

# RX-Express III



## Owner's Manual



# RX-Express III

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MAN-182-404

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Revised May 23, 2006



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# *Machine Specifications*

**Size:** 46" L x 38 1/2" H x 15" W

**Weight:** 110 lbs.

**Gearbox Oil Capacity:** 14 oz.

**Vacuum Motor:** (2) Two Stage 5.7"  
107" H<sub>2</sub>O Lift - 197 CFM

**Solution Pump:** Diaphragm Type, Continuous Duty, By-Pass  
1.25 GPM - 60 PSI Max

**Solution Tank Capacity:** 12 gallons

**Recovery Tank Capacity:** 12 gallons

**Head Speed:** 130 RPMs

**Motor:** 115 volts  
1/2 HP  
5.6 amps

**Automatic Scrubber Attachment Kit:**

- 1 Squeegee Attachment
- 1 Trailer Hook
- 1 Pad Driver Head or Brush Head Assembly
- 1 Head Removal Wrench

# Preparation and Precautions

## TO PREPARE...

Carefully remove the unit from its shipping container and inspect for damage. If damage from shipping has occurred, notify the carrier immediately.

The unit may come partially disassembled. Please refer to the exploded view for a proper tank configuration. Remove the solid shipping plug from the top of the gearbox and replace it with the vented plug provided.

*If there is any evidence of oil on any of the packaging material, or in the machine itself, it may have come from the gearbox of the unit. Check the oil level of the gearbox prior to the operation of the unit.*

**Important:** Remove the solid shipping plug from the top of the gearbox and replace it with the vented plug provided before operating the machine.

## PRECAUTIONS

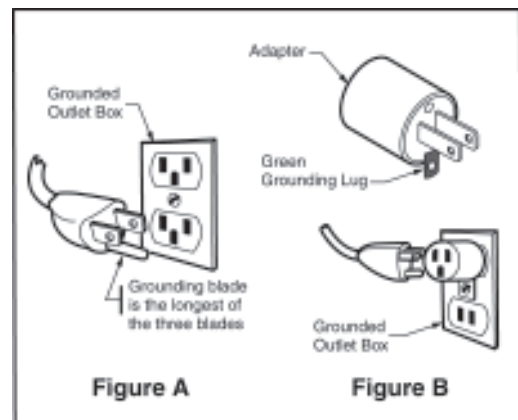
1. To avoid hazardous conditions, do not use your machine in areas where flammable and/or explosive vapors or dust are present.
2. Connect only to a grounded (3 wire) outlet. See illustration.

### **WARNING**

To reduce risk of electrical shock, use the equipment indoors or contained within a vehicle (i.e. service van). Do not expose the machine to weather.

### GROUNDING INSTRUCTIONS:

The RX-Express should be grounded while in use to protect the technician from electrical shock. The power cords are equipped with suitable three conductor plugs. If grounded outlets are not available, use three way adapters (see Figure B).



## **GROUNDING INSTRUCTIONS (cont.) :**

The green (or green and yellow) conductor in the cord is the grounding wire. Never connect the grounding blade to a live terminal. Your terminal is designed to be used on less than 150 volts and has plugs resembling the one shown in Figure A. A grounding adapter is available locally for connecting plugs to 2-prong receptacles. The green (or green and yellow) right lug extending from the adapter must be connected to a properly grounded outlet.

**NOTE:** Use only three wire extension cords which have three prong grounding-type plugs and three prong receptacles or adapters that accept the appliance's plug. Replace or repair any damaged cords.

3. Always disconnect the machine from the electrical outlet before servicing.
4. Water heaters, when required, should be installed in-line, downstream of this unit. Damage to the pumps will occur if water temperature exceeds 160 degrees.
5. Empty the entire machine of water before trying to lift it.
6. Do not allow the recovery tank to overfill with liquid or foam. If foam occurs, a defoamer should be used.
7. After each use of the machine, rinse out and empty the recovery tank. Then, with the recovery lid open and the vacuum hose off, run the vacuum motor to allow the tank to dry.
8. Do not expose the machine to freezing temperatures.

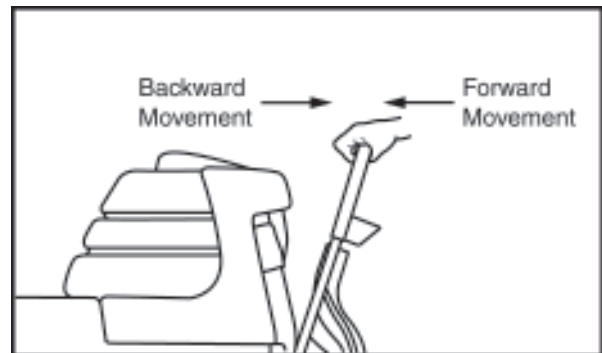
# Operation

## CONTROLS

There are three switches installed in the dash box located on the main handle assembly, one each for the vacuum pump, cleaning head, and solution pump. The handle also contains a trigger for activating the solution valve.

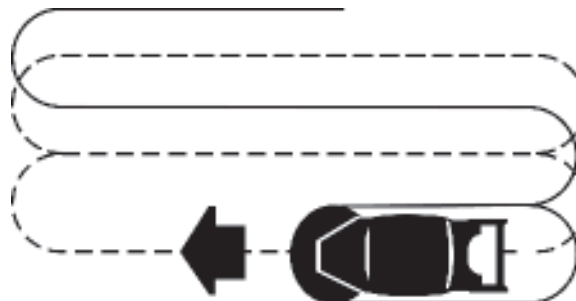
## MANEUVERABILITY

The ease of handling the RX-Express is a direct result of the rotary extractor head. Its natural cleaning motion provides the "drive" for the unit. The slightest push or pull against the foam handle provides ample effort in guiding the RX-Express through its cleaning paces. Pivoting on its large front tires and the swivel casters in the rear allow the RX-Express to glide in and out of tight spaces and turn on a dime.



## CLEANING PATTERN

To achieve maximum results from your unit, it is recommended that you clean in a back-and-forth motion while overlapping each cleaning pass by fifty percent. The more soiled the area to be cleaned, the slower the speed of the cleaning passes. This allows the machine more time to work. After



cleaning an area approximately six feet square, turn off the solution switch and make vacuum-only "dry passes" over the area to assure maximum water removal and a faster drying time.



