



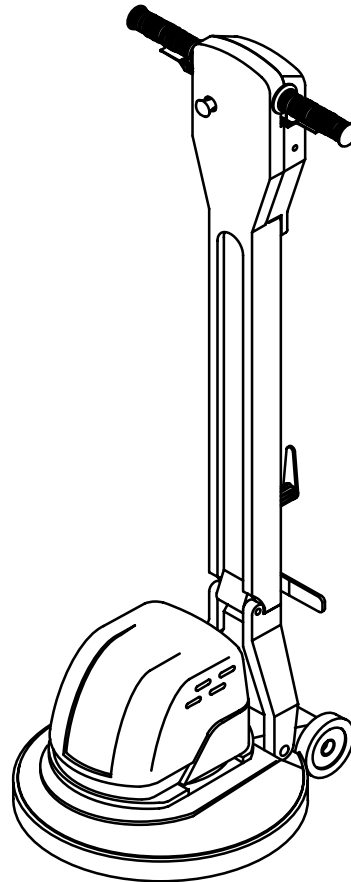
2010/2040/2170

Low Speed Floor Machine

Model No.:

- 609620 - 2010 (220V/60HZ)
- 609628 - 2010 (230V/50HZ)
- 609681 - 2010 (220V EMC)
- 609623 - 2040 (220V/60HZ)
- 609785 - 2040 (240V/50HZ)
- 609279 - 2170 (120V)
- 609300 - 2170 (230V)
- 609680 - 2170 (240V EMC)

Operator and Parts Manual



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609634
Rev. 00 (01-00)

OPERATION

This manual is furnished with each new model. It provides necessary operation and maintenance instructions.

Read this manual completely and understand the machine before operating or servicing.

This machine will provide excellent service. However, the best results will be obtained at minimum costs if:

- The machine is operated with reasonable care.
- The machine is maintained regularly – per the maintenance instructions provided.
- The machine is maintained with manufacturer supplied or equivalent parts.

MACHINE DATA

Please fill out at time of installation for future reference.

Model No.- _____

Install. Date - _____

Serial No.- _____

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SAFETY PRECAUTIONS

This machine is intended for commercial use. It is suited to scrub floors in an indoor environment and is not constructed for any other use. Use only recommended pads/brushes and cleaning solutions.

The following safety alert symbols are used throughout this manual as indicated in their descriptions:

⚠ WARNING: To warn of hazards or unsafe practices which could result in severe personal injury or death.

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

The following information signals potentially dangerous conditions to the operator or equipment:

FOR SAFETY:

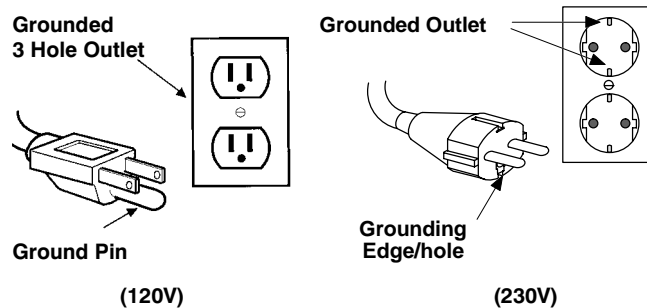
1. **Do not operate machine:**
 - Unless trained and authorized.
 - Unless operator manual is read and understood.
 - In flammable or explosive areas unless designed for use in those areas.
 - Unless cord is properly grounded.
 - With damaged cord or plug.
 - If not in proper operating condition.
 - In outdoor areas.
 - In standing water.
2. **Before operating machine:**
 - Make sure all safety devices are in place and operate properly.
3. **When using machine:**
 - Do not run machine over cord.
 - Do not pull machine by plug or cord.
 - Do not pull cord around sharp edges or corners.
 - Do not unplug by pulling on cord.
 - Do not stretch cord.
 - Do not handle plug with wet hands.
 - Keep cord away from heated surfaces.
 - Do not release handle grips until pad comes to a complete stop.
 - Go slow on inclines and slippery surfaces.
 - Report machine damage or faulty operation immediately.

4. **Before leaving or servicing machine:**
 - Turn off machine.
 - Unplug cord from wall outlet.
5. **When servicing machine:**
 - Unplug cord from wall outlet.
 - Avoid moving parts. Do not wear loose jackets, shirts, or sleeves.
 - Use manufacturer supplied or approved replacement parts.

⚠ WARNING: Hazardous Voltage. Shock or electrocution can result. unplug machine before servicing.

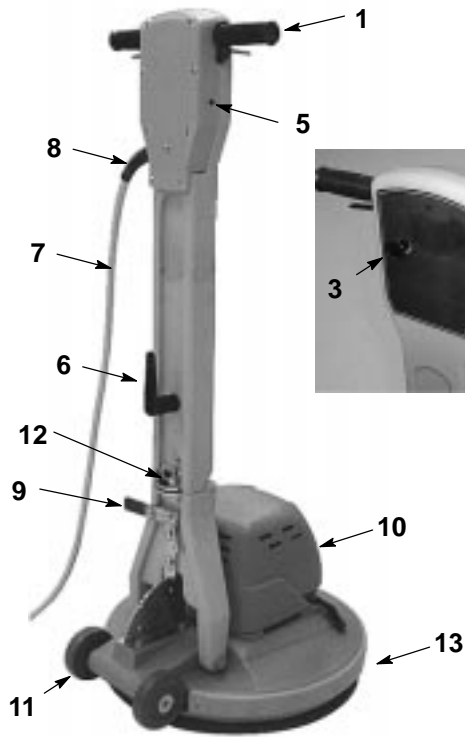
GROUNDING INSTRUCTIONS

Machine must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electrical current to reduce the risk of electrical shock. This machine 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 in accordance with all local codes and ordinances. Do not remove ground pin; if missing, replace plug before use.



