

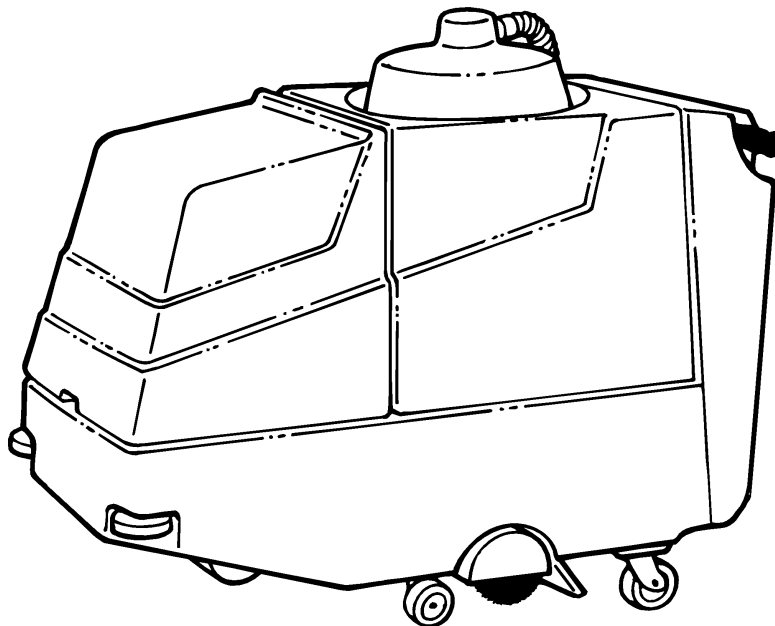


Concorde™ HP Plus

Automatic Carpet Extractor

Model No.:
608349
608935 – Pac
609256 – Can. Pac

Operator and Parts Manual



NOBLES
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608416
Rev. 00 (01-00)

OPERATION

This manual is furnished with each new model. It provides necessary operation and machine maintenance instructions and an 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.

When ordering replacement parts, use the Parts Lists in this manual. 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 Service Center or Distributor.

MACHINE DATA

Please fill out at time of installation for future reference.

Model No.- _____ Install. Date - / /

Serial No.- _____

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Specifications and parts are subject to change without notice.

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SAFETY PRECAUTIONS

This machine is intended for commercial use. It is designed to clean carpets in an indoor environment and is not constructed for any other use.

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

The following safety alert symbols 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.

FOR SAFETY: To identify actions which must be followed for safe operation of equipment.

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

FOR SAFETY:

1. **Do not operate machine:**
 - Unless trained and authorized.
 - Unless operation manual is read and understood.
 - In flammable or explosive areas unless designed for use in those areas.
2. **Before starting machine:**
 - Make sure all safety devices are in place and operate properly.
3. **When using machine:**
 - Go slow on inclines and slippery surfaces.
 - Use care when reversing machine.
 - Report machine damage or faulty operation immediately.
 - Follow mixing and handling instructions on chemical containers.

4. **Before leaving or servicing machine:**
 - Stop on level surface.
 - Turn off machine.
 - Pull out main circuit breaker button.
5. **When servicing machine:**
 - Avoid moving parts. Do not wear loose jackets, shirts, or sleeves.
 - Block machine tires before jacking machine up.
 - Use hoist or jack of adequate capacity to lift machine.
 - Disconnect battery connections before working on machine.
 - Wear protective gloves when handling batteries or battery cables.
 - Avoid contact with battery acid.
 - Use manufacturer supplied or approved replacement parts.

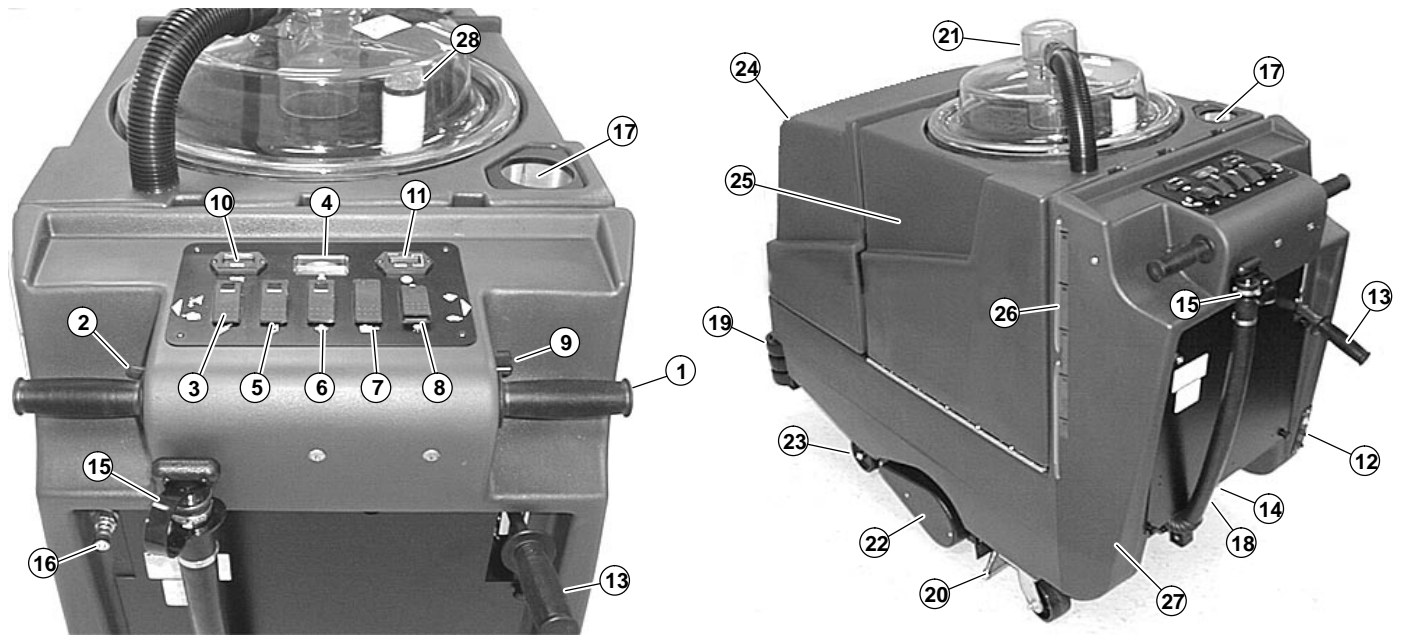
⚠ WARNING: Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open when charging.

⚠ WARNING: Flammable materials can cause an explosion or fire. Do not use flammable materials in tank(s).

⚠ WARNING: Flammable materials or reactive metals can cause explosion or fire. Do not pick up.

OPERATION

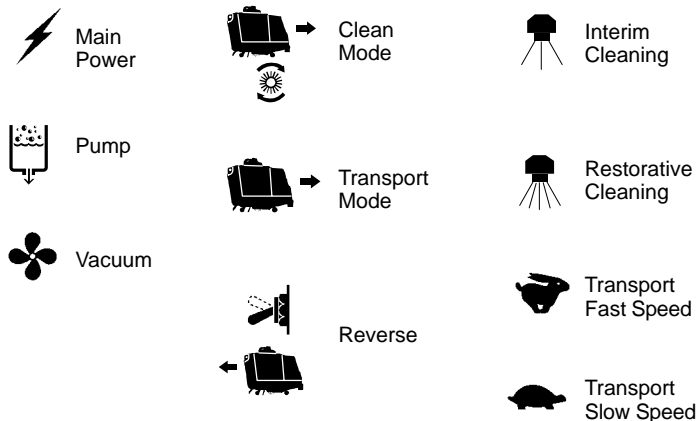
MACHINE COMPONENTS



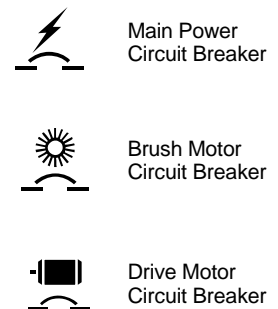
- 1. Control Grips
- 2. Reverse Drive Trigger
- 3. Main Power Switch
- 4. Brush Pressure Meter
- 5. Pump Switch
- 6. Vacuum Switch
- 7. Clean Mode/Transport Mode Drive Switch
- 8. Restorative Cleaning/Interim Cleaning Switch
- 9. Transport Speed Control Knob
- 10. Battery Meter
- 11. Hour Meter
- 12. Circuit Breaker Panel
- 13. Brush Lift Lever
- 14. Brush Height Adjustment Knobs

- 15. Drain Hose
- 16. Floor Tool Accessory/Bleeder Hose Coupler
- 17. Solution Tank Fill Port
- 18. Inline Strainer Filter
- 19. Wall Roller Bumper
- 20. Vacuum Pickup Head
- 21. Recovery Tank Dome
- 22. Rotating Brush
- 23. Safety Wheels
- 24. Battery Compartment Hood
- 25. Recovery Tank
- 26. Solution Tank Gallon Marker
- 27. Solution Tank
- 28. Standpipe Screen

CONTROL PANEL SYMBOLS



CIRCUIT BREAKER PANEL



MACHINE INSTALLATION

UNCRATING MACHINE

Carefully check carton for signs of damage. Report damages at once to carrier.

Check carton contents list below. Contact your distributor for missing items.

- 1 – Recovery Dome (stored in battery compartment)
- 1 – Recovery Dome Vacuum Hose (stored in recovery tank)
- 1 – Battery Tray
- 2 – Battery Cables (stored in battery compartment)
- 1 – Pumpout Hose (stored in recovery tank)
- 1 – Standpipe Screen (stored in recovery tank)
- 1 – Solution Tank Fill Port Strainer (stored in recovery tank)
- 1 – Spray Bar (installed on machine)
- 1 – Battery Charger (Included with Concorde™ HP Plus Pac 608935) Packaged Separately
- 3 – 12V Batteries (Included with Concorde™ HP Plus Pac 608935; not included with Pac 609256) Packaged Separately

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

ATTENTION: DO NOT roll machine off pallet or use a forklift, machine damage will occur. Use a hoist or ramp.

INSTALLING BATTERIES

⚠ WARNING: Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open when charging.

FOR SAFETY: When servicing machine, wear protective gloves when handling batteries or battery cables. Avoid contact with battery acid.

Battery Specifications:

Three 12 volt, 215 Ah, deep cycle batteries. Consult with an Authorized Distributor for specific batteries. Maximum battery dimensions are 178mm(7in)W x 380mm(15 in)L x 370mm(14.63 in)H.

