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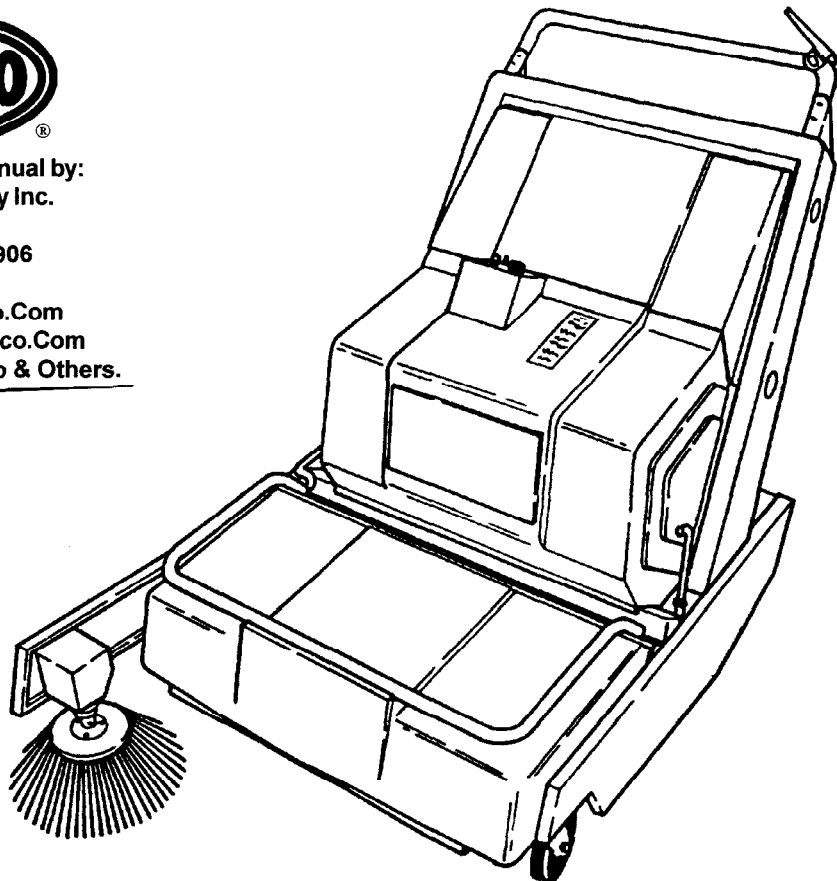
Scout 37B

MODEL: SC3700B

Operator Manual
and Parts List



PDF Version of Manual by:
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SCOUT 37B

CAUTION: All operators and maintenance personnel **MUST** read and understand this manual before operating or maintaining this equipment. Pay particular attention to cautions and warnings. If assistance is required, contact Customer Support at 1-800-365-6625.

This manual covers all machine variations and standard options. The instruction portion of the manual consists of Specification, Operation, Maintenance, and Appendix sections. The parts portion consists of the SCOUT 37B Parts, Options, and Electrical Components.

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

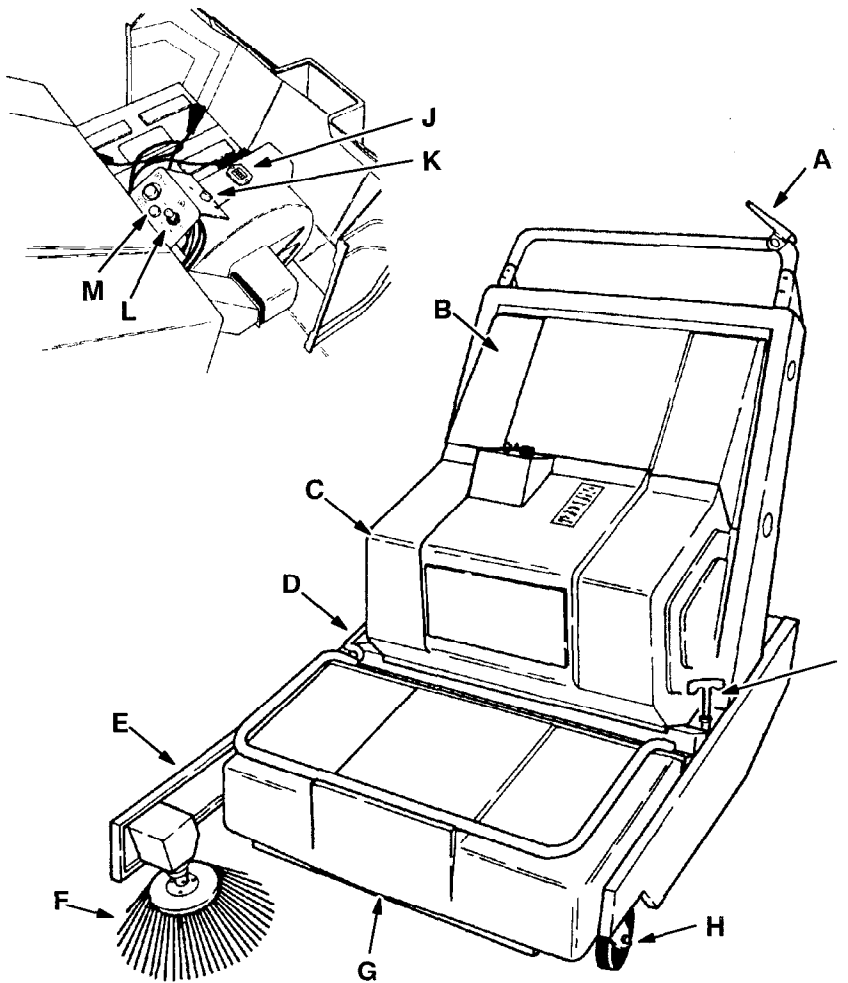
- The machine is operated with reasonable care.
- The machine is maintained regularly – per the maintenance instructions provided.
- The machine is maintained with manufacturer supplied or equivalent parts.

Parts and supplies may be ordered by phone, mail, or fax. Before ordering parts or supplies, be sure to have your machine model number and serial number handy. Fill out the data block below for future reference.

<p style="text-align: center;">MACHINE DATA <i>Please fill out at time of installation.</i></p> <p>Machine Serial Number – _____</p> <p>Date Of Installation – _____</p> <p>Manual Number – _____</p> <p>Revision Number: 02</p> <p>Published: 08-95</p>

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MACHINE COMPONENTS

- A. CLUTCH CONTROL HANDLE
- B. DUST FILTER ENCLOSURE
- C. BATTERY COVER
- D. MAIN BRUSH REMOVAL LEVER
- E. SIDE BRUSH ARM
- F. SIDE BRUSH
- G. HOPPER
- H. FRONT CASTER (2)
- I. MAIN BRUSH LIFT/ADJUSTMENT HANDLE
- J. HOUR METER
- K. 50 AMP CIRCUIT BREAKER
- L. MASTER POWER KEY SWITCH
- M. 15 AMP CIRCUIT BREAKER

POWER TYPE

Electric motor
 Nominal voltage 24VDC
 0.82 hp (0.61 kw)
 @ 2175 rpm, 29 A
 Batteries (2) -- 12V, 105a
 @ 20 hour
 Battery charger -- Built-In
 Automatic 24 VDC, 20 A output,
 115 VAC input

POWER TRAIN

Propelling -- belt driven
 Main Brush --
 belt driven with side
 Side brush accessory --
 belt driven brush

SUSPENSION SYSTEM

Front (2) -- 5 x 1.5 caster wheels
 Rear -- 8 x 2 solid tire

GENERAL MACHINE DIMENSIONS/CAPACITIES

Length --
 52 in (1321 mm)
 62 in (1575 mm) with side brush
 Width --
 32 in (813 mm)
 33.5 in (851 mm) with side brush
 Height -- 40.25 in (1022 mm)
 Track -- 29.75 in (756 mm)
 Wheelbase -- 26.5 in (673 mm)
 Main brush diameter --
 8 in (203 mm)
 Main brush length --
 28.6 in (726 mm)
 Side brush diameter --
 16 in (406 mm)
 Sweeping path width --
 29 in (737 mm)
 37 in (940 mm)
 Hopper capacity --
 2.6 cu ft (0.07 m³)
 Dust filter area --
 45 sq ft (3.9 m²)

MACHINE WEIGHTS

Standard net weight, dry --
 244 lb (111 kg)
 348 lb (158 kg) with batteries

GENERAL MACHINE PERFORMANCE

Maximum travel speed --
 3 mph (4.8 km/h)
 Turning radius --
 56 in (1422 mm)

SAFETY PRECAUTIONS

SAFETY PRECAUTION INSTRUCTIONS

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

! DANGER: To warn of immediate hazards which will result in severe personal injury or death.

