



## Electronic Service Manuals

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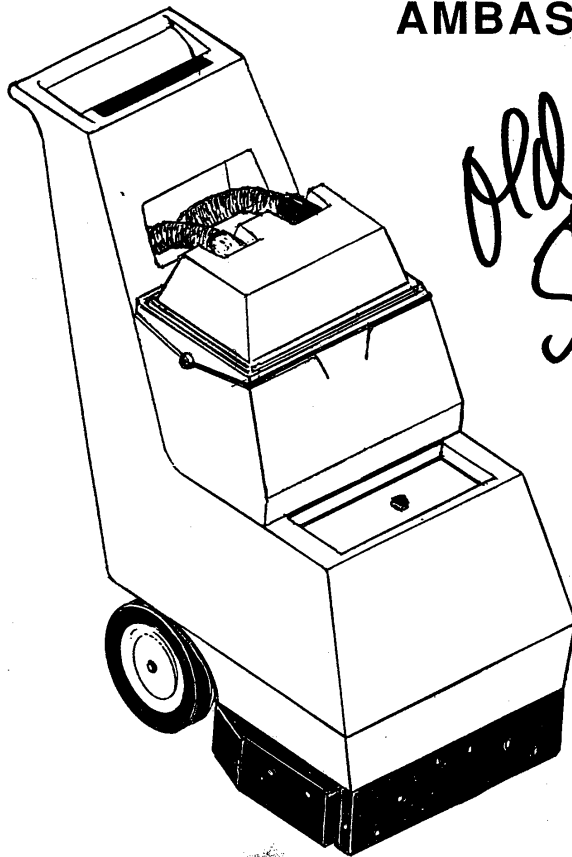
**Serving the Cleaning Industry Since 1922**

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- OPERATION
- SERVICE
- PARTS
- CARE

**Hako**<sup>®</sup>  
**Minuteman**<sup>®</sup>

Model No: C45000-01  
AMBASSADOR



*Old Style*

Revised 12/88

**FOR COMMERCIAL USE ONLY**  
**IMPORTANT SAFETY INSTRUCTIONS**

When using an electrical appliance, basic precautions should always be followed, including the following:

**READ ALL INSTRUCTIONS BEFORE USING**

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

- Do not leave appliance when plugged in. Unplug from outlet when not in use and before servicing.

**WARNING**

To avoid electric shock, use indoors only.

- Do not allow 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 attachments.
- 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 it to a service center.
- Do not pull or carry by cord, use cord as a handle, close a door on cord, or pull cord around sharp edges or corners. Do not run appliance over cord. Keep cord away from heated surfaces.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Do not handle plug or appliance with wet hands.
- Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce air flow.
- Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
- Do not use without dustbag and/or filters in place.
- Turn off all controls before unplugging.
- Use extra care when cleaning on stairs.
- Do not use to pick up flammable or combustible liquids such as gasoline or use in areas they may be present.
- Connect to a properly grounded outlet only. See grounding instructions.

**SAVE THESE INSTRUCTIONS**

## INSPECTION

Carefully unpack and inspect your machine for shipping damage. Each unit is tested and thoroughly inspected before shipment, and any damage is the responsibility of the delivery carrier who should be notified immediately.

## ELECTRICAL

This machine is designed to operate on a standard 15 amp, 115 volt, 60 hz, AC circuit. Voltages below 105 volts AC or above 125 volts AC could cause serious damage to the motor.

## WARNING

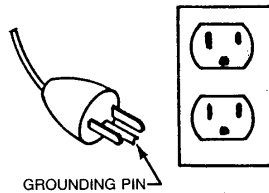
Electric motors can cause explosions when operated near explosive materials or vapors. Do not operate this machine near flammable materials such as solvents, thinners, fuels, grain dust, etc.

## GROUNDING INSTRUCTIONS

This appliance must be grounded. If it should malfunction or breakdown, 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 plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**DANGER** - Improper connection of the equipment-grounding 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.

This appliance is for use on a nominal 120-volt circuit and has a grounding plug that looks like the plug illustrated in sketch A below. Make sure that the appliance is connected to an outlet having the same configuration as the plug. No adapter should be used with this appliance.



SKETCH A

## **USER MAINTENANCE INSTRUCTIONS**

All service and repair should be performed by qualified vacuum service representative or electrician. No user serviceable components are employed in the electrical system. No lubrication of the motor is required.

