

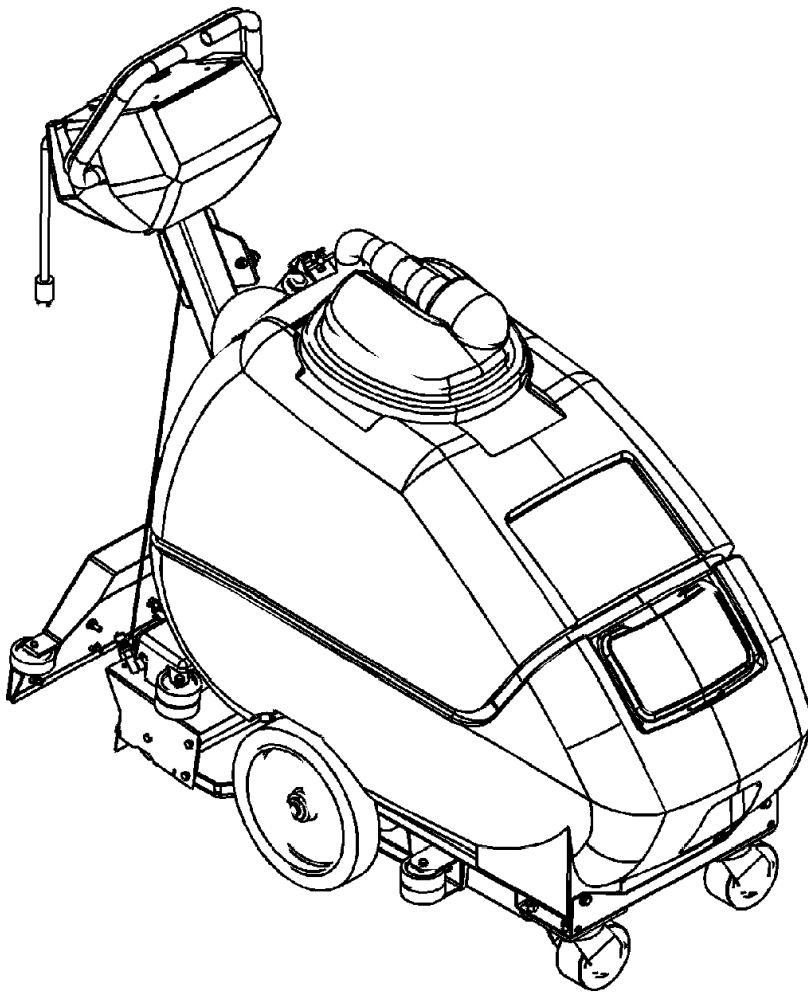
KÄRCHER

makes a difference

Commodore 20 - 115V

English

02



From Serial Number (Ref No1*)
*See Serial Number Page in Spare
Parts List or call manufacturer



**Register
your product**

www.kaercher.com/welcome



86400940-B 12/06/19

Machine Data Label

Model:	_____
Date of Purchase:	_____
Serial Number:	_____
Dealer:	_____
Address:	_____
Phone Number:	_____
Sales Representative:	_____

Overview

This carpet extractor is an electrical powered carpet extractor intended for commercial use. The appliance sprays a cleaning solution onto the carpet agitates the wet carpet, and then extracts the soiled solution back into the unit's recovery tank. The appliance is fitted with and a hand tool for cleaning upholstery and stairs.

MODELS:

CMD20
1.008-605.0

Warranty Registration

Thank you for purchasing a Kärcher North America product. Warranty registration is quick and easy. Your registration will allow us to serve you better over the lifetime of the product.

To register your product go to :
<http://warranty.karcherna.com>

For customer assistance:
1-800-444-7654

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Machine Data Label2
 Overview2
Table of Contents3
How To Use This Manual4

Safety

 IMPORTANT SAFETY INSTRUCTIONS5
 HAZARD INTENSITY LEVEL6
 Grounding Instructions7
 Safety Labels8

Operations

 Technical Specifications10
 Controls12
 Drive Controls12
 Filling the Solution Tank13
 Machine Operation15
 Brush Adjustment17
 Cleaning18
 Accessory Tool Usage20

Maintenance

 Periodic Maintenance21
 Daily / Regular Maintenance21
 Service Schedule22
 Troubleshooting23

How To Use This Manual

This manual contains the following sections:

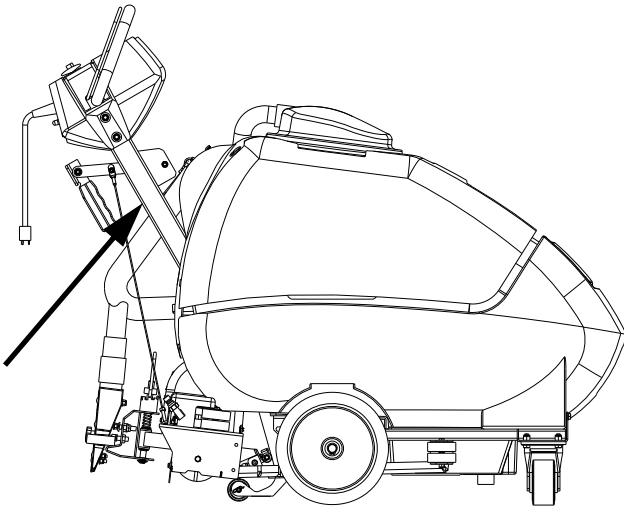
- How to Use This Manual
- Safety
- Operations
- Maintenance

The HOW TO USE THIS MANUAL section will tell you how to find important information for ordering correct repair parts.

Parts may be ordered from authorized dealers. When placing an order for parts, the machine model and machine serial number are important. Refer to the MACHINE DATA box which is filled out during the installation of your machine. The MACHINE DATA box is located on the inside of the front cover of this manual.

Model: _____
Date of Purchase: _____
Serial Number: _____
Dealer: _____
Address: _____
Phone Number: _____
Sales Representative: _____

The model and serial number of your machine is on the control panel support arm, located on the back of the machine.



