

**200X
Brush Drive
Floor Scrubber
Electric**

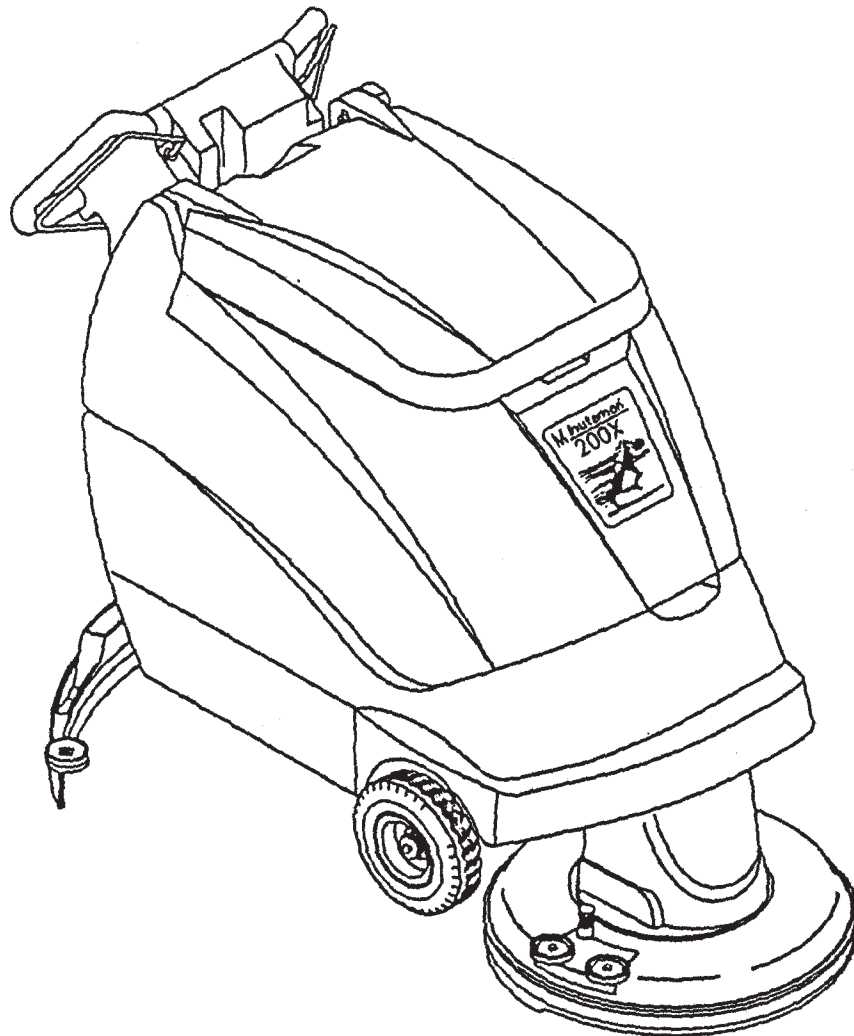
**Model: MC20003QP
MC20004CE**

OPERATION

SERVICE

PARTS

CARE



Revised 6/02

Minuteman[®]

TABLE OF CONTENTS

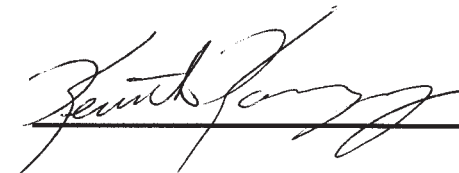
	Page
Safety Instructions	1
Electrical Requirements	2
Control Panel Identification	3
Operating Instructions	4
Squeegee Adjustments	5
Brush Installation/Removal	6
Base Assembly	7 & 8
Tank Assembly	9 & 10
Upper Assembly	11
Console Assembly	12
Motor Lift Assembly	13
Scrubhead Assembly	14
Back Panel Assembly	15
Squeegee Lift & Mechanism Assembly	16
Squeegee Assembly Complete	17
Wiring Diagram, 115V	18
Wiring Diagram, 230V CE	19

EC Declaration of Conformity

according to Directives 72/23, 89/392, and 89/336

We, Minuteman International Incorporated, of 111 South Rohlwing Road Addison Illinois 60101 USA, declare under our sole responsibility that the product MC20004CE Commercial Automatic Floor Scrubber to which this declaration relates corresponds to the relevant requirements of the EC Directives 72/23, 89/392 and 89/336. The following standards were used to determine compliance with the Directives: EN 292, EN 294, EN 811, EN 55014, EN 55104 and IEC 335-1-72.

SOUND		VIBRATION						
81 dB Operator	77dB At 3m	4.8 m/s² At Operators Handle						
Tests were conducted on 6/14/00 with calibrated sound and vibration equipment under the conditions noted below: <table style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 33%;">General Condition: Indoors</td> <td style="width: 33%;">Wind: 0 km/hr</td> </tr> <tr> <td>Temperature: 23°C</td> <td>Humidity: 70%</td> </tr> <tr> <td>Barometric Pressure: 29.1</td> <td></td> </tr> </table>			General Condition: Indoors	Wind: 0 km/hr	Temperature: 23°C	Humidity: 70%	Barometric Pressure: 29.1	
General Condition: Indoors	Wind: 0 km/hr							
Temperature: 23°C	Humidity: 70%							
Barometric Pressure: 29.1								



 Kenneth Kaczmarz, Standards Engineer

6/14/00

 Date

FOR COMMERCIAL USE ONLY

IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic precautions should always be followed, including the following:

READ ALL INSTRUCTIONS BEFORE USING

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

- Do not leave appliance when plugged in. Unplug from outlet when not in use and before servicing, cleaning or maintaining.

WARNING

To reduce the risk of electric shock - Do not expose to rain. Store indoors.

- Do not allow to be used as a toy. Close attention is necessary when used by or near children.
- This machine shall be used only by instructed and authorized persons.
- Use only as described in this manual. Use only manufacturer's recommended attachments.
- Inspect cord regularly. Do not use with damaged cord or plug. If appliance is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, return it to a service center. Use only cord specified by manufacturer.
- 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 run appliance over cord. Keep cord away from heated surfaces.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Do not handle plug or appliance with wet hands.
- Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce air flow.
- Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
- Do not use without dustbag and/or filters in place.
- Turn off all controls before unplugging.
- Use extra care when cleaning on stairs.
- Do not use to pick up flammable or combustible liquids such as gasoline or use in areas where they may be present.
- Connect to a properly grounded outlet only. See grounding instructions.
- This machine is not suitable for picking up hazardous dust.
- Close tank and lid before use.

SAVE THESE INSTRUCTIONS

INSPECTION

Carefully unpack and inspect your machine for shipping damage. Each unit is tested and thoroughly inspected before shipment, and any damage is the responsibility of the delivery carrier who should be notified immediately.

WARNING

- Read Instruction Manual before operating this piece of equipment.
- To reduce the risk of fire use only commercially available floor cleaners and waxes intended for machine application.
- To reduce the risk of electrical shock, do not expose to rain. Store indoors.
- Do not cross over supply cord, hazard exists when rotating brush passes over cord.
- Electrical motors and components can cause an explosion when operated near volatile materials and vapors. Do not use this machine near flammable materials such as solvents, thinners, fuels, grain dust, etc.

ELECTRICAL

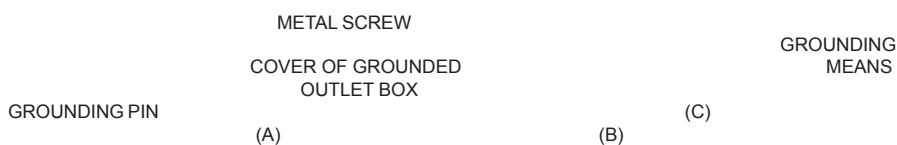
(Model MC20003QP) This floor machine is designed to operate on a standard 15 amp. 120 volt, 60 hz, AC circuit. Voltages below 105 volt AC or above 125 volts AC could cause serious damage to the motor.

(Model MC20004CE) This machine is designed to operate on a standard 16 amp. type L fused 230 volt, 50 hz, AC circuit. Voltages below 200 volt AC or above 250 volts AC could cause serious damage to the motor I.E. C. Class 1.