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

! CAUTION: To warn of hazards or unsafe practices which could result in minor personal injury.

ATTENTION! To warn of unsafe practices which could result in extensive equipment damage.

NOTE: To give important information or to warn of unsafe practices which could result in equipment damage.

The following information signals potentially dangerous conditions to the operator or equipment. Read this manual carefully. Know when these conditions can exist. Then, take necessary steps to train machine operating personnel.

! WARNING: Do not smoke while charging batteries. Keep flames away from batteries during charging as lead acid batteries emit a highly explosive hydrogen gas that can be ignited by flames, electrical arcing, or by smoking. Keep battery electrolyte from coming in contact with eyes, skin, or clothing.

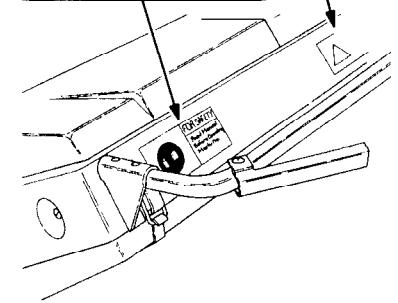
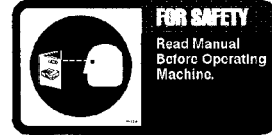
NOTE: Follow battery charging instructions in the manual carefully, to avoid damage to batteries.

ATTENTION! Do not operate machine on batteries that are discharged beyond 80% (specific gravity below 1.170). If you do so, the batteries and/or motor could be damaged.

! CAUTION: Always shut off motor before making repairs or adjustments.

! CAUTION: Avoid moving parts of the unit. Loose jackets, shirts, or sleeves should not be permitted when working on the machine because of the danger of becoming caught in moving parts. Make sure all nuts and bolts are secure. Keep shields and guards in position. If adjustments must be made while the unit is running, use extreme caution around moving parts, V-Belts, etc. Do not adjust V-belt tension while motor is running.

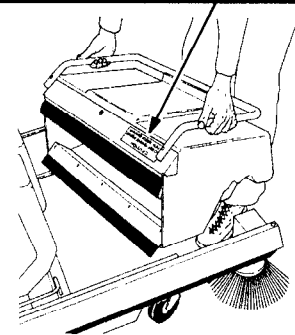
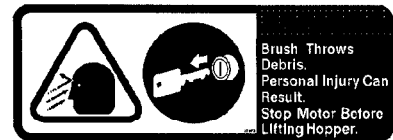
The following safety decals are mounted on the machine in the locations indicated. If these or any other decals become damaged or illegible, replace with new decals.



SAFETY DECALS LOCATED ON MACHINE HANDLE FRAME



CHARGING DECAL LOCATED ON BATTERY COVER.

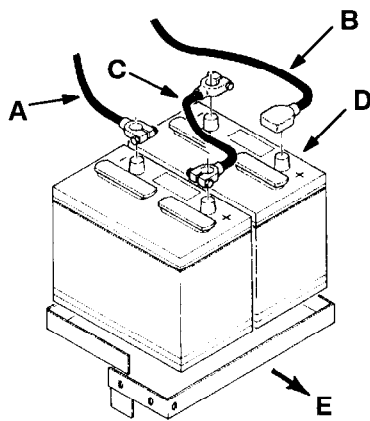


HOPPER REMOVAL DECAL LOCATED ON HOPPER

PREPARING MACHINE FOR OPERATION

After uncrating and before operating the machine:

1. Check the machine for shipping damage. Report any damage to the carrier at once.
2. Read this manual carefully before assembling, operating, or servicing this machine.
3. Assemble the machine as described in Machine Assembly.
4. Install the two batteries in the machine. Connect the battery cables to the batteries as shown in the appropriate illustration below.

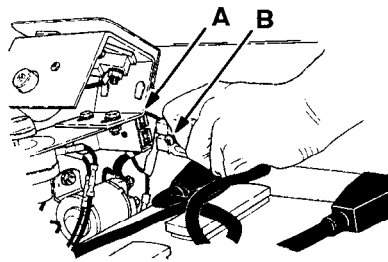


BATTERY CABLE CONNECTIONS BLACK/RED CONNECTORS

- A. Battery Cable with Black Connector
- B. Battery Cable with Red Connector
- C. Jumper Battery Cable
- D. Batteries
- E. Battery Tray (Facing front of machine)

5. Check the batteries state of charge as described in Batteries. Charge the batteries if necessary.

6. Install the brushes as described in Brushes.
7. Connect the batteries- to- -machine connector.



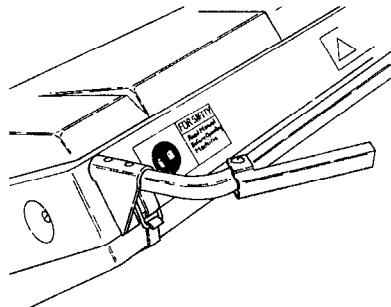
CONNECTING BATTERIES-TO-MACHINE CONNECTOR

- A. Batteries Connector
- B. Machine Connector

8. Check the brush pattern(s) as described in Brushes.

CLUTCH CONTROL HANDLE

The clutch control handle operates a cable which controls the drive belt idler. Pushing the control handle in propels the machine forward. Releasing the control handle disengages the drive belt.

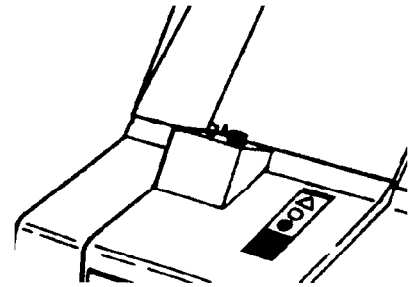


CLUTCH CONTROL HANDLE

MASTER POWER KEY SWITCH

The master power key switch controls the machine motor. Turning the switch to the "right" position starts the machine motor. Turning the switch to the "left" position stops the machine motor.

CAUTION: Do not leave the machine unattended while the machine motor is operating.



MASTER POWER KEY SWITCH

The machine circuit breaker provides the machine electrical overload protection for the Brush Motor. It is a 50 A circuit breaker.

In the event of a circuit overload, the master power key switch must be returned to the "off" position. The circuit breaker must then be reset and the key turned on to restart the machine.

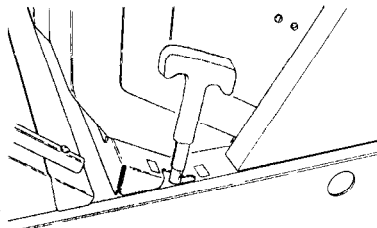
If the overload which caused the circuit breaker to trip is still present in the circuit, the circuit breaker will continue to stop current flow until the overload is corrected.

NOTE: A 15 AMP Circuit Breaker provides additional electrical overload protection in the event of a short circuit. Reset by pushing in button.

OPERATION

MAIN BRUSH LIFT HANDLE (AND ADJUSTMENT)

The main brush lift handle operates a linkage which controls the height of the main brush. Pulling the handle up and forward to the "raise" position, raises the main brush off the floor. Pulling the handle up, backward, and releasing the handle to the "lower" position, lowers the main brush to the floor.

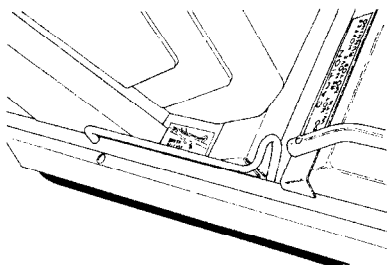


MAIN BRUSH LIFT HANDLE

See Brush Section for adjustments.

