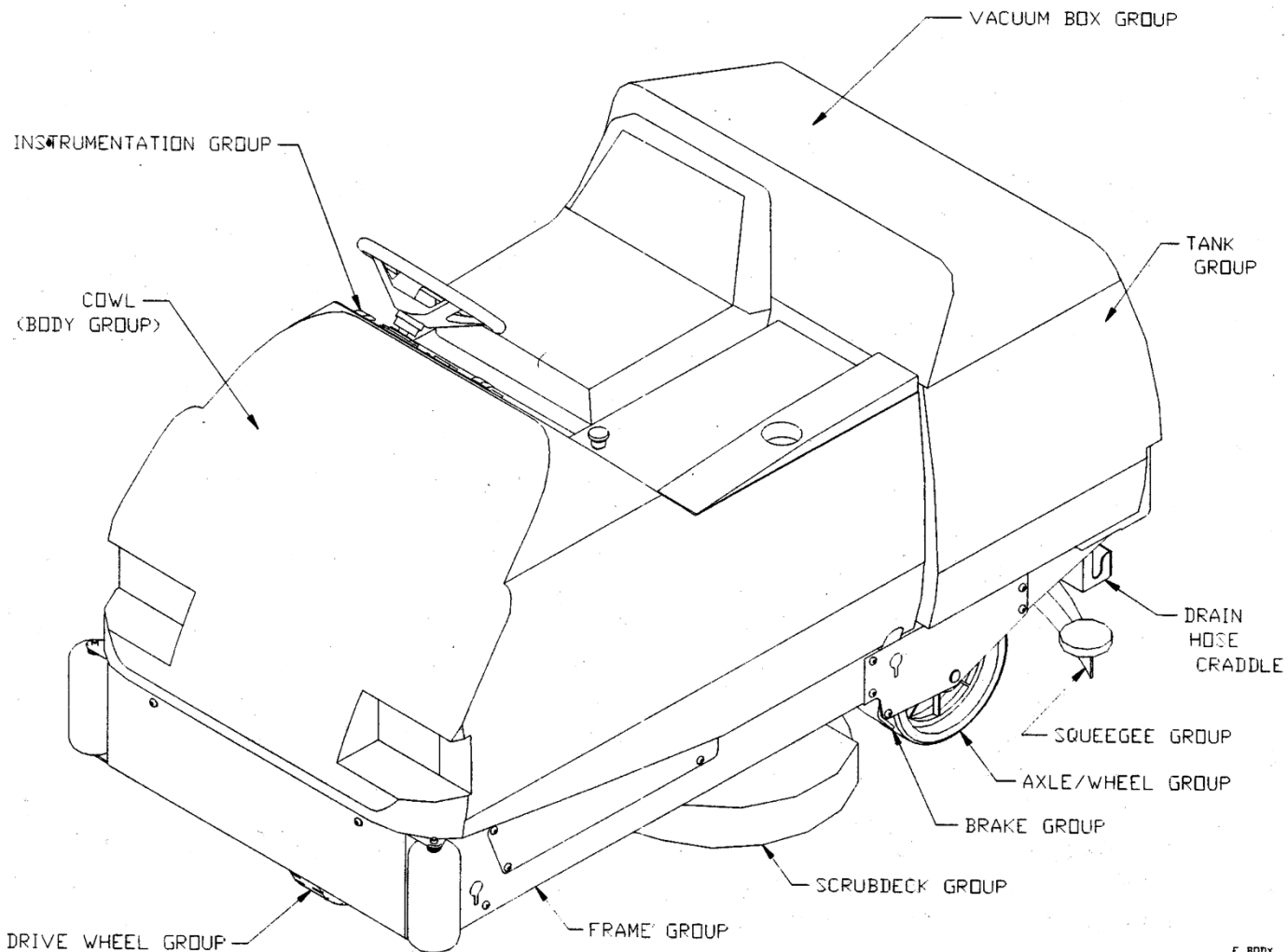


POWERBOSS®

APRIL '98

OPERATION, MAINTENANCE AND TROUBLESHOOTING



VS1000™ SCRUBBER

Electric Powered Model

SERIAL NUMBERS: 9855048-THRU



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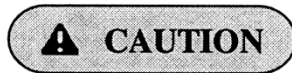
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SAFETY SYMBOLS

Three safety symbols are used throughout this manual and are explained here:



Identifies hazards or unsafe practices which could result in severe personal injury or death.



Identifies practices which could result in equipment damage.

NOTE: *Labels important information or special instructions.*

All information contained in this manual is current at the time of printing. However, due to constant updates and improvements we reserve the right to make changes at any time without notice.

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AAR POWERBOSS

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BASIC PowerBoss® SAFETY

**WARNING**

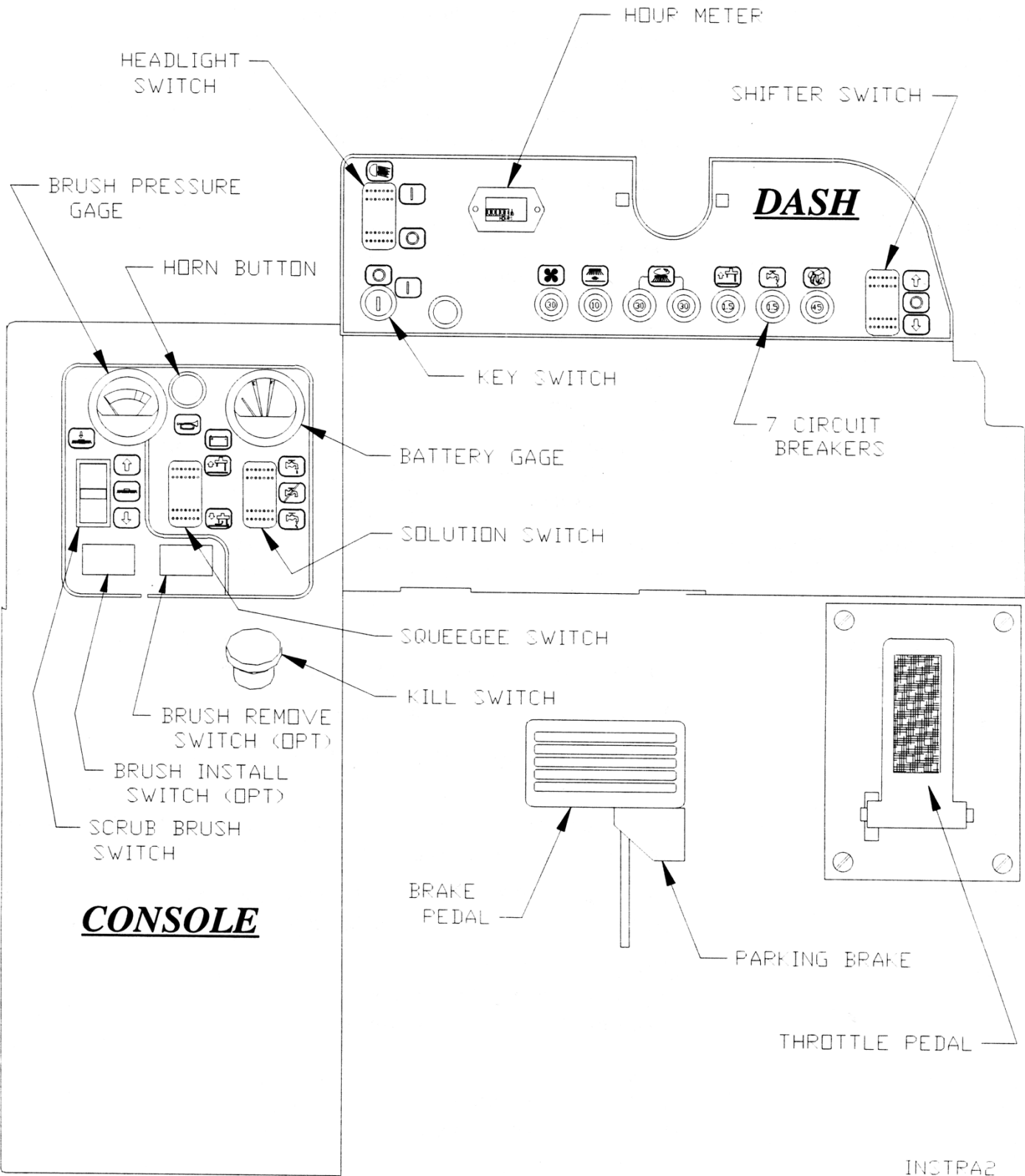
The following basic safety practices and all local shop rules should be followed during operation and maintenance of this unit. Failure to do so may cause serious personal injury or death.

- 1. Never operate the unit around combustible materials.*
- 2. Operators should be trained and authorized before using units.*
- 3. Never operate a unit unless it is free of malfunctions.*
- 4. Keep all open flames such as cigarettes and matches away from the batteries. Lead acid batteries emit a highly explosive gas.*
- 5. Keep personal body parts clear of all moving equipment.*
- 6. Always wear safety glasses when adding cleaning solution or performing maintenance to the unit.*
- 7. Always set the parking brake when unit is not running.*
- 8. Always use approved cleaners for maintenance.*
- 9. Never bypass safety components.*
- 10. Never make sharp or U-turns at high speeds.*
- 11. Travel slowly on grades.*
- 12. Always chock wheels when parking on inclines.*
- 13. Use special care when traveling on wet surfaces.*
- 14. Remain alert at all times to people and equipment in and around your area of operation.*

SPECIFICATIONS

Power	36 Volt DC electric system. 305 Amp Hours (350 or 396 Optional)
Frame/body	Unitized steel with impact resistant plastic body
Brakes	Rear wheels- Direct applied by a mechanical foot pedal Parking- Foot applied
Drive	Front wheel- Using a 1.2 HP (900 w) electric motor with a variable speed control. Transport speeds up to 3.5 mph (5.7 kph). Two scrub brushes each use a 1 HP drive motor/gear unit.
Steering	Manual front wheel
Turning Radius	Left Hand - 62.0 inches (1575 mm) Right Hand - 62.0 inches (1575 mm) Minimum Aisle- 90.0 inches (2286 mm)
Scrub Path	40 inch (1000 mm)
Scrubbing Coverage	60,675 square feet/hour based on a 40 inch scrub path at 3.5 mph with a 4 inch overlap.
Scrubbing Brushes	Two rotary 20 inch (508 mm) diameter quick-change brushes are electrically driven at 195 rpm. Scrub deck extends 4 inches (101.5 mm) from right side of unit for Edge Scrub™.
Solution/ Recovery Tank	Standard- Dual tanks with 35 gallon (132 liter) capacities. Optional- Single tank with 65 Gallon (246 liter) capacity using a flexible membrane for solution and recovery.
Vacuum Pick-Up	Standard- One tri-stage 5.7 inch dia. (145 mm) 36 Volt DC double ball bearing vacuum motors provide water pick-up through rear squeegee.
Squeegee	One 47.5 inch (1206 mm) wide, parabolic shape
Squeegee Assembly	May be removed from machine in minutes and automatically lifts when machine is in reverse.
Controls	Operator directs all functions while seated including brakes, throttle pedal, F-N-R shifter switch, parking brake and horn.
Tires	Front- One 2 x 10.25 inch (50 x 260 mm) molded rubber tire Rear- Two 3 x 12 inch molded rubber tires
Weight	Net- 1,080 lbs. (491 kg) Shipping- 1,188 lbs. (540 kg) w/o batteries Shipping- 2267 lbs. (1034 kg) with batteries
Dimensions	Length- 77 inches (1956 mm) Width- 36 inches (915 mm) Height- 51 inches (1295 mm)

BASIC OPERATING CONTROLS



INCPA2

SCRUBBING CONTROLS

FILLING SOLUTION TANK

1. Park the unit on a level area and set the parking brake.

⚠ WARNING

Never use detergents or cleaners that are flammable or combustible. Always wear safety glasses and protective gloves when using chemicals of any kind. Failure to do so may cause serious personal injury.

2. Unlatch and open the solution tank by lifting vacuum box.
3. Fill solution tank with cleaning solution.
4. When the tank is full, close the vacuum box and latch.

SCRUBBING

⚠ WARNING

Brushes will start turning as soon as scrubdeck is lowered. Keep personal body parts clear. Failure to do so may cause serious personal injury.

1. Push *SCRUB BRUSH SWITCH* down to start brushes rotating.

NOTE: If machine is equipped with optional Auto Brush Stop, a slight depression on the throttle pedal is required to start brushes turning.

2. Hold switch down until *BRUSH PRESSURE GAGE* indicates desired "brush to floor" contact pressure.

NOTE: Solution functions are only operable when SCRUB BRUSH SWITCH is on.

3. Push *SCRUB BRUSH SWITCH* up to raise deck and stop brushes.

⚠ WARNING

Brushes will continue to operate until scrubdeck is fully raised. Keep personal body parts clear. Failure to do so may cause serious personal injury.

4. To lower the squeegee and start the vacuum motor(s), turn the *SQUEEGEE SWITCH* on.

NOTE: The SHIFTER SWITCH has to be in the forward position for squeegee to lower. In neutral of reverse, it will automatically raise.

5. To activate solution release, position the *SOLUTION SWITCH* to low (.5 gallons/minute), or high (1.5 gallons/minute) as required.

⚠ CAUTION

When solution tank is empty, turn off *SOLUTION SWITCH*. Failure to do so will reduce pump life.

⚠ WARNING

Always use caution when driving on grades or wet surfaces. Failure to do so may cause serious personal injury or death

DOUBLE SCRUBBING

1. Follow the procedures for scrubbing *without* lowering the squeegee.

NOTE: Squeegee will only operate when vacuum is running.

2. Make multiple passes over the same area of floor as conditions dictate.
3. Lower squeegee into position for the final pass.

DRAINING THE RECOVERY TANK

1. Park on a level surface, turn unit off and set parking brake.
2. Retrieve drain hose from cradle and place at the drain.
3. Loosen T-Bar and remove drain plug.
4. Drain the tank completely and flush out sludge with clean water.
5. Install plug in drain hose.
6. Place hose in cradle.

OPERATING PROCEDURES

PRE-OPERATION CHECKS

1. Check battery water level.
2. Inspect brakes, steering and throttle pedal.
3. Look at floor beneath the unit for signs of leaks.
4. If leaks are found, inspect hoses, lines and tanks.

WARNING

In the event of an emergency, use the KILL SWITCH to shut off all electrical systems. Failure to do so can cause serious personal injury or death.

STARTING

1. Place *SHIFTER SWITCH* in neutral position.
2. Turn *KEY SWITCH* to the on position.

VEHICLE MOVEMENT

1. Release parking brake by pressing brake pedal slightly to allow catch to release.

WARNING

When operating on grades, always travel slowly and turn carefully. Failure to do so can cause serious personal injury.

2. **Forward:** Turn *SHIFTER SWITCH* to forward and push the throttle pedal down.
3. **Reverse:** Turn *SHIFTER SWITCH* to reverse and push pedal.

SLOWING AND STOPPING

1. To slow unit, release pressure on throttle pedal.
2. To stop, apply pressure to brake pedal.

TRANSPORTING THE MACHINE

1. Before pushing or towing the unit, release parking brake.
2. Push the unit using the front or rear bumpers only.
3. When hauling, set parking brake and secure unit using the four tie down holes in the frame.

CAUTION

Never push or tow a unit faster than 3.5 MPH. Failure to comply may cause damage to drive motor and electrical components.



PLANNED MAINTENANCE

NOTE: Regular maintenance results in more efficient scrubbing and prolonged equipment life.

