

# FLOOR MACHINE

## OWNER'S MANUAL

### OPERATION • CARE • SERVICE

20" 1500 RPM 1.5 HP  
20" 2000 RPM 1.5 HP

17" 175 RPM 1.0 HP  
17" 175 RPM 1.5 HP  
20" 175 RPM 1.0 HP  
20" 175 RPM 1.5 HP

20" 2-SPEED 1.5 HP  
(175/300 RPM)



Commercial Use Only

**CRUSADER**

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## MACHINE SPECIFICATIONS

**Model .....** 17" & 20" 175 RPM 1.0 HP  
**Voltage .....** 115V/60Hz  
**Power Cord .....** 50 ft. (15.2 m)  
                             14-3 ST Fixed  
**Motor .....** 1 HP / 66 Frame  
**RPM (Brush) .....** 175  
**Gear Box .....** Planetary 2-Idler  
                             Steel Cut Helical Gears  
**Machine Weight, ..** 17" 93 lbs. (42.2 Kg.)  
                             20" 97 lbs. (44 Kg.)

**Model .....** 17" & 20" 175 RPM 1.5 HP  
**Voltage .....** 115V/60Hz  
**Power Cord .....** 50 ft. (15.2 m)  
                             14-3 ST Fixed  
**Motor .....** 1.5 HP / 66 Frame  
**RPM (Brush) .....** 175  
**Gear Box .....** Planetary 3-Idler  
                             Steel Cut Helical Gears  
**Machine Weight, ..** 17" 105 lbs. (47.6 Kg.)  
                             20" 109 lbs. (49.4 Kg.)

**Model .....** 20" 175/300 2-speed  
**Voltage .....** 115V/60Hz  
**Power Cord .....** 50 ft. (15.2 m)  
                             14-3 ST Fixed  
**Motor .....** 1 1/2HP / DC Rectified  
**RPM (Brush) .....** 175/300  
**Gear Box .....** Planetary 2-Idler  
                             Steel Cut Helical Gears  
**Machine Weight, ..** 103 lbs. (46.7 Kg.)

**Model .....** 20" 2000 RPM 1.5 HP  
**Model .....** 20" 1500 RPM 1.5 HP  
**Voltage .....** 115V/60Hz  
**Power Cord .....** 50 ft. (15.2 m)  
                             14-3 ST Fixed  
**Motor .....** 1 1/2 HP / DC Rectified  
**RPM (Brush) .....** 1500  
**Drive .....** Multi-V Belt  
**Machine Weight, ..** 112 lbs. (50.8 Kg.)

## SERVICE INFORMATION

To obtain consistent performance over the life of your 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.

SERIAL NO.		MODEL	
VOLTS	PHASE	HZ	
MOTOR	AMPS	H.P.	

The model, type and serial number are indicated on the data plate on the side of the handle. For prompt and complete service, refer to these numbers when inquiring about service.

Write the model and serial number of your unit in the space provided. Refer to the data 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 THIS FLOOR FINISHING MACHINE.**



**WARNING: ELECTRIC SHOCK CAN CAUSE SERIOUS INJURY OR BE FATAL. PLEASE READ THE FOLLOWING INSTRUCTIONS ON THE USE AND OPERATION OF FLOOR FINISHING MACHINES.**

- Your floor machine is equipped with a safety switch lock and power switch triggers designed for your safety. Do not attempt to bypass or defeat the safety switch lock. Never use any device to lock the power switch triggers in the "ON" position.
- Do not leave the floor machine when plugged in. Turn off the switch and unplug the electrical cord when not in use and before servicing or changing the brushes or pads.
- Do not allow the machine to be used as a toy. Close attention is necessary when used near children. Do not leave the machine connected to an electrical outlet unattended.
- Use only as described in this manual. Use only manufacturer's recommended attachments.
- Do not use with a damaged cord or plug. If the machine is not working as it should, has been dropped, damaged, or left outdoors return it to a service center before using.
- Use care to keep the electrical supply cord from contacting the rotating brush or drive block.
- Do not pull, close a door on, or pull the cord around sharp edges or corners. Keep the cord away from heated surfaces.
- Connect to properly grounded (3-wire) outlet only refer to Grounding Instructions, Pg 3.
- Do not use extensions cords or outlets with inadequate current carrying capacity.
- Turn off all controls before unplugging.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Do not handle the plug or floor machine with wet hands.
- Wind the cord no tighter than is necessary to retain it during storage. Refer to Cord Storage, Pg 5.
- Use extra care when working near stairs.
- Do not use in conjunction with flammable or combustible liquids such as gasoline, or use in areas where explosive vapor or dust may be present.
- Store your floor machine indoors in a cool, dry area.
- Keep your work area well lighted.
- Warning- To avoid electrical shock, use indoors only.



