

Castex®

Concorde HP

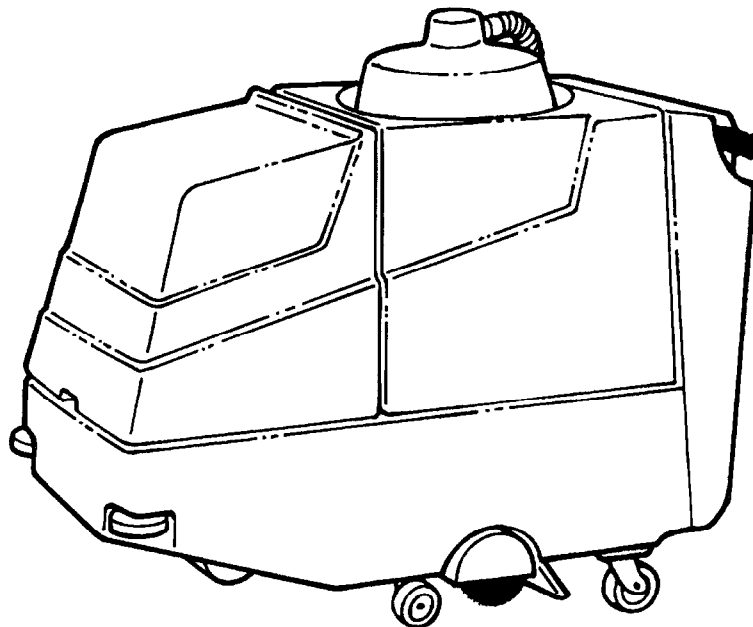
Automatic Carpet Extractor

Model No.: 602621



Operator Manual
and Parts Lists

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OPERATION

This manual is furnished with each new Concorde HP Model. It provides necessary operation, machine maintenance instructions and illustrated parts list.

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 machine care instructions provided.
- The machine is maintained with manufacturer supplied or equivalent parts.

A complete illustrated Parts Lists is supplied with this manual, use this list to order parts. Before ordering parts or supplies, be sure to have your machine model number and serial number handy. Parts and supplies may be ordered by phone or mail from any authorized parts and service center, distributor or from any subsidiary.

MACHINE DATA

Please fill out at time of installation for future reference.

Model No.- _____ Install. Date - / /

Serial No.- _____

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SAFETY PRECAUTIONS


This machine is suited to clean carpet in an indoor environment and is not constructed for any other use.


ATTENTION: The following symbol is used throughout this manual. It warns the operator of unsafe practices which could result in severe personal injury or death, or cause damage to the equipment.


The following information signals potentially dangerous conditions to the operator or equipment:


 **FOR SAFETY:**

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:**
 - 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.
 - Do not leave machine unattended without pulling out MAIN circuit breaker button.
3. **BEFORE LEAVING OR SERVICING MACHINE:**
 - Make sure machine is turned off and Main circuit breaker switch is pulled out.
 - Stop on level Surface.
 - Disconnect batteries.


 **WARNING: Hazardous Voltage. Shock or electrocution can result. Always 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 off 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 operate where explosive vapors or dust are present in the air, explosion or fire can result.**

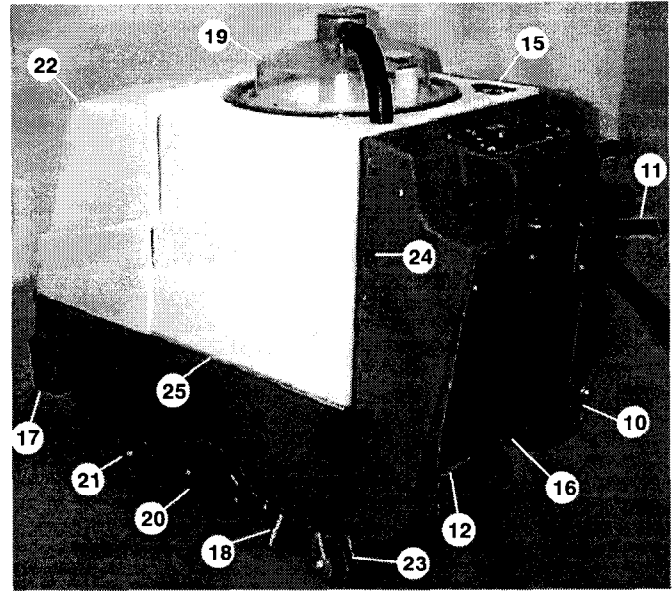
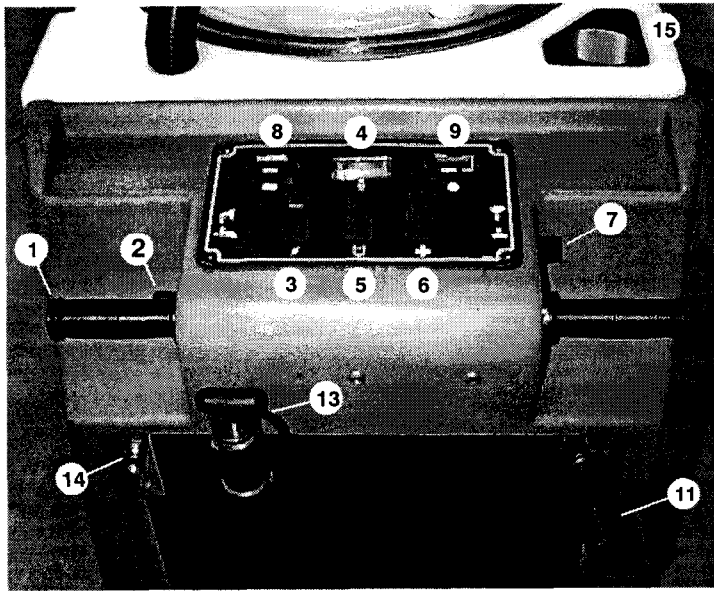
 **WARNING: Do not use flammable liquids in machine or pickup flammable liquids, explosion or fire can result.**

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

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

OPERATION

MACHINE COMPONENTS



1. Control Grips
2. Reverse Drive Trigger
3. On-Off Main switch
4. Brush Pressure Meter
5. Pump Switch
6. Vacuum Switch
7. Speed Control Knob
8. Battery Meter
9. Hour Meter
10. Circuit Breaker Panel
11. Brush Lift Lever
12. Brush Height Adjustment Knobs
13. Drain Hose
14. Floor Tool/Bleeder hose Coupler
15. Water Fill Port
16. Inline Strainer Filter
17. Roller Bumper
18. Vacuum Pickup Head
19. Recovery Dome
20. Rotating Brush
21. Safety Wheels
22. Battery Compartment Hood
23. Rear Casters
24. Solution Tank Gallon Marker
25. Hinged Solution Bleeder Hose (not shown)

MACHINE INSTALLATION

Uncrate Machine

Carefully check carton for signs of damage. Report damages at once to carrier. Check carton contents list below to ensure everything is included. Batteries, battery charger are packaged separately. Contact your distributor if an item is missing.

- 1 – Recovery Dome (separate carton)
- 1 – Battery Charger (separate carton)
- 3 – 12V Batteries (separate skid)
- 4 – 12" Jumper Cables (stored in battery compartment)
- 1 – Bleeder Hose (stored in recovery tank)
- 1 – Spray Bar (installed)

ATTENTION: Battery installation must be accomplished after removing machine from shipping crate.

⚠ CAUTION: Before removing machine from shipping pallet, connect brush lift lever.

⚠ CAUTION: DO NOT roll machine off skid or use a forklift, machine damage will occur. Use a hoist, or carefully lift machine off skid or make a ramp to remove machine from pallet.

Connect brush lift lever

1. Remove rear panel from machine by unscrewing five thumb screws.
2. Remove shipping strap from lift lever and tension rod.
3. Connect lift lever to tension rod. (*Figure 1*)

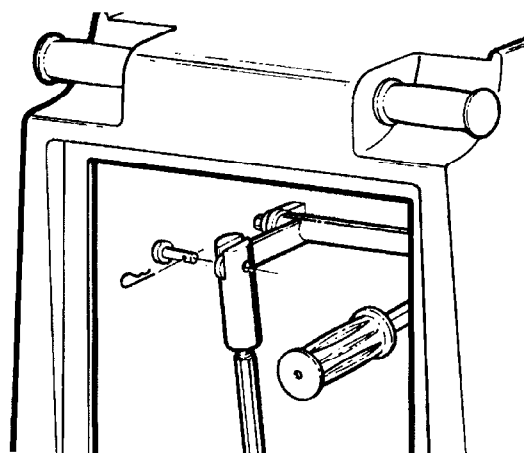


FIG. 1.

4. Replace rear panel.
5. Raise brush lift lever and engage lock block. (*Figure 2*)

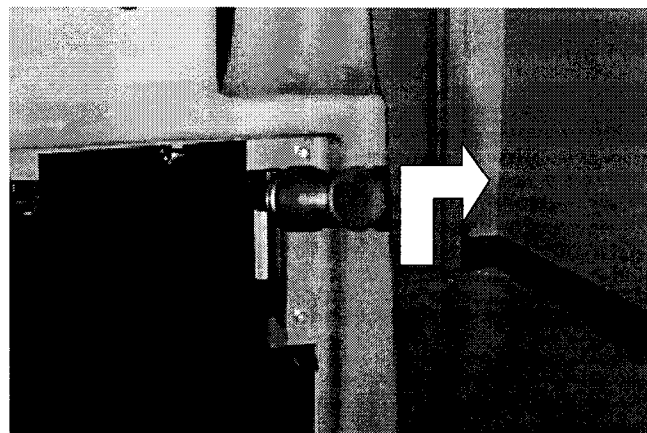


FIG. 2.

Install Recovery Dome

1. Install recovery dome.
2. Place dome on recovery tank.
3. Connect vacuum hose from machine to dome.

OPERATION

Install Batteries

⚠ 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.

⚠ WARNING: To prevent possible injury, pull out MAIN circuit breaker button to shut off all power to machine.

Battery Specifications:

Three 12 volt, 215AH, deep cycle batteries. Consult with an Authorized Distributor for specific batteries. Maximum battery dimensions are 7"W(17.8cm) x 15"L(38cm) x 14-5/8"H(37cm). Weight 122 lbs (55kg) each

1. Pull out MAIN circuit breaker button before connecting battery cables. Circuit breaker panel is located rear, bottom, right of machine. (Figure 3)



FIG. 3.

2. Lift battery compartment hood off machine and remove loose battery cables.
3. Carefully install 3 batteries and arrange batteries with negative posts towards back of machine as shown. To ease battery installation use a battery lifter strap. (Figure 4)

⚠ CAUTION: Do not drop batteries into compartment, battery and machine housing damage may result. This damage is not covered by warranty.

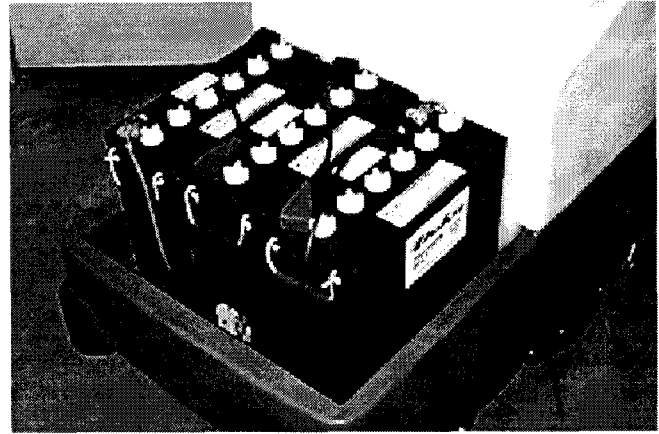


FIG. 4.

4. Connect cables to battery posts in numerical order as labeled (RED to POSITIVE & BLACK to NEGATIVE). Cover post with rubber boot. (Figure 5)

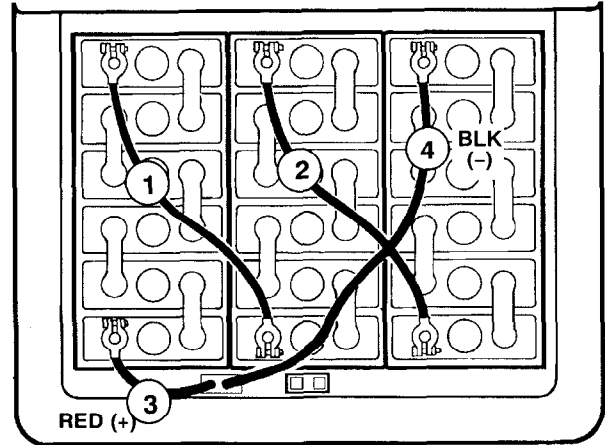


FIG. 5.

⚠ CAUTION: Be careful not to bridge wrench from post to post when connecting cables.

NOTE: Batteries should be fully charged and ready for operation.

5. Double check cable connections before closing up battery compartment.
6. Replace hood and reset the MAIN circuit breaker button.
7. Turn MAIN switch on, and check battery meter charge level to ensure batteries are fully charged. If batteries need charging, see *BATTERY CHARGING*.

MACHINE SETUP

Pre-Operation Checks

1. Vacuum floor and remove other debris.
2. Check charge level; Machine should be fully charged prior to using. View battery meter on control console to verify charge level. Do not operate machine if batteries are discharged below half. (See *BATTERY CHARGING*)
3. Check battery water level: Battery water level should slightly cover battery plates. (Figure 6)

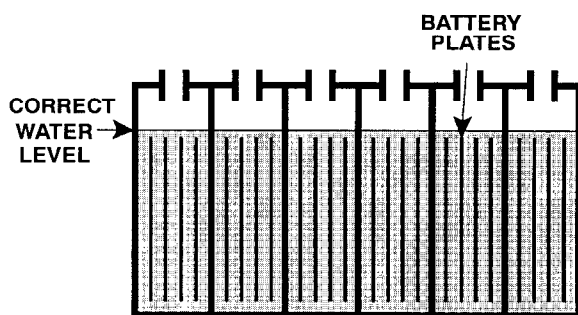


FIG. 6.

Fill Solution Tank

1. Transport machine to filling station. (See *MACHINE OPERATION*)
2. Fill clean water tank with 30 gallons maximum of water at fill port (maximum water temperature of 140° F / 60° C). Use gallon marks on side of tank to indicate fill level. (Figure 7)



FIG. 7.

NOTE: If filling with a bucket be certain that bucket is clean. This will prevent possible solution line clogs.

3. Add recommended cleaning chemical. Use proper dilution ratio instructions on bottle.

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.

Check Brush Height

NOTE: Brush height is factory preset for commercial carpet. However, brush height can be adjusted to accommodate several types of carpet pile. If brush is adjusted improperly, you can lose cleaning effectiveness or cause overload on brush motor and trip circuit breaker.

