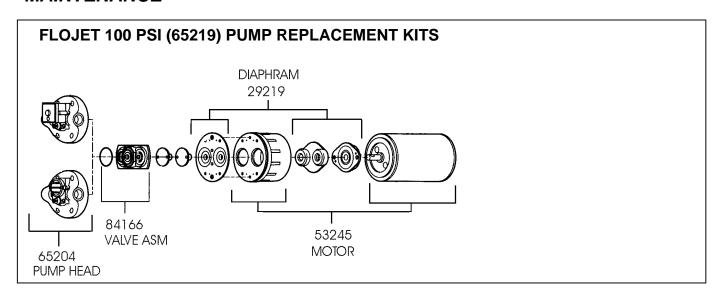
These brushes wear quicker as the length shortens due to increased heat. Spring inside brush housing will damage motor if brushes are allowed to wear away completely.

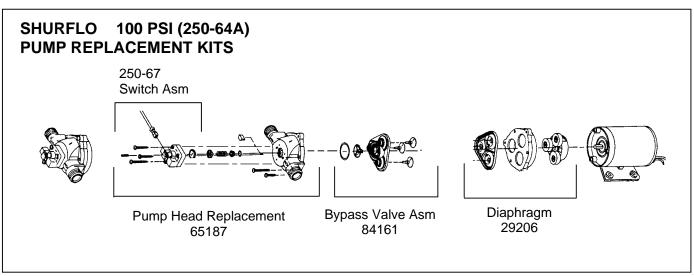


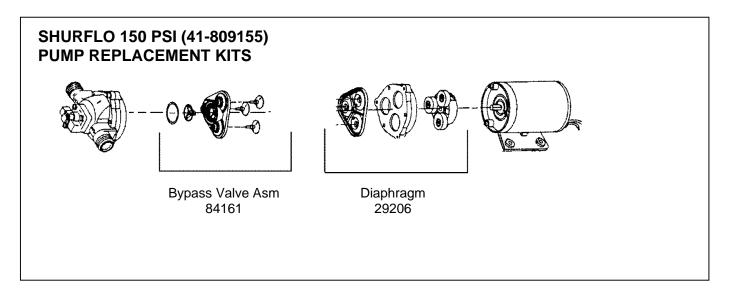
Periodically check the length of the carbon brushes. Replace both carbon brushes when either is less than 3/8" (9.5mm) long.

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MAINTENANCE







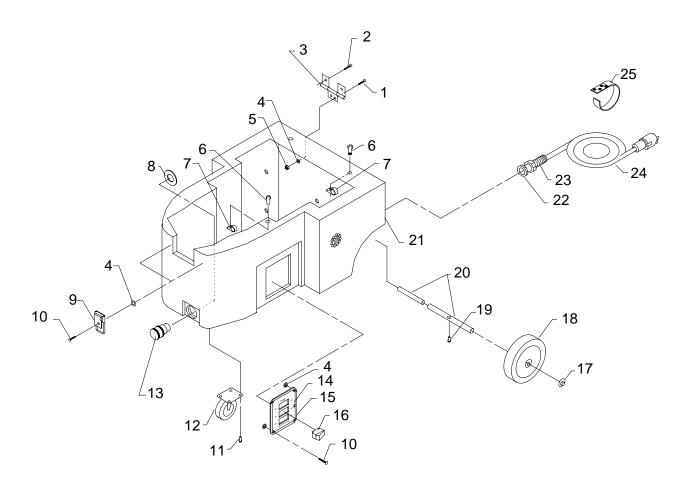
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TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION	
Loss of Power	Dead electrical circuit	Check building circuit breaker or fuse box.	
Loss of Fower	Faulty power cord	Replace	
	Equipment not grounding	Follow grounding instructions exactly	
Electrical shock	Receptacle not grounded	Contact an electrician to check building's wiring	
Electrical critical	Internal wiring problem	Have a trained service technician check machine's wiring	
Vac motor and varios	Worn motor brushes	Replace	
Vac motor speed varies or doesn't run	Motor worn out	Replace	
or doesn't run	Faulty switch	Replace	
	Loose vacuum dome	Center and seal dome over tank	
	Crack in dome of poor joint	Replace or repair using acrylic plastic cement only	
	Lint or dirt clogging vacuum screen	With power off clean screen	
Loss of vacuum	Loose cuffs on vacuum hose	Tighten cuffs turning counterclockwise	
	Vac motor seals leaking	Replace	
	Floor tool vac chamber clogged	Wash out with hose. Pick lint out with a wire	
	Vac motor, hose, or dome gasket	Replace	
	Pump inlet screen plugged	Clean inlet screen	
Pump runs no solution	Pump air locked	Press trigger to open valve on cleaning wand to relieve air	
r unip runs no solution	Internal or external solution line damaged and leaking	Replace	
	Jet orifice on cleaning wand is to large	Total jet opening for pump should be .06 to .08	
Pump runs, loss of pressure	Internal pump components wearing out	Replace, see pump kit components (pg 4-3)	
product		ing a wand or hand tool with an orifice of less than .06 or pulsate and could result in premature wear of pump	
Pump will not run	Unit not plugged in	Connect unit to 3 prong grounded outlet	
	Loose wiring	See dealer	
Solution hose fitting hard to connect	Corrosion on fittings.	Clean with steel wool. Soak in acetic acid (white vinegar). Lubricate lightly with silicone base lubricant.	
Carpet not getting clean	Severe soil conditions	Make several passes at right angles to each other. Use a pre-spray.	
Carpet too wet	Over saturation	Adjust solution pressure to lower settings. Make several passes without spray	
	Leaving carpet too wet	Check for loss of vac pressure	
Carnot browning	Too much chemical	Check label for correct solution concentration	
Carpet browning	Light carpet with no brown prevention	Go over carpet with browning prevent only	
	Solution hose connection	Check for positive connection	
Solution not flowing	Faulty pump	Repair or replace	
properly	Faulty floor tool valve	Repair or replace	
· ·	Faulty pump switch	Repair	

