TORNADO INDUSTRIES
7401 W. LAWRENCE AVENUE
CHICAGO, IL 60706
(708) 867-5100 FAX (708) 867-6968
www.tornadovac.com



Illustrated Parts List

For Commercial Use Only



Midrange Floorkeeper

MODEL NOS. 99307 & 99407

L2471TS 12/01 ©2001 Tornado Industries All rights reserved.

TABLE 1

CATALOG NO.	99307	99407
SERIES	S	S
VOLTS (Charger)	36V	36V
SIZE	26"	33"
FREQUENCY	60	60

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

TABLE OF CONTENTS:

Panels and Covers3	Squeegee Assembly & Lift Mechanism	17
Battarey Components 5	Solution Tank & Control System	19
Frame Assembly7	Vacuum Tank Assembly	21
Transaxle Frame Assembly9	Wiring Diagram	23
Brush Cover Assembly (26" Model) 11	Brush Components	25
Brush Cover Assembly (33" Model) 13	Battery Charger #99515	27
Brush Lift Assembly 15	Main Control	29

Tornado® Standard Warranty Program*

Warranties do not cover components subject to normal wear or abuse and misuse, and have other limitations not specified here. For full details, contact your Authorized Tornado Distributor, Service Center, or the Tornado Technical Service Department.

10 Years:

All plastic tanks and rotationally-molded bodies

2 Years:

Parts on all Tornado and Tornado/Karcher cleaning equipment 1) 2)

1 Year:

Labor on all Tornado and Tornado/Karcher cleaning equipment 1) 2)

1 Year:

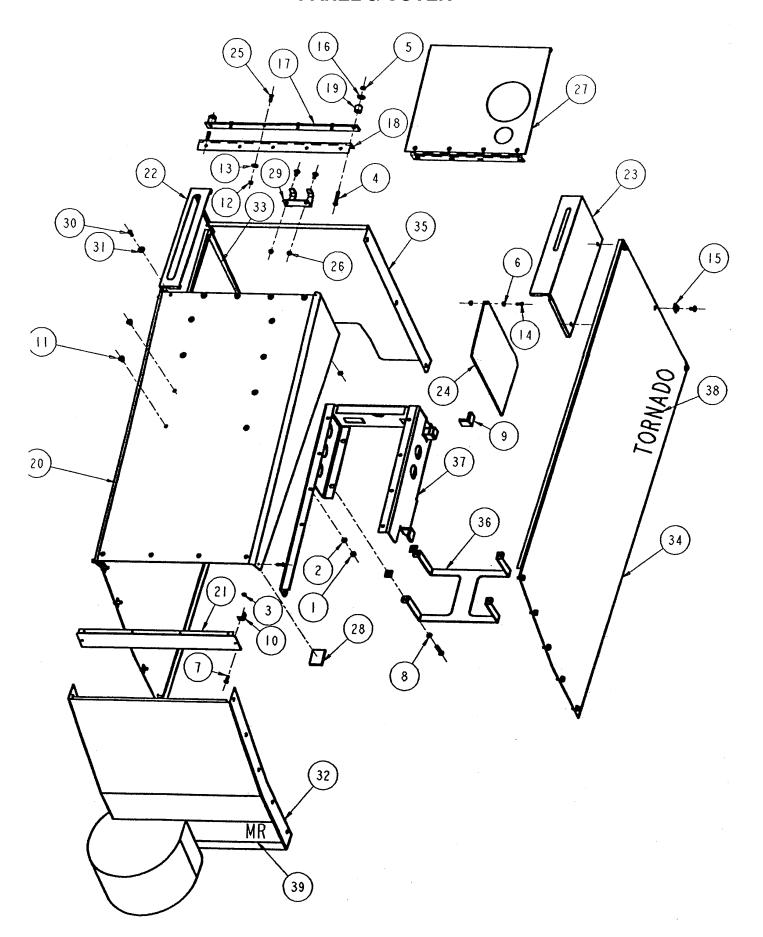
Warranty on batteries, one full year, Not pro-rated.

^{*} Effective January 1st, 2001. Terms subject to change without notice.

¹⁾ Windshear™ Blower-Dryer, Insulation Blowers, CW 50, CW 100, and Duo-Upright Carpetkeepers™ are warranted for 1 (one) year for parts and labor.

²⁾ Warranties on the ICC1, KMR 1200, KMR 1250, and KMR 1700 are 24 months parts/6 months labor <u>OR</u> 1000 hours of operation, whichever comes first. Warranties on the BR and BD 1000 are 24 months parts/12 months labor OR 1000 hours of operation, whichever comes first.