1. Before installing batteries pull out the main circuit breaker button to shut off power to machine. Circuit breaker panel is located at rear lower right of machine (Figure 1).

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine and pull out main circuit breaker button.



FIG. 1

2. Lift battery compartment hood off machine and remove loose battery cables.
3. Carefully install batteries into battery tray with negative posts towards back of machine. (Figure 2).

ATTENTION: Be careful not to drop batteries into compartment, battery and machine housing damage may result.



FIG. 2

OPERATION

- Connect cables to battery posts in numerical order as labeled (RED to POSITIVE & BLACK to NEGATIVE). Cover post with rubber boot (Figure 3).

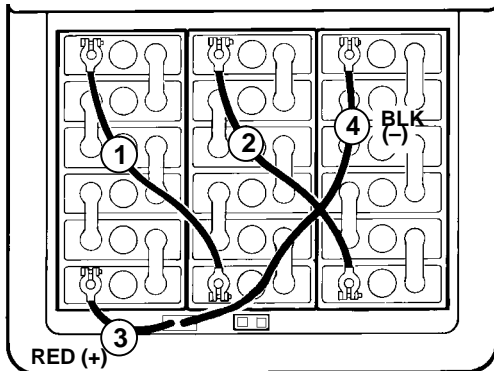


FIG. 3

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

MACHINE SETUP

FILLING SOLUTION TANK

- Transport machine to filling station (See MACHINE OPERATION).
- Fill solution tank with 113.5 L (30 gal) of clean water at fill port, 60° C (140° F) maximum temperature. Use gallon markers on side of tank to indicate fill level (Figure 4).



FIG. 4

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

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

FOR SAFETY: When using machine, follow mixing and handling instructions on chemical containers.

⚠ WARNING: Flammable materials can cause an explosion or fire. Do not use flammable materials in tank(s).

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

MACHINE OPERATION

FOR SAFETY: Do not operate machine unless operator manual is read and understood.

PRE-OPERATION CHECKS

- Vacuum floor and remove debris.
- Check battery meter charge level; machine should be fully charged prior to using. Do not operate machine if batteries are discharged below half (See BATTERY CHARGING).
- Check that recovery tank standpipe screen is in place.
- Check that spray bar is installed (See SPRAY BAR AND SPRAY TIP MAINTENANCE).
- Check that inline strainer filter is installed (See SOLUTION FILTERS MAINTENANCE).
- Inspect spray tips for proper spray pattern (See SPRAY BAR AND SPRAY TIP MAINTENANCE).

TRANSPORTING MACHINE

Operating machine without using cleaning functions.

- Raise brush lift lever and engage lock block.
- Activate main power switch.
- Press drive switch towards transport mode symbol (Figure 5).



FIG. 5

4. Turn speed control knob to slowest setting. (Figure 6).



FIG. 6

5. Rotate control grips completely forward and slowly turn speed control knob to desired travel speed (Figure 7).



FIG. 7

ATTENTION: For first time users, operate at a slower speed until maneuvering becomes easy.

6. To transport machine in reverse, simply pull reverse drive trigger (Figure 8).



FIG. 8

7. To stop machine, release control grips and turn off machine.

CLEANING WITH MACHINE

1. Lower brush lift lever and engage lock block (Figure 9).

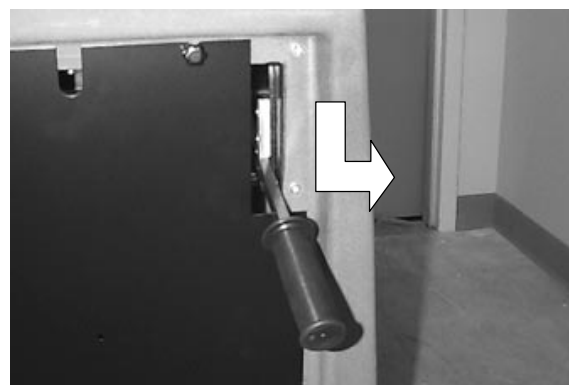


FIG. 9

2. Activate main power, pump and vacuum switches.
3. Press drive switch towards clean mode symbol (Figure 10).

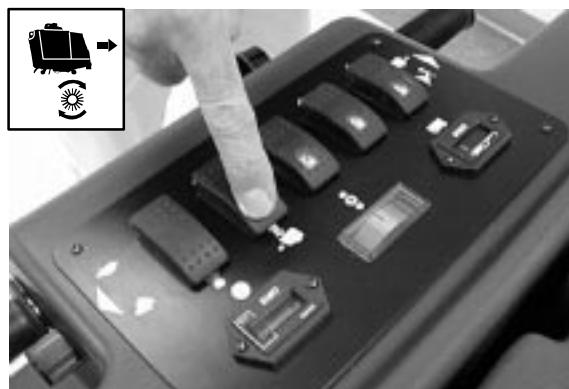


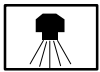
FIG. 10

OPERATION

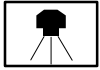
4. Select cleaning method by pressing restorative/interim cleaning switch (Figure 11).



FIG. 11



Restorative Cleaning Method: The machine operates at a slower set speed to restore heavily soiled carpet areas. The restorative cleaning method must be performed on a regular basis in order for the interim cleaning method to be effective.



Interim Cleaning Method: Machine operates at faster set speed for routine light cleaning. The interim cleaning method will be ineffective if the restorative cleaning method is not performed on a regular basis.

5. Rotate control grips completely forward to begin cleaning (Figure 12).

⚠ WARNING: Flammable materials or reactive metals can cause explosion or fire. Do not pick up.

NOTE: Machine travel speed for the cleaning modes are set speeds.



FIG. 12

6. View brush pressure meter while operating. Meter should read center of green zone (Figure 13). If brush height adjustment is required, see ADJUSTING BRUSH HEIGHT.

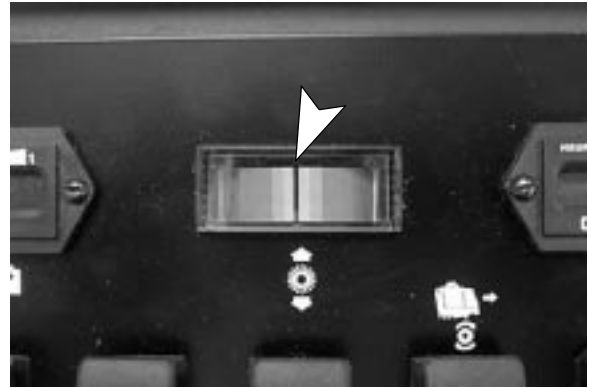


FIG. 13

7. To operate machine in reverse, raise brush lever and pull reverse drive trigger (Figure 14).

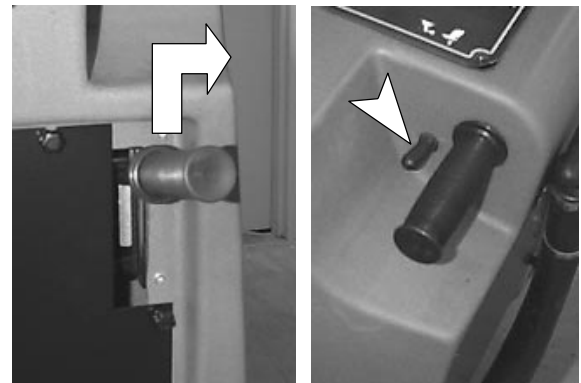


FIG. 14

8. To stop cleaning, release control grips. Raise brush lever and turn off machine.
9. After cleaning carpet, allow 3 to 4 hours for carpet to dry. Use air movers to reduce drying time.

WHILE OPERATING MACHINE

⚠ WARNING: Flammable materials or reactive metals can cause explosion or fire. Do not pick up.

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.

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

2. Overlap each pass by about 51 mm (2 in).
3. Keep machine within 152–203 mm (6–8 in) of baseboard.
4. When turning, it may be necessary to turn pump switch off and raise brush lift lever.

5. Before reaching end of cleaning path, turn pump switch off and continue to drive machine forward to extract solution.
6. Drain recovery tank when recovered water reaches "FULL LINE" label, located on standpipe in recovery tank (See DRAINING TANKS).
7. Observe gallon marker for remaining cleaning solution.
8. Periodically check battery meter discharge level. Recharge batteries when discharged below half.
9. When solution tank runs dry, turn off pump and vacuum switches, raise brush and transport machine to draining area (See DRAINING TANKS).
10. If cleaning path leaves streaks, spray tip cleaning is required (See SPRAY BAR AND SPRAY TIP MAINTENANCE).
11. If machine is left unattended, turn off machine and pull out main circuit breaker button.

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine and pull out main circuit breaker button.

CIRCUIT BREAKER PANEL

The machine is equipped with (3) resettable circuit breakers to protect machine from damage, (labeled as brush, main and drive). They 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 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. Pull out the main circuit breaker button when servicing machine or when machine is left unattended. Circuit breaker buttons are located at rear of machine as shown (Figure 15).



FIG. 15

ADJUSTING BRUSH HEIGHT

1. Turn all switches off.

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine and pull out main circuit breaker button.

2. Disengage brush lift lever from lock block (Figure 16).



FIG. 16

3. Locate adjustment knobs on adjustment shaft and loosen bottom knob (Figure 17).



FIG. 17

4. Turn upper knob clockwise to lower brush and counterclockwise to raise.
5. Tighten down bottom knob after adjusting.

OPERATION

ACCESSORY TOOL SETUP AND OPERATION (OPTION)

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

NOTE: Vacuum area before cleaning.

1. Turn main power switch off.
2. Disconnect vacuum hose from recovery dome and replace with accessory vacuum hose (Figure 18).



FIG. 18

3. Connect solution hose to accessory coupler at rear of machine (Figure 19).

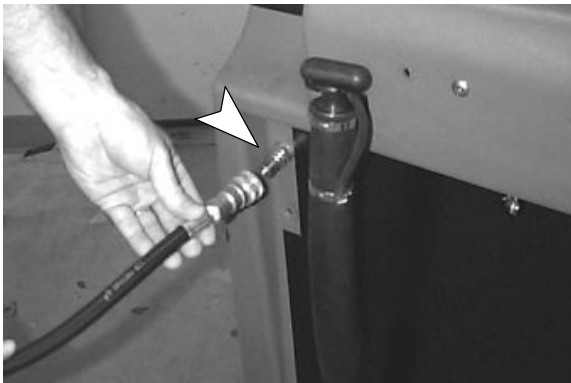


FIG. 19

4. Connect hoses to accessory tool.
5. Raise brush lift lever and engage lock block.
6. Turn main power, pump and vacuum switches on.
7. Operate accessory tool as normal.

