

POWERBUFF®

EV 41 Wet vacuum

Item #E12331-00

Operator's Manual Parts Schematic



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SAFETY INSTRUCTIONS

<u>Hazard Level</u>	<u>Explanation or Description of Hazard Level</u>
DANGER	Failure to follow safety instructions labeled DANGER could result in severe injury or death to the machine operator or others.
WARNING	Failure to follow safety instructions labeled WARNING could result in injury to the machine operator or others. Also, machine or property damage could occur.
CAUTION	Failure to follow safety instructions labeled CAUTION could result in damage to the machine or damage to other property.

DANGER ***This manual contains important information about your machine. Read and understand all instructions before operating the machine. Failure to read and follow the instructions could result in injury to the person operating the machine or injury to others. Damage to the machine or other property could occur if instructions are not followed.***

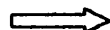
DANGER Do not operate this machine around any solvents, thinners, or other flammable liquids or materials. Electrical sparks can cause a fire or even an explosion.

DANGER Do not smoke around the machine. Also, keep all sparks and flames away from the batteries. The batteries generate gases that can cause an explosion.

DANGER Special care needs to be used when working on or near the batteries. Wear eye protection. Do not lay tools on batteries, as they may short out battery terminals. Do not wear metal jewelry, as it may short out battery terminals.

DANGER Charging batteries can be dangerous. Be aware that the battery charger may have a relatively low voltage output, but the current output is very high and therefore dangerous. Do not operate the charger if any parts of the charger or charger cords are damaged. Do not stand on a wet floor when connecting or disconnecting charger to the power outlet or to the machine.

Safety Instructions are continued on the next page



DANGER

Battery acid is dangerous. Wear eye and face protection, hand protection, and body protection when working on and around batteries. If you get acid on your skin, wash off immediately. If you get acid on your clothing, remove clothing and wash any skin that was in contact with the clothing. Baking soda mixed with water will help to neutralize the acid on your skin.

DANGER

The machine is heavy, so be very careful when loading, transporting, and unloading the machine.

WARNING

Do not pick up dust; machine is for wet pick-up only.

WARNING

Disconnect a wire to the batteries before working on the machine.

WARNING

Do not operate machine with charger plugged in.

WARNING

Do not operate machine with any parts damaged or missing.

WARNING

Do not operate close to stairs, loading docks, or other drop-offs. Do not park machine in such a manner that it could roll, forward or backward, off a drop-off.

WARNING

Authorized personnel must perform maintenance and repairs. Do not alter or modify the machine, unless authorized by the manufacturer.

WARNING

Do not expose the electrical components to water or excessive moisture.

WARNING

Always put caution signs around the areas that are being cleaned.

WARNING

Discharge wastewater properly. Improper discharge of wastewater is illegal. Understand and follow all Federal, State, and Local laws regarding disposal of wastewater.

WARNING

Recovery tank must be empty before tilting it up.

CAUTION

The Extreme Vac is designed for wet pickup only. Do not use as a dry vac.

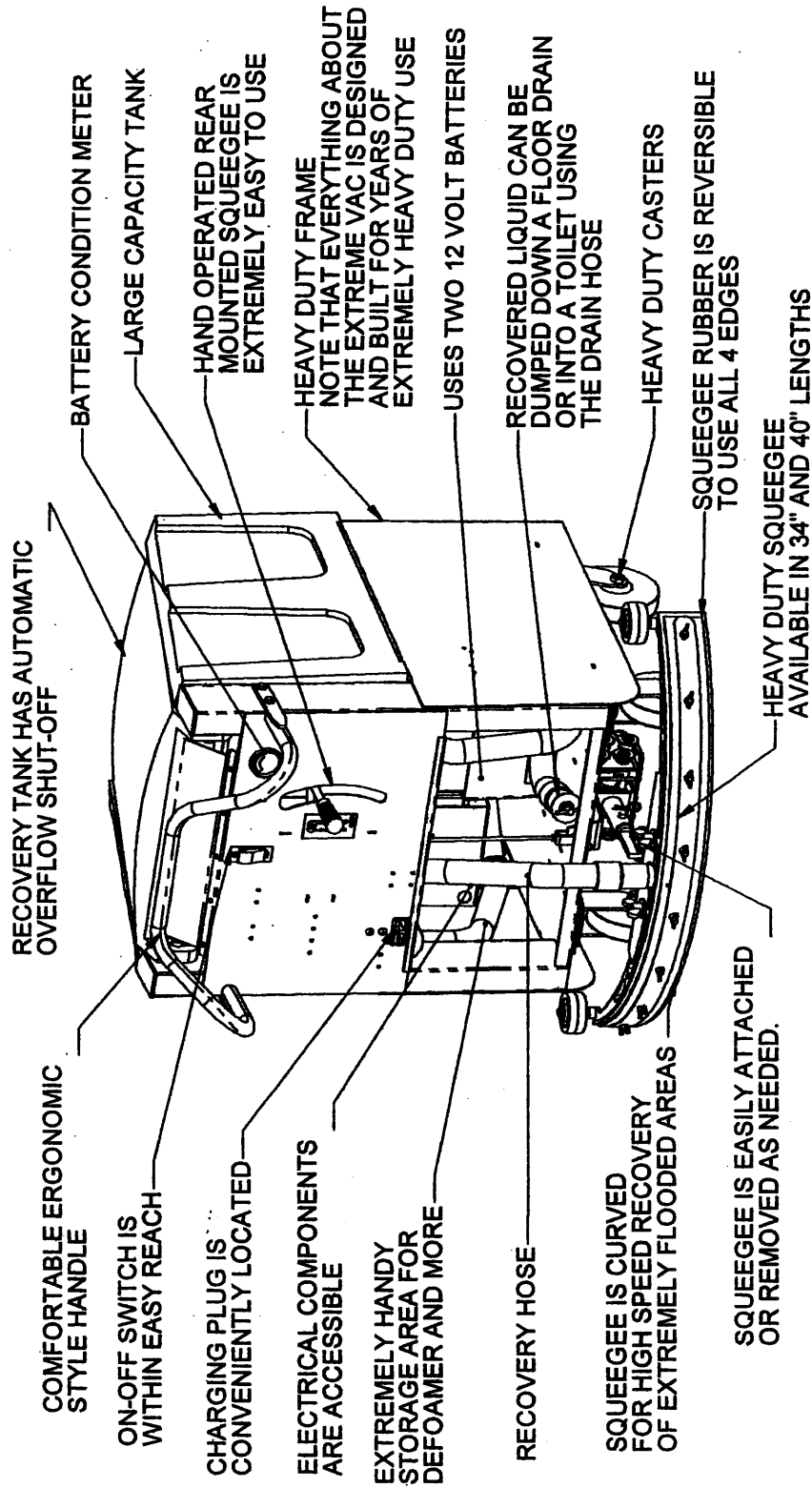
CAUTION

Your machine warranty may be voided if parts other than PowerBuff parts are used.

EXTREME VAC SPECIFICATIONS

ITEM	SPECIFICATION
Coverage	30,000 to 40,000 sq. ft. / hour
Battery Pack	24 volt system
Charger	24 volt - 20 amp
Run Time	4 hours
Vacuum Motor	1 HP - 3 stage
Wheels	6" casters (reversible rigid casters and swivel casters)
Tank Construction	Rotational molded polyethylene
Recovery tank	26 gallon
Squeegee	34" or 41" heavy duty curved tracking squeegee
Dimensions (Without squeegee)	35" long 25" wide 40" tall
Weight	360 lbs. with batteries, 220 lbs. without batteries
Warranty	3 year on parts and 10 year on tanks

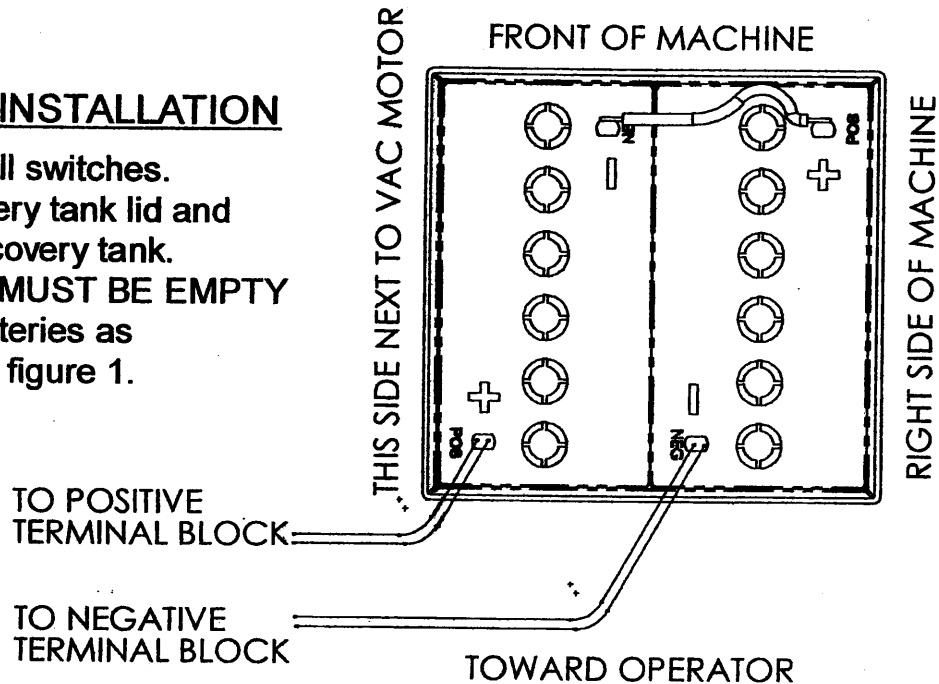
EXTREME VAC FEATURES



BATTERY INSTALLATION AND CHARGING

BATTERY INSTALLATION

- Turn off all switches.
 - Lift recovery tank lid and
 - Tilt up recovery tank.
- Note: TANK MUST BE EMPTY**
- Install batteries as shown on figure 1.



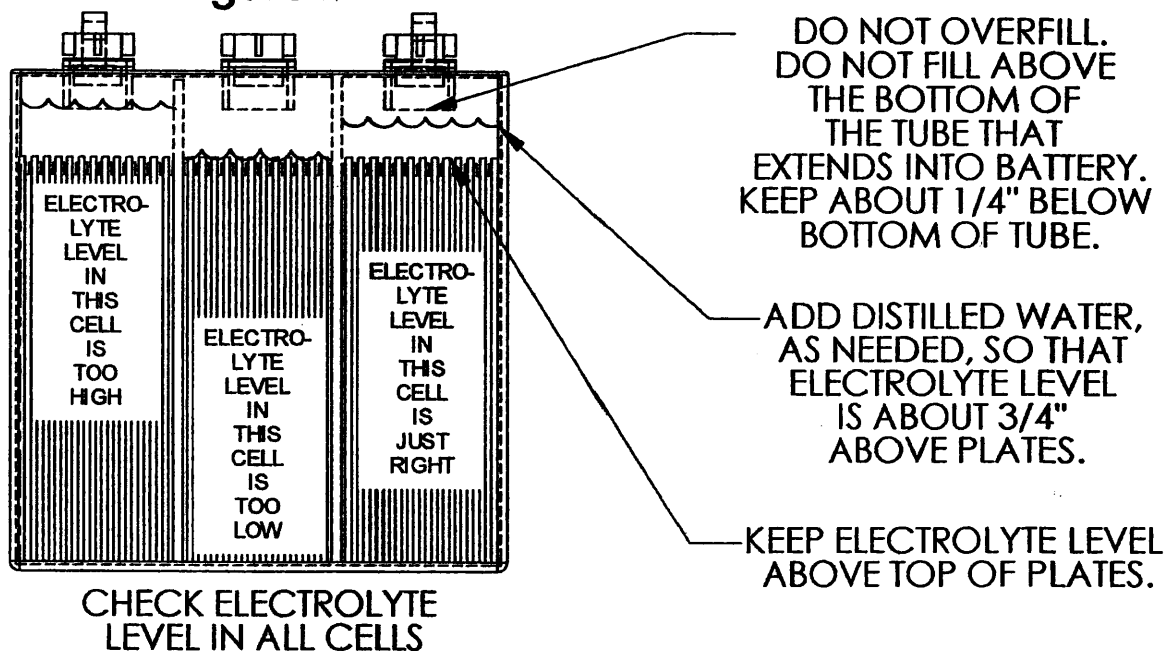
BATTERY CHARGING

- Place the charger on a safe place. Make sure that air can circulate around the charger. Do not get the charger wet.
- Do not remove battery caps (the caps are vented).
- Do not charge vacuum in a wet area.
- Do not stand in a wet area when plugging in charger to the 110 volt receptacle or plugging into the vacuum.
- Connect the charging plug from the charger to the charging plug on the back of the vacuum.
- Plug in the charger to a properly grounded 110 volt receptacle.
- Indicator needle will rise and then will fall slowly as batteries charge.
- Charger will shut off automatically when batteries are fully charged.