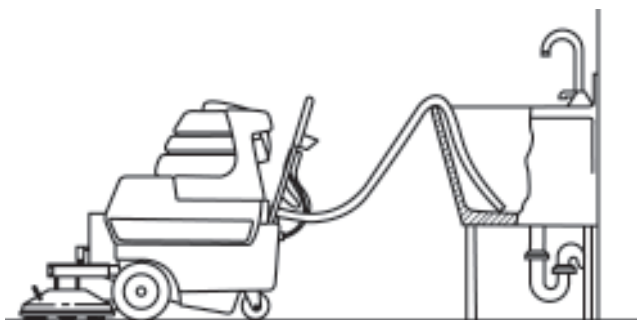


## PUMP PRIMING MODE

Connect the auxiliary pump line supplied with the unit to the male coupler at the rear of the machine. Disconnect the vacuum hose intake from the left side of the recovery tank and place the end of the auxiliary line up into the opening. Using your hand to create a seal around the line, turn on the vacuum and solution pumps until you see water coming out of the hose.

## EMPTY MODE

Connect the auxiliary pump line to the male coupler at the rear of the machine and place the other end into a drain. Turn on the solution switch and allow the remaining water to be pumped free.



On the star wheel, two one-inch rubber plugs have been inserted into the plastic hub. This is to increase the airflow of the electric vacuum motor and speed up drying time. Remove the plugs when cleaning the star to prevent the buildup of debris in the hub.

# Cleaning Instructions

1. Fill the solution tank with hot water. The higher the temperature of the water, the better the cleaning action of the machine and the chemicals used. However, do not exceed a water temperature of 160 F. When accessible, fill the machine directly from a utility sink. When this is not an option, a clean, five gallon bucket will suffice. Add the necessary chemicals. **Now you are ready.**

 **CAUTION**

Only non-foaming cleaning solutions can be used and **absolutely no harsh solvents or petroleum products**. They will decrease the life of rubber gaskets, diaphragms and seals.

2. Attach the power cord to a properly grounded 20 amp receptacle.
3. Position the machine in the area to be cleaned.
4. Lower the cleaning head into its operating position by releasing the latch located just behind the right front wheel.
5. Turn on the switches marked VACUUM PUMP, SOLUTION PUMP and CLEANING HEAD.
6. To control the flow of solution, pull on the levers located on the handle.
7. When making a "dry pass" release the levers on the handles.
8. At completion, dispose of the dirty water in the correct manner. Also, rinse the recovery tank **thoroughly** before reusing the machine.  
**NOTE:** To remove any standing water in the solution tank before storing, simply attach the three foot clear hose to the rear of the machine. Place the other end of the hose in the recovery tank and turn on the pump to evacuate the remaining water.
9. At the end of the day, perform the daily maintenance scheduled.  
**NOTE:** The daily maintenance will prevent any chance of accidental freezing.

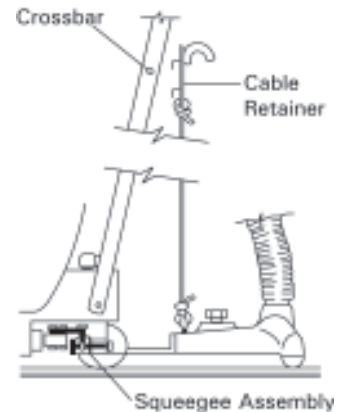
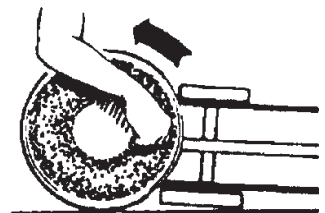
# *Automatic Scrubber Option*

**THE KIT INCLUDES:**

- One (1) Squeegee Attachment (mounting hardware included)
- One (1) Trailer Hook
- One (1) Pad Driver Head or Brush Head Assembly
- One (1) Head Removal Wrench

**INSTALLATION INSTRUCTIONS**

1. Remove the tanks. Place the machine on its right side and remove the standard cleaning head.
2. Thread on the cleaning head of your choice. Make sure that it mounts counterclockwise. If you are using the pad driver head, select the proper pad for the application.
3. Attach the squeegee assembly to the rear of the machine as seen below. With the machine in its upright (cleaning) position, hook the cable retainer over the crossbar to "disengage" the squeegee.
4. Replace the tanks. Add the appropriate solution. Lower the head onto the floor surface and turn on the head and vacuum switches.  
**IMPORTANT: DO NOT** turn on the pump switch. Use the levers on the handle to control the flow of solution.



5. To resume carpet cleaning capabilities, remove the pad driver head with the wrench provided. Place the tip of the wrench into the holes in the pad and rotate in a clockwise direction.

## RX Express III Parts with Pad Driver(079-054)

PART NO	DESCRIPTION	QTY
033-039	Clamp, 1 ½" Spring - Wand Holder	1
094-009	Nut, ¼-20 s/s Nylock	2
143-007	Screw, ¼-20 x 1" Eye Bolt	1
164-001	Tool, Head Remover	1
174-003	Washer, ¼" s/s Flat	2
016-053	Pad Driver Disk	1
033-099	Clamp	1
076-023	Jet, H ⅛" VV 8004 s/s - Port RX's	1
052-057	Nipple, ⅛" Brass Close	1
052-288	Coupler, ⅛" Machined Rotary Union Fitting	1
106-001	Plug, ⅛" Brass	5
107-020	Double Thread RX Vac Hub	1
154-101	Spacer, Floor Scrub Brush/Pad	1
015-144	Bracket, Vac Nozzle Extension	1
025-013	Cable, Vacuum Nozzle Lift	2.5 Ft
033-059	Clamp, Floor Scrub Cable	2
061-100	Handle, Floor Scrub Hook	1
052-432	Cuff, 1 ½" Gray - For Wire Reinforced Vac Hose	2
061-031	Knob, Vac Inlet Manifold	1
064-020	Vac Nozzle	1
068-324	Hose, 1 ½"Vac w/ Wire - Gray	2.125 Ft
131-098	Squeegee Material - 1" x ⅛" x 26"	2
131-099	Extrusion Only - 28" Floor Scrubber	2
143-007	Screw, ¼-20 x 1" Eye Bolt	1
143-533	Screw, 10-24 x ¼ Pan Head Phillips	8
154-001	Spacer, ¼ x 5/16 - s/s Solenoid Valve	2
155-013	Spring	1
177-021	Wheel, Floor Scrubber Wall Guard	2
177-022	Caster, Floor Scrubber Vac Nozzle	1