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FRAME GROUP (2 STG)



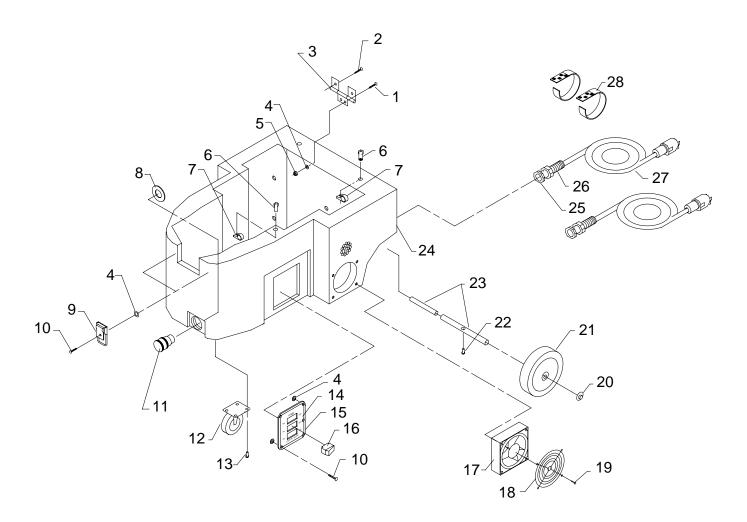
5-1

FRAME GROUP (2 STG)

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	70076	4	SCR, 10-32 X 1 PFHMS PLT		
2	70232	4	SCR, 10-32 X 3/8 FHMS SS		
3	140-01	1	HINGE SET CHROME		
4	87095	10	WASHER, #10 FLAT PLTD		
5	57030	4	NUT, 10-32 HEX NYLOCK		
6	280-03	2	RIVIT ALUMINUM 3/16 X 3/4		
7	20008	2	CLAMP, 5/8 NYLON UL/USA		
8	390-09A	1	WASHER 9/16 S/S USS-THICK		
9	140-05	2	DRAW PULL LATCH STD.		
10	280-02	11	RIVIT AL. 3/16 X 1/2 CLOSED		
11	70020	8	SCR, 1/4-20 X 1/2 HHCS SS NP		
12	040-03	2	CASTER SWIVEL 4" SWIVEL		
13	22015	1	COUPLER, 1/4 QD		
14	500359	1	LABEL, NINJA 3 SWITCH NO HEAT		
15	62900	1	PLATE, NINJA 3 SWITCH NO HEAT		
16	72142	3	SWITCH, SPST 15A EURO ROCKER		
17	57196	2	NUT, 1/2 PUSH-ON DOME CAP		
18	040-06	2	WHEEL 8" BLK CENTERED HUB		
19	70018	1	SCR, 1/4-20 X 1 HHCS SS		
20	010-04B	1	AXLE SINGLE NINJA		
21	08060	1	BASE, NJA 100 PSI 2ST N/H		
22	57040	1	NUT, 1/2 NPT CONDUIT		
23	73200	1	STRAIN RELIEF 1/2 NPT FLEX		
24	060-04A	1	CORD 25' BLK 14/3 SJTW/ A PLUG		
25	320-05	1	VELCRO STRAP		

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FRAME GROUP (3 STG)



