



Electronic Service Manuals

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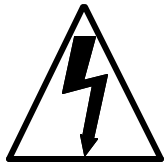
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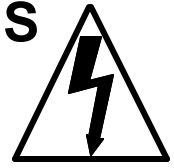
Serving the Cleaning Industry Since 1922

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WRANGLER 20 B



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.

- * **NEVER** attempt to operate this machine unless you have been trained in its operation.
- * **NEVER** allow an untrained person to operate this machine.
- * Use this machine **ONLY** as described in this manual.
- * **NEVER** attempt to operate this machine if it is not working properly or has been damaged in any manner.
- * **NEVER** disconnect or modify any switch or safety device (circuit breaker) on this machine.
- * **ALWAYS** operate this machine from the rear control panel, not from the side.
- * **NEVER** drop or insert any object into any machine opening.
- * **ALWAYS** keep face, fingers, hair or any body part, or loose clothing away from any machine opening or moving part (revolving brush, pad driver, or vacuum motor).
- * **NEVER** operate this machine with any air opening blocked. Keep all air openings free of dust, lint, hair etc.
- * **NEVER** spray this machine with water or any liquids.
- * **NEVER** allow the vacuum motor or battery charging plug to get wet. The vacuum motor and battery charging plug will short out if wet.
- * **NEVER** operate this machine when battery charger is plugged in.
- * **NEVER** operate this machine in an explosive atmosphere (grain dust, flammable liquids or fumes).
- * **NEVER** use flammable liquids (gas, kerosene, solvents or thinners) to clean floor.
- * **ALWAYS** turn the brush switch **OFF** when attaching pads or brushes.
- * **NEVER** operate this machine with the splash skirt removed.
- * **NEVER** leave this machine unattended.
- * **ALWAYS** store this machine indoors in a dry, cool area.

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:

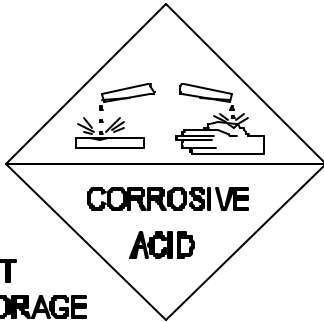
- * **ALWAYS** be sure that the ramp is secured to the vehicle before attempting to load / unload.
- * **ALWAYS** use extreme caution when operating this machine on a ramp or loading / unloading this machine into or out of a truck. Use extreme caution if the ramp is wet, oily or covered with cleaning 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 or operate this machine on a ramp or incline of more than 20 degrees.
- * **NEVER** park or store this machine near a dock, on ramps, near a furnace, boiler, open flame, or other high heat source.
- * **NEVER** allow this machine to freeze.
- * **NEVER** store any items on this machine.

ALL repair service must be performed by an NSS authorized distributor/service station. Use only NSS original equipment parts.

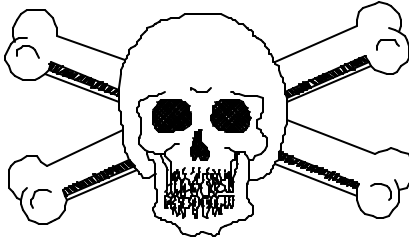
SAVE THESE INSTRUCTIONS



BATTERY INSTALLATION INSTRUCTIONS



**WET
STORAGE
BATTERY**



**POISON/DANGER
CAUSES SEVERE BURNS**

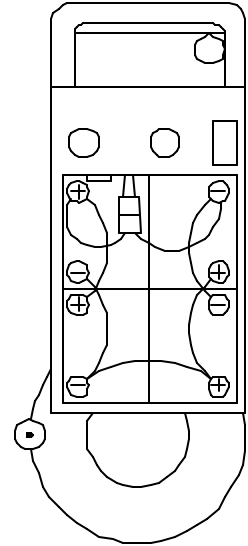
**READ BEFORE INSTALLING OR SERVICING
BATTERIES TO PREVENT PERSONAL INJURY.**

- * **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 done only by authorized, trained personnel.
- * Charge batteries in a well ventilated area with the battery compartment opened by raising the recovery tank.
- * **Batteries generate explosive gases - keep sparks, flames, burning cigarettes, or other ignition sources away at all times.**
- * 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 into position as shown on the battery installation decal.
- * Connect the batteries as shown on the battery installation decal to avoid shorting out the batteries and the electrical system.
- * Disconnect the battery leads before performing any service or repairs.
- * **ALWAYS** make sure the battery charger is turned off when connecting / disconnecting to machine to prevent sparking.

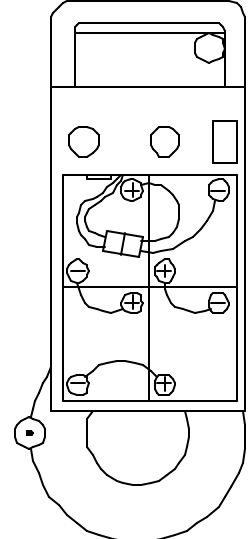
STORAGE

- * **ALWAYS** store machine indoors in a dry, cool area.
- * **ALWAYS** empty and rinse clean the solution and recovery tanks after every use.
- * **ALWAYS** remove and clean the squeegee assembly after every use.
- * **ALWAYS** remove the pad driver or brush after every use.
- * **NEVER** store machine near furnaces, boilers or open flames which may damage machine.
- * **NEVER** store any item on the machine.
- * **ALWAYS** protect the machine from freezing temperatures.

