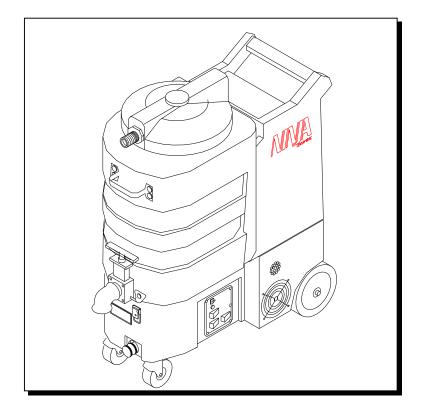




PORTABLE EXTRACTOR



Operating Instructions

MODELS: <u>411-22AMO</u> <u>10070340</u>

 411-221MO
 10070280

 411-221HMO
 10070270

 411-2X1MO
 10070360

 411-22AHMO
 10070330

Read these instructions before using the machine



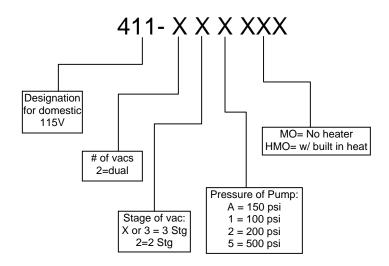
MACHINE DATA LOG/OVERVIEW

MODEL
DATE OF PURCHASE
SERIAL NUMBER
SALES REPRESENTATIVE #

	YOUR DEALER	
Name:		
Address:		
_		

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:

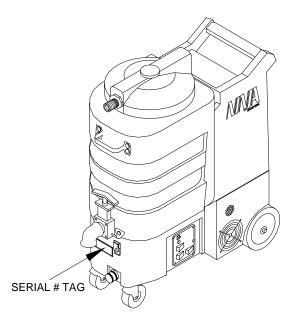
- HOW TO USE THIS MANUAL
- SAFETY
- OPERATIONS
- MAINTENANCE
- PARTS LIST

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.
- PRV NO. reference number.
- **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 number 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

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:

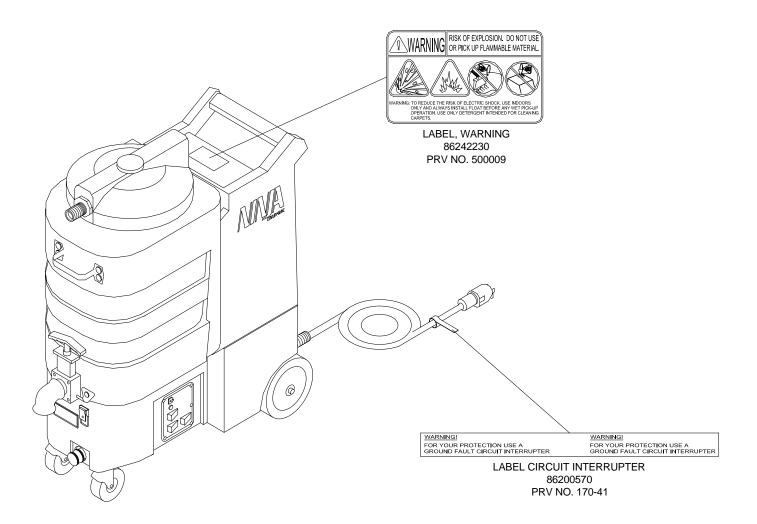
DO NOT OPERATE MACHINE: Unless Trained and Authorized. Unless Operation Guide is Read and understood. In Flammable or Explosive areas. In areas with possible falling objects.

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.



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.

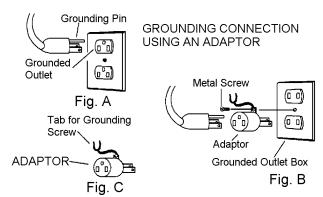
EXTENSION CORDS:

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.



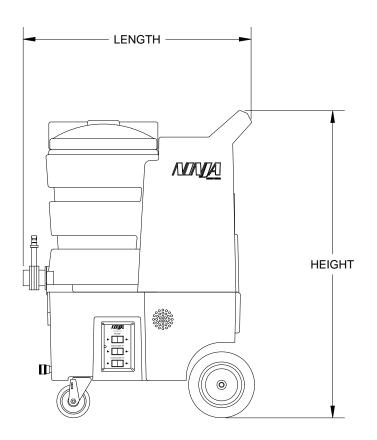
Note: Adaptors are not allowed in Canada.

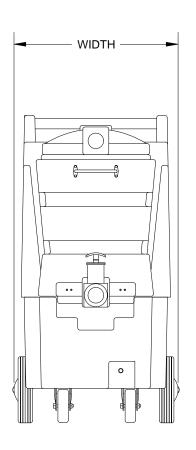
Improper connection of the equipmentgrounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance - if it will not fit the outlet, have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

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TECHNICAL SPECIFICATIONS

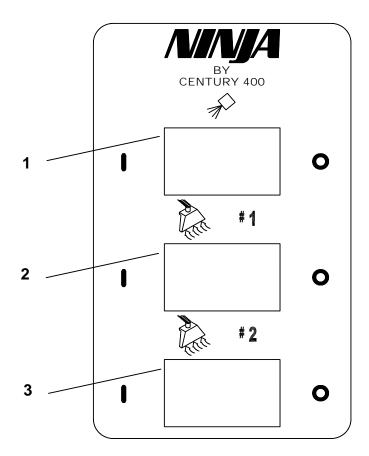
ITEM	MEASURE
ELECTRICAL	115 Volt, 60 hz
Vacuum Motor	Dual 3 stage
Solution Pump	100 psi
	150 psi
Solution Capacity	10 gal (38 L)
Recovery Capacity	8 gal (240 kg)
Weight- Empty	110 lbs (240 kg)
Weight-Full Solution	200 lbs (440 kg)
Height	36 inches (91.44 cm)
Length	29 inches (73.66 cm)
Width	19.5 inches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

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.
- 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.