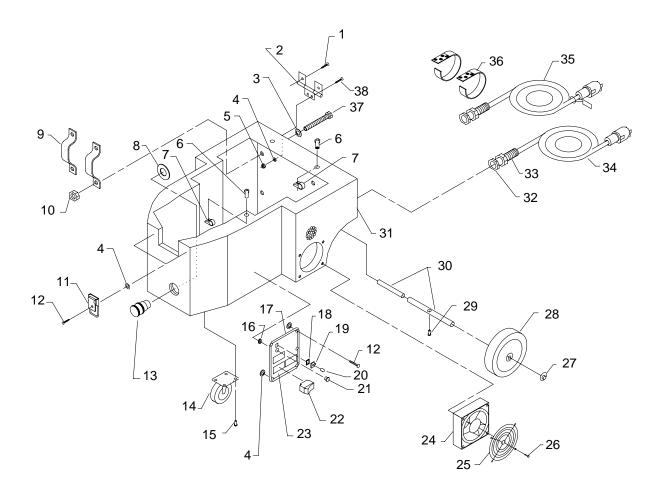
5-3 980181 01/17/04

FRAME GROUP (3 STG)

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	70076	4	SCR, 10-32 X 1 PFHMS PLT		
2	70232	4	SCR, 10-32 X 3/8 FHMS SS		
3	140-01	1	HINGE SET CHROME		
4	87095	10	WASHER, #10 FLAT PLTD		
5	57030	4	NUT, 10-32 HEX NYLOCK		
6	280-03	2	RIVET ALUMINUM 3/16 X 3/4		
7	20008	2	CLAMP, 5/8 NYLON UL/USA		
8	390-09A	1	WASHER 9/16 S/S USS-THICK		
9	140-05	2	DRAW PULL LATCH STD.		
10	280-02	11	RIVET AL. 3/16 X 1/2 CLOSED		
11	22015	1	COUPLER, 1/4 QD		
12	040-03	2	CASTER SWIVEL 4" SWIVEL		
13	70020	8	SCR, 1/4-20 X 1/2 HHCS SS NP		
14	500359	1	LABEL, NINJA 3 SWITCH NO HEAT		
15	62900	1	PLATE, NINJA 3 SWITCH NO HEAT		
16	72142	3	SWITCH, SPST 15A EURO ROCKER		
17	070-08	1	FAN 105 CFM AXIAL		
18	070-08A	1	FAN FINGER GUARD		
19	70626	4	SCR, #10 X 3/4 PPHST HI-LO BLK		
20	57196	2	NUT, 1/2 PUSH-ON DOME CAP		
21	040-06	2	WHEEL 8" BLK CENTERED HUB		
22	70018	1	SCR, 1/4-20 X 1 HHCS SS		
23	010-04B	1	AXLE SINGLE NINJA		
24	08062	1	BASE, NJA DLX 100 3ST N/H		
25	57040	2	NUT, 1/2 NPT CONDUIT		
26	73200	2	STRAIN RELIEF 1/2 NPT FLEX		
27	060-04A	2	CORD 25' BLK 14/3 SJTW/ A PLUG		
28	320-05	2	VELCRO STRAP		

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FRAME GROUP (W/ HEAT)



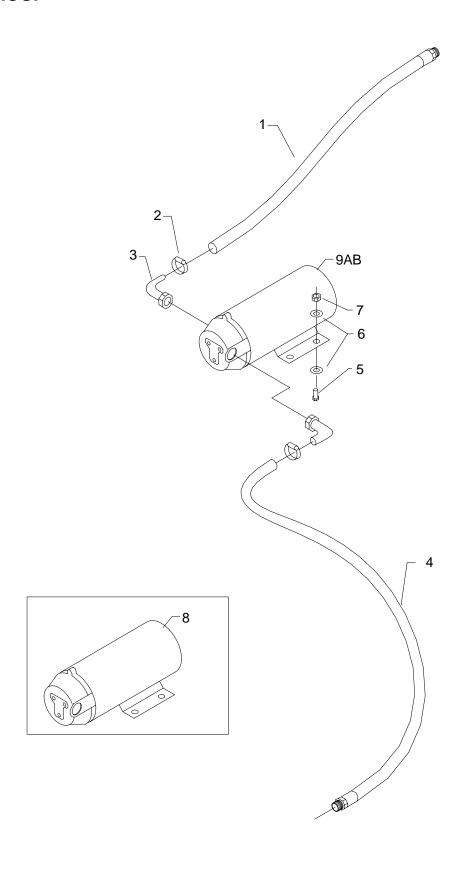
5-5 980181 01/24/05

FRAME GROUP (W/ HEAT)