1. Lower brush lift lever and engage lock block. (Figure 8)

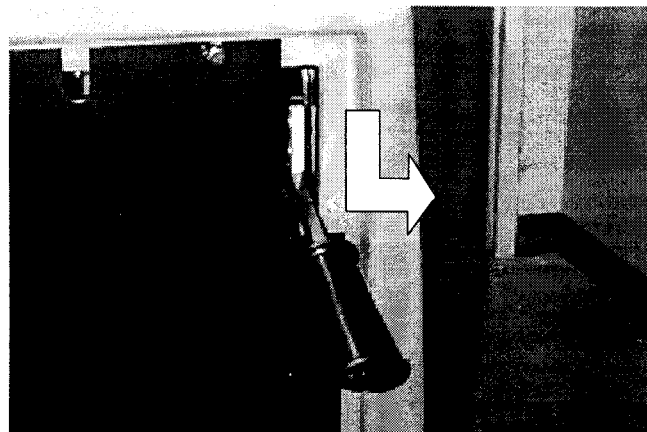


FIG. 8.

OPERATION

2. Turn on MAIN, PUMP and VACUUM switches.
3. Turn speed control knob backwards then rotate control grips forward to activate brush.
4. Read brush pressure meter located on control console. For proper height, needle should read in green zone. If brush needs adjusting see below. (Figure 9)

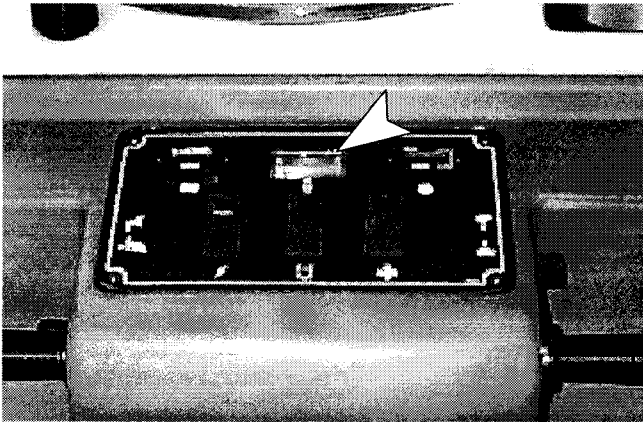


FIG. 9.

How to Adjust Brush Height

1. Turn all switches off.
2. Disengage brush lever from lock block.
3. Locate adjustment knobs on adjustment shaft and loosen the bottom knob. (Figure 10)

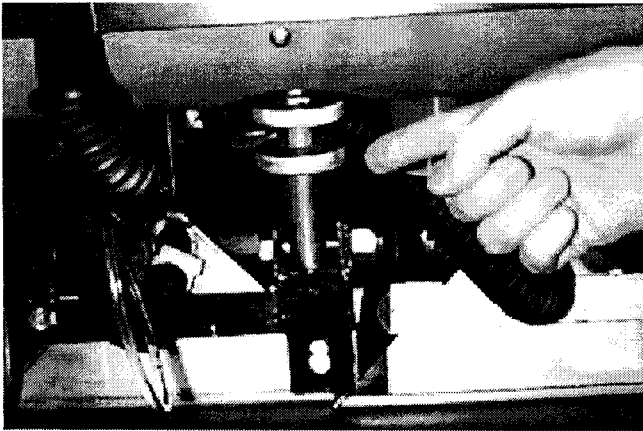


FIG. 10.

4. Turn upper knob clockwise to lower brush and counterclockwise to raise.
5. Tighten down bottom knob after adjusting.
6. Repeat the **Check Brush Height** section.

MACHINE OPERATION

1. Read and understand **SAFETY PRECAUTIONS** before operating machine.

⚠ WARNING: Do not operate where explosive vapors or dust are present in the air. Do not pickup flammable liquids.

2. Lower brush lift lever and engage lock block. (Figure 11)

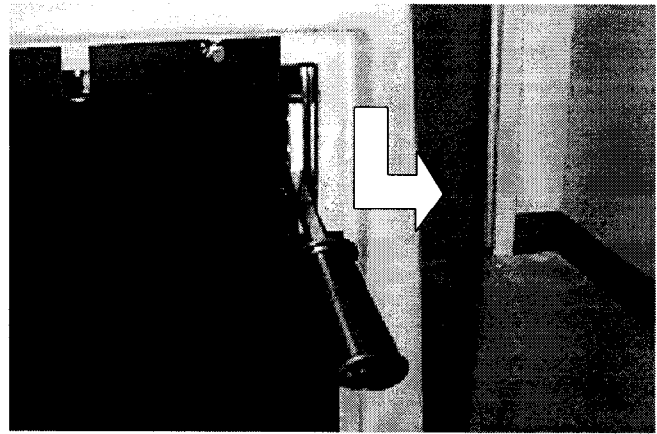


FIG. 11.

3. Turn on MAIN, PUMP and VACUUM switches.
4. Before starting off, rotate speed control knob completely backwards. (Figure 12)

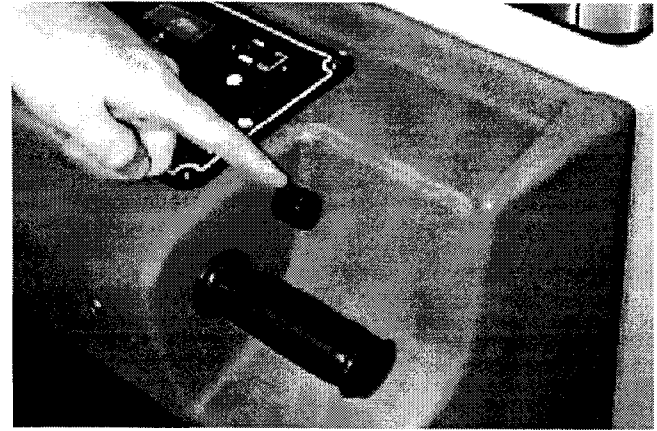


FIG. 12.

5. Rotate control grips completely forward and slowly turn speed control knob to desired cleaning speed. (Figure 13)

⚠ CAUTION: Start out slowly until you can maneuver the machine with ease.

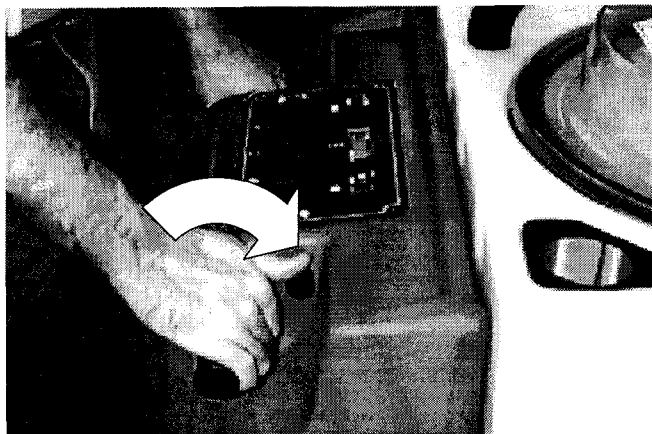


FIG. 13.

6. To operate machine in reverse, simply pull reverse switch backwards (one speed). (Figure 14)

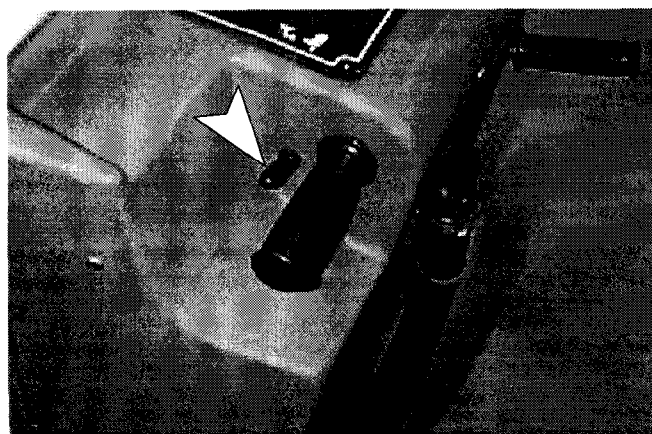


FIG. 14.

7. After cleaning carpet, allow 3 to 4 hours for carpet to dry. Use air movers to reduce drying time.

While Operating Machine

1. Periodically check for foam buildup in recovery tank (look through clear dome). If excessive foam buildup begins to develop, pour a recommended foam control solution into recovery tank.

⚠ CAUTION: Do not allow foam or water to exceed beyond "FULL LINE" decal, located on standpipe, vacuum motor damage will result. Vacuum damage due to foam or water is not covered by warranty.

2. Keep machine within 6–8" of baseboard.
3. Use a collapsing rectangle pattern.
4. When turning, it may be necessary to turn pump switch off and raise brush lift lever.
5. Overlap each pass by about 2".

6. Before reaching end of cleaning path, turn PUMP switch off and continue to drive machine forward to extract solution.
7. Periodically check recovery tank level.
8. Drain recovery tank when solution reaches "FULL LINE" label located on standpipe in recovery tank. See DRAINING & RINSING TANKS.
9. While cleaning, view gallon marker for remaining cleaning solution.
10. Periodically check battery meter discharge level. Recharge batteries when discharged below half.
11. When solution tank runs dry, turn off PUMP and VACUUM switches and transport machine to draining area. (See DRAINING TANKS).

Circuit Breaker Console

This machine is equipped with (3) resettable circuit breakers to protect machine from damage, (labeled as BRUSH, MAIN and DRIVE). They are designed to stop current flow when circuit overload occurs. Once a circuit breaker has tripped, determine problem, let motor cool down and manually reset breaker by pressing in circuit breaker button. The vacuum motors are thermally protected and will automatically shut-off when an overload occurs. The MAIN and DRIVE circuit breakers are designed so you can stop current flow by manually pulling out circuit breaker buttons. Circuit breaker buttons are located at rear of machine as shown. (Figure 15)

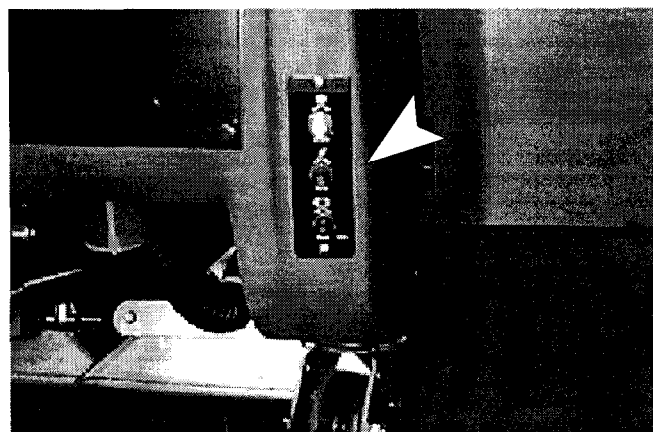


FIG. 15.

OPERATION

OPTIONAL ACCESSORY TOOL OPERATION

(See Available Optional Accessories on page 36)

Machine is equipped with accessory tool hookups. A optional floor tool enables you to reach areas that machine is unable to, such as alcoves and corners.

⚠ WARNING: Do not operate where explosive vapors or dust are present in the air. Do not pickup flammable liquids.

NOTE: Vacuum area before cleaning.

1. Turn MAIN switch off.
2. Disconnect vacuum hose from recovery dome and replace with extension vacuum hose. (Figure 16)

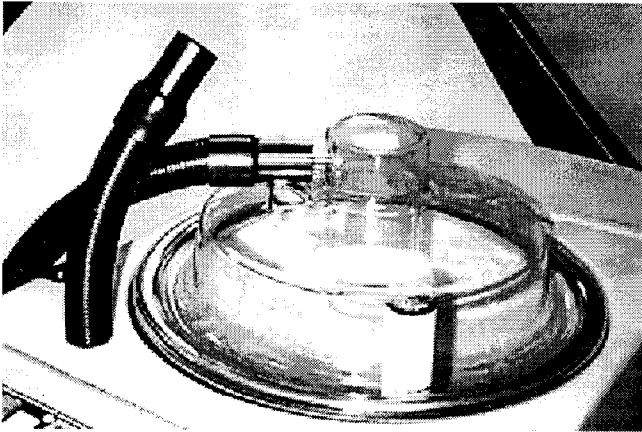


FIG. 16.

3. Connect solution hose to accessory coupler at left rear of machine. (Figure 17)

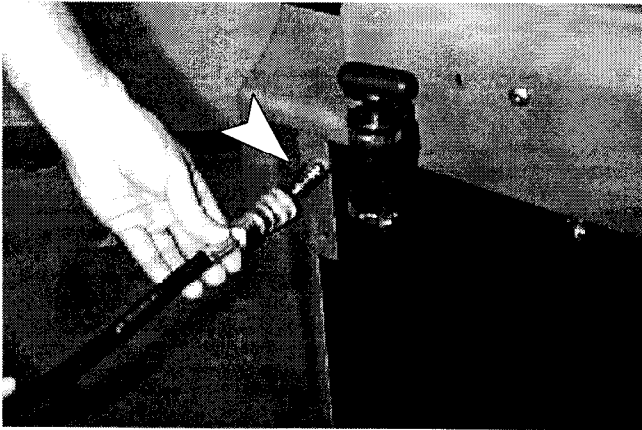


FIG. 17.

4. Connect hoses to accessory tool.
5. Raise brush lift lever and engage lock block.
6. Turn MAIN switch on.
7. Turn on PUMP switch.
8. Turn on "VACUUM" switch.
9. Operate accessory tool as normal.
10. For Floor Tool Cleaning: Begin cleaning at top of area and work backwards toward machine.
11. Place floor tool so bottom of stainless shoes are parallel to floor. Squeeze trigger and apply downward pressure on floor tool head and slowly pull tool backwards using both hands. Release trigger 6 inches from end of stroke. (Figure 18)



FIG. 18.

12. Push floor tool forward over same path with trigger released when returning for next stroke. Continue this pull and push method with a 2 to 4" overlap of each stroke.

NOTE: For heavily soiled areas, repeat stroke or change angle of stroke.

DRAINING TANKS

Draining Recovery Tank

Recovery tank must be emptied prior to refilling solution tank. Drain tank when water level reaches FULL LINE decal on standpipe. To drain recovery tank, perform the following steps:

⚠ CAUTION: If recovery tank is not emptied between fill-ups, foam or water will enter vacuum standpipe and damage vacuum motor. Vacuum damage due to foam or water is not covered by warranty.

1. Transport machine to nearest floor sink or drain.
2. Turn all switches off.
3. Remove drain hose from holder, position hose over floor drain and twist off drain hose plug to drain. (Figure 19)

NOTE: If using a bucket to drain machine, use a separate bucket for filling solution tank. This will prevent possible solution line clogs.