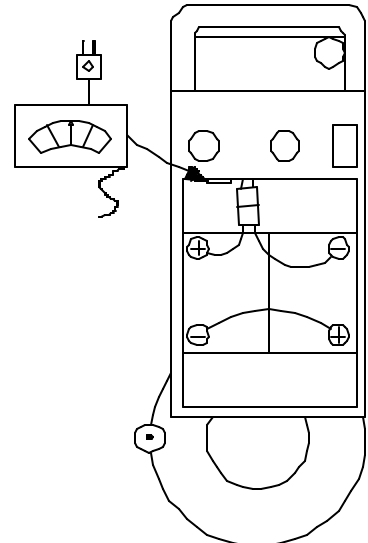
4 X 12 VOLT



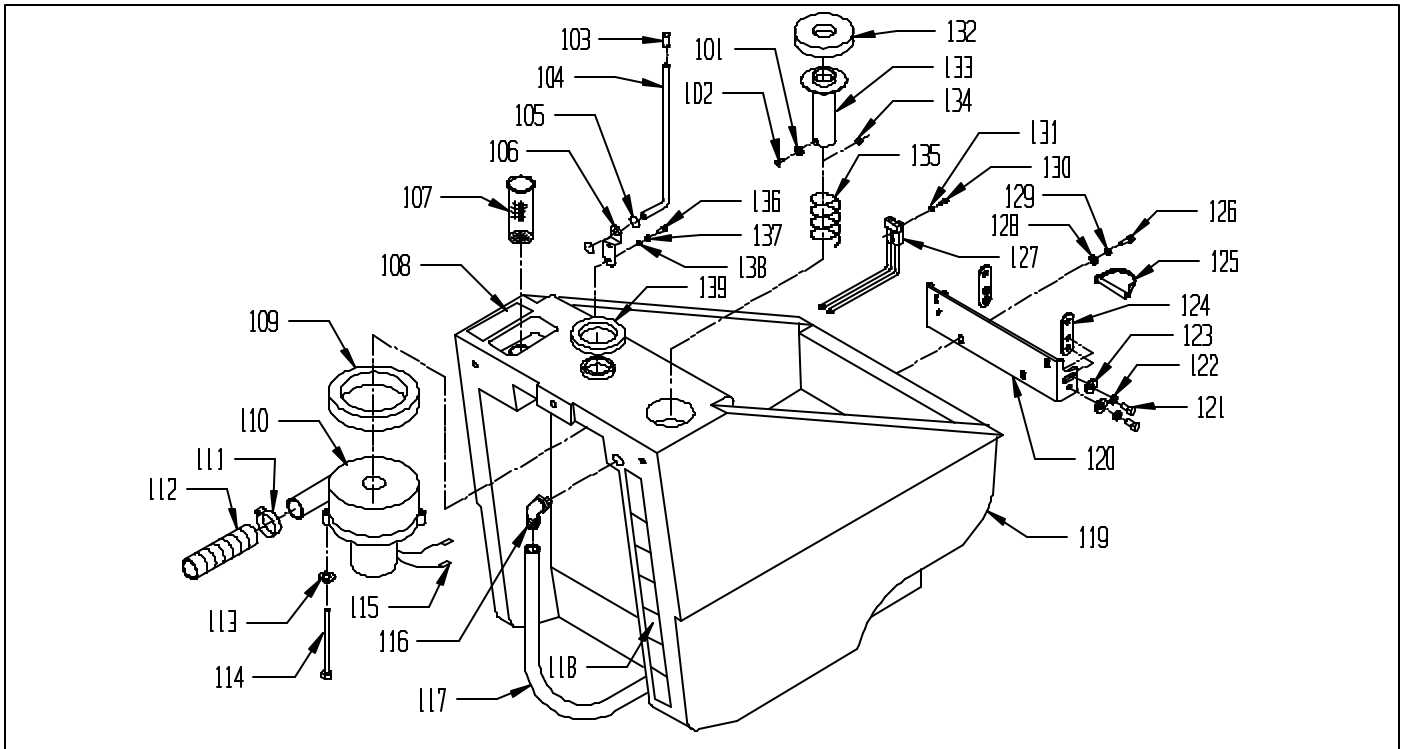
4 X 6 VOLT



2 X 12 VOLT



SOLUTION TANK

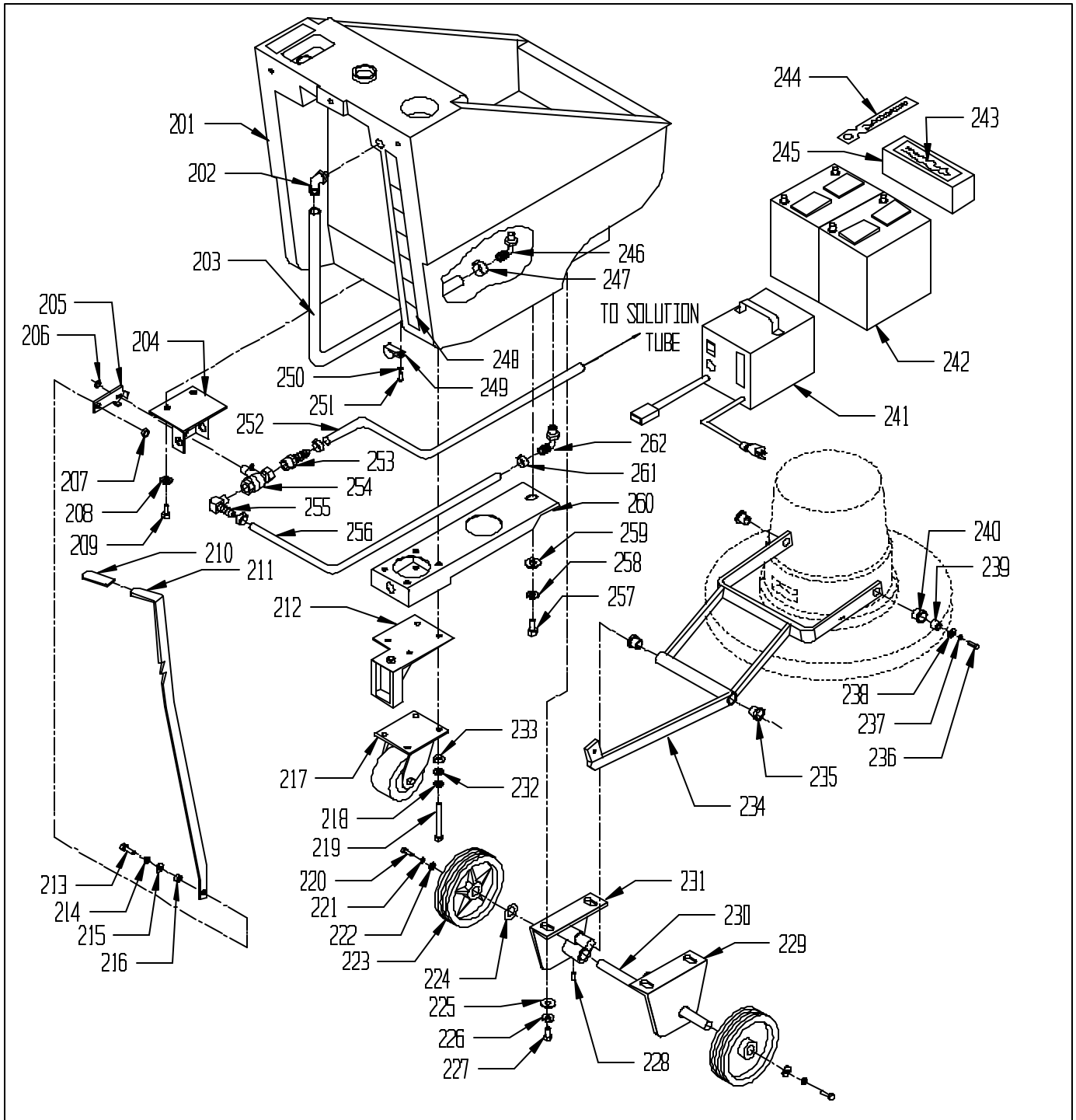


ITEM	PART NO.	DESCRIPTION	QTY
101	91-2-032-0	#10 SPLIT LOCK WASHER	1
102	91-2-038-0	10-24 X 3/8 ROUND HEAD PHILLIPS MACHINE SCREW	1
103	50-9-253-1	SOLUTION FEED TUBE CAP	1
104	23-9-163-6	HOOD ROD	1
105	23-9-256-1	CIRCLE COTTER PIN - #CC-7	2
106	23-9-164-6	ROD BRACKET	1
107	27-9-189-9	SOLUTION TANK, FILTER	1
	27-9-189-1	BAG, TANK SCREEN	1
	27-9-176-1	RING	1
108	23-9-217-1	CLEAN WATER TANK DECAL	1
109	46-9-010-1	VACUUM MOTOR / FLOAT GASKET	1
110	23-9-557-1	VACUUM MOTOR 24 VOLT, 3 STAGE	1
	23-9-257-1	REPLACEMENT CARBON BRUSH	2
111	44-9-544-1	HOSE CLAMP 1 9/16" - 2 1/2" DIAMETER	1
112	23-9-565-1	VACUUM MOTOR EXHAUST HOSE	1
113	91-2-088-0	1/4 SPLIT LOCK WASHER	3
114	91-2-136-0	1/4-20 X 4 HEX BOLT	3
115	54-9-017-1	1/4 MALE SPADE TERMINAL FULLY INSULATED	2
116	23-9-177-1	90 DEGREE HOSE BARB	1
117	23-9-599-7	VINYL HOSE 3/4" I.D. X 33" LONG	1
118	23-9-185-1	SOLUTION LABEL	1
119	23-9-101-1	SOLUTION TANK	1
120	23-9-594-3	LOWER HINGE BRACKET	1
	23-9-168-9	LOWER HINGE ASSEMBLY (INCL. ITEMS 120-124)	1
121	91-2-121-0	1/4-20 X 5/8 HEX BOLT	4
122	91-2-088-0	1/4 SPLIT LOCK WASHER	4
123	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	4
124	23-9-593-3	ADJUSTMENT PLATE - HINGE BRACKET	2
125	23-9-165-1	3/8 X 1 5/8 CLEVIS PIN - STEEL, ZINC PLATE (W/RETAINER)	2
126	91-2-125-0	1/4-20 X 3/4 HEX BOLT WITH NYLON PATCH	4
127	23-9-209-1	CHARGER PLUG, RED, 24V, WITH CON. PINS	1
128	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	4
129	91-2-088-0	1/4 SPLIT LOCK WASHER	4
130	91-2-008-0	6/32 X 3/4 ROUND HEAD PHILLIPS MACHINE SCREW	2
131	91-2-013-0	#6 EXTERNAL STAR LOCK WASHER	2
132	23-9-159-1	GASKET TUBE ADAPTER	1
133	23-9-157-3	TUBE ADAPTER	1
134	91-2-036-0	10-24 HEX NUT WITH STAR LOCK WASHER	1
135	23-9-158-1	SPRING, TUBE ADAPTOR	1
136	91-2-117-0	1/4-20 X 1/2 HEX BOLT	2
137	91-2-088-0	1/4 SPLIT LOCK WASHER	2
138	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	2
139	02-9-434-1	TOP MOTOR SEAL - NEOPRENE	1