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.

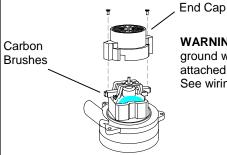
VACUUM MOTOR REPLACEMENT

- 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)



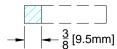
WARNING: The green ground wire must be attached for safe operation. See wiring diagram.

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



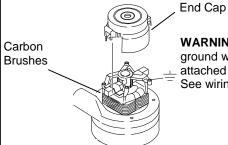
Important:

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.



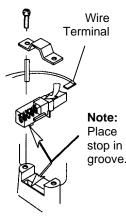
Periodically check the length of the carbon brushes. Replace both carbon brushes when either is less than 3/8" (9.5mm) long.

Vacuum Motor Carbon Brushes Replacement (Ametek)

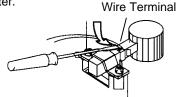


WARNING: The green ground wire must be attached for safe operation. See wiring diagram.

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

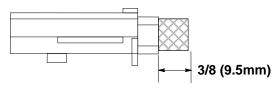


If armature commutator is grooved, extremely pitted or not concentric, the motor will need to be replaced or sent to a qualified service center.



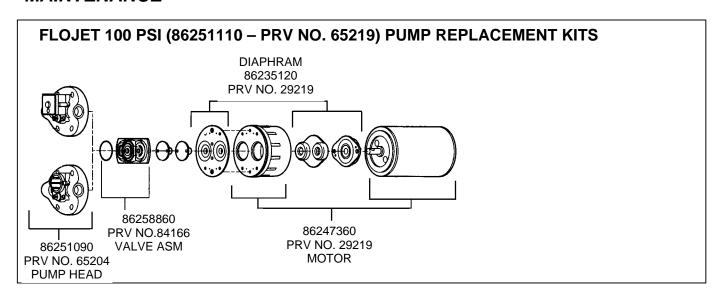
Important:

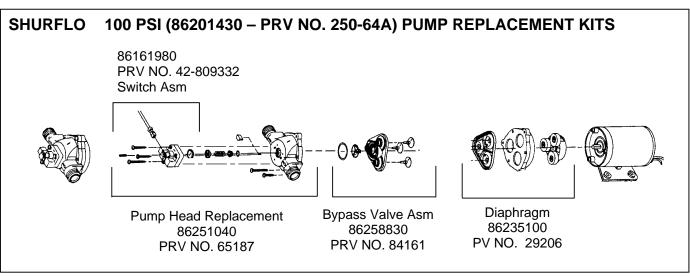
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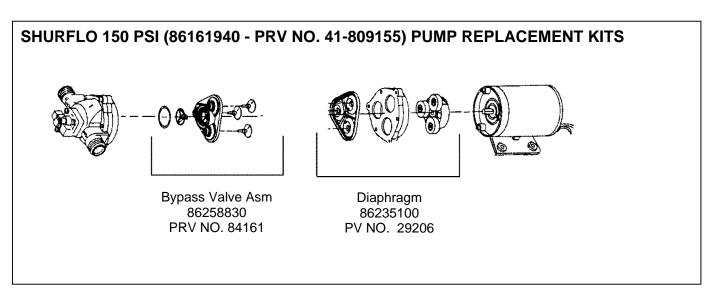


Periodically check the length of the carbon brushes. Replace both carbon brushes when either is less than 3/8" (9.5mm) long.

MAINTENANCE







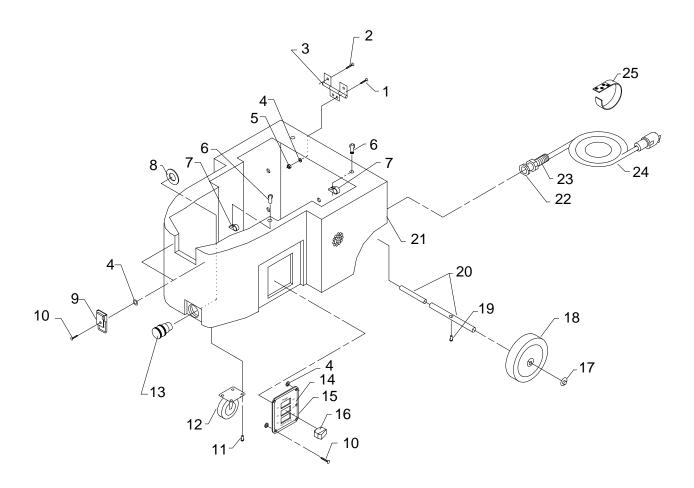
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TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION		
Loss of Power	Dead electrical circuit	Check building circuit breaker or fuse box.		
LOSS OF POWER	Faulty power cord	Replace		
	Equipment not grounding	Follow grounding instructions exactly		
Electrical shock	Receptacle not grounded	Contact an electrician to check building's wiring		
Liberiodi ericeit	Internal wiring problem	Have a trained service technician check machine's wiring		
Vac mater and varios	Worn motor brushes	Replace		
Vac motor speed varies or doesn't run	Motor worn out	Replace		
or doesir truit	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		
Tump 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	Internal pump components wearing out	Replace, see pump kit components (pg 4-3)		
pressure	Note: Operation of pump using a wand or hand tool with an orifice of less than .06 will cause pump to cavitate or pulsate and could result in premature wear of pump components.			
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		
Carpet 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)

