



## Electronic Service Manuals

This electronic document is provided as a service to our customers. We do not create the contents of the information contained in this document. Should you have detailed questions pertaining to the information contained in this document, you may contact Michco, or the manufacturer which provided the original information in this electronic deliverable. Michco's only part in this electronic deliverable was the electronic assembly process. By providing this manual on line we are not guaranteeing parts availability.

You may contact Michco through the following methods:

Phone (517) 484-9312 or (800) 331-3339

2011 N. High St. -- Lansing, Michigan -- 48906

Fax: (517) 484-9836

Email: [CustServe@Michco.com](mailto:CustServe@Michco.com)

Web site: [www.Michco.Com](http://www.Michco.Com)

Parts Web site: [www.FloorMachineParts.Com](http://www.FloorMachineParts.Com)

Order Parts on Line at:

**[www.FloorMachineParts.Com](http://www.FloorMachineParts.Com)**

Directly to Parts & Service:

By Email: **[Shop@Michco.com](mailto:Shop@Michco.com)**

By Fax: (517) 702-2041

By Voice: Use numbers above.

**Serving the Cleaning Industry Since 1922**

Notice: All copyrighted material remains property of original owners, all trademarks are property of respective owners. Manuals are subject to Manufacturer's reproduction limitations. Originals or reproductions were provided by manufacturers through a request. We make no warranty as to the correctness of information provided in this document and you assume all risk. By placing these manuals on line we are not declaring our corporation to be an manufacturer authorized dealer or provider, please check our web site for authorized manufacturers we represent.

**NOBLES®**

# SpeedScrub

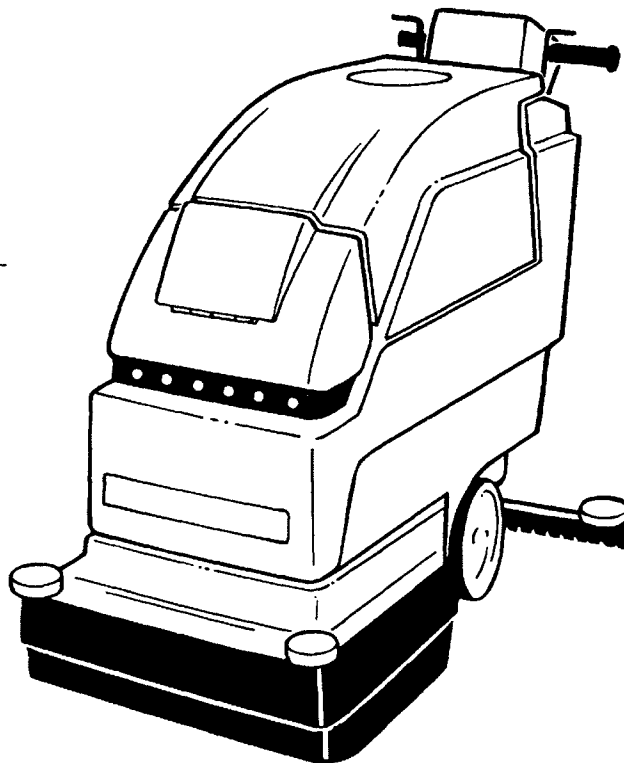
1701, 2001, 2001DW & 2400

MODELS: SS1701E, SS1701, SS2001E,  
SS2001, SS2001DW & SS2400

Operator & Parts Manual



PDF Version of manual by:  
Michigan Company Inc.  
2011 N. High St.  
Lansing, Mich. 48906  
(517) 484-9312  
<http://www.Michco.com>



**NOBLES INDUSTRIES**  
12875 RANSOM STREET  
HOLLAND MI 49424

A **TENNANT** COMPANY

1-800-739-9359  
616-786-2330  
FAX: 1-800-678-4240  
CUSTOMER SERVICE: 1-800-365-6625

Rev. 01 (08-95)

# OPERATION

This manual is furnished with each new Speedscrub Model. It provides necessary operation and maintenance instructions for both the electric and battery models. Read this manual completely and understand the machine before operating or servicing it.

This machine will provide excellent service. However, the best results will be obtained at minimum costs if:

The machine is operated with reasonable care.

The machine is maintained regularly - per the maintenance instructions provided.

The machine is maintained with manufacturer supplied or equivalent parts.

## MACHINE DATE

Please fill out at time of installation for future reference.

Model No. \_\_\_\_\_

Install. Date - \_\_\_\_\_

Serial No. \_\_\_\_\_

## TABLE OF CONTENTS

PAGE

SAFETY PRECAUTIONS \_\_\_\_\_ 3

MACHINE COMPONENTS \_\_\_\_\_ 4

MACHINE INSTALLATION \_\_\_\_\_ 5

MACHINE UNCRATING  
SQUEEGEE ATTACHMENT  
BATTERY INSTALLATION

MACHINE SETUP \_\_\_\_\_ 6

PRE-OPERATION CHECKS  
INSTALL BRUSH OR PAD DRIVER  
FILL SOLUTION TANK  
PLUG POWER CORD INTO WALL OUTLET

MACHINE OPERATION \_\_\_\_\_ 8

WHILE OPERATING MACHINE  
PAD MOTOR CIRCUIT BREAKER

DRAINING TANKS \_\_\_\_\_ 10

DRAINING RECOVERY TANK  
DRAINING SOLUTION TANK

BATTERY CHARGING \_\_\_\_\_ 11

MAINTENANCE \_\_\_\_\_ 12

DAILY MAINTENANCE  
WEEKLY MAINTENANCE  
MONTHLY MAINTENANCE  
EVERY 250 HOURS OF OPERATION  
BATTERY MAINTENANCE  
DRIVE CHAIN MAINTENANCE  
BRUSH BELT MAINTENANCE  
STORING MACHINE

TROUBLE SHOOTING \_\_\_\_\_ 14

SPECIFICATIONS \_\_\_\_\_ 15

ELECTRICAL \_\_\_\_\_ 16

### PARTS LIST

CHASSIS ASSEMBLY \_\_\_\_\_ 18

RECOVERY TANK ASSEMBLY \_\_\_\_\_ 20

REAR PANEL ASSEMBLY \_\_\_\_\_ 22

### CONTROL CONSOLE ASSEMBLY

SS1701 & SS2001 \_\_\_\_\_ 24  
SS2001DW & SS2400 \_\_\_\_\_ 26

LEVER ASSEMBLY \_\_\_\_\_ 28

BRUSH LIFT ASSEMBLY \_\_\_\_\_ 30

### WHEEL AXLE ASSEMBLY

SS1701 & SS2001 \_\_\_\_\_ 31  
SS2001DW & 2400 (AUTOMATIC DRIVE) \_\_\_\_\_ 32

### BRUSH/PAD DRIVE ASSEMBLY

SS1701, SS2001 & SS2001DW \_\_\_\_\_ 34  
SS2400 \_\_\_\_\_ 36

### SKIRT ASSEMBLY


SS1701, SS2001 & SS2001DW \_\_\_\_\_ 38  
SS2400 \_\_\_\_\_ 40


SQUEEGEE ASSEMBLY \_\_\_\_\_ 42

## SAFETY PRECAUTIONS

This machine is suited to scrub floors in a indoor environment and is not constructed for any other use. Use only recommended pads and cleaning solutions.

All operators must read, understand and practice the following safety precautions:

The following  are used throughout this manual as indicated in their description.

 **WARNING:** To warn of hazards or unsafe practices which could result in severe personal injury or death.

 **CAUTION:** To identify actions which must be followed for safe operation of equipment.

### 1. DO NOT OPERATE, MAINTAIN OR SERVICE MACHINE:

- Unless trained and authorized.
- Unless operator manual is read and understood.
- If it is not in proper operating condition.

### 2. WHEN OPERATING MACHINE:

- Remove loose objects on floor. Loose objects may become dangerous projectiles if struck by revolving pad(s)/brush(es)
- Keep hands and feet away from revolving pad(s)/brush(es).
- Keep machine moving to prevent damage to finish or floor.
- Do not run machine where flammable liquids or gases are present.


- Do not run on ramps or inclines unless adequate personnel are present for assistance.


#### *For Electric Models:*


- Do not run over power supply cord, a hazard may occur.
- Check cable and plug for damage.
- Always work within cable length to avoid cable stress and damage.


### 3. BEFORE LEAVING OR SERVICING MACHINE:

- Make sure machine is turned "OFF".
- Disconnect batteries or unplug power cord for electric models.


 **WARNING:** Hazardous Voltage. Shock or electrocution can result. Always unplug power cord or disconnect batteries before servicing machine.

 **WARNING:** Batteries emit hydrogen gases, explosion or fire can result. Keep sparks and open flame away.

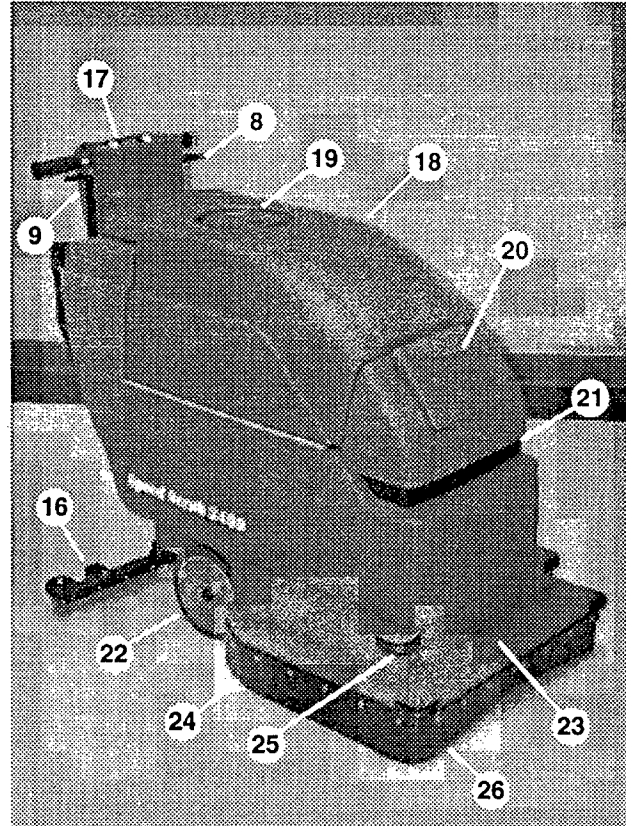
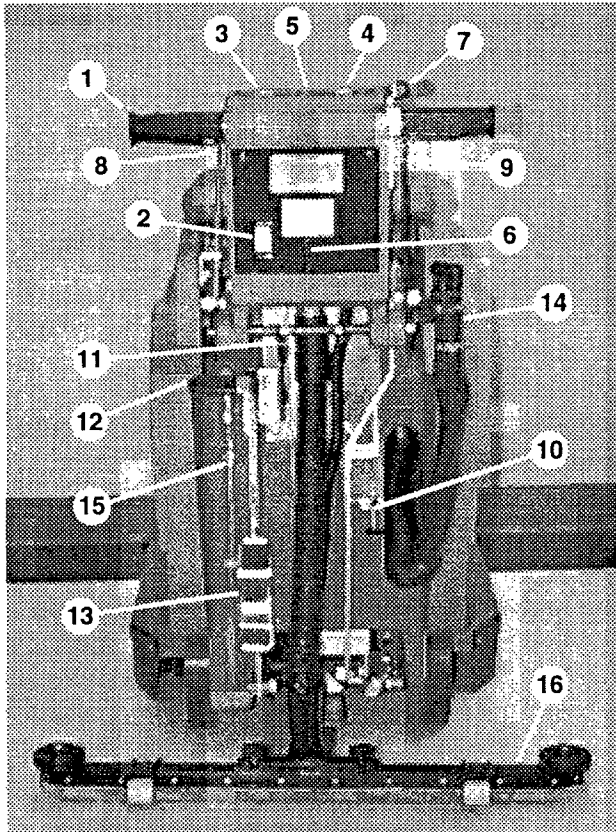
 **WARNING:** Charge in a well ventilated area and keep hood propped open when charging batteries, explosion or fire can result.

 **WARNING:** Battery acid can cause burns. Wear protective gloves and shield eyes when servicing batteries.

 **WARNING:** Do not store outdoors and avoid getting wet.

 **WARNING:** The use of supplies other than those recommended by manufacturer may cause damage.

MACHINE COMPONENTS



- 1. Control Grips  
Control Twist Grips (Automatic Drive Models)
- 2. Main/Drive ON/OFF Switch (Auto. Drive Models)
- 3. Vacuum ON/OFF Switch
- 4. Brush ON/OFF Switch
- 5. Battery Meter
- 6. Brush Circuit Breaker
- 7. Speed Thumb Lever (Automatic Drive Models)
- 8. Squeegee Lift Lever
- 9. Solution Flow Lever
- 10. Solution Flow Adjustment Knob
- 11. Adjustable Control Console Levers
- 12. Brush Lift Lever
- 13. Brush Lift Foot Lever

- 14. Recovery Tank Drain Hose
- 15. Solution Tank Drain Hose with Gallon Markers
- 16. Squeegee Assembly
- 17. Control Console
- 18. Recovery Tank
- 19. Recovery Tank Lid
- 20. Solution Fill Door
- 21. Safety Lights
- 22. Rear Drive Wheel
- 23. Scrub Head
- 24. Scrub Head Skirt
- 25. Wall Rollers
- 26. Front Casters

## MACHINE INSTALLATION

### MACHINE UNCRATING

Carefully check carton for signs of damage. Report damages at once to carrier. Check carton contents to ensure all accessories are included. Squeegee is packaged with machine. Batteries, battery charger and pad driver(s) are packaged separately.

Battery installation must be accomplished *after* removing machine from crate.

To uncrate your machine, remove straps and raise brush head. To raise brush head, step down firmly on the bottom brush lift foot pedal until pedal locks into the raised position. Carefully lift or create a ramp using crate boards to remove machine from pallet.

**⚠ CAUTION:** Do not roll machine off pallet, damage may occur.

### SQUEEGEE ATTACHMENT

1. Pull back on squeegee lift lever to raise squeegee mount bracket.
2. Loosen two thumb knobs on squeegee and slide squeegee into slots at rear of squeegee mount bracket. Be certain that squeegee roller wheels are toward the rear. (Figure 1)

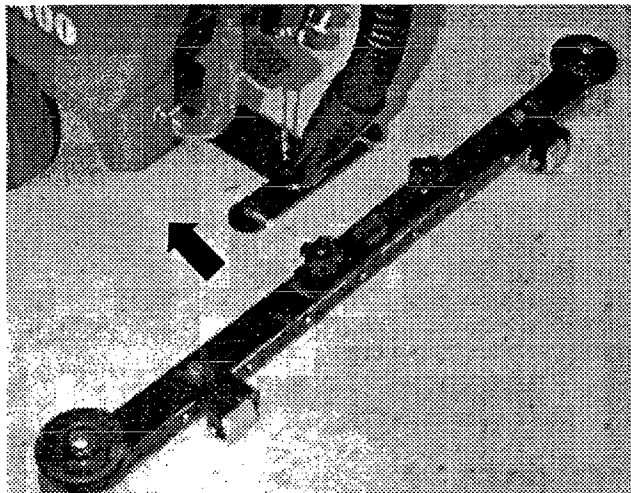


FIG. 1

3. Tighten thumb knobs securely.

### BATTERY INSTALLATION

(For Battery Models)

**⚠ WARNING:** Batteries emit hydrogen gases, explosion or fire can result. Keep sparks and open flame away.

**⚠ WARNING:** Battery acid can cause burns. Wear protective gloves and shield eyes when servicing batteries.

#### Recommended Battery Specifications:

Two 12 volt deep cycle 130 amp hour batteries. Nobles Part Number #130869. Maximum battery dimensions are 7-1/8W (180mm) x 13L (330mm) x 10"H (254mm).

**⚠ WARNING:** To prevent accidental starting, be certain all switches are in the "off" position

1. Turn all switches to the "OFF" position.
2. Carefully hinge open recovery tank sideways to access battery compartment. Remove loose battery cable and PVC battery spacer from compartment. (Figure 2)

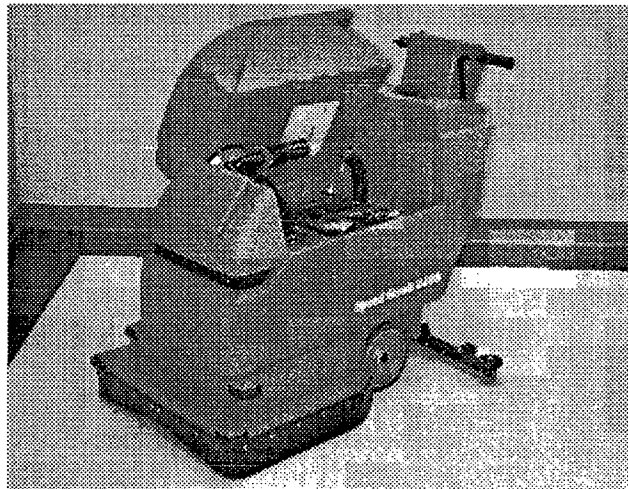


FIG. 2

3. Carefully install batteries into compartment and arrange battery posts as shown. (Figure 3)

## OPERATION

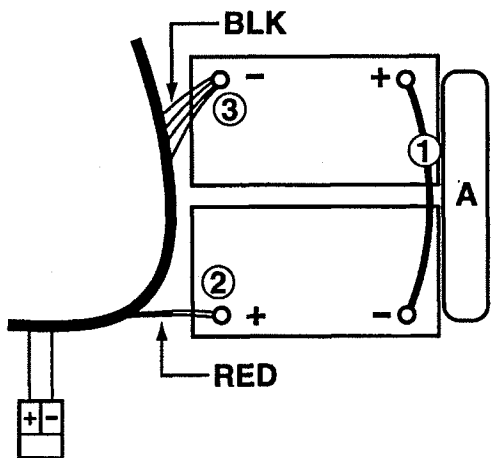


FIG. 3

**⚠ WARNING: Do not drop batteries into compartment! Battery and machine housing damage may result. This damage is not covered by Warranty.**

- To secure batteries, place white PVC tube spacer "A" behind batteries in compartment as shown.
- Connect cables to battery posts in numerical order as labeled (RED TO POSITIVE & BLACK TO NEGATIVE). (Figure 3)
- Double check cable connections before closing up battery compartment.