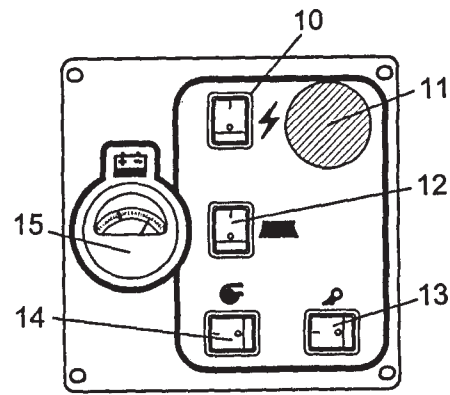
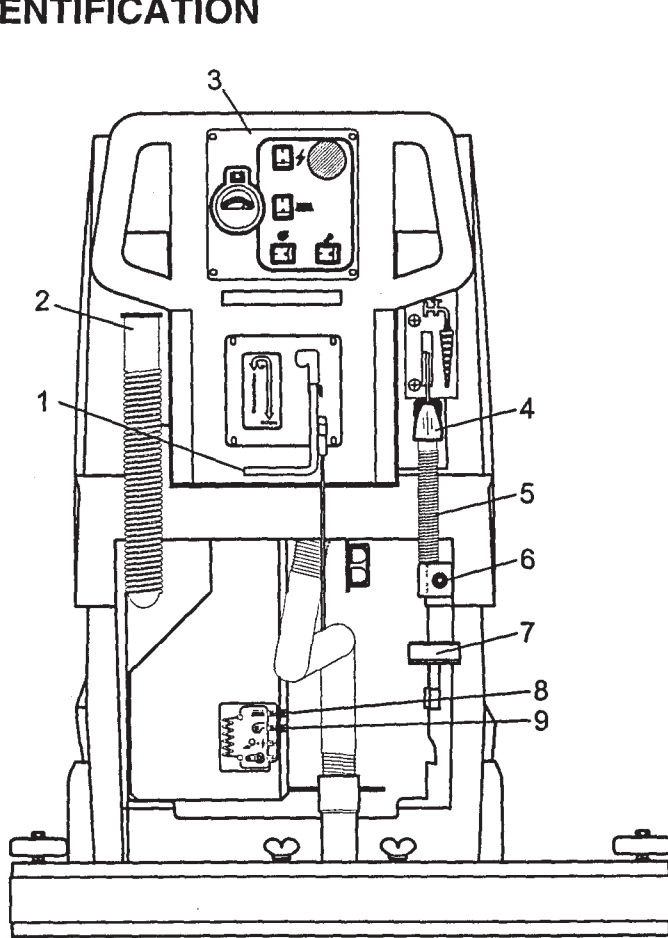
GROUNDING INSTRUCTIONS

- This floor finishing machine should be grounded while in use to protect the operator from electric shock. The machine is equipped with a three-prong grounding type attachment plug to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect this wire to other than the grounding blade.
- If the machine is provided with an attachment plug as shown in Sketch A it is intended for use on a 120-volt (nominal) circuit. If a properly grounded receptacle as shown in Sketch A it is intended for use on a 120-volt (nominal) circuit. If a properly grounded receptacle as shown in Sketch A is not available, an adapter as shown in Sketch C is available and should be installed as shown in Sketch B if the outlet box that houses the receptacle is grounded. Be sure to fasten the grounding tab with the faceplate screw.

ADAPTER (Not applicable in Canada)



CONTROL PANEL IDENTIFICATION



1. Squeegee lift lever
2. Recovery dump hose
3. Dashboard control panel
4. Solution control lever
5. Solution dump hose
6. Quick disconnect
Aux. out (optional)
7. Foot pedal
8. Receptacle
9. Circuit breaker
10. Main power
11. Brush switch
12. Vacuum switch
13. Pump switch (optional)

AUTO SCRUBBER BRUSH DESCRIPTION

TYPE	DESCRIPTION	DURABILITY*	COLOR	COMPARISON TO PADS	RECOMMENDED USE
Bassine	Natural Fiber	Short	Dark Brown	Red	Light duty general cleaning, acid etching
Nylon	Nylon	Medium	Black	Tan/Red	General cleaning & scrubbing vinyl floors, ceramic tile & concrete floors
Dyna-Scrub	Nylon impregnated with 500 Grit Silicon Carbide Fine Bristle, Dense Fill	Long	Light Blue	Red	General scrubbing, vinyl tile, ceramic tile, epoxy floors, urethane finish, uneven concrete floors
Power-Scrub	Nylon impregnated with 120 Grit Silicon Carbide Fine Bristle, Dense Fill	Long	Rust	Red/Blue	Moderate aggressive scrubbing, tile floors, concrete floors
Poly-Grit	Nylon impregnated with 80 Grit Silicon Carbide Coarse Bristle	Long	Green	Brown/Black	Aggressive stripping and scrubbing, tile floors, unfinished concrete floors
Strata-Grit	Nylon impregnated with 46 Grit Silicon Carbide Coarse Bristle	Long	Dark Blue	Black	Heavy duty stripping/scrubbing unfinished concrete

• Durability is dependent on floor surface, chemicals used and proper care.

OPERATING INSTRUCTIONS

BEFORE STATING, FAMILIARIZE YOURSELF WITH THE MACHINE AND ITS CONTROLS (SEE “MACHINE OVERVIEW” & CONTROL PANEL DIAGRAMS)

1. Filling: Fill the solution tank with the desired amount of water and add liquid cleaning solution to the proper dilution ratio. DO NOT USE powdered cleaning chemicals. Powders are unlikely to dissolve thoroughly, resulting in clogging the in-line solution filter. This can reduce or stop water flow to the brush.
2. Close lid.
3. Turn on machine by pressing the main power switch (10).
4. Lower brush assembly.
 - To lower the brush, first push the pedal (7) slightly outward on the machine (unlock it), and then release it slowly.
 - To lift the brush, press the pedal (7) down until lift mechanism engages.
5. Turn on brush (11).
6. Adjust solution control feed lever (4).
7. Turn on vacuum switch (12).
8. Lower squeegee assembly by lowering handle (1).

After Use:

1. Turn off solution feed (4).
2. Switch off brush (11) and raise (7).
3. Raise squeegee assembly (1).
4. Turn off vacuum motor (12).

Solution and recovery tanks should be emptied after every use.

MAINTENANCE:

Daily 1. Clean float assembly & squeegee blades. Vac filter.

Monthly 1. Check wear on squeegee blades.
2. Grease front wheels.
3. Grease pivot points on brush motor assembly.

Every 500 hours check condition of carbon brushes on vacuum motor and brush drive motor.

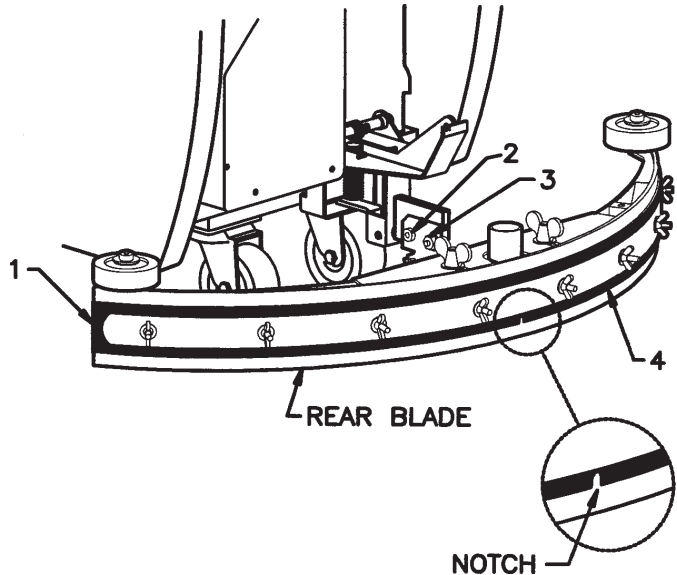
SQUEEGEE ADJUSTMENTS

Squeegee Adjustment

The squeegee set-up is pre-adjusted at the factory. Adjustments may be required to get optimum performance for different floors and conditions.

Pitch Control Adjustment

1. Ensure that the scrubber is on a relatively flat surface. Pull the red emergency button away from the dashboard to activate power. Turn on the main power switch and turn the key switch. Raise the scrubhead off the floor. Turn the vacuum switch.
2. Lower the squeegee (item 1) to the floor and move the machine one or two feet forward to check the rear squeegee blade for uniform deflection to the floor.
3. If uneven deflection or lay is evident, minor adjustments may be necessary to avoid streaking and uneven wear on the blade.
4. To correct this, pitch adjustment is necessary. Loosen the pivot screw (item 2) and the pitch screw (item 3). Move the machine forward and allow the squeegee to level itself or adjust the angular position accordingly to achieve a uniform blade deflection. Re-tighten screws.
5. In certain applications where a different blade set-up is required, the reinforcement blade (item 4) may be turned upside down. The notch, which is normally on the bottom will now be located on the topside. This allows the rear squeegee blade a larger deflection than normal.



BRUSH INSTALLATION - REMOVAL

INSTALLATION

1. Raise the scrubhead to the “UP” position by depressing the pedal (A) downward as shown on Fig. 1.
2. Center brush (D) under the scrubhead shroud while lining up the center hex drive hub and pressing the brush up until the brush engages on the drive hub.

