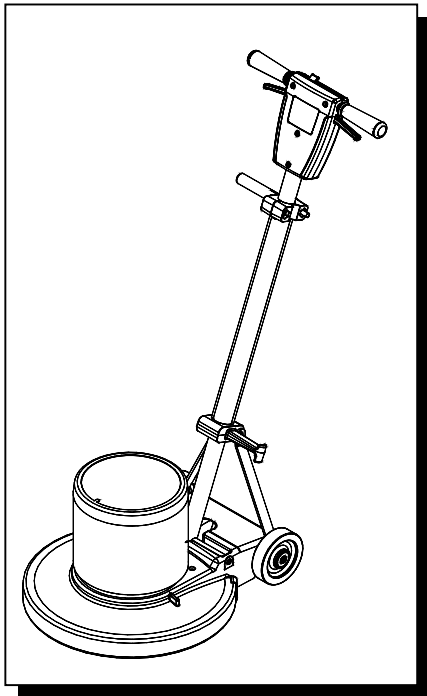


STORM



Operating Instructions (ENG)

FLOOR POLISHER



MODELS: SP13 SP17X
 SP15 SP20X
 SP17 SPDS20
 SP20

QUEST® ... for Continuous Improvement.
Windsor's Quality Management System is Certified ISO 9001.



Read these instructions before using the machine.

F

980100 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

This manual contains the following sections:

- HOW TO USE THIS MANUAL
- SAFETY
- OPERATIONS
- MAINTENANCE
- PARTS LIST

The HOW TO USE THIS MANUAL section will tell you how to find important information for ordering correct repair parts.

Parts may be ordered from authorized Windsor dealers. When placing an order for parts, the machine model and machine serial number are important. Refer to the MACHINE DATA box which is filled out during the installation of your machine. The MACHINE DATA box is located on the inside of the front cover of this manual.

| |
|-------------------------------|
| MODEL _____ |
| DATE OF PURCHASE _____ |
| SERIAL NUMBER _____ |
| SALES REPRESENTATIVE # _____ |
| DEALER NAME _____ |
| OPERATIONS GUIDE NUMBER _____ |
| PUBLISHED _____ |

The SAFETY section contains important information regarding hazard or unsafe practices of the machine. Levels of hazards is identified that could result in product or personal injury, or severe injury resulting in death.

The OPERATIONS section is to familiarize the operator with the operation and function of the machine.

The MAINTENANCE section contains preventive maintenance to keep the machine and its components in good working condition.

The PARTS LIST section contains assembled parts illustrations and corresponding parts list. The parts lists include a number of columns of information:

- **REF** – column refers to the reference number on the parts illustration.
- **PART NO.** – column lists the part number for the part.
- **QTY** – column lists the quantity of the part used in that area of the machine.
- **DESCRIPTION** – column is a brief description of the part.
- **SERIAL NO. FROM** – column indicates the first machine the part number is applicable to. When the machine design has changed, this column will indicate serial number of applicable machine. The main illustration shows the most current design of the machine. The boxed illustrations show older designs.
- **NOTES** – column for information not noted by the other columns.

NOTE: If a service or option kit is installed on your machine, be sure to keep the KIT INSTRUCTIONS which came with the kit. It contains replacement parts numbers needed for ordering future parts.

NOTE: The 98# on the lower left corner of the front cover is the part number for this manual.

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 Windsor approved replacement parts.

GROUNDING INSTRUCTIONS

THIS PRODUCT IS FOR COMMERCIAL USE ONLY.

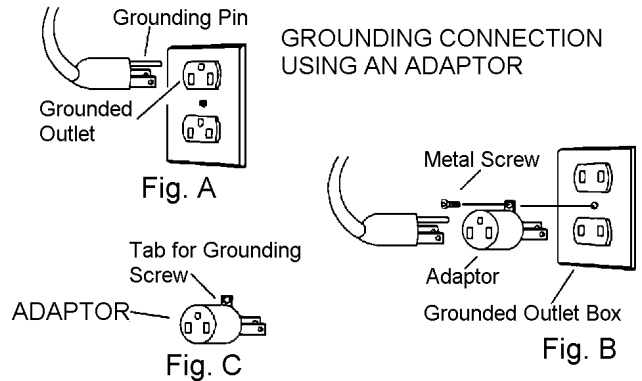
ELECTRICAL:

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.

