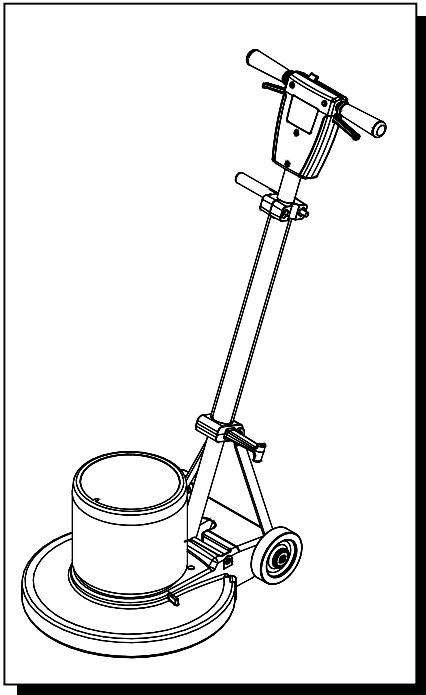


Spirit

**CENTURY
400**

FLOOR POLISHER



MODELS: SPT17
SPT20X

Operating Instructions (ENG)



Read these instructions before using the machine.

F

980132 04/24/06

MACHINE DATA LOG/OVERVIEW

MODEL _____

DATE OF PURCHASE _____

SERIAL NUMBER _____

YOUR DEALER

Name: _____

Address: _____

Phone Number: _____

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HOW TO USE THIS MANUAL

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IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic precaution must always be followed, including the following:

READ ALL INSTRUCTIONS BEFORE USING THIS MACHINE.



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

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

Use only as described in this manual. Use only manufacturer's recommended components and attachments.

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 operate the machine with any openings blocked. Keep openings free of debris that may reduce airflow.

Machine can cause a fire when operating near flammable vapors or materials. Do not operate this machine near flammable fluids, dust or vapors.

This machine is suitable for commercial use, for example in hotels, schools, hospitals, factories, shops and offices for more than normal housekeeping purposes.

Maintenance and repairs **must be done** by qualified personnel.

During operation, attention shall be paid to other persons, especially children.

The machine shall only be operated by instructed and authorized persons.

When leaving unattended, unplug the machine.

Do not handle the plug or machine with wet hands.

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

Do not use with damaged cord or plug. Follow all instructions in this manual concerning grounding the machine.

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

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

Connect to a **properly** grounded outlet. See Grounding Instructions.

SAVE THESE INSTRUCTIONS

HAZARD INTENSITY LEVEL

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.

GROUNDING INSTRUCTIONS

THIS PRODUCT IS FOR COMMERCIAL USE ONLY.

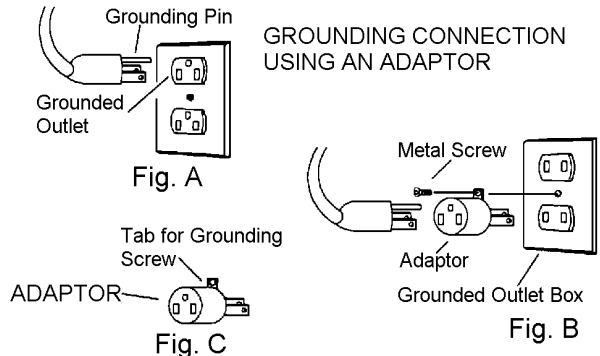
ELECTRICAL:

In the USA this machine operates on a one 15 amp nominal 120V, 60 hz, 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.

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 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 in "Fig. A". A temporary adaptor that looks like the adaptor in "Fig. C" may be used to connect this plug to a 2-pole receptacle as shown in "Fig. B", if a properly grounded outlet is not available. The temporary adaptor should be used only until a properly grounded outlet (Fig. A) can be installed by a qualified electrician. The green colored rigid ear, lug, or the like extending from the adaptor must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adaptor is used, it must be held in place by a metal screw.



Note: Adaptors are not allowed in Canada.

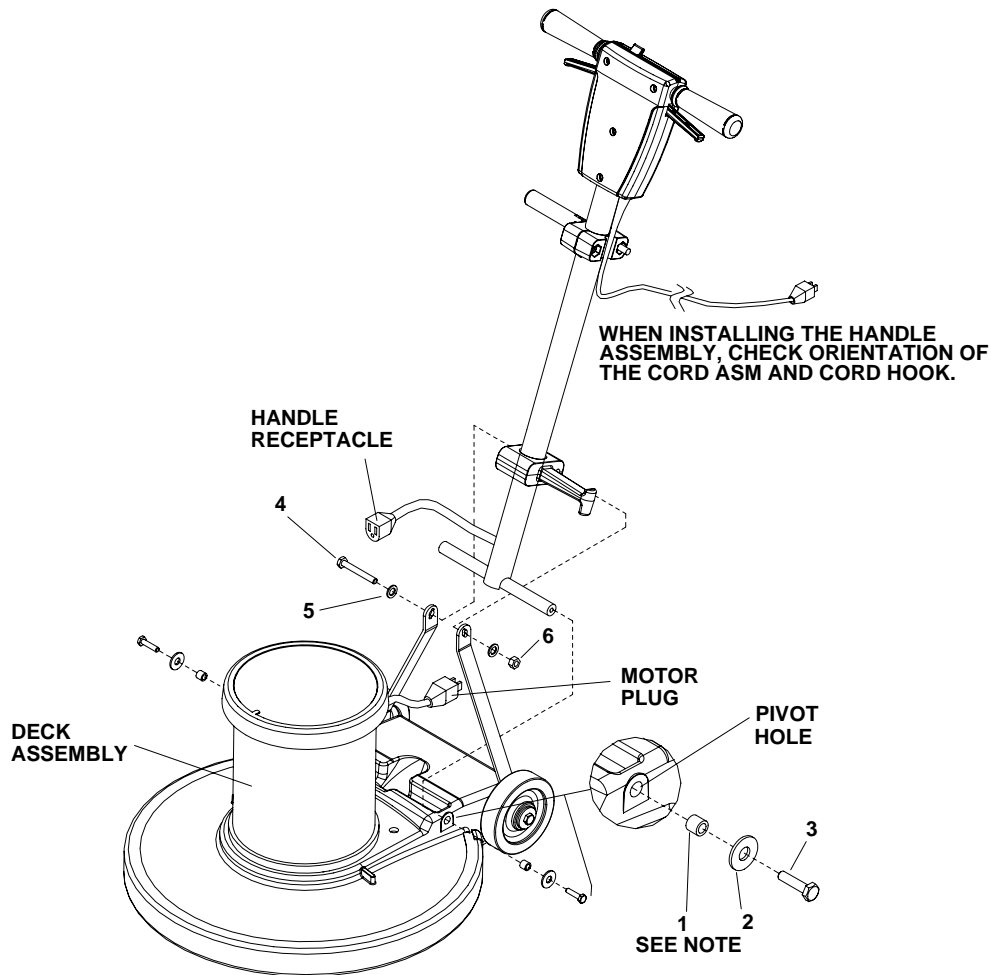


Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance - if it will not fit the outlet,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