WHEEL AND VALVE ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY
201	23-9-101-1	SOLUTION TANK	1
202	23-9-177-1	90 DEGREE HOSE BARB	1
203	23-9-599-7	VINYL HOSE 3/4" I.D. X 33" LONG	1
204	23-9-531-3	SOLUTION VALVE BRACKET	1
205	23-9-547-1	VALVE LEVER (SHORT)	1
206	91-2-153-1	5/16-24 HEX NUT	1
207	91-2-089-0	1/4-20 THIN HEX NUT WITH NY-LOK INSERT	1
208	91-2-152-0	5/16 SPLIT LOCK WASHER	2
209	91-2-164-0	5/16-18 X 3/4 HEX BOLT	2
210	23-9-118-1	VALVE LEVER GRIP	1
211	26-9-028-3	SOLUTION VALVE LEVER	1
212	23-9-574-3	SQUEEGEE MOUNT BRACKET	1
213	91-2-125-0	1/4-20 X 3/4 HEX BOLT WITH NYLON PATCH	1
214	91-2-088-0	1/4 SPLIT LOCK WASHER	1
215	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	1
216	27-9-128-6	BUSHING SPACER	1
217	26-9-258-1	4" SOFT GREY CASTER COMPLETE	1
	44-9-049-1	REPLACEMENT SOFT CASTER WHEEL ONLY	1
	44-9-050-1	RED WHEEL 4" CASTER COMPLETE	1
	44-9-039-1	REPLACEMENT RED CASTER WHEEL ONLY	1
218	91-2-210-0	3/8 SPLIT LOCK WASHER	4
219	91-2-235-0	3/8-16 X 3 HEX BOLT	4
220	91-2-226-0	3/8-16 X 1 HEX BOLT	2
221	91-2-210-0	3/8 SPLIT LOCK WASHER	2
222	91-2-140-0	13/32 I.D. X 13/16 O.D. X .051/.080 THICK WROUGHT WASHER (3/8)	2
223	23-9-193-1	WHEEL, 8" W/GROOVES	2
224	52-9-341-1	3/4 I.D. X 1 1/4 O.D. X .071/.082 THICK FLAT WASHER (14 GAGE)	1
225	91-2-245-0	17/32 I.D. X 1 1/16 O.D. X .074/.121 THICK SAE FLAT WASHER (1/2)	4
226	91-2-242-0	1/2 SPLIT LOCK WASHER	4
227	91-2-250-0	1/2-13 X 7/8 HEX BOLT	4
228	91-2-085-0	1/4-20 X 5/16 SET SCREW - KNURL POINT	2
229	23-9-569-3	RIGHT AXLE SUPPORT BRACKET	1
230	23-9-141-6	AXLE	1
231	23-9-570-3	LEFT AXLE SUPPORT BRACKET	1
232	91-2-198-0	7/16 I.D. X 1 O.D. X .075/.080 THICK SAE FLAT WASHER (3/8)	4
233	52-9-354-1	13/32 I.D. X 1 O.D. X .12 THICK FLAT WASHER (11 GAGE)	4
234	23-9-568-9	LIFT FORK ASSEMBLY (INCL, ITEMS 234, 235, 240)	1
	23-9-568-3	LIFT FORK	1
235	27-9-137-1	FLANGE BEARING FF-838-3	2
236	91-2-254-0	1/2-13 X 1 1/4 HEX BOLT	2
237	91-2-242-0	1/2 SPLIT LOCK WASHER	2
238	91-2-245-0	17/32 I.D. X 1 1/16 O.D. X .074/.121 THICK SAE FLAT WASHER (1/2)	2
239	27-9-075-6	BUSHING SPACER	2
240	27-9-076-1	FLANGE BEARING, FF-71	2
241	23-9-199-1	24 VOLT BATTERY CHARGER 50 HZ 240 VOLT AC	1
	23-9-201-1	24 VOLT BATTERY CHARGER 120 VOLT AC - GELL BATTERY	1
	23-9-251-1	BATTERY CHARGER 24 VOLT DC , 100 VOLT AC EXPORT ONLY	1
	23-9-294-1	24 VOLT BATTERY CHARGER 240 VOLT AC - GEL BATTERY	1
	23-9-295-1	24 VOLT 120/250, 50/60 HZ BATTERY CHARGER JOHNTEC	1
	23-9-607-1	CHARGER - 24 VOLT BATTERY, 10A, 120 VOLT	1
	23-9-608-1	CHARGER - 24 VOLT BATTERY, 25A, 120 VOLT	1
242	23-9-210-1	BATTERY (12 VOLT, 100 A.H.)	4
	23-9-211-1	BATTERY (12 VOLT, 130 A.H.)	2
	33-9-036-1	BATTERY 6 VOLT, 220 A.H.)	4
	23-9-273-1	BATTERY 12 VOLT GELL CELL)	2
	23-9-281-1	BATTERY (12 VOLT, 100 A.H.) DRY)	4
	23-9-282-1	BATTERY (12 VOLT, 130 A.H.) DRY)	2
243	23-9-246-1	BATTERY BLOCK LABEL	2
244	23-9-276-1	WARNING TAG - BATTERY TERMINAL	1
245	23-9-219-1	BATTERY BLOCK	2
246	23-9-177-1	90 DEGREE HOSE BARB	1
247	23-9-214-1	HOSE CLAMP, 11/16" TO 1 1/4" DIAMETER	1
248	23-9-185-1	SOLUTION LABEL	1
249	23-9-576-1	CLAMP, TUBE	1

WHEEL AND VALVE ASSEMBLY

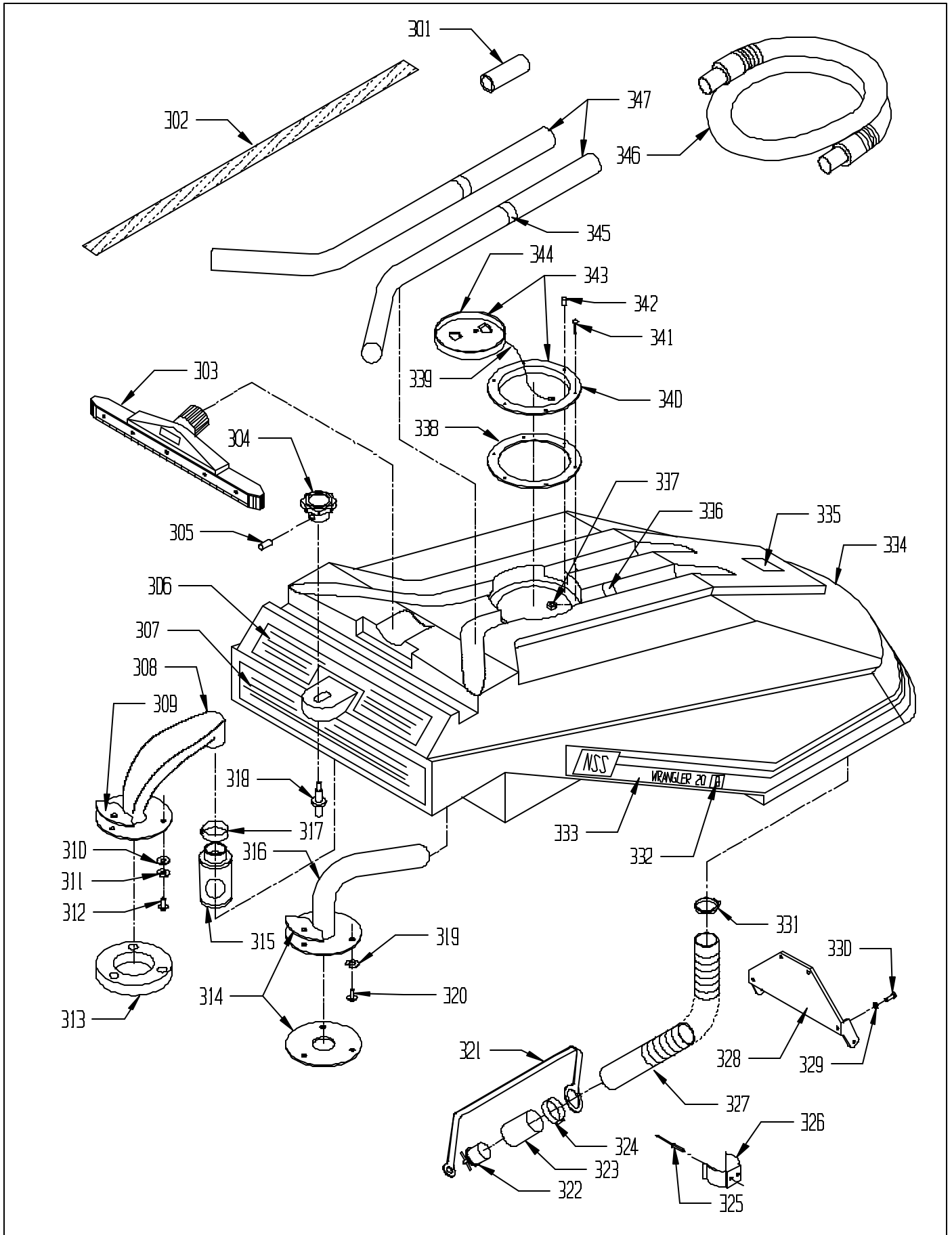


250	91-2-152-0	5/16 SPLIT LOCK WASHER	1
251	91-2-164-0	5/16-18 X 3/4 HEX BOLT	1
252	23-9-598-7	VINYL HOSE 3/8" I.D. X 23" LONG	1
253	38-9-066-1	HOSE BARB 3/8 BARB X 1/4 MNPT	1
254	13-9-153-1	SOLUTION VALVE	1
255	27-9-179-1	90 DEGREE HOSE BARB - 1/4 NPT	1
256	23-9-597-7	VINYL HOSE 3/8" I.D. X 14" LONG	1
257	91-2-250-0	1/2-13 X 7/8 HEX BOLT	1
258	91-2-242-0	1/2 SPLIT LOCK WASHER	1
259	91-2-245-0	17/32 I.D. X 1 1/16 O.D. X .074/.121 THICK SAE FLAT WASHER (1/2)	1
260	23-9-532-3	CASTER CHANNEL	1
261	23-9-248-1	HOSE CLAMP, 7/32" TO 5/8" DIAMETER	3
262	24-9-060-1	FITTING, ELL 3/8 BARB X 1/4 MNPT	1