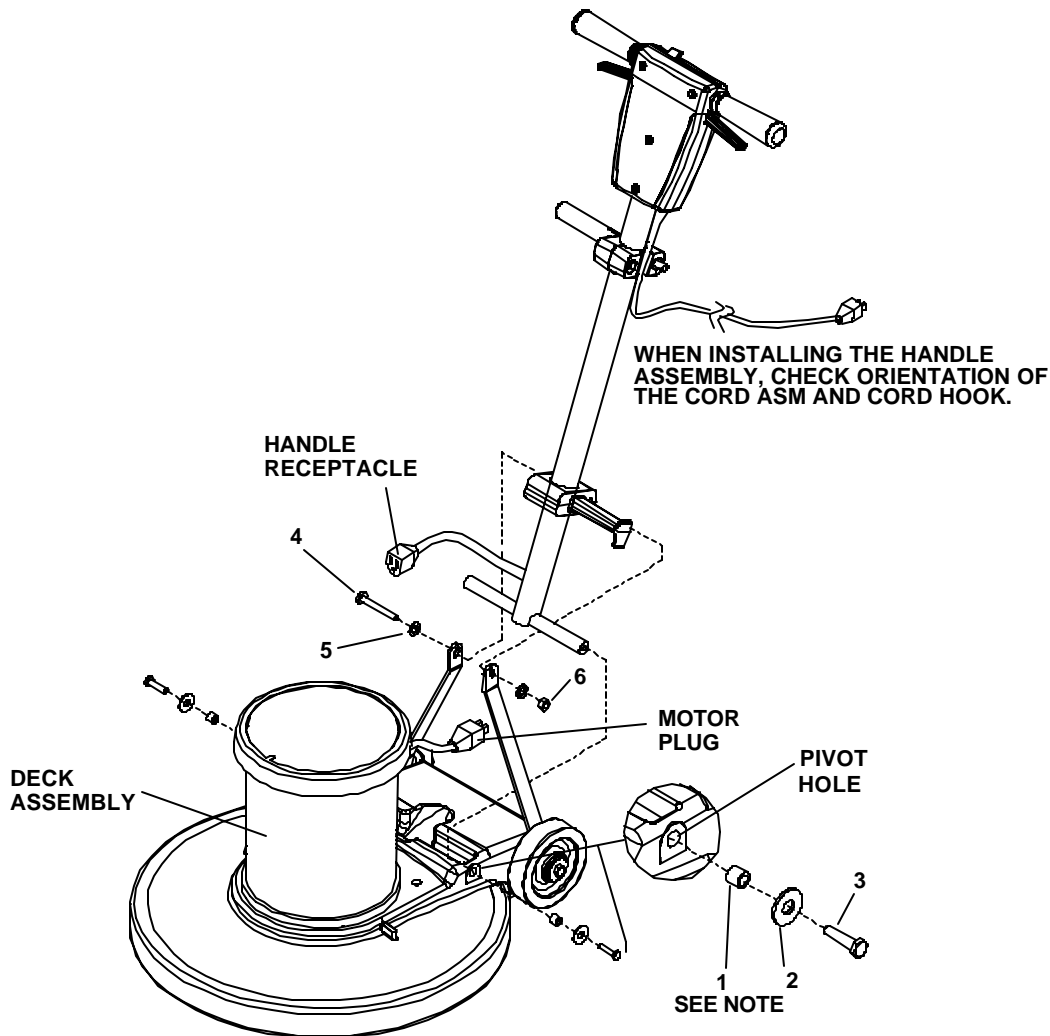
! WARNING:

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 | |
| SP13, SP15, SP17, SP20 | 1.0 hp |
| SP17X, SP20X, SPDS20 | 1.5 hp |
| Brush/Pad speed | |
| SP13, SP15, SP17, SP20, SP17X, SP20X | 175 rpm |
| SPDS20 | 175/300 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) | |
| 13" (33 cm) model | 21.0" (53 cm) x 14" (36 cm) x 47" (119 cm) |
| 15" (38 cm) model | 22.0" (56 cm) x 16" (41 cm) x 47" (119 cm) |
| 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 **(47331)** (attached to handle in a plastic bag) items 1, 2, and 3.

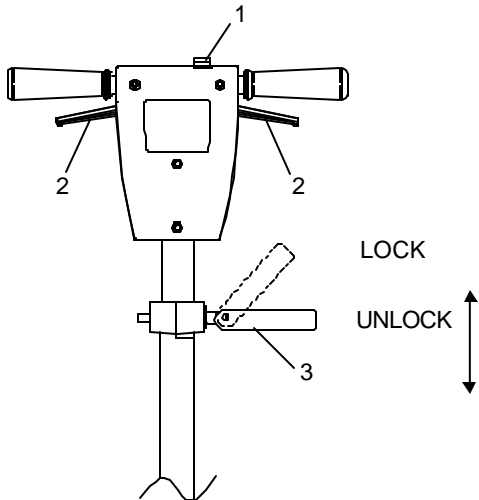
NOTE: The spacers (items 1) are required for the correct operation of the handle. The spacers are positioned completely inside the pivot holes in the casting, and are held in place by tightening the bolts and washers (items 2 and 3) against the spacer.

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

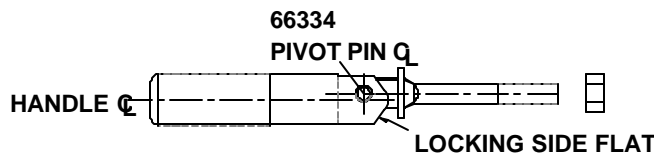
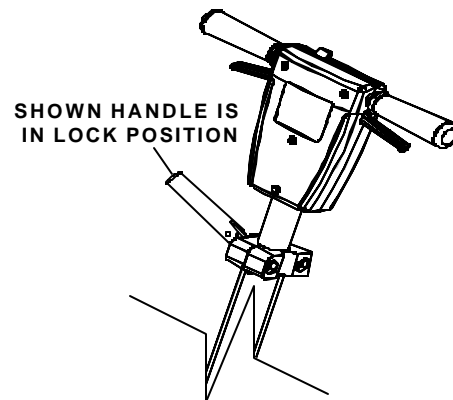
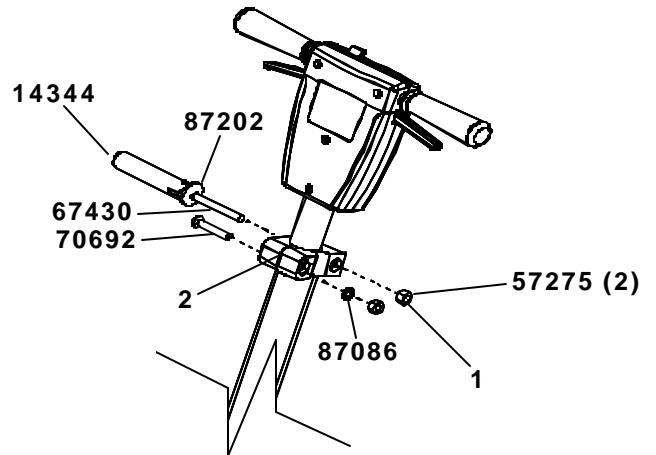
CONTROLS

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").