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	70232	4	SCR, 10-32 X 3/8 FHMS SS		
2	140-01	1	HINGE SET CHROME		
3	87013	4	WASHER, 1/4 ID X 5/8 OD SS		
4	87095	10	WASHER, #10 FLAT PLTD		
5	57030	4	NUT, 10-32 HEX NYLOCK		
6	280-03	2	RIVIT ALUMINUM 3/16 X 3/4		
7	20008	2	CLAMP, 5/8 NYLON UL/USA		
8	390-09A	1	WASHER 9/16 S/S USS-THICK		
9	140744	2	BRKT, HEATER SUPPORT NJA		
10	57245	4	NUT, 1/4-20 HEX NYLOCK SS		
11	140-05	2	DRAW PULL LATCH STD		
12	280-02	11	RIVIT AL. 3/16 X 1/2 CLOSED		
13	22015	1	COUPLER, 1/4 QD		
14	040-03	2	CASTER SWIVEL 4"		
15	70020	8	SCR, 1/4-20 X 1/2 HHCS SS NP		
16	22046	1	CLIP, NEON LAMP		
17	335-06	1	SWITCH PLATE NJA FOR HEAT UNIT		
18	335-04	1	TOGGLE SWITCH PLATE ON/OFF		
19	330-05	1	TOGGLE SWITCH		
20	330-06	1	TOGGLE SWITCH BOOT		
21	51116	1	LIGHT ASM, 115V BRUSH WEAR		
22	72142	3	SWITCH, SPST 15A EURO ROCKER		
23	170-40	1	LABEL 300 PSI SWITCH PLATE		
24	070-08	1	FAN 105 CFM AXIAL		
25	070-08A	1	FAN FINGER GUARD		
26	70626	4	SCR, #10 X 3/4 PHST HI-LO BLK		
27	57196	2	NUT, 1/2 PUSH-ON DOME CAP		
28	040-06	2	WHEEL 8" BLK CENTERED HUB		
29	70018	1	SCR, 1/4-20 X 1 HHCS SS		
30	010-04B	1	AXLE SINGLE NINJA		
31	08061	1	BASE, NJA 100 PSI 2ST W/H		
32	57040	2	NUT, 1/2 NPT CONDUIT		
33	73200	2	STRAIN RELIEF 1/2 NPT FLEX		
34	060-04A	1	CORD 25' BLK 14/3 SJTW/A PLUG		
35	060-04	1	CORD 25' BLK 12/3 SJTW/A PLUG		
36	320-05	2	VELCRO STRAP		
37	70663	4	SCR, 1/4-20 X 3 1/4 HHCS PLTD		
38	70076	4	SCR, 10-32 X 1 PFHMS PLT		

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PUMP GROUP



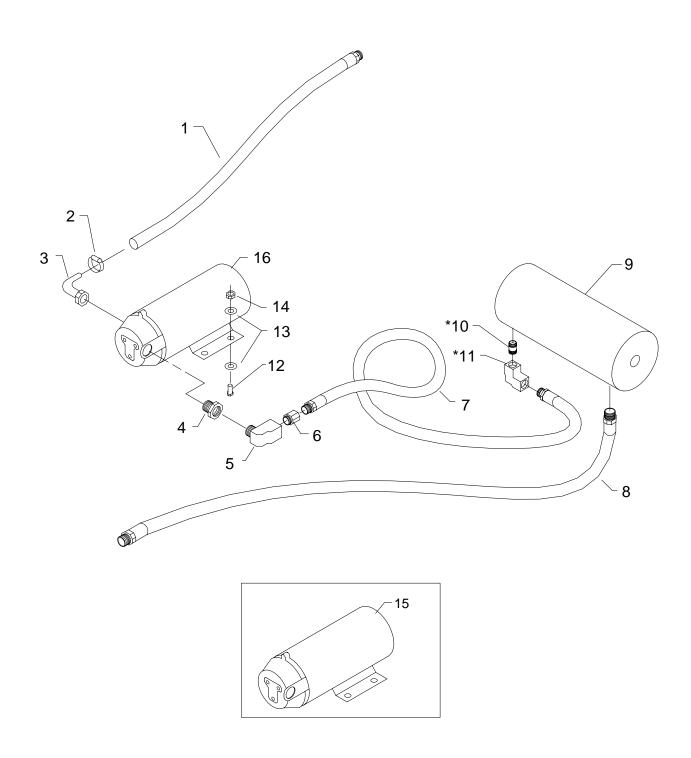
5-7 980181 01/17/04

PUMP GROUP

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	151-35A	1	HOSE, 22.5 GRY 3/8 1/4 MPT X CUT		
2	20042	2	CLAMP, 3/8 HOSE (D-SLOT)		
3	40043	2	HOSEBARB, 3/8 MPT X 3/8 90D		
4	151-35B	1	HOSE, 14.0 GRY 3/8 1/4 MPT X CUT		
5	70019	2	SCR, 1/4-20 X 1.25 HHCS SS		
6	87013	4	WASHER, 1/4 ID X 5/8 OD SS		
7	57245	2	NUT, 1/4-20 HEX NYLOCK SS		
8	250-64A	1	SHURFLO 100 PSI PUMP DEMAND		
9A	65219	1	PUMP, 115V 100PSI BYPASS W/SW	1000107078	411-221MO ONLY
9B	41-809155	1	PUMP, SHURFLO 150PSI		411-22AMO ONLY

