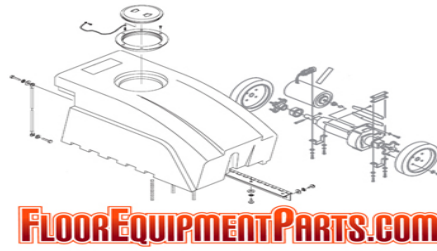


**340  
Sweeper/Scrubber  
Gas Model**

**Model:  
MC340000  
MC340000R**

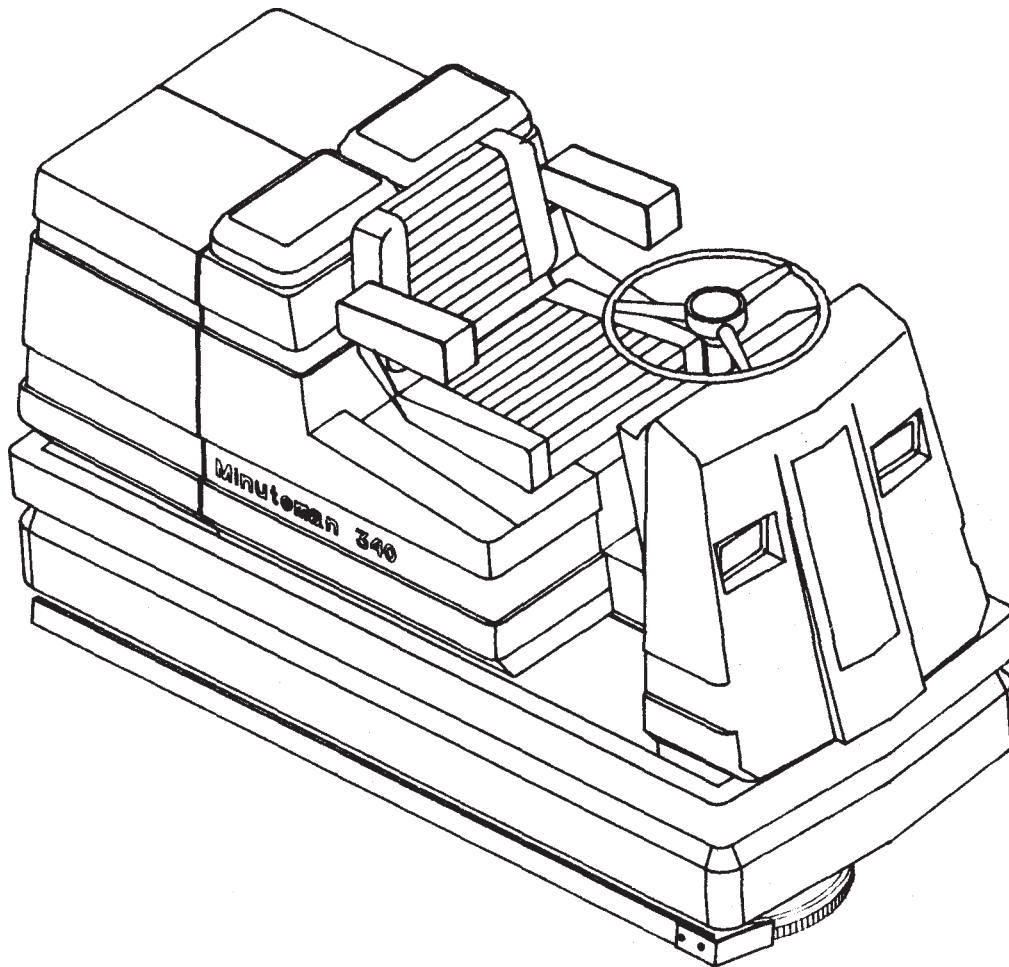


**OPERATION**

**SERVICE**

**PARTS**

**CARE**



Revised 6/02

**Minuteman<sup>®</sup>**

## CONTENTS

### ILLUSTRATION, SPARE PARTS, OPERATION AND SERVICE

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#### 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 dependant on floor surface, chemicals used and proper care.

## OPERATING AND SERVICE MANUAL

### **INSPECTION**

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

### **ENGINE**

Engine is shipped with oil. Refer to engine manual for proper service intervals and maintenance.

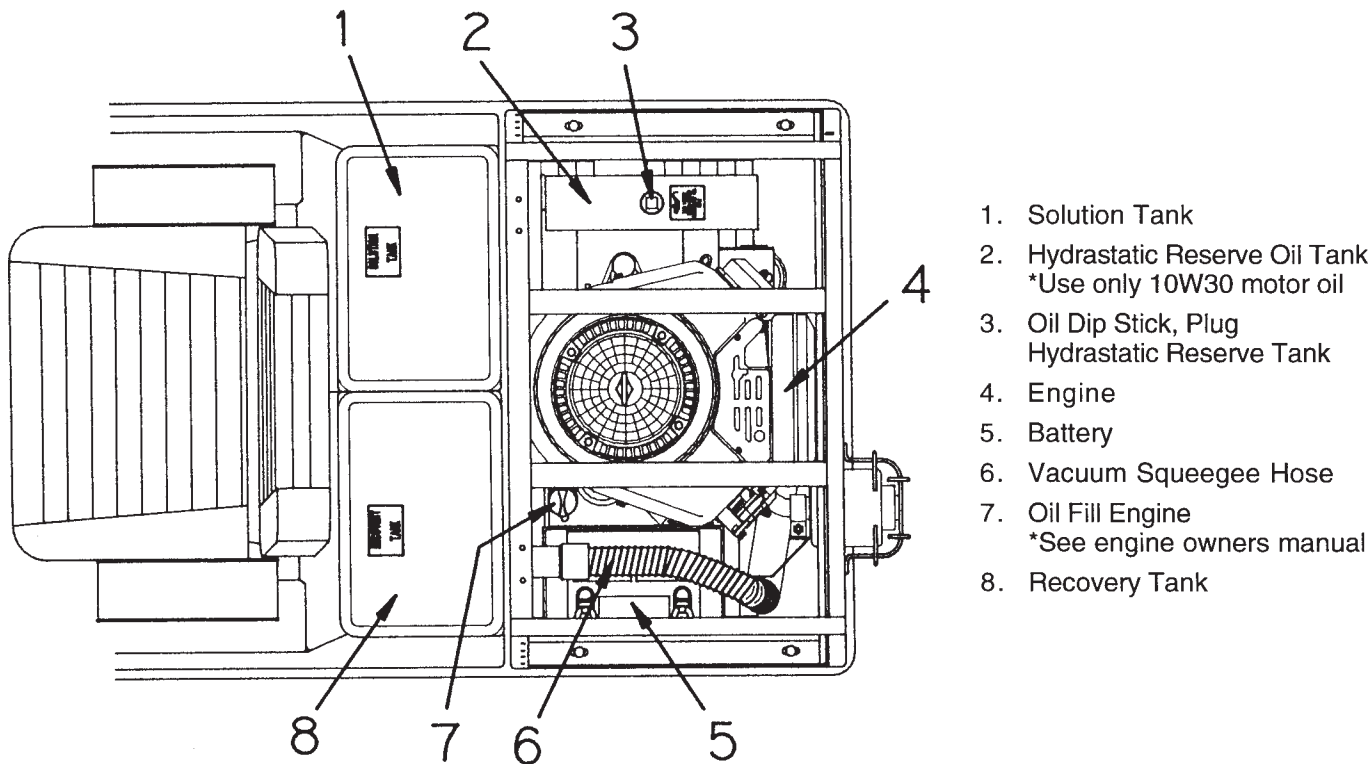
### **WARNING**

This gasoline engine produces carbon monoxide exhaust fumes. Do not use in enclosed areas or in areas where lethal fumes may accumulate.

### **DANGER**

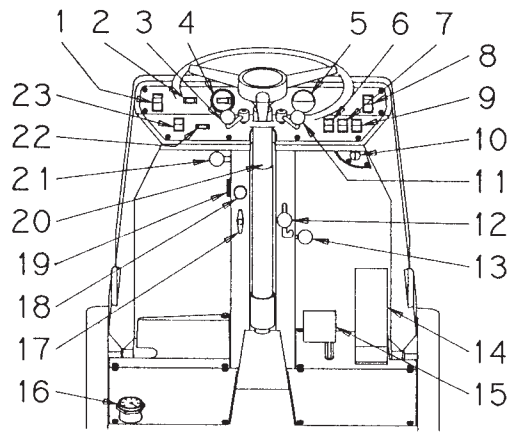
Gasoline is highly flammable and its vapors are explosive. To prevent personal injury or property damage:

- Do not fill fuel tank indoors. After filling, wipe up any spills and move machine away from gasoline fumes before starting engine.
- Do not allow open flame, matches, or smoking in area.
- Fill the fuel tank with fresh, clean unleaded regular automotive gasoline. (leaded regular and unleaded or leaded premium grades of gasoline are acceptable substitutes.
- Do not mix oil with gasoline.
- Clean the area around the fuel fill cap and remove the cap from the fuel tank. Insert a clean funnel into the fuel tank.
- Fill the fuel tank to 1/2 inch below the bottom of the filter neck to provide space for any fuel expansion.
- Reinstall the fuel fill cap securely and wipe up any spilled gasoline.



## OPERATING PROCEDURES

**CAUTION:** Familiarity with controlling this machine is essential before entering areas which contain equipment and/or people.



CONTROL/INSTRUMENT	FUNCTION
1. Horn	
2. Recovery Tank Full Indicator	
3. Optional Solution Feed Recycle	
4. Hourmeter Gauge	Records actual hours of operation.
5. Volt Meter	Indicates battery charge voltage.
6. Optional Overhead Light Switch Knockout	
7. Squeegee Control Switch	Electrically controlled valves permits oil to flow to the squeegee cylinder to automatically lower in forward and raise in reverse. Move switch, second from right on dashboard to down position for automatic control. Move switch to up position for transport and double scrub. The turbine is turned on automatically when the rear squeegee is lowered. The turbine is turned off automatically, after 30 seconds delay, when squeegee is raised.
8. Optional Pre-sweep Switch Knockout	
9. Brush Switch	Electrically controlled valves permit oil to flow to the brush cylinder to raise and lower the scrub head. Brushes automatically turn when lowered and stop when raised. Move switch on right side of the dashboard to down position to lower the scrub head. Move switch to the up position to raise the scrub head.
10. Ignition Switch	Engine start.
11. Solution Control Lever	Regulates flow of solution.
12. Side Squeegee Lift	This is a manual control to the right of the steering column. Push knob down and to the right to raise front of the side squeegee. Move knob left and up to the lower front of the side squeegee. The rear of the side squeegee works automatically with rear squeegee.
13. Parking Brake Knob	To set parking brake: while stepping on brake pedal, raise knob located on right side of steering tower, until brake locks. Brake releases automatically when brake pedal is depressed again.
14. Forward/Reverse Pedal	Activates traction drive control valve. Depress toe for forward and heel for reverse. Pedal travel determines forward and reverse speed.
15. Parking Brake	Depress to activate brakes on rear wheels. Refer to instructions.
16. Gas Cap	
17. Engine Throttle Control	
18. Engine Choke Control	
19. Fuse Block	
20. Steering Height Control Collar	Raise collar on steering column to move steering wheel up or down. Lower collar to lock into position.
21. Tilt Steering	Push in knob, on left side of steering column, to tilt steering wheel forward or back. Release knob to lock in place.
22. Optional Recycle Ready Light Knockout	
23. Optional Switch Position Knockout	

## PRELIMINARY SYSTEMS CHECK

Before starting the unit, make the following inspections:

1. Check charge level of battery. Turn switch key on and observe battery condition gauge. Battery condition and charge level are best determined by checking specific gravity with a hydrometer. Check fluid level in each cell and bring to proper level if necessary. **DO NOT OVERFILL.**
2. Check level of oil in hydrostatic reserve tank. Maintain level at two inches below top of tank. **USE SAE 10W30 DETERGENT MOTOR OIL.**
3. Inspect for evidence of oil leaks.
4. Check and fill gas tank.
5. Check engine oil level.

## BRUSH CONDITION

Inspect condition of brushes. Replace brush when bristles are worn to 1/2 inch. Use the proper brushes for most effective scrubbing action.

The following types of brushes are available:

<u>Part Number</u>	<u>Type</u>
430034	Nylon
430108	Pad Driver
430132	Strato Grit
430111	Poly Grit

Inspect rear squeegee rubber for cuts and foreign matter, which may cause streaking. Squeegee rubber must be replaced when worn to a level where they no longer wipe the floor dry. The side squeegee or corner squeegee is used while turning corners and while scrubbing along pallets, cartons, carpets or any condition where it is advisable to immediately direct the water away from the scrubbing edge. Electrically controlled valves permit oil to flow to the squeegee cylinder to automatically lower in forward and raise in reverse. The squeegee switch raises rear squeegees for transport and double scrubbing.

## RECOVERY TANK

Drain recovery tank before re-filling solution tank.

**WARNING:** Recovery tank float switch will shut off turbines when tank is filled to capacity.

Two drains are provided on the recovery tank. For access to the rear drain hose, loosen the two wing bolts under the rear skirt and remove skirt. Direct hose to drain and remove plug end of hose.