FREQUENCY (IN HOURS)					REQUIRED SERVICE
DAILY	50	100	200	500	
X					Clean battery top.
X					Check battery electrolyte level. Fill as needed.
X					Check squeegee group and vacuum hose for holes and clogs.
X					Inspect tires for wear or damage. Replace as needed.
X					Inspect rear squeegee. Turn, replace or adjust flare as needed.
X					Inspect inner squeegee. Adjust floor contact as needed.
X					Inspect all electrical components. Replace discolored or overheated items.
	X				Inspect brakes. Adjust as required.
	X				Inspect scrub brushes. Replace if worn too much.
	X				Grease steering U-joint. (One place)
	X				Grease rear wheels. (Two places)
		X			Inspect hinges. Lubricate and tighten as needed.
		X			Inspect latches. Replace if damaged.
			X		Inspect cables. (2 brake, 1 squeegee, 1 cowl) Replace or adjust as needed.
			X		Oil scrubdeck linkage. (Eight places)

ELECTRICAL SYSTEMS

⚠ WARNING

Never attempt to perform any service on the unit unless it is off, the parking brake is set, and the wheels are chocked. Failure to do so may cause serious personal damage or death.

⚠ WARNING

Never service a battery without wearing safety glasses. Failure to do so may cause serious eye damage.

⚠ WARNING

Keep all open flames such as cigarettes and matches away from the batteries. Lead acid batteries emit a highly explosive gas. Failure to do so may cause serious personal injury or death.

BATTERY CLEANING

1. Mix water and baking soda to make a strong solution.
2. Brush the solution over the battery top, including terminals and cable clamps.

⚠ CAUTION

Make sure the solution does not enter the battery. Failure to do so can cause battery damage.

3. Using a wire brush, clean the terminal posts and cable clamps.
4. Wipe battery clean.

BATTERY ELECTROLYTE LEVEL

Refer to battery manufacturer's recommendations.

BATTERY REPLACEMENT

1. Unwire six individual batteries (6 VDC).

⚠ WARNING

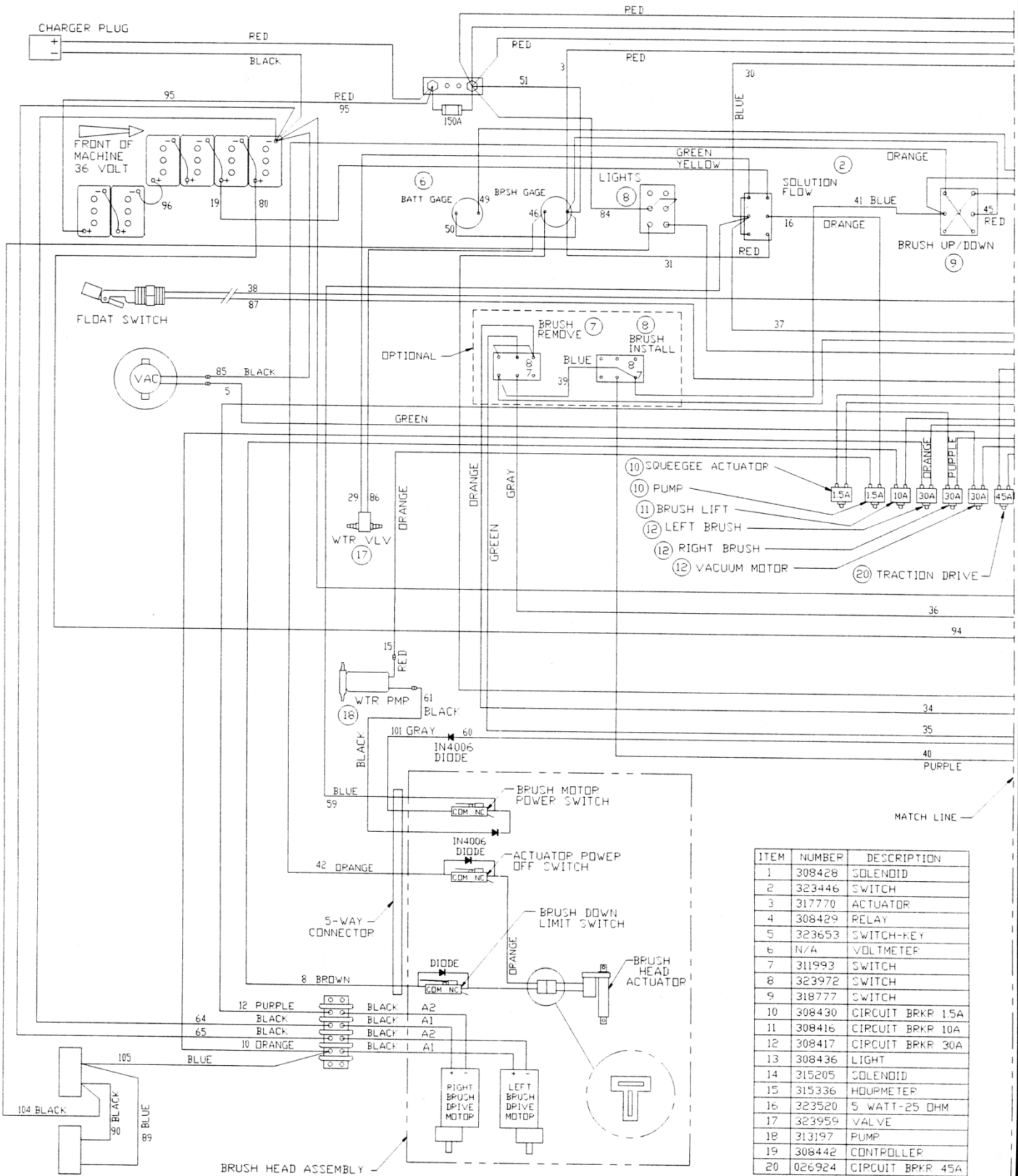
Batteries are heavy and corrosive. Wear protective shoes and clothes when removing. Failure to do so can cause serious personal injury.

2. Lift battery out of unit.
3. Install new battery.
4. Rewire batteries.

NOTE: Insure 36V /DC exists between positive and negative terminals before starting unit.

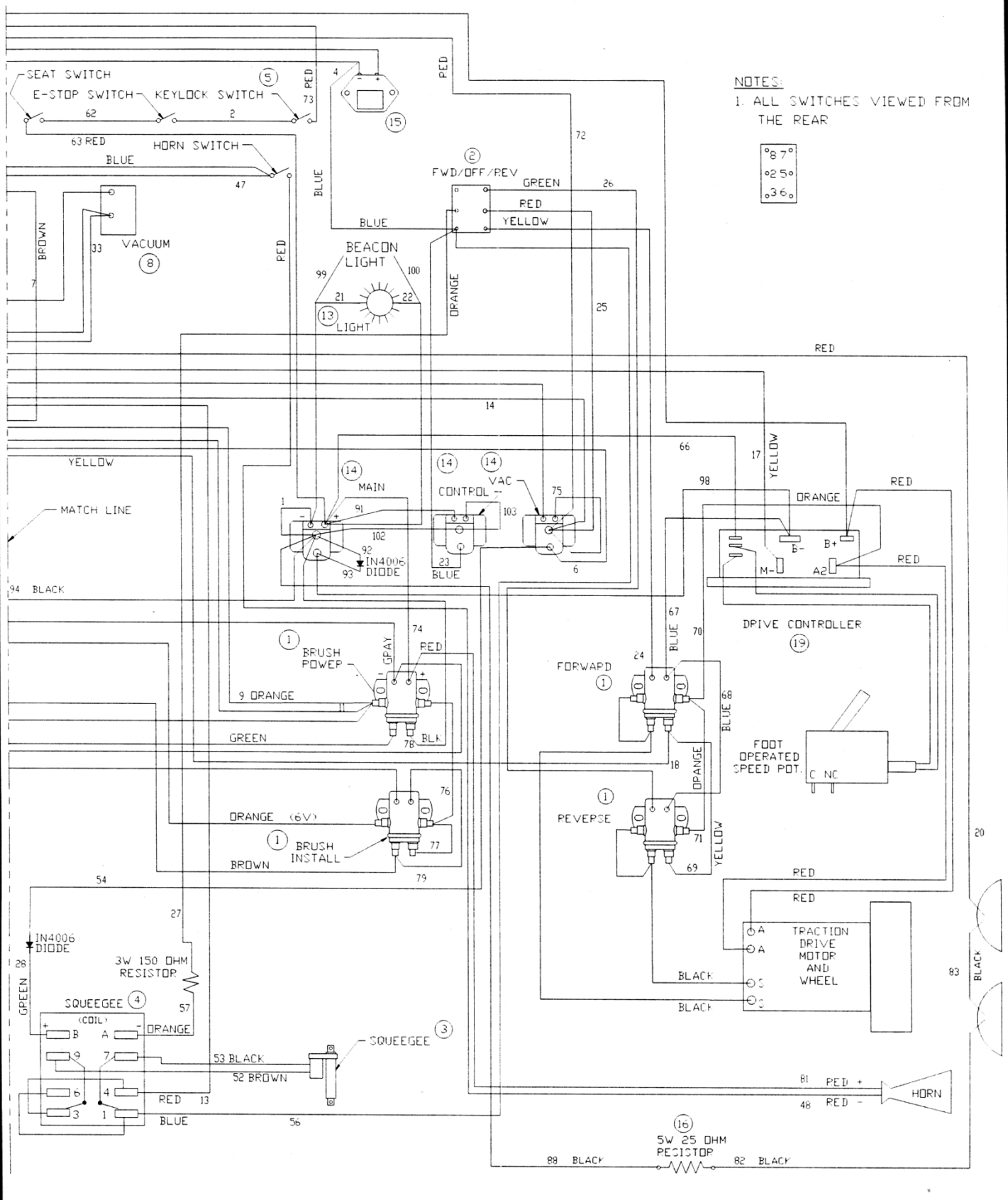


ELECTRICAL SCHEMATIC



ITEM	NUMBER	DESCRIPTION
1	308428	SOLENOID
2	323446	SWITCH
3	317770	ACTUATOR
4	308429	RELAY
5	323653	SWITCH-KEY
6	N/A	VOLTMETER
7	311993	SWITCH
8	323972	SWITCH
9	318777	SWITCH
10	308430	CIRCUIT BRKR 15A
11	308416	CIRCUIT BRKR 10A
12	308417	CIRCUIT BRKR 30A
13	308436	LIGHT
14	315205	SOLENOID
15	315336	HOURMETER
16	323520	5 WATT-25 OHM
17	323959	VALVE
18	313197	PUMP
19	308442	CONTROLLER
20	026924	CIRCUIT BRKR 45A

ELECTRICAL SCHEMATIC



NOTES:
1. ALL SWITCHES VIEWED FROM THE REAR

7°
5°
3°



SCRUBBING COMPONENTS

WARNING

Never attempt to perform any service on the unit unless it is off, the parking brake is set, and the wheels are chocked. Failure to do so may cause serious personal injury or death.

SCRUB BRUSH INSPECTION

WARNING

Brushes will continue to operate until scrubdeck is fully raised. Keep personal body parts clear. Failure to do so can cause serious personal injury.

Scrub brushes should be replaced when bristles are worn less than .5 inches long.

SCRUB BRUSH REPLACEMENT (STANDARD)

1. Raise the scrubhead and remove the scrub brush covers. (If not already done)
2. Squeeze the spring retainer to release the brush.
3. Install the new brush by compressing the retainer and lifting the brush up with the drive hub.
4. Reinstall the scrub brush covers.

SCRUB BRUSH REPLACEMENT (AUTO BRUSH INSTALL OPTION)

Remove:

1. Raise the scrubhead until the brushes turn off.
2. Press *BRUSH REMOVE SWITCH* to the on position.
3. Quickly return switch to the momentary position.
4. Turn *KEY SWITCH* off.
5. Return *BRUSH REMOVE SWITCH* to center position if not already there.

WARNING

Keep personal body parts clear of all moving equipment. Failure to do so can cause serious personal injury.

6. Remove loose brushes from underneath the scrubdeck.

Install:

NOTE: Brush covers must be installed before attempting the following:

1. Raise the scrubhead.
2. Set *BRUSH INSTALL SWITCH* to the slow position.
3. Slide brushes under the deck and lower the scrubhead.
3. Listen for the brushes to "click" into place.
4. Resume normal brush speed.

CHECKING & ADJUSTING THE REAR SQUEEGEE FLARE

1. Park the unit on a flat, smooth surface.
2. Turn *SQUEEGEE SWITCH* on and allow the squeegee group to lower as normal.
3. Cut off the *KEY SWITCH*.
4. Using the black knob, adjust the wheels all the way up.
5. Move the unit forward a short distance.

NOTE: There should be about .25 inch of deflection all around and the squeegee should drag on its inside edge.

6. Adjust uneven "flare" using the squeegee bracket screw.
7. Lower the wheels until they clear the floor by .06 - .125 inch.

TURNING OR REPLACING THE REAR SQUEEGEE

Note: When a squeegee edge becomes worn to the midpoint of its thickness, turn it to an unused edge. There are four available edges per each squeegee.

1. Remove the knobs holding the squeegee body to the squeegee bracket.
2. Remove the hardware, strap, backup and the rear squeegee.
3. Turn the squeegee ends 180°, or upside down, to expose an unused edge.
4. Reposition the squeegee, backup, strap and hardware to the body.
5. Adjust squeegee to minimize openings around fasteners.
6. Tighten hardware evenly from center out to the ends.



SQUEEGEE GROUP REPLACEMENT

1. Set the parking brake and chock wheels.
2. Put the *SQUEEGEE SWITCH* in the down position and turn the *KEY SWITCH* off.
3. Disconnect the vacuum hose from the squeegee bracket.
4. Disconnect the lift cable from the eye bolt.
5. Remove the rue ring and clevis pin from the squeegee pivot.
7. Pull the squeegee group out from the back of the unit.
8. Install in the reverse order as described above.

INNER SQUEEGEE REPLACEMENT

NOTE: When the squeegee group is down and the rear squeegee is properly flared, the inner squeegee should just make contact with the floor.

1. Remove the knobs holding the squeegee body to the squeegee bracket.
2. Remove hardware, strap, backup, squeegees, clamps and spacers from squeegee body.
3. Install a new inner squeegee.
4. Reposition the squeegee with existing parts.
5. Adjust squeegees and tighten hardware.

