

**200X  
Traction Drive  
Deluxe  
Floor Scrubber  
Battery**

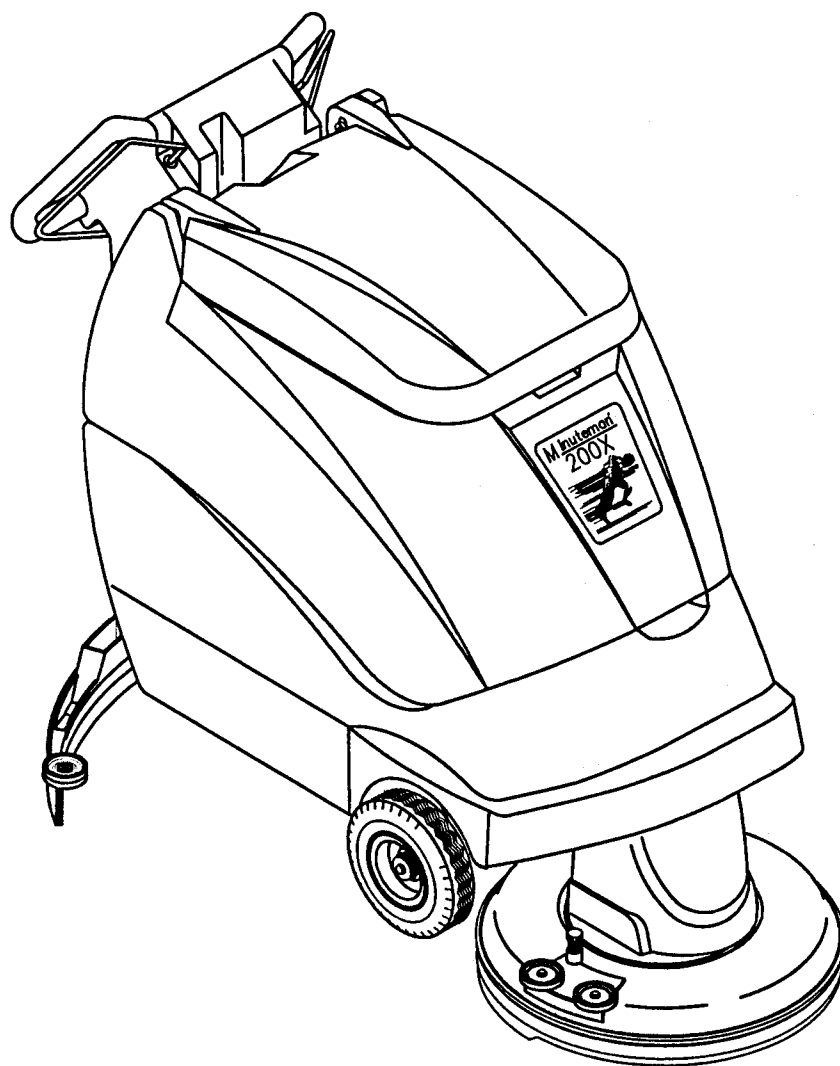
**Model: MC20001QP, CE  
MC20002QP, CE**

**OPERATION**

**SERVICE**

**PARTS**

**CARE**



Revised 10/03

**Minuteman<sup>®</sup>**

# 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
<b>81 dB Operator</b>	<b>77dB At 3m</b>	<b>4.8 m/s<sup>2</sup> At Operators Handle</b>

Tests were conducted on 6/14/00 with calibrated sound and vibration equipment under the conditions noted below:

General Condition: Indoors	Wind: 0 km/hr
Temperature: 23°C	Humidity: 70%
Barometric Pressure: 29.1	

Jeff Pollack

Jeff Pollack, Standards Engineer

6/15/00

Date

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# IMPORTANT SAFETY INSTRUCTIONS

## CAUTION

Operators must read and understand this manual before operating or maintaining this equipment.

- Keep hands and feet clear of moving parts while machine is in operation.
- All switches must be in the “OFF” position when charging batteries.
- Electrical motors and components can cause an explosion when operated near explosive materials or vapors. Do not operate this machine near flammable materials such as solvents, thinners, fuels, grain dusts, etc.
- Make sure all switches are turned “OFF” and battery connections are removed before performing any maintenance procedures.
- Store or park this machine on a level surface only.
- These machines are designed for level floor operation only. DO NOT OPERATE on ramps or inclines.
- Battery acid can cause burns. When working on or around batteries, wear protective clothing and safety glasses. Remove metal jewelry. Do not lay tools or metal objects on top of batteries.
- This machine is not suitable for picking up hazardous dust.

Charging batteries generates explosive gases. DO NOT CHARGE BATTERIES WHEN OPEN FLAMES OR SPARKS ARE PRESENT. DO NOT SMOKE. Make sure the charger is turned off before disconnecting it from the batteries. Charge the batteries in a well-ventilated area.

Maintenance and repairs must be performed by authorized personnel.

**SAVE THESE INSTRUCTIONS**

## ELECTRICAL REQUIREMENTS:

This piece of equipment operates on 24 Volt DC.

## BATTERY REQUIREMENTS:

2 x 12V 185 Amp Hour 20 Hour Rate Deepcycle P/N 956709

2 x 12V 210 Amp Hour 20 Hour Rate Deepcycle P/N 956210

## BATTERY SERVICE AND INSTALLATION:

Warning: Battery acid can cause burns. When working on or around batteries, wear protective clothing and safety glasses. Remove metal jewelry. Do not lay tools or metal objects on top of batteries.

## BATTERY INSTALLATION:

1. Raise tank assembly by gripping the front of the tank and lift the tank backward as shown in Fig. 1.
3. Install batteries as shown in Figure 2.

## CHARGING OF BATTERIES:

Charging of batteries generates explosive gases. DO NOT CHARGE BATTERIES WHEN OPEN FLAMES OR SPARKS ARE PRESENT. DO NOT SMOKE. Make sure the charger is turned off before disconnecting it from the batteries. Charge the batteries in a well-ventilated area. Fluid levels should be checked before and after charging and maintained at the proper levels.

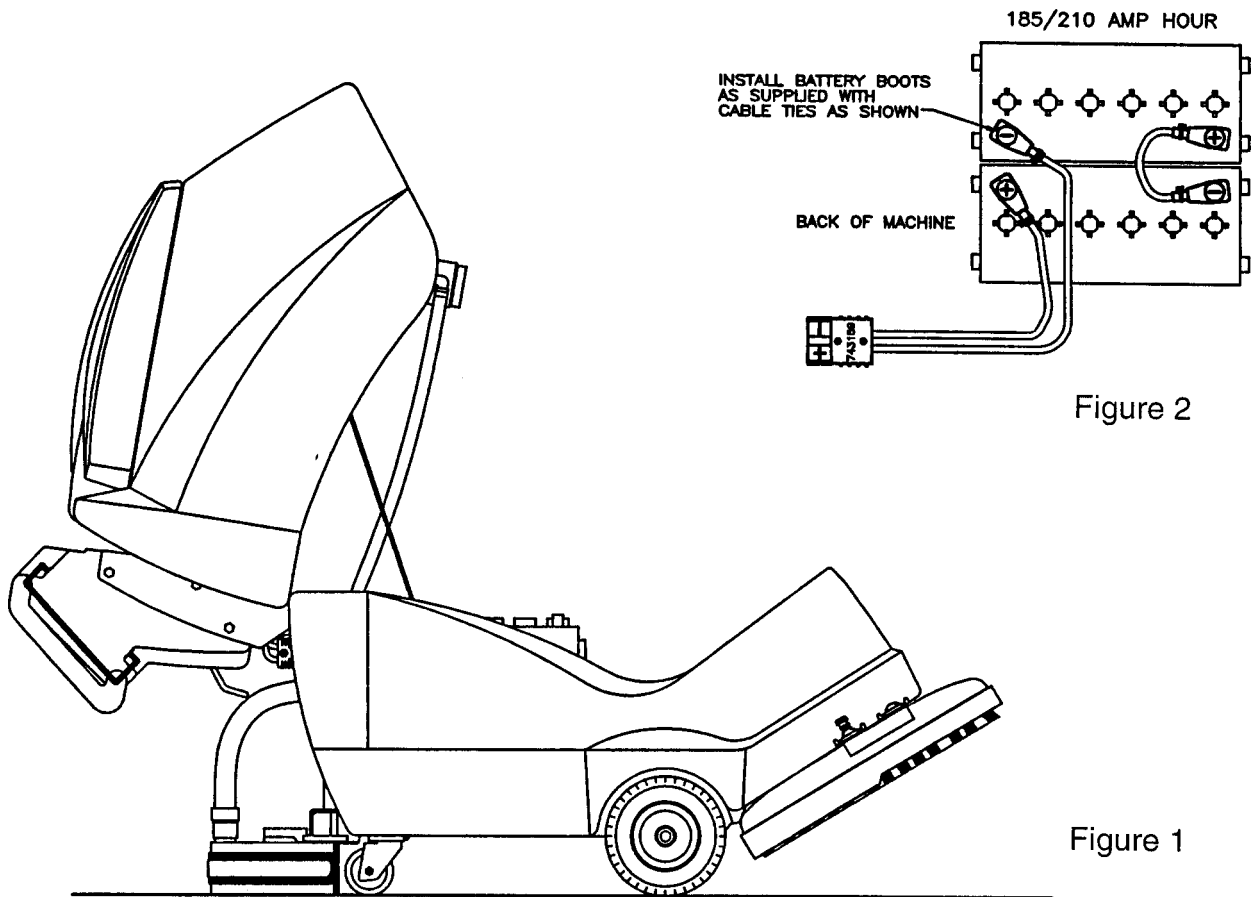
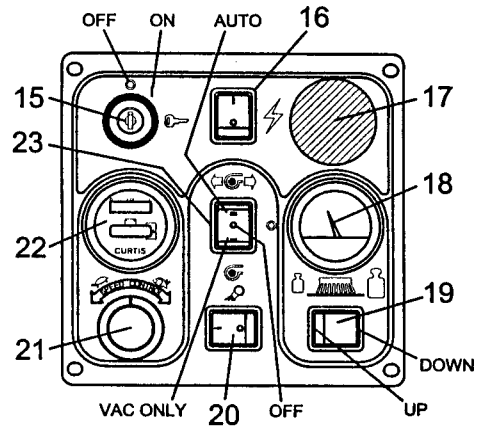
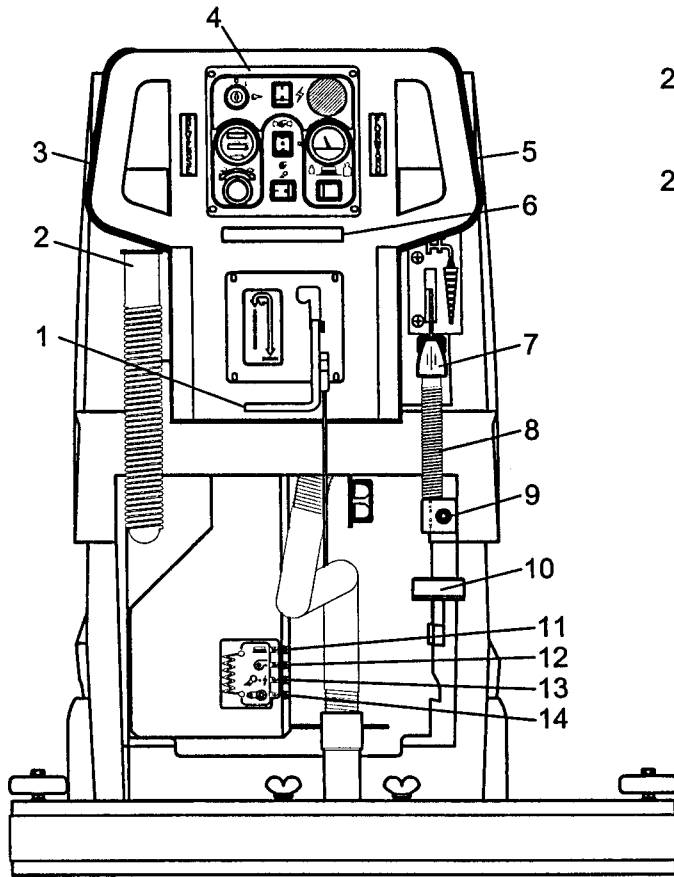


