



Electronic Service Manuals

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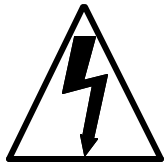
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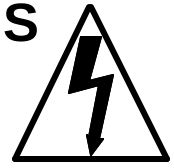
Serving the Cleaning Industry Since 1922

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CHARGER 2300, 2500 BP



IMPORTANT SAFETY INSTRUCTIONS



**READ AND UNDERSTAND ALL INSTRUCTIONS
BEFORE OPERATING OR SERVICING MACHINE**

DANGER! Failure to Observe These Instructions Can Cause Personal Injury to Machine Operator, By-standers or Possible Machine Damage.

ALWAYS wear eye protection and protective clothing when working with the batteries.

The batteries contain **ACID** Avoid contact with skin or clothing.

Antidote: **EYES** - Flush with water 15 minutes. Call Physician.

INTERNAL - Drink water or milk. Follow with Milk of Magnesia, beaten egg or vegetable oil.
Call physician.

Service should be don only by authorized, trained personnel.

Charge Batteries in a well ventilated area with Battery Compartment Open.

Batteries generate explosive gasses - keep sparks, flames, burning cigarettes or other ignition sources away at all times.

Batteries are heavy - two (2) people are required for installation or removal.

Never lay anything on top of batteries to prevent arcing.

Turn off all switches during installation and service.

To maintain machine balance, always slide batteries back into position as shown on battery installation decal.

Connect batteries as shown on battery installation decal to avoid shorting out batteries and electrical system.

Disconnect battery leads before performing any service or repairs.

ALWAYS make sure battery charger is turned off when connecting/disconnecting to machine to prevent sparking.

ALWAYS operate this machine from the rear control panel, not from the side.

NEVER operate this machine in an explosive atmosphere (grain dust or gas vapor).

NEVER use flammable liquids (gas, kerosene, solvents or thinners) to clean floor.

ALWAYS turn OFF master switch when changing pads.

NEVER operate machine with skirts or covers removed.

NEVER leave this machine unattended.

PERSONAL INJURY AND PROPERTY DAMAGE FROM THIS MACHINE OVERTURNING, BATTERIES FALLING OUT OF THE MACHINE OR BATTERIES LEAKING ACID CAN OCCUR IF YOU DO NOT FOLLOW THESE PRECAUTIONS:

NEVER attempt to operate this machine unless you have been trained in its operation.

Follow these rules when working on or near loading docks and ramps:

ALWAYS be sure ramp is secured to vehicle before attempting to load/unload.

ALWAYS use extreme caution when operating this machine on a ramp or loading / unloading this machine into or out of a truck. Use extreme caution if the ramp is wet, oily or covered with cleaning chemicals.

NEVER turn this machine on an ramp or incline.

NEVER stop this machine on a ramp or incline.

NEVER attempt to climb a grade of more than 20 degrees.

NEVER park machine near a dock, or on ramps.

NEVER leave machine unattended.

WARNING: Failure to observe these instruction can cause machine damage and possible personal injury to machine operator.

NEVER spray machine with water.

NEVER allow battery charging plugs to get wet. The battery charging plugs will short out if wet.

NEVER operate machine when charger is plugged in.

NEVER store machine near furnaces, boilers, ore flame which may damage machine.

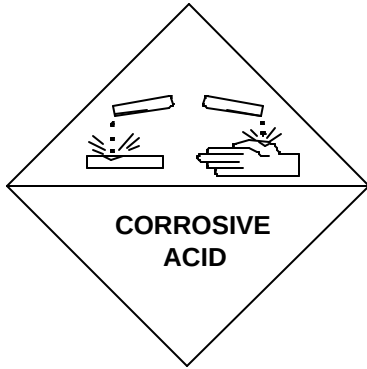
NEVER store any items on this machine.

ALWAYS protect machine from freezing temperatures.



SAVE THESE INSTRUCTIONS

BATTERY INSTALLATION INSTRUCTIONS



WET STORAGE BATTERY

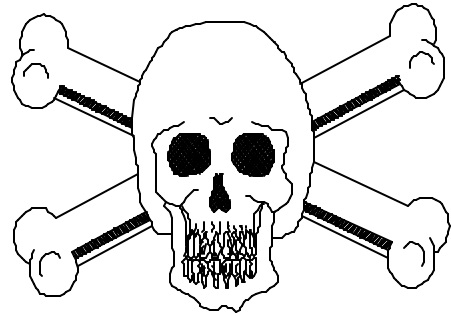
* CONTAINS ACID, AVOID CONTACT.

* ANTIDOTE:

* EYES - FLUSH WITH WATER
15 MINUTES.

* INTERNAL - DRINK WATER OR MILK.
FOLLOW WITH MILK OF
MAGNESIA, BEATEN EGG
OR VEGETABLE OIL.

*CALL PHYSICIAN.



POISON / DANGER
CAUSES SEVERE BURNS

WARNING

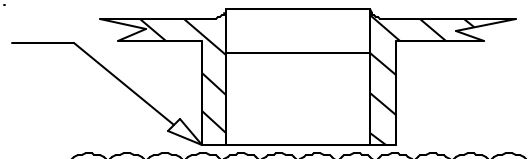
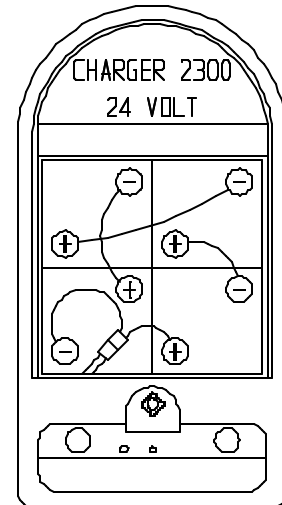
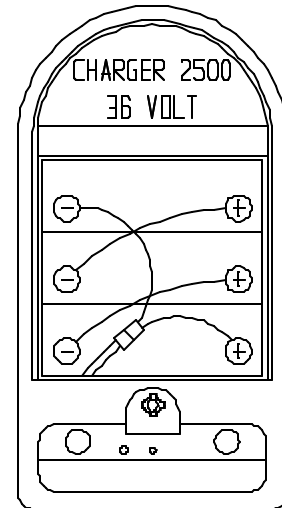
READ THE SERVICE MANUAL BEFORE INSTALLING BATTERIES OR USING CHARGER. FAILURE TO OBSERVE THE FOLLOWING INSTRUCTIONS MAY RESULT IN DAMAGE TO THE MACHINE, OR INJURY TO THE OPERATOR OR BY-STANDERS.