**CAUTION:** When replacing hose in holder, ensure that it does not interfere with squeegee linkages.

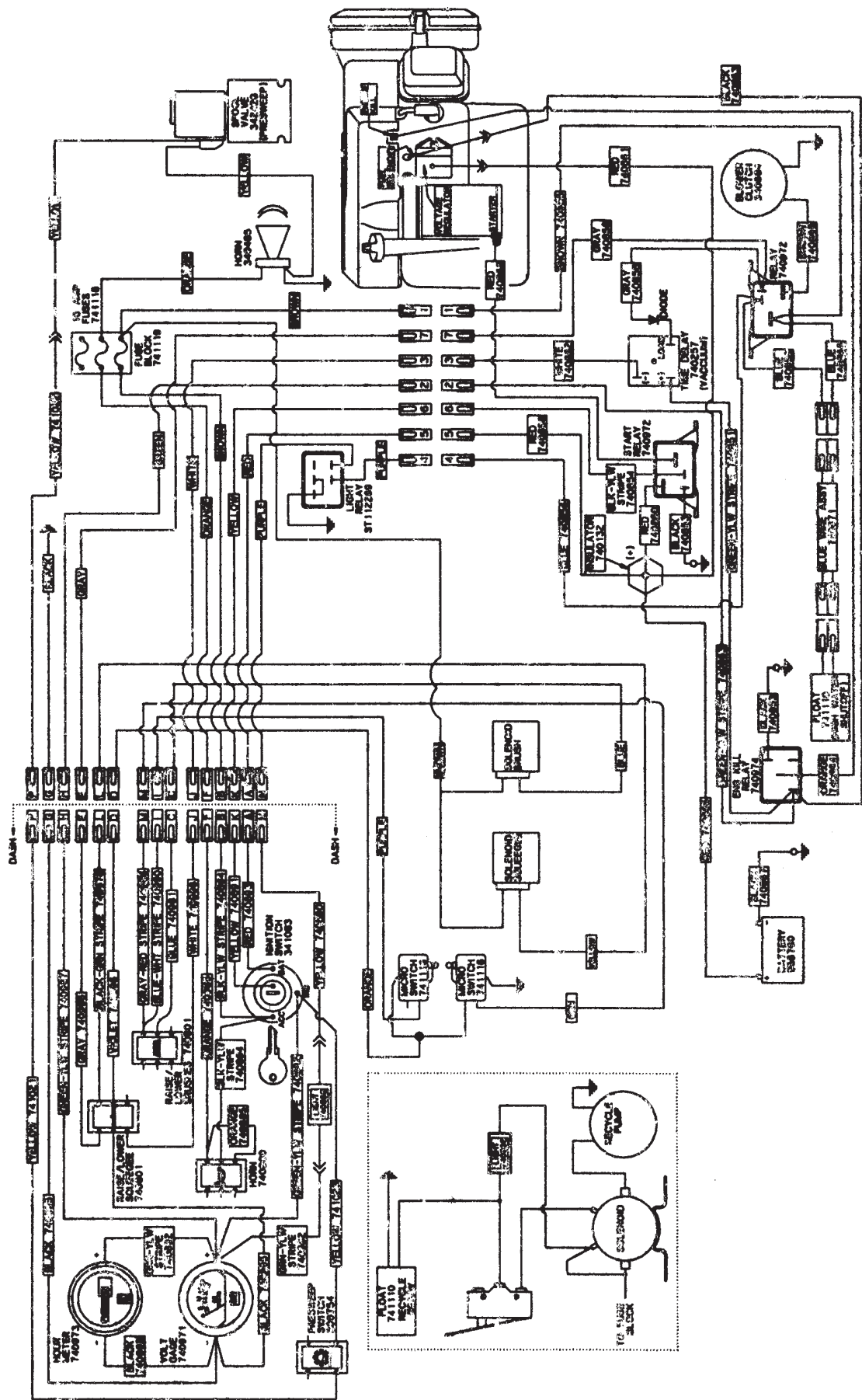
To clean sludge from bottom of tank, remove lower left side panel and open gate valve at bottom of tank. Flush tank with water.

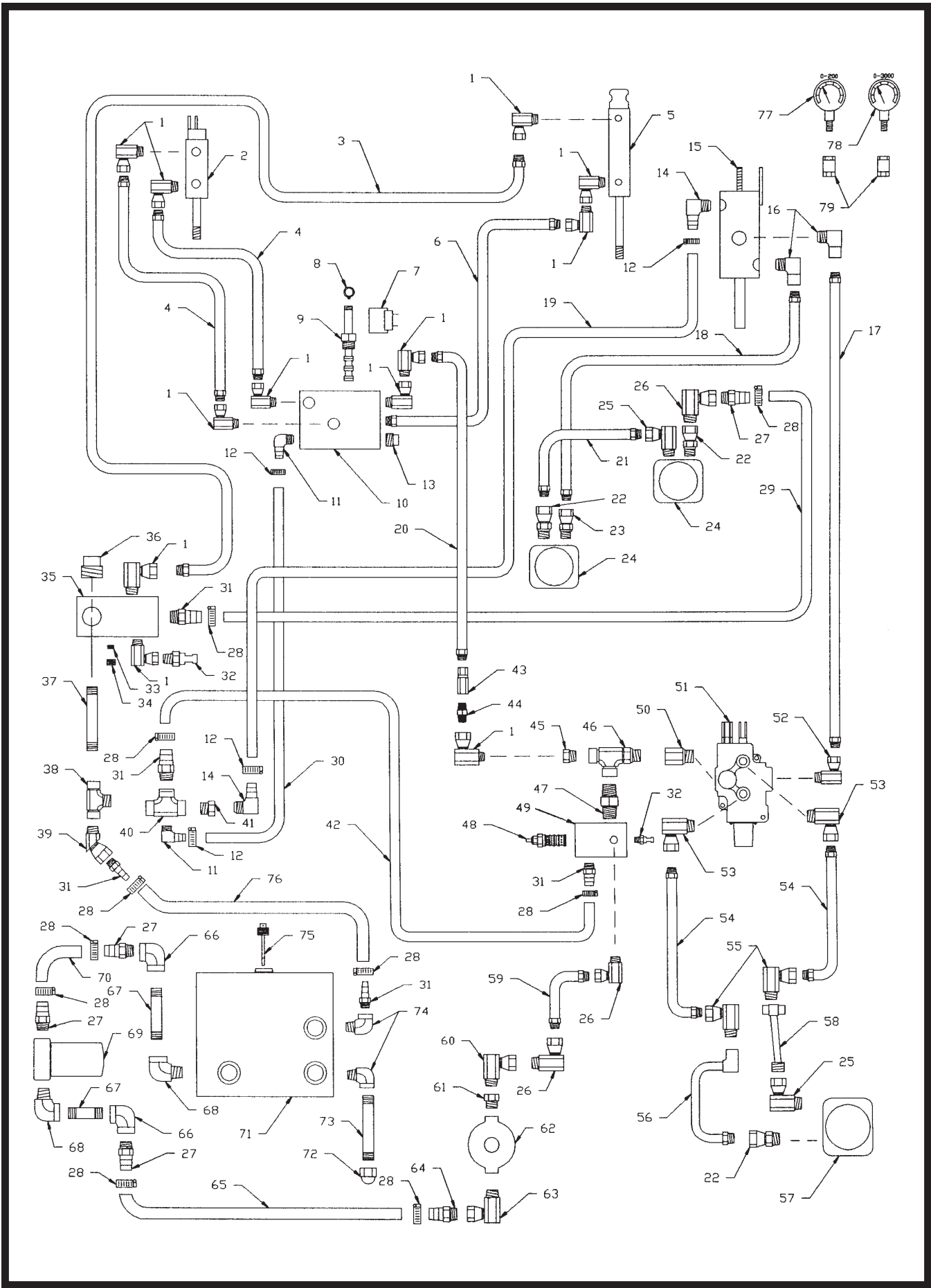
## PREPARE TO SCRUB

1. Fill solution tank with clean water. It is recommended that cleaning chemicals be added to tank while being filled to insure an even mixture. Warm water is recommended, but not essential. Use a low foaming chemical.
2. Pull out choke control. Refer to Page 2, Item 18.
3. Pull out throttle control half way. Refer to Page 2, Item 17.
4. Start engine with ignition switch, refer to Page 2, Item 10. Push in choke and increase throttle control to full out position and twist to lock in position.
5. Use appropriate switches to place brushes and squeegee in up position.
6. Depress foot pedal and proceed to area to be scrubbed.
7. Lower brushes with brush control switch.
8. Lower squeegees with squeegee control switch. Turbines start automatically when squeegees are lowered and stop when raised. Squeegees raise automatically when machine is reversed.
9. Open solution valve.
10. Depress foot pedal to appropriate speed for the conditions:
  - a. Heavy soil: slow ground speed
  - b. Light soil: faster ground speed
11. Adjust solution control valve to allow only enough solution to the scrub path. **DO NOT** allow excessive solution to flood scrub path.
12. To operate side squeegee, release knob to the right of steering column. This lowers the front of the side squeegee. The rear operates automatically. To raise side squeegee, return knob to original position. The side squeegee should be used to eliminate water left on the floor while turning and when scrubbing close to carpeting, cartons or close to walls. A 90 degree turn in a corner can be scrubbed and dried with side and rear squeegee down. **DO NOT** use side squeegee except when necessary. Avoid making right hand turns with side squeegee down.

## SCRUBBING PROCEDURE

1. Maintenance Scrub (single pass).
  - a. Move brush control to down position.
  - b. Move squeegee control switch to down position.
  - c. Open solution control level and adjust to proper flow.
  - d. Slowly depress right foot pedal to desired ground speed.
  - e. Use side squeegee while turning to eliminate leaving water on turns.
  - f. Single pass procedure should be used where a heavy soil build-up does not exist.
2. Multiple Scrub (heavy soil).
  - a. Move brush control switch to down position.
  - b. Open solution control lever and adjust to proper flow.
  - c. Slowly depress right foot pedal to desired ground speed. A slow ground speed is most desirable in cleaning heavy soil build-up.
  - d. Continue to dispense solution while scrubbing until all soilage can be suspended in solution. Move squeegee control switch down. Scrub entire area a second time while drying the surface with squeegees and turbines operating. **NOTE:** In extreme conditions, the area may need to be scrubbed several times until clean or until solution on the floor becomes saturated with soil.
  - e. Check solution level in tank while closest to water source.
  - f. Recovery tank must always be emptied and cleaned at time of refilling solution tank. Squeegees will stop picking up solution when recovery tank is full.