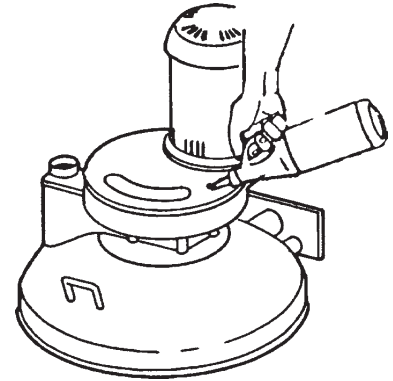
**RX Express III Parts with Brush Assembly (079-053)**

PART NO	DESCRIPTION	QTY
033-039	Clamp, 1 ½" Spring, Wand Holder	1
094-009	Nut, ¼-20 s/s Nylock	2
143-007	Screw, ¼-20 x 1" Eye Bolt	1
143-118	Screw, #8 x ½" Hx WS Head	2
164-001	Tool, Head Remover	1
174-003	Washer, ¼" s/s Flat	2
016-051	Brush, Floor Scrub	1
076-023	Jet, H ⅛ VV 8004 s/s - Port RX's	1
052-057	Nipple, ⅛" Brass Close	1
052-288	Coupler, ⅛" Machined Rotary Union Fitting	1
106-001	Plug, ⅛" Brass	5
107-020	Double Thread RX Vac Hub	1
154-101	Spacer, Floor Scrub Brush/Pad	1
015-144	Bracket, Vac Nozzle Extension	1
025-013	Cable, Vacuum Nozzle Lift	2.5 Ft
033-059	Clamp, Floor Scrub Cable	2
061-100	Handle, Floor Scrub Hook	1
052-432	Cuff, 1 ½" Gray - For Wire Reinforced Vac Hose	2
061-031	Knob, Vac Inlet Manifold	1
064-020	Vac Nozzle	1
068-324	Hose, 1 ½" Vac w/ Wire - Gray	2 .125 Ft
131-098	Squeegee Material - 1" x ⅛" x 26"	2
131-099	Extrusion Only - 28" Floor Scrubber	2
143-007	Screw, ¼-20 x 1" Eye Bolt	1
143-533	Screw, 10-24 x ¼ Pan Hd Phillips	8
154-001	Spacer, ¼ x 5/16 - s/s Solenoid Valve	2
155-013	Spring	1
177-021	Wheel, Floor Scrubber Wall Guard	2
177-022	Caster, Floor Scrubber Vac Nozzle	1

# Maintenance

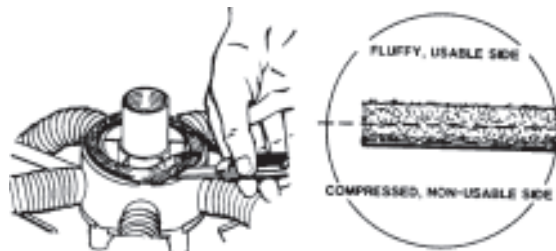
## MONTHLY...

1. **Check the oil level in the gearbox** on a monthly basis. This is a permanent lubricated gearbox. You do not need to change the oil. However, maintaining the proper oil level is important. To check the oil level, remove the vent plug and look into the gearbox. Turn the "star" until you can see the inspection hole in the gear. With the unit sitting flat, the oil level should be up to, but not over, the middle of the gear. If oil needs to be added, use a quality 80-90 weight gear oil.



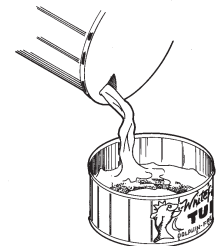
**HELPFUL HINT:** When checking the oil level in the gearbox, use a toothpick as a dipstick. The oil level should read  $\frac{3}{8}$ ".

2. **Remove and rinse the filter screen** from the flow control valve.
3. **Change the felt seal.** This is recommended after every ten hours of use. (For step by step instructions on removing the cleaning head and the seal, please refer to the "REPAIR GUIDE" section.) Always keep a spare felt seal soaking in 30 weight oil. By immersing the felt in oil, it will expand like a sponge and provide sufficient seal for a good vacuum. Place the worn seal back in the oil bath to rejuvenate.



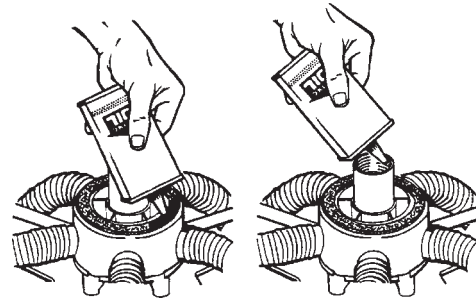
**HELPFUL HINT:** An ideal container in which to soak the spare felt seal is a commercial tuna can. It is the right size and shape and does not require a large amount of oil.

After placing the refreshed, oil-soaked felt seal in the hub, coat the surface with 30 weight gear oil. Lightly oil the inner hub threads before reattaching the cleaning head to the machine.



## WEEKLY...

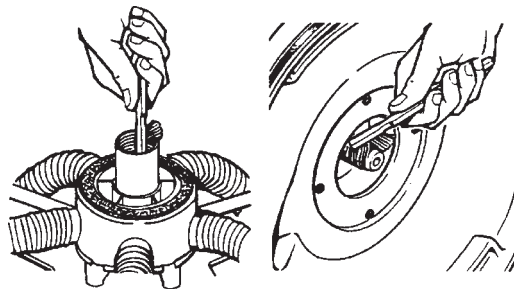
1. **Clean the Recovery Tank** thoroughly by removing the tank and rinsing with clear water.



