

POWERBOSS®

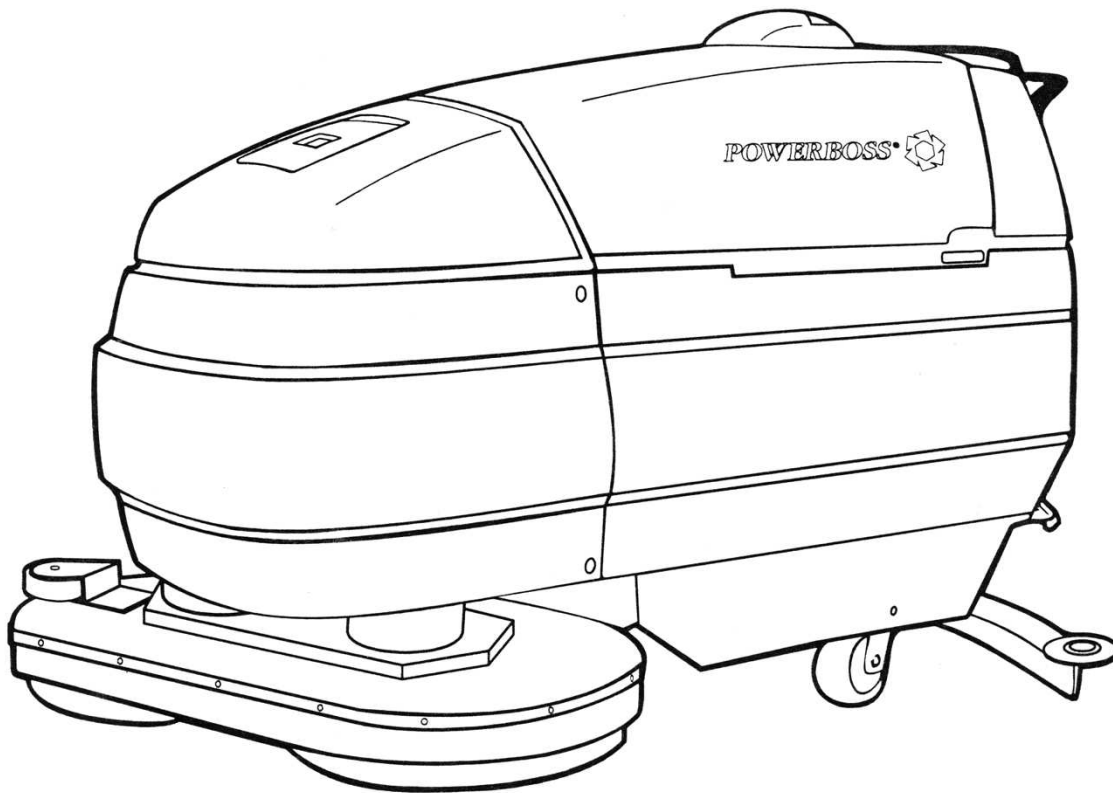


OWNER'S MANUAL

OPERATION • CARE • SERVICE

AUTOMATIC SCRUBBERVAC

**SB28/70, SB34/85,
& SB40/100**



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March 95
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TABLE OF CONTENTS

MACHINE SPECIFICATIONS	2
MACHINE SPECIFICATIONS (CONTINUED)	3
ACCESSORIES	3
SERVICE INFORMATION	4
IMPORTANT SAFETY INSTRUCTIONS	4
UNPACKING AND SETUP	5
UNPACKING	5
SETUP	5
OPERATION	6
ADJUSTMENTS	6
FEATURES	6
CONTROLS	7
SOLUTION	9
SCRUBBING PROCEDURES	10
BATTERY CHARGING, CARE, AND SERVICE	10
BATTERY CHARGING	10
BATTERY CARE	11
BATTERY SERVICE & GUARANTEE	11
CLEAN UP AND STORAGE	11
MAINTENANCE	12
LINT SCREEN	12
MICROSTAT™ FILTER	12
REVERSING THE SQUEEGEE RUBBER	12
SQUEEGEE RUBBER REPLACEMENT	12
TROUBLE SHOOTING GUIDE	13
NOTES	14

MACHINE SPECIFICATIONS

	SB28 & SB70	SB34 & SB85	SB40 & SB100
Noise Level:	73dB @ 10'	73dB @ 10'	73dB @ 10'
Controls:	Light effort, PUSH/PULL for forward or reverse operation. Key pad, variable speed control knob and parking brake knob, easy-to-reach.	Light effort, PUSH/PULL for forward or reverse operation. Key pad, variable speed control knob and parking brake knob, easy-to-reach.	Light effort, PUSH/PULL for forward or reverse operation. Key pad, variable speed control knob and parking brake knob, easy-to-reach.
Traction Motor:	24V, 3/4HP, 195 rpm, permanent magnet gear motor.	36V, 3/4HP, 195 rpm, permanent magnet gear motor.	36V, 3/4HP, 195 rpm, permanent magnet gear motor.
Vacuum Motor:	24V, 3-stage, by-pass type, tangential discharge. Develops 67"H ₂ O sealed lift, and 67 CFM through a 1-1/2" orifice.	36V, 3-stage, by-pass type, tangential discharge. Develops 74"H ₂ O sealed lift, and 72 CFM through a 1-1/2" orifice.	36V, 3-stage, by-pass type, tangential discharge. Develops 74"H ₂ O sealed lift, and 72 CFM through a 1-1/2" orifice.
Brush Motors:	Two 24V, 3/4HP, 195 rpm, permanent magnet gear motor. Direct drive to self-leveling brushing.	Two 36V, 3/4HP, 195 rpm, permanent magnet gear motor. Direct drive to self-leveling brushing.	Two 36V, 1 HP, 195 rpm, permanent magnet gear motor. Direct drive to self-leveling brushing.
Traction Drive:	All electronic control variable speed drive through pot control on instrument panel. Featuring dynamic braking for easy control up and down ramps.	All electronic control variable speed drive through pot control on instrument panel. Featuring dynamic braking for easy control up and down ramps.	All electronic control variable speed drive through pot control on instrument panel. Featuring dynamic braking for easy control up and down ramps.
Brushes:	Dual 14" (35.6cm) dia., self-leveling, counter-rotating, 195 rpm.	Dual 17" (43.2cm) dia., self-leveling, counter-rotating, 195 rpm.	Dual 20" (50.8 cm) dia., self-leveling, counter-rotating, 195 rpm.
Scrubbing Width:	28" (71.1cm).	34" (86.3cm).	40" (101.6cm).
Brush Pressure			
Floating:	115 lbs. (52.2Kg)	125 lbs. (56.7Kg)	135 lbs. (61.2 Kg)
Strip:	180 lbs. (81.7Kg)	200 lbs. (90.7Kg)	200 lbs. (90.7Kg)
	Maximum will vary depending upon floor surface and pad or brush used. Current limit of brush drive motor cannot be exceeded.	Maximum will vary depending upon floor surface and pad or brush used. Current limit of brush drive motor cannot be exceeded.	Maximum will vary depending upon floor surface and pad or brush used. Current limit of brush drive motor cannot be exceeded.
Tanks			
Solution:	22 gallon (83.3L)	30 gallon (113.6L)	30 gallon (113.6L)
Recovery:	22 gallon (83.3L)	30 gallon (113.6L)	30 gallon (113.6L)
Material:	High-density, molded seamless linear polyethylene.	High-density, molded seamless linear polyethylene.	High-density, molded seamless linear polyethylene.
Batteries:	Four (4) heavy-duty deep cycle type, 6V, 330 AH, series connected.	Six (6) heavy-duty deep cycle type, 6V, 250 AH, series connected.	Six (6) heavy-duty deep cycle type, 6V, 330 AH, series connected.
Squeegee:	38.5" (97.8cm) wide swinger type with welded-in vacuum tube, easily replaceable gum rubber blades (reversible for extended wear), accurate shape, pressure and tilt adjustments. Pivot makes squeegee self-leveling on turns.	41.5" (105.4cm) wide swinger type with welded-in vacuum tube, easily replaceable gum rubber blades (reversible for extended wear), accurate shape, pressure and tilt adjustments. Pivot makes squeegee self-leveling on turns.	47.5" (120.7cm) wide swinger type with welded-in vacuum tube, easily replaceable gum rubber blades (reversible for extended wear), accurate shape, pressure and tilt adjustments. Pivot makes squeegee self-leveling on turns.
Wheels			
Traction Wheel:	One (1) 10" (25.4cm) dia. molded.	One (1) 10" (25.4cm) dia. molded.	One (1) 10" (25.4cm) dia. molded.
Caster Wheels:	Two (2) 5" (12.7cm) polyurethane swivels with 750 lbs. capacity.	Two (2) 5" (12.7cm) polyurethane swivels with 750 lbs. capacity.	Two (2) 5" (12.7cm) polyurethane swivels with 750 lbs. capacity.
Solution Feed:	Three-speed solution pump and solenoid valve controls the flow rate to center of each brush.	Three-speed solution pump and solenoid valve controls the flow rate to center of each brush.	Three-speed solution pump and solenoid valve controls the flow rate to center of each brush.
Vacuum Shut off Switch:	Float Switch	Float Switch	Float Switch
Frame:	All welded steel 7 Ga. and 11 Ga. with epoxy powder coating.	All welded steel 7 Ga. and 11 Ga. with epoxy powder coating.	All welded steel 7 Ga. and 11 Ga. with epoxy powder coating.
Outer Shell:	High-density molded polyethylene tanks and covers.	High-density molded polyethylene tanks and covers.	High-density molded polyethylene tanks and covers.

