

# **Powr-Flite**<sup>®</sup>

**COMMERCIAL FLOOR CARE EQUIPMENT**

## **Operator's Manual**



### **Standard and High Speed Floor Machines**

Standard Speed, 175 RPM

**M201-3, M171-3, P131-3**

Standard Speed Heavy Duty, 175 RPM

**M201HD-3, M171HD-3**

Dual Speed, 175/320 RPM

**M202-3, M172-3**

Sander, 175 RPM

**M171SD-3**

**Powr-Flite**<sup>®</sup>  
**COMMERCIAL FLOOR CARE EQUIPMENT**

A Tacony Company

Fort Worth, Texas 76140-1710  
Call Toll-Free (800) 880-2913

U.S. Patent Number 4,756,042  
U.S. Patent Number 296,251

Your new Powr-Flite Floor Machine will afford you many years of trouble-free operating satisfaction provided it is given proper care. Prior to packaging, your Powr-Flite Floor Machine was inspected by a Quality Control Technician.

## **IMPORTANT SAFEGUARDS**

This machine is designed to be safe when used to perform the functions specified in this Operator's Manual. Should damage occur to electrical or mechanical parts, the machine should be repaired by the manufacturer or competent service station before using in order to avoid further damage to the machine or physical injury to user. Your floor machine is equipped with a safety switch lockout device designed for your safety. Do not attempt to bypass or defeat the safety lockout device. Never use any device to lock the power switch triggers in the ON position.

- Only replace the supply cord with the type specified in the instructions.
- Regularly examine the supply cord for damage, such as cracking or ageing - if damage is found, replace the cord for further use.
- A large diameter brush or dry buffing may not be used for general polishing.
- The appliance is designated for use with brushes as specified by the manufacturer - fitting of other brushes may impair appliance safety.

## **WARNINGS**

### ***READ THIS OPERATOR'S MANUAL!***

**WARNING:** You must have training in the operation of this machine before using it.

**WARNING:** Machines can burn flammable materials and vapors. Do not use this machine with or near fuels, grain dust, solvents, thinners or other flammable materials.

**WARNING:** Do not operate this machine unless it is completely assembled.

**WARNING:** Do not use this machine as a step or to move furniture.

**WARNING:** When disconnecting power cord from electrical outlet, grasp the plug. Pulling it out by the cord itself can damage cord insulation and internal connection to plug. To prevent electric shock, always remove the electrical plug from the electrical outlet before doing any repairs or maintenance to this machine.

**WARNING:** To prevent injury, always remove the electrical plug from the electrical outlet before changing the polishing pad and before leaving the machine.

**WARNING:** To prevent injury, keep hands, feet and loose clothing away from the rotating pad.

**WARNING:** Maintenance and repairs must be done by authorized personnel only.

**WARNING:** Keep all fasteners tight. Keep adjustments according to specifications.

**WARNING:** Keep the electrical parts of the machine dry. For storage, keep the machine in a building.

**WARNING:** Always use a three-wire electrical system connected to the electrical ground. For maximum protection against electric shock, use a circuit that is protected by a ground fault circuit interrupter. Consult with your electrical contractor.

**WARNING:** To prevent damage to the power cord, do not let the pad, pad driver or wheels touch the power cord when the machine is running. Always lift the power cord over the machine.

**WARNING:** Make sure all labels, decals, warning, cautions and instructions are fastened to the machine.

## **APPLICATIONS FOR FLOOR MACHINE (MODELS M201-3, M171-3, M201HD-3, M171HD-3 and P131-3) 175 RPM ONLY**

The *Powr-Flite* 175 RPM floor machine will operate in a wide variety of applications. The 175 RPM floor machine is the most versatile speed in the floor care industry.

## **APPLICATIONS OF 175 RPM STANDARD SPEED FLOOR MACHINES ON HARD FLOORS**

- Spray buffing with red spray buff pad and spray buff chemical.
- Dry buffing a buffable finish with a tan, beige or white pad or brush.
- Scrubbing with green or blue pad or scrubbing brush.
- Stripping with a black pad and a stripping chemical.

## **APPLICATIONS OF 175 RPM STANDARD SPEED FLOOR MACHINES ON CARPET**

- Bonnet cleaning with a yarn bonnet and carpet maintainer chemical.
- Shampooing using a showerfeed shampoo brush and solution tank mounted to the handle tube containing carpet shampoo.

