



## **Electronic Service Manuals**

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**Parts and Instruction Manual  
R500H Rush Carpet Extractor**

Model R500H

<b>Models</b>	<b>Rush 500H</b>
<b>Solution Tank</b>	12 gallon
<b>Recovery Tank</b>	11 gallon
<b>Vacuum Motors</b>	Dual 2-stage
<b>Solution Pressure</b>	500 psi
<b>Water Lift</b>	150"
<b>Tank Construction</b>	Polyethylene
<b>Baseplate</b>	¼" aluminum
<b>Rear Wheels</b>	10" non-marking
<b>Casters</b>	4" locking
<b>Power Cord</b>	Dual 50 ft. detachable
<b>Dimensions</b>	35"H x 31"L x 18"W
<b>Weight</b>	106 lbs.
<b>Shipping Weight</b>	123 lbs.
<b>Shipping Dimensions</b>	36.5"H x 31.5"L x 19"W
<b>Electrical Draw</b>	17.1 amps/15.9 amps
<b>Heater</b>	Detachable – 2000 W
<b>Vacuum/Solution Hose</b>	25'
<b>Carpet Wand</b>	Dual Jet/S-bend Stainless Steel

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**UNPACKING YOUR NEW R500H:** When your package is delivered, check the carton carefully for signs of rough handling. If your R500H is damaged, notify the carrier immediately and request an inspection. Be sure to keep the carton, packing inserts, packing lists and carrier's receipt until the inspector has verified your claim.

MINUTEMAN's liability ceases when the carrier picks up the shipment. However, our customer service staff will be happy to furnish any information needed in connection with the claim and will attempt to expedite a resolution.



**PLEASE READ BEFORE OPERATING YOUR NEW R500H:**

Read the manual carefully and completely before attempting to operate the unit. This manual has important information for the use and safe operation of the machine. Keep this manual handy at all times.

This equipment has been engineered and manufactured to provide excellent performance and service. To ensure that your equipment will continue to perform as intended:

- Maintain equipment regularly- following the suggested maintenance schedule provided.
- Use only original MINUTEMAN parts when servicing.
- Operate equipment with care.

If additional information is needed, please contact:  
**MINUTEMAN INTERNATIONAL 630- 627-6900**

All information and specifications printed in the manual are current at the time of printing; however because of MINUTEMAN's policy of continual product development, we reserve the right to make changes at any time without notice.

### **FAILURE TO COMPLY WITH THE FOLLOWING WARNINGS AND INSTRUCTIONS WILL VOID THE WARRANTY.**

#### **WARNING!**

- The machine was designed for use on carpet cleaning applications as per instructions and recommendations written in this manual. Any deviation from its proper use or purpose and the consequential damage that may occur is the sole responsibility of the end user.
- Disconnect the power cord from the outlet before servicing. Do not leave machine connected to an electrical outlet when unattended.
- Do not immerse or use this machine in standing water. Such use may cause electric shock.
- When using an extension cord, use only a 3-prong conductor grounding cord-12 gauge wire or heavier.
- To avoid electric shock, do not expose the unit to rain or snow. Store it indoors in a heated location only.
- Do not use the machine for dry vacuuming.
- Use defoamer at all times to prevent damage to the vacuum motor.
- Do not use water in excess of 130°F (54°C) in the solution tank
- To prevent seal damage and chemical build-up to the pump system, run clean water through the solution lines after each day's use.
- Use only commercially available carpet cleaning solutions and defoamer intended for use with machines of this type. Do not use dyes, bleaches, ammonia, or other additives.
- The use of powdered cleaning solution, if not diluted properly, may result in damage to the pump. Powdered chemical is not recommended. If powdered chemicals are used, premix in a separate container before placing in the solution tank.
- Always read and understand your chemical's MSDS (Material Safety Data Sheet) before use.
- This equipment is not designed to handle or use combustible/volatile substances such as gasoline or kerosene, in, on, or near the machine. The use of such materials will cause extreme hazardous condition.
- Do not expose machine to freezing temperatures.

- All repairs must be done by an authorized MINUTEMAN repair station.
- Do not use replacement parts other than original MINUTEMAN parts.
- Do not allow your spray stream to remain in one fixed location as surface damage may occur.
- Check that all spray nozzles are securely fastened. Loose nozzles could be ejected from equipment at high speeds.
- This is not a toy. Keep away from children.
- Do not pull by the power or use power cord as a handle. Always unplug by grabbing the plug and pulling, do not unplug by pulling the power cord.
- Inspect cord for damage. Do not use damaged cords. Connect only to properly grounded outlets.
- Keep hair, fingers, loose clothing, and body parts away from moving parts and openings.
- Turn off all controls before disconnecting machine
- Use caution with ejected liquid or chemicals. High pressures and temperatures could be hazardous to nearby people or surroundings.
- Do not run the heater dry. always make sure you have water
- Do not expose heater to freezing temperatures.
- Prevent burns by wearing gloves or using a barrier to remove hot quick disconnects.
- Never leave heater or equipment unattended when connected or powered on.
- The accessory heater was designed for use on R100H extractors for carpet, floor and upholstery extraction applications. Any deviation from its proper use or purpose and the consequential damage that may occur is the sole responsibility of the end user.



### **ELECTRICAL - 115 Volt**

#### **Model: R500H**

This machine is designed to operate on a standard 15 amp, 120 volt, 60 Hz, AC circuit. Voltages below 105 volt AC or above 125 volts AC could cause serious damage to the motor.

## GROUNDING INSTRUCTIONS:

This piece of equipment must be grounded. Should an electrical malfunction occur, grounding provides a path of least resistance for electrical current- reducing the risk of electric shock. This piece of equipment is furnished with a cord that has a grounding conductor and grounding plug. The grounded plug must only be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

### WARNING:

Connecting the equipment to an improperly grounded outlet can result in an increased risk of electric shock. A qualified electrician should be consulted if you are unsure that the outlet is properly grounded. Do not modify the plug provided with the equipment. If it will not fit the outlet, have a proper outlet installed by a qualified electrician.