MACHINE SPECIFICATIONS (CONTINUED)

	SB28 & SB70	SB34 & SB85	SB40 & SB100
Brush Cover:	All welded 11 Ga. steel with epoxy powder coating.	All welded 11 Ga. steel with epoxy powder coating.	All welded 11 Ga. steel with epoxy powder coating.
Battery Charger:	External, electronic, 40 amp, 24V.	External, electronic, 20 amp, 36V.	External, electronic, 30 amp, 36V.
Dimensions			
Length (overall):	63" (160.0cm)	65.5" (166.4cm)	68.5" (174.0cm)
Height (overall):	41.5" (105.4cm)	41.5" (105.4cm)	41.5" (105.4cm)
Width (body):	24" (61.0cm)	28.5" (72.4cm)	28.5" (72.4cm)
Width (brush head):	29" (73.7cm)	35" (88.9cm)	41" (104.1cm)
Weight			
Machine & Batteries:	860 lbs. (390.1Kg)	1,150 lbs. (521.6Kg)	1,300 lbs. (589.7Kg)
Shipping Weight			
Machine:	455 lbs. (206.4Kg)	665 lbs. (301.6Kg)	734 lbs. (332.9Kg)
Battery Pack:	420 lbs. (190.5Kg)	500 lbs. (226.8Kg)	606 lbs. (274.9Kg)
Charger:	34 lbs. (15.4Kg)	56 lbs. (25.4Kg)	56 lbs. (25.4Kg)

ACCESSORIES

Off Isle Wand	039584	039584	039584
Pad Holders			
Pad Holder (Lh Thread):	020385	020382	020383
Pad Holder (Rh Thread):	020384	027132	027133
Pad Holder Parts			
Center Plate (Attached)	039576 (right hand thread) 039578 (left hand thread)	039576 (right hand thread) 039578 (left hand thread)	039576 (right hand thread) 039578 (left hand thread)
Pad Clamp (Loose)	039577 (right hand thread) 039579 (left hand thread)	039577 (right hand thread) 039579 (left hand thread)	039577 (right hand thread) 039579 (left hand thread)
Pads			
Strip Pad	015703	015700	015697
Scrub Pad	015704	015701	015698
Polish Pad	015705	015702	015699
Brushes			
Bassine Scrub	020387	020391	020395
Polish	020388	020392	020396
Polypropylene	020386 (Std)	027134 (Std)	027135 (Std)
Steel Wire	020389	020393	020397
Grit	020390	020394	020398
MICROSTAT™ Filter Kit	038303	038303	038303
Batteries			
With Acid (Wet):			
250 Amp-Hr (Set)	026106 (4-Pack)	026950 (6-Pack, Std)	026950 (6-Pack)
250 Amp Hr (Single)	026512	026512 (Std)	026512
330 Amp Hr (Set)	027168 (4-Pack, Std)	027047 (6-Pack)	027047 (6-Pack, Std)
330 Amp-Hr (Single)	027048 (Std)	027048	027048 (Std)
Without Acid (Dry):			
250 Amp-Hr (Set)	026107 (4-Pack)	026570 (6-Pack)	026570 (6-Pack)
250 Amp Hr (Single)	026551	026551	026551
330 Amp Hr (Set)	026108 (4-Pack)	027111 (6-Pack)	027111 (6-Pack)
330 Amp-Hr (Single)	027100	027100	027100
Battery Chargers:			
120 Volt - 60 Hertz	031373 (Std)	031360 (Std)	031369 (Std)
100 Volt - 50 Hertz	031376	031361	031370
230 Volt - 50 Hertz	031377	031362	031371
230 Volt - 60 Hertz	031378	031364	031372
Squeegee Blades:			
Std. Blade Set (3 Pcs)	039590	039566	039567
Front Blade	056425	056428	056632
Std. Rear Blade	056427	056429	056633
Backup Blade	056426	056430	056634
Neoprene Rear Blade	039589	039568	039569

For a complete list of accessories and to order, contact your local PowerBoss equipment dealer or the dealer from which the machine was purchased.

SERVICE INFORMATION

To obtain consistent performance over the life of your PowerBoss equipment, read through these instructions and save them for future reference. If you require service, contact the dealer from which the machine was purchased or an authorized service station. Always refer to your limited warranty for complete service information.

AAR POWERBOSS, INC			
SERIAL NO.		MODEL	
VOLTS		PHASE	Hz.
MOTOR 1	AMP.	H.P.	
MOTOR 2	AMP.	H.P.	