TROUBLESHOOTING- OPERATING PROBLEMS

PROBLEM	CAUSE	SOLUTION
Unit moves slowly or not at all	Drive breaker tripped	Reset
	Parking brake is on	Release brake
	Brakes malfunctioning	Clear jams or adjust cable
	Wheels jammed	Clear jam
	Drive contactor defective	Replace
	Loose throttle pedal wire(s)	Tighten wires
	"Kill" switch is down	Reset
	Seat switch not operating	Adjust operator position or replace switch
No power	Battery cable connections worn	Replace cables
	Batteries not charged	Charge batteries
	Loose wires at key switch or throttle pedal	Connect wires
Vacuum motors will not operate	Recovery tank full	Empty
	Defective float switch in recovery tank	Replace or repair
Wheel slip	Tires are greasy	Clean
	Worn tire	Replace
Stalled moving parts	Lodged debris	Remove
Lights are out	Burned out bulb or bad switch	Replace
Horn will not sound	Defective horn	Replace
Brakes will not apply	Weak lever to wheel contact	Adjust brake cables

TROUBLESHOOTING- SCRUBBING PROBLEMS

PROBLEM	CAUSE	SOLUTION
Scrubhead will not lower	Tripped breaker	Push breaker button down
	Loose scrubhead switch wires	Connect wires
	Loose plug at actuator	Connect
	Defective actuator	Replace
Scrubhead motors turn slow of not at all	<i>BRUSH INSTALL SWITCH</i> in slow position	Reset
	Defective contactor	Replace
	Loose plug at scrubhead motor	Re-seat plug
Squeegee will not lower	Actuator is damaged	Replace
	Tripped breaker	Reset
Squeegee will not lift	Defective cable	Replace
	Tripped breaker	Reset
	Actuator damaged	Replace
Scrubbing solution not reaching floor	Solenoid valve not operating	Repair or replace
	12 VDC tap not installed	Connect to source
	Pump not operating	Repair or replace
General problems	Defective wiring	Trace circuits
	Breaker tripped	Reset
	Defective switch	replace

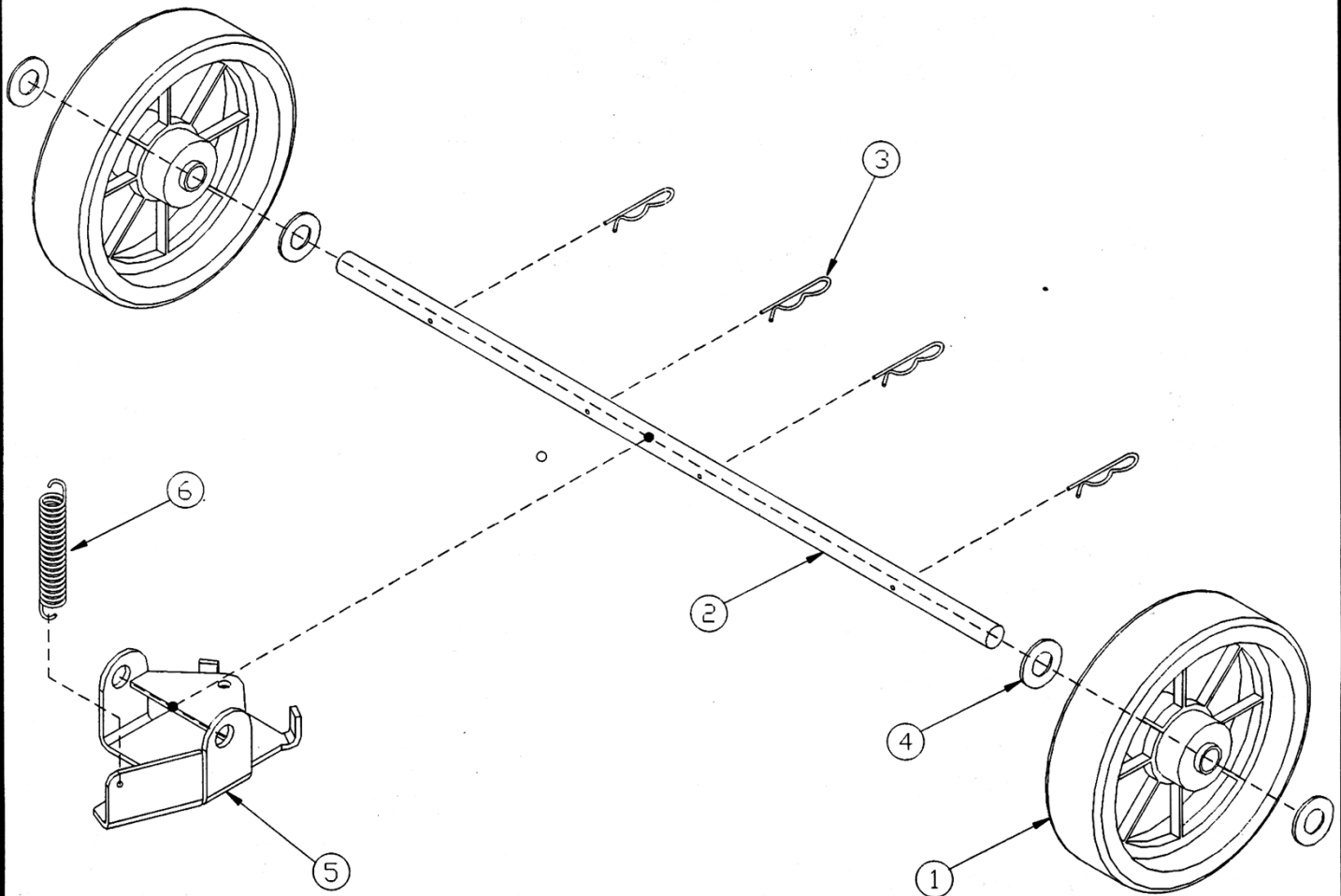
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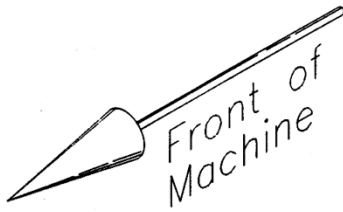
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AXLE & REAR WHEEL GROUP



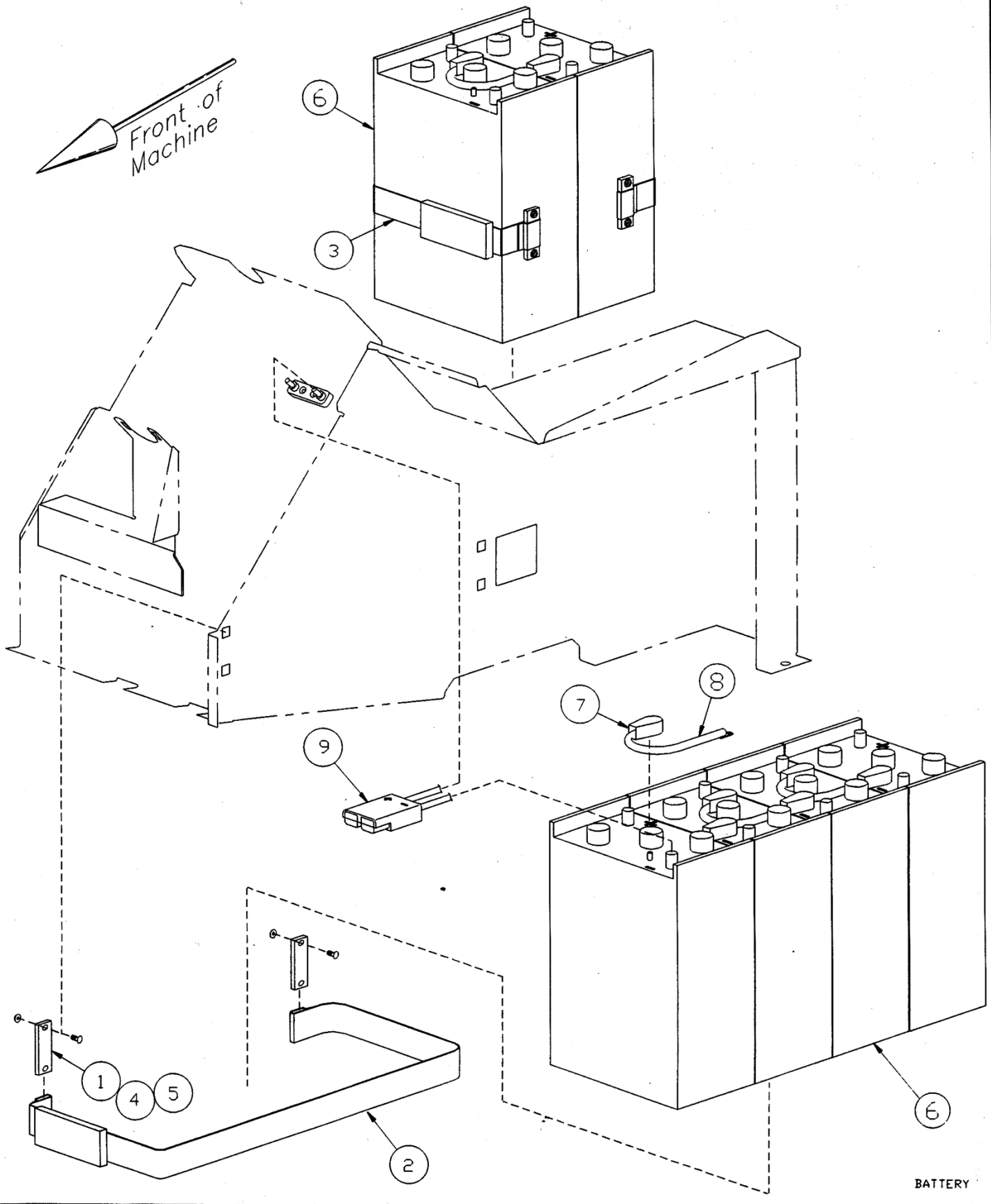
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R_AXLE

AXLE & REAR WHEEL GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308412	WHEEL- STANDARD	2
	308315	WHEEL- SOFT RIDE (OPTIONAL)	2
2	308368	AXLE	1
3	308402	PIN- HITCH	4
4	308447	WASHER	4
5	308352	HITCH- SQUEEGEE	1
6	302599	SPRING- EXTENSION	1

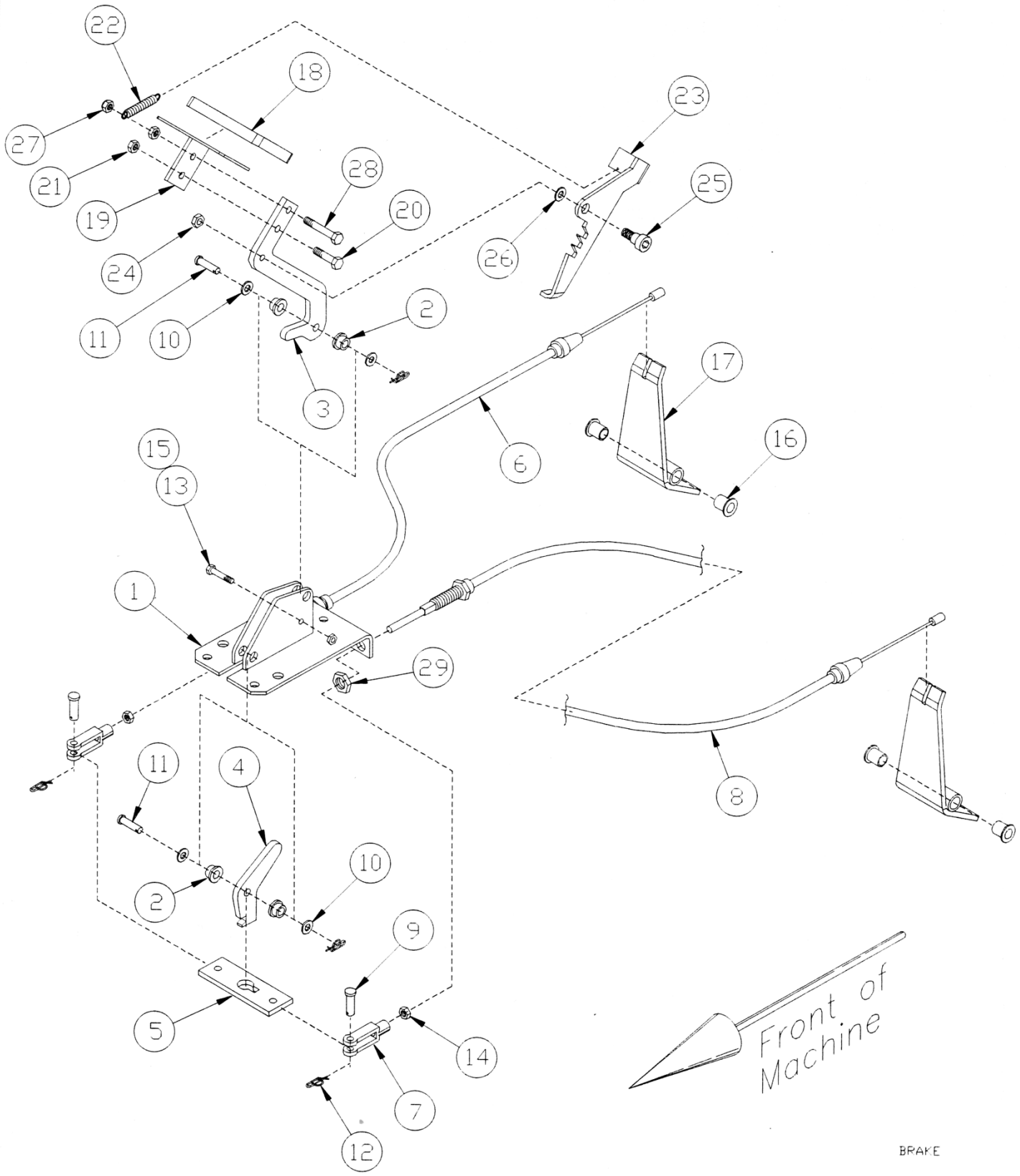
BATTERY GROUP



BATTERY GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308461	BAR- STRAP MOUNT	4
2	308409	STRAP- 4 BATTERY	1
3	308410	STRAP- 2 BATTERY	1
4	400009	BOLT- .312-18 X 1.0 CARRIAGE	8
5	400390	NUT- .312-18 FLANGE	8
6	305137	BATTERY- 36V 305 AH (OPTIONAL)	6
	316921	BATTERY- 36V 396 AH (OPTIONAL)	6
7	054186	BOOT- CABLE	8
8	311442	CABLE- BATTERY	4
9	308440	CABLE- CHARGER CONNECT	1