### **DAILY MAINTENANCE**

1. Solution tank should be emptied after each use. Flush pumping system with 2 to 3 gallons of clean hot water.
2. Check and clean vacuum inlet filter, page 7, item 116, and solution inlet strainer, page 7, item 40, daily.
3. Removable recovery tank, page 7, item 8, should be rinsed clean daily.
4. Spray jets should be checked for correct spray pattern and cleaned if plugged, page 7, item 123. Spray jets are quick release 1/4 turn type. By twisting item 121 1/4 turn counter clockwise, jets can be removed for cleaning. Do not clean out spray tips with pins or wire, this may cause damage to the jet spray pattern and cause streaking.
5. Protect equipment from freezing. Severe pumping system damage can occur if allowed to freeze.
6. Inspect vacuum hoses for tight connections. Check electrical cable for abrasion or cuts in jacket. Cord should be replaced if worn or damaged.

### **MONTHLY/BI-MONTHLY MAINTENANCE**

The Ambassador Solution Pump system should be purged twice monthly to remove alkaline residue build-up. The system should be flushed twice, once with the jets installed and once with the jets removed. To flush system out, use 1 quart of white vinegar to two gallons of clean hot water, followed by a clear 2 gallon rinse. Clean spray jets if required.

### **CORD STORAGE**

While not in use storage can be accomplished by winding cord around rear of machine. Cord hooks are provided.

- 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.
- 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 appliance 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.

## OPERATING INSTRUCTIONS

### FILLING THE AMBASSADOR

Remove clear solution cover lid from front of machine, page 7, item 50. Fill solution tank with desired amount of hot water and add liquid cleaning chemical, Hako Minuteman's Extraction Shampoo order #902163. (See instructions on container for proper dilutions.) DO NOT USE powdered cleaning chemicals. Powders are unlikely to dissolve thoroughly, resulting in clogging the inline solution strainer. This can reduce or stop solution flow to the pump and spray jets.

Carpet should be thoroughly vacuumed and obstacles relocated before beginning the cleaning cycle. Heavy traffic lane areas should be pre-treated or spotted with Hako Minuteman's Pre-Treat order #902183 for best results.

### TO BEGIN CLEANING:

1. Always work away from the cord.
2. Machine operates by pulling backwards over carpet.
3. Vacuum Lid Assembly, page 7, should be properly seated on Recovery Tank, item 8, for proper vacuum recover. See figure 3 for hose hookup.
4. See page 5, Control Panel Switch Identifications:  
Normal Cleaning Mode
  1. Turn on vacuum switch (1).
  2. Turn on brush switch (2).
  3. Turn on pump switch to continuous. (3).
  4. Adjust brush pressure (figure 2) at rear of machine, until brush pressure gauge reads in green zone.
  5. Solution pump should be turned off to the center switch position, page 5 (4), 6" before the end of each cleaning pass.

During the cleaning cycle, care should be taken not to allow foam to build up in the recovery tank. If this should happen, the machine should be turned off. Defoamer order #910543 should be added to the recovery tank only, **never** into the solution tank. Foam should not be allowed to enter vacuum filter screen.

The recovery waste water level can be viewed from the operator's position of the machine through the visible recovery dome. When waste water is within 2" of the top of the recovery tank, the tank should be emptied. (NOTE: Never tilt machine completely back with recovery tank in place. Always remove tank and set to the side before tilting complete machine.) Recovery tank can be emptied by lifting visible recovery dome and lifting out tank by front handle. A handle gripping area is provided in the front bottom of the recovery tank to tilt and pour the waste water out.

### AUXILIARY TOOL HOOK UP

1. Remove grey hose fitting from clear recover dome and install auxiliary hose assembly cuff to grey fitting by passing through rear of machine. Hook up solution hose to auxiliary out coupler at rear of machine.
2. Turn vacuum switch to on.
3. Turn pump auxiliary switch to on, page 5, item 6. All other switches should be off.

## OPERATOR VIEW OF CONTROL PANELS

1. Vacuum switch.
2. Brush switch.
3. Pump spray switch.  
Continuous operation position. Pump supplies solution to spray bar for cleaning in large open areas.
4. Center position is "off".  
Momentary position is for intermittent spray for cleaning in smaller more confined areas. When released, switch will return to center off position.
5. Pump auxiliary when using separated floor tool or upholstery tool, switch must be switched to on position. See figure 2 for solution hose hook up-aux. out.
6. Brush pressure adjustment gauge.
7. Brush pressure adjustment gauge.