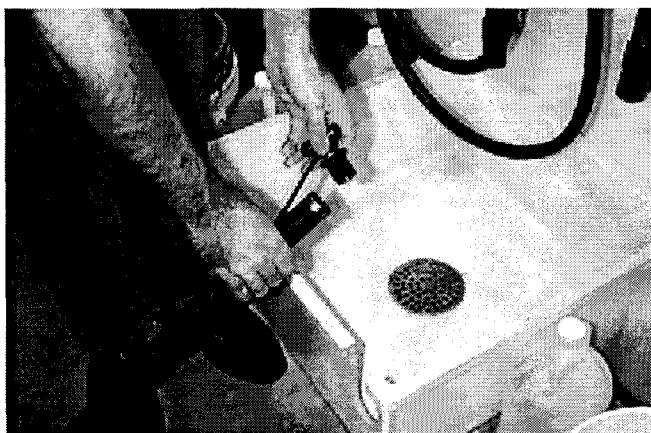


FIG. 19.

4. Rinse out recovery tank after each use. This will prevent foul odor buildup. Remove recovery dome and use a hose to rinse out the recovery tank. Be careful not to spray water into standpipe screen.
5. Replace drain hose plug tightly when tank is empty.

NOTE: If you have leftover water in clean water tank, attach bleeder hose and rinse out recovery tank.

Draining Clean Water Tank

To drain leftover water from clean water tank, bleeder hose is required. (Supplied with machine)

1. Turn on the MAIN switch.
2. Connect bleeder hose to floor tool coupler. (Figure 20)

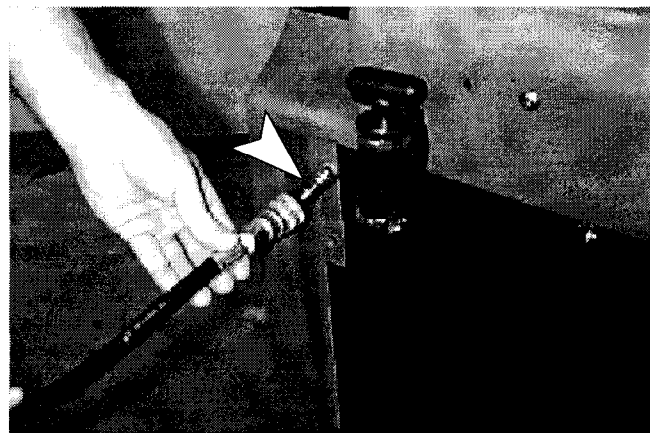


FIG. 20.

3. Hold bleeder hose over floor sink or remove recovery tank dome and insert hose into tank.
4. Turn on PUMP switch.

BATTERY CHARGING

⚠ ATTENTION: The following charging instructions are intended for Castex supplied chargers only. Use a charger with the following specifications listed below. Improper charger may cause battery damage.

CHARGER SPECIFICATIONS:

- OUTPUT VOLTAGE - 36 VOLTS
- OUTPUT CURRENT - 25 AMPS
- AUTOMATIC SHUT-OFF CIRCUIT
- FOR LEAD ACID 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 battery meter begins to blink. Never let batteries set in a discharge condition.

⚠ 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.

OPERATION

- Turn MAIN switch off.
- Remove battery compartment hood to access batteries. (Figure 21)



FIG. 21.

- 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 22)

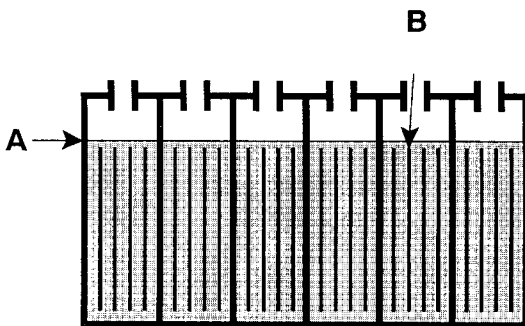


FIG. 22.

- Plug charger into charger receptacle located at front of battery compartment. (Figure 23)

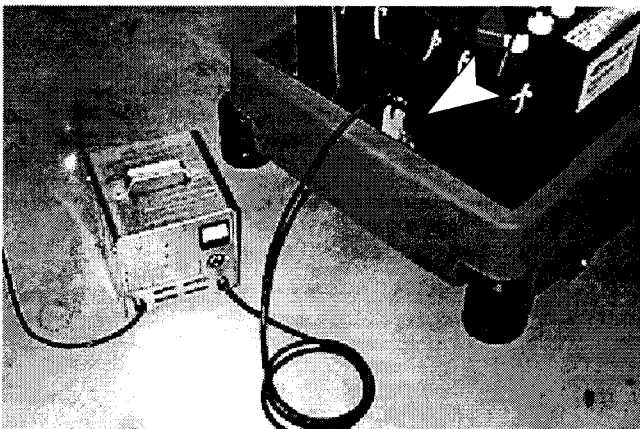


FIG. 23.

- Plug charger into a grounded wall outlet **after** connecting charger to machine. (Figure 24)

⚠ WARNING: To avoid an electrical hazard, charger **MUST** be grounded while in use to protect user from electric shock and serious injury.

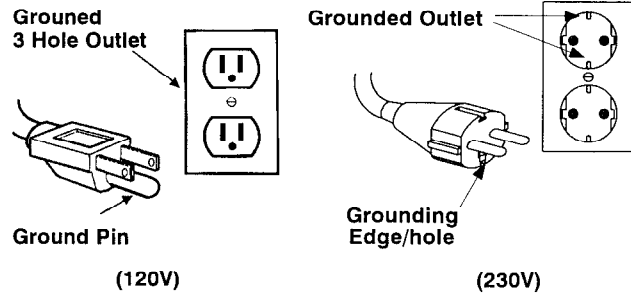


FIG. 24.

- Charger will automatically begin charging and automatically shut off when fully charged.

Note: Once charger is connected, machine will not operate or move.

- After charger has turned off, unplug charger from wall outlet first, then disconnect charger from machine.
- 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.
- Replace battery compartment hood.

MAINTENANCE

⚠ WARNING: Before attempting any maintenance procedures on machine, stop on level surface, turn machine off and disconnect battery charger if charging machine.

⚠ WARNING: Before attempting any type of machine repair, disconnect batteries. Repairs must be performed by authorized personnel.

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

Use these maintenance procedures as a daily, weekly and monthly check list. See later pages for more detailed maintenance instructions.

To Access Internal Components

The machine is designed to hinge open at tank to allow internal component servicing. Follow instructions below:

1. Remove vacuum hoses from vacuum pickup heads.
2. Disconnect drain hose from holder and push hose halfway through U-bracket below. This will allow hose slack when hinging tank. (*Figure 25*)

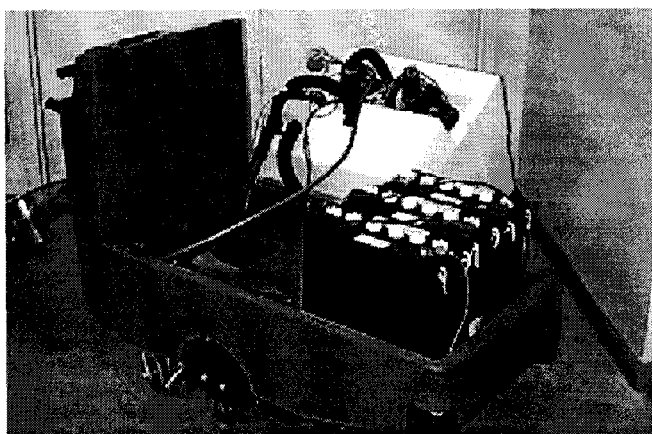


FIG. 25.

3. Carefully hinge tank over.

Hour Meter

The machine is equipped with an hour meter located on the control console. Use hour meter to determine when machine should be maintained and also to log machine hours when service was performed. (*Figure 26*)

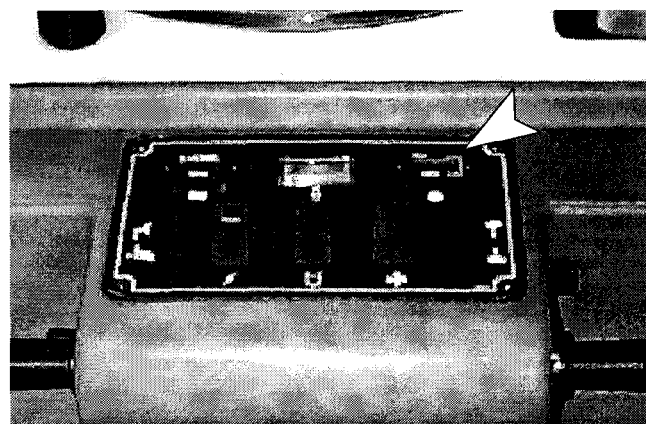


FIG. 26.

Daily Maintenance

1. Recharge batteries if discharged below 50%.
2. Rinse tanks thoroughly.
3. Remove any lint buildup from standpipe screen.
4. Check spray pattern. Pattern should be even across width of machine. Pull drive motor breaker button to check spray pattern.
5. Remove lint buildup from splash guard, located next to brush.
6. Clean machine housing with a nonabrasive, non-solvent cleaner.
7. Check machine for leaks.
8. Remove any obstruction (carpet strands, etc.) from brush.
9. Remove and clean solution tank screen.

Weekly Maintenance

1. Flush out plumbing system with acetic acid solution. (*See PLUMBING SYSTEM MAINTENANCE*)
2. Remove and rinse inline strainer filter located under machine at rear. (*See SOLUTION FILTER MAINTENANCE*)
3. Check water level in battery cells. (*See BATTERY MAINTENANCE*).
4. Clean battery tops to prevent corrosion.
5. Check for loose or corroded battery cables.
6. Flush plumbing system with acetic acid solution.
7. Remove and clean spray tips.

OPERATION

Monthly Maintenance

1. Check brush belt for wear or excess slack. (See *BRUSH BELT MAINTENANCE*)
2. Check drive chain for excess slack and lubricate with a water resistant grease. (See *DRIVE CHAIN MAINTENANCE*)
3. Lubricate axle 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 drive and brush motors for carbon brush wear, replace brushes when worn.
2. Check vacuum motor for carbon brush wear, replace brushes when worn to a length of 3/8" (1cm) or less.

Battery Maintenance

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

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

1. Always follow proper charging instructions. (See *BATTERY CHARGING*)
2. Each week **after** charging, check water level (A) in each battery cell of all batteries. Water level should reach bottom of sight tubes (B). If needed, add just enough distilled water to reach bottom of sight tubes. **DO NOT** overfill. (Figure 27)

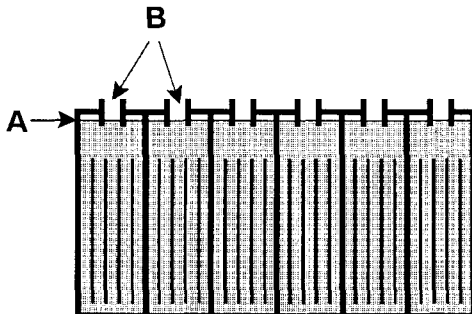


FIG. 27.

3. Keep battery tops and terminals clean and dry. To clean batteries:

- 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 SAFETY: Before servicing machine; stop on level surface, turn MAIN switch off and pull out drive motor circuit breaker button.

Inspect drive chain periodically for proper tension. Chain should flex between 1/4" (6.35mm) and 1/2" (12.7mm) from center. If chain flexes more than 1/2" (12.7mm), chain should be tightened.

How To Tighten Chain:

1. Pull out drive motor circuit breaker button to shut off power to driver motor. (Figure 28)

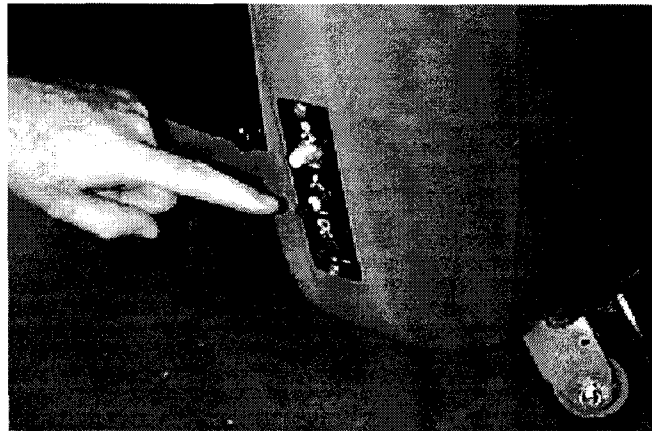


FIG. 28.

- Loosen 4 motor mount bolts, do not remove bolts. (Figure 29)

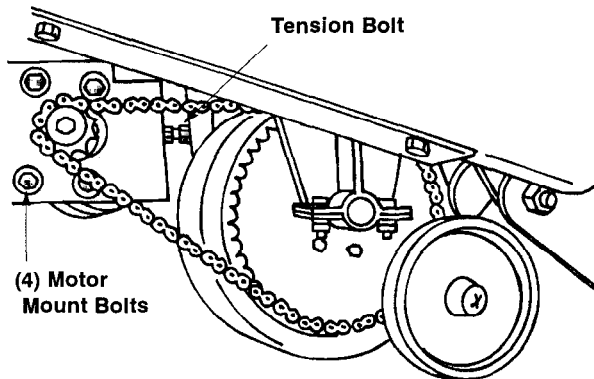


FIG. 29.

- Loosen lock nut on tension bolt. (Figure 25)
- Turn tension bolt to tighten chain. Do not overtighten.
- Retighten motor mount bolts and lock nut on tension bolt.
- Lubricate chain with a water resistant oil.

Brush Belt Maintenance

⚠ FOR SAFETY: Before servicing machine; stop on level surface and turn MAIN switch off.

Brush belt can wear prematurely if belt tension is not correct. If belt flexes more than 1/2" from center, tighten belt.

To Tighten Or Replace Brush Belt:

- Remove belt guard (two screws). (Figure 30)

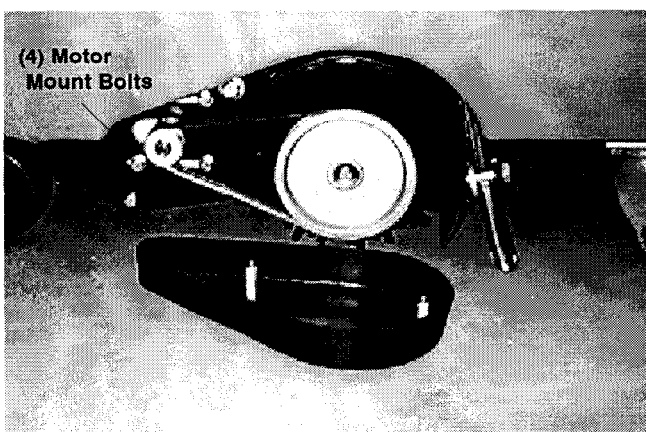


FIG. 30.