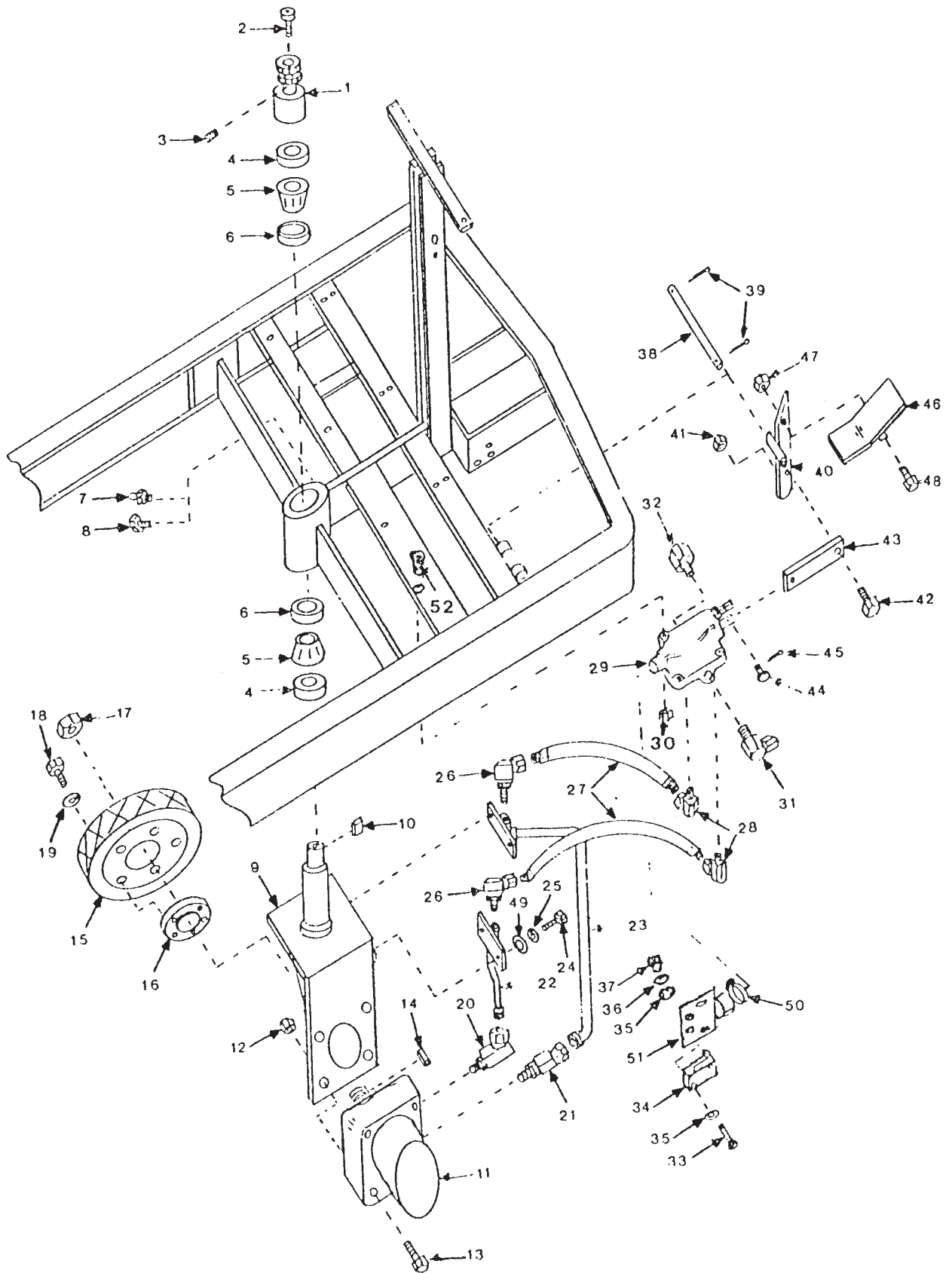






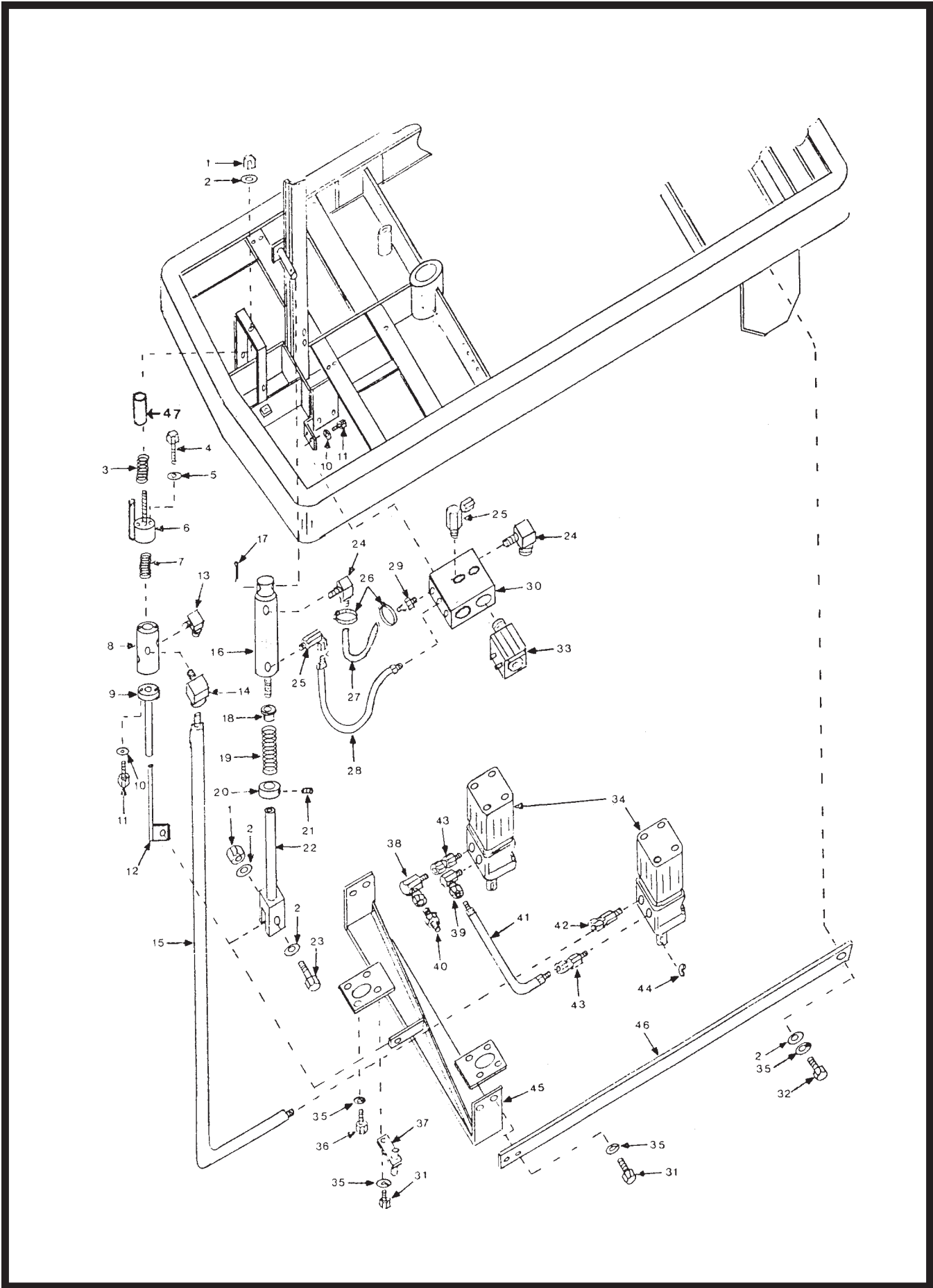
## Parts List

ITEM	PART NO	QTY	DESCRIPTION	ITEM	PART NO	QTY	DESCRIPTION
1	340524	12	Ell, Swivel	41	340486	1	Bushing
2	340558	1	Cylinder	42	340544	1	Hose
3	340951	1	Hose	43	340967	1	Valve Check
4	340531	2	Hose	44	340968	1	Nipple, Hex
5	340555	1	Cylinder	45	340969	1	Bushing
6	340535	1	Hose	46	340515	1	Tee
7	742118	2	Coil Solenoid 12V	47	340514	1	Nipple
8	340952	2	Ring, Retaining	48	340550	1	Cartridge, Relief Valve
9	340953	2	Valve, 4-Way	49	340606	1	Block, Relief
10	340954	1	Manifold	50	340518	1	Adpater
11	340536	2	Ell	51	340545	1	Drive Valve
12	340506	4	Clamp	52	340546	1	Fitting
13	340492	1	Plug	53	340547	2	Fitting
14	340538	2	Ell	54	340532	2	Hose
15	340570	1	Valve, Brush	55	340519	2	Fitting
16	340536	2	Street Ell	56	340590	1	Line, Hydraulic
17	340955	1	Hose	57	340502	1	Motor, Wheel
18	340956	1	Hose	58	340589	1	Line, Hydraulic, Short
19	340543	1	Hose	59	340970	1	Hose
20	340957	1	Hose	60	340971	1	Fitting
21	340521	1	Hose	61	340525	1	Adapter
22	340537	3	Fitting	62	340528	1	Pump
23	340548	1	Fitting	63	340527	1	Fitting
24	340505	2	Motor, Brush	64	340603	1	Fitting
25	340517	2	Fitting	65	340972	1	Hose
26	340516	3	Ell, Swivel	66	341092	2	Elbow, 3/4"
27	340526	4	Fitting	67	311093	2	Pipe Nipple, 3/4" x 2 1/2"
28	340463	10	Clamp	68	761545	2	Street 90°, 3/4"
29	340958	1	Hose	69	340465	1	Filter Assembly
30	340542	1	Hose	70	341091	1	Hose
31	340523	5	Coupling	71	340973	1	Reservoir, Hydraulic
32	340959	2	Adapter	72	340974	1	Cap, Pipe
33	340960	1	Nyloc Set Screw, 5/16-18	73	340975	1	Nipple
34	340961	1	Plug	74	340976	2	Cartridge, Relief Valve
35	340962	1	Manifold, Brush Pressure	75	340565	1	Dipstick
36	340467	1	Plug	76	340977	1	Cylinder
37	340963	1	Nipple	77	340978	1	Gauge, Pressure (0-200 psi)
38	340964	1	Tee	78	340979	1	Gauge, Pressure (0-3000 psi)
39	340965	1	Swivel 45°	79	340980	2	Coupler
40	340966	1	Tee				



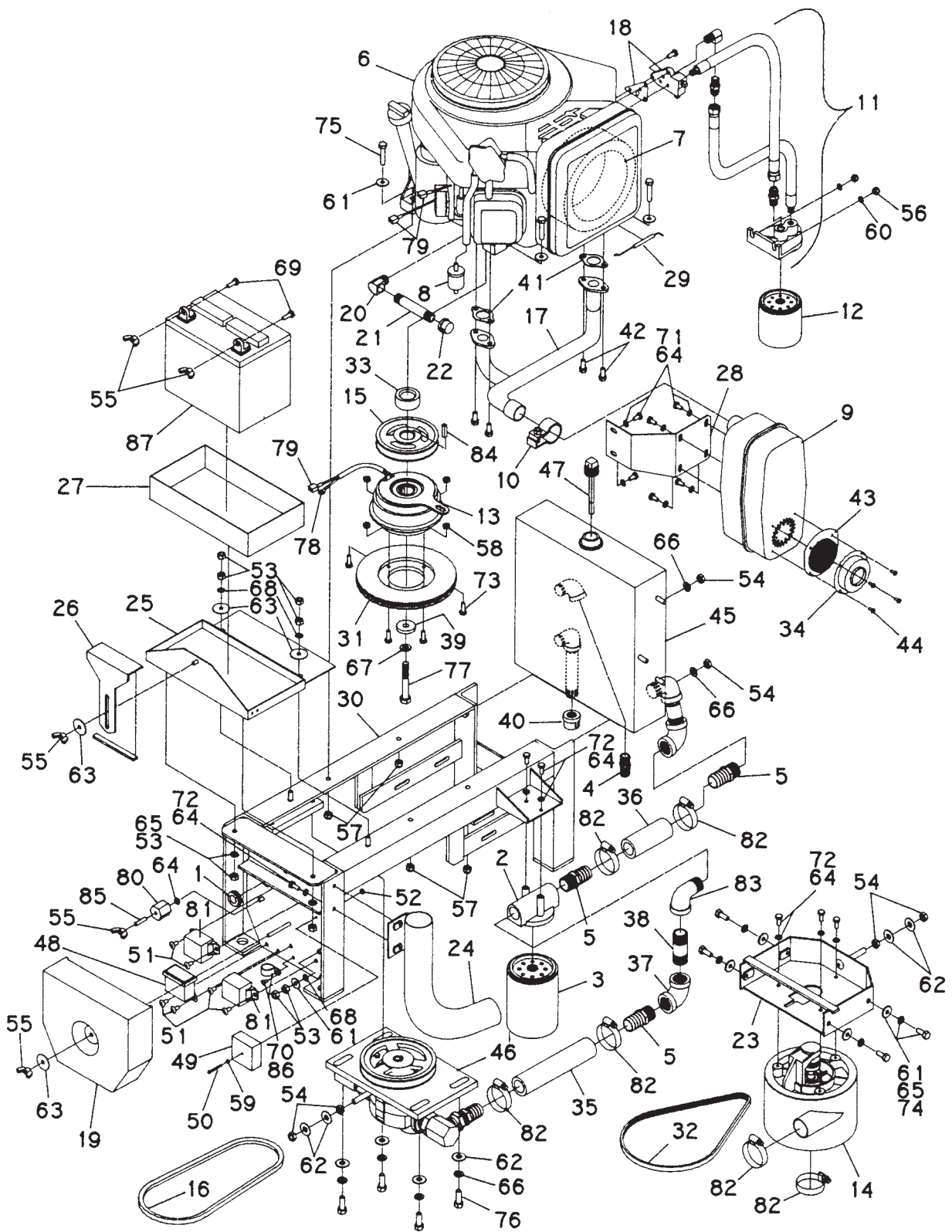
## Parts List

ITEM	PART NO	QTY	DESCRIPTION
1	340556	1	Adaptor, Steering
2	710987	1	SCR-SC 3/8-16 x 1.50 STPL
3	710822	2	SCR-SC 1/4-20 x .37 ST NI
4	340488	2	Seal
5	340490	2	Cone
6	340491	1	Cup
7	340496	1	Fitting, Grease
8	710751	1	1/4 28 x 1/2 HH BLT
9	340416	1	Fork, Steering
10	340554	1	Key
11	340502	1	Motor, Wheel
12	711376	4	Nut-Nyloc 1/2-13
13	710754	4	1/2 x 13 x 2 3/4 Hardene
15	340561	1	Wheel, Drive
16	340489	1	Hub, Wheel
18	712037	5	7/16 x 20 1/4 BLT
19	712035	5	7/16 Lockwasher
20	340517	1	Fitting
21	340527	1	Fitting
22	340589	1	Line, Hydraulic
23	340590	1	Line, Hydraulic
24	711202	4	BLT-HH 1/4-20 x .50 STPL
25	711544	4	WSR-Helical 1/4
26	340519	2	Fitting
27	340532	2	Hose
28	340547	2	Fitting
29	340545	1	Drive Valve
30	711373	2	Nut-Nyloc 1/4-20
31	340546	1	Fitting
32	340518	1	Adaptor
33	710490	4	SCR-MC 4-40 x .50 STPL
34	741116	2	Micro Switch
35	711531	8	WSR-Finish #6
36	711596	4	WSR-Internal Lock #4
37	711428	4	Nut-Hex 4-40
38	340421	1	Pin, Pedal
39	711809	2	1/8 x 1 Cotter Pin
40	340419	1	Arm, Forward/Reverse
41	711375	1	Nut-Nyloc 3/8-16
42	711242	1	BLT-HH 3/8-16 x 1.00
43	340420	1	Link, Forward/Reverse
44	712097	1	Clevis Pin
45	711805	1	Cotter Pin .08 x 1.00
46	340445	1	Pedal, Forward/Reverse
47	711374	1	Nut-Nyloc 5/16-18
48	711230	1	BLT-HH 5/16-18 x 1.00 STPL
49	711505	4	WSR-Flat 1/4
50	340495	1	Clamp
51	340595	1	Bracket, Switch
52	710587	2	SCR-MC 1/4-20 x 1.50 ST NI