The model, type, and serial number are indicated on the data plate located on the steel panel, inside the battery compartment. For prompt and accurate information, refer to these numbers when inquiring about service.

Write the model and serial number of your unit in the space provided. Refer to the rating plate on unit.

MODEL #

SERIAL #

Retain this owner's manual for future reference.

IMPORTANT SAFETY INSTRUCTIONS

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

READ ALL INSTRUCTIONS BEFORE USING THE MACHINE!



WARNING:



FAILURE TO FOLLOW THESE SAFETY INSTRUCTIONS COULD RESULT IN DAMAGE TO THE MACHINE, DAMAGE TO PROPERTY, BODILY INJURY, OR DEATH.

- Do not leave the machine when powered on. Remove the key from the keylock and engage the parking brake when not in use and before servicing.
- When not in use, move the machine to a level surface and engage the parking brake.

- Do not allow the machine to be used as a toy. Close attention is necessary when near children.
- Do not sit on this machine while it is stationary or in motion.
- Use only as described in this manual. Use only manufacturer's recommended attachments.
- If the machine is not working as it should, because it has been dropped or damaged, return it to a service center before using.
- Do not use this machine without the brush covers installed! Damage may result if the brushes or pad holders are allowed to hit other objects.
- This machine creates suction and contains revolving brushes. Keep hair, loose clothing, fingers, and all other parts of the body away from openings and moving parts.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
- Always follow the detergent manufacturer's safety precautions when adding cleaning solution to the machine.
- Do not use to pick up flammable or combustible liquids such as gasoline, or use in areas where they may be present.
- Do not use in areas where flammable and or explosive vapor or dust is present to avoid the possibility of fire or explosion. Some cleaning fluids can produce such vapors.
- Wet floor surfaces can be dangerously slippery. Always place "Caution Wet Floor" signs in the area that you are cleaning.
- When working with or near batteries, always wear eye protection and protective clothing, and remove all jewelry to prevent accidental electrical sparks and/or shock.
- Do not place tools or other metal objects on or near the tops of the batteries to prevent accidental arcing between the battery terminals.
- Explosive hydrogen gas is formed during battery charging. Avoid charging the batteries around any open flame or anything which could produce an electrical spark. Always charge the batteries in a well ventilated area. Do not disconnect the battery charger from the machine while charging. Disconnecting the charger plug, while charging, may produce an electrical spark. Always keep the battery compartment open while charging.
- Do not use a charger that has a damaged power cord. Serious or fatal injury could occur due to a damaged power cord.

- Operate the machine only from the rear of the machine. Operating it from any other position may result in injury or damage.
- Do not attempt to transport the machine without assistance. Use two or more people to help guide the machine while on a ramp or incline. Move cautiously and slowly. Do not turn the machine on a ramp. Do not stop and leave the machine on the ramp or incline. Failure to follow these instructions, while transporting the machine, may result in serious bodily injury and or damage to the machine or other property.
- Do not attempt to transport the machine without tying it down to the bed of the vehicle with straps. Tie the machine by placing the straps through the strap slots which are located on the machine frame just above the rear casters. For more information on how to find the strap slots, refer to the "FEATURES", "TRANSPORTING" section of this manual.
- Store your machine indoors in a cool, dry area. Do not expose the machine to temperatures in excess of 120°F or lower than 35°F for extended periods of time. Freezing solution can result in damage to the pump, solution plumbing, and tanks.
- Keep your work area well lit.

SAVE THESE INSTRUCTIONS

UNPACKING AND SETUP

UNPACKING

Carefully inspect all components to insure that there is no concealed freight damage. If such damage is discovered, file a Damage Report immediately with the delivering carrier.

Your machine was shipped in its own crate with the unpacking instructions attached to the top of the machine. The brush head covers and battery terminals can be found in the battery box, inside the machine. The batteries, the battery charger, and the brushes have been shipped in their own containers. If you do not receive all of the containers, check with the delivering carrier and/or the dealer from which the machine was purchased.

SETUP

PREPARING THE MACHINE FOR USE

Once the machine is completely unpacked, install the batteries and battery terminals as illustrated on the "BATTERY WIRING DIAGRAM" located inside the machine just above the battery box.

Next, install the brush covers. Be sure to install the brush covers so that the latch is in the front of the machine (Figure 1).

WARNING: DO NOT USE THIS MACHINE WITHOUT THE BRUSH COVERS INSTALLED! DAMAGE MAY RESULT IF THE BRUSHES OR PAD HOLDERS ARE ALLOWED TO HIT OTHER OBJECTS.

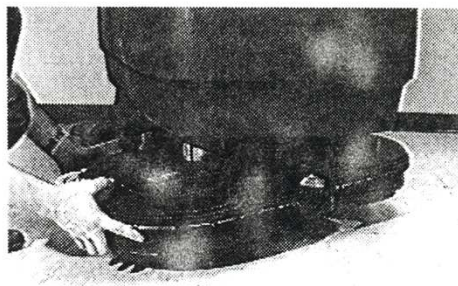


Figure 1

Next, attach the squeegee to the squeegee bar using the two knobs supplied with the squeegee (Figure 2). Because the squeegee has been factory adjusted to peak performance, it does not need initial adjusting.

The machine is now ready for the brushes to be installed and prepared for scrubbing. The brushes can be found inside the container in which the machine was shipped.



BEFORE INSTALLING THE BRUSHES AND USING THE MACHINE IN ANY WAY, FINISH READING THIS MANUAL. FOLLOWING THE INSTRUCTIONS AND WARNINGS IN THIS MANUAL WILL REDUCE THE POSSIBILITY OF INJURY OR DAMAGE TO THE MACHINE AND OTHER PROPERTY.

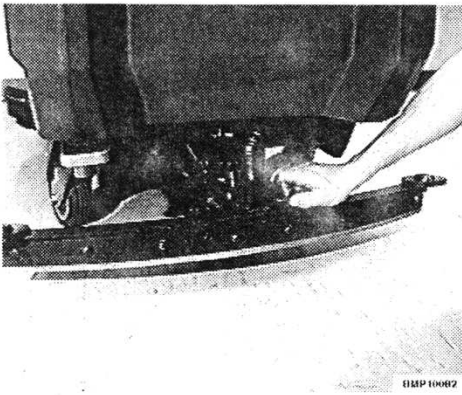


Figure 2

OPERATION

ADJUSTMENTS

DRIVE MOTOR CHAIN ADJUSTMENT

To adjust the tension of the chain, first loosen the adjustment screw's jam nut (Figure 3). Next, turn the adjustment screw clockwise to tighten the chain and counterclockwise to loosen. A properly adjusted chain should have a 1/2 inch of slack. When the chain is properly adjusted, retighten the jam nut.

DO NOT OVERTIGHTEN! EXCESSIVE TENSION MAY CAUSE DAMAGE TO THE BEARINGS, SPROCKETS, OR CHAIN.