PANEL & COVER

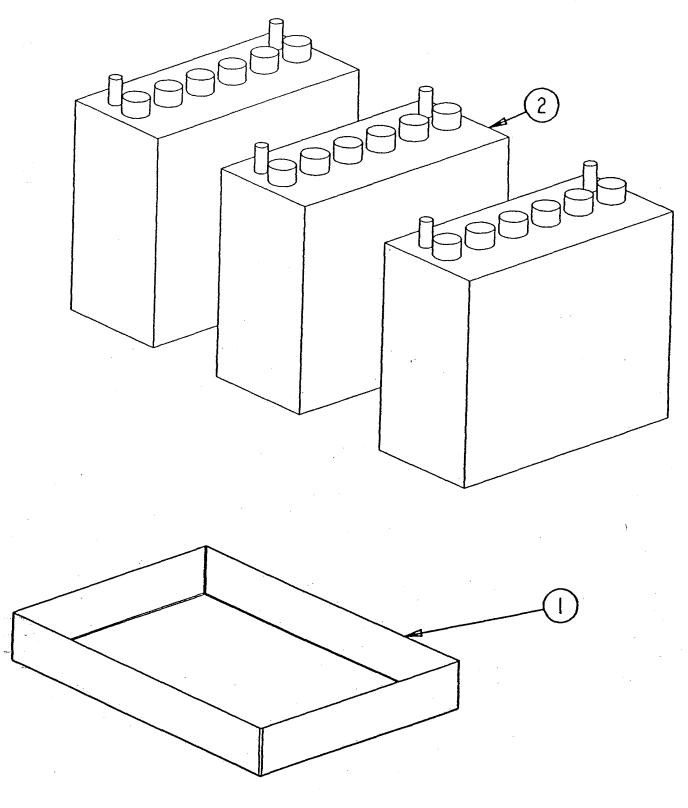


PANELS & COVERS

TEM	OTY	PART NUMBER	DESCRIPTION
1	8	01497	NUT-FINISHED HEX 1/4-20
2	8	01574	WASHER- LOCK 1/4" .
3	8	01575	WASHER-PLAIN #6
4	6	01978	SCREW-PHILLIPS ROUND HEAD MACHINE 1/4-20 X 1-1/2
5	2	02217	NUT-HEX JAM LOCK (NYLON INSERT) 1/4-20
.6	4	05270	NUT-FINISHED HEX #10-32
7	8	05443	RIVET-SEMI TUBE 7/64 X 5/32
8	4	07870	WASHER-LOCK(1/T)1/4"
9	4	10003	GRIP
10	2	10299	BRACKET
11	28	10353	SCREW-SLOTTED TRUSS HEAD MACHINE 1/4-20 X 1/2
12	9	10894	NUT-HEX.LOCK(P/T)
13	4	11219	WASHER-PLAIN #10
14	2	12896	SCREW-PHILLIPS ROUND HEAD MACHINE#10-32 X 5/8
15	22	13611	NUT-CLIP ON 1/4-20
16	2	14142	WASHER-PLAIN .265
17	1	15416	CROSSBAR
18	i	15417	HINGE
19	2	15418	STAND-OFF
20	lī	15431	COVER, BATTERY
21	i	15433	SHIELD
22	i	15450	UPPER SIDE PANEL. RH
23	i i	15451	UPPER SIDE PANEL, LH
24	2	15459	GUARD PLASTIC
25	4	15621	SCREW-HEX HEAD MACHINE #10-24 X 5/8
26	2	16129	NUT-FINISHED HEX \$10-32
27		16276	TOP COVER ASSEMBLY
28	2	16470	BUMPER PAD
29	1	17273	BRACKET-HOSE
30	5	18339	SCREW-PHILLIPS FLAT HEAD MACHINE #10-24 X 3/4
31	.5	18820	WASHER FINISHING (NYLON) #10
32		19902	COVER-FRONT
33	<u> </u>	19903	PANEL SIDE RH
34		19904	PANEL SIDE - LH
35		30447	LOWER REAR PANEL
36	\vdash	30899	UPPER BATTERY BRACKET
37		30907	BRACKET-BATTERY
38	2	30818	DECAL "TORNADO W/ LOGO"
39		30843	DECAL FRONT "MR 26"
		30842	DECAL FRONT "MR 33"
40	2	13022	PAD .
41		15469	DECAL REAR
42	\vdash	30811	DECAL LOGO
43	\vdash	13901	DECAL "PREVENTATIVE MAINTENANCE"
44		14496	DECAL "VACUUM MOTOR & FILTER"
45	\vdash	15976	DECAL "WIRING DIAGRAM":
46	-	13974	DECAL "CAUTION"
47	2	16605	DECAL "FOAM FILLED TIRES"

^{# =} ITEMS NOT SHOWN

BATTERY COMPONENTS REV. A



BRUSH COMPONENTS

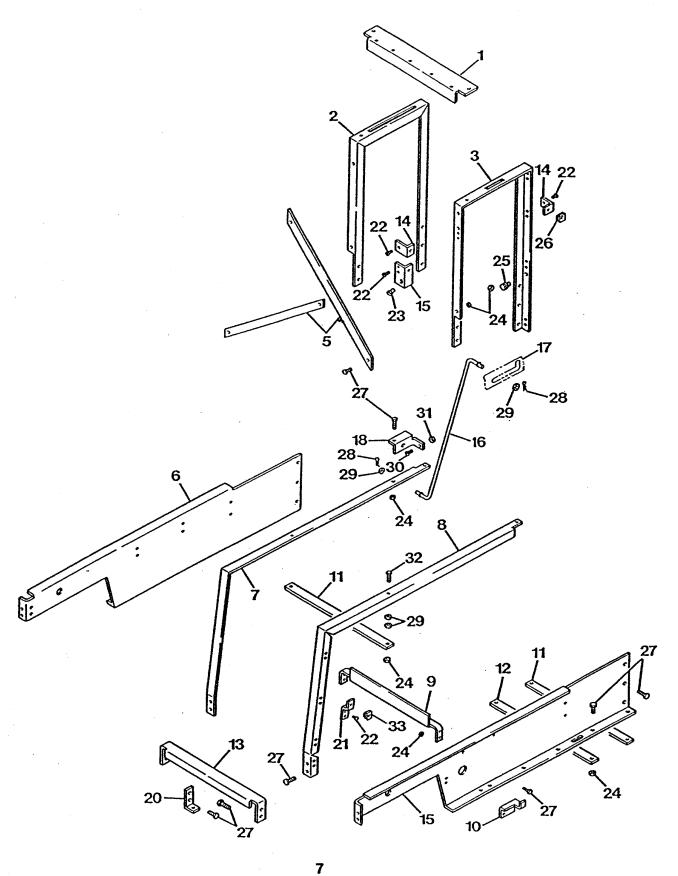
Item No.	Qty.	Part No.	Description
10	2	14795	SPRING
11	2	03963	CLAMP, BRUSH RETAINER
12	4	03660	SCREW-PAN HEAD
13	4	10431	SCREW
14	2	17309	BRUSH RETAINER
15	6	18022	SCREW, WOOD
17		97917	YOKE AND RETAINER ASSEMBLED
			The same same same same same same same sam

Qty.	Part No.	Description	
2	97917	YOKE & RETAINER SET	
2	99159	PAD HOLDER-14"	
2	99156	BRUSH-POLY, 14"	
2	99157	BRUSH-GRIT 14"	

30 INCH BRUSHES Qty. Part No. Description

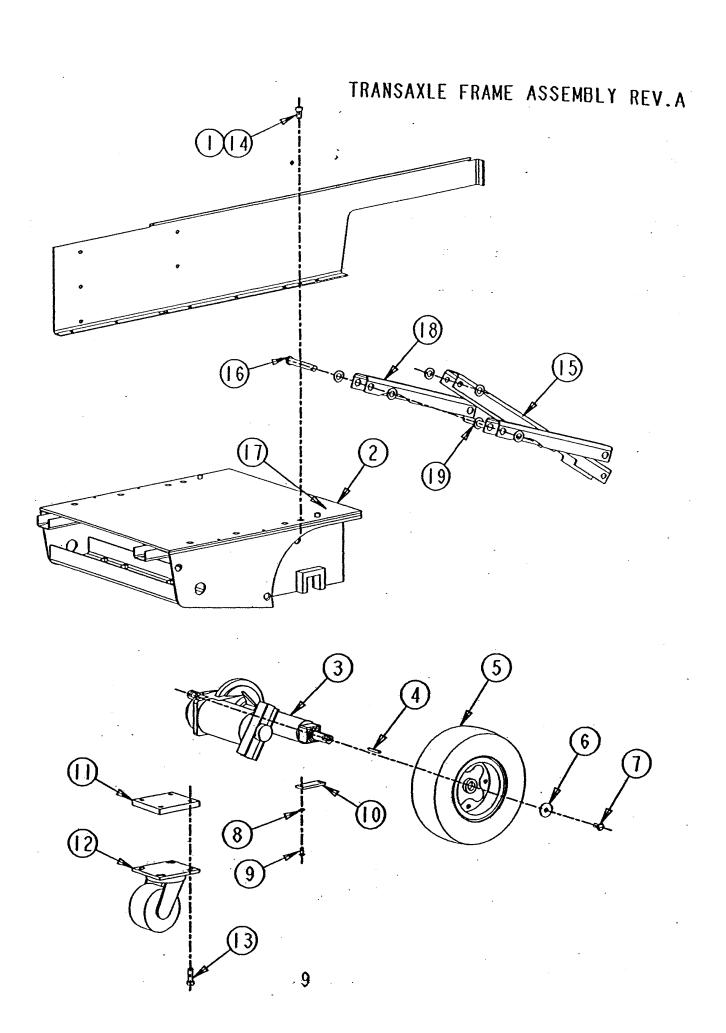
2	97917	YOKE & RETAINER SET
2	98566	PAD HOLDER-17"
2	98283	BRUSH-POLY, 17"
2	98373	BRUSH-GRIT 17"