- Remove any debris in pulley assembly.
- Inspect belt for wear and for proper tension.

- To tighten or replace belt, loosen 4 brush motor mount bolts. If worn, replace belt. (Figure 30)
- To tighten belt, pull back on motor until belt becomes tight, retighten mounting bolts.
- Replace brush guard.

Plumbing System Maintenance

⚠ FOR SAFETY: Before servicing machine; stop on level surface and turn MAIN switch off.

Each week flush out plumbing system with acetic acid solution. This will prevent plumbing system from clogging and reduce the risk of pump failure. Also check plumbing system for any leaks, repair if necessary. Solution pump does not require lubrication.

- Pour 24 oz. (750ml) of acetic acid solution with 3 gallons (11.3 L) of hot water 140° F (60° C) into clean water tank.
- Transport machine over a floor drain.
- Pull out drive motor circuit breaker button to shut off power to drive motor.
- Turn on PUMP switch.
- Rotate control grips completely forward and hold for 2 to 3 minutes.
- Acetic acid solution is now completely cycled in plumbing system, leave machine sit for a few hours to allow acetic acid to breakdown alkaline buildup.
- Later, operate machine until solution runs dry.
- Fill clean water tank with 3 gallons (11.3 L) of clean water.
- Operate machine for 2 to 3 minutes each to flush out excess acetic acid.
- Reset drive motor breaker button.

Solution Filters Maintenance

Once each month remove the following solution filters and clean. Replace filters if damaged.

Inline Strainer Filter

- Pump solution tank dry to prevent water from spilling when removing filter.
- Unscrew and remove inline strainer filter (clear bowl). Filter is located underneath at rear of machine. (Figure 31)

OPERATION

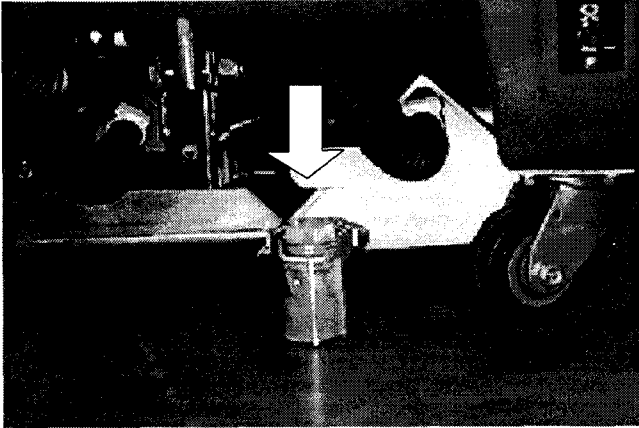


FIG. 31.

3. Remove screens from bowl and clean.
4. When replacing filter, be certain clear bowl is threaded securely.

Solution Tank Filter

1. Locate water fill port and remove solution tank filter from inside fill port. (Figure 32)

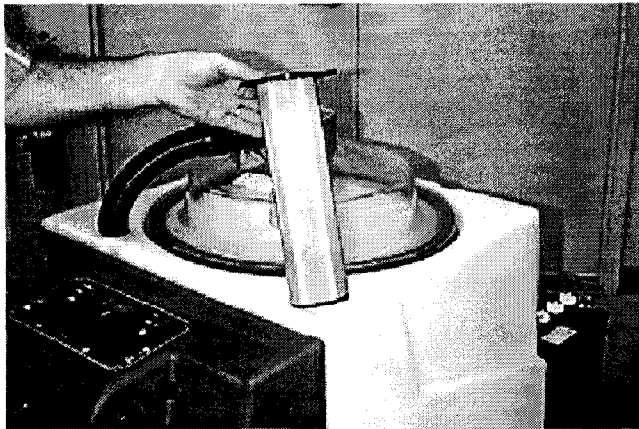


FIG. 32.

2. Rinse filter and remove any debris.
3. Replace filter.

Standpipe Ball Screen

1. Remove recovery dome.
2. Remove ball screen from standpipe. (Figure 33)

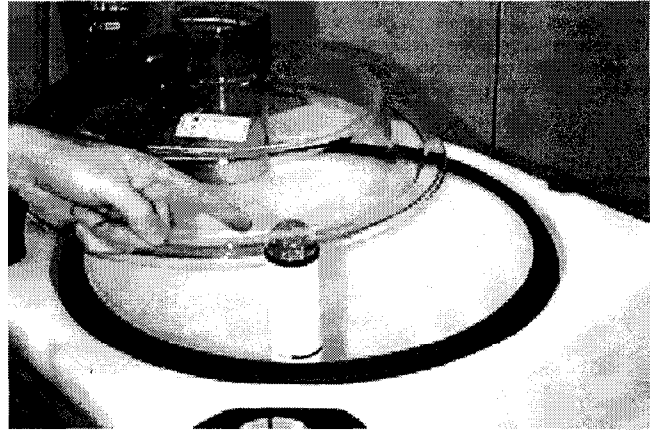


FIG. 33.

3. Rinse screen and remove any debris.
4. Replace screen securely on standpipe.

Spray Bar and Spray Tip Maintenance

Spray bar can easily be removed and replaced when spray tips begin to clog. If spray pattern does not spray evenly across width of machine and/or has a gap in between, replace spray bar with spare and clean clogged spray tips.

To Replace Spray Bar:

1. Turn MAIN switch off.
2. From operators right side of machine locate spray bar under machine.
3. To remove defective spray bar, simply shift spray bar to operators left side of machine and pull down. (Figure 34)

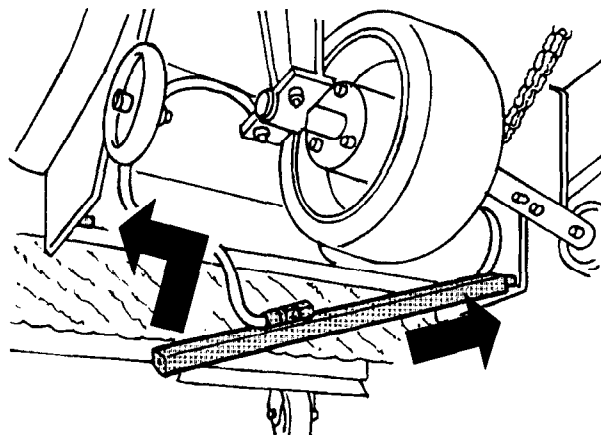


FIG. 34.

4. Disconnect coupler at spray bar top.
5. Reconnect coupler to spare spray bar.
6. Install spare spray bar, be certain to position spray bar "FRONT" label facing forward.

To Clean Defective Spray Tips:

⚠ WARNING: DO NOT use pointed objects such as pins and paper clips to unplug spray tips. This will damage spray tips, causing improper spray pattern and water flow through tips. Using damaged spray tips will reduce maximum cleaning performance.

1. Remove defective spray tips from spray bar. *Take note of spray tip position before removing.*
2. Pour 4 oz. of acetic acid into a small container.
3. Completely submerge spray tips and let soak for up to six hours. Agitate spray tips occasionally.
4. After soaking spray tips, use small brush to remove excess alkaline and rinse thoroughly. *DO NOT use a pointed object to unplug spray tips.*
5. Replace spray tips in spray bar and keep on hand for spare.

NOTE: If spray tips are damaged or cannot be restored, replace spray tips. Be certain to use same spray tip size and type. Improper spray tips will affect cleaning performance.

TRANSPORTING MACHINE

When transporting machine by use of trailer or truck, be certain to follow tie-down procedures below:

⚠ WARNING: Do not operate on ramps or inclines unless adequate personnel are present for assistance.

1. Raise brush.
2. Load machine using a recommended loading ramp.
3. Position front of machine up against front of trailer or truck. Once machine is positioned, lower brush.
4. Place a block behind the drive wheel and the rear casters.
5. Place tie-down straps over top of machine and secure straps to floor. It may be necessary to install tie-down brackets to the floor of your trailer or truck.

STORING MACHINE

1. Before storing machine, be certain to flush tanks and drain machine of all water.
2. Store machine in a dry area with the brush in the raised position.
3. Remove recovery lid to promote air circulation.

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

SUGGESTED STOCK PARTS LIST

One year recommended replacement supply:

QTY.	DESCRIPTION	PART #
4	STRAINER, INLINE FILTER	180615
4	SLEEVE, INLINE FILTER	180636
6	SPRAY TIP, SPRAY BAR	200977
2	BALL SCREEN, STANDPIPE	180612
5	KNOBS, REAR PANEL	240204

To Order Parts Call your local distributor.

OPERATION

TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
No power, nothing runs.	MAIN circuit breaker button pulled out.	Push in MAIN circuit breaker button.
	Faulty MAIN circuit breaker.	Contact Service Center.
	Faulty MAIN switch.	Contact Service Center.
	Charger plugged into machine.	Unplug charger from machine after complete charge cycle.
	Faulty master solenoid.	Contact Service Center.
	Loose connection at battery.	Check connections or call for service.
	Loose connections at solenoid panel.	Contact Service Center.
	Batteries need charging.	See CHARGING BATTERIES.
	Faulty battery(s).	Replace battery(s).
	Battery connection is improper.	See BATTERY INSTALLATION.
Vacuum motor does not run.	Vacuum thermal overload tripped.	Check air flow for obstructions, wait 20 minutes for motor to cool.
	Faulty vacuum switch.	Contact Service Center.
	Loose wiring.	Contact Service Center.
	Faulty vacuum motor.	Contact Service Center.
	Carbon brushes worn.	Contact Service Center.
Vacuum recovery is low.	Vacuum heads are not sealed to carpet.	Lock vacuum head lift lever under lock block.
	Carpet fibers are restricting air flow through vacuum shoes or standpipe screen.	Remove lint from vacuum shoes (use a coat hanger) or from standpipe screen in recovery tank.
	Vacuum hose(s) disconnected from vacuum shoes or recovery dome.	Connect hoses or call for service.
	Drain hose plug is not fully inserted into drain hose.	Insert drain hose plug and tighten.
	Loose or failed gasket(s).	Contact Service Center.
Uneven or no spray.	Inline strainer filter is plugged.	Drain solution tank and remove filter and clean. Located under machine at rear.
	Spray tips are plugged.	Clean plugged spray tips.
	Faulty solution pump.	Contact Service Center.
	Pump switch is off.	Turn on pump switch.
	Control grips not rotated.	Control grips must be rotated to activate spray.
Brush motor does not run.	Brush circuit breaker is tripped.	Remove any obstruction in brush and reset breaker.
	Faulty Brush switch.	Contact Service Center.
	Loose wiring.	Contact Service Center.
	Faulty motor.	Contact Service Center.
	Loose or broken belt.	Replace, or contact Service Center.
	Carbon brushes worn.	Contact Service Center.
	Faulty solenoid.	Contact Service Center.

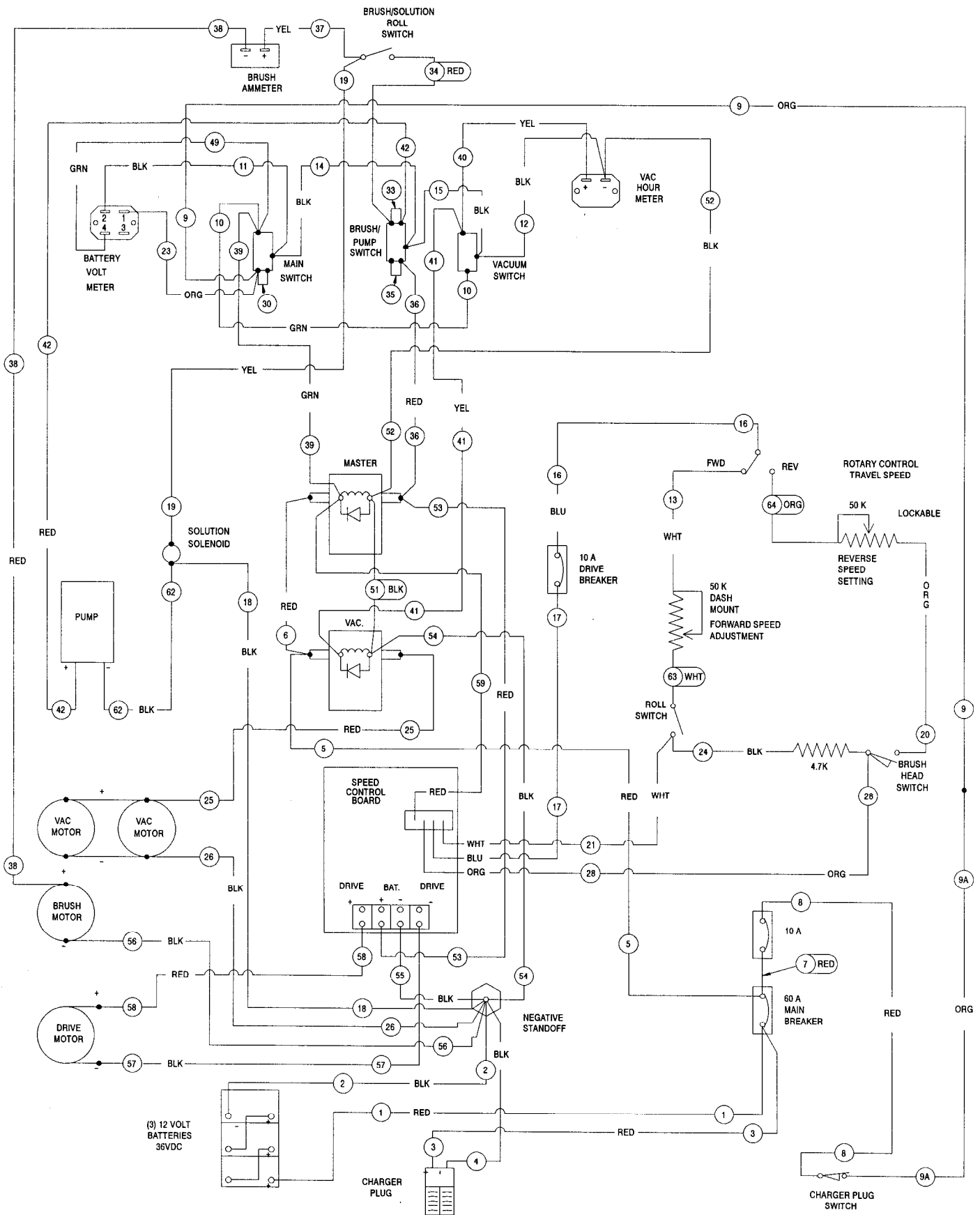
TROUBLE SHOOTING –continued

PROBLEM	CAUSE	SOLUTION
Drive motor does not run.	Drive motor circuit breaker is tripped.	Reset drive circuit breaker.
	Loose drive chain.	Adjust or call for service.
	Faulty wiring or switch.	Contact Service Center.
	Faulty motor.	Contact Service Center.
	MAIN circuit breaker has tripped or is pulled out.	Determine cause and reset breaker.
	Faulty speed control circuit board or connection.	Contact Service Center.
	Faulty solenoid.	Contact Service Center.
	Worn carbon brushes.	Contact Service Center.
	Faulty potentiometer or speed control board.	Contact Service Center.
Batteries will not take a charge.	Charger plug not connected correctly.	Connect plug correctly.
	Low water level.	See Battery Maintenance Section.
	Charge cycle not completed.	Let charge until fully charged.
	Faulty charger	Replace charger.
Short run time.	Batteries not fully charged.	Charge batteries.
	Bad cell in one or more batteries.	Replace battery.
	Batteries need maintenance.	See BATTERY MAINTENANCE.
	Faulty charger.	Replace battery charger.

