

Powr-Flite[®]

OPERATOR'S MANUAL & PARTS LIST

STANDARD AND HIGH SPEED FLOOR MACHINES



**Standard Speed Heavy Duty, 175 RPM
NM201HD, NM171HD**

**Dual Speed, 175/320 RPM
NM202**

**Sander, 175 RPM
NM171SD**

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

**WARNING: OPERATOR MUST READ AND UNDERSTAND THIS MANUAL
COMPLETELY BEFORE OPERATING THIS EQUIPMENT.**

Save These Instructions

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.

ORIGINAL INSTRUCTIONS APPROVED BY POWR-FLITE.

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: Personal Protective Equipment (PPE), such as safety glasses, may be worn if desired.

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: Children, even if supervised, are not to play with or operate this machine.

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.

WARNING: Machine is for indoor use only.

APPLICATIONS FOR FLOOR MACHINE (MODELS NM171HD AND NM201HD) 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 NM201HD and NM171HD)

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 NM201HD & NM171HD 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.
- **Dual speed machines are not recommended for sanding!**

WARNINGS

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 (build 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. Be mindful of machine’s weight.

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.

INSTRUCTIONS FOR SAFE OPERATION OF THE MACHINE

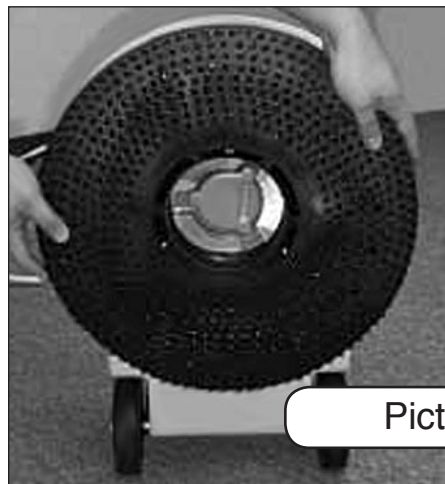
Being mindful of the machine’s weight, first install the pad driver and pad, brush or other attachments to be used. Plug the machine in as directed and lower the handle to the desired operating height and lock in place using the cam lever handle. Push the safety switch forward (see **picture #3**) and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

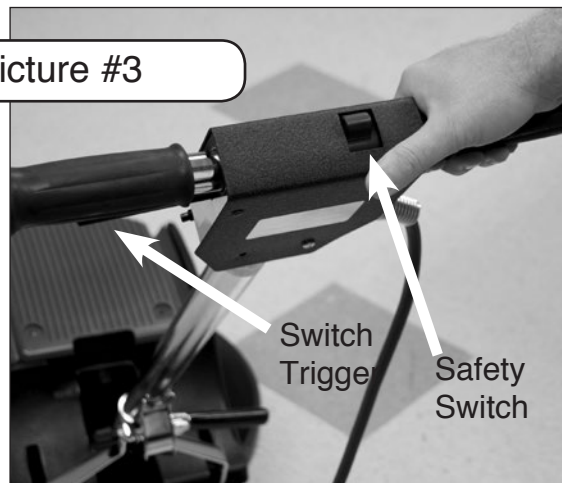
Picture #1



Picture #2



Picture #3



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.

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 (MODEL NM202)

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.

INSTRUCTIONS FOR SAFE OPERATION OF THE MACHINE 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 completely 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, keeping in mind the machine's weight.

MAINTENANCE FOR THE NM201HD AND NM171HD

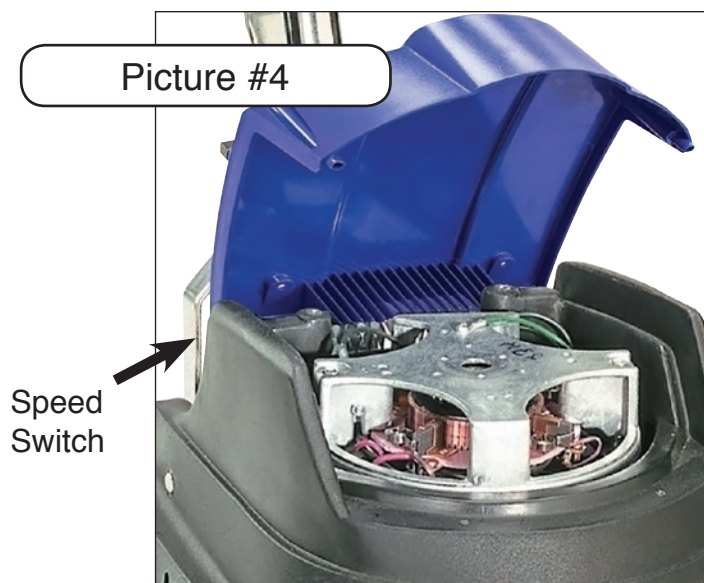
Once a month remove the motor cover and vacuum out any dust or debris which has accumulated on the motor. Replace the motor cover by setting it over the holes in the housing and replace all of the screws. Check and maintain the tightness of all the fasteners.