OPERATION

MACHINE COMPONENTS



1. Handle Grips
2. Control Triggers
3. Safety Lock Button
4. Dual Speed Switch (Dual Speed Model)
5. Circuit Breaker Reset Button
6. Quick Release Power Cord Hook
7. 15 m (50 ft) Power Cord
8. Cord Grip
9. Handle Release Foot Lever
10. Motor Cover
11. Wheels 100 mm (4 in)
12. Handle Lock Knob
13. Brush/Pad Driver

MACHINE SETUP

1. Carefully check carton for signs of damage. Report damages at once to carrier.
2. Unfold handle to the upright position and lock handle using the handle lock knob (*Figure 1*).



FIG. 1

3. Carefully tilt machine back on handle and install brush/pad driver.

NOTE: Pad driver, pads and brush are sold separately. Consult your authorized distributor for pad/brush recommendations.

4. Position brush/pad driver on driver lug and turn counterclockwise to secure (*Figure 2*).

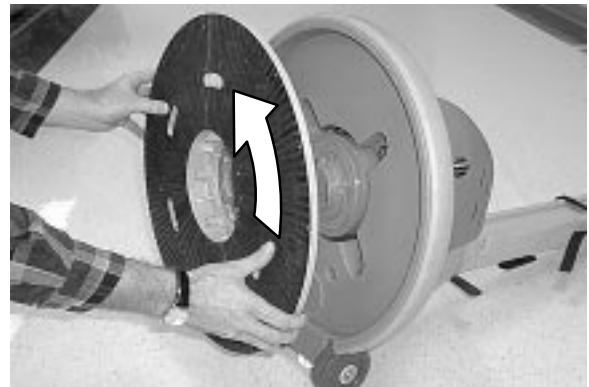


FIG. 2

5. For pad installation, center pad on pad driver and tap with hand to secure (*Figure 3*).



FIG. 3

- For easy power cord removal, pull and turn cord hook upward (Figure 4).



FIG. 4

- Plug power cord into a grounded wall outlet (Figure 5).

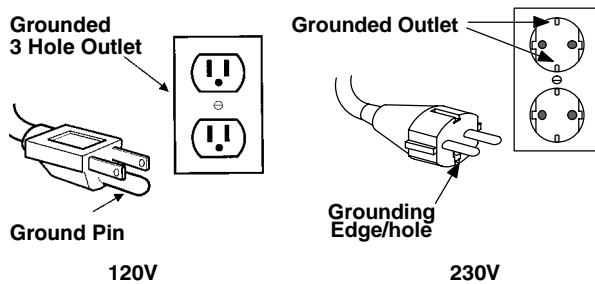


FIG. 5

FOR SAFETY: Do not operate machine unless cord is properly grounded.

- Lower handle to desired operating height by stepping down on handle release foot lever, seven height settings (Figure 6).



FIG. 6

- For Dual Speed machines, position dual speed switch downward for scrubbing/stripping and upward for spray buffing (Figure 7).



FIG. 7

MACHINE OPERATION

FOR SAFETY: Do not operate machine unless operator manual is read and understood.

- Before operating, lift handle so machine is parallel to floor (Figure 8).



FIG. 8

- To begin scrubbing, depress safety lock button and pull triggers. Release safety lock button once machine starts (Figure 9).



FIG. 9

ATTENTION: Use caution when starting out. Machine will jolt when triggers are pulled.

OPERATION

- To move machine left (A), slightly lower handle. To move right (B), slightly raise handle. Operate machine with a side to side motion (*Figure 10*).

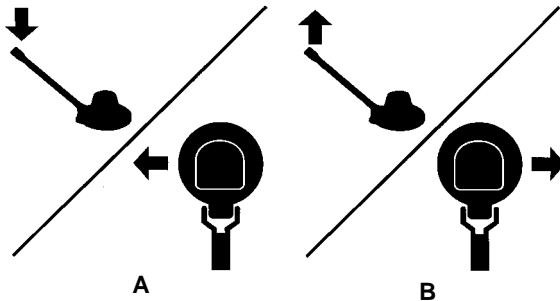


FIG. 10

- To stop machine, release triggers and safety lock button will automatically engage.

FOR SAFETY: When using machine, do not release handle grips until pad comes to a complete stop.

NOTE: Circuit breaker may trip under conditions of excessive overload. Periodically check pad for soil build-up. To reset circuit breaker switch, wait 15 seconds and push reset button at side of handle.

- When finished scrubbing perform the following maintenance procedures:

MAINTENANCE

⚠ WARNING: Hazardous Voltage. Shock or electrocution can result. Unplug machine before servicing.

AFTER EACH USE:

- Remove pad driver or brush.
- Wash pads and brush.
- Clean machine base.
- Inspect power cord for damage, if worn or damaged, replace immediately.
- Wipe power cord with damp cloth and neatly coil around cord hook and handle. To remove cord, pull and turn cord hook upward.
- Periodically check that all bolts and nuts are tight.
- Every 250 hours of operation check motor carbon brushes for wear. Replace brushes when 1 cm or less in length.

STORING MACHINE

- Remove brush/pad driver from machine and neatly coil cord around cord hook and handle.
- Store in a dry area in the upright position.
- For minimal storage or transport space, fold handle down and position as shown (*Figure 11*).



FIG. 11

ATTENTION: Do not expose to rain. Store indoors.

RECOMMENDED STOCK ITEMS

Refer to the Parts List section for recommended stock items. Stock Items are clearly identified with a bullet preceding the parts description (*Figure 12*).

Ref.	Part No.	Description	Qty.
1	301163	*3M_STANDOFF	1
2	16613	*FLOAT, SHUTOFF	1
3	228187	*NOZZLE	1
4	301714	*GASKET	1
5	218248	*NUT, FLANGED	1

FIG. 12

TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
Machine does not operate.	Faulty power cord.	Contact Service Center.
	Tripped circuit breaker.	Reset circuit breaker on machine.
	Tripped building circuit breaker.	Reset circuit breaker in building.
	Faulty machine wiring.	Contact Service Center.
	Faulty trigger switch.	Contact Service Center.
	Faulty motor.	Contact Service Center.
	Capacitor burned out. (Single speed models)	Contact Service Center.
	Rectifier burned out. (Dual speed models)	Contact Service Center.
Machine circuit breaker trips continuously.	Soiled Pad.	Replace Pad.
	Improper pad/brush for application	Change to proper pad/brush.
	Defective circuit breaker.	Contact Service Center.
	Worn motor brushes. (Dual Speed Model)	Contact Service Center.