Figure 2

Figure 1

# CONTROL PANEL IDENTIFICATION



1. Squeegee lift lever
2. Recovery dump hose
3. Reverse handle
4. Dashboard control panel
5. Forward handle
6. Safety bar switch
7. Solution control lever
8. Solution dump hose
9. Quick disconnect - Aux. out (Deluxe only)
10. Foot pedal (TD only)
11. Circuit breaker - Brush
12. Circuit breaker - Vac
13. Circuit breaker - System
14. Circuit breaker - Transaxle
15. Keyswitch
16. Main power
17. Emergency button
18. Brush pressure gauge
19. Brush control
20. Pump switch
21. Speed control
22. Battery condition meter

## 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	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 lifting the red emergency disconnect button (17) so it is in the up position. Turn keyswitch (15) clockwise to “on” position and turn on main power switch (16).
4. Adjust main speed control (21) to full counter-clockwise position.
5. Lower brush assembly.
  - To lower the brush, first push the pedal (10) slightly outward on the machine (unlock it), and then release it slowly or by pressing “brush down” switch (19) on Deluxe models.
  - To lift the brush, press the pedal (10) down until lift mechanism engages or by pressing “brush up” switch (19) on Deluxe models.
  - Brush will come on automatically when brush in on the floor and “forward” (5) or “reverse” (3) handles are squeezed and remain on approximately 5 seconds after release.
6. Adjust solution control feed lever.
7. Select vacuum operations:
  - “Vacuum On” mode (23)  
Vacuum will remain on until switched to the “off” position
  - “Vacuum Auto” mode (23) –  
Vacuum will come on automatically when “forward” or “reverse” handle is squeezed, and scrubhead is on the floor. The brush and vacuum will remain on approximately 5 minutes.
8. Lower squeegee assembly by lowering handle (1).
9. Squeeze “forward” handle (5) and adjust forward speed (21) as desired.

#### After Use:

1. Turn off solution feed.
2. Raise squeegee assembly.
3. Turn off vacuum motor.

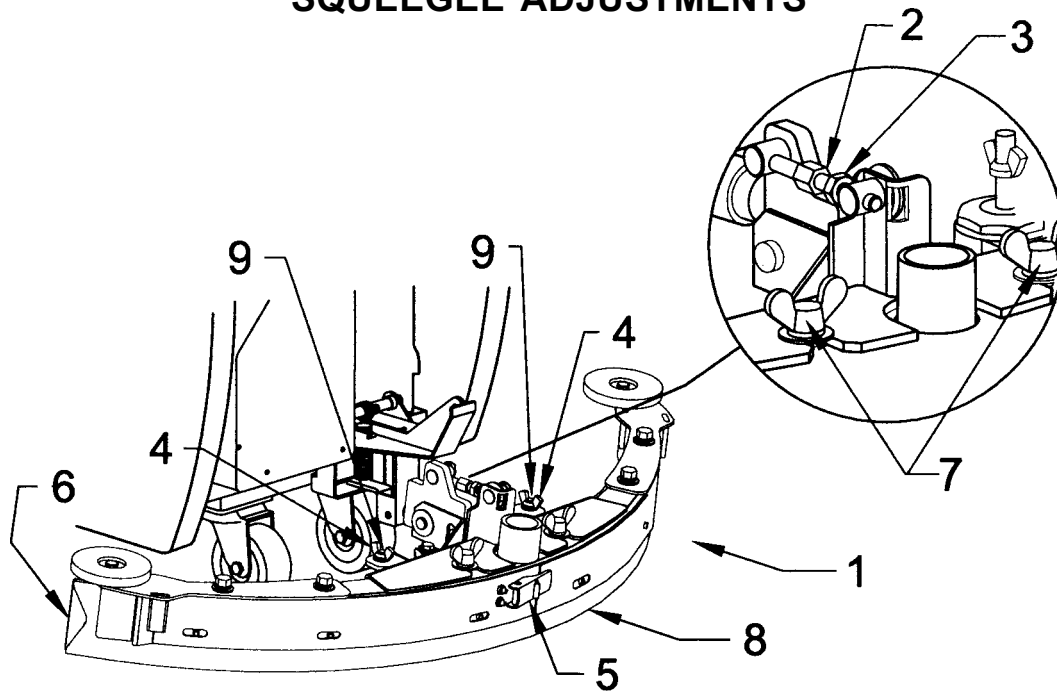
Solution and recovery tanks should be emptied after every use.

#### MAINTENANCE:

- |         |  |
|---------|--|
| Daily   | 1. Clean float assembly & squeegee blades. Vac filter                        |
|         | 2. Recharge batteries (check battery acid levels before and after charging). |
| 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



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

- 1 Ensure that the scrubber is on a relatively flat surface. Turn on the main power switch and turn the key switch clockwise to the on position. Raise the scrubhead off the floor. Turn the vacuum switch to the “vacuum only” position.
- 2 Turn the speed control knob counter clockwise to the low speed position. Lower the squeegee (item 1) to the floor and squeeze the forward control handle, moving the machine one or two feet forward to check the rear squeegee blade (item 8) 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, loosen the wing jam nut (item 4) in order to adjust the castor height. If the squeegee blade is deflecting too much, the castors need to be lowered to control the down pressure. Lower the castor by turning the exposed threaded stem (item 9) on the castor clockwise. Make the adjustment a few turns at a time. Repeat Step 2.
- 5 If the blades are not deflecting enough, raise the castor by turning the stem counter clockwise to adjust the castor height to allow more down pressure on the squeegee. Repeat Step 2.
- 6 Make sure that there is an even deflection on the entire length of the rear blade. Adjust the castors and retighten the wing jam nuts to lock the castor setting in place.
- 7 Pitch adjustment is necessary if the outer ends on the squeegee blade does not contact the floor and there is too much deflection in the middle area or if the outer ends are over deflected and there is no contact in the middle.
- 8 To adjust the pitch, lower the squeegee to the floor. Loosen the lock nut (item 3) in the turnbuckle assembly. Turning the turnbuckle (item 2) clockwise or counter clockwise controls the forward and backward pitch of the squeegee. Having the rear blades deflected uniformly along the entire length is the desired set up.
- 9 Repeat Step 2 until the desired set up is achieved.
- 10 In certain applications where a non-slotted front wiper blade (item 6) is needed, detach the squeegee assembly by loosening the wing bolts (item 7). Unlock the clamp on the front squeegee to release the straps and flip the blade over to the non-slotted side. Reattach straps and lock the clamp back in place.
- 11 You can also easily replace the rear blade by unlatching the latch (item 5) and removing the straps by sliding them off the assembly.



# BRUSH INSTALLATION - REMOVAL

## INSTALLATION

### Traction Drive

1. Raise the scrubhead to the "UP" position by depressing the pedal (A) downward as shown on Fig. 1.

### Deluxe Model

1. Raise the scrubhead to the "UP" position by pressing the switch "BRUSH UP" (B) switch as shown on Fig. 2 until the scrubhead stops retracting upwards.
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

### Traction Drive

1. Raise the scrubhead to the "UP" position by depressing the pedal (A) downward as shown on Fig. 1.

### Deluxe Model

1. Raise the scrubhead to the "UP" position by pressing the switch "BRUSH UP" (B) switch as shown on Fig. 2 until the scrubhead stops retracting upwards.
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

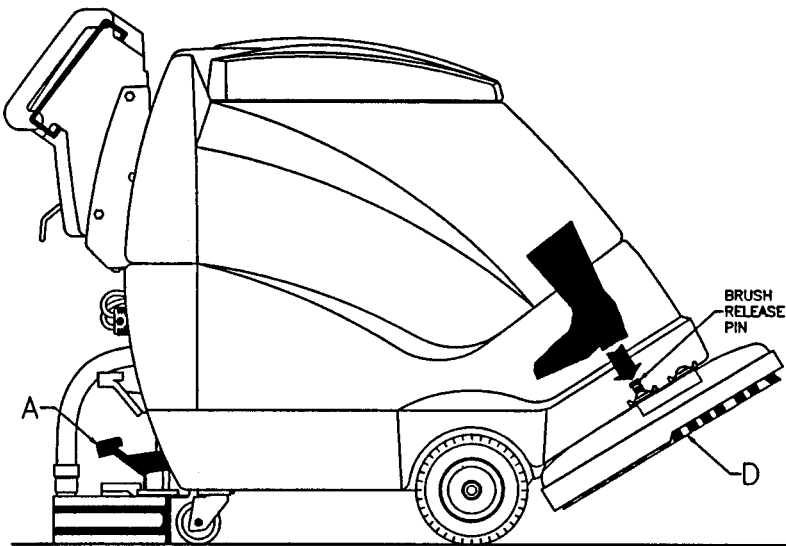
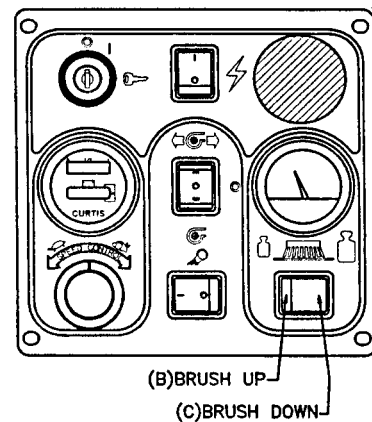
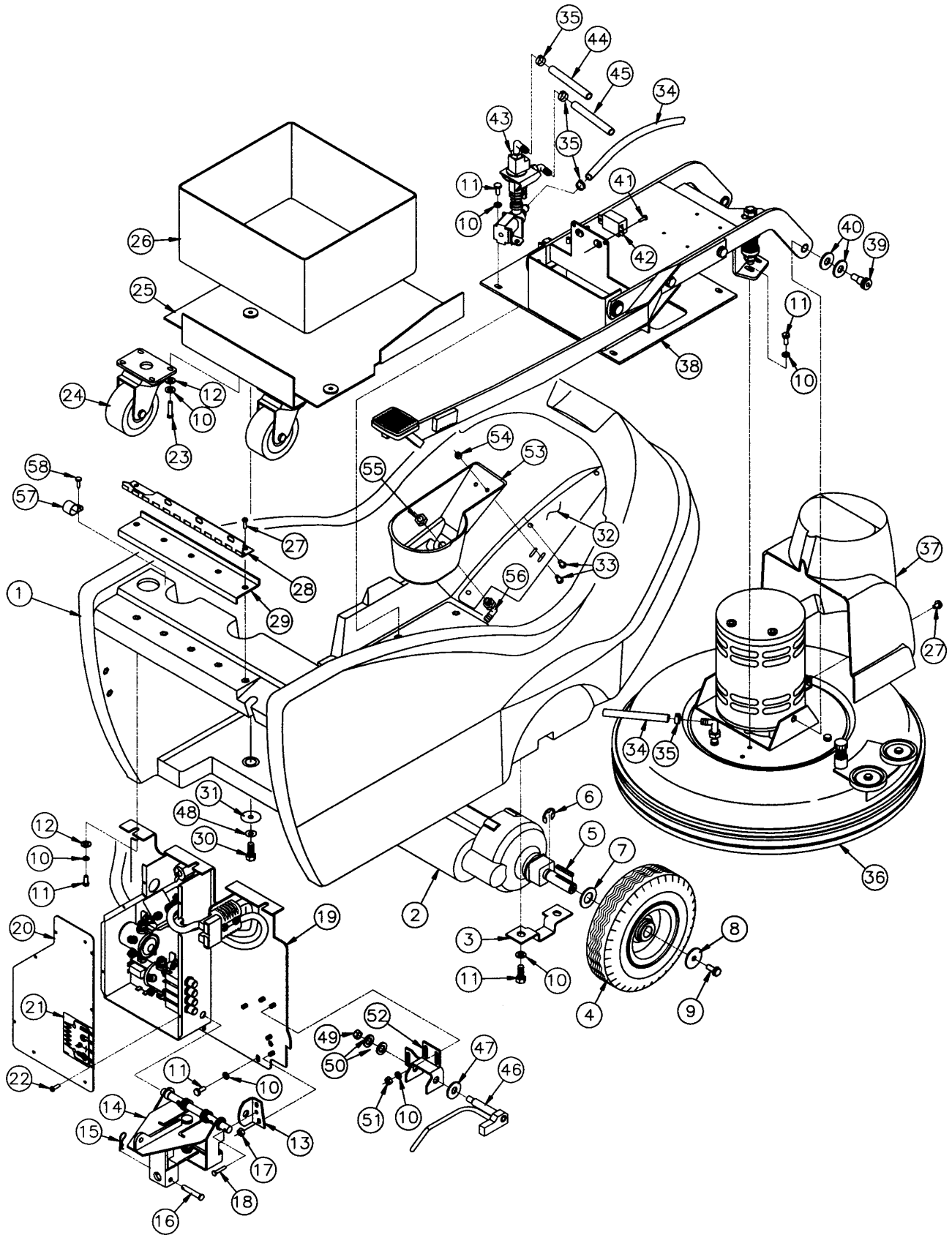