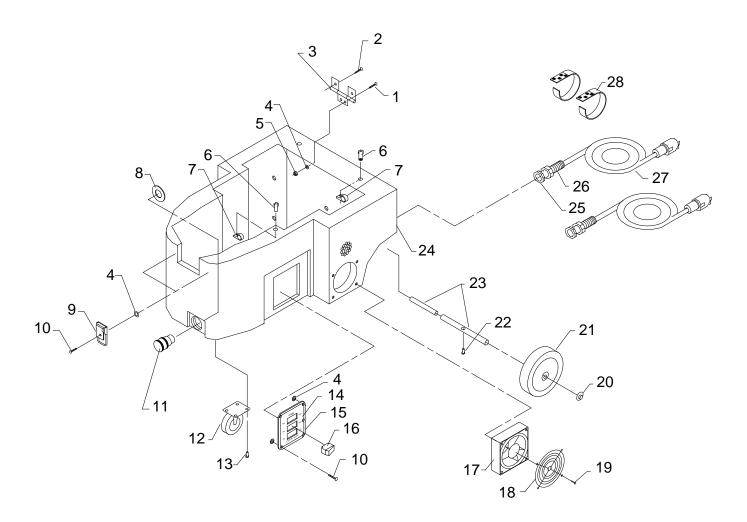


FRAME GROUP (2 STG)

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86274040	70076	4	SCR, 10-32 X 1 PFHMS PLT		
2	86006700	70232	4	SCR, 10-32 X 3/8 FHMS SS		
3	86200010	140-01	1	HINGE SET CHROME		
4	86279190	87095	10	WASHER, #10 FLAT PLTD		
5	86005640	57030	4	NUT, 10-32 HEX NYLOCK		
6	86201300	280-03	2	RIVIT ALUMINUM 3/16 X 3/4		
7	86198460	20008	2	CLAMP, 5/8 NYLON UL/USA		
8	86202230	390-09A	1	WASHER 9/16 S/S USS-THICK		
9	86199600	140-05	2	DRAW PULL LATCH STD.		
10	86201290	280-02	11	RIVIT AL. 3/16 X 1/2 CLOSED		
11	86273830	70020	8	SCR, 1/4-20 X 1/2 HHCS SS NP		
12	86200710	040-03	2	CASTER SWIVEL 4" SWIVEL		
13	86002450	22015	1	COUPLER, 1/4 QD		
14	86200670	500359	1	LABEL, NINJA 3 SWITCH NO HEAT		
15	86091030	62900	1	PLATE, NINJA 3 SWITCH NO HEAT		
16	86256960	72142	3	SWITCH, SPST 15A EURO ROCKER		
17	86271380	57196	2	NUT, 1/2 PUSH-ON DOME CAP		
18	86202250	040-06	2	WHEEL 8" BLK CENTERED HUB		
19	86273810	70018	1	SCR, 1/4-20 X 1 HHCS SS		
20	86199200	010-04B	1	AXLE SINGLE NINJA		
21	86064950	08060	1	BASE, NJA 100 PSI 2ST N/H		
22	86005670	57040	1	NUT, 1/2 NPT CONDUIT		_
23	86256200	73200	1	STRAIN RELIEF 1/2 NPT FLEX		_
24	86199540	060-04A	1	CORD 25' BLK 14/3 SJTW/ A PLUG		
25	86202160	320-05	1	VELCRO STRAP		

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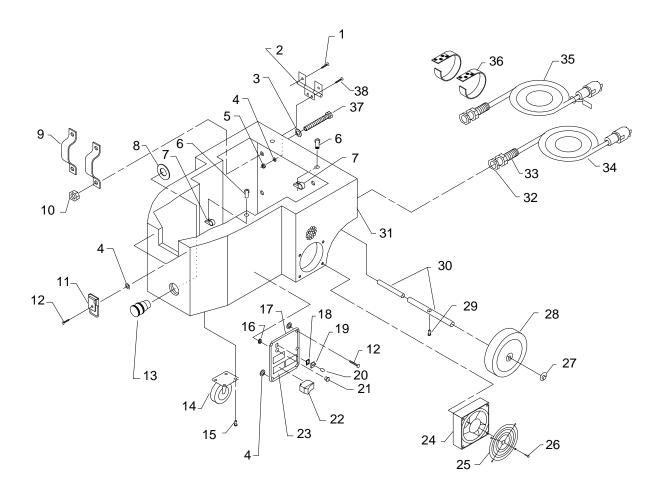
FRAME GROUP (3 STG)



FRAME GROUP (3 STG)