## GROUNDING INSTRUCTIONS

This appliance must be grounded. If it should malfunction or break down, 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 plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

### For floor finishing machines rated less than 150 volts:

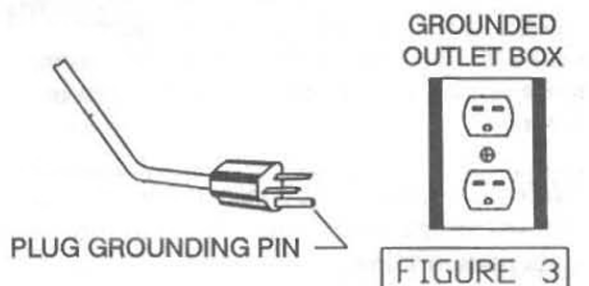
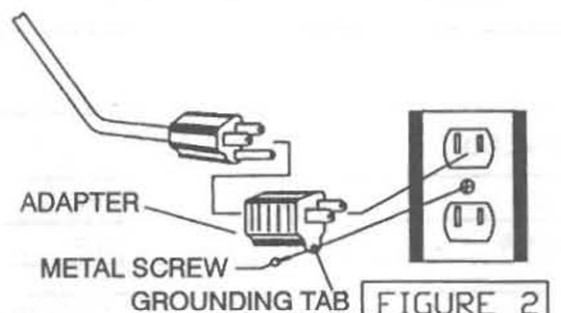
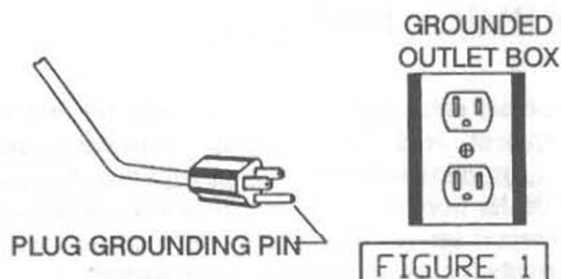


**WARNING: DO NOT USE GROUNDING ADAPTERS ON FLOOR MACHINES IN CANADA. CHECK WITH CANADIAN CODES FOR PROPER EQUIPMENT USAGE. IMPROPER USE OF GROUND ADAPTORS CAN CAUSE SERIOUS INJURY, FIRE OR BE FATAL.**

Improper connection of an equipment grounding conductor can result in 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 grounding plug that looks like the plug illustrated in Figure 1. A temporary adapter which looks like the adapter illustrated in Figure 2 may be used to connect this plug to a two pole receptacle, as shown, if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet (Figure 1) 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.

### For floor finishing machines rated 150-250 volts:

If the machine is provided with an attachment plug cap as shown in Figure 3, it is intended for use on a 240 volt (nominal) circuit. No adapter is available for this cap.



## OPERATION / ACCESSORIES

### CHOOSING THE RIGHT BRUSH AND DRIVE BLOCK

Your floor machine is packed completely assembled and ready for use after you install a brush or drive block. (Brushes and pads are not provided with the unit but are available at an additional cost.) See Optional Accessories, Pg 10.

Your floor machine is designed to be used for many different floor care applications. Make sure you use the correct brush or pad for the type of job you want to perform (Accessories are available from the dealer from whom the floor machine was purchased).

When ordering brushes or drive blocks, refer to the following chart and specify correct brush or block diameter when ordering.

MACHINE SIZE	BRUSH DIAMETER	BLOCK DIAMETER
17"	17"	15"
20"	20"	18"

Clutch plate P/N C0009 is common to all model floor machines.



## BRUSH AND PAD DRIVER INSTALLATION

**NOTE:** Disconnect the power cord from the electrical outlet before installing a brush or pad driver.

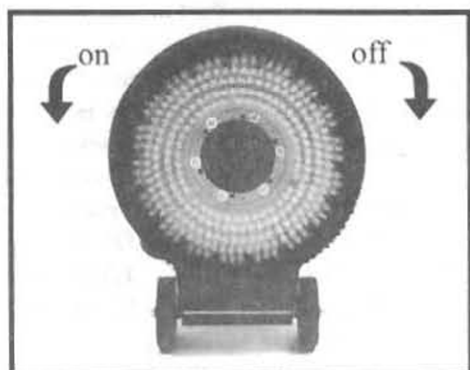


fig. 4

To install a brush or pad driver, leave the handle in the upright position and tip the machine backwards so it rests on its wheels and upper handle section (fig 4). The brush and pad driver both attach in the same manner: align the cut-outs on the inner ring of the brush or pad driver with the tabs on the inside of the ring of the drive hub (fig 5). Push the brush or pad driver firmly in position, then turn it counter-clockwise until it locks into place.

To remove, turn the brush or pad driver clockwise until it stops, then lift it off. **NOTE:** Always remove the brush or pad driver when the machine is not in use.

**NOTE:** Disconnect power cord from electrical outlet before installing or removing brush, pad, or pad driver.



fig. 5

### PAD CENTERING LOCK (Model 20" 1500 rpm 1.5 HP only)

To install a pad, tip the machine backwards so it rests on the rear wheels and handle. After centering the pad on the pad holder, insert the Pad Centering Lock and twist it clockwise until it securely locks in place. To remove, twist the lock counterclockwise.

## ADJUSTMENTS

### DRIVE BELT ADJUSTMENT (Model 20" 1500 rpm, 1.5 HP) (Model 20" 2000 rpm, 1.5 HP)

**NOTE:** Disconnect power cord from electrical outlet before adjusting drive belt tension.

1. Loosen the bolts holding the drive motor to the frame; do not remove (fig 8).
2. Turn the two screws at the rear of the frame until the belt is tight.
3. Test the machine. If belt slips, adjust further. Retest. If the belt does not slip, tighten the drive motor bolts. **DO NOT** overtighten the drive belt.

## HANDLE ADJUSTMENT

The handle can be adjusted to any desired work position by simply pushing up on the handle lock (fig 6). Move the handle to the desired position, then firmly push down on the handle lock which will lock the handle in position.