! CAUTION

For indoor use only.

To prevent possible damage to the floor when using the brush option, use water or other approved cleaning solution while operating. When using the pad option, 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 or brush is installed correctly and 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 both of the switch levers.

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

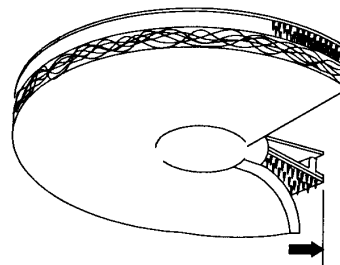
1. Inspect power cord for wear. To prevent electrical shock replace cords with frayed or cracked insulation immediately.
2. Place machine in the storage position.
3. Check pad condition. Change if soiled or torn.

PAD DRIVER INSTALLATION

1. Lay machine back, exposing the under side.
2. Place pad driver on the motor lug and rotate clockwise until engaged. To remove, turn counter-clockwise.

PAD INSTALLATION:

Ensure Pad is Centered on Pad Driver. Pull Pad to edge of Pad Driver in several directions to check for proper engagement.



MAINTENANCE

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 POLISHER.

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.

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.

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.

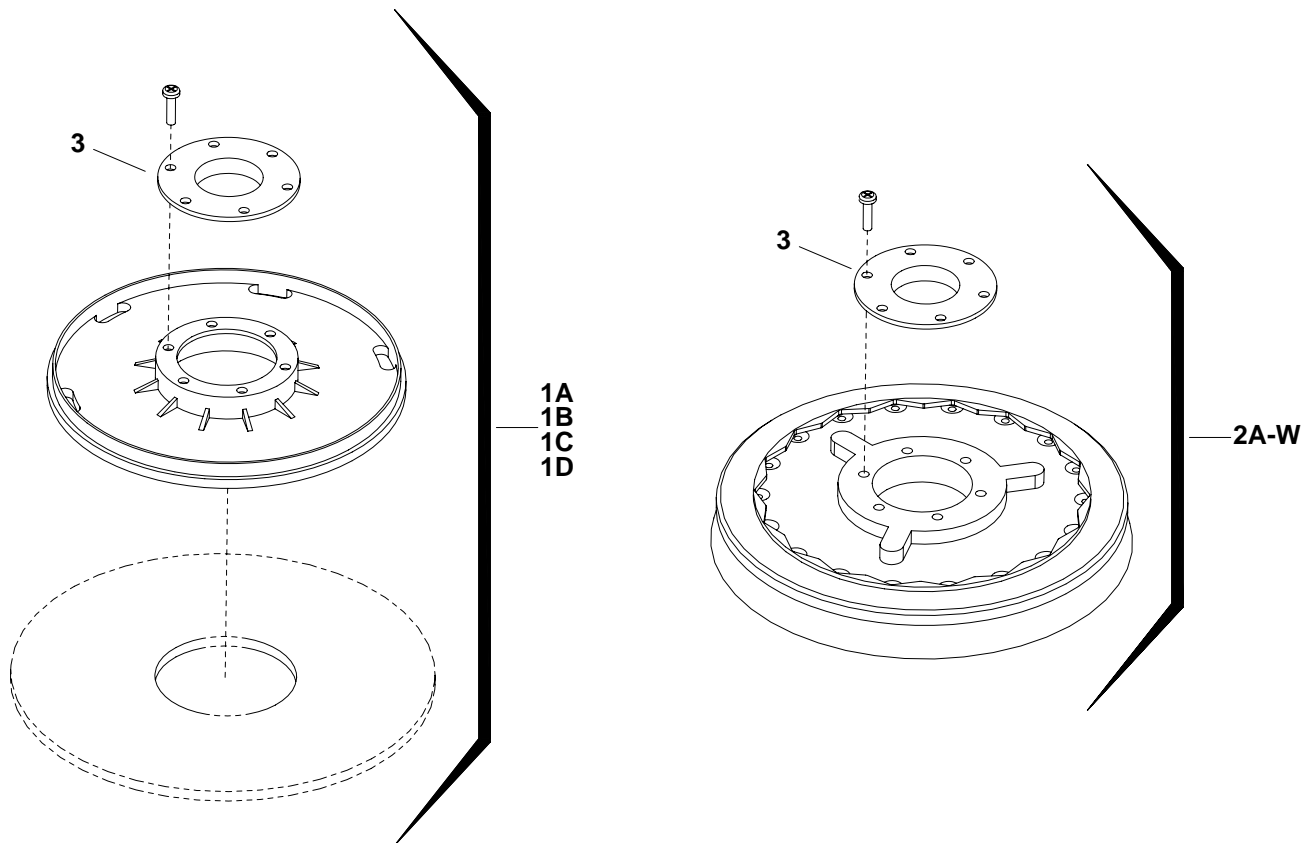
SERVICE SCHEDULE

| MAINTENANCE | DAILY | MONTHLY |
|---|-------|---------|
| Check pad wear to prevent buildup of chemicals | * | |
| Check pad driver system for damage | * | |
| Check handles, switches, and knobs for damage | * | |
| Store with pad off the floor | * | |
| Check all bearings for noise | | * |
| Check skirt/bumpers for damage and replace as necessary | | * |
| Check overall performance of 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 that are short-circuiting. |
| Repeated circuit 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. |