BATTERY MAINTENANCE

- To receive the longest life from the batteries, charge them when they have between 25% and 50% of a full charge.
- Do not allow batteries to remain in a discharged state for very long, as this shortens the total battery life.
- Be aware that a discharged battery will freeze easily.
- Check the electrolyte level weekly. Top off with distilled water as shown in figure 2. Do not overfill. Make sure that all plugs are tight.
- Make sure battery connections are tight and free from corrosion. A baking soda and water solution and a wire brush are helpful when cleaning battery connections. Keep caps on when cleaning batteries, so that electrolyte is not contaminated.

figure 2



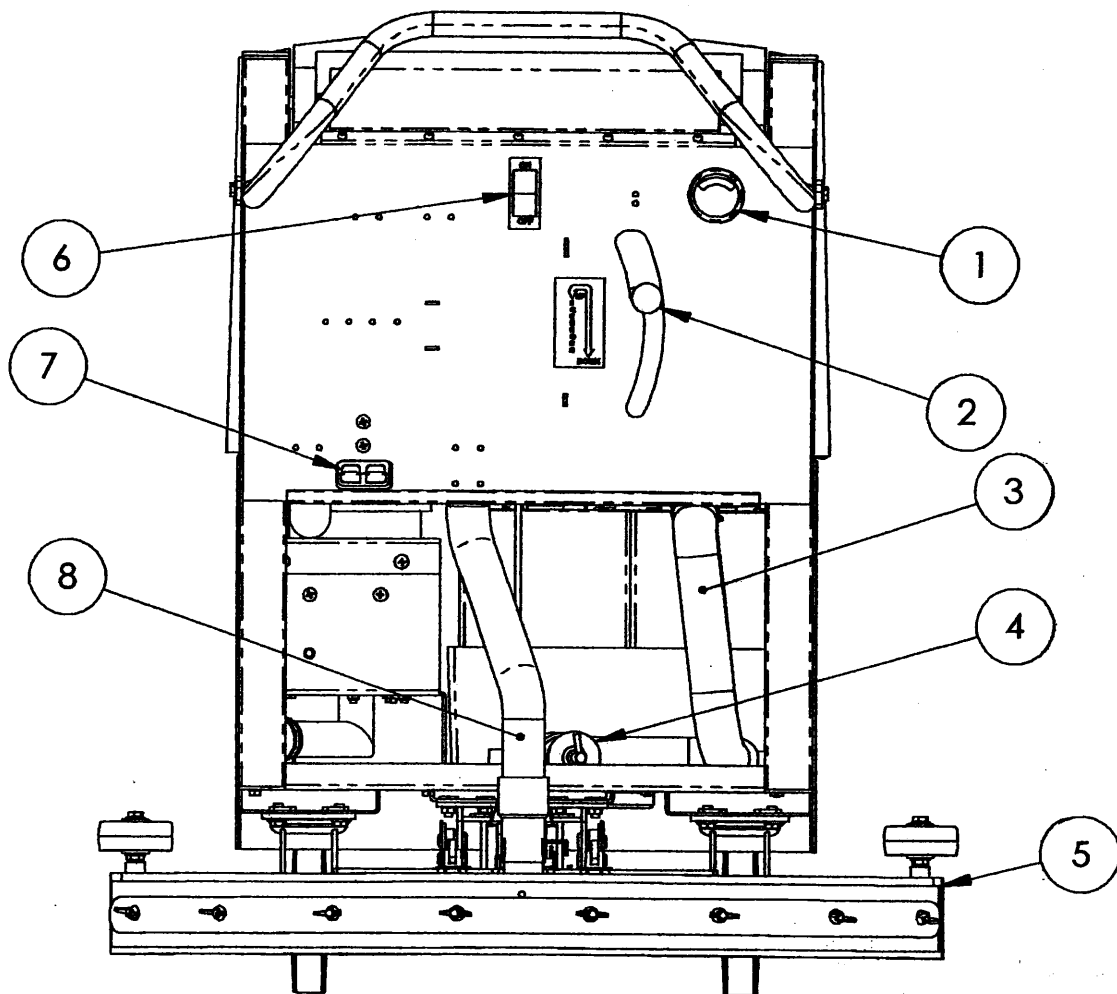
!!! BATTERIES ARE DANGEROUS !!!
READ THE SAFETY INSTRUCTIONS
IN THE FRONT OF THIS MANUAL
FOR SPECIFIC WARNINGS

IF YOU WOULD LIKE TO LEARN MORE ABOUT BATTERIES

THERE IS A VERY INFORMATIVE PUBLICATION AVAILABLE. IT COVERS SUBJECTS SUCH AS BATTERY TERMS AND HOW A BATTERY WORKS TO SPECIFIC GRAVITY TESTING WITH A HYDROMETER AND DIAGNOSIS OF BATTERY PROBLEMS.
YOU CAN OBTAIN A COPY OF THE "BATTERY SERVICE MANUAL" FROM

BATTERY COUNCIL INTERNATIONAL
401 N. MICHIGAN AVENUE
CHICAGO, IL 60611
PHONE 312-644-6610

VACUUM CONTROLS



- 1) Battery Condition Meter
- 2) Squeegee Lift Lever
- 3) Recovery Dump Hose
- 4) Plug for Recovery Drain Hose
- 5) Squeegee
- 6) Vacuum Motor On-Off Switch
- 7) Charging Plug for 24-volt Charger
- 8) Vacuum Recovery Hose

Operating Procedures for the Extreme Vac

(See "Vacuum Controls" on facing page for guide to item numbers)

- The Extreme Vac is designed for wet pickup only.
DO NOT USE THE EXTREME VAC FOR DRY PICKUP!
- Batteries need to be in the operating range (the green area) of the battery condition meter (item 1). Gauge will register battery condition when Vacuum Motor On-Off Switch (item 6) is turned on.
- Defoamer must be added to recovery tank if picking up anything but plain water. It reduces the foam, so that the automatic float shutoff can work properly.
- Do not overfill the recovery tank. The use of defoamer helps reduce foam, but do not rely completely on defoamer. Note: If the sound of the vac motor suddenly changes or if the vacuum is not picking up properly, it may be an indication that the recovery tank is full. Do not operate vacuum after it is full.
- To pick up liquid from floor, lower squeegee using the Squeegee Lift Lever (item 2) and turn on vacuum using the Vacuum Motor On-Off Switch (item 1).
- Push vacuum at desired speed. Vacuum will pick up liquid at any speed it is pushed, all the way down to still picking up liquid when forward motion is stopped. If flooding is extremely heavy, you may have to walk a little slower than normal.
- Before taking scrubber back to storage area or dump basin
 - Lift squeegee
- To dump dirty water from recovery tank
 - If doorways are tight, remove squeegee before leaving work area.
 - Remove recovery dump hose (item 3).
 - Hold end of hose so that the dirty solution will flow into the appropriate place (such as an inside drain) when Plug for Recovery Drain Hose (item 4) is removed.
 - Note that the Extreme Vac can dump into a toilet.
 - Do not discharge liquid into a storm drain. Obey laws regarding the disposal of waste.
 - Loosen T-handle on Plug (item 4) and remove plug from hose. Dirty solution will flow from tank. (Note: do not completely unscrew T-handle from plug, just loosen and pull out plug).
 - Replace plug and tighten. Replace hose.
 - Remember to add defoamer.
- **When the job is finished.**
 - Disconnect vacuum hose from squeegee and vacuum clean water through vacuum hose.
 - Rinse out recovery tank, including letting clean water run out of dump hose.
 - Clean squeegee.
 - Clean top of recovery tank.
 - Clean recovery lid and gasket on recovery lid.
 - Clean intake screen as needed. A small wire brush works well for this.
 - Wipe down anywhere where wax slop has gotten on the Extreme Vac.
 - Charge batteries, if needed. Remember batteries have a longer life if allowed to discharge sufficiently. Please read "Battery Maintenance" page.
 - Storage of the Extreme Vac
 - Store with squeegee in the up position
 - Or, if traveling from job to job, remove squeegee from vac and store squeegee so that squeegee blades are not against anything.

PREVENTATIVE MAINTENANCE ITEMS

After you are finished using vacuum for the day

- Please see "When the Job is Finished" on the previous page.

Weekly maintenance

- Check electrolyte level in batteries. Recovery tank must be empty before tilting it up to access batteries. See "Battery Maintenance" page for further instructions.
- Wipe surface of machine clean. A silicone product such as "Armor All" will make the plastic parts look really good.

Monthly maintenance

- Clean battery connections and tops of batteries. Recovery tank must be empty before tilting it up to access batteries. See "Battery Maintenance" page for instructions.
- Inspect squeegee rubber for wear.
- Clean and lubricate caster wheels and caster swivel. There are grease fittings to use a grease gun.
- General visual inspection for problems.