## **APPLICATION OF POWR-FLITE HEAVY DUTY 175 RPM FLOOR MACHINES (MODELS M201HD-3 and M171HD-3)**

The heavy duty standard speed floor machine may be used for spray buffing, dry buffing, scrubbing and stripping applications.

These heavy duty floor machines are specially recommended for long term aggressive scrubbing and stripping maintenance. The M201HD-3 & M171HD-3 heavy duty floor machines are specially recommended for the following applications:

- Scraping with an attachment tool to remove heavy industrial deposits and residue or to prepare a foundation for installation of carpet.
- Wire brushing of concrete floors.
- Sanding with very aggressive sandpaper or sand screen discs.
- Carpet restoration where shampooing & pile lifting require very stiff brush bristles.

## WARNING

To prevent injury, always remove the electrical plug from the electrical outlet before changing the polishing pad and before leaving the machine.

## PREPARE THE MACHINE FOR OPERATION

To attach the drive block or brush or other attachment, be sure the handle is “locked” in the upright position (*See picture #1*). Lay the floor machine on its back with the handle lying on the floor, this exposes the driving plate on the underside of the floor machine. Holding the drive block, brush or attachment in both hands and straddling the motor with your back to the handlebox, bend over and fit the three slots of the clutch plate (built into the back of the brush) over the three lugs of the driving plate. Turn the drive block, brush or attachment counter-clockwise as far as it will go until it is seated in the ready-to-use position. (*See picture #2*)

**CAUTION:** This is the only proper way to install a drive block, brush or attachment. **NEVER** put a drive block, brush or attachment on the machine by placing it on the floor and moving the running machine over it, or by placing the machine over the block or attachment and then starting the motor. Return the floor machine to upright position and adjust handle to operating position.

Recommended handle position is close to the waist with arms extended down. Lock the cam release lever into position.

**NOTE:** *The hardened steel cam release lever does not require extreme tightening to effectively hold the handle in position. Over-tightening will shorten the functional life of the lever. To remove drive block, brush or attachment: Lay the floor machine on it's back again and disengage clutch plate slots from driving plate lugs by turning clockwise.*

## HOW TO OPERATE THE MACHINE

First install the pad driver and pad, brush or other attachments to be used. Plug the machine in as directed and lower the handle to the desired operating height and lock in place using the cam lever handle. Push the safety switch forward (*see picture #3*) and squeeze

the switch triggers beneath the handle grips. This activates the motor and starts the block, brush or attachment in operation. Each time you release the triggers the safety switch will reset. You will need to follow the direction above to restart the machine. **CAUTION:** *When leaving the machine unattended, disconnect the wall plug and return the handle to the “locked” upright position to prevent accidental starting.*

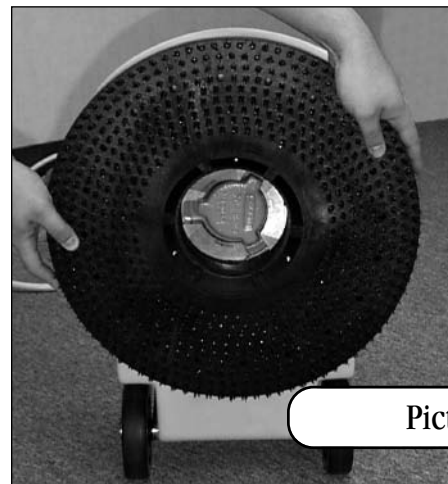
## TO GUIDE YOUR FLOOR MACHINE

To Right: raise handle slightly. The higher the handle is lifted, the faster the machine will move to the right. To Left: to change direction, lower the handle until the machine travels to the left. The more the handle is lowered, the faster the movement to the left.