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PUMP GROUP (W/ HEAT)



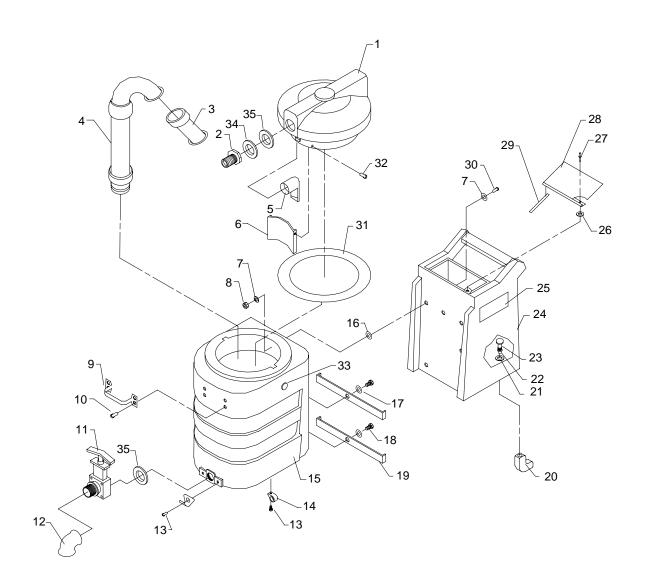
5-9 980181 01/31/05

PUMP AND HEATER GROUP (W/ HEAT)

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	151-35A	1	HOSE, 22.5 GRY 3/8 1/4 MPT X CUT		
2	20042	1	CLAMP, 3/8 HOSE (D-SLOT)		
3	40043	1	HOSEBARB, 3/8 MPT X 3/8 90D		
4	14076	1	BUSHING, 3/8 MPT X 1/4 FPT HEX		
5	31016	1	ELBOW, 1/4 NPT STREET		
6	370-44	1	CHECK VALVE		
7	151-36C	1	HOSE, 60.0 RED 3/8 1/4 MPT X 1/4 MPT		
8	151-36B	1	HOSE, 28.0 RED 3/8 1/4 MPT X 1/4 MPT		
9	130-17B	1	HEATER ASM, NINJA COMPLT		
10	56014	1	NIPPLE, 1/4 CLOSE		*INCLUDED IN ASM
11	31017	1	ELBOW, 1/4 FPT X 1/4 FPT		*INCLUDED IN ASM
12	70019	2	SCR, 1/4-20 X 1.25 HHCS SS		
13	87013	4	WASHER, 1/4 ID X 5/8 OD SS		
14	57245	2	NUT, 1/4-20 HEX NYLOCK SS		
15	250-64A	1	SHURFLO 100 PSI PUMP DEMAND		
16	65219	1	PUMP, 115V 100 PSI BYPASS W/SW	1000107078	

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RECOVERY & SOLUTION TANK GROUP