Figure 2



# BASE ASSEMBLY - TRACTION DRIVE

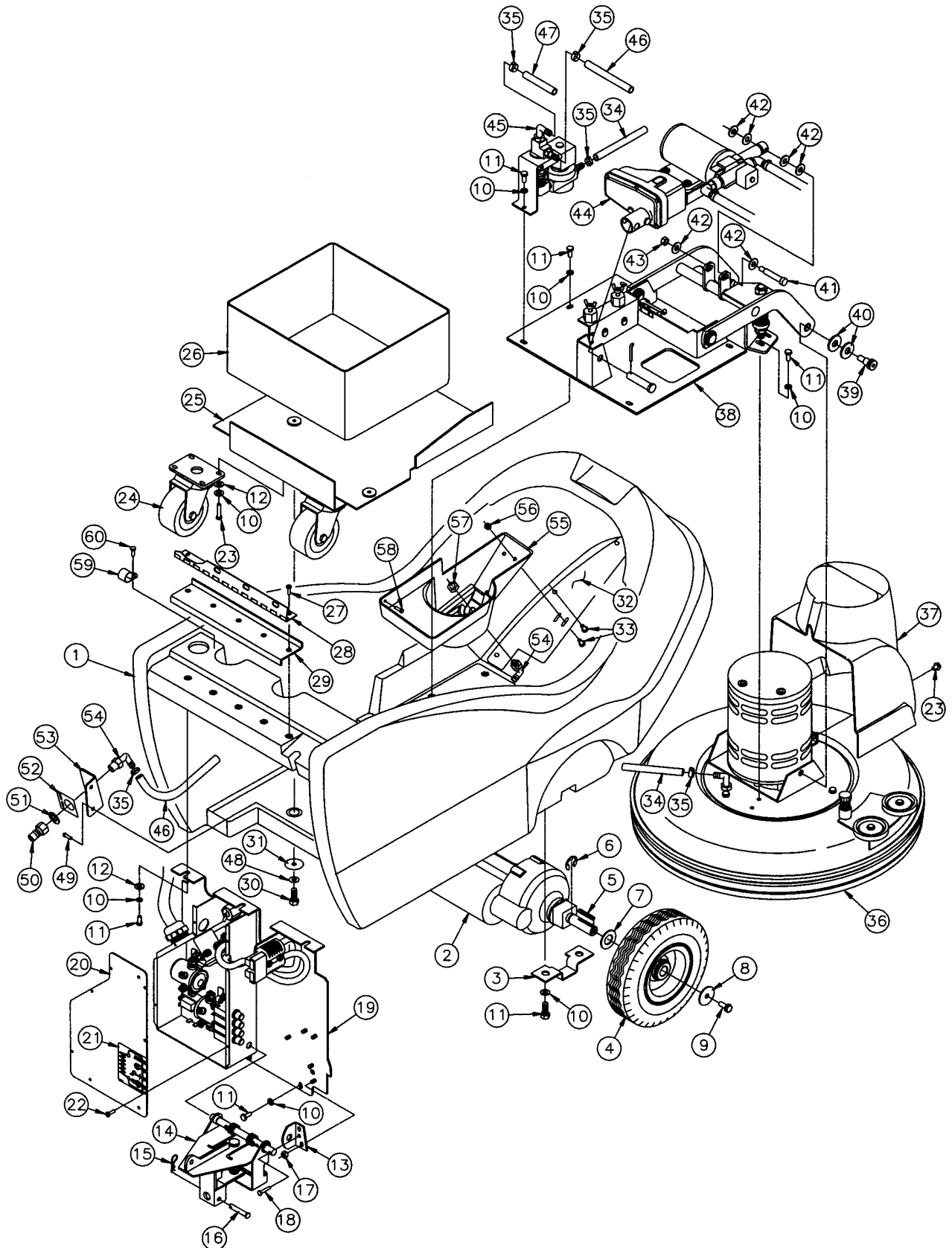


# TRACTION DRIVE

## Parts List

Item	Part No.	Qty.	Description
1	200102	1	Base
2	743506	1	Transaxle 24V
3	200126	2	Transaxle Mount
4	200172	2	Tire, Pneumatic
5	361233	2	Key 3/16 sq. x 1.50
6	809148	2	E-Ring 3/4
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	30	WSR-Helical 1/4
11	711203	19	BLT-HH 1/4-20 x .62
12	711505	11	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	200175	1	Back Panel Assy.
20	200154	1	Electrical Box Cover
21	715286	1	Decal, CB
22	711125	4	SCR-ST-B #10 x 1/2
23	713002	8	BLT-HH 1/4-20 x .75
24	200345	2	Caster, 3 1/2"
25	200125	1	Battery Tray Weldment
26	210048	1	Battery Liner
27	712565	5	SCR-MC 1/4 - 20 x .62 SS
28	200145	1	Hinge
29	200146	1	Hinge Plate
30	711228	4	Bolt-HH 5/16-18 x 3/4
31	711507	4	WSR-Flat .37 x 1.12 x .06
32	200233	1	Bottom Cover
33	712822	5	SCR-THMS 10-24 x 1/2
34	200235	1	Hose Nylobraid 17.50
35	450076	2	Crimp Clamp 185R SS
36	200155	1	Scrubhead Assy. TD/Deluxe
37	200186	1	Motor Cover
38	200302	1	Motor Lift Assy. - TD
39	712099PLT	2	Shoulder Bolt 1/2 x .50
40	711510	4	WSR-Flat .50 x 1.38 x .10
41	712822	2	SCR-THMS 10-24 x 1/2
42	743032	1	Terminal Block
43	200197	1	Solution Valve Assy. - TD
44	200234	1	Solution Hose 51.00
45	200236	1	Auxilliary Hose 48.50
46	200130	1	Pawl Weldment
47	711578	1	WSR-Flat 1/2 Brass
48	711545	4	WSR-Helical 5/16
49	711375	1	Nut-Nyloc 3/8-16
50	712310	2	WSR-Flat .52 x .87 .06
51	711316	3	Nut-Hex 1/2 -20
52	200129	1	Pawl Mounting Bracket
53	200318MCH	1	Reservoir
54	712908	2	Nut-Wizz 10-24
55	260183	1	Nut-Nylon 1/4 NPT
56	833325	1	Barb 90° Elbow 3/8 x 1/4 NPT
57	82-54-A	1	Clamp
58	711106	1	SCR-ST-A 10x .75 PL