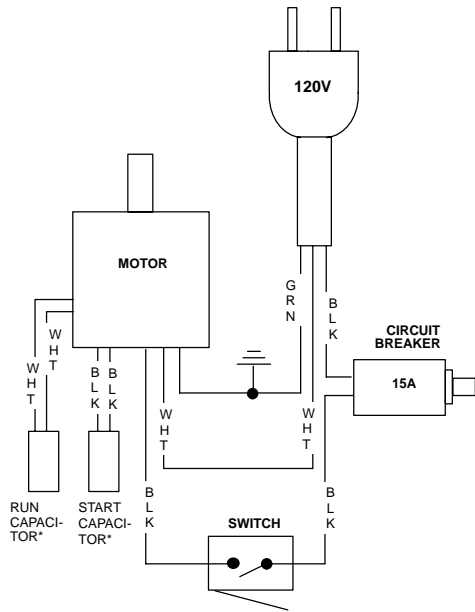
SPECIFICATIONS

MODEL	2010	2040	2170
WIDTH	451 mm (17.75 in)	527 mm (20.75 in)	527 mm (20.75 in)
HEIGHT	1219 mm (48 in)	1219 mm (48 in)	1219 mm (48 in)
LENGTH	546 mm (21.5 in)	597 mm (23.5 in)	597 mm (23.5 in)
FOLDED HEIGHT	446 mm (17.5 in)	521 mm (20.5 in)	521 mm (20.5 in)
FOLDED LENGTH	840 mm (33 in)	902 mm (35.5 in)	902 mm (35.5 in)
WEIGHT	43Kg (95 lbs)	44Kg (98 lbs)	43Kg (98 lbs)
DRIVE MOTOR	120V, 1.5 hp 12A, 60Hz 230V, 1.1kW, 7A, 50Hz 240V, 1.1kW, 7A, 60Hz	120V, 1.5 hp 12A, 60Hz 230V, 1.1kW, 7A, 50Hz 240V, 1.1kW, 7A, 60Hz	120V, 1.5 hp 12A, 60Hz 230V, 1.1kW, 7A, 60Hz
PAD/BRUSH SPEED	175 RPM	175 RPM	185/330 RPM
POWER CORD LGH	15 m (50 ft)	15 m (50 ft)	15 m (50 ft)
BRUSH PAD DIA.	432 mm (17 in)	508 mm (20 in)	508 mm (20 in)
DECIBEL RATING AT OPERATOR'S EAR, INDOORS ON TILE FLOOR	<70dB(A)	<70dB(A)	71dB(A) At Low Speed 73dB(A) At High Speed