MAIN BRUSH REMOVAL LEVER

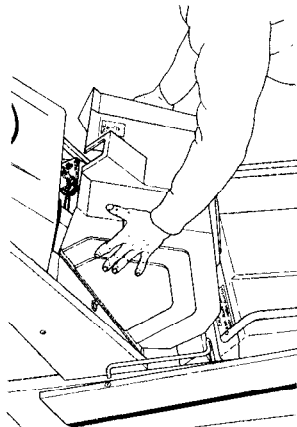
The main brush removal lever controls the main brush spring arm idler plug position. The spring arm secures the main brush in the idler plug. Pulling the lever away from the machine disengages the main brush idler plug from the main brush. Swinging the lever towards the machine engages the idler plug and main brush provided they were properly aligned. See Main Brush Replacement for additional information.



MAIN BRUSH REMOVAL LEVER

BATTERY COVER

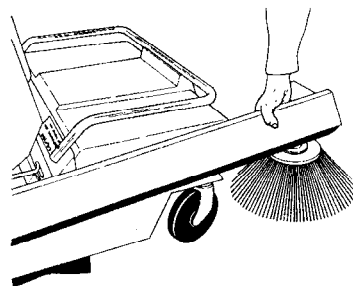
The battery cover covers the batteries and other electrical components. To tilt the cover forward, push the sides of the cover in. To remove or reinstall the battery cover, first remove the hopper. The front of the battery cover has integral hinges which are inserted in slots in the machine frame. Always have the battery cover in place when operating the machine. Always open the battery cover when charging the machine batteries.



REMOVING BATTERY COVER

SIDE BRUSH

The side brush gives the machine the added flexibility of sweeping along walls and under edges of tables, desks, etc. Pulling up and pushing back on the side brush arm to the "raised" position, raises and stops side brush. Pulling up, forward and down to the "operating" position lowers and starts side brush rotation.



SIDE BRUSH

NORMAL SWEEPING OPERATION

1. Place the master power key switch in the "on" position.
2. Drive the machine to the area to be cleaned.
3. Pick up oversize debris.
4. Place the main brush lift handle in the "lower" position, and lower side brush.
5. Sweep the area as required.

Press the clutch handle to place the machine in motion. Release the clutch handle for easier turning. Try to arrange sweeping long straight runs with a minimum of turning or stopping.

NOTE: When sweeping carpets, do not allow the machine to remain stationary with machine operating and the main brush in the "lower" position as it may cause wear marks on the carpeting and wear the flat propelling belt prematurely.

6. When finished sweeping, place the main brush lift handle and the side brush arm in the "raise" position and the master power key switch in the "off" position.
7. Empty the debris hopper and clean.
8. Clean hopper dust filter.
9. Check the brushes for tangled string or wire. Remove if found.
10. Check the batteries state of charge. Charge if needed.

HOPPER DUMPING

The machine debris hopper should be emptied after every work shift.

To Dump Hopper

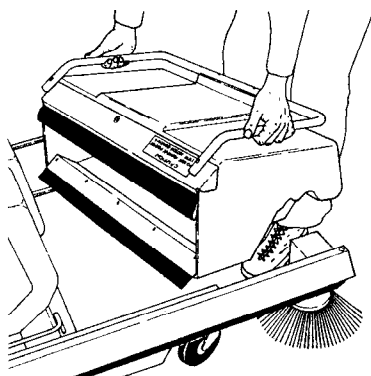
1. Place the master power key switch in the "off" position.

CAUTION: Always place the master power key switch in the "off" position before working on the machine.

2. Grasp the hopper handles with both hands.

CAUTION: Lift with legs, not back. Use 2 people if hopper weight is excessive.

3. Lift and swing the hopper upward to remove the hopper from the machine.



REMOVING HOPPER

4. Dump the debris out of the hopper into suitable refuse container.
5. Tip the hopper down and slide it into place on the machine.

NOTE: Under severe dust conditions, remove and clean the dust filter after each hopper removal. See Page 12 -- Hopper Dust Filter.

STORING MACHINE

When storing the machine for extended periods of time, the following procedures must be followed to lessen the chance of rust, sludge, and other deposits from forming:

1. Place the main brush and side brush in the "raise" position.
2. Empty and clean the debris hopper.
3. Charge the machine batteries.
4. Disconnect the batteries- -to- -machine battery connector.

BATTERIES

The machine batteries provide all of the energy used by the machine. They require regular maintenance to keep them operating their best.

Do not allow batteries to remain in discharged condition for any length of time.

Do not operate machine if batteries are in poor condition or discharged beyond 80%, specific gravity below 1.170.

Check the battery cables for loose- -connections on the battery terminals daily. Inspect the cables for corrosion or damage.

Clean the top surface and the terminals of the batteries after every 80 hours of operation. Use a strong solution of baking soda and water. Brush the solution sparingly over the battery top, terminals, and cable clamps. Do not allow any baking soda solution to enter the battery. Use a wire brush to clean the terminal posts and the cable connectors. After cleaning, apply a coating of clear petroleum jelly to the terminals and the cable connectors. Keep the tops of the batteries clean and dry.

Keep all metallic objects off the top of the batteries, as they may cause a short circuit. Replace worn or damaged wires.

Check the electrolyte level daily in each battery cell. The electrolyte level must always be above the battery plates. Add distilled water to maintain solution at the correct level above the plates, but do not overfill. Never add acid to batteries, only water. Keep vent plugs firmly in place at all times, except when adding water or taking hydrometer readings.

Use a hydrometer to check the electrolyte specific gravity after every 20 hours of operation.

If one or more battery cells tests lower than the other battery cells, (0.050 or more) the cell is damaged, shorted, or is about to fail.

NOTE: Do not take readings immediately after adding water -- if the water and acid are not thoroughly mixed, the readings may not be accurate. Check the hydrometer readings against this chart:

SPECIFIC GRAVITY at 80°F (26.6°C) BATTERY CONDITION

1.260 -- 1.280	.....	100% charged
1.230 -- 1.250	.....	75% charged
1.200 -- 1.220	.....	50% charged
1.170 -- 1.19	.....	(Recharge at this point) 25% charged
1.140 -- 1.160	.....	very little useful capacity remaining
1.110 -- 1.130	.....	Discharged

NOTE: If the readings are taken when the battery electrolyte is any temperature other than 80°F (26.6°C). The reading must be temperature corrected.

ADJUSTMENTS

ADJUSTMENTS

To determine the corrected specific gravity reading when the temperature of the battery electrolyte is other than 80°F (26.6°C):

Add to the specific gravity reading 0.004, 4 points, for each 10°F (5.5°C) above 80°F (26.6°C).

Subtract from the specific gravity reading 0.004, 4 points for each 10°F (6°C) below 80°F (27°C).

BATTERY REPLACEMENT

There are two 12-volt batteries which power the machine. The standard batteries are rated at 105 amp/hours at a 20 hour rate. When installing batteries, be sure to correctly connect the battery cables to the batteries. These batteries are deep cycle batteries and are not an off the shelf item from an automotive store. Please consult your dealer. THIS IS VERY IMPORTANT!

BATTERY CHARGING

The machine batteries are specifically made for this machine application. They are unique in that they hold their power for long periods of time, but they can only be recharged a certain number of times. To get the most life from the batteries, charge them when 80% of the battery power has been used, so the battery specific gravity is between 1.190 and 1.170.

To Charge Batteries (For machines serial number 3433 and above)

1. Stop the machine on a flat, dry surface next to an electrical outlet.
2. Turn off the master power switch.

FOR SAFETY: Before Leaving Or Servicing Machine; Stop On Level Surface, And Turn Off Machine And Remove Key.

3. Lift the battery cover into the "open" position.



WARNING: Batteries Emit Hydrogen Gas. Explosion Or Fire Can Result. Keep Sparks And Open Flame Away. Keep Covers Open When Charging.

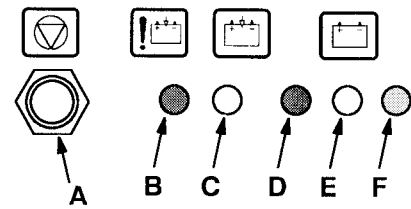
4. Check the water level in the batteries. Before charging, add just enough distilled water to cover the plates. Then, after charging is completed, add enough water to bring the electrolyte up to the indicator mark. If the water level is topped off before charging, normal expansion of the electrolyte may cause an overflow, resulting in loss of acid balance and acid damage to the machine area around the batteries.

FOR SAFETY: When Servicing Machine, Avoid Contact With Battery Acid.