TECHNICAL SPECIFICATIONS

ITEM	DIMENSION/CAPACITY
Construction	Heavy-duty die cast aluminum deck with heavy-duty rubber bumper, tubular steel adjustable handle with die cast aluminum handle housing
Motor	
SPT17	1.0 hp
SPT20X	1.5 hp
Brush/Pad speed	
SPT17, SPT20X	175 rpm
Electrical system	115 volts, 60 Hz
Cable	50' (15 m), 14/3, built in cord wrap
Switches	Dual levers with safety lock
Wheels	Two 5" (12.7 cm) dia., 1.25" (3 cm) wide, non-marking tread
Handle	1.5" (4 cm) tubular steel, adjustable, easy to use thumb activated safety lock
Dimensions (L x W x H)	
17" (43 cm) model	23.0" (58 cm) x 18" (46 cm) x 47" (119 cm)
20" (51 cm) model	24.5" (62 cm) x 21" (53 cm) x 47" (119 cm)

HANDLE INSTALLATION



WARNING: *This must be installed by qualified personnel. Read all instructions thoroughly. The machine is shipped with handle unassembled.*

The machine is shipped with handle unassembled.

Follow these steps for installation:

1. Remove handle and deck assembly from carton.
2. Attach handle assembly to base using hardware kit (attached to handle in a plastic bag) items 1, 2, and 3.

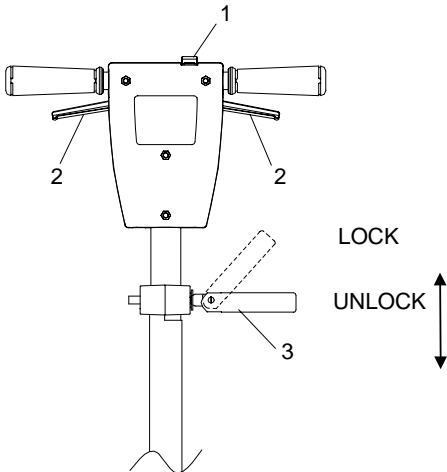
NOTE: *The spacers (items 1) are required for the correct operation of the handle. The spacers are positioned completely inside the pivot holes in the casting, and are held in place by tightening the bolts and washers (items 2 and 3) against the spacer.*

3. Remove bolt, nut and washers (items 4, 5 and 6) from lower block on handle assembly. Attach links as shown. Tighten bolt and nut securely, then back off 1/4 to 1/2 turn.
4. Check handle for movement up and down.
5. Plug motor cord into handle cord receptacle.

OPERATION

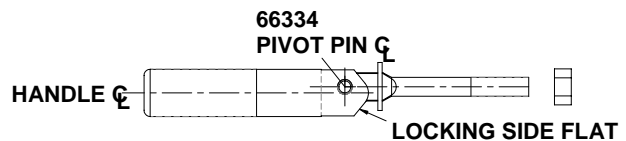
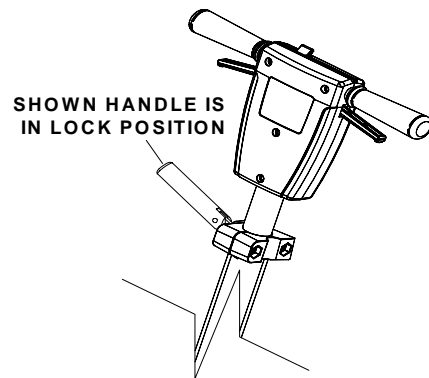
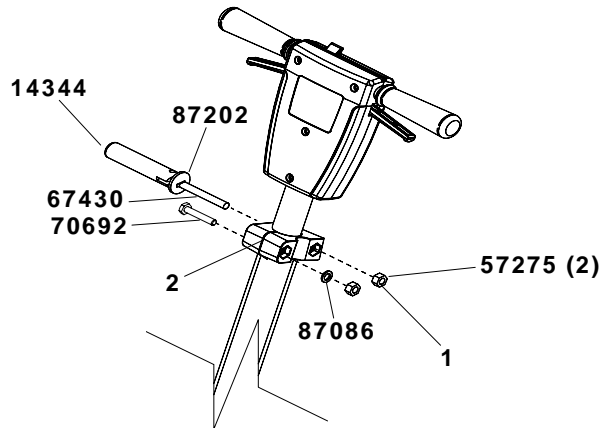
CONTROLS

1. **Safety Lock** – Prevents unintended operation of the machine.
2. **Switch Levers** – Turns machine on/off.
3. **Adjustment Handle** – Allows the handle to be adjusted to a comfortable operating position.



The handle adjust bar (14344) for the polishers are individually preset at the factory for optimum locking efficiency and minimum effort of engaging. It should not be necessary to adjust the handle adjust bar unless the relationship of the handle adjust bar nut (57275) or fixed clamp bolt (70692) and their corresponding nuts (57275) and washer (87086) have been disturbed. The handle can be positioned to be locked with the handle adjust bar pointing either up or down. In order to change the position the handle and bolt must be removed and rotated 180 degrees. It is incorrect to make it lock opposite from the way it was assembled by applying more force to the nut. From the factory the locking is in the up position when the machine handle is locked. The pivot pin (66334) on the handle adjust bar is off center, in relationship of the screw to the axis of the (see drawing). To adjust handle adjust bar, tighten nut on handle while in the locked position. The handle is locked when the screw is to the outside of the machine and the flat on the opposite side of the handle is flush to the bracket.