ELECTRICAL DIAGRAMS

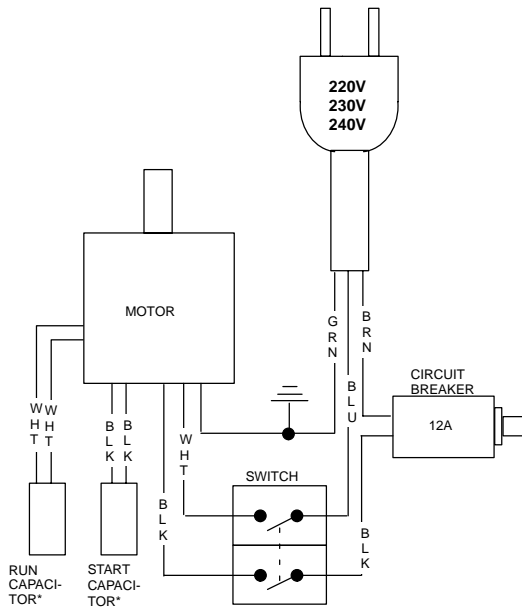
SINGLE SPEED – 120V

*HD MODEL ONLY

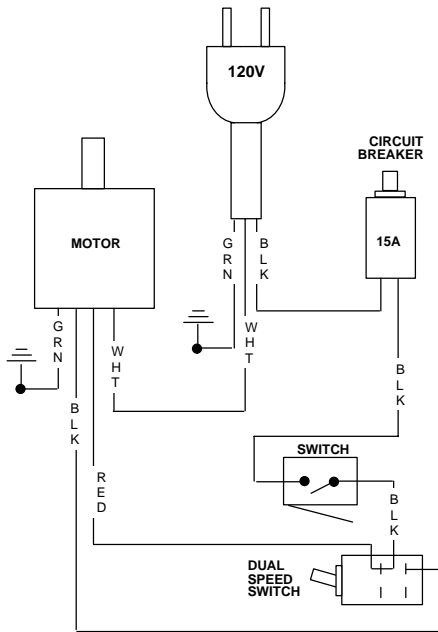


SINGLE SPEED – 220V/230V/240V

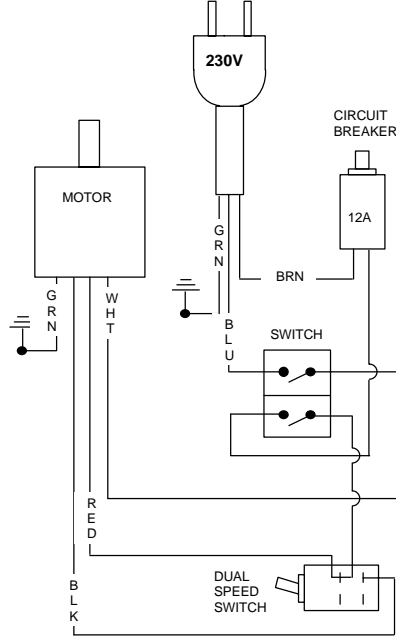
*HD MODEL ONLY



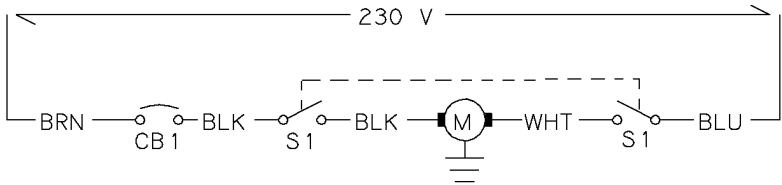
DUAL SPEED – 120V



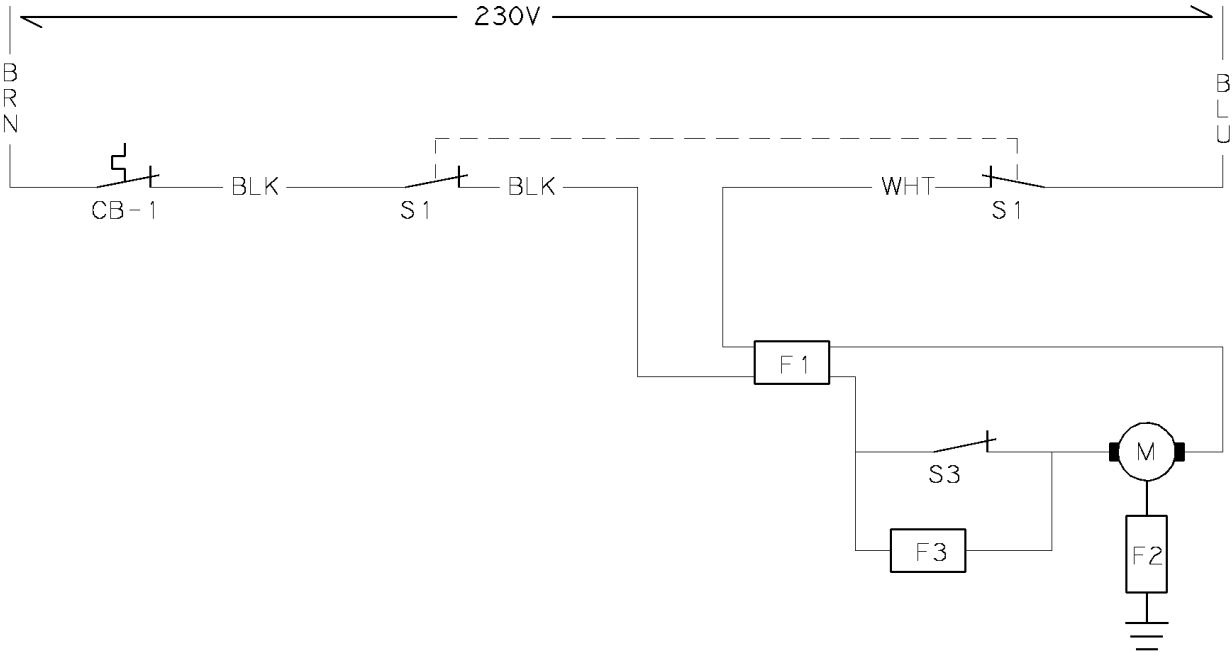
DUAL SPEED – 230V



SINGLE SPEED 240V EMC MODEL



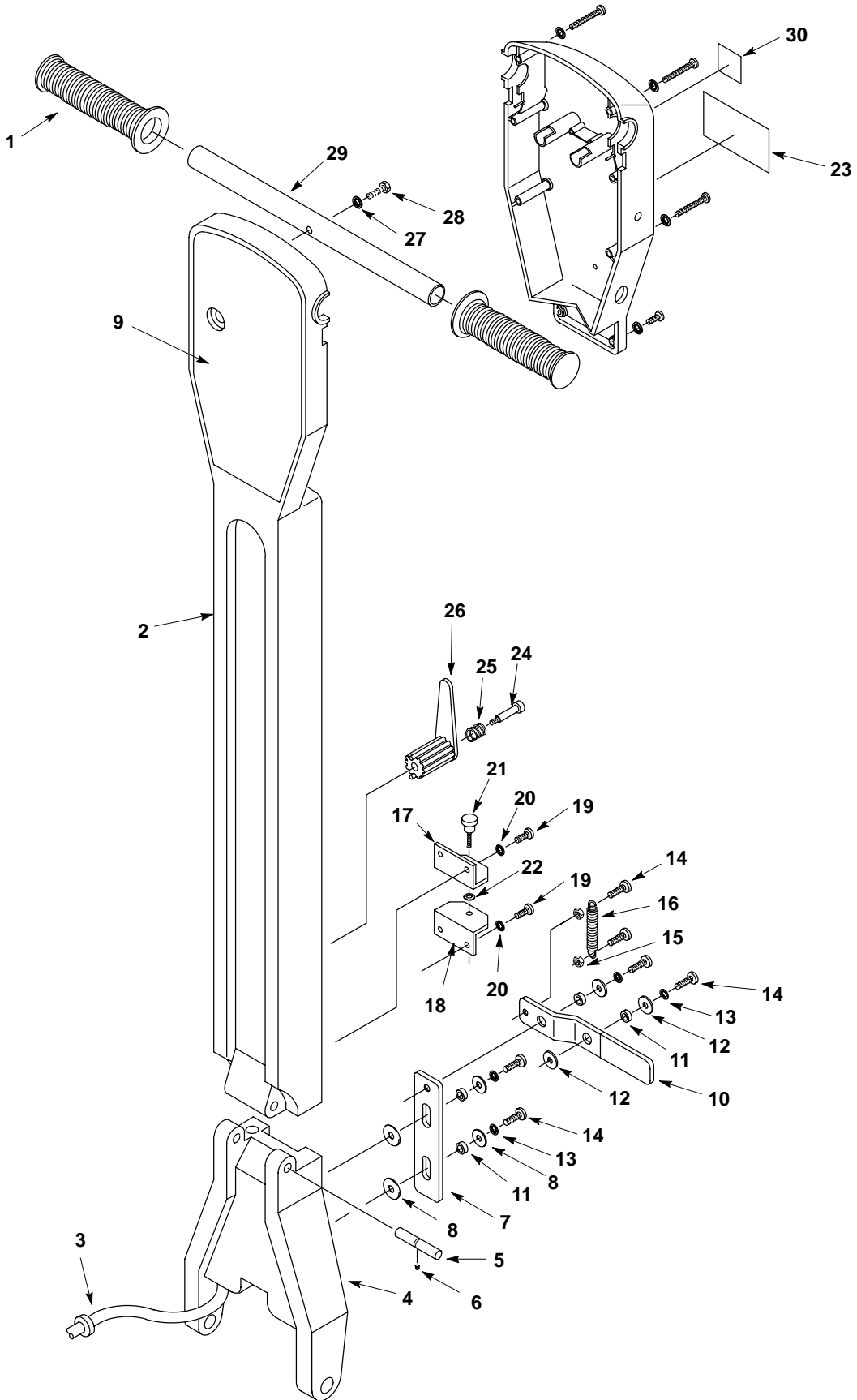
DUAL SPEED 240V EMC MODEL



REF LEGEND

- BLK = Black
- BRN = Brown
- BLU = Blue
- WHT = White
- S1 = Switch
- S3 = Switch, Speed
- CB1 = Circuit Breaker, 12A
- M = Motor