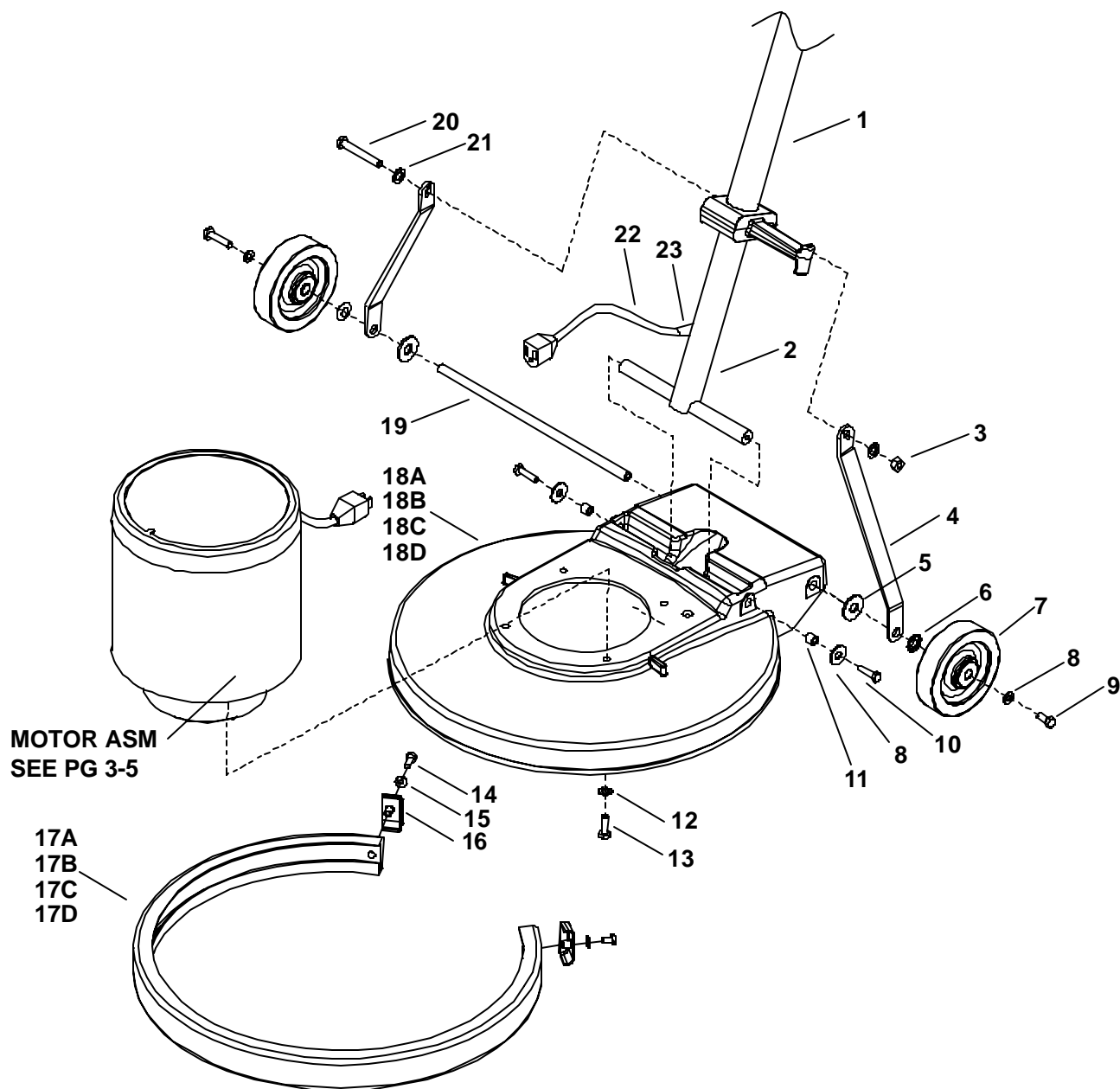
BRUSH/PAD DRIVER GROUP



BRUSH/PAD DRIVER GROUP

| REF | PART NO. | QTY | DESCRIPTION | SERIAL NO. FROM | NOTES: |
|-----|----------|-----|----------------------------------|--------------------|--------|
| 1A | 02216 | - | PAD DRIVER, 13" POLISHER | | |
| 1B | 02396 | - | PAD DRIVER, 15" POLISHER | | |
| 1C | 02218 | - | PAD DRIVER, 17" POLISHER | | |
| 1D | 02219 | - | PAD DRIVER, 20" POLISHER | | |
| 2A | 02232 | - | BRUSH, 13" NYL.POL. W/CLT.PLT | | |
| 2B | 02233 | - | BRUSH, 13" NYL.SCRUB W/CLT.PLT | | |
| 2C | 02234 | - | BRUSH, 13" MILD GRIT W/CLT.PLT | | |
| 2D | 02235 | - | BRUSH, 13" AGG. GRIT W/CLT.PLT | | |
| 2E | 02236 | - | BRUSH, 13" POLYPRO W/CLT. PLT | | |
| 2F | 02447 | - | BRUSH, 15" NYL.POL. W/CLT.PLT | | |
| 2G | 02448 | - | BRUSH, 15" NYL. SCRUB W/CLT.PLT | | |
| 2H | 02445 | - | BRUSH, 15" MILD GRIT W/CLT.PLT | | |
| 2J | 02444 | - | BRUSH, 15" AGG.GRIT W/CLT.PLT | | |
| 2K | 02446 | - | BRUSH, 15" PLOYPRO W/CLT.PLT | | |
| 2L | 02242 | - | BRUSH, 17" NYL. POL. W/CLT.PLT | | |
| 2M | 02240 | - | BRUSH, 17" NYL.SCRUB W/CLT.PLT | | |
| 2N | 02241 | - | BRUSH, 17" MILD GRIT W/CLT.PLT | | |
| 2P | 02205 | - | BRUSH, 17" AGG. MALGRIT W/C.P | | |
| 2Q | 02206 | - | BRUSH, 17" POLYPRO W/CLT. PLT | | |
| 2R | 02239 | - | BRUSH, 20" NYL.POL.W/CLT.PLT.SFT | | |
| 2T | 02237 | - | BRUSH, 20" NYL.SCRUB W/CLT.PLT | | |
| 2U | 02238 | - | BRUSH, 20" MILD GRIT W/CLT.PLT | | |
| 2V | 02202 | - | BRUSH, 20" AGG. MALGRIT W/C.P. | | |
| 2W | 02203 | - | BRUSH, 18" POLYPRO W/CLT. PLT | | |
| 3 | 02220 | - | PLATE, PAD CLUTCH | | |