The SAFETY section contains important information regarding hazardous or unsafe practices of the machine. Levels of hazards are identified that could result in product damage, personal injury, or severe injury resulting in death.

The OPERATIONS section is to familiarize the operator with the operation and function of the machine.

The MAINTENANCE section contains preventive maintenance to keep the machine and its components in good working condition. They are listed in this general order:

- Storage
- Maintenance
- Troubleshooting

NOTE: If a service or option kit is installed on your machine, be sure to keep the KIT INSTRUCTIONS which came with the kit. It contains replacement parts numbers needed for ordering future parts.

NOTE: The manual part number is located on the lower right corner of the front cover.

IMPORTANT SAFETY INSTRUCTIONS

**When using this machine, basic precaution
must always be followed, including the following:**

READ ALL INSTRUCTIONS BEFORE USING THIS MACHINE.

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

Connect to properly grounded outlet. See Grounding Instructions.

Do not leave the machine unattended. Unplug machine from outlet when not in use and before maintenance or service.

Use only indoors. Do not use outdoors or expose to rain.

Do not allow machine 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 components and attachments.

Do not use damaged electrical cord or plug. Follow all instructions in this manual concerning grounding the machine. If the machine is not working properly, has been dropped, damaged, left outdoors, or dropped into water, return it to an authorized service center.

Do not pull or carry machine by electrical cord, use as a handle, close a door on cord, or pull cord around edges or corners.

Do not run machine over cord. Keep cord away from heated surfaces.

Do not unplug machine by pulling on cord. To unplug, grasp the electrical plug, not the electrical cord.

Do not handle the electrical plug or machine with wet hands.

Do not operate the machine with any openings blocked. Keep openings free of debris that may reduce airflow.

This machine is intended for cleaning carpet only.

Do not vacuum anything that is burning or smoking, such as cigarettes, matches, or hot ashes.

This machine is not suitable for picking up health endangering dust.

Turn off all control before unplugging.

Do not operate this machine near flammable fluids, dust or vapors.

Maintenance and repairs must be done by qualified personnel.

If foam or liquid comes out of machine, switch off immediately.

READ AND SAVE THESE INSTRUCTIONS

Safety

The following symbols are used throughout this guide as indicated in their descriptions:

HAZARD INTENSITY LEVEL

There are three levels of hazard intensity identified by signal words -**WARNING** and **CAUTION** and **FOR SAFETY**. The level of hazard intensity is determined by the following definitions:

⚠ WARNING:

WARNING - Hazards or unsafe practices which COULD result in severe personal injury or death.

⚠ CAUTION:

CAUTION - Hazards or unsafe practices which could result in minor personal injury or product or property damage.

FOR SAFETY: To Identify actions which must be followed for safe operation of equipment.

Report machine damage or faulty operation immediately. Do not use the machine if it is not in proper operating condition. Following is information that signals some potentially dangerous conditions to the operator or the equipment. Read this information carefully. Know when these conditions can exist. Locate all safety devices on the machine. Please take the necessary steps to train the machine operating personnel.

FOR SAFETY:

DO NOT OPERATE MACHINE:

Unless Trained and Authorized.

Unless Operation Guide is Read and understood.

In Flammable or Explosive areas.

In areas with possible falling objects

WHEN SERVICING MACHINE:

Avoid moving parts. Do not wear loose clothing; jackets, shirts, or sleeves when working on the machine. Use manufacturer approved replacement parts.

Electrical

In the USA this machine operates on a standard 15 amp 115 volt A.C. power circuit. The amp, hertz, and voltage are listed on the data label found on each machine. Using voltages above or below those indicated on the data label will cause serious damage to the motors

Extension Cords

If an extension cord is used, the wire size must be at least one size larger than the power cord on the machine, and must be limited to 50 feet (15.5m) in length.

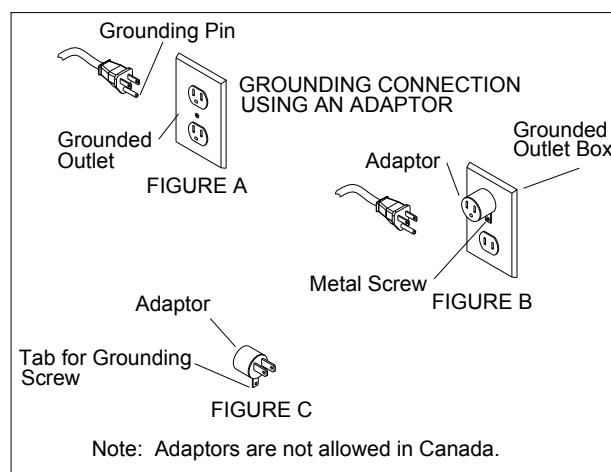
Grounding Instructions

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 inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

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. A temporary adapter looks like 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 outlet 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 rigid 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

⚠ WARNING:

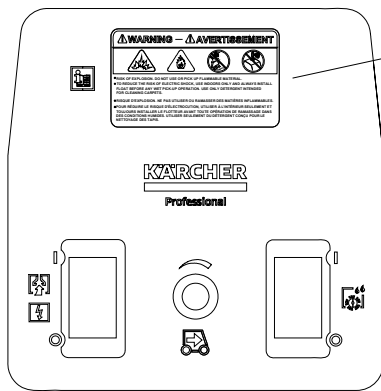
Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.