This appliance is designed for use on a 120-volt circuit. The grounding plug provided looks like the plug illustrated in Figure 1. Replace the power cord if the grounding pin is damaged or broken.

Extension cords connected to this machine should be 12 gauge, three-wire cords with three-prong plugs and outlets. DO NOT use extension cords more than 25 feet (7.6 m) long

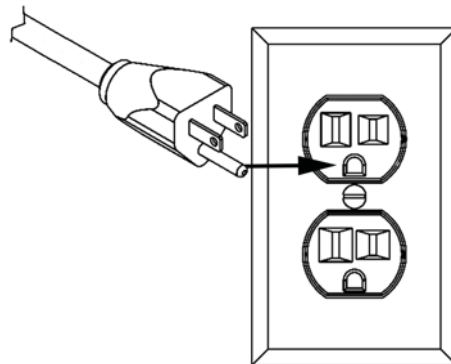


Figure 1

### MAINTENANCE:

This R500H has been engineered and built to require minimum maintenance. But like any machine, it does require some care to keep it in optimum working condition. Careful attention to these maintenance instructions will give you maximum operating performance and life expectancy of the machine.

**CAUTION: Disconnect the power cord from the outlet before doing any clean up or maintenance on the machine**

- Keep the machine clean. Do not allow dust to accumulate on external surfaces or near any moving parts.
- After every job, wipe down the surface of the machine with a clean damp cloth.
- Inspect cord for damage. Do not use machine with a damaged cord.

### PERIODIC MAINTENANCE

- Use only chemicals safe for extractors
- Adhere to the appropriate mix ratios for all chemicals
- For optimal performance, it is suggested that the operator flush the system after every job or at the end of the day.
- Pump seals and valves may need to be replaced at the 1000 hour mark if a loss in pressure is noted

#### Daily:

1. Always keep the machine clean inside and out.
2. Pour 2 gallons of clean hot water in the solution tank. Turn the pump on and flush the entire system through the wand nozzles for about a minute to prevent alkaline build-up.
3. Remove dirt and lint build-up inside the filter screen in the recovery tank. Lint should be cleaned off so that air flow is not impeded.
4. Check the solution tank strainer in the solution tank. If lint has accumulated in the screen, remove and rinse it in clear running water.

#### Weekly:

1. Check and clean solution filter
2. Check for obstructions in vacuum pathway

#### Quarterly:

1. Check pump, plumbing and fittings for leaks
2. Check power cords and hoses for tears

### **CORD STORAGE:**

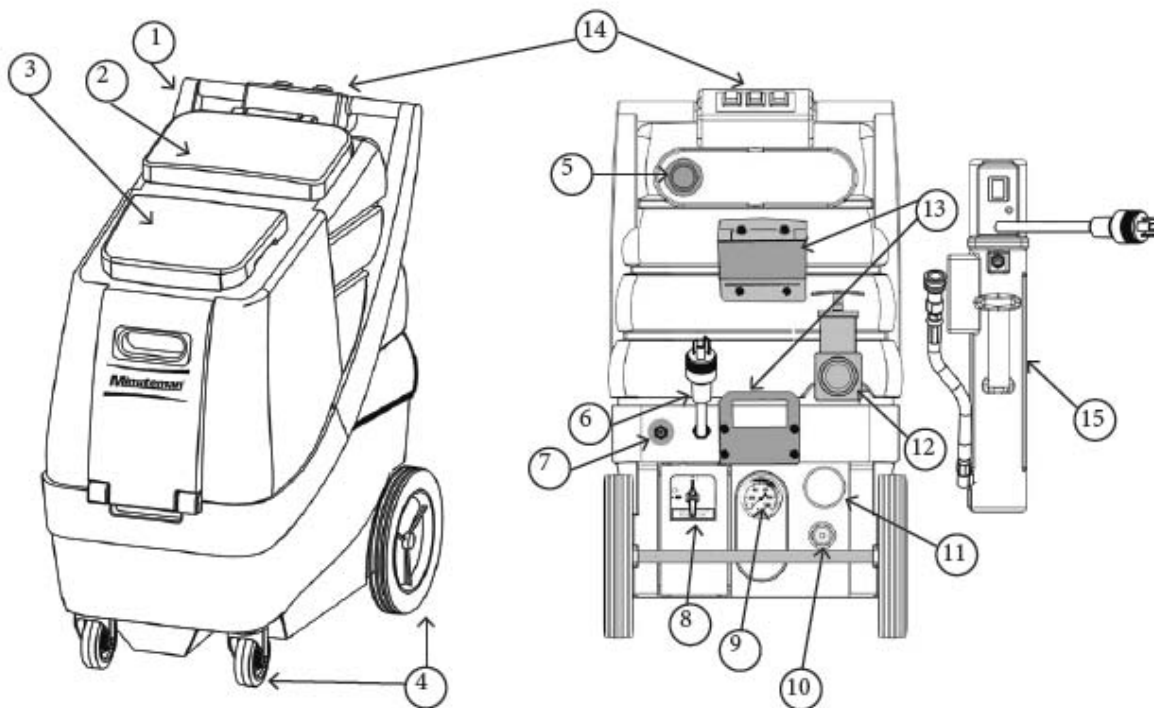
While not in use, storage can be accomplished by winding cord around handle assy. Cord should be completely unwound during operation.