- F 1= Filter, RFI
- F 2= Filter, RFI
- F 3= Filter, RFI

HANDLE GROUP



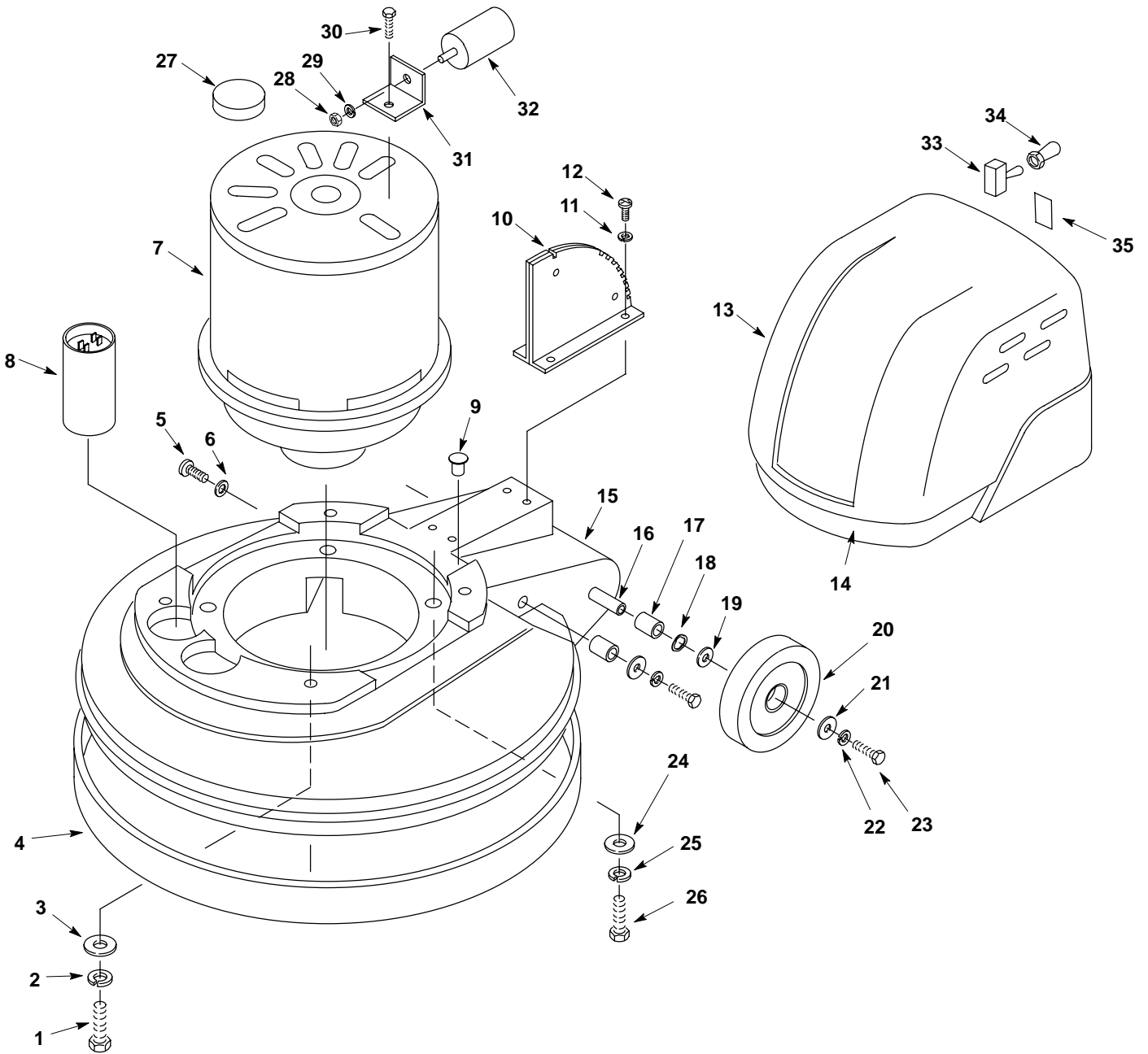
HANDLE GROUP

REF	PART #	DESCRIPTION	QTY.
1	200823	●GRIP, HANDLE TUBE	2
2	609040	HANDLE, UPPER, OFF-WHITE	1
3	130204	CORD, 14/3X57", BLACK	1
4	609042	HANDLE, LOWER, OFF-WHITE	1
5	603116	PIN, HANDLE PIVOT	1
6	140860	SCREW, SET	1
7	603107	LATCH, HANDLE	1
8	140003	WASHER, 1/4X1	4
9	609696	DECAL, 2010	1
	609804	DECAL, 2040	1
	609705	DECAL, 2170	1
10	603106	LEVER, HANDLE LATCH	1
11	140147	BUSHING	4
12	579210	WASHER, FLAT	3
13	578244000	WASHER, LOCK	4
14	578321000	SCREW, M6X1.0X16	6