1. To adjust handle lock, tighten nut on handle while in the locked position. Optimum locking force and ease of locking is accomplished when the locking lever nut is set to a torque of 30 to 50 inch pounds in the locked position.
2. Gap between clamp halves at the front should be to the gap in rear when the handle adjust bar is adjusted properly and in the locked position (gap approximately 1/16").



OPERATION

⚠ CAUTION

For indoor use only.

When using the pad, always keep the machine moving when in contact with the floor.

⚠ WARNING

High starting torque. Hold machine firmly with both hands.

1. Ensure that the pad driver is in good shape. Install or change pad if necessary.
2. Plug the machine into a wall outlet as described in the grounding instructions.
3. Lower the handle by unlocking the adjustment handle and moving the handle into position. Relock the handle when it is in a comfortable position.

⚠ WARNING

Insure that handle is locked in position before starting machine.

4. Push the safety lock forward, unlocking the switch levers.
5. With the safety lock forward, squeeze one or both of the switch levers, turning the machine on. (These levers can be operated independently of each other). The safety lock will not re-engage until both levers are released.
6. To stop the machine, release the switch levers.
7. Do not let machine rest on pad. When finished with the machine, return handle to the storage position.

NOTE: The machine is equipped with a circuit breaker to protect the motor in the event an overload condition occurs. The circuit breaker is located on the rear of the motor. Push the reset button to restart the machine. If the breaker trips again, correct the cause of overloading before proceeding.

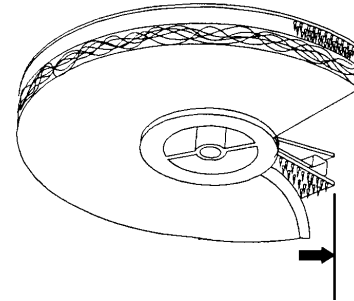
DAILY MAINTENANCE

1. Inspect power cord for wear. To prevent electrical shock replace cords with frayed or cracked insulation immediately.
2. Place machine in the storage position.
3. Check pad condition. Change if soiled or torn.

PAD INSTALLATION

1. Lay machine back, exposing the under side.

Ensure pad is centered on pad driver. Pull pad to edge of pad driver in several directions to check for proper engagement.



NOTE: Use care when replacing center lock to prevent cross threading.

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SCRUB BRUSHES

NOTE: All original equipment brushes are equipped with "Perform Alert®". This feature will tell the operator when it is time to replace the scrub brushes. "Perform Alert®" brushes have pre-trimmed bright yellow tufts to indicate the length of a worn out brush. When the tufts in the scrub brush wear to a length equal to the yellow tufts, the scrub brushes should be replaced.

There are five different types of brushes available to cover applications from cleaning heavily soiled floors to polishing. A pad driver is also available to take advantage of the many cleaning pads on the market and further add to the flexibility of the Spirit. Please refer to the following to assist in selecting the proper brush or pad for the work at hand.

UNCOATED FLOORS

Aggressive Grit is a nylon fiber impregnated with silicone carbide grit. It grinds away stain, soil, and removes surface material.

Mild Grit is a less aggressive silicone carbide grit suitable for cleaning medium soil conditions. Advantages are faster ground speed than nylon bristles on light solid applications.

Nylon is a general-purpose scrub brush with stiff bristles. Polypropylene works well for maintaining concrete, wood and tile floors.

FINISHED FLOORS

Nylon Polish is the softest brush. It will gently clean finished tile or terrazzo floors without removing floor finish or floor material. Used for washing highly polished or burnished floors.

Nylon bristles are used in a variety of applications on coated or uncoated surfaces.

White Pads (Polishing) are used for dry polishing to achieve a high-gloss appearance, or surface washing on highly polished or burnished floors.

Red Pads (Buffing) are used for light-duty scrubbing. When used with a mild detergent they will provide surface cleaning without removing the finish.

Blue Pads (Scrubbing) are used for heavy-duty scrubbing and light stripping. The blue pads remove less finish than brown stripping pads, yet will remove black marks, stains and dirt.

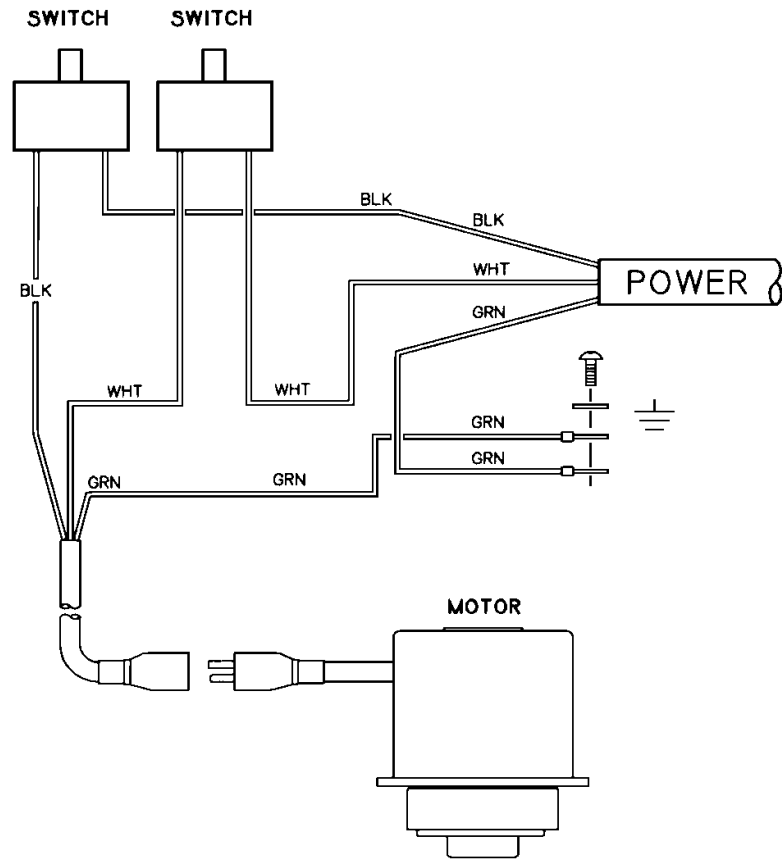
Brown Pads (Stripping) are used for easy and complete removal of old floor waxes/finishes. They will quickly remove ground in dirt, black heel marks, and spills. When used with the proper stripper, this pad leaves the floor clean and ready for finishing.