5. Plug the battery charger into an AC wall outlet. The charger will go through a self diagnostic check. All the indicator lamps on the charger panel will flash showing the diagnostic check is in progress.

NOTE: If the red no charge indicator lamp lights when the charger is plugged into a wall outlet, the charger cannot charge the battery, meaning there is something wrong with the battery.

When the lamps stop flashing, the red incomplete battery status indicator lamp lights. After a short delay, the yellow charger on indicator lamp lights showing the charger has turned on.



CHARGER PANEL

- A. Interrupt Switch**
- B. Red No Charge Indicator Lamp**
- C. Yellow Charger On Indicator Lamp**
- D. Red Incomplete Battery Status Indicator Lamp**
- E. Yellow 80% Charge Indicator Lamp**
- F. Green Complete Charge Indicator Lamp**

As the battery charges, the red incomplete battery status indicator lamp goes out and the yellow 80% charge indicator lamp lights.

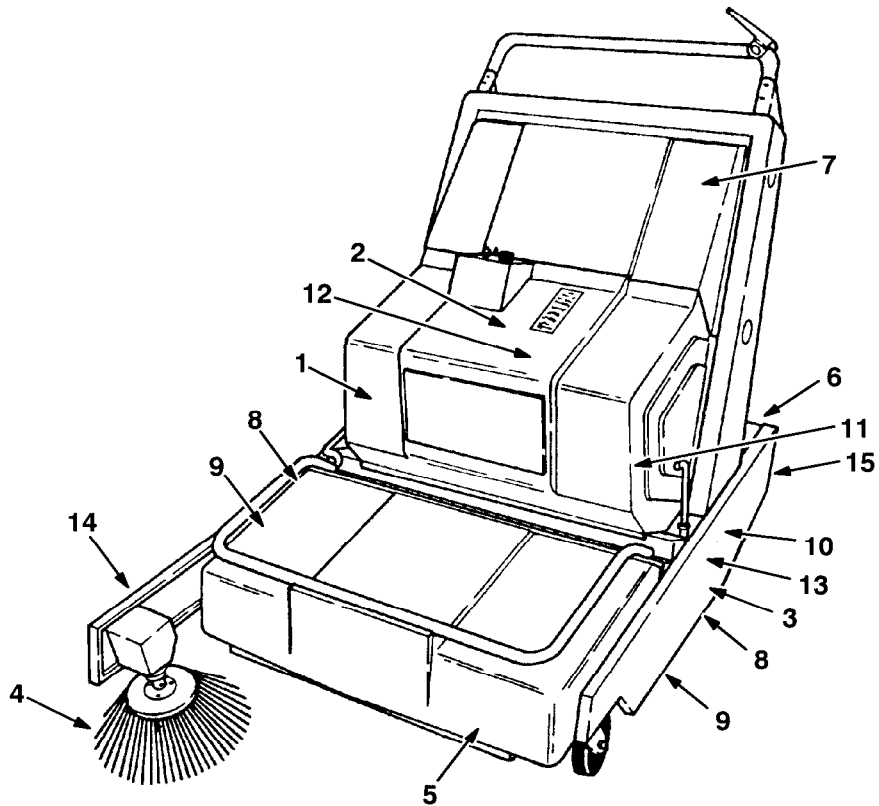
Finally the yellow 80% charge indicator lamp goes out and the green complete charge indicator lamp lights showing the battery is completely charged. After a short time, the yellow charger on indicator lamp goes out showing the charger has turned off.

The green complete charge indicator lamp will remain on until the charger is unplugged from the wall outlet.

NOTE: If the charge cycle has to be stopped, press the interrupt switch before unplugging the charger from the wall outlet.

6. Unplug the charger from the wall outlet.
7. Check the batteries electrolyte level; it should be up to the indicator mark.
8. Close the battery cover.

MAINTENANCE CHART



Key	Description	Procedure	Daily 4 Hours	Weekly 20 Hours	Monthly 80 Hours	Bi-Monthly 160 Hours
1	Batteries	Check electrolyte level Check specific gravity Clean battery tops	*	*	*	
2	Battery cables	Check for loose or corroded connections	*			
3	Main brush	Check for wear or damage Rotate end-for-end	*	*		
4	Side brush	Check brush pattern Check for wear or damage	*	*		
5	Debris hopper	Empty Check floor clearance adjustment	*		*	
6	Rear guide wheels (2)	Check floor clearance adjustment				*
7	Hopper dust filter	Rap on front filter cover to shake filter Clean filter	*	*		
8	Side dust skirts (2)	Check for wear or damage Check for floor clearance adjustment			*	
9	Hopper side seals (2)	Check for wear or damage			*	
10	Rear brush skirt	Check for wear or damage			*	
11	Flat propelling belt	Check for wear			*	
12	Motor drive belt	Check belt tension Check belt for wear			*	*
13	Brush drive belt	Check belt tension Check belt for wear			*	*
14	Side brush drive belt	Check for wear			*	
15	Static drag chain	Adjust belt tension Check for wear and floor contact				*

MAIN BRUSH REPLACEMENT

The main brush should be inspected daily for wear or damage. Remove any string or wire found tangled on the main brush, main brush drive hub, or main brush idler hub.

Rotate the brush end for end after every 20 hours of operation for maximum brush life.

The main brush should be replaced when the remaining brush bristle measures 0.5 in (13 mm).

To Remove Main Brush

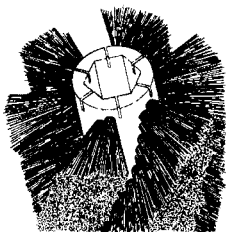
1. Place the master power key switch in the "off" position.

CAUTION: Always place the master power key switch in the "off" position before working on the machine and disconnect batteries to machine connector.

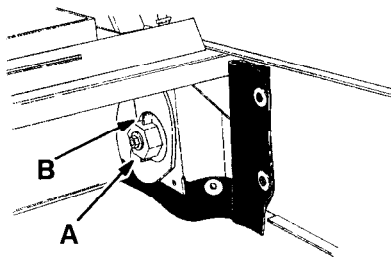
2. Lift the hopper up and out of the machine.
3. Pull the main brush removal lever away from the machine to disengage the main brush idler plug from the main brush.
4. Grasp the main brush and pull it off the main brush drive plug and out of the main brush compartment.

To Install Main Brush

1. Pull the main brush removal lever away from the machine.
2. Line up one of the slotted ends of the main brush with the drive plug drive keys.



MAIN BRUSH DRIVE SLOTS



MAIN BRUSH DRIVE PLUG DRIVE KEYS

A. Drive Plug

B. Drive Key

3. Fit one end of the main brush over the main brush drive plug.

INSTALLING MAIN BRUSH

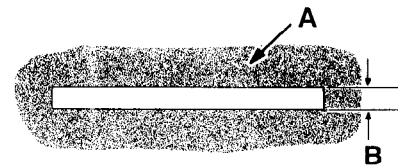
4. Position the other end of the main brush over the main brush idler plug.
5. Push and lock the main brush removal lever into place on the machine frame to secure the main brush.
6. Check and adjust the main brush pattern as described in Main Brush Pattern Adjustment.

MAIN BRUSH PATTERN ADJUSTMENT

The main brush pattern should be checked after every 20 hours of operation. The main brush pattern should be approximately 1.5 in (38 mm) wide when sweeping hard floors and 0.5 in (13 mm) when sweeping carpeted floors. Check the main brush pattern only on hard floors with the main brush in the lowered position. Main brush pattern adjustments are made by rotating the main brush lift handle.

To Check And Adjust Main Brush Pattern

1. Place the machine on a hard floor.
2. Place the master power key switch in the "on" position.
3. Place the main brush lift handle in the "lower" position to lower the main brush to the floor for one minute while holding the machine in one place.
4. Pull the main brush lift handle up and forward to raise the main brush.
5. Move the machine away from the main brush polish mark.
6. Place the master power key switch in the "off" position.
7. Observe the width of the polish mark. The proper polish width is 1.5 in (38 mm) for hard floors and 0.5 in (13 mm) for carpeted floors.



MAIN BRUSH PATTERN

A. Main Brush Pattern

B. Polish Width

If the polish mark width is too wide, rotate the main brush lift handle clockwise.