REMOVAL

1. Raise the scrubhead to the “UP” position by depressing the pedal (A) downward as shown on Fig. 1.
2. Remove the brush (D) by stepping on the “BRUSH RELEASE PIN” on the top of the scrubhead shroud as shown on Fig. 1 below.

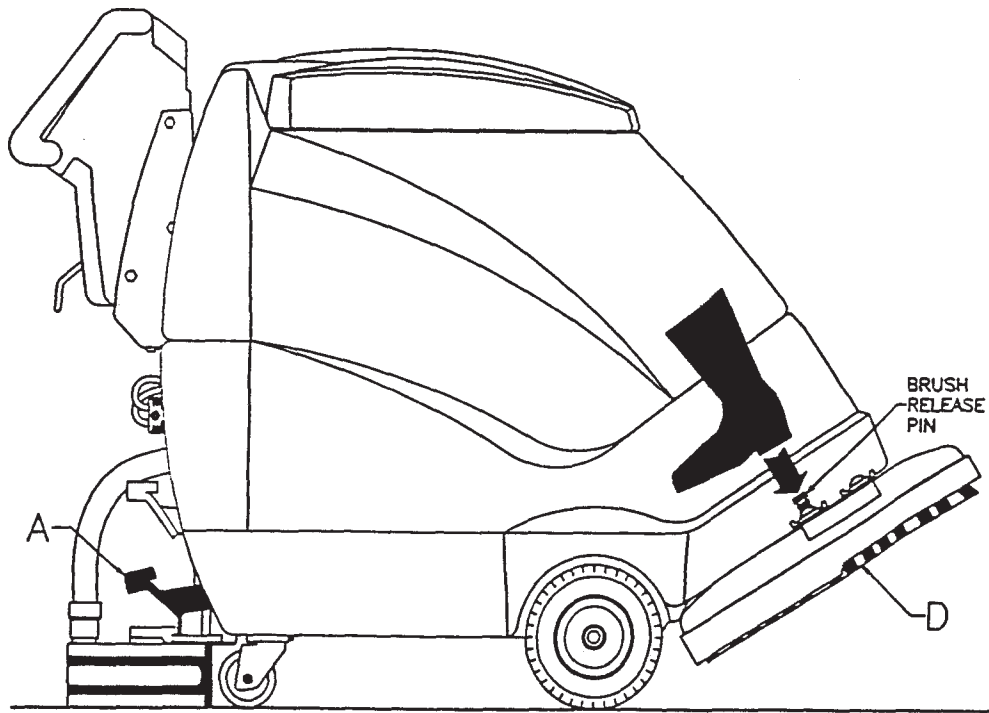
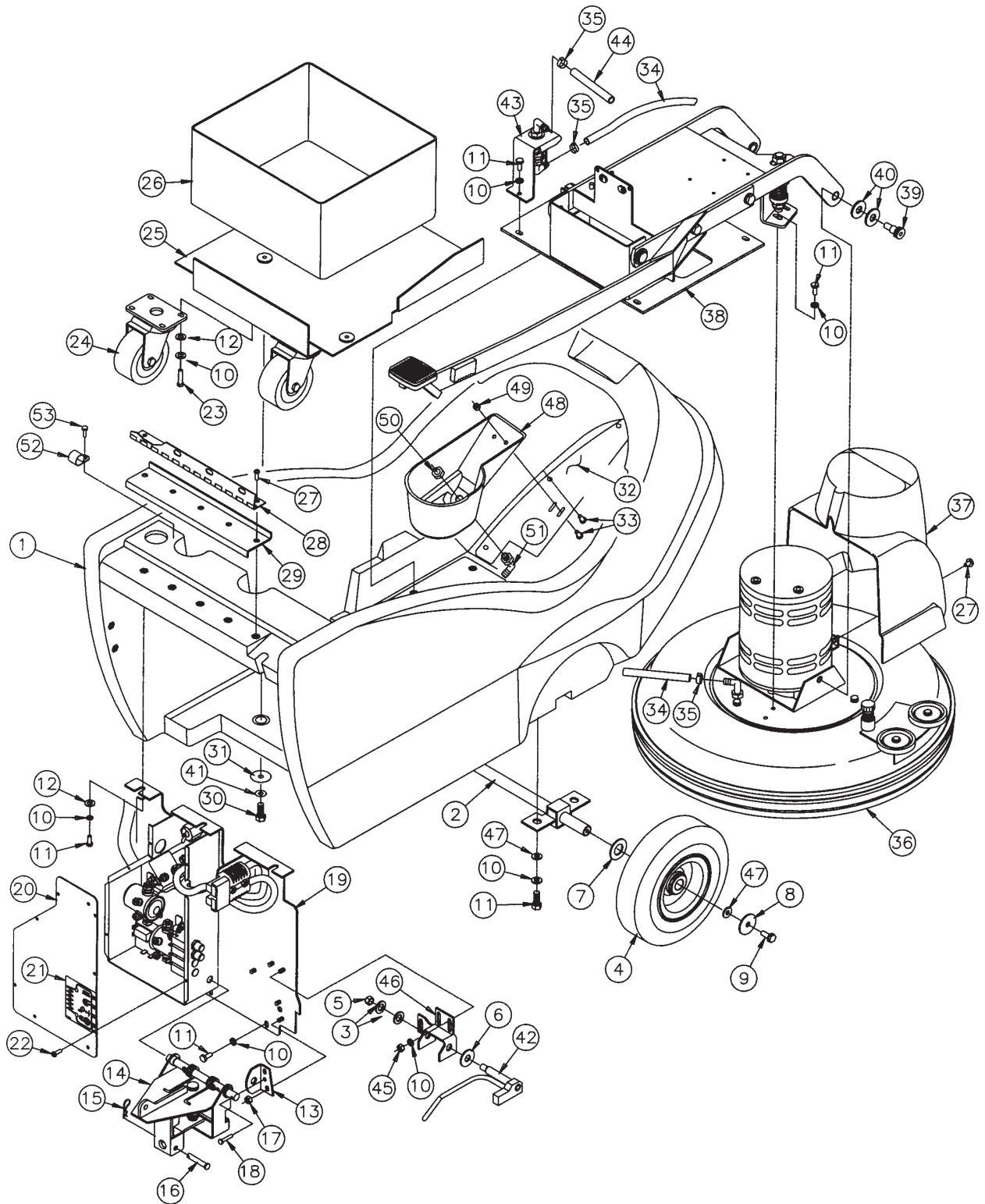