As needed items

- Adjust squeegee tilt. See "Squeegee Information" on facing page.
 - Turn, flip, or replace squeegee blade for streak free pickup.
 - Replace intake screen and intake screen gasket.
-

OPERATING TIPS

Squeegee Operating Tips

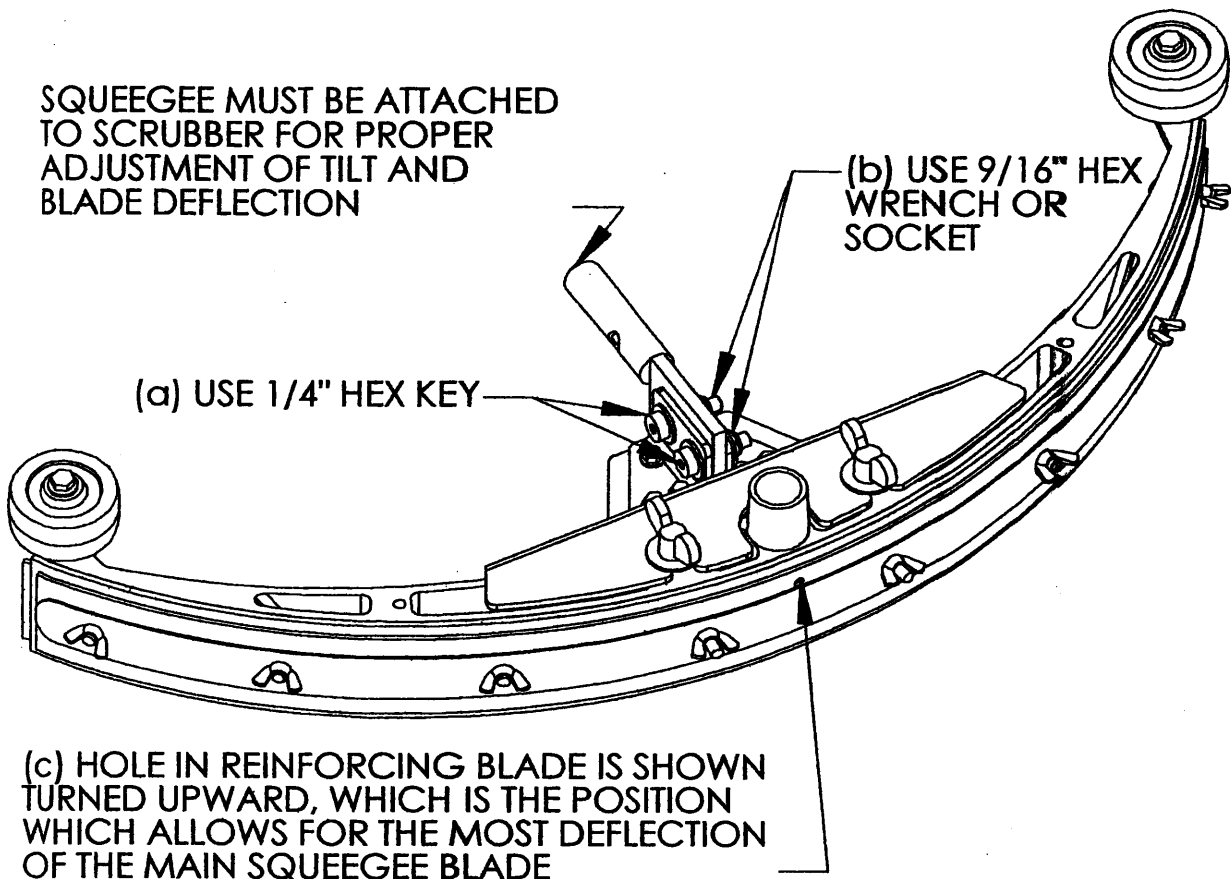
- The curved squeegee picks up solution very well if properly adjusted. The squeegee must be level to work well. If it is not level, it will streak in the center or at the ends. Make sure that the tips and the center are uniformly deflected and not leaving streaks. If squeegee is not level, then loosen the two bolts on squeegee bracket and squeegee will pivot forward and backward. Level squeegee and tighten bolts.
- If squeegee is properly adjusted and is leaving streaks, then there may be trash caught under the main squeegee blade. A little trick that will clear most trash is to (1) stop the vac, (2) lift the squeegee, (3) back up a little, (4) lower the squeegee, and then (5) resume vacuuming as usual. If this does not work, then the trash must be cleared by hand.

Other Tips

- Add defoamer to the recovery tank to reduce foaming. The use of defoamer will help extend the vacuum motor life.
- Note that there is room under the recovery tank to conveniently store a jug of defoamer.
- There is also room under the recovery tank for a small trash can. A trash can or trash bag is convenient for items that may get caught under squeegee and cause streaking.

See "Squeegee Information and Adjustments" on the facing page for more information.

SQUEEGEE INFORMATION AND ADJUSTMENTS



Problem: Squeegee is leaving streaks at the center or the ends.

Cause: Squeegee is not level. If it is not level, it will streak in the center or at the ends.

Solution: Make sure that the tips and the center of main squeegee blade are uniformly deflected and not leaving streaks. Adjust squeegee tilt as follows:

Step 1: Loosen (a) and (b)

Step 2: Tilt squeegee in direction needed for squeegee to deflect uniformly along entire length.

Step 3: Tighten (a) and (b) enough to hold temporarily.

Step 4: Move scrubber forward to check that deflection is uniform.

Step 5: If correct, tighten (a) and (b) as much as you can; or if not correct, start over at step 1.

Problem: Squeegee is leaving streaks not related to squeegee being level.

Cause: (1) Trash under main squeegee blade.

(2) Blade edge is worn or nicked

Solution: (1) Clear trash.

(2) Turn the blade. All four edges can be used. If all edges have been used, then replace the main squeegee blade.

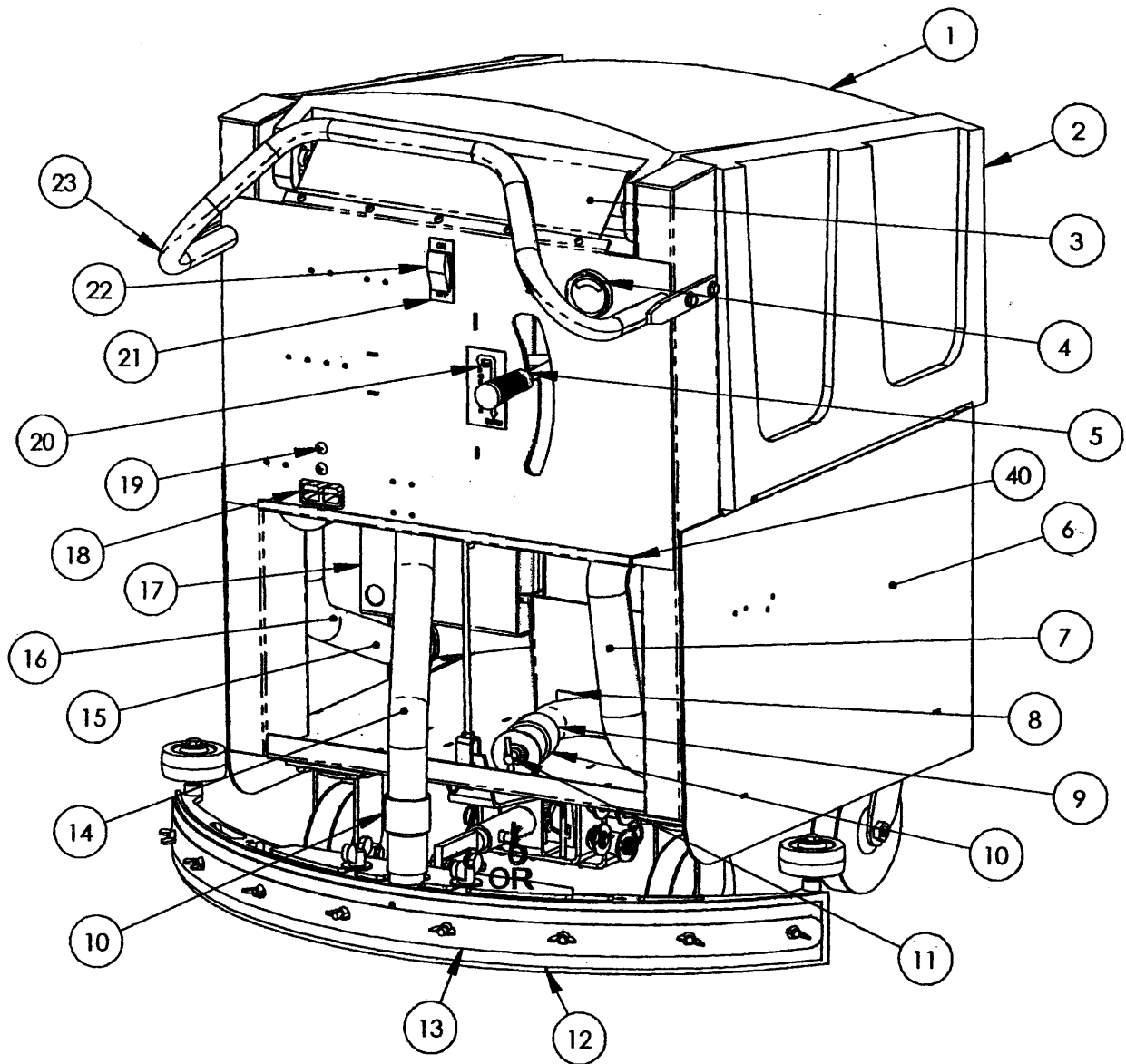
Problem: Main squeegee blade is deflecting too much or too little.

Cause: Reinforcing blade is turned wrong for the floor conditions.

Solution: Holes on the reinforcing blade are offset. Blade can be flipped to put longer or shorter side toward floor. Longer side has a hole (c) at center. Facing the hole down makes the main blade stiffer and allows it to deflect less. Hole turned upward allows blade to deflect more.