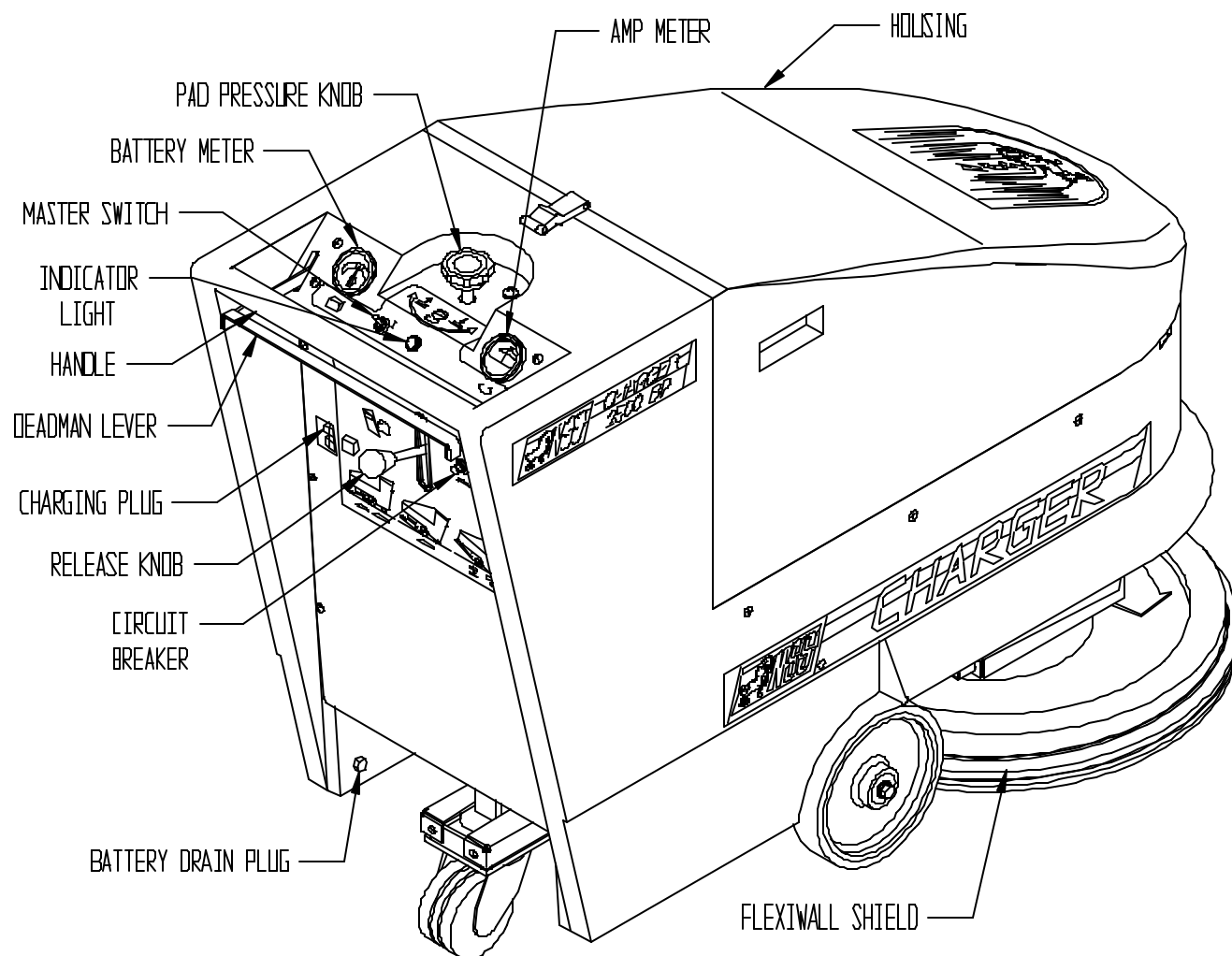
BATTERY INSTALLATION INSTRUCTIONS

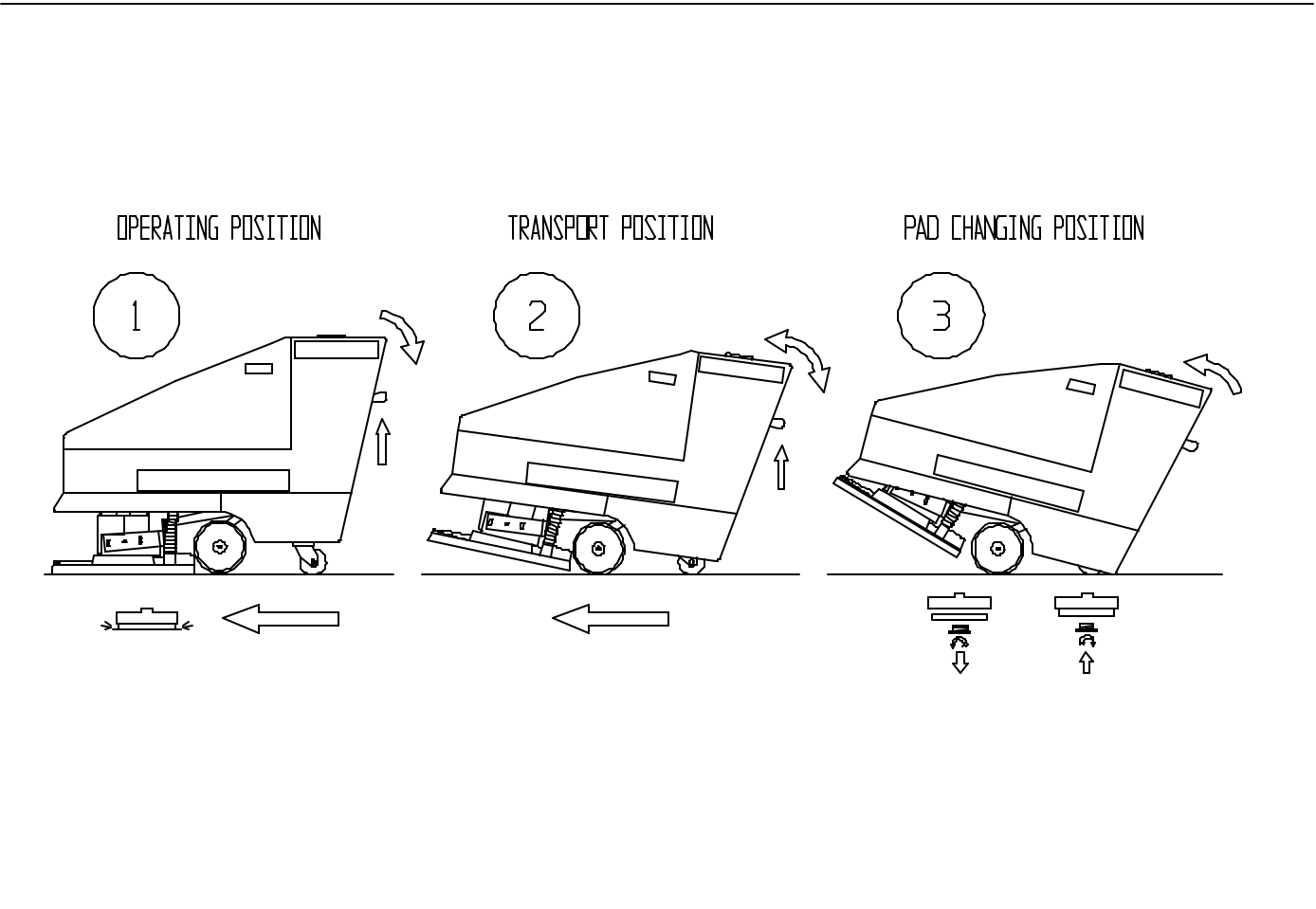
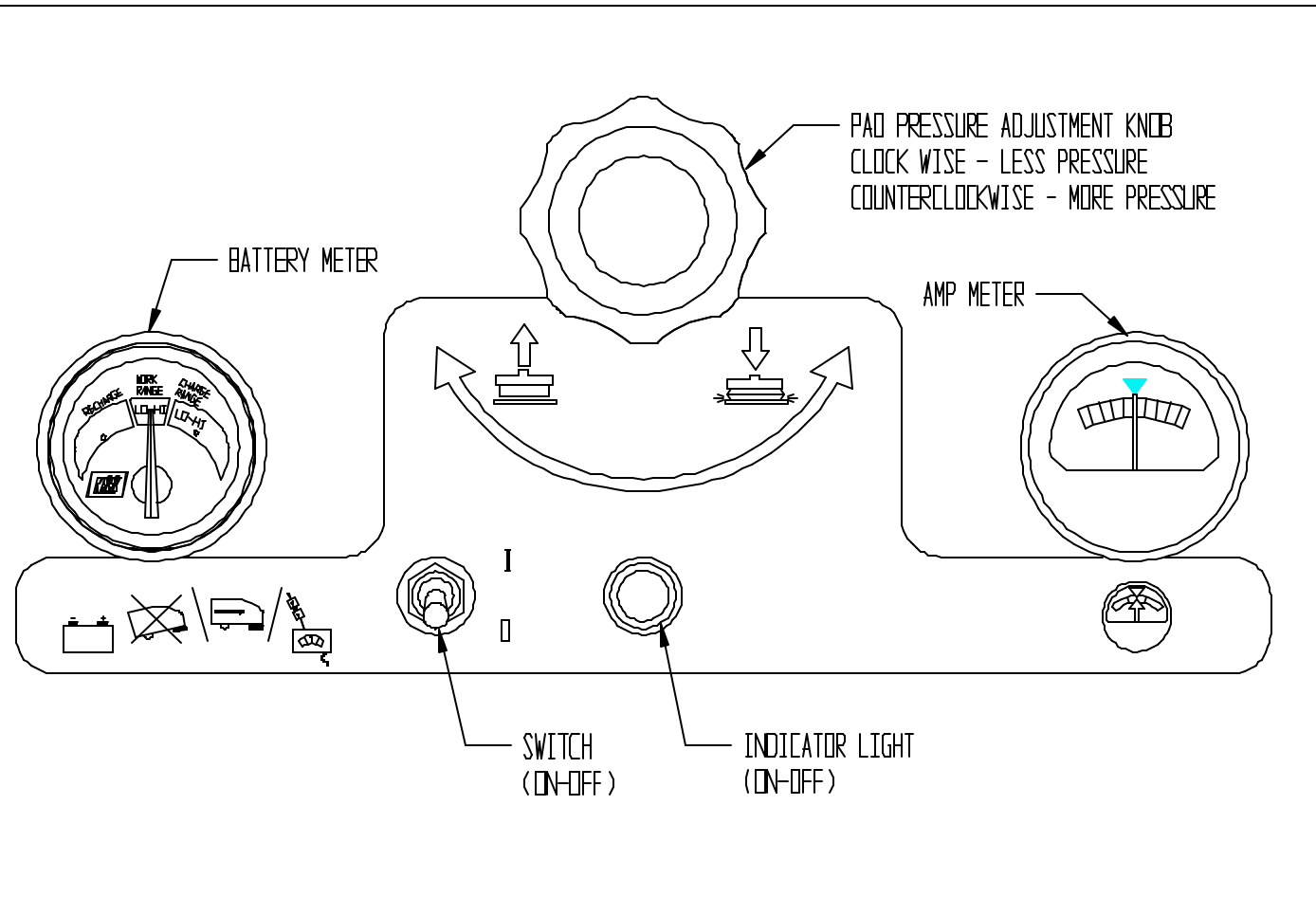
- ONLY TRAINED PERSONNEL SHOULD INSTALL BATTERIES.
- BATTERIES ARE HEAVY, USE TWO (2) PEOPLE TO INSTALL.
- WEAR EYE PROTECTION AND PROTECTIVE CLOTHING.
- TURN OFF ALL MACHINE SWITCHES.
- CONNECT BATTERIES AS SHOWN ON THIS DECAL. MACHINE WILL NOT TURN ON IF BATTERIES ARE CONNECTED IMPROPERLY.
- DO NOT LAY ANYTHING ON TOP OF THE BATTERIES.
- DISCONNECT THE BATTERIES BEFORE PERFORMING ANY SERVICE OR REPAIRS.

CHARGING INSTRUCTIONS

- READ INSTRUCTIONS ON THE CHARGER.
- ONLY USE A 36 VOLT CHARGER FOR THE CHARGER 2500 BP.
- ONLY USE A 24 VOLT CHARGER FOR THE CHARGER 2300 BP.
- BEFORE CHARGING CHECK TO INSURE THAT THE BATTERY WATER LEVEL COVERS THE BATTERY PLATES.
- CHARGE IN WELL VENTILATED AREA.
- EXPLOSIVE GAS - DO NOT SMOKE - STRIKE A MATCH OR CAUSE A SPARK DURING CHARGING.
- AFTER CHARGING - IF NEEDED - FILL THE BATTERY UP TO THE BOTTOM OF THE FILL HOLE WITH DISTILLED WATER. DO NOT OVER FILL. BATTERY AND MACHINE DAMAGE MAY RESULT. WIPE ANY ACID FROM THE TOP OF THE BATTERIES CLEAN USING A SOAP SOLUTION.