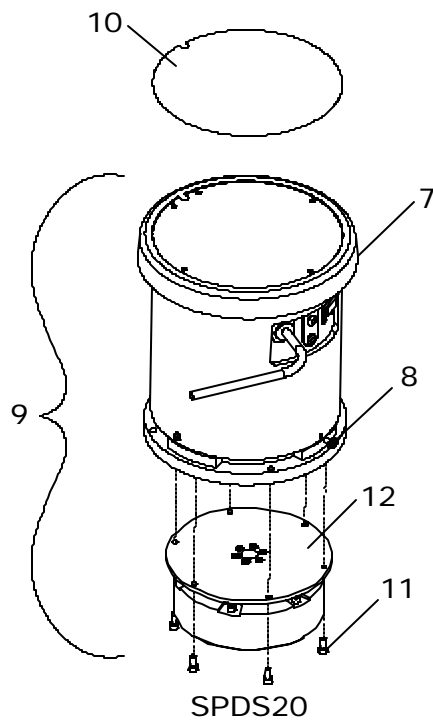
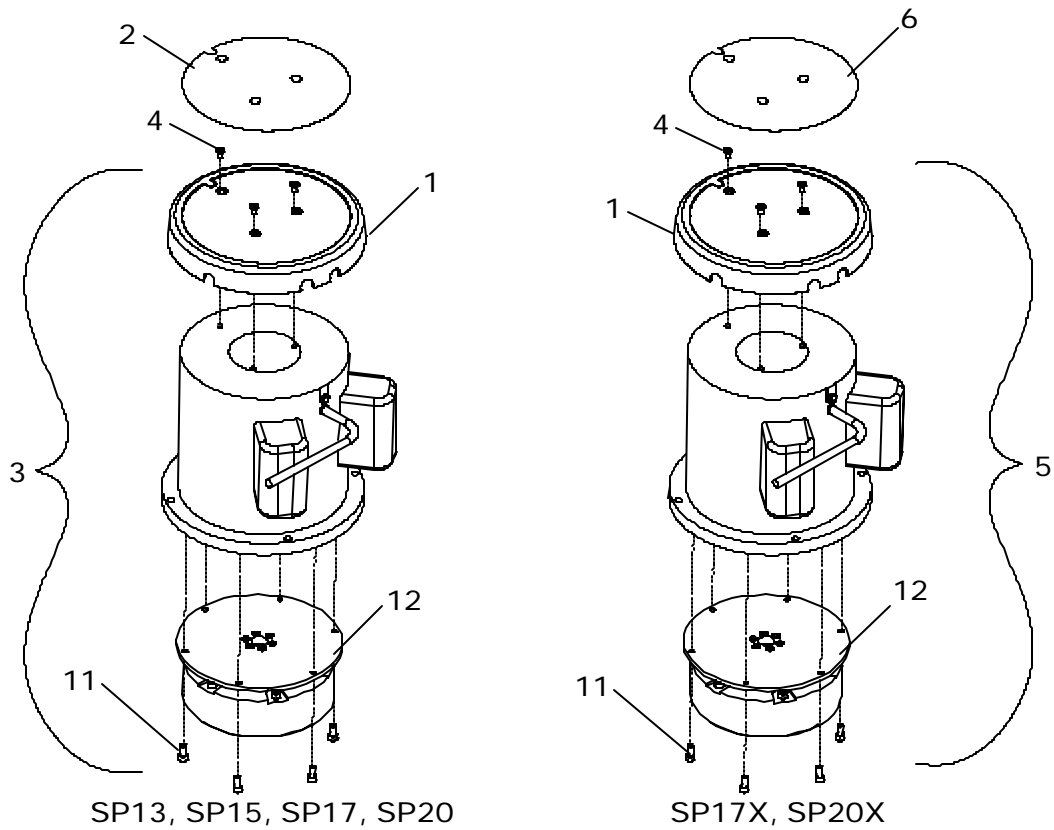
FRAME GROUP