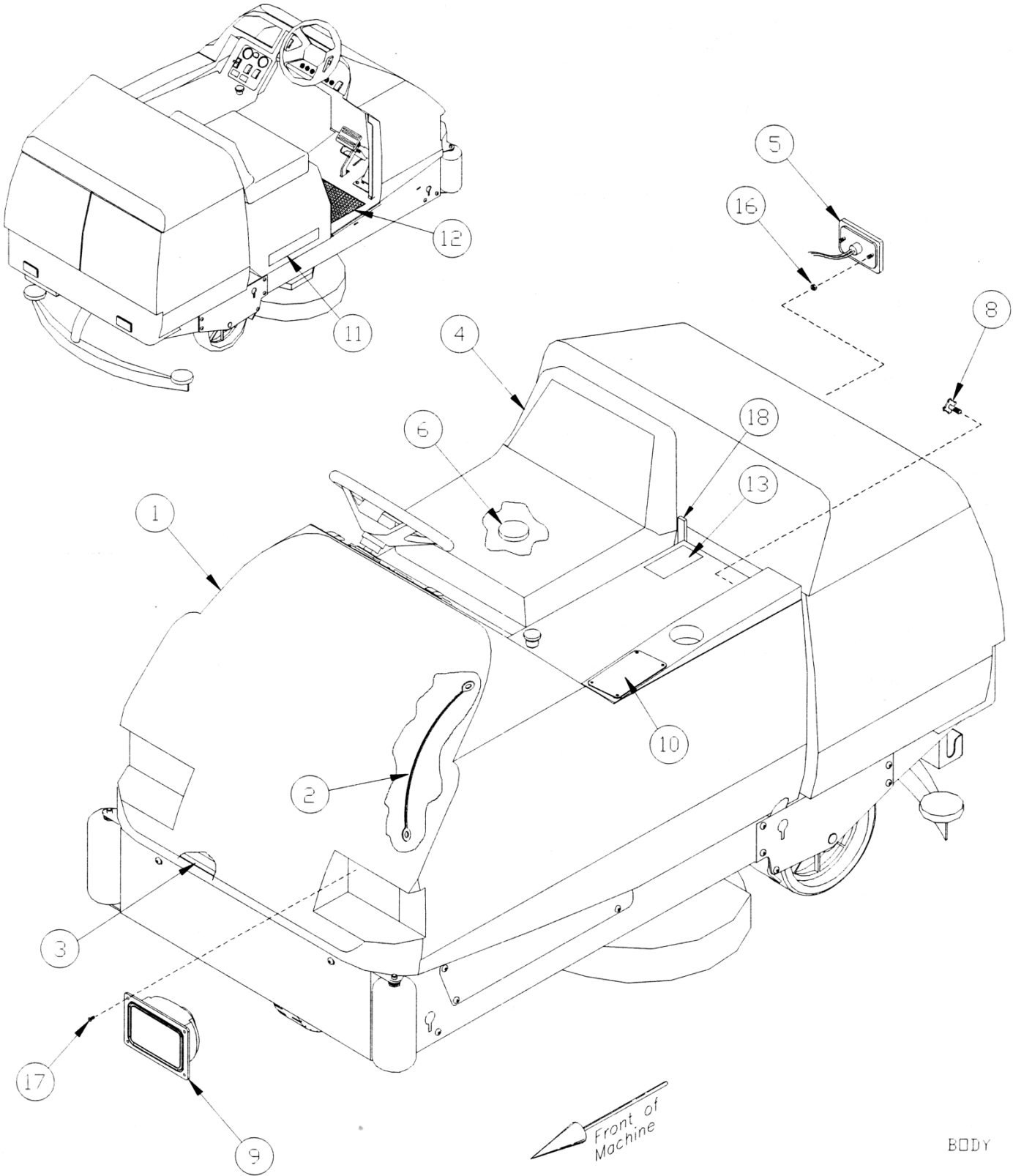
BRAKE GROUP



BRAKE GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308330	MOUNT- PEDAL	1
2	300414	BUSHING- .38 FLANGED	4
3	308331	ARM- BRAKE PEDAL	1
4	308346	ARM- PEDAL FOLLOWER	1
5	308332	PLATE- EQUALIZER	1
6	308381	CABLE- RHBRAKE	1
7	307642	CLEVIS- .312-24	2
8	308382	CABLE- LHBRAKE	1
9	400185	PIN- .31 X 1.09 CLEVIS	2
10	400088	WASHER- .31 FLAT	4
11	400116	PIN- .38 X 1.25 CLEVIS	2
12	400125	RING- .38 RUE	4
13	400227	SCREW- .250-20 X 1.25 HHCS	1
14	400220	NUT- .312-24 HEX JAM	2
15	400081	NUT- .250-20 ELASTIC STOP	1
16	308376	BUSHING- .50 FLANGED	4
17	308343	LEVER- BRAKE	2
18	300413	PAD- RUBBER	1
19	323374	PEDAL- BRAKE	1
20	400035	SCREW- .312-18 X 1.0 HHCS	1
21	400390	NUT- .312-18 FLANGE	2
22	302147	SPRING- BRAKE	1
23	308441	LATCH- PARK BRAKE	1
24	400068	NUT- .375-16 HEX	1
25	400170	BOLT- .50 X .31 SHOULDER	1
26	400086	WASHER- .50 FLAT	1
27	400080	NUT- .312-18 ELASTIC STOP	1
28	400033	SCREW- .312-18 X 1.5 HHCS	1
29	401998	NUT- .562-12 HEX JAM	1

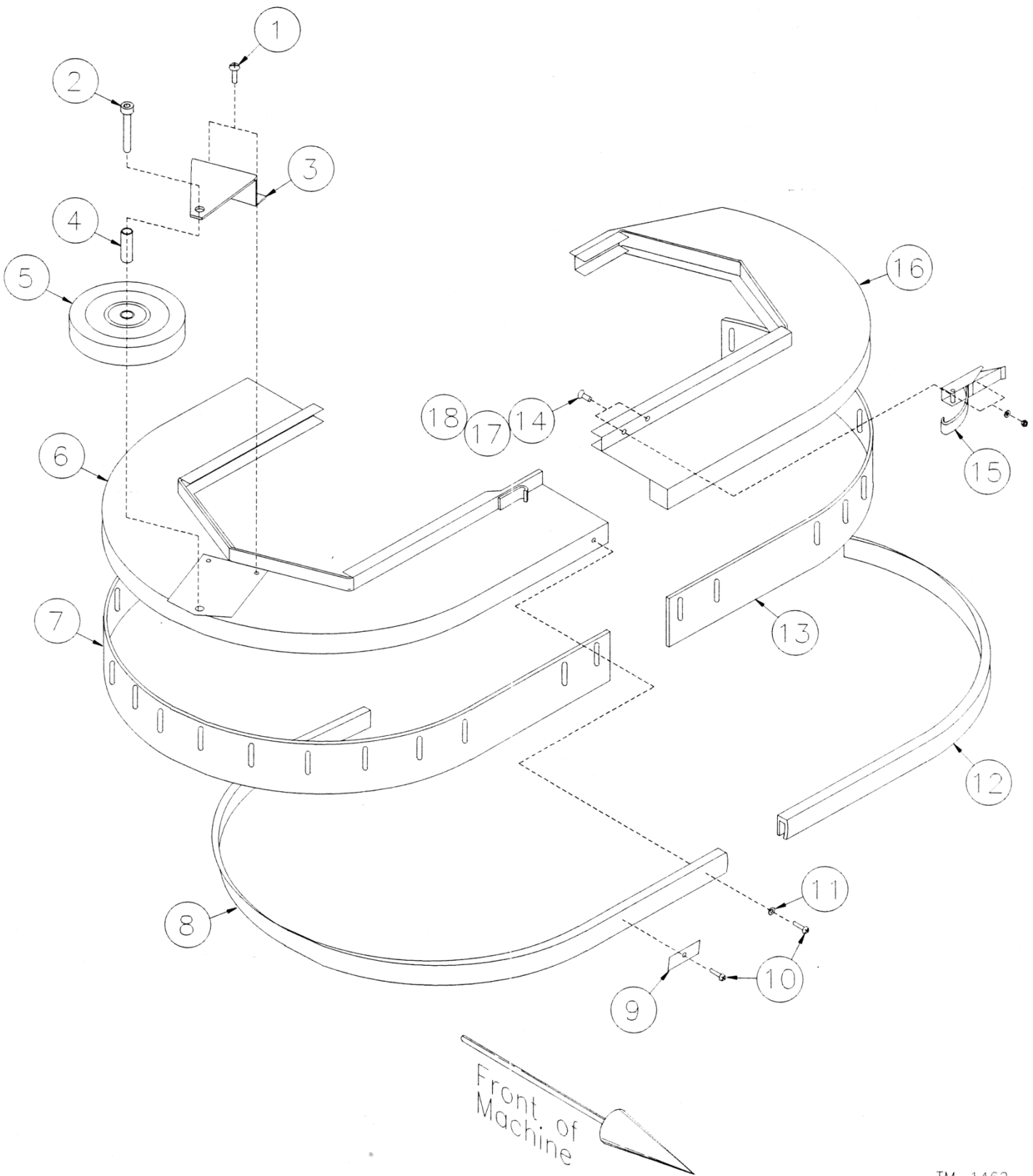
BODY GROUP



BODY GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308349	COWL - FRONT	1
2	318561	CABLE- COWL	1
2A	322186	INSERT- .375-16 (NOT SHOWN)	1
2B	400790	SCREW- .375-16 X 1.0 BHSS (NOT SHOWN)	2
2C	400278	WASHER- .38 FLAT (NOT SHOWN)	2
2D	400079	NUT- .375-16 ELASTIC STOP (NOT SHOWN)	1
3	308377	BAR- COWL RETAINER	1
3A	322186	INSERT- .375-16 (NOT SHOWN)	3
3B	400087	WASHER- .38 FLAT (NOT SHOWN)	3
3C	400790	SCREW- .375-16 X 1.0 BHSS (NOT SHOWN)	5
4	308415	SEAT	1
4A	400384	WASHER- .31 CONICAL (NOT SHOWN)	4
4B	400036	SCREW- .312-18 X .75 HHCS (NOT SHOWN)	4
5	308408	LIGHT- TAIL	2
5A	311376	BULB- TAIL LIGHT	2
6	323953	SWITCH- SEAT	1
8	305871	KNOB	1
9	301359	HEADLIGHT	2
10	308538	PANEL- ACCESS	1
10A	400816	SCREW- #10-24 X .50 BHSS (NOT SHOWN)	4
11	308504	DECAL- "VS1000"	1
12	307587	MAT- FLOOR	1
13	308521	DECAL- BATTERY WARNING	1
16	400172	NUT- #10-32 ELASTIC STOP	4
17	400323	SCREW- .25-20 X .75 THMS	8
18	307719	LATCH- SOFT	1
18A	400441	RIVET- .12 X .25 POP (NOT SHOWN)	2
18B	400045	SCREW- #8-32 X .62 PHMS (NOT SHOWN)	2
18C	400082	NUT- #8-32 ELASTIC STOP	2

BRUSH COVER GROUP

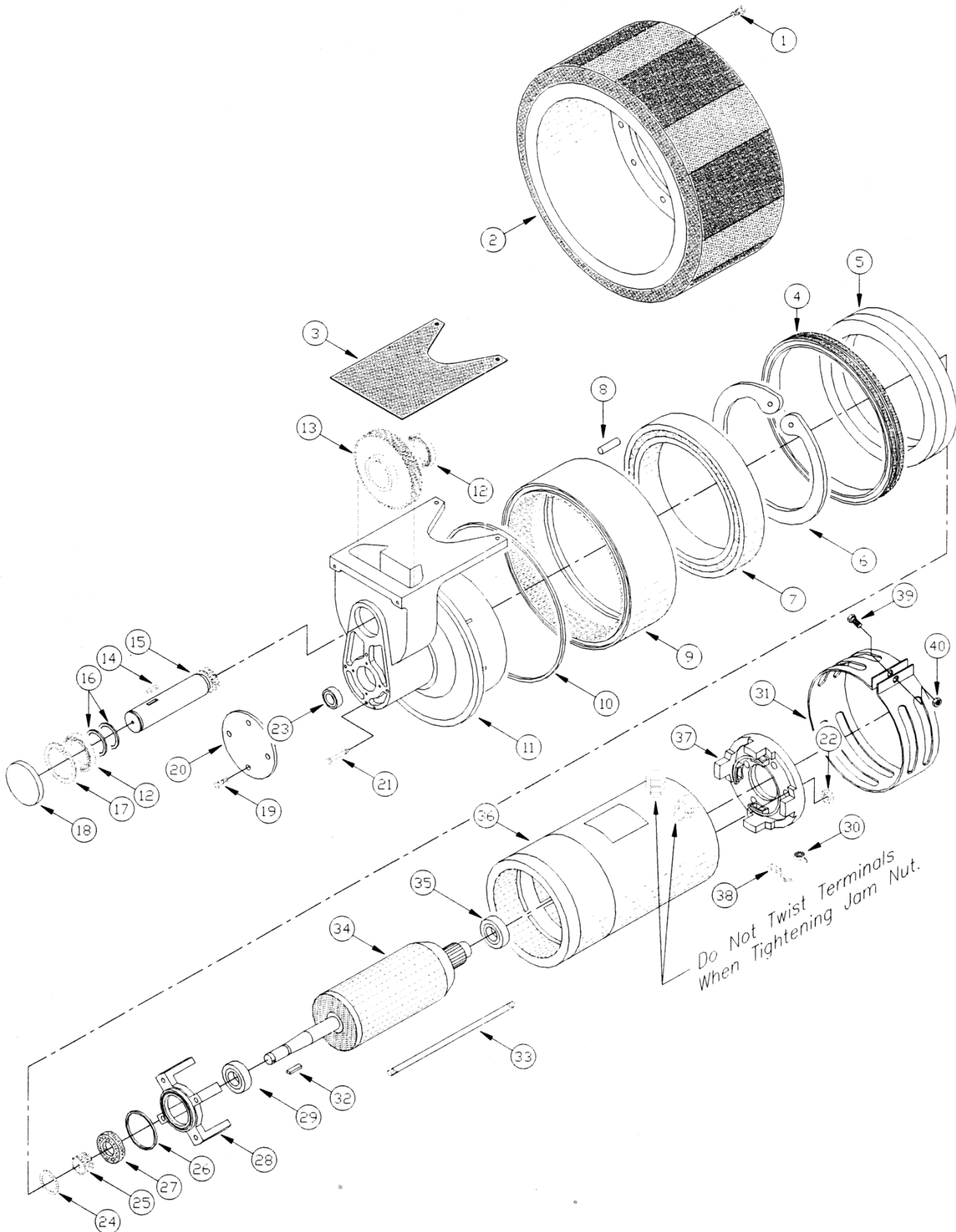


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BRUSH COVER GROUP

REF#	PART #	DESCRIPTION	QUANTITY
	308422	SUB- RH BRUSH COVLER (INCLUDES ITEMS 1 THRU 11)	
1	400232	SCREW- .25-20 X .625 PHMS	2
2	005536	SCREW- .375-16 X 2.0 SHCS	1
3	056120	BRACKET- GUIDE	1
4	056684	SPACER	1
5	056673	WHEEL	1
6	035112	COVER- RH BRUSH	1
7	056730	GUARD- RH SPLASH	1
8	056731	CHANNEL- RH BRUSH COVER	1
9	052006	STRIP- SUPPORT	22
10	004542	SCREW- 10-24 X .875 PHMS	25
11	400095	WASHER- #10 FLAT	4
	308437	SUB- LH BRUSH COVER (INCLUDES ITEMS 12 THRU 18)	
12	308452	CHANNEL- LH BRUSH COVER	1
13	308451	GUARD- LH SPLASH	1
14	001288	SCREW- 10-24 X .50 FHMS	2
15	054306	CLAMP- TOGGLE	1
16	308539	COVER- LH BRUSH	1
17	400480	NUT- 10-24 HEX	2
18	005297	WASHER - #10 LOCK	2