INSTRUCTIONS

Before operating and/or attaching/detaching the pads, you must read these instructions:

- * The machine can be lowered in the back, which raises up the front for ease of transportation and pad attachment/detachment.
- * The machine arrives in Position No. 1 (the operating position). To lower the back of the machine to Position No. 3 (the pad changing position), hold operator handle with one hand and move the Release Knob up with other hand. Lower the machine slowly. Let go of Release Knob after machine begins to lower. The machine will stop in Position No. 2. Move Release Knob up again and lower the machine slowly to floor (Position No. 3). Pad can now be easily attached/detached.
- * To raise machine to Position No. 2 (the transport position), lift up on Operator handle with both hands. The machine will stop in Position No. 2. The machine can now be transported.
- * To raise the machine back to Position No. 1, lift up on Operator handle with one hand and move Release Knob up with the other hand. Let go of Release Knob after machine starts to raise up. The machine will stop in Position No. 1.
- * After attaching a new pad and placing machine in Operating position, adjust Pad Pressure Knob until the arrow (Below Left) points to the Release Knob.
- * Push machine forward when starting to avoid possible damage to the floor.
- * Increase or decrease Pad Pressure as needed, after machine starts.

Pad Installation

Remove the pad that is supplied in the battery compartment of the machine. Remove the center hole of the pad and step on the center of the pad to compress the edges around the center hole. This will allow easier installation of the pad holding cup.

With the machine in the pad changing position, #3, carefully center the pad on the driver. Place pad grabber in the center hole of the pad. Holding the pad grabber, turn the pad driver clockwise until the pad cup is tight and stops turning.

Caution: Pads **must** be installed concentric (evenly aligned) with the outside edge of the pad driver. Failure to follow these precautions will cause excessive machine vibration, a reduction in pad life and produce unsatisfactory burnishing results. **Failure to install the pad grabber tightly may allow the pad to be thrown from the driver. Never operate the machine without a Flexiwall Shield in position over the pad.**

Setting Pad Pressure

Pad pressure relates to buffing performance. Too much pad pressure will give uneven results and may cause circuit breaker to blow. Too light pad pressure will also give poor results and no contact with the floor. New pads are manufactured in different thicknesses; however, ALL pads will thin down during use and require periodic adjustment of pad. Therefore, follow procedure below:

ALWAYS start with ALL pad pressure **OFF** the floor. Increase pad pressure on the floor in small increments to prevent damage to the floor.

CAUTION: Too Much pad pressure may permanently damage floor.

The adjustment knob is a simple method of setting the pad pressure based on the thickness of the pad.

To increase pad pressure, turn the knob counter clockwise.

To decrease pad pressure, turn the knob clockwise.

If the circuit breaker blows on the machine, immediately reduce pad pressure by one full turn or more on the adjustment knob clockwise. Reset circuit breaker and try machine.

NEW PADS - Always **decrease** pad pressure three turns after installing a new pad. Move machine forward while starting machine and fine tune operating amps. Failure to decrease pad pressure can cause an amp overload, blowing machine circuit breaker.

OPERATION

What Floor System Works Best With The Charger 2300BP/2500BP.

Dry polishing or burnishing works best with the Charger 2300BP/2500BP. Use mop on restorers rather than spray buff systems to restore the shine.

Spray buffing is time consuming, uses more pads because they become loaded with floor finish, and can cause overloading of the machine's circuit breaker.

HOW THE CHARGER 2300BP/2500BP WORKS

- The Charger 2000BP/2500BP utilizes a 2.5 HP permanent magnet motor to drive the 20" pad. The pad pressure is adjustable by turning a knob on the top of the machine, which will either increase or decrease the pad pressure.
- The level of pad pressure is indicated on the dial on the right-hand side of the control panel. The pad is adjusted properly when the arrow on average stays in or on the green arrow indicating proper amps.
- Due to imperfections in the floor, the amps will change slightly. Periodic adjustment may be necessary to keep the dial running in the green. Too much pad pressure (dial pointing in the red) may cause the circuit breaker to disconnect the circuit to the motor. If this happens, reduce the pad pressure, push the black button that says "70" and continue running the machine.

To Begin Operation

Make sure that the correct pad (7/8" to 1") x 20" has been properly installed on the pad driver with pad grabber and ring in place.

You are now ready to run the machine.

WARNING: MACHINE MUST BE MOVING AT ALL TIMES WHEN PAD IS ROTATING OR FLOOR MAY BE DAMAGED.

- Turn the master switch to "I", check the level of battery work range (put machine on "charge" if not in the high range).
- Push the machine forward slightly and squeeze the deadman switch lever to activate pad driving motor. (on VS Model, set knob to desired speed setting prior to operation)
- With the machine moving forward, watch the amp meter for the average needle position on the meter. Adjust the black knob in the center of the control panel counter clockwise to increase the pad pressure. It will move the amp indicator needle more toward the right, or the red area.
- Adjust the knob clockwise to decrease the pad pressure, decreasing the amps which moves the needle to the left. Adjust until the amp meter needle averages in the area of the green arrow, indicating proper amps.

WARNING: NEVER OPERATE MACHINE WITH THE NEEDLE IN THE RED AREA OF THE GAUGE, OR DAMAGE TO THE MACHINE FROM OVERLOAD MAY RESULT.

Floors that have high or low spots will cause the amp meter to enter into the red area occasionally. This is to be expected and will cause no harm to the machine. If you operate the machine continuously in the red area, the circuit breaker in the rear panel can, and will blow, indicating too much pad pressure or load. Push the button to reset, decrease pad pressure by 2 or 3 turns or more on the adjustment knob, change or turn the pad; otherwise, damage to the machine will result.

Operating the machine with higher than recommended pad pressure in the red area will shorten the operating time per battery charge. Maximum operating time can be achieved by adjusting pad pressure throughout the buffing cycle.

Battery Meter Gauge

Turn the switch to the "I" position. Check to see that the indicator light is on. With master switch on, check battery meter for charge indication. If needle is in the red area on the left side, marked "recharge", the batteries are too low to operate and should be recharged. The middle, green area, indicates whether or not the batteries are in the high or low range. The right side of the gauge indicates (when the battery charger is connected and charging and switch is on) the level of the charge in the batteries, whether high, low or in between. When needle is in the far right, red area, shown as high, and the automatic charger has shut off, charging of the batteries is complete.

MAINTENANCE

MOTOR - The motors used on the Charger 2300BP/2500BP. require very little service. Using compressed air, blow the entire motor every 60 days. Pay close attention to the carbon brush area. Accumulated dirt will cause excessive carbon brush arcing, reduced brush life, poor machine performance and possible damage.

CARBON BRUSHES - Inspect every 1000 hours of use for uneven wear and pitting. Replace carbon brushes when they have worn to a length of 3/8". Failure to replace carbon brushes will cause poor machine performance and possible motor damage.

WHEELS/CASTER - Every 30 days, lubricate the wheels/caster with an industrial grade bearing grease. Failure to lubricate wheels/caster will cause the machine to maneuver with difficulty and premature failure of the wheels/caster and bearing.

PAD PRESSURE/PIVOT LINKAGE - Every 60 days, inspect ALL connections in the pad pressure adjustment and pivot linkage assembly. All linkage must move freely and smoothly to ensure proper machine operation. Lubricate each part as required with small amount of grease such as Lubricate. Failure to lubricate these components may make it impossible to adjust the pad pressure or place machine into all three positions.

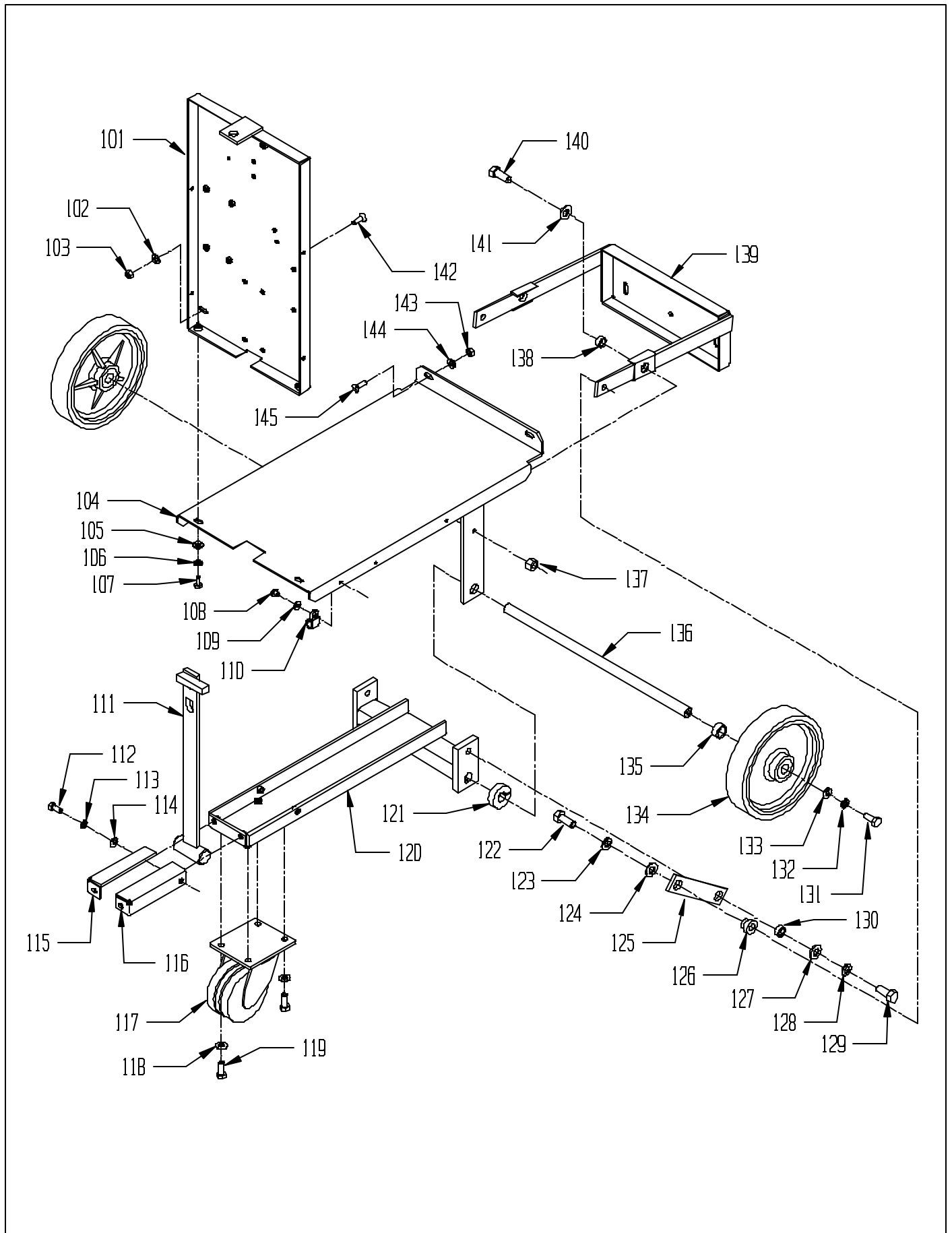
DUST CONTROL SYSTEM - Weekly, check vac hose for connection to Flexiwall Shield and filter bag. When filter bag is more than one-half (1/2) full, dispose of old bag and replace with new bag. Inspect flexiwall Shield for dents, cracks and wear. A damaged Flexiwall Shield will greatly reduce the burnishing and dust control capabilities. Dirt build up on the brush should be removed.