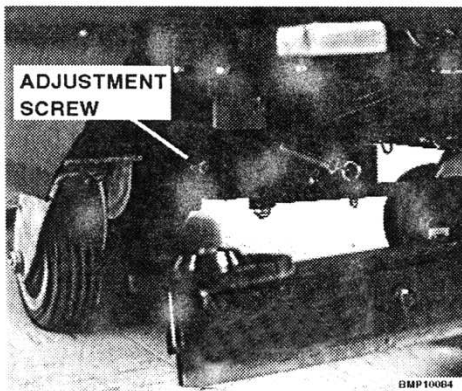


Figure 3

SQUEEGEE TILT ADJUSTMENT

The squeegee on this machine pivots freely, allowing the pressure on each end of the squeegee to keep it level with the floor at all times. The front to rear tilt adjustment is correct if, as the machine is moved forward, there is an equal amount of squeegee flare at the ends of the squeegee rubber compared to the center.

To adjust the tilt of the squeegee, turn the tilt adjustment screw which can be found on the squeegee bar just in front of the squeegee height adjustment knob

(Figure 4). Turn the screw clockwise to tilt the ends of the squeegee upward and counterclockwise to turn the ends downward.

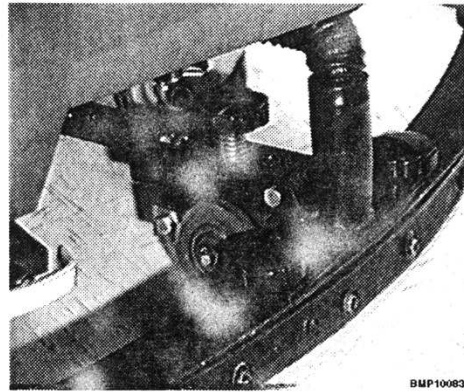


Figure 4

SQUEEGEE HEIGHT ADJUSTMENT

In order for the squeegee to pick up effectively, the height must be adjusted to give the correct amount of squeegee rubber contact with the floor. If the squeegee is too high or too low it will not pick up properly.

To adjust the height of the squeegee relative to the floor, turn the height adjustment knob (Figure 4) clockwise to lower the squeegee and increase pressure on the squeegee blades. To raise the squeegee and reduce pressure on the squeegee blades, turn the knob counterclockwise to the desired height. Refer to Figure 5 for the correct height adjustment for the squeegee.

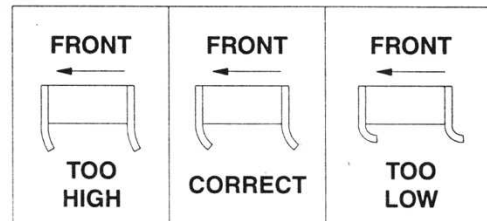


Figure 5

FEATURES

Your machine features an electronic touch control panel with battery condition and pressure meters, AutoLogic™ programming, a control drive bar, a speed setting dial, automatic brush installation and removal, and a foam sensor that turns the vacuum motor off when water or foam is detected at the top of the recovery tank. To add to the features, it also includes dynamic braking, a parking brake, a keylock switch, an hour meter, and circuit breaker protection for every motor.

TRANSPORTING

The machine was designed to allow easy transportation with the use of strap slots machined into the machine's all steel frame. The strap slots are located on each side of the frame directly above the rear cas-

tors. When transporting, always strap the machine to the bed of the vehicle. Never use the parking brake alone, the strap must be used when transporting.

CONTROLS

KEYLOCK SWITCH

The keylock switch (Figure 7) is the master power switch. Removing the key eliminates the possibility of unauthorized use of the machine. To switch the machine on, turn the key clockwise; the green light will come on to indicate power.

BATTERY CONDITION INDICATOR

The Battery Condition Indicator (Figure 7) displays the voltage level across the batteries of the machine. When fully charged, all of the lights will be on; however, as the voltage level decreases during normal use, the lights will display the drop in voltage.

BATTERY RECHARGE INDICATOR

When the machine's voltage drops to a predetermined level, the Battery Recharge Indicator (Figure 7) will light up red. By recharging the batteries immediately after the indicator lights up, you will ensure the long life of the batteries. Completely discharging the batteries, long after the machine indicated the need for charging, will eventually reduce the life of the batteries.

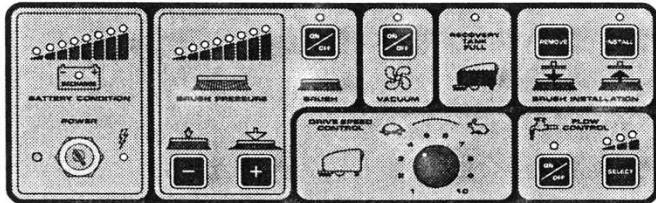


Figure 7

CONTROL DRIVE BAR

Once the key is inserted into the keylock and turned in the POWER position, the machine is ready to drive in both forward and reverse by squeezing or pulling the Control Drive Bar (Figure 8).



Figure 8

DRIVE SPEED CONTROL KNOB

The variable Speed Control Knob (Figure 7) can be used to adjust the machine speed anywhere from 0 to 225 feet per minute. The label around the Speed Control Knob has the numbers 1 to 10 around the knob for your convenience in setting the same desirable speed every time you use your machine.

DYNAMIC BRAKING

Dynamic Braking, built into the speed control, helps to maintain a nearly constant speed while traveling up or down a ramp or incline by keeping the drive speed at a nearly constant rate.

PARKING BRAKE

The parking brake (Figure 9), located on the back side of the machine, is designed to prevent the machine from moving while on low grade inclines or uneven surfaces. To use the parking brake, simply push the button while pulling the knob out and turn it counterclockwise to lock it into position. To release the parking brake, push the button in the middle of the knob (Figure 10). This will allow the knob to retract back into the machine.

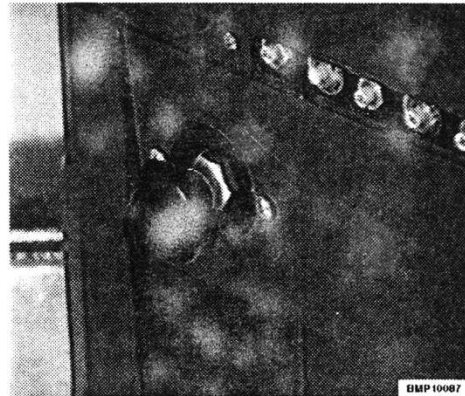


Figure 9

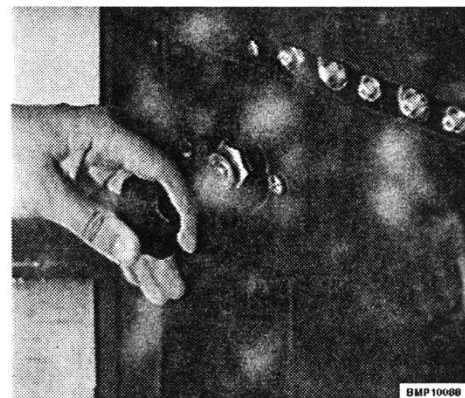


Figure 10

BRUSH ON/OFF BUTTON

Pressing the Brush ON/OFF button (Figure 7) will lower the brush head, start the brushes spinning, and start the solution flowing. The solution will flow at the predetermined setting in the FLOW CONTROL section of the control panel. The initial brush pressure will be the weight

of the brush head. If the machine, at any time, is stationary for approximately 3 seconds while scrubbing, the machine will enter Pause Mode.

