

# PULLMAN-HOLT

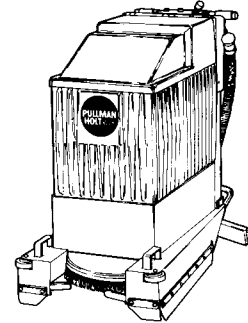
## Operation & Care Instructions

Save For Future Reference

### Model ES2000

#### Automatic Scrubber

This electric scrubber is a high quality, precision made product. All parts used in the manufacturing of this machine have passed rigid quality control standards prior to assembly and an "each unit" final inspection prior to packaging is your assurance of proper assembly. This automatic scrubber was protectively packed to prevent possible damage in transit. Should damage occur, please notify the transporting carrier immediately for loss and/or claim.



## IMPORTANT SAFEGUARDS

### MOTOR:

This electric scrubber is powered by a 3/4 HP brush motor and a 1 HP by-pass vacuum motor and will operate on 115V/60HZ only. Be sure your power supply agrees with a voltage marked on the nameplate. Voltage decreases of more than 10% will cause the motor to slow down, thus increasing the current draw and opening the circuit breaker.

### WARNING

**RISK OF FIRE:** Do not use with a flammable or combustible liquid to clean a floor.

### EXTENSION CORDS:

Machines that have 3-wire cords requiring grounding must only be used with extension cords that have 3-prong grounding type plugs and 3-pole receptacles.

To determine the minimum wire size required, refer to the chart below:

Nameplate Rating-Amps	Minimum Wire Size (AWG) of Extension Cord							
	Total Extension Cord Length (Feet)							
	25	50	75	100	125	150	175	200
0-10.0	18	18	16	16	14	14	12	12
10.1-13.0	16	16	14	14	14	12	12	12
13.1-15.0	12	12	12	12	12	12	12	-

Before using an extension cord, inspect it for loose or exposed wires, damaged insulation and defective fitting.

### CAUTION

Always disconnect power cable from electrical outlet when working on this machine.

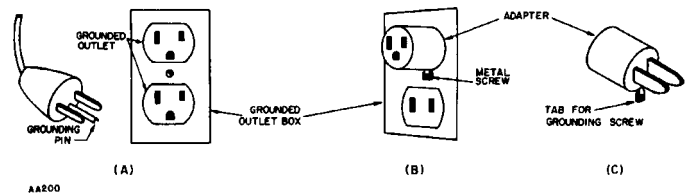
## GROUNDING INSTRUCTIONS

This electric scrubber 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 equipment grounding conductor and grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

### WARNING

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 grounded plug that looks like the plug illustrated in sketch A below. A temporary adapter that looks like the adapter illustrated in sketches B and C may be used to connect this plug to a 2-pole receptacle as shown in sketch B if a properly grounded receptacle is not available. The temporary adapter should be used only until a properly grounded outlet (sketch A) can be installed by a qualified electrician. The green colored ear, lug, or the like extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place by a metal screw.

NOTE: In Canada, the use of a temporary adapter is not permitted by the Canadian Electrical Code.

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## ABOUT THE MACHINE

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### TO ASSEMBLE

This electric scrubber is completely assembled. Just attach the standard pad drive brush and the appropriate pad or a model 20 scrub brush. The scrubber is ready to operate.

### TO ATTACH BRUSH

Tilt the machine back until the safety stands located on each side of the front opening may be released to support scrubber. Select the desired brush, scrub or drive, and position the three slots of the clutch plate over the three lugs of the drive plate. Turn the brush counter-clockwise as far as it will go. The brush is now seated in ready-to-use position.

**TO REMOVE BRUSH**, disengage clutch plate slots from drive plate lugs by turning clockwise.

**DO NOT OPERATE THE SCRUBBER WITH SCRUB BRUSH OR DRIVE BRUSH AND PAD IN PLACE.**

### TO OPERATE

With the "brush drive" switch turned to ON, lift the solution tank located at the front of the scrubber and rest on the chassis. Partially fill the solution tank. Locate the metering valve positioned just above the solution solenoid. Turn the "solution control" switch to ON and adjust the metering valve for desired flow. Turn off all switches, replace solution tanks and fill. **DEFOAMER MUST BE ADDED TO THE RECOVERY TANK BEFORE OPERATING THE SCRUBBER.**

This scrubber is designed to scrub and vac-squeegee dry in a single operation. With the "brush drive" switch turned to ON, turn the "solution control" switch to ON for continuous flow or turn ON and OFF to regulate intermittent flow. Turn the "vac" switch to ON. Lower the brush by depressing the brush foot pedal and moving the pedal left into the longer of the slots. Lower the squeegee to vacuum position by

pushing the squeegee knob to the right. Push the scrubber at a slow, but steady pace for best results. Double scrubbing may be necessary if infrequent cleaning causes heavy soil build up. In this situation make a scrubbing pass with solution and brush only with the squeegee in UP position. Then rescrub the area with the squeegee in normal **DOWN** position for water pick-up.

Clean small areas at a time when double-scrubbing.

To raise the brush, depress the brush foot pedal, then move right into the shorter of the slots. The squeegee is raised by moving the squeegee knob to the left.

### TO STOP:

Turn "solution control" switch to OFF approximately (10) feet before anticipated stopping point. Raise brush and turn "brush drive" switch to OFF. Maintain "vac" switch at ON and squeegee in down position until all solution has been picked up. Run vacuum motor approximately (30) seconds after all solution has been picked up which allows hose to clear.

### CARE AND MAINTENANCE:

#### SOLUTION AND RECOVERY TANKS

These tanks are a low maintenance polyethylene material, however, periodic brush cleaning and rinsing is necessary to prevent dirt and sediment build-up. **Do not allow unused solution or dirty water to remain in tanks.**

Eventually solids build-up and will clog feed line and drains. After using, flush lines with clean water.

#### SQUEEGEE BLADES

Replace worn rubber blades. To install new blades remove screws and retaining strips, install blades, then reassemble squeegee.

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## TROUBLESHOOTING GUIDE

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Symptom	Possible Cause	Corrective Action
Motor Won't run	1. Blown fuse or tripped circuit breaker at wall panel 2. Defective switch 3. Defective power cord	1. Replace fuse or reset circuit breaker 2. Replace switch 3. Replace power cord
Scrubber runs slow	1. Low line voltage	1. If voltage under recommended minimum, check size of wiring from main switch; if okay, contact power company
Scrubber is noisy	1. Defective motor 2. Defective gear box	1. Return to service center 2. Return to service center
Solution flows poorly	1. Screen 2. Metering valve 3. Solution valve	1. Remove cylindrical screen from brass fastener in solution feed line and clean 2. Check to see if closed or clogged 3. Check solenoid or line clog
Vacuum poor or stopped	1. Worn squeegee 2. Clogged vacuum line 3. Recover tank full	1. Replace blades 2. Check line from squeegee to recovery tank 3. The safety shut-off valve and switch may have activated to prevent further fill

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## PULLMAN-HOLT

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