Figure 1

BASE ASSEMBLY

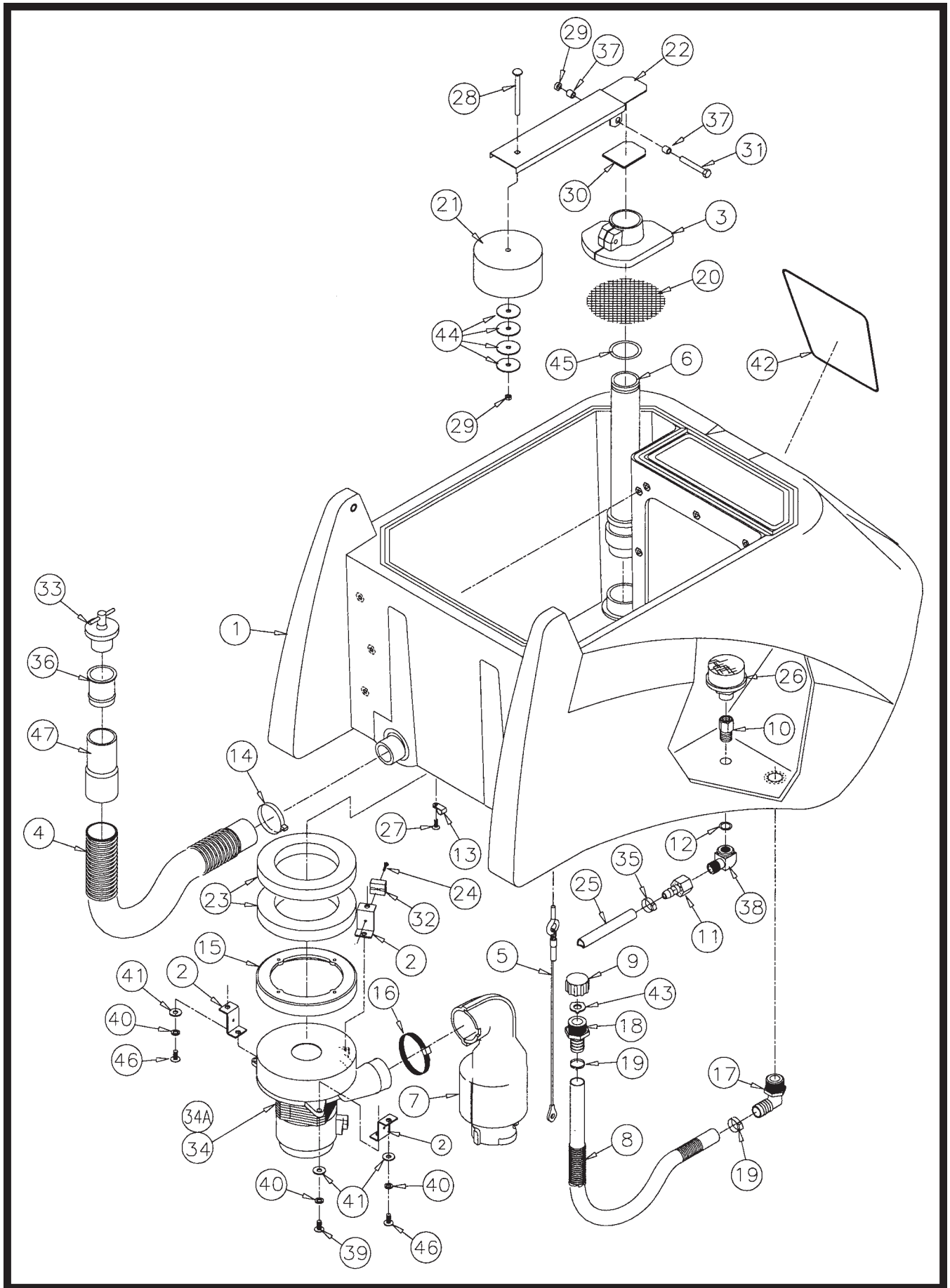


BASE ASSEMBLY

Parts List

Item	Part No.	Qty.	Description
1	200102	1	Base
2	200250	1	Axle Weldment
3	712301	2	WSR-Flat .38 x .88 x .06
4	762332	2	Wheel, 8 x 2 w/Bearing
5	711375	1	Nut-Nyloc 3/8-16
6	711578	2	WSR-Flat 1/2 Brass
7	712318	2	WSR-Flat 3/4 x 1.12 x .12
8	712759	2	WSR-Flat 5/16 x 1.37 x .06 SS
9	712042	2	Bolt-WSR HH 5/16-18 x .62
10	711544	22	WSR-Helical 1/4
11	711203	19	BLT-HH 1/4-20 x .62
12	711505	15	WSR-Flat 1/4
13	200158	1	Pin Bracket
14	200153	1	Squeegee Mechanism Assy.
15	711808	1	Cotter Pin
16	210415	1	Clevis Pin 5/16
17	260183	3	Nut 1/4 NPT Nyloc
18	712564	1	Bolt-HH 1/4-20 x 1 SS
19	200265	1	Back Panel Assy., BD
20	200314	1	Electrical Box Cover
21	711125	4	SCR-ST-B #10 x 1/2
22	710180	10	SCR-MC 1/4-20 x 3/4
23	200345	2	Caster, 3 1/2"
24	200125	1	Battery Tray Weldment
25	210048	1	Battery Liner
26	712565	5	SCR-MC 1/4-20 x .62 SS
27	200145	1	Hinge
28	200146	1	Hinge Plate
29	711228	4	Bolt-HH 5/16-18 x 3/4
30	711507	4	WSR-Flat .37 x 1.12 x .06
31	200233	1	Bottom Cover
32	712822	3	SCR-THMS 10-24 x 1/2
33	200235	1	Hose Nylobraid 17.50
34	450076	2	Crimp Clamp 185R SS
35	200315	1	Scrubhead Assy. 115V
36	200328	1	Scrubhead Assy. 240V
36A	200186	1	Motor Cover
37	200280	1	Motor Lift Assy.
38	712099PLT	2	Shoulder Bolt 1/2 x .50
39	711510	4	WSR-Flat .50 x 1.38 x .10
40	711545	4	WSR-Helical 5/16
41	200130	1	Pawl Weldment
42	200260	1	Solution Valve Assy. - BD
43	200234	1	Solution Hose 51.00
44	711316	3	Nut-Hex 1/4-20
45	200129	1	Pawl Mounting Bracket
46	711575	2	WSR-Flat .312 x .75 x .06

TANK ASSEMBLY

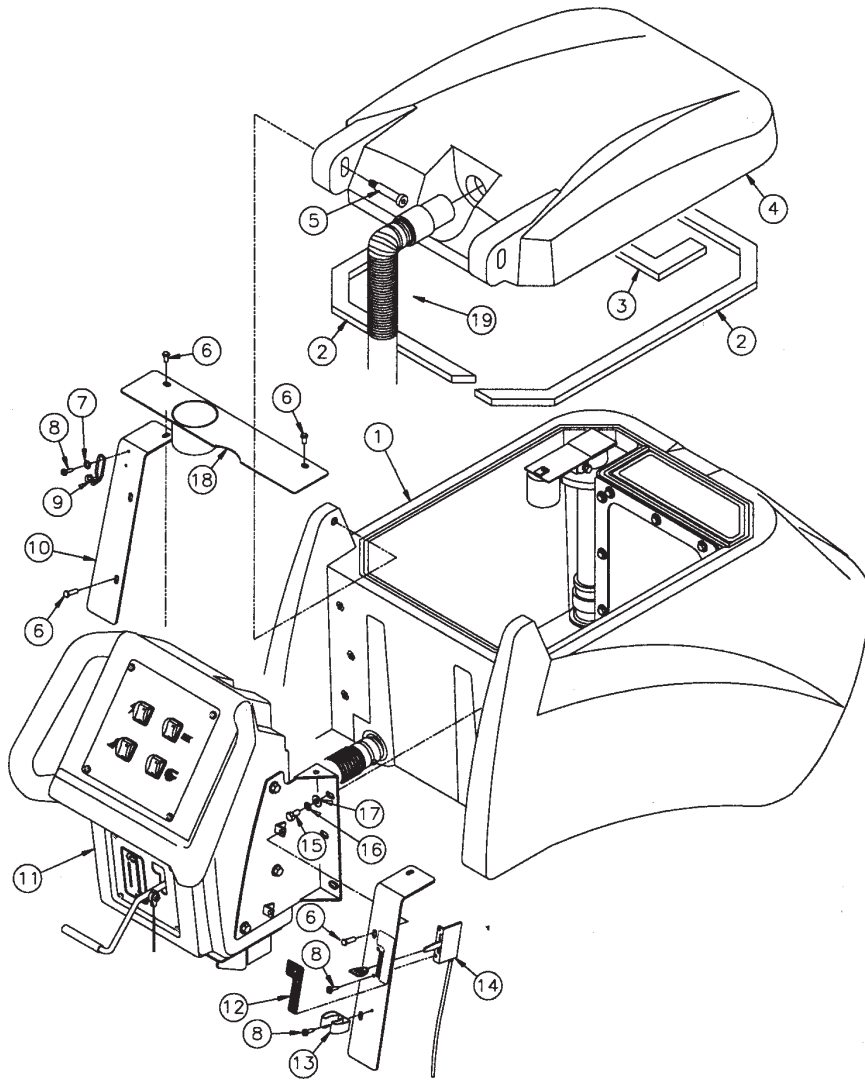


TANK ASSEMBLY

Parts List

Item	Part No.	Qty.	Description
1	200101	1	Solution/Recovery Tank
2	200147	3	Bracket, Vac Motor
3	200173	1	Float, Housing
4	210122	1	Drain Hose Wirelock
5	200232	1	Cable, Tank
6	200251	1	Stand Pipe Assembly
7	200258	1	Muffler Assembly
8	200270	1	Hose, ¾ Solution Drain
9	200023	1	Garden Hose Cap
10	210409	1	Fitting, Brass 3/8 MPT
11	210410	1	Fitting, Brass 3/8 FPT
12	210414	1	"O" Ring 2-113
13	250039	3	Clamp, Plastic 5/16 3305
14	260203	1	Hose Clamp 102120 Murray
15	290017	1	Gasket, Molded, Vac Motor
16	3321335	1	Clamp-Hose 3" NOM
17	383321	1	Elbow ¾ MPT ¾ Barb PP
18	200022	1	¾" MGHT x Hose Barb
19	829129	2	Clamp, Crimp ¾ Barb
20	430050	1	Filter Screen 4 x 4
21	260155	1	Foam Float
22	430090	1	Float Valve Weldment
23	460019	2	Gasket
24	710207	1	SCR-MC 6-32 x .87 ST PL
25	200234	Ref.	Solution Hose
26	130118	1	Solution Strainer
27	712540	3	SCR-MC #10-24 x .375 SS
28	712574	1	CR Bolt SS ¼-20 x 3"
29	712667	2	Nut-Hex ¼-20 SS Nyloc
30	200231	1	Gasket, Shutoff
31	712568	1	SCR-MC ¼-20 x 2.25 SS
32	832996	1	Terminal Block 2-Pole VDE
33	833316	1	Drain Plug
34	740232	1	Vac Motor 115V
34A	741030	1	Vac Motor 240V
35	760245	2	Hose Clamp 62P24
36	760343	1	Tube Hose 24/32B
37	762384	2	Bushing .277 x .375 x .37 SS
38	830062	1	Fitting Brass 90 3/8 MPT
39	710180	3	SCR-MC ¼-20 x .75
40	711544	6	Lockwasher - Helical ¼
41	711505	6	Washer ¼
42	715285	1	Decal, 200X
43	200024	1	Black Vinyl Washer
44	712759	4	WSR-Flat .31 x 1.37 x .06 SS
45	310008	1	O-Ring
46	712565	3	SCR-MC 1/4-20 x .625 SS
47	805613	1	Hose Cuff, Grey Vinyl