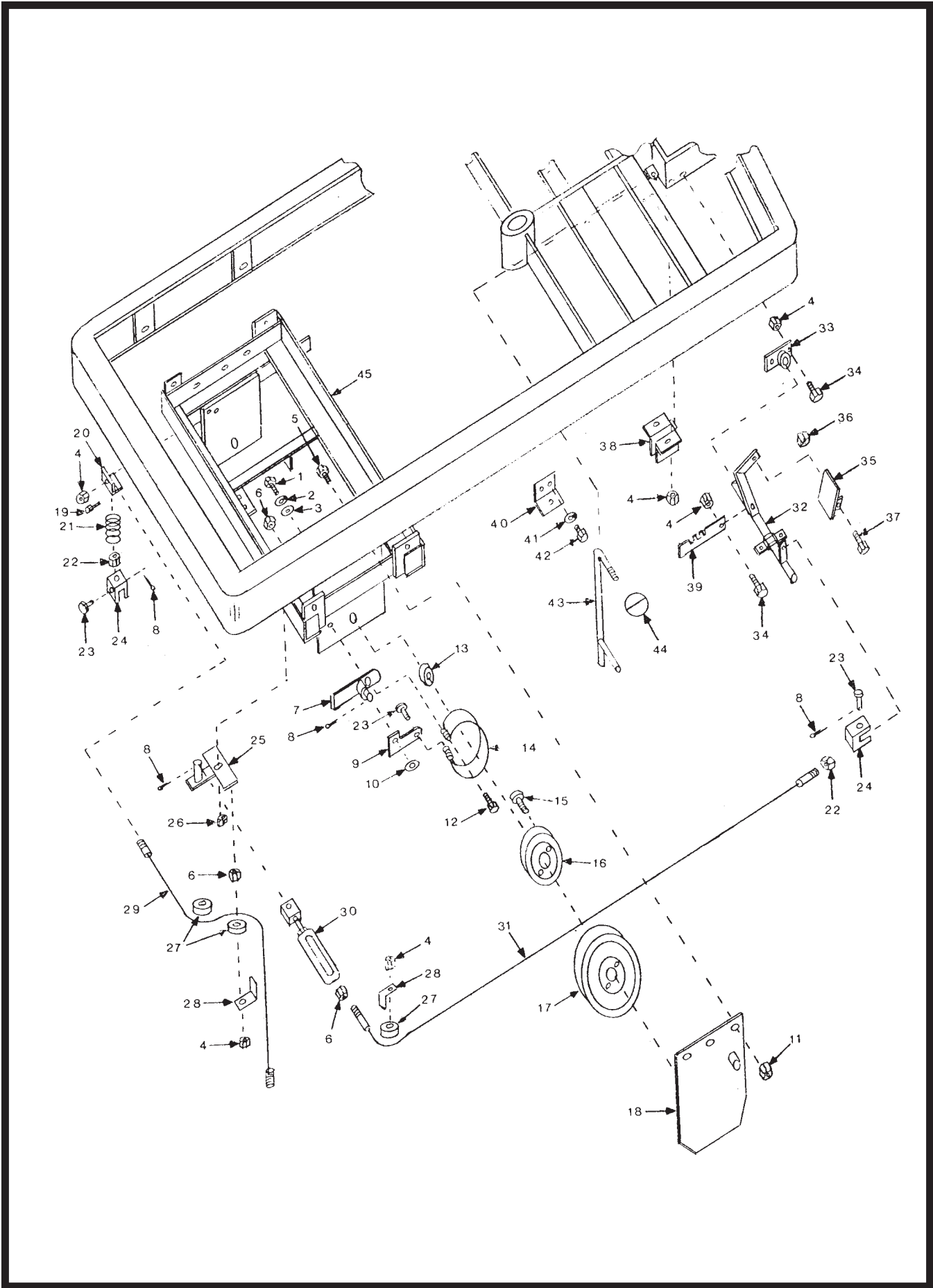
## Parts List

ITEM	PART NO	QTY	DESCRIPTION
1	711375	2	Nut-Nyloc 3/8-16
2	711508	5	WSR-Flat .44 x 1.00 x .06
3	340576	1	Spring
4	711214	2	BLT-HH 1/4-20 x 2.00 STPL
5	711544	1	WSR-Helical 1/4
6	340586	1	Cap, Top
7	340503	1	Spring
8	340570	1	Valve, Brush
9	340571	1	Extension, Valve
10	711544	2	WSR-Helical 1/4
11	711207	4	BLT-HH 1/4-20 x 1.00 STPL
12	340429	1	Actuator, Valve
13	340538	1	Ell
14	340530	2	Street Ell
15	340533	1	Hose
16	340555	1	Cylinder
17	711807	1	Cotter Pin .12 x 1.75
18	340501	1	Bushing
19	340475	1	Spring, Brush
20	340480	1	Collar
21	711024	1	SCR-SK 5/16-18 x .50
22	340400	1	Rod, Brush Lift
23	711243	1	BLT-HH 3/8-16 x 1.5 STPL
24	340536	2	Ell
25	340524	2	Ell, Swivel
26	340506	2	Clamp
27	340514	1	Nipple
28	340535	1	Hose
29	340624	1	Hose Barb Adapter
30	340599	2	Manifold, Brush
31	711242	6	BLT-HH 3/8-16 x 1.00
32	711241	2	BLT-HH 3/8-16 x .75
33	340539	6	Cartridge Solenoid Valve
33A	741115	6	Coil Solenoid Valve
34	340505	1	Motor, Brush
35	711546	14	WSR-Helical 3/8
36	711246	6	BLT-HH 3/8-16 x .87 STPL
37	340427	2	Outlet, Solution
38	340516	1	Ell, Swivel
39	340517	1	Fitting
40	340523	1	Coupling
41	340521	1	Hose
42	340548	1	Fitting
43	340537	2	Fitting
44	340623	2	Woodruff Key Special
45	340426	1	Frame, Brush
46	340428	2	Arm, Brush, Lift
47	340602	1	Hose
48	340019	2	Brush Spindle Adapter
49	340631	2	Key 1/4 x 1/4 x 1.375
50	430035	2	Drive Hub



## Parts List

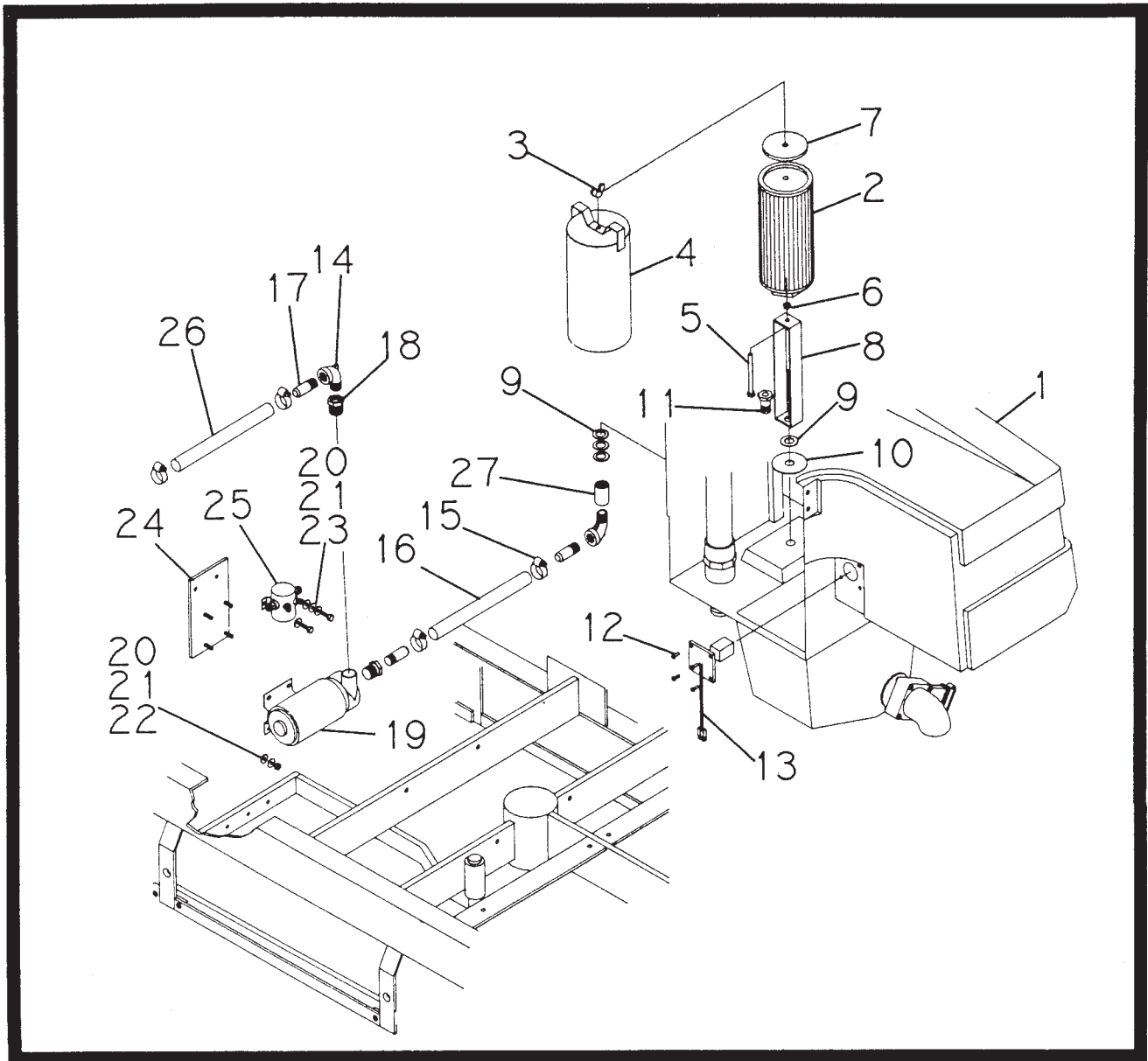
ITEM	PART NO	QTY	DESCRIPTION	ITEM	PART NO	QTY	DESCRIPTION
1	130013	1	Grommet .81 x 69 x .06	45	341102	1	Hydraulic Oil Reservoir Assy.
2	340465	1	Filter Assembly	46	341103	1	Hydraulic Pump Assembly
3	340621		Replacement Oil Filter (hydraulic)	47	340565	1	Hydraulic Oil Dipstick
4	340523	1	Brass Hose BARB 1/2 x 3/4	48	740974	1	Engine Kill Relay
5	340526	3	Brass Hose BARB 3/4 x 1	49	740108	1	Time Delay
6	340680	1	16 HP B.S. Vanguard Engine	50	710008	1	Screw, MC 6-32 x 1.25
7	341227		Replacement Air Filter	51	710178	6	Screw, MC 1/4-20 x .50
8	341228		Replacement Gas Filter	52	711301	1	Hex Nut 6-32
9	340681	1	Muffler	53	711319	8	Hex Nut 5/16-18
10	340682	1	Muffler Clamp	54	711328	6	Hex Nut 3/8-16
11	340683	1	Aux. Oil Filter Assembly	55	711368	5	Nyloc Wing Nut 1/4-20
12	340693		Replacement Oil Filter (engine)	56	711373	2	Nyloc Nut 1/4-20
13	340684	1	Vacuum Clutch	57	711374	4	Nyloc Nut 5/16-18
14	340685	1	5-Stage Vacuum Blower	58	711377	4	Lock Nut 1/4-20
15	340686	1	4 1/2" Pulley, 1" Bore	59	711502	1	Flat Washer #8
16	340688	1	Belt, Hydraulic Pump	60	711505	2	Flat Washer 1/4
17	340689	1	Exhaust Manifold	61	711506	9	Flat Washer 5/16
18	340690	1	Aux. Oil Filter Adapter	62	711508	8	Flat Washer .44 x 1.00 x .06
19	340692	1	Electrical Box Cover	63	711516	4	Flat Washer .31 x 1.25 x .05
20	340696	1	3/8" Brass Street 90	64	711544	14	Lock Washer 1/4
21	340697	1	3/8" x 3 1/2" Brass Pipe	65	711545	6	Lock Washer 5/16
22	340698	1	3/8" Brass Cap	66	711546	6	Lock Washer 3/8
23	341002	1	Blower Mount Weldment	67	711548	1	Lock Washer 7/16
24	341007	1	Hose Bracket Weldment	68	711565	3	External Lock Washer 5/16
25	341011	1	Battery Tray Weldment	69	712562	2	HH Bolt 1/4-20 x .75 SS
26	341012	1	Battery Clamp	70	712810	1	Screw MC 10-24 x 37
27	341013	1	Battery Liner	71	713000	6	HH Bolt 1/4-20 x 1/2 (GR. 5)
28	341027	1	Muffler Brace	72	713001	7	HH Bolt 1/4-20 x 5/8 (GR. 5)
29	341046	1	Stop Throttle Cable	73	713002	4	HH Bolt 1/4-20 x 3/4 (GR. 5)
30	341050	1	Motor Frame Weldment	74	713026	4	HH Bolt 5/16-18 x 3/4 (GR. 5)
31	341075MCH	1	7" Multi-V Pulley	75	713029	4	HH Bolt 5/16-18 x 1 1/2 (GR. 5)
32	341076	1	Belt, Poly V 280J4	76	713042	4	HH Bolt 3/8-16 x 1 (GR. 5)
33	341077	1	Pulley Spacer	77	713060	1	HH Bolt 5/16-20 x 3 (GR. 5)
34	341087	1	Exhaust Deflector	78	740016	1	5/16 Ring Term. 16-14 AWG
35	341090	1	1" I.D. Rubber Hose, 7 1/2" Lg.	79	740033	3	INS Male Term. 16-14 AWG
36	341091	1	1" I.D. Rubber Hose, 3 3/4" Lg.	80	740132	1	Insulator
37	341092	1	3/4" Steel Elbow	81	740972	2	12V Bosch Relay
38	341093	1	3/4" x 2 1/2" Pipe Nipple	82	760245	6	Hose Clamp
39	341094	1	Steel Washer, .469 x 1.375 x .250	83	761545	1	3/4 Steel Street 90
40	341096	1	1/2" Pipe Cap	84	833621	1	Key 1/4 x 1/4 x 1
41	341098	2	Exhaust Manifold Gasket	85	833638	1	1/4-20 Brass Stud
42	341099	4	Screw for Exhaust Manifold	86	833864	1	3/4 Dia. Cable Clamp
43	341100	1	Spark Arrestor	87	956700	1	Battery 12V
44	341101	4	Screw for Deflector				