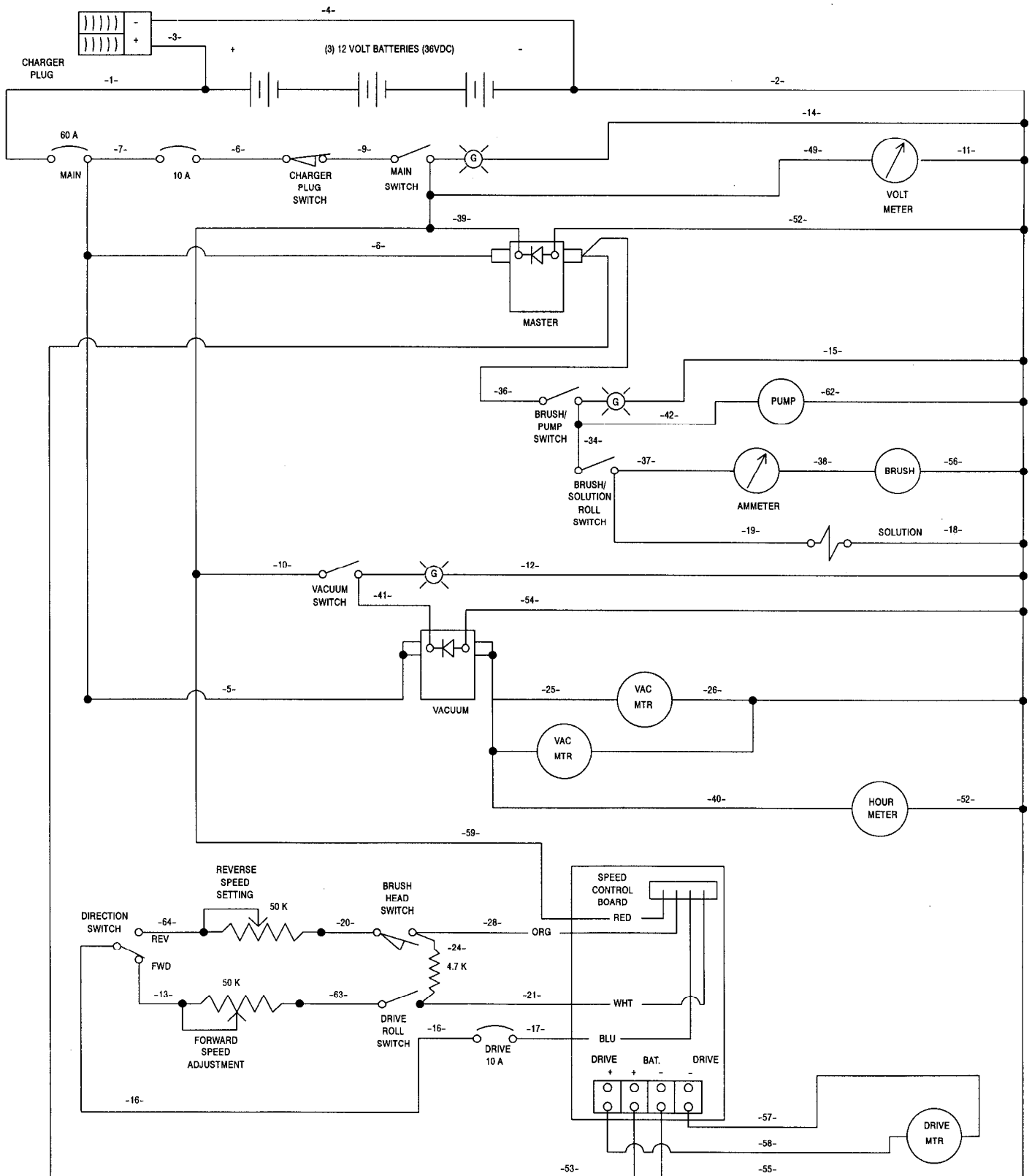
SPECIFICATIONS

MODEL NO.	602621
LENGTH	54"/137cm
WIDTH	28"/71cm
HEIGHT	47"/119cm
WEIGHT – WITH BATTERIES	675 lbs./306kg
BATTERIES	3–12V Deep Cycle Lead Acid, 215Amp hours
RUN TIME AT FULL CHARGE	3.5 Hours
SOLUTION TANK CAPACITY	32 Gallons/121L
SPEED CONTROL	VARIABLE FWD/REV
CLEANING SPEED (MAX)	6000 sq. ft. per hour
CLEANING PATH WIDTH	24"/61cm
DRIVE MOTOR	.75 h.p., 0–1200 rpm, 36V, 17A
BRUSH MOTOR	.5 h.p., 1200 rpm, 36V, 13A,
VACUUM MOTOR	2 – .9 h.p., 3–stage 5.7", 36V, 18.75A, 612W, 152cfm
SOLUTION PUMP	100psi, 36V
SEALED WATER LIFT	145"/368cm
DECIBEL RATING AT OPERATOR'S EAR, INDOORS ON CARPET	76dB(A)

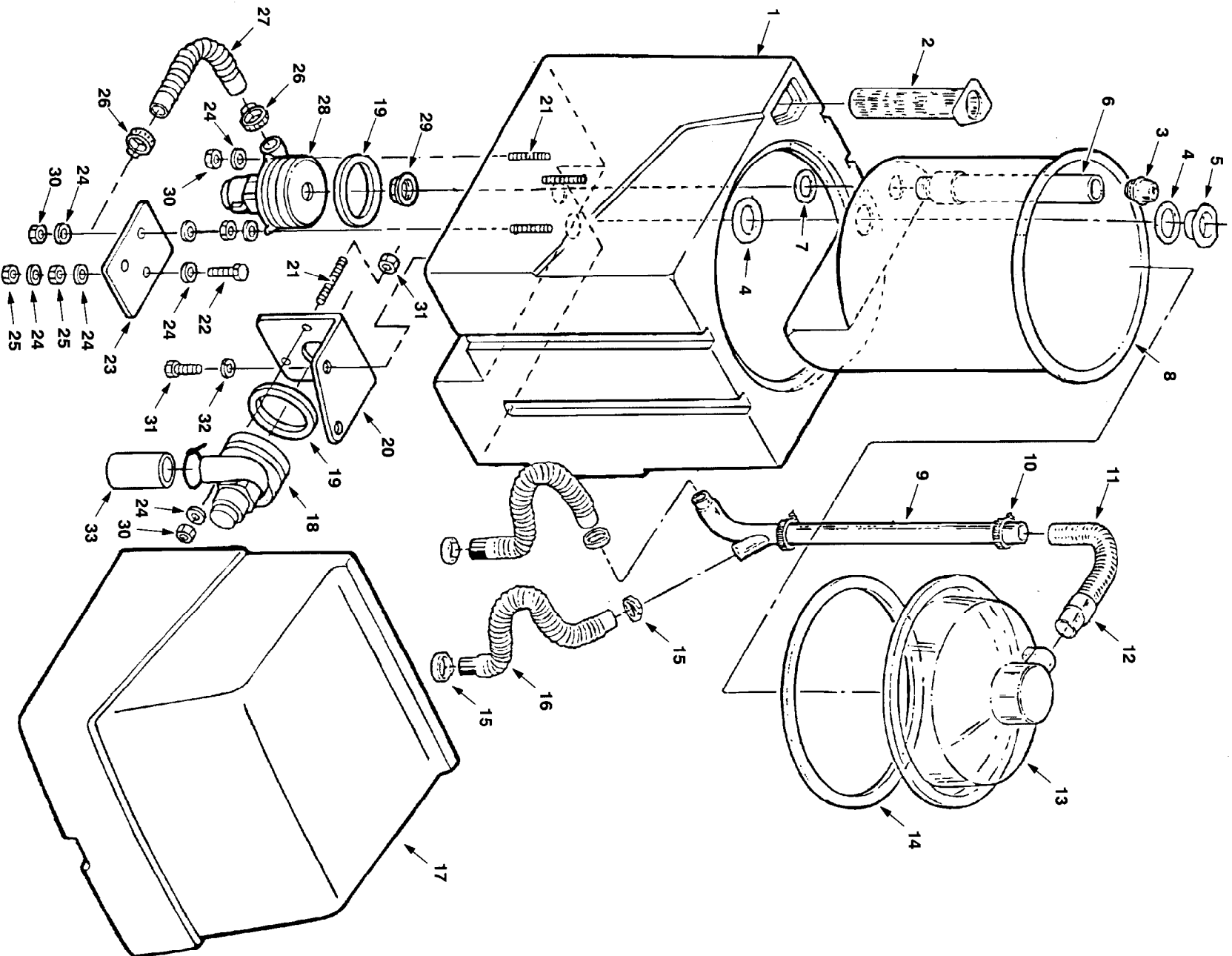
WIRE DIAGRAM



LADDER DIAGRAM



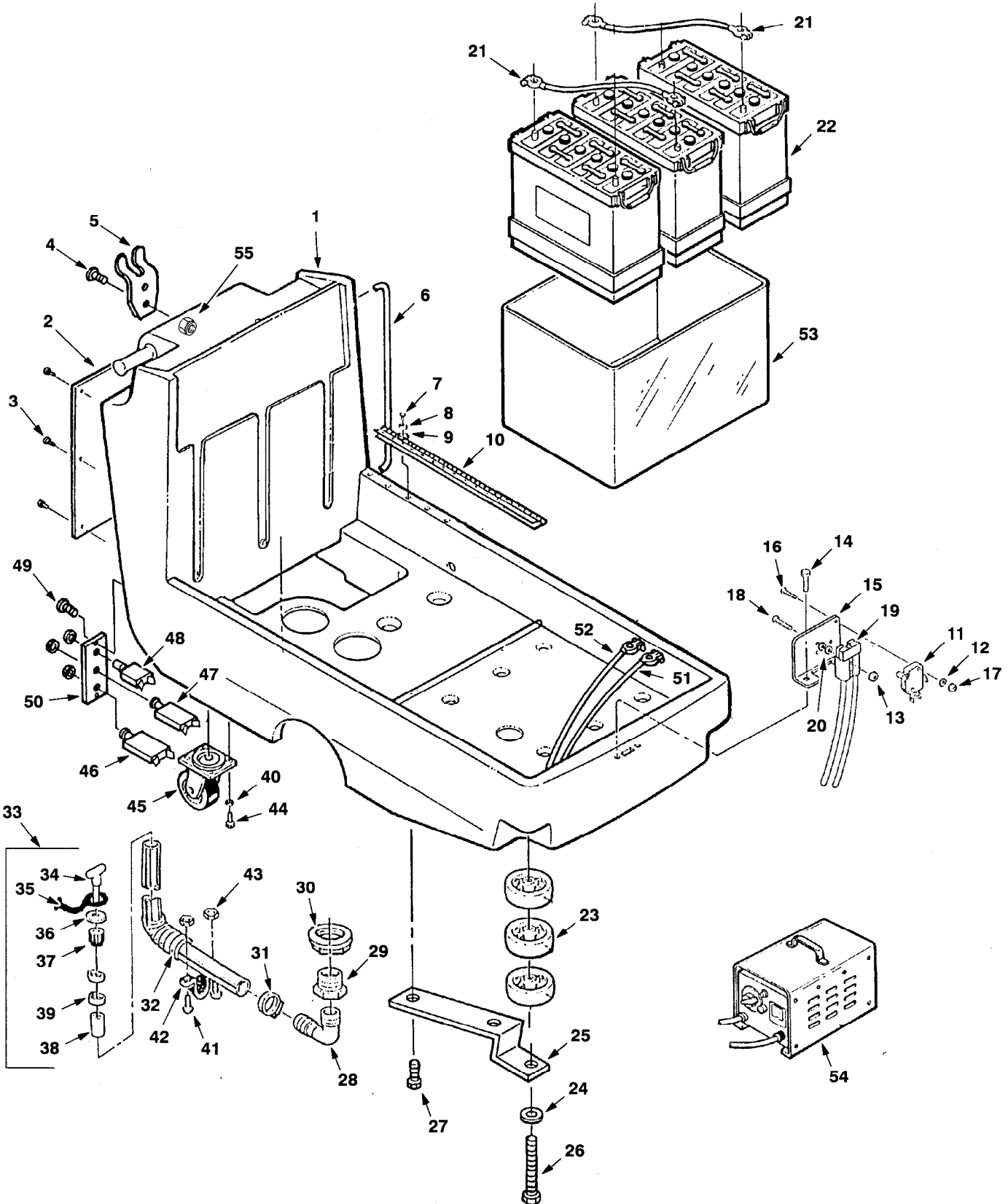
RECOVERY TANK GROUP



RECOVERY TANK GROUP

Ref.	Part No.	Description	Qty.
1.	600374	TANK, SOLUTION (WHT)	1
2.	180610	SCREEN, SOLUTION TANK	1
3.	180612	SCREEN, STANDPIPE	1
4.	150303	GASKET, INLET FLANGE	2
5.	603094	FITTING, INLET FLANGE W/FLATS	1
6.	701225	ASM. STANDPIPE	1
7.	101714	GASKET, WASTE AIR CHAMBER	1
8.	600376	TANK, RECOVERY (WHT)	1
9.	240178.BK	TUBE, INLET	1
10.	140308	CLAMP, HOSE	2
11.	160846	HOSE, 1 1/2 X 10 1/4	1
12.	160430	CUFF, HOSE 1 1/2 X 1 1/2	1
13.	100111	DOME, VACUUM	1
14.	100032	GASKET, DOME & TANK	1
15.	140322	CLAMP, VAC HOSE PICKUP TOOL	4
16.	160456	HOSE, PICKUP TOOL 16"	2
17.	601382	COVER, HOOD (WHT)	1
18.	611071000	MOTOR, VAC 5.7/35TG 36V W/SNOUT	1
	190162	BRUSH, CARBON	2
19.	0174..10	SEAT, NEOPRENE MOTOR	2
20.	230957	PLATE, VAC MOUNT	1
21.	140238	STUD FULL THRD 1/4-20 X 5	6
22.	140208	SCREW, 1//4-20 X 1	2
23.	101807	PLATE, CONNECTOR	1
24.	140000	WASHER, FLAT 1/4	12
25.	140524	NUT, KEP 1/4-20	2
26.	140308	CLAMP, HOSE 1-5/16 - 2 1/4	2
27.	160631	HOSE, 1 1/2 X 16	1
28.	130413	MOTOR, VAC 5.7, 3 STG	1
	190162	BRUSH, CARBON	2
29.	210240	NUT, FLANGED	1
30.	140501	NUT, NYLOC	4
31.	140259	SCREW, 1/4-20X5/8	2
32.	140016	WASHER, LOCK	2
33.	600009	MUFFLER, EXHAUST	1
	DECALS NOT SHOWN		
	601111	DECAL, SIDE STRIPE, RT (Model 602621)	2
	601112	DECAL, SIDE STRIPE, LT (Model 602621)	2
	601113	DECAL, SIDE CONCORDE HP, RT (Model 602621)	2
	601114	DECAL, SIDE CONCORDE HP, LT (Model 602621)	2
	120877	DECAL, FRONT, "CASTEX" (Model 602621)	1
	120238	DECAL, FRONT, "NOBLES"	1
	602637	DECAL, BATTERY CHARGE	1
	120246	DECAL, "CAUTION DO NOT"	1
	120247	DECAL, FULL LINE	1