⚠ WARNING: Flammable materials or reactive metals can cause explosion or fire. Do not pick up.

8. For floor tool cleaning: Begin cleaning at top of area and work backwards toward machine.

9. 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 152 mm (6 in) from end of stroke (Figure 20).



FIG. 20

10. Push floor tool forward over same path with trigger released when returning for next stroke. Continue this pull and push method with a 51 to 102 mm (2 to 4 in) overlap of each stroke.

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

DRAINING TANKS

When finished cleaning, the recovery and solution tanks should be drained and cleaned.

DRAINING RECOVERY TANK

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 21).

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



FIG. 21

4. Remove recovery tank dome and use a hose to rinse out recovery tank. Be careful not to spray water into standpipe screen.
5. Replace drain hose plug tightly when tank is empty.

DRAINING SOLUTION TANK

To drain unused solution from solution tank, pumpout hose is required (Supplied with machine).

1. Connect pumpout hose to accessory tool coupler at rear of machine (Figure 22).



FIG. 22

2. Hold hose over floor sink or remove recovery tank dome and direct hose into tank.
3. Activate main power and pump switch.

BATTERY CHARGING

The following charging instructions are intended for chargers supplied with machine. Use a battery charger with the following specifications to prevent battery damage.

CHARGER SPECIFICATIONS:

- OUTPUT VOLTAGE – 36 VOLTS
- OUTPUT CURRENT – 25 AMPS
- AUTOMATIC SHUT-OFF CIRCUIT
- FOR LEAD ACID DEEP CYCLE BATTERY CHARGING

NOTE: Recharge batteries *ONLY* after a total of 30 minutes or more. This will prolong battery life. Never leave batteries discharged for lengthy periods.

⚠ WARNING: Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open when charging.

FOR SAFETY: When servicing machine, wear protective gloves when handling batteries and battery cables. Avoid contact with battery acid.

1. Transport machine to a well-ventilated area for charging.
2. Turn main power switch off.
3. Remove battery compartment hood to access batteries (Figure 23).



FIG. 23

OPERATION

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 24).

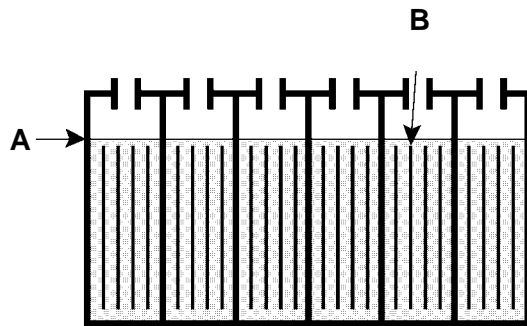


FIG. 24

5. With charger disconnected from machine, plug charger's power cord into a grounded wall outlet (Figure 25).

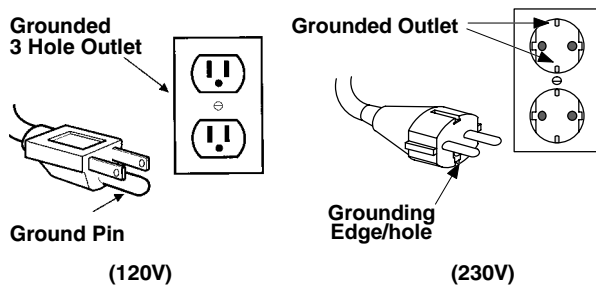


FIG. 25

6. Connect battery charger into machine as shown (Figure 26).



FIG. 26

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

NOTE: The machine will become inoperable once charger is connected.

⚠ WARNING: Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open when charging.

8. When disconnecting charger, always unplug charger from wall outlet first.
9. After charging, recheck battery fluid level. 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.
10. Replace battery compartment hood.

MACHINE MAINTENANCE

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

FOR SAFETY: Before leaving or servicing machine, stop on level surface and turn off machine.

TO ACCESS INTERNAL COMPONENTS

1. Drain recovery and solution tank.
2. Turn main power switch off and disconnect batteries.

FOR SAFETY: When servicing machine, disconnect batteries before working on machine.

3. Remove vacuum hoses from vacuum pickup heads.
4. Remove drain hose from holder and push hose halfway through U-bracket to allow hose slack.
5. Carefully hinge tank over (Figure 27).



FIG. 27

HRM METER

The machine is equipped with an hour meter located on the control console. Use hour meter to determine recommended maintenance procedures and to record service history (Figure 28).



FIG. 28

DAILY MAINTENANCE (Every 4 Hours of Use)

1. Recharge batteries (See BATTERY CHARGING).

NOTE: Recharge batteries *ONLY* after a total of 30 minutes or more. This will prolong battery life.

2. Drain and rinse tanks thoroughly.
3. Remove any lint buildup from standpipe screen.
4. Check spray pattern. Pattern should spray evenly across width of machine (See SPRAY BAR AND SPRAY TIP MAINTENANCE).
5. Remove lint buildup from splash guard, located next to brush.
6. Clean machine housing with an all purpose cleaner and damp cloth.

ATTENTION: Do not power spray or hose off machine. Electrical component damage due to water is not covered by warranty.

7. Turn main power switch off, pull out main circuit breaker button and remove any obstruction (carpet strands, etc.) from brush.

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine and pull out main circuit breaker button.

8. Remove and clean solution tank fill port strainer.

WEEKLY MAINTENANCE (Every 20 Hours of Use)

1. Remove and rinse inline strainer filter located under machine at rear (See SOLUTION FILTER MAINTENANCE).
2. Check fluid level in battery cells (See BATTERY MAINTENANCE).
3. Clean battery tops to prevent corrosion.
4. Check for loose or corroded battery cables.
5. Remove and clean spray tips (See SPRAY BAR AND SPRAY TIP MAINTENANCE).

MONTHLY MAINTENANCE (Every 80 Hours of Use)

1. Flush out plumbing system with an acetic acid solution (See PLUMBING SYSTEM MAINTENANCE).
2. Check brush belt for wear or excess slack (See BRUSH BELT MAINTENANCE).
3. Check drive chain for excess slack and lubricate with a water resistant grease (See DRIVE CHAIN MAINTENANCE).
4. Lubricate axle and caster grease fittings with a water resistant grease.
5. Lubricate all linkage pivot points with silicone spray then coat with a water resistant grease to maintain a smooth operation.
6. Check machine for water leaks and loose nuts and bolts.

QUARTERLY MAINTENANCE (Every 250 Hours of Use)

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 10 mm (0.38 in) or less.

Contact an Authorized Service Center for motor maintenance.

OPERATION

BATTERY MAINTENANCE

⚠ WARNING: Batteries emit hydrogen gas. Explosion or fire can result. Keep sparks and open flame away. Keep battery compartment open when charging.

FOR SAFETY: When servicing machine, wear protective gloves when handling batteries or battery cables. Avoid contact with battery acid.

1. Always follow proper charging instructions (See BATTERY CHARGING).
2. 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 a 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.
3. Check for loose or worn cables. Replace if worn.

DRIVE CHAIN MAINTENANCE

Inspect drive chain periodically for proper tension. Chain should flex between 6.35mm (0.25 in) and 12.7mm (0.50 in) from center. If chain flexes more than 12.7mm (0.50 in), chain should be tightened.

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine and pull out main circuit breaker button.

To Tighten Chain:

1. Pull out main circuit breaker button to shut off power to machine (Figure 29).



FIG. 29

2. Loosen 4 motor mount bolts, do not remove bolts (Figure 30).

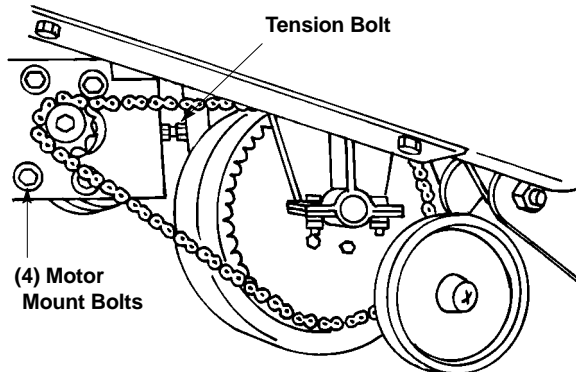


FIG. 30

3. Loosen lock nut on tension bolt (Figure 30).
4. Turn tension bolt to tighten chain. Do not overtighten.
5. Retighten motor mount bolts and lock nut on tension bolt.
6. Lubricate chain with a water resistant oil.
7. Reset main circuit breaker button.

BRUSH BELT MAINTENANCE

Brush belt can wear prematurely if belt tension is not correct. If belt flexes more than 12.7 mm (0.50 in) from center, belt should be tightened.

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine and pull out main circuit breaker button.

To Tighten Or Replace Brush Belt:

1. Pull out main circuit breaker button to shut off power to machine (Figure 29).
2. Remove belt guard, two screws (Figure 31).

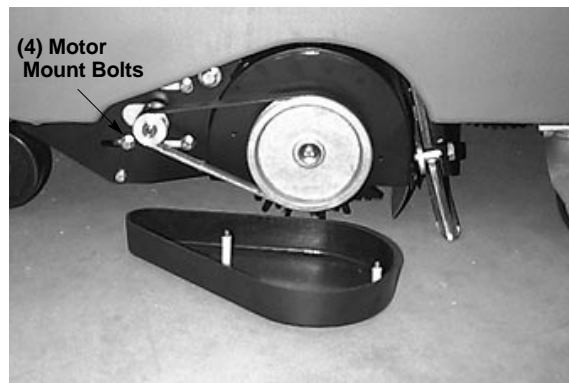


FIG. 31

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

5. To tighten or replace belt, loosen 4 brush motor mount bolts. If worn, replace belt (Figure 31).
6. To tighten belt, pull back on motor until belt becomes tight, retighten mounting bolts.
7. Replace brush guard and reset main circuit breaker button.

PLUMBING SYSTEM MAINTENANCE

FOR SAFETY: Before leaving or servicing machine, stop on level surface and turn off machine.

Each month or every 80 hours of operation flush out plumbing system with an 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.

1. Pour 750ml (24 oz) of acetic acid solution with 11.3 L (3 gal) of hot water, 60° C (140° F), into solution tank.

FOR SAFETY: When using machine, follow mixing and handling instructions on chemical containers.