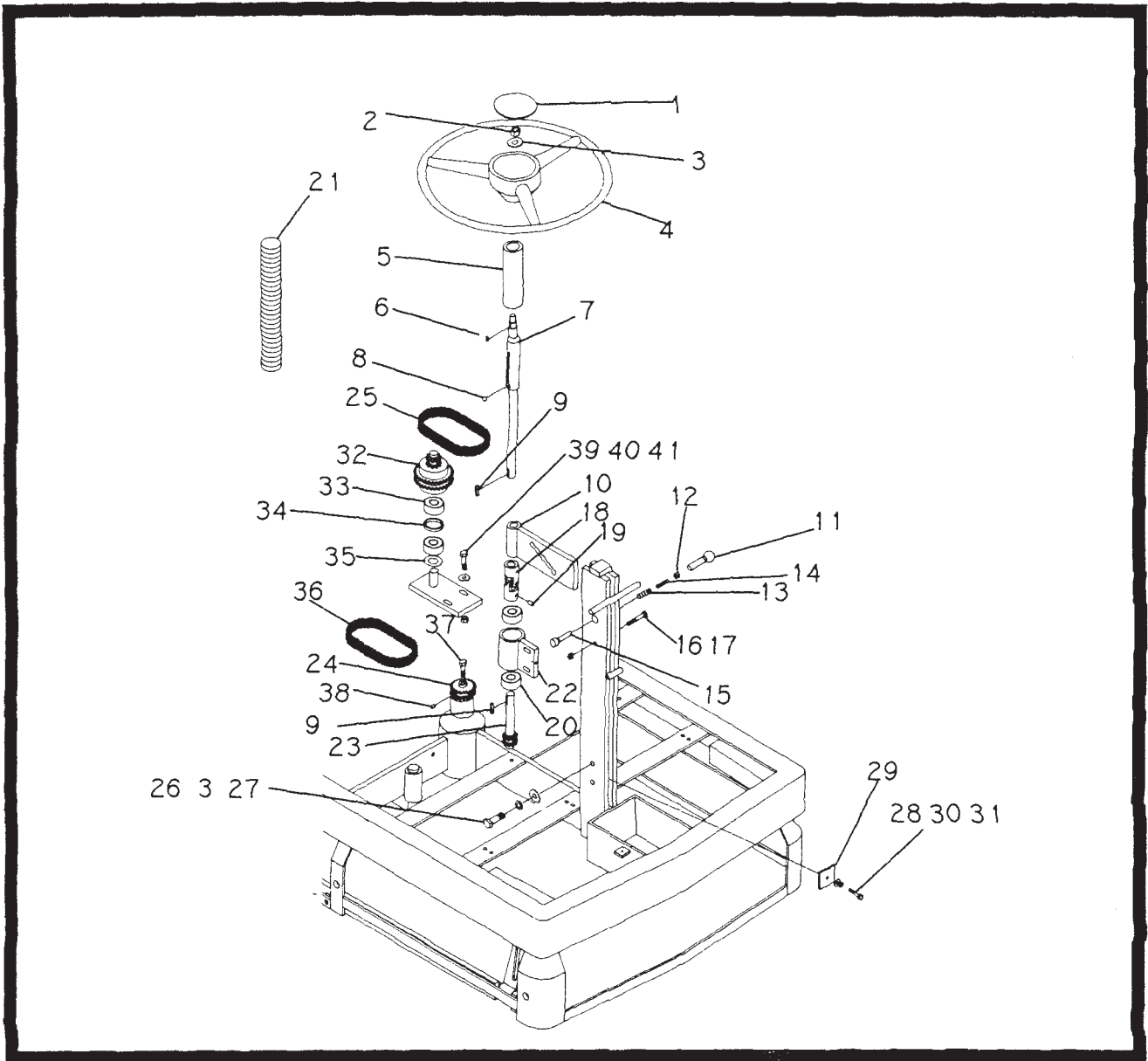
## Parts List

ITEM	PART NO	QTY	DESCRIPTION
1	711241	2	BLT-HH 3/8-16 x .75 STPL
2	711546	2	WSR-Helical 3/8
3	711576	2	WSR-Flat .38 x 1.12 x .06
4	711375	4	Nut-Nyloc 3/8-16
5	712037	6	7/16 x 20 1 1/4 BLT
6	711328	5	Nut-Hex 3/8-16 STPL
7	340410	2	Lever, Brake
8	711809	6	1/8 x 1 Cotter Pin
9	340626	2	Link Brake
10	711506	2	WSR-Flat 5/16 STPL
11	712034	6	7/16 x 14 Locknut
12	340560	2	Bolt, Special
13	340409	2	Spacer, Wheel
14	340627	1	Brake Band
15	710987	4	SCR-SC 3/8-16 x 1.50 STPL
16	340628	2	Brake Drum
17	340559	2	Wheel, Rear
18	340408	2	Plate, Wheel, Right
19	711204	2	BLT-HH 1/4-20 x .75 STPL
20	340413	1	Bracket, Spring, Left
21	340412	1	Bracket, Spring, Right
22	340629	2	Return Spring
23	712098	4	Clevis Pin
23	711393	3	Nut-Hex Jam 3/8-24 STPL
25	712055	3	Clevis Pin
26	712051	1	7/16 x 20 Locknut
27	340553	3	Sheave
28	340403	3	Retainer
29	340588	1	Cable, Brake
30	340573	1	Adjustment, Brake
31	340572	1	Cable, Brake
32	340433	1	Shaft, Brake
33	340435	1	Mount, Brake
34	711242	5	BLT-HH 3/8-16 x 1.00
35	340402	1	Pedal, Brake
36	711374	1	Nut-Nyloc 5/16-18
37	711230	1	BLT-HH 5/16-18 x 1.00 STPL
38	340430	1	Bracket, Brake
39	340431	1	Link, Brake
40	340434	1	Bracket, Brake
41	711544	2	WSR-Helical 3/8
43	340432	1	Rod, Brake
44	340462	1	Knob
45	340405	1	Undercarriage



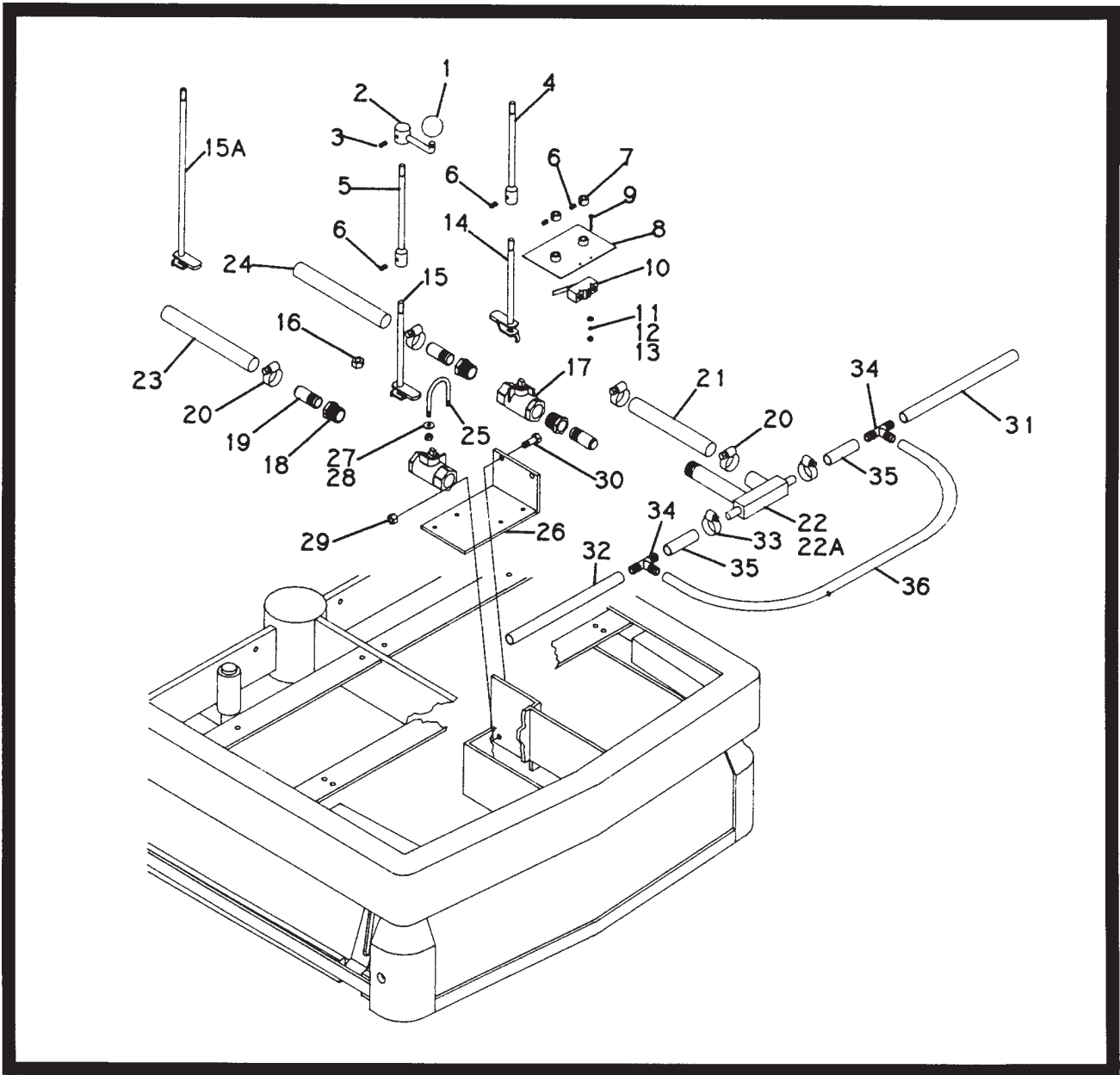
### Parts List

ITEM	PART NO	QTY	DESCRIPTION	ITEM	PART NO	QTY	DESCRIPTION
1	340001MCH1	1	340 Recycle Recovery Tank	15	340463	4	Clamp
2	340071	1	Filter 340 Recycle	16	340668	1	Hose Recycle Pump
3	711369	1	Nut-Wing 5/16-18	17	340551	3	Pipe
4	340069	1	Cover Recycle Filter	18	340468	2	Bushing
5	807901	1	Bolt	19	340669	1	Pump Recycle
6	712680	1	Nut-Hex 5/16-18	20	711505	7	WSR-Flat 1/4
7	340067	1	Gasket Recycle Filter	21	711544	3	WSR-Helical 1/4
8	340072	1	Bracket Filter Weldment	22	711373	4	Nut-Nloc 1/4-20
9	711517	4	WSR-Flat	23	711204	3	BLT-HH 1/4-20 x .75 STPL
10	340064	1	Gasket Filter Bracket	24	340670	1	Plate Pump Mount
11	828945	1	Bulkhead Fitting	25	741111	1	Solenoid 24V
12	712810	4	SCR-MC 10-24 x .37	26	340665	1	Hose Recycle
13	741110	1	Float Turbine	27	340065	1	Coupling 1/2 NPT
14	57-81-A	2	Fitting 1/2 x 1/2 Ell 90				



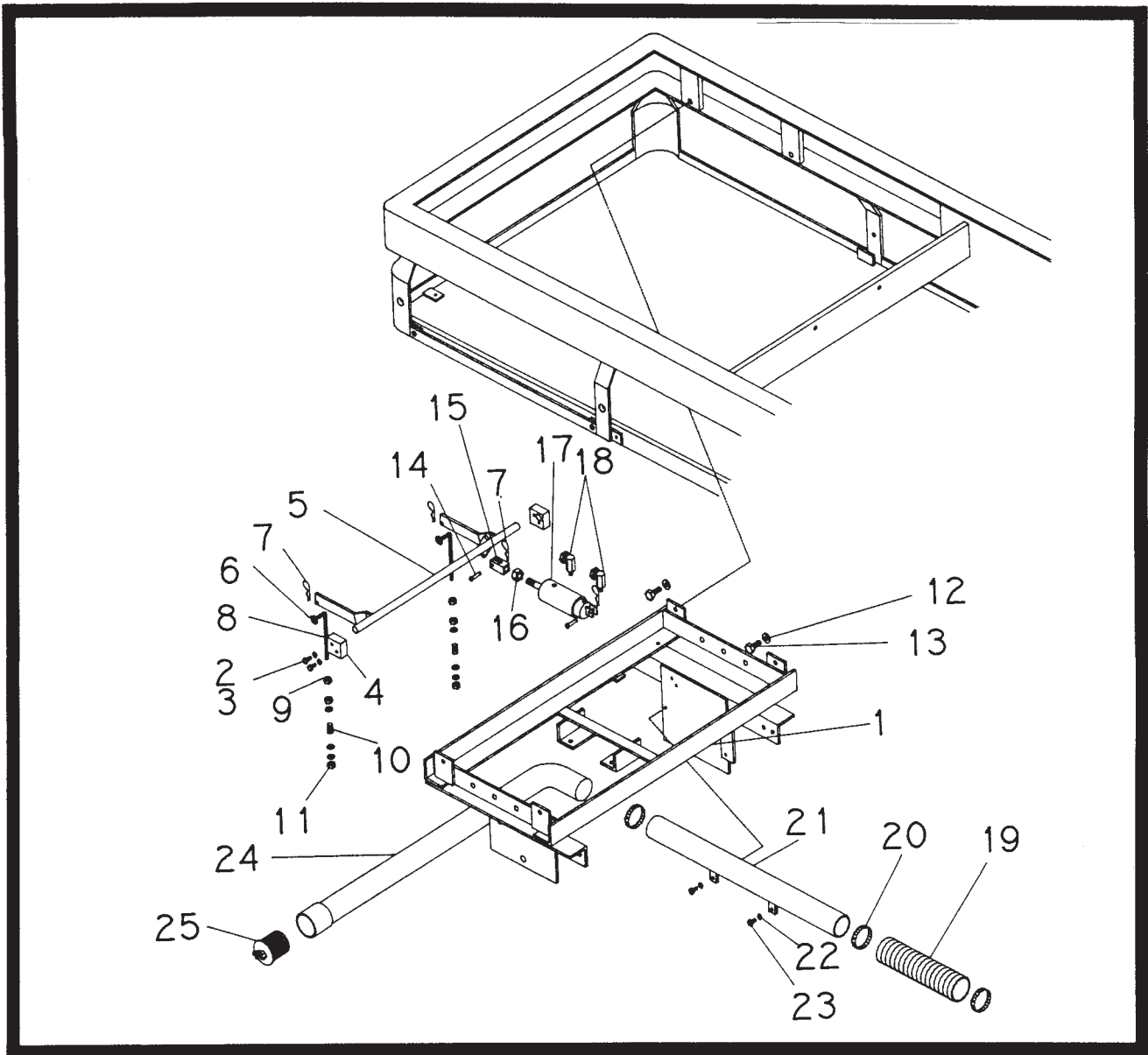
### STEERING ASSEMBLY

ITEM	PART NO	QTY	DESCRIPTION	ITEM	PART NO	QTY	DESCRIPTION
1	340477	1	Cap, Steering	21	340594	1	Steering, Cover
2	711337	1	Nut, Hex 1/2-20 ST	22	340557	1	Holder, Bearing
3	711509	1	WSR, Flat 1/2	23	340610	1	Shaft, Steering, Lower
4	340471	1	Wheel, Steering	24	340556	1	Adaptor, Steering
5	340584	1	Cover, Steering	25	340612	1	Chain, Short
6	340499	1	Woodruff Key 1/16 x 5/8	26	712047	2	BLT-HH 1/2-13 x 1.50
7	340563	1	Shaft, Steering, Upper	27	711547	2	WSR-Helical 1/2
8	340504	1	Ball	28	711210	1	BLT-HH 1/4-20 x 1.25
9	340401	2	Key	29	340404	1	Plate
10	340417	1	Slide, Tilt	30	711505	1	WSR-Flat 1/4
11	340583	1	Extension, Knob	31	711544	1	WSR-Helical 1/4
12	711319	1	Nut, Hex 5/16-18 ST	32	340611	1	Idler, Sprocket
13	340494	1	Spring, Park Brake	33	340512	2	Bearing
14	340587	1	Rod, Steering	34	340457	1	Spacer
15	340418	1	Pin, Steering	35	340458	1	Washer
16	711234	1	BLT-HH 5/16-18 x 2.00	36	340613	1	Chain, Long
17	711374	1	Nut, Nyloc 5/16-18	37	710987	1	SCR-SC 3/8-16 x 1.50
18	340562	1	Coupling	38	710822	1	SCR-SC 1/4-20 x .37
19	711004	2	SCR-SK 1/4-20 x .25	39	711234	2	BLT-HH 5/16-18 x 2.00
20	340497	2	Bearing	40	711508	2	WSR-Flat