RECOVERY TANK ASSEMBLY

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
301	22-9-121-1	5" ALUMINUM CONNECTOR	1
302	23-9-124-1	HOSE STRAP	1
303	57-9-701-1	TOOL - SQUEEGEE W/WHEELS, 15"	1
304	44-9-052-1	LOAD ADJUST KNOB	1
305	91-2-064-0	10-32 X 1/4 SET SCREW - CUP POINT	1
306	23-9-178-1	WARNING / OPERATE LABEL	1
307	23-9-566-1	TANK DRAIN LABEL	1
308	23-9-545-1	VACUUM TUBE	1
309	23-9-161-1	INLET TUBE GASKET	1
310	23-9-160-1	VACUUM TUBE GASKET	1
311	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	3
312	91-2-097-1	1/4 EXTERNAL STAR LOCK WASHER	3
313	91-2-100-0	1/4-20 X 5/8 TRUSS HEAD PHILLIPS MACHINE SCREW	3
314	23-9-161-1	INLET TUBE GASKET	2
315	23-9-154-1	FLOAT SCREEN ASSEMBLY	1
316	23-9-156-3	INLET TUBE	1
317	48-9-267-1	HOSE CLAMP, 1 1/16" TO 2" DIAMETER	1
318	23-9-162-6	STUD, HOOD KNOB	1
319	91-2-097-1	1/4 EXTERNAL STAR LOCK WASHER	3
320	91-2-100-0	1/4-20 X 5/8 TRUSS HEAD PHILLIPS MACHINE SCREW	3
321	27-9-188-1	PLUG STRAP	1
322	27-9-562-1	DRAIN PLUG	1
323	23-9-166-6	HOSE TUBE	1
324	23-9-216-1	TUBE HOSE CLAMP, CRIMP-ON TYPE	1
325	23-9-175-1	1/8" X 5/8" DOME HEAD POP RIVET - STEEL	2
326	23-9-213-1	SPRING CLIP, HOSE	1
327	23-9-167-1	DRAIN HOSE, CRUSH PROOF	1
328	23-9-169-3	UPPER HINGE	1
329	91-2-088-0	1/4 SPLIT LOCK WASHER	4
330	91-2-121-0	1/4-20 X 5/8 HEX BOLT	4
331	44-9-544-1	HOSE CLAMP, 1 9/16 - 2 1/2 DIAMETER	1
332	23-9-186-1	LABEL, B	2
333	23-9-181-1	RIGHT SIDE LABEL	1
	23-9-180-1	LEFT SIDE LABEL	1
334	23-9-544-1	RECOVERY TANK	1
335	27-9-196-1	BATTERY COVER LABEL - NSS / HORSE	1
336	23-9-587-7	VELCRO HOOK, P.S. X 2"	2
337	91-2-036-0	10-24 HEX NUT WITH STAR LOCK WASHER	2
338	26-9-089-1	RECOVERY TANK LID GASKET	1
339	26-9-093-1	LID CHAIN RECOVERY TANK	1
340	26-9-092-1	LID MOUNTING RING	1
341	91-2-045-0	10-24 X 1 ROUND HEAD PHILLIPS MACHINE SCREW	1
342	91-2-079-0	10 X 5/8 PAN HEAD PHILLIPS SHEET METAL SCREW	5
343	26-9-088-1	RECOVERY TANK LID ASSEMBLY (INCL. ITEMS 339, 340, 344)	1
	26-9-088-9	RECOVERY TANK LID & GASKET ASSY. (INCL. ITEMS 338-340, 344)	1
344	26-9-091-1	CLEAR TANK LID	1
345	23-9-589-7	VELCRO LOOP, P.S. X 6"	2
346	23-9-123-1	VACUUM HOSE	1
347	57-9-033-1	WAND - 2 PC.	1