The scrub brushes should be checked before each days work for wire, string, wear and damage. The scrub brushes should be replaced if brush bristles are missing or if yellow Perform Alert ® indicates minimum brush length.

MACHINE TROUBLESHOOTING

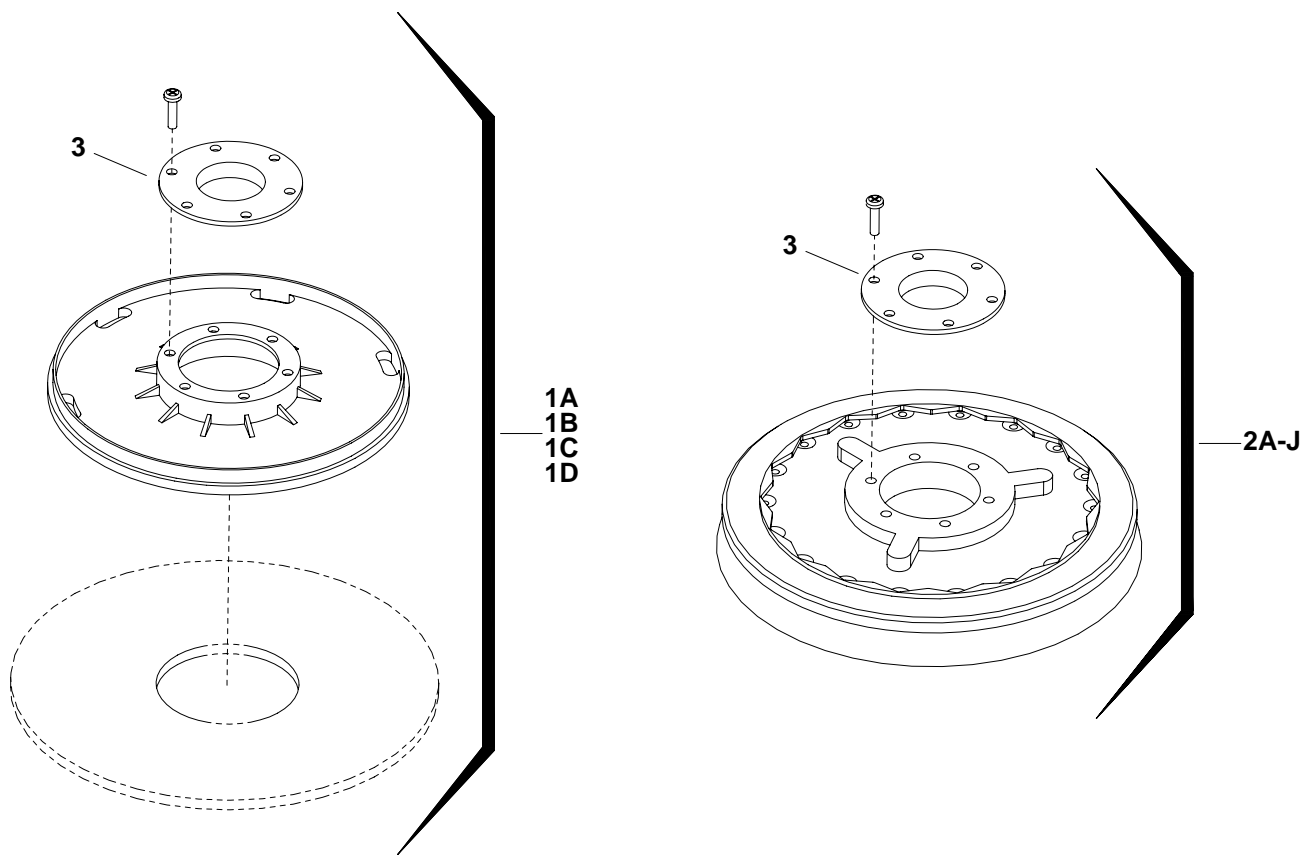
PROBLEM	CAUSE	SOLUTION
Machine will not run	Circuit breaker tripped in building.	Check and reset
	Power switch failure	Test switch for continuity and replace if necessary.
	Tripped circuit breaker	Reset
	Faulty power cord	Replace
	Fuse in motor is blown	Replace CAUTION: To reduce the risk of electrical shock, unplug the machine before opening fuse holder. Fuse will only open under extreme conditions. Investigate cause before replacing.
Electrical shock	Equipment not grounded	Follow grounding instructions exactly.
	Receptacle not grounded	Have an electrician inspect building's wiring.
	Internal wiring problem	Ensure that the machine wiring matches the appropriate wiring diagram. Replace any wires or components which are short circuiting.
Repeated cuicuit breaker tripping	Mechanical problem	Higher amp draws indicate a mechanical problem, find the problem before using the machine.
	Faulty circuit breaker	Test circuit for continuity. Replace circuit breaker if necessary.
Excessive vibration	Pad not centered	Re-center pad.
	Damaged or unevenly worn pad.	Replace pad. Do not rest machine on pad when not in use.
	Damaged pad driver.	Replace.
Pad does not turn but motor is running	Shear coupling has failed	Replace coupling

WIRING DIAGRAM / NOTES



NOTES:

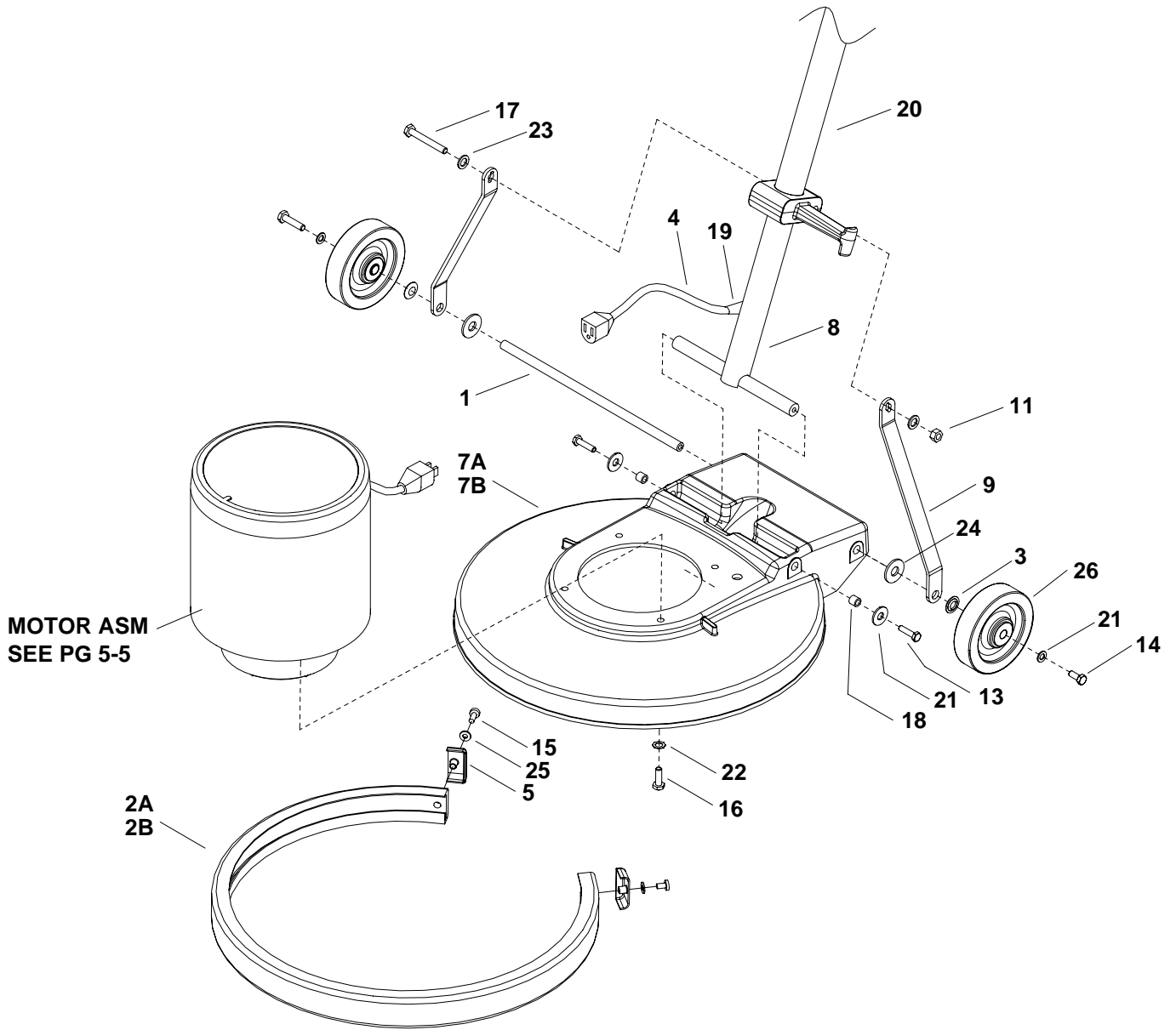
BRUSH/PAD DRIVER GROUP



BRUSH/PAD DRIVER GROUP

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1A	02218	-	PAD DRIVER, 17"		
1B	02219	-	PAD DRIVER, 20"		
2A	02242	-	BRUSH, 17" NYL. POL. W/CLT.PLT		
2B	02240	-	BRUSH, 17" NYL.SCRUB W/CLT.PLT		
2C	02241	-	BRUSH, 17" MILD GRIT W/CLT.PLT		
2D	02205	-	BRUSH, 17" AGG. GRIT W/C.P		
2E	02206	-	BRUSH, 17" POLYPRO W/CLT. PLT		
2F	02239	-	BRUSH, 20" NYL.POL.W/CLT.PLT.SFT		
2G	02237	-	BRUSH, 20" NYL.SCRUB W/CLT.PLT		
2H	02238	-	BRUSH, 20" MILD GRIT W/CLT.PLT		
2I	02202	-	BRUSH, 20" AGG. GRIT W/C.P.		
2J	02203	-	BRUSH, 20" POLYPRO W/CLT. PLT		
3	02220	-	PLATE, PAD CLUTCH		