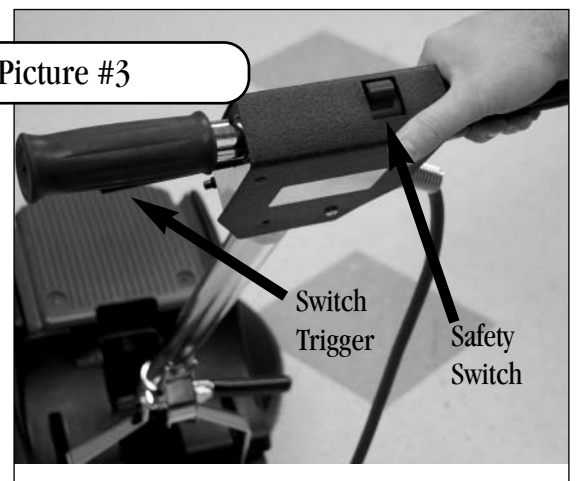
Picture #1



Picture #2



Picture #3



## TO INSTALL THE OPTIONAL SOLUTION TANK

Mount the solution tank to the front of the handle and attach with mounting brackets and knobs. Position the solution tank control handle horizontally and below the switch lever of the machine and adjacent to the right handle grip. Remove the plug from the motor housing and insert the (long) extension tube adaptor and secure at bottom of machine with the retainer. The solution tank should be used only with a showerfeed drive block or brush.

## APPLICATION OF THE DUAL SPEED 175/320 RPM MACHINES (MODELS M202-3 and M172-3)

The *Powr-Flite* dual speed machines will operate in a broad range of applications. These machines perform all the applications of the 175 RPM standard speed machines and the 300 RPM high speed machines except the specialized applications.

**Do not use dual speed machines for sanding, grinding or scraping.**

The dual speed machines are specially designed for spray cleaning of heavy traffic areas.

## OPERATION OF THE DUAL SPEED MACHINES

Follow the operation procedures described for 175 RPM machines.

The proper speed selection is important to properly operate these machines. Speed selection Low (175 RPM) or High (320 RPM) is made with the switch located on the base and motor housing.

(See **Picture #4**) Stripping, scrubbing, bonnet cleaning and shampooing should be performed at 175 RPM Low Speed. Spray buffing and dry buffing should be performed at 320 RPM, High Speed. Spray cleaning is a two speed maintenance operation. Apply a spray buff chemical to the floor ahead of the machine. Make the first passes through the spray buff at low speed with an open weave blue cleaner pad or the brown hoghair blend spray cleaner pad. Remove the spray cleaning pad and place a buffing pad on the machine, yellow, beige or natural hoghair blend pads. Switch the speed to High 320 RPM and buff the dulled finish to a high gloss. Unplug the power cord and wrap it under the cord hook and over the right handle grip. Clean the cord off to prevent heavy soiling and cleaning residues from building up on the cord. This is a good time to inspect the cord for cuts, gashes and loose prongs. Tip the machine back and remove the pad and the drive block or brush. The condition of the floor pad or brush has a direct affect on the performance of your floor machine. When the pad becomes dirty, turn it over and use the other side. When finished, wash the pad or brush and allow it to dry com-

pletely before using it again. Stand the wet brush on the bristles until dry, then hang up the brush.

**Do not store the machine with the drive block, pad or brush on the machine.**

Wipe off the machine housing and wheels to prevent build-up of unnecessary residue.

## TRANSPORTING THE MACHINE

Place the handle in the upright position. Lock the handle cam release lever. Tip the machine back and transport on the wheels.

## MAINTENANCE FOR THE M201-3, , M171-3, P131-3, M201HD-3, M171HD-3, M202-3 and M172-3

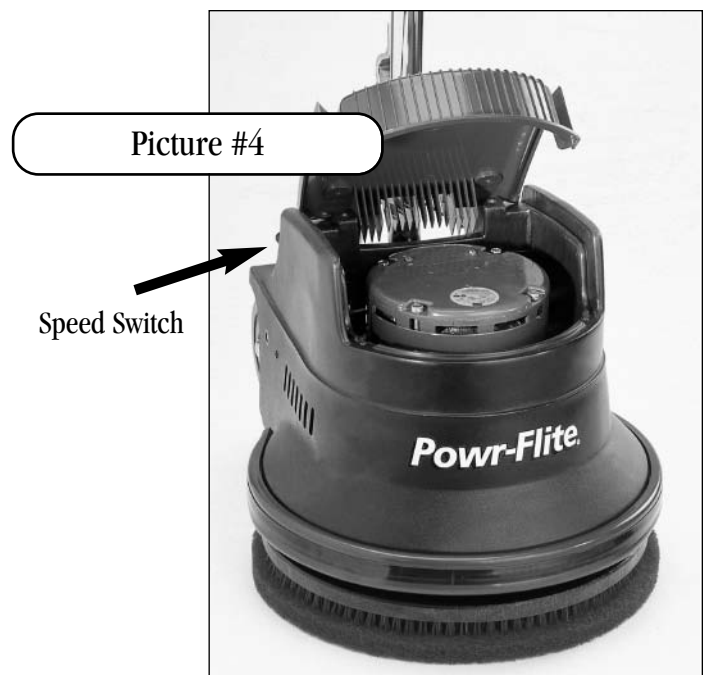
Once a month remove the motor cover and vacuum out any dust or debris which has accumulated on the motor. Replace the motor cover by setting it over the holes in the housing and replace all of the screws. Check and maintain the tightness of all the fasteners.