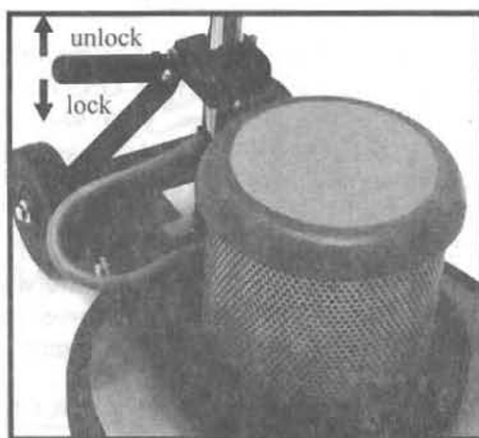


fig. 6

## HANDLE CAM LOCK ADJUSTMENT

With the handle cam lock in the "up" position (unlocked), tighten the adjusting nuts until there is a slight drag when the handle is raised or lowered. The tube should be locked securely when the handle lock is pressed downward (fig 7).

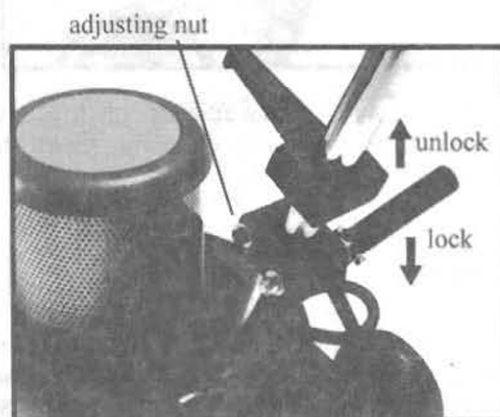


fig. 7

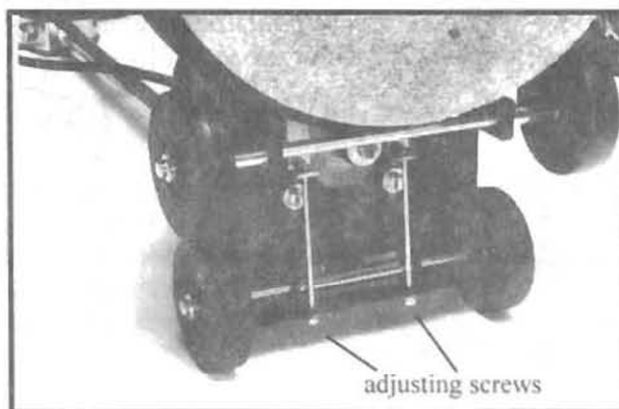


fig. 8

## CONTROLS

### ON/OFF POWER SWITCH TRIGGERS

The ON/OFF switch is conveniently located in the form of dual triggers underneath the handle grips.

### TO TURN THE MACHINE ON

The operating handle must be lowered to the operating position before switching the machine ON. Place both hands firmly on the handle grips with your fingers around the power triggers. Do not apply pressure on the triggers before the safety switch lock is disengaged.

Disengage the safety switch lock by pushing it forward with one thumb. Then, while holding the safety switch lock in disengaged position, squeeze the power triggers toward the handle grips and return your thumb to the handle grip.



To stop the machine, simply release the triggers. The safety switch lock will automatically return to the engaged position.

### USING THE 20" 175/300 rpm 2-speed FOR BUFFING

The model 20" 175/300 rpm 2-speed is a two-speed floor machine designed for dual operation, scrubbing or buffing. A toggle switch on the left side of the switch box selects the output speed, 175 RPM for scrubbing or 300 RPM for buffing. Do not operate this floor machine for buffing in low speed, it will not do an effective job and tends to overload the motor unnecessarily.

## GUIDELINES FOR OPERATION

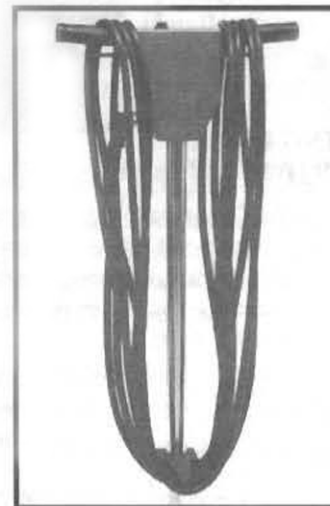
- Your floor machine is a very sensitive, powerful unit. When in operation, it should be guided gradually and smoothly without sudden or rough motions. You will want to practice with your machine on a smooth surface first until you have experience in operating it.

- For ease of operation, always keep the brush or pad surface level, balanced, and flat on the floor at all times.
- Always adjust the operating handle to a comfortable height at which the brush or pad surface is balanced before starting the machine. (see "Handle Adjustment" Pg 4)..
- Your floor machine will operate differently on various surfaces. For example, there will be much more resistance when the machine is used with a brush on carpeted surfaces than when it is used with a pad on a smooth surface. The operator should be prepared to adjust for these differences.
- **BEGIN OPERATING THE FLOOR MACHINE WITH THE BRUSH OR PAD SURFACE LEVEL, BALANCED AND FLAT ON THE FLOOR.**
- To move the machine to the right, slowly apply slight upward pressure on the handle.
- To move the machine to the left, slowly apply slight downward pressure on the handle.
- To move the machine forward or backward, keep brush or pad flat on the floor and push or pull machine in the desired direction.