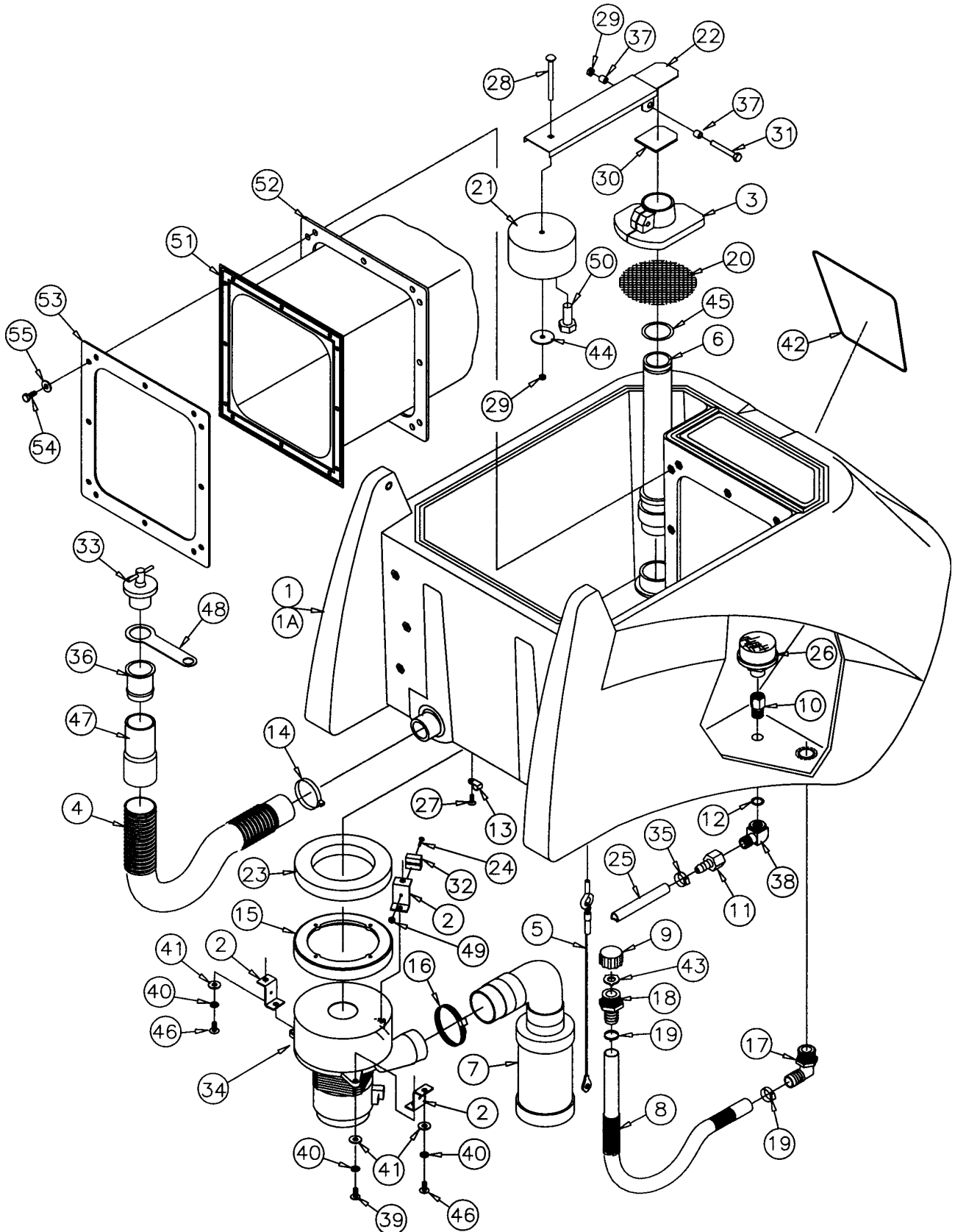
# BASE ASSEMBLY - DELUXE



# DELUXE Parts List

Item	Part No.	Qty.	Description
1	200102	1	Base
2	743506	1	Transaxle 24V
3	200126	2	Transaxle Mount
4	200172	2	Tire, Pneumatic
5	361233	2	Key 3/16 sq. x 1.50
6	809148	2	E-Ring 3/4
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	27	WSR-Helical 1/4
11	711203	19	BLT-HH 1/4-20 x .62
12	711505	11	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	200175	1	Back Panel Assy.
20	200154	1	Electrical Box Cover
21	715286	1	Decal, CB
22	711125	4	SCR-ST-B #10 x 1/2
23	713002	8	BLT-HH 1/4-20 x .75
24	200345	2	Caster, 3 1/2"
25	200125	1	Battery Tray Weldment
26	210048	1	Battery Liner
27	712565	5	SCR-MC 1/4 - 20 x .62 SS
28	200145	1	Hinge
29	200146	1	Hinge Plate
30	711228	4	Bolt-HH 5/16-18 x 3/4
31	711507	4	WSR-Flat .37 x 1.12 x .06
32	200233	1	Bottom Cover
33	712822	5	SCR-THMS 10-24 x 1/2
34	200235	1	Hose Nylobraid 17.50
35	450076	2	Crimp Clamp 185R SS
36	200155	1	Scrubhead Assy. TD/Deluxe
37	200186	1	Motor Cover
38	200290	1	Motor Lift Assy.
39	712099PLT	2	Shoulder Bolt 1/2 x .50
40	711510	4	WSR-Flat .50 x 1.38 x .10
41	712126	1	Shoulder Bolt 1/2 x .50
42	711515	6	WSR-Flat .406 x .81 x .06
43	711373	1	Nut-Hex 5/16-18 Nyloc
44	200285	1	Actuator/Pump Assy
45	200139	1	Valve Assy - Deluxe
46	200236	1	Auxilliary Hose 48.50
47	200234	1	Solution Hose 51.00
48	711545	4	WSR-Helical 5/16
49	711161	2	Hi/Lo Screw #10 x 3/4
50	828368	1	Male Coupler BH2-61
51	711594	1	WSR-Flat .56 x .88 x .03
52	715144	1	Decal Aux Pump
53	200237	1	Quick Disconnect Bracket
54	833325	2	Barb 90° Elbow 3/8 x 1/4 NPT
55	200318	1	Reservoir
56	712908	2	Nut-Wizz 10-24
57	260183	1	Nut-Nylon 1/4 NPT
58	711160	1	Hi/Lo Screw #10 x 5/8
59	82-54-A	1	Clamp
60	711106	1	SCR-ST-A 10 x .75 PL

# TANK ASSEMBLY

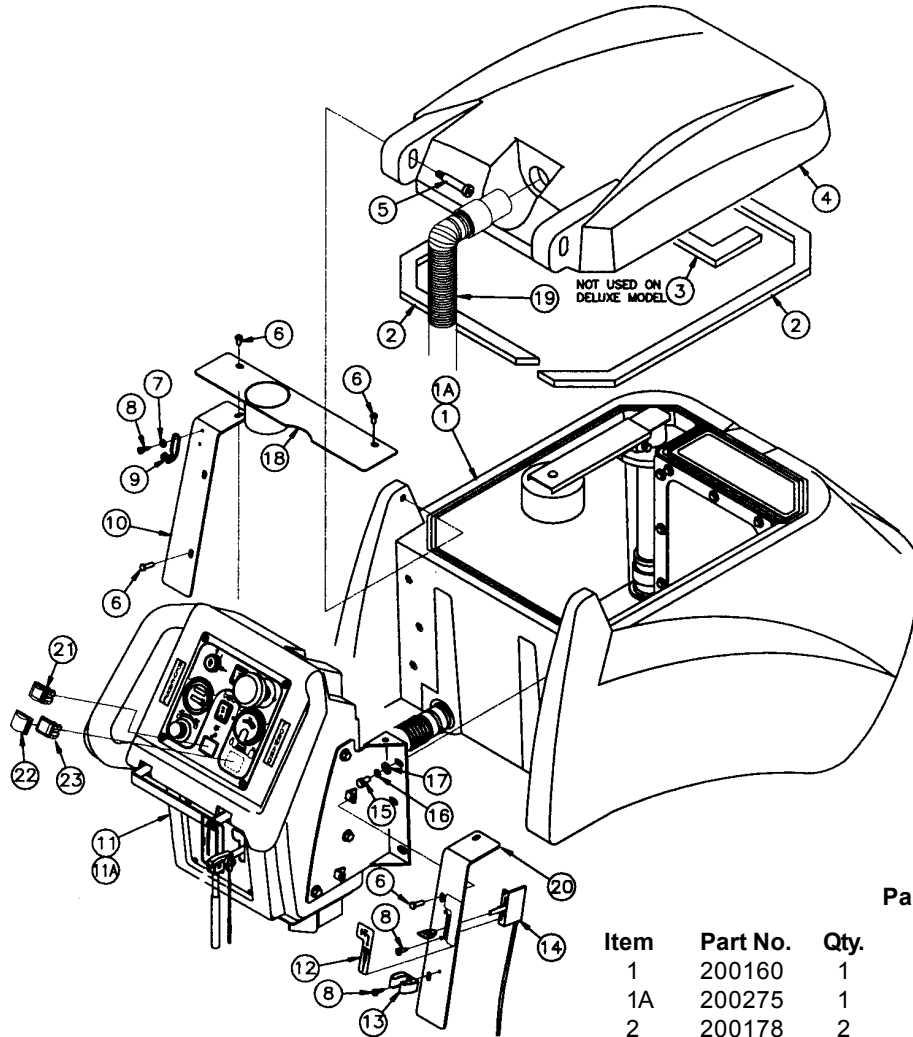


# TANK ASSEMBLY

## Part List

Item	Part No.	Qty.	Description
1	200101	1	Solution/Recovery Tank
1A	200101MCH	1	Solution/Recovery Tank - Deluxe Only
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, 3/4 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	250038	3	Retainer Clip
14	260203	1	Hose Clamp 102120 Murray
15	290017	1	Gasket, Molded, Vac Motor
16	760859	1	Clamp-Hose
17	383321	1	Elbow 3/4 MPT 3/4 Barb PP
18	200022	1	3/4" MGHT x Hose Barb
19	829129	2	Clamp, Crimp 3/4 Hose
20	430050	1	Filter Screen
21	260155	1	Foam Float
22	200320	1	Shut Off Weldment
23	460019	1	Gasket 3.75 x 5.75 x .75
24	710207	1	SCR-MC 6-32 x .87 ST PL
25	200234	1	Solution Hose
26	130118	1	Solution Strainer
27	712540	3	SCR-MC #10-24 x .375 SS
28	712574	1	CR Bolt SS 1/4-20 x 3"
29	712667	2	Nut-Hex 1/4-20 SS Nyloc
30	200321	1	Gasket, Shut-Off
31	712568	1	SCR-MC 1/4-20 x 2.25 SS
32	832996	1	Terminal Block 2-Pole VDE
33	833316	1	Drain Plug
34	740225	1	Vac Motor 6515-13 24V
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 1/4-20 x .75
40	711544	6	Lockwasher - Helical 1/4
41	711505	6	Washer 1/4
42	715285	1	Decal, 200X
43	200024	1	Black Vinyl Washer
44	712759	1	WSR-Flat .31 x 1.37 x .06 SS
45	310008	1	O-Ring (included in 200251)
46	712565	3	SCR-MC 1/4-20 x .625 SS
47	805613	1	Hose Cuff, Grey Vinyl
48	320269	1	Strap, Drain Plug Retaining
49	711301	1	Nut-Hex 6-32 ST PL
50	712010	2	BLT-HH 1/2-13 x 1.25 STL Zinc
<b>Deluxe Model Only</b>			
51	200106	1	Bladder Bag
52	200267	1	Gasket, Bladder
53	200189	1	Frame, Bladder
54	712562	12	SCR-MC HH 1/4-20 x .75 SS
55	711504	12	Washer 1/4 SS

# UPPER ASSEMBLY

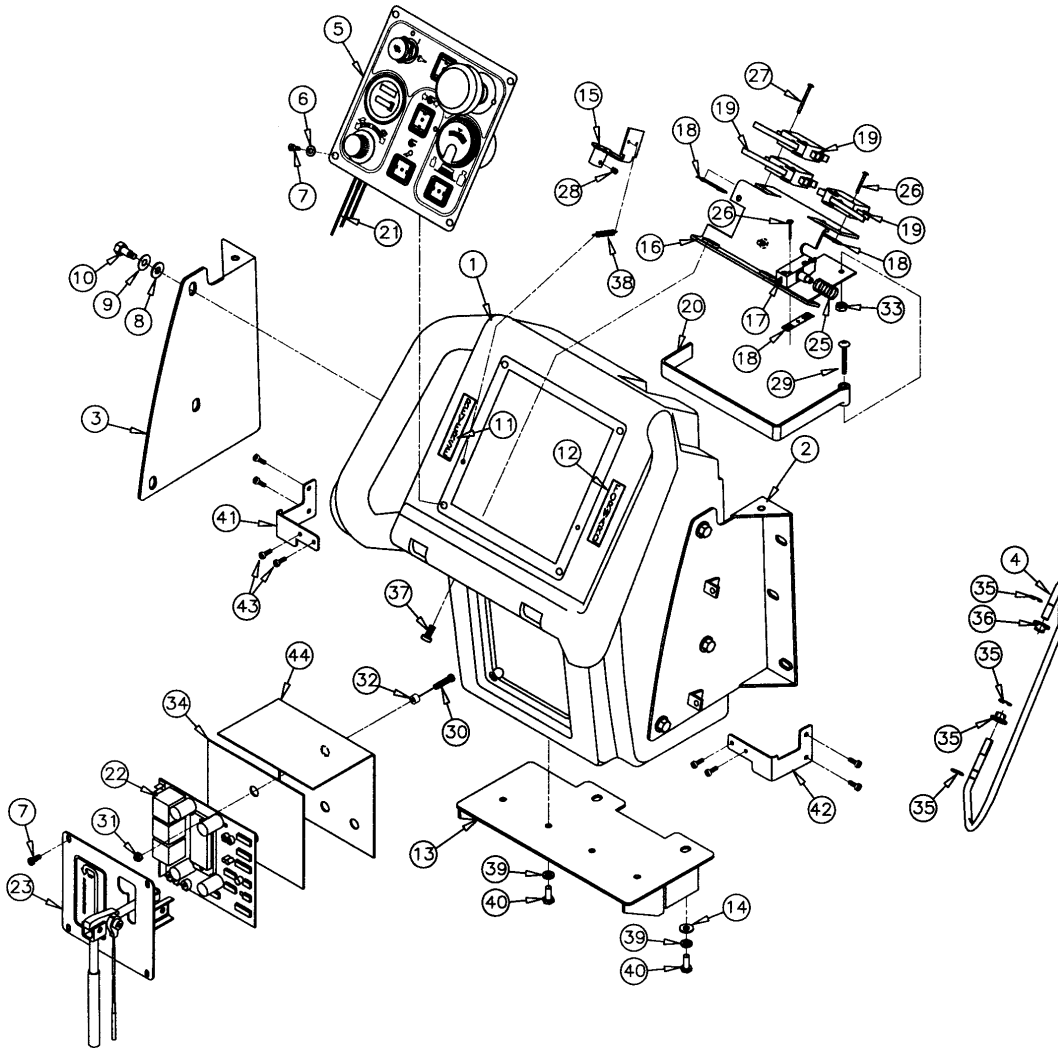


## Parts List

Item	Part No.	Qty.	Description
1	200160	1	Tank Assembly
1A	200275	1	Tank Assy. - Deluxe
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	200180	1	Console Assy. TD/Deluxe
11A	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
20	200152	1	Solution Control Bracket
<b>Deluxe Model Only</b>			
21	740711CE	1	Switch Dreefs w/Splashguards
22	740811	1	Switch Boot
23	740800CE	1	Switch Momentary