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86274040	70076	4	SCR, 10-32 X 1 PFHMS PLT		
2	86006700	70232	4	SCR, 10-32 X 3/8 FHMS SS		
3	86200010	140-01	1	HINGE SET CHROME		
4	86279190	87095	10	WASHER, #10 FLAT PLTD		
5	86005640	57030	4	NUT, 10-32 HEX NYLOCK		
6	86201300	280-03	2	RIVET ALUMINUM 3/16 X 3/4		
7	86198460	20008	2	CLAMP, 5/8 NYLON UL/USA		
8	86202230	390-09A	1	WASHER 9/16 S/S USS-THICK		
9	86199600	140-05	2	DRAW PULL LATCH STD.		
10	86201290	280-02	11	RIVET AL. 3/16 X 1/2 CLOSED		
11	86002450	22015	1	COUPLER, 1/4 QD		
12	86199430	040-03	2	CASTER SWIVEL 4" SWIVEL		
13	86273830	70020	8	SCR, 1/4-20 X 1/2 HHCS SS NP		
14	86200670	500359	1	LABEL, NINJA 3 SWITCH NO HEAT		
15	86091030	62900	1	PLATE, NINJA 3 SWITCH NO HEAT		
16	86256960	72142	3	SWITCH, SPST 15A EURO ROCKER		
17	86199650	070-08	1	FAN 105 CFM AXIAL		
18	86199660	070-08A	1	FAN FINGER GUARD		
19	86276290	70626	4	SCR, #10 X 3/4 PPHST HI-LO BLK		
20	86271380	57196	2	NUT, 1/2 PUSH-ON DOME CAP		
21	86202250	040-06	2	WHEEL 8" BLK CENTERED HUB		
22	86273810	70018	1	SCR, 1/4-20 X 1 HHCS SS		
23	86199200	010-04B	1	AXLE SINGLE NINJA		
24	86024970	08062	1	BASE, NJA DLX 100 3ST N/H		
25	86005670	57040	2	NUT, 1/2 NPT CONDUIT		
26	86256200	73200	2	STRAIN RELIEF 1/2 NPT FLEX		
27	86199540	060-04A	2	CORD 25' BLK 14/3 SJTW/ A PLUG		
28	86202160	320-05	2	VELCRO STRAP		

FRAME GROUP (W/ HEAT)

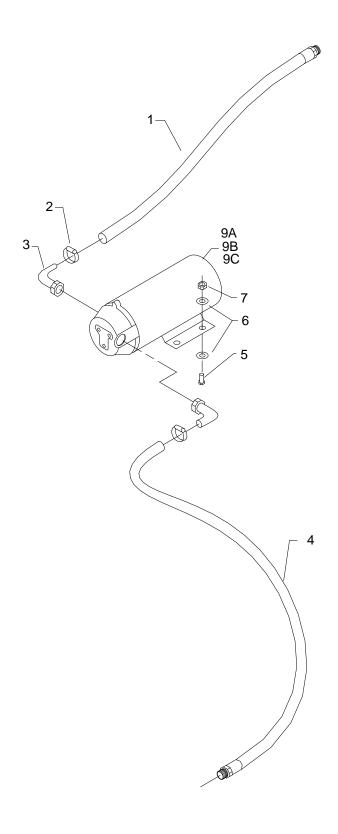


FRAME GROUP (W/ HEAT)

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86006700	70232	4	SCR, 10-32 X 3/8 FHMS SS		
2	86200010	140-01	1	HINGE SET CHROME		
3	86010630	87013	4	WASHER, 1/4 ID X 5/8 OD SS		
4	86279190	87095	10	WASHER, #10 FLAT PLTD		
5	86005640	57030	4	NUT, 10-32 HEX NYLOCK		
6	86201300	280-03	2	RIVIT ALUMINUM 3/16 X 3/4		
7	86199460	20008	2	CLAMP, 5/8 NYLON UL/USA		
8	86202230	390-09A	1	WASHER 9/16 S/S USS-THICK		
9	86090790	140744	2	BRKT, HEATER SUPPORT NJA		
10	86005810	57245	4	NUT, 1/4-20 HEX NYLOCK SS		
11	86199600	140-05	2	DRAW PULL LATCH STD		
12	86201290	280-02	11	RIVIT AL. 3/16 X 1/2 CLOSED		
13	86002450	22015	1	COUPLER, 1/4 QD		
14	86199430	040-03	2	CASTER SWIVEL 4"		
15	8273830	70020	8	SCR, 1/4-20 X 1/2 HHCS SS NP		
16	86233480	22046	1	CLIP, NEON LAMP		
17	86090930	335-06	1	SWITCH PLATE NJA FOR HEAT UNIT		
18	86201880	335-04	1	TOGGLE SWITCH PLATE ON/OFF		
19	86201840	330-05	1	TOGGLE SWITCH		
20	86201860	330-06	1	TOGGLE SWITCH BOOT		
21	86261300	51116	1	LIGHT ASM, 115V BRUSH WEAR		
22	86256960	72142	3	SWITCH, SPST 15A EURO ROCKER		
23	86200560	170-40	1	LABEL 300 PSI SWITCH PLATE		
24	86199650	070-08	1	FAN 105 CFM AXIAL		
25	86199660	070-08A	1	FAN FINGER GUARD		
26	86276290	70626	4	SCR, #10 X 3/4 PHST HI-LO BLK		
27	86271380	57196	2	NUT, 1/2 PUSH-ON DOME CAP		
28	86202250	040-06	2	WHEEL 8" BLK CENTERED HUB		
29	86273810	70018	1	SCR, 1/4-20 X 1 HHCS SS		
30	86199200	010-04B	1	AXLE SINGLE NINJA		
31	86064960	08061	1	BASE, NJA 100 PSI 2ST W/H		
32	86005670	57040	2	NUT, 1/2 NPT CONDUIT		
33	86256200	73200	2	STRAIN RELIEF 1/2 NPT FLEX		
34	86199540	060-04A	1	CORD 25' BLK 14/3 SJTW/A PLUG		
35	86199530	060-04	1	CORD 25' BLK 12/3 SJTW/A PLUG		
36	86202160	320-05	2	VELCRO STRAP		
37	86007010	70663	4	SCR, 1/4-20 X 3 1/4 HHCS PLTD		
38	86274040	70076	4	SCR, 10-32 X 1 PFHMS PLT		