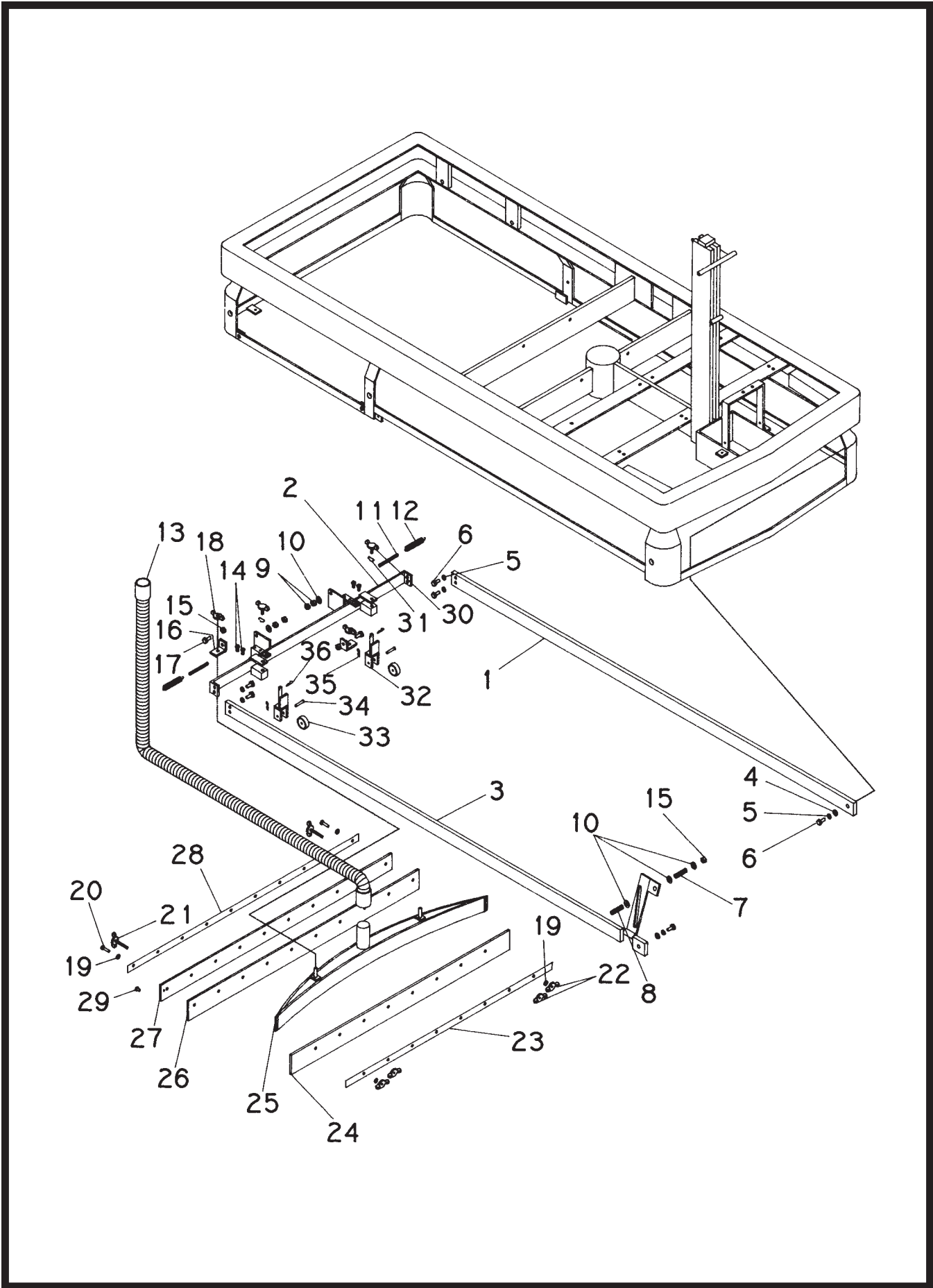
**WATER VALVE ASSEMBLY**

ITEM	PART NO	QTY	DESCRIPTION	ITEM	PART NO	QTY	DESCRIPTION
1	340552	2	Knob	19	340551	3	Pipe
2	340447	2	Handle	20	340463	2	Clamp
3	710822	2	Set SCR 1/4-20 x .38	21	340660	1	Hose
4	340655	1	Extension, Recycle	22	340663	1	Distributor, Water, Recycling Only
5	340661	1	Extension, Solution	22A	340568	1	Distributor, Water, Non-Recycling
6	711011	4	Set SCR 1/4-20 x .25	23	340579	1	Hose, Solution
7	340656	2	Collar	24	340665	1	Hose, Recycle
8	340657	1	Plate, Micro Switch	25	340493	2	U-Bolt
9	710307	2	SCR 6-32 x 1	26	340666	1	Bracket, Valve
10	340658	1	Switch	27	711544	4	1/4 Lock Washer
11	711501	2	#6 Flat Washer	28	711316	4	Nut 1/4-20
12	711541	2	#6 Lock Washer	29	711380	2	Nut-Nyloc 3/8-16
13	711301	2	Nut 6-32	30	711242	2	Bolt 3/8-16 x 1
14	340659	1	Rod, Recycle	31	340569	1	Hose, Left
15	340662	1	Rod, Solution	32	340592	1	Hose, Right
15A	340591	1	Rod, Solution	33	340506	1	Clamp
16	711446	2	Nut 7/16-20 UNF	34	341249	2	1/2 x 1/2 x 1/2 Hose BARB Tee
17	340473	2	Valve, Water	35	341250	2	1/2 ID Clear Hose 2.5"
18	340468	3	Bushing	36	341251	1	1/2 ID Clear Hose 11.5"



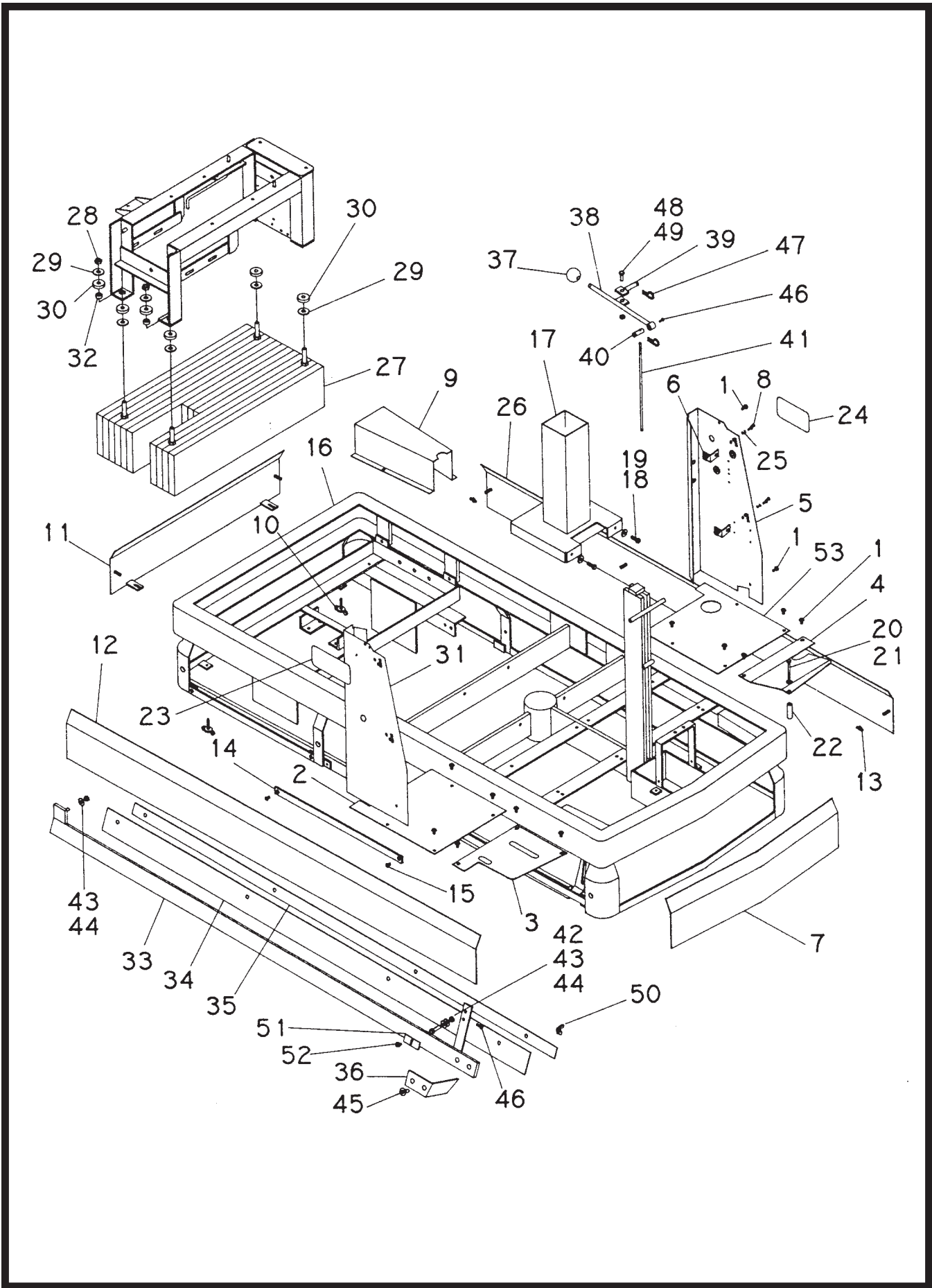
**SQUEEGEE LIFT & VACUUM ASSEMBLY**

ITEM	PART NO	QTY	DESCRIPTION	ITEM	PART NO	QTY	DESCRIPTION
1	340405	1	Under Carriage	14	712098	2	Clevis Pin
2	711250	4	Bolt 3/8-16 x 1.25	15	712055	1	Clevis
3	711546	4	Lock Washer 3/8	16	711393	1	Jam Nut 3/8-24
4	340406	2	Squeegee Lift Mount	17	340558	1	Squeegee Cylinder
5	340448	1	Squeegee Lift	18	340524	2	Swivel Ell
6	711506	8	Flat Washer 5/16	19	340597	1	Hose
7	711809	4	Cotter Pin	20	340464	3	Clamp
8	340414	2	Lift Rod	21	340596	1	Drain Tube
9	711319	4	Hex Nut 5/16-18	22	711544	2	Lock Washer 1/4
10	340601	2	Spring	23	711202	2	Bolt 1/4-20 x .50
11	711374	4	Lock Nut 5/16-18	24	340598	1	Drain Hose
12	711547	4	Lock Washer 1/2	25	750402	1	Plug
13	712010	4	Bolt 1/2-13 x 1.00				