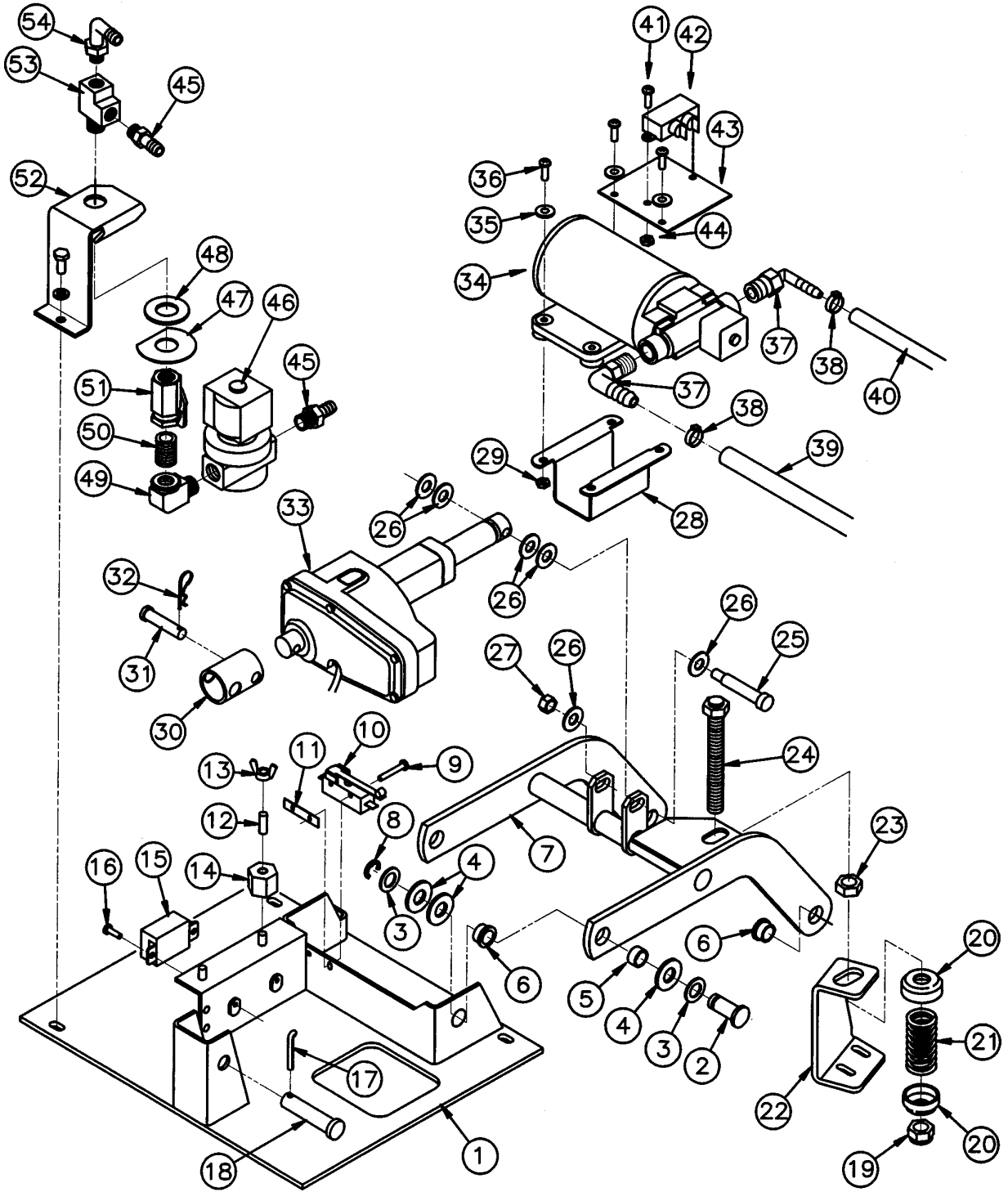
# CONSOLE ASSEMBLY



## Parts List for 200180

Item	Part No.	Qty.	Description	Item	Part No.	Qty.	Description
1	200104MCH	1	Console Machined	23	200240	1	Squeegee Lift Assy.
2	200134	1	Console Bracket Right	24	200241	1	Squeegee Lift Cable
3	200135	1	Console Bracket Left	25	670093	1	Spring, Compression
4	200181CTD	2	Handle Wire, Coated	26	710307	4	SCR-MC 6-32 x 1 ST PL
5	200295	1	Dashboard Assy. TD/DLX	27	710312	2	SCR-MC 6-32 x 1.75 ST PL
6	712320	4	WSR-Nylon .22 x .45 x .04	28	711004	2	SCR-SK 1/4-20 x .25 SS
7	712540	8	SCR-MC #10-24 x .37 SS	29	712569	1	SCR-MC 1/4-20 x 1.50 SS
8	711575	6	WSR-Flat .31 x .75 x .06	30	710534	2	SCR-MC #8-32 x 1"
9	711545	6	WSR-Helical 5/16	31	711372	2	Nut, Nyloc #8-32
10	711228	6	Bolt-HH 5/16-18 x .75	32	200340	2	Spacer, S-C Board
11	715258	1	Decal, "Reverse"	33	829052	1	Nut, Hex 1/4-20
12	715257	1	Decal, "Forward"	34	805637	1	SCR Insulator
13	200151	1	Hinge Bracket Weldment	35	711721	6	Retaining Ring .312
14	711505	2	WSR-Flat 1/4	36	829052	4	Bushing Flanged, Nylon
15	200338	2	Cam Weldment	37	710180	2	SCR-MC 1/4-20 x 1"
16	200184	1	Switch Bracket Weldment	38	220324	2	Spring
17	742472	1	Switch, McGill NC	39	711544	6	WSR-Helical 1/4
18	711430	3	Nut-Tinnerman 6-32	40	711203	6	Bolt-HH 1/4-20 x .62
19	833329SA	3	Switch, Staggered Action	41	200039	1	Bail Stop (RH)
20	200190CTD	1	Lever, Switch, Coated	42	200040	1	Bail Stop (LH)
21	743240	1	Harness, 200 Console	43	711160	8	Screw Hi-Lo #10 x 5/8 PL
22	740944-1	1	Speed Control, 24V 1203A225	44	260210	1	Moisture Guard SCR 260TD

# MOTOR LIFT - DELUXE



## Parts List

### 200290 Motor Lift Assembly

Item	Part No.	Qty.	Description
1	200249	1	Base Plate Weldment - Deluxe
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	200242	1	Lift Arm Weldment - Deluxe
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	743032	1	Terminal Block
16	712822	2	SCR-THMS 10-24 x 1/2
17	711807	1	Cotter Hair Pin
18	711672	1	Clevis Pin 1/2
19	711376	1	Nut-Nyloc 1/2-13
20	828264	2	Cup Washer
21	260137	1	Compression Spring
22	200110	1	Spring Bracket
23	711334	1	Nut-Hex 1/2-13
24	200149	1	Adjustment Rod
25	712126	1	Shoulder Bolt 5/16 x 1.75
26	711515	6	WSR-Flat .406 x .81 x .063
27	711373	1	Nut-Nyloc 1/4-20

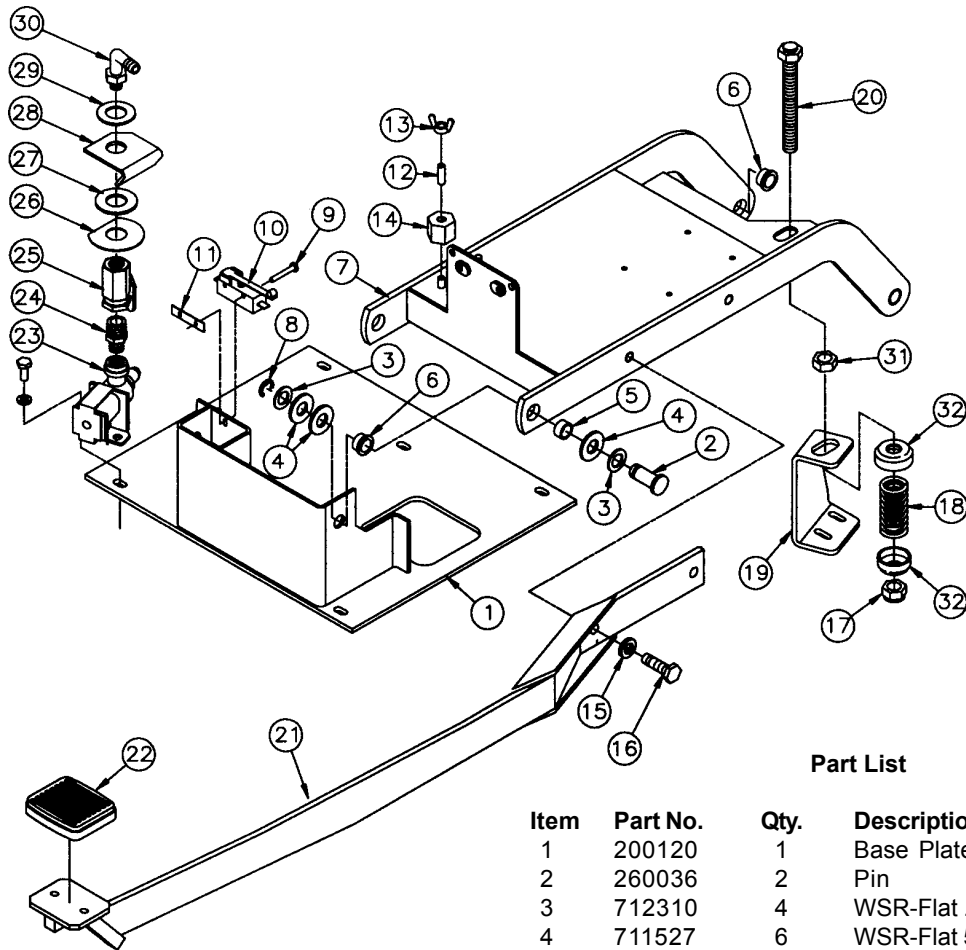
### 200285 Pump/Actuator Assembly

28	200174	1	Pump Mounting Bracket
29	712638	4	Nut-Nyloc 10-24 SS
30	200248	1	Pivot Tube
31	831965	1	Clevis Pin 3/8 x 1.63
32	711808	1	Cotter Pin
33	743503	1	Actuator
34	833299	1	Pump
35	711505	4	WSR-Flat 1/4
36	712532	4	SCR-MC 10-24 x 1 SS
37	833325	2	Elbow 3/8 Barb x 1/4 NPT
38	450076	2	Crimp Clamp 185R
39	200282	1	Hose Pump Inlet
40	200281	1	Hose Pump Outlet
41	710329	2	SCR-MC 8-32 x .5 C.E. Only
42	742391	1	RFI Filter, Corcom C.E. Only
43	200335	1	RFI Bracket C.E. Only
44	711372	2	Nut-Nyloc 8-32 C.E. Only

### 200139 Valve Assembly - Deluxe

45	342430	2	Fitting 3/8 Barb x 3/8 MPT
46	743505	1	Water Solenoid 24V
47	829463	1	WSR-Flat SS
48	828975	1	WSR-Neoprene .75 x 1.5 x .09
49	830062	1	3/8 Street 90° Brass
50	383332	1	3/8 Closed Nipple
51	809413MCH	1	Solution Valve Machined
52	200259	1	Valve Bracket
53	210408	1	Fitting Brass Tee 3/8 NPT
54	450040	1	Elbow 3/8 Barb x 3/8 MPT