POLYETHYLENE BODY - Weekly, clean with "Armorall" type protector or wipe with a damp cloth. Never Spray machine with water.

BASE ASSEMBLY

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
101	64-9-111-3	CONTROL FRAME WELDMENT	1
102	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
103	91-2-145-0	5/16-18 HEX NUT WITH NY-LOK INSERT	2
104	64-9-078-3	BASE ASSEMBLY	1
105	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
106	91-2-152-0	5/16 SPLIT LOCK WASHER	2
107	91-2-164-0	5/16-18 X 3/4 HEX BOLT	2
108	91-2-100-0	1/4-20 X 5/8 TRUSS HEAD PHILLIPS MACHINE SCREW	2
109	91-2-097-0	1/4 EXTERNAL STAR LOCK WASHER	2
110	48-9-085-1	CABLE CLAMP	2
111	64-9-070-1	CATCH ASSEMBLY	1
112	91-2-164-0	5/16-18 X 3/4 HEX BOLT	4
113	91-2-152-0	5/16 SPLIT LOCK WASHER	4
114	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	4
115	44-9-534-3	LEFT SUPPORT BRACKET	1
116	44-9-533-3	RIGHT SUPPORT BRACKET	1
117	44-9-050-1	CASTER	1
	44-9-039-1	CASTER WHEEL WITH BEARING	1
118	91-2-218-0	13/32 I.D. X 13/16 O.D. X .051/.080 THICK SAE FLAT WASHER (3/8)	4
119	91-2-226-0	3/8-16 X 1 HEX BOLT	4
120	44-9-520-3	FRAME ASSEMBLY	1
121	64-9-020-1	SHAFT COLLAR LEG SUPPORT	2
122	91-2-254-0	1/2-13 X 1 1/4 HEX BOLT	2
123	91-2-242-0	1/2 SPLIT LOCK WASHER	2
124	91-2-245-0	17/32 I.D. X 1 1/16 O.D. X .074/.121 THICK SAE FLAT WASHER (1/2)	2
125	64-9-069-1	LIFT ARM	2
126	44-9-514-6	LIFT ARM SPACER	2
127	91-2-245-0	17/32 I.D. X 1 1/16 O.D. X .074/.121 THICK SAE FLAT WASHER (1/2)	2
128	91-2-242-0	1/2 SPLIT LOCK WASHER	2
129	91-2-254-0	1/2-13 X 1 1/4 HEX BOLT	2
130	44-9-279-6	BUSHING, PIVOT	2
131	91-2-226-0	3/8-16 X 1 HEX BOLT	2
132	91-2-210-0	3/8 SPLIT LOCK WASHER	2
133	91-2-218-0	13/32 I.D. X 13/16 O.D. X .051/.080 THICK SAE FLAT WASHER (3/8)	2
134	44-9-051-1	WHEEL - 8"	2
	44-9-048-1	WHEEL BEARING	1
135	44-9-292-6	WHEEL SPACER	2
136	44-9-254-6	AXLE	1
137	91-2-249-5	1/2-13 THIN HEX NUT WITH NY-LOK INSERT	2
138	44-9-279-6	BUSHING, PIVOT	2
139	44-9-516-3	PIVOT WELDMENT	1
140	91-2-254-0	1/2-13 X 1 1/4 HEX BOLT	2
141	91-2-245-0	17/32 I.D. X 1 1/16 O.D. X .074/.121 THICK SAE FLAT WASHER (1/2)	2
142	91-2-147-0	5/16-18 X 1 FLAT HEAD PHILLIPS MACHINE SCREW	2
143	91-2-145-0	5/16-18 HEX NUT WITH NY-LOK INSERT	2
144	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
145	91-2-147-0	5/16-18 X 1 FLAT HEAD PHILLIPS MACHINE SCREW	2