## MACHINE SETUP

### PRE-OPERATION CHECKS

- Sweep the floor to remove particles and other debris.
- Check battery meter charge level to ensure batteries are fully charged if applicable. (See BATTERY CHARGING)
- Check that a pad(s) or brush(es) are installed.
- Check that squeegee is installed.

### INSTALL BRUSH OR PAD DRIVER

**FOR SAFETY: To prevent accidental starting, pull out circuit breaker button before installing pad driver(s). Circuit breaker button is located at rear of control housing.**

- Lower brush head: To lower brush head, step down firmly on top pedal and push pedal forward. (Figure 4)



FIG. 4

- Position squeegee swivel mechanism so it's centered behind machine.
- Tilt machine back on squeegee to access motor hub for pad driver/brush installation.

**⚠ WARNING: Do not leave machine tilted back for an extended time. Battery acid may run out the top of batteries. Battery acid can cause severe burns on contact with skin. Also, squeegee blades may damage if left tilted back.**

- Select recommended pad or brush that best meets your cleaning needs.

**IMPORTANT: Consult your authorized distributor to assist you in choosing the correct pad or brush for your specific cleaning need.**

- (For Pad Installation) Attach pad to pad driver. Attach pad before installing pad driver to motor hub: Remove plastic centerlock from pad driver. Position pad centered on pad driver and replace centerlock securely. (Figure 5)

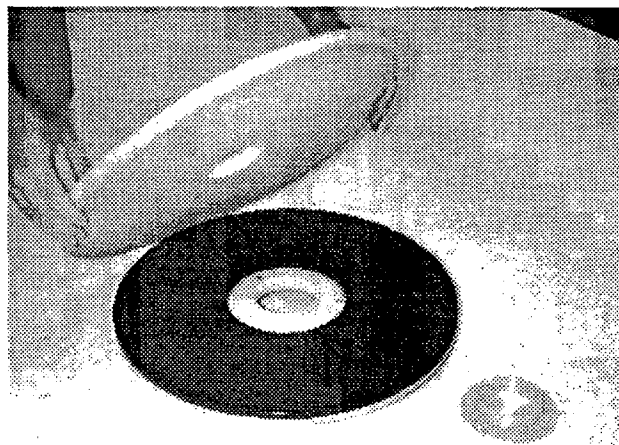


FIG. 5

6. Attach brush or pad driver to motor hub. Align 3 mounting studs with slots in motor hub. Give the driver a quick turn toward the spring clip on the motor hub. Be certain pad driver is securely fastened and spring clip locks into one of the studs on the driver before operating machine. (Figure 6)

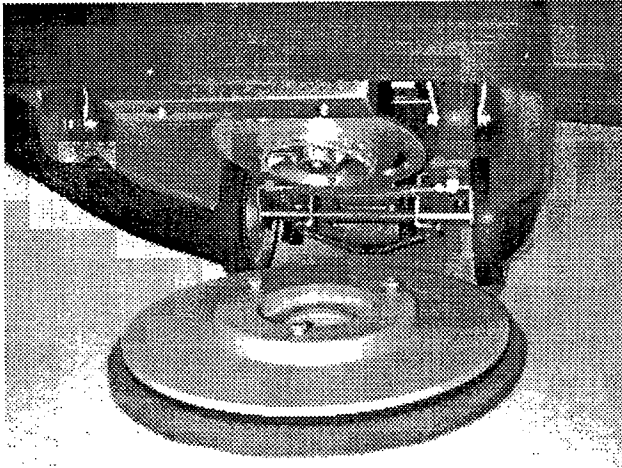


FIG. 6

7. Raise brush head: To raise brush head, step down firmly on the bottom brush lift foot pedal until brush locks into the raised position. (Figure 7)

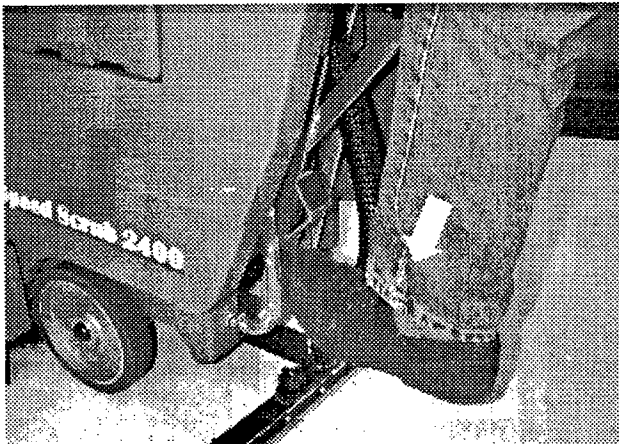


FIG. 7

### FILL SOLUTION TANK

1. Push/Drive machine to filling station. Raise squeegee and brush when transporting.
2. Shut off solution flow: Pull back completely on solution flow lever to shut off. (Figure 8)

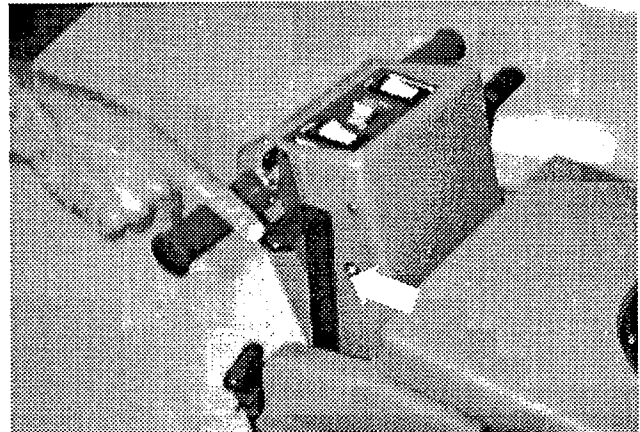


FIG. 8

3. Open solution fill door at front of machine and fill solution tank with up to 10 gallons (37.8 liters) of water (140°F, 60°C maximum temperature). Clear tube at rear of machine has 5 and 10 gallon markers to indicate amount of water poured into tank. (Figure 9)

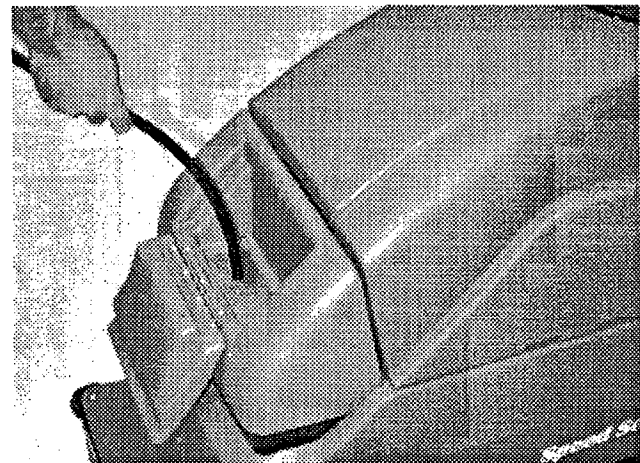


FIG. 9

**NOTE:** If filling with a bucket be certain that bucket is clean. This will prevent the chance of clogging the solution lines.

4. Add cleaning chemical to the proper dilution ratio according to the bottles instructions.

**CAUTION:** Use only recommended cleaning chemicals, DO NOT use substitutes. Consult an authorized distributor to assist you with the recommended cleaning chemicals.

**WARNING:** Use only nonflammable commercial cleaning chemicals.

## OPERATION

### PLUG POWER CORD INTO WALL OUTLET

*(Electric Models Only)*

Connect 75' extension cord to machine pigtail and plug cord into a grounded outlet. *(Figure 10)*

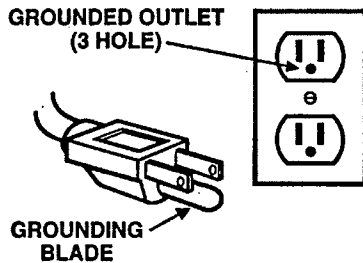


FIG. 10

**⚠ WARNING:** To avoid serious personal injury, plug power cord into grounded outlets only. Do not use an adapter or remove ground blade on plug. Do not use machine if cord is damaged. Disconnect power cord before servicing.

### MACHINE OPERATION

1. Read and understand **SAFETY PRECAUTIONS** on page 3 before operating machine.
2. Adjust control grips to a comfortable operating height (*three settings*). Squeeze together two levers under console to raise or lower control grips. *(Figure 11)*

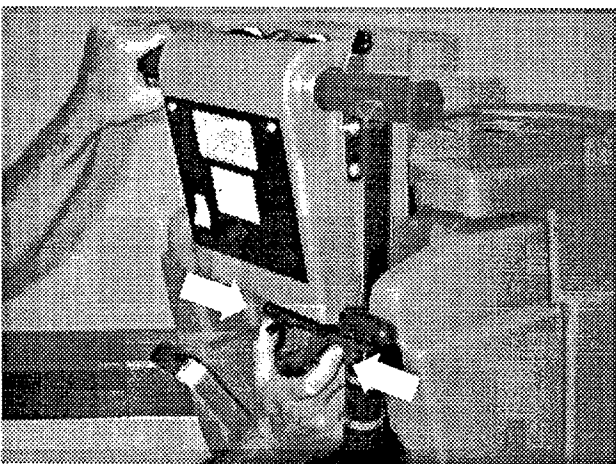


FIG. 11

3. Lower squeegee by releasing squeegee lift lever from the lock position. *(Figure 12)*

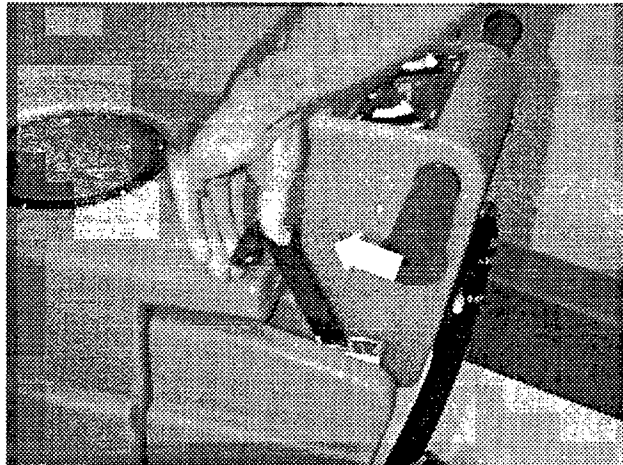


FIG. 12

4. Lower brush head: Step down firmly on top brush lift foot pedal and push pedal forward to release. *(Figure 13)*

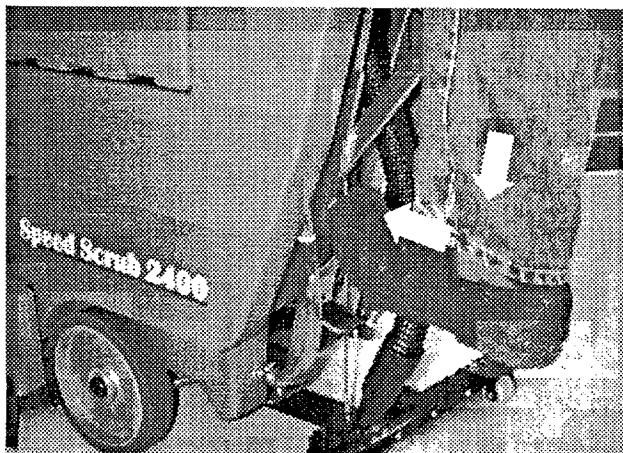


FIG. 13

5. Turn vacuum switch to the "ON" position.  
**NOTE:** For Models with automatic drive, the vacuum and brush switches will not run until the drive/main switch is activated.
6. Push solution flow lever slightly forward to activate solution flow. The further the lever is pushed forward the more solution will flow. Push completely forward for maximum flow. Solution will immediately begin to flow once lever is activated. *(Figure 14)*

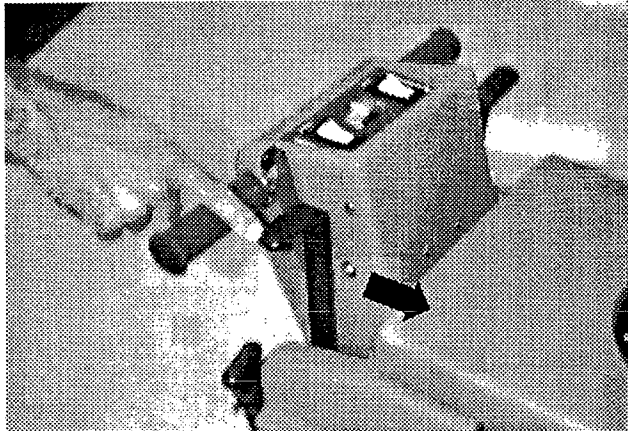


FIG. 14

To increase or decrease the maximum solution flow turn solution flow adjustment knob. Turn knob down to increase solution flow or turn up to decrease. (Figure 15)

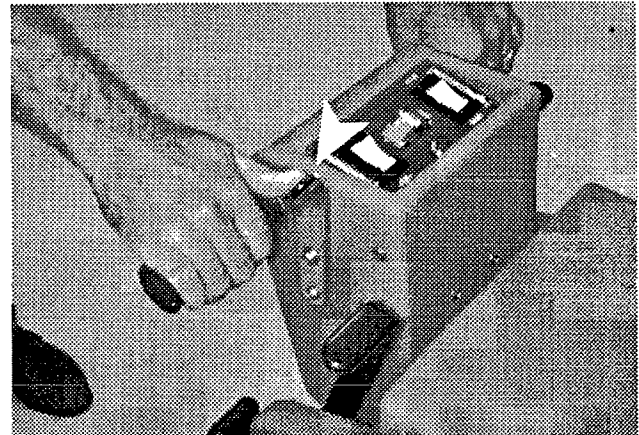


FIG. 16

**⚠ WARNING: Always start machine in the slower speed to prevent machine from leaping forward**

9. View amount of solution flow on floor and adjust solution control lever to desired solution flow.

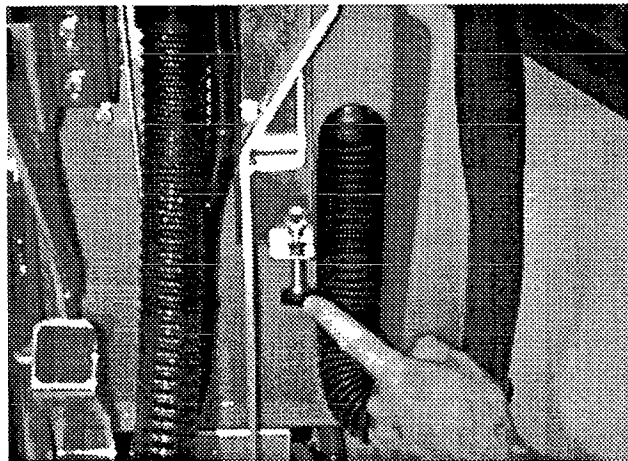


FIG. 15

7. Turn brush switch to the "ON" position.

**For models with automatic drive:** Turn drive/main switch to the "ON" position.

**⚠ WARNING: To prevent floor finish damage, DO NOT leave machine at stand still once brush begins to spin.**

8. Begin scrubbing by pushing machine forward.

**For Models with automatic drive:** Slowly twist the drive roll grips forward to begin scrubbing.

To increase drive speed, press and hold speed thumb lever and twist roll grips further ahead.

(Figure 16)

### WHILE OPERATING MACHINE

**⚠ WARNING: Keep hands and feet clear of revolving pad or brush.**

1. Periodically check for foam buildup in recovery tank (look through clear lid). If heavy foam buildup begins to develop, pour a defoamer chemical into the recovery tank.

**⚠ WARNING: Do not allow foam or water to enter the vacuum standpipe, vacuum motor damage will result. Ball float shutoff will not keep foam out of standpipe. Vacuum damage due to foam or water is not covered by warranty.**

2. If more scrubbing pressure is needed for small heavy soiled areas, simply pull brush lift lever upward. (Figure 17)

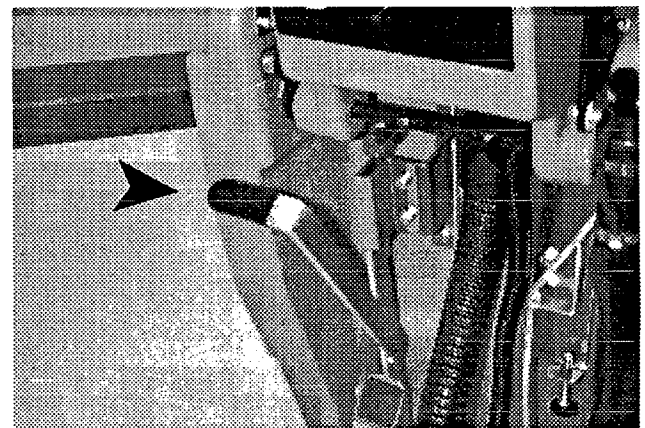


FIG. 17

## OPERATION

3. If squeegee leaves streaks, raise squeegee and wipe both blades with a cloth.
4. Before stopping or turning machine around, pull back on solution control lever to shut off solution flow.
5. If you have to stop for more than three seconds, shut off brush switch.
6. View clear tube gallon marker for remaining cleaning solution left in solution tank.
7. Periodically check battery meter's discharge level. When needle drops to the red zone recharge batteries.

**⚠ WARNING: Do not continue to run machine when battery meter needle is in the red zone, battery damage will result.**

8. When the solution tank runs dry, turn off brush switch, shut of solution control lever and continue to vacuum until all dirty water is consumed into the recovery tank. Raise the squeegee and brush head and drain recovery tank (See DRAINING TANKS).

### PAD MOTOR CIRCUIT BREAKER

Machine is equipped with a circuit breaker to protect pad motor from damage. If the pad motor circuit breaker trips, it can not be reset immediately. Determine reason why breaker tripped, allow motor to cool and then reset. Circuit breaker will trip due to excessive overload on pad. Clean or change pad if breaker should trip. Pad motor circuit breaker button is located at rear control console.