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PUMP GROUP



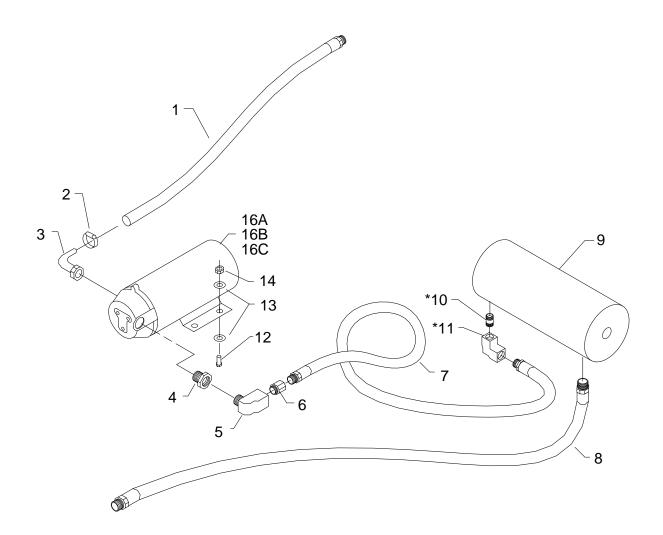
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PUMP GROUP

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86200090	151-35A	1	HOSE, 22.5 GRY 3/8 1/4 MPT X CUT		
2	86233150	20042	2	CLAMP, 3/8 HOSE (D-SLOT)		
3	86001550	40043	2	HOSEBARB, 3/8 MPT X 3/8 90D		
4	86200100	151-35B	1	HOSE, 14.0 GRY 3/8 1/4 MPT X CUT		
5	86273820	70019	2	SCR, 1/4-20 X 1.25 HHCS SS		
6	86010630	87013	4	WASHER, 1/4 ID X 5/8 OD SS		
7	86005810	57245	2	NUT, 1/4-20 HEX NYLOCK SS		
8	-	OPEN	-	-		
9A	86201430	250-64A	1	SHURFLO 100 PSI PUMP DEMAND		411-221MO ONLY
9B	86251110	65219	1	PUMP, 115V 100PSI BYPASS W/SW		411-221MO ONLY
9C	86161940	41-809155	1	PUMP, SHURFLO 150PSI		411-22AMO ONLY

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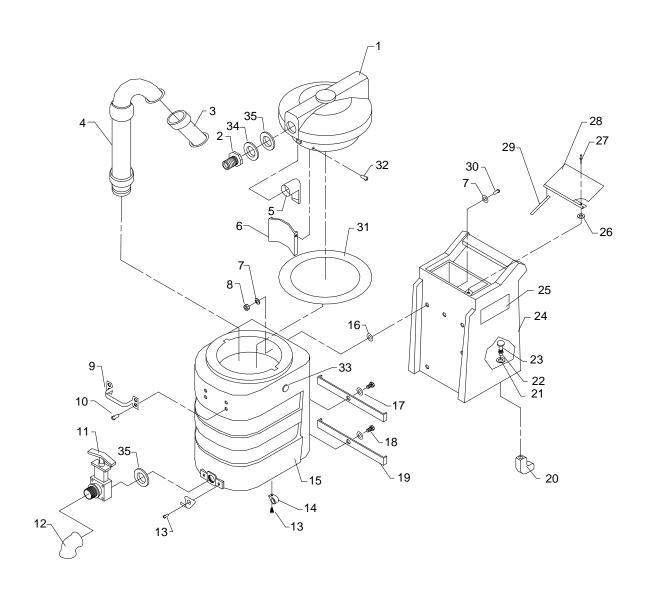
PUMP GROUP (W/ HEAT)



PUMP AND HEATER GROUP (W/ HEAT)

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86200090	151-35A	1	HOSE, 22.5 GRY 3/8 1/4 MPT X CUT		
2	86233150	20042	1	CLAMP, 3/8 HOSE (D-SLOT)		
3	86001550	40043	1	HOSEBARB, 3/8 MPT X 3/8 90D		
4	86197290	14076	1	BUSHING, 3/8 MPT X 1/4 FPT HEX		
5	86197360	31016	1	ELBOW, 1/4 NPT STREET		
6	86202130	370-44	1	CHECK VALVE		
7	86200120	151-36C	1	HOSE, 60.0 RED 3/8 1/4 MPT X 1/4 MPT		
8	86200110	151-36B	1	HOSE, 28.0 RED 3/8 1/4 MPT X 1/4 MPT		
9	86033590	41516	1	HEATER ASM, NINJA COMPLT		
10	86005590	56014	1	NIPPLE, 1/4 CLOSE		*INCLUDED IN ASM
11	86197370	31017	1	ELBOW, 1/4 FPT X 1/4 FPT		*INCLUDED IN ASM
12	86273820	70019	2	SCR, 1/4-20 X 1.25 HHCS SS		
13	86010630	87013	4	WASHER, 1/4 ID X 5/8 OD SS		
14	86005810	57245	2	NUT, 1/4-20 HEX NYLOCK SS		
15	-	OPEN	-	-		
16A	86201430	250-64A	1	SHURFLO 100 PSI PUMP DEMAND		411-22IHMO ONLY
16B	86251110	65219	1	PUMP, 115V 100 PSI BYPASS W/SW		411-22IHMO ONLY
16C	86161940	41-809155	1	PUMP, SHURFLO 115V 150 PSI		411- 22AHMO ONLY