See figure 2 for brush adjustment knob location. Adjustments past the green zone on gauge will shorten brush and brush drive motor life.

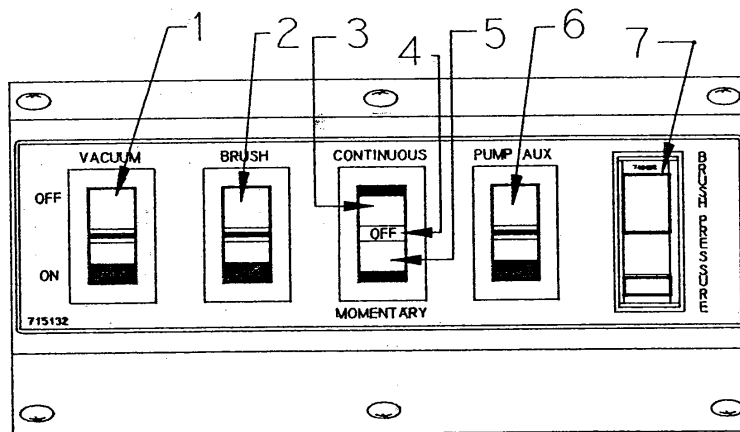


FIG. 1

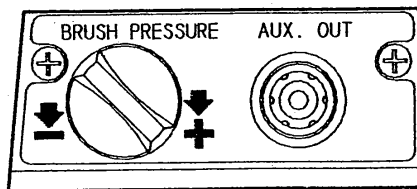
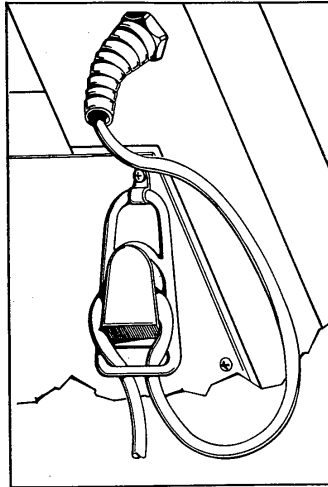