### DRAINING TANKS

1. Turn all switches to the "OFF" position. Unplug power cord for electric models.
2. Raise squeegee and brush head and transport machine to nearest floor drain.

**NOTE:** if using bucket to drain machine, do not use same bucket for filling solution tank.

### DRAINING RECOVERY TANK

Recovery tank must be emptied every time before refilling solution tank. To drain recovery tank perform the following steps.

**⚠ WARNING: If recovery tank is not emptied between fill-ups, foam or water will enter the vacuum standpipe and damage vacuum motor. Float shutoff will not keep foam out of standpipe. Vacuum damage due to foam or water is not covered by warranty.**

1. Remove drain hose from holder, position hose over floor drain and twist off drain hose plug. To completely drain recovery tank, hinge open tank side-ways and flip up tank support stand to rest tank on. (Figure 18)

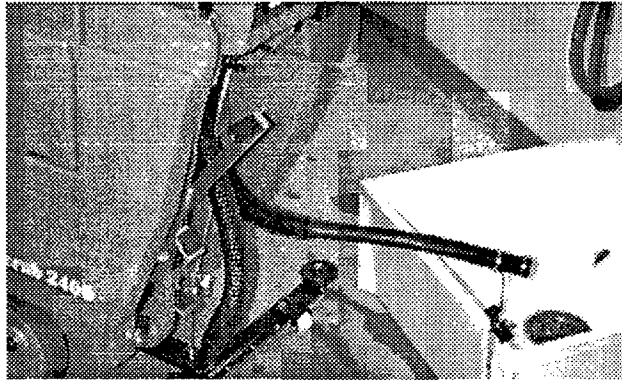


FIG. 18

2. Rinse recovery tank after each use. This will prevent a foul odor. Unscrew clear lid on recovery tank. Use a hose to rinse out the recovery tank. Be careful not to spray water into shut-off float.
3. Replace drain hose plug tightly when tank is empty.

### DRAINING SOLUTION TANK

To drain leftover cleaning solution from solution tank follow the steps below.

1. Pull clear gallon marker hose off hose barb at rear of machine and drain solution into floor drain or bucket. (Figure 19)

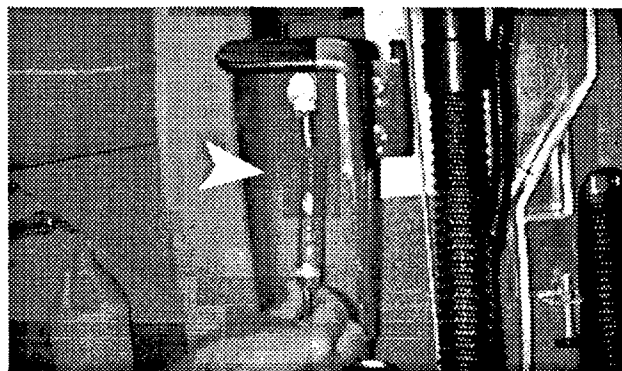


FIG. 19

2. Flush solution tank with clean water after each use. This will prevent clogging due to chemical buildup. Let clean water drain out through clear hose.
3. Push solution flow lever forward to rinse out solution flow system.
4. Reconnect clear hose to hose barb. Be certain hose is completely pushed on hose barb.

## BATTERY CHARGING

**⚠ CAUTION:** The following charging instructions are intended for Nobles supplied chargers only. If you don't have a Nobles battery charger, use a charger with the same specifications to prevent battery damage.

### CHARGER SPECIFICATIONS:

- OUTPUT VOLTAGE - 24 VOLTS
- OUTPUT CURRENT - 10 TO 20 AMPS
- AUTOMATIC SHUTOFF CIRCUIT
- FOR DEEP CYCLE BATTERY CHARGING

Life expectancy of a battery is limited by the number of charges it receives. To get the most life from the batteries, recharge batteries when discharge needle is to the red zone. Never let batteries set in a discharge condition.

**⚠ WARNING:** Do not continue to run machine when battery meter needle is in the red zone, battery damage will result.

**⚠ DANGER EXPLOSIVE GASES:** Always charge batteries in a well ventilated area. Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away.

**FOR SAFETY:** Shield eyes when servicing batteries and avoid contact with battery acid.

1. Transport machine to a well ventilated area when charging.
2. Turn machine OFF.
3. Hinge open recovery tank sideways to access batteries. (Figure 20)

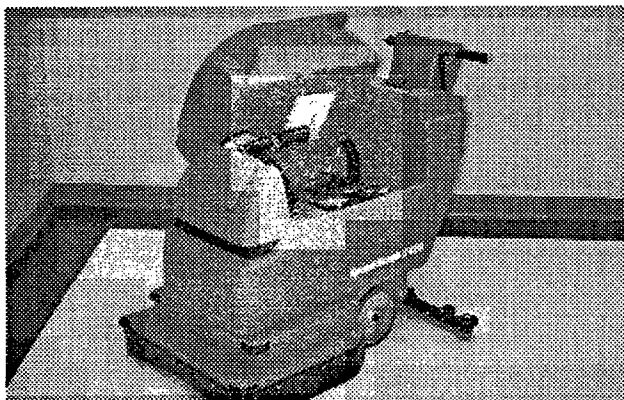


FIG. 20

4. Check water level "A" in each battery cell. Do not charge batteries unless water is slightly covering battery plates "B". If needed, add just enough distilled water to slightly cover plates. DO NOT overfill. Batteries can overflow during charging due to expansion. Replace cell caps before charging. (Figure 21)

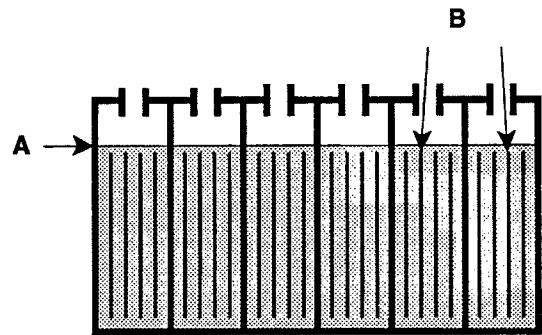


FIG. 21

5. Plug charger into charger receptacle located near battery compartment. Flip up tank support stand and rest tank on stand. (Figure 22)

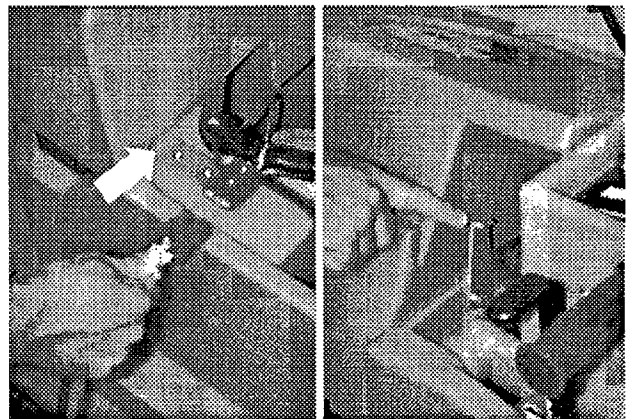


FIG. 22

6. Plug charger into grounded wall outlet after connecting charger to machine. (Figure 23)

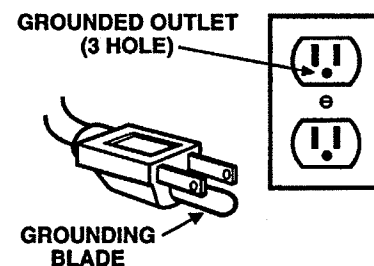


FIG. 23

7. Charger will automatically begin charging and shut off when fully charged.
8. After charger has turned off, unplug charger from wall outlet first then disconnect charger from machine.
9. Recheck battery fluid level after charging. If needed, add distilled water to bring level of fluid to bottom of sight tubes. Be certain to replace cell caps securely and to wipe off the top of batteries with a clean cloth.

## MAINTENANCE

The following maintenance procedures are for both electric and battery models. Perform procedures accordingly.

**⚠ WARNING:** Before attempting any maintenance procedures on machine; stop on level surface, turn machine off, unplug power cord or disconnect battery charger if charging machine.

**⚠ WARNING:** Before attempting any type of machine repair; Disconnect batteries or unplug power cord. This will prevent any accidental motor starting. Repairs must be performed by authorized personnel.

To keep machine in good working condition, simply follow machines daily, weekly and monthly maintenance procedures.

### DAILY MAINTENANCE

1. Remove and clean pad or brush. Never use soiled pads when cleaning.
2. Remove and clean lint from ball float shutoff screen located in recovery tank. (Figure 24)

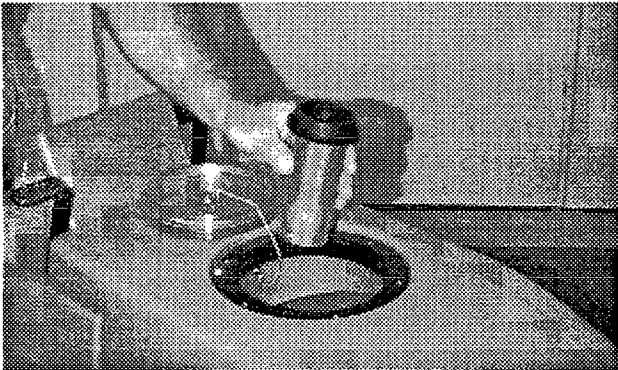


FIG. 24

3. Drain and rinse tanks thoroughly. After draining tanks, hinge recovery tank until you can see vacuum intake hole at rear of tank. Remove any clogging debris in hole if necessary.
4. Raise squeegee and wipe it down with a dry cloth. Store squeegee in the up position to prevent squeegee damage.
5. Always wipe down power cord with a damp cloth and coil cord neatly for storing. Check cord for damage, if worn or damaged replace immediately.
6. Clean machine housing with a nonabrasive, non-solvent cleaner.
7. Recharge batteries if applicable.

### WEEKLY MAINTENANCE

1. Flush out tanks and solution lines. Mix a solution of 1 qt. (946ml) vinegar to 3 gallons (11.3 lts.) of water. Rinse with clean water afterward.
2. Check water level in battery cells.
3. Clean battery tops from corrosion.
4. Check for loose or corroded battery cables.

### MONTHLY MAINTENANCE

1. Check brush belt for wear or excess slack. (*For Speedscrub 2400 Model Only*). If brush belts slip, you must replace belts. See BRUSH BELT MAINTENANCE.
2. Check drive chain for excess slack and lubricate with a water resistant grease. (*For Speedscrub Models with Drive Only*). If chain needs tightening see DRIVE CHAIN MAINTENANCE.
3. Lubricate axle (*drive models*) and caster grease fittings with a water resistant grease.
4. Lubricate all linkage pivot points with silicone spray then coat with a water resistant grease to maintain a smooth operation.
5. Check machine for water leaks and loose nuts and bolts.

### EVERY 250 HOURS OF OPERATION

1. Check brush motor for carbon brush wear, replace brushes if worn.
2. Check vacuum motor for carbon brush wear, replace brushes when worn to a length of 3/8" or less.

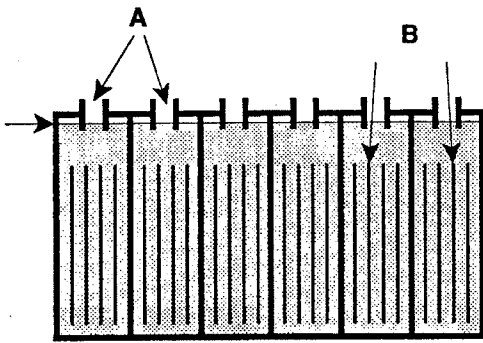
### BATTERY MAINTENANCE

(For Battery Models Only)

**⚠ DANGER EXPLOSIVE GASES:** Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away.

**⚠ CAUTION:** Shield eyes when servicing batteries and avoid contact with battery acid and keep all metal objects off the top of batteries.

1. Always follow proper charging instructions. (See CHARGING BATTERIES)
2. Each week AFTER charging, check water level in each battery cell of all batteries. Water level should reach bottom of sight tubes "A". If needed, add distilled water. DO NOT overfill. (Figure 25)



**FIG. 25**

3. Keep battery tops and terminals clean and dry.
  - a. Mix a strong solution of baking soda and water.
  - b. Brush solution sparingly over battery tops, terminal and cable connectors.

**NOTE:** Do not allow baking soda solution to enter battery cells.

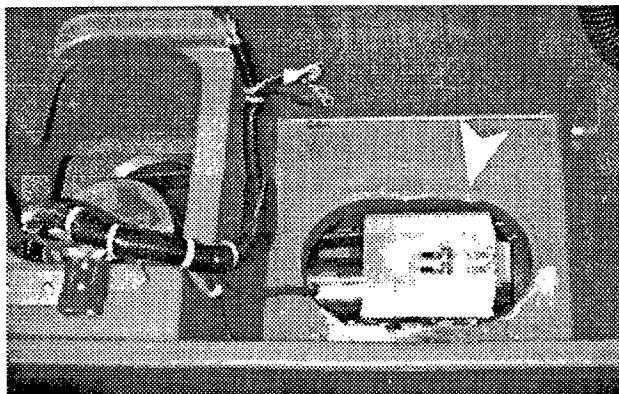
  - c. Use wire brush to clean terminal post and cable connections.
  - d. After cleaning, apply a coating of clear battery post protectant to terminals and cable connections.
4. Check for loose or worn cables. Replace if worn.

**DRIVE CHAIN MAINTENANCE**

**(For Speedscrub Models with Automatic Drive Only)**

Inspect drive chain periodically for proper tension. Chain should flex between 1/4" and 1/2" from center. If chain flexes more than 1/2", chain should be tightened.

1. Remove batteries and water from machine. (See BATTERY INSTALLATION)
2. Remove white plate from battery compartment floor to access drive motor.
3. Loosen 4 motor mount bolts, do not remove bolts. (Figure 26)



**FIG. 26**

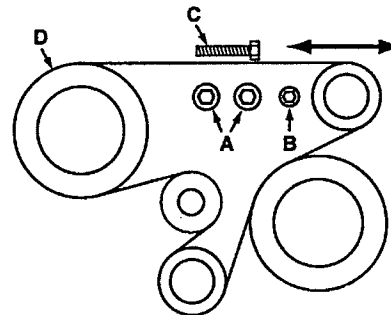
4. Pry drive motor forward and retighten bolts.
5. Replace white plate and reinstall batteries.
6. Lubricate chain with a water resistant oil.

**BRUSH BELT MAINTENANCE**

**(For Speedscrub 2400 Model Only)**

To install or replace brush belt, follow steps below:

1. Remove batteries from machine. (See BATTERY INSTALLATION)
2. Carefully lay machine on its side.
3. Loosen two idler pulley locking bolts "A" and remove locking bolt "B". (Figure 27)



**FIG 27**

4. Turn tension bolt "C" to loosen idler pulley far enough to slip off old belt or to install new belt.
5. Route new belt around pulleys as shown. (Figure 27)
6. Tighten tension bolt "C" until bolt "B" mounting hole aligns with slot. Replace bolt "B" and tighten. To prevent damage to new belt. Turn brush drive pulley "D" one full revolution with hands to every four turns on the tension bolt.
7. Retighten locking bolts "A".

**STORING MACHINE**

Store machine in a dry area in the upright position.

Before storing machine be certain to flush tanks and drain machine of all water. Remove recovery lid to promote air circulation. Raise pad driver and squeegee off floor to prevent damage.

**⚠ WARNING:** If storing machine if freezing temperatures, be certain to drain machine of all water. Damage due to freezing temperatures is not covered by warranty.

# TROUBLE SHOOTING

## TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
No power, nothing runs.	<b>120V MODELS:</b> Building circuit breaker has tripped.	<b>120V MODELS:</b> Reset building circuit breaker.
	Power cord is unplugged.	Plug in power cord.
	Faulty power cord or pigtail cord.	Replace or Contact Service Center.
	<b>BATTERY MODELS:</b> Batteries need charging.	<b>BATTERY MODELS:</b> See CHARGING THE BATTERIES
	Battery(s) faulty.	Replace battery(s).
	Loose battery cable.	Tighten loose cables.
	Batteries are not connected correctly.	See BATTERY INSTALLATION.
	Brush motor does not run.	Faulty brush switch.
Machine circuit breaker has tripped.		Clean or replace pad or brush and reset breaker button.
Rectifier has burned out.		Contact Service Center.
Faulty wiring.		Contact Service Center.
Faulty brush motor.		Contact Service Center.
Carbon brushes worn.		Contact Service Center.
Faulty SOLENOID. ( <i>Battery Model</i> )		Contact Service Center.
Vacuum motor does not run.	Faulty Vacuum Switch.	Contact Service Center.
	Faulty wiring.	Contact Service Center.
	Faulty vacuum motor.	Contact Service Center.
	Carbon brushes worn.	Contact Service Center.
Short run time. (Run time 2.47 hours on full charge)	Batteries not fully charged.	Charge batteries.
	Bad cell in one or more batteries.	Replace battery.
	Batteries need maintenance.	See BATTERY MAINTENANCE.
	Faulty charger.	Replace charger.
Poor squeegee pick up.	Recovery tank is full.	Empty recovery tank.
	Ball float shutoff screen inside recovery tank is clogged.	Remove screen and clean.
	Squeegee is clogged with debris.	Clean squeegee.
	Squeegee blades are worn.	Replace squeegee blades.
	Squeegee thumbscrews are loose.	Tighten thumbscrews.
	Vacuum hose connections are loose or hose has a hole.	Push vacuum hose cuffs firmly on connections. Replace hose if damaged.
	Vacuum hose is clogged with debris.	Remove clogged debris.
	Tank gasket is defective.	Replace tank gasket.
	Recovery tank water inlet is plugged. Inlet is located at bottom of recovery tank.	Empty recovery tank and tilt it sideways to locate inlet hole, remove clogged debris
	Drain hose plug is loose.	Tighten drain plug.
	Clear recovery tank lid is loose.	Tighten the lid.
	Vacuum motor is loose.	Tighten down vacuum motor. Do not over tighten and damage motor.
	Battery charge is low.	Charge batteries. Do not run machine when battery meter is in the red zone.