In Pause Mode, the brush head will automatically raise half way, stop the brushes, and stop the flow of solution. This will prevent the machine from damaging the floor. After the brush head raises and pauses, it will wait approximately 15 seconds for the operator to move the Control Drive Bar. If the operator begins to drive forward, the brush head will lower again and begin scrubbing with solution.

If the operator does not move the machine forward within 15 seconds, the machine will exit Pause Mode, raise the brush head all the way, and turn off the vacuum motor if it was left on. To scrub at this point, the operator must hit the BRUSH ON/OFF button to lower the brush head again.

To stop scrubbing, simply press the BRUSH ON/OFF button which will stop the brushes and solution while raising the brush head.

BRUSH PRESSURE METER AND BUTTONS

The BRUSH PRESSURE meter (Figure 7) indicates the amount of pressure on the brush head while scrubbing. The BRUSH PRESSURE meter combined with the AutoLogic™ programming protects the brush motors from possible damage due to an amperage overload.

The initial brush pressure is the weight of the brush head; however, the pressure can be adjusted above and below the weight of the brush head.

To adjust the brush pressure, press the Minus (-) button to reduce the amount of pressure and the Plus (+) button to increase the amount of pressure. If the pressure is increased passed the highest level, the brush pressure will automatically decrease to a safe setting.

Since the BRUSH PRESSURE meter is based on the amount of amperage the brush motors are drawing, the amount of pressure may vary with different floor conditions.

VACUUM ON/OFF BUTTON

Pressing the Vacuum ON/OFF button (Figure 7) will lower the squeegee and switch the vacuum motor on. If you reverse the machine while the squeegee is down, it will automatically raise until the machine is stopped or driven forward again. Pressing the vacuum ON/OFF button again will switch the vacuum motor off and raise the squeegee.

RECOVERY TANK FULL INDICATOR

When water is detected at the predetermined full level, the RECOVERY TANK FULL indicator (Figure 7) will light up red. Once the indicator lights up red, AutoLogic™ will switch the brushes off, raise the brush head, and

switch the solution flow off. AutoLogic™ will then switch the vacuum motor off after giving the operator sufficient time to pick up the remaining solution on the floor.

BRUSH INSTALL BUTTON

To install the brushes, first, center the brushes under the drive hubs. Next, press the INSTALL button once (Figure 7). The brush head will lower and slowly turn the brushes until the brush lugs drop into the mounting slots on the drive hubs. Pressing the INSTALL button again will turn the brushes at full speed, locking the brushes onto the drive hubs.

NOTE: If the brush lugs do not drop into the mounting holes correctly, immediately press the BRUSH ON/OFF button or the BRUSH PRESSURE Minus (-) button until the brush head is all the way up and the brush motors turn off. Again, center the brush under the drive hub and repeat the install process.

The machine is now ready for scrubbing. To begin scrubbing, simply switch the solution on and drive forward. If you do not want to immediately begin scrubbing, you can press the INSTALL button a third time to instantly raise the brush head.

BRUSH REMOVE BUTTON

To remove the brushes, simply press the REMOVE button on the control panel (Figure 7). Note: The REMOVE button will not operate while the traction drive is engaged. The machine must be stationary.

SOLUTION FLOW CONTROL

The solution can be switched on and off during scrubbing by pressing the ON/OFF button in the FLOW CONTROL section of the control panel (Figure 7). The rate at which the solution is flowing is increased and decreased by pressing the SELECT button to one of three predetermined settings. The predetermined settings include low, medium, and high. Starting with 30 gallons of solution, the solution will flow for approximately 60 minutes on the low setting, 45 minutes on the medium setting, and 30 minutes on the high setting.

CIRCUIT BREAKERS

The circuit breakers, located on the back side of the machine (Figure 11), provide protection against amperage overload on all of the machine's motors. If a circuit breaker trips, the button will pop out. To reset the breaker, wait a moment and press the button back in. If any one of the circuit breakers trip repeatedly, have the machine examined by the dealer from which the machine was purchased or an authorized service station.

HOUR METER

An hour meter, located on the back side of the machine (Figure 11), has been provided to give an accurate measurement of time that the drive system is engaged in the forward direction.

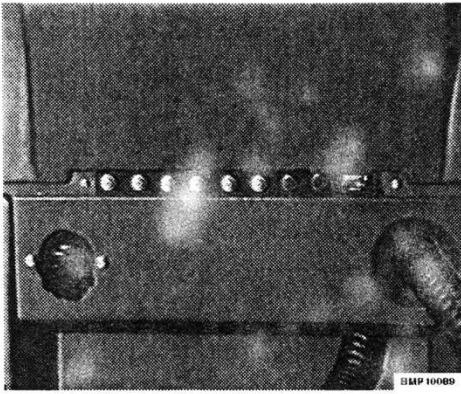


Figure 11

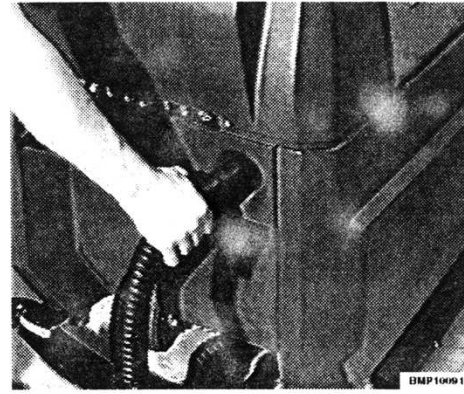


Figure 13

SOLUTION

ADDING SOLUTION

The solution tank is both the front maroon and the gray bottom tank of the machine (Figure 12). To add solution, first, remove the front maroon solution tank's lid and pour in the cleaning chemical using the correct dilution ratio. Next, fill the tank to approximately 2 inches from the bottom of the tank opening (Figure 12). Water temperature must not exceed 130°F.

USE NON-FOAMING CHEMICALS ONLY.

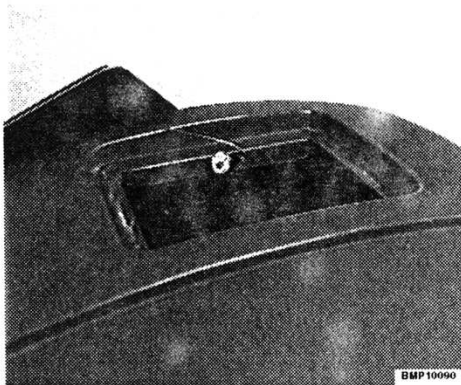


Figure 12

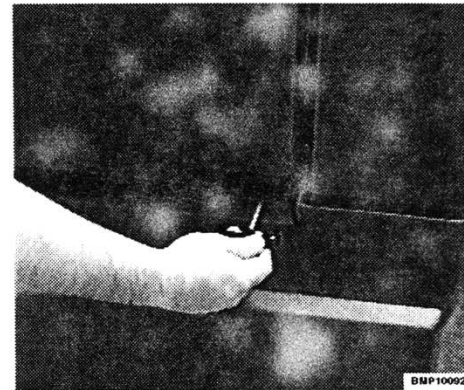


Figure 14

RINSING THE RECOVERY TANK WITH SOLUTION

To rinse the recovery tank with the solution tank's solution, unplug the vacuum hose from the squeegee and plug it into the solution tank's drain valve (Figure 15). Next, open the solution tank's lid, then open the solution tank's drain valve. Now you are ready to switch the vacuum motor on. This will rinse the recovery tank with the solution from the solution tank. Now, you are ready to drain the recovery tank using the procedures above in "EMPTYING THE RECOVERY TANK".