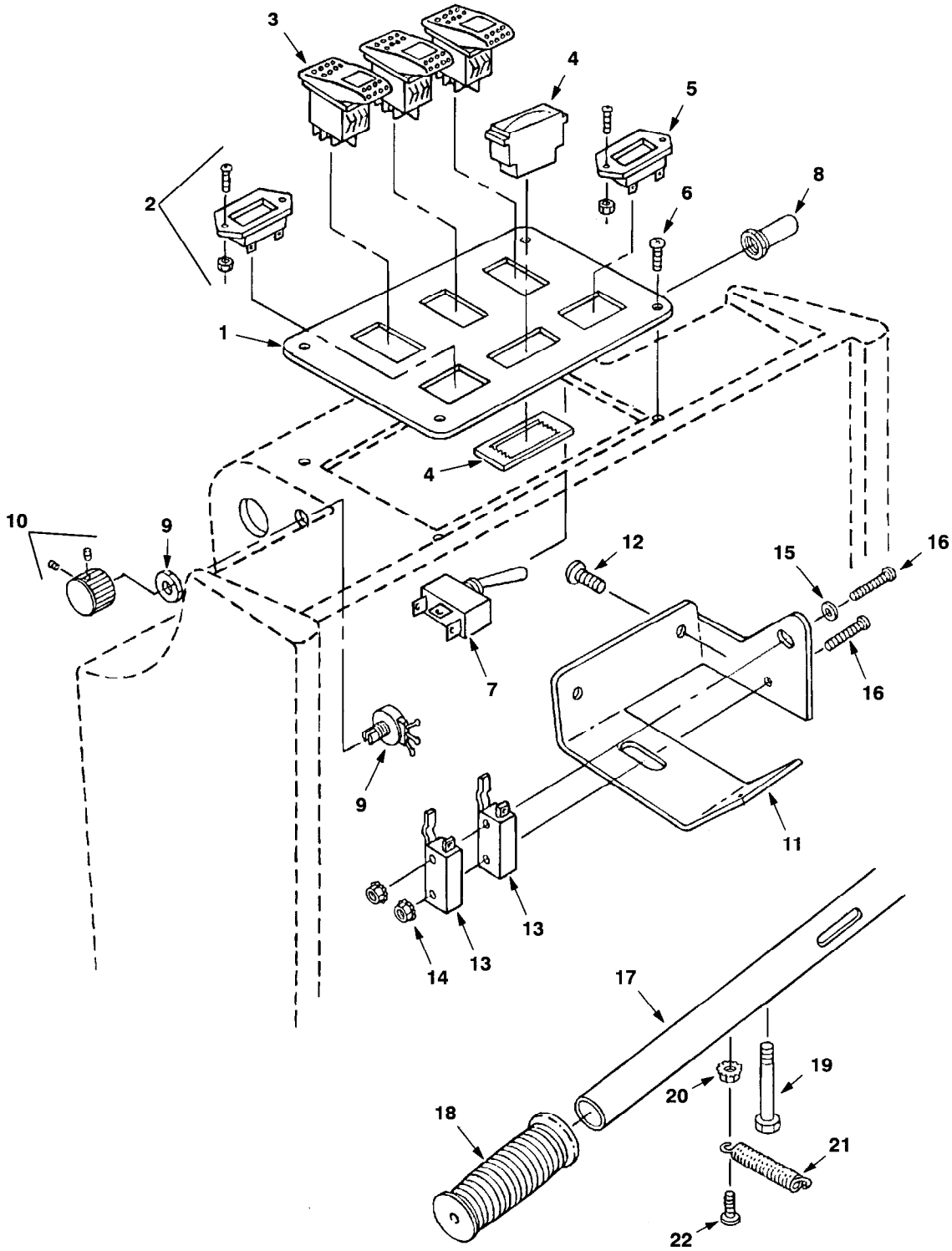
MAIN CHASSIS GROUP



MAIN CHASSIS GROUP

Ref.	Part No.	Description	Qty.
1.	600378	CHASSIS (BLUE)	1
2.	231023.BK	PANEL REAR	1
3.	240204	KNOB	5
4.	140831	SCREW, 6-32x5/8	2
5.	230696.BK	BRACKET, DRAIN HOSE	2
6.	160231	TUBING, 1/8ID CLR VYL (4.6 FT)	1
7.	140553	SCREW 1/4-20	9
8.	140000	WASHER, FLAT 1/4	9
9.	140016	WASHER, LOCK 1/4	9
10.	140440	HINGE, SOLUTION TANK	1
11.	600437	SWITCH, LIMIT	1
12.	200301012	WASHER, FLAT	2
13.	140539	NUT, KEP 6-32	2
14.	140852	SCREW, SHT MTL #12 X 3/4	2
15.	231040.BK	PLATE, PLUG MOUNT	1
16.	200070266	SCREW, PAN HD M03 X 16MM	2
17.	579211	NUT, LOCK M03	2
18.	140829	SCREW, 6-32 x 1	2
19.	130155	CONNECTOR, GRAY 50A	1
20.	140026	WASHER, FLAT	2
21.	130367	CABLE, BATTERY 15" BLK 6 GA	2
22.	600394	BATTERY, 12V, 215AH	3
23.	103026	WHEEL, BUMPER	6
24.	140008	WASHER, FLAT	2
25.	230246.BK	BRACKET, BUMPER WHEEL (LEFT)	1
	230247.BK	BRACKET, BUMPER WHEEL (RIGHT)	1
26.	140562	SCREW, 1/2 X 6 1/2	2
27.	140563	BOLT, LAG 5/16 X 1	4
28.	230832	ELBOW, 90° 1 1/4H X 1 1/4M	1
29.	230833	ADAPTER, PVC 1 1/4F X 1 1/2M	1
30.	603094	INLET FLANGE, W/FLATS	1
31.	140307	CLAMP, 1 9/16	1
32.	160415	HOSE DRAIN	1
▽33.	701061	ASM, PLUG	1
▲34.	230831	KNOB, DRAIN HOSE	1
▲35.	230882	STRAP, PLUG	1
▲36.	140056	WASHER, FENDER	1
▲37.	140955	PLUG, DRAIN HOSE	1
▲38.	140921	SLEEVE, DRAIN HOSE	1
▲39.	140072	CLAMP, EAR 1-9/16"	2
40.	140025	WASHER, FLAT	8
41.	140823	SCREW, 10-24 X 5/8	2
42.	230109.BK	BRACKET, HOSE SUPPORT	1
43.	140552	NUT, NYLOC	2
44.	140201	SCREW, 3/8-16 X 3/4	8
45.	103002	CASTER, 4" SWIVEL	2
46.	130755	BREAKER, CIRCUIT SWITCH 10 AMP	1
47.	130739	BREAKER, CIRCUIT MASTER 60 AMP	1
48.	130737	BREAKER, CIRCUIT BRUSH 10 AMP	1
49.	140887	SCREW, 10-24X3/8	2
50.	231058.BK	PLATE, CIRCUIT	1
51.	130113	CABLE RED	1
52.	130114	CABLE, BLACK	1
53.	100709	BOX, BATTERY	1
54.	469760868	CHARGER, BATTERY (120V)	1
	600599	CHARGER, BATTERY (230V)	1
55.	140539	NUT, KEP	2
DECALS NOT SHOWN			
	120243	DECAL, GALLON MARKER	1
	120245	DECAL, CIRCUIT BREAKER	1
	120649	DECAL, "WARNING"	1

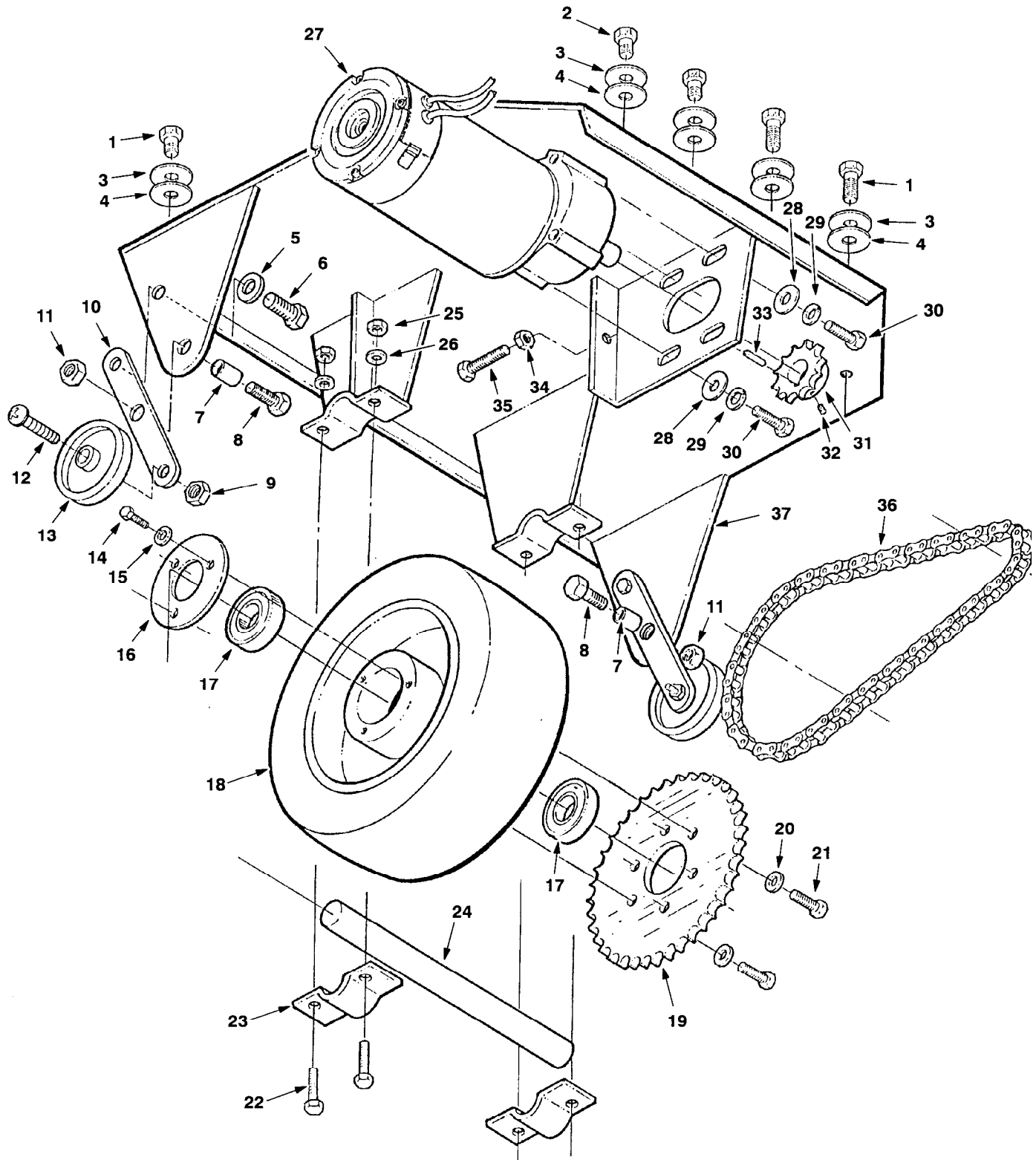
CONTROL CONSOLE GROUP



CONTROL CONSOLE GROUP

Ref.	Part No.	Description	Qty.
1.	600994.BK	PLATE, CONTROL CONSOLE	1
2.	630143	METER, HOUR	1
3.	601107	SWITCH, LIGHTED ROCKER	3
4.	130046	METER, BRUSH PRESSURE	1
5.	130779	METER, BATTERY	1
6.	140810	SCREW	4
7.	601108	SWITCH, TOGGLE	1
8.	130753	BOOT, SWITCH	1
9.	130776	POTENTIOMETER	1
10.	601110	KNOB, SPEED CONTROL	1
11.	601127	BRACKET, SWITCH	1
12.	140885	SCREW	2
13.	130729	SWITCH, ROLL THROTTLE	2
14.	140539	NUT, KEP	2
15.	140019	WASHER, EXT. LOCK TOOTH #6	2
16.	140830	SCREW, 6-32X1-3/4	2
17.	601001	TUBE, HANDLE	1
18.	200823	GRIP, HANDLE	2
19.	601104	SCREW	1
20.	140519	NUT	1
21.	601118	SPRING	1
22.	140823	SCREW	1