**TROUBLE SHOOTING - CONTINUED**

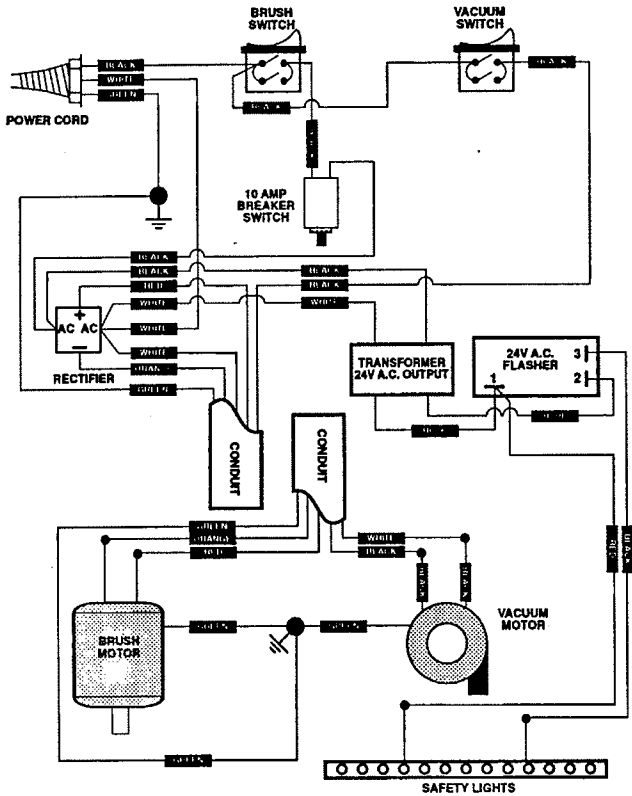
<b>PROBLEM</b>	<b>CAUSE</b>	<b>SOLUTION</b>
Drive motor does not run. <i>(Drive Models Only)</i>	Faulty drive switch.	Contact Service Center.
	Faulty wiring.	Contact Service Center.
	Faulty Drive motor.	Contact Service Center.
	Faulty wiring.	Contact Service Center.
	Worn brush card	Contact Service Center.
Drive Motor only runs in low speed.	Faulty high speed roll throttle switch.	Contact Service Center.
	Faulty wiring to throttle switch.	Contact Service Center.
Drive motor only runs in high speed.	Faulty low speed roll throttle switch.	Contact Service Center.
	Faulty resistor.	Contact Service Center.
	Faulty wiring to throttle switch.	Contact Service Center.
Safety lights do not work.	Faulty transformer. <i>(120V Models)</i>	Contact Service Center.
	Flasher is burned out.	Contact Service Center.
Little or no solution flow.	Solution flow lever is not activated.	Push solution flow lever forward.
	Solution line is clogged.	Remove hose and blow compressed air through it. To prevent clogs flush solution tank with clean water after use.
	Solution valve is clogged.	Remove valve and clean. Do not scratch or damage inside of valve.
	Solution flow adjustment knob needs adjusting.	Adjust solution flow knob to increase solution flow. Turn knob down to increase flow.

**SPECIFICATIONS**

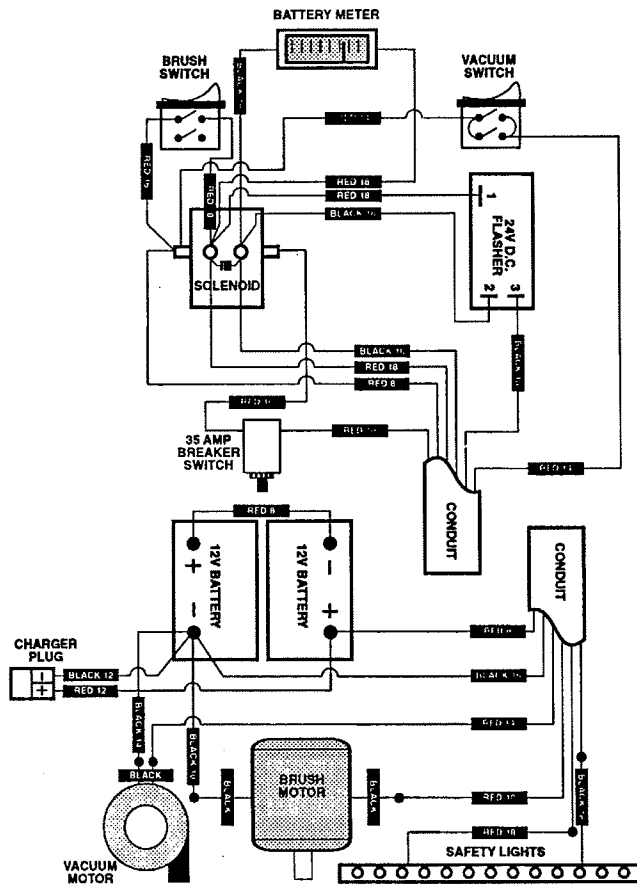
<b>MODEL NO.</b>	<b>SS1701E</b>	<b>SS1701</b>	<b>SS2001E</b>	<b>SS2001</b>	<b>SS2001DW</b>	<b>SS2400</b>
LENGTH	46.5"/118cm	46.5"/118cm	47"/119cm	47"/119cm	47"/119cm	47"/119cm
WIDTH	19"/48cm	19"/48cm	22"/55cm	22"/55cm	22"/55cm	26"/66cm
HEIGHT	38"/97cm	38"/97cm	38"/97cm	38"/97cm	38"/97cm	38"/97cm
WEIGHT	185lbs/85Kg	315lbs/146Kg	185lbs/85Kg	315lbs/146Kg	315lbs/146Kg	346lbs./157Kg
SOL. TANK CAPACITY	10 gal./38L	10 gal./38L	10 gal./38L	10 gal./38L	10 gal./38L	10 gal./38L
REC. TANK CAPACITY	12 gal./45L	12 gal./45L	12 gal./45L	12 gal./45L	12 gal./45L	12 gal./45L
FORWARD SPEED	PUSH	PUSH	PUSH	PUSH	110"/34m-145"/44m per min.	110"/34m-145"/44m per min.
CLEANING PATH	17"/43cm	17"/43cm	20"/51cm	20"/51cm	20"/51cm	24"/61cm
PAD DIAMETER	17"/43cm	17"/43cm	20"/51cm	20"/51cm	20"/51cm	2-12"/31cm
BRUSH MOTOR	.75 h.p., 250 rpm, 120v, 6.5A, 560w	.75 h.p., 220 rpm, 24v, 20A, 560w	.75 h.p., 250 rpm, 120v, 6.5A, 560w	.75 h.p., 220 rpm, 24v, 20A, 560w	.75 h.p., 220 rpm, 24v, 20A, 560w	.75 h.p., 300 rpm brush speed, 24v, 20A, 560w
DRIVE MOTOR	N/A	N/A	N/A	N/A	.1 h.p., 220 rpm, 24v, 5A	.1 h.p., 220 rpm, 24v, 5A
VACUUM MOTOR	1.25 h.p. 2 stage 919w, 7.5A, 120v	.5 h.p. 2 stage 353w, 14A, 24v	1.25 h.p. 2 stage 919w, 7.5A, 120v	.5 h.p. 2 stage 353w, 14A, 24v	.5 h.p. 2 stage 353w, 14A, 24v	.5 h.p. 2 stage 353w, 14A, 24v
WATERLIFT	82"/200cm	44"/114cm	82"/200cm	44"/114cm	44"/114cm	44"/114cm
BATTERIES	N/A	2-130amp/hour 12v deep cycle,	N/A	2-130amp/hour 12v deep cycle	2-130amp/hour 12v deep cycle,	2-130amp/hour 12v deep cycle
RUN TIME on full charge	N/A	2.47 hours	N/A	2.47 hours	2.47 hours	2.47 hours
POWER CORD LENGTH	75'/22.8m	N/A	75'/22.8m	N/A	N/A	N/A
DECIBEL RATING AT OPERATOR'S EAR, INDOORS ON TILE.	70dB(A)	70dB(A)	70dB(A)	70dB(A)	70dB(A)	70dB(A)

# ELECTRICAL

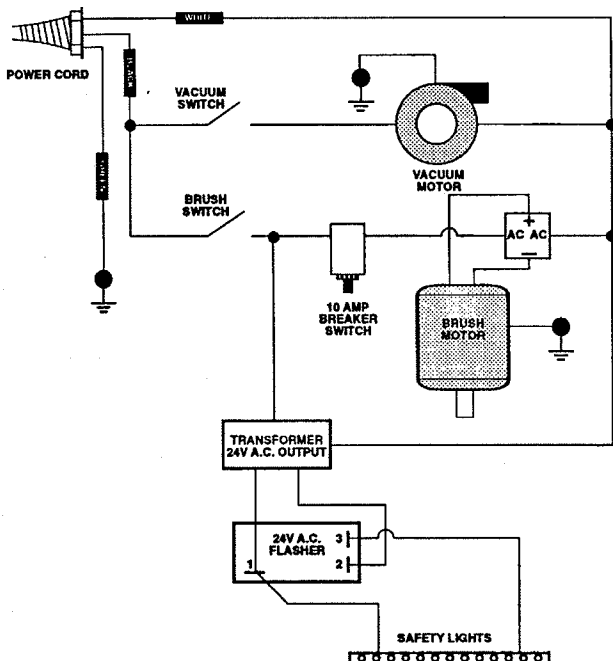
SS1701 - SS2001 120V WIRE DIAGRAM



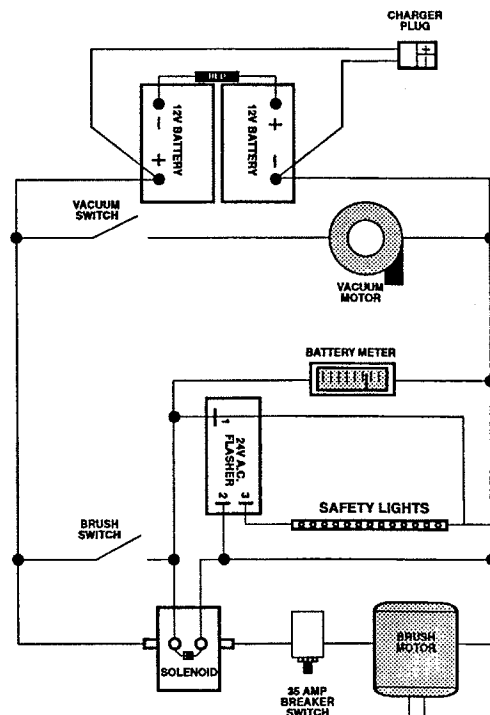
SS1701 - SS2001 BATTERY WIRE DIAGRAM



SS1701 - SS2001 120V LADDER

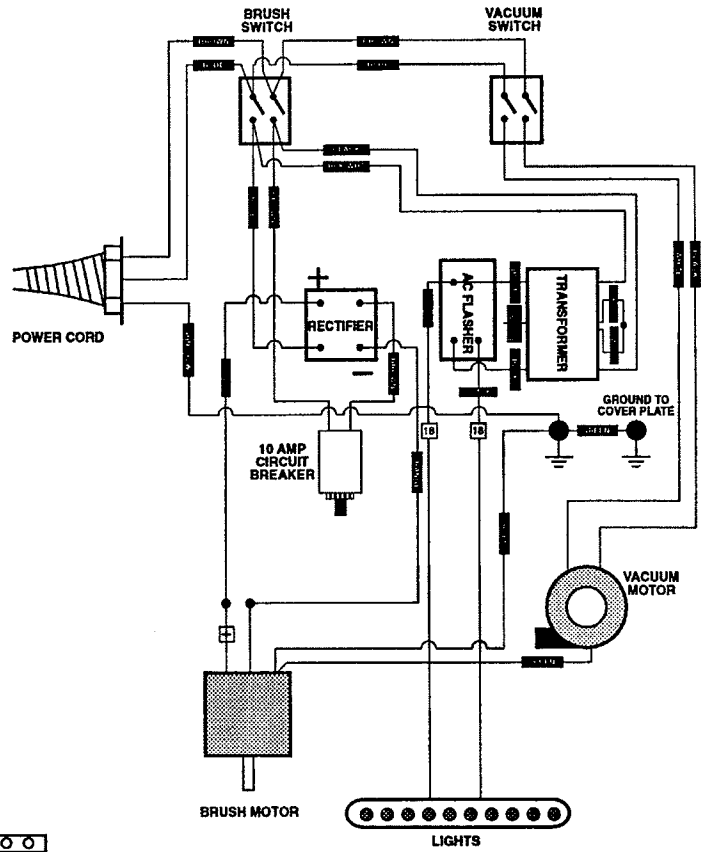
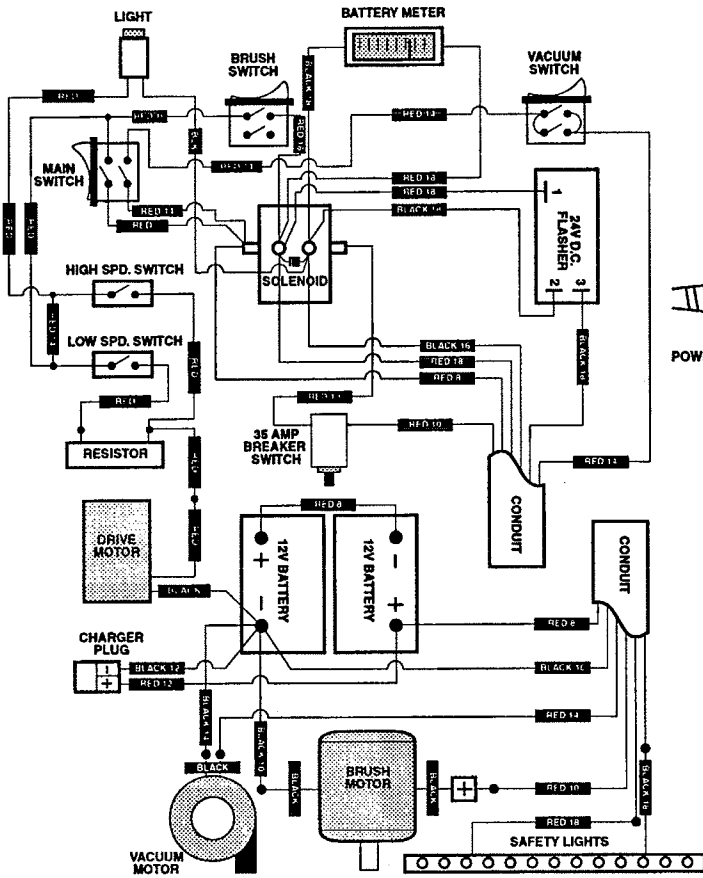