FRAME ASSEMBLY-REV. A



FRAME ASSEMBLY

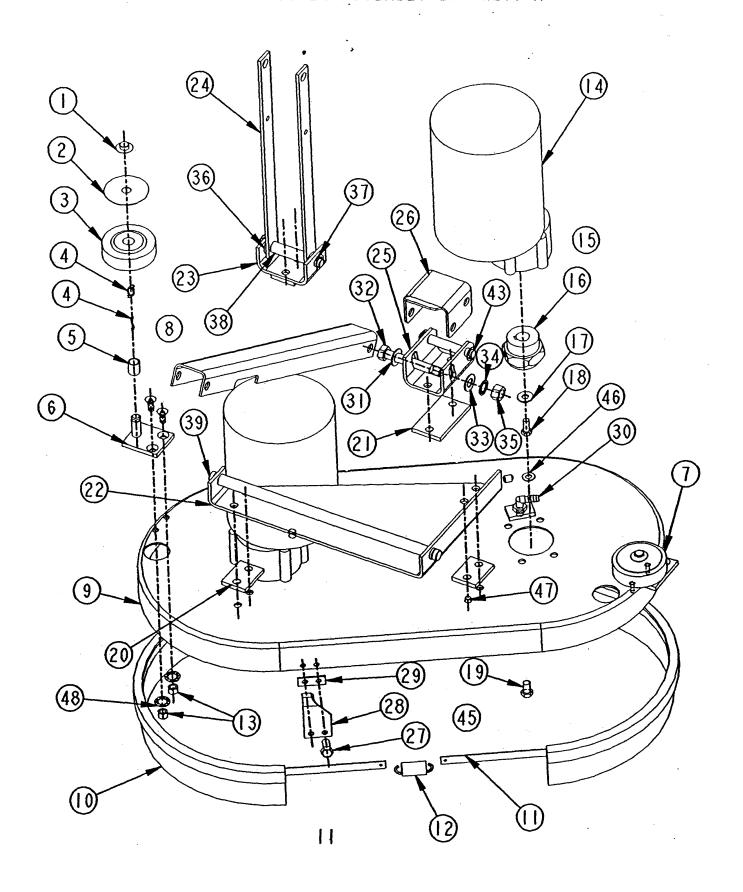
Item No.	Qty.	Part No.	Description
1	1	15543	BRACE, COVER
2	1	10291	FRAME, RH
3	1	10279	FRAME, LH
5	2	10288	BRACE
6	1	10447	CHANNEL ASSEMBLY, RH
7	1	10285	FRONT SIDE FRAME, RH
8	1	10286	FRONT SIDE FRAME, LH
9	1	10282	CROSS BAR
10	1	14179	BRACKET, GUIDE
11		10284	BRACE
12	1	16032	BRACE
13	1	14089	CROSS BAR
14	11	10268	PANEL BRACKET, REAR
15	1	10295	BRACKET, SOLUTION ROD GUIDE
16		15914	SUPPORT ROD, BATTERY COVER
17		15915	SUPPORT BRACKET, RH
18		15917	BRACKET, SUPPORT ROD
20	1	10531	SPRING BRACKET
21	8	10267	BRACKET, FRONT PANEL
22	44	03261	SCREW
23	1	14229	BUSHING, NYLINER
24	29	01589	NUT
25	4	05441	SCREW
26		13611	NUT-CLIP ON, REAR PANELS
27		02109	SCREW
28	6	03395	COTTER PIN
29	24		WASHER
30			SCREW
31		07533	LOCK NUT
32	12	03361	SCREW



TRANSAXLE FRAME ASSEMBLY

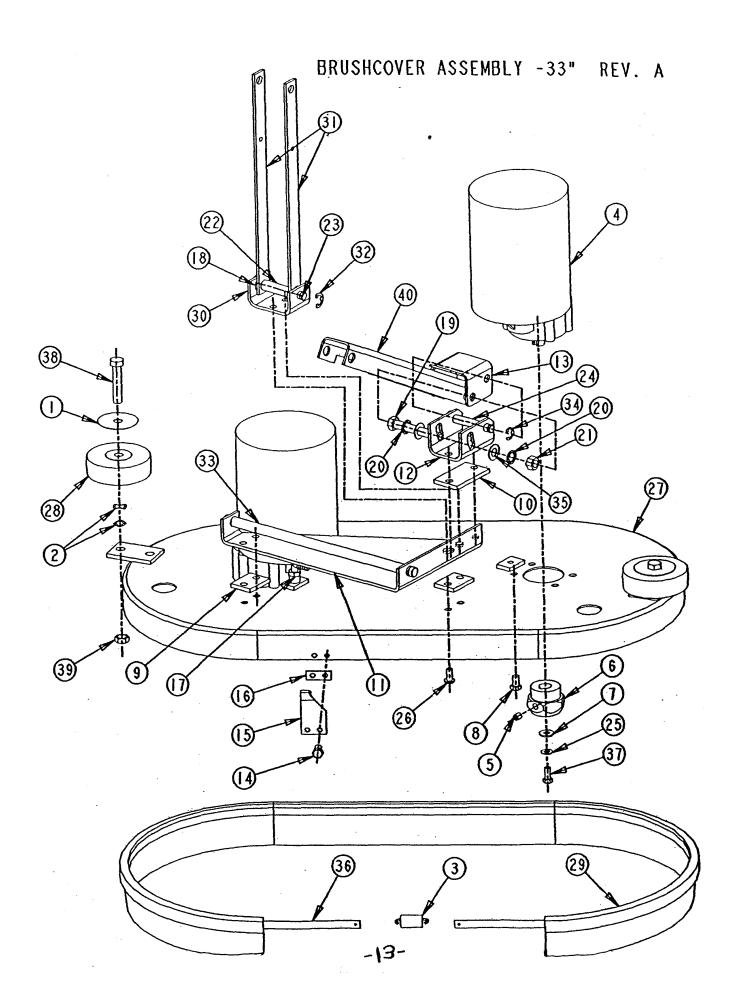
Item No.	Qty.	Part No.	Description	
1	5	03959	SCREW-HEX.HEAD CAP	
2	1	19892	CHASSIS M-R	
3	1	19921	TRANSAXLE-36VDC	
4	2	18499	KEY-SQUARE	•
5	2	17313	WHEEL, FOAM-FILLED	•
6	2	03321	WASHER-PLAIN 3/8	
7	2	16671	SCREW-HEX.HEAD CAP	
8	4	01574	WASHER-LOCK(H/S)1/4"	
9	4	05427	SCREW-ROUND HEAD	
10	2	19294	RETAINER-EZ TRANSAXLE	
11	2	19582	PLATE-CASTER SPACER	
12	2	18773	CASTER, SWIVEL	
13	8	17576	SCREW-HEX.HEAD CAP	3/8-16 X 1-1/4"
14	3	17180	CONTROL LINKAGE BOLT	
15	1	16745	CONTROL LINKAGE BOLT	
16	3	30211	PIN-CLEVIS 1/2"DIA X 4"	
17	6	19666	BRIDGE PIN	
18	2	17180	CONTROL LINKAGE BOLT	
19	3	12554	WASHER	

*NOT SHOWN



BRUSH COVER ASSEMBLY-26"