SOLUTION FILTER

A solution filter has been provided to protect the solution pump if something should fall into the tank. This filter does not require regular cleaning; however, if something should fall into the tank, the filter should be inspected and possibly cleaned. The filter can be located at the bottom of the gray tank through the opening in the bottom of the maroon tank.

EMPTYING AND RINSING THE RECOVERY TANK

To empty the recovery tank, simply remove the end of the drain hose from the hose cup (Figure 13), place the end of the hose in a suitable waste water drain, and pull the recovery tank's drain valve (Figure 14). After each use, the recovery tank should be rinsed and left to ventilate, with the lid off, to minimize residue buildup and odor.

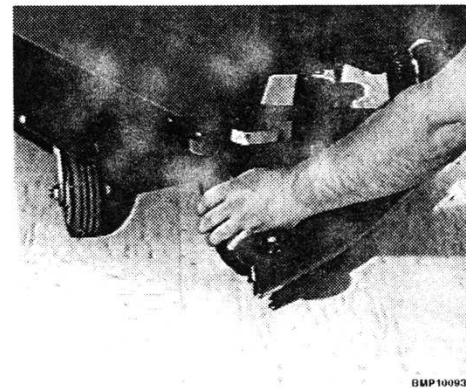


Figure 15

EMPTYING AND RINSING THE SOLUTION TANK

The solution in the solution tank can be either drained or used to rinse the recovery tank. To drain, simply attach a drain hose to the solution tank's drain valve (Fig-

ure 15) and open it to begin draining. Be sure to drain the solution into a suitable waste water drain. Once the solution tank is empty, it should be rinsed and left to ventilate, with the lid off, to minimize residue buildup and odor. To rinse the recovery tank with the solution, refer to the previous section "RINSING THE RECOVERY TANK WITH SOLUTION".

A small amount of solution will remain in the tank in an area that feeds the solution pump. To remove the remaining solution, after draining the tank with its drain valve, switch the solution flow on. The solution pump will pump out the remaining solution in approximately 3 minutes. Note: The brush motors must be switched off and the brush head must be in the "UP" position for the solution pump to turn on.

SCRUBBING PROCEDURES

Before scrubbing, be sure to sweep the floor for debris. If the floor is scattered with debris, the squeegee will leave streaks and possibly cause the vacuum hose to clog, reducing the performance of the machine.

For effective long scrubbing use, begin with fully charged batteries. Next, add the correct ratio amount of the cleaning chemical to the solution tank. Now, fill the tank with water, agitating it if possible, to 2 inches below the bottom of the lid and install the brushes. For more information on installing the brushes, see "BRUSH INSTALL BUTTON" in the "OPERATION: CONTROLS" section of this manual. Be sure to replace the brush covers if they have been removed.

WARNING: DO NOT USE THIS MACHINE WITHOUT THE BRUSH COVERS INSTALLED! DAMAGE MAY RESULT IF THE BRUSHES OR PAD HOLDERS ARE ALLOWED TO HIT OTHER OBJECTS.

The machine is now ready for scrubbing. Insert the key into the keylock and turn it to the POWER position. Adjust the DRIVE SPEED CONTROL knob, press the VACUUM ON/OFF button to switch the vacuum on, press the BRUSH ON/OFF button to switch the brushes on, and push the DRIVE CONTROL BAR forward to begin scrubbing. You may need to adjust the FLOW CONTROL or BRUSH PRESSURE settings according to the condition of the floor.

While scrubbing, slightly overlap the scrubbing passes and reduce speed when cornering to ensure complete solution pickup. For the best possible control of the machine, grip the DRIVE CONTROL BAR with both hands, adjusting the DRIVE SPEED CONTROL knob with your index finger.

Once the RECOVERY TANK FULL light comes on, empty the recovery tank, fill the solution tank again, and continue scrubbing. When completed with scrubbing,

empty and rinse both tanks and wipe the exterior of the machine with a clean cloth preparing it for its next scrubbing duty.

BATTERY CHARGING, CARE, AND SERVICE

BATTERY CHARGING

NOTE: To prevent potential damage to electronics, the keylock switch must be in the off position before and during recharging of the batteries.

The battery charger is electronically controlled. The charging rate will start high depending upon battery condition and gradually reduce as the batteries become charged. Eventually, the charger will reach a finish rate where its last 2 hours will be charging at 2 to 3 amps. The charger is equipped with a standard fuse for protection against a short circuit or reverse polarity of the batteries.

To operate the battery charger:

1. Lift the recovery tank to allow ventilation to the battery compartment. Do not close the battery compartment during charging operation.



CAUTION:

HYDROGEN GAS IS FORMED WHEN THE BATTERIES APPROACH THE FULL CHARGE STATE. THIS GAS IS EXPLOSIVE; THEREFORE, WHEN CHARGING BATTERIES WITH THE RECOVERY TANK LIFTED OPEN, AVOID ANY OPEN FLAME OR ELECTRIC SPARK NEAR BATTERIES. THIS INCLUDES CONNECTING OR DISCONNECTING CHARGER WITH THE TIMER ON. TO AVOID ACCUMULATION OF GAS, BE SURE THE BATTERIES RECEIVE GOOD AIR CIRCULATION WHILE BEING CHARGED.

2. Connect the charger plug into the machine firmly. The machine's mating charger plug is mounted just below the parking brake on the rear of the machine (Figure 16).

3. Plug the battery charger into a normal electrical outlet.

NOTE: Set the battery charger on a flat, hard surface to insure that cooling air can circulate through the bottom louvers.

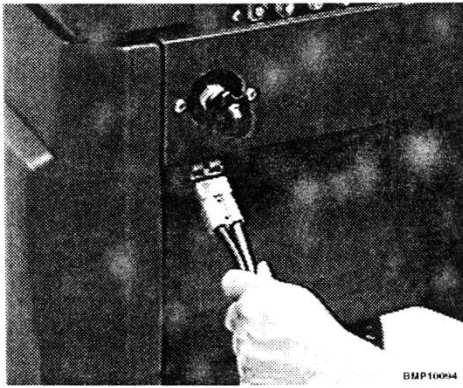


Figure 16

The battery charger is guaranteed against defective parts and workmanship. Any parts proving defective within six months will be repaired free of charge when the charger is returned prepaid to the manufacturer.