DRIVE ASSEMBLY GROUP



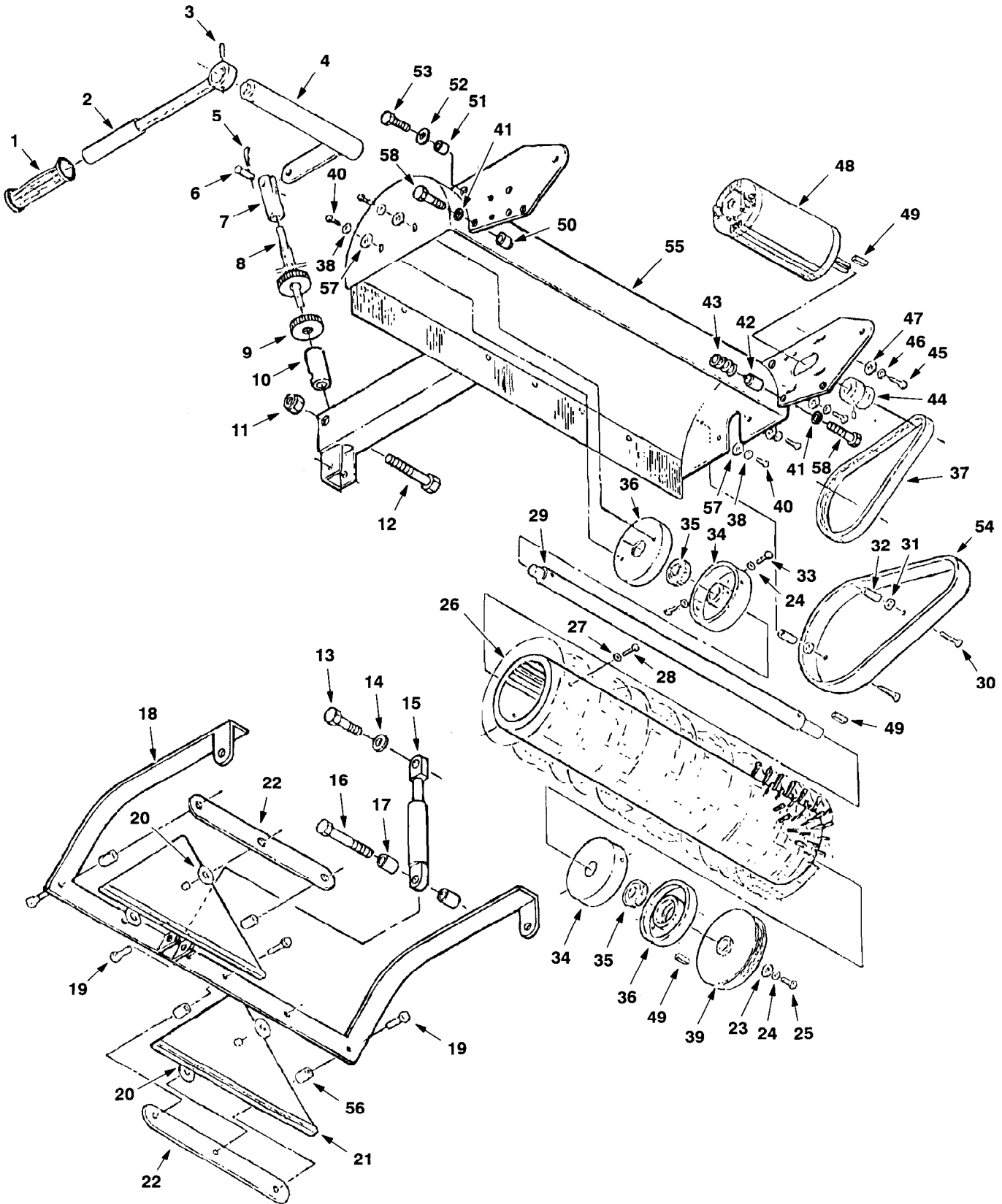
DRIVE ASSEMBLY GROUP

Ref.	Part No.	Description	Qty.
1.	140202	SCREW, 3/8-16 X 1	4
2.	140201	SCREW, 3/8-16 X 3/4	2
3.	140028	WASHER, FLAT 3/8	6
4.	140008	WASHER, FLAT 1/2	6
5.	140015	WASHER, LOCK 5/16	2
6.	140559	SCREW, 5/16-18 X 1/2"	2
7.	140911	BUSHING, SPACER 5/8	2
8.	140204	SCREW, 1/2-13 X 1-1/2	2
9.	140545	NUT, 3/8-16	2
10.	230645.BK	PLATE, SAFETY WHEEL BACK	2
11.	140509	NUT 1/2-13	2
12.	140943	SCREW, 3/8-16 X 2"	2
13.	103007	WHEEL	2
14.	140223	SCREW, 5/16-18 X 3/4	3
15.	140015	WASHER, LOCK 5/16	9
16.	220120.BK	RETAINER, WHEEL BEARING	1
17.	140124	BEARING, WHEEL	2
18.	103027	WHEEL, DRIVE 10" X 4"	1
19.	240017	SPROCKET, WHEEL DRIVE	1
20.	140015	WASHER, LOCK 5 1/6	6
21.	140219	SCREW, 5/16-18 x 1	6
22.	140202	SCREW, 3/8-16 X 1	4
23.	140311.BK	BRACKET, WHEEL ASM.	2
24.	230205	SHAFT, DRIVE WHEEL	1
25.	140525	NUT, 3/8-16	4
26.	140017	WASHER, LOCK 3/8	4
27.	130443	MOTOR, DRIVE	1
	190153	CARBON BRUSH , W/B 4 PK	1
28.	140046	WASHER, FLAT 3/8	3
29.	140017	WASHER, LOCK 3/8	3
30.	140232	SCREW, 3/8-16 X 1 1/4	4
31.	240071	SPROCKET, WHEEL DRIVE	1
32.	140859	SCREW, SET 1/4-20	2
33.	27076	KEY, STEPPED	1
34.	140545	NUT, JAM 3/8-16	1
35.	140231	SCREW, 3/8-16 X 1 1/2	1
36.	240019	CHAIN, DRIVE	1
37.	220107.BK	BRACKET, WHEEL ASSEMBLY	1

PLUMBING SYSTEM GROUP

Ref.	Part No.	Description	Qty.
1.	601142	PUMP, SURFLOW 100PSI 36V	1
2.	140000	WASHER, FLAT 1/4	2
3.	140881	SCREW, 1/4-20 X1	2
4.	150412	ELBOW, 3/8M X 3F/8H 90°	1
5.	140310	CLAMP, HOSE 5/16-7/8	15
6.	160207	HOSE, LP GRAY (6.66 FT)	1
7.	150511	HOSE BARB 1/4F X 3/8 H	1
8.	150406	ELBOW, STRT 1/4 X 90°	1
9.	150615	NIPPLE, BRASS CLOSE 1/4	1
10.	150006	BUSHING, 1/4 X 3/8	3
11.	150600	NIPPLE, 1/4 X 2	1
▽12.	180615	ASM., INLINE STRAINER FILTER	1
▲13.	180636	FILTER, SLEEVE	1
▲14.	602000	BOWL, INLINE STRAINER FILTER	1
15.	150715	TEE, MALE BRCH 3/8H X 3/8	1
16.	160207	HOSE, 3/8 LP GRAY (3 FT)	1
17.	140900	SCREW, 10-24X3/4	1
18.	140916	CLAMP	1
19.	140552	NUT, 10-24	1
20.	150206	PLUG, 1/4 NPT	1
21.	160207	HOSE, 3/8 LP GRAY (.916 FT)	1
22.	28303	HOSE BARB 45°	2
23.	150706	TEE, 1/4	1
24.	140058	WASHER, FLAT	1
25.	150933	PLUG, QUICK COUPLER	1
26.	150419	ELBOW, 1/4M X 3/8H 90°	1
27.	160207	HOSE, 3/8 LP GRAY (.916 FT)	1
28.	150525	HOSE BARB	2
29.	210046	VALVE, SOLENOID 36V	1
30.	600998	BRACKET, SOLENOID	1
31.	140023	WASHER	2
32.	140801	SCREW	2
33.	140837	SCREW	2
34.	140018	WASHER, INT LOCK #10	4
35.	230978	PLATE, DIVIDER	1
36.	140887	SCREW, 10-24 X 3/8	4
37.	140018	WASHER, INT LOCK #10	4
38.	231029.BK	PLATE, CONTROL	1
39.	140223	SCREW, 5/16-18 X 3/4	5
40.	140015	WASHER, SPLIT LOCK 5/16	4
41.	600975	BRACKET, REV. SWITCH	1
42.	140546	NUT	1
43.	140890	SCREW	1
44.	130729	SWITCH	1
45.	140019	WASHER, EXT. LOCK TOOTH	2
46.	210016	SCREW	2
47.	140539	NUT	2
48.	140221	SCREW	2
49.	140015	WASHER	2
50.	140237	SCREW, 1/2-13X1"	1
51.	150116	BUSHING	1
52.	140040	WASHER, POLY	2
53.	140868	SCREW 1/4-205/8	2
54.	100721	PLATE, LOCK	1
55.	220115	BRACKET, SUPPORT	1
56.	140501	NUT, LOCK VYL 1/4	2
57.	130733	SOLENOID, SPNO 36V	2
58.	140011	WASHER	4
59.	140890	SCREW	4
60.	600247	BOARD, SPEED W/HEAT SINK	1
61.	140887	SCREW, 10-24 X 3/8	2
62.	140018	WASHER, INT LOCK #10	2
63.	140259	SCREW, 1/4-20x5/8	1
64.	140016	WASHER	2
65.	578427	TERMINAL, STANDOFF	1
66.	160207	HOSE, 3/8 LP GRAY (6.583 FT)	1
67.	140554	SCREW, 1/4-20 x 3/4	1
68.	130423	DIODE, 400V/6.0A	2
69.	130125	TERMINAL, RING #10 16-14GA	4

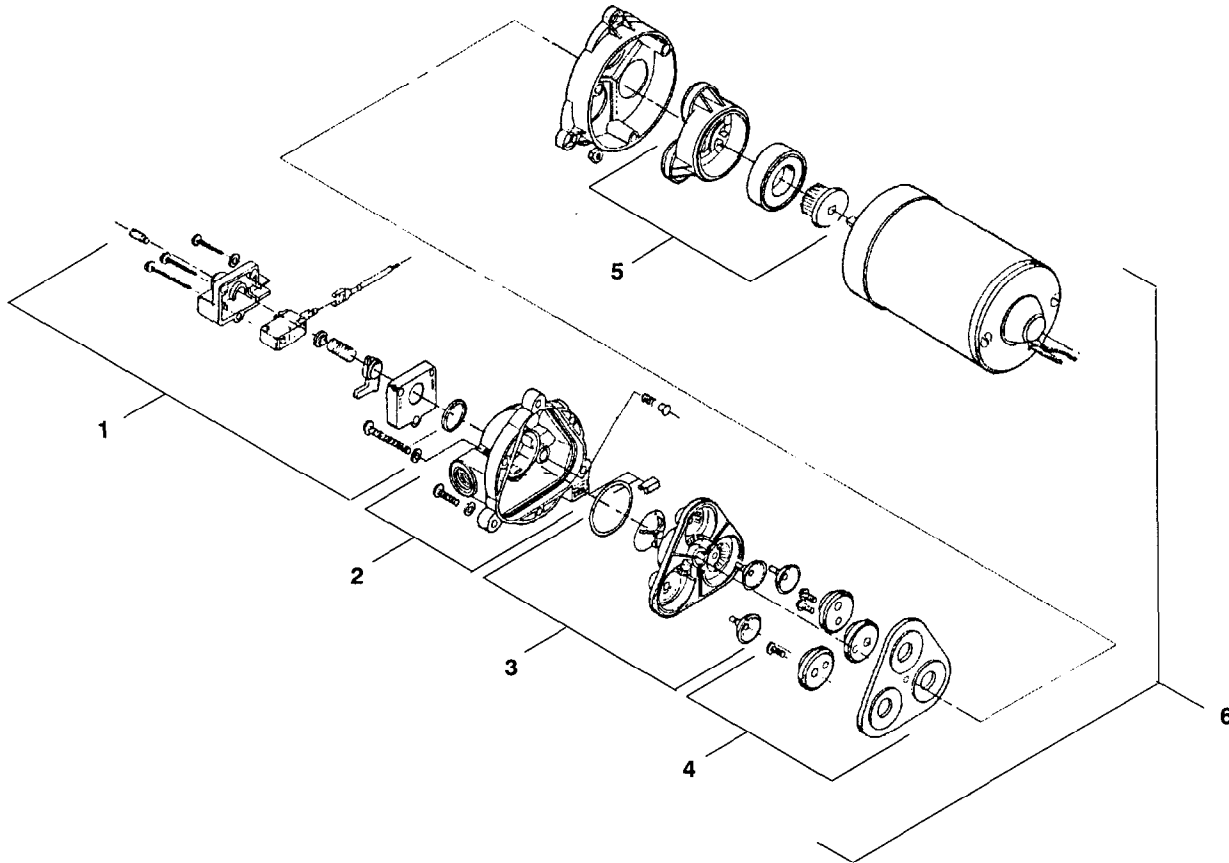
BRUSH ASSEMBLY GROUP



BRUSH ASSEMBLY GROUP

Ref.	Part No.	Description	Qty.
1.	200823	GRIP, HAND	1
2.	230210	ARM	1
3.	140618	PIN, ROLL	1
4.	230207	SHAFT, LIFT	1
5.	140626	PIN, HITCH	1
6.	140608	PIN, CLEVIS	1
7.	230309	CLEVIS, LIFT ROD	1
8.	231038	ROD, LIFT	1
9.	231037	NUT BRUSH ADJUST	1
10.	231036	ADAPTER, SPRING	1
11.	140516	NUT, LOCK-NYLON 1/2"	1
12.	140234	SCREW, 1/4-20X3/4	1
13.	140216	SCREW, 5/16-18 X 1 1/2	2
14.	140027	WASHER, FLAT 5/16	2
15.	140446	SPRING, GAS CYLINDER	2
16.	140355	SCREW, 5/16-18 X 2 1/2	2
17.	140140	BUSHING	4
18.	230979.BK	BRACKET, PICKUP TOOL MOUNT	1
19.	140204	SCREW, 1/2-13 X 1 1/2	4
20.	140040	WASHER	4
21.	231028	TOOL, PICKUP W/OFFSET LIPS	2
22.	100729	PLATE, PICKUP TOOL	2
23.	140003	WASHER, FENDER 1/4 X 1	1
24.	140016	WASHER, LOCK 1/4	5
25.	140554	SCREW, 1/4-20 X 3/4	1
26.	240001	BRUSH, CYLINDER	1
27.	140015	WASHER, SPLIT LOCK 5/16	4
28.	140221	SCREW, 5/16-18 X 1 1/4	4
29.	230206	SHAFT, BRUSH	1
30.	140869	SCREW, 10-24 X 1 3/4	2
31.	140011	WASHER, FLAT 3/16	4
32.	140917	SPACER, NYLON .194 X 5/16 X 1 1/2	2
33.	140553	SCREW, 1/4-20 X 1/2	4
34.	240014	ADAPTER, BRUSH MOUNT	2
35.	140123	BEARING, BRUSH	2
36.	240015	CAP, BEARING	2
37.	240126	BELT, BRUSH DRIVE	1
38.	140016	WASHER, LOCK 1/4	4
39.	240013	SHEAVE, BRUSH SHAFT	1
40.	140554	SCREW, 1/4-20 X 3/4	4
41.	140016	WASHER, LOCK 1/4	1
42.	230993	PIN, MANIFOLD MOUNT	1
43.	578140000	SPRING	1
44.	240016	SHEAVE, BRUSH MOTOR	1
45.	140208	SCREW, 1/4-20 X 1	4
46.	140016	WASHER, LOCK 1/4	4
47.	140000	WASHER FLAT 1/4	4
48.	130444	MOTOR, BRUSH 1/2 HP	1
49.	140628	KEY, 3/16	2
50.	230992	PIN, MANIFOLD MOUNT	1
51.	140144	BUSHING .375/.380 X.500/.498	2
52.	140046	WASHER, 3/8 FLAT	2
53.	140202	SCREW, 3/8-16 X 1	2
54.	100714	COVER, DRIVE BELT	1
55.	230983.BK	BRUSH HOUSING	1
56.	140911	BUSHING, SPACER 5/8	4
57.	140000	WASHER, FLAT 1/4	4
58.	140553	SCREW, 1/4-20 X 1/2	2