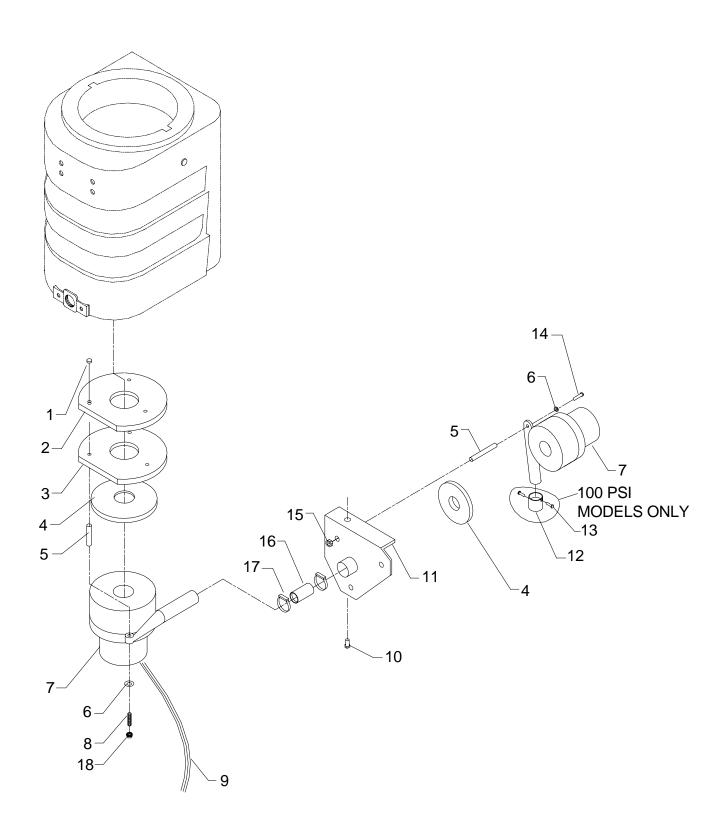
5-11 980181 03/21/05

RECOVERY & SOLUTION TANK GROUP

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	51355	1	LID, NJA DLX LT GRY ALL		
2	260-33	1	HOSEBARB, 1.5MPT X 1.5		
3	090-12A	1	FLOAT CAGE ASSY COMPLETE SLIP		
4	090-17	1	NINJA STAND PIPE ASSY		
5	31082	1	ELBOW, 1.5FS X 1.5FPT PVC MCHD		
6	065-42	1	FLOOD MACHINE BAFFLE		
7	87190	12	WASHER, SEAL 5/8 OD NEOPRENE		
8	57245	6	NUT, 1/4-20 HEX NYLOCK SS		
9	120-08	1	MACHINE HANDLE BRASS/CHROME		
10	70201	4	SCR, 1/4-20 X 3/4 FHCS DL		
11	15-808123	1	DUMP VALVE, 2"		
12	11-800444	1	ELBOW, 2" 45D PVC SCH40		
13	70683	5	SCR, 10-32 X 3/8 PPHMS SS NP		
14	20008	1	CLAMP, 5/8 NYLON UL/USA		
15	75330	1	TANK, RECVRY NJA ALL		
16	35182	6	GASKET, FRAME		
17	87013	2	WASHER, 1/4 ID X 5/8 OD SS		
18	70020	2	SCR, 1/4-20 X 1/2 HHCS SS NP		
19	065-37	2	BRKT, RECOVERY BUCKET NINJA		
20	030-13	1	ELBOW, 45 DEGREE 1/4 FPT		
21	87015	1	WASHER, 9/16 ID X 1.06 OD SS		
22	56015	1	NIPPLE, 1/4 HEX		
23	290-08	1	SOL SCREEN (ACORN) W/RUB BASE		
24	75345	1	TANK, SLTN NJA 100 PSI ALL		
25	500341	2	LABEL, NINJA MAIN		
26	87068	3	WASHER, 1/8 RIVET BACKUP		
27	280-01	3	RIVET AL. 1/8 X 1/2		
28	065-03C	1	SOLUTION COVER NINJA DELUXE		
29	99809	5"	FOAM TAPE, 1/8T X 3/4 1SDA		
30	70019	6	SCR, 1/4-20 X 1.25 HHCS SS		
31	110-26A	1	GASKET NINJA LID		
32	280-02	2	RIVET AL. 3/16 X 1/2 CLOSED		
33	66017	1	PLUG, 1/4 BRASS PIPE		
34	87257	1	WASHER, HOSEBARB		
35	35256	2	GASKET, DUMP VALVE		

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VACUUM MOTOR GROUP (2 STG)

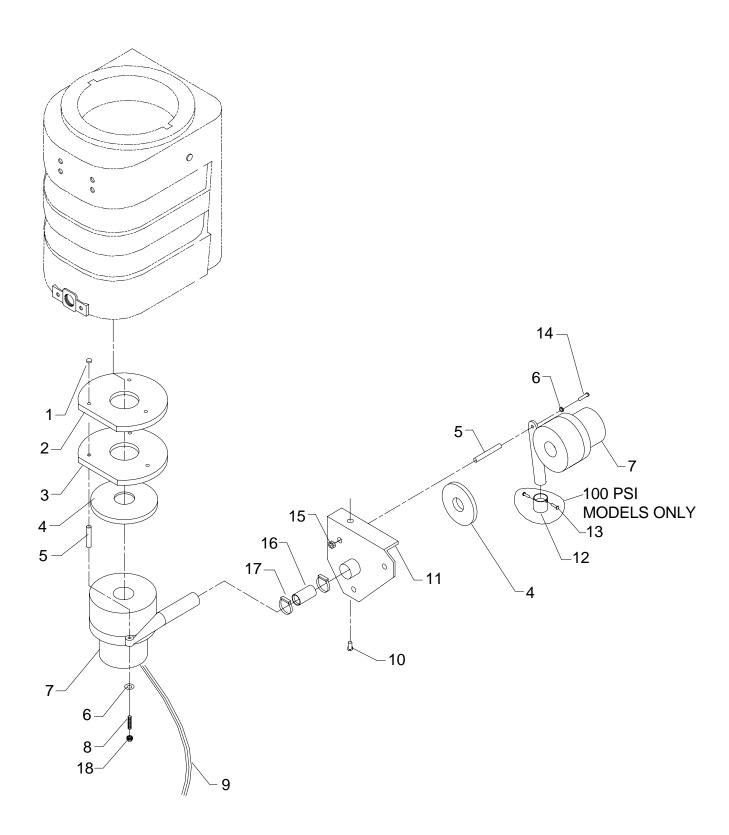


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VACUUM MOTOR GROUP (2 STG)