FRAME GROUP

| REF | PART NO. | QTY | DESCRIPTION | SERIAL NO. FROM | NOTES: |
|-----|----------|-----|--------------------------------|--------------------|--------|
| 1 | 78447 | 1 | TUBE ASSY, HANDLE ADJ | | |
| 2 | 38290 | 1 | HANDLE, POLISHER | | |
| 3 | 57275 | 1 | NUT, M10X1.5 HEX NYLOCK PLTD | | |
| 4 | 51328 | 2 | LINK, HANDLE ADJUST | | |
| 5 | 87203 | 2 | WASHER, 14MMID X 36MMOD | | |
| 6 | 57276 | 2 | NUT, PUSH FLAT RD .51D | | |
| 7 | 89206 | 2 | WHEEL, 5D X 1.25 X 13MMID GRY | | |
| 8 | 87054 | 2 | WASHER, M8 FLAT DIN125A PLT | | |
| 9 | 70262 | 2 | SCR, M8 X 20 HHMS PLTD | | |
| 10 | 70135 | 2 | SCR, M8 X 30 HHMS | | |
| 11 | 730008 | 2 | SPACER, .317ID X .50D X .44LG | | |
| 12 | 87067 | 4 | WASHER, 5/16 LOCK INT STAR PLT | | |
| 13 | 70698 | 4 | SCR,5/16-18 X 3/4 HHCS GR5 BLK | | |
| 14 | 70691 | 2 | SCR, M6 X 25 HHMS BLK | | |
| 15 | 87211 | 2 | WASHER, M6 FLAT BLK | | |
| 16 | 27871 | 2 | CAP, EXTRUSION | | |
| 17A | 14341 | - | BUMPER, EXTRUSION 30.5" | | |
| 17B | 14371 | - | BUMPER, EXTRUSION 37.3" | | |
| 17C | 14372 | - | BUMPER, EXTRUSION 43.8" | | |
| 17D | 14373 | - | BUMPER, EXTRUSION 53.4" | | |
| 18A | 29211 | - | DECK, 13 IN POLISHER, BLUE | | |
| 18B | 29212 | - | DECK, 15 IN POLISHER, BLUE | | |
| 18C | 29213 | - | DECK, 17 IN POLISHER, BLUE | | |
| 18D | 29214 | - | DECK, 20 IN POLISHER, BLUE | | |
| 19 | 03111 | 1 | AXLE, MAIN POLISHER | | |
| 20 | 70701 | 1 | SCR, M10 X 90 HHMS | | |
| 21 | 87086 | 2 | WASHER, M10 X 30 PLTD | | |
| 22 | 23206 | 1 | CORDSET, 14/3 X 47", SJT, BLK | | |
| 23 | 730012 | 1 | STRAIN RELIEF, 14/3 STRAIGHT | | |