**DO NOT LET THE MACHINE REST ON THE PAD OR BRUSH FOR AN EXTENDED PERIOD OF TIME.** This may alter the shape of the pad or brush which may cause the machine to wobble.

## CORD STORAGE

When not in use, loosely wind the power cord around the cord storage hook on the handle shaft and both of the handle grips, as shown.

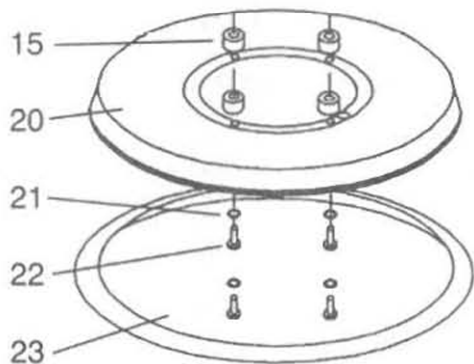
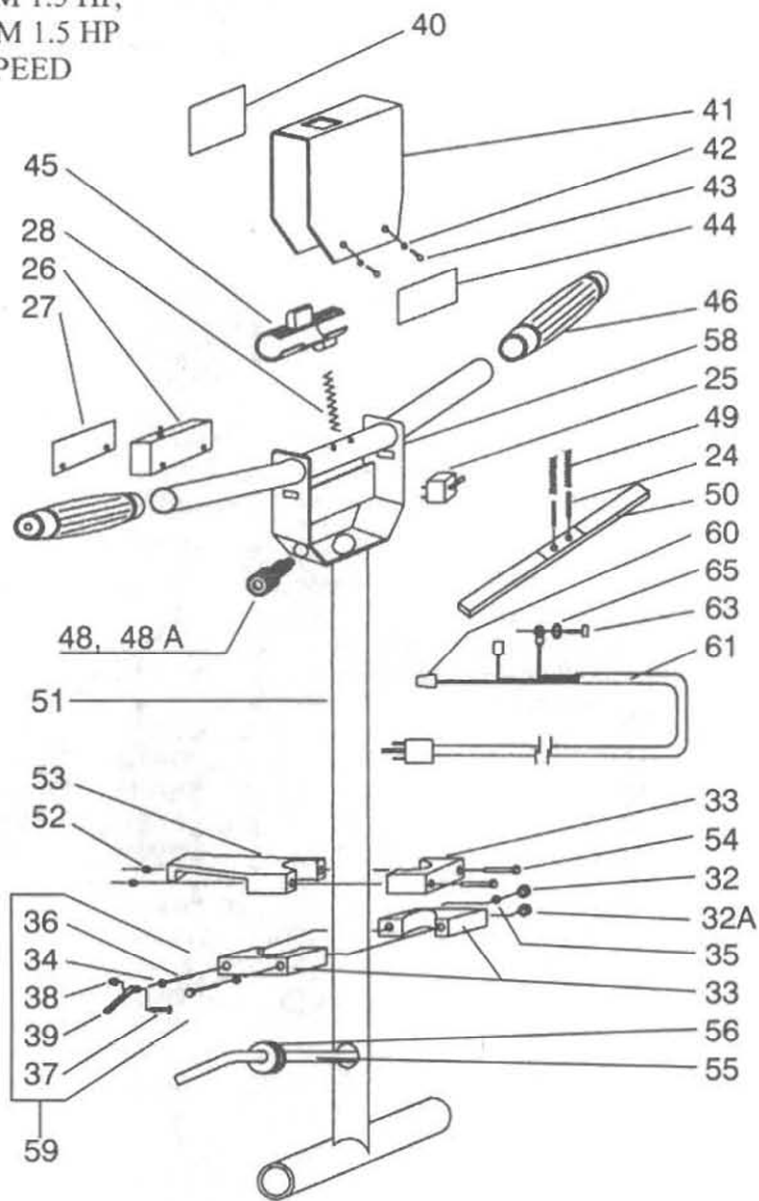
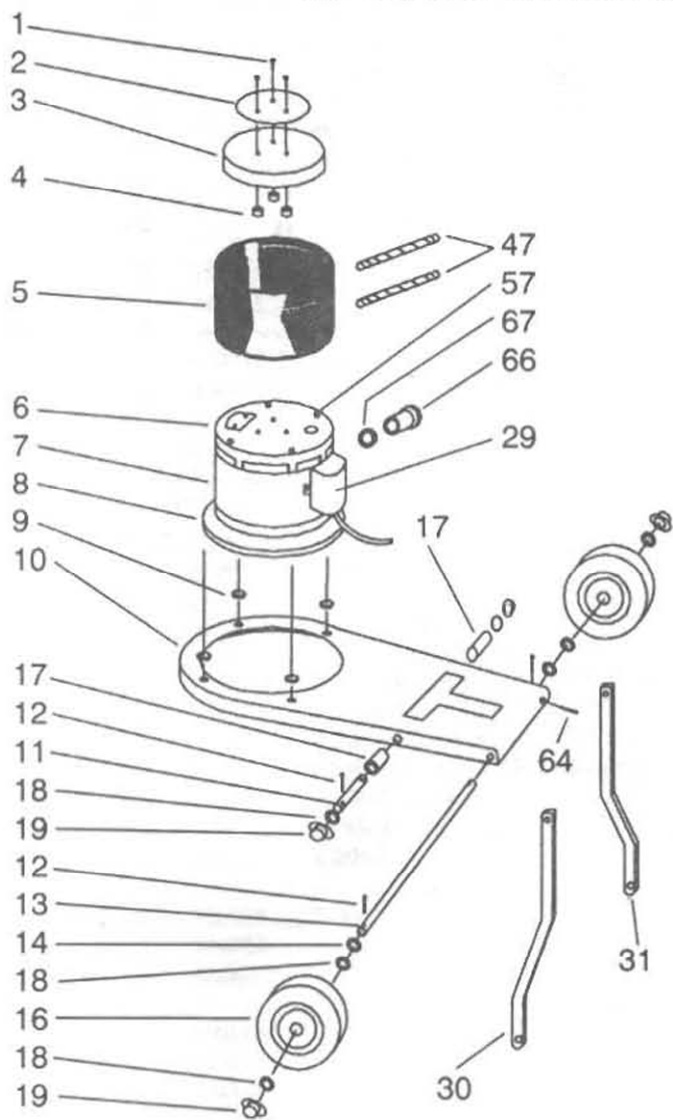