2. Transport machine over a floor drain.
3. Pull out drive motor circuit breaker button to shut off power to drive motor.
4. Activate main power and pump switches.
5. Press drive switch towards clean mode symbol.
6. Rotate control grips completely forward and hold for 2 to 3 minutes.
7. Turn main power off and let machine sit overnight to allow acetic acid to break down alkaline buildup.
8. Next day, over a floor drain, disperse remaining solution.
9. Fill solution tank with 11.3 L (3 gal) of clean water and operate machine to flush out excess acetic acid solution.
10. Reset drive motor breaker button.

SOLUTION FILTER MAINTENANCE

Remove the following solution filters and clean them as needed. Replace filters if damaged.

INLINE STRAINER FILTER

1. Pump solution tank dry to prevent water from spilling when removing filter.
2. Unscrew and remove inline strainer filter (clear bowl). Filter is located underneath at rear of machine (Figure 32).

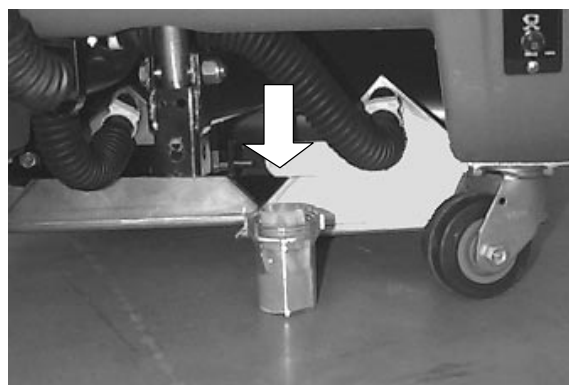


FIG. 32

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

SOLUTION TANK STRAINER

1. Remove solution tank fill port strainer from inside fill port (Figure 33).



FIG. 33

2. Rinse filter and remove any debris.

STANDPIPE SCREEN

1. Remove recovery tank dome.
2. Remove screen from standpipe and rinse off, replace screen securely. (Figure 34).

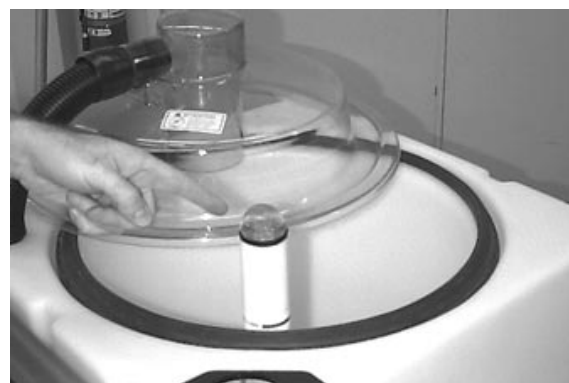


FIG. 34

OPERATION

SPRAY BAR AND SPRAY TIP MAINTENANCE

The spray bar can easily be removed and replaced with a spare spray bar when spray tips require maintenance.

TO REPLACE SPRAY BAR:

1. Turn main power switch off.
2. From operator's right side of machine, locate spray bar under machine.
3. To remove spray bar, shift spray bar to operator's left side of machine and pull down (Figure 35).

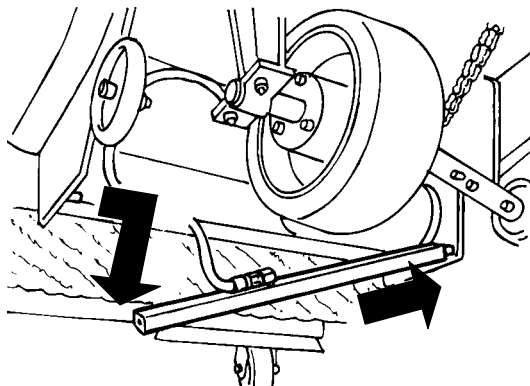


FIG. 35

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

TO CLEAN SPRAY TIPS:

1. Remove clogged 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.

ATTENTION: 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.

5. Replace spray tips in spray bar and keep on hand for spare.

NOTE: If spray tips are damaged, 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:

FOR SAFETY: When using machine, go slow on inclines and slippery surfaces.

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 tank dome to promote air circulation.

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

TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
Machine does not operate.	Main circuit breaker button pulled out.	Push in main circuit breaker button.
	Faulty main circuit breaker.	Contact Service Center.
	Faulty main power switch.	Contact Service Center.
	Charger connected to machine.	Unplug charger from machine after complete charge cycle.
	Faulty master solenoid.	Contact Service Center.
	Loose battery connection.	Check battery connections.
	Loose connections at solenoid panel.	Contact Service Center.
	Batteries need charging.	See BATTERY CHARGING.
	Faulty battery(s).	Replace battery(s).
	Battery connection is improper.	See BATTERY INSTALLATION.
Vacuum motor does not operate.	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 poor.	Vacuum pickup 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 operate.	Brush circuit breaker is tripped.	Remove any obstruction in brush and reset breaker.
	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.

OPERATION

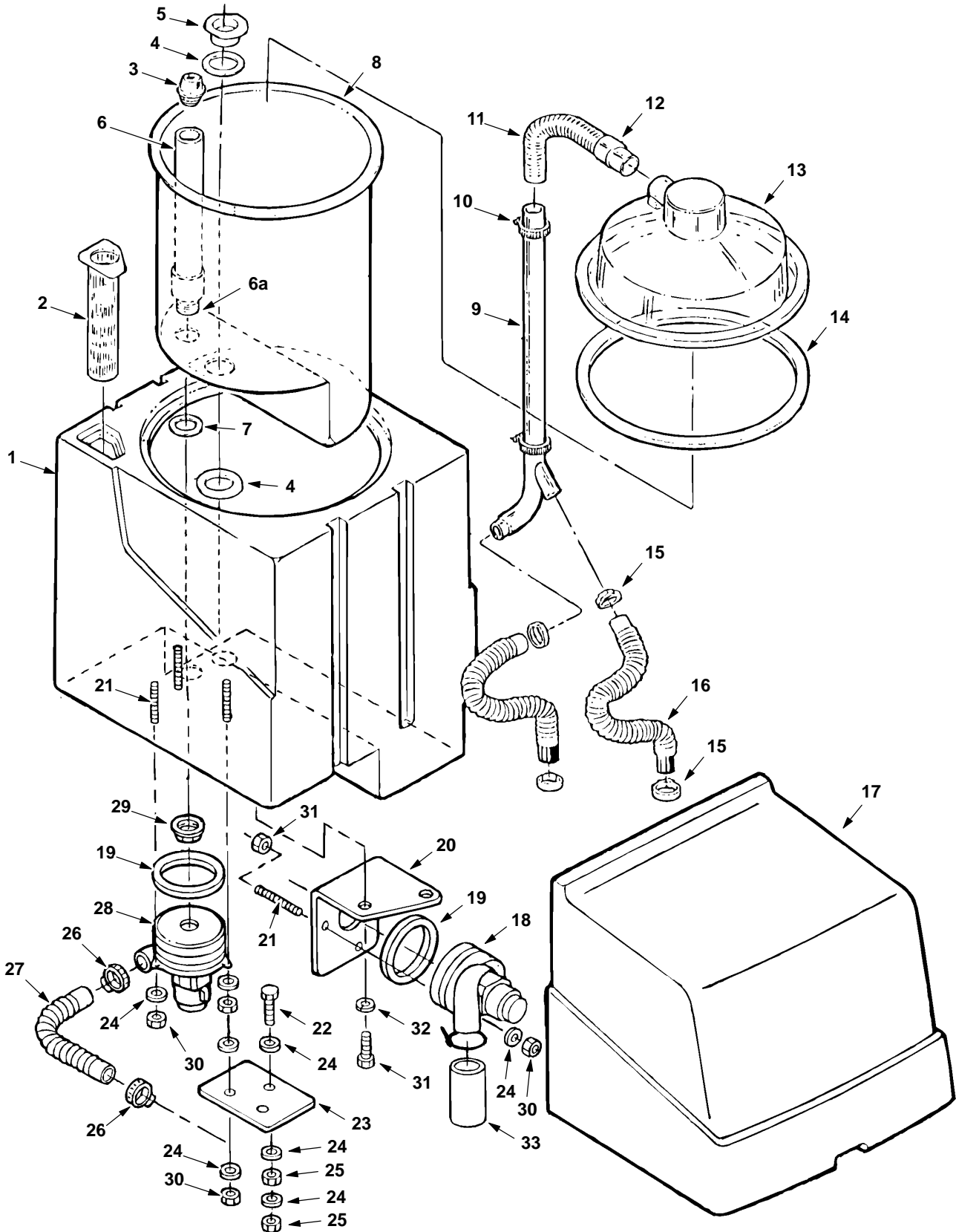
TROUBLE SHOOTING –continued

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 drive 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 battery fluid 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 battery cell(s).	Replace battery.
	Batteries need maintenance.	See BATTERY MAINTENANCE.
	Faulty charger.	Replace battery charger.

SPECIFICATIONS

MODEL	CONCORDE™ HP PLUS
LENGTH	1370 mm (54 in)
WIDTH	710 mm (28 in)
HEIGHT	1190 mm (47 in)
WEIGHT – WITH BATTERIES	306Kg (675 lbs)
BATTERIES	3–12V Deep Cycle Lead Acid, 215Amp hours
RUN TIME AT FULL CHARGE	3.5 Hours
SOLUTION TANK CAPACITY	121L (32 Gal)
INTERIM CLEANING RATE	1115 m ² (12,000 sq. ft.) per hour
RESTORATIVE CLEANING RATE	557 m ² (6,000 sq. ft.) per hour
TRANSPORT MODE SPEED	VARIABLE
CLEANING PATH WIDTH	610 mm (24 in)
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	3680 mm (145 in)
DECIBEL RATING AT OPERATOR'S EAR, INDOORS ON CARPET	76dB(A)

UPPER HOUSING GROUP



UPPER HOUSING GROUP

REF	PART #	DESCRIPTION	QTY.
1	608408	TANK, SOLUTION (GREEN)	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
6a	606088	NIPPLE, 1-1/2, STANDPIPE	1
7	101714	GASKET, WASTE AIR CHAMBER	1
8	608410	TANK, RECOVERY (GREEN)	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	608414	COVER, HOOD (GREEN)	1