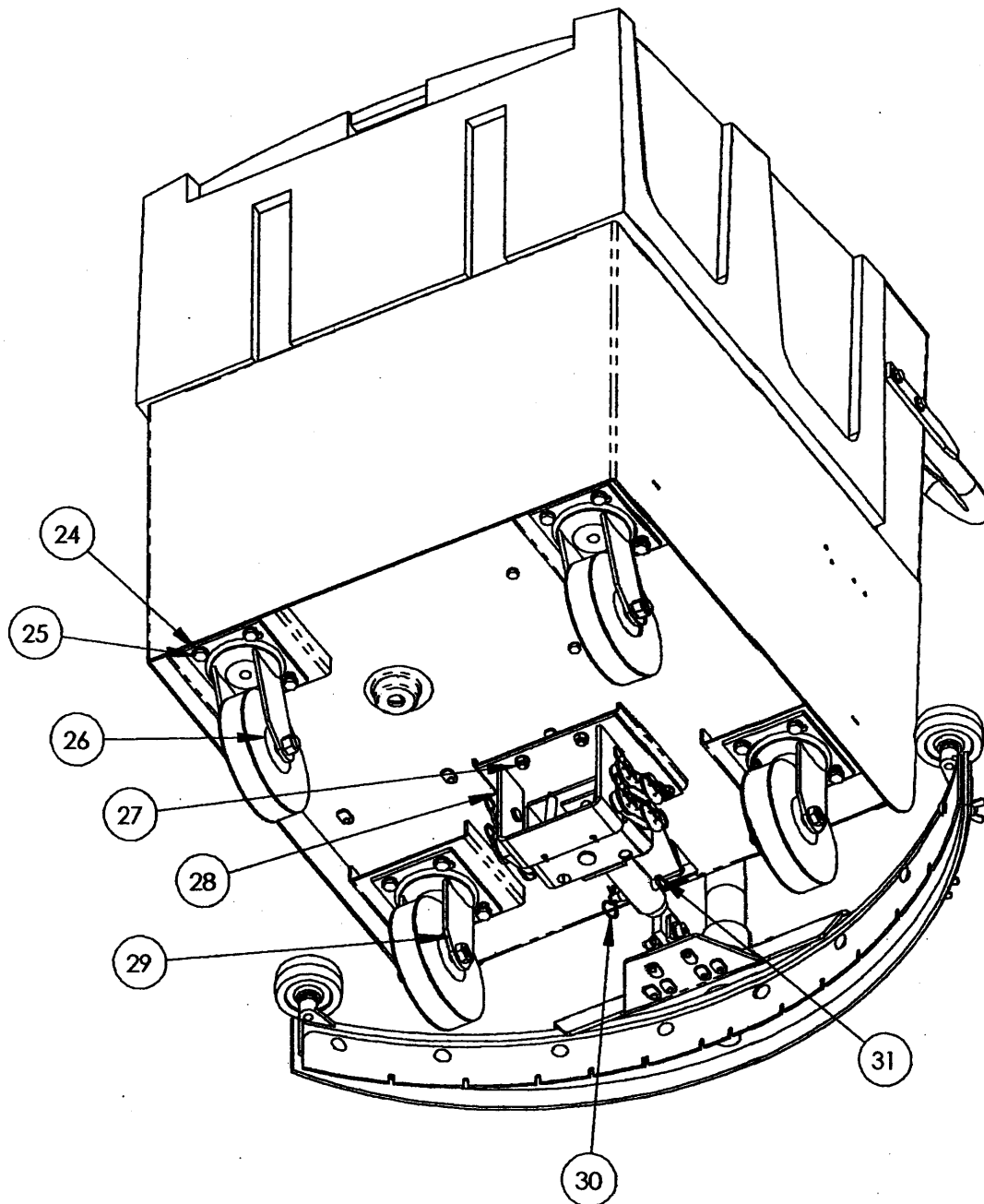
REAR VIEW

SEE THE PARTS LIST THAT FOLLOWS THE
REAR VIEW, BOTTOM VIEW, AND INSIDE VIEW



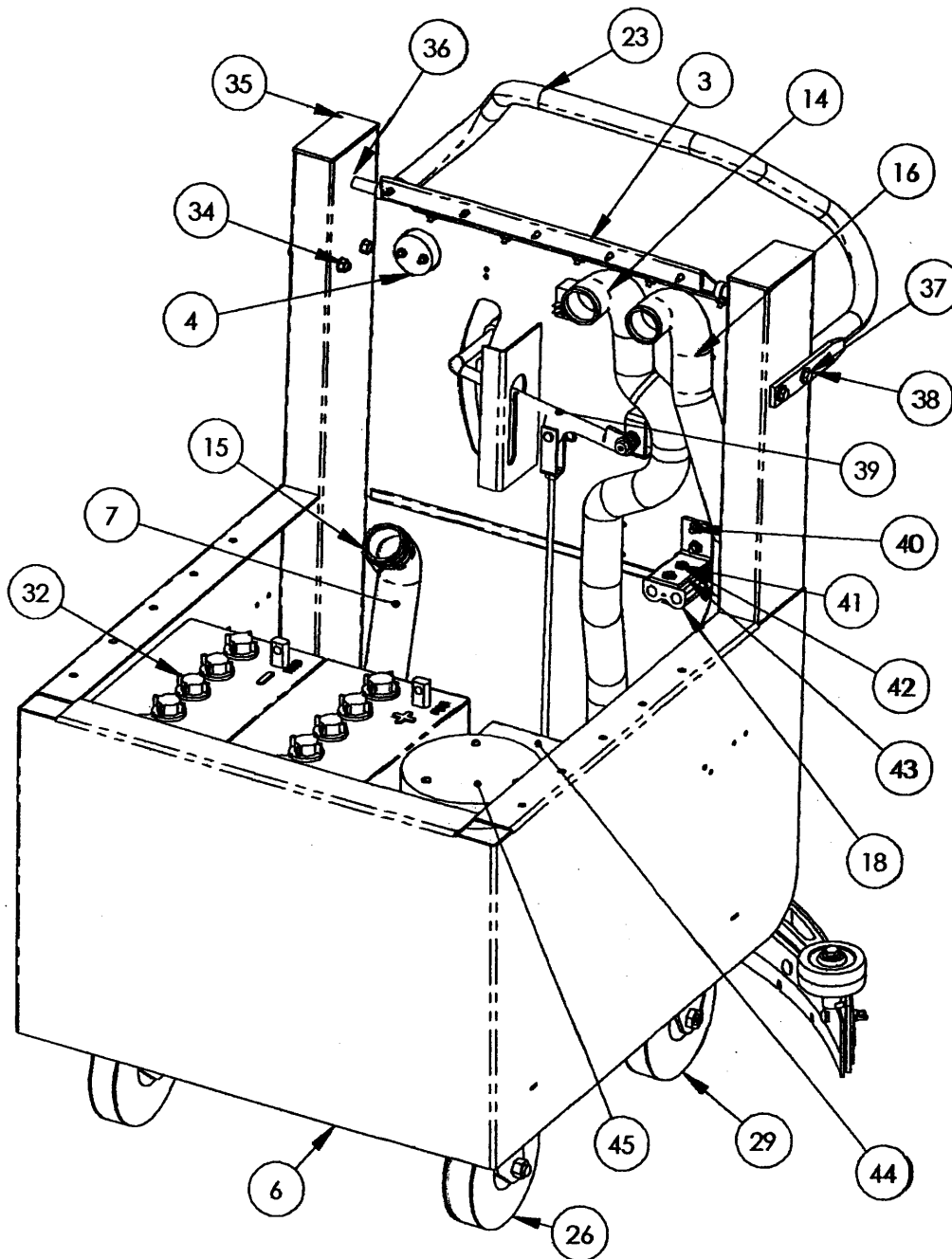
BOTTOM VIEW

SEE THE PARTS LIST THAT FOLLOWS THE
REAR VIEW, BOTTOM VIEW, AND INSIDE VIEW



INSIDE VIEW

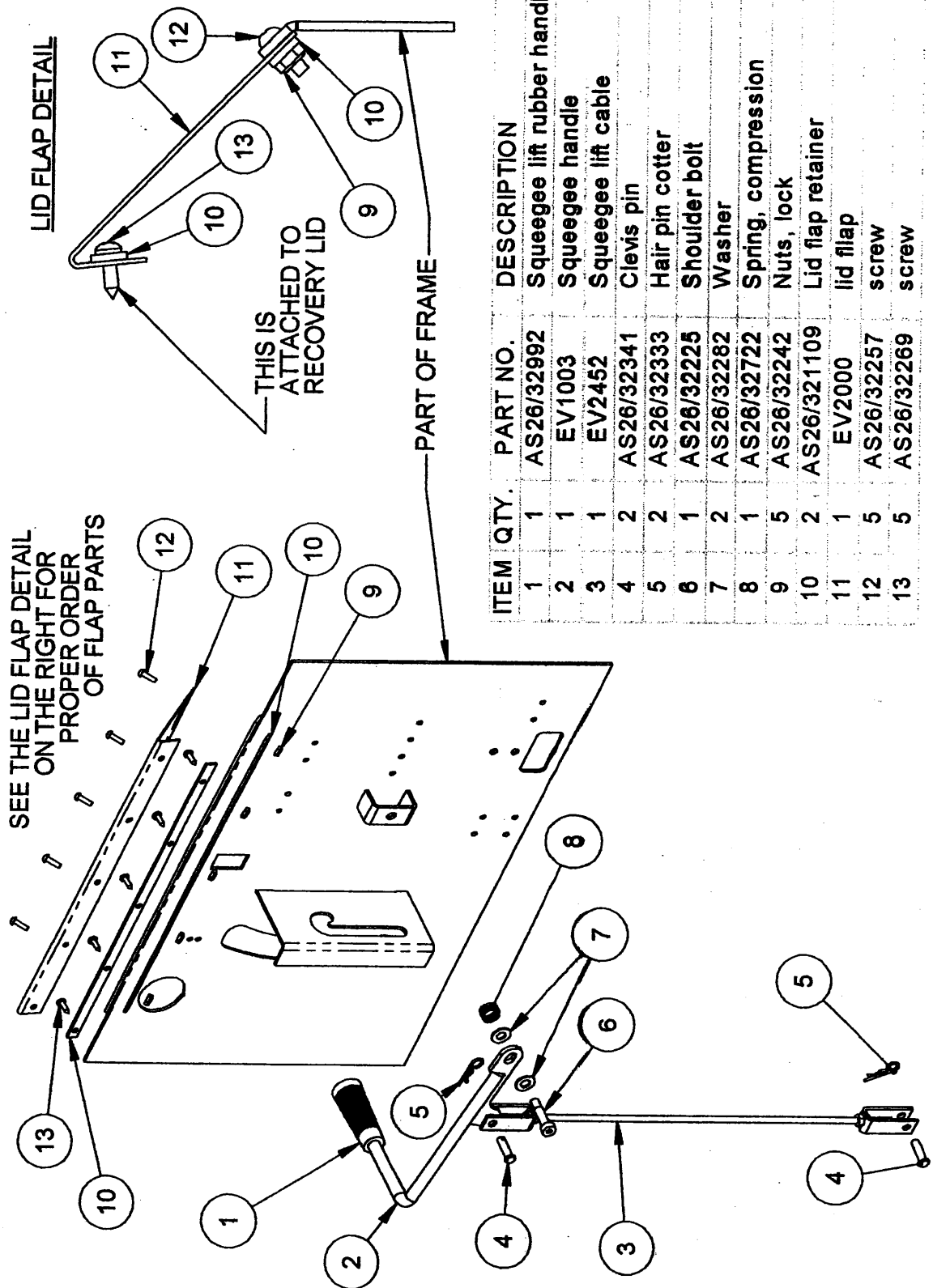
PARTS LIST ON FOLLOWING PAGE FOR
THIS AND THE TWO PREVIOUS VIEWS



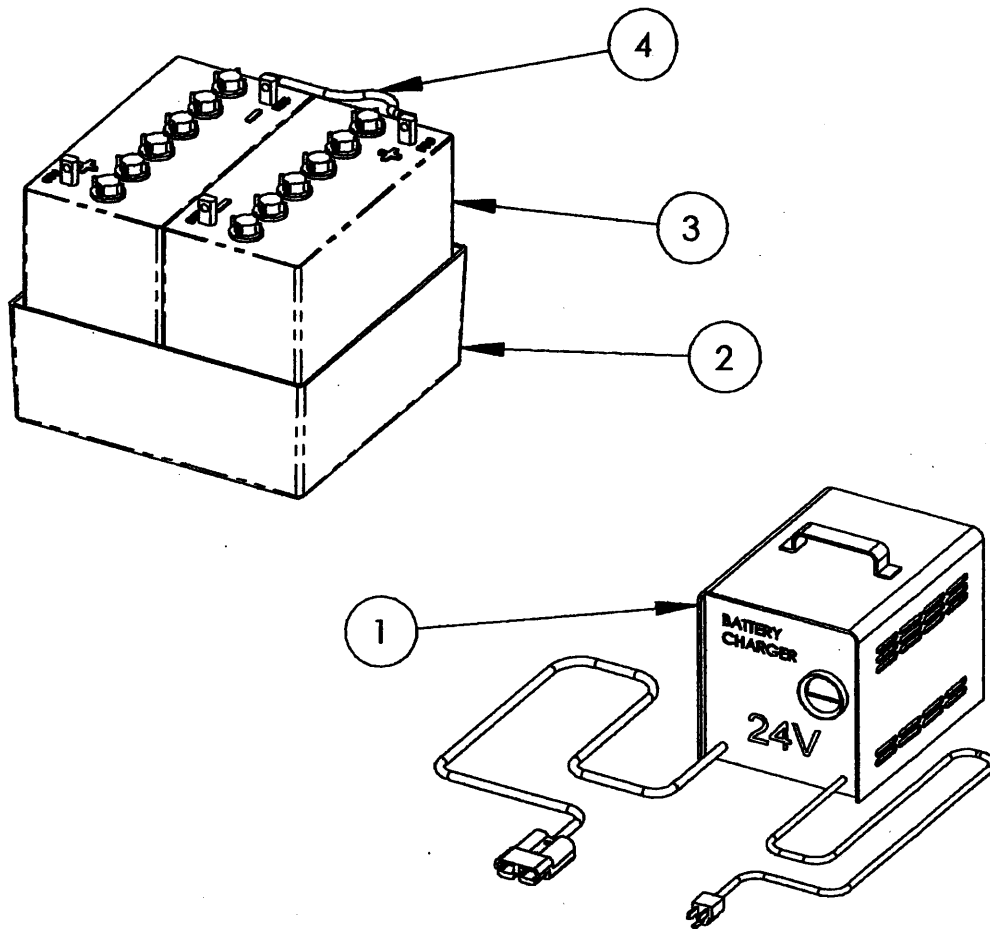
PARTS LIST FOR REAR VIEW, BOTTOM VIEW, AND INSIDE VIEW