## ! CAUTION

## DAILY...

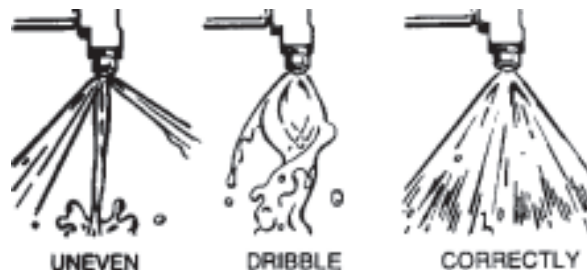
1. **Clean off any accumulated debris on the gearbox shaft** or inside the threaded portion of the hub. An accumulation of debris around the gearbox shaft, if not removed, may damage the gearbox oil seal resulting in loss of oil in the gearbox. If the gearbox is operated without oil, severe damage may occur.

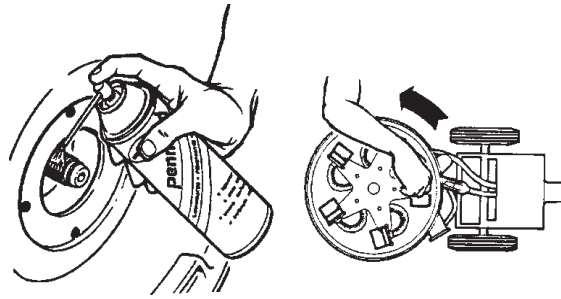


(This requires removing the cleaning head. To do this, please refer to the "REPAIR GUIDE" section.)

2. **Check the applicator jets** in the head to insure a proper solution flow. If the flow is restricted, clean the jets. Twist the jet out. Turn it over. Blow out any obstructions and reinstall the jet.

**NOTE:** Do not use any sharp objects to clear obstructions from the jets. This will damage the jets





**Coat the motor shaft with lubricant** before reinstalling the cleaning head. Locate the head onto the shaft, making sure the threads are aligned properly, and rotate the head counterclockwise.



# *Repair Guide*

**IMPORTANT:** Make sure the machine is **unplugged** before the removal of any electrical parts.

## **Removal of Cleaning Head:**

1. First, unscrew the head in the same direction it turns during operation (or clockwise when looking from the underside).
2. Once you have loosened the assembly, spin it off with your hands. If the cleaning head is difficult to remove, you may use a  $\frac{3}{4}$ " socket wrench on the exposed center nut.



## **Replacing the Felt Seal:**

A worn or "dried out" felt will not form a proper vacuum seal. This will impair the extraction capabilities of the unit. Therefore, the carpets are left more wet than is desirable.

1. Remove cleaning head assembly.
2. Make sure felt is saturated with oil to insure a proper seal.
3. Remove and reverse seal so that "new" face is against hub.  
**NOTE:** Alternating sides will temporarily extend the life of the felt. However, the seal may need to be replaced.

4. Reinstall head assembly.  
**NOTE:** When reinstalling the head assembly, you should be able to "feel" the felt compacting against the seal plate during the last quarter rotation of the head.

## **Removal of Vacuum Motor:**

1. Disconnect machine from power source.
2. Remove hose from end of vacuum motor.
3. Remove  $\frac{1}{4}$ -20 screws from the vacuum motor.
4. Lift motor.
5. Disconnect wires at terminal clips.

## **Removal and Re-Installation of Solution Pump:**

1. Disconnect machine from power source.
2. Check that all water has been evacuated from unit.
3. Disconnect  $\frac{1}{2}$ " hoses on either side of pump.
4. Remove four (4) 10-24 screws and nuts mounting pump to side of frame.

**Removal and Re-Installation of Solution Pump (cont.):**

5. Disconnect wires at wire nuts.
6. Remake wire connections with new wire nuts.
7. Reinstall in reverse order.

**Removal of Flow Control Valve:**

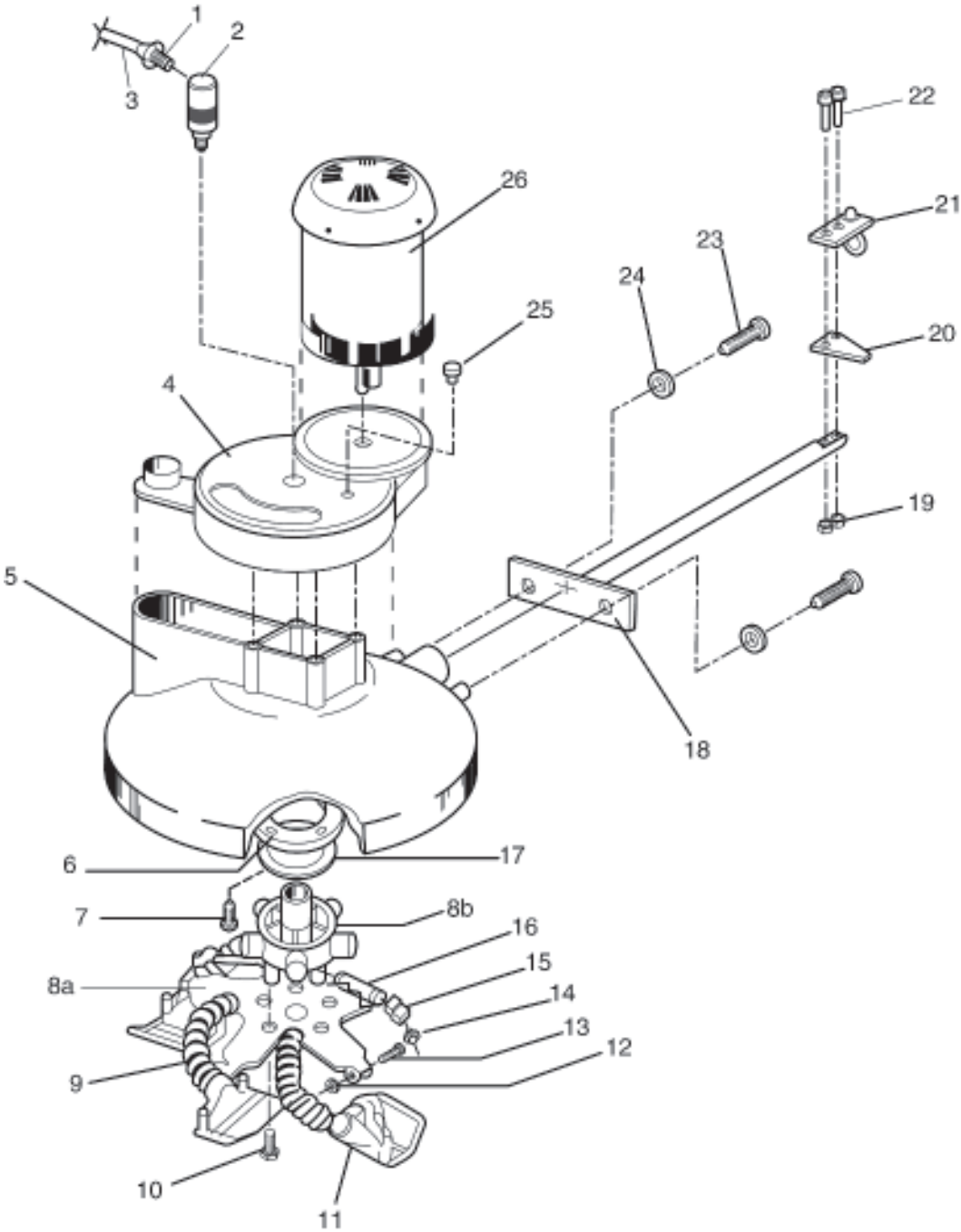
1. Disconnect machine from power source.
2. Evacuate all water from unit.
3. Disconnect ¼ " hose attached to valve.
4. Disconnect wires.
5. Unscrew the valve from the pump.
6. Lift complete valve assembly from unit.