If the polish mark width is too narrow, rotate the main brush lift handle counterclockwise.

If any adjustments are made, recheck the main brush pattern before resuming work with the machine.

SIDE BRUSH REPLACEMENT

The side brush should be inspected daily for wear or damage. Remove any string or wire found tangled on the side brush or side brush drive hub.

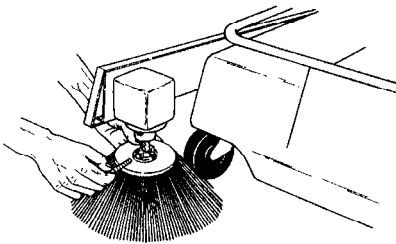
The side brush should be replaced when the remaining brush bristle measures 1 in (25 mm) in length.

To Remove Side Brush

1. Place the master power key switch in the "off" position.

CAUTION: Always place the master power key switch in the "off" position before working on the machine.

2. Pull the side brush arm up and back to raise the side brush.
3. Remove the side brush retaining clevis/cotter pins.



REMOVING SIDE BRUSH RETAINING COTTER PIN

4. Slide the side brush off the side brush drive shaft.

To Install Side Brush

1. Slide the side brush onto the side brush drive shaft.
2. Fasten the side brush to the shaft with the retaining cotter pin.
3. Check the side brush adjustment as described in Side Brush Adjustment.

SIDE BRUSH ADJUSTMENT

The side brush adjustment should be checked after every 20 hours of operation. The side brush is properly adjusted when, with the side brush arm in the "raised" position, there is approximately 1 in (25 mm) of space between the floor and the side brush bristles.

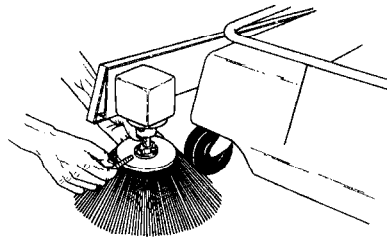
Side brush adjustments are made by mounting the side brush in a different one of the five mounting holes in the side brush drive shaft.

To Adjust Side Brush

1. Place the master power key switch in the "off" position.

CAUTION: Always place the master power key switch in the "off" position before working on the machine.

2. Pull the side brush arm up and back to put the side brush in the "raised" position.
3. Remove the side brush retaining clevis/cotter pins.
4. Slide the side brush up or down on the shaft until there is approximately 1 in (25 mm) of space between the floor and the side brush bristles.



ADJUSTING SIDE BRUSH HEIGHT

5. Line up the side brush and drive shaft holes to allow the side brush to be nearest to the specific dimension.
6. Secure the side brush to the drive shaft with the retaining clevis/cotter pins.

DEBRIS HOPPER

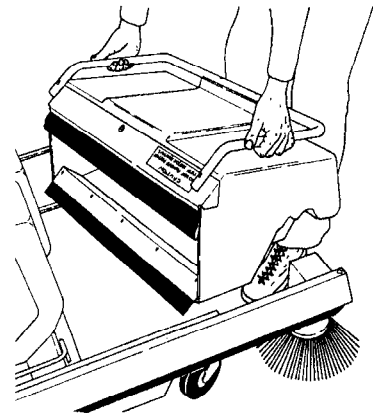
The machine debris hopper should be emptied after every work shift.

To Dump Hopper

1. Place the master power key switch in the "off" position.

CAUTION: Always place the master power key switch in the "off" position before working on the machine.

2. Grasp the hopper handles with both hands.



LIFTING HOPPER

CAUTION: Lift with legs not back. Use 2 people if hopper weight is excessive.

3. Lift and swing the hopper upward to remove the hopper from the machine.
4. Dump the debris out of the hopper into suitable refuse container.
5. Tip the hopper down and slide it into place on the machine.

NOTE: Under severe dust conditions, remove and clean the dust filter after each hopper removal. See this page -- Hopper Dust Filter.

MAINTENANCE

HOPPER FLOOR CLEARANCE ADJUSTMENT

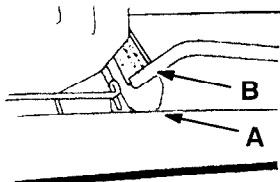
The hopper floor clearance should be checked and adjusted, if necessary, after every 80 hours of operation.

To Adjust Hopper Floor Clearance

1. Stop the machine on a smooth level floor.
2. Place the master power key switch in the "off" position.
3. Empty the hopper.

CAUTION: Always place the master power key switch in the "off" position before working on the machine.

4. Loosen the three hopper top seal retainer mounting bolts on the hopper.



HOPPER TOP SEAL RETAINER

- A. Hopper Top Seal Retainer
- B. Retainer Bolt

5. Place two 0.38 to 0.62 in (10 to 16 mm) blocks on the floor under the hopper wear plate.
6. Slide the hopper top seal retainer up or down so that the retainer just touches the machine frame.
7. Tighten the hopper top seal retainer bolts.
8. Remove the blocks from under the hopper wear plate.

REAR GUIDE WHEELS

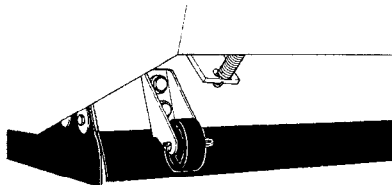
The rear guide wheels are located just behind the main brush shroud and prevent the rear of the machine from tipping. Check the floor clearance after every 160 hours of operation. They should clear the floor by 0.38 to 0.44 in (10 to 11 mm).

To Adjust Rear Guide Wheels

1. Place the master power key switch in the "off" position.

CAUTION: Always place the master power key switch in the "off" position before working on the machine.

2. Loosen the two bolts holding each of the rear guide wheels in place.



REAR GUIDE WHEEL

3. Slide the guide wheels up or down so that they clear the floor by 0.38 to 0.44 in (10 to 11 mm).
4. Tighten the two bolts on each guide wheel.

HOPPER DUST FILTER

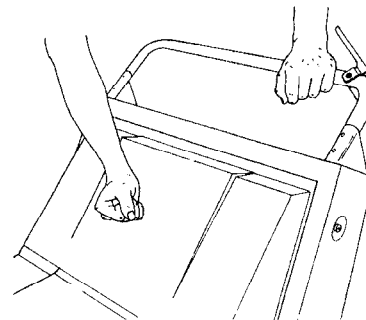
The hopper dust filter is located inside the dust filter compartment. The dust filter filters the air which is drawn up from the main brush compartment. Rap on the front filter housing with a fist daily to shake the excess dust from the filter. Clean the filter after every 3 hours of operation.

TO REMOVE DUST FILTER

1. Place the master power key switch in the "off" position.

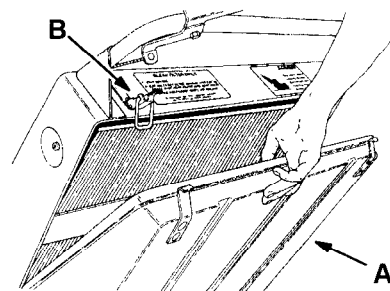
CAUTION: Always place the master power key switch in the "off" position before working on the machine.

2. Rap on the front filter housing with a fist to shake the excess dust from the dust filter.



RAPPING FILTER HOUSING

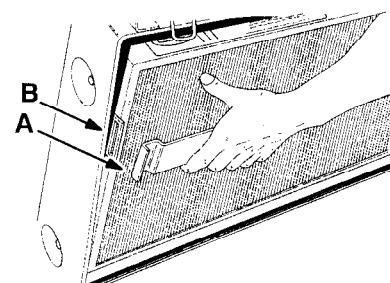
3. Unlatch the two filter cover latches and lower the rear filter cover.