BATTERY CARE

Battery care determines the life span and efficiency of the units; therefore, for the longest possible useful life from these batteries, the following procedure should be followed:

1. Keep battery solution (electrolyte) level up in cells. Check daily - if cells need water, use only distilled or approved water.
2. Keep batteries fully charged when not in use.
3. Keep batteries and terminals clean. When necessary, clean the terminals with a baking soda solution, then coat them with grease to retard corrosion.

BATTERY SERVICE & GUARANTEE

If a battery becomes unserviceable in normal use within 90 days of purchase, the purchaser is entitled to either a new battery of a comparable size and type or to the necessary repairs without charge for either labor or materials; however, the choice of entitlement will be at the option of the manufacturer.

Transportation, recharges, or the use of rental batteries are not classed as repairs. If required, the battery owner is expected to pay for all services that are not classed as repairs.

ADJUSTMENT POLICY

If a battery becomes unserviceable in normal use after the 90 day period, it will be repaired or exchanged with another battery of a comparable size and type to the original purchaser on a prorated price basis. If the battery requires repairing, the owner will be subject to service and transportation charges.

PRORATING SCALE AFTER 90 DAYS

To calculate the prorated value of the unserviceable batteries, use the formula below.

$(12 - \text{Months of Operation}) / 12 \times \text{Original Purchase Price} = \text{Exchange Value}$

Example: A battery that failed after its 5th month of use from the purchase date with a \$182.00 original cost.
 $(12 - 5) / 12 \times \$182.00 = \106.17 Exchange Value

All batteries are guaranteed for twelve (12) months from date of receipt. (Subject to change without notice)

LIMITATIONS

Failure in service due to fire, wreckage, explosion, freezing, abuse or neglect, use of battery "dopes", or the use of a battery of a group size smaller than of the battery used as original equipment is not covered by the Service & Battery Guarantee. The Service & Battery Guarantee will not apply if battery has been opened or repaired or manufacturer's identification markings has been obliterated before presentation for adjustment or if battery has broken case or cover or if battery is discharged.

CLEAN UP AND STORAGE

When finished scrubbing for the day, be sure to empty and rinse the solution and recovery tank. For more information on rinsing the solution and recovery tanks, see "SOLUTION". Also, clean the lint screen from lint and other debris. The lint screen is located on the vacuum tube, directly under the recovery tank lid (Figure 17). For information on rinsing the solution tank, see "EMPTYING AND RINSING THE SOLUTION TANK" and for rinsing the recovery tank, see "RINSING THE RECOVERY TANK WITH SOLUTION" and "EMPTYING AND RINSING THE RECOVERY TANK" in this manual.

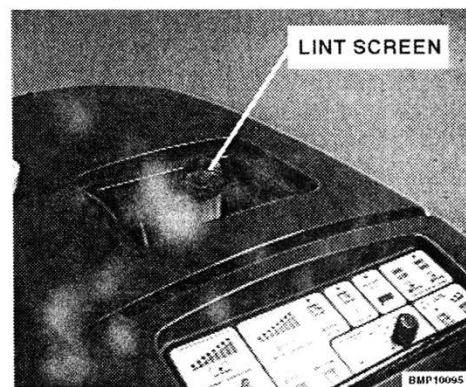


Figure 17

Do not expose the machine to temperatures in excess of 120°F or lower than 35°F for extended periods of time either in storage or in transporting. Freezing solution can result in damage to the pump, solution plumbing, and tanks.

MAINTENANCE

Please read and follow the "MAINTENANCE SCHEDULE" located under the recovery tank.

At the end of the day's operation, the machine should be completely cleaned and prepared for the next shift's operations. Careful maintenance will insure effective performance throughout a long period of service.

LINT SCREEN

Vacuum motor performance may be reduced if lint accumulates on the lint screen. After each use or as needed, check the machine's lint screen for possible blockage due to lint build up. The lint screen is located on the vacuum tube, directly under the recovery tank lid (Figure 17).

MICROSTAT™ FILTER

High efficiency MICROSTAT™ filters are available as an option for this machine. MICROSTAT™ filters have been tested and proven to have a filtration efficiency of 99.97% on particles 0.3 microns and larger. These filters may be used in health related or other applications where stringent filtration is required. The MICROSTAT™ filter kit, part number 038303, includes one lint filter and twelve MICROSTAT™ filters.

To install the lint and MICROSTAT™ filters, remove the three vacuum motor mounting bolts (Figure 18) and install the lint and MICROSTAT™ filters between the vacuum motor and the recovery tank. Once installed, replace the three mounting bolts.

For maximum filtration, replace the MICROSTAT™ filter every two weeks under heavy use.

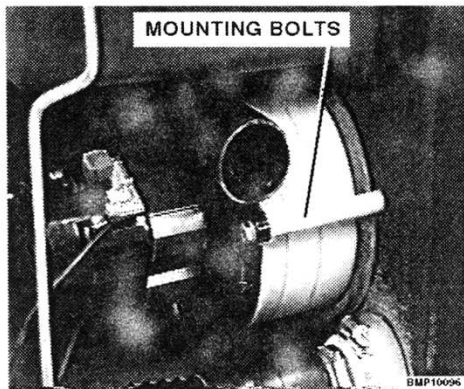


Figure 18

REVERSING THE SQUEEGEE RUBBER

When the squeegee becomes worn, it will leave streaks of water on the floor. To regain squeegee performance, the squeegee has been designed to be reversed in two directions to allow all four edges of the

squeegee blade to be used. To reverse the squeegee blade, first, remove the squeegee from the machine by removing the two knobs (Figure 19).

Next, remove the eight bolts that hold the squeegee assembly together (Figure 20).

After these bolts are removed, the squeegee can be disassembled, reversed, and reassembled. Once the squeegee is reassembled with a sharp corner edge toward the front of the squeegee, replace the eight bolts and reattach it to the machine.

SQUEEGEE RUBBER REPLACEMENT

If the squeegee rubber has been reversed and worn on all four sides, it will have to be replaced to maintain maximum performance. To replace the old rubber blade with a new one, first, remove the squeegee from the machine by removing the two knobs (Figure 19).

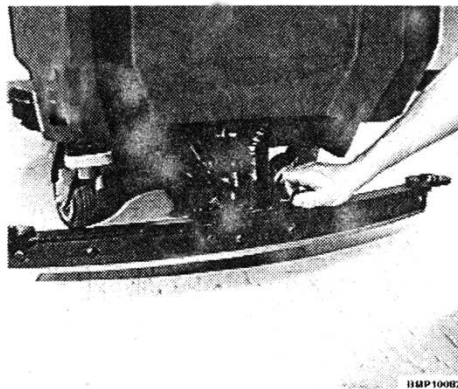


Figure 19

Next, remove the eight bolts that hold the squeegee assembly together (Figure 20).

After these bolts are removed, the squeegee can be disassembled and reassembled with the new squeegee rubber. Once the squeegee is reassembled, replace the eight bolts and reattach it to the machine.