### **CORD SAFETY**

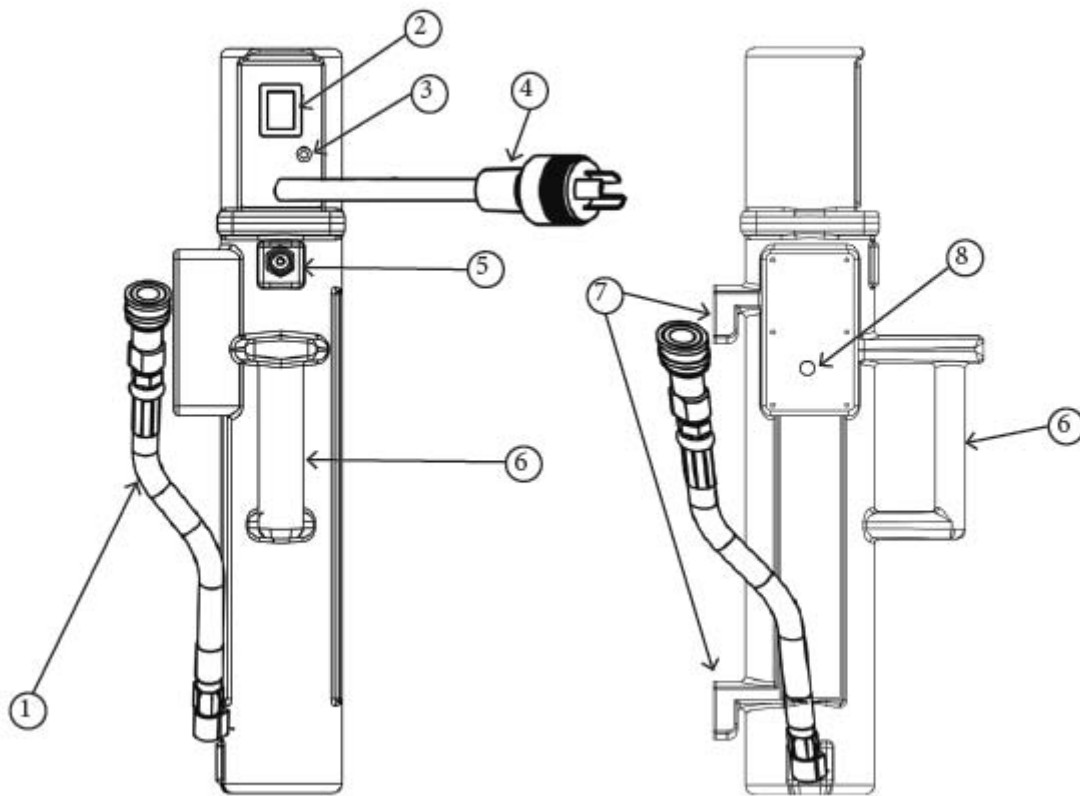
- Do not leave appliance when plugged in. Unplug from outlet when not in use and before servicing
- Do not use with damaged cord or plug. If appliance is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, return to service center for inspection and repair.
- Do not pull or carry by cord, use cord as handle, close a door on cord, or pull cord around sharp edges or corners. Do not run this R100H over cord. Keep cord away from heated surfaces.
- Do not unplug by pulling cord. To unplug, grasp the plug, not the cord.
- Do not handle plug or appliance with wet hands.
- This equipment should be stored indoors and not exposed to rain.

## MACHINE OVERVIEW

1. Handle- Used to maneuver and position the R500H.  
Contains switch box (for switchbox, see #12).
2. Recovery tank and lid- Tank collects recovered waste water. Lid allows access to recovery tank and creates a seal to ensure suction.
3. Solution tank and lid- Tank used to store clean water or solution for your job. Lid allows access to the solution tank and prevents external contamination of solution tank.
4. Non-marking front 4" locking casters and rear 10" wheels.
5. Recovery/vacuum hose inlet barb- connect your recovery vacuum hose to this barb.
6. Male twist lock pigtail- Connects to 50ft power cord.
7. Solution line Q.D.- Pressurized connection for solution line.
8. Pressure Relief/ Power Prime
9. Pressure Gauge
10. Pressure regulator
11. Cool air intake for vacuum.
12. Recovery tank dump valve
13. Heater mounting brackets.
14. Switch box- one switch marked "VACUUM" and one switch marked "PUMP".
15. Heater



1. INLET QUICK DISCONNECT AND HOSE- Connects to machine's outlet.
2. POWER SWITCH.
3. LAMP- Indicates when heat element is on and working.
4. TWIST LOCK PIGTAIL- This connects to the female twistlock plug on the rear of the R500H.
5. OUTLET QUICK DISCONNECT- Connects to working solution line.
6. HANDLE- Used to hold and transport the heater
7. MOUNTING FEET- Used to engage the mounting brackets on an R500H extractor and secure the heater.
8. RESET ACCESS POINT- Allows access to the breaker switch in the event the unit has been run dry.



### How to use an accessory heater:

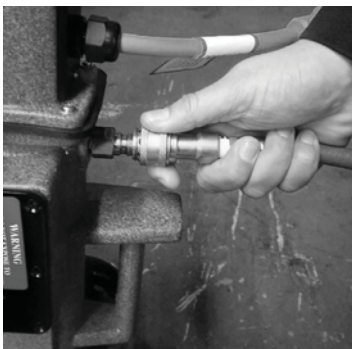
1. Fill the solution tank of your R500H extractor with sufficient water or solution for the task at hand. Do not use water over 130 degrees F.
2. Mount the Heater by lining up the two “legs” (#7 on page 11) to the two mounting brackets on the rear of the machine (#11 on page 10)



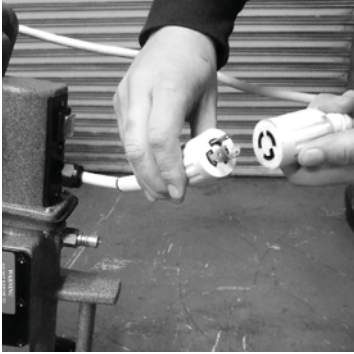
3. Connect your heater's inlet hose (#1 on page 11) to the machine's outlet quick disconnect (#6 on page 10).