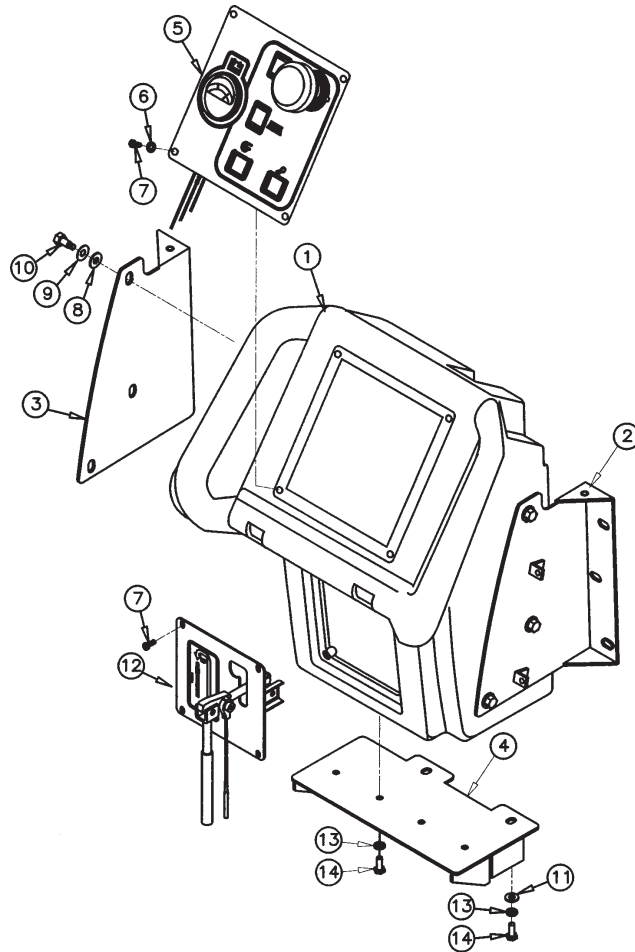
UPPER ASSEMBLY



Parts List

Item	Part No.	Qty.	Description
1	200160	1	Tank Assembly
2	200178	2	Gasket, Lid
3	200136	1	Gasket, Solution Lid
4	200103	1	Tank Lid
5	712120	2	Shoulder Bolt 1/2 x 2
6	710178	6	SCR-MC 1/4-20 x 1/2
7	711503	2	WSR-Flat #10
8	711125	5	SCR-ST-B #10 x 1/2
9	760286	1	Wire Formed Hook
10	200176	1	Dump Hose Bracket
11	200170	1	Console Assy. - Brush Drive
12	715284	1	Decal, Solution Control
13	383367	1	Spring Clip
14	430053	1	Solution Control Cable
15	711228	6	Bolt-HH 5/16-18 x 3/4
16	711545	6	WSR-Helical 5/16
17	711575	6	WSR-Flat 5/16
18	200032	1	Console Back Cover Weldment
19	450054	1	Vacuum Recovery Hose

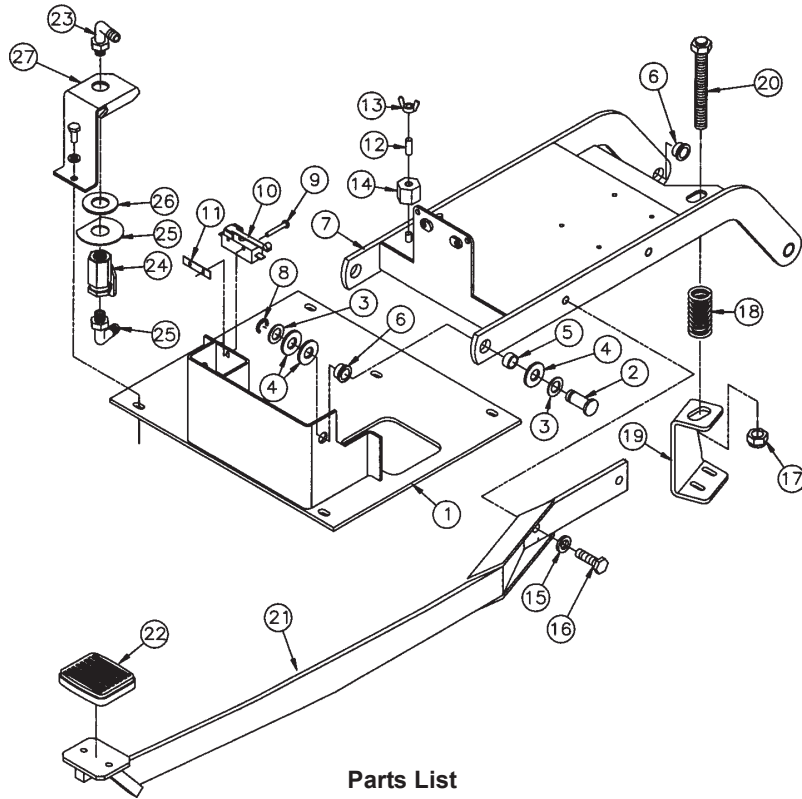
CONSOLE ASSEMBLY



Parts List for 200330

Item	Part No.	Qty.	Description
1	200104	1	Console
2	200134	1	Console Bracket Right
3	200135	1	Console Bracket Left
4	200151	1	Hinge Bracket Weldment
5	200322SP	1	Dashboard ASM BD
6	712320	4	WSR-Nylon .22 x .45 x .04
7	712540	8	SCR-MC #10-24 x .37 SS
8	711575	6	WSR-Flat .31 x .75 x.06
9	711545	6	WSR-Helical 5/16
10	711228	6	Bolt-HH 5/16-18 x .75
11	711505	2	WSR-Flat 1/4
12	200240	1	Squeegee Lift Assy.
13	711544	6	WSR-Helical 1/4
14	711203	6	Bolt-HH 1/4-20 x .62
15	740812	3	Switch (optional 4 th)
16	740811	3	Switch Boot (optional 4 th)
17	833827	1	O-Ring 1.25 ID x .187
18	250038	1	Retainer Bag Clip
19	830292	1	Cord Assy. 75 ft. 115V
19A	743287	1	Cord Assy. 25 Meters 240V
20	430103	1	Snap Body
21	760142	1	Clamp Ring
22	450012	1	Strain Relief
23	711161	1	SCR Hi-Lo 10 x .75