FIG. 2

## CORD STRAIN RELIEF



## OPERATOR VIEW VISABLE RECOVERY SYSTEM

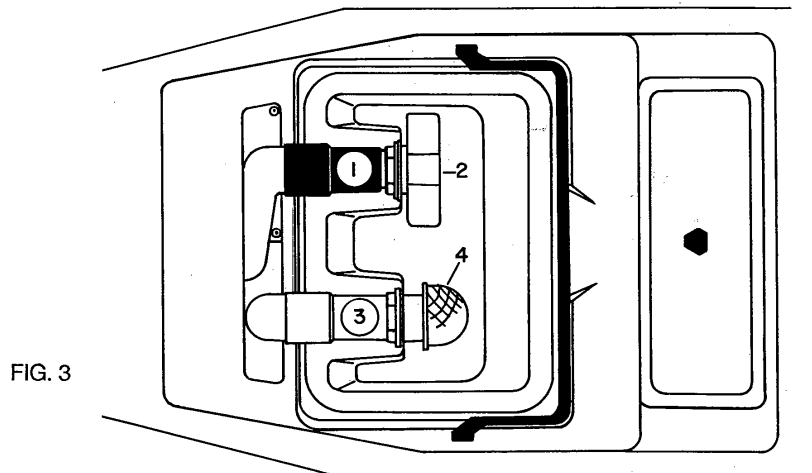
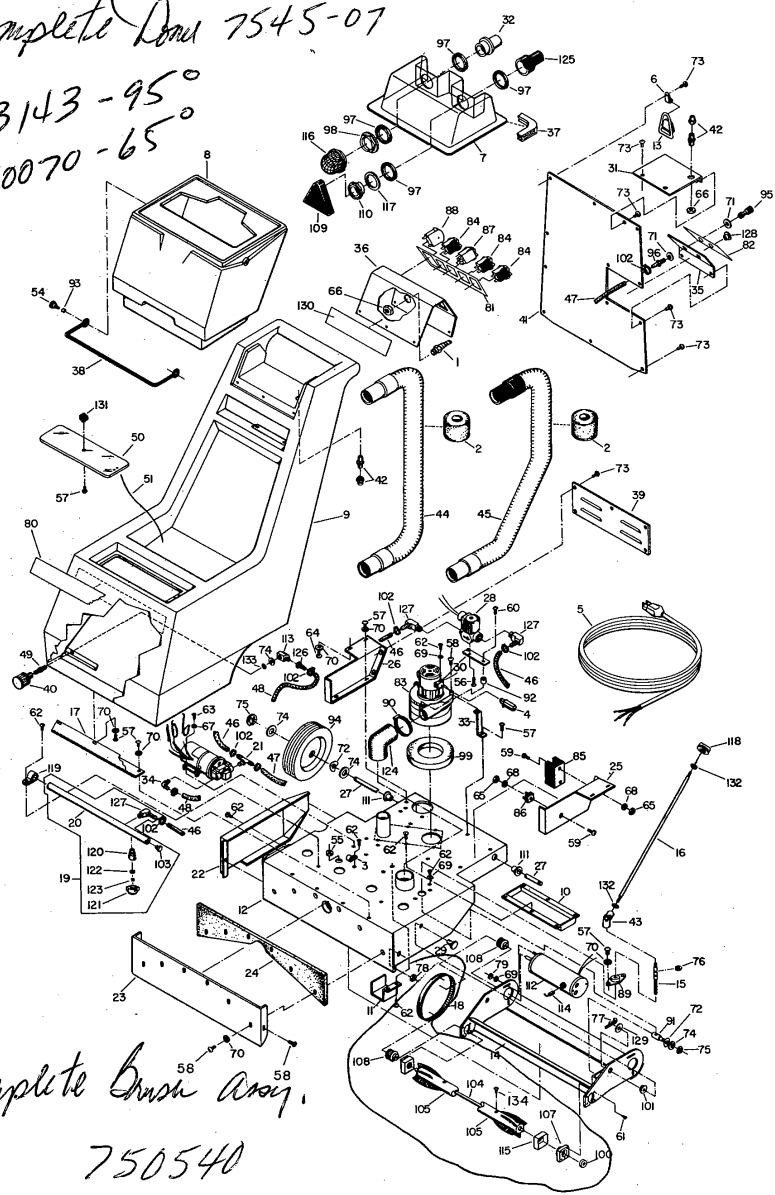


FIG. 3

1. Waste Water Recovery Hose  
(Grey hose cuff to grey fitting)
2. Recovery Waste Water Diffuser
3. Vac Hose White Cuff  
(White hose cuff to white fitting)
4. Vac Filter Screen

Complete Donu 7545-07

833143-95°  
450070-65°



Complete Brush Assy.