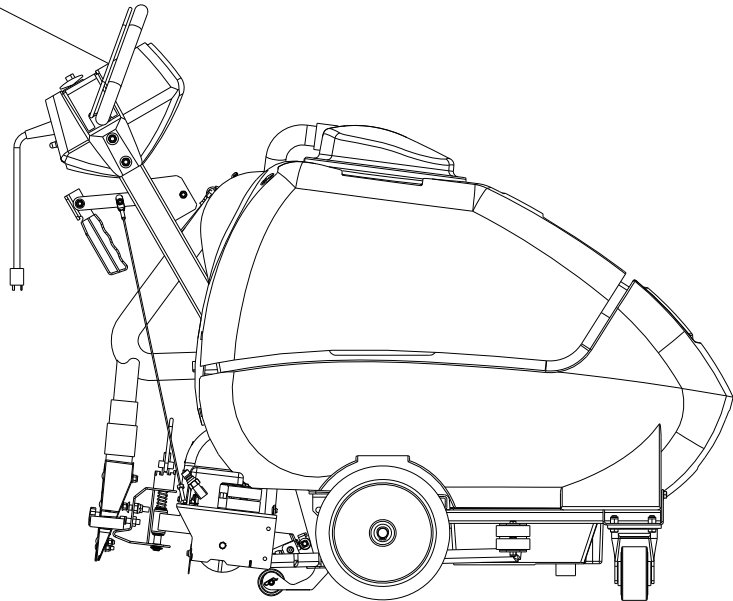
NOTE: In Canada, the use of a temporary adapter is not permitted by the Canadian Electrical Code.

Safety Labels

NOTE: These drawings indicate the location of safety labels on the machine. If at any time the labels become illegible, promptly replace them.



WARNING LABEL INCLUDED ON
86396920 CONTROL PANEL LABEL



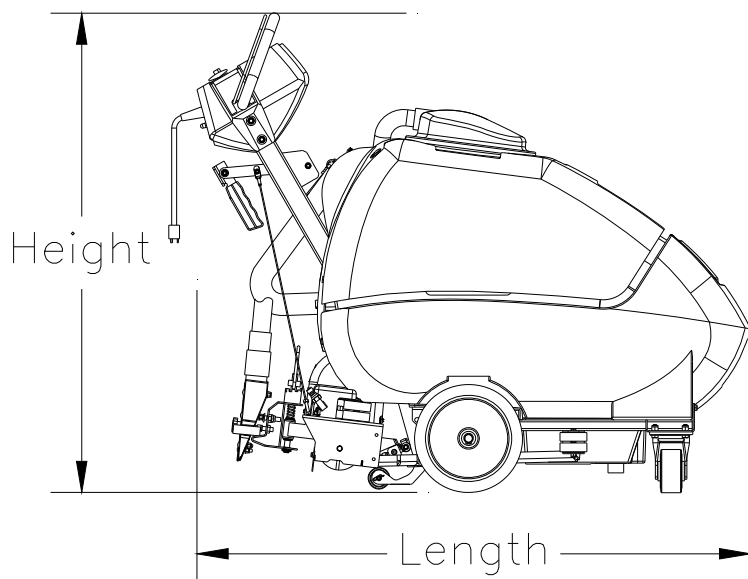
Operations

Technical Specifications

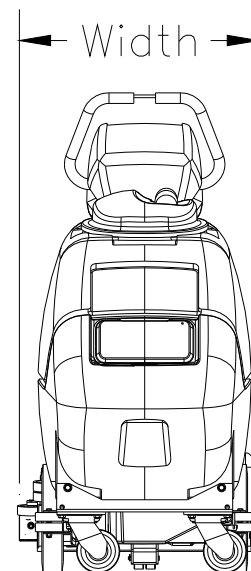
ITEM	DIMENSION/CAPACITY
Electrical	115 V, 15 A, 60 HZ
Electric Propelling Motor	(1) –1/4 hp DC (186 watts) with variable speed forward.
Drive system	Transaxle unit variable speed Operating Speed: 0-100 ft/min
Electric Vacuum Motor	(1) – 3 stage, 1 hp 99 cfm (2.80m ³ /min.)
Brush	(1) 18" (45.8 cm)
Solution Pump	100 psi (6.9 bars), diaphragm style, demand pump
Solution Capacity	20 gallons (75 ltr)
Recovery Capacity	20 gallons (75 ltr)
Brush Speed	1000 RPM
Vacuum Shoe	22" (56 cm) wide, cast urethane floating and pivoting.
Wheels:	
Front: (2)	4" dia. (10 cm) wheels by 2.5"
Rear: (2)	10" dia. (25 cm) wheels by 2"
Solution Spray	2 quick change jets
Power Cable	75' (23m) (12 gauge)

ITEM	MEASURE
Weight	215 lbs (98kg)
Length	51" (130 cm)
Height	44" (111 cm)
Width	22" (56 cm)

SIDE VIEW



FRONT VIEW

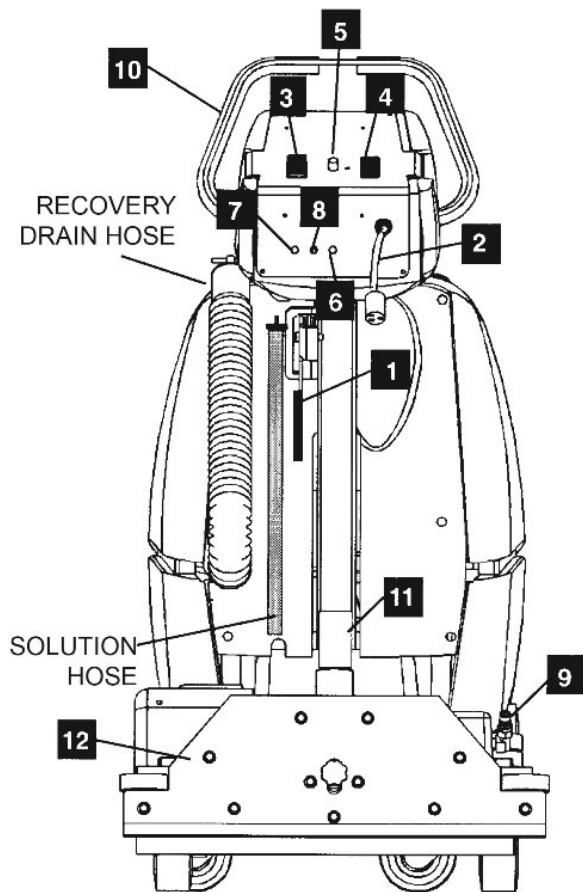


⚠ CAUTION:

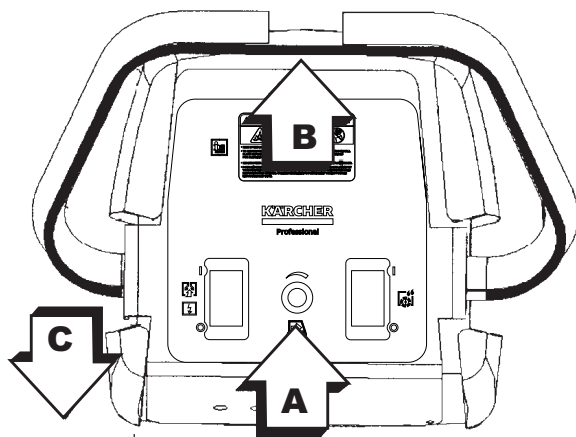
This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Operations

Controls



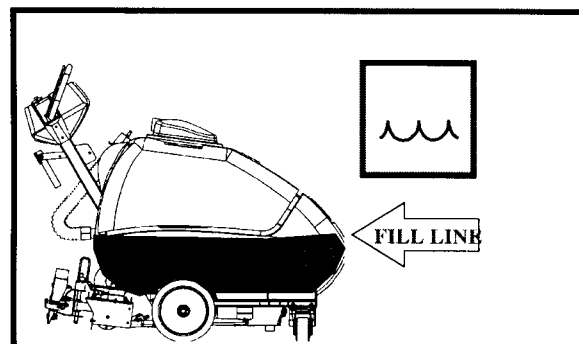
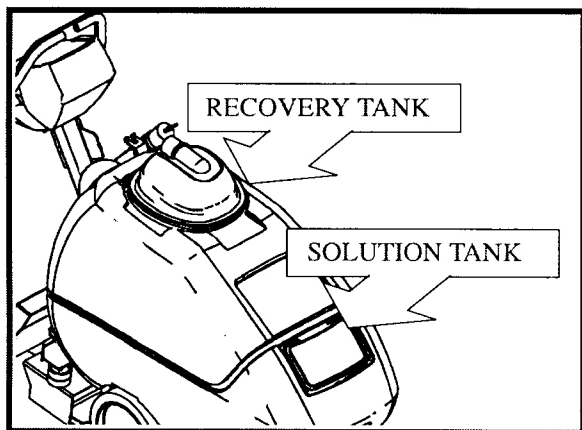
1. **Brush/Vac Shoe Lift Lever** - Raises and lowers both brush and vac shoe.
2. **Electrical Cord**
3. **Main Power Switch** - Turns On and Off the vac motor/pump and machine.
4. **Brush/Solenoid Knob** - Enables the brush motor and solution spray (only when propelling).
5. **Speed Control Knob** - Adjusts the forward drive speed of the machine. (See Below)
6. **Drive Motor Circuit Breaker** - 6 amp, protects the drive motor mechanism.
7. **Vac Motor Circuit Breaker** - 11 amp, protect vacuum motor.
8. **Brush Motor Circuit Breaker** - 8 amp, protect brush motor.
9. **Solution Accessory Tool Hook-Up** - Used for various auxiliary cleaning tools.
10. **Main Handle**
11. **Vacuum Accessory Tool Hook-Up** - To use accessory tool, remove hose from vac shoe and attach to accessory tool adaptor. 8.608-908.0
12. **Vac Shoe Assembly**



Drive Controls

- A. The speed the machine will travel is regulated by the knob located on the center of control panel. Turn the knob to the right to increase the speed of the machine and to the left to decrease the speed of the machine.
- B. Squeezing the control lever will propel the machine forward at the selected speed. Machine will also engage the brush and spray if #4 is activated.
- C. To move the machine backwards release the control lever and then pull back on main handle

NOTE: The machine drive assembly is disengaged. Do not pull back on the control lever



Filling the Solution Tank

NOTE: Use clean bucket of water to fill solution tank.

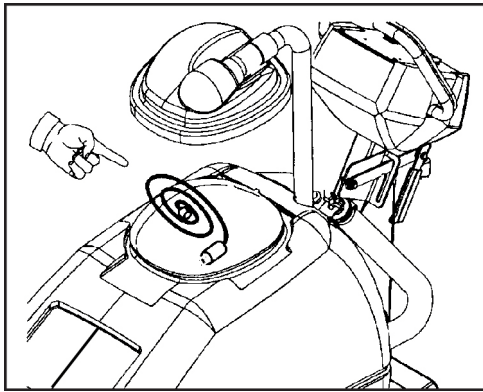
⚠ CAUTION:

Do not put defoamer, solvents, spotter or pre-spray chemicals in the solution tank.

Suitable Chemicals	Non-Compatible Chemicals
Alkalis	Aldehydes
Detergents	Aromatic Hydrocarbons
Hydroxides	SP Butyls
Soaps	Carbon Tetrachloride
Vinegar	Clorox*
	Chlorinated Bleaches
	Chlorinated Hydrocarbons
	Lysol*
	Methyl Ethel Ketone (MEK)
	Perchorethylene (perc)
	Phenolics
	Trichlorethylene