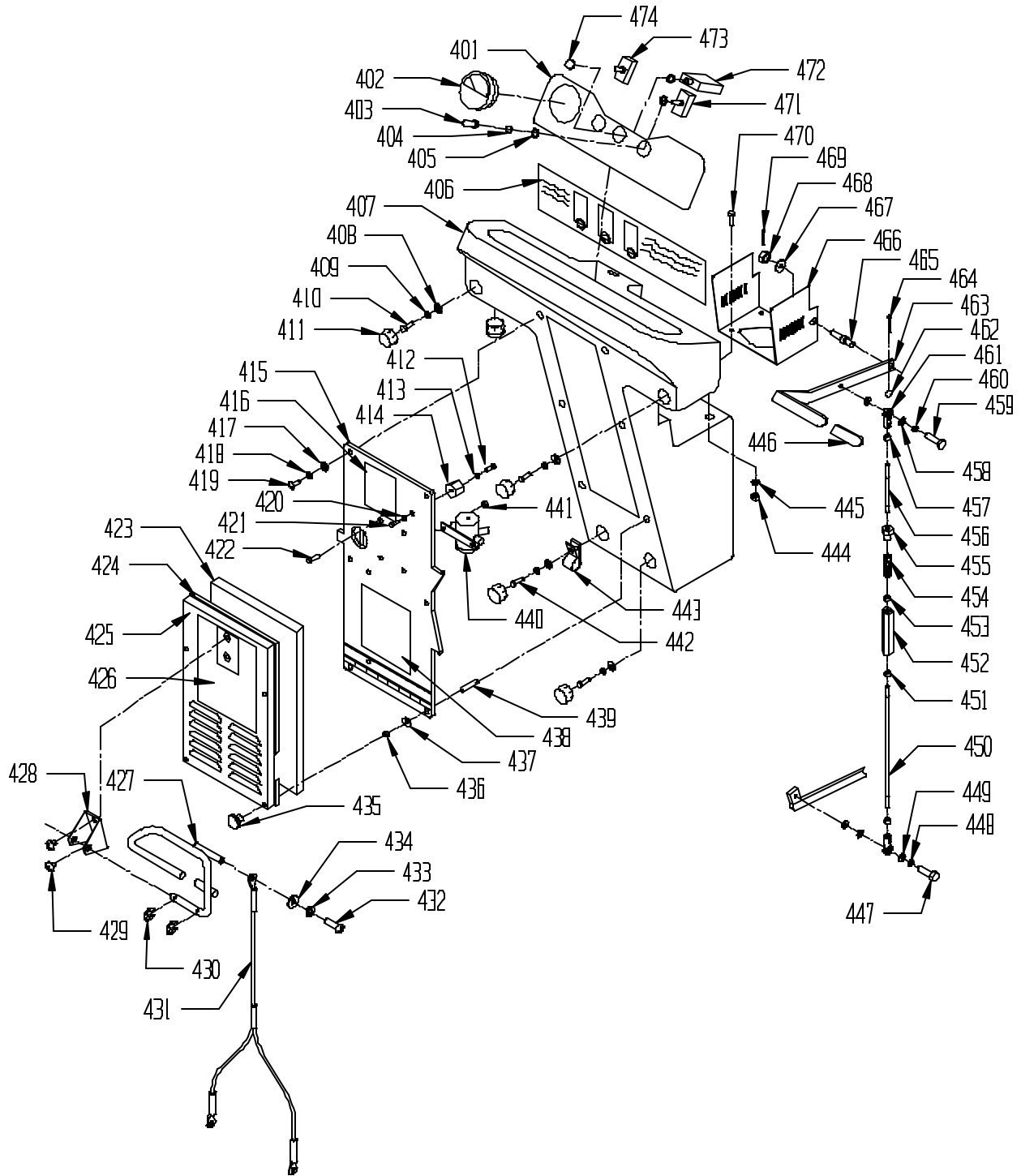
RECOVERY TANK ASSEMBLY



CONTROL PANEL ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY
401	23-9-572-1	CONTROL LABEL	1
402	23-9-139-1	BATTERY METER - 24 VOLT	1
403	06-9-314-1	RUBBER SWITCH BOOT	2
404	06-9-185-1	1/2 SWITCH LOCK WASHER	2
405	10-9-987-1	.516 I.D. X .813 O.D. X .027/.030 THICK FLAT WASHER	2
406	23-9-616-1	LABEL, BATTERY LABEL	1
407	23-9-571-1	CONTROL PANEL	1
408	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	4
409	91-2-141-0	5/16 EXTERNAL STAR LOCK WASHER	4
410	91-2-164-0	5/16-18 X 3/4 HEX BOLT	3
411	06-9-076-1	PLUG BUTTON	5
412	91-2-117-0	1/4-20 X 1/2 HEX BOLT	1
413	91-2-097-0	1/4 EXTERNAL STAR LOCK WASHER	1
414	44-9-056-1	INSULATED STANDOFF	1
415	23-9-539-3	COVER PANEL	1
416	23-9-605-1	LABEL, VAC MOTOR ACCESS	1
417	91-2-037-0	7/32 I.D. X 1/2 O.D. X .032/.065 THICK SAE FLAT WASHER (#10)	2
418	91-2-032-0	#10 SPLIT LOCK WASHER	2
419	91-2-072-0	10-32 X 3/8 ROUND HEAD PHILLIPS MACHINE SCREW	2
420	91-2-097-0	1/4 EXTERNAL STAR LOCK WASHER	1
421	91-2-116-0	1/4-20 X 3/8 HEX BOLT	1
422	91-2-116-0	1/4-20 X 3/8 HEX BOLT	2
423	23-9-153-1	FILTER	1
424	04-9-355-1	"U" SHAPED GASKET	1
425	23-9-549-3	COVER BOX	1
426	23-9-543-1	BRUSH LABEL	1
427	23-9-592-1	SQUEEGEE LIFT HANDLE	1
428	13-9-079-3	SQUEEGEE LIFT BRACKET	1
429	91-2-099-0	1/4-20 X 3/8 TRUSS HEAD PHILLIPS MACHINE SCREW	2
430	13-9-094-1	5/16 E RING	2
431	24-9-530-1	Y SQUEEGEE LIFT CABLE 25" / 63.5cm	1
432	91-2-038-0	10-24 X 3/8 ROUND HEAD PHILLIPS MACHINE SCREW	1
433	91-2-032-0	#10 SPLIT LOCK WASHER	1
434	91-2-037-0	7/32 I.D. X 1/2 O.D. X .032/.065 THICK SAE FLAT WASHER (#10)	1
435	23-9-137-1	KNURLED KNOB	4
436	91-2-069-0	10-32 HEX NUT WITH STAR LOCK WASHER	4
437	91-2-037-0	7/32 I.D. X 1/2 O.D. X .032/.065 THICK SAE FLAT WASHER (#10)	4
438	23-9-617-1	LABEL, WIRING DECAL	1
439	23-9-249-1	10-32 X 1 3/4 SET SCREW	4
440	23-9-135-1	CONTACTOR 24 VOLT	1
441	91-2-091-0	1/4-20 HEX NUT WITH STAR LOCK WASHER	2
442	91-2-168-0	5/16-18 X 1 HEX BOLT	1
443	23-9-291-1	HOSE / WIRE TIE DOWN	1
444	91-2-091-0	1/4-20 HEX NUT WITH STAR LOCK WASHER	4
445	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	4
446	26-9-098-1	LIFT HANDLE GRIP	1
447	91-2-230-0	3/8-16 X 1 1/4 HEX BOLT	1
448	91-2-210-0	3/8 SPLIT LOCK WASHER	1
449	91-2-198-0	7/16 I.D. X 1 O.D. X .075/.080 THICK SAE FLAT WASHER (3/8)	3
450	23-9-537-1	LOCK DOWN LIFT ROD	1
451	91-2-200-0	3/8-16 HEX NUT	1
452	26-9-182-1	HOUSING - SPRING, BRUSH	1
453	91-2-214-0	3/8-16 HEX NUT WITH NY-LOK INSERT	1
454	26-9-184-1	SPRING, BRUSH PRESSURE	1
455	26-9-183-1	HOUSING - SPRING RETAINER	1
456	26-9-181-1	SHORT LIFT ROD, BRUSH	1
457	91-2-201-0	3/8-24 HEX NUT	2
458	91-2-198-0	7/16 I.D. X 1 O.D. X .075/.080 THICK SAE FLAT WASHER (3/8)	2
459	91-2-226-0	3/8-16 X 1 HEX BOLT	1
460	91-2-210-0	3/8 SPLIT LOCK WASHER	1
461	44-9-053-1	3/8 ROD END	2
462	23-9-256-1	CIRCLE COTTER PIN - #CC-7	1

CONTROL PANEL ASSEMBLY

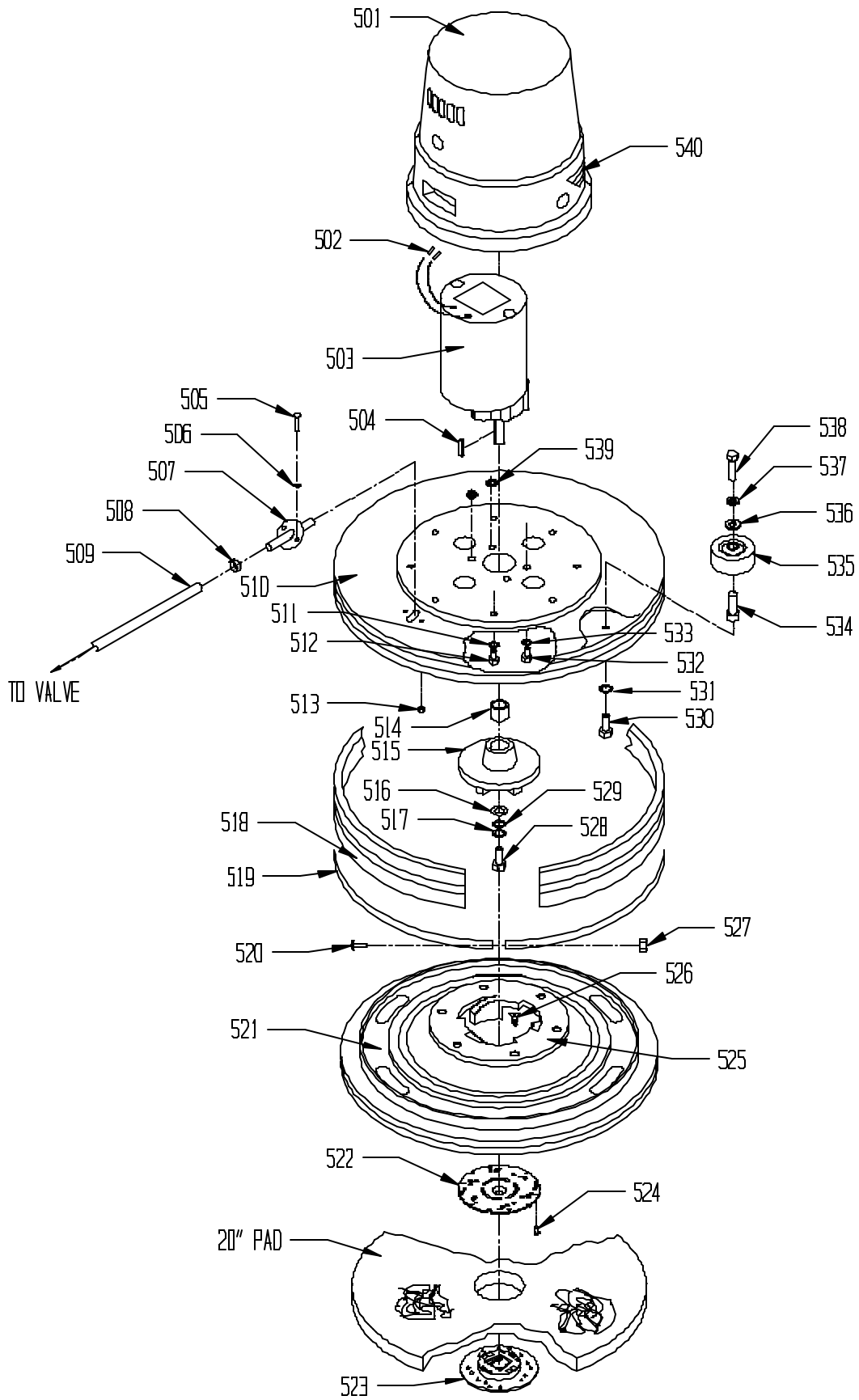


463	26-9-137-3	BRUSH LIFT HANDLE	1
464	23-9-195-1	3/16 X 1 CLEVIS PIN	1
465	24-9-066-1	PIVOT STUD	1
466	23-9-556-3	BRACKET, MOUNT LIFT ARM	1
467	91-2-245-0	17/32 I.D. X 1 1/16 O.D. X .074/.121 THICK SAE FLAT WASHER (1/2)	1
468	23-9-271-1	1/2-13 HEX SLOTTED NUT	1
469	52-9-652-1	1/8 X 1 HUMPED COTTER PIN	1
470	91-2-125-0	1/4-20 X 3/4 HEX BOLT WITH NYLON PATCH	4
471	27-9-204-1	SWITCH, TOGGLE VAC	1
472	23-9-136-1	CIRCUIT BREAKER, 24 VOLT	1
473	44-9-110-1	TOGGLE SWITCH MOTOR	1
474	48-9-247-1	CIRCUIT BREAKER BUTTON SEAL	1