RECOVERY & SOLUTION TANK GROUP



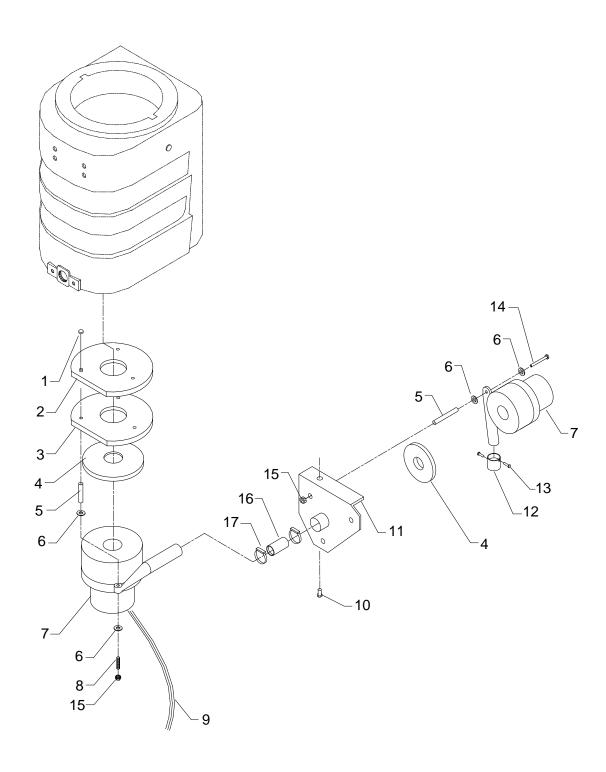
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RECOVERY & SOLUTION TANK GROUP

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86033370	51355	1	LID, NJA DLX LT GRY ALL		
2	86200290	260-33	1	HOSEBARB, 1.5MPT X 1.5		
3	86199840	090-12A	1	FLOAT CAGE ASSY COMPLETE SLIP		
4	86033240	090-17	1	NINJA STAND PIPE ASSY		
5	86064760	31082	1	ELBOW, 1.5FS X 1.5FPT PVC MCHD		
6	86090850	065-42	1	FLOOD MACHINE BAFFLE		
7	86279610	87190	12	WASHER, SEAL 5/8 OD NEOPRENE		
8	86005810	57245	6	NUT, 1/4-20 HEX NYLOCK SS		
9	86199970	120-08	1	MACHINE HANDLE BRASS/CHROME		
10	86006670	70201	4	SCR, 1/4-20 X 3/4 FHCS DL		
11	86161460	15-808123	1	DUMP VALVE, 2"		
12	86161470	11-800444	1	ELBOW, 2" 45D PVC SCH40		
13	86007050	70683	5	SCR, 10-32 X 3/8 PPHMS SS NP		
14	86198460	20008	1	CLAMP, 5/8 NYLON UL/USA		
15	86033410	75330	1	TANK, RECVRY NJA ALL		
16	86237510	35182	6	GASKET, FRAME		
17	86010630	87013	2	WASHER, 1/4 ID X 5/8 OD SS		
18	86273830	70020	2	SCR, 1/4-20 X 1/2 HHCS SS NP		
19	86090770	065-37	2	BRKT, RECOVERY BUCKET NINJA		
20	86199630	030-13	1	ELBOW, 45 DEGREE 1/4 FPT		
21	86090230	87015	1	WASHER, 9/16 ID X 1.06 OD SS		
22	86247680	56015	1	NIPPLE, 1/4 HEX		
23	86201590	290-08	1	SOL SCREEN (ACORN) W/RUB BASE		
24	86033490	75345	1	TANK, SLTN NJA 100 PSI ALL		
25	86200580	500341	2	LABEL, NINJA MAIN		
26	86010690	87068	3	WASHER, 1/8 RIVET BACKUP		
27	86201280	280-01	3	RIVET AL. 1/8 X 1/2		
28	86200730	065-03C	1	SOLUTION COVER NINJA DELUXE		
29	86198530	99809	5"	FOAM TAPE, 1/8T X 3/4 1SDA		
30	86273820	70019	6	SCR, 1/4-20 X 1.25 HHCS SS		
31	86199900	110-26A	1	GASKET NINJA LID		
32	86201290	280-02	2	RIVET AL. 3/16 X 1/2 CLOSED		
33	86272730	66017	1	PLUG, 1/4 BRASS PIPE		
34	86090320	87257	1	WASHER, HOSEBARB		
35	86237770	35256	2	GASKET, DUMP VALVE		