REF	PART #	DESCRIPTION	QTY.
15	579029	NUT, M6X1.0	2
16	606334	SPRING, HANDLE LATCH	1
17	604267	BRACKET, PIVOT UPPER	1
18	604268	BRACKET, PIVOT LOWER	1
19	578321000	SCREW, M6X10.0X16	4
20	578244000	WASHER, LOCK	2
21	606015	●KNOB, HANDLE LOCK	1
22	140037	●WASHER, NYLON	1
23	120619	DECAL, WARNING	1
24	140239	SCREW, 3/8DIA X1-3/4	1
25	603108	SPRING, SWITCH	1
26	603104	HOOK CORD HANDLE	1
27	578244000	WASHER, LOCK	1
28	200031444	SCREW, M6X1.0X30	1
29	604306	TUBE, FOLDING HANDLE	1
30	578729	DECAL, READ MANUAL	1

● RECOMMENDED STOCK ITEMS

BASE GROUP



SEE ACCESSORIES FOR PAD DRIVER INFORMATION

BASE GROUP

REF	PART #	DESCRIPTION	QTY.
1	140255	SCREW, 1/4-20X1.75	4
2	140016	WASHER, LOCK	4
3	140000	WASHER, FLAT	4
4	602545	BUMPER, 20" MODEL	1
	602543	BUMPER, 17" MODEL	1
5	140852	SCREW, SHT MTL #12X3/4 PNPL	2
6	019680127	WASHER, FLAT	2
∇7	130494	MOTOR, 120V DUAL SPEED (2170)	1
▲	190742	●CARBON BRUSH CARD ASM.	1
▲	22117	●CARBON BRUSH	4
▲	190753	●RECTIFIER, 120V	1
▲	190744	●CONTROL, SPEED 120V	1
▲	515021	●HOLDER	1
∇7	130488	MOTOR, 230V DUAL SPEED (2170)	1
▲	600281	●CARBON BRUSH CARD ASM.	1
▲	190311	●CARBON BRUSH	4
▲	190312	●RECTIFIER, 230V	1
▲	190745	●CONTROL, SPEED 230V	1
∇7	600808	MOTOR, 240V/60HZ, 1.5 HP (2010/2040)	1
∇7	600807	MOTOR, 230V/50HZ (2010/2040)	1
▲8	25519	●CAPACITOR, RUN (SILVER)	1
	130762	●CAPACITOR, START (BLACK)	1
	100058	TAPE, CAPACITOR	.17'
9	130198	PLUG	1
10	230858	PLATE, LATCH	1
11	140015	WASHER, LOCK	4
12	140226	SCREW, 5/16-18X.625	4
13	607638	COVER, MOTOR, TEAL 607635	1
14	120582	DECAL, RECESS	1

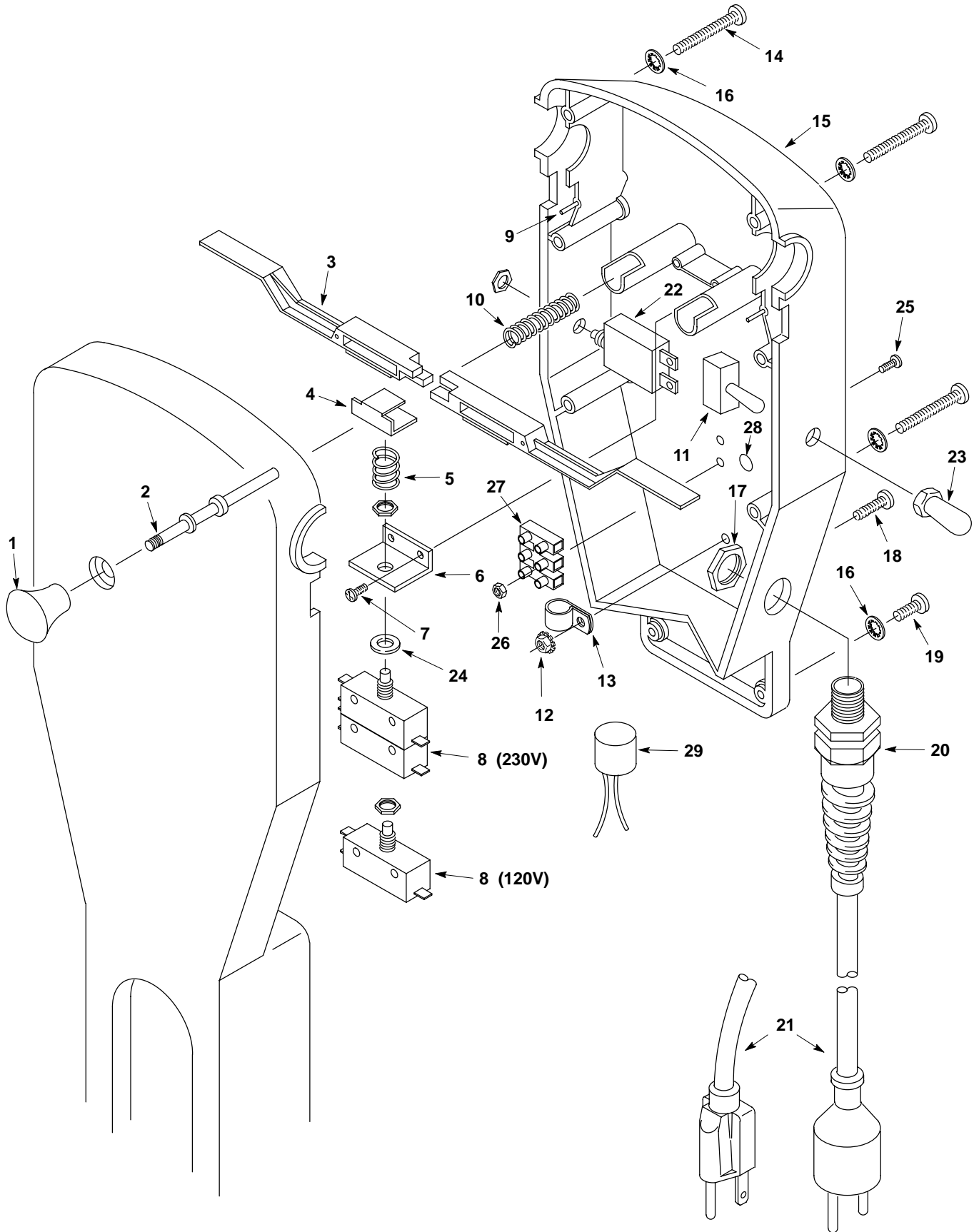
REF	PART #	DESCRIPTION	QTY.
15	607641	BASE, 17", TEAL (2010)	1
	607633	BASE, 20", TEAL (2040/2170)	1
16	230851	AXLE	1
17	140148	BUSHING	1
18	4252	WASHER, COMP.	4
19	3148.816	WASHER, FLAT	4
20	103064	●WHEEL	2
21	140003	WASHER, FENDER	2
22	140016	WASHER, LOCK .25	2
23	140553	SCREW, 1/4-20X.5	2
24	140000	WASHER, FLAT	4
25	140016	WASHER, LOCK	4
26	140255	SCREW, 1/4-20X1.75	4
27	601308	CHOKE (EMC MODEL)	1
28	200160017	NUT, M8 HXLCK (EMC MODEL)	1
29	140062	WASHER, EXT TOOTH 5/16 (EMC MODEL)	1
30	140879	SCREW, 6-32X3/4 RNDSLT (EMC MODEL)	1
31	601356	BRACKET, RFI FILTER (EMC MODEL)	1
32	600383	FILTER, RFI LARGE (EMC MODEL)	1
33	600748	●SWITCH, DUAL SPEED (EMC MODEL)	1
34	130990	●BOOT, RUBBER SWITCH (EMC MODEL)	1
35	120675	DECAL, SWITCH, DUAL SPEED (EMC MODEL)	1