4. Connect your 25ft solution hose to outlet quick disconnect (#5 on page 11).



5. Your R500H has two cords- One for the Extractor and one for the heater. Each cord requires a separate 15AMP circuit. Connect your 50FT power cord to the twist lock pigtail on the heater (#4 on page 11). Plug another 50ft power cord to the twist lock pigtail on the back of the machine (#6 on page 10)



6. Connect your 25ft vacuum hose to the extractor's vacuum inlet barb (#5 on page 10)
7. Connect your vacuum and solution line to a carpet wand or Upholstery attachment
8. COMPLETE THIS STEP BEFORE TURNING HEATER ON: Turn the pump switch to the "ON" position using the pump switch on the handle of your R500H. Pressing the solution valve trigger of your attachment, spray water for 10-15 seconds until you have a steady flow. This ensures the heater is filled with fluid
9. Turn heater on using the power switch (#2 on page 11) and allow up to 3 minutes for the unit to heat up.
10. The heater is ready for use once the green lamp (#3 on page 11) shuts off. Once you start cleaning, the green lamp will turn on and off throughout your job as the thermostats automatically regulate the temperature.

### CLEANING CARPET

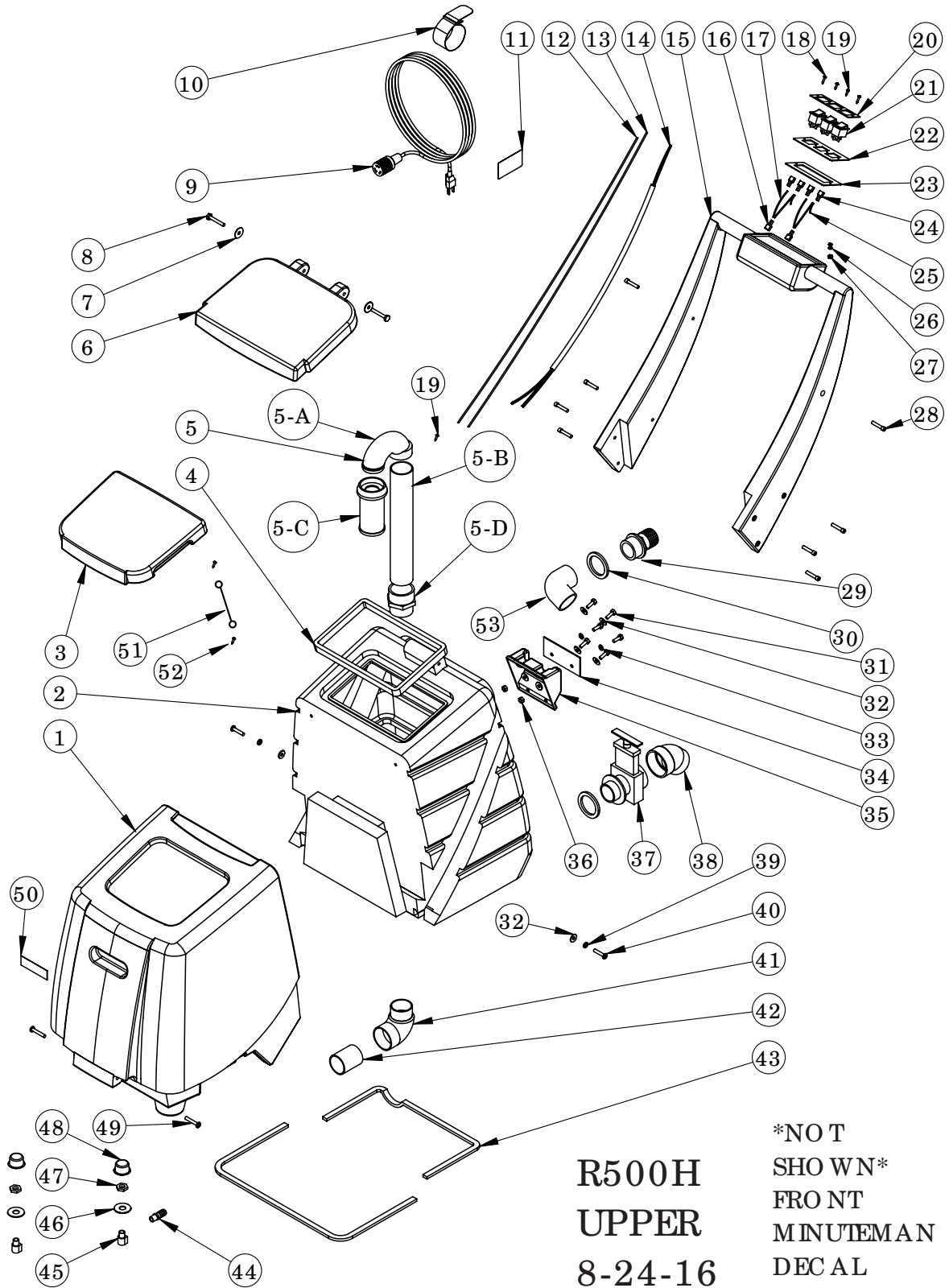
1. Using a dedicated dry vacuum, pre-vacuum the space to be cleaned to remove as much dirt as possible. Do not use the extractor to dry vacuum as it does not have a dry filter.
2. Pre-spray the carpet
3. See steps 1-11 in section “Accessory Heater”
4. Make sure the drain valve (#10 on page 10) is closed by pushing the T-handle all the way in.
5. Always use de-foamer- Previously shampooed carpets usually have a heavy build-up of old shampoo residue which can cause the vacuum system to ingest foam and result in damage to the vacuum motor.
6. With the vacuum and pump switches in the “ON” position, slowly pull the tool towards you with the solution valve trigger pressed. Make a dry pass forward and backward over the cleaned area to recover residual dirt and solution.
7. Do not overwet carpet! Make overlapping passes to prevent streaking.
8. If the carpet is heavily soiled, squeeze solution valve trigger on the forward pass as well as backwards, allowing cleaning solution a few seconds longer to work prior to vacuuming. Another method is to raise the wand 8” above the carpet and pre-spray lightly prior to cleaning passes. On extremely soiled carpets, we recommend using a pre-spray solution.
9. When you are close to running out of solution, turn off the pump and the heater. Attach the drain elbow on the drain valve. Place a pail under the downspout and pull up the drain valve T-handle. Dirty solution will pour out until the tank is empty. Close the drain valve. Use a clean bucket when you refill the solution tank so you do not create contamination.
10. When the job is completed, turn the switches off, including the heater, and disconnect the vacuum and solution hoses from the carpet tool and the machine. Drain the recovery tank through the drain valve as before.