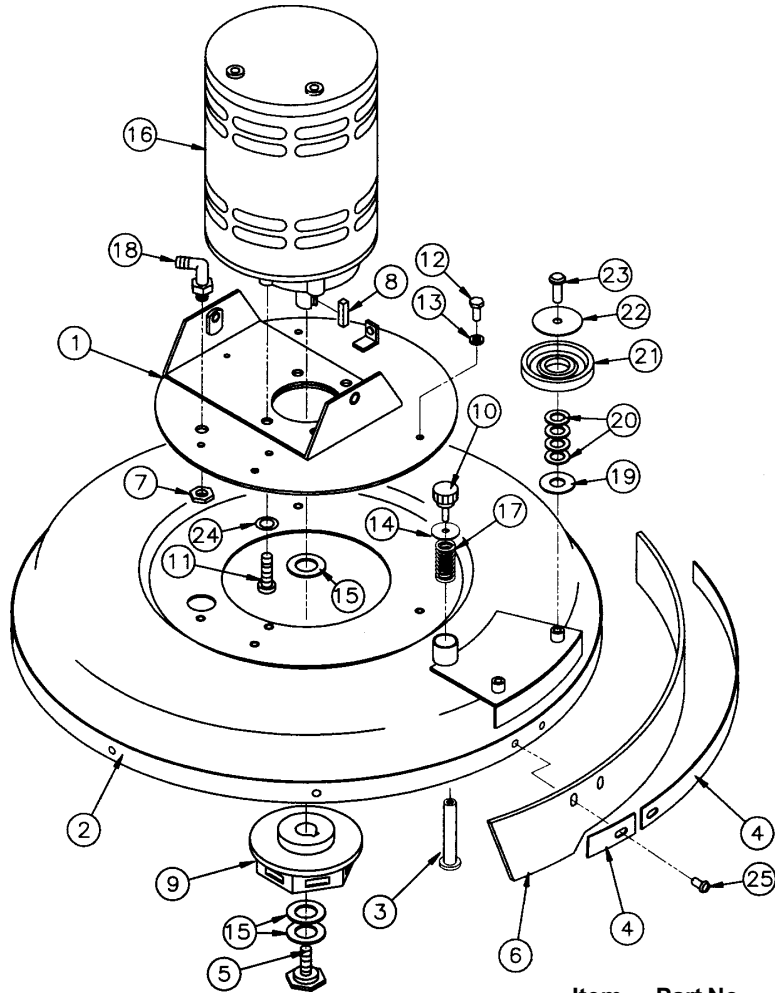
# MOTOR LIFT TRACTION DRIVE



## Part 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	713041	2	Bolt-HH 3/8-16 x 3/4 #5
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	210142	1	Pedal
23	740493	1	Water Solenoid 24V
24	200195	1	Reducing Nipple 3/8 x 1/4
25	809413MCH	1	Solution Valve Machined
26	829463	1	WSR-Flat SS
27	828975	1	WSR-Neoprene .75 x 1.5 x .09
28	200196	1	Valve Bracket
29	711512	1	WSR-Flat .75 x 1.37 x .08
30	450040	1	Elbow 3/8 Barb x 3/8 MPT
31	711334	1	Nut-Hex 1/2 - 13
32	828264	2	Cup Washer

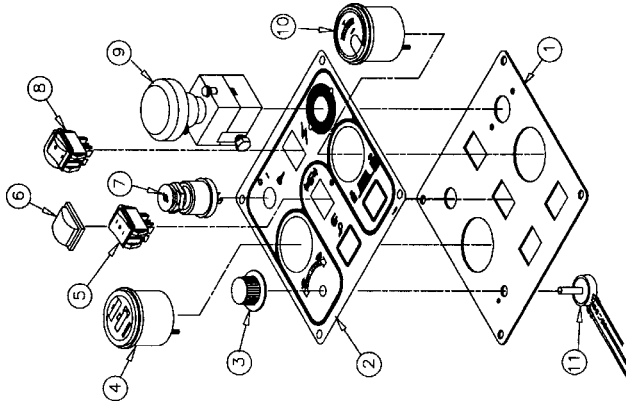
# SCRUBHEAD ASSEMBLY



## Part List

Item	Part No.	Qty.	Description
1	200141	1	Motor Platform Weldment - TD
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 1/4 NPT Nylon
8	833621	1	Key, 1/4 x 1/4 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 1/4-20 x 1/2
13	711544	3	WSR-Helical 1/4
14	711519	1	WSR-Flat .25 x 1.00 x .03
15	711517	3	WSR-Flat 3/4
16	740209	1	Gear Motor 24V
17	833102	1	Spring
18	833325	1	Hose Barb 90 Nylon
19	711578	2	WSR-Flat 1/2 Brass
20	712310	8	WSR-Flat .52 x .87 x .06
21	430085	2	Bumper Wheel
22	712579	2	WSR-Flat .31 x 1.37 x .06 SS
23	710975	2	SCR-SC 5/16-18 x .87
24	711555	4	WSR-Lock Internal 3/8
25	712560	8	SCR-MC 1/4-20 x .50 Nyloc

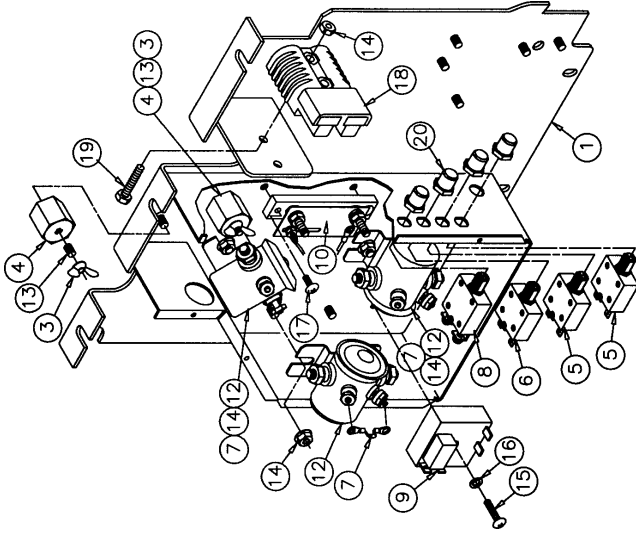
# DASHBOARD



Part List 200295

Item	Part No.	Qty.	Description
1	200179	1	Dashboard Plate
2	715280	1	Decal 200 Dashboard
3	809874	1	Knob
4	743501	1	Meter, Hour Battery 24V
5	742102	1	Switch, 23670C4D
6	740811	1	Switch Boot
7	741005	1	Keyswitch On-Off
8	740711CE	1	Switch Dreefs w/Splashguard
9	742202	1	Disconnect Switch 125A
10	743049	1	Gauge, Brush Pressure
11	743199-1	1	Pot Assy w/o Resisto

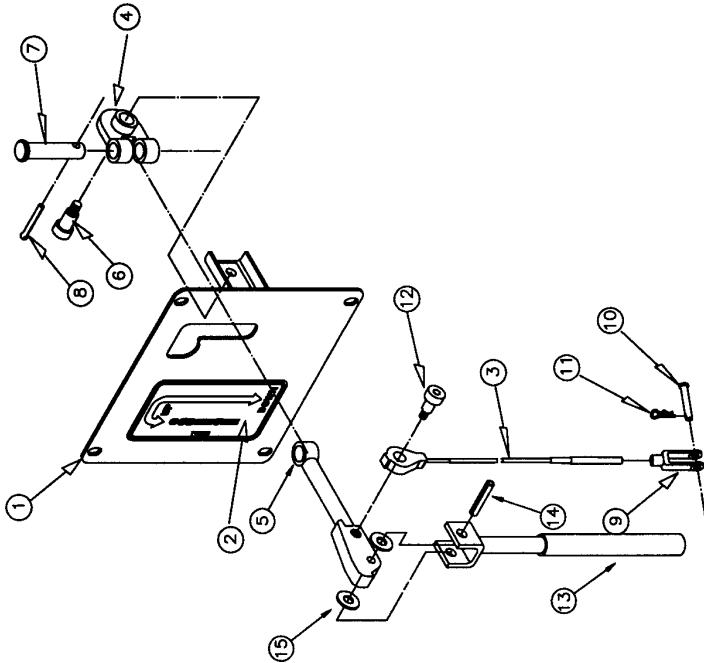
# BACK PANEL



Part List 200175

Item	Part No.	Qty.	Description
1	200124	1	Backpanel Weldment
2	711368	2	Wing Nut, 1/4-20
3	740132	2	Insulator (Glastic)
4	740238	2	Circuit Breaker 18
5	740247	1	Circuit Breaker 30
6	742000	3	Diode Assembly
7	740549	1	Circuit Breaker 50
8	741037	1	5 Sec. True Off Delay Timer
9	742403	1	Shunt, Calibrated
10	743250	1	Wire Harness, Lower Assy.
11	788147	3	Solenoid 24VDC
12	833638	2	Brass Stud
13	711425	8	Whiz-Nut 1/4-20
14	712823	1	SCR-THMS 10-24 x 1"
15	712320	1	WSR-Nylon .22 x .42 x .04
16	712536	2	SCR 10-24 x .62
17	740159	1	CB175 Red Housing Only
18	711210	2	SCR-HH 1/4-20 x 1 1/4
19	742748	4	Boot, Circuit Breaker