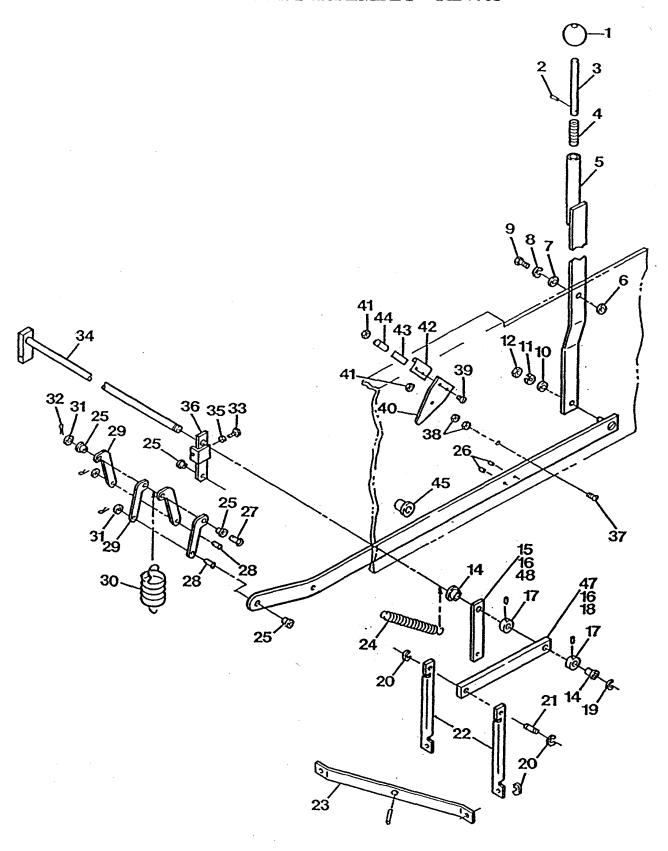
Item No.	Otv	Part No.	Description	
10111 110.	uty.	i ait ito.	Description	
1	2	07539	NUT-PUSH	
2	2	10436	COVER - RUB WHEEL	
3	2	10587	RUB WHEEL	
4	4	07723	WASHER-SPRING 1/2"	
5	2	10639	SLEEVE, BEARING BRONZE	
6	1	17270	RUB WHEEL BKT LH ASSY	
7	1	17265	RUB WHEEL BKT RH ASSY	
8	4	03922	SCREW-FLAT HD. SOCKET CAP	
9				
10	1	19883	BRUSHCOVER,26"WELDMENT BUMPER	
		17740		
11		17735	BUMPER STRAP	
12		16472	SPRING-EXTENSION	
13		00067	NUT-HEX.LOCK(KEPS)	
14	2	18564	MOTOR-BRUSH(3/4HP)	
15	2	17802	SCREW-SET SOCK.(NYLOCK) 3/8-16 X 1/2"	
16	2	16737	COUPLER-BRUSH/PAD HOLDER	
17	2	02568	WASHER-PLAIN (TYPE A)	
18	2	16672	SCREW-HEX.HEAD(NYLOCK)	
19	8	16671	SCREW-HEX.HEAD CAP(NYLK)	
20	3	16736	ABSORBER BLOCK	
21	1	1673 1	ABSORBER BLOCK	
22	1	19909	BRACKET M-R 26"&33"	
23	1	16728	BRACKET	
24	2	19885	LIFT BAR M-R 26"	
25	1	16729	BRACKET	
26	1	16730	BRACKET,ADJUSTMENT	
27	2	17160	SCREW-HEX.HEAD 1/4-20 X 3/4"	
28	1	17752	RESTRAINER	
29	1	17751	FLAT W/HOLES	
30	2	18486	FITTING - PLASTIC ELBOW 3/8 NPT X 3/8	
31	2	12554	WASHER-PLAIN 1/2" (PLASTIC)	
32	1	16706	SCREW-HEX.HEAD CAP	
33	2	12554	WASHER-PLAIN 1/2" (PLASTIC)	
34	1	06387	WASHER-LOCK(I/T)1/2"	
35	1	16673	NUT-HEX (NICKEL)	
36	2	12554	WASHER-PLAIN 1/2" (PLASTIC)	*
37	2	03472	RING-RETAINING EXT 5/8	
38	2	12554	WASHER-PLAIN 1/2" (PLASTIC)	
3 8	1	16732	SPACER	
44	1	16733	SHAFT,GROOVED	
43	1	07551	PIN-HANDLE YOKE PIVOT	
45	2	17733	KEEPER	
46	2	03301	WASHER-PLAIN 5/16"	
47	8	15067	SCREW-PAN HEAD 5/16-18 X 3/4"	•
48	Ž	06387	WASHER-LOCK(I/T)1/2"	
*49	2		PAD HOLDER	
9、55日本 省 6万円。	1. 1 TT, 1	্ধাসায় কল্পেন্ড	Participation (新田では、新田の田の大阪大阪大阪大阪大阪大阪大阪大阪大阪大阪大阪大阪大阪大阪大阪大阪大阪大阪	



BRUSH COVER ASSEMBLY-33"

March March	A6.	Bad Na	
item No.	uty.	Рап по.	Description
1	2	10436	COVER - RUB WHEEL
2	4		WASHER-SPRING 1/2"
3	1		SPRING-EXTENSION
4	2		MOTOR-BRUSH(3/4HP)
5	2		SCREW-SET SOCK.(NYLOCK) 3/8-16 X 1/2"
6	2		COUPLER-BRUSH/PAD HOLDER
7	2		WASHER-PLAIN (TYPE A)
8	4		SCREW-HEX.HEAD CAP(NYLK)
9	3		ABSORBER BLOCK
10	1		ABSORBER BLOCK
11	1		BRACKET M-R 26"&33"
12	1		BRACKET
13	i		BRACKET, ADJUSTMENT
14	2		SCREW-HEX.HEAD 1/4-20 X 3/4"
15	1		RESTRAINER
16	i		FLAT W/HOLES
17	2		FITTING - PLASTIC ELBOW 3/8 NPT X 3/8
18	2		WASHER-PLAIN 1/2" (PLASTIC)
19	1		SCREW-HEX.HEAD CAP
20	2		WASHER-LOCK(I/T)1/2"
21	1		NUT-HEX (NICKEL)
22	1		SPACER
23	1		SHAFT, GROOVED
24	1		PIN-HANDLE YOKE PIVOT
25	2		WASHER-PLAIN 5/16"
26	6		SCREW-PAN HEAD 5/16-18 X 3/4"
27	1		BRUSHCOVER 33" WELDMENT
28	2		WHEEL
29	1		BUMPER
30	1		LIFT BAR BRACKET
31	2		LIFT BAR M-R 33"
32	. 2		RING - RETAINING EXT
33	1	19917	SHAFT, GROOVED
34	2		RING - RETAINING 1/2"
35	2	1658 1	WASHER - PLAIN 1/2"
36	1	17737	BUMPER STRAP
37	2	16672	SCREW - HEX. HEAD 5/16-18 x 3/4"
38	2	14500	SCREW - HEX. HEAD CAP 1/2-13 x 2-1/2"
3 9	2	10513	NUT - HEX JAM 1/2-13
40	1	16746	
41	2	98566	PAD HOLDER