## CLEAN UP AND STORAGE

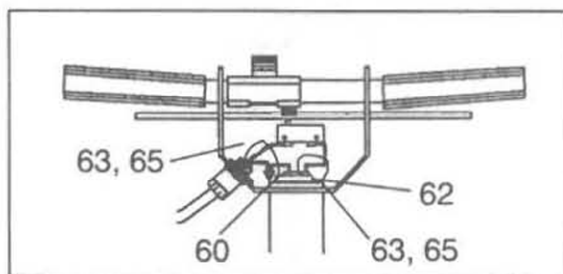
After being used, your floor machine can be wiped clean with a soft, damp cloth and should be stored in a clean, dry place.

# FLOOR MACHINE ASSEMBLIES

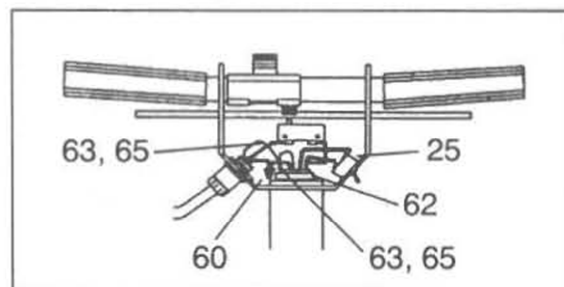
17" 175 RPM 1.0 HP, 17" 175 RPM 1.5 HP,  
20" 175 RPM 1.0 HP, 20" 175 RPM 1.5 HP  
20" 175/300 RPM 1.5 HP 2-SPEED