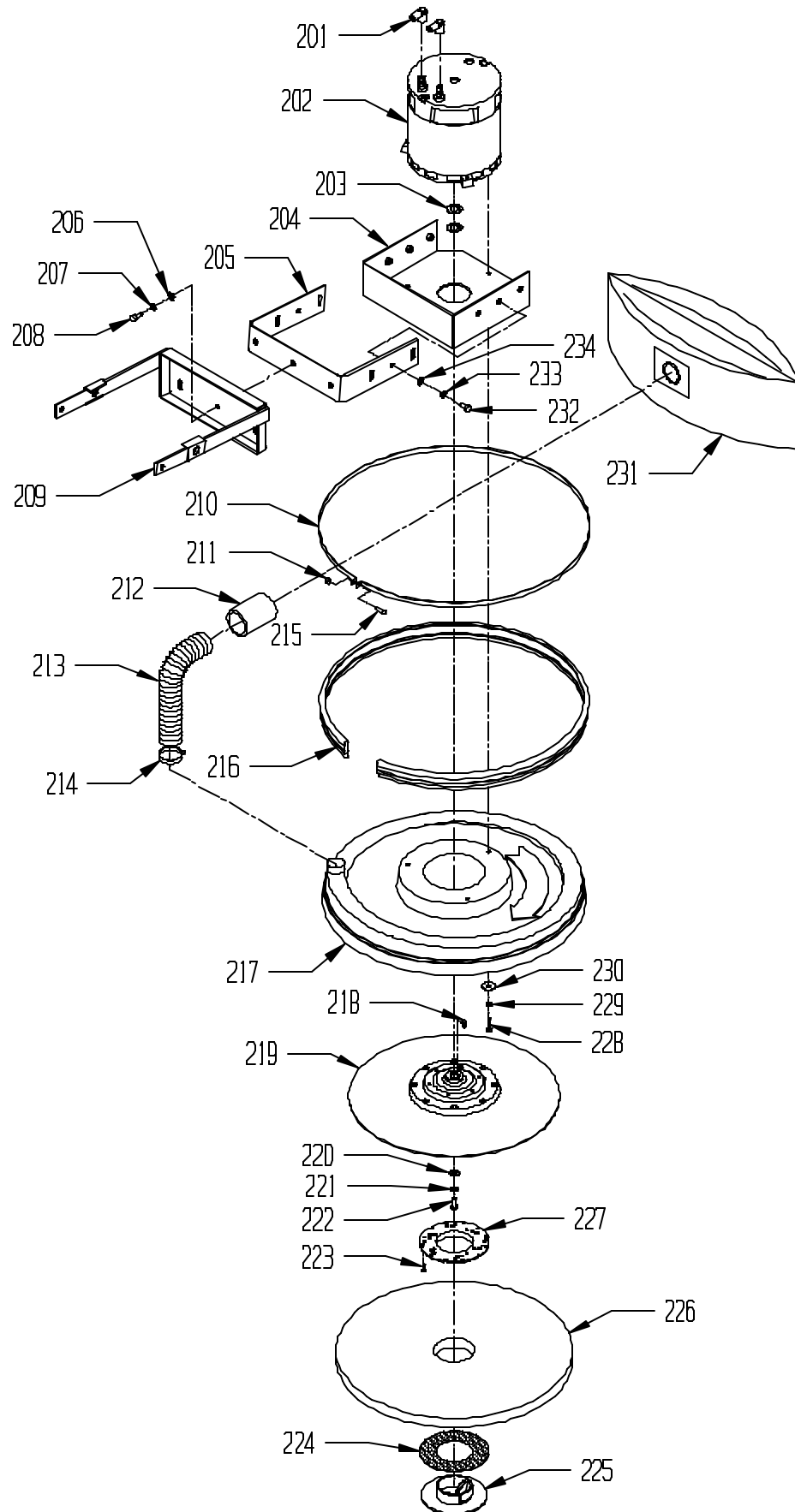
BASE ASSEMBLY



SHIELD AND PAD DRIVER ASSEMBLY

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
201	44-9-158-1	RUBBER BOOT, MOTOR	2
202	64-9-068-1	MOTOR 36 VOLT - 2500 BP	1
	64-9-148-1	MOTOR 24 VOLT - 2300 BP	1
203	52-9-341-1	1 1/4 X .770 X .082 WASHER	2
204	44-9-266-3	MOTOR MOUNT	1
205	44-9-261-3	FORK	1
206	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	3
207	91-2-152-0	5/16 SPLIT LOCK WASHER	3
208	91-2-164-0	5/16-18 X 3/4 HEX BOLT	3
209	44-9-516-3	PIVOT WELDMENT	1
210	64-9-073-2	BUMPER STRAP	1
211	91-2-035-0	10-24 HEX NUT WITH NY-LOK INSERT	1
212	44-9-553-1	END CUFF - 2"	1
213	44-9-554-1	HOSE, 2" DIA. X 3 FT. LONG	1
214	44-9-544-1	HOSE CLAMP, 1 9/16"- 2 1/2" DIA.	1
215	91-2-045-0	10-24 X 1 ROUND HEAD PHILLIPS MACHINE SCREW	1
216	64-9-019-1	BUMPER/BRUSH	1
217	64-9-072-9	CW-FLEXIWALL SHIELD ASSEMBLY	1
218	44-9-289-1	MOTOR KEY	1
219	64-9-100-9	FLEXIBLE DRIVER ASSEMBLY	1
220	52-9-354-1	MOTOR WASHER, 1" O.D., STAINLESS	1
221	91-2-152-0	5/16 SPLIT LOCK WASHER	1
222	91-2-149-0	5/16-24 X 7/8 HEX BOLT	1
223	91-2-081-0	10 X 1/2 PAN HEAD PHILLIPS SHEET METAL SCREW	3
224	65-9-128-1	PAD HOLDER RING	1
225	59-9-061-1	BIG MOUTH PAD GRABBER LOCK RING	1
226	64-9-200-1	20" LUSTER LITE BURNISH PAD (BULK)	1
227	59-9-060-1	BIG MOUTH PAD GRABBER ASSEMBLY	1
228	91-2-098-0	1/4-20 X 1 SOCKET HEAD CAP SCREW	3
229	91-2-088-0	1/4 SPLIT LOCK WASHER	3
230	91-2-095-0	1/4 X 1 1/4 FENDER WASHER	3
231	57-9-609-9	PAPER BAG - 6 PACK	1
232	91-2-164-0	5/16-18 X 3/4 HEX BOLT	6
233	91-2-152-0	5/16 SPLIT LOCK WASHER	6
234	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	6

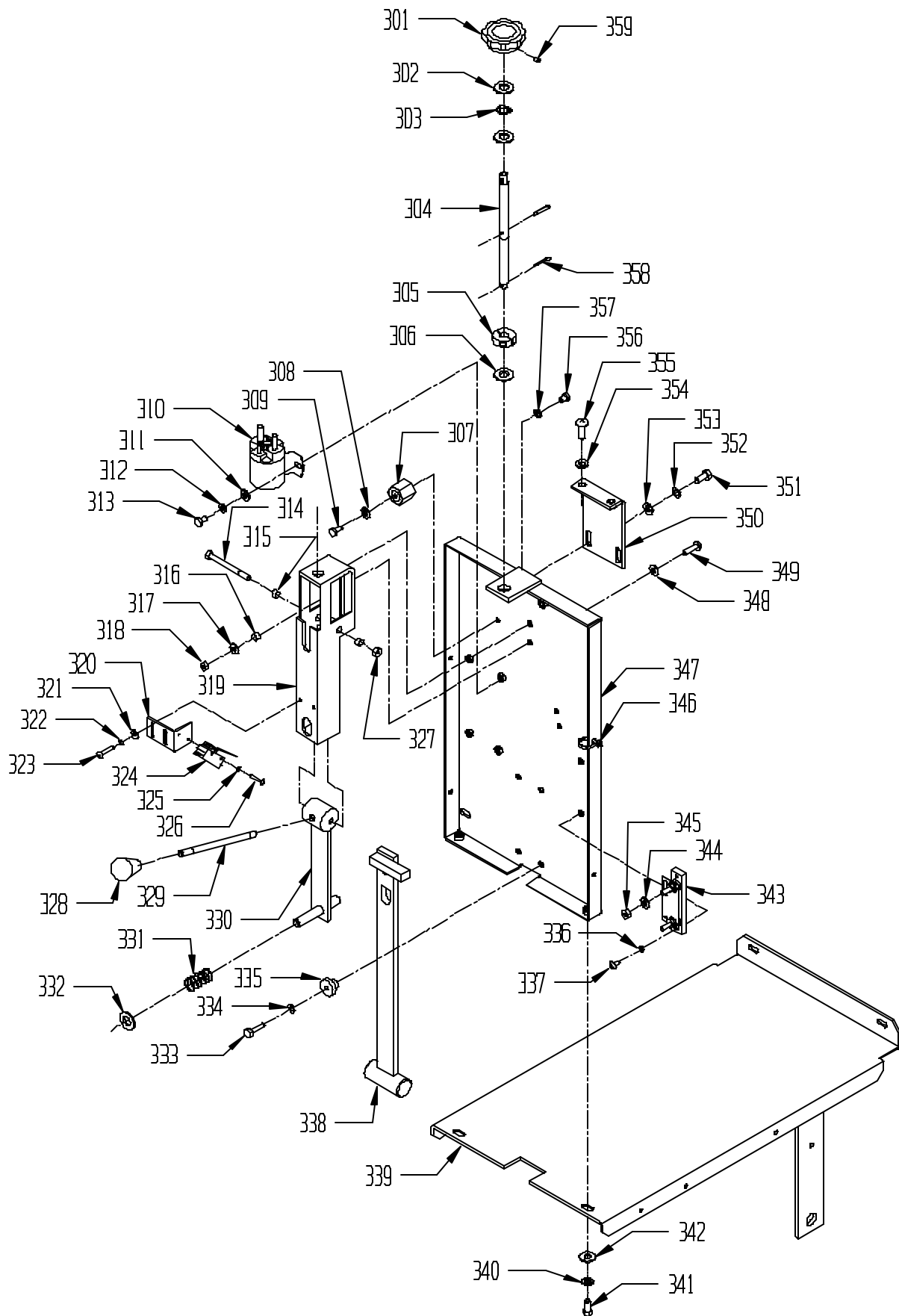
SHIELD AND PAD DRIVER ASSEMBLY



CONTROL FRAME ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY.
301	44-9-052-1	LOAD ADJUST KNOB (INCLUDES SET SCREW)	1
302	91-2-245-0	17/32 I.D. X 1 1/16 O.D. X .074/.121 THICK SAE FLAT WASHER (1/2)	2
303	52-9-457-1	1/2" BOWED WASHER	1
304	64-9-061-1	ADJUSTMENT ROD	1
305	64-9-062-1	ADJUSTMENT ROD COLLAR	1
306	91-2-218-0	13/32 I.D. X 13/16 O.D. X .051/.080 THICK SAE FLAT WASHER (3/8)	1
307	44-9-056-1	INSULATED STANDOFF	1
308	91-2-097-1	1/4 EXTERNAL STAR LOCK WASHER	1
309	91-2-121-0	1/4-20 X 5/8 HEX BOLT	1
310	44-9-101-1	SOLENOID, 36 VOLT - 2500 BP	1
	64-9-147-1	SOLENOID, 24 VOLT - 2300 BP	1
311	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	2
312	91-2-088-0	1/4 SPLIT LOCK WASHER	2
313	91-2-117-0	1/4-20 X 1/2 HEX BOLT	2
314	44-9-092-1	1/4-20 X 2 1/2 HEX BOLT GR.8	1
315	27-9-128-6	BUSHING SPACER	2
316	27-9-128-6	BUSHING SPACER	2
317	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	2
318	91-2-090-0	1/4-20 HEX NUT WITH NY-LOK INSERT	2
319	64-9-060-1	ADJUSTMENT BRACKET WELDMENT	1
320	44-9-532-6	SWITCH BRACKET	1
321	91-2-037-0	7/32 I.D. X 1/2 O.D. X .032/.065 THICK SAE FLAT WASHER (10)	2
322	91-2-032-0	10 SPLIT LOCK WASHER	2
323	91-2-046-0	10-24 X 1 1/4 ROUND HEAD PHILLIPS MACHINE SCREW	2
324	44-9-107-1	SNAP SWITCH	1
325	91-2-013-0	6 EXTERNAL STAR LOCK WASHER	2
326	91-2-009-0	6-32 X 7/8 PAN HEAD PHILLIPS MACHINE SCREW	2
327	91-2-090-0	1/4-20 HEX NUT WITH NY-LOK INSERT	2
328	44-9-060-1	KNOB, RAISE/LOWER ROD	1
329	64-9-010-1	LATCH HANDLE	1
330	64-9-009-3	LATCH ASSEMBLY	1
331	44-9-063-1	COMPRESSION SPRING	1
332	91-2-245-0	17/32 I.D. X 1 1/16 O.D. X .074/.121 THICK SAE FLAT WASHER (1/2)	2
333	91-2-127-0	1/4-20 X 1 HEX BOLT	4
334	91-2-088-0	1/4 SPLIT LOCK WASHER	4
335	44-9-535-6	SPACER GUIDE	4
336	91-2-032-0	10 SPLIT LOCK WASHER	2
337	91-2-041-0	10-24 X 1/2 ROUND HEAD PHILLIPS MACHINE SCREW	2
338	64-9-070-1	CATCH ASSEMBLY	1
339	64-9-078-3	BASE ASSEMBLY	1
340	91-2-152-0	5/16 SPLIT LOCK WASHER	2
341	91-2-164-0	5/16-18 X 3/4 HEX BOLT	2
342	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
343	44-9-103-1	SHUNT	1
344	91-2-097-1	1/4 EXTERNAL STAR LOCK WASHER	2
345	91-2-092-0	1/4-20 HEX NUT	2
346	27-9-267-1	WIRE TIE 5 1/2" LONG	4
347	64-9-111-3	CONTROL FRAME WELDMENT	1
348	91-2-097-1	1/4 EXTERNAL STAR LOCK WASHER	2
349	91-2-127-0	1/4-20 X 1 HEX BOLT	2
350	44-9-280-3	TOP SUPPORT BRACKET	1
351	91-2-164-0	5/16-18 X 3/4 HEX BOLT	2
352	91-2-152-0	5/16 SPLIT LOCK WASHER	2
353	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
354	91-2-140-0	3/8 I.D. X 7/8 O.D. X .064/.104 THICK WROUGHT WASHER (5/16)	2
355	91-2-148-0	5/16-18 X 1 ROUND HEAD PHILLIPS MACHINE SCREW	2
356	91-2-116-0	1/4-20 X 3/8 HEX BOLT	1
357	91-2-088-0	1/4 SPLIT LOCK WASHER	4
358	52-9-479-1	COTTER PIN 1/8 X 3/4	2
359	-----	10-32 X 1/2 SET SCREW	1