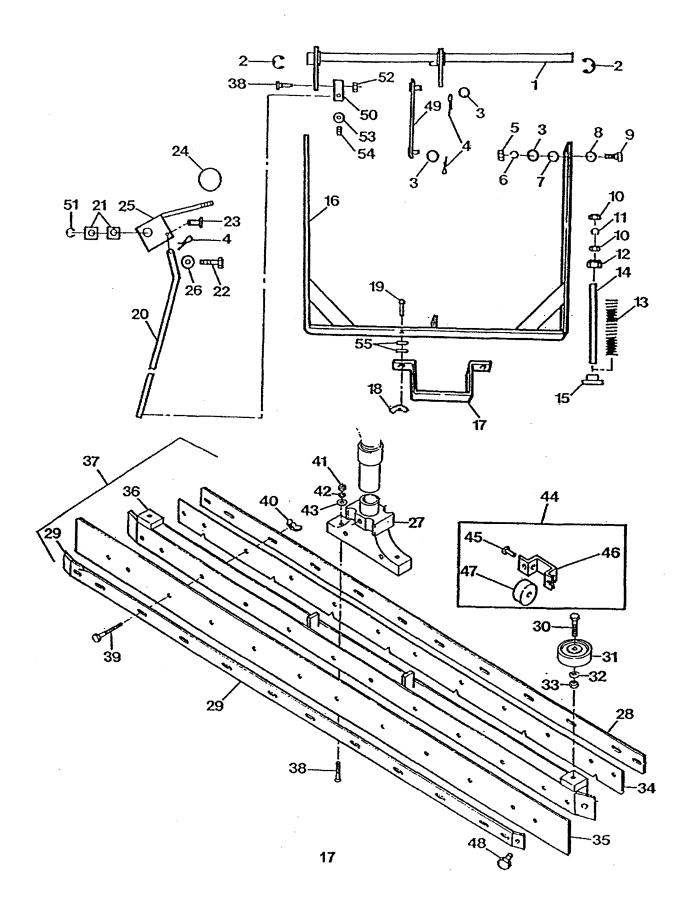
BRUSH LIFT ASSEMBLY - REV. A



BRUSH LIFT ASSEMBLY

Hom No	Obe	Do-t No	
item NO.	uty.	ran No.	Description
1	1	03338	KNOB, BRUSH LIFT
2	i	03339	ROLL PIN, PLUNGER
3	1	03336	PLUNGER, BRUSH LIFT
4	1	03340	SPRING
- - - - - - - - - -			
5 6		10519	BRUSH HANDLE S/A
7	1	03658	WASHER
	1	03736	LOCKWASHER
8	1	03536	WASHER
9	1	03959	SCREW
10	1	03301	WASHER
11	1	01577	WASHER, LOCK
12	1	01589	HUT, HEX
13	1	14829	LINK, BRUSH LIFT
14	2	03955	BUSHING, FLANGED
15	1	10631	LINK ASSEMBLY
16	3	02011	SCREW, SET
17	3	03964	COLLAR
18	1	11209	LINK
19	1	03946	E-RING
20	4	03470	E-RING
21	2	07551	PIN-HANDLE YOKE PIVOT
22	2	15313	MOTOR ADJUSTMENT SPACER
24	1	10530	SPRING, LIFT
25	4	03956	BUSHING, FLANGED
26	2	05537	PIN, GROOVE
27	1	14503	RIVET, SOLID
28		14502	RIVET, SOLID
29	4	03952	LINK
30	1	03939	SPRING
31	3	03736	WASHER
32	3	03395	PIN, COTTER
33	2	03361	SCREW, ADJUSTMENT
34	1	14830	BRUSH LIFT S/A
35	2	05282	NUT, JAM
36	.1	14828	LINK ASSEMBLY
37	1	04725	SCREW
38	2	01477	NUT
39	2	11302	SCREW
40	1	17133	SWITCH, ACTUATOR
41	3	10894	LOCKNUT
42	1	17207	CLAMP, SWITCH
43	1	17207	PAD, RUBBER
44	1	17206	
4 4 45	1.	10542	SWITCH TILT
45 47			BEARING
47 48	2	11028	KEY
40	2	10568	KEY

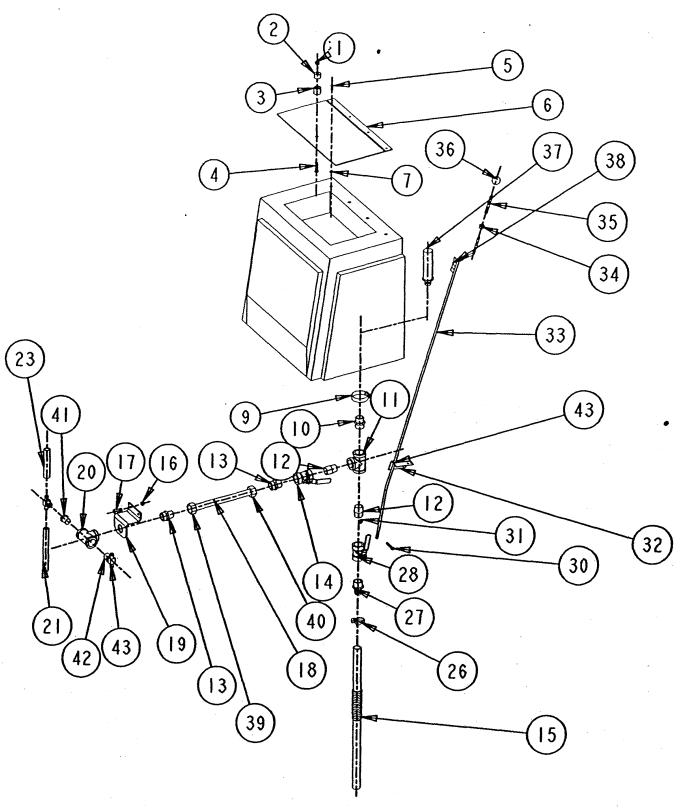
SQUEEGEE ASSY. AND LIFT MECHANISM - REV. A



SQUEEGEE ASSEMBLY AND LIFT MECHANISM

Item No.	Qty.	Part No.	Description
1	1	03845	SHAFT ASSEMBLY, SQUEEGEE LIFT
2	2	03472	RING, RETAINING
3	6	03301	WASHER
4	3	03395	PIN, COTTER
5	1	01589	NUT
6	4	01577	LOCKWASHER
7	2	03886	WASHER
8	2	15638	WASHER
9	2	14010	SCREW, SHOULDER
10	8	02581	NUT, JAM
11	2	03586	LOCKWASHER
12	2	03376	NUT, SPRING ADJUSTING
13	2	03373	SPRING, SQUEEGEE
14	2	13734	ROD, SQUEEGEE GUIDE
15	2	03375	SPRING GUIDE
16	1	10967	SQUEEGEE PIVOT ARM GUIDE SERVICE ASSEMBLY
17	1	10966	BRACKET, SQUEEGEE
18	2	03494	NUT, WING
19	2	03320	SCREW
20	1	03846	ROD, SQUEEGEE LIFT
21	2	03417	SPACER
22	1	16481	PIN
23	1	03393	PIN, LIFT
24	1	03418	KNOB, LIFT ROD
25	1	03416	BRACKET, SQUEEGEE LIFT
26	2	16581	SPACER, THICK
27	1	10971	NOZZLE THROAT
28	1	17250	RETAINER STRIP FRONT, 26"
00	1	10468	RETAINER STRIP FRONT, 33"
29	1	17251	RETAINER STRIP REAR, 26"
20	_	11698	RETAINER STRIP REAR, 33"
30 31	2	14500	SCREW
31 . 32	. 2	14817 0772 3	WHEEL, RUB
33	2	10513	WASHER, WAVE NUT
34	1	10470	SQUEEGEE BLADE, FRONT, 33"
04	•	17248	SQUEEGEE BLADE, FRONT, 26"
35	1	10471	SQUEEGEE BLADE, REAR, FIRM, 33"
•	•	17249	SQUEEGEE BLADE, REAR, FIRM, 26"
		14627	SQUEEGEE BLADE, REAR, SOFT, 33"
36	1	11694	SQUEEGEE BODY, 33"
• •	•	17253	SQUEEGEE BODY, 26"
37	1	11696	SQUEEGEE ASSEMBLY, FIRM, 33"
		17302	SQUEEGEE ASSEMBLY, FIRM, 26"
		17303	SQUEEGEE ASSEMBLY, SOFT, 26"
38	3	03944	SCREW
39	8	07868	SCREW (QTY, 10 REQ'D FOR 33" MACHINE - 99407)
40	8	01019	NUT, WING (QTY. 10 REQ'D FOR 33" MACHINE - 99407)
41	2	01589	NUT
42	2	01577	WASHER, LOCK
43	2	03301	WASHER, FLAT
44	2	06394	WHEEL BRACKET ASSEMBLY
48	2	02046	SCREW
49	1	10524	LINK
50	1	11448	CLEVIS
51	1	16482	E-RING
52	2	01589	NUT
53	1	10694	NUT
54	1	03965	SET SCREW
55	2	03736	WASHER