750540

## PARTS LIST



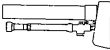
ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	150004	1	Relief Strain	69	711553	4	WSR-Internal Lock #10
2	169125	2	Filter	70	711554	20	WSR-Internal Lock 1/4 ID
3	250038	1	Retainer, Bag Clip	71	711579	3	WSR-Flat .56 x 1.00
4	380028	2	Carbon Brush Replacement	72	711582	2	WSR-Wave .50 x .75 x .02
5	381020	1	Orange Cord Set 16-3 50'	73	712822	22	SCR-THMS 10 - 24 x .50 ST PL
6	381052	1	Clamp Plastic 3/8 ID	74	711594	6	WSR-Flat .56 x .88 x .03 NI
7	450000	1	Dome Clear Plastic	75	711713	3	Retaining Ring-E EXT .50
8	450001	1	Recovery Tank	76	711717	2	Retaining Ring-E EXT .37
9	450002MCH	1	Solution Tank Self Cont.	77	711808	2	Cotter Pin-Hair #13
10	450004	1	Air Manifold	78	712667	2	Nut-Hex 1/4 - 20 SS Nyloc
11	450007	1	U-Channel	79	712908	2	Nut - Flanged Wizz 10-24
12	450011	1	Mainframe Weldment	80	715088	1	Decal Minuteman 2" x 15"
13	450012	1	Cord Strain Relief	81	715132	1	Decal Diecut SC17
14	450013	1	Brush Brkt. Weldment	82	715133	1	Decal Brush Adj. Ambassador
15	450019	1	Adj. Rod Brush	83	740089	1	Vac Mtr. 3 Stage 115
16	450020PLT	1	Handle Rod Brush Plated	84	740107	3	Switch 20 Amp
17	450021	1	Hinge	85	740189	1	Terminal Block
18	450022	1	Belt	86	740202	1	Rect. Bridge
19	450023	1	Spray Tube Asy. 4 Jet Comp.	87	740400	1	Momentary Switch 15 Amp
20	450024	1	Spray Tube	88	740402	1	Guage Pressure
21	450025	1	3/8 Male Branch Tee	89	760035	1	Bearing, Flanged Mounted
22	450026	1	Belt Guard SC17 PTD	90	760859	1	Clamp, Hose
23	450028	1	Front Squeegee Plate	91	762257	1	Nut, Adj. RH Zinc/Erudite
24	450029	1	Front Plate Neo Gasket	92	762371	1	Bushing .260 x .50 x .37
25	450030	1	Wheel Well Plate RH	93	762384	2	Bushing .277 x .375 x .37
26	450031	1	Wheel Well Plate LH	94	804452	2	Wheel 8 in.
27	450032	1	Axle Wheel Zinc PLT	95	828370	1	BH2-60 Female Coupler
28	450033	1	WTR Solenoid	96	828952	2	3/8 BARB x 1/4 MPT
29	450034	2	Clevis Pin	97	828970	3	WSR Neop. 1.81 x 2.37 x .09
30	450035	1	Solenoid Mounting Plate	98	828971	2	Nut 1 1/2 Pipe Thread
31	450036	1	Cover Top SC17	99	828995	1	Gsk Neop 2.5 x 6 x .62
32	450037	1	Adapter MCH	100	829044	2	Bearing
33	450038	3	Z Brkt.	101	829052	2	Flanged Bushing
34	450040	1	Elbow PLT 3/8 MPTX 3/8 BARB	102	829129	8	Hose Clamp Micro-Seal
35	450042	1	Quick-Disconnect Brkt.	103	829619	2	End Cap
36	450043	1	Dashboard	104	829620	1	Brush Shaft
37	450044	1	Molded Rec Dome Gskt.	105	829622	1	Brush
38	450045PTD	1	Handle Bail Recovery Tank	106	829757	1	50 PSI 115V Pump
39	450046	1	Lower Rear Panel SC16	107	829758	2	Bearing Block
40	450047	1	Solution Strainer Tapped	108	829823	2	Pulley Htd Flanged 30T
41	450049	1	Rear Panel Asy. Ambassador	109	830448	1	Deflector
42	450050	2	Heyco Bushing Liq. Tight	110	831081	1	Adapter
43	450051	1	Universal Joint	111	831212	2	Flange Bearing
44	450053	1	Vac Hose Asy. White SC17	112	831238	1	Motor 1/6 HP 115V
45	450054	1	Vac Recovery Hose Clear	113	831306	1	Street 90 1/4 Brass
46	450055	2	Hose Spraybar C/L 9"	114	831429	1	Brush 2 Per Set
47	450056	1	Hose Nylobraid C/L 21"	115	831610	2	Brush Shield
48	450057	1	Solution Hose C/L 20 1/2"	116	831621	1	Suction Line Strainer 1
49	450059	1	Brass Bulkhead Fitting	117	831664	1	WSR SS 2.12ID x 2.750D x .03
50	450060	1	Solution Tank Cover	118	832418	1	Knob Adj. 5/16 x 18
51	450062	1	Cord Nylon	119	832700	2	Clamp
54	500033	2	Locking Screw	120	833140	4	Body Inlet Conn.
55	700287	1	Grommet	121	833141	4	Cap
57	710178	14	SCR-MC 1/4 - 20 x .50 ST PL	122	833142	4	Gasket, Cap
58	710180	10	SCR-MC 1/4 - 20 x .75 ST PL	123	833143	4	Spray Tip
59	710207	3	SCR-MC 6 - 32 x .87 ST PL	124	833191	1	Hose Rubber Flex 2 x 9
60	710385	1	SCR-MC 1/4 - 20 x 1.50 ST NI	125	833324MCH	1	Adapter 1.5 x 1.5 ACS
61	710528	8	SCR-MC 8 - 32 x .37 BR	126	833473	1	Hose BARB 1/4FPT x 3/8 BARB
62	711124	15	SCR-ST-B 10 x .37 NI	127	833625	3	Hose BARB Elbow
63	711126	4	SCR-ST-B 10 x .75	128	830949	1	Bushing
64	711202	4	BLT-HH 1/4 - 20 x .50 ST PL	129	711506	2	WSR-Flat 5/16 ST PL
65	711301	3	Nut-Hex 6-32 ST PL	130	715134	1	Decal Ambassador
66	711400	2	Nut-Pipe Lock 1/2	131	833214	1	Knob 3 Sided
67	711503	6	WSR-Flat #10	132	711420	2	Nut-Hex Jam 5/16 - 18 ST PL
68	711552	3	WSR-Internal Lock #8	133	832326	1	O Ring
				134	710130	2	SCR-MC 8/32 x 1/2