**Removal of Cleaning Head / Pivot Frame Assembly:**

1. Disconnect machine from power source.
2. Remove vacuum hose attached to front of head.
3. Remove hose attached to rotary union.
4. Disconnect wires at rear of motor.
5. Remove control link from rear of shaft.
6. Loosen two (2) set screws in pivot bearing.
7. Remove spring from lifting mechanism.
8. Pull head forward to disengage from frame.

# *Machine Parts*

Figure 1-1 RX Express Head Assembly



## RX Express III Head Assembly

ITEM	PART NO	DESCRIPTION	QTY
1	000-052-099	Insert, #26	1
2	000-052-276	Rotary Union, 1/8" NPT	1
3	000-068-017	Hose, 3/8" Rubber	4 <sup>3</sup> / <sub>16</sub> Ft
4	000-059-001	Gearbox, Complete - Spur	1
5	000-006-009	Base, High Speed	1
6	000-105-008	Plate, Cast Base - Seal	2
7	000-143-166	Screw, 1/4"- 20 x 1" s/s Button-hd Cap Screw	1
8a	000-107-089	Star, Stainless Steel Heat Treated	1
8b	000-107-020	Hub, Double Thread RX Vacuum	1
9	000-068-174	Hose, 1" ID Gray - Vacuum	5
10	000-143-012	Screw, 5/16 - 18 x 3/4" s/s Hex Hd Cap Screw	5
11	000-064-012	Head, RX Skid Assembly	5
12	000-094-009	Nut, 1/4 - 20 s/s Nylok	5
13	000-143-162	Screw, 5/16"x 1", 1/4 - 20 s/s Stripper	5
14	000-076-079	Jet, 95015 Quick Release	5
15	000-052-089	Elbow, 1/8" Brass Female	5
16	000-052-080	Nipple, 1/8" x 4" Brass	5
17	000-057-047	Gasket, Felt Hub	1
18	000-055-057	Frame, Pivot	1
19	000-094-009	Nut, 1/4 - 20 s/s Nylok	2
20	000-085-012	Link, Torsion Bar	1
21	000-015-145	Bracket, Auto Floor Scrub Hitch	1
22	000-143-080	Screw, 1/4 - 20 x 1" s/s Socket Hd Cap Screw	2
23	000-143-096	Screw, 3/8 - 16 x 3/4" s/s Hex Hd Cap Screw	5
24	000-174-021	Washer, 3/8" Lock	12
25	000-106-014	Plug, Gearbox Vent	1
26	604-052-013	RX Express III Electric Motor Assembly	1