**WARNING:** Do not over-tighten the switch housing screws.

Keep the machine clean especially at the handle tube and collar so the handle tube will move freely through the collar. Inspect the cord for cuts, gashes, or loose prongs; replace as needed.

**Disassembly of this motor voids the warranty.** Improper disassembly and assembly of this motor can permanently damage the field or rotor.

**For M202-3 & M172-3 only:** The length of the carbon brushes should be inspected annually. If they are no longer extended past the holder window, they should be replaced. Replacement of the carbon brushes should only be done by a qualified service technician.



## TROUBLESHOOTING

### *Machine does not run.*

The circuit breaker has tripped. Allow the circuit breaker 2 minutes to cool before resetting. Plug is broken or has loose contact. Replace.

### *Prevent circuit overload.*

Check the pad and change it if it is rough or dirty. Spray buffing or spray cleaning is not a substitute for scrubbing or mopping a floor. Prepare the floor surface before spray buffing. Eliminate any extension cord that is smaller than 12/3 wire or greater than 25 feet in length. Unplug anything other than the machine from the circuit or locate another circuit.

### *Machine will not start.*

Circuit breaker is not reset. Reset breaker.  
Plug is broken or has a loose contact. Replace.  
Circuit breaker is defective or weak. Replace.  
Switch is defective. Replace switch.  
Rectifier is defective. Replace rectifier (M202-3 and M172-3 only).

### *Machine will not reach operating speed.*

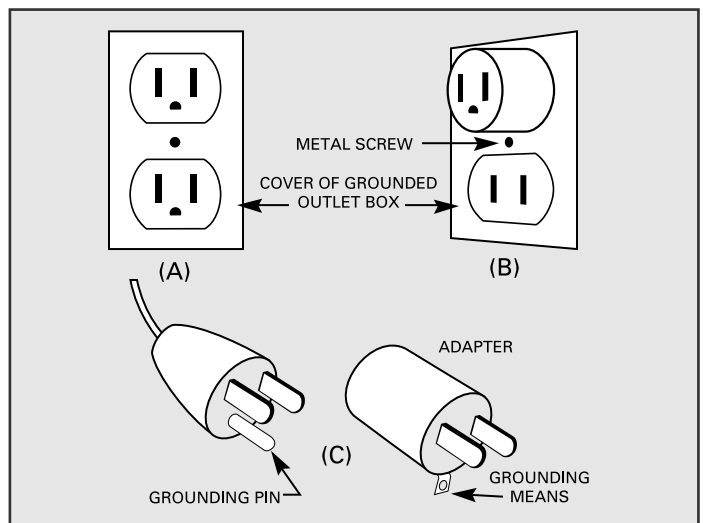
Unplug anything else other than the machine from the circuit or locate another circuit.

### *Motor runs but pad or brush does not turn.*

Coupling is broken. Replace. Coupling is not covered under warranty. Do not attempt to place a running machine over a block or brush. Always place and remove the block or brush by hand.

## SAFETY INSTRUCTIONS

This Floor Machine should be grounded while in use to protect the operator from electric shock. This machine is equipped with a 3-conductor cord and a 3-prong grounded type attachment cap plug to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect this wire to anything other than the grounding blade. The Floor Machine is provided with an attachment cap plug, as shown in Sketch A, and is intended for use on a nominal 120 volt circuit. If a properly grounded receptacle, as shown in Sketch A, is unavailable, an adaptor, as shown in Sketch C, is available and should be installed, as shown in Sketch B, if the outlet box that houses the receptacle is grounded. Be sure to fasten the grounding tap to the faceplate screw.