### **CLEANING UPHOLSTERY:**

Cleaning upholstery with success requires a good knowledge of the type of fabric to be worked on. Look for the cleaning instruction label sewn on the underside of the furniture for the recommended method of cleaning the fabric. If it calls for dry cleaning, do not attempt to clean with the wet extraction method. Otherwise, damage to the fabric could occur. Extraction works perfectly on most synthetic fabrics including synthetic velvets.

Before proceeding, test the fabric for colorfastness. Apply a small amount of ready-to-use cleaning solution on the fabric in an inconspicuous spot. Wait for 2 to 3 minutes and rub the area with a white terry cloth towel. If no color comes off the towel, the fabric should be safe to clean. If a little color comes off, there is some risk of colors running when you clean. It may be possible to stabilize colors by cleaning with an acidic rinse.

1. Using a dedicated dry vacuum, pre-vacuum the space to be cleaned to remove as much dirt as possible. Do not use the extractor to dry vacuum as it does not have a dry filter.
2. See steps 1-11 in section “Accessory Heater”
3. Make sure the drain valve (#10 on page 10) is closed by pushing the T-handle all the way in.
4. Attach an upholstery tool to the hose set.
5. Always use de-foamer. Previously cleaned upholstery may have a heavy build-up of old shampoo residue which can cause the vacuum system to ingest foam and result in damage to the vacuum motor.
6. With the vacuum and pump switches in the “ON” position, slowly pull the tool backward with the solution valve trigger pressed. Make a dry pass forward and backward over the cleaned area to recover residual dirt and solution.
7. Clean using as little solution as possible. Do not overwet the upholstery! Make overlapping passes to prevent streaking.
8. On heavily soiled areas like arm rests, pre-treat with a recommended pre-spray and /or hold the upholstery tool a few inches above the fabric and press lever to spray on the solution before making a pass.



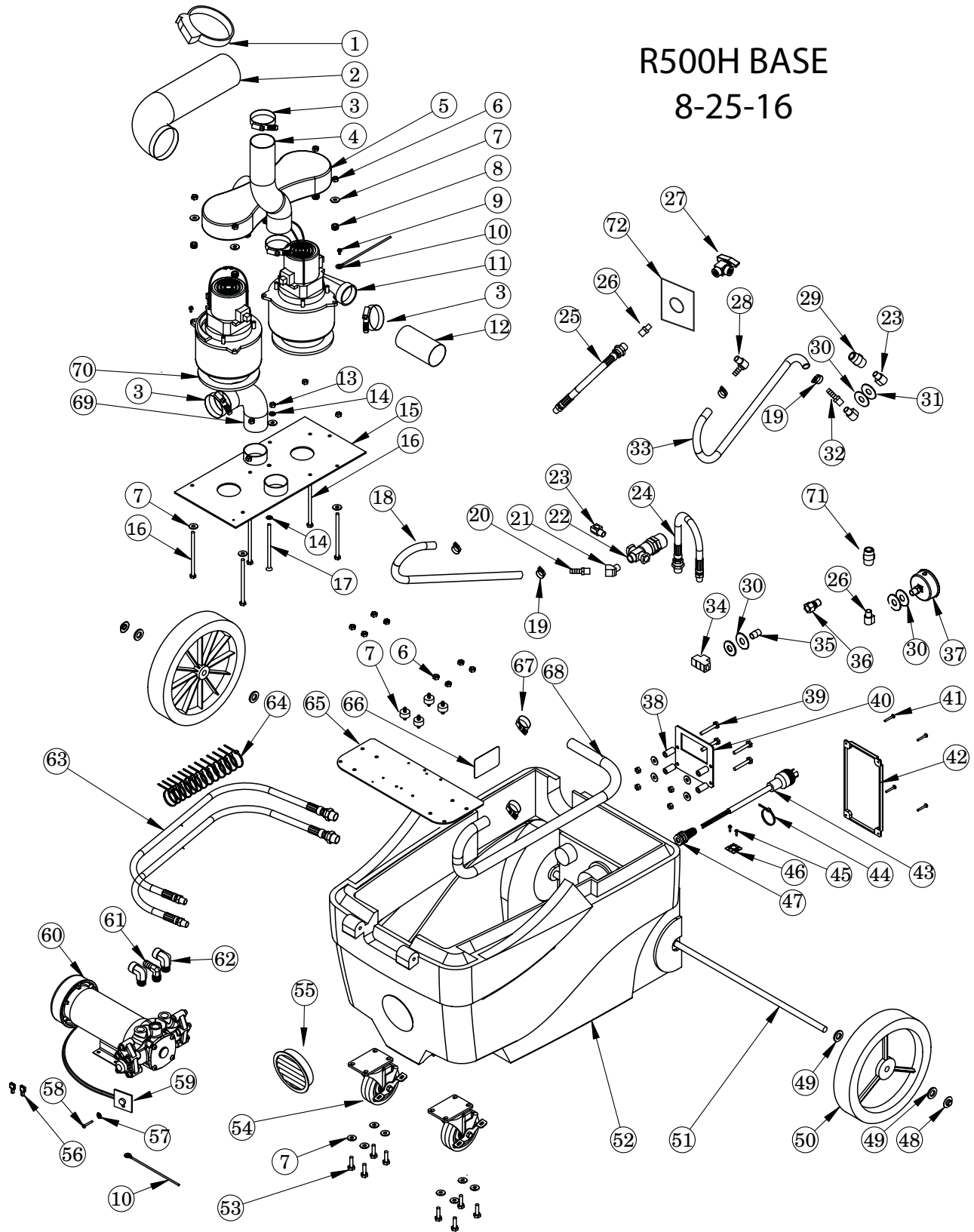
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DECAL  
PART# H13699