LOWERING REAR FILTER COVER

- A. Rear Filter Cover
- B. Filter Cover Latch

4. Slide the filter retention bar up and out of the slotted retention brackets.



REMOVING FILTER RETENTION BAR

- A. Filter Retention Bar
- B. Retention Bracket

5. Push the filter retention spring upward and slide the filter out of the filter compartment.

To Clean Dust Filter

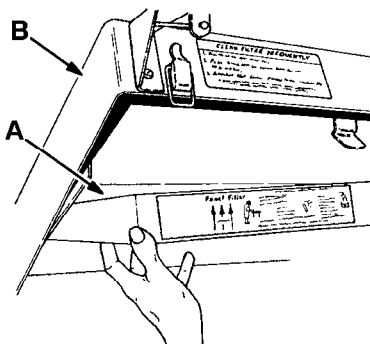
Use one of the following methods to clean the dust filter:

- Tapping -- Tap the filter gently on a flat surface with the dirty side down. Do not damage the edges of the filter element or the filter will not seat properly in the filter frame.
- Air -- Blow compressed air, 100 psi (690 kPa) maximum, through the dust filter opposite the direction of the arrows.
- Water -- Soak the dust filter in a water and mild detergent solution. Rinse the dust filter until it is clean. The maximum water pressure allowable is 40 psi (276 kPa). Air dry the wet dust filter; do not use compressed air.

NOTE: Be sure the dust filters are dry before reinstalling them in the machine.

To Install Dust Filter

1. Push the filter retention spring upward and slide the filter into place on the filter base in the filter compartment.



INSTALLING FILTER

- A. Filter**
- B. Filter Housing**

NOTE: Make sure the arrows on the filter decal are pointing to the front of the machine.

2. Release the filter retention spring.

3. Slide the filter retention bar down into the slotted retention brackets.
4. Lift the rear filter cover back into the "operating" position.
5. Latch the two filter cover latches.

SIDE DUST SKIRT

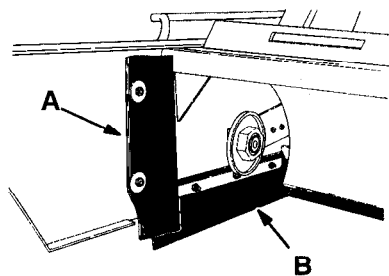
A dust skirt is located on each side of the brush compartment. The dust skirts control main brush dusting. The dust skirts should be inspected for wear or damage and adjustment after every 80 hours of operation.

To Adjust Side Dust Skirts

1. Place the master power key switch in the "off" position.

CAUTION: Always place the master power key switch in the "off" position before working on the machine.

2. Grasp the hopper handles; lift and swing the hopper up and out of the machine.
3. Loosen the side dust skirts retaining bolts.



ADJUSTING SIDE DUST SKIRTS

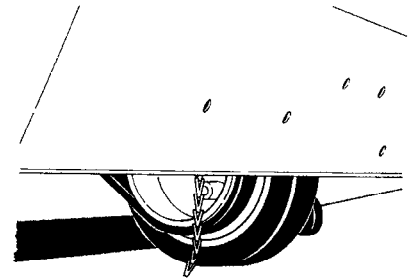
- A. Side Dust Skirt**
- B. Side Dust Seal**

4. Slide the side dust skirts up or down so there is 0.03 to 0.25 in (0.8 to 6 mm) clearance between the floor and the bottom of the skirt.
5. Tighten the skirt retaining bolts.
6. Reinstall the hopper.

STATIC DRAG CHAIN

A static drag chain is provided to prevent the buildup of static electricity in the machine. The chain is attached near the rear of the machine.

Check the chain for wear after every 160 hours of operation. Make sure the chain is making contact with the floor at all times.



STATIC DRAG CHAIN

TROUBLESHOOTING

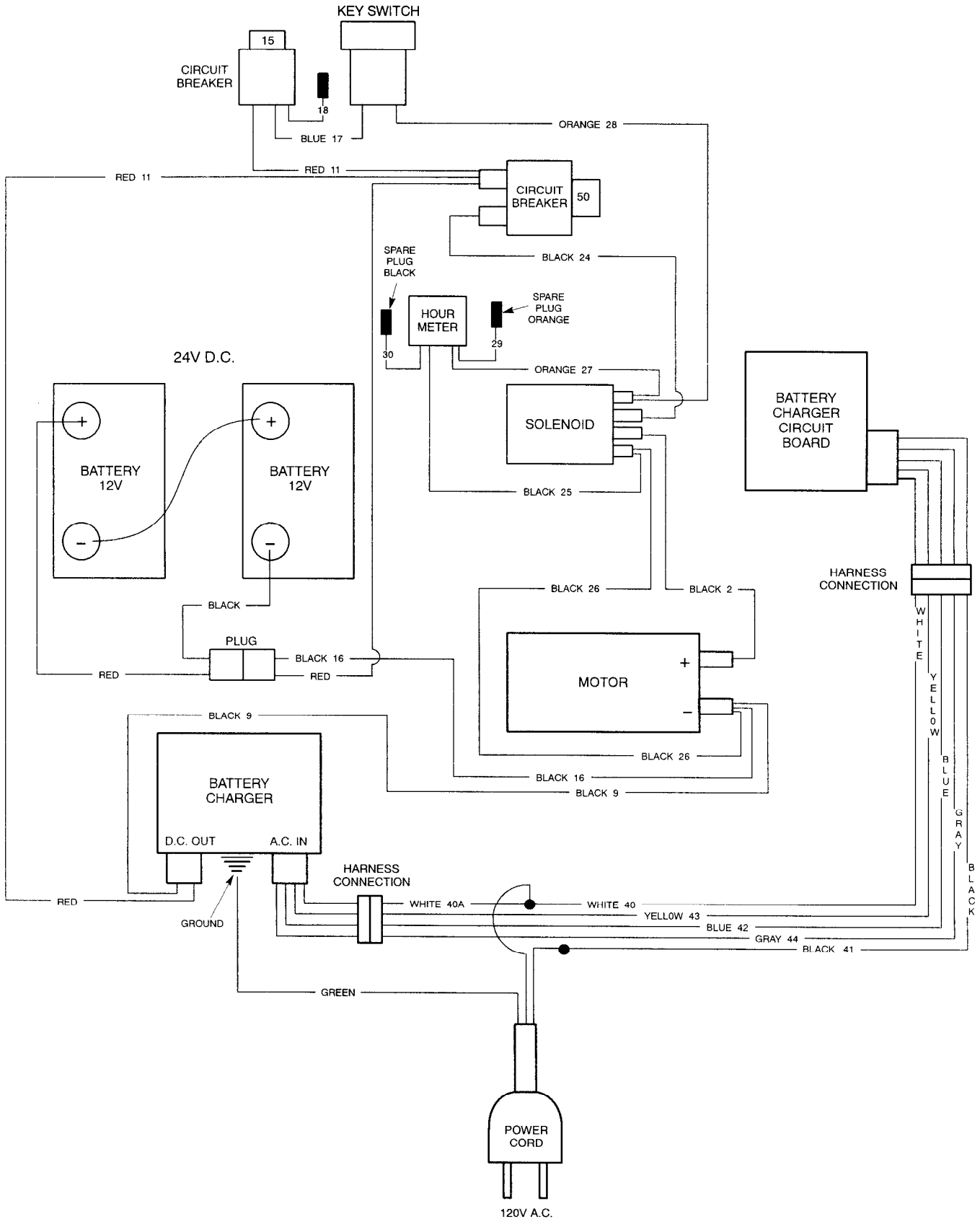
MACHINE TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
Poor Sweeping Performance	Worn out brush	Replace
	Brush not adjusting for wear	Adjust brush lift handle to obtain correct brush pattern
	Brush not level with floor	Check for correct brush pattern
	Hopper full	Empty
	Dust filter clogged	Remove and clean dust filter
	Brush jammed with debris	Remove jam
	Hopper lip or dust skirt height not correct	Adjust/replace if required
	Brush drive belts slipping or broken	Adjust or replace belts
Dusting	Dirty dust filter	Remove and clean filter
	Filter not seated correctly against its seals	Install filter correctly
	Damaged dust filter	Replace
	Hopper full	Empty
	Clogged ducts	Clean Out
	Ducts not engaging seals correctly or seals damaged	Check and adjust or replace seals
	Duct skirts not adjusted or are damaged	Adjust or replace
	Vacuum fan not operating	Check for fan drive sheave slipping on its shaft, or impeller key is broken. Check drive belt
Brush pattern not even	Brush not lowering evenly due to debris jam	Remove brush and debris
	Brush drive assembly jamming against frame	
	Bail arm not level	Adjust arm position
	Brush spaing arm may be out of adjustment	Adjust arm position
	Brush not seated correctly on drive cups	Check brush position
Machine will not travel	Flat belt broken	Replace
	Flat belt broken	Replace
	Oil on flat belt or shaft	Clean
	Clutch shaft arm loose or out of adjustment	Adjust
	Clutch cable broken or out of adjustment	Replace or adjust
	Rear drive wheel jammed	Free wheel
	Motor drive belt broken or slipping	Replace or adjust

MACHINE TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
Excessive belt wear or breakage	Belt is over-tensioned or under-tensioned, causing slippage	Adjust belt tension
	Belt sheaves have moved out of adjustment	Align
	Belts or sheaves have dirt or oil on them	Clean
	Brush down on floor/rug to much	Adjust for proper operation
	Operator holding back machine while operating	Do not hold back machine
	Operator leaving machine stationary with brush down and operating	Do not leave machine stationary with brush down and operating

WIRING DIAGRAM



ORDERING REPAIR PARTS

The components used in this machine have been carefully selected for performance and safety. Use only Manufacturer's specified or equivalent parts.