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	390-26	3	SPACER NYLON 1/4ID X 1/2OD		
2	110-26B	1	GASKET, VAC BRACKET		WAS 35168
3	360-23A	1	PLATE, VAC		
4	35166	2	GASKET, VAC MTR		
5	065-92	6	VAC SPACER 2 1/4 II STAGE		
6	87013	6	WASHER, 1/4ID X 5/8OD SS		
7	360-04A	2	VACUUM 110V TWO STAGE 116392-0		
8	70814	3	STUD, 1/4-20 X 4.5 SS		
9	99656	1	DUCT, 5/8 ID SPLIT FLEX		
10	70205	1	SCR, 1/4-20 X 3/8 HHCS PLT DL		
11	360-23	1	PLATE ASM, REAR VAC		
12	78463	1	TUBE, VAC EXHAUST 2.5" LONG		100 PSI MODELS ONLY
13	280-01	2	RIVET AL. 1/8 X 1/2		100 PSI MODELS ONLY
14	70663	3	SCR, 1/4-20 X 3-1/4 HHCS PLT		
15	57245	3	NUT, 1/4-20 HEX NYLOCK SS		
16	39566	1	HOSE, VAC EXHAUST 2"ID X 2" LONG		
17	20046	2	CLAMP, 2.25" WORM GEAR		
18	57105	3	NUT, 1/4-20 HEX W/ STAR WASHER		

VACUUM MOTOR GROUP (3 STG)



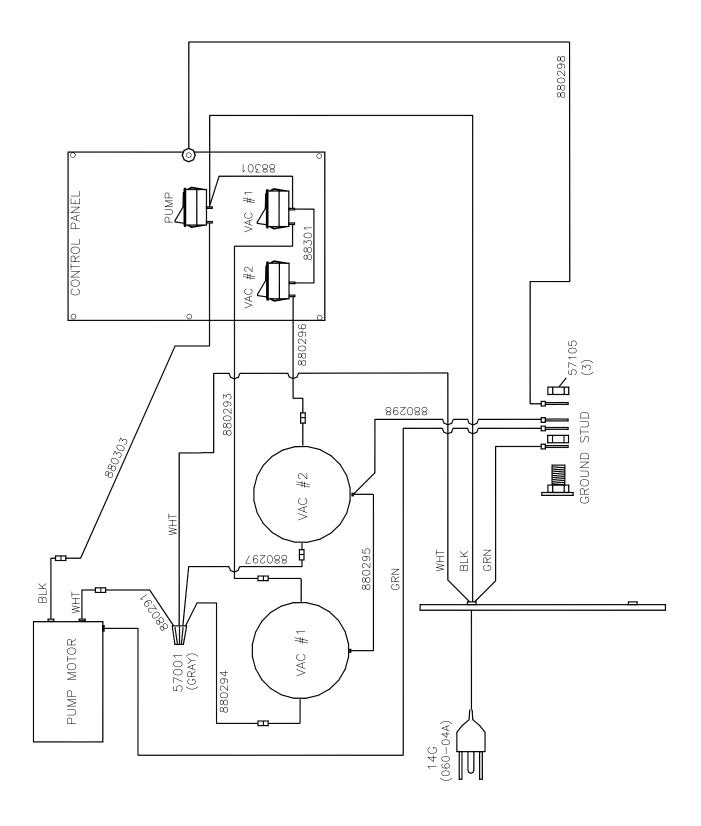
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VACUUM MOTOR GROUP (3 STG)