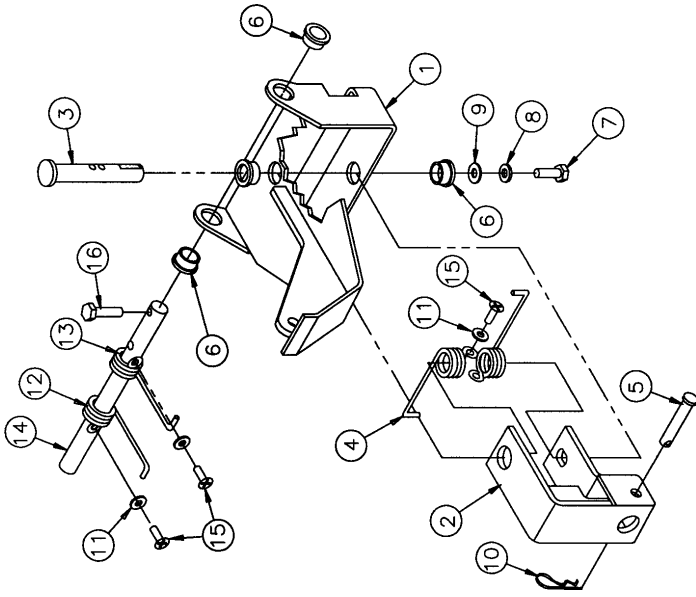
# SQUEEGEE LIFT



Part List 200240

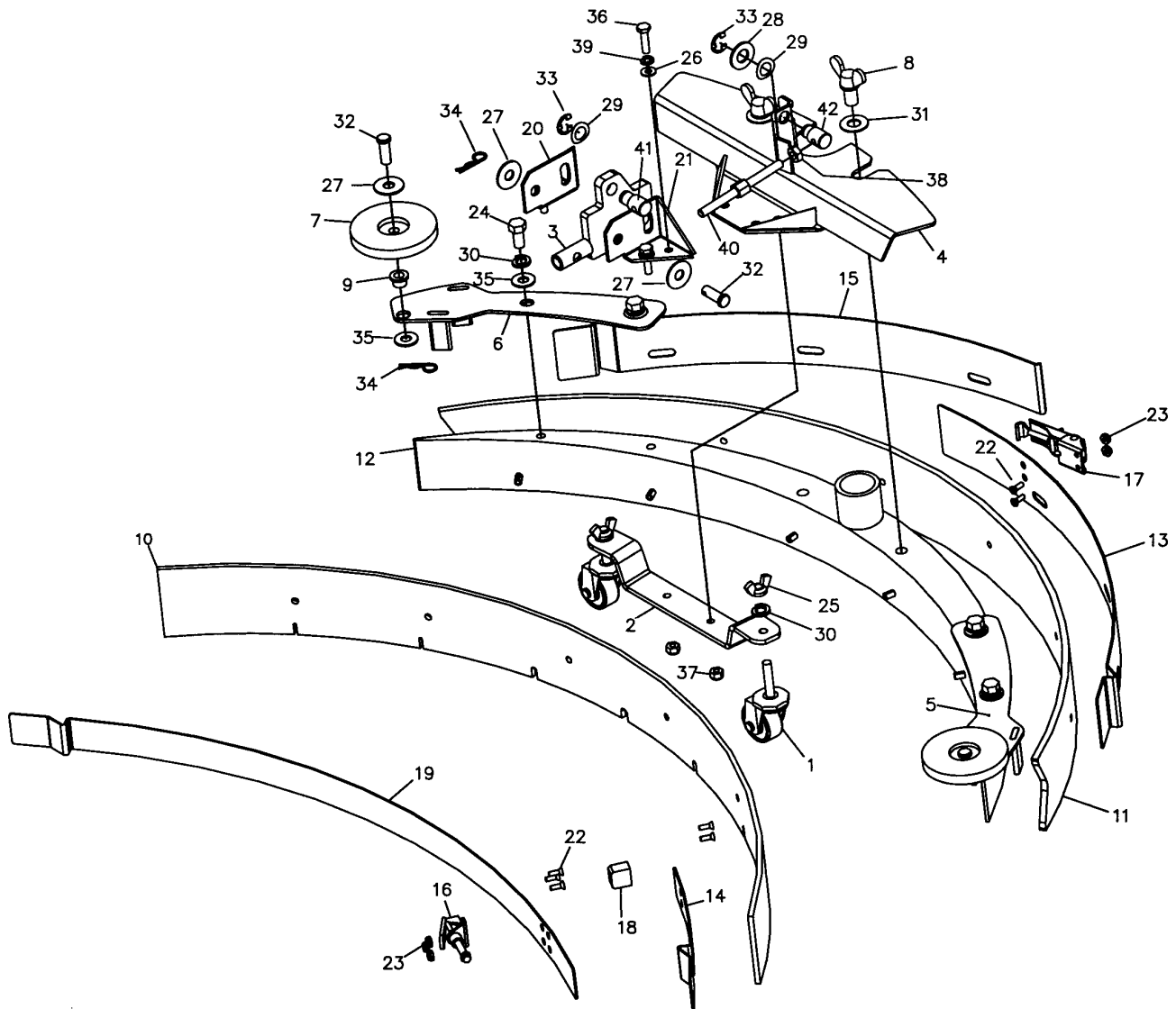
Item	Part No.	Qty.	Description
1	200239	1	Panel Cover Weldment
2	715603	1	Decal Squeegie Lift
3	200241	1	Squeegie Lift Cable
4	200261	1	Inner Arm Weldment
5	200017	1	Arm Squeegie, Lift Weldment
6	712081	1	Bolt, Shoulder 5/16 x .75
7	831965	1	Clevis Pin 3/8
8	809311	1	Cotter Pin 7/64 x 1"
9	881009	1	Yoke
10	881002	1	Clevis Pin 5/16
11	711808	1	Cotter Pin #13
12	712041	1	Bolt-Shoulder 5/16 x .44
13	200038	1	Handle Weldment
14	711642	1	3/16 X 1.00 Roll Pin
15	711504	2	WSR-Flat 1/4 SS

# SQUEEGEE MECHANISM



Part List 200153

Item	Part No.	Qty.	Description
1	200144	1	Spring Housing Weldment
2	200300	1	Yoke Weldment
3	210375	1	Swivel Pin
4	210391	2	Return Spring SS
5	210415	1	Clevis Pin .31 x 1.7 11-097
6	260041	4	Oilite Flange Bushing
7	710180	1	SCR-MC 1/4-20 x .75 ST PL
8	711544	1	WSR-Helical 1/4
9	711519	1	WSR-Flat .25 x 1.01 x .06
10	711808	1	Cotter Pin - Hair #13
11	712320	4	WSR-Nylon .22 x .45 x .04
12	900080	1	Spring, Torsion RH
13	900081	1	Spring, Torsion LH
14	200159	1	Pin
15	712536	4	SCR-MC 10-24 x .62 SS
16	712564	1	BLT-HH 1/4-20 x 1.00 SS



**Parts List for 200348**

Item	Part No.	Qty.	Description	Item	Part No.	Qty.	Description
1	200064	2	Caster Wheel 3/8"-16 x 1-5/8"	22	710530	7	SCR-MC 8-32 x .50 BR
2	200065	1	Castor Support Bracket	23	711026	5	Nut, Hex 8-32 Nyloc SS
3	200169	1	200X Sq Lift Weldmt New	24	711241	4	SCR-Hex 3/8-16 x .75" ZP
4	200342	1	Squeegee Brkt Weldmt, 200X	25	711367	2	Nut-Wing 3/8-16 ST PL
5	200344	1	Top Plate Weldmt, 200X LH	26	711504	4	WSR-Flat 1/4 ID SS
6	200347	1	Top Plate Weldmt, 200X RH	27	711507	4	WSR-Flat .37 x 1.12 x .06
7	210153	2	Roller Wheel	28	711509	1	WSR-Flat 1/2 (.54 x 1.08 x .087)
8	220249	2	Wing Bolt 1/2-13 x .75"	29	711524	2	WSR-Wave .52 x .87 x .01
9	260066	2	Oilite Bushing	30	711546	6	WSR-Helical 3/8
10	260242	1	Front Squeegee Blade 260	31	711592	2	WSR-Nylon .50 x 1.06 x .06
11	260243	1	Rear Squeegee Blade 260	32	711668	3	Cleavis Pin, 3/8 x 1 11-141
12	260248	1	260 Sq. Casting w/Roll Pin	33	711713	2	Retaining Ring - "E" Type Ext .500
13	260339	1	Strap - Rear Latch 260	34	711808	3	Cotter Pin - Hair #13
14	260344	1	Strap - Front Stop 260	35	712301	6	WSR-Flat .87 x .37 x .06
15	260346	1	Strap - Rear Catch 260	36	712564	4	Bolt-HH 1/4-20 x 1.00 SS
16	281074	1	Squeegee Toggle Clamp, 2800	37	712667	2	Nut, Hex 1/4-20 Nyloc SS
17	281075	1	Squeegee Latch, 2800	38	712680	1	Nut-Hex 5/16-18 SS
18	281740	1	Stop Bar	39	712758	4	WSR-Helical 1/4 SS
19	320308	1	Strap-Front Clamp 320	40	750689	1	Adjustment Stud
20	383424	1	Mounting Bracket-Right	41	762022PLT	1	Nut, Adjusting (LH)
21	383425	1	Mounting Bracket-Left	42	762257PLT	1	Nut, Adjusting (RH)

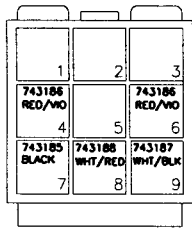


# WIRING DIAGRAMS

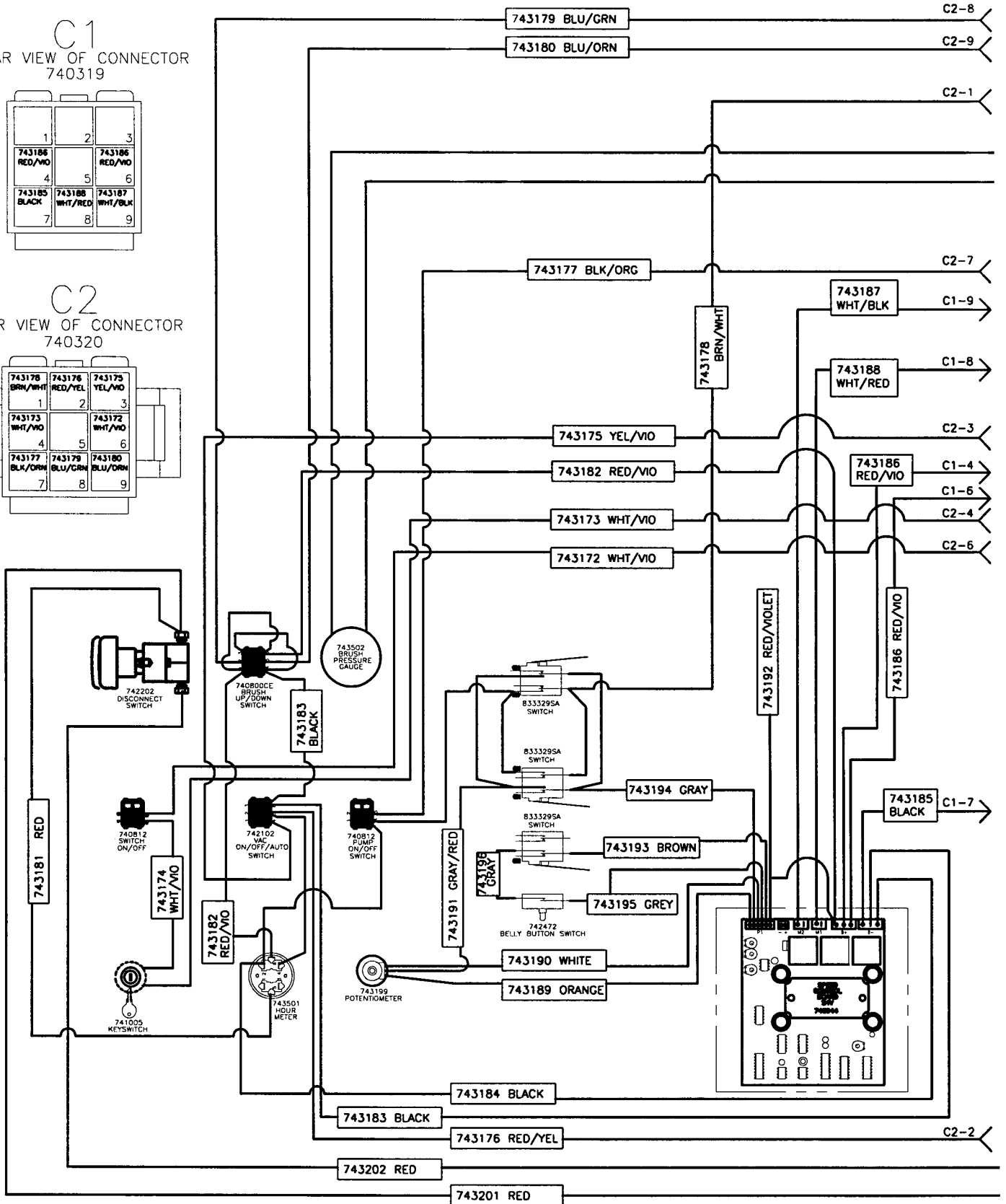
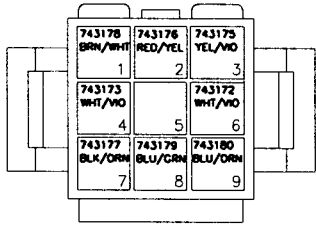
# 200X TRACTION DRIVE AND DELUXE