When ordering parts, please furnish all of the following information:

1. Machine serial number - shown on the machine data plate.
2. Company name.
3. Shipping address.
4. Billing address.
5. Name, first and last - of person ordering parts.
6. Telephone number.
7. Purchase order number.
8. Part number, description, and quantity - of each item on the order.

Do not order parts by key number or the figure number of the illustrated parts. Indented items indicate parts of assemblies. Standard hardware is furnished only when part of a purchased assembly. Please get hardware from a local hardware supplier.

If the old part cannot be identified, send it to us with the quantity needed specified on the order.

Any claim for loss or damage to a shipment in transit should be filed promptly against the transportation company making the delivery. Shipments will be complete unless the packing list or order acknowledgment indicate items back ordered.

If parts received are suspected to be incorrect or defective, please write, wire, or phone the Castex/Nobles representative from whom you ordered the part. They will give authorization for return and/or handle replacement shipments when required.

**SI UNITS OF MEASURE
(INTERNATIONAL SYSTEM)****FASTENER STRENGTH IDENTIFICATION**

Fasteners required to have high-strength qualities equivalent to SAE Grade 8 are identified throughout this catalog by the description GR 8. Unless identified by this description, all standard fasteners are SAE Grade 5.

(Specifications and design subject to change without notice.)

STANDARD MODEL PARTS

01229

Fig. 1 - Recommended General Maintenance Items

Key	Part No.	Description	Qty.
	59455	Replacement Parts Package	1
	069 777 063	V-Belt	1
	069 777 177	V-Belt	1
	069 777 111	Belt	1
	069 777 017	Skirt, Hopper	2
	069 777 119	Skirt	1
	069 777 332	Skirt, Side	2
	069 777 017	Skirt, Dust	1
	069 777 018	Skirt, Idler Side	1
	069 777 016	Skirt, Drive Side	1
	069 777 009	Wheel	2
	069 777 149	V-Belt	1
	03972	Maintenance Kit, Seals	1
	47037	Adhesive, 5 oz (150 cc) Tube	1
	069 777 185	Seal, Foam Rubber	3
	069 777 439	Seal	2
	069 777 179	Gasket, Output Duct	1
	069 777 178	Hinge, Poly	1
	069 777 181	Gasket, Duct	2
	60378	Seal	1
	03973	Maintenance Kit, Skirts	1
	069 777 018	Skirt, Idler Side	1
	069 777 332	Skirt, Side	2
	069 777 273	Washer	10
	069 777 016	Skirt, Drive Side	1
	069 777 017	Skirt, Dust	1
	069 777 275	Nut, Retainer	3
	069 777 017	Skirt, Hopper	1
	069 777 119	Skirt	1

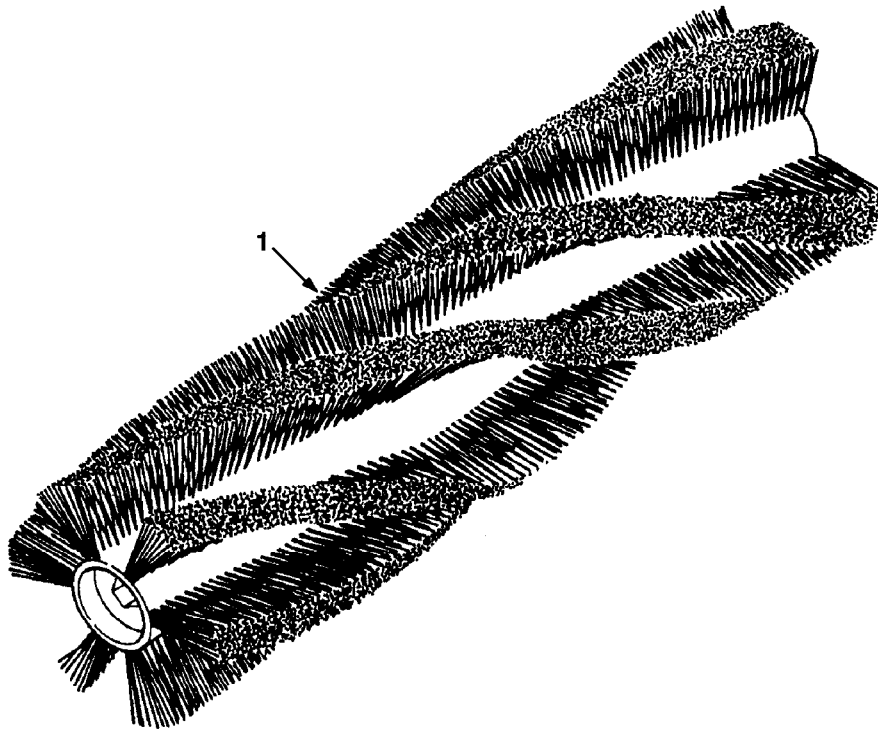
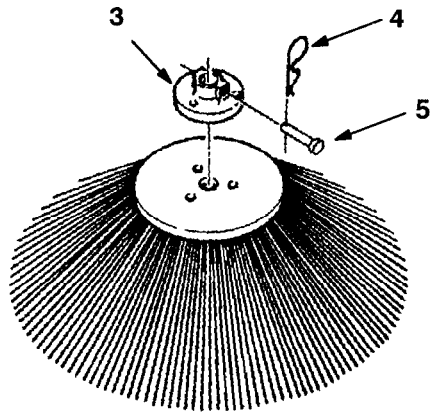


Fig. 2 - Replacement Brushes

01186

Key	Part No.	Description	Qty.
1	469 777 904	Brush, PRO-EX	1
1	469 777 905	Brush, Carpet, Union Mix	1
2	069 777 412	Brush Assembly, Side Sweep	1
3	069 777 040	Adapter, Brush	1
4	140611	Pin, Hair Cotter	1
5	579021	Pin, Clevis	1