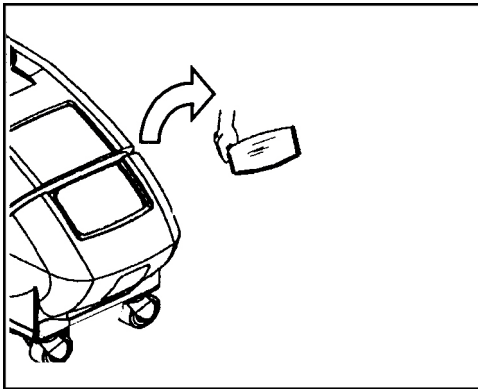
* Product Trademark Names

Operations

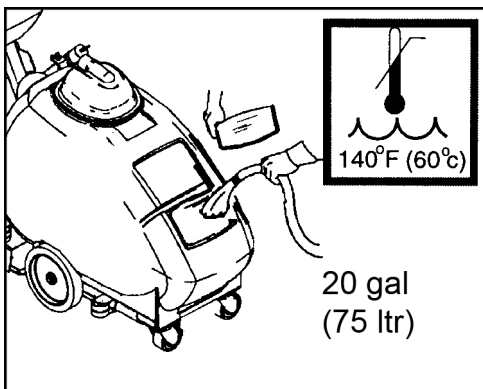


Filling the Solution Tank - continued

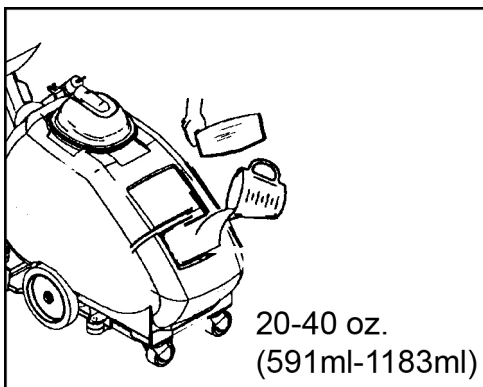
1. Remove electrical cord from recovery tank.



2. Remove dome from solution tank.

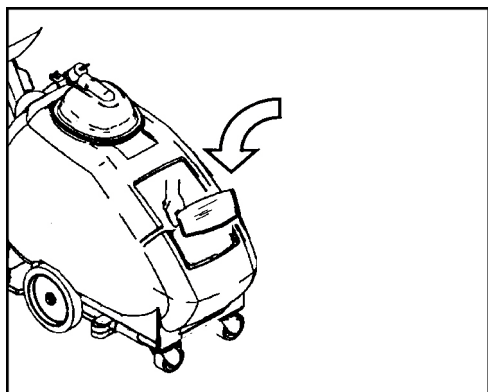


3. Fill the solution tank with 20 gallons (75 ltr) of water, that is no more than 140°F/60°C.



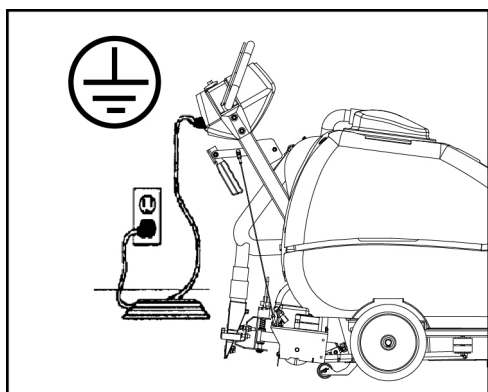
4. Add 20-40oz. (591ml-1183ml) of cleaning chemical.

5. Replace dome on solution tank.

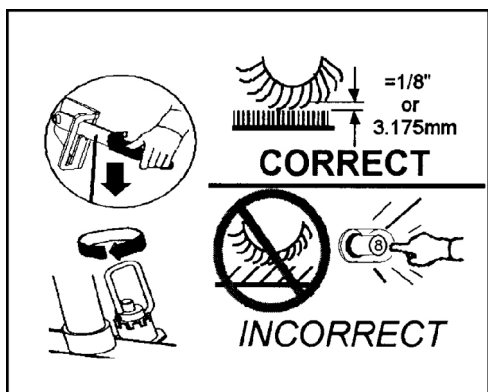


Machine Operation

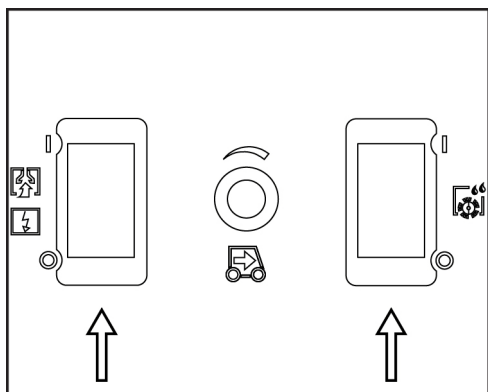
1. Plug cord into grounded outlet.



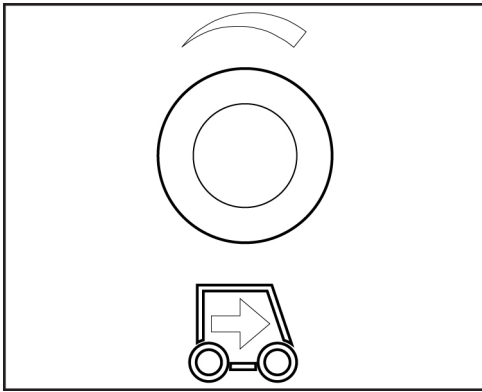
2. Adjust brush to proper setting (see Brush Adjustment). Lower the brush.