## Parts List

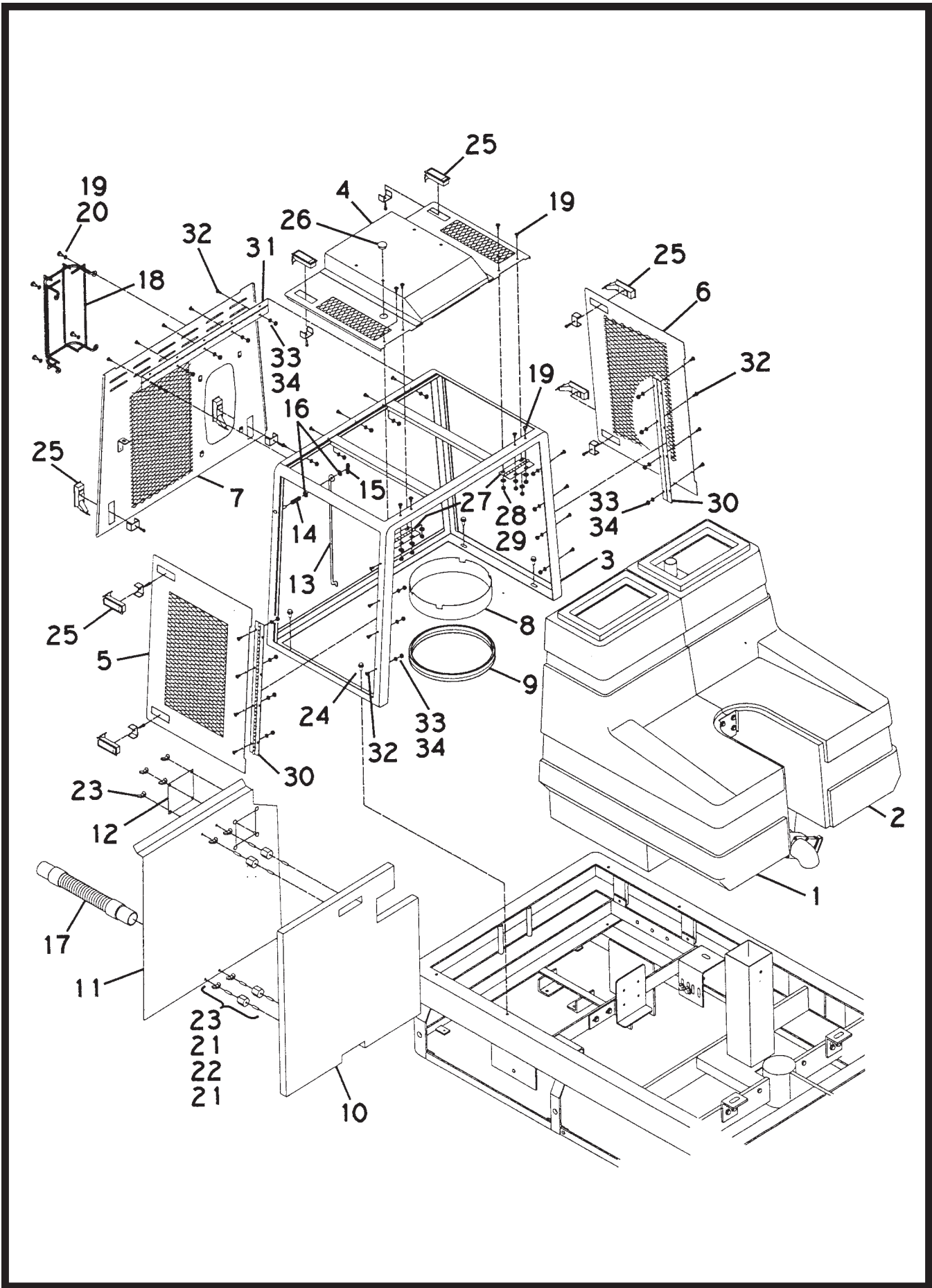
ITEM	PART NO	QTY	DESCRIPTION
1	340439	1	Left Squeegee Lift Arm
2	340442	1	Rear Squeegee Lift Arm
3	340440	1	Right Squeegee Arm
4	711506	2	Flat Washer 5/16
5	711545	6	Lock Washer 5/16
6	711228	6	Bolt 5/16-18 x .75
7	340576	1	Spring
8	340578	1	Spring
9	711328	4	Hex Nut 3/8-16
10	711508	5	Flat Washer 3/8
11	340575	2	Adjustment Rod
12	340481	2	Spring
13	450054	1	Hose
14	710599	4	Bolt, HD 1/4-20 x 1.00
15	711375	3	Lock Nut 3/8-16
16	340441	2	Squeegee Bracket
17	711242	2	Bolt 3/8-16 x 1.00
18	711366	2	Wing Nut 1/4-20
19	711505	4	Flat Washer 1/4-20
20	711207	2	Bolt 1/4-20 x 1.00
21	712001	2	Bolt, Wing 1/4-20 x 2.00
22	711368	4	Wing Nut 1/4-20 (nylon)
23	340460	1	Backup Strip
24	340618	1	Gum Rubber Squeegee
25	340459	1	Rear Squeegee Frame
26	340616	1	Gum Rubber Squeegee
27	340617	1	Neoprene Squeegee
28	340461	1	Backup Strip
29	710180	1	Threaded Screw 1/4-20
30	712002	2	Bolt, Wing 3/8-16 x 1.875
31	340454	2	Spring
32	340450	2	Wheel Mount
33	340511	2	Wheel
34	340630	2	Pin
35	711804	4	Hair Pin Clip
36	809799	2	Hair Pin Clip





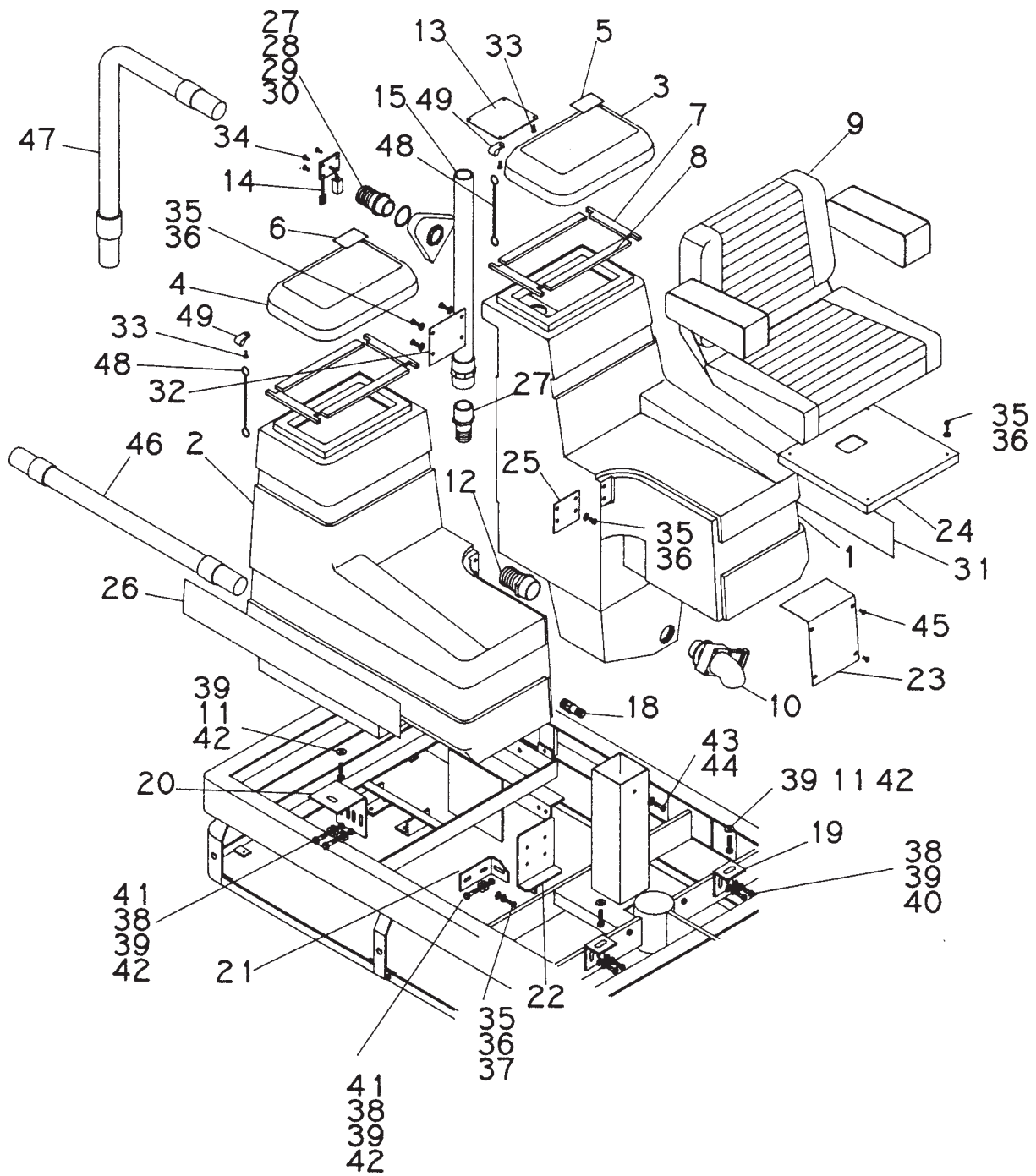
## Parts List

ITEM	PART NO	QTY	DESCRIPTION
1	710177	17	SCR-MC 1/4-20 x .37
2	340581	1	RH Rear Floor
3	340015	1	RH Floor Panel
4	340014	1	LH Floor Panel
5	341049	1	LH Column Enclosure
6	340010	4	Mounting Bracket
7	340604	1	Front Skirt
8	712101	8	BLT-HH 10-24 x .50
9	340582	1	Chain Cover
10	712055	4	Wing Bolt 1/4 20 x 1 1/4
11	340605	1	Rear Skirt
12	340585	1	Right Side Skirt
13	711366	4	Wing Nut 5/16-18
14	340407	3	Frame Bracket
15	710580	6	1/4 20 x 1/2 FH Socket Set
16	340415	1	Main Frame
17	340022	1	Seat Post Mounting Assembly
18	711230	4	BLT-HH 5/16-18 x 1.00
19	711545	4	Helical Washer 5/16
20	711214	1	BLT-HH 1/4-20 x 2.00
21	711505	1	Flat Washer 1/4
22	809858	1	Spacer
23	715202	1	Side Squeegee Park Adj. Decal
24	715203	1	Tilt/Height Adj. Decal
25	711553	8	#10 Internal Tooth Lock Washer
26	340607	1	Left Side Skirt
27	341021	1	Motor Weight Weldment
28	711376	4	Lock Nut 1/2 x 13
29	711510	8	Area Washer 1/2
30	341231	8	Dampening Grommet
31	340009	1	RH Column Enclosure
32	341232	4	Rubber Spacer
33	340444	1	Side Squeegee Frame
34	340577	1	Squeegee
35	340443	1	Backup Strip
36	340011	1	Side Bar Guard
37	340552	1	Knob
38	340436	1	Side Squeegee Lift
39	340437	1	Side Squeegee Lift Pivot
40	340438	1	Cable Pin
41	340574	1	Side Squeegee Cable
42	711250	1	BLT-HH 3/8-16 x 1.25
43	711508	3	Flat Washer .44 x 1.00 x .06
44	711375	2	Nyloc Nut 3/8-16
45	710923	2	SCR-SC 5/16-18 x.62
46	710357	2	SCR-MC 10-32 x .75
47	711808	2	Cotter Pin-Hair #3
48	711207	1	BLT-HH 1/4-20 x 1.00
49	712667	1	Hex Nut 1/4-20 SS Nyloc
50	711367	4	Wing Nut 3/8-16
51	340449	1	Squeegee Adj. Bracket
52	710178	1	SCR-MC 1/4-20 x .50
53	341233	1	LH Rear Floor



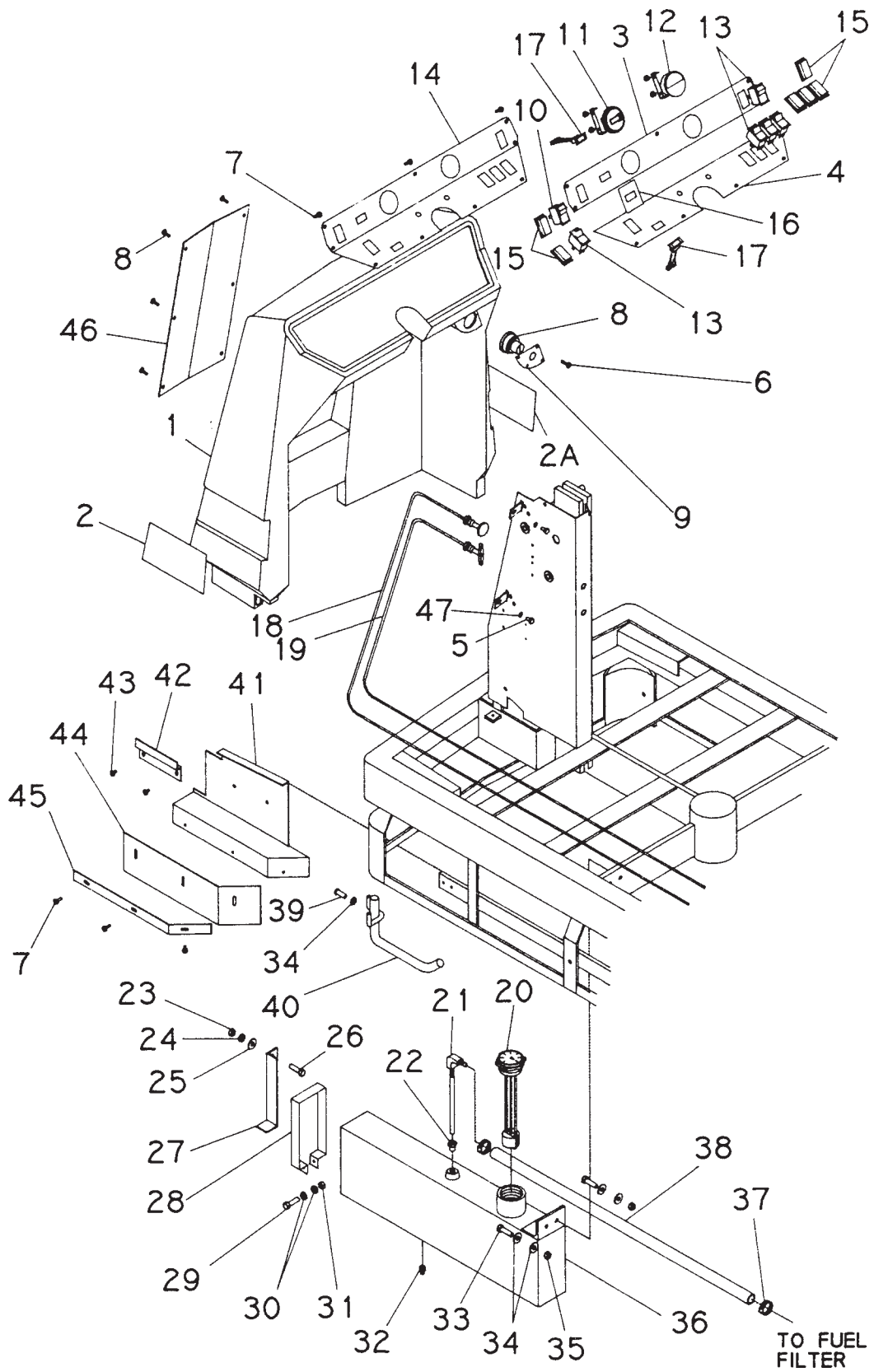
## Parts List

ITEM	PART NO	QTY	DESCRIPTION
1	340200	1	Solution Tank Assembly
2	340100	1	Recovery Tank Assembly
3	341030	1	Door Frame Weldment
4	341015	1	Top Door Weldment
5	341019	1	Right Rear Door
6	341018	1	Left Rear Door
7	341020	1	Rear Door
8	341079	1	Air Intake Column
9	341080	1	Air Intake Column Gasket
10	341028	1	Firewall Insulation
11	341045	1	Firewall Weldment
12	341029	1	Float Door
13	341078	1	Kickstand
14	833929	1	Compression Spring
15	809799	1	5/16" Hitch Pin
16	711506	2	5/16" Flat Washer
17	341074	1	Blower Exhaust Hose
18	340691	1	Muffler Cover
19	710178	12	SCR-MC 1/4-20 x .50
20	711544	4	1/4 Lock Washer
21	833638	8	Brass Stud 1/4-20 x 1.00
22	740132	4	Insulator (glastic)
23	711368	8	1/4-20 Nyloc Wing Nut
24	712042	4	HH Bolt-Washer 5/16-18 x.63
25	341067	8	Adjustable Lever Latch
26	500043	1	Hole Plug
27	450112	2	Top Door Hinge
28	711505	8	1/4 Flat Washer
29	711373	8	1/4-20 Nyloc Nut
30	760349	2	Side Door Hinge
31	809171	1	Rear Door Hinge
32	712822	26	10-24 x .50 THM Screw
33	711503	26	#10 Flat Washer
34	712638	26	10-24 SS Nyloc Nut