See Pages 8-9 for parts list



17" 175 RPM 1.0 HP, 17" 175 RPM 1.5 HP, 20" 175 RPM 1.0 HP  
20" 175 RPM 1.5 HP, 20" 1500 RPM 1.5 HP



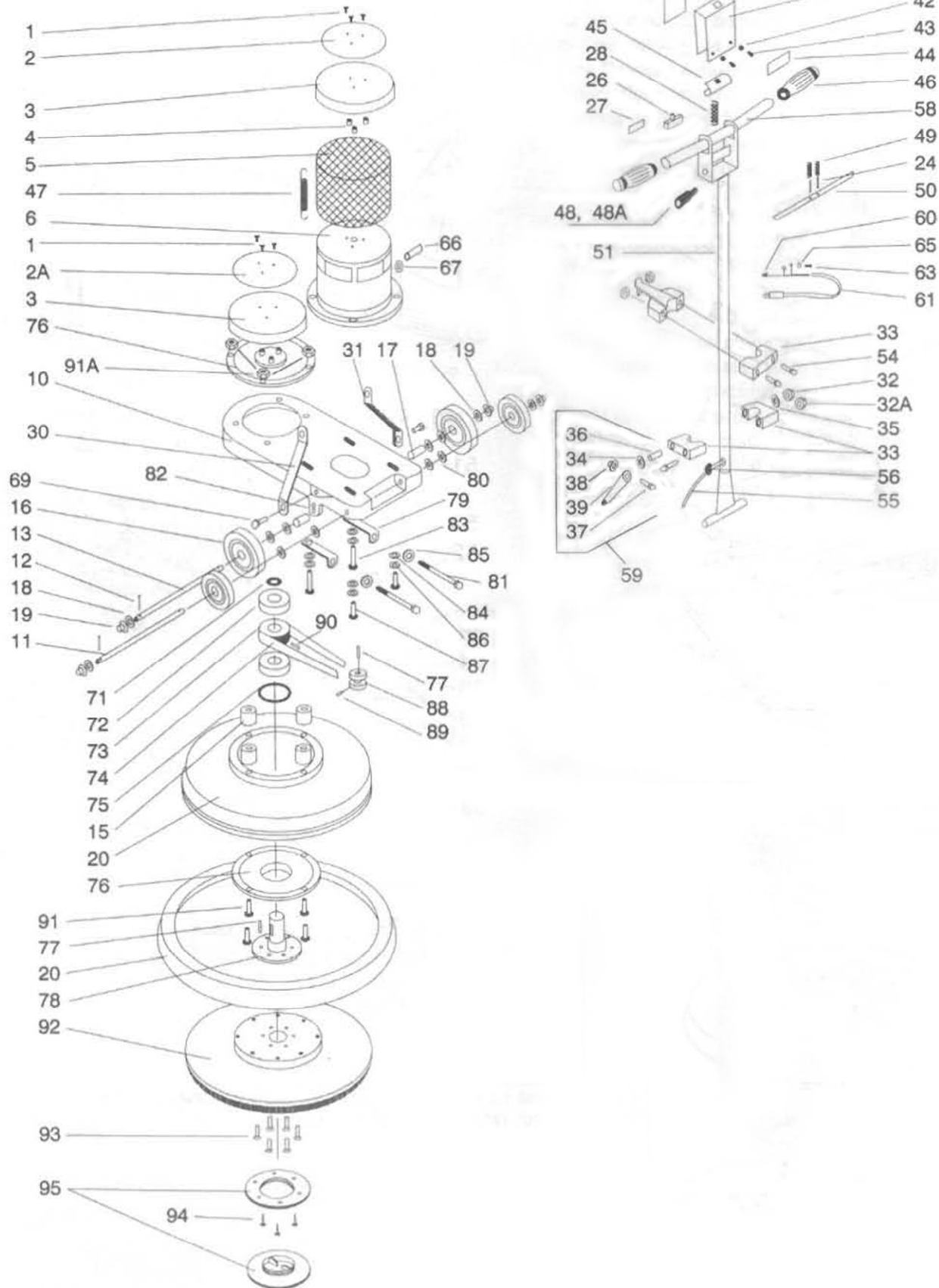
20" 175/300 RPM 2-SPEED



# FLOOR MACHINE ASSEMBLIES

20" 1500 RPM 1.5 HP

20" 2000 RPM 1.5 HP



# FLOOR MACHINE PARTS LIST

REF. NO.	17" 1 HP 175 RPM	17" 1.5 HP 175 RPM	20" 1 HP 175 RPM	20" 1.5 HP 175 RPM	20" 1.5 HP 2-SPEED	20" 1.5 HP 1500 RPM	20" 1.5 HP 2000 RPM	DESCRIPTION	QTY REQ
	X							17" Fl Mach, 175 RPM, 1 HP	
		X						17" Fl Mach, 175 RPM, 1 1/2 HP	
			X					20" Fl Mach, 175 RPM, 1 HP	
				X				20" Fl Mach, 175 RPM, 1 1/2 HP	
					X			20" Fl Mach, 175/300 RPM 2-spd 1 1/2 HP	
						X		20" Fl Mach, 1500 RPM 1 1/2 HP	
							X	20" Fl Mach 2000 RPM 1 1/2 HP	
1	H0002	H0040	H0002	H0040	H0002	H0002+3	H0002+3	Screw 10-24 X 1.00" / 10-24 x .50"	3
2	L0001	L0001	L0001	L0001	L0001	L0001	L0001	Label, Indl, 6.5" dia.	1
2A						L0006	L0006	Label, 1500 RPM	1
3	C0010-1	C0010-1	C0010-1	C0010-1	C0010-1	C0010-1+1	C0010-1+1	Cover, Drip-Motor	1
4	H0003	H0058	H0003	H0058	H0003	H0003+3	H0003+3	Spacer, Drip Cover	3
5					S0016	S0016	S0016	Cover, Motor-Screen	1
6	E0004		E0004					Mtr/Gear Unit Asm. 115/60, 1 HP	1
6					E0005			Mtr/Gear Unit Asm. 115/60, 1 HP	1
6						E0027	E0027	Motor, 115/60, 1.5 HP	1
7	E0001		E0001					Motor, 115/60, Black, 1 HP	1
7		E0030		E0030				Motor, 115/60, Black, 1 1/2 HP	1
8	G0001		G0001					Gear Unit, 10:1, 2-Idler-Black	1
8		G0002		G0002				Gear Unit, 10:1, 3-Idler-Black	1
9	H0005	H0005	H0005	H0005	H0005			Lockwasher, 5/16" ID, Ext Tooth	4
10	W0001P	W0001P	W0001P	W0001P	W0001P	W0004P	W0004P-1	Frame- Floor Machine	1
11	M0006P	M0006P	M0006P	M0006P	M0006P	M0018P	M0018P	Shaft Handle	1
12	H0006	H0006	H0006	H0006	H0006	H0006	H0006	Cotter Pin	4
13	M0005P	M0005P	M0005P	M0005P	M0005P	M0017P	M0017P	Shaft, Axle	1
14	H0007	H0007	H0007	H0007	H0007			Spring Washer	2
15	M0004	M0004	M0004	M0004	M0004	M0004	M0004	Spacer, Frame/Brush Cover	4
16	C0004	C0004	C0004	C0004	C0004	C0004+2	C0004+2	Wheel, 5" dia.	2
17						M0003	M0003	Spacer	2
18	H0008	H0008	H0008	H0008	H0008	H0008	H0008	Steel Washer, 33/64" X 7/8"	12
19	H0009	H0009	H0009	H0009	H0009	H0009	H0009	NutPush -.50"	4
20	S0003P	S0003P						Brush Cover, 17"	1
20			S0004P	S0004P	S0004P	S0004P	S0004P	Brush Cover, 20"	1
21	H0010	H0010	H0010	H0010	H0010			Lockwasher, 5/16" ID	4
22	H0011	H0011	H0011	H0011	H0011			Screw, 5/16" X2.0SocHd	4
23	C0001	C0001						Bumper, 17" Black	1
23			C0002	C0002	C0002	C0002	C0002	Bumper, 20" Black	1
24	H0012	H0012	H0012	H0012	H0012	H0012	H0012	Roll Pin	2
25					E0006			Switch, Hi - Lo	1
26	E0007	E0007	E0007	E0007	E0007	E0007	E0007	Switch, ON/OFF	1
27	H0013	H0013	H0013	H0013	H0013	H0013	H0013	Insulation, Switch	1
28	H0014	H0014	H0014	H0014	H0014	H0014	H0014	Spring	1
29	E0008		E0008					Capacitor, 594 MFD	1
30	S0006P	S0006P	S0006P	S0006P	S0006P	S0017P	S0017P	Connecting Leg- Left	1
31	S0005P	S0005P	S0005P	S0005P	S0005P	S0018P	S0018P	Connecting Leg - Right	1
32	H0015	H0015	H0015	H0015	H0015	H0015	H0015	Nut, 3/8" - 16 Hex Nyloc Thin	1
32A	H0057	H0057	H0057	H0057	H0057	H0057	H0057	Nut, 3/8" - 16 Hex Nyloc Standard	1
33	C0006P	C0006P	C0006P	C0006P	C0006P	C0006P	C0006P	Clamp, Handle Lock	1
34	H0001P	H0001P	H0001P	H0001P	H0001P	H0001P	H0001P	Washer, Hardened Slotted	1
35	H0016	H0016	H0016	H0016	H0016	H0016	H0016	Washer, 3/8"	3
36	H0017	H0017	H0017	H0017	H0017	H0017	H0017	Stud, Clamp	1
37	H0018	H0018	H0018	H0018	H0018	H0018	H0018	Rivet, 5/16" X 1.25 Long Rd Head	1
38	H0019	H0019	H0019	H0019	H0019	H0019	H0019	Push Nut 5/16"	1
39	M0001P	M0001P	M0001P	M0001P	M0001P	M0001P	M0001P	Cam. HandleLock	1
40	L0002	L0002	L0002	L0002	L0002	L0002	L0002	Label, Switchbox	1
41	W0003P	W0003P	W0003P	W0003P	W0003P	W0003P	W0003P	Cover Asm, Switchbox	1
42	H0020	H0020	H0020	H0020	H0020	H0020	H0020	Lockwasher, #10 Ext Tooth	3
43	H0040	H0040	H0040	H0040	H0040	H0040	H0040	Screw, 10-24 X .50 Pan Head	2
44	L0005	L0005	L0005	L0005	L0005	L0005	L0005	Label, Warning	1