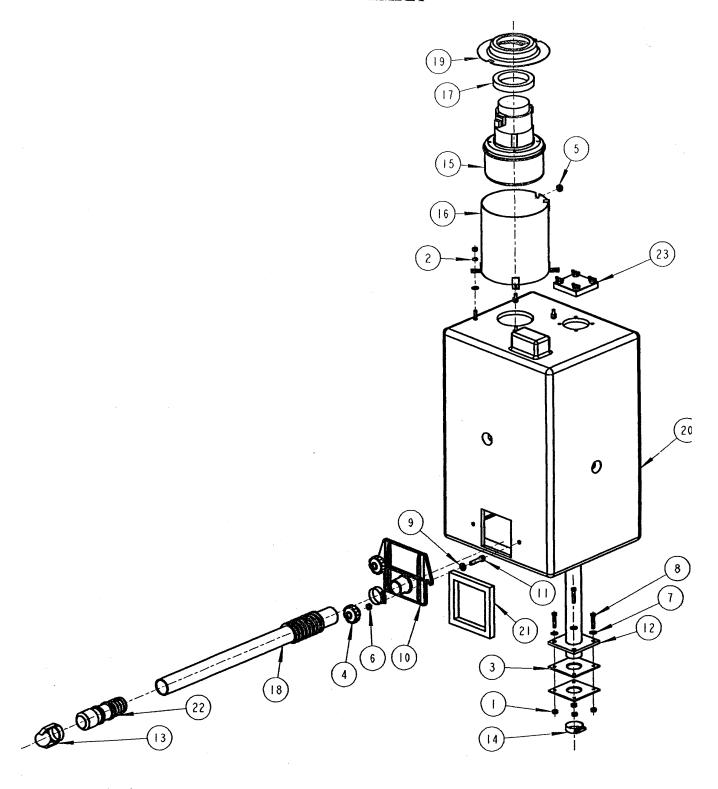
SOLUTION TANK AND CONTROL SYSTEM REV. A



SOLUTION TANK AND CONTROL SYSTEM

1,16 2 07533 NUT-HEX.LOCK(P/T) 2 1 15413 SPACER 3 1 14085 BUMPER 4 1 15461 SCREW, NYLON 5 4 01451 SCREW 6 1 13659 COVER 7 4 00617 NUT-HEX.MACH.SCR. 8 1 15381 TANK-SOLUTION(F/K-M/R) 9 1 16091 CLAMP-HOSE(SCREW) 10 1 19328 NIPPLE-3/4" 11,20 2 11323 TEE 12 2 11325 FITTING-GALV.ADAPTOR 13 2 06393 FITTING-BRASS CPL 14,28 1 16681 VALVE-DRAIN 18 1 03382 HOSE-SOLUTION DRAIN 17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - WBELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	Item No.	Qty.	Part No.	Description
2 1 15413 SPACER 3 1 14085 BUMPER 4 1 15461 SCREW, NYLON 5 4 01451 SCREW 6 1 13659 COVER 7 4 00617 NUT-HEX.MACH.SCR. 8 1 15381 TANK-SOLUTION(F/K-M/R) 9 1 16091 CLAMP-HOSE(SCREW) 10 1 19328 NIPPLE-3/4" 11,20 2 11323 TEE 12 2 11325 FITTING-GALV.ADAPTOR 13 2 06393 FITTING-BRASS CPL 14,28 1 16681 VALVE-DRAIN 18 1 03382 HOSE-SOLUTION DRAIN 17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - WIBELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER				
3 1 14085 BUMPER 4 1 15461 SCREW, NYLON 5 4 01451 SCREW 6 1 13659 COVER 7 4 00617 NUT-HEX.MACH.SCR. 8 1 15381 TANK-SOLUTION(F/K-M/R) 9 1 16091 CLAMP-HOSE(SCREW) 10 1 19328 NIPPLE-3/4" 11,20 2 11323 TEE 12 2 11325 FITTING-GALV.ADAPTOR 13 2 06393 FITTING-BRASS CPL 14,28 1 16681 VALVE-DRAIN 18 1 03382 HOSE-SOLUTION DRAIN 17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	•			
4 1 15461 SCREW, NYLON 5 4 01451 SCREW 6 1 13659 COVER 7 4 00617 NUT-HEX.MACH.SCR. 8 1 15381 TANK-SOLUTION(F/K-M/R) 9 1 16091 CLAMP-HOSE(SCREW) 10 1 19328 NIPPLE-3/4" 11,20 2 11323 TEE 12 2 11325 FITTING-GALV.ADAPTOR 13 2 06393 FITTING-BRASS CPL 14,28 1 16681 VALVE-DRAIN 18 1 03382 HOSE-SOLUTION DRAIN 17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER				
5			14085	
6 1 13659 COVER 7 4 00617 NUT-HEX.MACH.SCR. 8 1 15381 TANK-SOLUTION(F/K-M/R) 9 1 16091 CLAMP-HOSE(SCREW) 10 1 19328 NIPPLE-3/4" 11,20 2 11323 TEE 12 2 11325 FITTING-GALV.ADAPTOR 13 2 06393 FITTING-BRASS CPL 14,28 1 16681 VALVE-DRAIN 18 1 03382 HOSE-SOLUTION DRAIN 17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER			15461	SCREW, NYLON
7 4 00617 NUT-HEX.MACH.SCR. 8 1 15381 TANK-SOLUTION(F/K-M/R) 9 1 16091 CLAMP-HOSE(SCREW) 10 1 19328 NIPPLE-3/4" 11,20 2 11323 TEE 12 2 11325 FITTING-GALV.ADAPTOR 13 2 06393 FITTING-BRASS CPL 14,28 1 16681 VALVE-DRAIN 18 1 03382 HOSE-SOLUTION DRAIN 17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	5			SCREW
8 1 15381 TANK-SOLUTION(F/K-M/R) 9 1 16091 CLAMP-HOSE(SCREW) 10 1 19328 NIPPLE-3/4" 11,20 2 11323 TEE 12 2 11325 FITTING-GALV.ADAPTOR 13 2 06393 FITTING-BRASS CPL 14,28 1 16681 VALVE-DRAIN 18 1 03382 HOSE-SOLUTION DRAIN 17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	6	1	13659	COVER
9				NUT-HEX.MACH.SCR.
10		1	15381	TANK-SOLUTION(F/K-M/R)
11,20 2 11323 TEE 12 2 11325 FITTING-GALV.ADAPTOR 13 2 06393 FITTING-BRASS CPL 14,28 1 16681 VALVE-DRAIN 18 1 03382 HOSE-SOLUTION DRAIN 17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER		1	16091	CLAMP-HOSE(SCREW)
12 2 11325 FITTING-GALV.ADAPTOR 13 2 06393 FITTING-BRASS CPL 14,28 1 16681 VALVE-DRAIN 18 1 03382 HOSE-SOLUTION DRAIN 17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	10		19328	NIPPLE-3/4"
13 2 06393 FITTING-BRASS CPL 14,28 1 16681 VALVE-DRAIN 18 1 03382 HOSE-SOLUTION DRAIN 17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	11,20		11323	TEE
14,28	12		11325	FITTING-GALV.ADAPTOR
18	13	2	06393	FITTING-BRASS CPL
17 2 17160 SCREW-HEX.HEAD 19 1 14210 BRACKET,SOL.DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	14,28	1	16681	VALVE-DRAIN
19 1 14210 BRACKET, SOL. DISP. 21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	18	1	03382	HOSE-SOLUTION DRAIN
21 2 16457 HOSE 23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	17	2	17160	SCREW-HEX.HEAD
23 2 14209 TUBE, PLASTIC VENT 15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	19	1	14210	BRACKET, SOL. DISP.
15 1 16682 HOSE - W/BELLOWS SECTION 24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	21		16457	HOSE
24,43 2 16446 BARB-TEE 26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	23	2	14209	TÜBE, PLASTIC VENT
26 1 17308 CLAMP - HOSE NYLON 27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	15		16682	HOSE - W/BELLOWS SECTION
27 1 15740 FITTING - BARB 30 1 03409 PIN-COTTER	24,43	2	16446	BARB-TEE
30 1 03409 PIN-COTTER				CLAMP - HOSE NYLON
the state of the s				FITTING - BARB
31 1 00851 WASHER				WASHER
32 1 14178 SPACER PIVOT				
33 1 14177 ROD - SOLUTION CONTROL				
34 1 14182 BUSHING-SNAP				
35 1 14228 TUBE, PLASTIC				
36 1 14225 KNOB-1" BALL				
37 1 19096 FILTER-SOLUTION				
38 1 14180 GAGE, COLOR				
39,40 2 03383 FITTING-HOSE	•			
41,42 1 13491 FITTING-GALV.BUSHING				
43 1 14229 BUSHING-NYLINER(5/16"D)	43	1	14229	BUSHING-NYLINER(5/16"D)