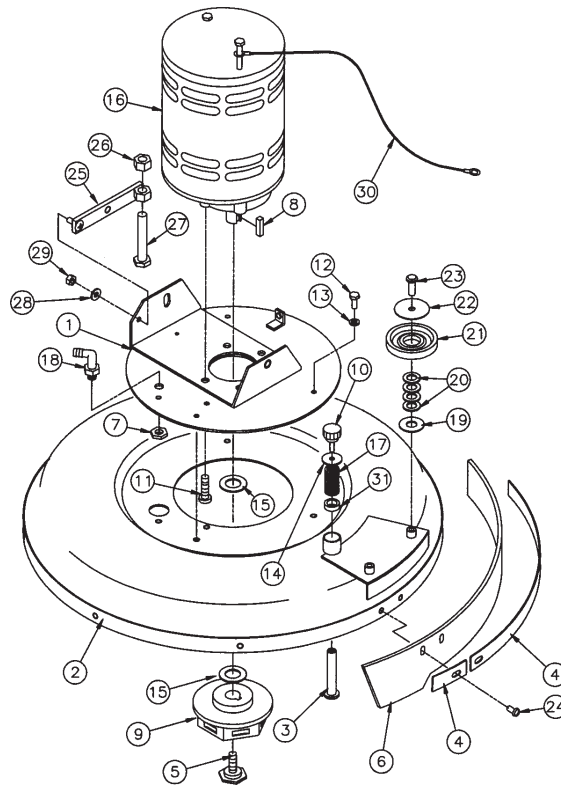
MOTOR LIFT ASSEMBLY



Parts List

Item	Part No.	Qty.	Description
1	200120	1	Base Plate Weldment
2	260036	2	Pin
3	712310	4	WSR-Flat .52 x .88 x .06
4	711527	6	WSR-Flat 5/8 x 1.12 x .12
5	762340	2	Oilite Bushing 1/2
6	260041	4	Oilite Flanged Bushing 1/2
7	200115	1	Lift Arm Weldment
8	711713	2	E-Ring 1/2
9	710207	2	SCR-MC 6-32 x .87
10	740128	1	Microswitch
11	711430	1	Tinnerman Clip
12	833638	2	Brass Stud
13	711368	2	Wing Nut
14	740132	2	Insulator Glastic
15	711546	2	WSR-Helical 3/8
16	711241	2	Bolt-HH 3/8-16 x 3/4
17	711376	1	Nut-Nyloc 1/2-13
18	260137	1	Compression Spring
19	200110	1	Spring Bracket
20	200149	1	Adjustment Rod
21	200116	1	Pedal Arm Weldment
22	762294MCH	1	Pedal
23	711202	2	Bolt-HH 1/4-20 x 1/2
24	711544	2	WSR-Helical 3/4
25	450040	2	Elbow 3/8 Barb x 3/8 MPT
26	809413MCH	1	Solution Valve Machined
27	829463	1	WSR-Flat SS
28	828975	1	WSR-Neoprene .75 x 1.5 x .09
29	200259	1	Valve Bracket

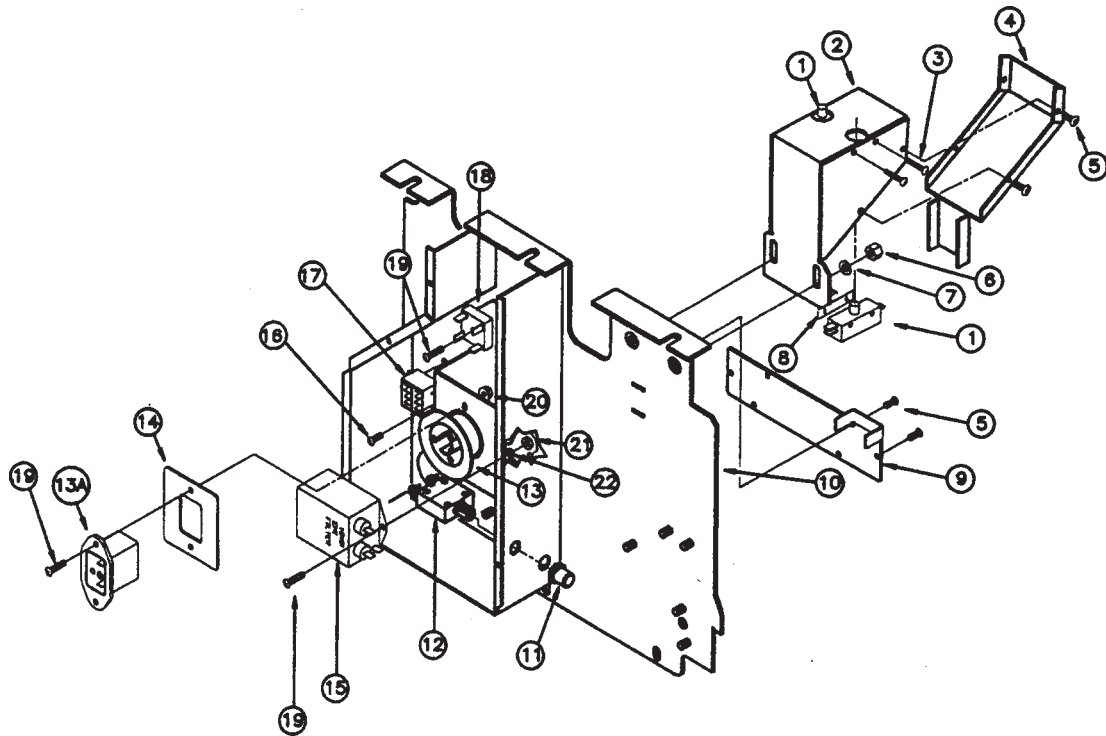
SCRUBHEAD ASSEMBLY



Parts List

Item	Part No.	Qty.	Description
1	200109	1	Motor Platform Weldment - BD
2	200187	1	Brush Shroud Weldment
3	200194	1	Pin, Brush Release
4	200294	2	Shroud Strap
5	210066	1	Retainer Bolt
6	200293	1	Shroud Skirt
7	260183	1	Nut ¼ NPT Nylon
8	320268	1	Key, ¼ x 5/16 x 1.00
9	430035	1	Drive Hub
10	500033	1	Locking Screw
11	710986	4	SCR-SC 3/8-16 x 1.00
12	711202	3	SCR-MC ¼-20 x ½
13	711544	3	WSR-Helical ¼
14	711615	1	Roll Pin 1/8 x ¼
15	712318	1	WSR-Flat ¾
16	740428	1	Gear Motor 115V
16A	740432	1	Gear Motor 240V
17	833102	1	Spring
18	833325	1	Hose Barb 90° Nylon
19	711578	2	WSR-Flat ½ Brass
20	712310	8	WSR-Flat .52 x .87 x .06
21	430085	2	Bumper Wheel
22	712759	2	WSR-Flat .31 x 1.37 x .06 SS
23	710975	2	SCR-SC 5/16-18 x .87
24	712560	8	SCR-MC ¼-20 x .50 Nyloc
25	200029	1	Pitch Adj. Bar Weldment
26	711334	1	Nut-Hex ½-13
27	710754	1	Bolt-HH ½-13 x 2 ¾
28	711505	1	WSR-Flat ¼
29	711373	1	Nut-Nyloc ¼-20
30	743425	1	Ground Wire

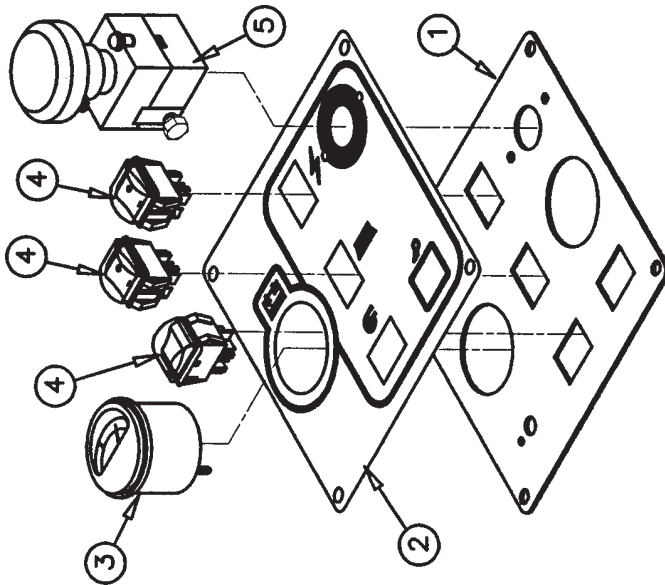
BACK PANEL



Parts List

Item	Part No.	Qty.	Description
1	742307	2	Switch, McGill, VDE
2	200229	1	Bracket, Kill Switch
3	710307	4	SCR-MC 6-32 x 1
4	200326	1	Cover Switch Box
5	711125	10	SCR-ST #10 x .5
6	711316	2	Nut-Hex 1/4-20
7	711544	2	WSR-Helical 1/4
8	711430	2	Nut-Tinnerman 6-32
9	200332	1	Wire Guard Cover
10	200311	1	Back Panel Weldment
11	742748	1	Boot, Circuit Breaker
12	740220	1	Circuit Breaker, 20A
13	830540	1	Flg. Male Receptacle 115V
13A	832682	1	230V Receptacle
14	200317	1	230V Receptacle Bracket
15	742256	1	RFI Filter 230V Only
16	712818	2	SCR-MC 10-24 x .5
17	741300	1	Terminal Block
18	740202	1	Receptacle Bridge 230 Only
19	712813	5	SCR-MC 10-24 x .75
20	712908	2	Nut-Flange Wizz 10-24
21	712635	2	Nut-Hex 10-24 SS
22	711543	2	WSR-Helical #10