∇ ASSEMBLY

▲ INCLUDED IN ASSEMBLY

● RECOMMENDED STOCK ITEMS

CONTROL HANDLE GROUP



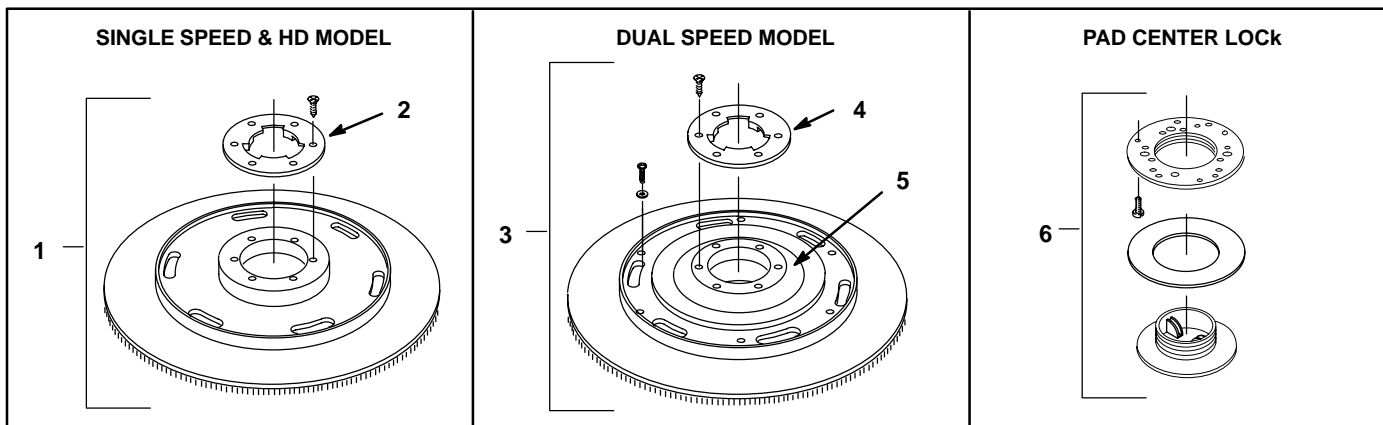
CONTROL HANDLE GROUP

REF	PART #	DESCRIPTION	QTY.
1	603291	KNOB, PLASTIC	1
2	603112	PIN, HANDLE LOCK	1
3	603105	TRIGGER, HANDLE	2
4	603111	CLIP, SWITCH LEVER	1
5	603108	SPRING, SWITCH	1
6	603109	BRACKET, SWITCH	1
7	140350	SCREW, #10X1/2	2
8	603110	●SWITCH, 20 AMP (230V)	1
	606292	●SWITCH, 20 AMP (120V)	1
9	603114	DOWEL	2
10	140401	SPRING, LOCK BUTTON	1
11	130726	●SWITCH, TOGGLE (DUAL SPEED ONLY)	1
12	140519	NUT, 10-24 KEP	1
13	140324	CLAMP, NYLON	1
14	603292	SCREW, M6X1.0X45	6
15	603102	HOUSING, HANDLE BOTTOM	1
16	578244000	WASHER, LOCK	8
17	140504	NUT, LOCK 1/2"	1