DRIVE WHEEL GROUP

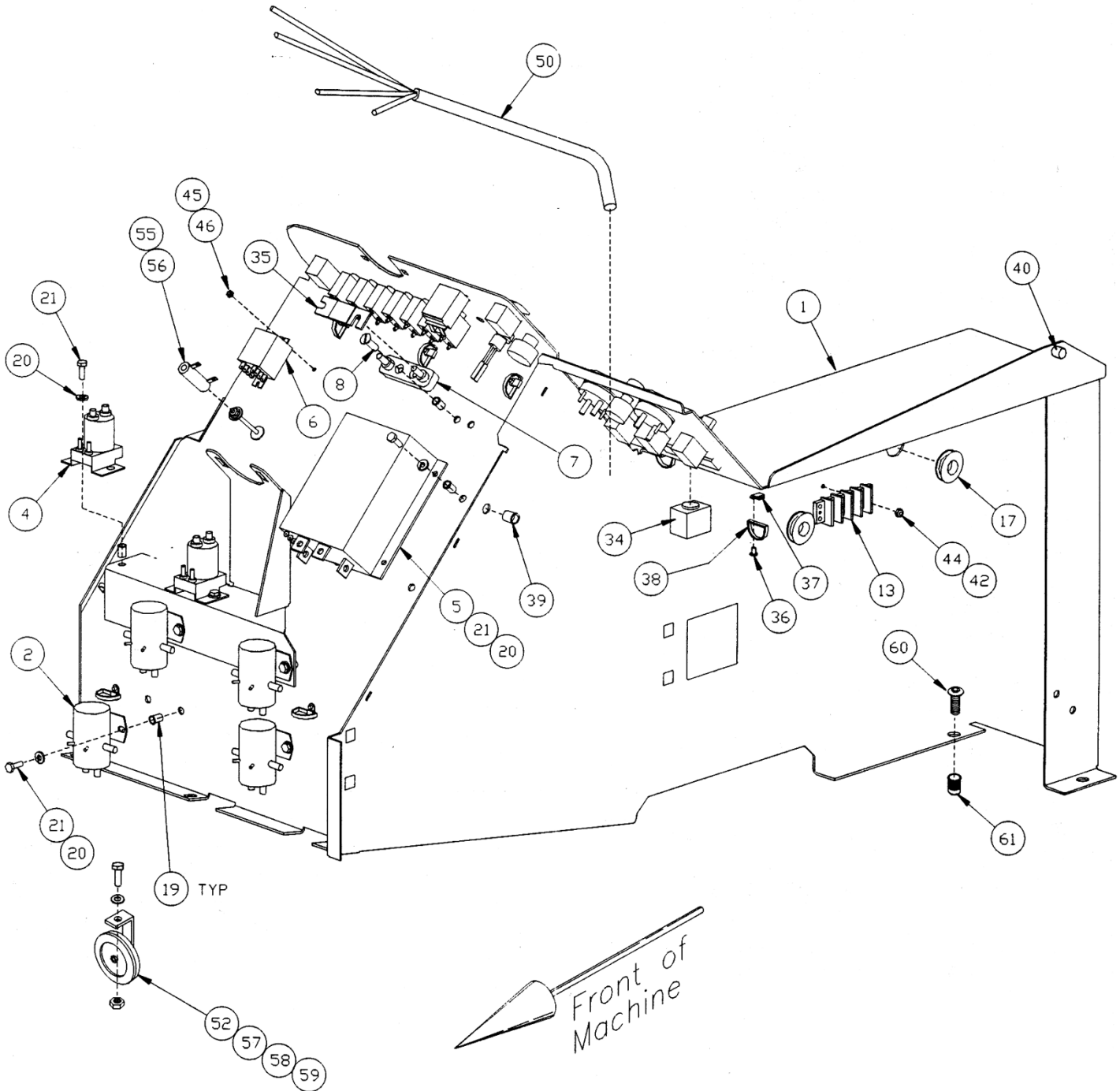


030PS005

DRIVE WHEEL GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308466	SCREW- M6 X 14 SHCS	10
2	308467	WHEEL- RUBBER	1
3	308468	GASKET	1
4	308469	SEAL- LIP	1
5	308470	RING- CLAMPING	1
6	308471	RETAINER- INTERNAL	1
7	308472	BEARING- BALL	1
8	308473	PIN- 5MM X 20	2
9	308474	GEAR- INTERNAL	1
10	308475	SHIELD- PROTECTION	1
11	308476	FRAME	1
12	308477	BEARING- BALL	2
13	308478	GEAR- HIGH SPEED	1
14	308479	KEY- 8 X 7 X 18MM	1
15	308480	SHAFT- DRIVE	1
16	308481	SHIM	AR
17	308482	RETAINER- INTERNAL	1
18	308483	COVER- PUSH IN	1
19	308484	SCREW- M5 X 10 SHCS	3
20	308485	COVER- BEARING	1
21	308486	SCREW- M6 X 60 SHCS	3
22	308487	NUT- M6 ELASTIC STOP	3
23	401997	BEARING- SEALED	2
24	308489	REATAINER- INTERANAL	1
25	308490	GEAR- MOTOR	1
26	308491	O- RING	1
27	308492	SEAL- LIP	1
28	308493	FLANGE- MOTOR	1
29	401995	BEARING- SHIELDED	1
30	308495	SPRING- BRUSH	4
31	308496	BAND	1
32	308497	KEY- 5 X 5 X 18MM	1
33	308498	ROD- TIE	3
34	308499	ROTOR	1
35	401996	BEARING- SHIELDED	1
36	308501	CASE- MOTOR	1
37	308502	HOLDER- BRUSH	1
38	308503	BRUSH- CARBON	4
39	400380	SCREW- #8-32 X .375 SHCS	1
40	400073	NUT- #8-32 HEX	1

ELECTRICAL COMPONENTS GROUP

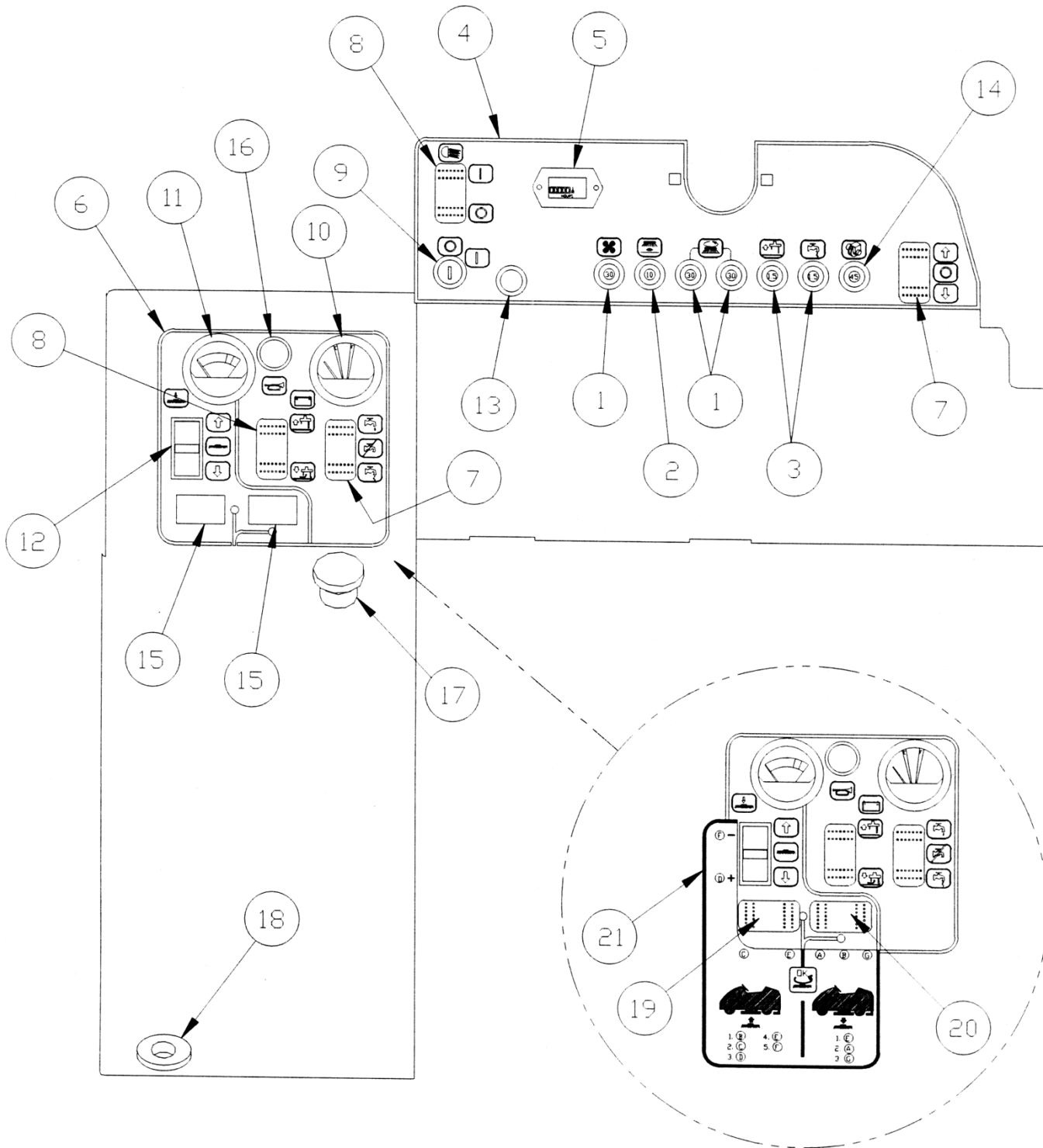


E_COMPC

ELECTRICAL COMPONENTS GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308361	CONSOLE	1
2	308428	SOLENOID- SPDT	4
4	315205	SOLENOID- MAIN	3
5	308442	CONTROLLER- POWER	1
6	308429	RELAY- 24V	1
7	317876	HOLDER- FUSE	1
8	317901	SCREW- .25-20 X 1.0 FHMS	2
13	308419	BLOCK- TERMINAL	1
17	308411	GROMMET	2
19	322191	INSERT- 25-20	20
20	400103	WASHER- .25 LOCK	18
21	400042	SCREW- .25-20 X .75 HHCS	18
34	317960	BLOCK- CONTACT	1
35	317874	FUSE- 150 AMP	1
36	400484	RIVET- .19	11
37	302472	MOUNT- TIE	11
38	312370	TIE- CABLE	11
39	322189	INSERT- .375-16	1
40	322190	INSERT- .312-18	1
42	318135	SCREW- 10-32 X 1.0 BHSS	2
44	400172	NUT- 10-32 ELASTIC STOP	2
45	400298	SCREW- 6-32 X .50 PHMS	2
46	400492	NUT- 6-32 ELASTIC STOP	2
50	308420	HARNESS- MAIN WIRING	1
52	305005	HORN	1
55	323983	KIT- RESISTOR MOUNT	1
56	323520	RESISTOR- LIGHT	1
57	400036	SCREW- .312-18 X .75 HHCS	1
58	400384	WASHER- .31 CONICAL	1
59	400080	NUT- .312-18 ELASTIC STOP	1
60	400790	SCREW- .375-16 X 1.0 BHSS	10
61	322186	INSERT- .375-16	10

INSTRUMENTATION GROUP



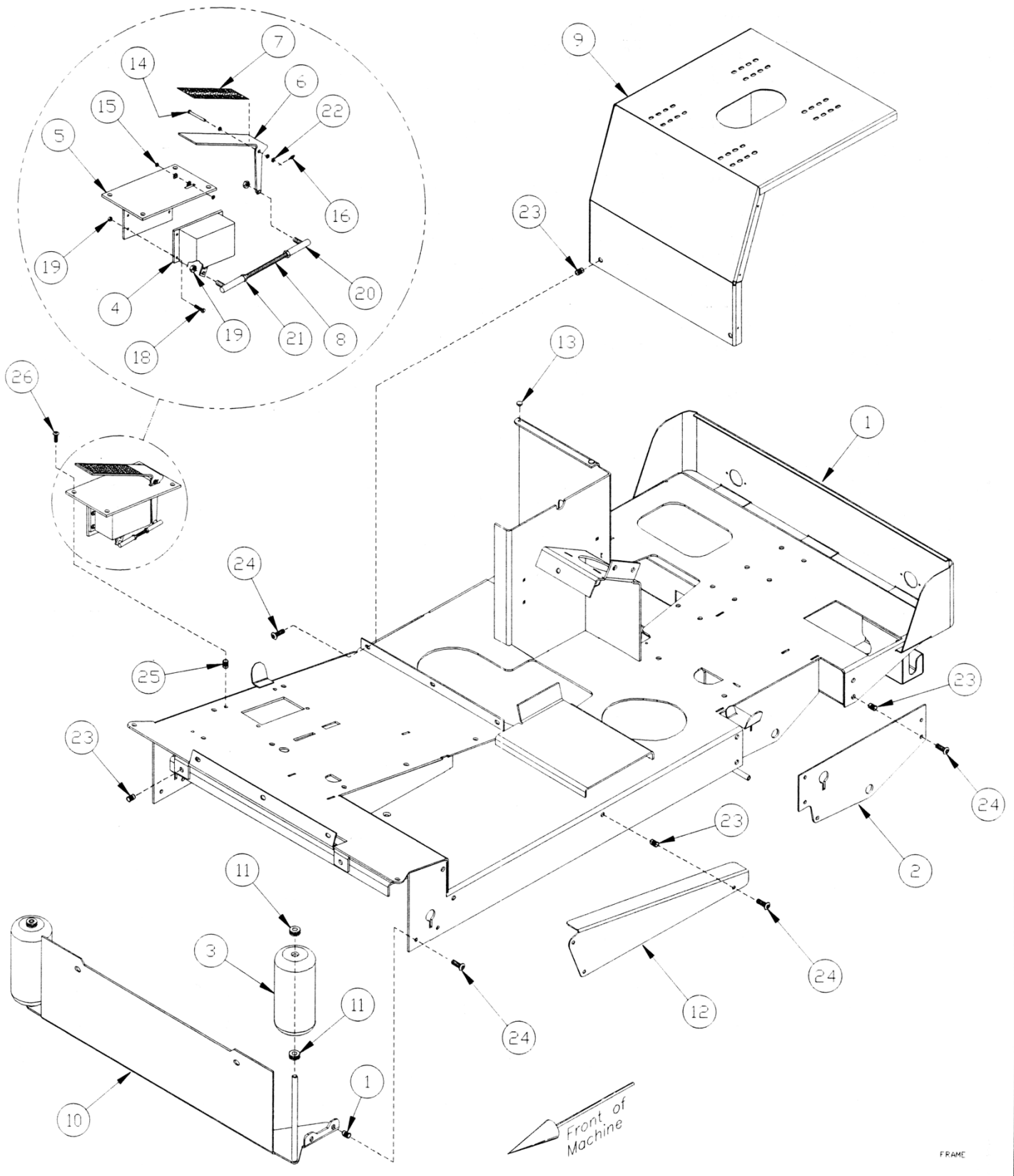
INSTR

AUTO SCRUB BRUSH OPTION

INSTRUMENTATION GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308417	BREAKER- 30 AMP CURCUIT	3
2	308416	BREAKER- 10 AMP CIRCUIT	1
3	308430	BREAKER- 1.5 AMP	2
4	308432	DECAL- MAIN PANEL	1
5	315336	METER- HOUR	1
6	308431	DECAL- LEFT PANEL	1
7	323446	SWITCH- ROCKER	2
8	323972	SWITCH- DPDT	2
9	323653	SWITCH- KEY	1
10	308426	GAGE- BATTERY	1
11	308425	GAGE- BRUSH	1
12	318777	SWITCH- DPDT PADDLE	1
13	308436	LIGHT- GREEN INDICATOR	1
14	026924	BREAKER- 45 AMP CIRCUIT	1
15	323529	PLUG- SWITCH	2
16	300441	SWITCH- HORN	1
17	317816	SWITCH- KILL	1
18	308411	GROMMET- .75 ID	1
19	323972	SWITCH- BRUSH INSTALL (OPTIONAL)	1
20	311993	SWITCH- BRUSH REMOVE (OPTIONAL)	1
21	308515	DECAL- AUTO SCRUB BRUSH (OPTIONAL)	1