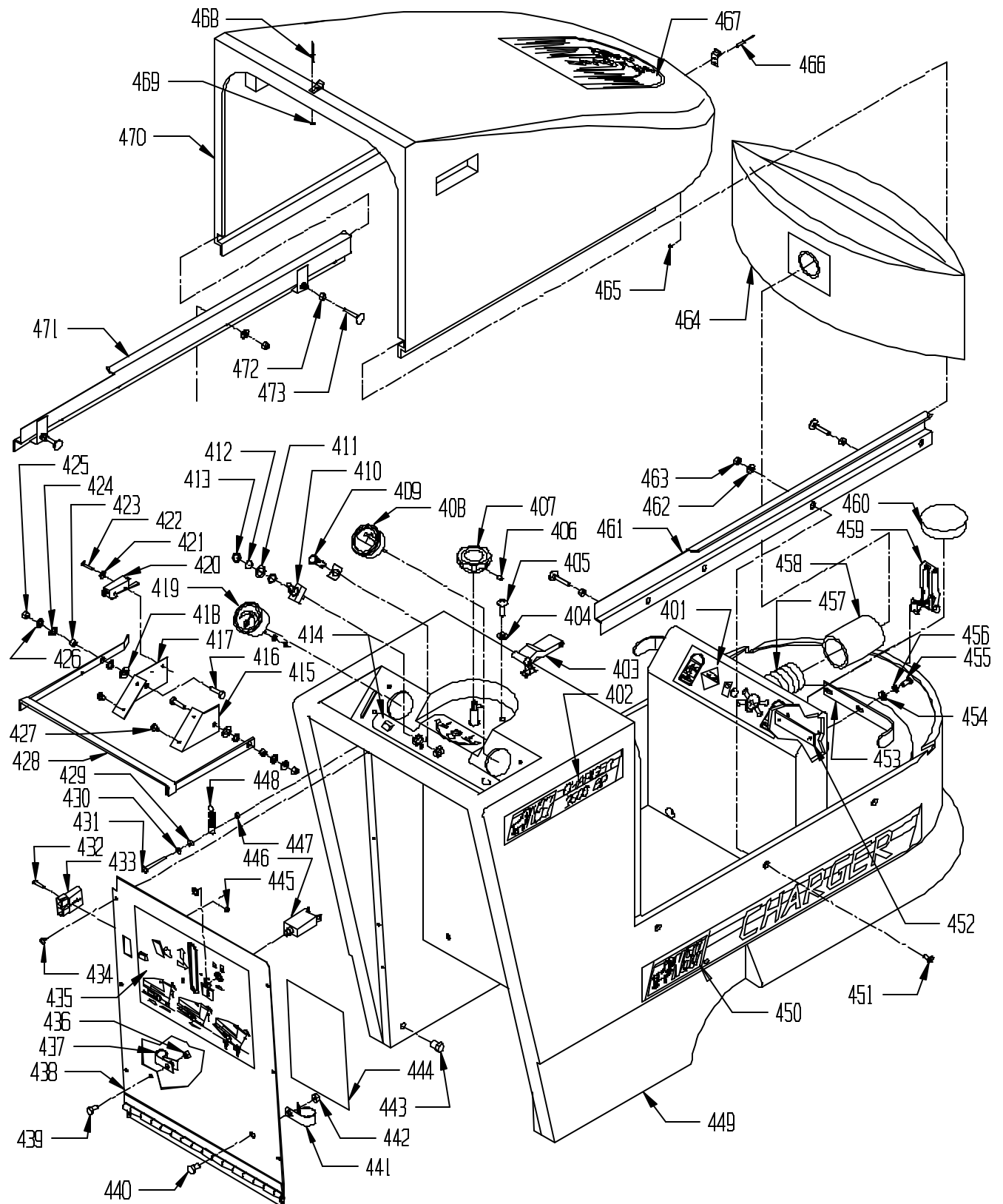
CONTROL FRAME ASSEMBLY



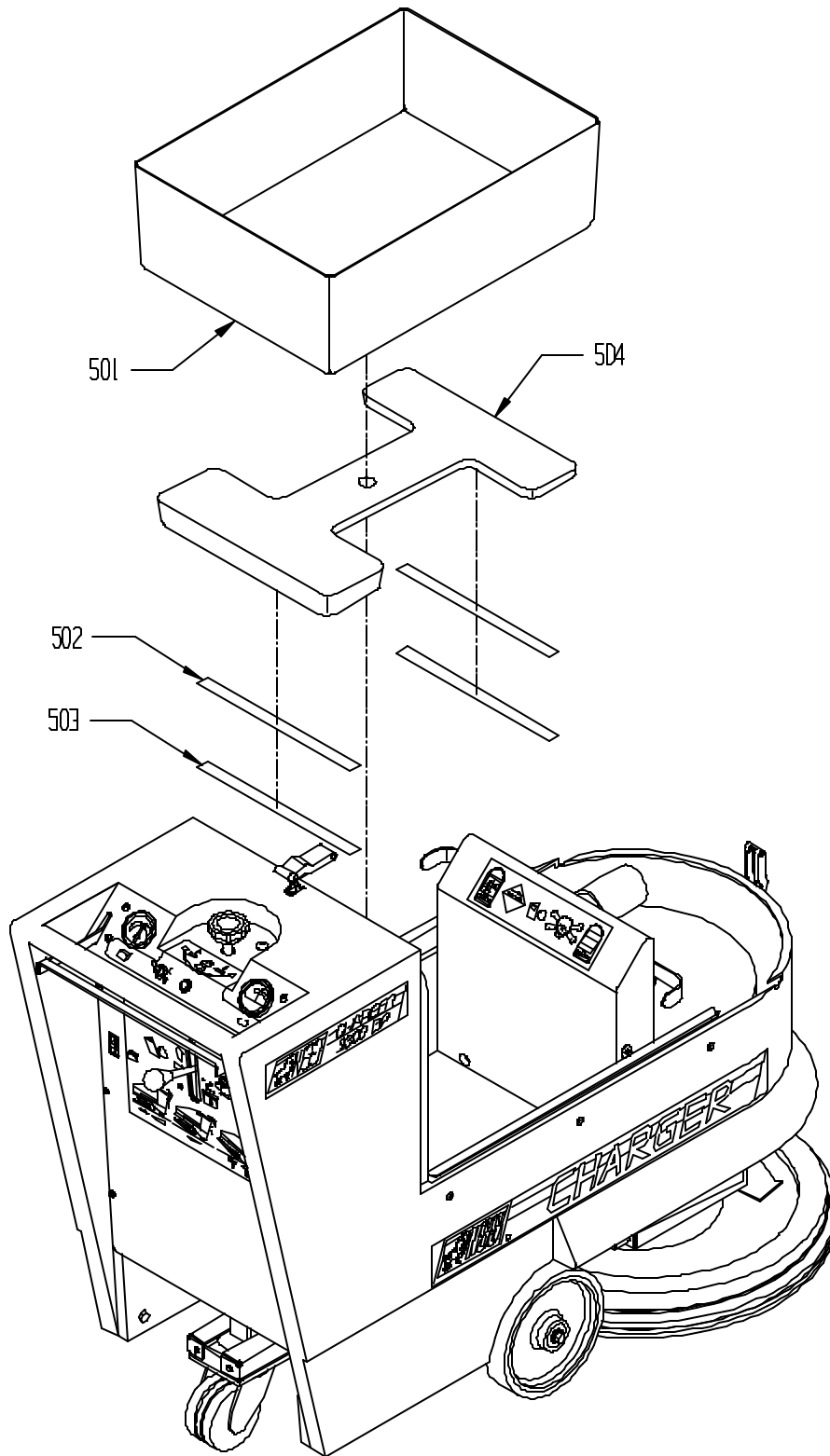
HOUSING ASSEMBLY

ITEM	PART NO	DESCRIPTION	QTY
401	64-9-176-1	BATTERY WARNING LABEL	1
402	64-9-034-1	SIDE DECAL - 2500 BP	2
	64-9-103-1	SIDE DECAL - 2300 BP	2
403	64-9-117-1	SOFT DRAW LATCH WITH CONCEALED KEEPER	1
404	91-2-140-0	3/8 I.D. X 7/8 O.D. X .064/.104 THICK WROUGHT WASHER (5/16)	2
405	91-2-148-0	5/16-18 X 1 ROUND HEAD PHILLIPS MACHINE SCREW	2
406		10-32 X 1/2 SET SCREW	1
407	44-9-052-1	LOAD ADJUST KNOB (INCLUDES SET SCREW)	1
408	44-9-104-1	AMP METER	1
409	44-9-109-1	INDICATOR LIGHT - RED LENS / 48 VDC - 2500 BP	1
	24-9-048-1	INDICATOR LIGHT - GREEN LENS / 24 VDC - 2300 BP	1
410	44-9-110-1	TOGGLE SWITCH, MOTOR	1
411	10-9-987-1	STAINLESS FLAT WASHER	1
412	06-9-185-1	LOCK WASHER	1
413	07-9-882-1	5/8 HEX NUT	1
414	64-9-029-1	DASH PANEL DECAL	1
415	44-9-290-1	SWITCH PLATE - RIGHT	1
416	91-2-127-0	1/4-20 X 1 HEX BOLT	2
417	44-9-288-1	SWITCH PLATE - LEFT	1
418	91-2-218-0	13/32 I.D. X 13/16 O.D. X .051/.080 THICK SAE FLAT WASHER (3/8)	2
419	44-9-105-1	BATTERY METER 36 V - 2500 BP	1
	23-9-139-1	BATTERY METER 24 V - 2300 BP	1
420	44-9-107-1	SNAP SWITCH	1
421	91-2-004-0	6 INTERNAL STAR LOCK WASHER	2
422	91-2-009-0	6-32 X 7/8 PAN HEAD PHILLIPS MACHINE SCREW	2
423	27-9-128-6	BUSHING SPACER	2
424	44-9-062-1	3/8 SPRING WASHER	4
425	91-2-090-0	1/4-20 HEX NUT WITH NY-LOK INSERT	2
426	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	2
427	91-2-051-0	10-24 X 1/2 TRUSS HEAD PHILLIPS MACHINE SCREW	4
428	44-9-304-6	HANDLE	1
429	91-2-036-0	10-24 HEX NUT WITH STAR LOCK WASHER	1
430	91-2-037-0	7/32 I.D. X 1/2 O.D. X .032/.065 THICK SAE FLAT WASHER (10)	1
431	91-2-048-0	10-24 X 1 3/4 ROUND HEAD PHILLIPS MACHINE SCREW	1
432	91-2-009-0	6-32 X 7/8 PAN HEAD PHILLIPS MACHINE SCREW	2
433	44-9-190-1	CHARGER PLUG ONLY - GRAY 36 V - 2500 BP	1
	64-9-082-1	WIRE ASSEMBLY, ANDERSON TO SOL./STANDOFF 36 V	1
	23-9-209-1	CHARGER PLUG ONLY - RED 24 V - 2300 BP	1
	64-9-102-1	WIRE ASSEMBLY, ANDERSON TO SOL./STANDOFF - 24 V	1