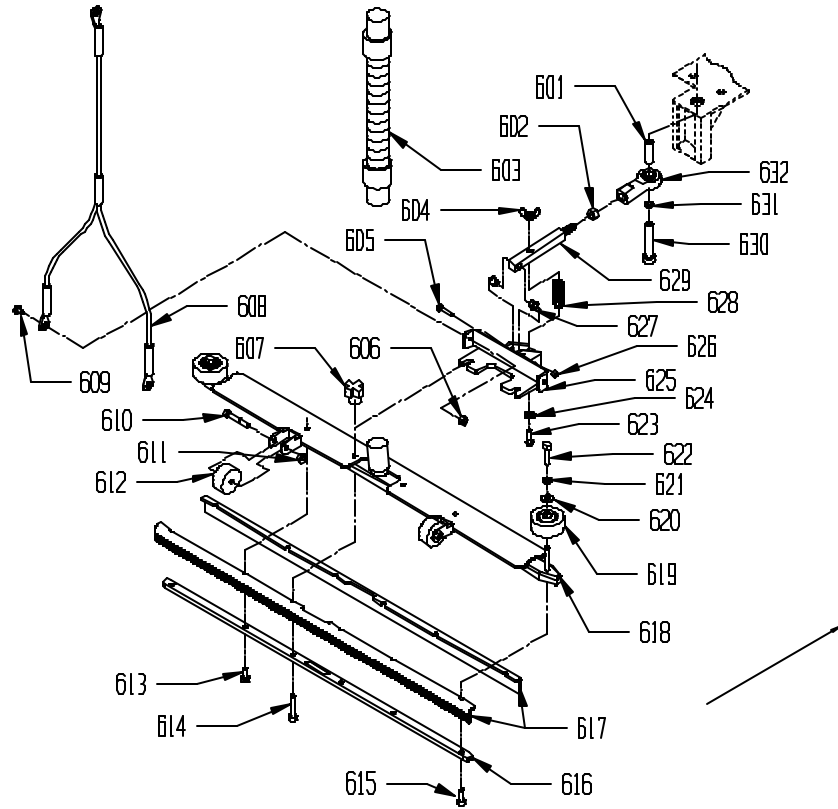
BRUSH HEAD ASSEMBLY

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
501	23-9-303-1	MOTOR HOUSING (IMPERIAL)	1
502	54-9-017-1	1/4 MALE SPADE TERMINAL FULLY INSULATED	2
503	23-9-300-1	GEAR MOTOR (IMPERIAL) 3/4 HP 24 VOLT DC	1
504	27-9-268-1	1/4" SQUARE X 1" LONG KEY - STEEL	1
505	91-2-024-0	8-32 X 1/2 ROUND HEAD PHILLIPS MACHINE SCREW	2
506	91-2-018-0	#8 INTERNAL STAR LOCK WASHER	2
507	23-9-113-6	WATER FEED TUBE	1
508	23-9-248-1	HOSE CLAMP, 7/32" TO 5/8" DIAMETER	1
509	23-9-598-7	VINYL HOSE, 3/8 I.D. X 23" LONG	1
510	23-9-304-3	SKIRT (IMPERIAL)	1
511	91-2-152-0	5/16 SPLIT LOCK WASHER	8
512	91-2-164-0	5/16-18 X 3/4 HEX BOLT	8
513	91-2-019-0	8-32 HEX NUT WITH STAR LOCK WASHER	2
514	23-9-306-1	SPACER FOR IMPERIAL MOTOR	1
515	23-9-305-2	CLUTCH CASTING	1
516	52-9-354-1	13/32 I.D. X 1 O.D. X .12 THICK FLAT WASHER (11 GAGE)	1
517	91-2-152-0	5/16 SPLIT LOCK WASHER	1
518	23-9-112-1	BUMPER GUARD	1
519	23-9-170-2	SKIRT BAND	1
520	91-2-045-0	10-24 X 1 ROUND HEAD PHILLIPS MACHINE SCREW	1
521	26-9-260-1	PAD DRIVER	1
522	52-9-769-1	PAD HOLDER BASE (YELLOW)	1
523	44-9-548-1	LOCK RING DEEP (YELLOW)	1
	59-9-072-1	SPRING CLIP PAD HOLDER SET (WHITE)	1
524	91-2-079-0	10 X 5/8 PAN HEAD PHILLIPS SHEET METAL SCREW	3
525	28-9-010-1	CLUTCH PLATE, PLASTIC, 5" DIAMETER, 6 HOLES	1
	28-9-097-1	6 HOLE PLASTIC CLUTCH PLATE - BROWN, TRUFIT	1
526	—————	10 X 1 FLAT HEAD SCREW	6
527	91-2-035-0	10-24 HEX NUT WITH NY-LOK INSERT	1
528	91-2-164-0	5/16-18 X 3/4 HEX BOLT	1
529	91-2-152-0	5/16 SPLIT LOCK WASHER	1
530	91-2-156-0	5/16-18 X 1/2 HEX BOLT	1
531	91-2-141-0	5/16 EXTERNAL STAR LOCK WASHER	1
532	91-2-222-0	3/8-16 X 3/4 HEX BOLT	4
533	91-2-210-0	3/8 SPLIT LOCK WASHER	4
534	23-9-227-6	BUMPER WHEEL AXLE	1
535	27-9-028-1	3" BUMPER WHEEL	1
536	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	1
537	91-2-141-0	5/16 EXTERNAL STAR LOCK WASHER	1
538	91-2-156-0	5/16-18 X 1/2 HEX BOLT	1
539	23-9-309-1	3/8 I.D. X 1 O.D. X .031 THICK FLAT WASHER (SHIM)	2
540	23-9-184-1	MOTOR STRIPE LABEL	1