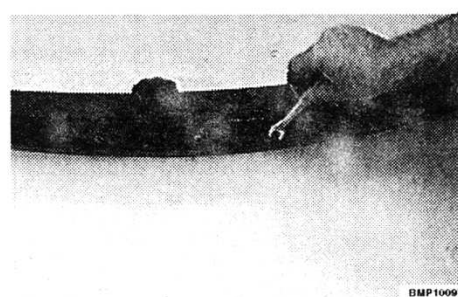


Figure 20

For information on squeegee accessory part numbers and ordering, refer to "ACCESSORIES".

TROUBLE SHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
1. Machine will not move.	<ol style="list-style-type: none"> 1. Key is not turned in POWER position. 2. Battery condition low. 3. Speed set too low. 	<ol style="list-style-type: none"> 1. Turn keylock switch clockwise. 2. Check BATTERY CONDITION meter and charge batteries. 3. Adjust speed control knob.
2. Brush drive motor will not start.	<ol style="list-style-type: none"> 1. Battery condition low. 2. Circuit breaker tripped. 	<ol style="list-style-type: none"> 1. Check voltmeter and charge batteries. 2. Reset by pushing circuit breaker button.
3. Machine streaking a cleaned floor.	<ol style="list-style-type: none"> 1. Debris lodged under rear squeegee blade. 2. Insufficient water flow to brushes. 3. Worn squeegee blades. 4. Worn brushes or pads. 5. Improper squeegee adjustment. 	<ol style="list-style-type: none"> 1. Raise squeegee and clean squeegee blade. 2. Clean screen and fresh solution tank and eliminate any restrictions in lines. 3. Replace squeegee blade. 4. Replace brushes or pads. 5. See "ADJUSTMENTS".
4. Vacuum suction blocked.	<ol style="list-style-type: none"> 1. Clogged pickup tube. 2. Lint filter dirty. 3. Clogging at elbows and hose entering recovery tank. 	<ol style="list-style-type: none"> 1. Remove accumulations. 2. Clean lint filter. 3. Remove elbow and clean.
5. Short operating time.	<ol style="list-style-type: none"> 1. Battery charge condition very low. 2. Corroded wires or connectors. 	<ol style="list-style-type: none"> 1. Recharge batteries fully before beginning operation. 2. Clean thoroughly.
6. Water will not come on.	<ol style="list-style-type: none"> 1. Water line disconnected. 	<ol style="list-style-type: none"> 1. Reconnect water solution line to brush head.
7. Charger will not come on.	<ol style="list-style-type: none"> 1. DC or AC cords are not connected. 2. Fuse defective. 	<ol style="list-style-type: none"> 1. Connect. 2. Replace fuse.

WARNING!

TO AVOID SERIOUS INJURY, DISCONNECT THE POWER CORD FROM THE ELECTRICAL OUTLET. ANY ELECTRICAL SERVICING MUST BE PERFORMED BY THE DEALER FROM WHICH THE MACHINE WAS PURCHASED OR AN AUTHORIZED SERVICE STATION.

THE POWERBOSS® LIMITED WARRANTY

Your PowerBoss® equipment which has been manufactured, tested, and inspected in accordance with carefully specified engineering requirements, is warranted to be free from defects in material and workmanship. This warranty is, however, subject to the following qualifications, conditions, and limitations which are set forth to provide you and all users of the equipment with information concerning the duration, extent, availability, and applicability of the PowerBoss® limited warranty, the procedure to be taken to obtain its performance, and other information concerning the PowerBoss® warranty policy.

The PowerBoss® Limited Warranty is extended to the original end user as follows

AAR PowerBoss® warrants that the Walk-Behind scrubber will be free of defects in materials and workmanship for a period of 12 months or 500 hours from the date of installation. Parts coverage extends for the entire warranty period, labor for the first 180 days. Batteries are warranted on a prorated basis for one year. Battery chargers are warranted by the manufacturer for one year.

Replacement parts are covered for the remainder of the machines warranty or 90 days, whichever is longer.

Battery sweepers have a one year parts and labor warranty.

Poly components carry a ten year replacement warranty with one year service labor. This warranty will not cover damage attributable to the following:

- : Improper, unreasonable or negligent use or abuse of the equipment.
- : Use of the equipment with hot water (over 130 deg. F , 54 deg. C).
- : "Warpage", "Creepage", or "Distortion" of the part so long as the same does not interfere with normal operation.
- : Abrasions or punctures of the equipment.

The start date of the warranty coverage shall be the purchase date of the original end user or one year from the date the machine was shipped from the factory, whichever comes first.

Parts of PowerBoss® Equipment not covered by the PowerBoss® Limited Warranty

Certain parts of PowerBoss® Equipment require replacement in the ordinary course of use due to normal wear by reason of their characteristics. These are normal wear items such as cords, squeegee blades, belts, gaskets, bumpers, carbon brushes, filters, hoses, bags, etc.

Exceptions and Exclusions from Warranty

This equipment is required to be used on electric current as indicated on the data plate. Otherwise damage, defects, malfunctions or other failures of the equipment arising from the use on electric current not as indicated are excepted and excluded from this warranty. Defects, malfunctions, failure, or damage of the equipment caused by improper, unreasonable or negligent use or abuse of the equipment are likewise excluded from this warranty. If repair is done to the equipment by anyone other than those designated as authorized to perform such work without having obtained factory authorization in writing, AAR PowerBoss, Inc. at its sole option, may determine that this warranty will not apply and that reimbursement for such repair will not be made because of the failure to comply with such factory instructions.

Procedure to be taken to obtain performance of warranty repair

To secure repair of the equipment or any warranted parts under this warranty, the following procedure must be taken. The inoperative equipment or warranted parts together with satisfactory evidence of the purchase date, must be delivered, with shipping and delivery charges prepaid, to one of the following:

- : The dealer from whom purchased.
- : Any PowerBoss® distributor's service department in the United States.
- : Any PowerBoss® authorized service station in the United States.

If you are unable to locate any of the foregoing, you may write or otherwise communicate with AAR PowerBoss, Inc. for instructions before repair service is performed by anyone else. In such event, AAR PowerBoss, Inc. will provide either the location of a closely available PowerBoss® service department or other factory instructions. In the event that no closely available service department is available, PowerBoss® at its discretion will repair or replace the part or equipment at the factory, the products will be returned to the owner freight prepaid. No warranty will be honored without proof of purchase, the model number, and serial number if applicable.

Replacement

In the event of a defect, malfunction, or failure of your PowerBoss® equipment or any warranted part to conform with this warranty, AAR PowerBoss, Inc. may, at its sole option and own expense, replace the equipment or any warranted part with another new identical or reasonably equivalent model or part in lieu of repairing the defect.

No refund of purchase price

AAR PowerBoss, Inc. will not, as a matter of its warranty policy, refund the customer's purchase price.

Warranty registration

Your PowerBoss® Company distributor from whom you purchased your equipment is responsible for the registration of your warranty with the factory. We ask that you cooperate with your distributor in supplying the necessary information on the warranty card so that we may better serve you. Any information or questions that you may have concerning your PowerBoss® equipment or this warranty may likewise be secured from the factory. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

AAR POWERBOSS, INC.

P.O. BOX 1227, ABERDEEN, NC 28315