MOTOR GROUP



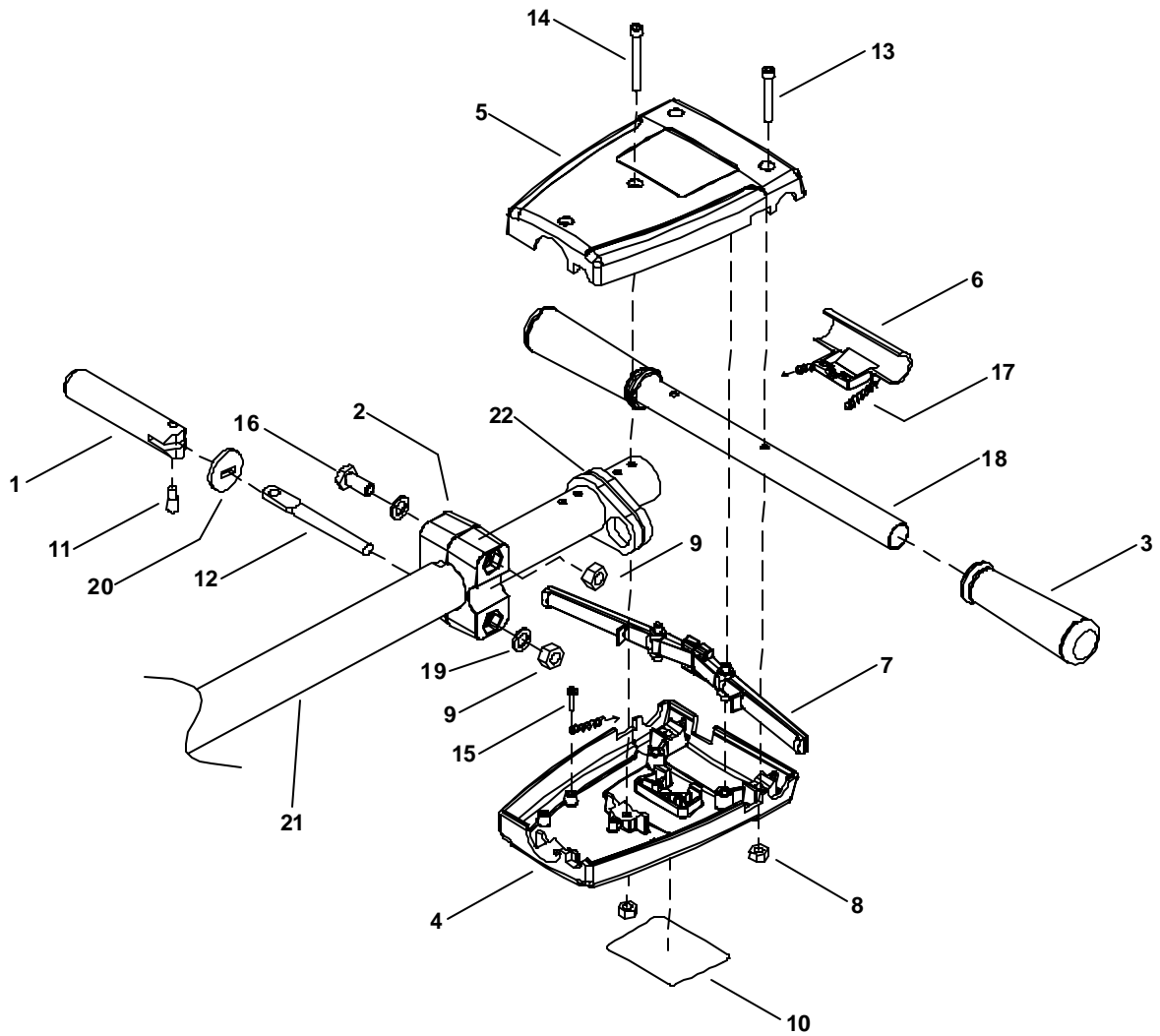
MOTOR GROUP

| REF | PART NO. | QTY | DESCRIPTION | SERIAL NO. FROM | NOTES: |
|-----|----------|-----|---------------------------------|--------------------|---|
| 1 | 27884 | 1 | COVER, MOTOR | | |
| 2 | 500763 | 1 | LABEL, STORM MAIN | | |
| 3 | 53263 | 1 | MOTOR, 1 HP 115V INDUCTION | | SPT13/15/17/20 |
| 4 | 70702 | 3 | SCR, M5 X .8 X 15MM BLK | | |
| 5 | 53264 | 1 | MOTOR, 1.5 HP 115V INDUCTION | | INCLUDES ITEM 4, 1, 12, & 11 (SP17X/20X) |
| 6 | 500764 | 1 | LABEL, STORM DELUXE MAIN | | |
| 7 | 27892 | 1 | COVER, ASM, MOTOR | | |
| 8 | 70700 | 8 | SCR, M5 X .8 X 10MM PHMS BLK | | |
| 9 | 53253 | 1 | MOTOR, 115V 1.75 HP 175/300 RPM | | SPDS20 |
| 10 | 500765 | 1 | LABEL, STORM DUAL SPEED MAIN | | |
| 11 | 70723 | 6 | SCR, M5 X .8 X 15MM SHCSM | | |
| 12 | 62917 | 1 | PLATE, ADAPTER MOTOR | | |

MOTOR COMPONENTS (NOT SHOWN)

| PART NO. | QTY | DESCRIPTION | SERIAL NO. FROM | NOTES: |
|----------|-----|------------------------------|--------------------|------------------------------|
| 140411 | 1 | CIRCUIT BREAKER, 20 AMP | | SP13/15/17/17X/20/20X |
| 140401 | 1 | CIRCUIT BREAKER, 30 AMP | | SPDS20 |
| 67488 | 1 | RECTIFIER, 50A 600V BRIDGE | | SPDS20 |
| 14404 | 1 | BRUSH SET MOTOR (PKG OF 4) | | SPDS20 |
| 34378 | 1 | FUSE | | |
| 34379 | 1 | FUSE HOLDER | | |
| 09135 | 2 | BEARING, MOTOR | | |
| 27352 | 1 | COUPLING, MTR/GEAR BOX | | |
| 730039 | 1 | SWITCH ASM, DUAL SPEED | | SPDS20 (FOR 2 SPEED ONLY) |
| 140416 | 1 | BOOT, CIRCUIT BREAKER | | |
| 67489 | 1 | RING, MOTOR SHAFT | | |
| 05176 | 1 | ARMATURE, MOTOR REPAIR 53253 | | SPDS20 |
| 270061 | 1 | CAPACITOR, RUN 30UF | | SP13/15/17/17X/20/20X |
| 270062 | 1 | CAPACITOR, START 340UF | | SP13/15/17/17X/20/20X |
| 72182 | 1 | CENTRIFUGAL WEIGHT ASSEMBLY | | SP13/15/17/17X/20/20X |
| 72183 | 1 | STATIONARY END CAP SWITCH | | SP13/15/17/17X/20/20X |