BRUSH HEAD ASSEMBLY

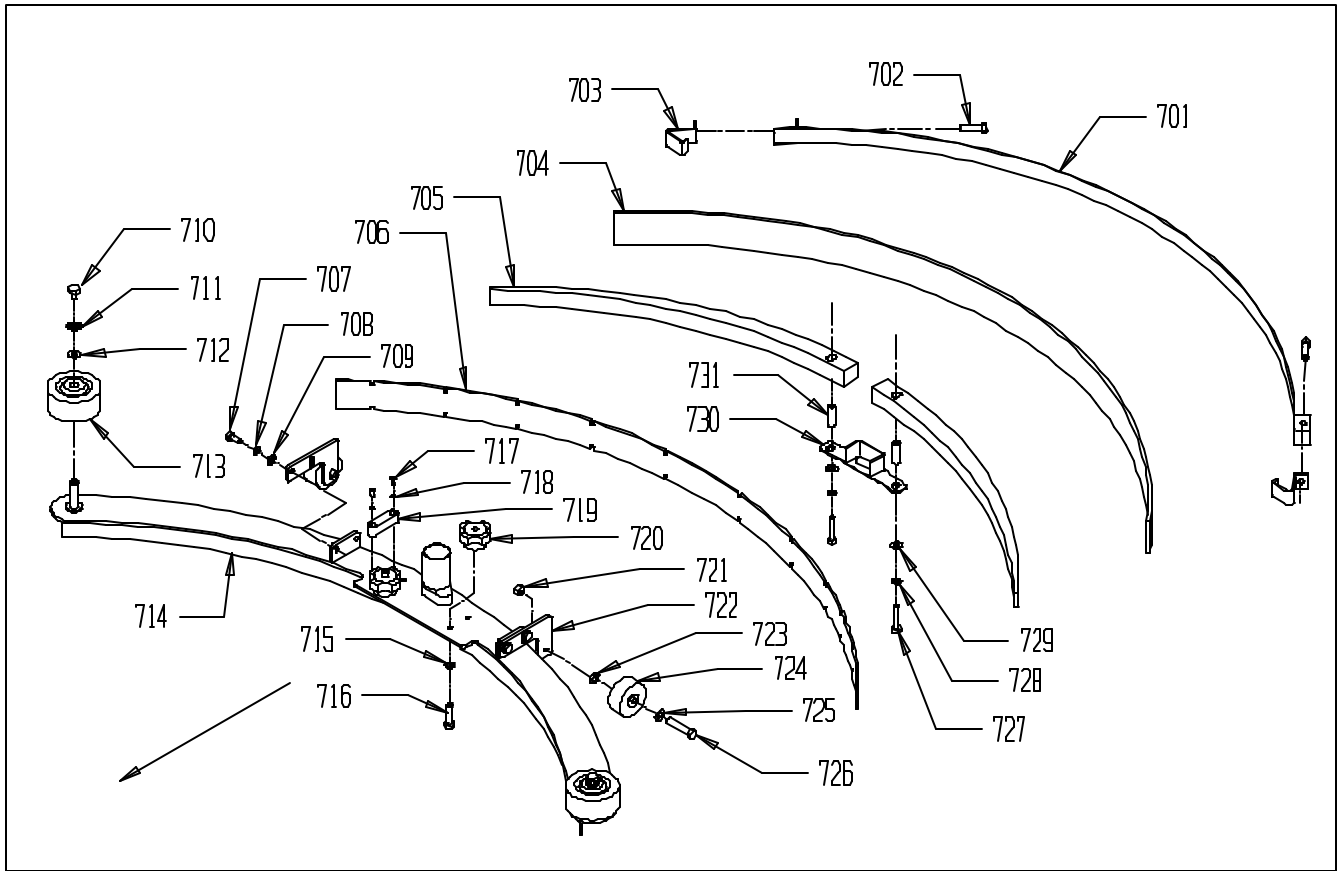


SQUEEGEE ASSEMBLY



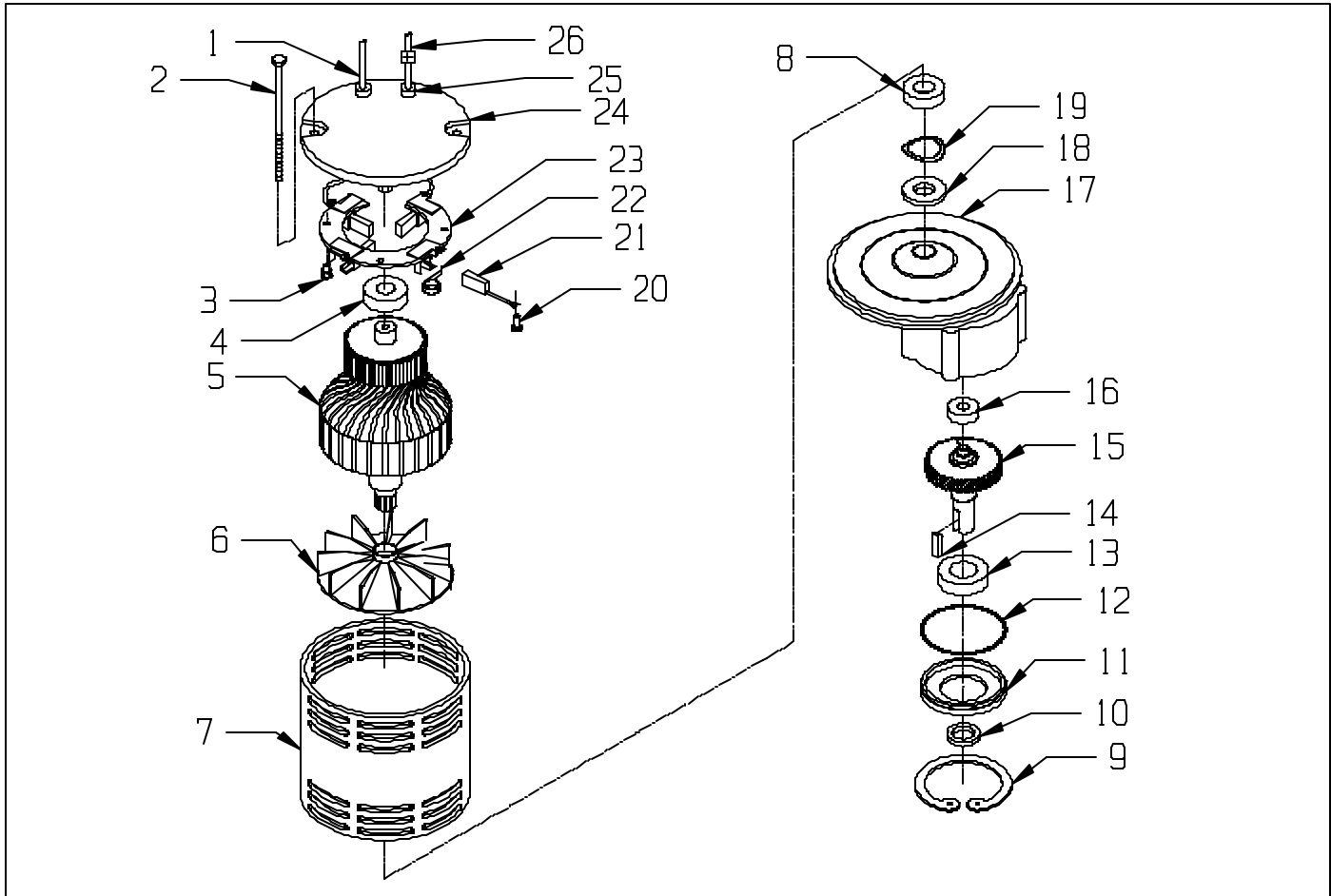
ITEM	PART NO.	DESCRIPTION	QTY
601	24-9-059-1	SPACER, SQUEEGEE PIVOT	1
602	91-2-267-0	1/2-20 HEX JAM NUT	1
603	26-9-059-1	SQUEEGEE VAC HOSE W/CUFFS	1
604	91-2-144-0	5/16-18 WING NUT	1
605	91-2-234-0	3/8-16 X 2 HEX BOLT	1
606	91-2-090-0	1/4-20 HEX NUT WITH NY-LOK INSERT	2
607	27-9-100-2	SQUEEGEE KNOB, MACHINED	2
608	24-9-530-1	Y SQUEEGEE LIFT CABLE 25"/63.5cm	1
609	91-2-101-0	1/4-20 X 3/4 TRUSS HEAD PHILLIPS MACHINE SCREW	2
610	91-2-176-0	5/16-18 X 1 3/4 HEX BOLT	2
611	91-2-145-0	5/16-18 HEX NUT WITH NY-LOK INSERT	2
612	30-9-674-1	WHEEL, BUMPER - SMALL GRAY	2
613	91-2-188-0	5/16-18 X 3/4 SOCKET HEAD CAP SCREW	2
614	91-2-192-0	5/16-18 X 1 1/2 SOCKET HEAD CAP SCREW	2
615	91-2-188-0	5/16-18 X 3/4 SOCKET HEAD CAP SCREW	2
616	26-9-253-3	INNER CHANNEL, SQUEEGEE - NARROW MOUNT	1
617	27-9-106-1	32" REPLACEMENT SQUEEGEE BLADES, SET OF 2	1
618	26-9-252-3	NARROW MOUNT SQUEEGEE HOUSING	1
	26-9-253-9	NARROW MOUNT SQUEEGEE ASSEMBLY (INCL. ITEMS 610-622)	1
619	27-9-028-1	3" BUMPER WHEEL	2
620	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
621	91-2-141-0	5/16 EXTERNAL STAR LOCK WASHER	2
622	91-2-156-0	5/16-18 X 1/2 HEX BOLT	2
623	91-2-213-0	5/16-18 X 2 1/4 HEX BOLT	1
624	91-2-152-0	5/16 SPLIT LOCK WASHER	1
625	13-9-017-1	SQUEEGEE BRACKET	1
626	91-2-214-0	3/8-16 HEX NUT WITH NY-LOK INSERT	1
627	13-9-117-1	BUSHING, SQUEEGEE SHAFT	2
628	36-9-558-1	HEIGHT ADJUSTING SPRING	1
629	13-9-015-6	SQUEEGEE PIVOT ROD	1
630	91-2-266-0	1/2-13 X 3 HEX BOLT WITH NYLON PATCH	1
631	10-9-098-1	SPACER	1
632	23-9-194-1	BALL JOINT	1