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	AS26/32752	Recovery Tank Lid (refer to recovery lid pages for more parts)
2	1	AS26753	Recovery Tank (refer to recovery tank page for more parts)
3	1	EV2000	Lid filap (refer to lid flap page for more parts)
4	1	AS261210	Battery meter
5	1	EV1003	Squeegee handle (refer to squeegee lift page for more parts)
6	1	EV1000	Frame
7	1	AS26/321804	Vac Hose - recovery drain hose (order hose cuff seperately)
8	1	EV1005	Battery retainer angle
9	1	AS26/321277	Drain plug retainer (rubber strap)
10	2	AS26/321353	Hose cuff
11	1	AS26/321230	Drain plug
12	1	AS321802	Entire Squeegee Assembly 41" (refer to squeegee pages for parts)
13	1	AS261802	Entire Squeegee Assembly 34" (refer to squeegee pages for parts)
14	1	EV1301	Vac Hose - squeegee to recovery lid (order hose cuff seperately)
15	2	AS26/32305	Hose Clamp
16	1	EV1300	Vac Hose - vac motor to recovery lid
17	1	EV1002	Vacuum mount (refer to vacuum mount page for more parts)
18	1	AS26400	Charging Plug - 24 volts
19	2	AS26/32353	Bolt
20	1	AS26/321510	Decal - squeegee operation
21	1	AS26/321531	Decal - on/off
22	1	AS26/321372	Switch - rocker switch
23	1	EV1001	Handle
24	16	AS26/32292	Washer
25	16	AS26/32210	Bolt
26	2	EV1500	6" swival caster and wheel
27	4	AS26/32234	Nut - flanged
28	1	refer	Squeegee mount assembly (refer to squeegee mount page for parts)
29	2	EV1501	6" rigid caster and wheel
30	1	AS26/32254	Hair pin cotter
31	1	AS26/32251	Clevis pin
32	2	EV2500	Battery 12 volt (refer to battery charger page for details)
33	1	EV2600	Double lip edge trim
34	4	AS26/32234	Nut - flanged
35	2	EV2450	Tubing plug
36	2	AS26/32223	Bolt shoulder .5 x 1.25
37	4	AS26/32284	Washer
38	4	EV3000	Bolt
39	1	EV2452	Squeegee lift cable (refer to squeegee lift page for more parts)
40	2	AS26/32232	Nut
41	2	AS26/32232	Nut .25 Flange
42	2	AS26/32209	Bolt HH .25 x 1.25
43	1	AS26/321104	Bracket for charging plug
44	1	EV1004	Vacuum mount cover (refer to vacuum mount page for more parts)
45	1	AS26050-1	Vacuum motor - 24 volt (refer to vacuum mount page for more parts)
misc	1	EV1603	3/4" Convuluted Loom (for covering wires - cut to proper length)
misc	1	EV1604	3/8" convuluted loom (for covering wires - cut to proper length)
misc	ft	AS26/321351	1.5" vac hose by the foot

SQUEEGE LIFT AND RECOVERY LID FLAP DETAILS

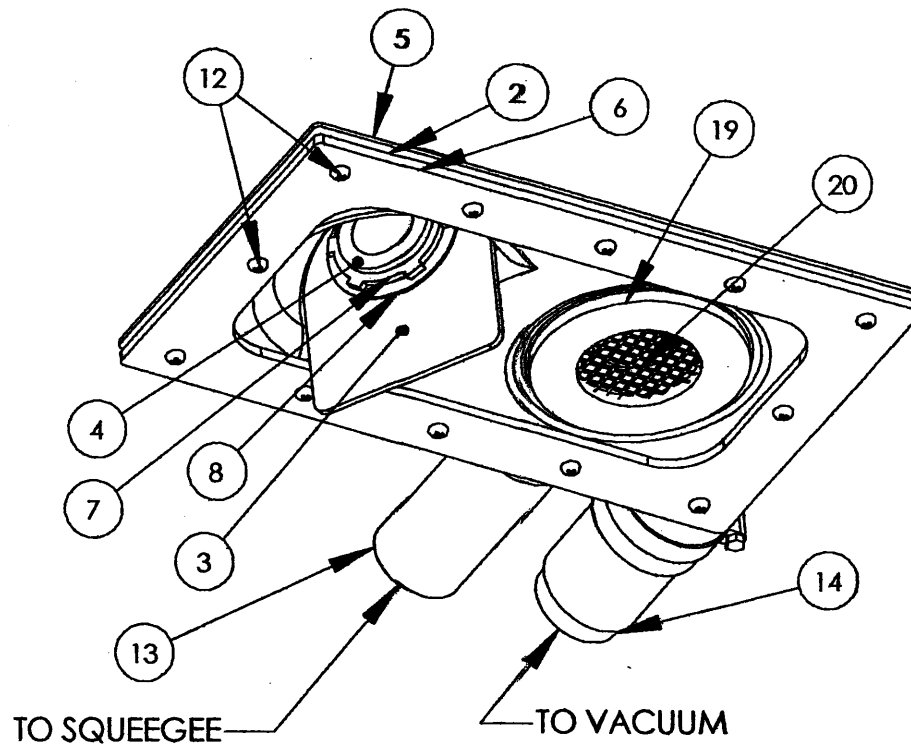
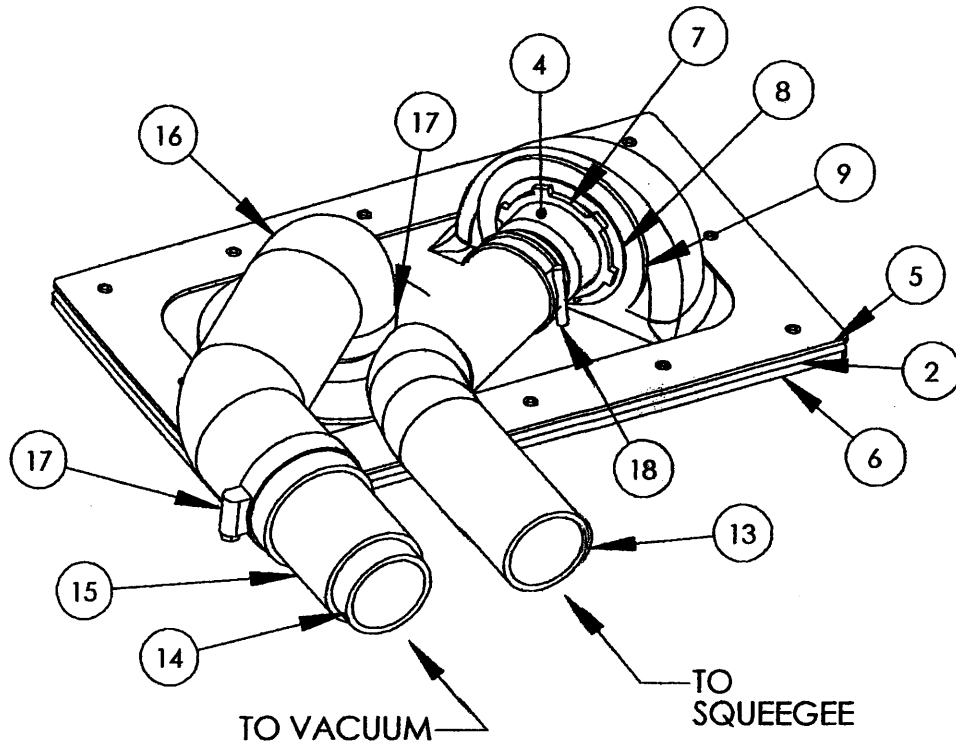


BATTERIES AND CHARGER

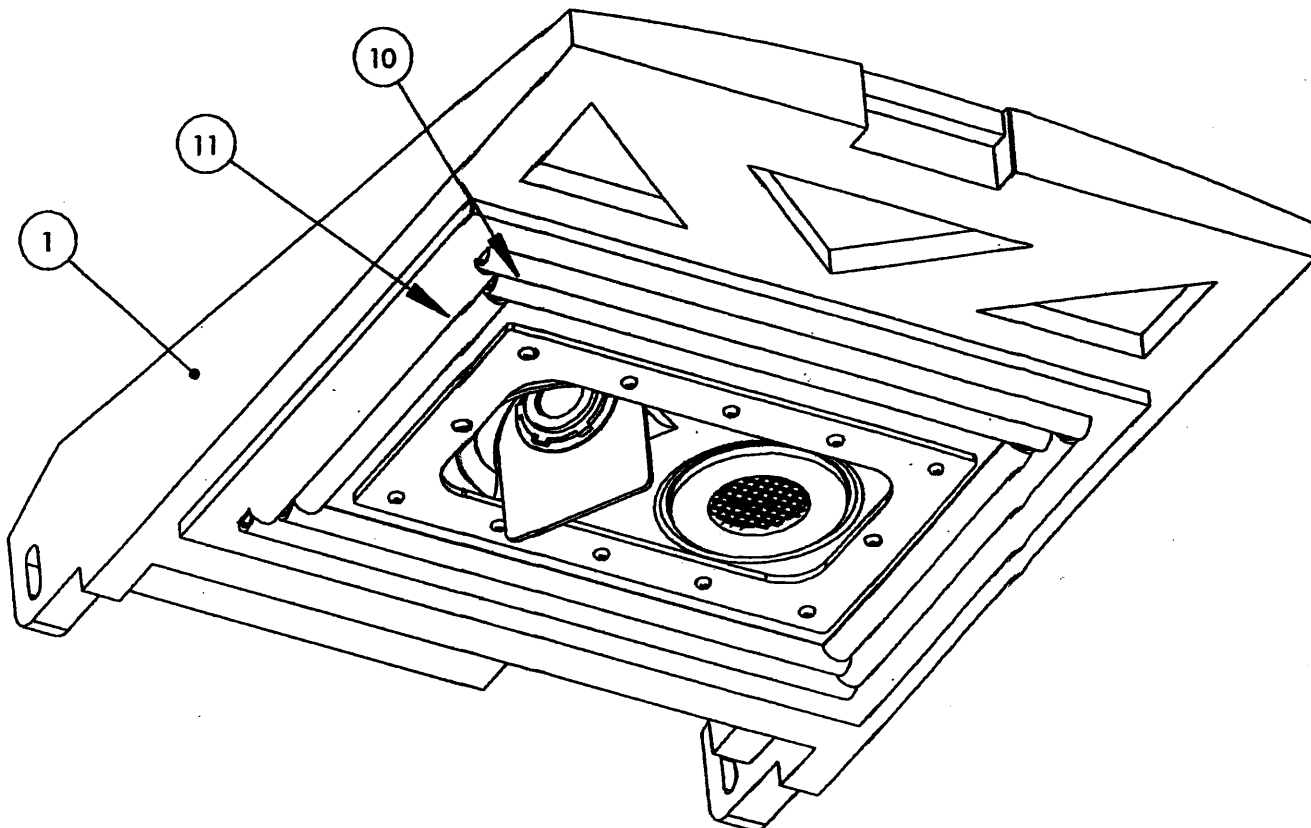


ITEM	QTY.	PART NO.	DESCRIPTION
1	1	AS26930	Battery Charger - 24 volt
2	1	EV2451	Battery tray - for 2 batteries
3	2	EV2500	Battery - 12 volt
4	3	EV1605	Battery connector with red and black terminal covers
misc	1	EV1606	Ground cable with black terminal cover (not shown)
misc	1	EV1607	Positive cable with red terminal cover (not shown)