REF	PART #	DESCRIPTION	QTY.
18	140900	SCREW, 10-24X3/4	1
19	578321000	SCREW, M6X1.0X16	2
20	130167	●CORD GRIP	1
21	130275	POWER CORD, 230V 23M	1
	600324	POWER CORD, 230V (DUAL SPEED ONLY)	1
	602747	POWER CORD, 120V 23M	1
22	130670	●BREAKER, CIRCUIT 12 AMP (230V)	1
	20361	●BREAKER, CIRCUIT 12 AMP (120V)	1
23	130990	●BOOT, SWITCH (DUAL SPEED ONLY)	1
24	140028	WASHER, 3/8 FLAT	1
25	140946	SCREW, 6-32X1 (EMC MODEL)	2
26	140534	NUT, 6-32 (EMC MODEL)	2
27	130005	STRIP, TERMINAL (EMC MODEL)	1
28	578859	DECAL, GROUND SYMBOL (EMC MODEL)	1
29	601312	CHOKE (EMC MODEL)	1

● RECOMMENDED STOCK ITEMS

PAD DRIVER GROUP

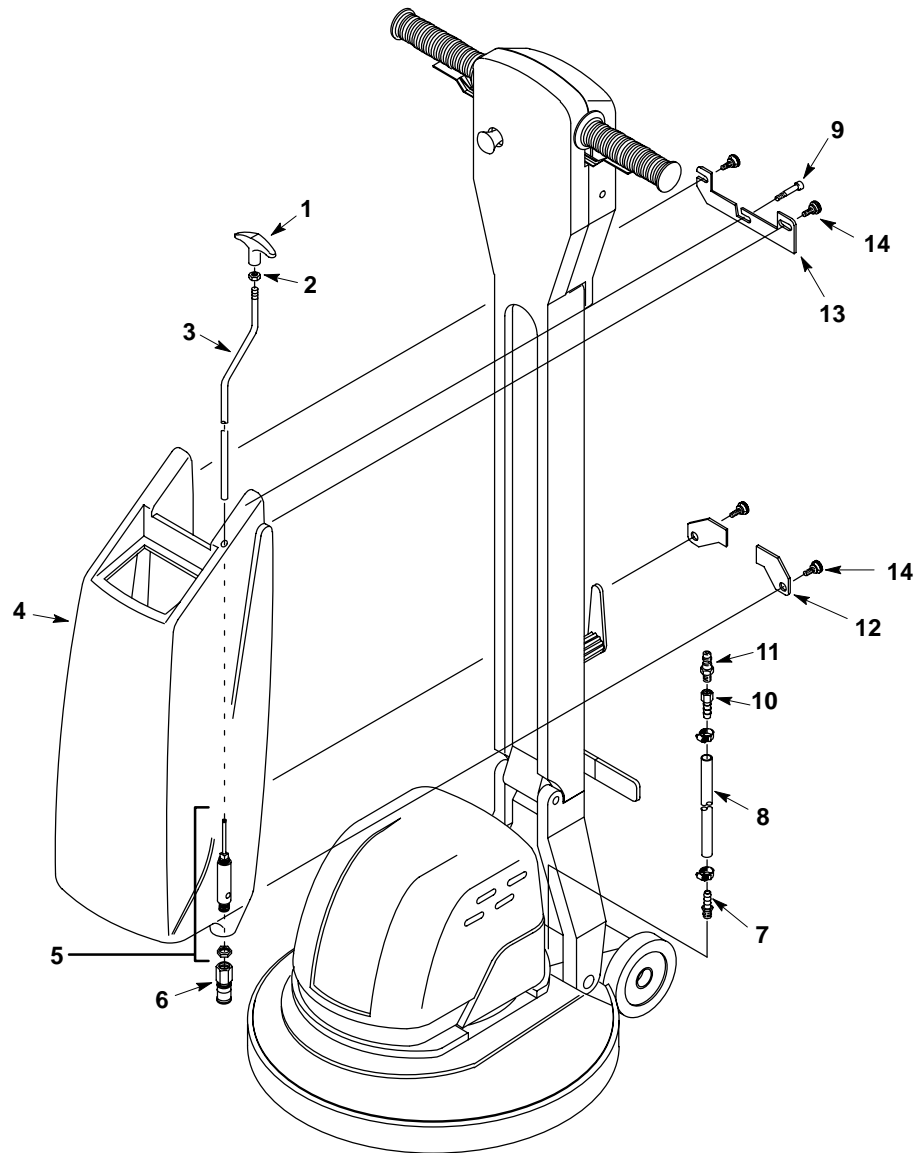


REF	PART #	DESCRIPTION	QTY.
▽1	13226	PAD DRIVER 43CM (17 IN) (SINGLE SPEED & HD)	1
	13225	PAD DRIVER 51CM (20 IN) (SINGLE SPEED & HD)	1
▲2	4184	PLATE, CLUTCH, METAL	1
▽3	22207	PAD DRIVER 51CM (20 IN) (DUAL SPEED)	1
▲4	4184	PLATE, CLUTCH, METAL	1
▲5	25607	RISER, RUBBER	1
6	603538	LOCK, CENTER PAD (OPTIONAL)	1

▽ ASSEMBLY

▲ INCLUDED IN ASSEMBLY

SOLUTION TANK GROUP



REF	PART #	DESCRIPTION	QTY.
	604713	ASM., SOLUTION TANK	1
1	240194	KNOB, HEIGHT ADJ.	1
2	140548	NUT 5/16	1
3	604714	ROD, VALVE SOLUTION TANK	1
4	100888	SOLUTION TANK	1
5	700197	ASM., VALVE	1
	210216	VALVE, W/ NUT & O-RING	1
	210218	O-RING SEAL FOR VALVE	1
6	150906	COUPLER	1

REF	PART #	DESCRIPTION	QTY.
7	150516	FITTING	1
8	606667	HOSE 3/8 ID X 10"	1
9	606180	BOLT, SHOULDER M6X1.13	1
10	150511	FITTING	1
11	150925	PLUG	1
12	604715	KEEPER PLATE	2
13	606179	LATCH, SOLUTION TANK	1
14	140880	KNOB, MOUNT	4