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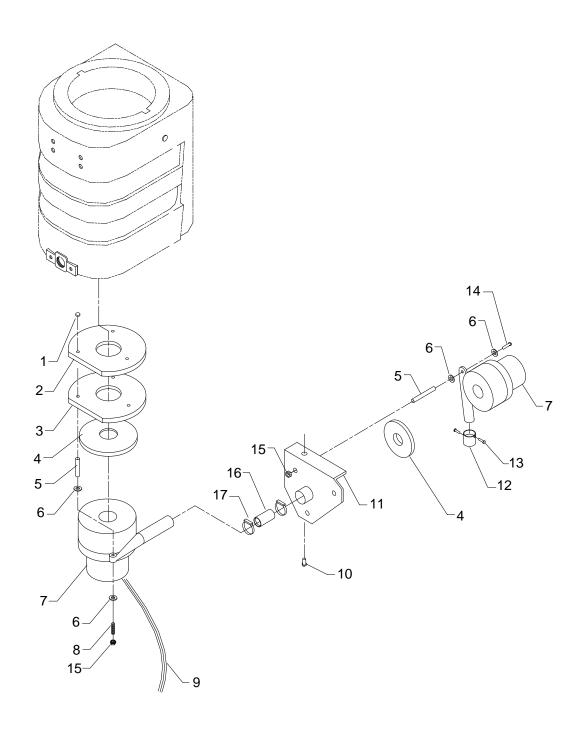
VACUUM MOTOR GROUP (2 STG)



VACUUM MOTOR GROUP (2 STG)

REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86201510	390-26	3	SPACER NYLON 1/4ID X 1/2OD		
2	86199910	110-26B	1	GASKET, VAC BRACKET		WAS 35168
3	86090960	360-23A	1	PLATE, VAC		
4	86003760	35166	2	GASKET, VAC MTR		
5	86201970	065-92	6	VAC SPACER 2 1/4 II STAGE		
6	86010630	87013	12	WASHER, 1/4ID X 5/8OD SS		
7	86202040	360-04A	2	VACUUM 110V TWO STAGE 116392-0		
8	86256490	70814	3	STUD, 1/4-20 X 4.5 SS		
9	86134400	99656	1	DUCT, 5/8 ID SPLIT FLEX		
10	86244460	70205	1	SCR, 1/4-20 X 3/8 HHCS PLT DL		
11	86090950	360-23	1	PLATE ASM, REAR VAC		
12	86091230	78463	1	TUBE, VAC EXHAUST 2.5" LONG		
13	86201280	280-01	2	RIVET AL. 1/8 X 1/2		
14	86007010	70663	3	SCR, 1/4-20 X 3-1/4 HHCS PLT		
15	86005810	57245	6	NUT, 1/4-20 HEX NYLOCK SS		
16	86063170	39566	1	HOSE, VAC EXHAUST 2"ID X 2" LONG		
17	86233430	81431	2	CLAMP, 2.50" WORM GEAR		

VACUUM MOTOR GROUP (3 STG)

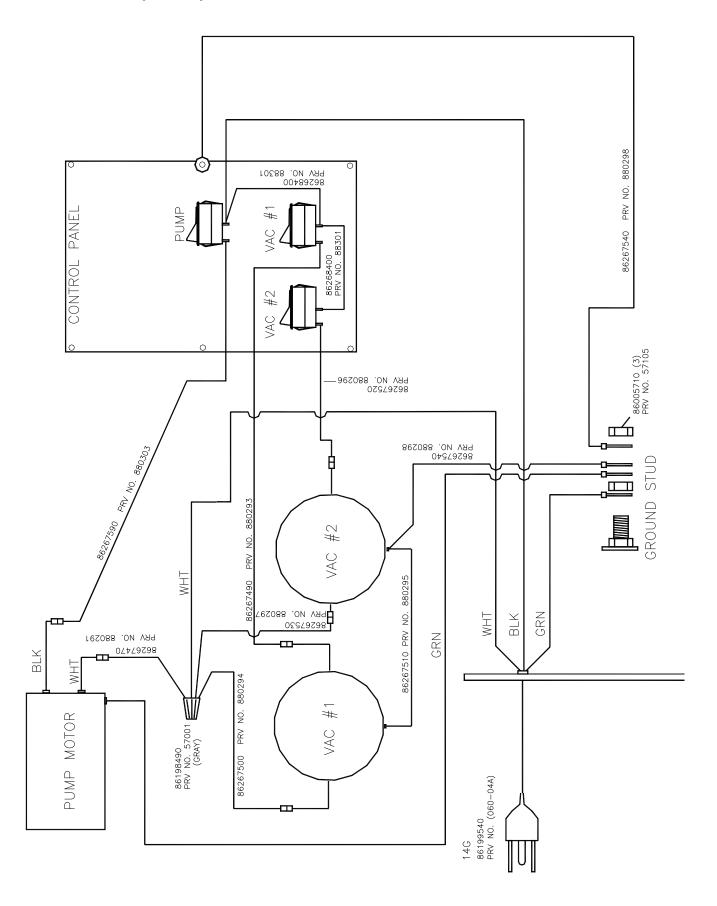


VACUUM MOTOR GROUP (3 STG)