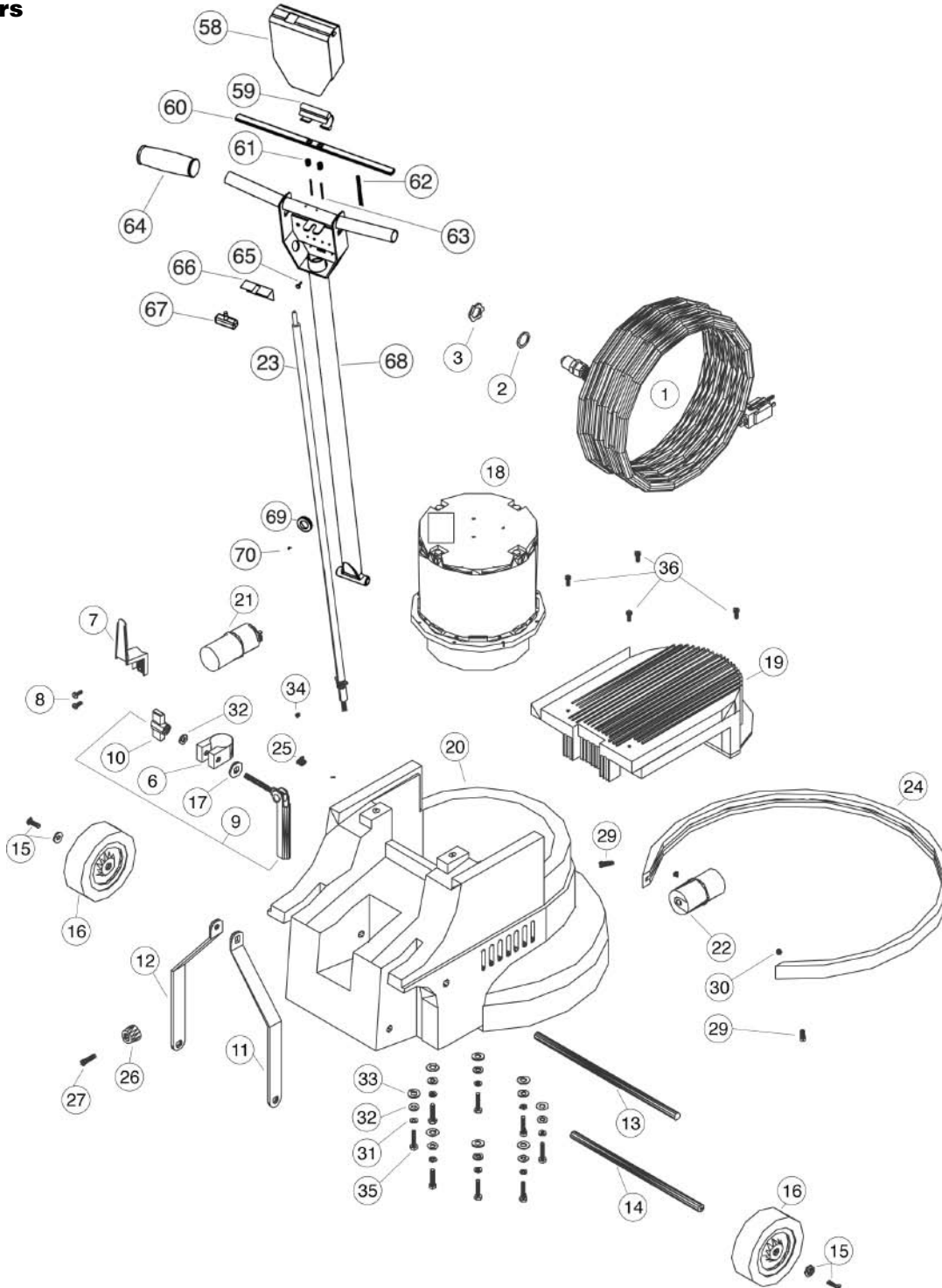


## **ONE LAST REMINDER! READ ALL INSTRUCTIONS, WARNINGS AND CAUTIONS BEFORE USING EQUIPMENT.**

These guidelines are presented for your protection and convenience. Please read them carefully, since a failure to heed these precautions could result in discomfort or injury. When using an electrical appliance, basic safety precautions should always be followed.