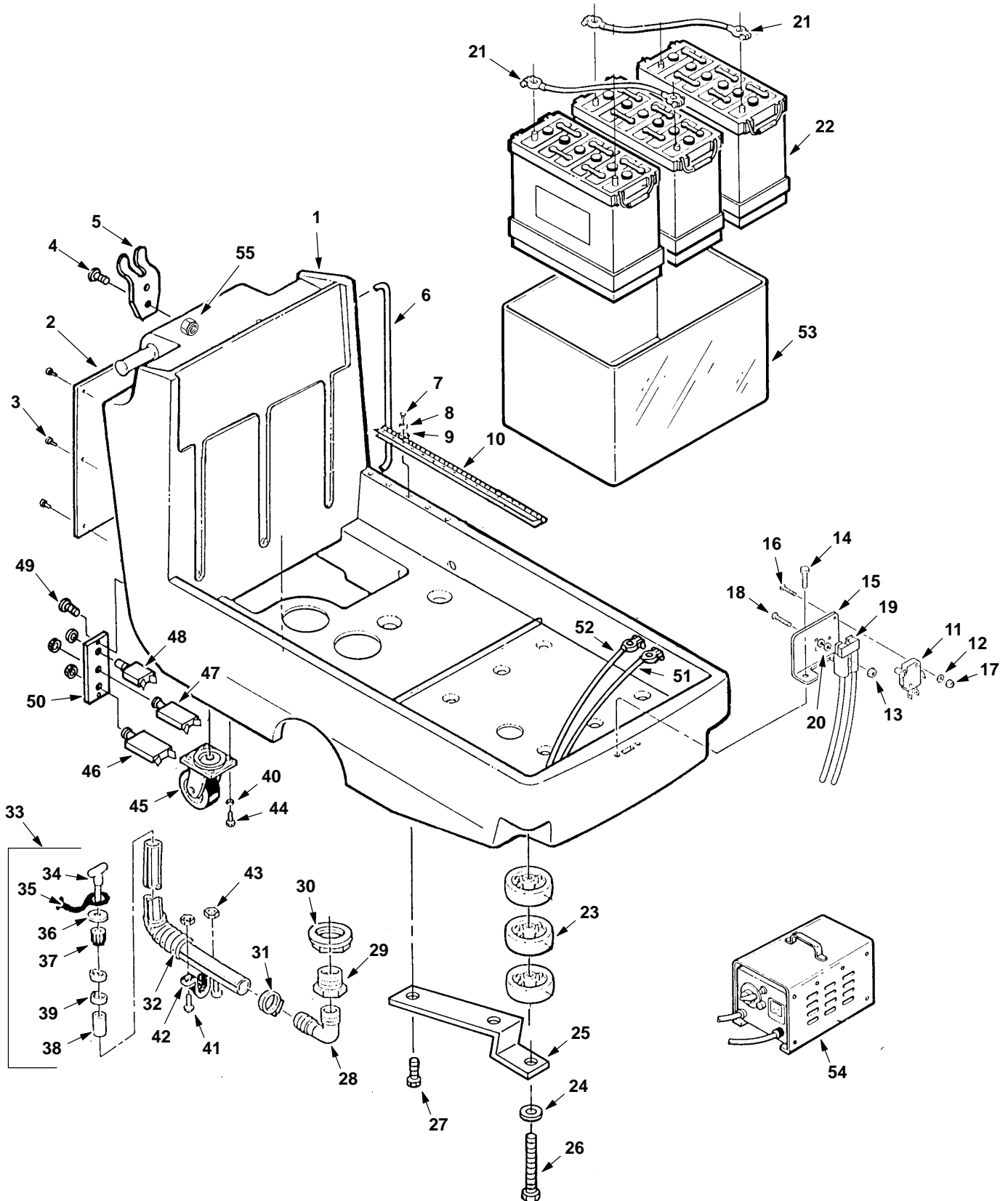
REF	PART #	DESCRIPTION	QTY.
18	611071000	MOTOR, VAC 5.7/35TG 36V W/SNOOUT	1
	190162	BRUSH, CARBON	2
19	0174..10	SEAT, NEOPRENE MOTOR	2
20	230957	PLATE, VAC MOUNT	1
21	140238	STUD, FULL THRD 1/4-20 X 5	6
22	140208	SCREW, 1//4-20 X 1	2
23	101807	PLATE, CONNECTOR	1
24	140000	WASHER, FLAT 1/4	12
25	140524	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/PK)	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 LIST

REF	PART #	DESCRIPTION	QTY.
N/S	608415	DECAL, CONCORDE HP PLUS	2
N/S	608188	DECAL, "NOBLES"	1
N/S	602637	DECAL, BATTERY CHARGE	1
N/S	120246	DECAL, "CAUTION DO NOT"	1
N/S	120247	DECAL, FULL LINE	1

N/S= NOT SHOWN

MAIN CHASSIS GROUP



MAIN CHASSIS GROUP

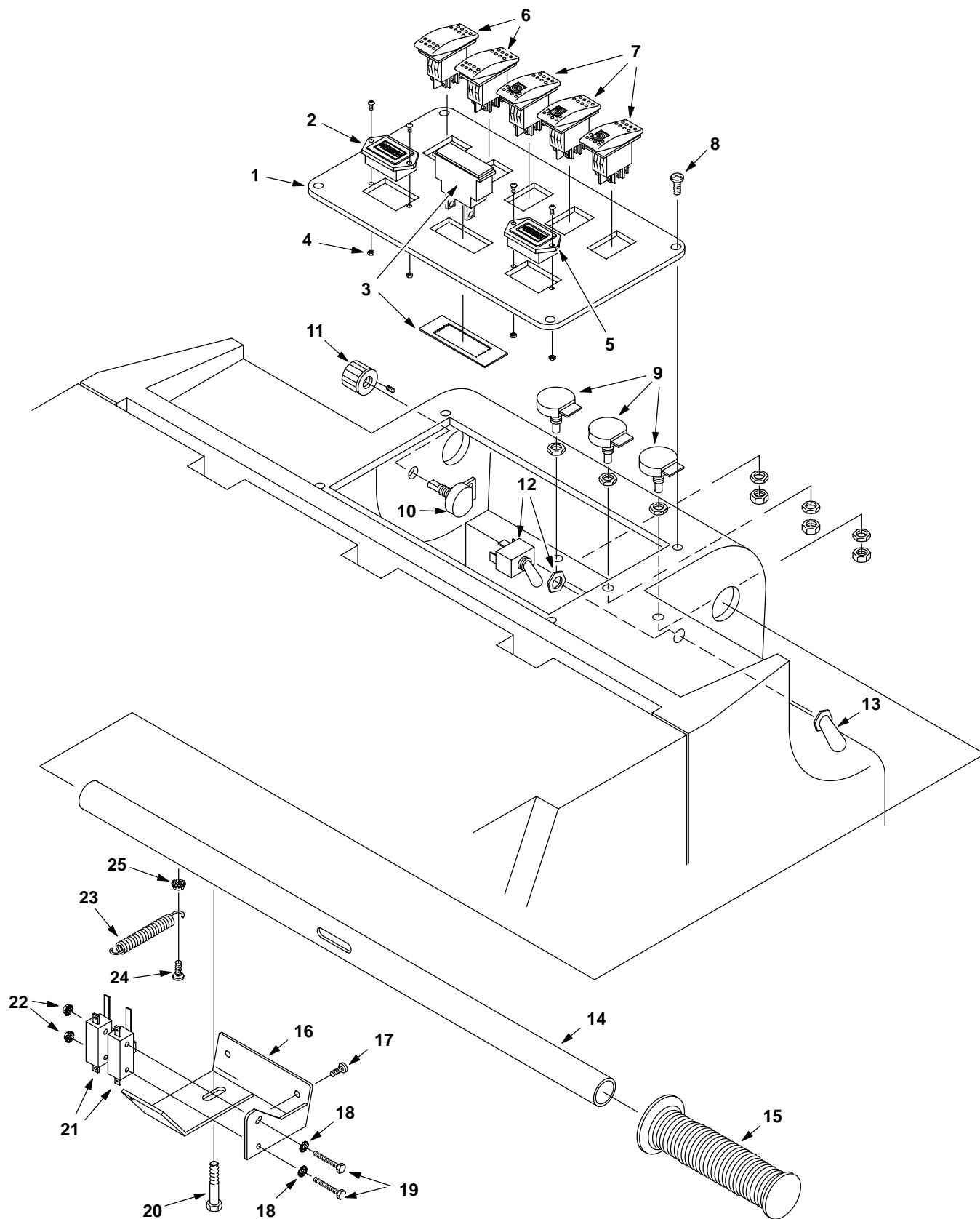
REF	PART #	DESCRIPTION	QTY.
1	608412	CHASSIS (GREEN)	1
2	231023.BK	PANEL, REAR	1
	120649	DECAL, "WARNING" (NOT SHOWN)	1
3	240204	KNOB	5
4	140831	SCREW, 6-32x5/8	2
5	230696.BK	BRACKET, DRAIN HOSE	2
6	160231	TUBING, 1/8ID CLR VYL (4.6 FT)	1
	120243	DECAL, GALLON MARKER (NOT SHOWN)	1
7	140553	SCREW, 1/4-20	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

REF	PART #	DESCRIPTION	QTY.
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
	120245	DECAL, CIRCUIT BREAKER (NOT SHOWN)	1
51	600969	CABLE, RED	1
52	600970	CABLE, BLACK	1
53	100709	BOX, BATTERY	1
54	469760868	CHARGER, BATTERY (120V)	1
	600599	CHARGER, BATTERY (230V)	1
55	140539	NUT, KEP	2