FRAME GROUP



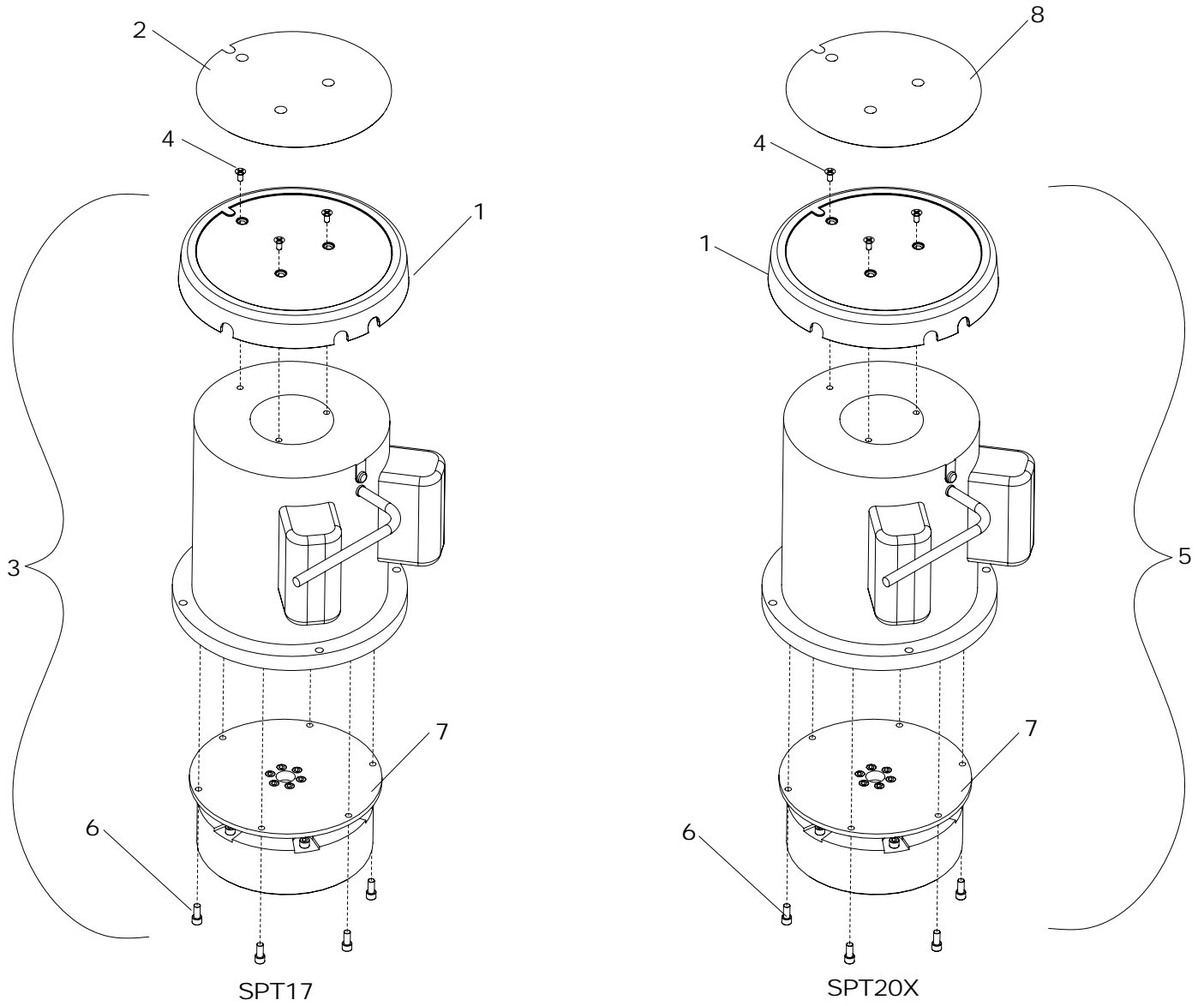
MOTOR ASM
SEE PG 5-5

2A
2B

FRAME GROUP

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	03111	1	AXLE, MAIN POLISHER		
2A	14372	-	BUMPER, EXTRUSION 43.8"		
2B	14373	-	BUMPER, EXTRUSION 53.4"		
3	57276	2	NUT, PUSH FLAT RD .51D		
4	23206	1	CORDSET, 14/3 X 47", SJT, BLK		
5	27871	2	CAP, EXTRUSION		
6	OPEN	-	-		
7A	29213GRY	-	DECK, 17 IN POLISHER, GRAY		
7B	29214GRY	-	DECK, 20 IN POLISHER, GRAY		
8	38290	1	HANDLE, POLISHER		
9	51328	2	LINK, HANDLE ADJUST		
10	OPEN	-	-		
11	57275	1	NUT, M10X1.5 HEX NYLOK PLTD		
12	OPEN	-	-		
13	70135	2	SCR, M8 X 30 HHMS		
14	70262	2	SCR, M8 X 20 HHMS PLTD		
15	70691	2	SCR, M6 X 25 HHMS BLK		
16	70698	4	SCR, 5/16-18 X 3/4 HHCS GR5 BLK		
17	70701	1	SCR, M10 X 90 HHMS		
18	730008	2	SPACER, .317ID X .50D X .44LG		
19	730012	1	STRAIN RELIEF, 14/3 STRAIGHT		
20	78447	1	TUBE ASSY, HANDLE ADJ		
21	87054	2	WASHER, M8 FLAT DIN125A PLT		
22	87067	4	WASHER, 5/16 LOCK INT STAR PLT		
23	87086	2	WASHER, M10 X 30 PLTD		
24	87203	2	WASHER, 14MMID X 36MMOD		
25	87211	2	WASHER, M6 FLAT BLK		
26	89206	2	WHEEL, 5D X 1.25 X 13MMID GRY		