3. Turn both the power and brush switches "ON".

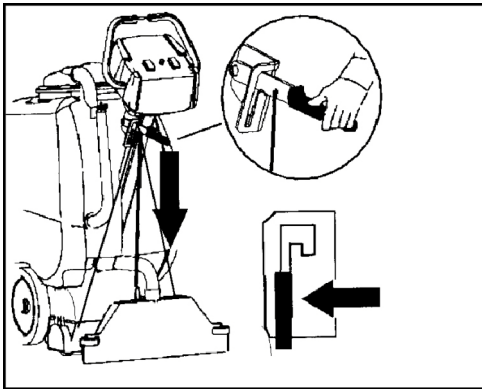


Operations

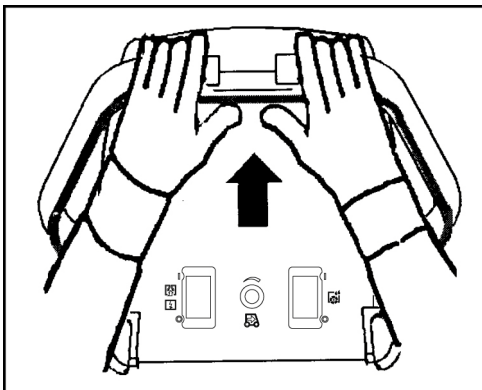


Machine Operation - continued

4. Adjust speed control knob to desired speed.



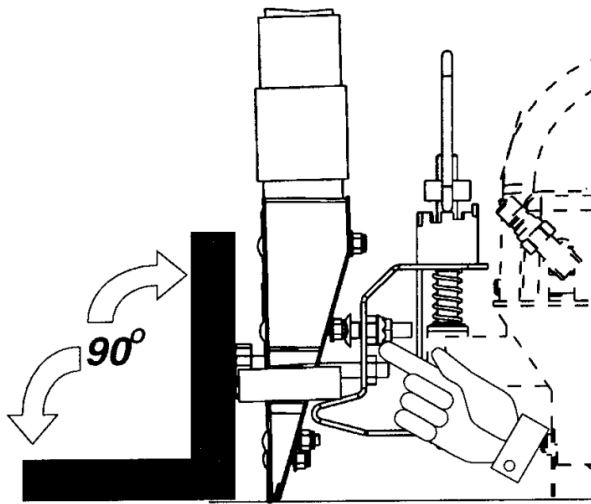
5. Lower brush assembly to floor.



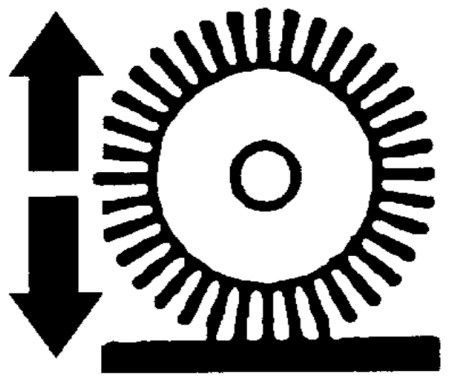
6. Depress lever to propel machine forward and to activate the brush and spray.

Brush Adjustment

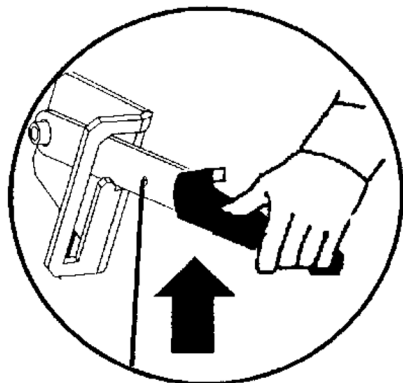
For good operation the brush must skim the carpet.



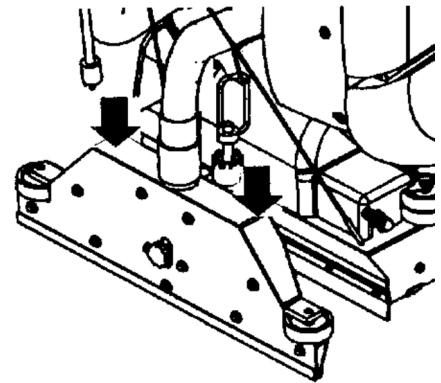
1. Adjust the vacuum shoe assembly to 90°.



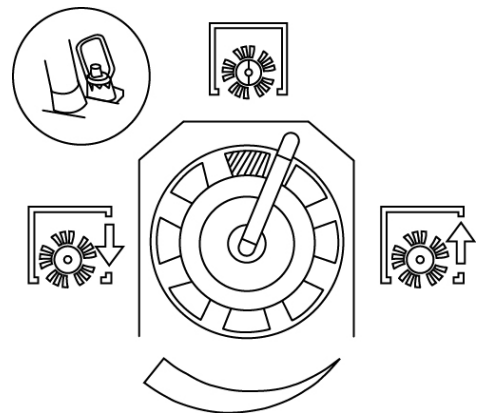
2. Adjust brush so that it is touching the carpet.



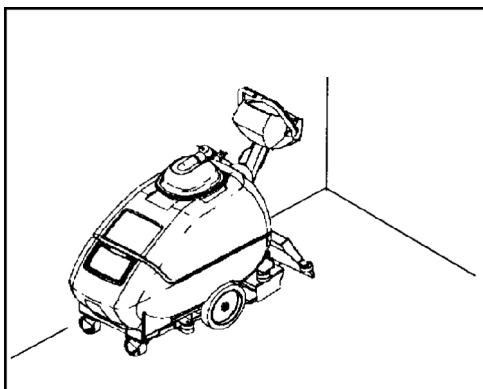
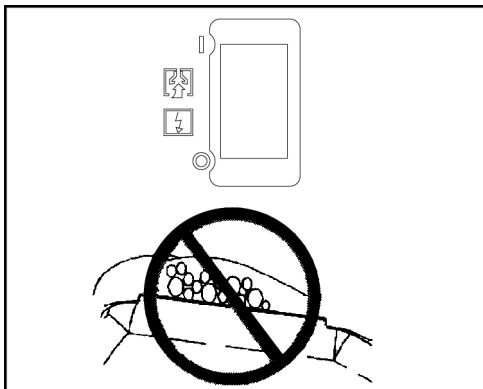
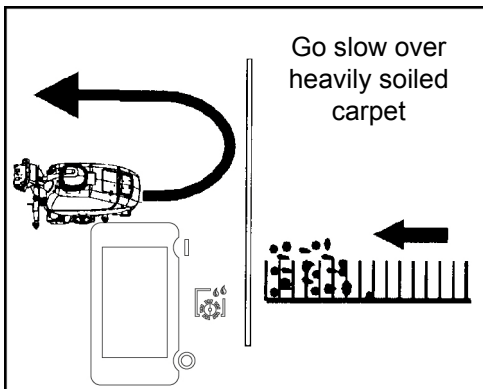
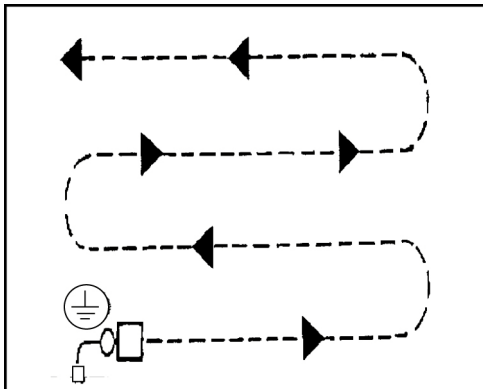
3. Raise handle to "Storage Position".