434	91-2-079-0	10 X 5/8 PAN HEAD PHILLIPS SHEET METAL SCREW	8
435	64-9-109-1	LABEL PAD POSITION	1
436	91-2-090-1	1/4-20 HEX NUT WITH NY-LOK INSERT	1
437	48-9-085-1	CABLE CLAMP	1
438	64-9-153-3	REAR COVER PANEL	1
439	91-2-117-0	1/4-20 X 1/2 HEX BOLT	1
440	91-2-156-1	5/16-18 X 1/2 HEX BOLT	1
441	23-9-576-1	CLAMP	1
442	91-2-145-0	5/16-18 HEX NUT WITH NY-LOK INSERT	1
443	64-9-095-1	1/4 MIPT PLUG	2
444	64-9-189-1	WIRING DIAGRAM DECAL	1
445	91-2-002-0	6-32 HEX NUT WITH STAR LOCK WASHER	2
446	44-9-070-1	CIRCUIT BREAKER - 70 AMP/ETA - 2500 BP	1
	64-9-126-1	CIRCUIT BREAKER - 90 AMP - 2300 BP	1
447	91-2-035-0	10-24 HEX NUT WITH NY-LOK INSERT	1
448	44-9-064-1	EXTENSION SPRING	1
449	64-9-001-1	HOUSING WITH SLIDE RAILS	1
450	64-9-101-1	SIDE DECAL - LONG	2
451	91-2-103-7	1/4-20 X 5/8 FLAT HEAD PHILLIPS HEAD PHILLIPS MACHINE SCREW	6
452	64-9-121-1	TAPPING PLATE	2
453	64-9-119-3	HOOD STOP / SUPPORT BRACKET	2
454	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	4
455	91-2-127-0	1/4-20 X 1 HEX BOLT	4
456	91-2-088-0	1/4 SPLIT LOCK WASHER	4
457	44-9-554-1	HOSE 2" DIA. X 3 FT. LONG	1
458	44-9-553-1	END CUFF - 2"	1
459	64-9-117-1	SOFT DRAW LATCH WITH CONCEALED KEEPER	1
460	64-9-079-1	PLUG, 3"	1
461	64-9-113-1	SLIDE RAIL, RIGHT	1
462	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	6
463	91-2-090-0	1/4-20 HEX NUT WITH NY-LOK INSERT	6
464	57-9-609-9	PAPER BAG - 6 PACK	1
465	59-9-032-1	WASHER, 5/32 I.D. STEEL	4
466	59-9-031-1	POP RIVET, 5/32 I.D.	4
467	64-9-035-1	HOOD DECAL	1
468	59-9-031-1	POP RIVET, 5/32 I.D.	4
469	59-9-032-1	WASHER, 5/32 I.D. STEEL	4
470	64-9-074-1	HOUSING, HOOD ONLY	1
471	64-9-114-1	SLIDE RAIL, LEFT	1
472	91-2-092-0	1/4-20 HEX NUT	4
473	91-2-103-9	1/4-20 X 1 1/2 ELEVATOR BOLT - ZINC PLATED	4

HOUSING ASSEMBLY

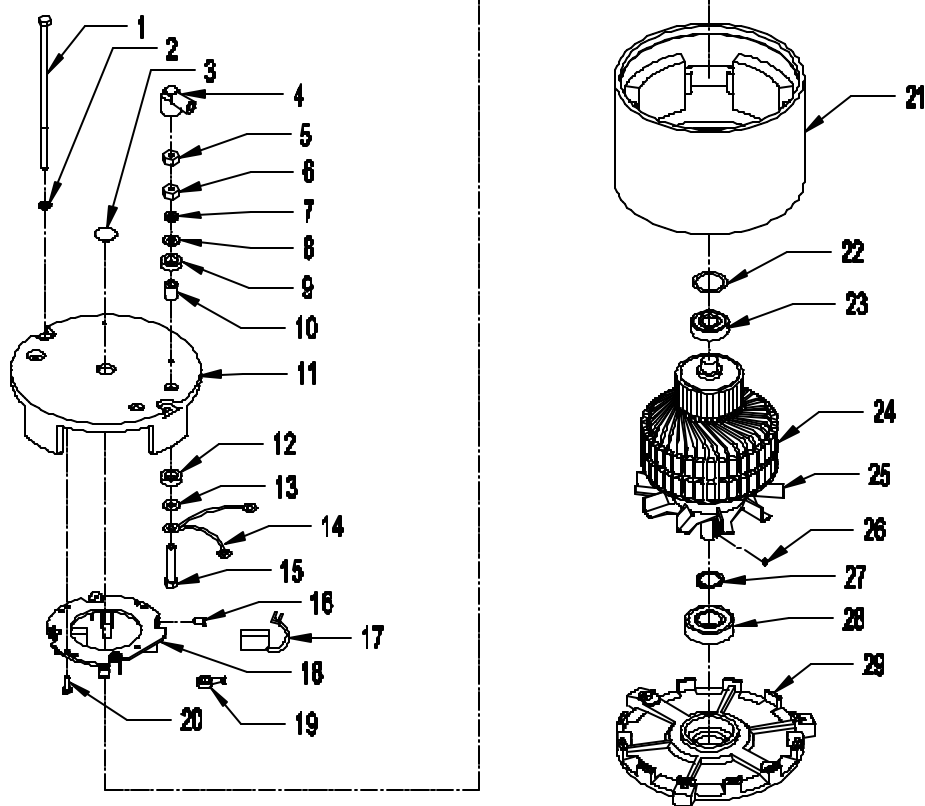


WEIGHT ASSEMBLY - CHARGER 2300



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
501	64-9-130-1	BATTERY BOX	1
502	99-9-755-0	VELCRO HOOK, P.S.	13"
503	99-9-756-0	VELCRO LOOP, P.S.	13"
504	23-9-196-3	WEIGHT	1