▽ ASSEMBLY

▲ INCLUDED IN ASSEMBLY

CONTROL CONSOLE GROUP

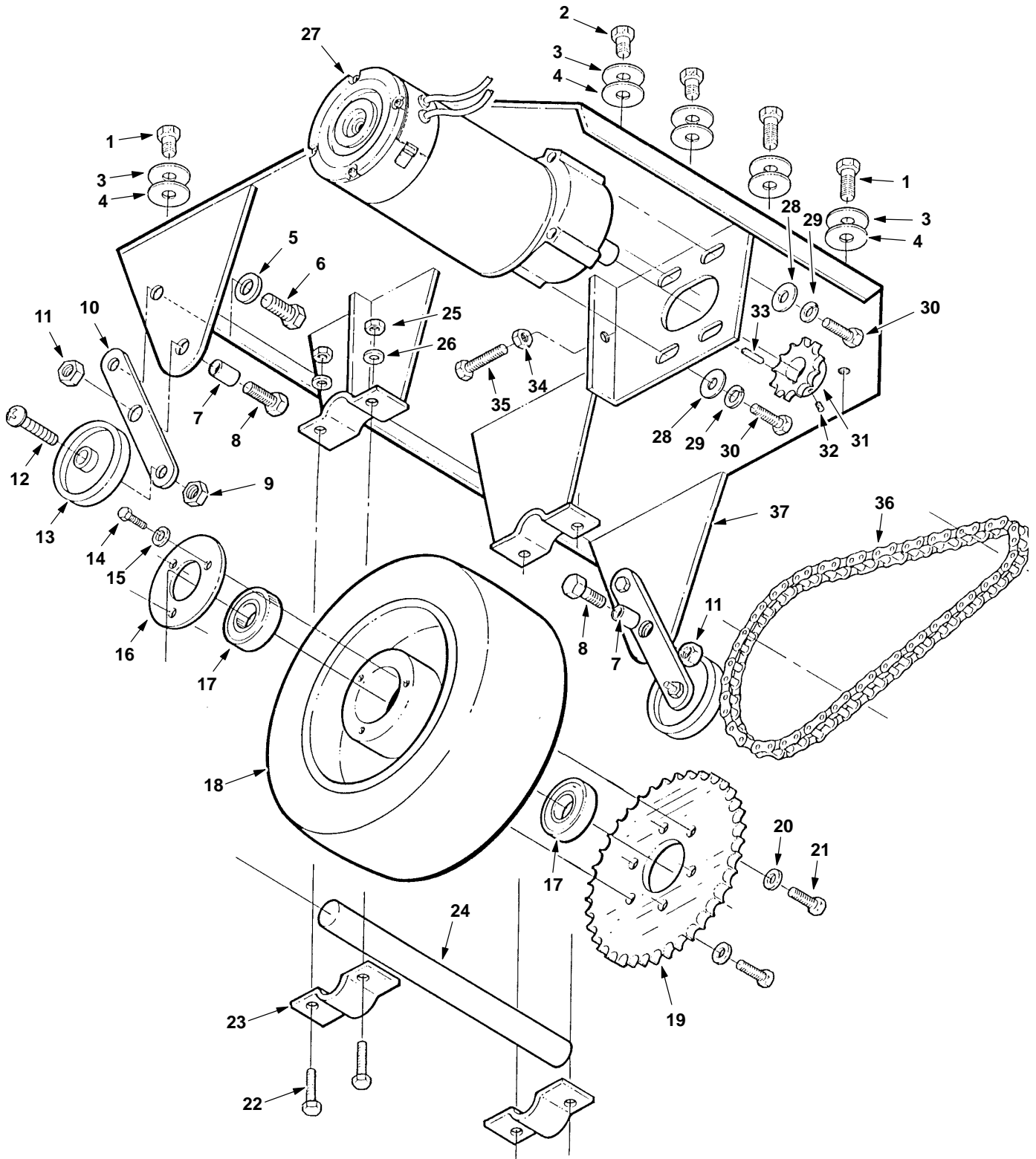


CONTROL CONSOLE GROUP

REF	PART #	DESCRIPTION	QTY.
1	609177	PLATE, CONTROL CONSOLE	1
2	630143	METER, HOUR	1
3	130046	METER, BRUSH PRESSURE	1
4	140539	NUT, 6-32 KEPS	4
5	130779	METER, BATTERY	1
602919	130772	SWITCH, DPST ROCKER	2
7	601107	SWITCH, LIGHTED ROCKER	3
8	140810	SCREW, 6-32X3/8	4
9	130775	POTENTIOMETER, LOCKABLE	4
10	130776	POTENTIOMETER	1
11	606550	KNOB, SPEED CONTROL	3
12	601108	SWITCH, TOGGLE	1
13	130753	BOOT, SWITCH	1

REF	PART #	DESCRIPTION	QTY.
14	601001	TUBE, HANDLE	1
15	200823	GRIP, HANDLE	2
16	601127	BRACKET, SWITCH	1
17	140885	SCREW 1/4-20X1/2	2
18	140019	WASHER, EXT. LOCK TOOTH #6	2
19	140830	SCREW, 6-32X1-3/4	2
20	601104	SCREW, 5/16-18X3 HXHDCP	1
21	130729	SWITCH, ROLL THROTTLE	2
22	140539	NUT, KEP	2
23	601118	SPRING	1
24	140823	SCREW	1
25	140519	NUT	1

DRIVE GROUP

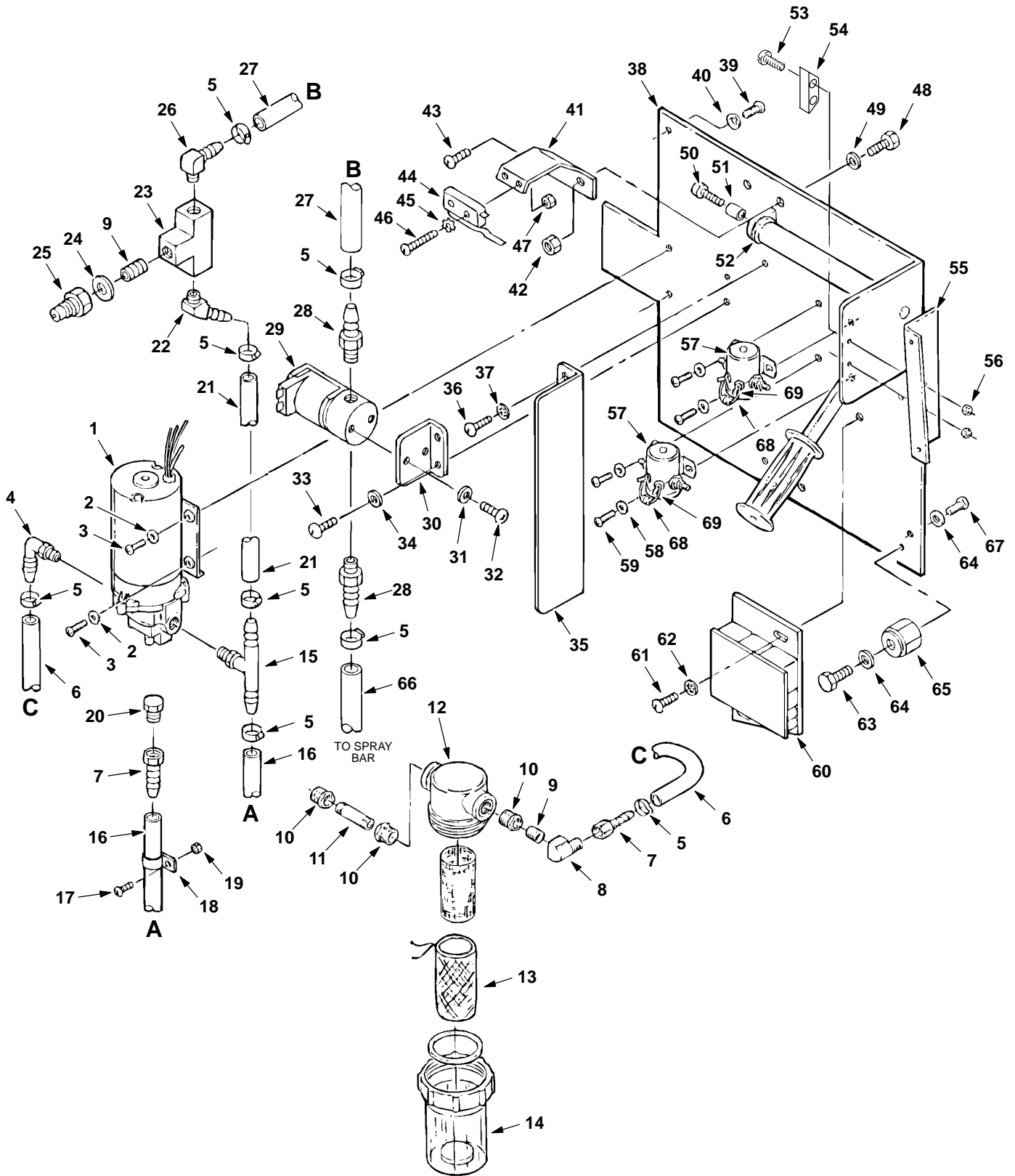


DRIVE GROUP

REF	PART #	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

REF	PART #	DESCRIPTION	QTY.
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, (4/PK)	4
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	140233	SCREW, 3/8-16 X 1 3/4	1
36	240019	CHAIN, DRIVE	1
37	220107.BK	BRACKET, WHEEL ASSEMBLY	1