# FLOOR MACHINE PARTS LIST

REF. NO.	17" 1 HP 175 RPM	17" 1.5 HP 175 RPM	20" 1 HP 175 RPM	20" 1.5 HP 175 RPM	20" 1.5 HP 2-SPEED	20" 1.5 HP 1500 RPM	20" 1.5 HP 2000 RPM	DESCRIPTION	QTY REQ
45	C0003	C0003	C0003	C0003	C0003	C0003	C0003	Switch, Safety.	1
46	C0007	C0007	C0007	C0007	C0007	C0007	C0007	Handle Grip, Black.	2
47					H0049	H0049	H0049	Spring, Clamp.	2
48	H0021	H0021	H0021	H0021	H0021	H0021	H0021	Strain Relief, Power Cord	1
48A	H0022	H0022	H0022	H0022	H0022	H0022	H0022	Nut, Strain Relief	1
49	H0023	H0023	H0023	H0023	H0023	H0023	H0023	Spring, Trigger	2
50	S0008P	S0008P	S0008P	S0008P	S0008P	S0008P	S0008P	Trigger	1
51	W0002P	W0002P	W0002P	W0002P	W0002P	W0002P	W0002P	Handle Weldment.	1
52	H0024	H0024	H0024	H0024	H0024	H0024	H0024	Nut, 3/8" - 16	2
53	C0008P	C0008P	C0008P	C0008P	C0008P	C0008P	C0008P	Cord Hook Body	1
54	H0025	H0025	H0025	H0025	H0025			Screw, 3/8"-16 X 2.0 Socket Cap.	3
55					E0012	E0028	E0028	In-Handle Cord, 14-4	1
56	H0028	H0028	H0028	H0028	H0028	H0028	H0028	Grommet.	1
57	H0026	H0026	H0026	H0026				Screw, Motor - 1/4"-20 X 6 3/4	4
58	E0010	E0010	E0010	E0010	E0010	E0010	E0010	Handle Asm, Complete	1
59	HP0003	HP0003	HP0003	HP0003	HP0003	HP0003	HP0003	Cam Lock Asm, Incl 34,36,37,38,39	1
60	H0027	H0027	H0027	H0027	H0027	H0027	H0027	Nut, Wire	1
61	E0003	E0003	E0003	E0003	E0003	E0003	E0003	Power Cord, 14-3 ST, 50 FT Long.	1
62	H0029	H0029	H0029	H0029	H0047	H0029	H0029	Clamp, Power Cord	1
63	H0040	H0040	H0040	H0040	H0040	H0040	H0040	Screw, 10-24 X .50	2
64	H0031	H0031	H0031	H0031	H0031	H0031	H0031	Cotter Pin	1
65	H0020	H0020	H0020	H0020	H0020	H0020	H0020	Lockwasher, #10 Ext. Tooth.	1
66					H0050	H0050	H0050	Strain Relief	1
67					H0022	H0022	H0022	Nut, Strain Relief	1
68						H0057	H0057	.375 - 16 Nyloc Nut	4
69						H0043	H0043	.375 - 16 X 1.50 Long Hex Bolt	2
70						H0015	H0015	.375 - 16 Nyloc Nut.	2
71						H0045	H0045	External Retaining Ring	1
72						M0019	M0019	Ball Bearing	2
73						M0014	M0014	Pulley	1
74						C0014-1	C0014-1	Belt	1
75						H0048	H0048	Tension Washer	1
76						C0011M	C0011M	Bearing Housing	2
77						H0053	H0053	Square Key	2
78						W0005P	W0005P	Drive Shaft	1
79						S0019P-1	S0019P-1	Belt Adjustment Bracket	2
80						H0008	H0008	Washer 33/64" X 7/8"	8
81						H0056-3	H0056-3	Bolt 1/4 - 20 X 3.0" long	2
82						H0051	H0051	Set Screw 1/4 - 20 X .50"	2
83						H0042	H0042	Bolt .375 - 16 X .875" long	2
84						H0004	H0004	Lock Washer Split .375"	4
85						H0054	H0054	Lock Washer Split .250"	2
86						H0060	H0060	Flat Washer .375"	4
87						H0041	H0041	Bolt .375 - 16 X .750" long	2
88						M0015	M0015-1	Pulley	1
89						H0052	H0052	Set Screw .312 - 18 X .375" long.	2
90						H0051	H0051	Set Screw .250 - 20 X .500" long.	1
91						H0044	H0044	Bolt .375 - 16 X 2 1/2" long	4
91A						H0057	H0057	Nut, Nylon, 3/8 X 16	4
92						C0012	C0012	Pad Driver - Flex	1
93						H0032	H0032	Flat Head Cap Screw 1/4 - 28 X 1"	6
94						H0059	H0059	Sheet Metal Screw #8 Pan Head 3/4"	3
95						C0013-1	C0013-1	Pad Centering & Retaining Clamp	1