RECOVERY LID ASSEMBLY

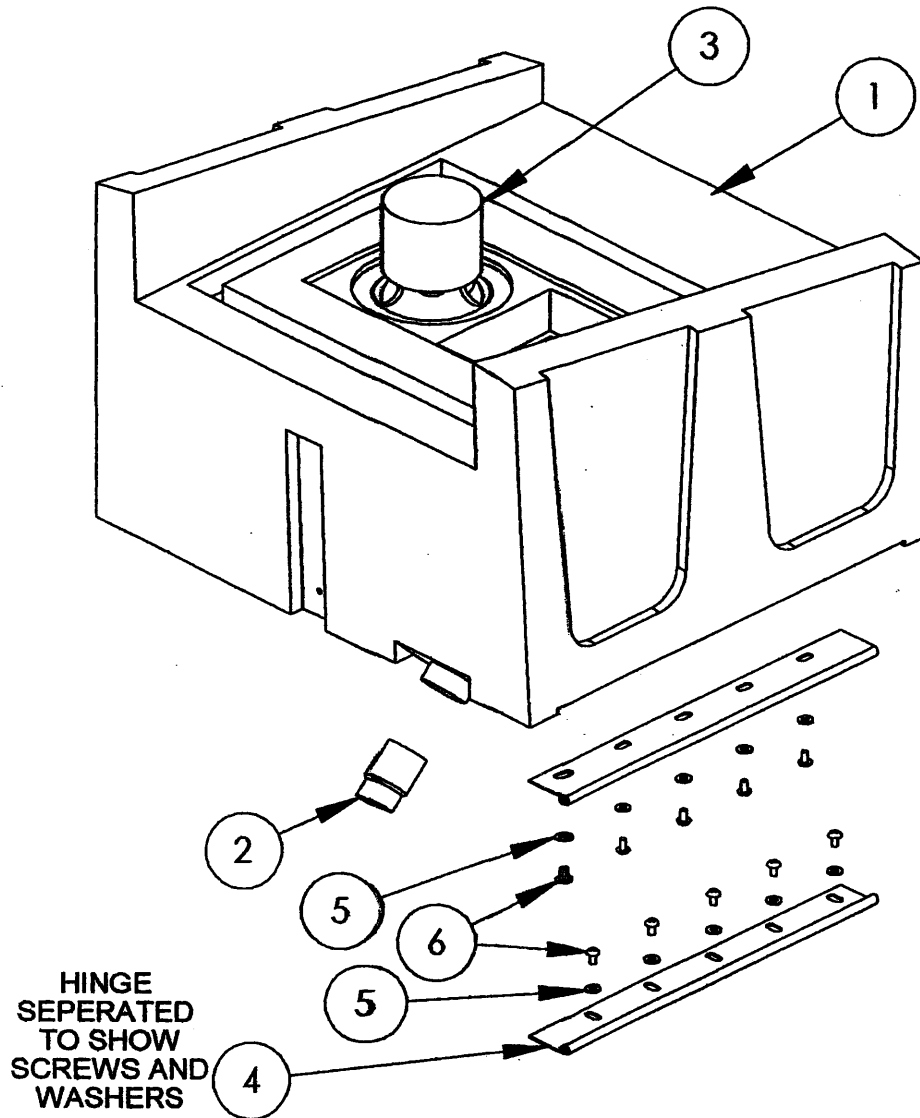


RECOVERY LID ASSEMBLY AND PARTS



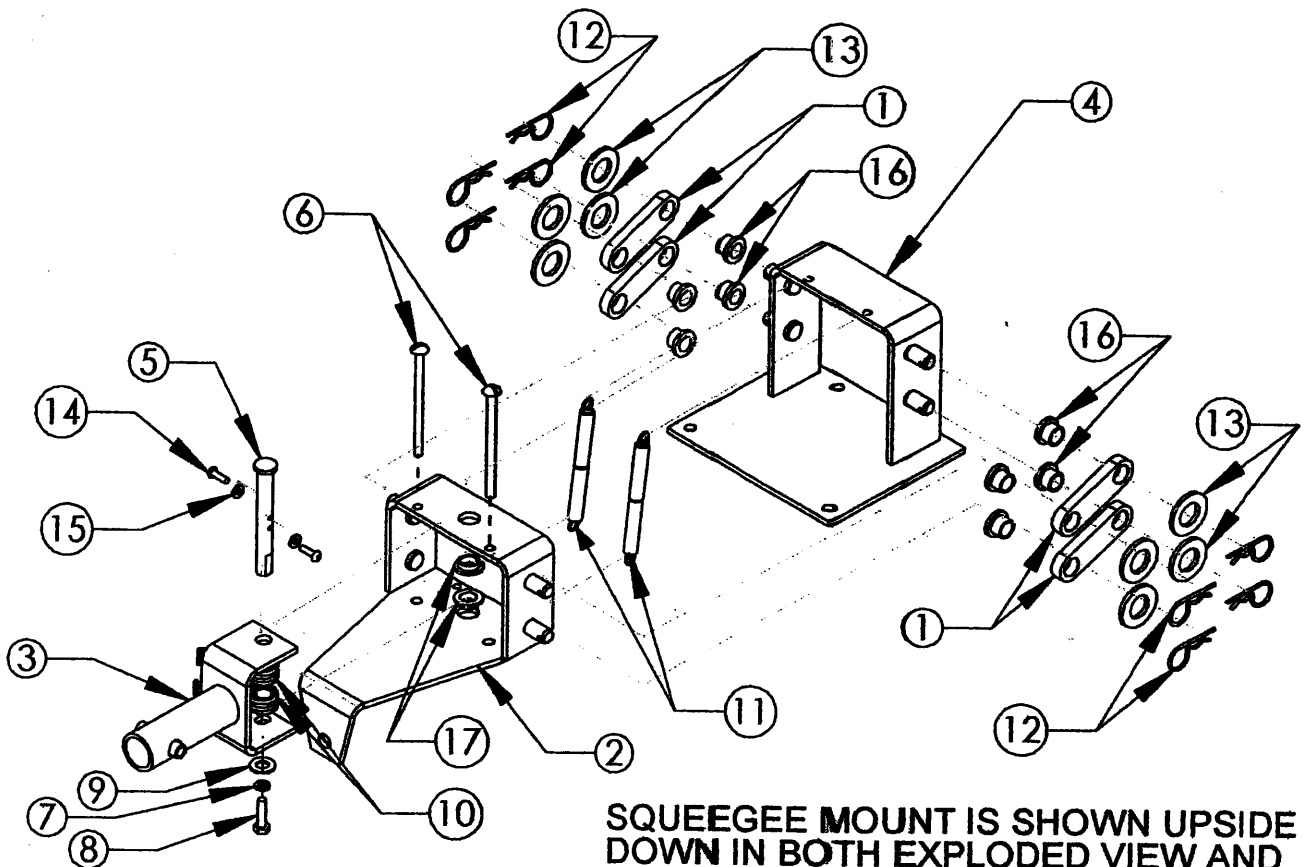
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	AS26/32752	Recovery Tank Lid (black)
2	1	AS26/32001	Vacuum Intake
3	1	AS26/321271	Rubber Flap (for vacuum intake)
4	1	AS26/32820	Hose adapter (for inside recovery lid)
5	1	AS26/321278	Vacuum intake gasket
6	1	AS26/321141	Recovery Lid Plate
7	2	AS26/32900	Pipe nut
8	2	AS26/32276	Washer
9	1	AS26/321261	Gasket
10	2	AS26/321818	Recovery lid gasket - long
11	2	AS26/321819	Recovery lid gasket - short
12	12	AS26/32261	Screw
13	1	EV1300	Vac Hose - vac motor to recovery lid
14	1	EV1301	Vac Hose - squeegee to recovery lid (order hose cut seperably)
15	1	AS26/321355	Hose adapter
16	1	AS26/321806	Vac hose - inside recovery lid
17	2	AS26/32305	Hose Clamp
18	1	AS26/321000	Hose clamp
19	1	AS26/321274	Gasket for vacuum intake (self-adhesive)
20	1	AS26/32985	Vacuum intake screen

RECOVERY TANK ASSEMBLY AND PARTS LIST



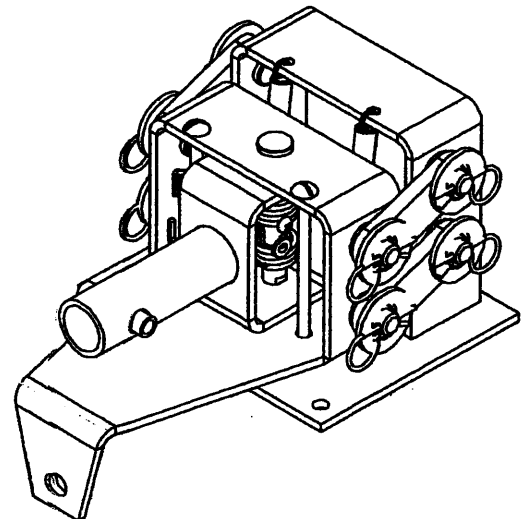
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	AS26753	Recovery Tank (Granite)
2	1	AS26/32820	Hose adapter
3	1	AS26/322004	Foam Float assembly (float, weights, and cord come assembled)
4	1	AS26/32810	Hinge - Recovery Tank
5	10	AS26/32274	Washer
6	10	AS26/32268	Screw

SQUEEGEE MOUNT ASSEMBLY AND PARTS LIST



SQUEEGEE MOUNT IS SHOWN UPSIDE DOWN IN BOTH EXPLODED VIEW AND ASSEMBLED VIEW. THE BEST WAY TO WORK ON IT IS TO REMOVE IT FROM THE SCRUBBER AND TURN IT UPSIDE DOWN.

ITEM	QTY.	PART NO.	DESCRIPTION
1	4	AS26/321120	Linkage Bar
2	1	AS26/321133	Squeegee mount housing
3	1	AS26/321140	Squeegee mount yoke
4	1	AS26/321129	Squeegee mount bracket
5	1	AS26/32830	Torsion pin
6	2	AS26/32328	Screw
7	1	AS26/32291	Lock washer
8	1	AS26/32206	Bolt
9	1	AS26/32279	Washer
10	2	AS26/32920	Torsion spring
11	2	AS26/32723	Squeegee mount return spring
12	8	AS26/32254	Hair pin cotter
13	8	AS26/32278	Washer
14	2	AS26/32329	Screw
15	2	AS26/32296	Nylon washer
16	8	AS26/32650	Flange Bushing
17	2	AS26/32653	Flange Bushing