# UPPER ASSEMBLY BOM

BILL OF MATERIAL							
ITEM	PART NO.	QTY	DESCRIPTION	ITEM	PART NO.	QTY	DESCRIPTION
1	F11787-MM	1	SOLUTION TANK	26	C02315	2	LOCKWASHER, #10 INT. STR, SS
2	F11788-MM	1	RECOVERY TANK	27	C00264	1	NUT, 10-32
3	F11791-MM	1	LID, SOLUTION TANK	28	C11141	8	SCREW, ALLEN HEAD, 10-24 X 1.25 IN
4	E11124	1	GASKET, RECOVERY TANK	29	K00665-1	1	HOSE ADAPTER, 1.5IN, BLACK
5	12904A	1	STAND PIPE ASSEMBLY	30	E11128	2	GASKET, DRAIN VALVE
5A	K11965	1	ELBOW, 180 DEG. FLOAT BALL	31	C00313	6	HEX BOLT, .25 X 20 X .75
5B	K00672	1	PVC PIPE, 1.5 X 12 IN, SCH 40 WHT	32	C00233	8	WASHER, FLAT, .25 IN
5C	10989-2A	1	FLOAT BALL SCREEN	33	C02312	2	LOCKWASHER, .25 IN., INTERNAL STAR
5D	K00741	1	ADAPTER	34	D010283	1	PLATE, HEATER MOUNTING
6	F11785-MM	1	LID, RECOVERY TANK	35	F11804	1	HEATER MOUNT
7	C12039	2	WASHER, 1/4 X 1, SS	36	C00261	2	NUT, .25-20, HEX
8	C02322	2	1/4 X 20 BOLT	37	K00711	1	DRAIN VALVE, BLACK
9	B11769	1	EXTENSION CORD, 12-3 SJTW	38	K00710	1	ELBOW, DRAIN VALVE, BLACK
10	B12915	1	VELCRO STRAP	39	C00254	2	LOCK WASHER, 1-4IN SPLIT
11	H02548-2	1	LABEL, IMPORTANT, CORD	40	C02294	2	SCREW, 1/4-20 X 1.25
12	B00185-30	1	WIRES, 73 IN	41	K11185	1	ELBOW, 90, 1.5 IN, MT-MS, PVC
13	B00185-40	1	WIRES, 73 IN	42	K00672-1	1	PVC PIPE, 1.5 X 2.25 IN,
14	B010314	1	WIRE HARNESS	43	E11129	1	GASKET, BASE
15	F11786-MM	1	HANDLE	44	A90004	1	.50 BARB X.25 MP, BRASS
16	B00177	2	TERMINAL LUG, FEMALE, QD, .25 X .032, 16-14 AWG, FULLY	45	A00052	2	.25 X .375 M-F 90 DEG
17	B00185-40	1	WIRE, 14 GA BLACK, UL1015, 5 IN	46	C11244	2	WASHER, .56 X 1.5 X .05
18	C00295-1	2	#10 X .75IN PAN, BLACK SMS, PHILLIPS	47	A00124	2	HEX NUT, .25 NPT BRASS
19	C00293	2	#8 X .5IN PAN, BLACK SMS, PHILLIPS	48	D00373	2	INLET FILTER, .25 NPT
20	D11168	1	COVER, SWITCHPLATE,	49	C11143	2	SCREW, 1/4-20 X 1.5 IN, SS
21	B02211-1	3	SWITCH, ROCKER, GREEN LIGHT	50	S11179	1	NON-SKID TAPE, 1 IN. ROLL
22	D010284	1	SWITCHPLATE	51	C00311	2	SCREW, 8-32 X 3/8
23	E010453	1	GASKET, SWITCH BRACKET	52	D13153	1	STAINLESS STEEL LANYARD
24	B00177-1	4	TERMINAL LUG, FEMALE, QD, .25 X .032	53	K00666	1	90 ELBOW, SCHD 40, 1.5"
25	B00185-30	1	WIRE, 14 GA WHITE, UL1015, 5 IN				

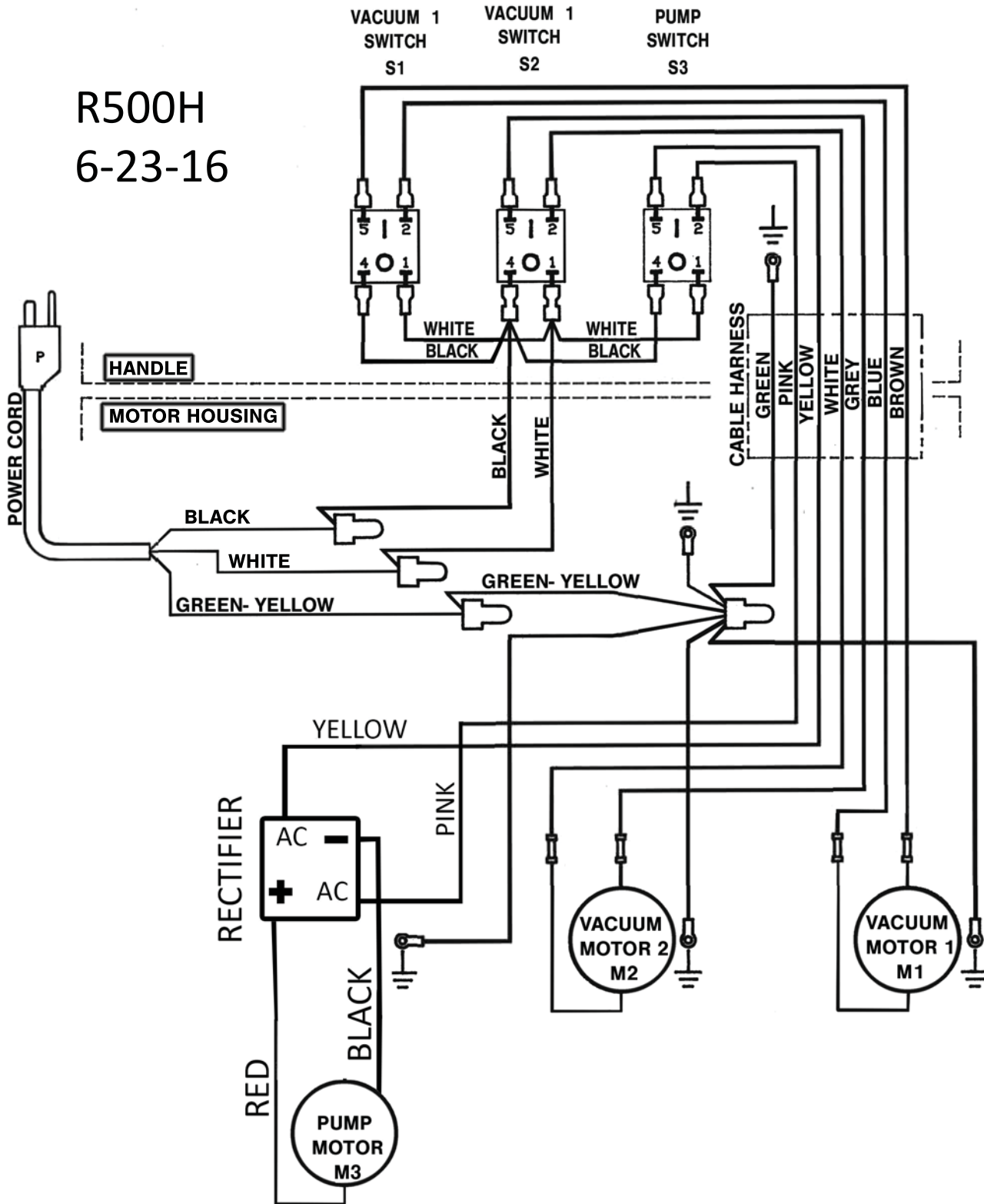
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# LOWER ASSEMBLY BOM