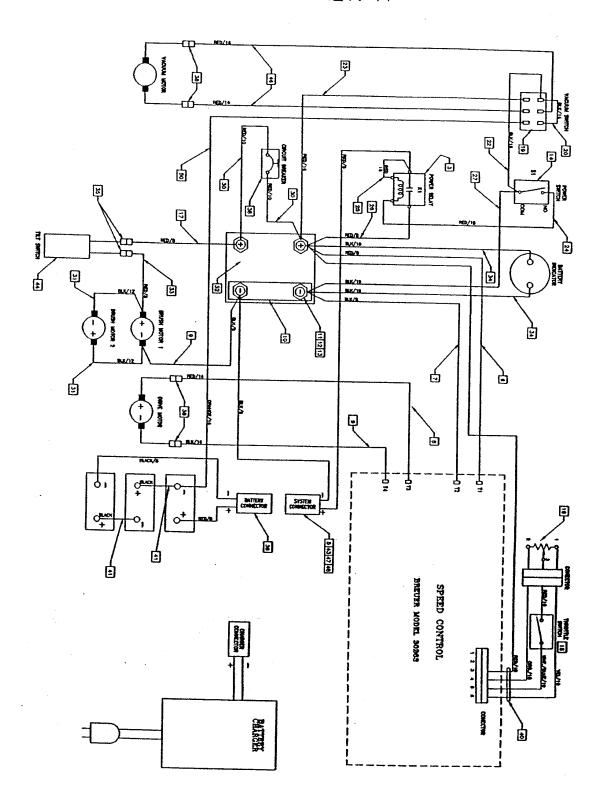
VACUUM TANK ASSEMBLY



VACUUM TANK ASSEMBLY

		В	ILL OF MATERIALS
ITEM:	QTY	PART NUMBER	DESCRIPTION
	8	01497	NUT-FINISHED HEX 1/4-20
2	8	01574	LOCK WASHER I/4"
3	2	03419	GASKET - STAND PIPE
4	2	03493	NUT-THUMB 5/16-18
5	1	04381	GROMMET 5/16 ID
6	2	05282	JAM NUT
7	8	07741	WASHER-SEALING 1/4
8	8	07744	SCREW-HEX HEAD MACHINE 1/4-20 X 1-5/16
9	2	10260	WASHER-SEALING
10		15535	TANK DRAIN PLATE
11	2	16031	SCREW-HEX HEAD CAP 5/16-18 X 1-1/2
12	I	16059	STANDPIPE ASSEMBLY
13	ı	16089	PLUG-DRAIN HOSE
14	2	16091	CLAMP-HOSE (1-1/4 x 2)
15	ı	16272	VACUUM MOTOR
16		16274	VACUUM SHROUD
17		16609	GASKET
18		16620	HOSE W/BELLOWS SECTION
19		17232	VACUUM SHROUD COVER/GASKET
20		17276	TANK-RECOVERY
21		17646	GASKET, DRAIN PLATE
22		18563	NOZZLE-DRAIN HOSE
23		31230	COVER
24	1	18925	FLOAT CAGE (M/R)
25		18771	FLOAT (L/R & M/R)
26		17274	DECAL
27		16277	VACUUM MOTOR ASS'Y (SERVICE ONLY)
28	l	16278	VACUUM MOTOR UPGRADE KIT
			REQUIRED TO UPGRADE FROM 2-STAGE TO 3-STAGE VAC MOTOR. INCLUDES ALL NECESSARY PARTS.