SS1701 - SS2001 BATTERY LADDER DIAGRAM

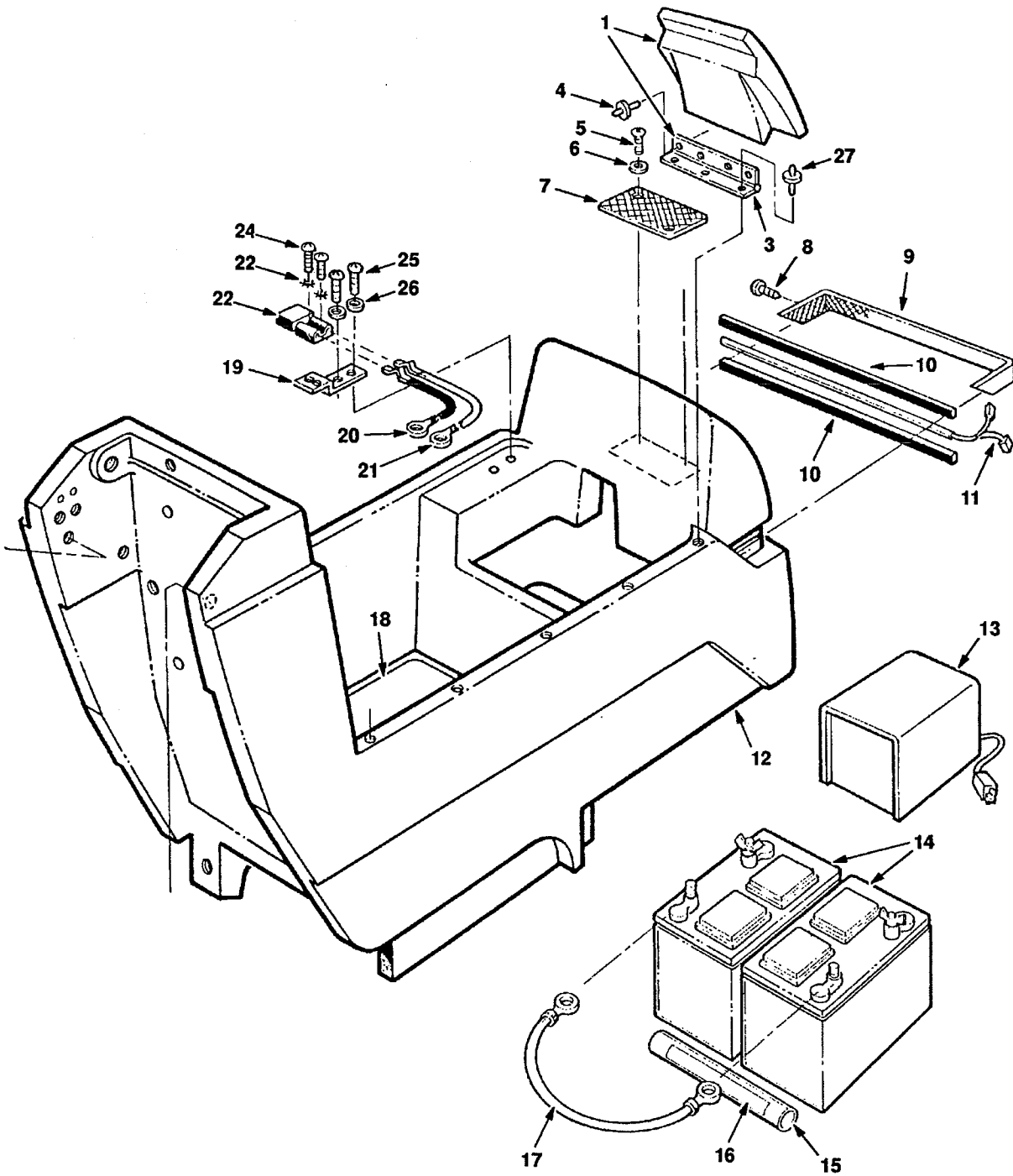


SS2001DW-SS2400 BATTERY WIRE DIAGRAM

SS1701 - SS2001 230V WIRE DIAGRAM



CHASSIS ASSEMBLY



## CHASSIS ASSEMBLY

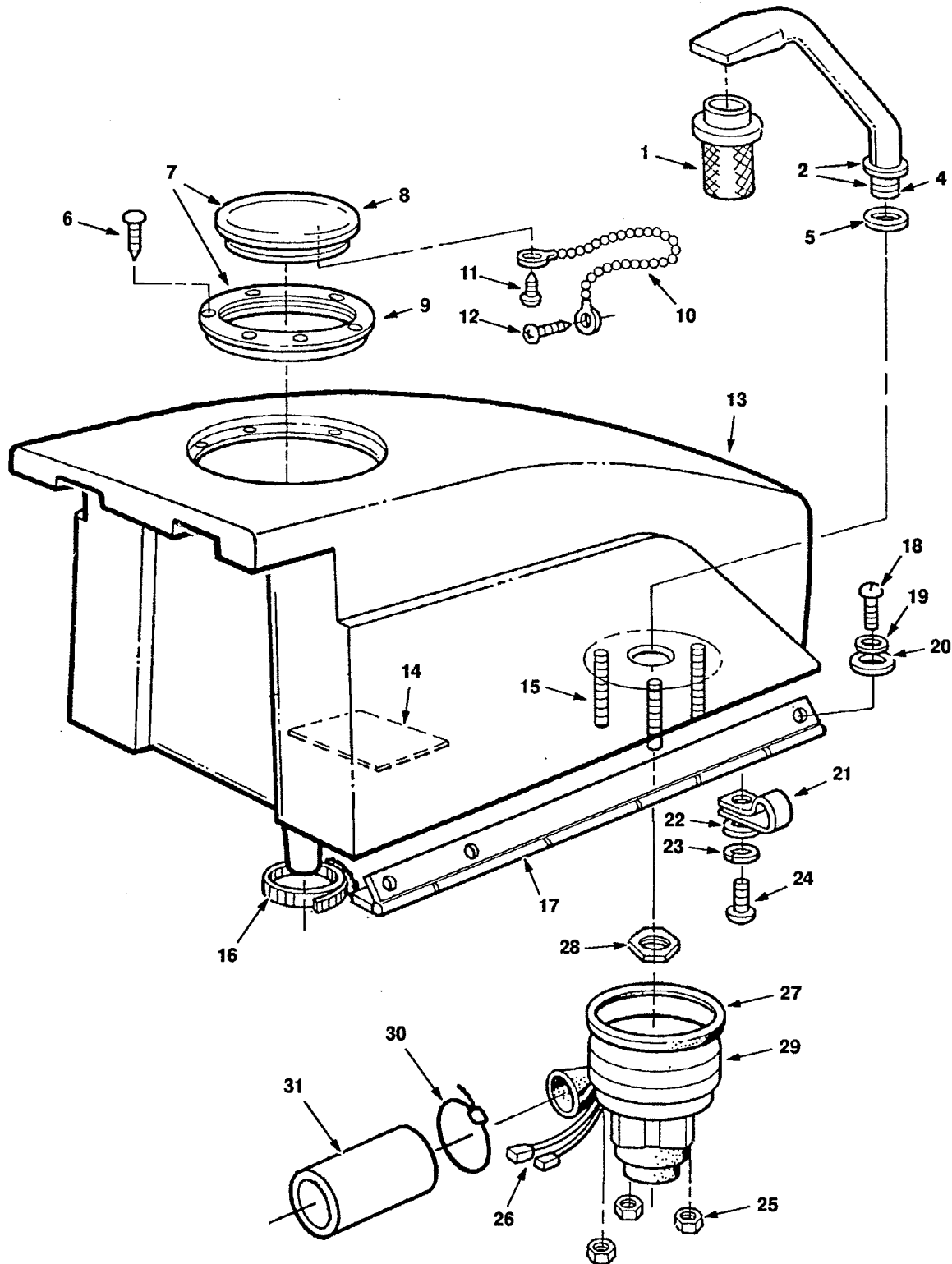
REF	PART #	DESCRIPTION	QTY
1	700153	▽ASM., DOOR SOL TANK	1
2	100160	▲DOOR, SOL. TANK	1
3	230626	▲HINGE, DOOR	1
4	140706	▲RIVET, POP	4
5	140826	SCREW, 10-24X3/8	2
6	140032	WASHER, FLAT #6	2
7	230693	SCREEN, FILL	.14ft.
8	140835	SCREW, 10-24X3/8	2
9	230311.BK	SHIELD, LIGHT	1
10	26578	GASKET	3ft.
11	130023	LIGHT, SAFETY	1
12	100256	CHASSIS	1
13	130948	CHARGER, 115V 24V DC	1
	130948	CHARGER, 230V 50Hz	1
14	130869	BATTERY, 12V (OPT)	2
15	130191	SPACER, BATTERY	1ft.
16	120589	DECAL, BATTERY	1
17	130364	CABLE, BATTERY 15X6GA	1
18	100705	PLATE, BATTERY COMP.	1
19	230665	BRACKET, CHGER PLUG	1
20	700169	WIRE, #12X17 5/16	1
21	700168	WIRE, #12X12 3/8	1
22	27833	CONNECTOR	1
23	140019	WASHER, LOCK	2
24	140810	SCREW, 6-32X3/8	2
25	140951	SCREW, 10-24X1/2	2
26	140018	WASHER, LOCK	2
27	140706	RIVET	3

▽=ASSEMBLY

▲=INCLUDED IN ASSEMBLY

# PARTS LIST

## RECOVERY TANK ASSEMBLY



## RECOVERY TANK ASSEMBLY

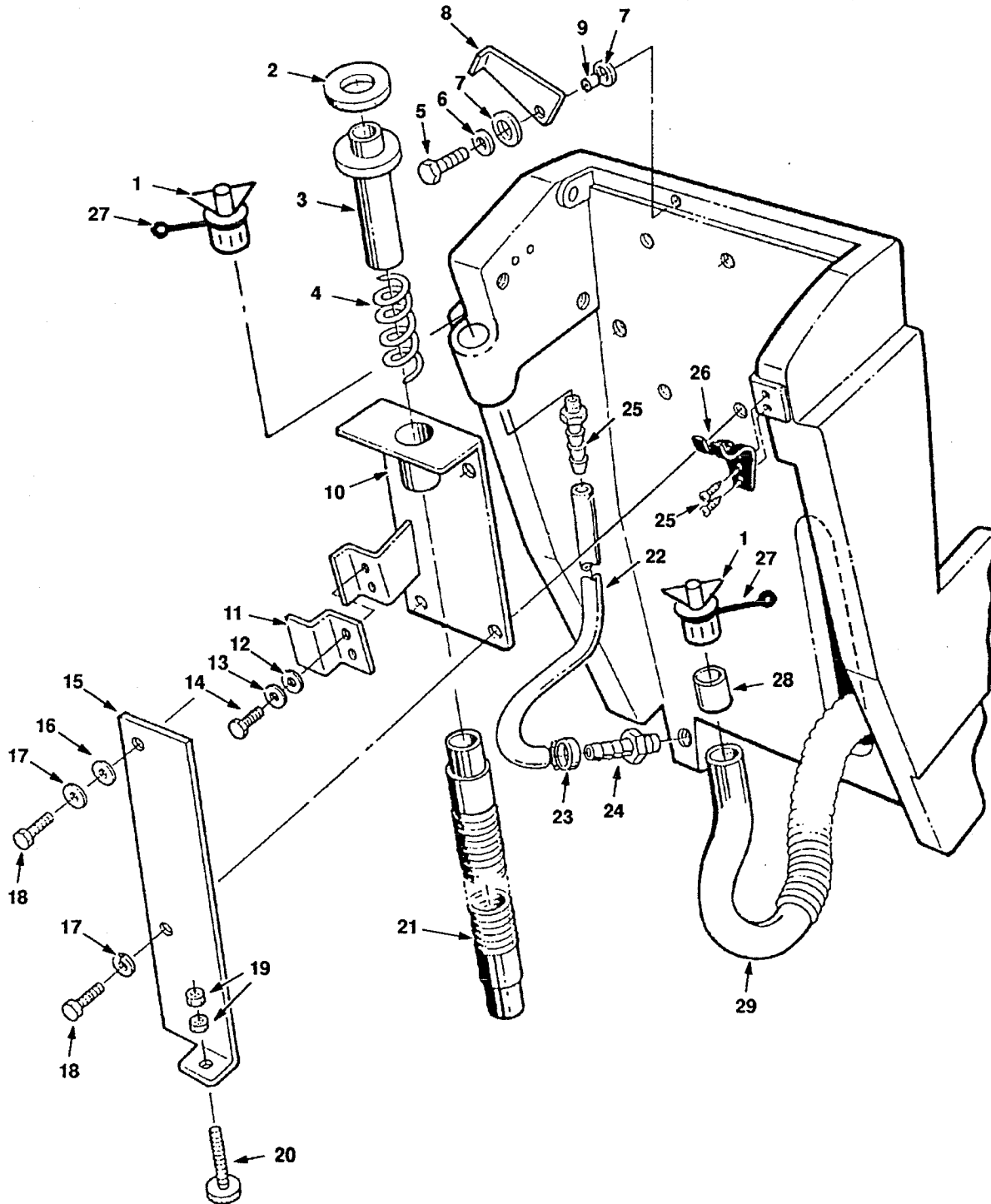
REF	PART #	DESCRIPTION	QTY
1	180613	FLOAT, SHUT OFF	1
2	701103	▽ASM., STANDPIPE	1
3	101326	▲STANDPIPE	1
4	230187	▲NIPPLE 1-1/2	1
5	101714	GASKET	1
6	140826	SCREW, #6X3/4	6
7	100102	▽ASM., LID	1
8	100105	▲LID, CENTER	1
9	100109	▲LID, OUTER	1
10	230513	CHAIN, LID	1
11	3701.6	SCREW, #6X3/8	1
12	140826	SCREW, #6X3/4	1
13	100258	TANK, RECOVERY	1
14	120588	DECAL, BATTERY	1
15	140258	STUD, 1/4-20X4-1/8	3
16	140307	CLAMP, HOSE	1
17	230721	HINGE, REC. TANK	1
18	140885	SCREW, 1/4-20X1/2	5
19	140052	WASHER, LOCK 1/4	5
20	140000	WASHER, FLAT 1/4	5
21	140315	CLAMP	1
22	140000	WASHER, FLAT 1/4	4
23	140052	WASHER, LOCK 1/4	4
24	140885	SCREW, 1/4-20X1/2	4
25	140501	NUT, LOCK 1/4	3
26	130149	TERMINAL, MALE (BLU)	2
27	0174.10	SEAT, MOTOR	1
28	210240	NUT, 1-1/2	1
29	27249	MOTOR, 24V	1
	190163	-CARBON BRUSH	1
	130402	MOTOR, 120V	1
	190155	-CARBON BRUSH	1
	130403	MOTOR, 230V	1
	190158	-CARBON BRUSH	1
30	130041	WIRE TIE	1
31	600009	MUFFER, EXHAUST	1

▽=ASSEMBLY

▲=INCLUDED IN ASSEMBLY

# PARTS LIST

## REAR PANEL ASSEMBLY

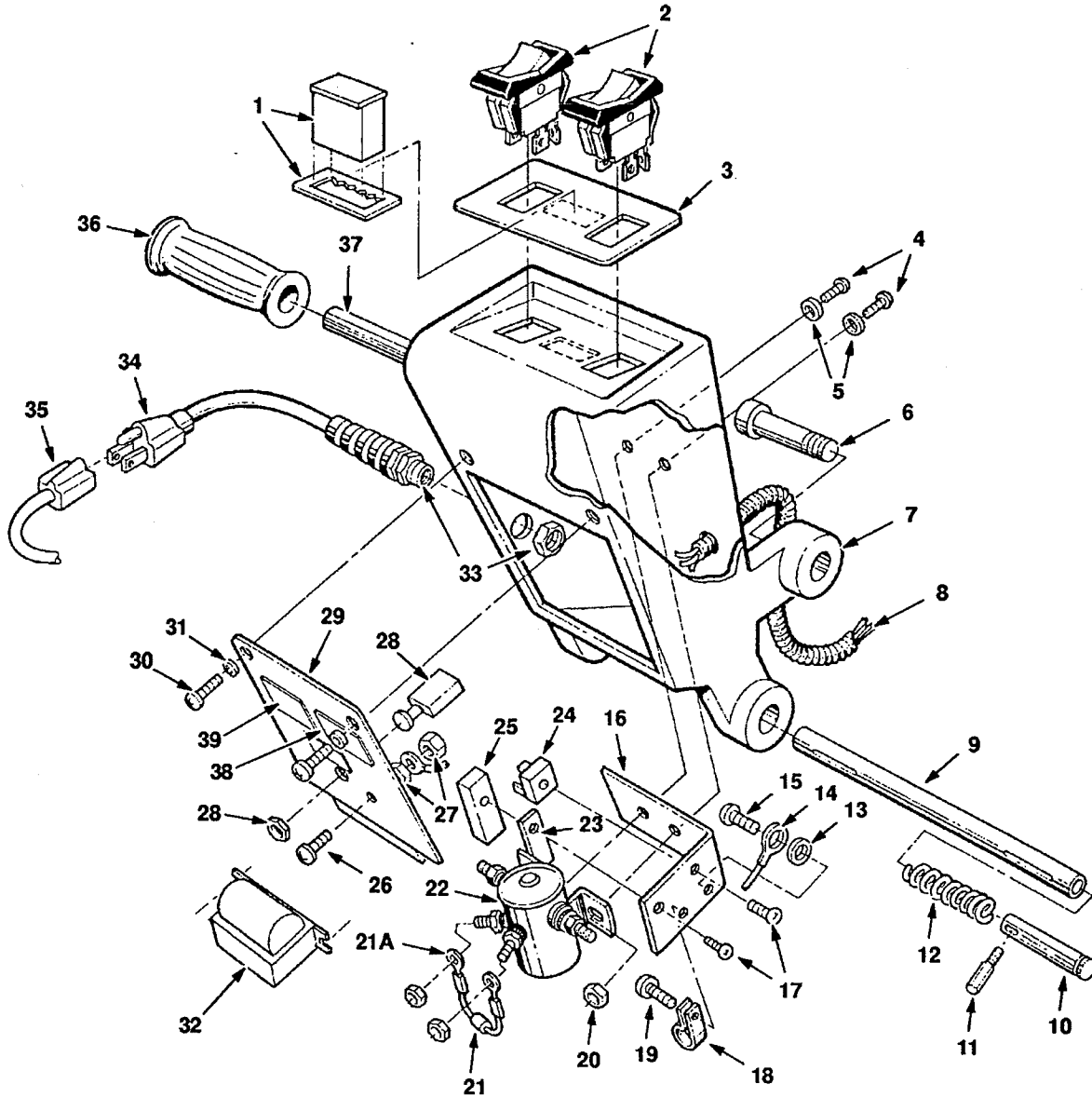


## REAR PANEL ASSEMBLY

REF	PART #	DESCRIPTION	QTY
1	621324	PLUG, DRAIN	2
2	100151	GASKET, TUBE ADPTR.	1
3	230664	ADAPTER, TUBE	1
4	140424	SPRING, TUBE ADPTR.	1
5	140226	SCREW, 5/16-18X5/8	1
6	140015	WASHER, LOCK 5/16	1
7	140027	WASHER, FLAT 5/16	2
8	230925	SUPPORT, REC. TANK	1
9	140116	BUSHING, 3/8X1/2	1
10	230873	PLATE, MOUNT	1
11	230872	LATCH, PLATE BRUSH LIFT	1
12	140000	WASHER, FLAT 1/4	2
13	140016	WASHER, LOCK 1/4	2
14	140259	SCREW, 1/4-20X5/8	2
15	230927	PLATE, VALVE STOP	1
16	140027	WASHER, FLAT 5/16	1
17	140015	WASHER, SPLIT LOCK	4
18	140226	SCREW, 5/16-18X5/8	4
19	140548	NUT, JAM 5/16	2
20	240191	KNOB	1
21	160617	HOSE, 1-1/2X24 W/CUFFS	1
22	700420	HOSE W/ MARKERS	1
23	140310	CLAMP, HOSE	1
24	14884	HOSE BARB, 1/2HX3/8M	2
25	140810	SCREW, 6-32X3/8	2
26	230696.BK	BRACKET, DRAIN HOSE	1
27	578441	STRAP, RUBBER	2
28	630394	SLEEVE, DRAIN HOSE	1
29	630068	HOSE, DRAIN	1