PLUMBING SYSTEM GROUP



PLUMBING SYSTEM GROUP

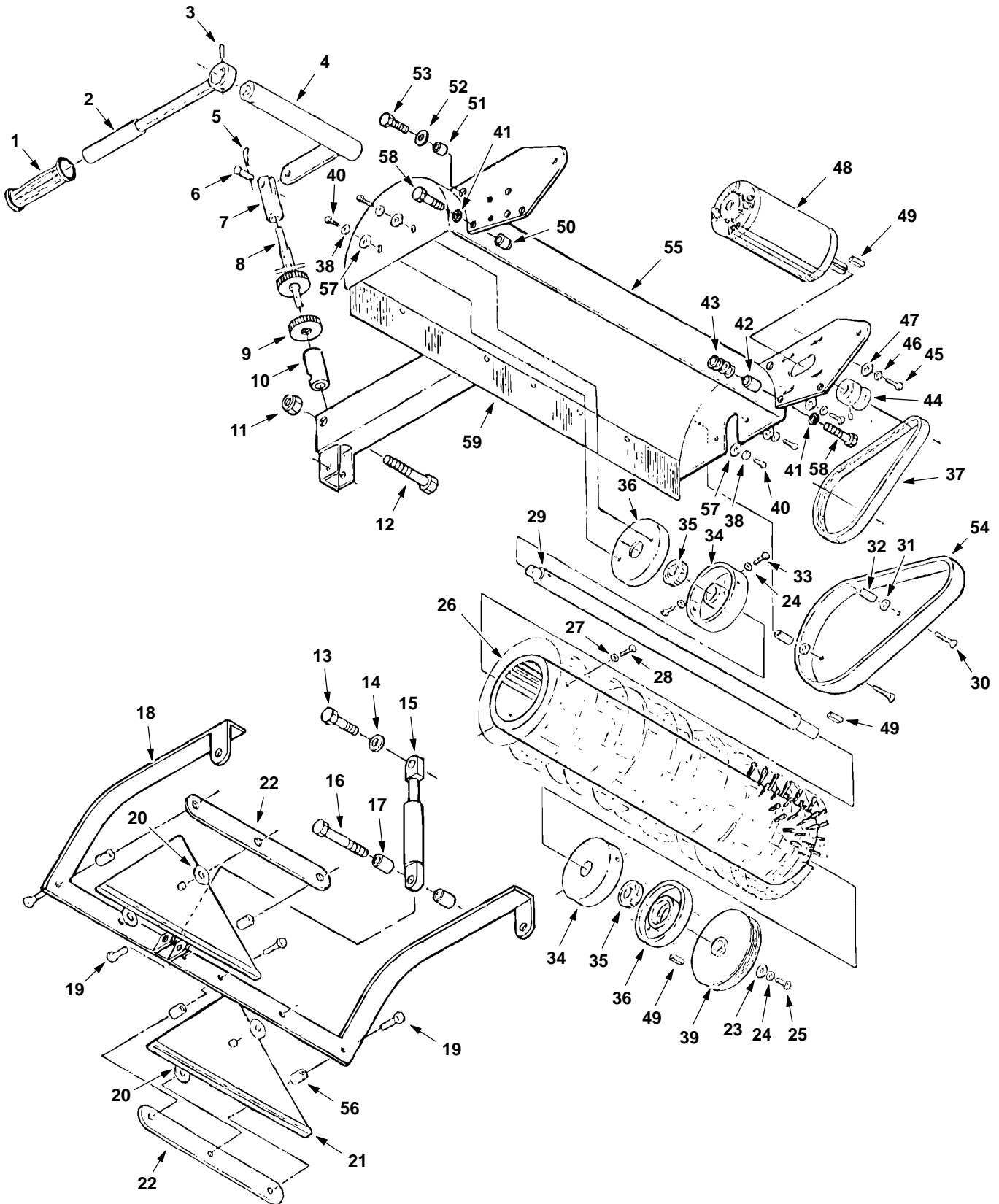
REF	PART #	DESCRIPTION	QTY.
1	601142	PUMP, 100PSI 36V	1
2	140000	WASHER, FLAT 1/4	2
3	140881	SCREW, 1/4-20 X1	2
4	150412	ELBOW, 3/8M X 3F/8H 90°	1
5	140310	CLAMP, HOSE 5/16-7/8	15
6	160207	HOSE, LP GRAY (6.66 FT)	1
7	150511	HOSE BARB 1/4F X 3/8 H	1
8	150406	ELBOW, STRT 1/4 X 90°	1
9	150615	NIPPLE, BRASS 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

REF	PART #	DESCRIPTION	QTY.
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	602827	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

∇ ASSEMBLY

▲ INCLUDED IN ASSEMBLY

BRUSH HEAD GROUP

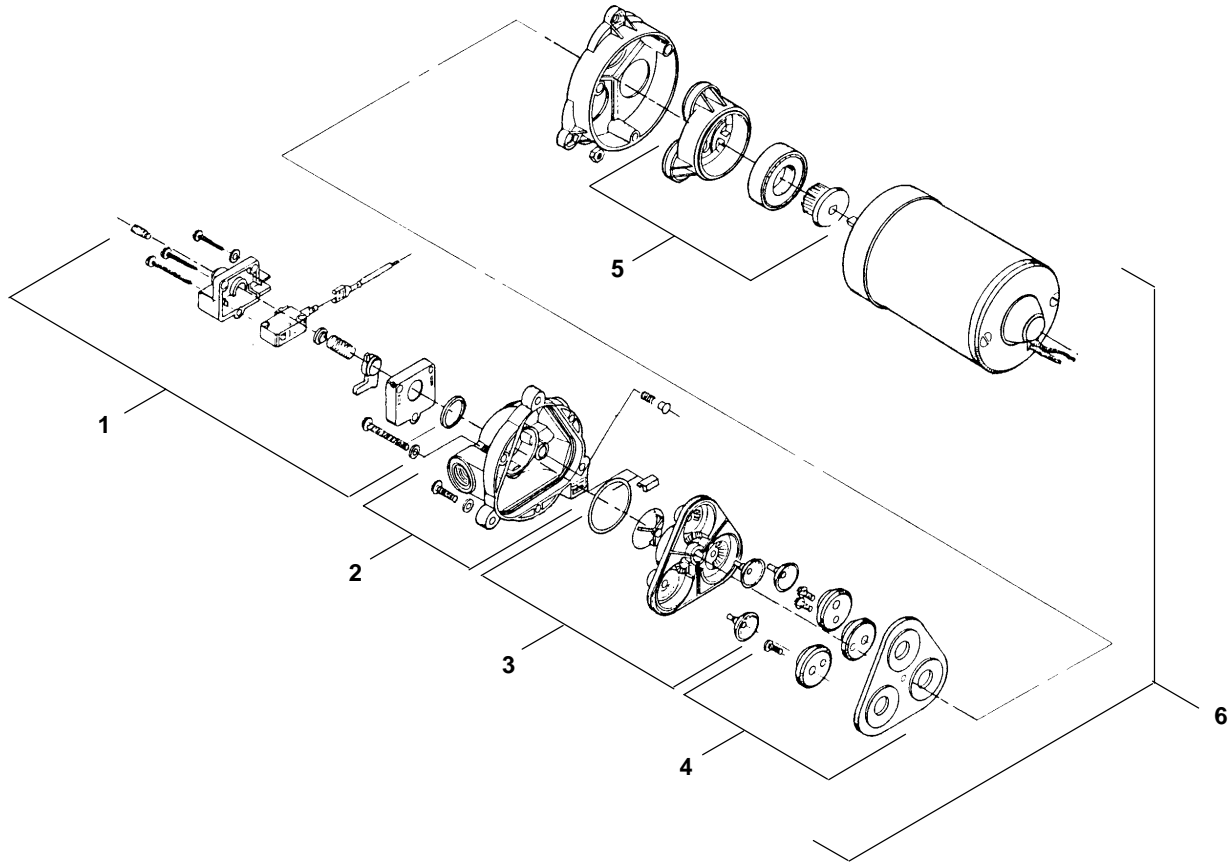


BRUSH HEAD GROUP

REF	PART #	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	604958	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

REF	PART #	DESCRIPTION	QTY.
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
59	605081	GUARD, SPLASH	1

PUMP BREAKDOWN

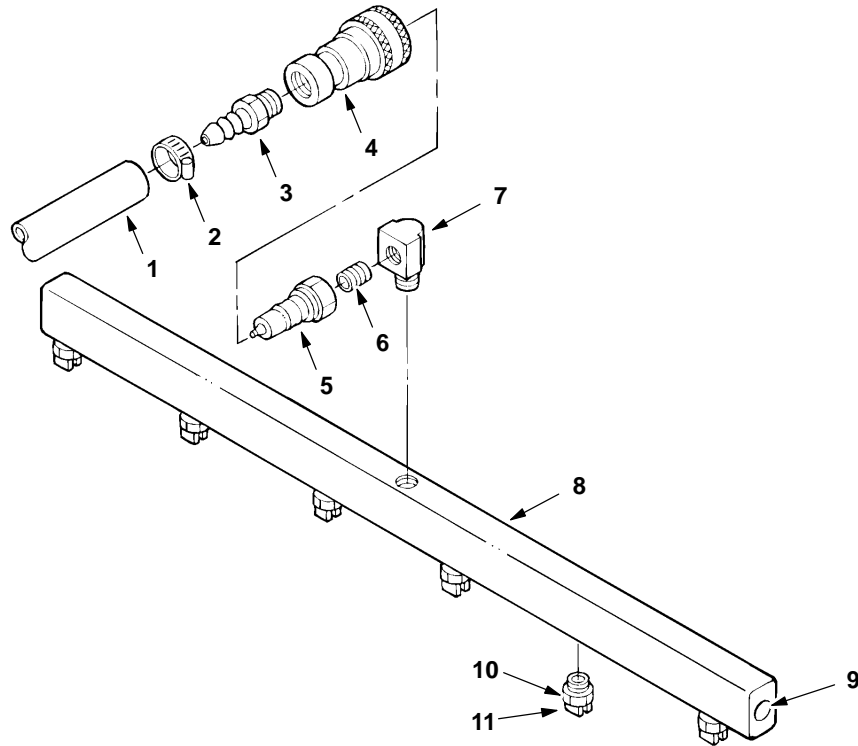


PUMP BREAKDOWN

REF	PART #	DESCRIPTION	QTY.
1	190129	KIT, PRESSURE SWITCH	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

REF	PART #	DESCRIPTION	QTY.
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