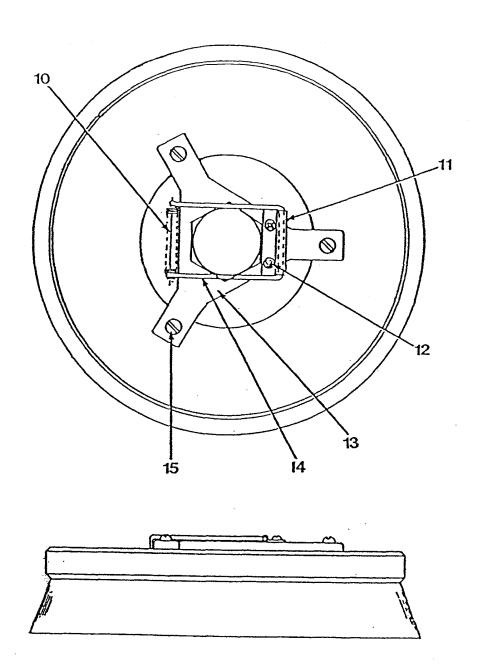
WIRING DIAGRAM REV. A



WIRING DIAGRAM

			WIRING DIAGRAM
Item No.	Qty.	Part No.	Description
1	2	30086	WIRE NUT-BLUE
2	. 1	12329	GAGE-BATTERY CONDITION
3	1	10333	RELAY
4	1	30263	SPEED CONTROL MODULE
5	2	16924	SCREW-PAN HEAD(PHILLIPS)
6	1	30266	WIRING HARNESS, SPEED CONTROL
7	1	30266	WIRING HARNESS, SPEED CONTROL
8	1	30266	WIRING HARNESS, SPEED CONTROL
9	1	30266	WIRING HARNESS, SPEED CONTROL
10	1	03911	BUS BAR
11	4	03914	WASHER-PLAIN (BRASS)
12	4	03913	SCREW-FLAT HEAD 3/8-16 X 1"(BRASS)
13	4	03915	NUT-HEX.JAM
14	1	05215	SWITCH
15	4		SCREW-SOCKET HEAD CAP 1/4-20 X 1"(COPPER FLSH)
16	1	05436	WIRE MARKER M2
17	1	05539	WIRE
18	4		NUT-HEX.LOCK(KEPS) 1/4-20
19	1	06503	SWITCH
20	1	06508	JUMPER, SWITCH
21	1	03909	LEAD 8GA BLACK
22	1	10335	WIRE
23	1		WIRE
24	1	10337	POSITIVE SWITCH LEAD
25	1	10338	JUMPER, RELAY
26	1	10339	WIRE
30	2	10517	WIRE
31	2		WIRE
32	1	10549	TERMINAL BOARD
33	1	10629	POSITIVE LEAD
34	2	12318	INDICATOR LEAD
35	2	14227	CONNECTOR
3 6	1	14454	CIRCUIT BREAKER
38	2	15956	DOUBLE MALE CONNECTOR
39	1	18979	CABLE-BATTERY
40	1	18978	CABLE-BATTERY
41	2	19420	CABLE-BATTERY, JUMPER
43	2	15243	TERMINAL-CHARGER CONTACT
44	1	17134	SWITCH, TILT
46	2	17181	WIRE ASSY., VAC MOTOR
47	1	15242	CONNECTOR-CHARGER(36V)
48	2	02958	NUT-HEX.LOCK(KEPS)
50	1	18977	CABLE-BATTERY/LIGHT 6 GA. X 13"BLK/37"ORANGE
*NOT SH	OWN		

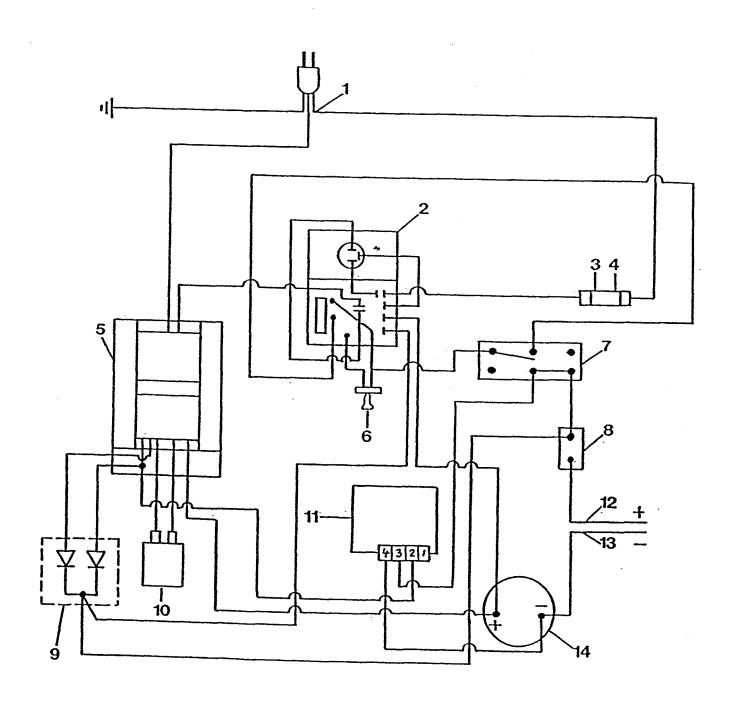
BRUSH COMPONENTS - REV. A



BATTERY COMPONENTS

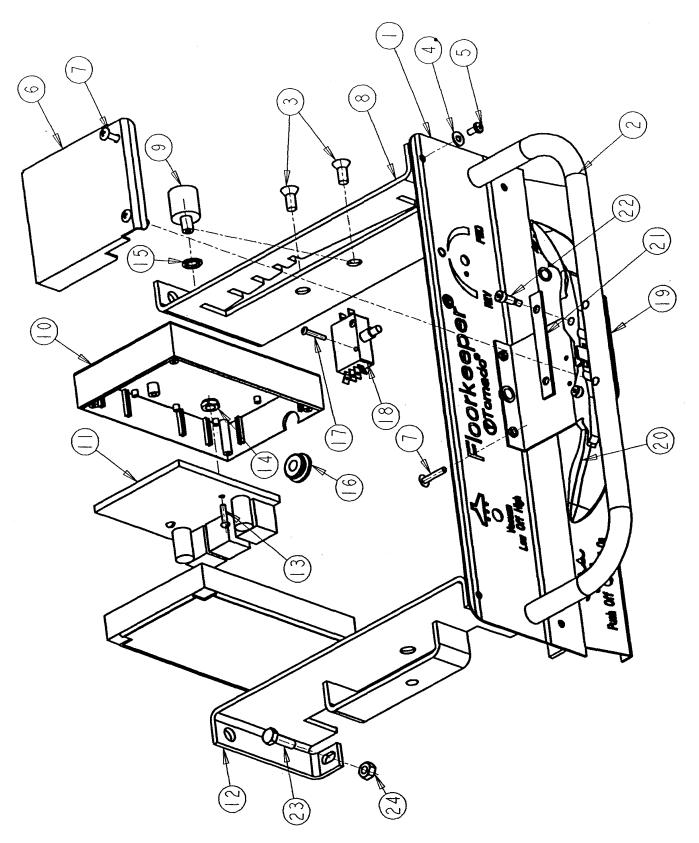
Item No.	Qty.	Part No.	Description
1 2 2	3	99519	BATTERY TRAY BATTERY-12V/185AH(WET) BATTERY-12V/215AH(WET)

BATTERY CHARGER 99515 - REV. A



BATTERY CHARGER 99515

Item No.	Qty.	Part No.	Description
	A	22400	CODD ACIANTUDUO
7	1	22498	CORD, AC WITH PLUG
3	1	24013	FUSE HOLDER, AC
4	1	10218	FUSE, AC
6	1	22544	SWITCH, STOP
7	1	23349	SWITCH, START
8	1	22495	CIRCUIT BREAKER
9	1	10207	RECTIFIERS WITH MOUNTING PLATE
10	1	10210	CAPACITOR
12	1	10414	DC OUTPUT CABLE, POSITIVE
13	1	10415	DC OUTPUT CABLE, NEGATIVE
14	1	22497	AMMETER
*	1	02961	STRAIN RELIEF BUSHING



CONTROL

Item No.	Qty.	Part No.	Description
1	1	19940	PANEL-FRONT (MIDRANGE)
2	1	19950	HANDLE-MIDRANGE
3	2	03922	SCREW-FLAT HD.SOCKET CAP 5/16-18 X 3/4"
4	4	00696	WASHER-PLAIN #10
5	4	03261	SCREW-TCT (F) PAN HEAD #10-32 X 3/8"
6 7	1		
7	4	17862	SCREW-TRUSS HEAD #10-32 X 1" (SS)
8	1		
9	2		STANDOFF-CUSTOM (CRS)
10	1		,
11	1		SPEED CONTROLLER (MR)
12	1		FRAME-UPPER (LH SIDE)
13	2		SCREW-RND HEAD #8-32 X 3/4"
14	2		NUT - HEX. LOCK(NYL.INS.) 3/8-16
15	2		WASHER-SEALING 3/8"
16	1		GROMMET 3/8 ID X 9/64 WALL
17	2		SCREW-RHD. HD. #6-32 X 1"
18	1		SWITCH-PUSH BUTTON (DPST)
19	1		SWITCH BOX-BOTTOM (MR)
20	2		LEVER-HANDLE SWITCH
21	1		BRACKET-PLATE
22	2		SCREW - SHOULDER-STEEL 1/4"D X 3/8"
23	4		SCREW - HEX HEAD CAP 5/16-18 X 1"
24	4	01589	NUT - HEX, LOCK (P/T NYLOK) 5/16-18