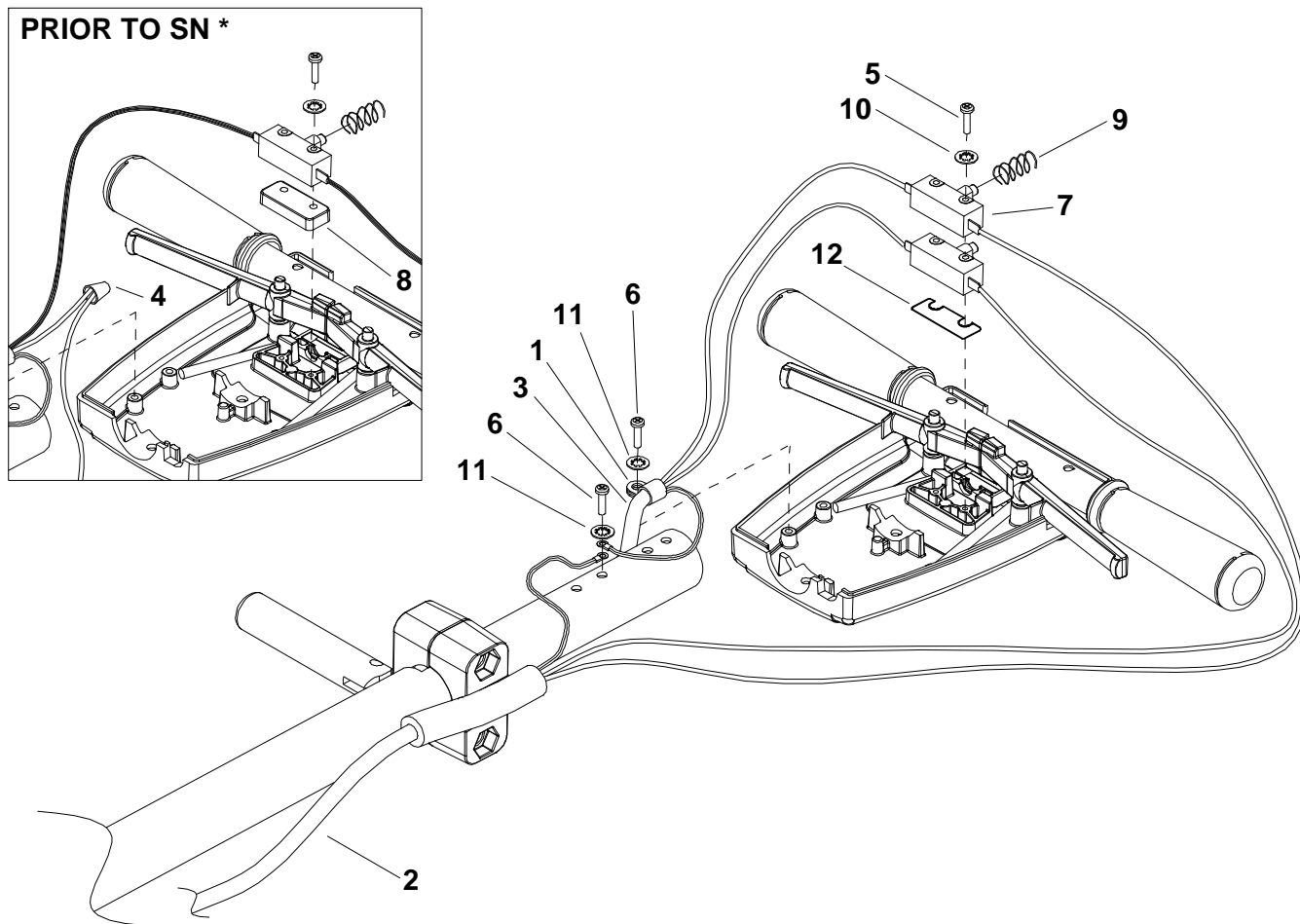
HANDLE GROUP



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 HANDLE | | |
| 7 | 51327 | 2 | LEVER, SWITCH | | |
| 8 | 57274 | 4 | NUT, M6 HEX FINISH | | |
| 9 | 57275 | 1 | NUT, M10X1.5 HEX NYLOCK 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 | 2 | BUMPER, HANDLE | | |

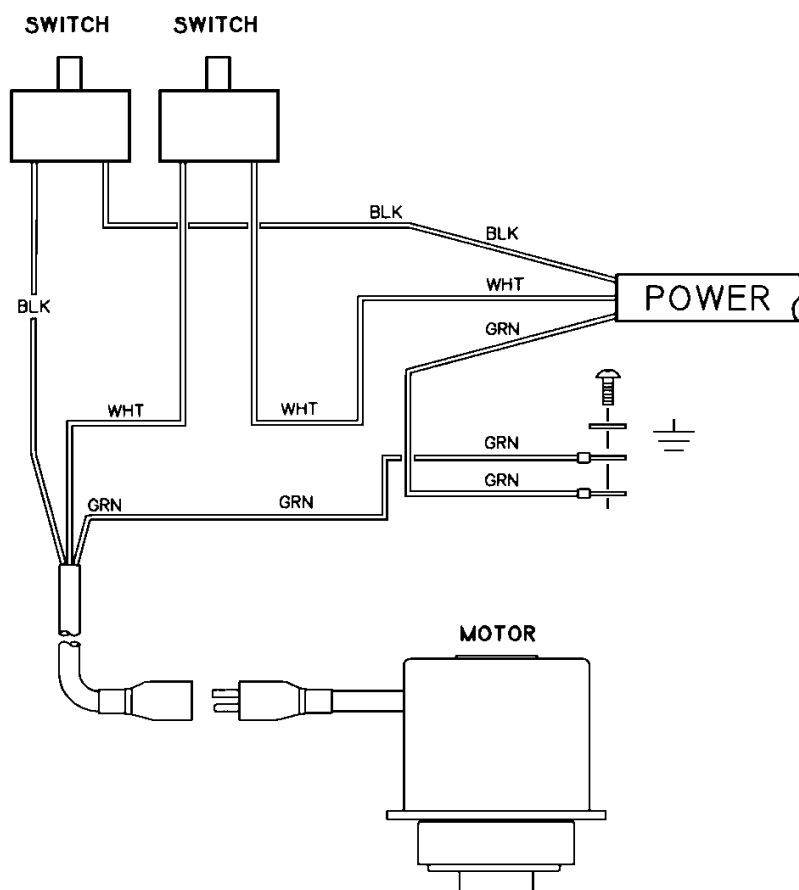
WIRING GROUP



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 | * | |

WIRING DIAGRAM / SPARE PARTS



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 .91 L | | |
| 72123 | SWITCH. 25A SPST 125-250V SNAP | | |
| 14344 | BAR, HANDLE ADJ | | |
| 66334 | PIN, PIVOT, HANDLE ADJ | | |
| 67430 | ROD, HANDLE ADJ | | |
| 34378 | FUSE | | |
| 34379 | FUSE HOLDER | | |
| 27352 | COUPLING, MTR/GEAR BOX PLSHER | | |
| 67488 | RECTIFIER, 50A 600V BRIDGE | | SPDS20 |
| 140401 | CIRCUIT BREAKER, 30AMP MPX | | |
| 140411 | CIRCUIT BREAKER, 20AMP MP/MB | | |

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