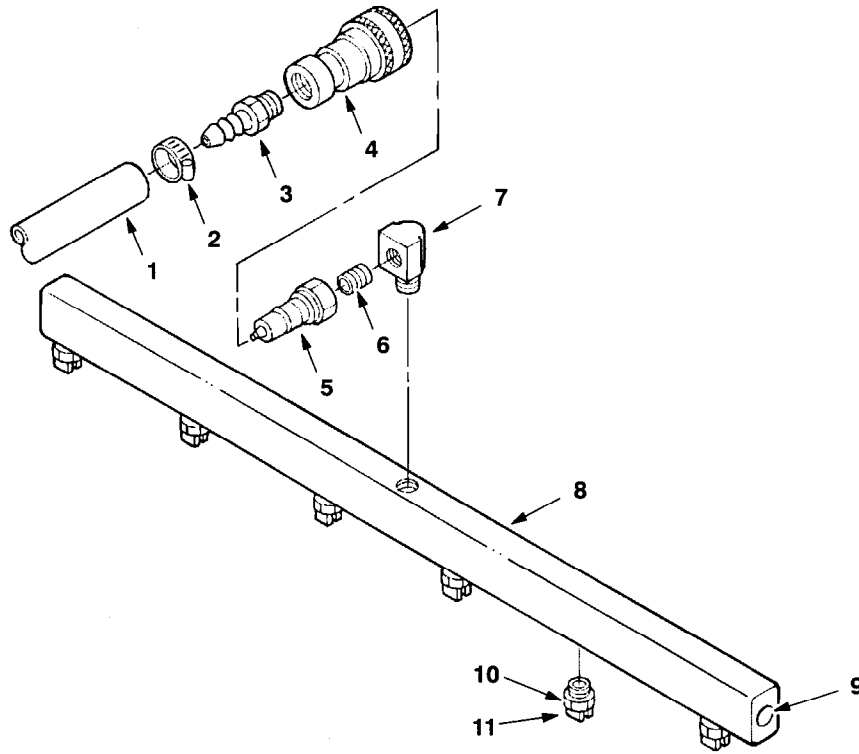
PUMP BREAKDOWN



PUMP BREAKDOWN

Ref.	Part No.	Description	Qty.
1.	190129	KIT, PRESSURE SWITCH	1
1.	190172	KIT, PRESSURE SWITCH (VITON)	1
	190134	KIT, DIAPHRAGM ONLY	1
2.	190128	KIT, UPPER PUMP HOUSING	1
	190124	KIT, CHECK VALVE ONLY	1
3.	190171	KIT, VALVE (VITON)	1
4.	190131	KIT, SERVICE	1
5.	190130	KIT, LOWER PUMP HOUSING	1
6.	601142	PUMP, 100 PSI, 36V	1

SPRAY BAR GROUP

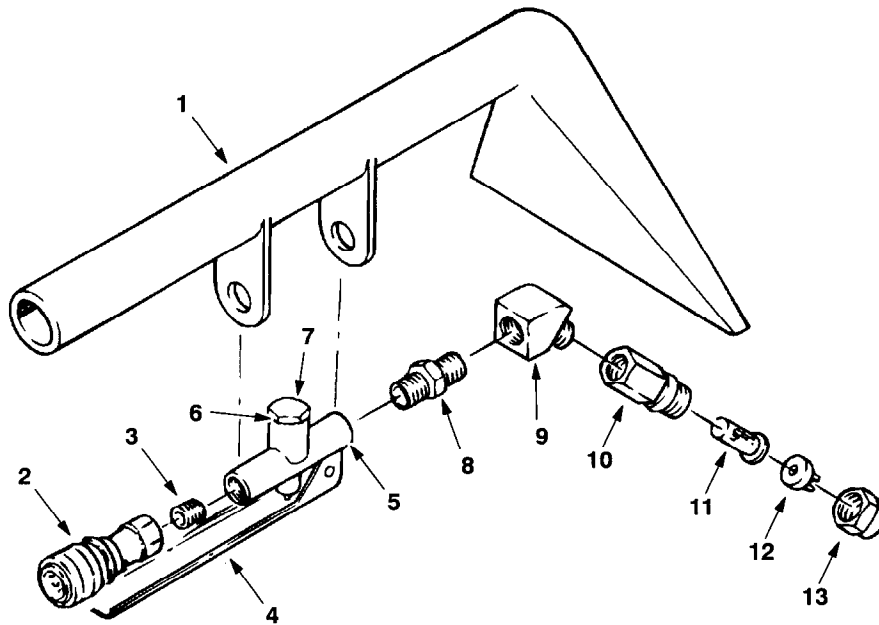


SPRAY BAR GROUP

Ref.	Part No.	Description	Qty.
1.	160207	HOSE, 3/8 LP GRAY (6.583 FT)	1
2.	140310	CLAMP, HOSE 5/16-7/8	1
3.	150516	HOSE BARB 1/4M X 3/8H	1
4.	150913	COUPLER, QUICK FEMALE	1
▽	601143	ASM., SPRAY BAR	1
▲ 5.	150933	PLUG, QCK COUPLER	1
▲ 6.	150615	NIPPLE, 1/4 CLOSE	1
▲ 7.	150430	ELBOW, STRT 1/8M X 1/4F 90°	1
▲ 8.	230974	SPRAY BAR 6 JET	1
▲ 9.	150208	PLUG 1/8	2
▲ 10.	201008	SPRAY NOZZLE 1/8	6
▲ 11.	603092	TIP, SPRAY QUICK JET 1002	6
	120248	DECAL, FRONT (NOT SHOWN)	1

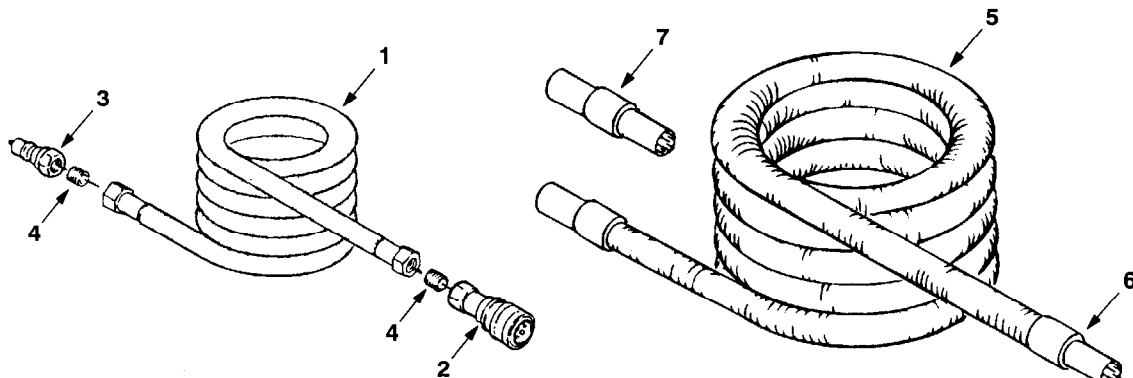
OPTIONAL PARTS

5" HAND TOOL



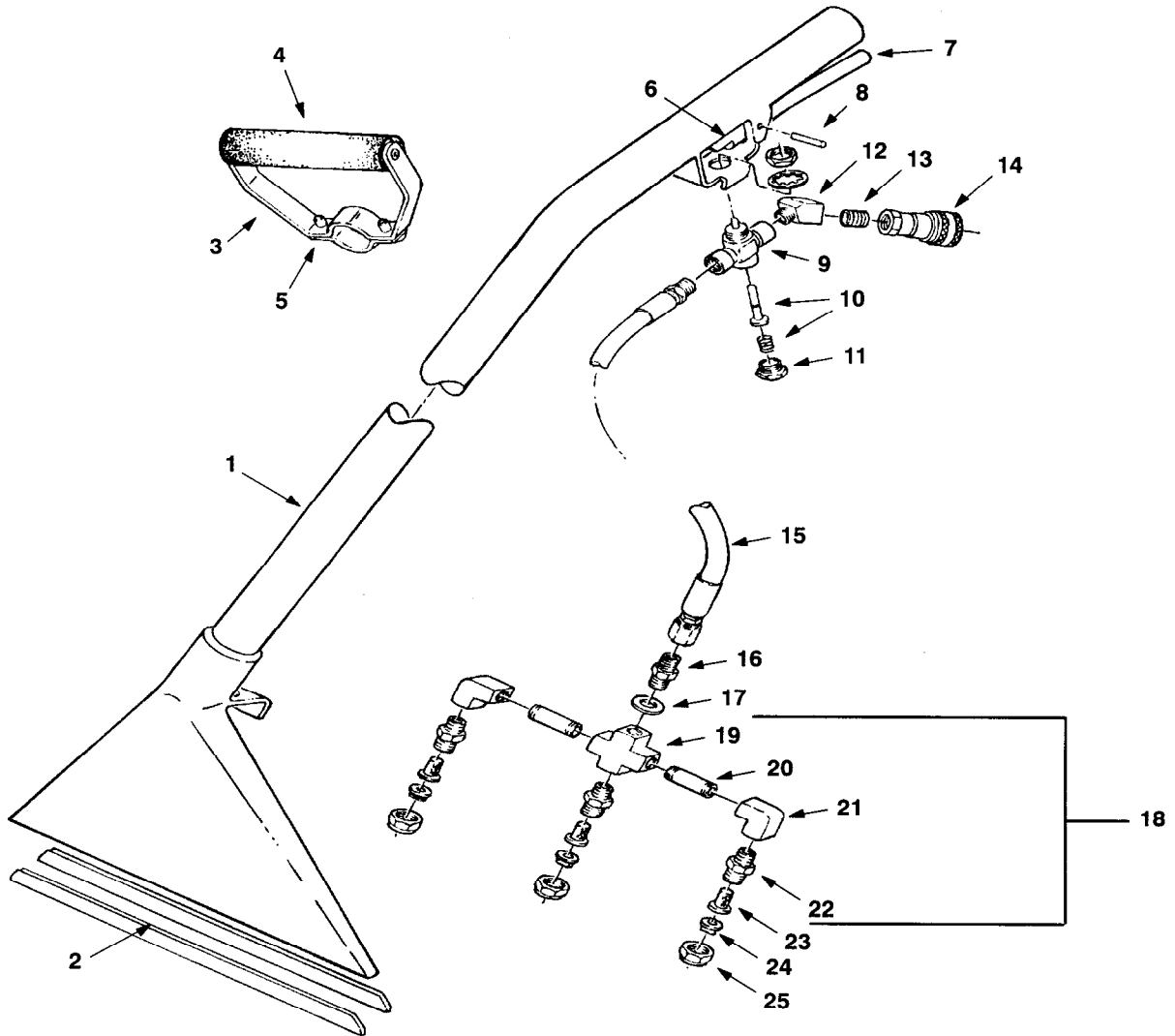
Ref.	Part No.	Description	Qty.
1.	200505	TOOL, HAND (COMPLETE)	1
	200431.BK	TOOL, HAND	1
2.	150913	COUPLER, QUICK (SER. 60)	1
3.	150615	NIPPLE, CLOSE	1
4.	200905	TRIGGER, HAND TOOL	1
5.	210210	VALVE, FLOW CONTROL	1
6.	190600	VALVE PIN & SPRING (NOT SHOWN)	1
7.	N/A	CAP. VALVE	1
8.	150606	NIPPLE, HEX 1/4	1
9.	150403	ELBOW, ST 1/4 45°	1
10.	200992	BODY, SPRAY 1/4F	1
11.	200996	SCREEN, SPRAY NOZZLE	1
12.	200965	TIP, SPRAY #8002	1
13.	20094	CAP, SPRAY BODY	1

SOLUTION AND VACUUM HOSES



Ref.	Part No.	Description	Qty.
1.	160186	HOSE, SOLUTION 25'	1
2.	150913	COUPLER, QUICK SER. 60	1
3.	150933	PLUG, QUICK COUPLER	1
4.	150615	NIPPLE	2
5.	160401	HOSE, VACUUM 25 W/ CUFFS	1
6.	160430	CUFF, HOSE 1-1/2"	2
7.	160451	CONNECTOR, VACUUM HOSE 1-1/2"	1

FLOOR TOOL



Ref.	Part No.	Description	Qty.
	600048	FLOOR TOOL W/ S.S. SHOES (COMPLETE)	1
1.	200403.BK	TOOL, FLOOR	1
2.	200939	SHOES, FLOOR TOOL	2
3.	200927	GRIP, ADJUSTABLE (COMPLETE)	1
4.	200912	FOAM, GRIP	1
5.	140259	SCREW, 1/4X3/4	2
6.	200902	TRIGGER, FLOOR TOOL	1
7.	200809	SLEEVE, TRIGGER	1
8.	140605	PIN	1
	140520	NUT, PUSH (NOT SHOWN)	2
9.	210150	VALVE, FLOW CONTROL	1
10.	190603	KIT, VALVE PIN & SPRING	1
11.	N/A	CAP, HEX, VALVE	1
12.	150403	ELBOW, 1/4-45°	1
13.	150615	NIPPLE, CLOSE 1/4	1
14.	150913	COUPLER, QUICK SER. 60	1
15.	160170	HOSE, 1/4 HP W/ SWEDGE	1
16.	150606	NIPPLE, HEX 1/4"	1
17.	140058	WASHER	1
∇18.	700062	ASM., SPRAY BAR	1
▲19.	150700	CROSS	1
▲20.	150600	NIPPLE	2
▲21.	150401	ELBOW, 90° 1/4FX1/4F	2
▲22.	200993	SPRAY BODY	3
23.	200996	SCREEN, SPRAY BODY	3
24.	200964	TIP	3
25.	200994	CAP, SPRAY BODY	3

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