## Parts List

ITEM	PART NO	QTY	DESCRIPTION
1	340001	1	Recovery Tank
2	340002	1	Solution Tank
3	340006	1	Recovery Tank Lid
4	340005	1	Solution Tank Lid
5	715206	1	Decal Recovery Tank
6	715205	1	Decal Solution Tank
7	340057	4	Lid Gasket Short
8	340058	4	Lid Gasket Long
9	340498	1	Seat
10	900047	1	2" Waste Gate Valve
11	340045	4	3/8 Stud
12	340046	1	2" Barbed Fitting
13	340017	1	Screen - Tank Lid
14	741110	1	Float Switch
15	340055	1	Vacuum Riser Tube
17	829257	1	1.5 Elbow 90° MPT/HB
18	340047	1	.75 Barbed Fitting
19	341022	2	Support - Tank Front
20	341026	2	Tank Support Ancor Rear
21	341025	1	Tank Ancor Bracket Center
22	341023	1	Tank Shelf Bracket
23	340041	1	Tank Pocket Cover
24	340042	1	Seat Mounting Pan
25	340053	1	Tank Match Plate
26	715208	1	Left Decal Minuteman 340
27	831812	2	Adapter 1.5 MPT/HB
28	831664	1	Washer SS 2.12 ID
29	830448	1	Deflector
30	828971	1	Nut 1.5 Pipe Thread
31	715211	1	Right Decal Minuteman 340
32	340054	1	Tank Match Plate Rear
33	828893	5	Pop Rivet
34	712810	4	SCR-MC 10-24 x .37 RH
35	711203	18	BLT-HH 1/4-20 x .62 STPL
36	711544	18	WSR-Helical 1/4
37	711505	2	WSR-Flat 1/4
38	711546	9	WSR-Helical 3/8
39	711508	13	WSR-Flat 3/8
40	711246	4	BLT-HH 3/8-16 x .87 ST PL
41	711242	5	BLT-HH 3/8-16 x 1 STPL
42	711375	9	Nut-Nyloc 3/8-16
43	711229	2	BLT-HH 5/16-18 x .87 STPL
44	711545	2	WSR-Helical 5/16
45	712540	4	SC-MC 10-24 x .37 SS TH
46	341073	1	Hose Blower Intake
47	450054	1	Vac Recovery Hose
48	340482	2	Tank Chain
49	250038	2	Retainer Bag Clip



## Parts List

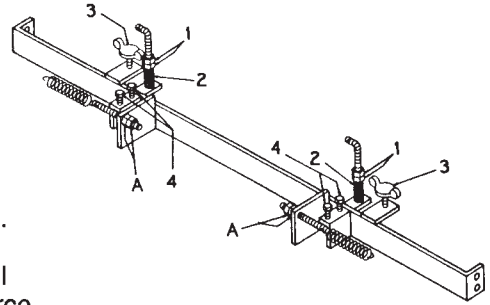
ITEM	PART NO	QTY	DESCRIPTION
1	340000MCH	1	Front Shroud/Dash
2	715209	1	Front Left Decal
2A	715212	1	Front Right Decal
3	715200	1	Upper Dash Decal
4	715201	1	Lower Dash Decal
5	711202	4	BLT-HH 1/4-20 x .50
6	711161	4	SCR-HI/LO #10 x .75
7	712822	18	SCR-THMS 10-24 x .50
8	341083	1	Key Switch
9	340016	1	Ignition Face Plate
10	740800	1	Switch
11	740973	1	Hour Meter
12	740971	1	Volt Gauge
13	740801	2	Switch
14	340007	1	Rider Dashboard 34B
15	802657	3	Switch Boot
16	715214	1	Recovery Tank Decal
17	740868	1	Recovery Tank Light
18	341047	1	Choke Handle and Cable
19	341048	1	Throttle Control and Cable
20	341240	1	Fuel Gauge
21	341241	1	Suction Tube
22	341242	1	Bushing
23	711319	1	Hex Nut 5/16-18
24	711545	1	Lock Washer 5/16
25	711506	1	Flat Washer 5/16
26	711231	1	BLT-HH 5/16-18 x 1.25
27	341243	1	Tank Front Bracket
28	341244	1	Strap
29	711207	1	BLT-HH 1/4-20 x 1
30	711544	1	Lock Washer 1/4
31	711316	1	Hex Nut 1/4-20
32	341245	1	Plug
33	711241	2	BLT-HH 3/8-16 x .75
34	711546	5	Lock Washer 3/8
35	711328	2	Hex Nut 3/8-16
36	341246	1	Fuel Tank
37	341247	2	Clamp
38	341248	1	Fuel Line
39	710986	1	3/8-16 x 1.00 Allen Head Bolt
40	340653	1	Skid Bar Weldment
41	340080	1	Skirt Assembly Bracket
42	340082	1	Z-Bracket
43	710177	2	SCR-TRHD 1/4-20 x .37
44	340083	1	Splash Skirt
45	340081	1	Skirt Retainer
46	340020	1	Front Access Cover
47	711554	4	1/4 Internal Tooth Lock Washer

## SQUEEGEE ADJUSTMENT

The one piece curved squeegee is designed to require a minimum of adjustment. Adjustment may be required to get optimum performance for different floors and conditions.

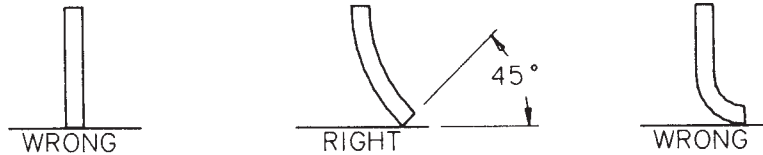
### BASIC ADJUSTMENT:

1. Ensure that scrubber is on a relatively flat surface. Start scrubber and place squeegee switch in down position.
2. Carefully depress the direction control pedal enough to move the vehicle one or two feet forward, allowing the back gum rubber of the rear squeegee to deflect. Adjust nuts (item 1) so that the spring (item 2) is compressed to 1 3/4 inches (44 mm) with the squeegee down.
3. Lower squeegee wheels by turning wing bolts (item 3) until squeegee just touches the floor.



NOTE: Move vehicle forward one to two feet with each adjustment.

4. Adjust the tilt of the squeegee until center and ends are level to the floor, adjust bolts (item 4). **DO NOT** use excessive force, the bolts work in pairs, loosening front bolts and tightening the rear will cause the squeegee ends to raise and center to lower.
5. Once squeegee is level, lower squeegee with adjustment wing bolts (item 3) until 45° deflection is obtained along its entire length.



### FINE ADJUSTMENT:

6. Check water pickup. If ends or center do not pick up properly, adjust tilt (item 4) to level squeegee. Adjust squeegee wheel height for driest floor (item 3).

For smooth floors, a smaller angle will leave a drier floor, turn wing bolt (item 3) clockwise to raise squeegee.

For rough floors, a larger angle will pull water from holes and cracks better, turn wing bolt (item 3) counter-clockwise to lower squeegee.

## BRAKE ADJUSTMENT

This scrubber is equipped with mechanically activated drum type brakes on the rear wheels. A steel cable attached to the foot pedal runs to levers on each brake. Stretching of the cable may occur and adjustment needed.

1. Remove battery cover.
2. Adjust turnbuckle at end of front cable.  
**IT IS HIGHLY IMPORTANT THAT ALL MOVING PARTS OF BRAKE SYSTEM BE KEPT THOROUGHLY LUBRICATED.**



## STEERING SYSTEM MAINTENANCE AND REPAIR

In general the chain reduction steering system is maintenance free. As in all mechanisms a lubricant should always be present. We recommend a good quality grease such as wheel bearing grease be applied liberally to the chain and sprockets periodically.

### REMOVAL AND REPAIR

1. Remove chain guard and right side panel.
2. Remove tension adjusting screw and plate.
3. Remove the two 1/2-13 bolts that secure the steering column to frame.
4. Inspect sprockets for excessive wear. Excessive wear is usually indicated by the sprocket teeth forming very sharp points. If in question replace respective sprockets and chain assembly.
5. Inspect steering column bearings for excessive play, renew if necessary .
6. In the event sprockets are renewed the steering shaft alignment must be adjusted. Install new sprockets and shaft assembly into bearing housing steering column assembly. Do not tighten bearing locking collars at this time.
7. Install steering column assembly to frame using 1/2-13 bolts and tighten lightly. Install tension adjusting screw and plate. Remove excess chain slack. Using a straight edge to ensure that the sprocket teeth are in alignment. Tighten bearing locking collars and set screws.
8. Remove remaining slack in chain. **IMPORTANT:** Make sure that the steering shaft is perpendicular to the frame, ensuring equal chain contact on both sprockets. Tighten 1/2-13 bolts securely. Liberally grease chain assembly.
9. Install chain cover and side cover.

### REMOVE AND REPLACE BRUSH DRIVE MOTORS

To remove a brush drive motor, use the following procedure:

1. Remove brush drive assembly.
2. Disconnect hydraulic hose lines at brush motor ports.
3. Remove four cap screws holding brush motor to mounting.
4. Note locations of water outlets.

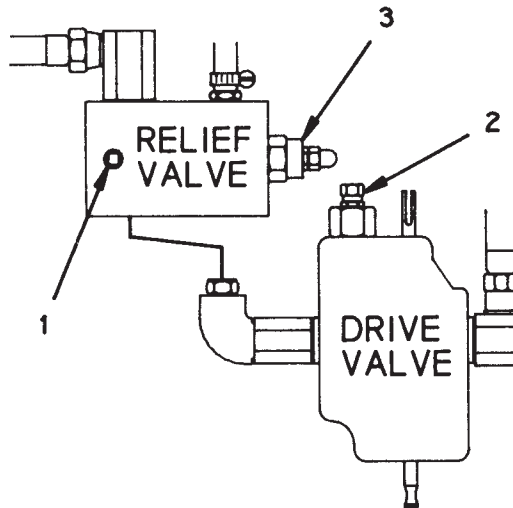
## HYDRAULIC ADJUSTMENTS

Test equipment should include: a high pressure gauge with capabilities of measuring pressure up to 2,500 PSI; pressure gauge with capabilities no less than 150 PSI. Both gauges should also have the ability to thread into a 1/4 NPT female pipe thread. A high pressure hose or pipe adaptor can be used for this purpose.

### ADJUST HYDRAULIC PRESSURE TO TRACTION DRIVE MOTORS

Before beginning test procedure, the following items should be acknowledged: account for all oil losses when changing fittings by checking oil reservoir level; all pressure readings must be taken at normal operating temperatures.

1. Remove rear floor.
2. Block front drive wheel such that the motor will stall when high forward pressures are applied. Additional constraints, such as a well constructed wall or immovable object at front frame, would be advantageous.
3. Remove plug from relief valve and install high pressure gauge.



4. Loosen lock nut on pressure adjustment and turn in 1 full turn.
5. Start motor and allow sufficient time for hydraulic system to reach operating temperature.
6. Carefully move direction control pedal to full forward position. Gauge pressure should read 1500 PSI. If not adjust main relief adjustment screw in to increase pressure, out to lower pressure, until correct gauge pressure is obtained. Lock screw in position.
7. While unit is still in full forward, back out the pressure adjustment screw on the drive spool valve body (item 2) slowly until the gauge pressure starts to drop. When a pressure drop is observed turn adjustment screw in only the amount required to return to 1500 PSI. Lock screw in position.
8. Return pedal to neutral, shut off, reinstall protective cover, remove gauge and install pipe plug (wrap plug with teflon tape before installing) in relief valve. Remove constraints.
9. Replace floor panels.

## PREVENTIVE MAINTENANCE

X = CHECK C = CLEAN	R = REPLACE OR CHANGE * = SEE NOTE	Daily	50 Hrs.	100 Hrs.	200 Hrs.
Battery Water Level		X			
Hydrometer Reading		X			
Condition of Battery Terminals			X		
Condition of Battery Connector			X		
Hydraulic Oil Reservoir			X		
Hydraulic Oil Filter					R
Lubricate Kingpin Bearing			X		
Lubricate Brake Cables and Linkage			X		
Repack Rear Wheel Bearings				R	
Squeegee Rubbers		X			
Scrub Brushes		X		R	
Wheel Drive Motor Mounting Bolts		X			
Recovery Tank		C			

## ENGINE MAINTENANCE

	Daily	25 Hrs.	50 Hrs.	100 Hrs.	Yearly
Engine Oil Level	X				
Engine Oil			R*		
Engine Oil Filter				R	
Service Air Pre-Cleaner		C^			
Service Air Cleaner Cartridge				C^	
Spark Arrester			X		
Cooling System				C^	
In-Line Fuel Filter					R
Spark Plug				R	
Valve Clearance					X

**NOTES:**

- \* Change oil after first 8 hours, then after every 50 hours.  
Change oil every 25 hours when operating under heavy load or high ambient temperatures.
- ^ Clean more often under dusty conditions or when airborne debris is present.

# 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 two 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.

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