Figure 1-2 RX Express Main Assemblies

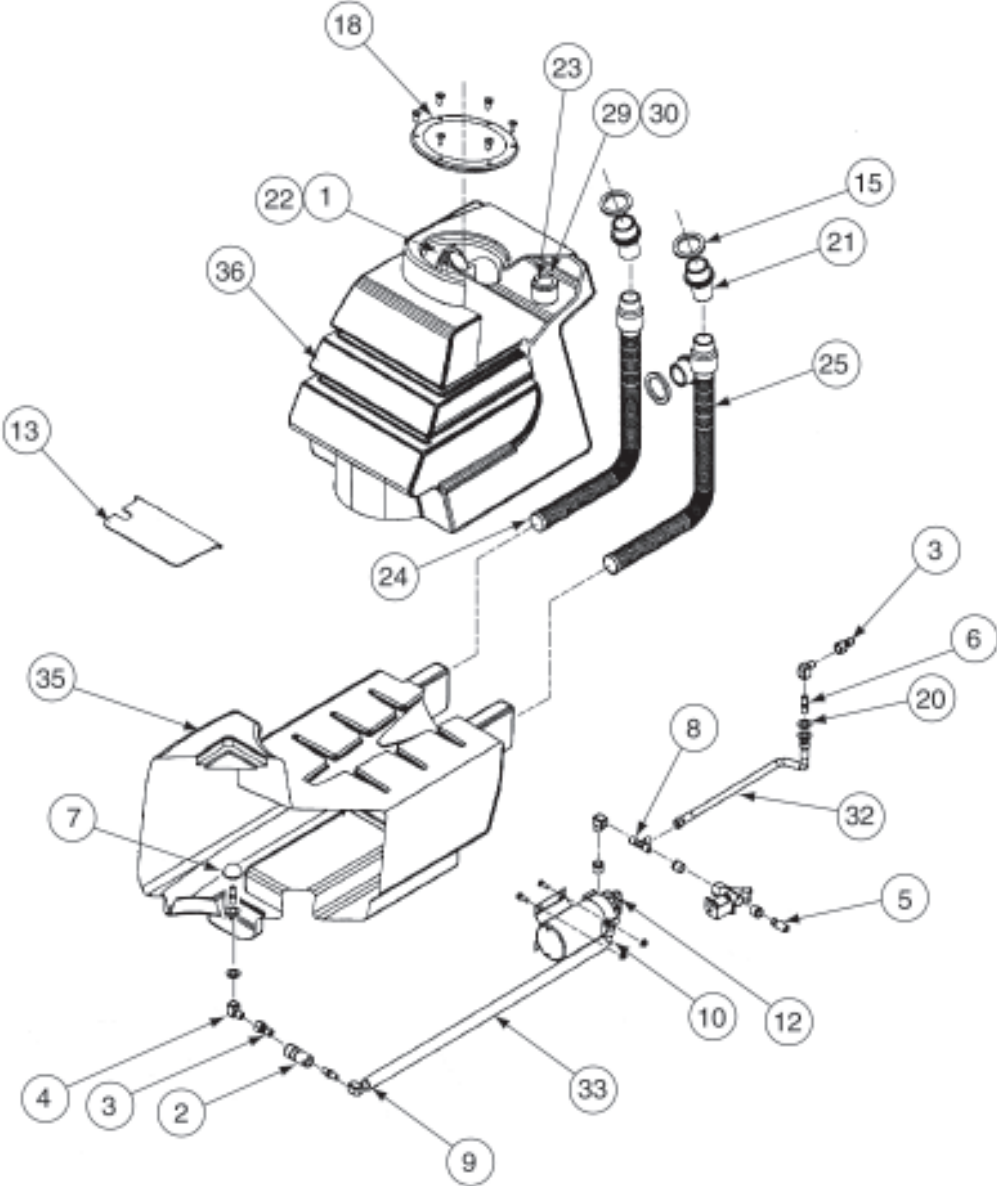


Figure 1-3 RX Express Main Assemblies

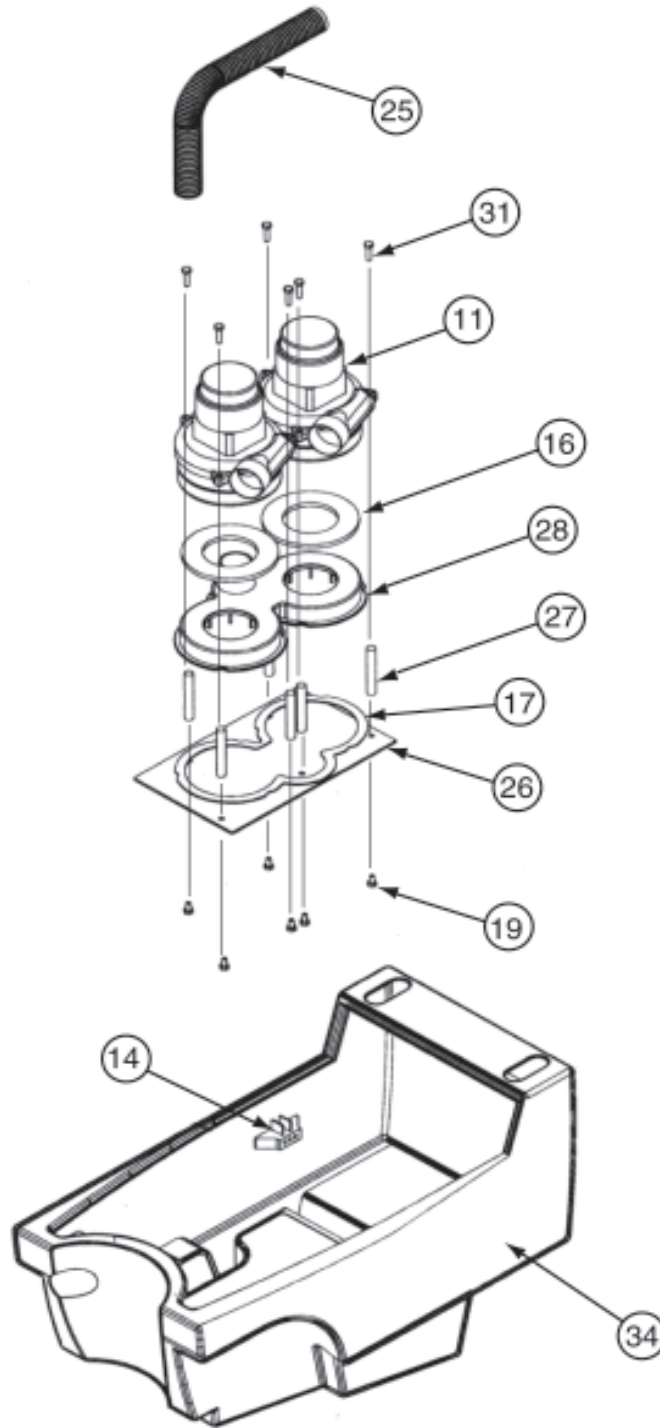
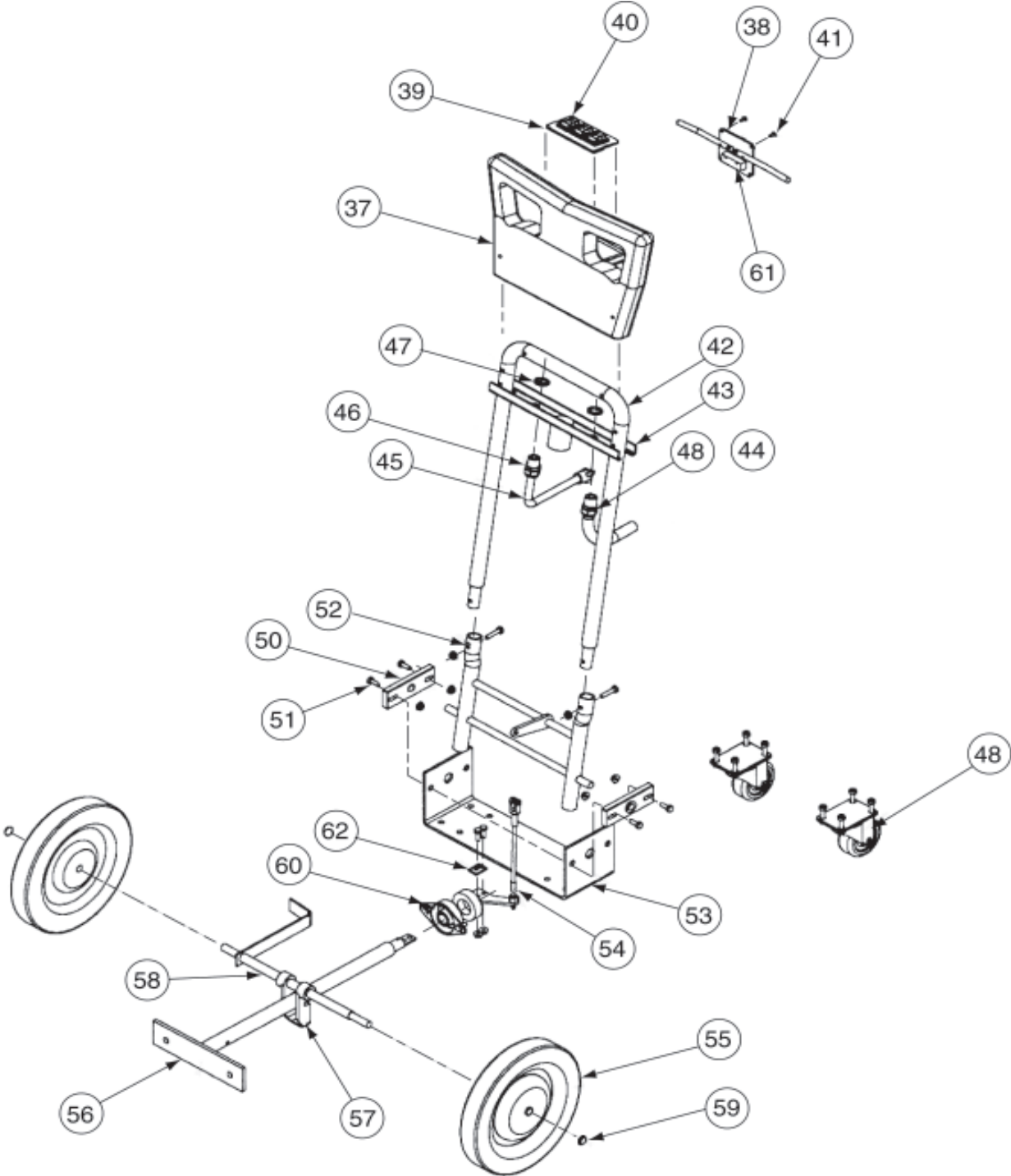