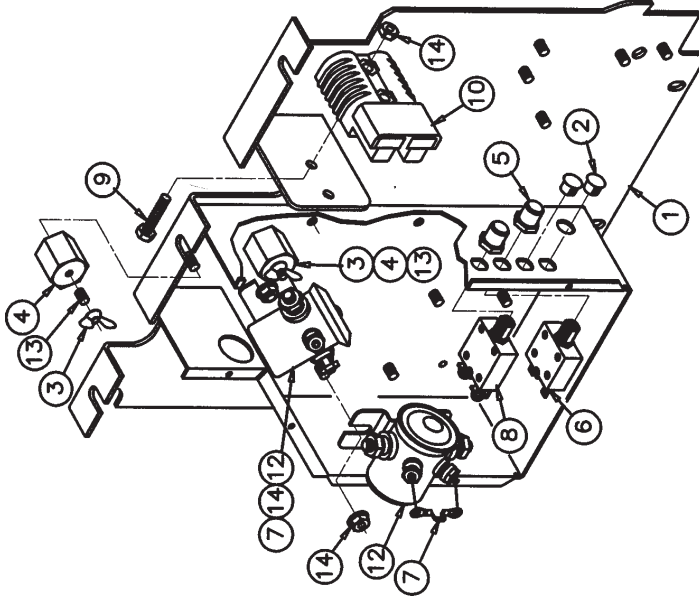
DASHBOARD



Parts List for 200299

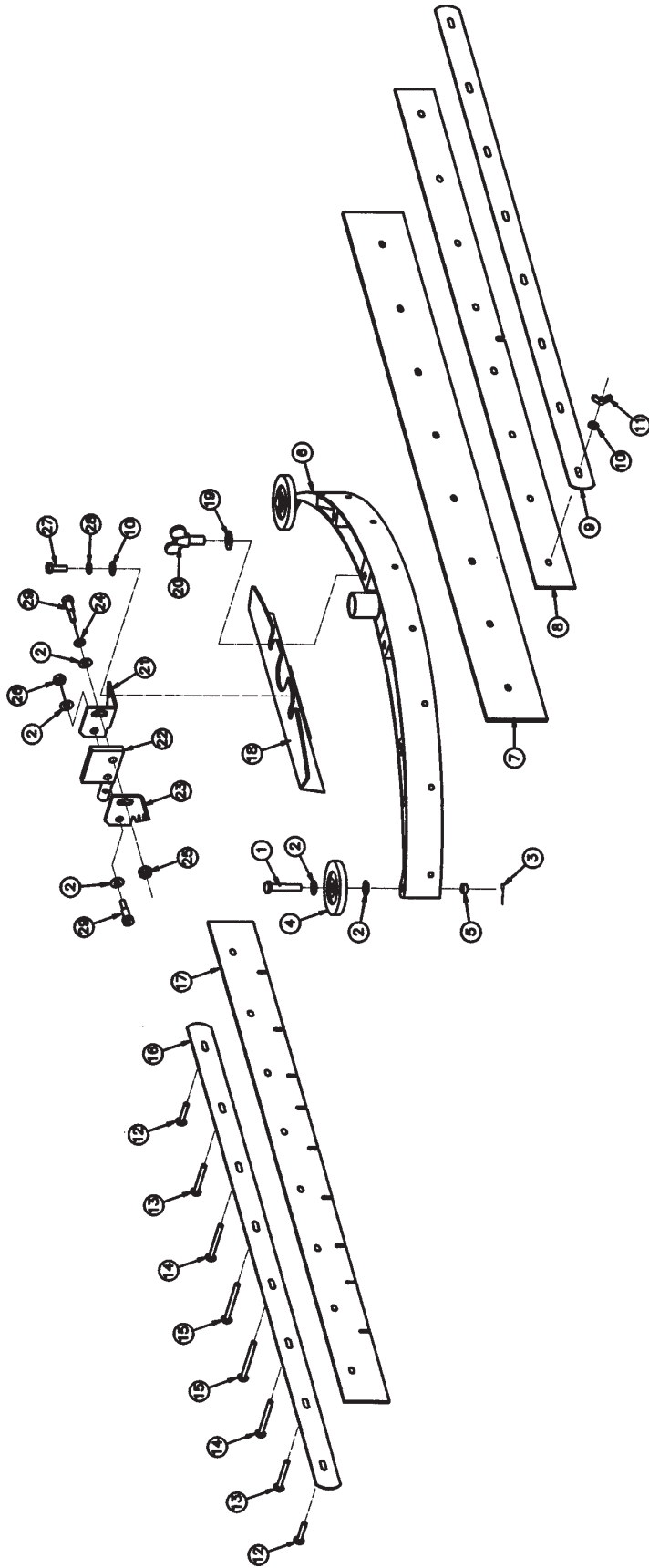
Item	Part No.	Qty.	Description
1	200179	1	Dashboard Plate
2	715283	1	Decal 200 Dashboard
3	740216	1	Battery Gauge
4	740711	3	Switch Dreefs
5	742202	1	Disconnect Switch 125A
6	740811	3	Switch Boot

BACK PANEL



Parts List for 200265

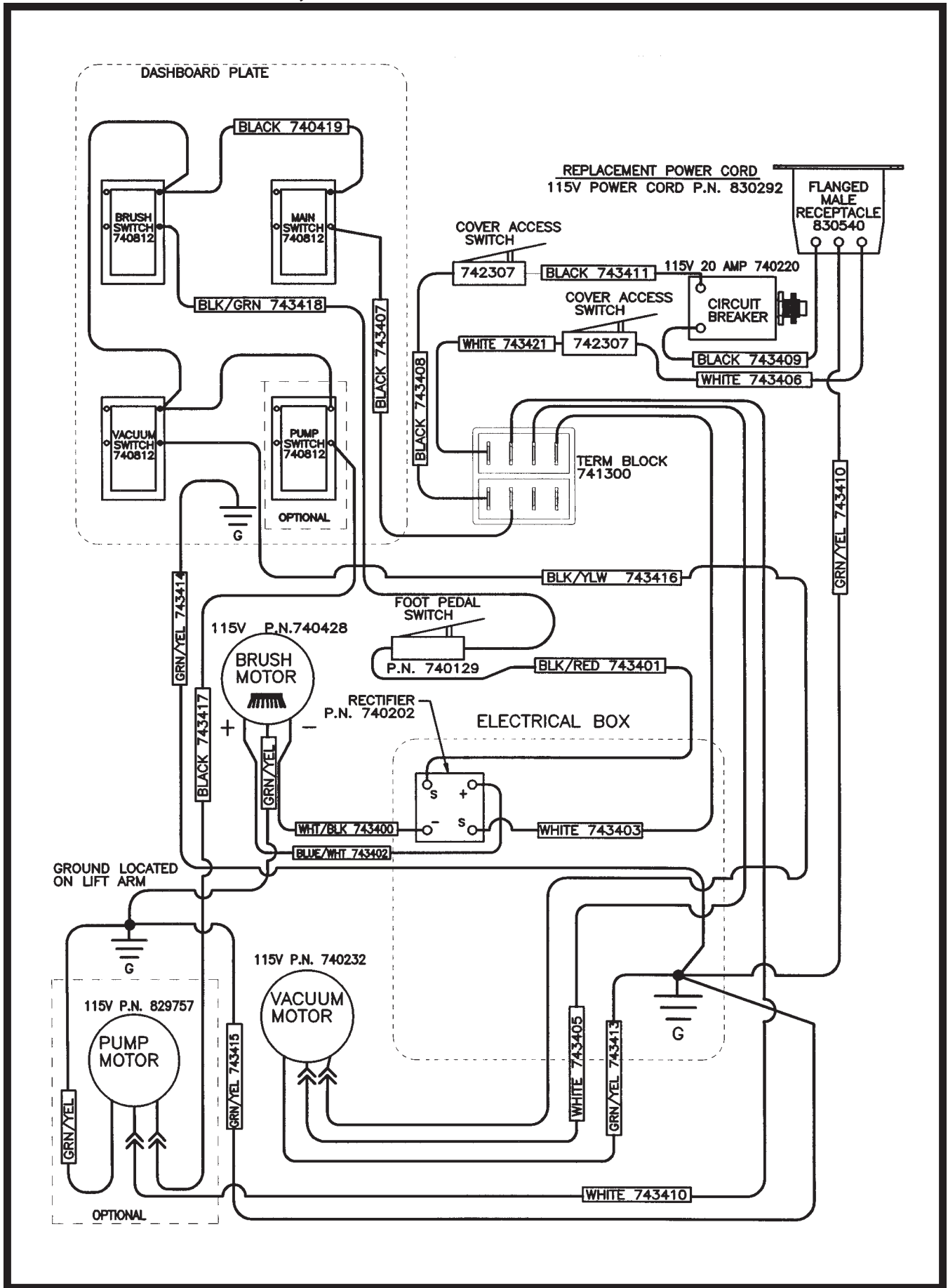
Item	Part No.	Qty.	Description
1	200124	1	Backpanel Weldment
2	742749	2	Circuit Breaker Plug
3	711368	2	Wing Nut, 1/4-20
4	740132	2	Insulator (Glastic)
5	742748	2	Boot, Circuit Breaker
6	740247	1	Circuit Breaker 30
7	742000	2	Diode Assembly
8	740549	1	Circuit Breaker 50
9	711210	2	SCR-HH 1/4-20 x 1 1/4
10	740159	1	CB175 Red Housing Only
11	743260	1	Wire Harness, 200X BD
12	788147	2	Solenoid 24VDC
13	833638	2	Brass Stud
14	711425	6	Whiz-Nut 1/4-20