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 NM202 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 (NM202 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.

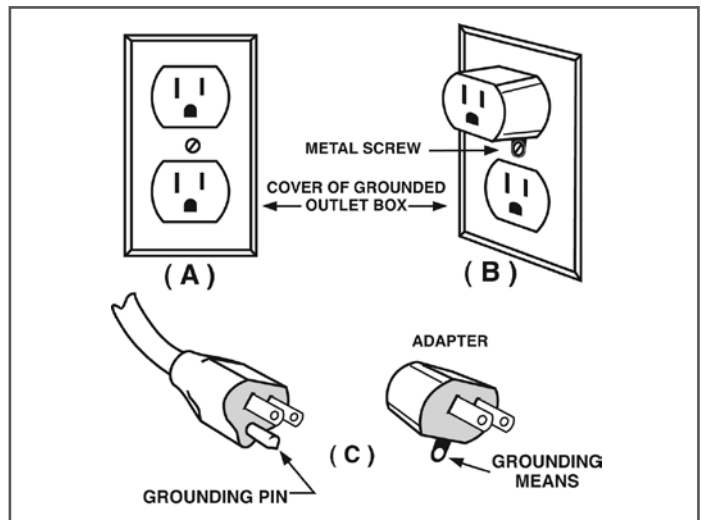
Coupling is broken. Replace. Coupling is not covered under warranty. Do not attempt to place a running machine over a block or brush. Always place and remove the block or brush by hand.

WARNING:

All service work to be performed by certified technician, or it may void the warranty.

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.

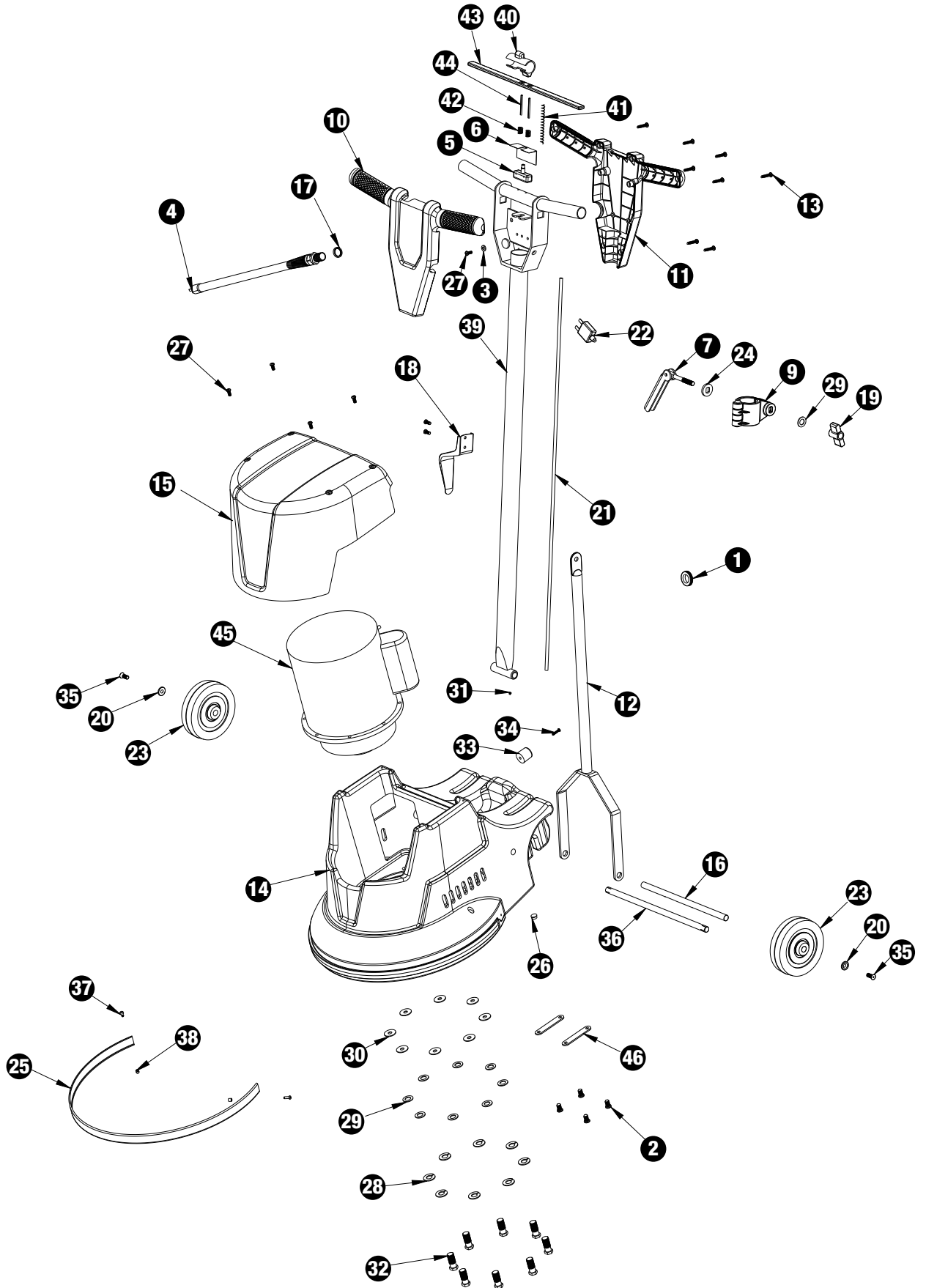
These guidelines are presented for your protection and convenience. Please read them carefully, since a failure to heed these precautions could result in discomfort or injury. When using an electrical appliance, basic safety precautions should always be followed.