## RECOMMENDED CARPET CARE CHEMICALS

	Product #		Product #
<p><b>Extraction Shampoo</b> A highly concentrated low-foaming product. Contains detergents, emulsifiers, water-soluble solvents and optical brighteners for effective use in all types of carpet extraction equipment.</p>	<p>902167 902165 902163</p>	<p><b>Odor-Out</b> A concentrated water based deodorant additive that can be sprayed, mopped or wiped on any surface that is not harmed by water.</p>	<p>902143</p>
<p><b>Pre-Treat</b> A synthetic cleaner formulation used as a pre-spray to help speed the cleaning action of the shampoo process. Used for bonnet buffing and also as an effective spotter.</p>	<p>902183</p>	<p><b>Bro-Go</b> A mild acid formulation that removes browning or yellow discoloration on carpet due to excessive build-up of old shampoos.</p>	<p>902133</p>
<p><b>Take-Out</b> An enzyme detergent spotter that dissolves protein carbohydrates, cellulose, vegetable oils, greases and both human and pet urine stains.</p>	<p>902198</p>	<p><b>Take Charge</b> An effective, safe, long lasting product designed to eliminate troublesome static electricity from carpet.</p>	<p>910033</p>
<p><b>Carpet Spotter</b> A water based spotter which contains organic solvents for use on spots created by material such as grease, tar and crayons.</p>	<p>910678 910675 910673</p>	<p><b>Karpetreet II™</b> Contains DuPont "Teflon" carpet protector. A water-based, concentrated fluoro-chemical which forms a protective coating that inhibits resoiling of carpet.</p>	<p>902153</p>
<p><b>Defoamer</b> A silicone based defoamer for use in any cleaning equipment which generates foam.</p>	<p>910543</p>		

## TOOLS AND ACCESSORIES

828924	Hose Assembly	
831255	Scrub Wand	
828502	Stair and Upholstery Tool	

## LIMITED WARRANTY

Hako Minuteman, Inc. warrants to the original purchaser/user that this product is free from defects in workmanship and materials under normal use and service for a period of two years from date of purchase. In addition, Hako Minuteman, Inc. will, at its option, honor labor warranty claims for the first 12 months from date of sale, provided such claims are submitted through and approved by factory authorized repair stations. Hako Minuteman, Inc. will, at its option, repair or replace without charge, except for transportation costs, parts that fail under normal use and service when operated and maintained in accordance with the applicable operation and instruction manuals.

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 not manufactured by Hako Minuteman, Inc. such as engines, batteries, battery chargers, hydraulic pumps, and tires are covered by and subject to the warranties and/or guarantees of their manufacturers. Please contact Hako Minuteman, Inc. for procedures in warranty claims against these manufacturers.

**Special warning to purchaser** -- Use of replacement filters and/or prefilters not manufactured by Hako Minuteman, Inc. or its designated licensees, will void all warranties expressed or implied.

A potential health hazard exists without exact original equipment replacement.

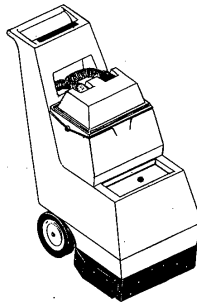
All warranted items become the sole property of Hako Minuteman, Inc. or its original manufacturer, whichever the case may be.

Hako Minuteman, Inc. disclaims any implied warranty, including the warranty of merchantability and the warranty of fitness for a particular purpose. Hako Minuteman, Inc. 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. Hako Minuteman, Inc. is not responsible for costs for repairs performed by persons other than those specifically authorized by Hako Minuteman, Inc. 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.



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