# PARTS LIST

## CONTROL CONSOLE ASSEMBLY - SS1701 & SS2001



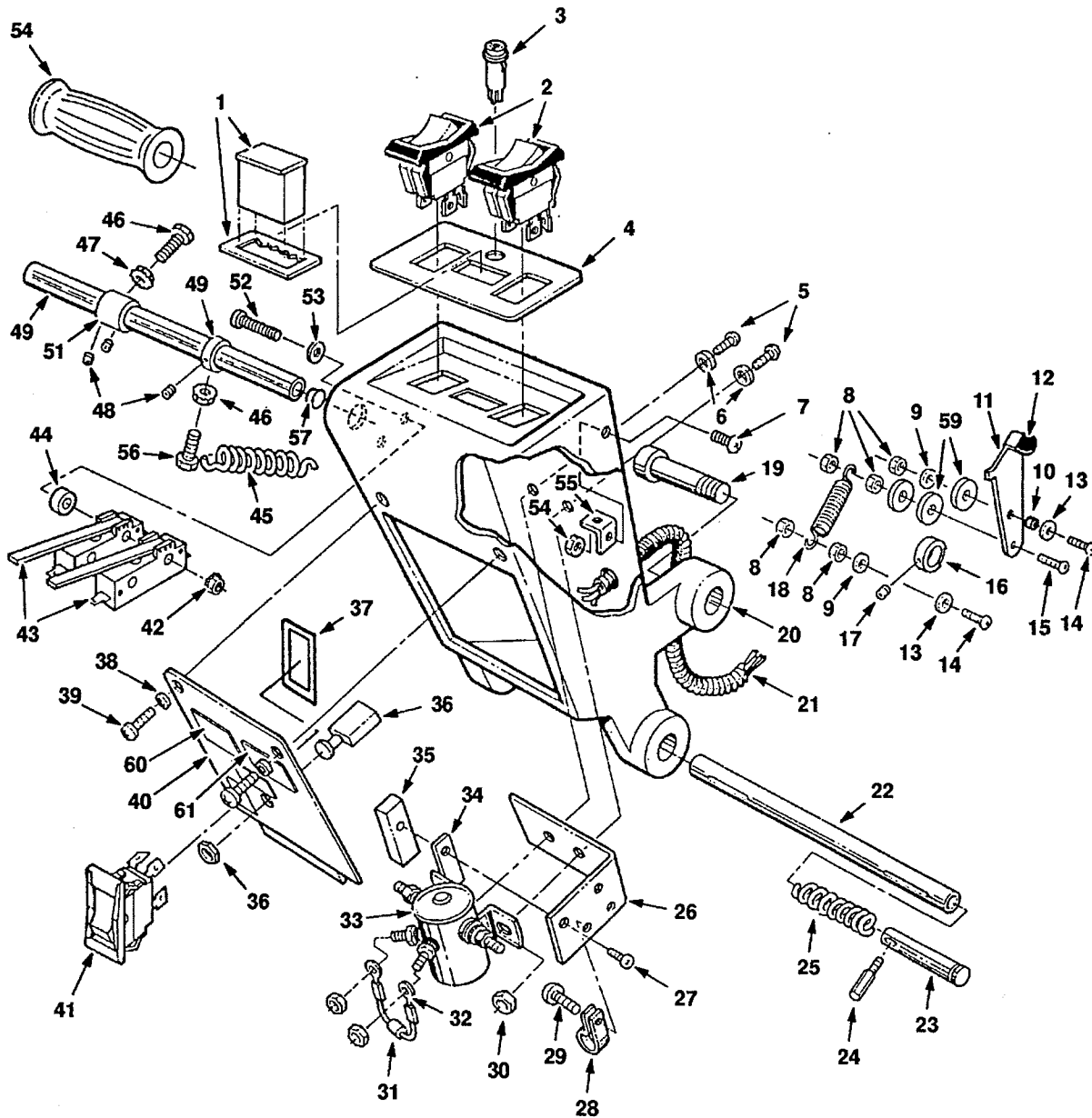
## PARTS LIST

## CONTROL CONSOLE ASSEMBLY - SS1701 &amp; SS2001

REF	PART #	DESCRIPTION	QTY
1	130015	METER, BATTERY 24V	1
2	19417	SWITCH, ON/OFF	2
3	120637	DECAL, DASH	1
4	140900	SCREW, 10-24X3/4	2
5	140018	WASHER, LOCK #10	2
6	140241	BOLT, SHOULDER 5/8X2	2
7	100196	HOUSING, ELEC 120V	1
	100259	HOUSING, BAT 24V	1
8	700181	CORD, ELEC 120V	1
	700167	ASM., HARNESS BAT 24V	1
9	230715	TUBE, HANDLE ADJMT.	1
10	230710	PIN, HANDLE LOCK	2
11	230649	PIN, HANDLE ADJMT	2
12	140415	SPRING, LOCK PIN	1
13	140018	WASHER, LOCK 10#	1
14	700726	ASM., WIRE #14X9" 120V	1
15	140900	SCREW, 10-24X3/4 120V	1
16	230744	BRACKET, ELEC. MOUNT	1
17	140900	SCREW, 10-24X3/4	2
18	140916	CLAMP, NYLON 5/8 24V	1
	140323	CLAMP, NYLON 1/2 120V	1
19	140900	SCREW, 10-24X3/4	1
20	140519	NUT, KEP 10-24	2
21	130423	DIODE, RECTIFIER 24V	1
21A	130107	TERMINAL RING	2
22	130218	SOLENOID, 24V	1
23	100058	TAPE, ACRYLIC FOAM	.09'
24	24250	RECTIFIER, 24V	1
25	130021	FLASHER, 24V	1
	130024	FLASHER, 120V	1
26	140900	SCREW, 10-24X3/4	1
27	140519	NUT, KEP 10-24	2
28	130755	BREAKER, CIRCUIT 10A 120V	1
	130756	BREAKER, CIRCUIT 35A 24V	1
29	230716.BK	COVER, HOUSING	1
30	140887	SCREW, 10-24X3/8	2
31	140018	WASHER, LOCK #10	2
32	130025	TRANSFORMER 2A	1
33	130167	GRIP, CORD	1
34	130227	CORD, 14/3X20" 120V	1
35	130229	CORD, 14/3X75' 120V	1
36	200823	GRIP, HANDLE	2
37	230709	TUBE, HANDLE	1
38	120619	DECAL, WARNING ELEC.	1
39	120649	DECAL, WARNING BAT.	1

# PARTS LIST

## CONTROL CONSOLE ASSEMBLY - SS2001DW & SS2400

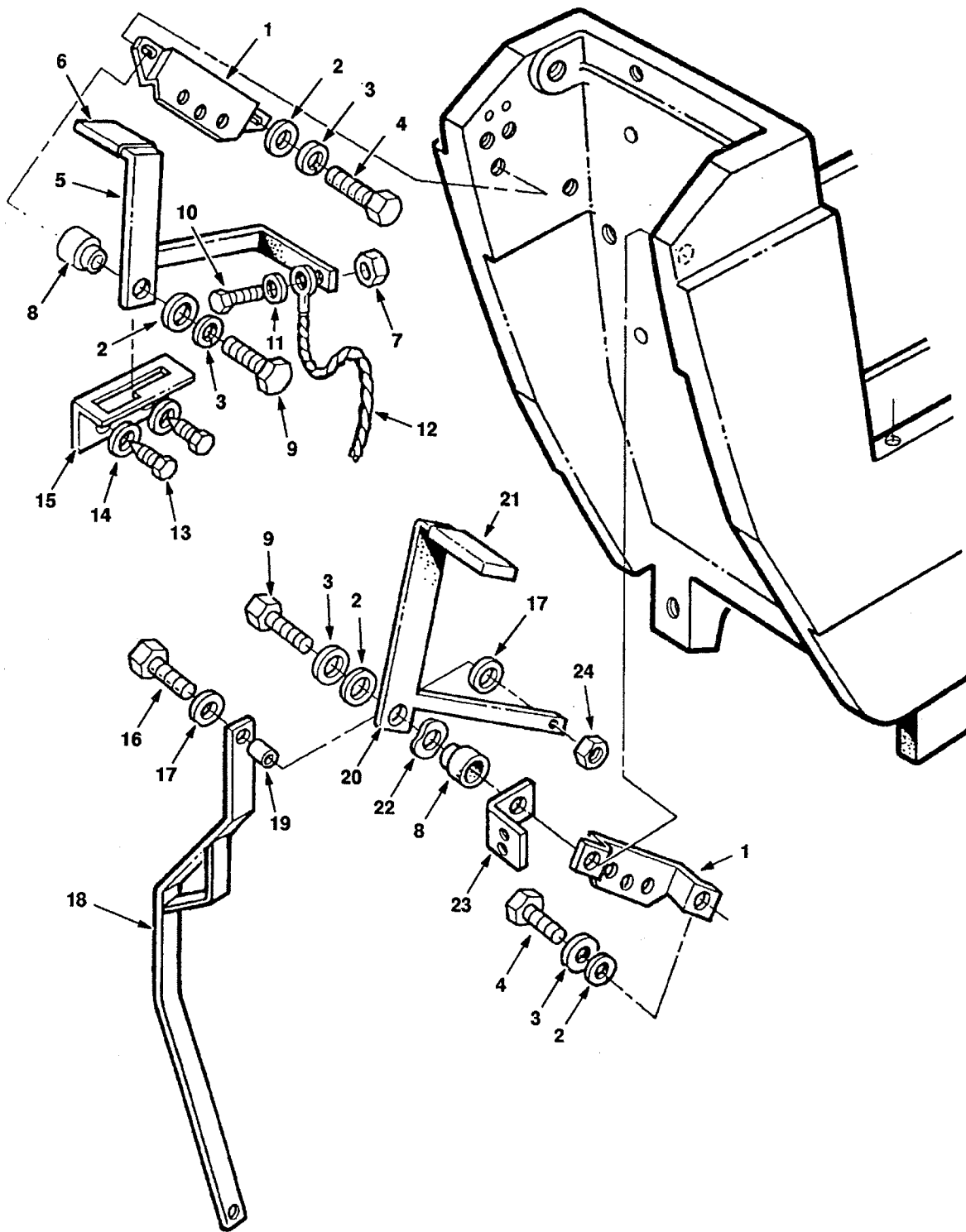


## PARTS LIST

## CONTROL CONSOLE ASSEMBLY - SS2001DW &amp; SS2400

REF	PART #	DESCRIPTION	QTY
1	130015	METER, BATTERY 24V	1
2	19417	SWITCH, ON/OFF	2
3	130738	LIGHT, INDICATOR GRN	1
4	120637	DECAL, DASH	1
5	140900	SCREW, 10-24X3/4	2
6	140018	WASHER, LOCK #10	2
7	140900	SCREW, 10-24X3/4	1
8	140501	NUT, LOCK 1/4	5
9	140000	WASHER, FLAT 1/4	2
10	140117	SPACER	1
11	230909	LATCH, TWO SPEED	1
12	200822	GRIP, LATCH	1
13	140000	WASHER, FLAT 1/4	2
14	140840	SCREW, 1/4-20X1	2
15	140846	SCREW, 1/4-20X1	1
16	230917	COLLAR, SPEED LATCH	1
17	140859	SCREW, SET 1/4-20X1/4	1
18	26559	SPRING	1
19	140241	BOLT, SHOULDER 5/8X2	2
20	100444	HOUSING, CONTROL	1
21	600373	ASM., WIRE HARNESS	1
22	230715	TUBE, HANDLE	1
23	230710	PIN, HANDLE LOCK	2
24	230649	PIN, HANDLE ADJMT	2
25	140415	SPRING, LOCK PIN	1
26	230744	BRACKET, ELEC. MOUNT	1
27	140900	SCREW, 10-24X3/4	1
28	140916	CLAMP, NYLON	1
29	140900	SCREW, 10-24X3/4	1
30	140519	NUT, KEP 10-24	2
31	130107	TERMINAL, RING	2
32	130423	RECTIFIER	1
33	130218	SOLENOID	1
34	100058	TAPE, ACRYLIC FOAM	.09'
35	130021	FLASHER	1
36	130756	BREAKER, CIRCUIT 35A	1
37	230886	PLATE, SWITCH RETAINER	1
38	140018	WASHER, LOCK #10	2
39	140887	SCREW, 10-24-3/8	2
40	230876.BK	COVER, HOUSING	1
41	19417	SWITCH, ON/OFF	1
42	28675	NUT, KEP 6-32	2
43	28657	SWITCH	2
44	140150	SPACER	2
45	140409	SPRING, ROLL THROTTLE	1
46	140208	SCREW, 1/4-20X1	1
47	140510	NUT, JAM 1/4-20	2
48	140860	SCREW, CUP 1/4-20X3/8	3
49	230709	TUBE, HANDLE	1
50	230652	COLLAR, HANDLE	1
51	230884	COLLAR, SWITCH ACT.	1
52	140757	SCREW, 6-32X2-1/4	2
53	140032	WASHER, FLAT #6	2
54	200823	GRIP, HANDLE	2
55	140519	NUT, KEP10-24	1
56	230564	BRACKET, SPRING	1
57	140554	SCREW	1
58	230916	PLUG	1
59	140053	WASHER	3
60	120619	DECAL, WARNING ELECT.	1
61	120649	DECAL, WARNING BAT.	1

LEVER ASSEMBLY

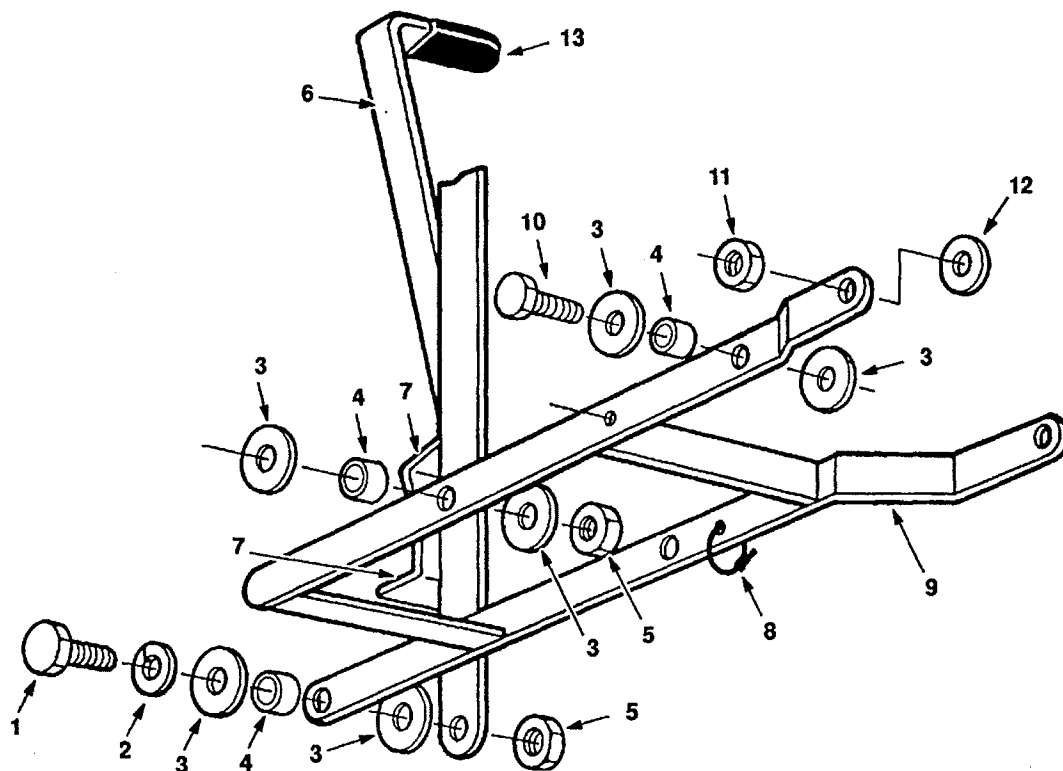


## LEVER ASSEMBLY

REF	PART #	DESCRIPTION	QTY
1	230661	PLATE, LOCK	2
2	140027	WASHER, FLAT 5/16	4
3	140015	WASHER, LOCK 5/16	4
4	140226	SCREW, 5/16-18X5/8	2
5	230728.BK	HANDLE, SQGE. LIFT	1
6	200816	GRIP, HANDLE	1
7	140510	NUT, JAM 1/4-20	1
8	230735	BUSHING, SPACER	2
9	1400221	SCREW, 5/16-18X1-1/4	2
10	140259	SCREW, 1/4-20X5/8	1
11	140016	WASHER, LOCK 1/4	1
12	140931	CABLE, SQGE. LIFT	1
13	140951	SCREW, 10-24X7/16	2
14	140031	WASHER, LOCK	2
15	230712	PLATE, SQGE. LOCK	1
16	140208	SCREW, 1/4-20X1	1
17	140000	WASHER, FLAT 1/4	2
18	230718	LEVER, SOL. CNTRL	1
19	140134	BUSHING, SOL. CNTRL.	1
20	230719.BK	HANDLE, SOL. CNTRL.	1
21	200816	GRIP, HANDLE	1
22	140060	WASHER, WAVE	1
23	230296	BRACKET, DRAIN HOSE	1
24	140510	NUT, JAM 1/4-20	1

# PARTS LIST

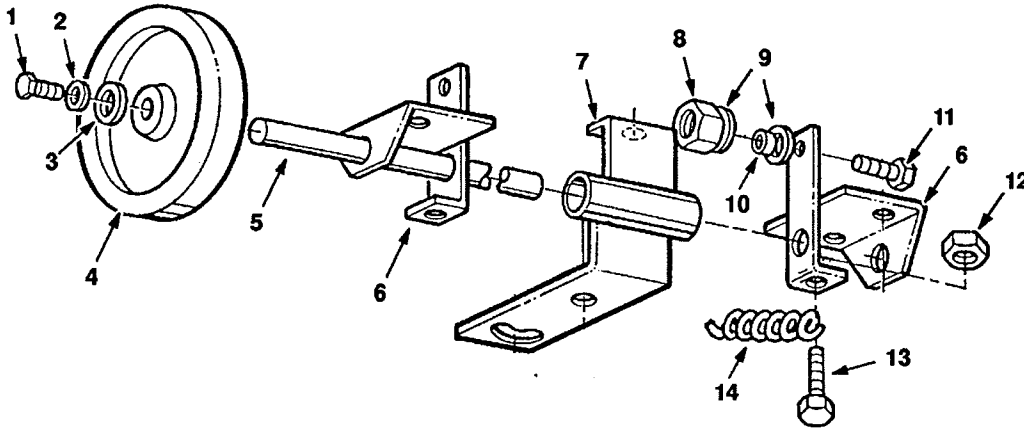
## BRUSH LIFT ASSEMBLY



## BRUSH LIFT ASSEMBLY

REF	PART #	DESCRIPTION	QTY
1	140236	SCREW, 3/2-13X1-1/4	1
2	140024	WASHER, LOCK 1/2	1
3	140045	WASHER, FLAT	10
4	140139	BUSHING	5
5	140516	NUT, LOCK 1/2	3
6	230874	LEVER, BRUSH LIFT FOOT	1
7	102560	SURFACING, NON-SLIP	2
8	130040	WIRE TIE, NYLON	1
9	230870	WELDMENT, LIFT 1701/2001/DW	1
	230897	WELDMENT, LIFT 2400	1
10	140237	SCREW, 1/2-13X1	1
11	140509	NUT, JAM 1/2-13 1701/2001/DW	1
12	140127	BEARING, THURST	1
13	200816	GRIP, HANDLE	1