WARNING

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

Models NM171HD, NM201HD AND NM202

NO #8



REF#	PART#	DESCRIPTION
1	7BG004	GROMMET
2	7BS003	SCREW 1/4-20 X 1/2 PHIL PAN
3	7CY001	WASHER
4	M1407G	CORD 14/3 STW YELLOW W/ METAL STRAIN RELIEF
5	X1039	SWITCH 25A 1.5HP
6	X1040	INSULATION SHEET
7	X1184	CAM LEVER HANDLE
8	X1184	HANDLE, CAM LEVER
9	X1456	CLAMP ASSEMBLY
10	X1462	SWITCH BOX COVER, FRONT, YELLOW
11	X1463	SWITCH BOX COVER, REAR, YELLOW
12	X1464	HANDLE BRACE, WELDMENT
13	X1475	SCREW, PLASTITE 10-14 X 1" L
14	X1479	17" HOUSING, FLOOR MACHINE, TORNADO
	X1480	20" HOUSING, FLOOR MACHINE, TORNADO
15	X1481	MOTOR COVER, YELLOW, FLOOR MACHINE
16	X1484	AXLE, WHEEL, 1/2" X 10.375"
17	X8008N	STEEL CONDUIT
18	X8013	CORD HOOK, PLATED
19	X8016	KNOB, HANDLE CLAMP
20	X8020	WASHER, COUNTERSUNK, AXLE
21	X8022	INLINE CORD 49" 14/3
22	X8023C	10 AMP CIRCUIT BREAKER
23	X8024	WHEEL
24	X8028	WASHER, CAM, SLOTTED
25	X8030K	BLACK BUMPER
26	X8151B	PLUG PLASTIC BLACK
27	X8207	SCREW 10-24 X 1/2 PHIL PAN
28	X8212	WASHER-LOCK (1/4")
29	X8218	WASHER 5/16 SAE FLAT ZINC
30	X8219	WASHER 3/8 SAE FLAT ZINC
31	X8222	SET SCREW
32	X8226	SCREW 1/4-20 X 1-1/4 HEX HEAD CAP ZINC PLATED
33	X8258A	TUBE BUMPER
34	X8258AS	SCREW #8 X 1PHPH TYPE A
35	X8265	SCREW 1/4-20 X 3/4 FLAT PHIL
36	X8809	PIVOT SHAFT 1/2" X 12-7/8"
37	X8821	SCREW, #8-32 X 1/2"L, PNHD, PH, ZP
38	X8822	SPACER
39	X8911	HANDLE ASSEMBLY
40	X8914	THUMB SWITCH ACTUATOR
41	X8915	SPRING, THUMB SWITCH ACTUATOR
42	X8916	SPRING, TRIGGER, METAL HANDLE
43	X8917	TRIGGER, METAL HANDLE
44	X8918	ROLL PIN
45	X8980-TI	1.5HP MOTOR
46	X9444	FRONT STRAP

WARRANTY

The manufacturer warrants to the original purchaser that products manufactured are free from defects of workmanship and material, provided such goods are installed, operated and maintained in accordance with written manuals or other instructions for a period of 5 years from date of purchase on housings and frame, 3 years on heater, 1 year on pump, 2 years on vac motor, and parts and workmanship. In case you as our customer, meet any trouble with your machine, contact your Powr-Flite representative who will be happy to be of service to you and will take care of the warranty settlement.

NOTE: Alterations and changes made to the machine without written approval of the manufacturer and use of unapproved spare parts will not be covered by warranty.

Powr-Flite[®]

A Tacony Company

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