MOTOR

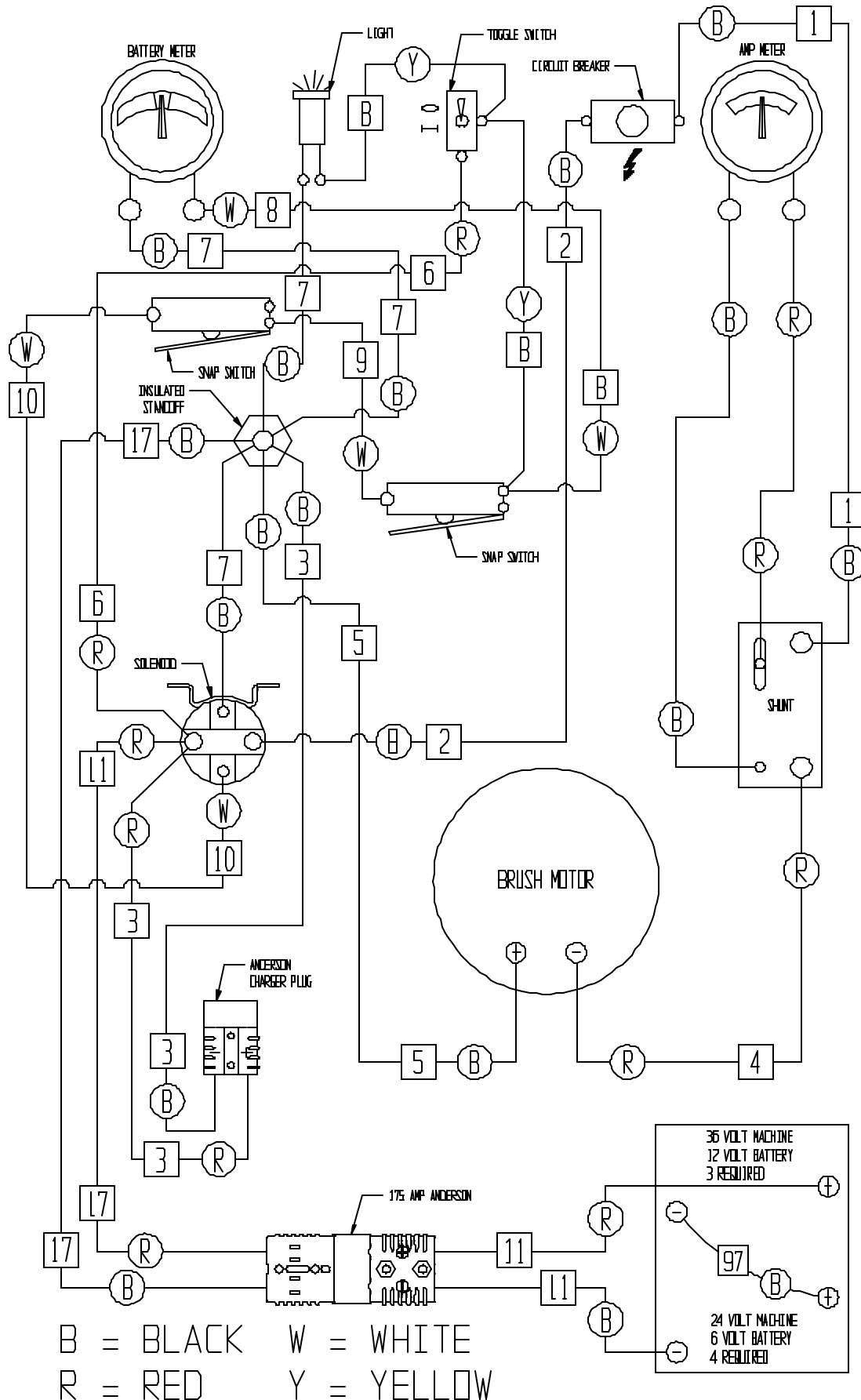


ITEM	PART NO.	DESCRIPTION	QTY
1	44-9-161-1	THRU BOLT - 2500 BP	2
	64-9-195-1	1/4-20 X 7 3/4 HEX HEAD BOLT - 2300 BP	2
2	91-2-088-0	1/4 SPLIT LOCK WASHER	2
3		PLUG (NOT AVAILABLE)	1
4	44-9-158-1	RUBBER BOOT	2
5	44-9-162-1	5/16-18 THIN HEX NUT, BRASS	2
6	44-9-163-1	5/16-18 HEX NUT, BRASS	2
7	91-2-152-0	5/16 SPLIT LOCK WASHER	2
8	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
9	44-9-164-1	INSULATION WASHER	2
10	44-9-165-1	INSULATION SPACER	2
11	44-9-166-1	TOP END BELL	1
12	44-9-164-1	INSULATION WASHER	2
13	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
14		LEAD HARNESS ASSEMBLY	2
15	44-9-167-1	5/16-18 X 1 3/4 HEX BOLT, BRASS	2
16		10-32 X 3/8 SCREW, BRASS BINDING HEAD	4
17	44-9-169-1	CARBON BRUSH - 2500 BP	4
	64-9-197-1	CARBON BRUSH - 2300 BP	4
18	44-9-168-1	BRUSH RING ASSEMBLY - 2500 BP	1
	64-9-196-1	BRUSH RING ASSEMBLY - 2300 BP	1
19	44-9-170-1	BRUSH SPRING	4
20		10-32 X 3/8 HEX HEAD SCREW	2
21	44-9-171-1	FRAME WITH MAGNETS - 2500 BP	1
	64-9-198-1	FRAME WITH MAGNETS -2300 BP	1
22	53-9-344-1	THRUST WASHER	1
23	50-9-204-1	TOP BEARING	1
24	64-9-194-1	COMPLETE ARMATURE ASSEMBLY - 2500 BP	1
	64-9-199-1	COMPLETE ARMATURE ASSEMBLY - 2300 BP	1
25	44-9-173-1	VENT FAN	1
26	44-9-289-1	KEY	1
27	44-9-175-1	RETAINING RING	1
28	44-9-084-1	BOTTOM BEARING	1
29	44-9-174-1	BOTTOM END BELL	1

WIRING DIAGRAM

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
	64-9-080-1	WIRE ASSEMBLY, BREAKER TO SHUNT	1
2	64-9-081-1	WIRE ASSEMBLY, SOLENOID TO BREAKER	1
3	64-9-082-1	WIRE ASSEMBLY, ANDERSON TO SOLENOID / STANDOFF 36 V	1
	64-9-102-1	WIRE ASSEMBLY, ANDERSON TO SOLENOID / STANDOFF 24 V	1
4	64-9-083-1	WIRE ASSEMBLY, SHUNT TO MOTOR	1
5	64-9-084-1	WIRE ASSEMBLY, MOTOR TO STANDOFF	1
6	64-9-085-1	WIRE ASSEMBLY, SOLENOID TO MAIN SWITCH	1
7	64-9-086-1	WIRE ASSEMBLY, SOLENOID/LIGHT/VOLT METER TO STANDOFF	1
8	64-9-087-1	WIRE ASSEMBLY, SAFETY SWITCH TO VOLT METER / MAIN SWITCH TO LIGHT	1
9	64-9-088-1	WIRE ASSEMBLY, HANDLE SWITCH TO SAFETY SWITCH	1
10	64-9-089-1	WIRE ASSEMBLY, SOLENOID TO HANDLE SWITCH	1
11	64-9-182-1	WIRE ASSEMBLY, ANDERSON TO POS./NEG. BATTERY 36 V	1
	64-9-177-1	WIRE ASSEMBLY, ANDERSON TO POS./NEG. BATTERY 24 V	1
17	64-9-183-1	WIRE ASSEMBLY, ANDERSON TO SOLENOID/STANDOFF 36 V	1
	64-9-178-1	WIRE ASSEMBLY, ANDERSON TO SOLENOID/STANDOFF 24 V	1
97	23-9-198-1	BATTERY JUMPER 3/8" RING #97 (3 REQUIRED FOR 24 V - 2300)	2
-	27-9-267-1	WIRE TIE, 5 1/2" LONG	6
-	27-9-573-1	HOUR METER	1
-	44-9-056-1	INSULATED STANDOFF	1
-	44-9-070-1	CIRCUIT BREAKER - 70 AMP/ETA - 2500 BP	1
-	64-9-126-1	CIRCUIT BREAKER - 90 AMP/ETA - 2300 BP	1
-	44-9-101-1	SOLENOID, 36 VOLT - 2500 BP	1
-	64-9-147-1	SOLENOID, 24 VOLT - 2300 BP	1
-	44-9-103-1	SHUNT	1
-	44-9-104-1	AMP METER	1
-	44-9-105-1	BATTERY METER 36 V - 2500 BP	1
-	23-9-139-1	BATTERY METER 24 V - 2300 BP	1
-	44-9-106-1	BATTERY, 185 AMP/HR, 12 VOLT - 2500 BP	3
-	33-9-036-1	BATTERY, 220 AMP/HR, 6 VOLT - 2300 BP	4
-	44-9-107-1	SNAP SWITCH	2
-	44-9-109-1	INDICATOR LIGHT - RED LENS / 48 VDC - 2500 BP	1
-	24-9-048-1	INDICATOR LIGHT - GREEN LENS / 24 VDC - 2300 BP	1
-	44-9-110-1	TOGGLE SWITCH, MOTOR	1
-	44-9-190-1	CHARGER PLUG ONLY - GRAY 36 V - 2500 BP	1
-	23-9-209-1	CHARGER PLUG ONLY - RED 24 V - 2300 BP	1
-	64-9-068-1	MOTOR 36 VOLT - 2500 BP	1
-	64-9-148-1	MOTOR 24 VOLT - 2300 BP	1
-	64-9-184-1	175 AMP ANDERSON W/CONTACTS GRAY 36 V	2
-	64-9-188-1	175 AMP ANDERSON W/CONTACTS RED 24 V	2

WIRING DIAGRAM



WIRING DIAGRAM

PROBLEM	CAUSE	SOLUTION
Pad Does Not Turn	Low Battery Charge. Loose Battery Cable. Circuit Breaker Has Tripped. Worn Motor Carbon Brushes. Pad Load Adjustment Knob. Out Of Adjustment. Microswitch Not Engaged.	Recharge Batteries. Tighten & Clamp battery Cables. Reduce Pad Pressure/Change Pad Reset Breaker. Change Carbon Brushes. Adjust Knob Until Motor Will Turn On. Adjust Mounting Bracket.
Machine Pushes Hard	Worn Wheel Or Caster.	Grease Wheels Or Replace.
Uneven Floor Buffing	Worn Pad. Motor out of Alignment.	Change pad. Call NSS Service Center For Repair.
Machine Vibrates	Pad Is Torn Or Not Centered.	Center pad. Change Pad. Use Correct Pad. Check Pad Driver For Damage & Replace If Necessary.
Circuit Breaker Trips	Pad Pressure Too Heavy. Spray Buffing. Pad Rubbing On Flexiwall Shield	Reduce Pad Pressure. Run Machine In Green Area of AMP Meter. Do Not Spray With Charger 2300BP/2500BP. Realign Pad On Driver Or Replace with new pad. Check Pad size.
Short Running Time On Battery Charge	Dead Cell In Battery Excessive Pad Pressure. Incorrect Pad.	Test Batteries And Replace. Reduce Pad Pressure. Use NSS Pads Or Recommended Equivalent.
Battery Charger Does Not Turn On	Connection Not Made Between Battery Charger And Machine Improper Charger Sequence.	Check Anderson Connectors For Proper Contact On Both Charger And Machine. Read Instructions On Battery Charger Or In Instruction Manual.



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