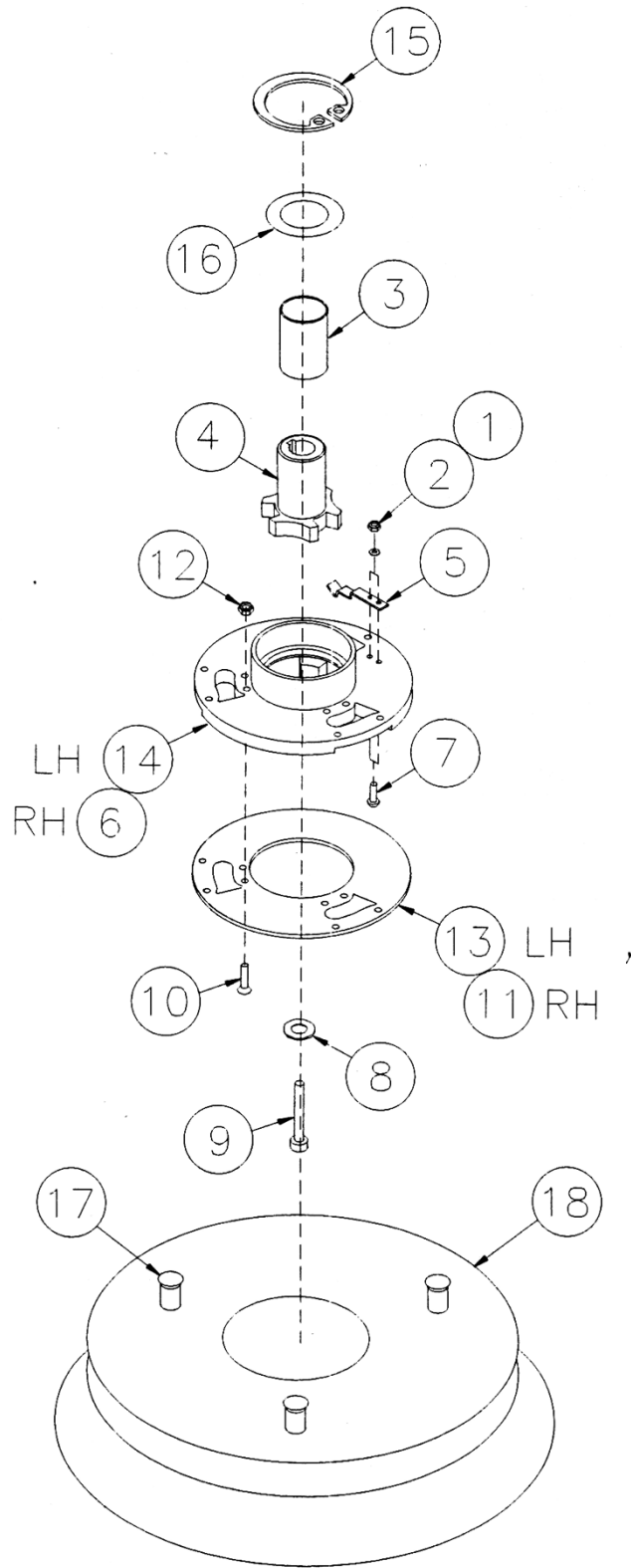
FRAME GROUP



FRAME GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308316	FRAME	1
2	308341	PLATE- WHEEL	2
3	308438	ROLLER-FRONT GUARD	2
4	311017	CONTROL- SPEED	1
5	323346	MOUNT- PEDAL	1
6	323347	PEDAL- THROTTLE	1
7	323665	PAD- PEDAL	1
8	323691	ROD- PEDAL	1
9	308371	RISER- SEAT	1
10	308465	BUMPER- FRONT	1
11	311564	GROMMET- .50	4
12	308511	COVER- BATTERY	1
13	300526	BUMPER- RUBBER	2
14	400345	PIN- .38 X 3.25 CLEVIS	1
15	300414	BUSHING- PLASTIC	4
16	400125	RING- RUE	1
18	400044	SCREW- #10-32 X .75	4
19	400172	NUT- #10-32 ELASTIC STOP	6
20	311437	BALL JOINT	2
21	400180	NUT- .25-28 HEX	2
22	400087	WASHER- .38 FALT	1
23	322186	INSERT- .375-16	21
24	400790	SCREW- .375-16 X 1.0 BHSS	21
25	322188	INSERT- .25-20	4
26	400059	SCREW- .25-20 X .75 THMS	4

OPTION- AUTO SCRUB BRUSH



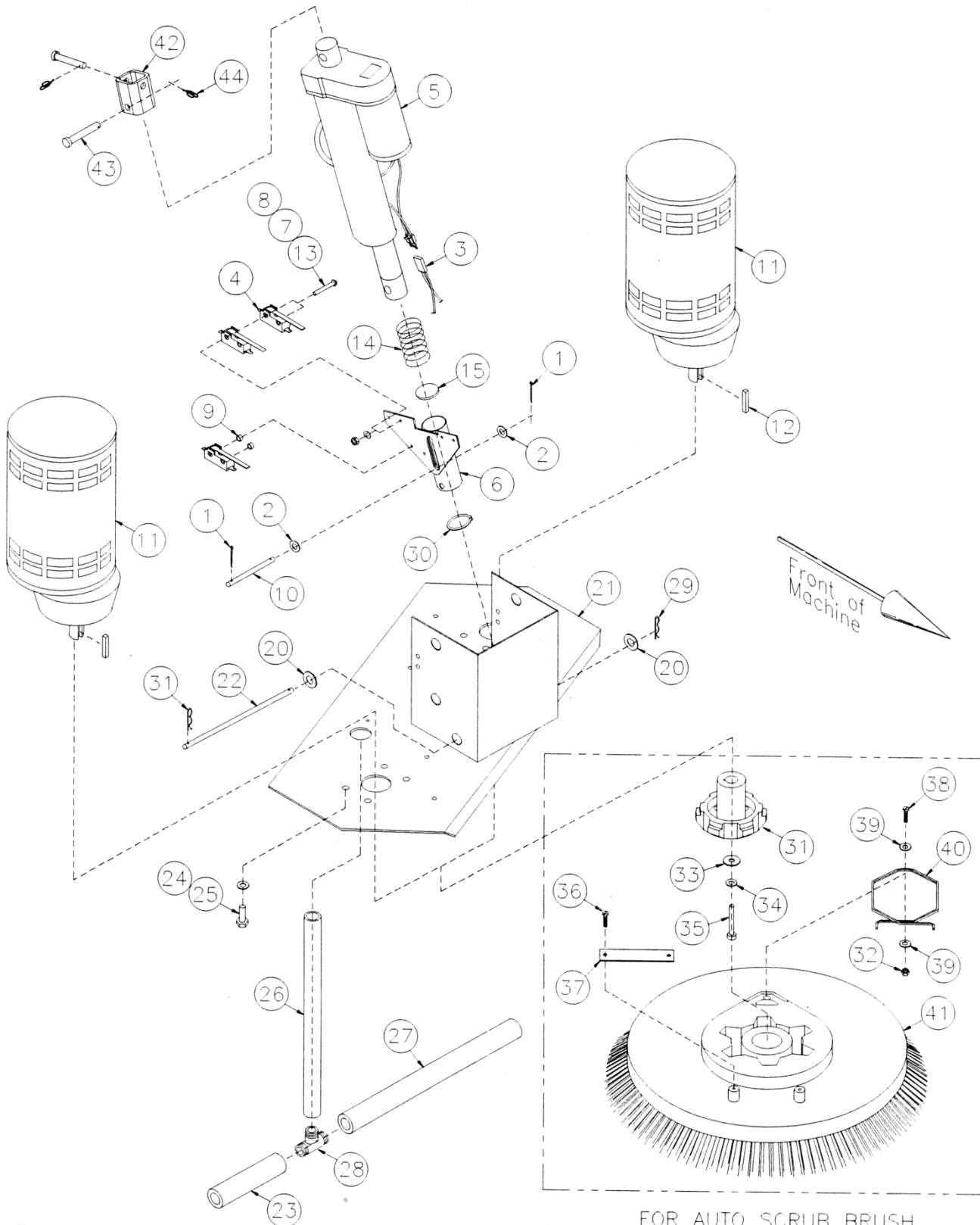
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TM-1692A

OPTION- AUTO SCRUB BRUSH

REF#	PART #	DESCRIPTION	QUANTITY
1	400469	WASHER- #6 LOCK	4
2	003466	NUT - #6-32 HEX	8
3	056464	TUBE	2
4	056445	DRIVE SHAFT	2
5	056468	RETAINER- LUG	2
6	056447	HUB- RH DRIVE	1
7	400298	SCREW- #6-32 X .50 PHMS	4
8	400102	WASHER- .31 LOCK	4
9	401985	SCREW- .312-18 X 1.5 HHCS	2
10	002473	SCREW- 10-24 X .88 FHMS	24
11	057159	MOUNT- RH BRUSH	1
12	400399	NUT- #10-24 ELASTIC STOP	24
13	057160	MOUNT- LH BRUSH	1
14	056446	HUB- LH DRIVE	1
15	004529	RING- RETAINING	2
16	311295	WASHER- 1.75 SPECIAL	2
17	005630	LUG- BRUSH	6
18	322076	BRUSH- 20" (NYLON) SCRUB	2
	322075	BRUSH- 20" (POWERGRIT 120 AGS) SCRUB	2
	330203	BRUSH- 20" (POWERGRIT 36XDS) SCRUB	2
	322073	BRUSH- 20" (POWERGRIT 46HDS) SCRUB	2
	322074	BRUSH- 20" (POWERGRIT 500GPS) SCRUB	2
	322071	BRUSH- 20" (POWERGRIT 80S/S) SCRUB	2

SCRUBDECK GROUP



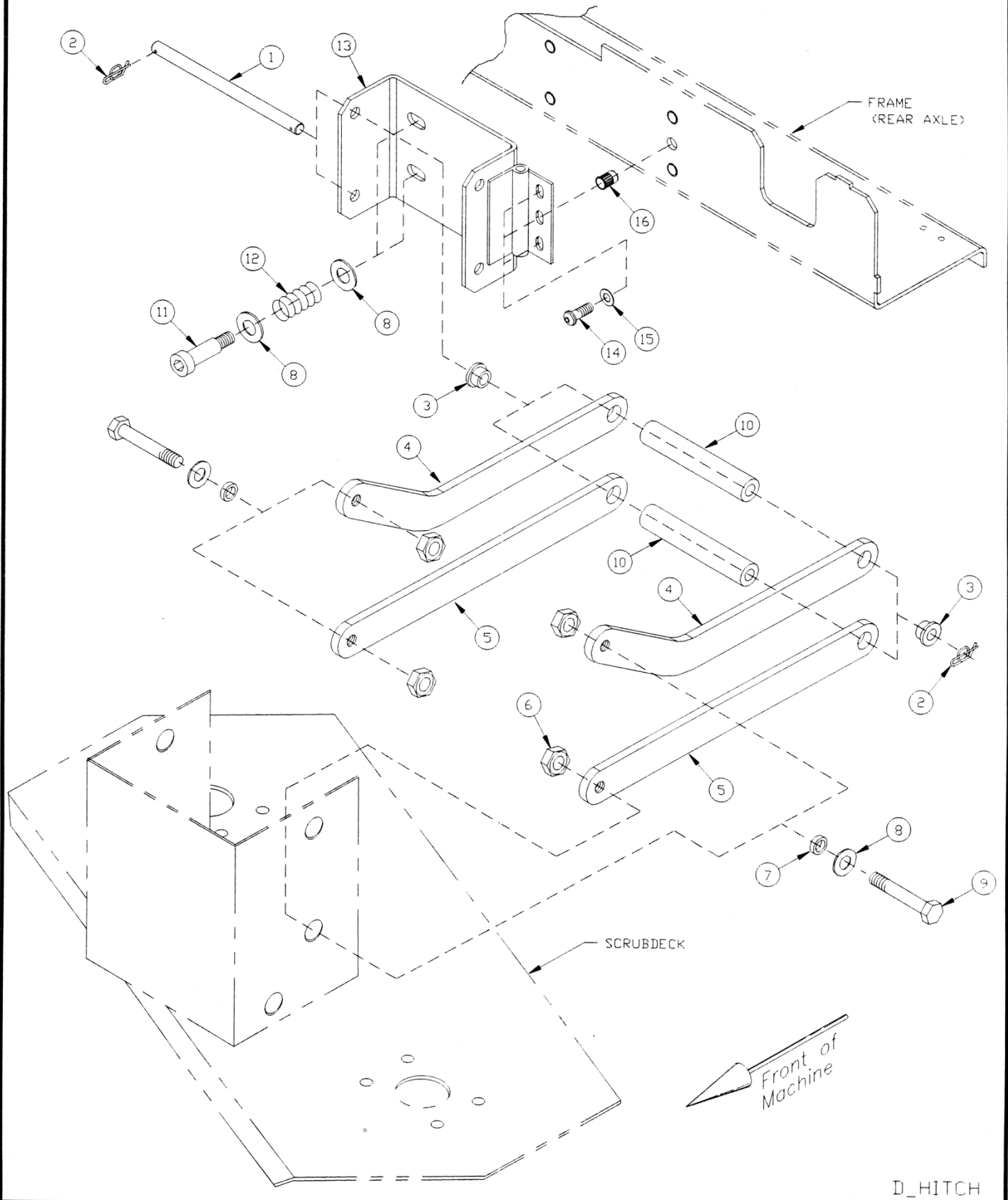
TM-1692

FOR AUTO SCRUB BRUSH
SEE OPTION GROUP

SCRUBDECK GROUP

REF#	PART #	DESCRIPTION	QUANTITY
	308424	SUB- SCRUBDECK (INCLUDES ITEMS 1 THRU30)	
1	005200	PIN- .12 X 1.0 COTTER	2
2	400086	WASHER- .50 NARROW	6
3	308443	HARNES	1
4	026603	SWITCH- LIMIT	3
5	024368	ACTUATOR	1
6	035547-02	TUBE- ACTUATOR	1
7	400469	WASHER- #6 LOCK	4
8	003466	NUT - #6-32 HEX	8
9	046425	SPACER	2
10	056155	PIN- ACTUATOR	1
11	024441	MOTOR/GEAR UNIT	2
12	057663	KEY- .25 SQUARE	2
13	400495	SCREW- #6-32 X 1.75 PHMS	4
14	054427	SPRING- COMPRESSION	1
15	056639	PLATE- STOP	1
20	400087	WASHER - .375 NARROW	2
21	035130	BRUSH HEAD	1
22	056474	SHAFT- .38 DIA	1
23	057580-10	TUBE- SOLUTION	1
24	400101	WASHER- .38 LOCK	8
25	400030	SCREW- .375-16 X 1.0 HHCS	8
26	054577	TUBE- SOLUTION	1
27	G755327	TUBE- SOLUTION	1
28	046944	TEE- .38 HOSE BARB	1
29	004352	PIN- .12 LOCK	2
30	046762	RING- RETAINER	1
	308522	SUB- STANDARD BRUSH DRIVE (INCLUDES ITEMS 31 THRU 40)	
31	308443	HUB- STANDARD DRIVE	2
32	400081	NUT- .25-20 ELASTIC STOP	1
33	400233	WASHER- .31 SPECIAL	2
34	400384	WASHER- .31 CONICAL	2
35	400038	SCREW- .312-18 X 2.25 HHCS	2
36	401984	SCREW- #10 X 1.0 SELF TAPPING	2
37	312403	STRAP- RETAINER	1
38	401983	SCREW- .25-20 X 1.25 BHSS (SS)	1
39	400471	WASHER- .25 FLAT (SS)	1
40	312404	RETAINER- BRUSH	1
41	323797	BRUSH- 20" (NYLON) SCRUB	2
	330408	BRUSH- 20" (POWERGRIT 120 AGS) SCRUB	2
	330409	BRUSH- 20" (POWERGRIT 500 GPS) SCRUB	2
	330198	BRUSH- 20" (POWERGRIT 36 XDS) SCRUB	2
	323024	BRUSH- 20" (POWERGRIT 46 HDS) SCRUB	2
	330407	BRUSH- 20" (POWERGRIT 80 S/S) SCRUB	2
42	308326	SWIVEL- SCRUB BRUSH	1
43	400756	PIN- .50 X 2.75 CLEVIS	2
44	400124	RING- .62 RUE	2