## WHEEL AXLE ASSEMBLY - SS1701 &amp; SS2001



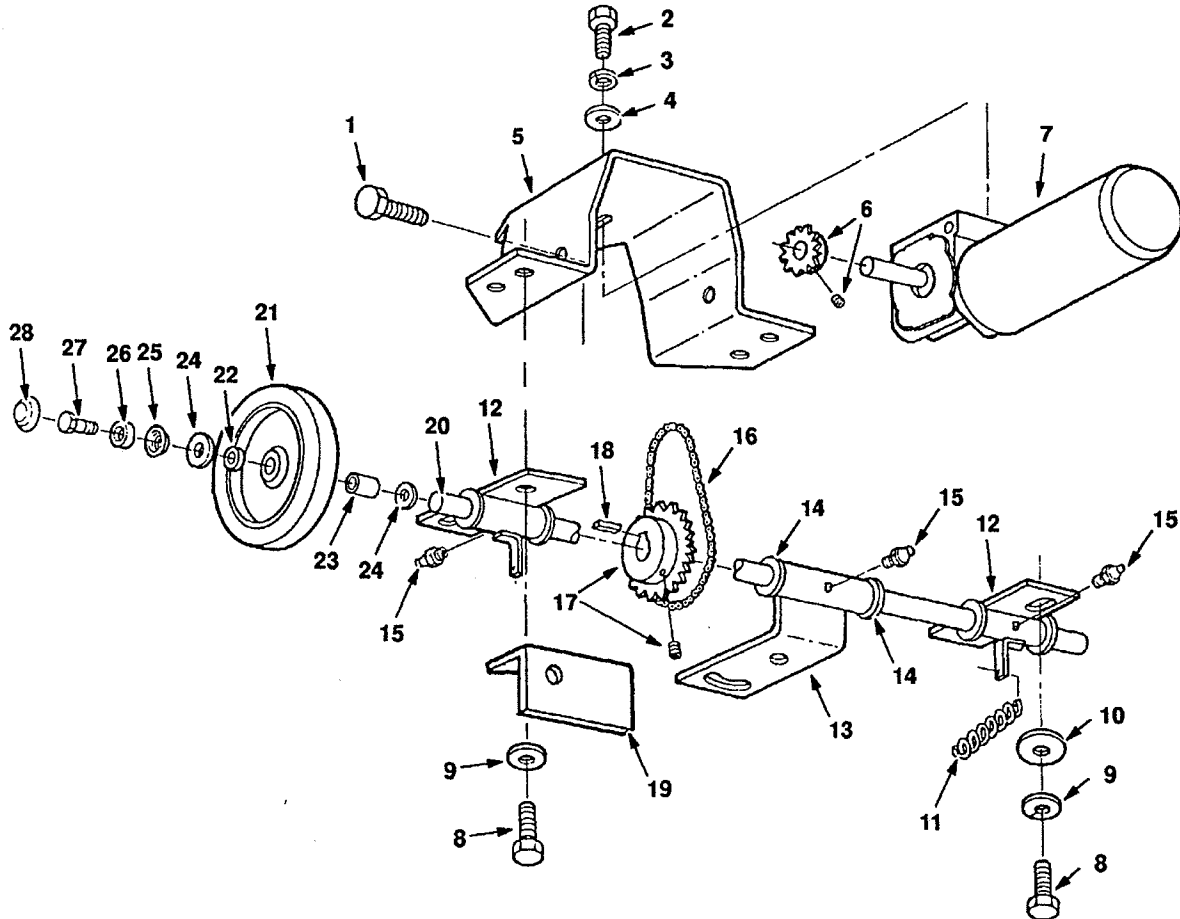
## WHEEL AXLE ASSEMBLY- SS1701 &amp; SS2001

REF	PART #	DESCRIPTION	QTY
1	140201	SCREW, 3/8-16X3/4	2
2	140017	WASHER, LOCK 3/8	2
3	140028	WASHER, FLAT 3/8	2
4	25656	WHEEL	2
5	230743	AXLE	1
6	230732	BRACKET, AXLE	2
7	230731	MOUNT, SQUEEGEE	1
8	140511	NUT, ACORN 10-24	2
9	14880.7	WASHER, FLAT 7/16	4
10	140139	BUSHING, LIFT PEDAL	2
11	140236	SCREW, 1/2-13X1-1/4	2
12	140525	NUT, 3/8-16	2
13	140233	SCREW, CAP	2
14	14043	SPRING	2

# PARTS LIST

## WHEEL AXLE ASSEMBLY (AUTOMATIC DRIVE) - SS2001 & SS2400

2



## WHEEL AXLE ASSEMBLY (AUTOMATIC DRIVE) - SS2001 &amp; SS2400

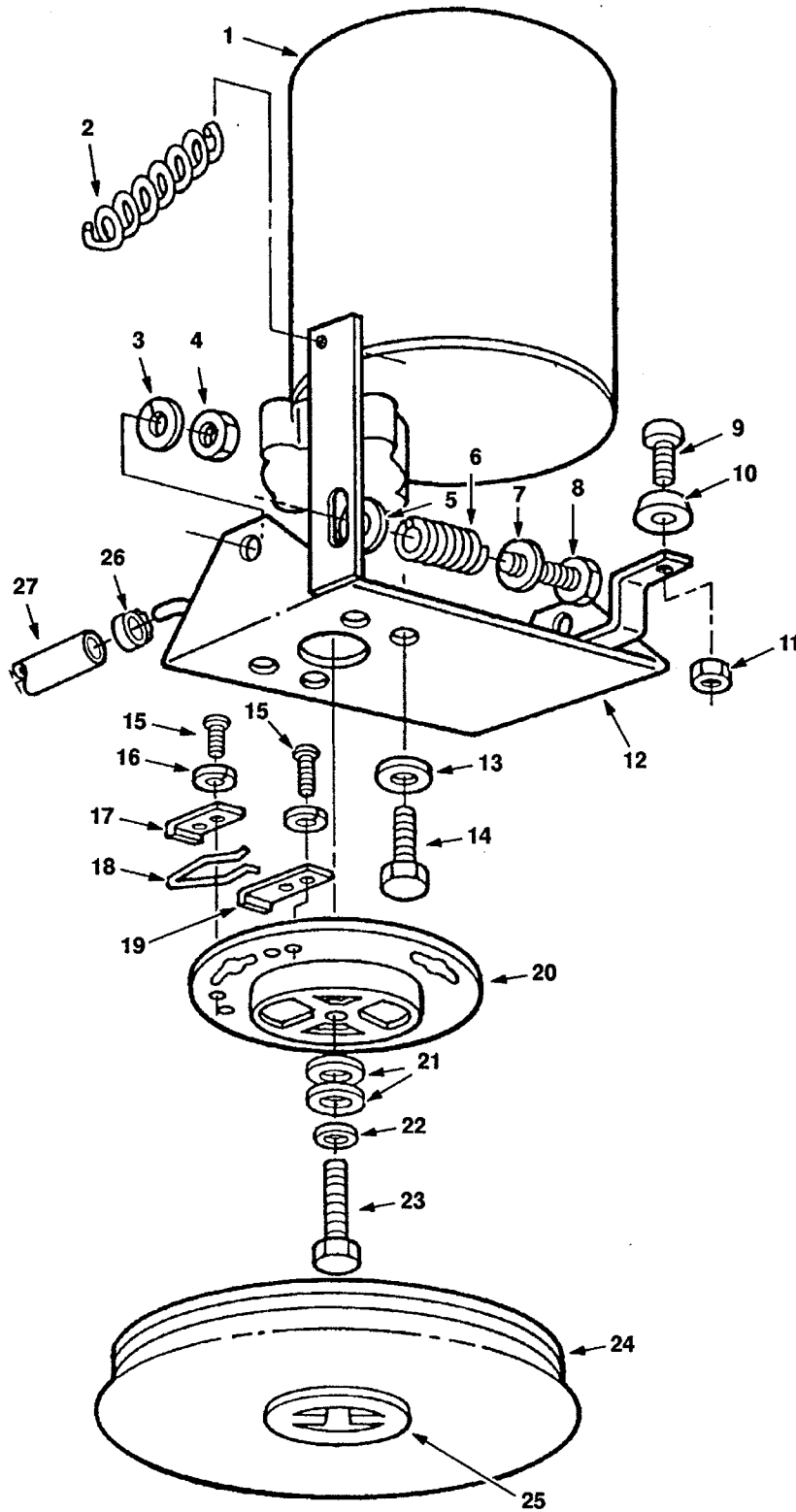
REF	PART #	DESCRIPTION	QTY
1	140236	SCREW, 1/2-13X1-1/4	2
2	140553	SCREW, 1/4-20X1/2	4
3	140016	WASHER, LOCK 1/4	4
4	140000	WASHER, FLAT 1/4	4
5	230879	PLATE, MOTOR MOUNT	1
6	230352	SPROCKET, W/SET SCRW	1
7	130474	MOTOR, DRIVE 24V	1
	190750	-BRUSH CARD	1
8	140237	SCREW, 1/2-13X1	4
9	140024	WASHER, LOCK 1/2	4
10	140045	WASHER, FLAT 1/2	2
11	140433	SPRING	1
12	230878	BRACKET, AXLE W/BEARINGS	2
13	230880	MOUNT, SQUEEGEE	1
14	140111	BEARING, AXLE	2
15	150015	FITTING, GREASE	3
16	240088	CHAIN, #35 ROLLER	1.34'
	240089	LINK, #35 CHAIN	1
	240090	LINK, OFF SET	1
17	240069	SPROCKET, WHEEL W/SET SCRW	1
18	140628	KEY, WHEEL SPROCKET	1
19	230928	SHIELD, CHAIN	1
20	230877	AXLE, DRIVE	1
21	700821	▽ASM., WHEEL, R.H.	1
	700820	▽ASM., WHEEL, L.H.	1
22	140115	▲SEAL, BEARING	4
23	140110	▲BEARING	2
24	140047	WASHER, 1-1/4X3/4	2
25	140048	WASHER, 5/16	2
26	140015	WASHER, LOCK 5/16	2
27	14059	SCREW, 5/16-18X1/2	2
28	150210	CAP, WHEEL	2

▽=ASSEMBLY

▲=INCLUDED IN ASSEMBLY

# PARTS LIST

## BRUSH/PAD DRIVE ASSEMBLY - SS1701, SS2001 & 2001DW



## BRUSH/PAD DRIVE ASSEMBLY - SS1701, SS2001 &amp; 2001DW

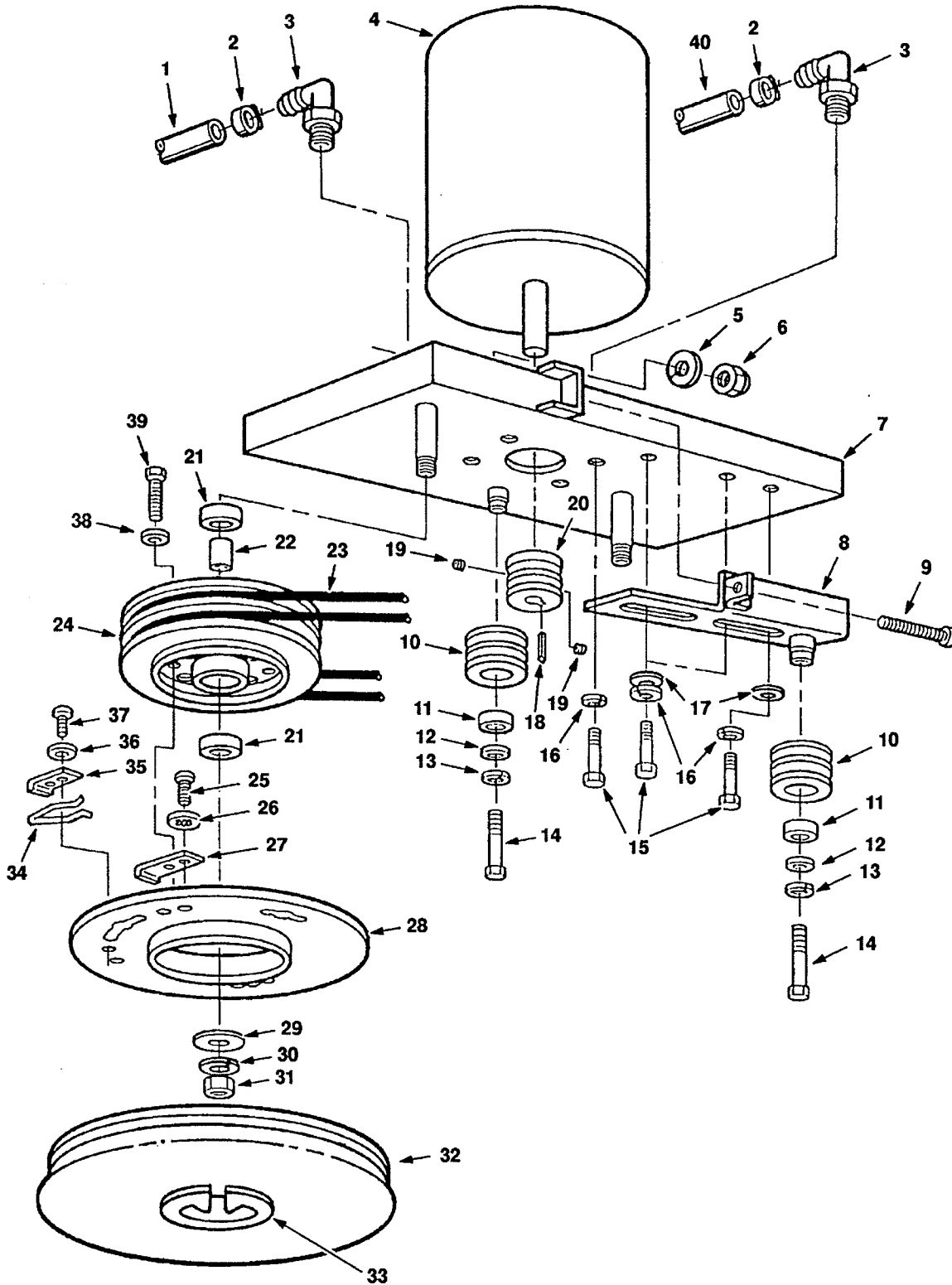
REF	PART #	DESCRIPTION	QTY
1	130491	MOTOR, 24V	1
	190970	CARBON BRUSH	4
	190741	ASM., BRUSH CARD	1
	130481	MOTOR, 120V	1
		CARBON BRUSH	
	130482	MOTOR, 220V	1
		CARBON BRUSH	
2	140431	SPRING	1
3	140024	WASHER, LOCK 1/2	2
4	140509	NUT, JAM 1/2-13	2
5	140127	BEARING, THRUST	1
6	140430	SPRING	1
7	3148.816	WASHER, FLAT	1
8	140234	SCREW, 1/2-13X2-1/2	1
9	140900	SCREW, 10-24X3/4	1
10	100091	BUMPER, RECESSED	1
11	140552	NUT, LOCK 10-24	1
12	230871	BRACKET, MOTOR	1
13	140017	WASHER, LOCK 3/8	4
14	140202	SCREW, 3/8-16X1	4
15	140887	SCREW, 10-24X3/8	4
16	140018	WASHER, LOC #10	4
17	230651	CLAMP, BRUSH PLATE	1
18	140417	CLIP, SPRING	1
19	230697	STOP, DRIVER RELEASE	1
20	230672	PLATE, DRIVE	1
21	25732	WASHER, FLAT	2
22	140015	WASHER, LOCK 5/16	1
23	140219	SCREW, 5/16-18X1	1
24	230249	▽ASM., 20" PAD DRIVER	1
	240245	▽ASM., 17" PAD DRIVER	1
	100100	▲RING, RAD RETAINER 1"L	1
	100101	▲RING, PAD RTNR 1-1/2"L	1
	240254	▲LUGS, PLASTIC (Set of 3)	1
25	25707	ASM., CENTERLOCK	1
26	140310	CLAMP HOSE	2
27	12712	TUBING, 3/8X1/8	1.5ft.