Figure 1-4 RX Express Handle Assembly



## RX Express III Parts List

ITEM	PART NO	DESCRIPTION	QTY
1	H243	PVC 90° 1-½ FMT x FMS	1
2	B102	Q.D. ¼" Female	1
3	B101	Q.D. ¼" Male	2
4	B103	90° ¼" M x FM	3
5	B105	Bushing, ¼" x ⅜"	3
6	B107	Hex Nipple, ¼"	2
7	B119	Suction Strainer	1
8	B135	Tee, ¼" Male	1
9	B160	Hose Barb, ½" x ⅜"	1
10	B172	½" Barb x ⅜" MPT Elbow	1
11	C301	Vacuum Motor (2STG) 115v	2
12	C307	60 PSI Pump, 115v	1
13	CM113	Solution Tank Lid	1
14	E525	Terminal Block	1
15	G001	Gasket, Thin 1-½" ID	3
16	G004	Vacuum Gasket	2
17	G041	Gasket, Dual Manifold	1
18	G056	Deck Plate Vacuum Lid	1
19	H201	¼"-20 x ½" bolt	6
20	H212	Washer, Flat 1" O.D. x ⅑" I.D.	4
21	H229	Inlet, Black 1 ½"	3
22	G009	Plastisol Boot	1
23	H244	PVC Adaptor, 1 ½" M x FM	2
24	H624	Vacuum Hose Wire Rein., 1 ½" x 60"	1
25	H623	Vacuum Hose Wire Rein., 2" x 42"	1
26	H601	Vacuum Mounting Plate	1
27	3 ⅛"	Threaded Vacuum Support	6
28	P750	Parallel Vacuum Manifold	2
29	G003	Foam Filter	1
30	G014	Filter Screen	1



**RX Express III Parts List**

ITEM	PART NO	DESCRIPTION	QTY
31	H342	¼-20 x 1" Bolt	12
32	AH104	Solution Hose, 15 ¾	1
33	AH110	Solution Hose, 15 ¾	1
34	CM101	Base	1
35	CMP102	Solution Hose Tank	1
36	CMP103	Vacuum Tank	1
37	CMP104	Handle	1
38	CM003A	Switch plate, Momentary (RX)	1
39	CM117	Switchplate	1
40	E515	Switches, Rocker	1
41	H297	Screw, No. 8 x ½" Sheet Metal	4
42	CM111	Upper Handle	1
43	CM112	Handle Brace	1
44	H372	Conduit, Flexible, 22"	2
45	E550	Power Cord 12/3, 30"	1
46	H220	Fitting, Strain Relief	1
47	H221	Nut, Steel Lock	1
48	H352	Connector, Heyco Straight	1
49	H252	Caster, 4"	2
50	CM119	Bearing, Block, ½"	2
51	H202	Bolt, 1/1-20 x ¾"	13
52	CM110	Lower Handle	1
53	CM109	Bracket, Handle	1
54	H628	Clevis Assembly	1
55	H392	10" Rear Wheel	2
56	CM107	Lift Bar	1
57	CM115	Bracket, Lift Lower	1
58	CM108	Axle/Lever Assembly	1
59	H219	Axle Cap, ½"	2
60		Bearing, Pillow Block	1

## RX Express III Parts List

ITEM	PART NO	DESCRIPTION	QTY
61	CM006	Switch, Momentary	1
62	CM118	Squeegee Adaptor Plate	1
63	CM116	Plate, Torsion Link	1
64	H316	Bolt, 1/1-20 x 1 1/2"	4
65	H217	Clamp, Hose H28	2