CURVED SQUEEGEE ASSEMBLY 24-9-249-9



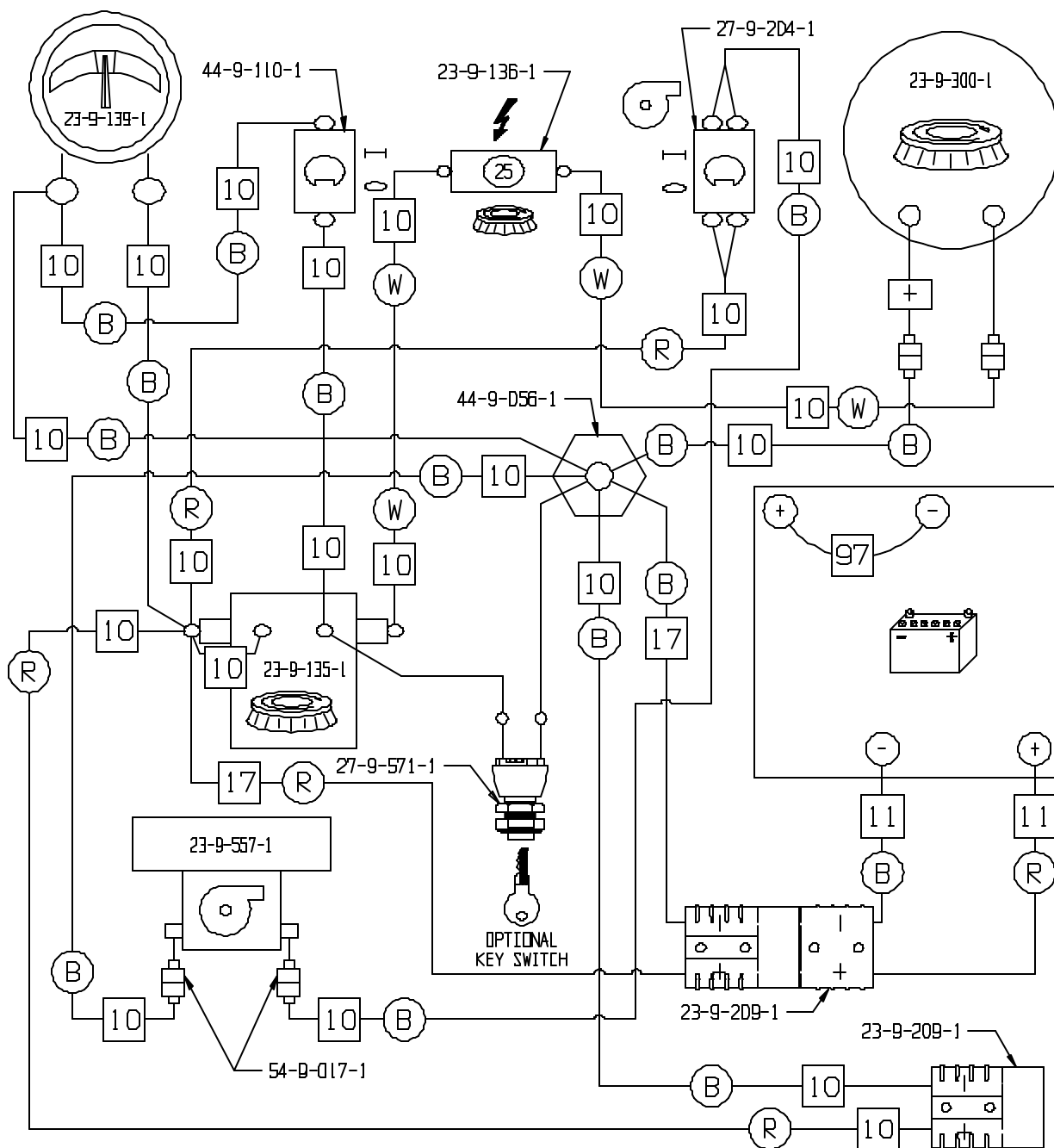
ITEM	PART NO.	DESCRIPTION	QTY
701	24-9-255-1	REAR SECURING STRAP	1
702	91-2-172-0	5/16-18 X 1 1/4 FULL THREADED HEX HEAD BOLT	2
703	24-9-256-1	HOOKED END	2
704	24-9-253-1	REAR BLADE	1
705	24-9-251-1	CENTER WEDGE	2
706	24-9-252-1	FRONT BLADE	1
707	91-2-121-0	1/4-20 X 5/8 HEX BOLT	4
708	91-2-088-0	1/4 SPLIT LOCK WASHER	4
709	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	4
710	91-2-156-0	5/16-18 X 1/2 HEX BOLT	2
711	91-2-141-0	5/16 EXTERNAL STAR LOCK WASHER	2
712	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
713	27-9-028-1	BUMPER WHEEL	2
714	24-9-250-3	MAIN HOUSING	1
	24-9-249-9	CURVED SQUEEGEE ASSEMBLY	1
715	91-2-152-0	5/16 SPLIT LOCK WASHER	2
716	91-2-172-0	5/16-18 X 1 1/4 FULL THREADED HEX HEAD BOLT	2
717	91-2-007-0	6-32 X 3/8 ROUND HEAD PHILLIPS MACHINE SCREW	2
718	91-2-003-0	#6 SPLIT LOCK WASHER	2
719	24-9-258-1	SQUEEGEE LEVEL	1
720	27-9-100-2	SQUEEGEE KNOB	2
721	91-2-145-0	5/16-18 HEX NUT WITH NY-LOK INSERT	2
722	24-9-257-1	DOLLY WHEEL MOUNTING BRACKET	2
723	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
724	30-9-674-1	ROLLER WHEEL	2
725	91-2-139-0	11/32 I.D. X 11/16 O.D. X .051/.080 THICK SAE FLAT WASHER (5/16)	2
726	91-2-176-0	5/16-18 X 1 3/4 HEX BOLT	2
727	91-2-128-0	1/4-20 X 1 1/2 HEX BOLT	2
728	91-2-088-0	1/4 SPLIT LOCK WASHER	2
729	91-2-093-0	9/32 I.D. X 5/8 O.D. X .051/.080 THICK SAE FLAT WASHER (1/4)	2
730	24-9-254-1	CENTER HOLD DOWN	1
731	24-9-259-1	CENTER HOLD DOWN SPACER	2

BRUSH GEAR MOTOR



ITEM	PART NO.	DESCRIPTION	QTY.
	23-9-300-1	COMPLETE MOTOR ASSEMBLY	1
1	33-9-122-1	NEGATIVE LEAD	1
2	33-9-120-1	THRU BOLT 1/4-20 X 7 3/4	2
3	—————	10-24 X 1/2 SELF TAP ROUND HEAD SLOTTED SCREW	2
4	50-9-204-1	TOP END BEARING	1
5	23-9-325-1	ARMATURE ASSEMBLY, INCLUDES VENT FAN AND BEARINGS	1
6	33-9-119-1	ARMATURE VENT FAN	1
7	33-9-104-1	STATOR FRAME ASSEMBLY WITH MAGNETS	1
8	33-9-105-1	BOTTOM END BEARING	1
9	33-9-117-1	SNAP RING	1
10	33-9-116-1	OIL SEAL, SMALL	1
11	33-9-115-1	END CAP	1
12	33-9-114-1	"O" RING	1
13	33-9-113-1	BOTTOM BEARING, LARGE	1
14	27-9-268-1	MOTOR KEY, 1/4 X 1/4 X 1	1
15	33-9-112-1	GEAR SHAFT	1
16	33-9-111-1	TOP BEARING, SMALL	1
17	33-9-110-1	GEAR BOX - HOUSING ONLY	1
	33-9-118-1	GEAR BOX ASSEMBLY, (INCLUDES ITEMS 9-18)	1
18	33-9-109-1	OIL SEAL, LARGE	1
19	27-9-759-1	HELICAL WASHER	1
20	—————	10-32 X 1/2 PAN HEAD SLOTTED SCREW, BRASS	4
21	33-9-108-1	CARBON BRUSH	4
22	27-9-757-1	CARBON BRUSH SPRING	4
23	33-9-102-1	BRUSH BOARD ASSEMBLY, INCL. CARBON BRUSHES & SPRINGS	1
24	33-9-100-1	TOP END BRACKET ONLY	1
	33-9-101-1	TOP END BRACKET WITH BRUSH BOARD ASSEMBLY	1
25	33-9-107-1	STRAIN RELIEF	2
26	33-9-121-1	POSITIVE LEAD	1

WIRING DIAGRAM



ITEM	PART NO.	DESCRIPTION	QTY
10	23-9-335-1	WIRE HARNESS 1 PC	1
11	23-9-614-1	WIRE ASSEMBLY ANDERSON TO POSITIVE / NEGATIVE BATTERY	1
17	23-9-615-1	WIRE ASSEMBLY ANDERSON TO SOLENOID / STANDOFF	1
97	23-9-198-1	BATTERY JUMPER 3/8 RING	5
—	44-9-114-1	BATTERY JUMPER CABLE, CLAMP TYPE	5
—	23-9-135-1	CONTACTOR, 24 VOLT	1
—	23-9-136-1	CIRCUIT BREAKER, 24 VOLT	1
—	23-9-139-1	BATTERY METER 24 VOLT	1
—	23-9-300-1	GEAR MOTOR (IMPERIAL) 3/4 HP 24 VOLT DC	1
—	23-9-557-1	VACUUM MOTOR	1
—	27-9-204-1	TOGGLE SWITCH - VAC	1
—	27-9-571-9	KEY SWITCH KIT (OPTIONAL)	-
—	44-9-110-1	TOGGLE SWITCH - MOTOR	1
—	44-9-056-1	INSULATED STANDOFF	1

TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
No Solution Flow	The solution valve is closed. Obstruction in the solution hose. Solution valve or linkage damaged. Solution tank is empty.	Open the solution valve. Remove the obstruction. Repair/replace the valve linkage. Fill the tank.
Solution Flow Does Not Stop	The solution valve is open Solution valve or linkage damage. Solution valve is dirty. Damaged seat and washer in valve. The valve stem is dirty.	Close the solution valve. Repair/replace the valve linkage. Clean the solution valve. Replace valve. Clean and lubricate valve stem.
Will Not Pick Up Any Water From Floor	Squeegee is up. Vac motor switch is "off". Recovery tank is full. Vacuum shut-off float is stuck. Obstruction/damage in the squeegee, squeegee hose or standpipe. Leaking cover gasket. Vac motor is not running	Lower squeegee. Turn vac motor switch "on". Empty tank. Open float valve/remove obstruction. Remove obstruction/repair damage. Remove old gasket/replace. Have an authorized serviceman Repair.
Will Not Pick Up All Water From Floor	Squeegee blade is worn/damaged. Obstruction/damage in the squeegee, squeegee hose or standpipe. Squeegee pressure needs adjustment. Vacuum motor worn out.	Reverse/replace squeegee blade. Remove obstruction/repair damage. Adjust pressure. Repair/replace vac motor.
Batteries Do Not Seem To Run Long Enough	Tops of batteries are dirty/wet Battery terminals are dirty/damaged. Electrolyte level is too low. Batteries are not fully charged. Charger is damaged. Battery is defective.	Clean/dry charge batteries. Clean terminals and connectors, replace damaged cables. Charge. Add distilled water and charge. Charge batteries for 8 hours. Have an authorized serviceman repair. Check cell voltage while discharging.
Cleaning Is Not Even	Brush/pads are worn. Damage to brush assembly, casters, or solution valve. Motor is not running.	Replace. Have authorized serviceman repair. Repair wiring, replace switch, replace carbon brushes. Reset circuit breaker button.
Machine Does Not Run	The machine loses power.	Reset circuit breaker. Check battery Connections.

NOTE: If problems remain after taking the above steps, contact your local authorized service station for further evaluation and repair.



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