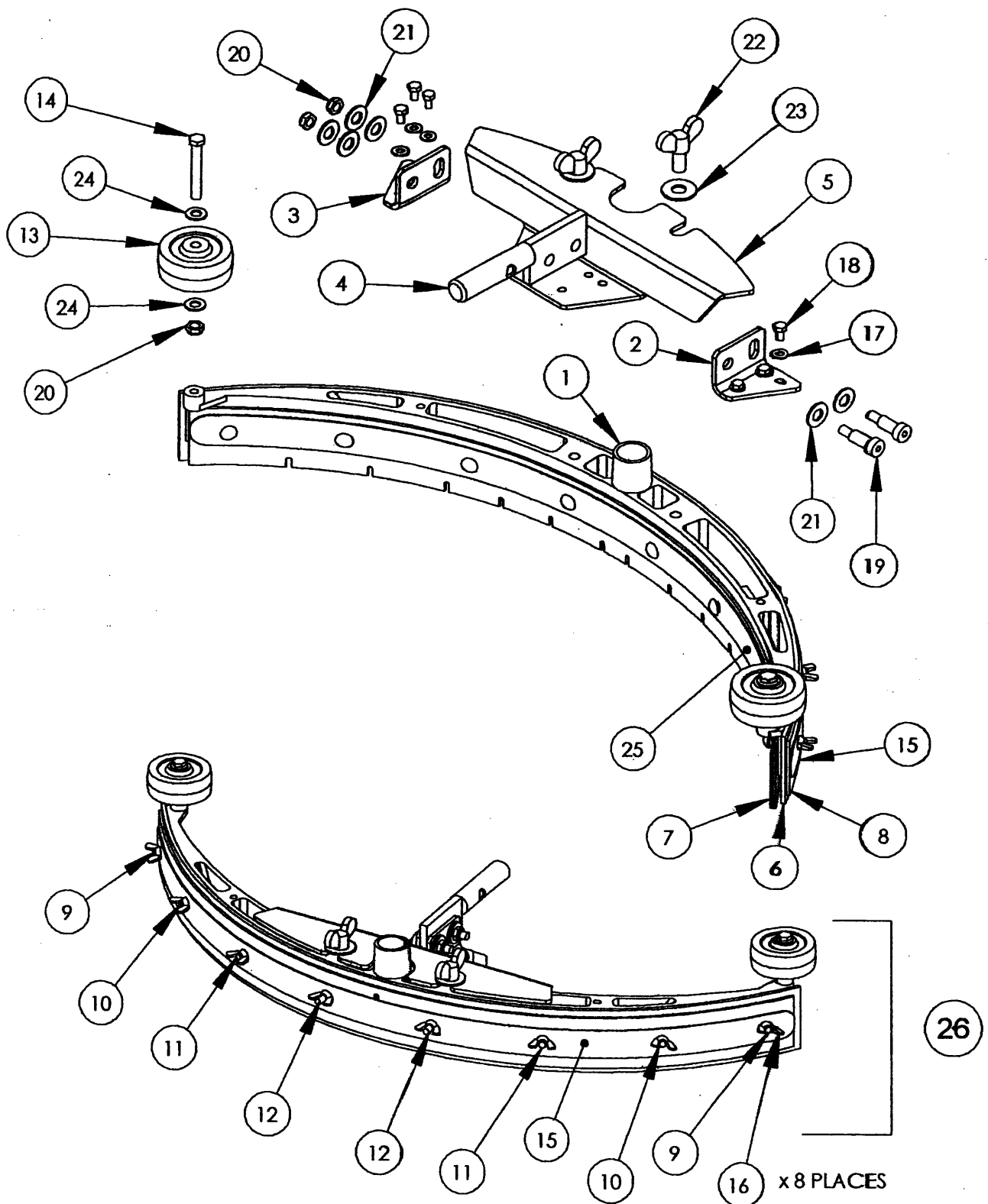


SQUEEGEE ASSEMBLY PARTS LIST FOR 34" WIDE SQUEEGEE

ITEM	QTY.	PART #	DESCRIPTION
1	1	AS261325-F	Cast Aluminum Squeegee Channel
2	1	AS26/321125	Left Adjustment Bracket for Squeegee
3	1	AS26/321126	Right Adjustment Bracket for Squeegee
4	1	AS26/321137	Yoke Bar for Squeegee
5	1	AS26/321138	Main squeegee mounting plate
6	1	AS261269	Main squeegee blade
7	1	AS261273	Front squeegee blade
8	1	AS261270	Reinforcement blade
9	2	AS26/32201	Carriage Bolt
10	2	AS26/32202	Carriage Bolt
11	2	AS26/32203	Carriage Bolt
12	2	AS26/32204	Carriage Bolt
13	2	AS26/321381	Squeegee Bumper Wheel
14	2	AS26/32330	Bolt
15	1	AS261130	Rear blade retaining strap
16	8	AS26/32332	Wingnut
17	6	AS26/32279	Washer
18	6	AS26/32205	Bolt
19	2	AS26/32222	Shoulder bolt
20	2	AS2632244	Nylock nut
21	6	AS26/32287	Washer
22	2	AS26/32231	Wingbolt
23	2	AS26/32277	Washer
24	4	AS26/32282	Washer
25	1	AS261110	Front blade retaining strap
26	1	AS261802	Entire Squeegee Assembly
*	1	AS26/32251	Clevis pin to connect squeegee to squeegee mount
*	1	AS26/32254	Har pin cotter for above clevis pin

SQUEEGEE ASSEMBLY

34" WIDTH

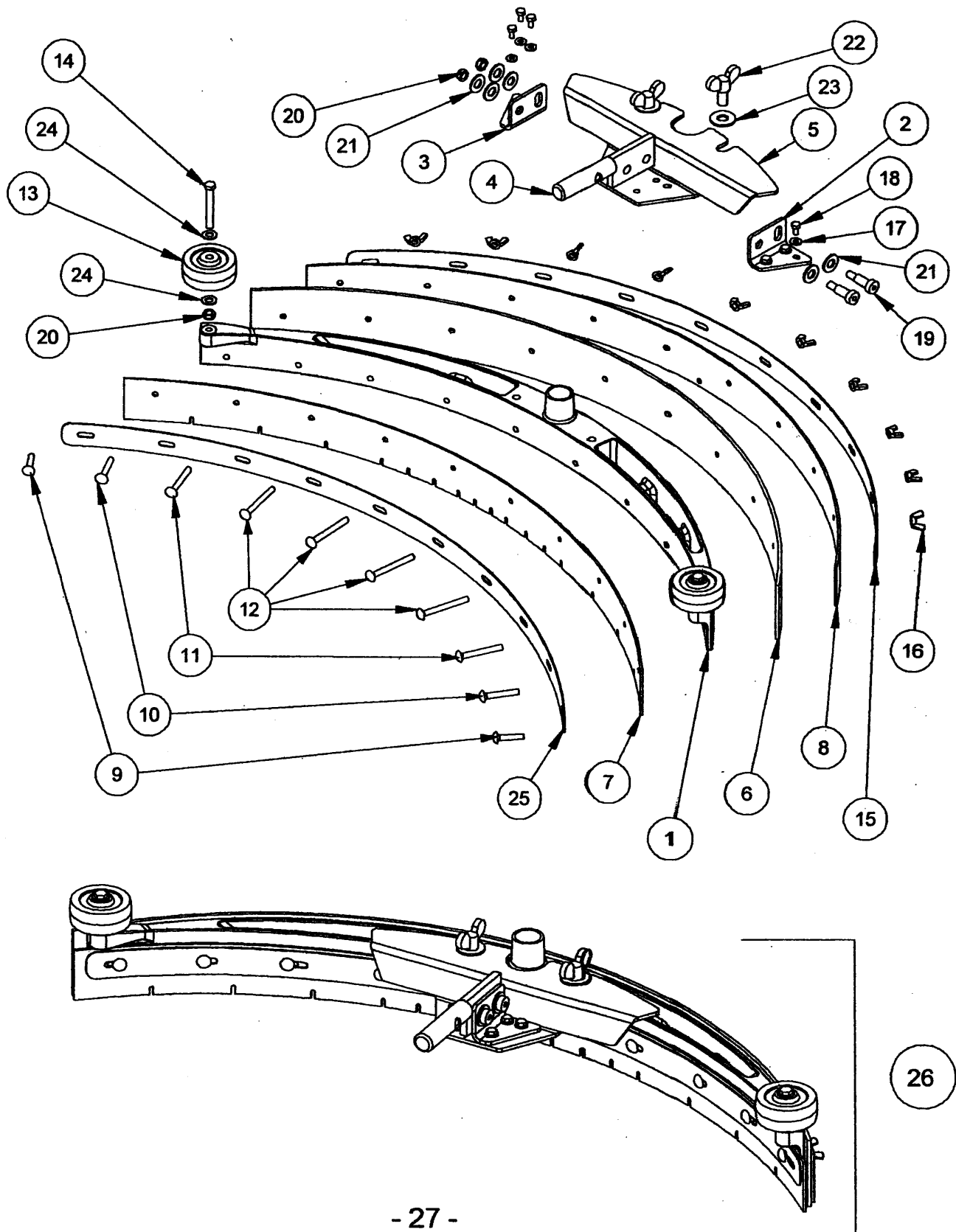


SQUEEGEE ASSEMBLY PARTS LIST FOR 41" WIDE SQUEEGEE

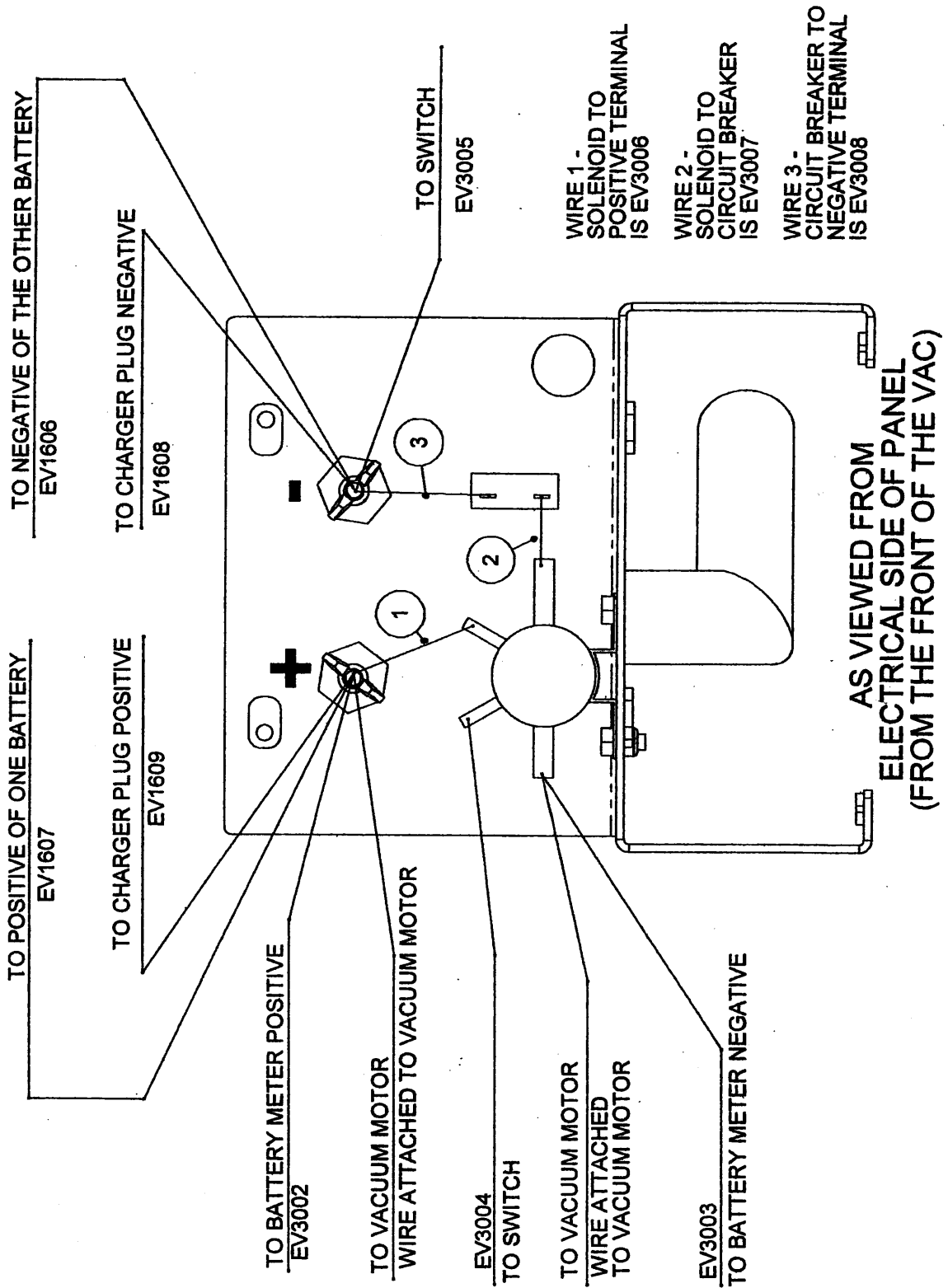
ITEM	QTY.	PART #	DESCRIPTION
1	1	AS321325-F	Cast Aluminum Squeegee Channel
2	1	AS26/321125	Left Adjustment Bracket for Squeegee
3	1	AS26/321126	Right Adjustment Bracket for Squeegee
4	1	AS26/321137	Yoke Bar for Squeegee
5	1	AS26/321138	Main squeegee mounting plate
6	1	AS321269	Main squeegee blade
7	1	AS321273	Front squeegee blade
8	1	AS321270	Reinforcement blade
9	2	AS26/32201	Carriage Bolt
10	2	AS26/32202	Carriage Bolt
11	2	AS26/32203	Carriage Bolt
12	2	AS26/32204	Carriage Bolt
13	2	AS26/321381	Squeegee Bumper Wheel
14	2	AS26/32330	Bolt
15	1	AS321130	Rear blade retaining strap
16	8	AS26/32332	Wingnut
17	6	AS26/32279	Washer
18	6	AS26/32205	Bolt
19	2	AS26/32222	Shoulder bolt
20	2	AS2632244	Nylock nut
21	6	AS26/32287	Washer
22	2	AS26/32231	Wingbolt
23	2	AS26/32277	Washer
24	4	AS26/32282	Washer
25	1	AS321110	Front blade retaining strap
26	1	AS321802	Entire Squeegee Assembly
*	1	AS26/32251	Clevis pin to connect squeegee to squeegee mount
*	1	AS26/32254	Har pin cotter for above clevis pin