▽=ASSEMBLY

▲=INCLUDED IN ASSEMBLY

# PARTS LIST

## BRUSH/PAD DRIVE ASSEMBLY - SS2400



## BRUSH/PAD DRIVE ASSEMBLY - SS2400

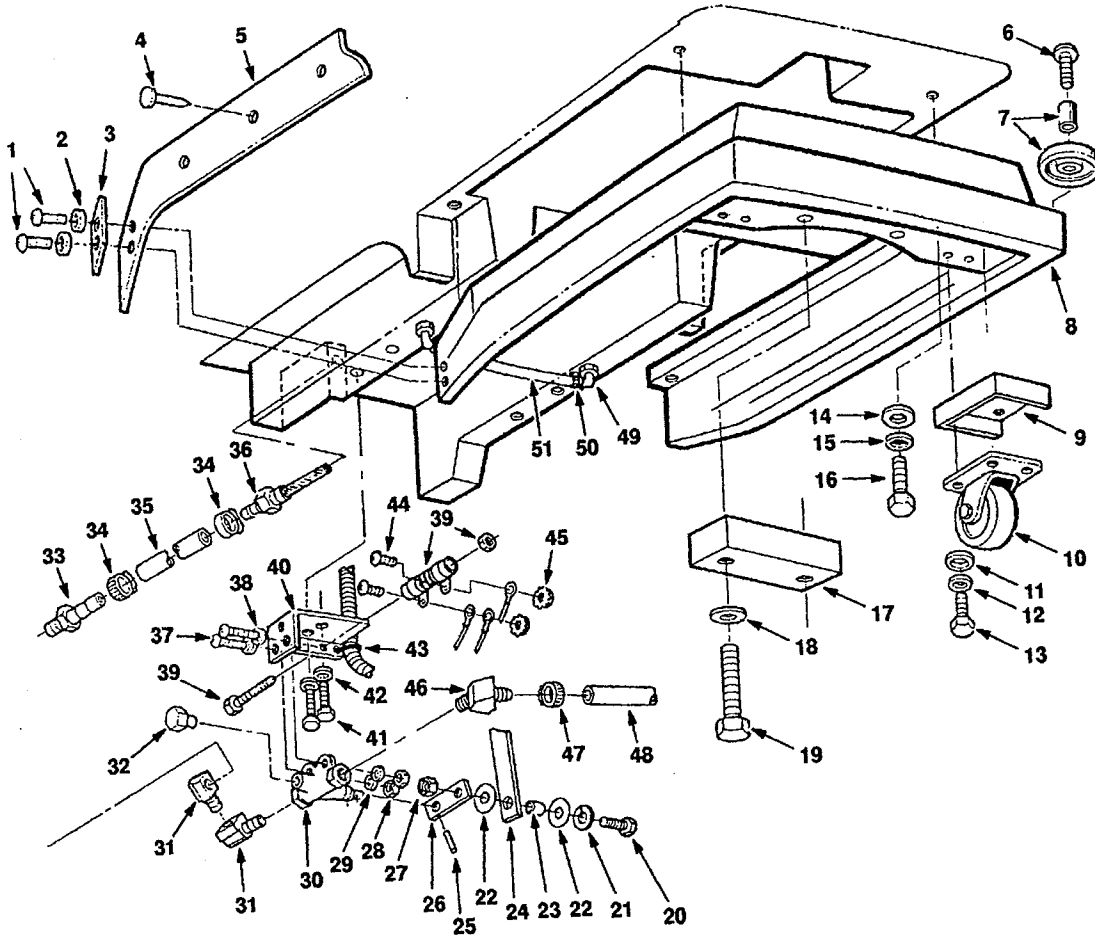
REF	PART #	DESCRIPTION	QTY
1	12712	TUBING, 3/8X1/8	2.1ft.
2	140310	CLAMP, HOSE	2
3	150415	ELBOW, 1/4MX3/8H 90°	1
4	130493	MOTOR, BRUSH 24V	1
5	140024	WASHER, LOCK 1/2	2
6	140516	NUT, LOCK 1/2	2
7	230895	BRACKET, MOTOR	1
8	230896	BRACKET, IDLER ADJT.	1
9	140220	SCREW, 1/4-20	1
10	230899	PULLEY, IDLER	2
11	140123	BEARING, BRUSH	2
12	140028	WASHER, FLAT 3/8	2
13	140017	WASHER, LOCK 3/8	2
14	140201	SCREW, 3/8-16X3/4	1
15	140559	SCREW, 5/16-18X1/2	7
16	140015	WASHER, LOCK 5/16	7
17	140027	WASHER, FLAT 5/16	3
18	9566.24	KEY, 3/16X1-1/2	1
19	140894	SCREW, SET 10-32X1/4	2
20	230898	PULLEY, MOTOR	1
21	140123	BEARING, BRUSH	4
22	230446	SPACER, BEARINGS	2
23	230902	BELT	2
24	230798	PULLEY, MAIN	2
25	230887	SCREW, 10-24X3/8	4
26	140018	WASHER, #10	4
27	230697	STOP, DRIVER RELEASE	2
28	230797	PLAT, DRIVE	2
29	14045	WASHER, FLAT	2
30	140024	WASHER, LOCK 1/2	2
31	140509	NUT, JAM 1/2-13	2
32	240262	▽ASM., PAD DRIVER 12" (PK 2)	1
	240254	▲LUGS, PLASTIC (Set of 3)	1
33	100106	▲▽PLATE, PAD DRIVER	1
	100107	▲RING, PAD RTNR	1
34	140417	SPRING	2
35	230651	CLAMP, BRUSH PLATE	2
36	140018	WASHER, LOCK #10	4
37	140887	SCREW, 10-24X3/8	4
38	140015	WASHER, LOCK 5/16	8
39	140223	SCREW, 5/16-18X1/2	8
40	12712	TUBING	2.1ft.

▽=ASSEMBLY

▲=INCLUDED IN ASSEMBLY

# PARTS LIST

## SKIRT ASSEMBLY - SS1701, SS2001 & 2001DW

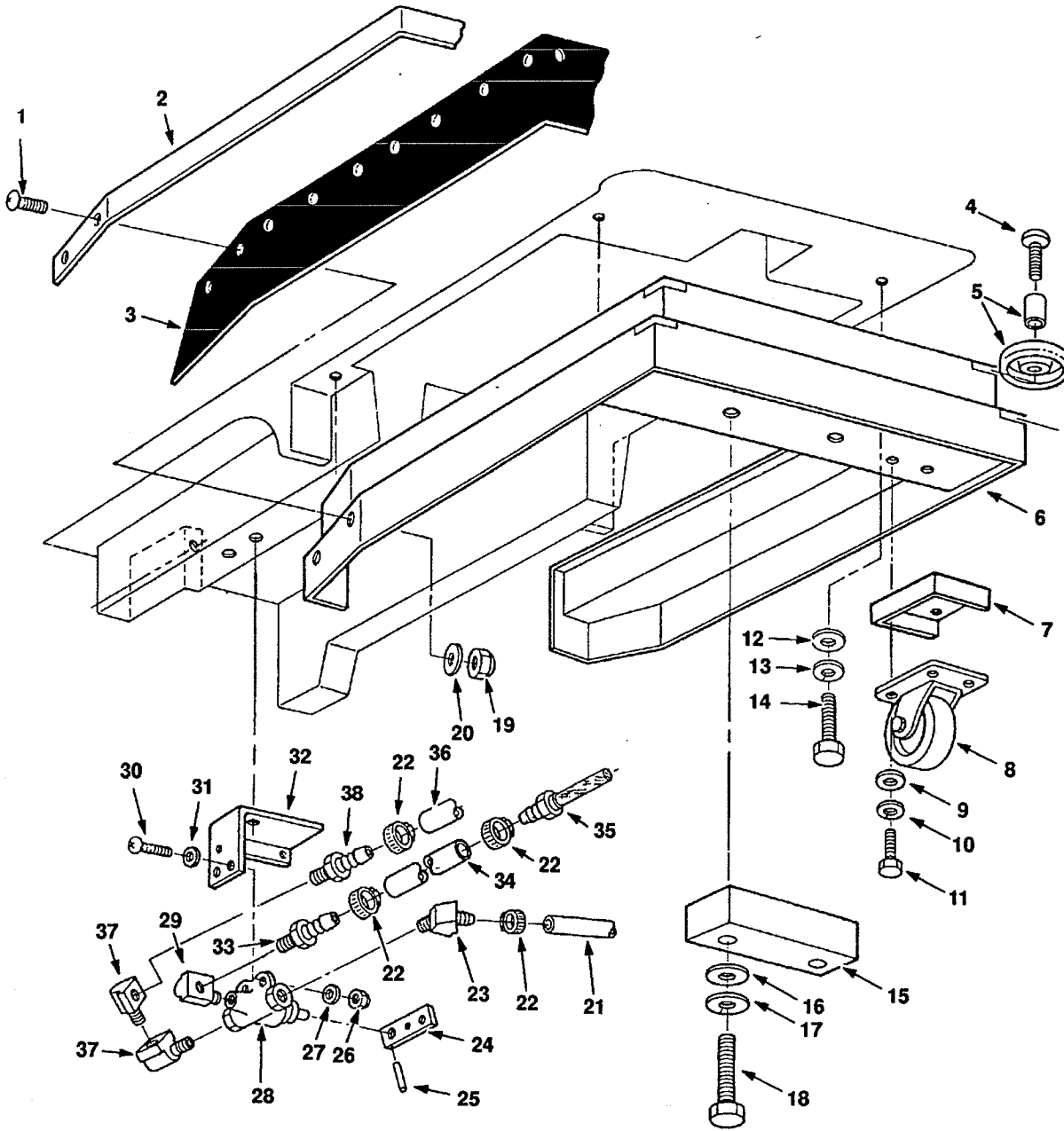


## SKIRT ASSEMBLY - SS1701, SS2001 &amp; 2001DW

REF	PART #	DESCRIPTION	QTY
1	140892	SCREW, 10-24X1/2	4
2	140018	WASHER, LOCK #10	4
3	230662	CLAMP, BUMPER	2
4	190120	KIT, BUMPER SS1701	1
	190121	KIT, BUMPER SS2001	1
5	140262	CLIP, SNAP-IN	9
6	140799	SCREW, 5/16-18X1-1/2	2
7	103055	WHEEL, W/BUSHING	2
8	100263	SKIRT, SS1701	1
	100264	SKIRT, SS2001	1
9	231032	SHIELD	2
10	103001	CASTER, SWIVEL	2
	103006	WHEEL ONLY	2
11	140000	WASHER, FLAT 1/4	8
12	140016	WASHER, LOCK 1/4	8
13	140259	SCREW, 1/4-20X5/8	8
14	140027	WASHER, FLAT 5/16	4
15	140015	WASHER, LOCK 5/16	4
16	140216	SCREW, 5/16-18X1-1/2	4
17	230875	WEIGHT, SS2001	1
	230881	WEIGHT, SS1701	1
18	140015	WASHER, LOCK 5/16	2
19	140220	SCREW, TAP 5/16-18X2-1/2	2
20	140208	SCREW, 1/4-20X1	1
21	140016	WASHER, LOCK 1/4	1
22	140000	WASHER, FLAT 1/4	2
23	140134	BUSHING, SOL. CNTRL	1
24	230718	LEVER, SOL. VALVE	1
25	140616	PIN, ROLL	1
26	230657	ARM, VALVE	1
27	140501	NUT, NYLON LOCK 1/4	1
28	140552	NUT, NYLON LOCK 10-24	2
29	140011	WASHER, FLAT 3/16	2
30	210261	VALVE, SOLUTION	1
31	150406	ELBOW, ST. 90°	2
32	150206	PLUG	1
33	150517	HOSE BARB, 1/4MX1/2H	1
34	140310	CLAMP, HOSE	2
35	14894	TUBING, VINYL	.5ft
36	180629	FILTER, SOL. TANK	1
37	140895	SCREW, 10-24X3/4	2
38	140011	WASHER, FLAT 3/16	1
39	130721	RESISTOR, 1.5Ω 50W(STANDARD)	1
	130722	RESISTOR, 1.8Ω 50W (MARSHALL)	1
40	230720	BRACKET, SOL. VALVE	1
41	140259	SCREW, 1/4-20X5/8	2
42	140016	WASHER, LOCK 1/4	2
43	130040	WIRE, TIE NYLON	1
44	140887	SCREW, 10-24X3/8	2
45	140519	NUT, KEP 10-24	2
46	28303	HOSE BARB	1
47	140310	CLAMP, HOSE	1
48	12712	TUBING, 3/8X1/8	1.5ft.
49	150419	ELBOW, 1/4MX3/8H 90°	1
50	140310	CLAMP, HOSE	2
51	12712	TUBING, 3/8X1/8	.85ft.

# PARTS LIST

## SKIRT ASSEMBLY - SS2400

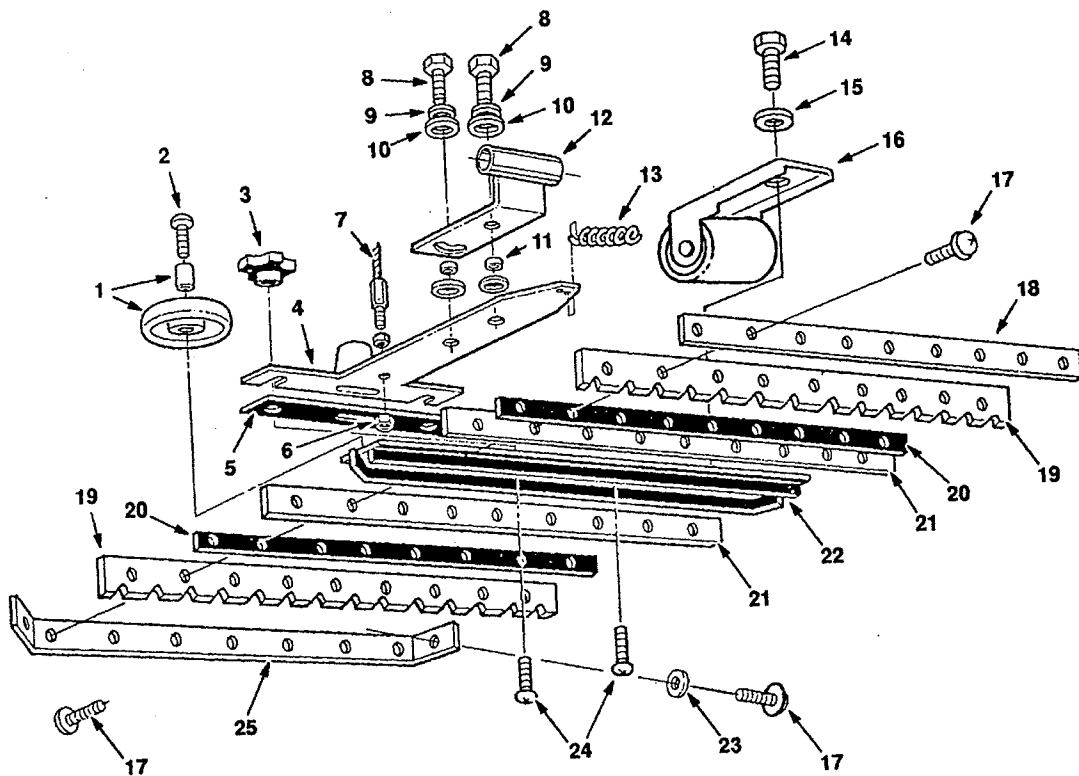


## SKIRT ASSEMBLY - SS2400

REF	PART #	DESCRIPTION	QTY
1	140823	SCREW, 10-24X1/2	22
2	230901.BK	STRAP, SPLASH GUARD	2
3	240271	GUARD, SPLASH	2
4	140799	SCREW, 5/16-18X1-1/2	4
5	103055	WHEEL, W/BUSHING	4
6	230900.NDG	WELDMENT, SKIRT	1
7	231032	SHIELD, CASTER	2
8	103001	CASTER, SWIVEL	2
9	140000	WASHER, FLAT 1/4	8
10	140016	WASHER, LOCK 1/4	8
11	140259	SCREW, 1/4-20X5/8	8
12	140027	WASHER, FLAT 5/16	4
13	140015	WASHER, LOCK 5/16	4
14	140226	SCREW, 5/16-18X5/8	4
15	230875	WEIGHT	1
16	140027	WASHER, FLAT 5/16	2
17	140015	WASHER, LOCK 5/16	2
18	140220	SCREW, TAP 5/16-18X2-1/2	2
19	140552	NUT, NYLON LOCK 10-24	22
20	140011	WASHER, FLAT 3/16	22
21	12712	TUBING, 3/8X1/8	2.1ft.
22	140310	CLAMP, HOSE	4
23	28303	HOSE BARB	1
24	230657	ARM, VALVE	1
25	140616	PIN, ROLL	1
26	140552	NUT, NYLON LOCK 10-24	2
27	140011	WASHER, FLAT 3/16	2
28	210261	VALVE, SOLUTION	1
29	150408	ELBOW, ST.	1
30	140895	SCREW, 10-24X3/4	2
31	140011	WASHER, FLAT 3/16	2
32	230720	BRACKET, SOL. VALVE	1
33	150517	HOSE BARB, 1/4MX1/2H	1
34	14894	TUBING, VINYL	.34ft.
35	180629	FILTER, REC. TANK	1
36	12712	TUBING, 3/8X1/8	2.1ft.
37	150406	ELBOW	2
38	150516	HOSE BARB, 1/4MX3/8H	1

# PARTS LIST

## SQUEEGEE ASSEMBLY



## SQUEEGEE ASSEMBLY

REF	PARTT #	DESCRIPTION	QTY
	701007*	ASM.,SQG. 1701	2
	700463*	ASM., SQG. 2001	2
	701098*	ASM., SQG. 2400	2
1	103055	WHEEL, W/BUSHINGS	2
2	140799	SCREW, 5/16-18X1-1/2	2
3	27257	KNOB, 5/16-18 THD	2
4	230730.BK	BRACKET, SQG. MOUNT	2
5	100150	GASKET, SQUEEGEE	1
6	140501	NUT, LOCK 1/4	2
7	140931	CABLE, SQG. LIFT 26-3/4	1
8	140237	SCREW, 1/2-13X1	2
9	140024	WASHER, LOCK 1/2	2
10	14045	WASHER, FLAT	2
			4
11	140139	BUSHING, BRSH LIFT PDL.	2
12	230731	MOUNT, PIVOT 1701/2001	1
	230880	MOUNT,PVT 2001DW/2400	1
13	140433	SPRING	2
14	140226	SCREW, 5/16-18X5/8	2
15	140015	WASHER, LOCK 5/16	2
16	700844	ROLLER, SQUEEGEE	2
17	140198	SCREW, 1701-2001/DW	2
	140198	SCREW, 2400	12
18	230722.BK	PLATE, FRONT SQG. 1701	24
			1
	230723.BK	PLATE, FRONT SQG. 2001	1
	230893.BK	PLATE, FRONT SQG 2400	1
19	240297	BLADE, SERRATED 1701	2
	240299	BLADE, SERRATED 2001/DW	2
	240291	BLADE, SERRATED 2400	2
20	230766	SPACER, BLADE 1701	2
	230483	SPACER, BLADE 2001/DW	2
	230894	SPACER, BLADE 2400	2
21	240296	BLADE, WIPER 1701	2
	240298	BLADE, WIPER 2001/DW	2
			2
	240290	BLADE, WIPER 2400	2
22	230726.BK	CHANNEL, SQG. 1701	1
	230727.BK	CHANNEL, SQG. 2001/DW	1
	230891.BK	CHANNEL, SQG. 2400	1
23	140011	WASHER, FLAT 3/16	1
			2
24	140221	SCREW, 5/16-18X1-1/4	2
25	230724.BK	PLATE, REAR SQG. 1701	1
	230725.BK	PLATE,REAR SQG. 2001/DW	1
	230892.BK	PLATE, REAR SQG. 2400	1

\* Squeegee Assembly does not include Ref. No: 4, 7, 8, 9, 10, 11, 12 & 13