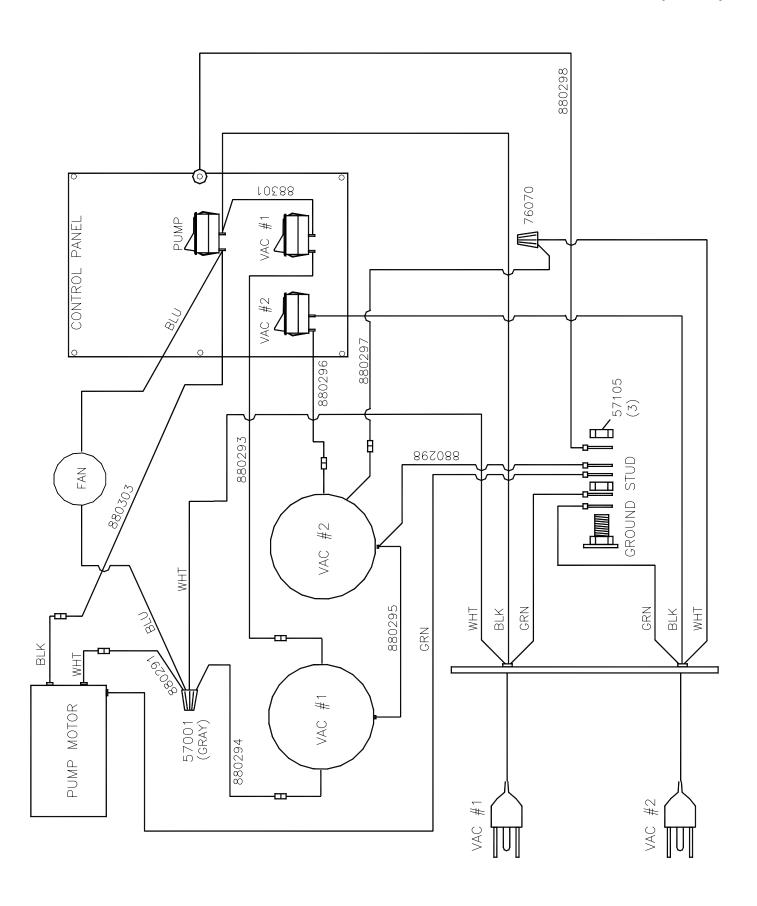
REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	390-26	3	SPACER NYLON 1/4ID X 1/2OD		
2	110-26B	1	GASKET, VAC BRACKET		WAS 35168
3	360-23A	1	PLATE, VAC		
4	35166	2	GASKET, VAC MTR		
5	065-24E	6	VAC SPACER 3-1/8		
6	87013	6	WASHER, 1/4ID X 5/8OD SS		
7	53130	2	VAC MOTOR, 120V 5.7 3ST W/O TB	*	
-	140687	-	BRUSH SET, 120V VAC WINDSOR	*	SERVICE ONLY
-	140676	-	BRUSH SET, 120V 3ST VAC AMETEK		SERVICE ONLY
8	70814	3	STUD, 1/4-20 X 4.5 SS		
9	99656	1	DUCT, 5/8 ID SPLIT FLEX		
10	70205	1	SCR, 1/4-20 X 3/8 HHCS PLT DL		
11	360-22	1	PLATE ASM, REAR VAC 3 STG		
12	78463	1	TUBE, VAC EXHAUST 2.5" LONG		100 PSI MODELS ONLY
13	280-01	2	RIVET AL. 1/8 X 1/2		100 PSI MODELS ONLY
14	70062	3	SCR, 1/4-20 X 4 HHCS GR5 PLTD		
15	57245	3	NUT, 1/4-20 HEX NYLOCK SS		
16	39566	1	HOSE, VAC EXHAUST 2"ID X 2" LONG		
17	20046	2	CLAMP, 2.25" WORM GEAR		
18	57105	3	NUT, 1/4-20 HEX W/ STAR WASHER		

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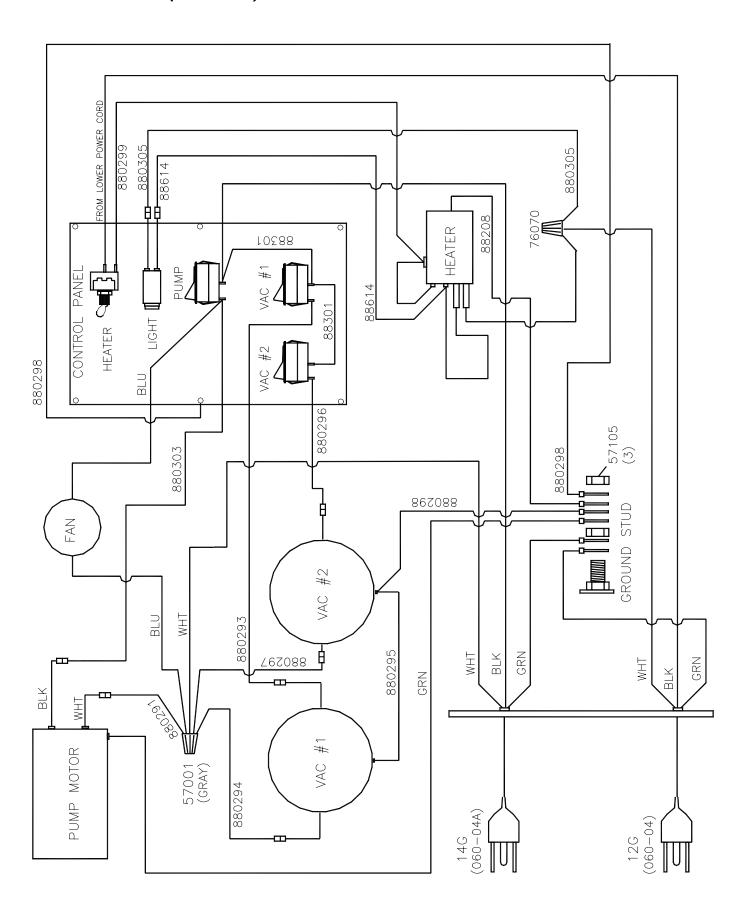
WIRING GROUP (2 STG)



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WIRING GROUP (W/ HEAT)



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NOTES