SQUEEGEE ASSEMBLY

41" WIDTH

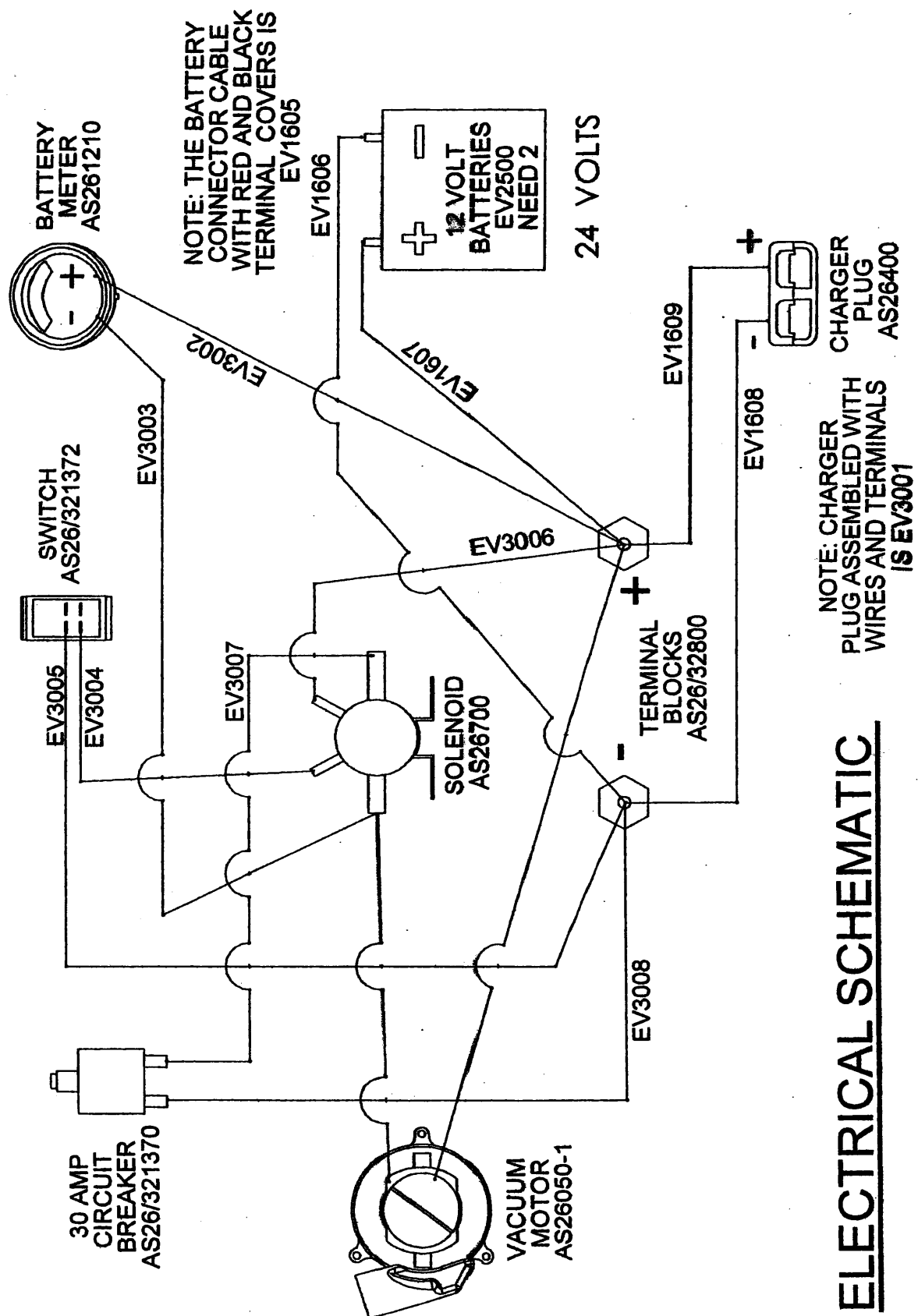


PHYSICAL HOOKUP OF MAIN ELECTRICAL COMPONENTS



ITEM	QTY
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	2
9	1
10	1
11	2
12	2
13	2
14	1
15	1
16	1
17	2
18	5

HIDDEN ON BOTTOM



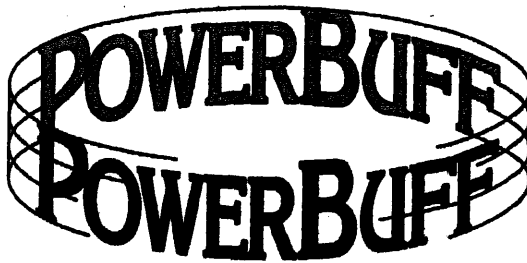
ELECTRICAL SCHEMATIC

TROUBLE-SHOOTING

PROBLEM	CAUSE	POSSIBLE SOLUTION
Vac does not remove any water from the floor. (All water runs out the ends of the squeegee.)	(a) Obstruction in the squeegee or in the vac hose from squeegee to recovery tank. (b) Recovery tank is full. (c) Leaking recovery lid gasket. (d) Squeegee hose is disconnected. (e) Vacuum motor not running.	(a) Remove obstruction. (b) Empty recovery tank. (c) Repair/replace gasket. (d) Connect hose to squeegee. (e) Replace faulty switch, solenoid, vacuum motor, or wiring connection problem.
Vac does not remove all water from the floor. (Some water runs out the ends of the squeegee unless you walk very slowly.)	(a) Obstruction in the squeegee or in the vac hose from squeegee to recovery tank. (b) Leaking recovery lid gasket. (c) Vacuum intake screen in recovery lid is dirty (d) Squeegee is not properly adjusted.	(a) Remove obstruction. (b) Repair or replace gasket. (c) Clean screen or replace. (d) Adjust squeegee per instructions in manual.
Streaks of water are left on the floor.	(a) Trash is caught under squeegee blade. (b) Squeegee tilt not properly adjusted. (c) Main squeegee blade worn or damaged. (d) Reinforcing squeegee blade is turned incorrectly for the application.	(a) Remove trash. Sometimes it works to lift squeegee, back up a little, then lower squeegee and resume. (b) Adjust squeegee per instructions in manual. (c) Flip or turn main squeegee blade. Replace if necessary. (d) Flip blade upside down and try it. This changes deflection on the main squeegee blade.
Total runtime is low	(a) Battery terminals are dirty. (b) Water level in batteries is low. (c) Batteries are not fully charged. (d) Batteries are bad. (e) Charger is broken.	(a) Clean terminals and connectors. (b) Add distilled water to each battery cell. Do not overfill. <i>(See instructions in manual.)</i> (c) Charge batteries. (d) Replace batteries. (e) Fix or replace charger.
Scrubber is "dead". Nothing will work.	(a) Bad connection involving batteries. (b) Dead batteries. (c) Batteries are bad. (d) Charger is broken.	(a) Check and clean connections. (b) Try charging batteries. (c) Replace batteries. (d) Fix or replace charger.
Nothing I find here fixes the problem.	Problem could have several causes. Everything cannot be covered here.	Call authorized service personnel.

IMPORTANT

- THE TROUBLE-SHOOTING TIPS ARE NOT INTENDED TO TAKE THE PLACE OF AUTHORIZED SERVICE PERSONNEL.
- IF YOU ARE UNSURE OF WHAT TO DO—THEN DO NOT DO ANYTHING, EXCEPT TO CONTACT AUTHORIZED SERVICE PERSONNEL.
- BEFORE WORKING ON THIS MACHINE, YOU MUST BE FAMILIAR WITH THE SAFETY INSTRUCTIONS IN THIS MANUAL.



When Performance Counts... You Can Count on POWERBUFF!

EXTREME VAC LIMITED WARRANTY

PowerBuff, Inc. warrants new machines to be free from defects in material and workmanship under normal use and service to the original purchaser. This warranty period is subject to the conditions stated below.

THREE YEAR WARRANTY ON PARTS

Most parts are covered for three years. Please see other warranties and exclusions below.

TEN YEAR WARRANTY ON RECOVERY TANK

BATTERY AND BATTERY CHARGER WARRANTIES

Battery warranty is for one year on a pro rated basis. Battery warranty is void if batteries are not maintained at the proper fluid level with distilled water. Battery charger is warranted for one year.

EXCLUSIONS

This warranty does not cover normal wear and maintenance items including, but not limited to: squeegees, gaskets, wheels, casters, and routine adjustments. This warranty does not cover damage or failure which is the result of misuse, negligent operation, handling or repair, or which is the result of modification or repair by any person other than an authorized PowerBuff, Inc. service representative.

LIMITATIONS

STATED WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. PowerBuff's liability under this warranty is limited to repair of the product and/or replacement parts and is given to purchaser in lieu of all other remedies, including incidental and consequential damages.

WARRANTY DETAILS AND CLAIM PROCEDURES

PowerBuff, Inc. warrants to buyer that for the applicable shipment, such material will be free from defects in material and workmanship or failure to meet specifications (a defect) appears in the material; then seller will, at it's option, either repair or replace the defective goods without charge or credit or refund the purchase price of the defective material, provided that:

- 1) The defect appears within the applicable warranty period.
- 2) Buyer notifies seller in writing of the claimed defect promptly after buyer knows or reasonably should know of the claimed defect.
- 3) Seller's examination if the material discloses that the claimed defect actually exists.

Buyer shall follow seller's instruction regarding return of defective material, and no material will be accepted for repair, replacement, credit, or refund without the written authorization of and in accordance with seller's instructions. In the case of any such return, buyer shall bear the risk of in-transit loss or damage; and shall prepay all transportation charges to seller. Repaired or replacement material will be shipped prepaid by seller, and buyer shall bear the risk of in-transit loss or damage. The replaced material shall become the seller's property.