SCRUBDECK HITCH GROUP

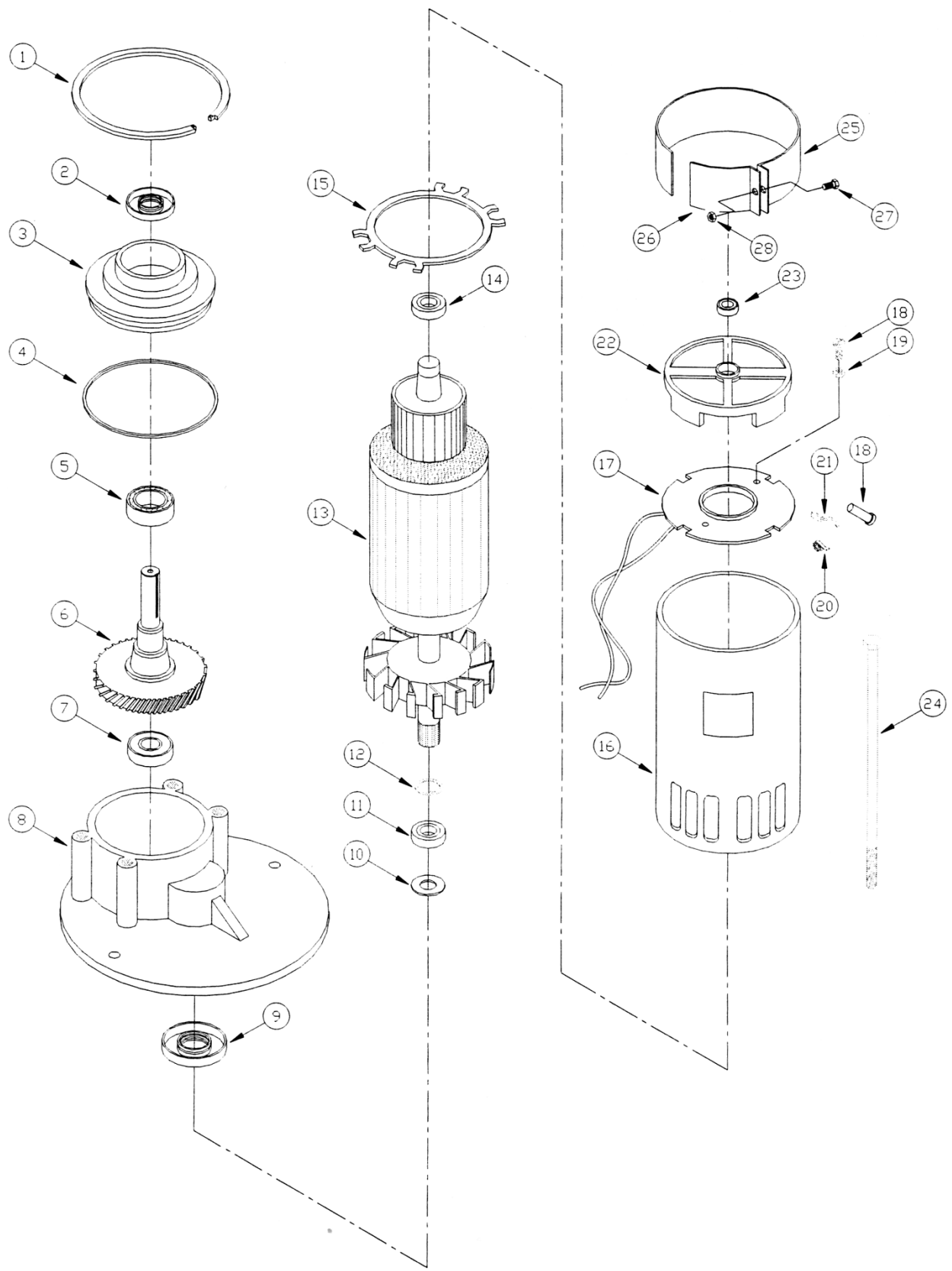


D_HITCH

SCRUBDECK HITCH GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308327	PIN- SCRUB HEAD	2
2	400124	RING- .62 RUE	4
3	300432	BUSING- .50 FLANGED	4
4	308328	ARM- UPPER	2
5	308387	ARM- LOWER	2
6	400078	NUT- .50-13 ELASTIC STOP	4
7	308506	SPACER- .50 ID X .19 LG	4
8	400086	WASHER- .50 FLAT	4
9	400022	SCREW- .50-13 X 1.25 HHCS	4
10	308388	SPACER- .50 ID X 5.5 LG	2
11	400652	BOLT- .50 X .125 LG SHOULDER	2
12	318414	SPRING- .72 OD X 1.25 LG	2
13	308319	HITCH- SCRUBDECK	1
14	400790	SCREW- .375-16 X 1.0 BHSS	3
15	400087	WASHER- .38 FLAT	3
16	322186	INSERT- .375-16	5

SCRUBDECK MOTOR/GEAR GROUP

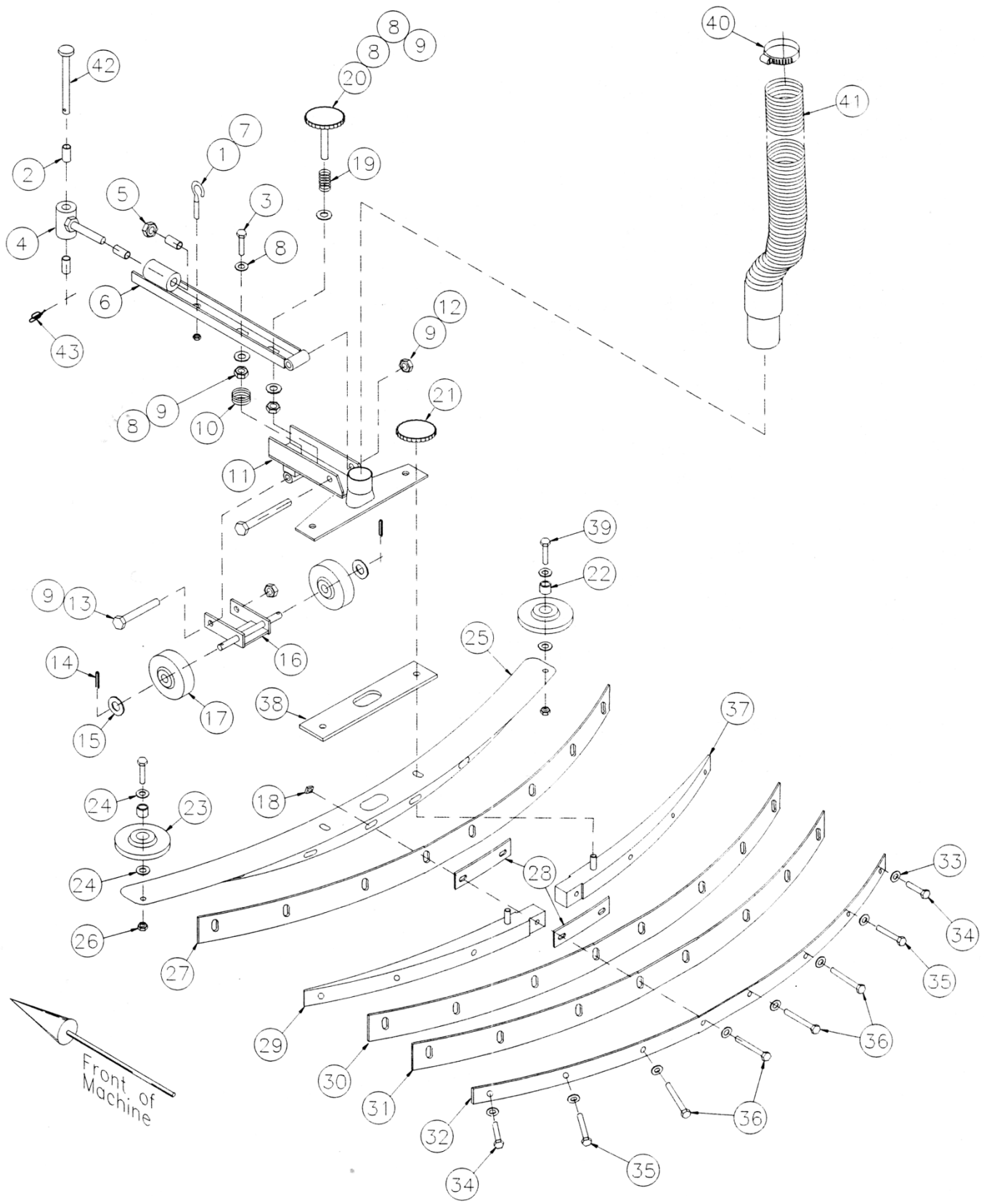


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SCRUBDECK MOTOR/GEAR GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	401986	RING- INT RETAINER	1
2	401987	SEAL- SMALL OIL	1
3	308512	CAP- END	1
4	401988	O-RING	1
5	401989	BEARING- LARGE BALL	1
6	308513	GEAR/SHAFT	1
7	401990	BEARING- SMALL SEALED	1
8	308514	HOUSING- GEAR	1
9	401991	SEAL- LARGE OIL	1
10	300476	WASHER- BELLVILLE	1
11	401992	BEARING- SEALED MOTOR	1
12	401993	RING- .781 EXT RETAINER	1
13	308529	ROTOR	1
14	401994	BEARING- SEALED MOTOR	1
15	308530	BAFFLE	1
16	308531	CASE- MOTOR	1
17	308532	PLATE- BRUSH	1
18	N/A	SCREW- #10-32 X .38 PHMS (BRASS)	6
19	400276	WASHER- #10 STAR	2
20	308533	SPRING- BRUSH	4
21	308534	BRUSH- CARBON	4
22	308535	CAP- END	1
23	330356	PLUG	1
24	N/A	SCREW- .25-20 X 9.75 HHCS	2
25	308536	BAND- LARGE	1
26	308537	BAND- SMALL	1
27	400346	SCREW- #10-32 X 2.0 PHMS-SL	1
28	N/A	NUT- #10-32 SQUARE	1

SQUEEGEE GROUP

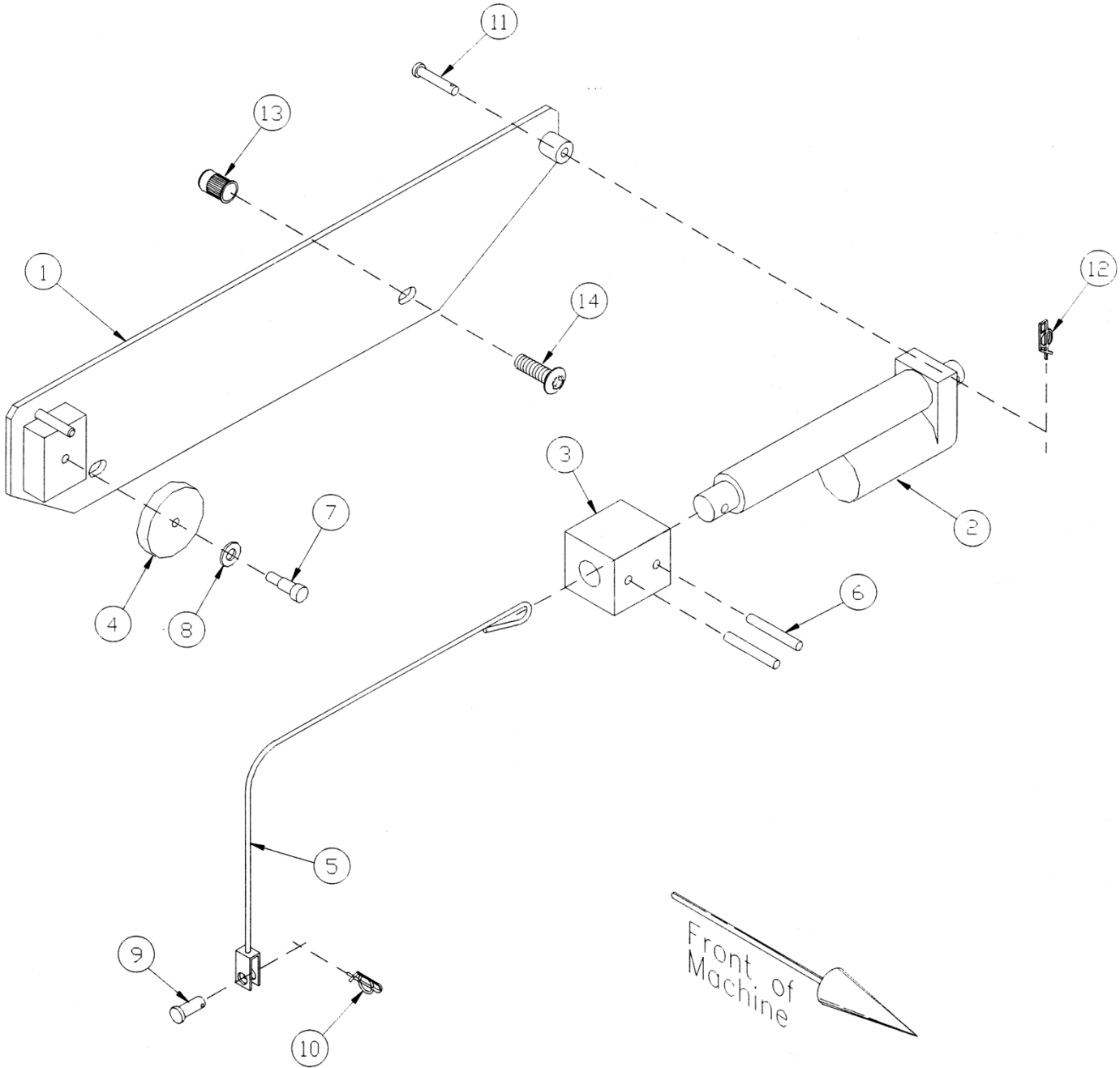


TM-1457

SQUEEGEE GROUP

REF#	PART #	DESCRIPTION	QUANTITY
	308421	SUB- SQUEEGEE HITCH (INCLUDES ITEMS 1 THRU 20)	
1	005594	BOLT- .25-20 EYE	1
2	027171	BUSHING	4
3	400027	SCREW- .375-16 X 1.75	1
4	035150	PIVOT- SQUEEGEE	1
5	400317	NUT- .50-13 ELASTIC JAM	1
6	035137	BAR- SQUEEGEE	1
7	400324	NUT- .25-20 ELASTIC STOP	1
8	400086	WASHER- .38 FLAT	4
9	400079	NUT- .375-16 ELASTIC STOP	4
10	056808	SPRING- COMPRESSION	1
11	035138	BRACKET- SQUEEGEE	1
12	400434	SCREW- .375-16 X 2.5 HHCS	1
13	400646	SCREW- .375-16 X 3.0	1
14	005383	PIN- .09 X 1.0 COTTER	2
15	004223	WASHER- .375 FLAT	1
16	034172	BRACKET- WHEEL	1
17	057193	WHEEL- SQUEEGEE	2
18	005591	NUT- .25-20 RETAINING	8
19	056585	SPRING- COMPRESSION	1
20	035163	KNOB- ADJUSTMENT	1
	308457	SUB- SQUEEGEE (INCLUDES ITEMS 21 THRU 39)	
21	303179	KNOB	2
22			