CONNECTORS IN CONSOLE ASSY

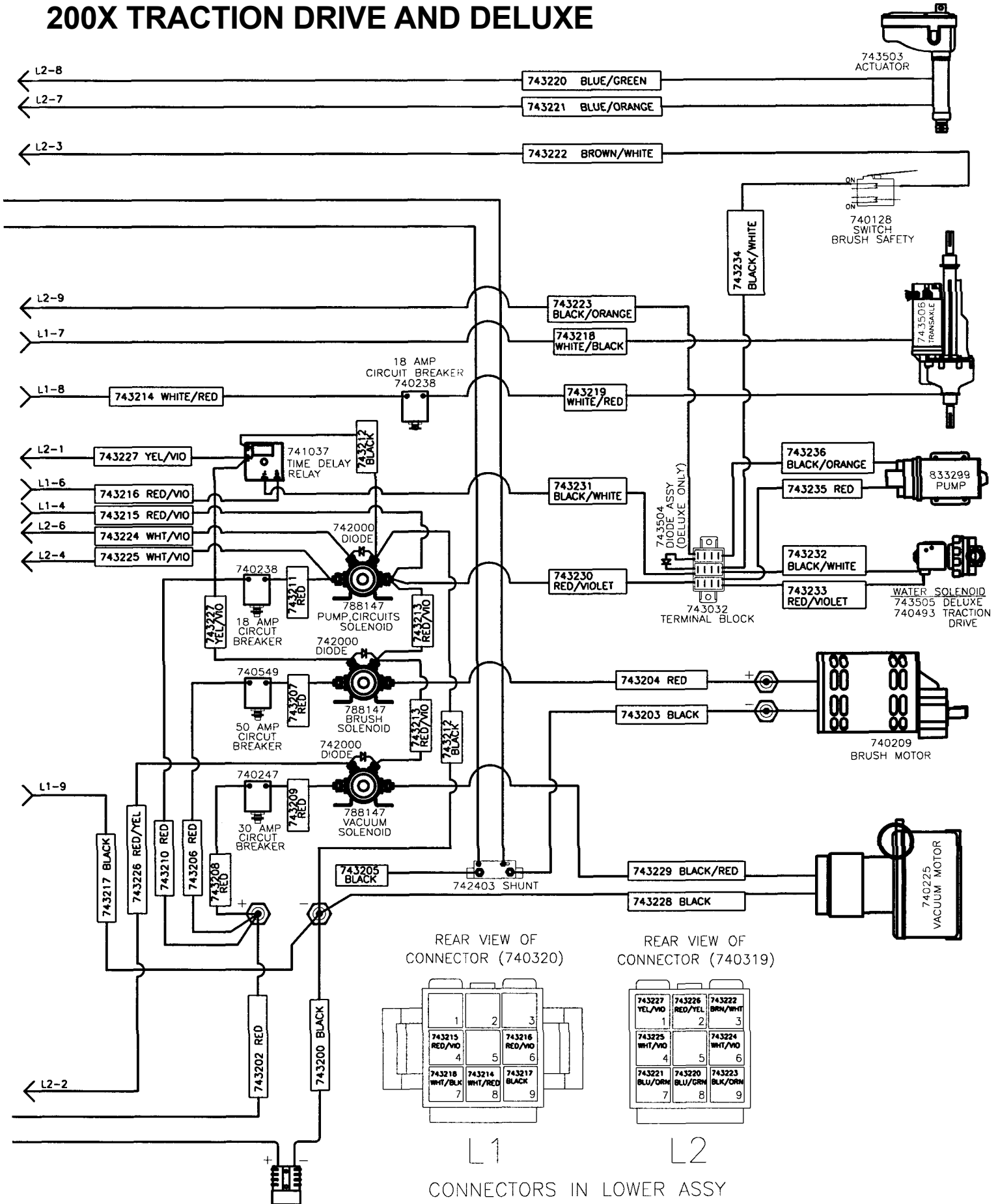
C1  
REAR VIEW OF CONNECTOR  
740319



C2  
REAR VIEW OF CONNECTOR  
740320

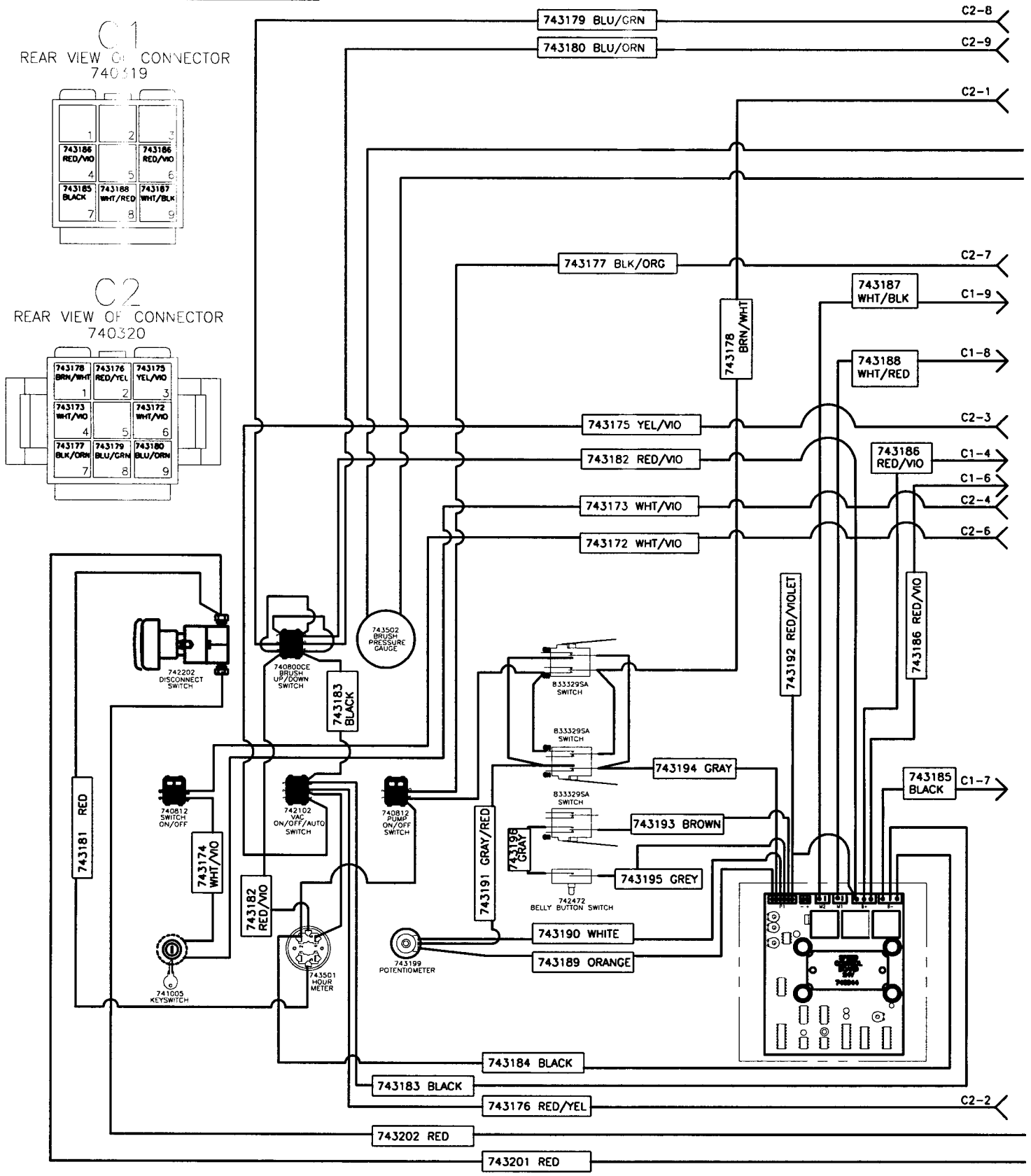


# 200X TRACTION DRIVE AND DELUXE

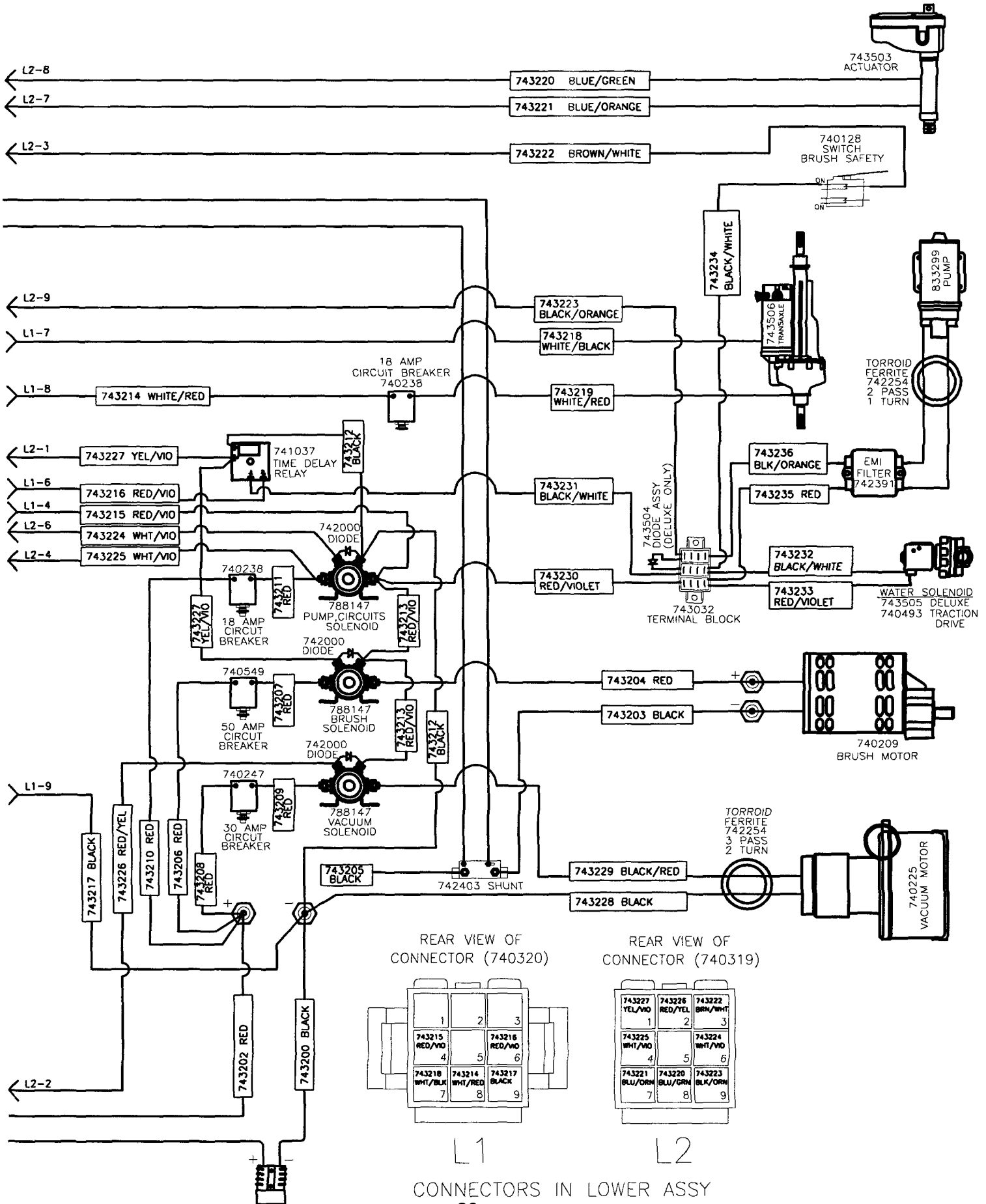


# CE 200X TRACTION DRIVE AND DELUXE MC20001CE, MC20002CE

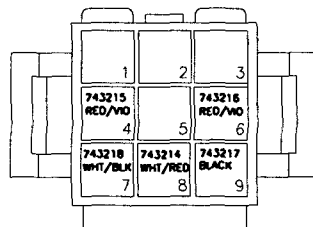
## CONNECTORS IN CONSOLE ASSY



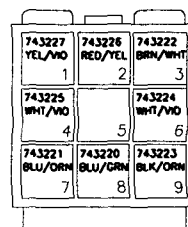
# CE 200X TRACTION DRIVE AND DELUXE



REAR VIEW OF CONNECTOR (740320)



REAR VIEW OF CONNECTOR (740319)



L1

L2

CONNECTORS IN LOWER ASSY

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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.

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