BILL OF MATERIAL							
ITEM	PART NO.	QTY	DESCRIPTION	ITEM	PART NO.	QTY	DESCRIPTION
1	J13152	1	DOUBLE GRIP HOSE CLAMP	37	G13051	1	GAUGE, 0 -1000PSI
2	J11863	1 ft	VAC EXHAUST HOSE, 2"	38	C11440	4	SPACER
3	J00639	4	SCREW CLAMP, 1.63 2.43IN.	39	C02322	4	HEX BOLT,1/4 X 20 X 1.75 IN
4	J00618	22"	HOSE, VAC BASE TO WASTE TANK	40	D010379	1	HEATER MOUNTING PLATE
5	F11178-BLK	1	INTERCOOLER, GALAXY, BLACK	41	C11165,	5	SCREW, #8 X 1 IN, PAN, BLACK
6	C00273	18	LOCKNUT, 1/4 X 20, NYLON, SS	42	F11790-MM	1	HEATER, TUNNEL COVER, BLUE
7	E13867	31	NEOPRENE SANDWICH MOUNT	43	B11779	1	STUB, 12-3 SJTW YELLOW
8	E00449	6	GROMMET	44	B00191	5	NYLON TIE, 11IN BLACK
9	C00284	2	SCREW, 10-32 X .375 GROUND	45	C00293	2	#8 X .5IN PAN, BLK SMS, PHILLIPS
10	B11150	2	GROUND WIRE, GALAXY	46	B00192	2	TIE HOLDER WITH GLUE
11	G00537	2	VACUUM, 115 V, 5.7 IN	47	B11606	1	STRAIN RELIEF, PIGTAIL
12	J0061	6"	8 VACUUM HOSE, 2 IN GREY	48	C02305	2	CAP NUT, .5IN PUSH-ON
13	C00261	12	NUT, .25-20, HEX	49	C00240	4	WASHER, SHOULDER, NYLON
14	C00254	1	LOCK WASHER, 1/4IN SPLIT	50	G11767	2	WHEEL, 10 IN
15	D11134-1	1	VAC PLATE	51	D11170	1	AXLE
16	C11189	5	SCREW, 1/4 X 20 X 4.5 IN, HEX	52	F11789-MM	1	BASE
17	C11516	1	SCREW, 1/4 X 20 X 4.5 IN, FLAT	53	C00314-1	8	HEX BOLT, 1/4 X 20 X 1IN
18	J11154	28"	HOSE, REGULATOR TO SOLUTION TANK	54	G03518-L	2	LOCKING CASTER, 4 IN
19	J00651	4	HOSE CLAMP 1-5/8 X 2-7/16	55	F13820	1	3" LOUVER
20	A00060	1	.25 MALE X .375 BARB, BRASS	56	B00177	2	TERMINAL LUG
21	A00053	1	45 ELBOW, .25MP X .25 FP	57	C11955	1	FLAT WASHER, #10
22	G13441	1	REGULATOR VALVE	58	C13026	4	SCREW 10-32 X 1 " HEX
23	A00052	4	90 ELBOW, .25MP X .25FP	59	B02229	1	BRIDGE RECTIFIER
24	00580 -10IN-MF-A	1	HOSE ASSEMBLY	60	G13872	1	PUMP, 500 PSI, 120V
25	00580 -12IN-MF-A	1	HOSE ASSEMBLY	61	A13430	1	90 E LBOW 3/8MP X .5B
26	A00114B	1	HEX NIPPLE 1/4MP X 1/8MP	62	A12917	2	90 E LBOW 1/4F X 3/8M NPT
27	G13380	1	PRESS. RELIEF/ POWER PRIME	63	J00632-1	2	PULSE HOSE, 32 IN
28	A00134	1	90 ELBOW, 1/4B X 1/8MP	64	B00190	12	NYLON TIE, 4IN
29	A13881		CHECK VALVE, 450 SERIES	65	D13866	1	PUMP MOUNTING PLATE
30	C11244	7	WASHER, .56 X 1.5 X .05	66	H02564-2	1	LABEL, CAUTION, MOTOR
31	C12021	1	WASHER, 9/16 ID	67	J11508	2	HOSE CLAMP #6 , 1/ 2 - 3/4
32	A00139	1	HOSE BARB 1/4MP X 1/4B	68	J11933	17"	HOSE SOLN. TANK TO PUMP "IN "
33	J11554-1	3 FT	HOSE PRESSURE RELIEF TO WASTE	69	J00618	7"	VACUUM HOSE EXHAUST TO PLATE
34	A00161	1	TEE, .25 FP, BRASS	70	E11169	2	GASKET, VAC MOTOR, GALAXY
35	A12960	1	.25X.25 HEX NIPPLE	71	A12964	1	1/4" X 1/4" HEX
36	A00104	1	QD, 1/4 M X 1-4 FP, BRASS	72	H13951	1	PRIMING LABEL