4. Push down on squeegee assembly.



5. Adjust brush to correct height for carpet.

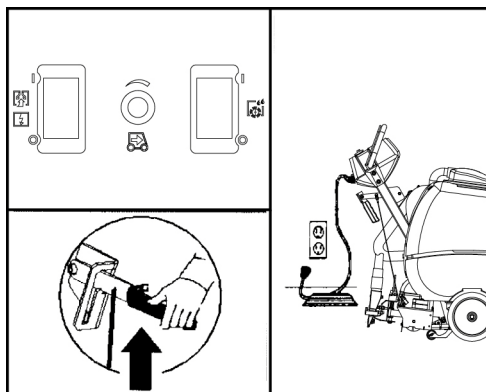


Cleaning

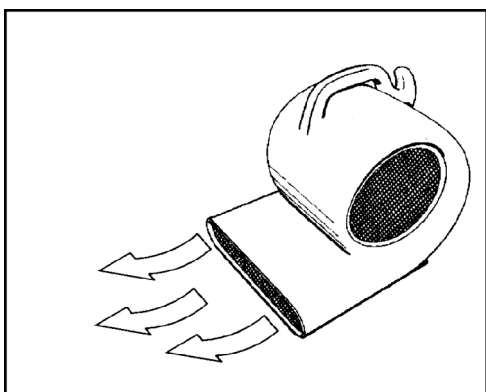
1. Operate machine in parallel passes. Clean perimeter last.
2. When turning the machine, turn "OFF" brush/solution switch. Go slow over heavily soiled carpet.

⚠ CAUTION:

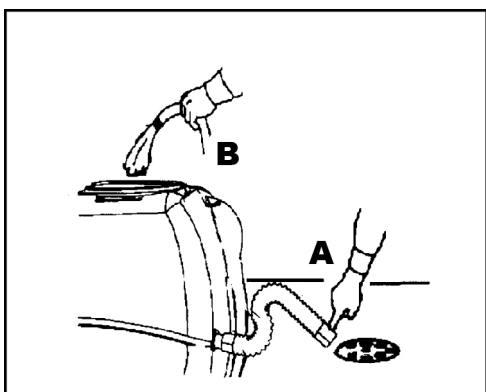
3. Foam! Turn off machine and add defoamer to recovery tank only.
4. Use right side of machine for cleaning against walls.



5. After cleaning, turn off all controls, raise brush assembly to storage position and carefully unplug machine.



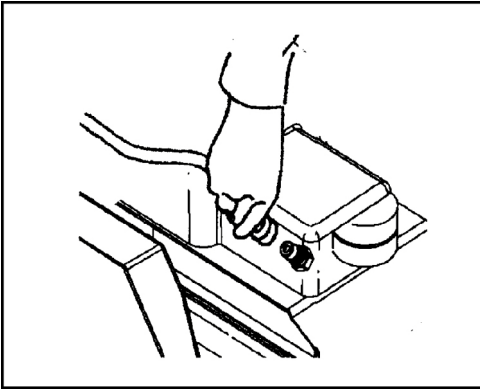
6. To speed drying, use an air mover fan.



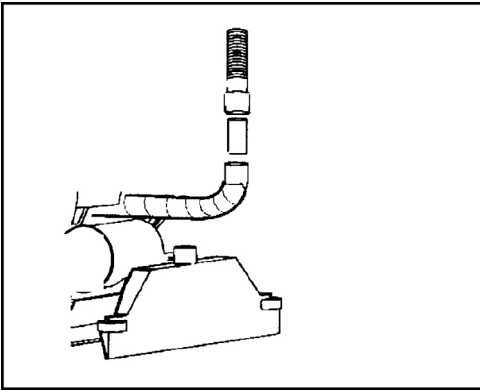
7. Empty recovery tank by releasing dump hose (A). Use a hose with cold water to clean out the recovery tank (B). Drain solution tank after each use.

Operations

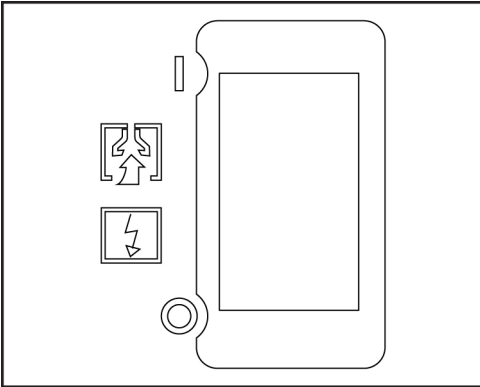
Accessory Tool Usage



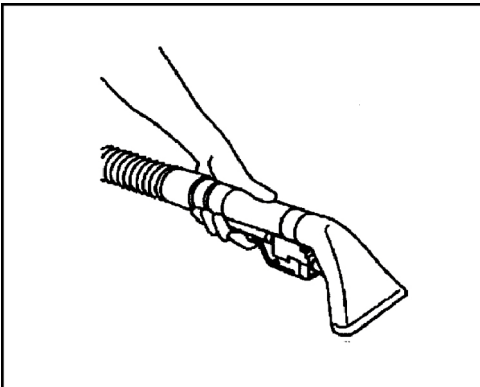
1. Insert collar over fitting.