MOTOR GROUP



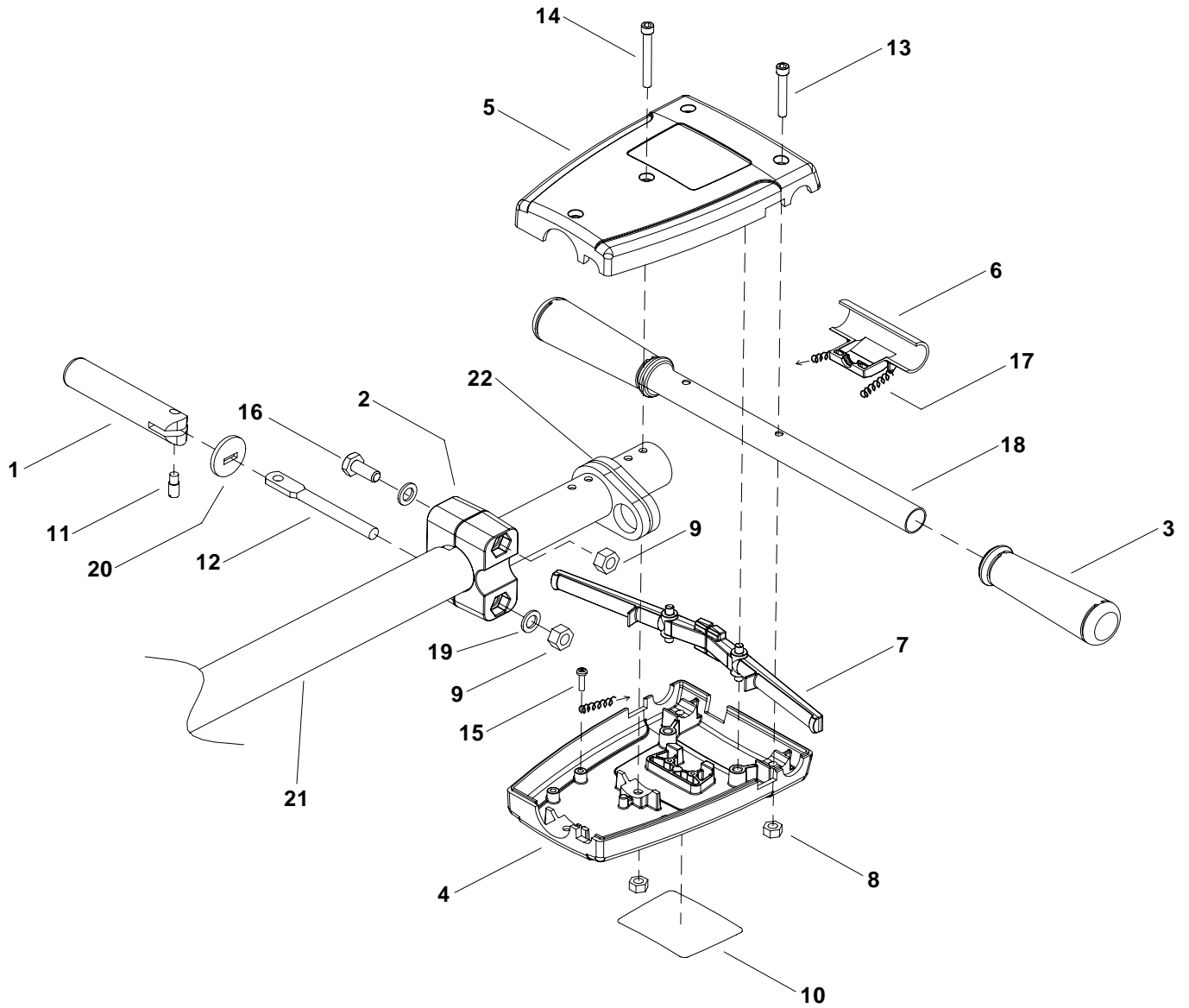
MOTOR GROUP

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	27884	1	COVER, MOTOR, 1.25 HP		
2	500791	1	LABEL, MAIN SPIRIT		
3	53263	1	MOTOR, 1 HP 115 INDUCTION		W/ COVER (SPT17)
4	70702	3	SCR, M5 X .8 X 15MM FHMS BLK		
5	53264	1	MOTOR, 1.5 HP 115 INDUCTION		W/ COVER (SPT20X)
6	70723	6	SCR, M5 X .8 X 15MM SHCSM		
7	62917	1	PLATE, ADAPTER MP MOTOR		
8	500792	1	LABEL, MAIN SPIRIT DELUXE		

MOTOR COMPONENTS (NOT SHOWN)

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
-	140411	1	CIRCUIT BREAKER, 20 AMP		
-	09135	2	BEARING, MOTOR		
-	27352	1	COUPLING, MTR/GEAR BOX		
-	140416	1	BOOT, CIRCUIT BREAKER		
-	67489	1	RING, MOTOR SHAFT		
-	270061	1	CAPACITOR, RUN 30UF		
-	270062	1	CAPACITOR, START 340UF		
-	72182	1	CENTRIFUGAL WEIGHT ASSEMBLY		
-	72183	1	STATIONARY END CAP SWITCH		

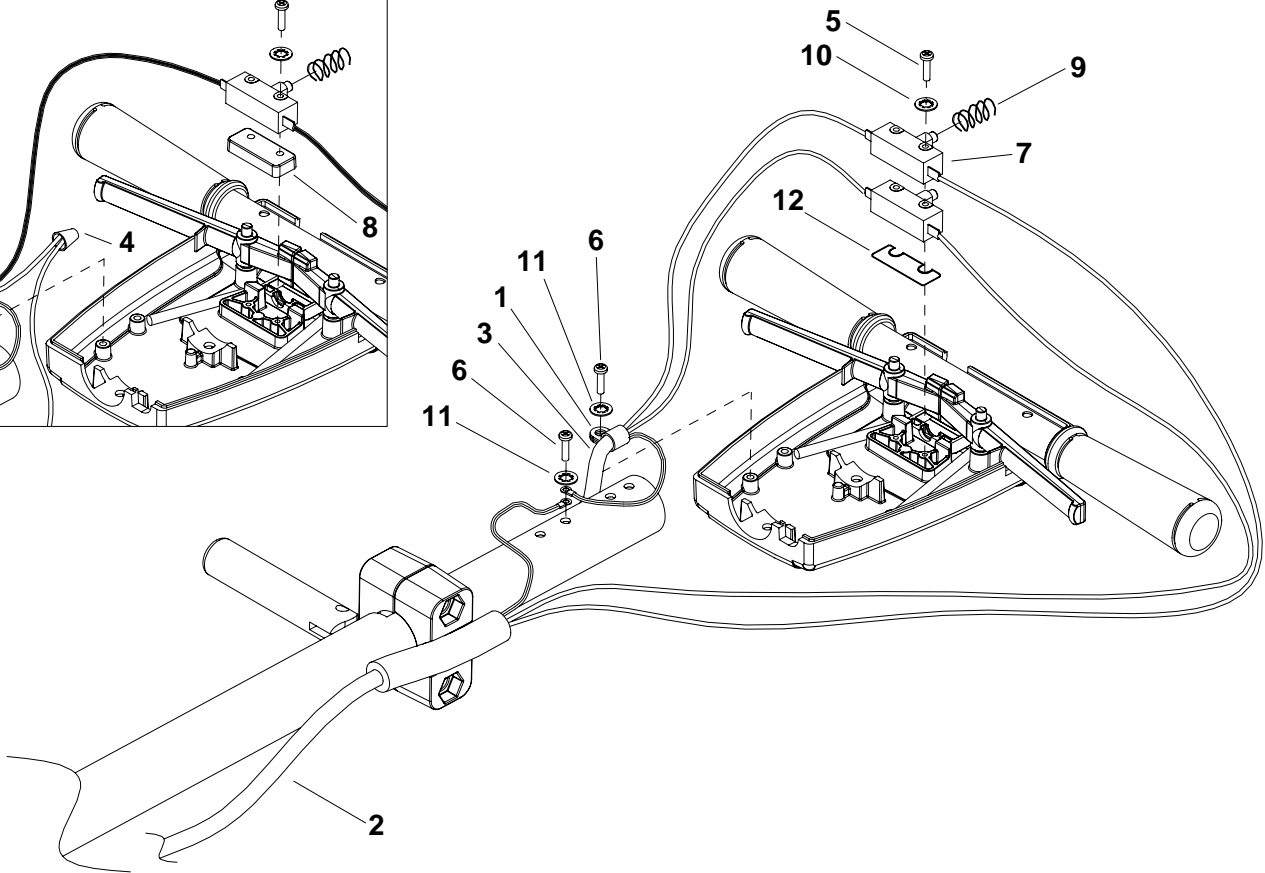
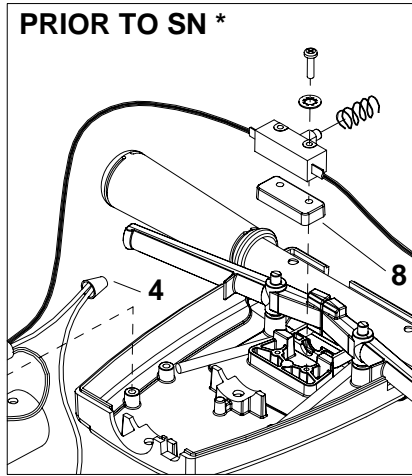
HANDLE GROUP