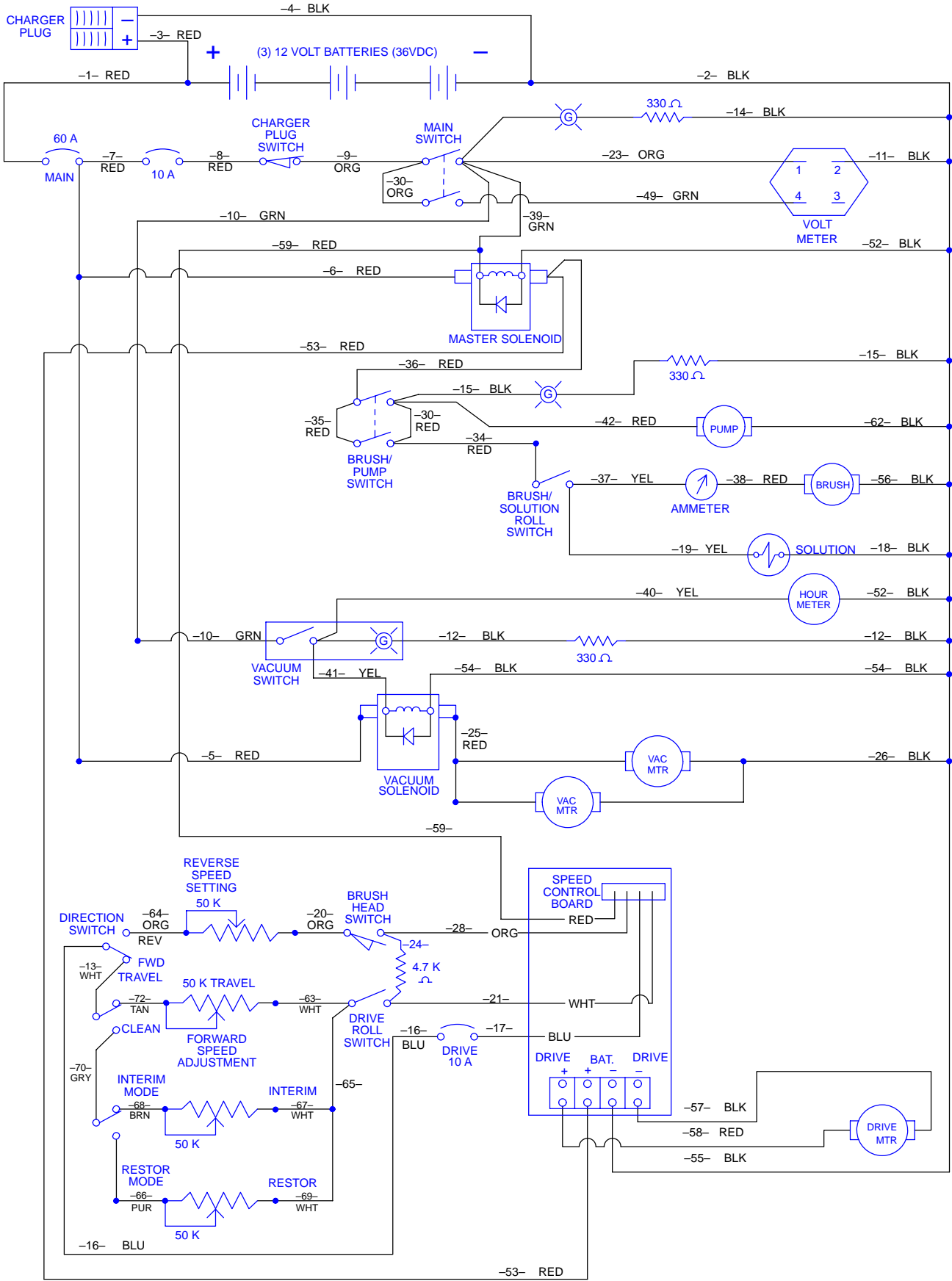
SPRAY BAR GROUP

REF	PART #	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

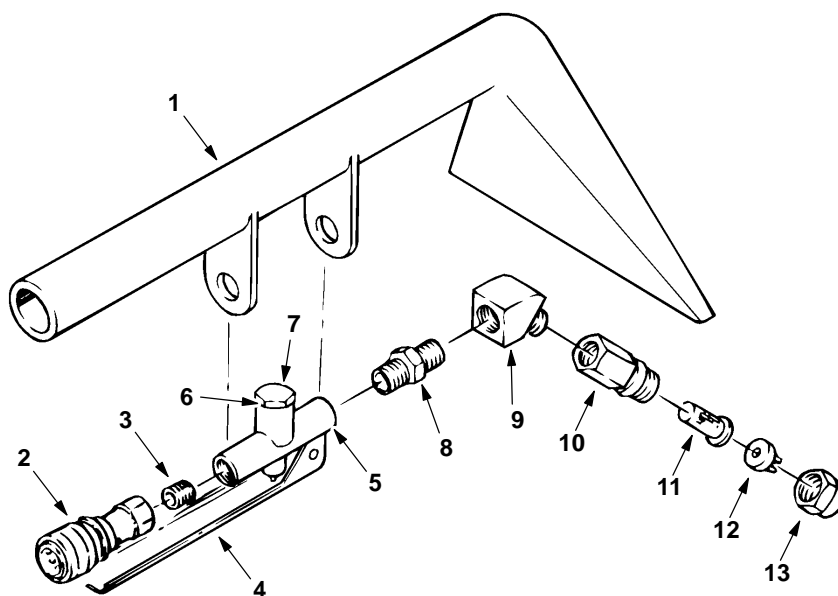
REF	PART #	DESCRIPTION	QTY.
▲7	150430	ELBOW, STRT 1/8M X 1/4F 90°	1
▲8	230974	SPRAY BAR 6 JET	1
▲9	150208	PLUG 1/8	2
▲10	201008	SPRAY NOZZLE 1/8	6
▲11	603092	TIP, SPRAY QUICK JET 1002	6
N/S	120248	DECAL, FRONT	1

▽ ASSEMBLY
 ▲ INCLUDED IN ASSEMBLY
 N/S= NOT SHOWN

LADDER DIAGRAM



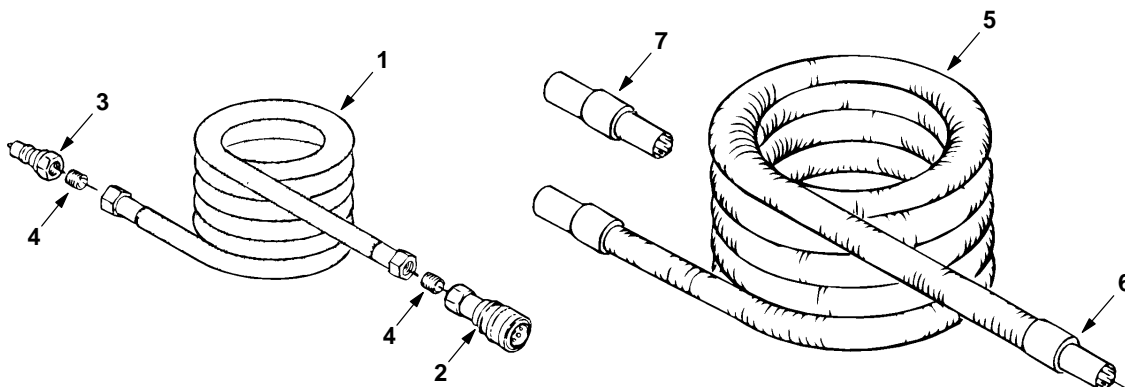
127 mm (5 inch) HAND TOOL



REF	PART #	DESCRIPTION	QTY.
	200505	TOOL, HAND (COMPLETE)	1
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

REF	PART #	DESCRIPTION	QTY.
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

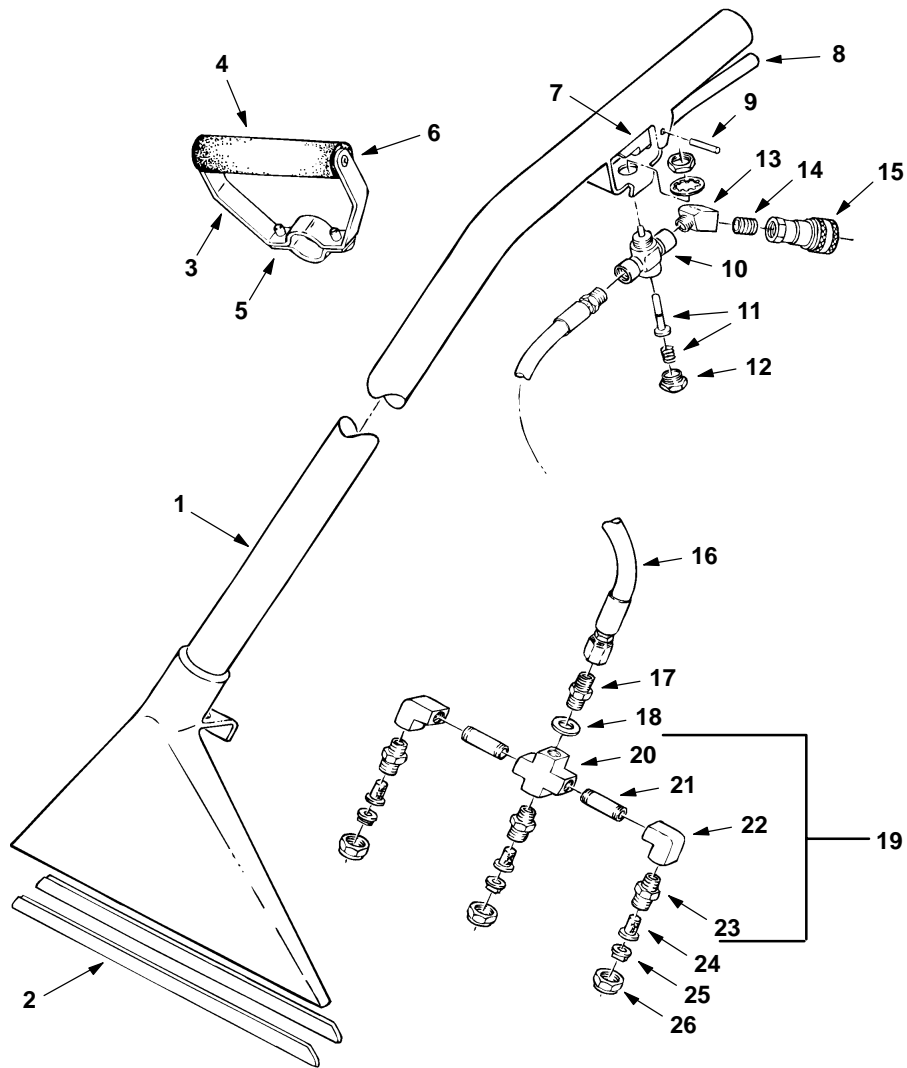
SOLUTION AND VACUUM HOSES



REF	PART #	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

REF	PART #	DESCRIPTION	QTY.
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 #	DESCRIPTION	QTY.
	600048	FLOOR TOOL (COMPLETE)	1
1	200403.BK	TOOL, FLOOR	1
2	200939	SHOES, FLOOR TOOL	2
∇3	200927	GRIP, ADJUSTABLE	1
▲4	200912	FOAM, GRIP	1
▲5	140259	SCREW, 1/4X3/4	2
▲6	140834	SCREW, 1/4-20X5/8	2
7	200902	TRIGGER, FLOOR TOOL	1
8	200809	SLEEVE, TRIGGER	1
9	140605	PIN	1
	140520	NUT, PUSH (NOT SHOWN)	2
10	210150	VALVE, FLOW CONTROL	1
11	190603	KIT, VALVE PIN & SPRING	1
12	N/A	CAP, HEX, VALVE	1

REF	PART #	DESCRIPTION	QTY.
13	150403	ELBOW, 1/4-45°	1
14	150615	NIPPLE, CLOSE 1/4	1
15	150913	COUPLER, QUICK SER. 60	1
16	160170	HOSE, 1/4 HP W/ SWEDGE	1
17	150606	NIPPLE, HEX 1/4"	1
18	140058	WASHER	1
∇19	700062	ASM., SPRAY BAR	1
▲20	150700	CROSS	1
▲21	150600	NIPPLE	2
▲22	150401	ELBOW, 90° 1/4FX1/4F	2
▲23	200993	SPRAY BODY	3
24	200996	SCREEN, SPRAY BODY	3
25	200964	TIP	3
26	200994	CAP, SPRAY BODY	3

∇ Assembly

▲ Included in Assembly

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