SQUEEGEE LIFT GROUP

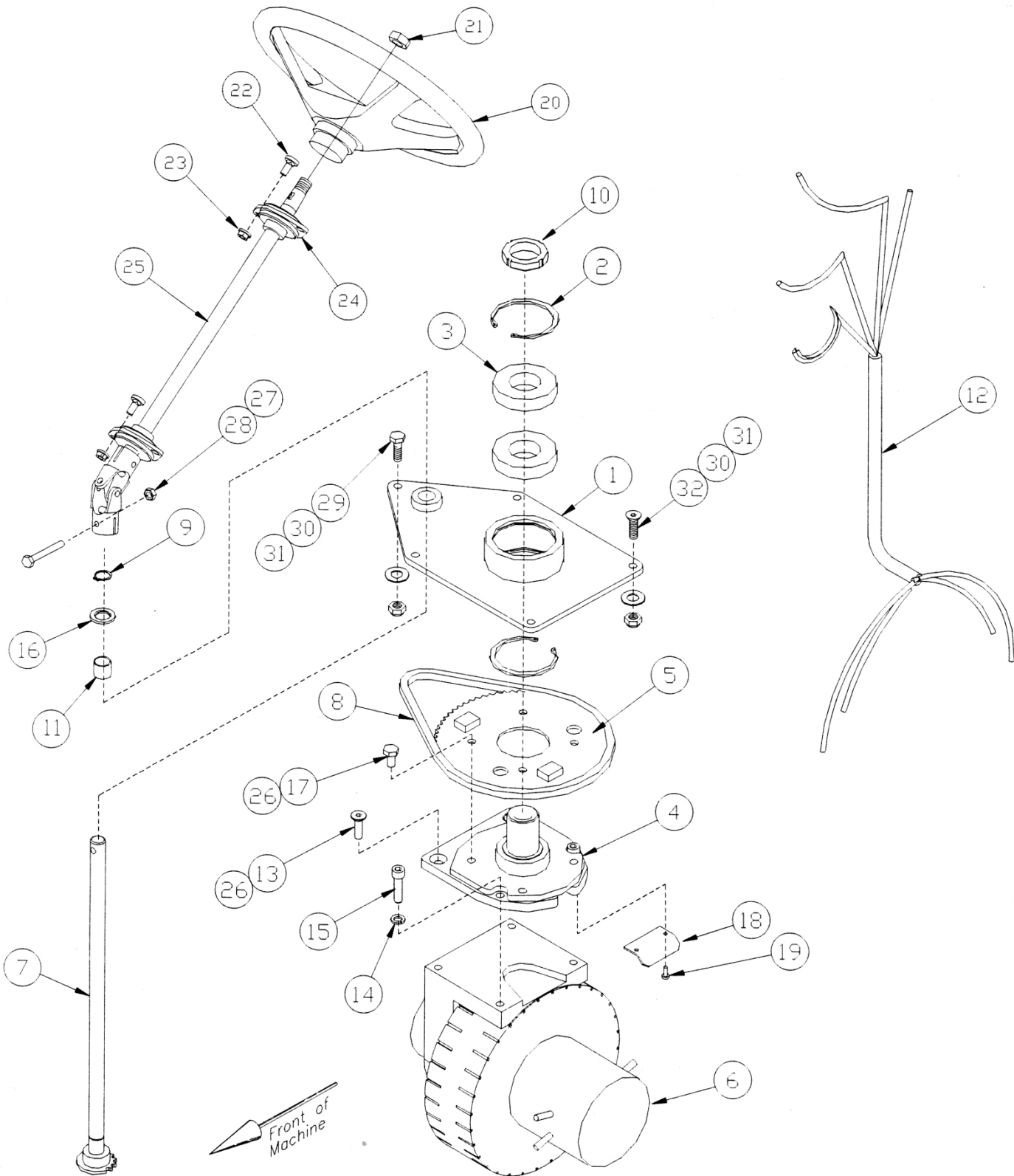


SO_LIFT

SQUEEGEE LIFT GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308508	BRACKET-SQUEEGEELIFT	1
2	317770	ACTUATOR	1
3	304438K	BLOCK-LIFT	1
4	300368	PULLEY-PLASTIC	1
5	321245	CABLE-LIFT	1
6	400733	PIN- .25 X 1.75 ROLL	2
7	400051	SCREW- .312-18 X .50 SET	1
8	400088	WASHER- .31 FLAT	1
9	400118	PIN- .31 X .88 CLEVIS	1
10	400125	RING- .38 RUE	1
11	400744	PIN- .25 X 1.25 CLEVIS	1
12	400742	RING- .25 RUE	1
13	322186	INSERT- .375-16	2
14	400790	SCREW- .375-16 X 1.0 BHSS	2

STEERING GROUP

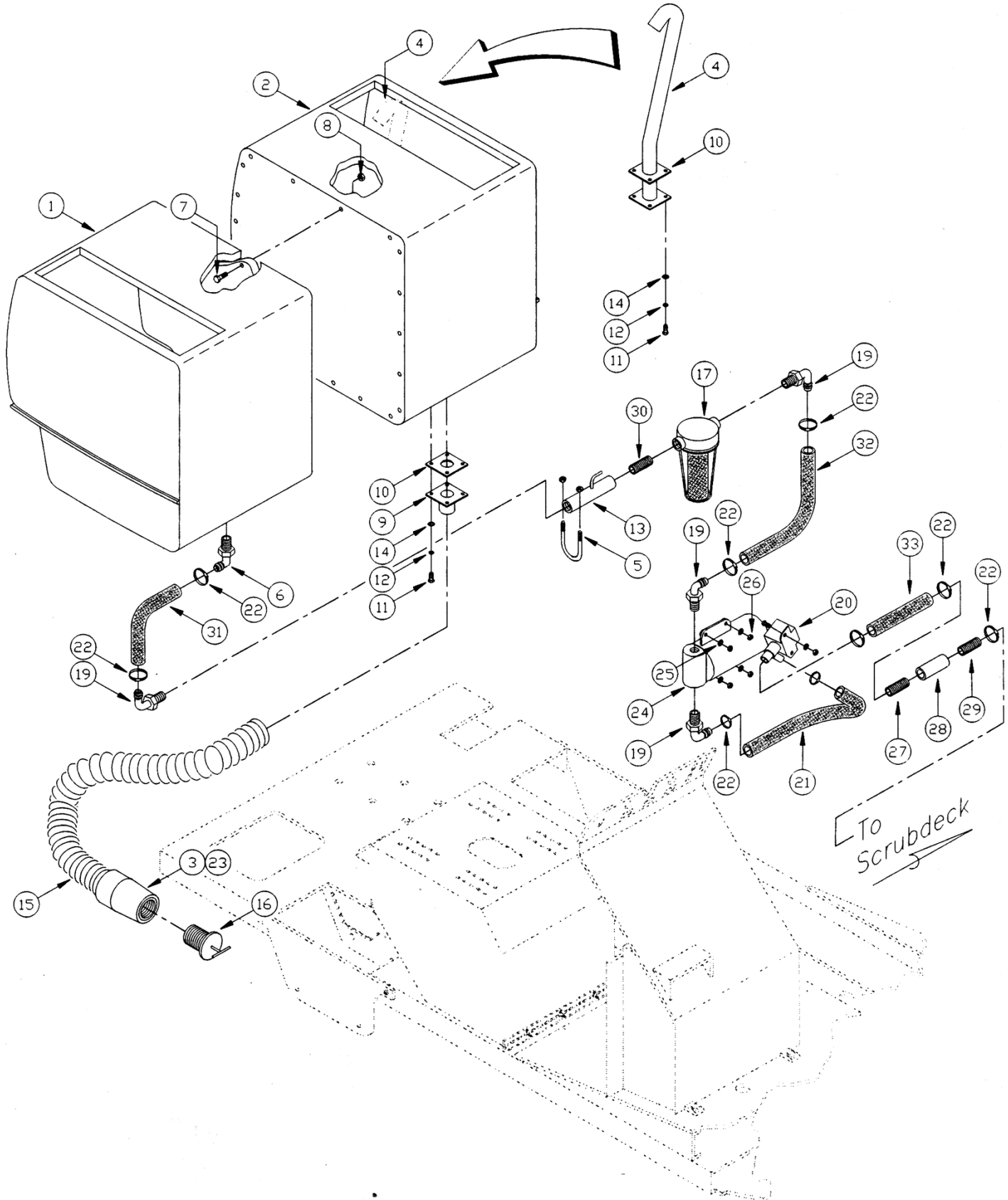


STEERING

STEERING GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308392	MOUNT- TURRET	1
2	307237	RING- 3.15 INTERNAL RETAINING	2
3	308338	BEARING- 1.56 BALL	2
4	308333	MOUNT- MOTOR	1
5	308389	SPROCKET- STEERING	1
6	308342	WHEEL ASSEMBLY	1
7	308398	SHAFT- INPUT	1
8	308405	CHAIN- #35 STEERING	1
9	400717	RING- .75 EXTERNAL RETAINING	1
10	308397	NUT- BEARING LOCK	1
11	303945	BEARING- FIBERGLIDE	1
12	308434	HARNESS- WHEEL MOTOR	1
13	401978	SCREW- M10-1.5 X 35 FHMS	2
14	401979	WASHER- M10 LOCK	2
15	401980	SCREW- M10-1.6 X 40 SHCS	2
16	307188	WASHER- .75 FLAT	1
17	400032	SCREW- .375-16 X .75 HHCS	4
18	308518	RETAINER- WIRE	1
19	400315	SCREW- #10-32 X .50 HHCS	2
20	323097	WHEEL- STEERING	1
21	400074	NUT- .625-18 HEX	1
22	400739	BOLT- .312-18 X .75 CARRIAGE	4
23	400390	NUT- .312-18 FLANGE	4
24	308509	BEARING- STEERING SHAFT	2
25	308401	SHAFT- STEERING (W/JOINT & BEARING)	1
26	302548	LOCTITE- #242 REMOVABLE	AR
27	400231	SCREW-.312-18 X 2 HHCS	1
28	400080	NUT- .312-18 HEX	1
29	400030	SCREW- .375-16 X 1.00 HHCS	4
30	400087	WASHER- .38 FLAT	5
31	400079	NUT- .375-16 ELASTIC STOP	4
32	400444	SCREW- .375-16 X 1.99 FHSS	1

TANK GROUP



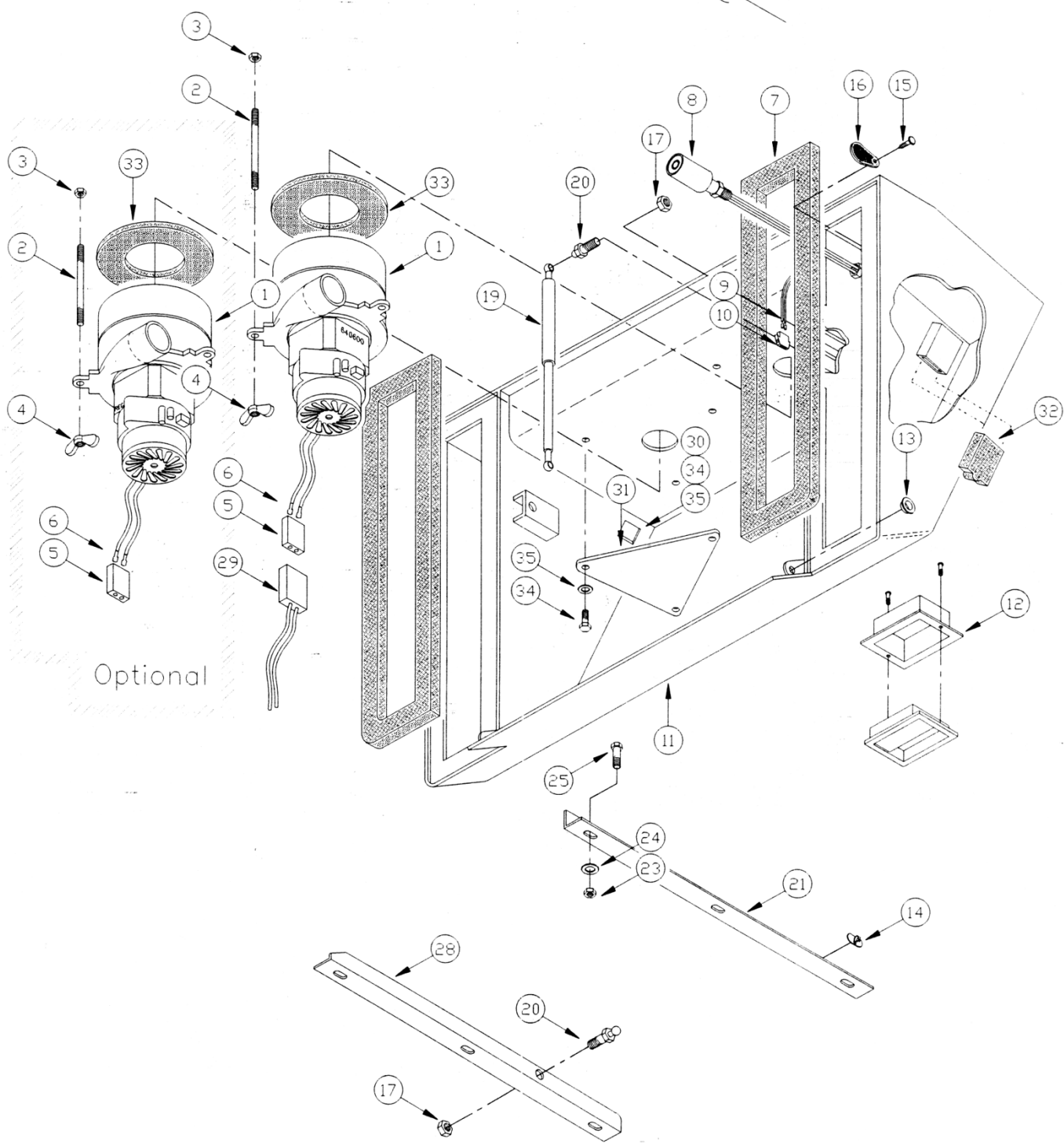

120PS002

TANK GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308350	TANK- R/H MAIN	1
2	308351	TANK- L/H MAIN	1
3	311916	INSERT- TUBE	1
4	323651	TUBE- SUCTION	1
5	401981	BOLT- .25-20 "U"	2
6	400808	ELBOW - .75 X .50 HOSE BARB	1
7	400764	SCREW - .25-20 X 1.5 HHCS (SS)	6
8	400324	NUT- .25-20 ELASTIC STOP (SS)	6
9	323652	DRAIN- TANK	1
10	323650	GASKET - SUCTION TUBE	2
11	400199	SCREW- .25-20 X .75 HHCS	4
12	400321	WASHER- .25 LOCK	4
13	313199	VALVE- .50 BALL	1
14	400491	WASHER- .25 FLAT	12
15	308407	HOSE- DRAIN	1
16	311787	PLUG - DRAIN HOSE	1
17	323501	STRAINER- SOLUTION	1
19	313195	ELBOW- .50 X .375 HOSE BARB	4
20	323959	VALVE- SOLENOID	1
21	323683	HOSE - SOLUTION	1
22	302144	CLAMP- .50 HOSE	9
23	311797	CUFF- HOSE	2
24	313197	PUMP- SOLUTION	1
25	400400	WASHER- #10 FLAT (SS)	4
26	400172	NUT- #10-32 ELASTIC STOP	4
27	400261	CONNECTOR- .50 BARB TO .25 MPT	1
28	308383	COUPLING- .25 NPT	1
29	400237	CONNECTOR- .38 BARB TO .25 MPT	1
30	305281	NIPPLE- .50 NPT CLOSE	1
31	308523	HOSE- SOLUTION	1
32	308524	HOSE- SOLUTION	1
33	308525	HOSE- SOLUTION	1

VACUUM BOX GROUP

Front of Machine



120PS001

VACUUM BOX GROUP

REF#	PART #	DESCRIPTION	QUANTITY
1	308200	MOTOR-36V VACUUM	1
2	311914	ROD - .25-20 X 4.5	3
3	400071	NUT- .25-20 HEX	3
4	311817	NUT - NYLON WING	3
5	323929	CONN - 56 SERIES PACKARD 2-CIRC	1
6	323930	PIN - 56 SERIES PACKARD FEM	2
7	323640	GASKET - VACUUM BOX	2
8	323697	SWITCH - LEVEL	1
9	323896	PIN- CONTACT	2
10	323895	CONNECTOR - PLUG	1
11	323688	BOX- VACUUM	1
12	311371	PULL - REAR COVER	1
13	300414	BUSHING - PLASTIC	2
14	315285	RETAINER - HARNESS	1
15	313149	RETAINER- FLAP	1
16	313143	FLAP - DRAIN	1
17	400080	NUT - .312-18 ELASTIC STOP	4
19	300375	GAS SPRING	2
20	300376	STUD - BALL	4
21	323554	MOUNT- RH VACUUM BOX	1
23	400324	NUT- .25-20 ELASTIC STOP (SS)	6
24	400491	WASHER- .25 FLAT (SS)	6
25	400377	SCREW - .25-20 X 1.5 HHCS (SS)	6
26	400340	NUT - .375-16 ELASTIC STOP (SS)	2
27	400336	WASHER - .38 FLAT (SS)	2
28	323552	MOUNT - LH VACUUM BOX	1
29	323819	HARNESS- VACUUM MOTOR	1
30	308459	COVER- VACUUM	1
31	308386	COVER- VACUUM MOTOR	1
32	323503	FILTER- MIST	2
33	311799	GASKET- VACUUM MOTOR	1
34	400199	SCREW- .25-20 X .75 HHCS (SS)	5
35	400321	WASHER- .25 LOCK (SS)	5