## FEATURES

- Dual trigger negative pressure switch allows operator to run with either hand.
- Safety switch lock mechanism prevents accidental start.
- Steel transmission gears give outstanding wear and durability.
- Planetary gearbox means strength.
- Premium 66 frame motors provide better cooling and more torque with longer motor life.
- One piece welded heavy gauge steel handles give superior handling stability.
- Ergonomically designed foot operated positive lock handle adjustment eliminates bending.
- High strength steel frames withstand heavy duty wear situations.

## LIMITED WARRANTY

Your 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 Limited 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 this Limited Warranty, the procedure to be taken to obtain its performance, and other information concerning the Limited Warranty policy.

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

Machines: 3 year parts replacement and 1 year service labor warranty.

Replacement parts guaranteed for 90 days from date of installation against defects in material and workmanship.

This Limited Warranty will not cover damage attributable to the following:

- (1) Improper, unreasonable or negligent use or abuse of the equipment.
- (2) Use of equipment with hot water or high temperature above 130 degrees Fahrenheit (Solution Tanks)
- (3) Abrasions or punctures of the equipment.

The start date of the Limited Warranty coverage shall be the purchase date of the original end user or six months from the date the machine was shipped from the Factory, whichever comes first.

### PARTS OF EQUIPMENT NOT COVERED BY THE LIMITED WARRANTY

Certain parts of equipment require replacement in the ordinary course of use due to normal wear by reason of their characteristics. Normal wear items such as cords, switches, bumpers, carbon brushes, handle grips, belts, bearings, etc. are excluded from the Limited Warranty.

### EXCEPTIONS AND EXCLUSIONS FROM THE LIMITED WARRANTY

This equipment is required to be used on electric current as indicated on the data plate. Otherwise damage, defects, malfunctions or other failure of the equipment arising from use on electric current not as indicated are excepted and excluded from this Limited Warranty. Defects, malfunctions, failure or damage of the equipment caused by improper, unreasonable or neglect use or abuse while in possession of the purchaser are likewise excluded from this warranty. If repair is done on your equipment by anyone other than those designated as authorized to perform such work without first having obtained factory instructions, THE MANUFACTURER 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 specified instructions.

### PROCEDURE TO BE TAKEN TO OBTAIN PERFORMANCE OF LIMITED WARRANTY REPAIR

To secure repair of the equipment or any warranted parts under this Limited Warranty, the following procedure should 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:

- (1) The dealer from whom purchased;
- (2) Any authorized service station.

If you are unable to locate any of the foregoing, you may write or otherwise communicate with THE MANUFACTURER before repair service is performed by anyone else. In such event, THE MANUFACTURER will provide either the location of a closely available authorized distributor service department, or authorized service station or other factory instructions. Upon compliance with the above procedure, all warranted defects will be repaired, at no additional charge or costs to the customer, and the repaired product returned to the customer, with all shipping and delivery charges prepaid. In following the procedures above set forth, PLEASE MAKE CERTAIN to state the model, type and serial number as shown on the data plate of the equipment.

### REPLACEMENT

In the event of a defect, malfunction or failure of your equipment or any warranted part to conform with this warranty, THE MANUFACTURER 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

THE MANUFACTURER will not, as a matter of its Limited Warranty policy, refund the customer's purchase price.

### LIMITED WARRANTY REGISTRATION CARD FOR YOUR EQUIPMENT AND REQUEST FOR INFORMATION

Your distributor from whom you purchased your equipment is responsible for the registration of your Limited Warranty with the factory. Any information or questions you may have concerning your equipment or this Limited Warranty may likewise be secured from the factory. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.