**WARNING**  
**TO AVOID FIRE, DO NOT USE WITH A FLAMMABLE OR COMBUSTIBLE LIQUID TO CLEAN FLOOR.**

**Models M171-3, M171HD-3,  
M171SD-3, M172-3, M201-3,  
M201HD-3, M202-3, and 2003  
Polishers**



ref	order	description
1	<b>M1369GS</b>	14/3 stwa, 50' gray cord with strain relief
2	<b>SR36</b>	strain relief washer
3	<b>X8008N</b>	nut, lock, 1/2" steel conduit
6	<b>X8012</b>	clamp, collar, handle
7	<b>X8013</b>	cord hook, plated
8	<b>X8207</b>	screw, 10-24 x 1/2", phph, type "f"
9	<b>X8012A</b>	handle tube clamp lever assembly (excludes clamp collar)
10	<b>X8016</b>	knob, plastic, handle release
11	<b>X8807R</b>	handle brace, right
12	<b>X8807L</b>	handle brace, left
13	<b>X8809</b>	pivot shaft, 1/2" x 12-7/8"
14	<b>X8019</b>	axle wheel

ref	order	description
15	<b>X8020</b>	washer for axle
	<b>X8265</b>	bolt for axle
16	<b>X8024</b>	wheel 5" x 1 1/4"
17	<b>X8028</b>	washer, cam, w/slot
18	<b>X8910</b>	1 hp gear motor assembly
	<b>X8953</b>	start capacitor 450 UF 125V
	<b>X8954</b>	run capacitor 50 UF 370V
	<b>X8909</b>	1.5 hp gear motor assembly
	<b>X8955</b>	HD and SD models start capacitor 380 UF 125V
	<b>X8956</b>	HD and SD models run capacitor 60 UF 370V
		HD and SD models

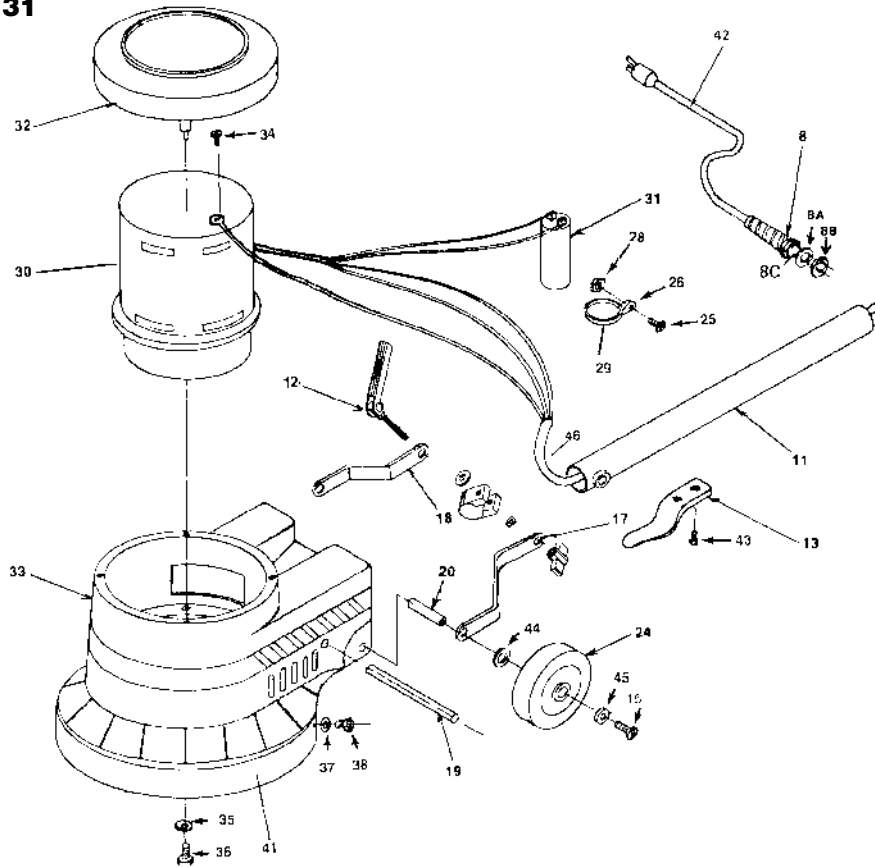
ref #	order	description
19	<b>X8042A</b>	motor cover
21	<b>X8040</b>	590 UF, 125V start capacitor for Doerr 1 HP 175 RPM motor
21	<b>X8046</b>	35 UF 370V run capacitor for Doerr 1-1/2 HP Doerr Model #R07559 & G51400
21	<b>X8056</b>	310 UF 125V start capacitor for 1 1/2 HP Doerr Model #R07559 & G51400
23	<b>X8022</b>	cord, in-line 14/3 sjtwa 49"
24	<b>X8030I</b>	bumper 38.25" blu/blk
25	<b>X8151B</b>	plug, plastic, 7/16" hole
26	<b>X8258A</b>	bumper, blk, 1.13" od x .75" h
27	<b>X8258AS</b>	#8 x 1" phph type "a"
28	<b>X8278</b>	3-32 x 1/2" phph, black oxide
29	<b>X8821</b>	screw, 8-32 x 3/4", thph, blk plated (2)
30	<b>X8822</b>	spacer, plastic blk, #8 x .25 (2)
31	<b>X8212</b>	1/4" spring lock washer
32	<b>X8218</b>	washer, flat, SAE 5/16"
33	<b>X8219</b>	3/8"SAE flat washer
34	<b>X8222</b>	1/4-20 x 3/16" socket set