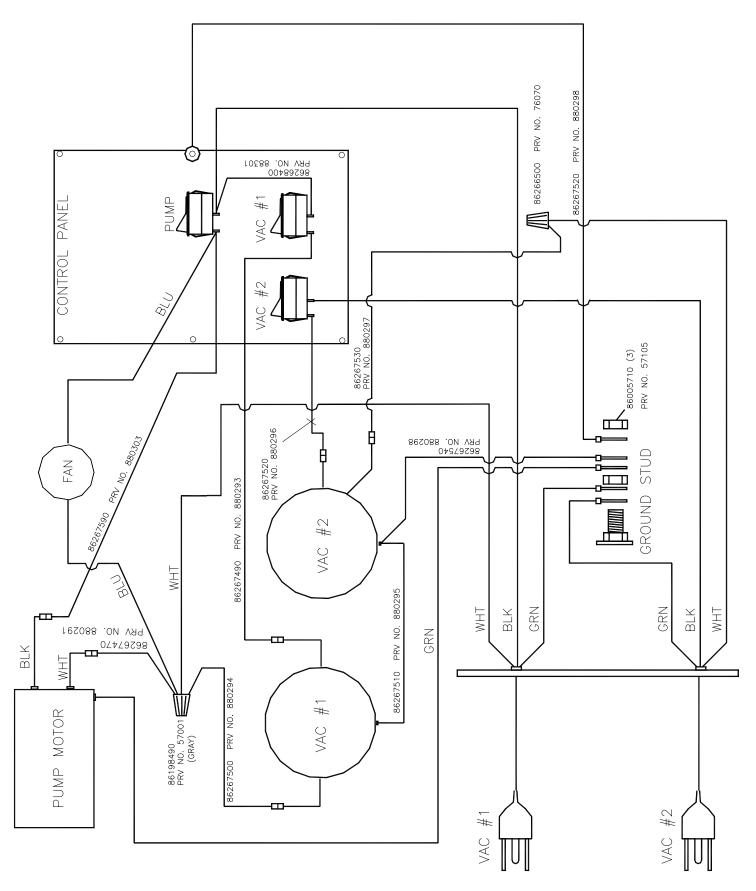
REF	PART NO.	PRV NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	86201510	390-26	3	SPACER NYLON 1/4ID X 1/2OD		
2	86199910	110-26B	1	GASKET, VAC BRACKET		WAS 35168
3	86090960	360-23A	1	PLATE, VAC		
4	86003760	35166	2	GASKET, VAC MTR		
5	86201950	065-24E	6	VAC SPACER 3-1/8		
6	86020630	87013	12	WASHER, 1/4ID X 5/8OD SS		
7	86258420	53130	2	VAC MOTOR, 120V 5.7 3ST W/O TB	*	
-	86135320	140687	-	BRUSH SET, 120V VAC WINDSOR	*	SERVICE ONLY
-	86135310	140676	-	BRUSH SET, 120V 3ST VAC AMETEK		SERVICE ONLY
8	86226880	70858	3	STUD, 1/4-20 X 5 SS		
9	86134400	99656	1	DUCT, 5/8 ID SPLIT FLEX		
10	86274460	70205	1	SCR, 1/4-20 X 3/8 HHCS PLT DL		
11	86090940	360-22	1	PLATE ASM, REAR VAC 3 STG		
12	86091230	78463	1	TUBE, VAC EXHAUST 2.5" LONG		
13	86201280	280-01	2	RIVET AL. 1/8 X 1/2		
14	86276720	70718	3	SCR, 1/4-20 X 4.25 HHCS PLTD		
15	86008510	57245	6	NUT, 1/4-20 HEX NYLOCK SS		
16	86013170	39566	1	HOSE, VAC EXHAUST 2"ID X 2" LONG		
17	86002380	20046	2	CLAMP, 2.25" WORM GEAR		

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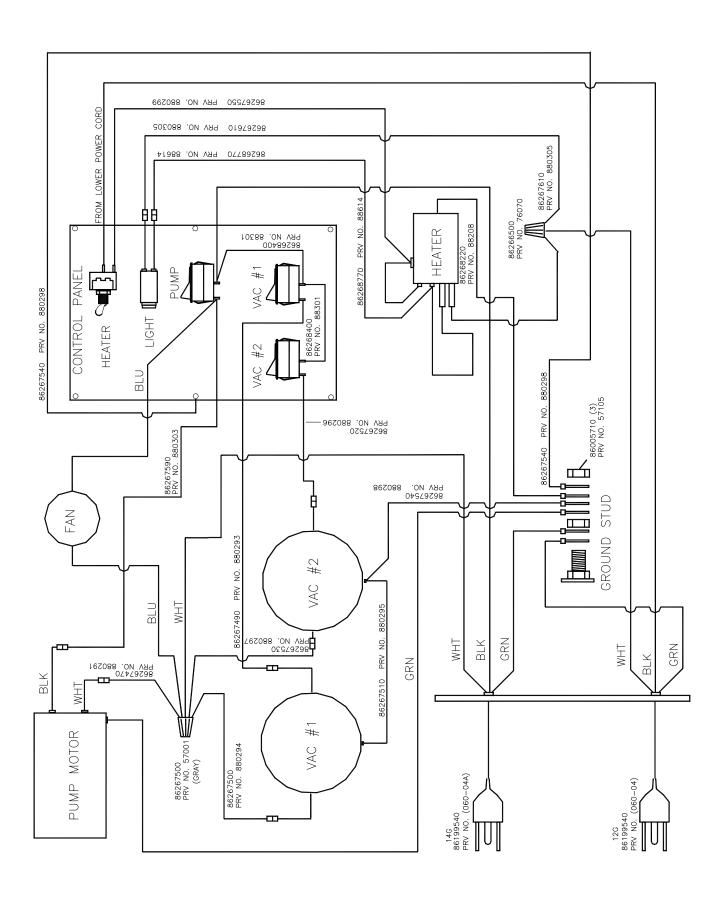
WIRING GROUP (2 STG)



WIRING GROUP (3 STG)



WIRING GROUP (W/ HEAT)



NOTES