R500H  
6-23-16



<b>ELECTRICAL SYSTEM</b>
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PROBLEM	SOLUTION
NO ELECTRICAL POWER	<ol style="list-style-type: none"> <li>1. Defective power cord.</li> <li>2. House or building circuit breaker tripped</li> </ol>
POWER IS INTERMITTENT TO ONE OR ALL MOTORS	<ol style="list-style-type: none"> <li>1. Faulty electrical cable.</li> <li>2. Defective switches.</li> <li>3. Loose terminal or discolored terminal connections.</li> </ol>

<b>VACUUM SYSTEM</b>
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PROBLEM	SOLUTION
NO VACUUM SUCTION	<ol style="list-style-type: none"> <li>1. Drain Valve open.</li> <li>2. Vacuum lid is not sealed against tank.</li> <li>3. Loose vacuum hose, vacuum connection</li> </ol>
LOW VACUUM SUCTION	<ol style="list-style-type: none"> <li>1. Accumulated dirt on lid screen.</li> <li>2. Worn out vacuum lid gasket.</li> <li>3. Lint &amp; dirt build-up on wand head.</li> <li>4. Defective vacuum hose.</li> <li>5. Loose connection in the vacuum motor(s).</li> </ol>

<b>SOLUTION SYSTEM</b>
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PROBLEM	SOLUTION
PUMP MOTOR RUNS BUT NO SPRAY THROUGH SPRAY TIPS	<ol style="list-style-type: none"> <li>1. Clogged spray tips.</li> <li>2. Clogged solution intake filter screen.</li> <li>3. Clogged female quick disconnect coupler.</li> <li>4. Quick disconnects not fully connected</li> <li>5. Dirty or damaged pump head valves.</li> <li>6. Defective pump check valve.</li> <li>7. Crack in pump housing.</li> <li>8. Lost Prime.</li> </ol>
UNEVEN OR WEAK SPRAY FOR SPRAY TIPS	<ol style="list-style-type: none"> <li>1. Clogged or dirty spray tips.</li> <li>2. Accumulated dirt on solution intake filter screen.</li> <li>3. Accumulation of debris inside pump and plumbing.</li> <li>4. Worn pump bearing (excessive noise).</li> <li>5. Punctured pump diaphragm.</li> <li>6. Defective rectifier or motor.</li> <li>7. Worn nozzles.</li> </ol>
ERRATIC PRESSURE	<ol style="list-style-type: none"> <li>1. Pump check valves defective or dirty</li> <li>2. Lost prime.</li> </ol>

## Minuteman International Made Simple Commercial Limited Warranty

### REVISION O EFFECTIVE 4/1/2016

Minuteman International, Inc. warrants to the original purchaser/user that the product is free from defects in workmanship and materials under normal use. Minuteman will, at its option, repair or replace without charge, parts that fail under normal use and service when operated and maintained in accordance with the applicable operation and instruction manuals. All warranty claims must be submitted through and approved by factory authorized repair stations.

This warranty does not apply to normal wear, or to items whose life is dependent on their use and care, such as belts, cords, switches, hoses, rubber parts, electrical motor components or adjustments. Parts manufactured by Minuteman are covered by and subject to the warranties and/or guarantees of their manufacturers. Please contact Minuteman for procedures in warranty claims against these manufacturers.

**Special warning to purchaser** -- Use of replacement filters and/or pre-filters not manufactured by Minuteman or its designated licensees, will void all warranties expressed or implied. A potential health hazard exists without original equipment replacement.

All warranted items become the sole property of Minuteman or its original manufacturer, whichever the case may be.

Minuteman disclaims any implied warranty, including the warranty of merchantability and the warranty of fitness for a particular purpose. Minuteman assumes no responsibility for any special, incidental or consequential damages.

This limited warranty is applicable only in the U.S.A. and Canada, and is extended only to the original user/purchaser of this product. Customers outside the U.S.A. and Canada should contact their local distributor for export warranty policies. Minuteman is not responsible for costs or repairs performed by persons other than those specifically authorized by Minuteman. This warranty does not apply to damage from transportation, alterations by unauthorized persons, misuse or abuse of the equipment, use of non-compatible chemicals, or damage to property, or loss of income due to malfunctions of the product.

If a difficulty develops with this machine, you should contact the dealer from whom it was purchased.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow the exclusion or limitation of special, incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

<b>Model</b>	<b>Parts</b>	<b>Labor</b>	<b>Poly</b>	<b>Travel**</b>
Cord Electric Group	5yrs	3yrs	12yrs	90 days
Battery Operated Group	5yrs	3yrs	12yrs	90 days

***Exceptions.....***

<b>Model</b>	<b>Parts</b>	<b>Labor</b>	<b>Poly</b>	<b>Travel**</b>
Port A Scrub, all models	1yr	6months	12yrs	90 days
A3S Blower	1yr	1yr	0	0
Phenom Dual Motor Upright Vacuums	2yrs	2yrs	0	0
Explosion Proof Vacuum	1yr	1yr	0	0
Propane Burnisher	1yr	1yr	0	90 days
**Travel, 2 hours max				

<i>Stand-alone Battery Chargers:</i>	One year
<i>Replacement Parts:</i>	Ninety days
<i>Batteries:</i>	0-3 months full replacement, 4-12 months pro-rate
<i>Polypropylene Plastic Tanks:</i>	12yr warranty, no additional labor

# ***“Excellence Meets Clean”***

**Minuteman is a Full Line Manufacturer of Sweepers and Scrubbers,  
for Industrial Facilities.**

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