ref #	order	description
35	<b>X8226</b>	1/4-20 x 1 1/4 hex head cap
36	<b>X8272</b>	screw, 8-32 x 1/2", truss/ph (4)
58	<b>X8912</b>	switch box cover
59	<b>X8914</b>	thumb actuation release
60	<b>X8917</b>	handle trigger
61	<b>X8916</b>	trigger tension spring (2)
62	<b>X8915</b>	handle trigger thumb actuator spring
63	<b>X8918</b>	handle roll pin (2)
64	<b>X8941</b>	1" handle grip (2)
65	<b>X8207</b>	#10-24 screw (3)
	<b>7CY001</b>	lock washer (3)
66	<b>X8923</b>	insulation sheet
67	<b>F5P</b>	switch
68	<b>X8911</b>	1-1/2" dia. handle tube weldment
69	<b>7BG004</b>	7/16" diameter grommet
70	<b>X8222</b>	1/4-20 x 3/16" set screw

**NOT ILLUSTRATED**

<b>PX7</b>	Switch for M172-3, M202-3
<b>PX28</b>	Insulation boot for switch

**Models P131-3, P131**



ref	order	description
8	<b>SR37</b>	strain relief, metal
8A	<b>X8100</b>	counter nut
8B	<b>X8228</b>	spacer
8C	<b>SR37A</b>	brass sleeve strain relief
11	<b>X8011B</b>	handle tube, 1-1/2" w/bushings
12	<b>X8012A</b>	handle clamp assy
13	<b>X8013</b>	cord hook
15	<b>X8210</b>	wheel screw
17	<b>X8027L</b>	left brace
18	<b>X8027R</b>	right brace
19	<b>X8018</b>	pivot shaft
20	<b>X8029</b>	axle
24	<b>X8025</b>	4" wheel
25	<b>X8202</b>	8 - 32 x 1/2" pan bolt
26	<b>X8150M</b>	mount for capacitor strap
28	<b>X8256</b>	keep nut

ref	order	description
29	<b>X8150</b>	capacitor strap
30	<b>X8059</b>	motor and gear unit
31	<b>X8039</b>	340 MFD capacitor
32	<b>X8041</b>	motor cover
33	<b>X8058</b>	base housing, 13"
34	<b>X8207</b>	motor ground screw
35	<b>X8152</b>	D-washer
36	<b>X8229</b>	1/4"-20 x 3/4" phillips head screw
37	<b>X8225</b>	3/16" cut washer (2 req.)
38	<b>X8208</b>	10-24 x 5/8" phillips head machine screw (2 req.)
41	<b>X8030E</b>	30" bumper
42	<b>M1400C</b>	14/3 SJTWA cord, 50'
	<b>M1400CS</b>	14/3 SJTWA 50' cord with metal strain relief and flag terminal

ref	order	description
43	<b>X8207</b>	cord retainer screw (2 req.)
44	<b>X8101</b>	spring washer (2 req.)
45	<b>X8020</b>	axle washer
46	<b>X8022B</b>	handle line cord assembly
<b>NOT ILLUSTRATED</b>		
	<b>X8108</b>	wheel spacer
	<b>X8222</b>	1/4"-20x3/4" socket set screw for X8011 handle
	<b>X8590</b>	upper motor bearing
	<b>F3P</b>	motor coupling
	<b>SW47</b>	stationary switch
	<b>X8210-1</b>	short switch housing screw and nut
	<b>X8220</b>	long, switch housing screw



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