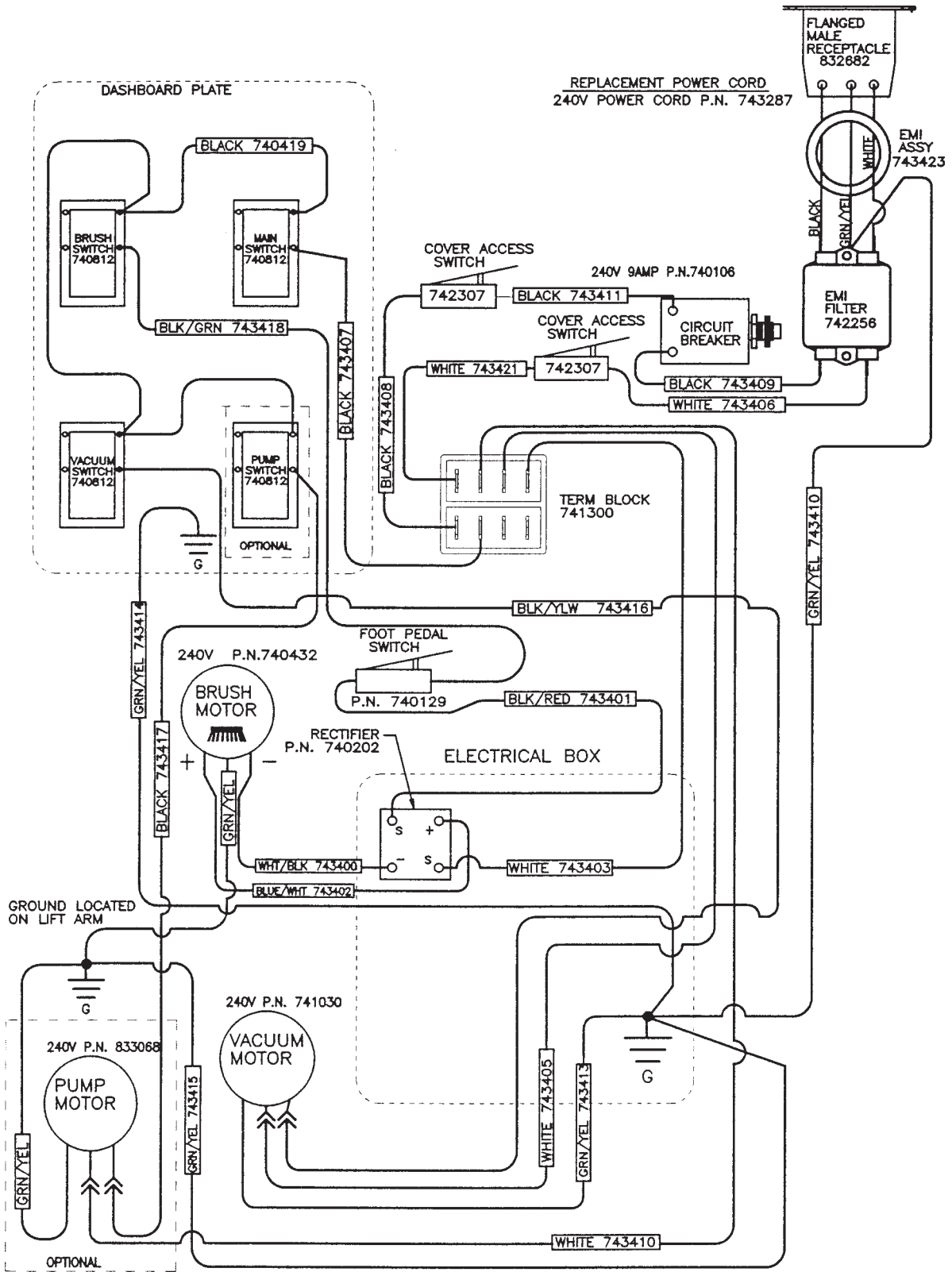
Parts List for 200219

Item	Part No.	Qty.	Description	Item	Part No.	Qty.	Description
1	711668	2	Clevis Pin 3/8 x 1	16	260273	1	Front Blade Strap
2	711507	7	WSR-Flat .37 x 1.12 x .06	17	260322	1	Squeegee Blade 260 Quarry
3	711808	2	Cotter Pin - Hair #13	18	320191	1	Squeegee Mounting Bracket
4	210153	2	Roller Wheel	19	711578	2	WSR-Flat 1/2 Brass
5	762281	2	Bushing .37 x .500 x .25	20	260287	2	Wing Bolt 1/2-13 x 1.00
6	200222	1	Squeegee Casting, 200	21	320156	1	Mounting Bracket - Right
7	260203	1	Rear Squeegee Blade	22	200169	1	Pitch Control Weldment
8	260264	1	Reinforcement Blade	23	320157	1	Mounting Bracket - Left
9	260272	1	Rear Blade Strap	24	712301	1	WSR-Flat .37 x .87 x .07
10	711504	12	WSR-Flat .25 x .56 SS	25	711379	1	Nut- Flanged Wizz 5/16-18
11	712668	8	Wing Nut 1/4-20 SS	26	711374	1	Nut-Nyloc 5/16-18
12	712571	2	Bolt-SS Carr 1/4-20 x 1.50	27	712562	4	Bolt-HH 1/4-20 x .75 SS
13	712572	2	Bolt-SS Carr 1/4-20 x 2.00	28	712758	4	WSR-Helical 1/4 SS
14	712573	2	Bolt-SS Carr 1/4-20 x 2.50	29	712081	2	Bolt-Shoulder 3/8 x .75
15712574		2	Bolt-SS Carr 1/4-20 x 3.00				

WIRING DIAGRAM, 115V



WIRING DIAGRAM, 240V CE



LIMITED WARRANTY

Minuteman International, Inc. warrants to the original purchaser/user that this product is free from defects in workmanship and materials under normal use and service for a period of three years from date of purchase. In addition, Minuteman International, Inc. will, at its option, honor labor warranty claims for the first 12 months from date of sale, provided such claims are submitted through and approved by factory authorized repair stations. Minuteman International, Inc. will, at its option, repair or replace without charge, except for transportation costs, parts that fail under normal use and service when operated and maintained in accordance with the applicable operation and instruction manuals.

This warranty does not apply to normal wear, or to items whose life is dependent on their use and care, such as belts, cords, switches, hoses, rubber parts, electrical motor components or adjustments. Parts not manufactured by Minuteman International, Inc. such as engines, batteries, battery chargers, hydraulic pumps, and tires are covered by and subject to the warranties and/or guarantees of their manufacturers. Please contact Minuteman International, Inc. for procedures in warranty claims against these manufacturers.

Special warning to purchaser — Use of replacement filters and/or prefilters not manufactured by Minuteman International, Inc. or its designated licensees, will void all warranties expressed or implied.

A potential health hazard exists without exact original equipment replacement.

All warranted items become the sole property of Minuteman International, Inc. or its original manufacturer, whichever the case may be.

Minuteman International, Inc. disclaims any implied warranty, including the warranty of merchantability and the warranty of fitness for a particular purpose. Minuteman International, Inc. assumes no responsibility for any special, incidental or consequential damages.

This limited warranty is applicable only in the U.S.A. and Canada, and is extended only to the original user/purchaser of this product. Customers outside the U.S.A. and Canada should contact their local distributor for export warranty policies. Minuteman International, Inc. is not responsible for costs or repairs performed by persons other than those specifically authorized by Minuteman International, Inc. This warranty does not apply to damage from transportation, alterations by unauthorized persons, misuse or abuse of the equipment, use of non-compatible chemicals, or damage to property, or loss of income due to malfunctions of the product.

If a difficulty develops with this machine, you should contact the dealer from whom it was purchased.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow the exclusion or limitation of special, incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

Minuteman[®]

World Headquarters
Minuteman International, Inc.
111 South Rohlwing Road
Addison, Illinois 60101

Minuteman Canada, Inc.
2210 Drew Road
Mississauga, Ontario
L5S 1B1

(630) 627-6900
FAX (630) 627-1130

(905) 673-3222
FAX (905) 673-5161

986765
Printed in U.S.A.