HANDLE GROUP

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	14344	1	BAR, HANDLE ADJUST		
2	140393	1	BLOCK, HANDLE MOUNT		
3	36196	2	GRIP, POLISHER HANDLE		
4	41363	1	HOUSING, POLISHER HANDLE REAR		
5	41366	1	HOUSING, POLISHER HANDLE FRONT		
6	51326	1	LOCK, SAFETY		
7	51327	1	LEVER, SWITCH		
8	57274	4	NUT, M6X1 HEX BLK		
9	57275	1	NUT, M10X1.5 HEX NYLOK PLTD		
10	500194	1	LABEL, WARNING		
11	66334	1	PIN, PIVOT, HANDLE ADJUSTMENT		
12	67430	1	ROD, HANDLE ADJUST		
13	70686	2	SCR, M6 X 45 SHCS BLK		
14	70687	2	SCR, M6 X 50 SHCS BLK		
15	70689	1	SCR, M4.8 X 10 HHTF TYPE B		
16	70692	1	SCR, M10 X 75 HHCS PLTD		
17	73990	2	SPRING, EXT, .5OD X 3.5L		
18	78437	1	TUBE, GRIP HANDLE		
19	87086	2	WASHER, M10 X 30 PLTD		
20	87202	1	WASHER, BEARING (HANDLE ADJ)		
21	78447	1	TUBE ASSY, HANDLE ADJ		
22	14434	1	BUMPER, HANDLE		

WIRING GROUP



WIRING GROUP

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	20054	1	CLAMP, 3/8 NYLON UL/CSA		
2	23167	1	CORD SET, 14/3 STO X 50' YLW		
3	23206	1	CORDSET, 14/3 X 47", SJT, BLK		
4	57069	1	NUT, ORG WIRE (2-5 18G/2-14G)		
5	70801	2	SCR, M3.5 X 40 PHTF TYPE B	*	WAS 70688
6	70689	2	SCR, M4.8 X 10 HHTF TYPE B		
7	72123	2	SWITCH, 25A SPST 125-250V SNAP	*	WAS QTY 1
8	73989	1	SPACER, SWITCH POLISHER		
9	73993	1	SPRING, COMP, .48OD X .875L		
10	87057	2	WASHER, M4 SHAKEPROOF		
11	87208	2	WASHER, M5 SHAKEPROOF PLTD		
12	140674	1	BARRIER SHEET	*	

SUGGESTED SPARE PARTS

PART NO.	DESCRIPTION	SERIAL NO. FROM	NOTES:
87202	WASHER / BEARING (HANDLE ADJ)		
73990	SPRING, EXT. .5 OD X 3.5L		
73993	SPRING, COMP. .48 OD X .875L		
72123	SWITCH, 25A SPST 125-250V SNAP		
14344	BAR, HANDLE ADJ		
66334	PIN, PIVOT HANDLE ADJ		
67430	ROD, HANDLE ADJ		



LIMITED WARRANTY

The foregoing constitutes *Century 400's* entire warranty and no other warranty, liability, contingency or responsibility, direct, indirect, consequential or in any way connected with the sale or operation of *Century 400* machines or chemical products, either as expressed or implied, will be honored.

CONDITIONS OF WARRANTY

This warranty shall not extend to any *Century 400* product showing effects of misuse, abuse, disassembly, alteration, lack of proper maintenance, corrosive chemicals, improper voltage, accident damage, unauthorized repairs, use of other than genuine *Century 400* parts and material, fire, flood, freezing, normal wear or other cause beyond *Century 400's* control.

LIMITED LIFETIME HOUSING WARRANTY

We, *Century 400*, hereby warranty our polyethylene machine housing for life to the original distributor against cracking, leaking or deterioration. The limited lifetime warranty is offered to the original owner only. Any transfer in ownership will void warranty. Additional terms and conditions of the limited lifetime warranty on the housing are as follows: Ninja, Sensei, Spot Plus, Hurricane and Turbomist will receive a full lifetime 100% replacement warranty. The RT-Tanks will receive a (1) year 100% replacement warranty; all other polyethylene housings will receive a full (5) year 100% replacement warranty, followed by 50% replacement value for life.

WARRANTY ON CHEMICAL USE

Improper use of chemicals voids warranty and *Century 400's* liability. Defoamer is to be used in all *Century 400* machines. Dry cleaning solvents cannot be used in any *Century 400* machine. If used, fire and/or pump damage could result. White vinegar should be pumped through the machine (1) time a week to prevent mineral scaling.

PARTS WARRANTY

Parts for *Century 400* equipment shall have a (1) year replacement warranty from the date of purchase for conditions considered normal wear, excluding any and all freight charges.

90 DAY UNLIMITED WARRANTY

Any equipment showing defect of any type within the first 90 days from date of purchase will have an unlimited warranty which includes parts, freight, and 100% of labor costs. No labor or freight will be covered after 90 days from the date of purchase.

LIMITED 90 DAY WARRANTY

The following parts, considered expendable under normal use, will be covered by warranty for 90 days from the date of purchase: quick disconnects, o-rings, seals, diaphragms, gaskets, grommets, thermostats, brass fittings, hoses, etc. **This warranty will include parts only.**

USE OF PARTS NOT APPROVED BY CENTURY 400 WILL VOID ALL WARRANTIES.

NOTICE: *Failure to complete and return the warranty card within (10) days of receipt of machine by purchaser will void all warranties.*



Century 400, Inc., 325 S. Price Road, Chandler, AZ 85224 USA
Phone: (800) 752-1777 Fax: (480) 786-5724