## Not Shown:

## For 230 Volt Units

13	C303	Vacuum Motor, 230v	2
14	C306	Pump, 230v	11
	E530	Power Cord, 12/3 50'	1
	G029	Connector, Push/Twist	1
	H296	Guard, Wire Formed (Fan)	1
	G126	Recovery Tank Drain Hose	
	H633	Recovery Tank Drain Hose Plug	
	CM103A	Momentary Switch Assembly	

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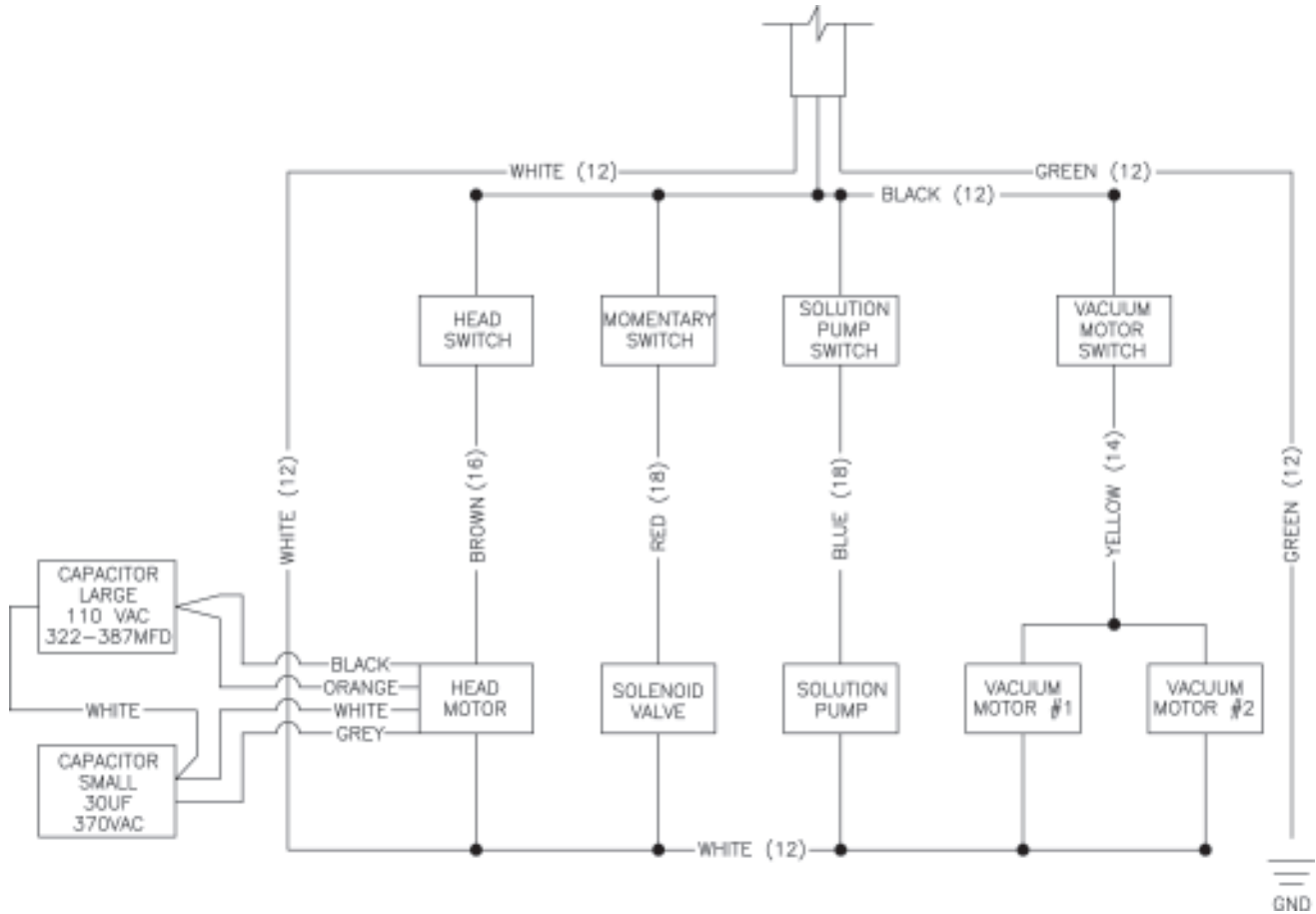
## *Accessory Parts List*

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<i>PART NO</i>	<i>DESCRIPTION</i>
068-194	Hose, 1 ½" x 15' Vacuum
068-332	Hose, 15' F x F Solution
079-053	Kit, Auto Scrubber with Brush Assembly
079-054	Kit, Auto Scrubber with Pad Driver
163-023	CM-1 Deluxe Upholstery Tool with LP Valve
164-020	CM-CHSV Upholstery Tool 4", Closed Head, 1 ½" DIA
100-011-101	CM S11A Carpet Wand 11" LP Powder Coated, 1 ½" s/s
190-041-020	Rotary Extractor Pad Driver with Hub
190-041-021	Rear Assembly, Auto Floor Scrubber
190-041-022	Rotary Extractor Brush Assembly with Hub

# Wiring Diagram

Figure 1.5 RX Express Wiring Diagram  
D4551 Rev –



# *Warranty Repair Policy*

When requesting warranty information, call or write and provide the following information:

1. When and where the equipment in question was purchased.
2. Model and serial number of the machine.
3. Part number and description of the part.
4. Description of failure or defect.

Upon receipt of the above information, a **Material Return Authorization** will be issued.

All packages should be prepaid and clearly marked with the Material Return Authorization Number. If these conditions are not met, shipment will be refused.

After evaluation, the item(s) will be repaired or replaced at our discretion.

If failure or defect is the result of physical abuse, or if the warranty period has expired, repairs will be charged to the customer.

For service, contact the distributor where the machine was purchased or call our Customer Service Department.

Monday through Friday • 8:00 am to 5:00 pm PST

Parts:	(425) 775-7276
Service:	(425) 775-7275
Parts and Service FAX:	(800) 426-4225



PST



ROCK MTN.



CENTRAL



EASTERN