2. Insert adapter (86089080) into vac shoe hose, then insert accessory tool cuff onto adapter.



3. Turn main power switch "ON"



4. Squeeze handle on accessory tool to begin cleaning.

Periodic Maintenance

Twice a month, flush a white vinegar solution (One quart vinegar to two gallons of water) or anti-browning solution (mixed as directed) through the extractor. This will prevent build-up of alkaline residue in the system. If spray jets become clogged, remove the spray tips, wash them thoroughly, and blow dry.

NOTE: Do not use pins, wire, etc. to clean nozzles as this could destroy spray pattern.

Periodically inspect all hoses, electrical cables and connections on your machine. Frayed or cracked hoses should be repaired or replaced to eliminate vacuum or solution pressure loss. Because the electrical cable must be well insulated and cable connector screw kept tight. If the cable insulation is broken or frayed, repair or replace it immediately. Don't take chances with electrical fire or shock.

Daily / Regular Maintenance

Before making any adjustments or repairs to the machine, disconnect the power cord from the electrical source.

1. Empty unused cleaning solution from the solution tank.
2. Inspect and clean filter screen in solution tank.
3. Flush pumping system with 4 or 7 liters of clean, hot water.
4. After each use, rinse tank with fresh water. Periodically inspect the recovery tank and decontaminate if necessary, using a Hospital Grade Virucide or a 1-10 bleach to water solution. Waste water should be disposed of properly.
5. Check for and remove any lint or debris around vac shoe.
6. Check spray jets for full spray pattern.
7. Remove lint and dirt build-up from brush and housing.

NOTE: Always store machine with brush in "Store" position.

Maintenance

Service Schedule

Maintenance	Daily	Weekly	Quarterly
Check machine for cord damage	*		
Check recovery dome and gasket for damage and cleanliness	*		
Check brush – should be clean with no lint or strings attached	*		
Inspect vac shoe for blockage; remove fibers with coat hanger, etc.	*		
Check hoses for wear, blockages, or damage	*		
Check handles, switches, and knobs for damage	*		
Check vac motor intake filter and clean	*		
Run one gallon of water through system	*		
Clean out recovery tank and check float valve to make sure it moves freely	*		
Clean out solution tank and remove and clean vacuum intake screen	*		
Clean outside of all tanks and check for damage	*		
Run vac motor for at least one minute to allow motor to dry	*		
Store with dome off tank to allow the tank to dry	*		
Check all bearings for noise		*	
Check all gaskets for wear and leakage		*	
Check vacuum intake screen for damage; replace if necessary		*	
Check pump pressure; observe spray pattern and check with gauge if necessary		*	
Check and clean solution screen		*	
Check belts for wear and replace as necessary		*	
Check brush for wear; ensure bristles are not damaged		*	
Check cables for fraying		*	
Check the spray bar (manifold) for damage; replace if broken or bent		*	
Check condition of vac shoe and frame for damage		*	
Check overall performance of machine		*	
Check vac motor carbon brushes			*

Troubleshooting

Problem	Cause	Solution
No Power, Nothing Runs	Is the cord plugged in.	Plug in cord.
	Circuit breaker tripped in building.	Reset breaker.
	Faulty switch.	Call for service.
	Faulty power cord or pigtail.	Call for service.
Vacuum Motor Will Not Run	Vacuum circuit breaker tripped.	Reset breaker.
	Faulty main vacuum switch.	Call for service.
	Loose wiring.	Call for service.
	Faulty vac motor.	Call for service.
Vacuum Motor Runs but Suction is Poor	Debris lodged in vac shoe.	Remove debris from vac shoe.
	Dome gasket defective or missing.	Replace as necessary.
	Vacuum hose cracked or hose cuff loose.	Replace or repair as necessary.
	Incorrect vac shoe angle.	Adjust as necessary.
	Recovery tank full/float ball stuck in the up position.	Drain and rinse recovery tank, free float ball.
	Clamp loose on vac motor.	Call for service.
	Recovery tank inlet loose or gasket defective.	Call for service.
	Vac shut-off engaged.	Drain recovery tank.
Poor or No Water Flow (Carpet is Streaky)	Solution filter clogged.	Drain solution tank and clean solution filter.
	Jets clogged or missing.	Clean using a vinegar/water solution or replace.
	Faulty solenoid.	Call for service.
	Propel lever not engaged.	Brush switch must be on and propel lever squeezed to activate spray.
Brush Does Not Spin	Brush switch on.	Turn on brush switch.
	Brush circuit breaker tripped.	Reset circuit breaker.
	Propel lever not engaged.	Propel lever must be squeezed to activate brush.
	Brush belt not broken.	Replace as necessary.
	Faulty brush motor.	Call for service.
Machine will not Propel When Handles are Squeezed	Circuit breaker tripped.	Reset circuit breaker.
	Speed control knob set at zero.	Turn speed control knob clockwise to higher speed.
	Faulty speed control board.	Call for service.
	Faulty propel motor.	Call for service.
Solution/Brush Turn on When Brush Switch Engaged	Faulty micro switch.	Call for service.

Suggested Spare Parts

PART NO.	QTY	DESCRIPTION	SEE PAGE IN SPARE PARTS LIST
86026360	1	PUMP ASM, CMD20 115V	Pump
86136800	1	SCREEN, 80 MESH STRAINER DEEP	Pump
86313170	1	CAP, STRAINER TALL	Pump
86025320	1	IDLER ASM, BRUSH CMD20	Brush
86026130	1	MOTOR ASM, BRUSH CMD20	Brush
86026220	1	PULLEY ASM, BRUSH CMD20	Brush
86026480	1	SOLENOID ASM, CMD20	Manifold and Solenoid
86026040	1	MANIFOLD ASM, CMD20	Manifold and Solenoid
86026870	1	VAC MOTOR ASM, CMD20	Solution Tank
86135320	1	BRUSH SET, 120V VAC, WINDSOR	Solution Tank
86025180	1	DOMES ASM, CMD20	Recovery Tank



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