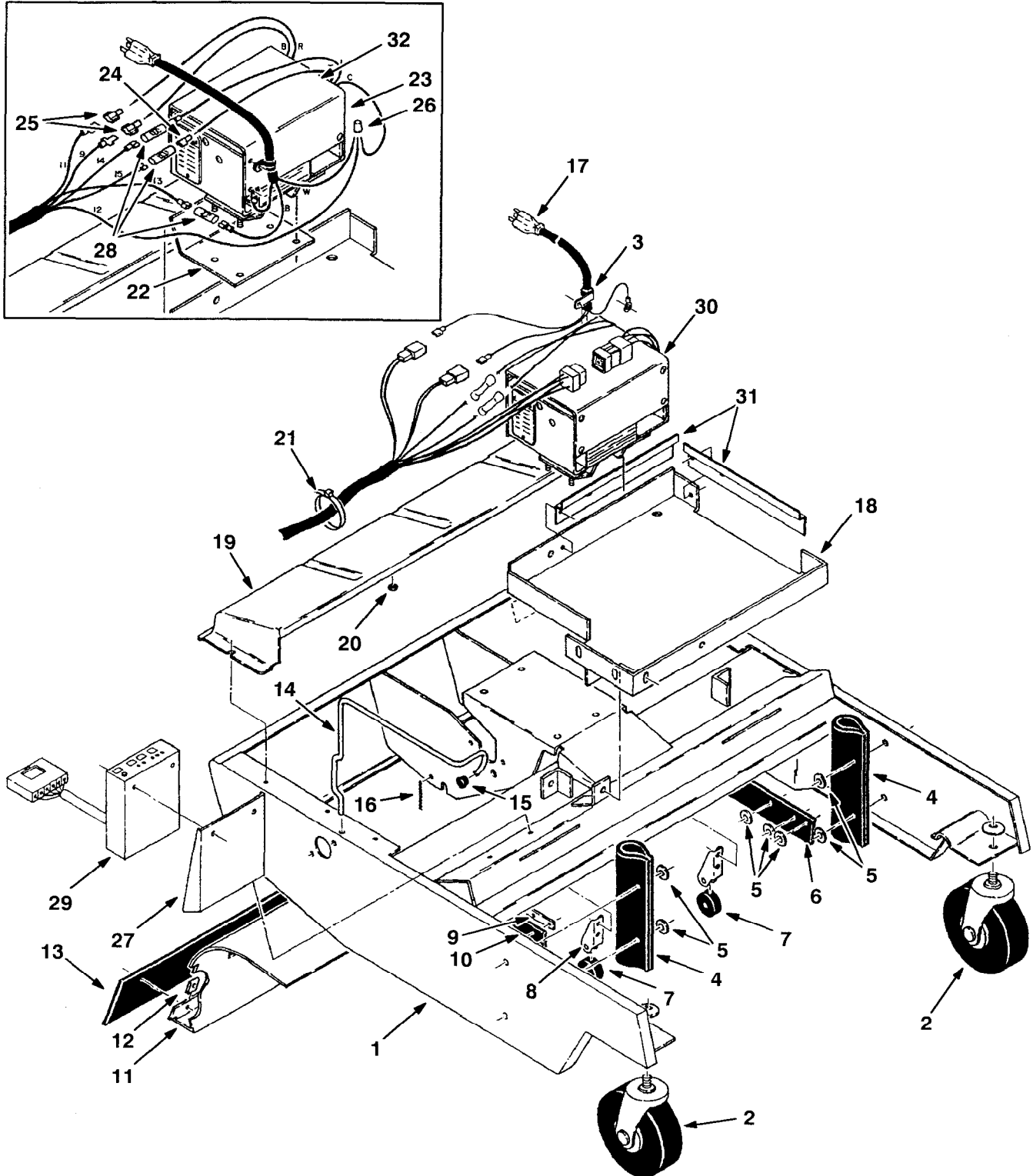


Fig. 3 - Main Frame and Charger Group

Fig. 3 - Main Frame and Charger Group

Key	Part No.	Description	Qty.
1	069 777 488	Frame, Main	1
1	600122	Frame, Main	1
2	069 777 133	Caster	2
3	26395-2	Clamp, Cable	1
4	069 777 332	Skirt, Side	2
5	069 777 273	Washer	10
6	069 777 016	Skirt, Side	1
	069 777 395	Bracket and Wheel Assembly	2
7	069 777 009	Wheel	1
8	069 777 130	Bracket, Caster	1
9	069 777 102	Strip	1
10	069 777 018	Skirt, Side	1
11	069 777 159	Wrap, Brush	1
12	069 777 275	Nut, Retainer	3
13	069 777 017	Skirt, Dust	1
14	069 777 329	Handle	1
15	069 777 423	Cap	1
16	069 777 042	Chain	1
17	600 057 000	Cord	1
18	069 777 487	Tray, Battery	1
19	069 777 234	Cover, Rear	1
20	600 028 000	Bumper, Rubber	1
21	600 088 000	Tie, Cable	4
22	600 055 000	Bracket, Mounting (Replaced by none)	1
23	600 056 000	Charger Replacement Kit, Battery, 60 Hz	1
23	60507	Charger Replacement Kit, Battery, 50 Hz	1
24	43942	Terminal	1
25	50456	Terminal	2
26	04756	Wire, Nut	1
27	600 096	Bracket, Control Box Mounting	1
28	15006	Terminal	3
29	600 098	Control Box, Charger	1
30	600 095	Charger, Battery, 60 Hz	1
31	600 127	Bracket, Battery Spacer	2
32	600 104*	Kit, Battery Charger Replacement	1

* Kit replaces dial type chargers. Dial type chargers are no longer available.

STANDARD MODEL PARTS

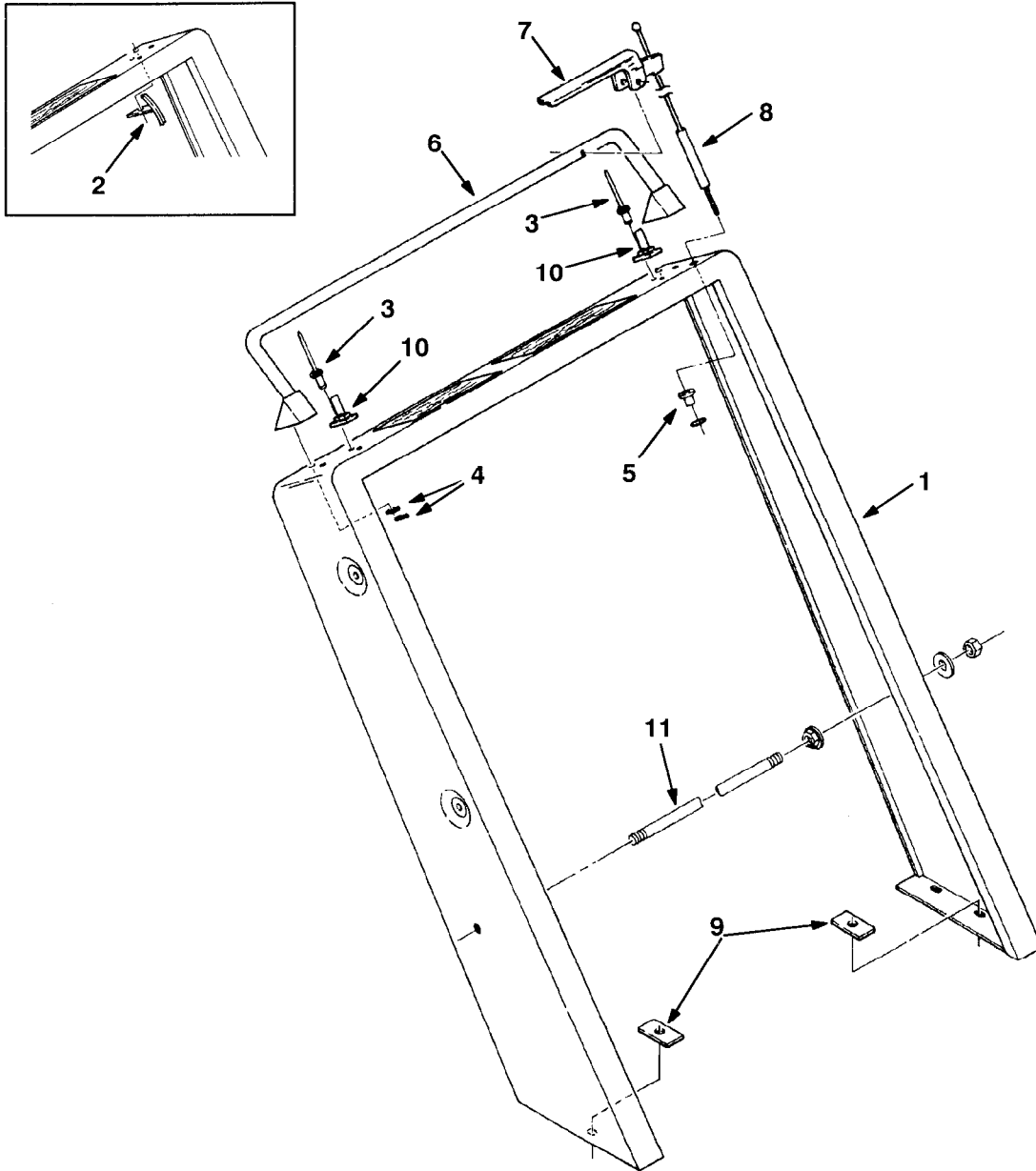


Fig. 4 - Handle Group

02633

Key	Part No.	Description	Qty.
1	600 125	Frame Replacement Kit, Blue-Green	1
1	31918	Handle Assembly, with Labels	1
2	069 777 141	Guide, Cable, Replacement Kit	1
3	60428	Rivet, Pop	4
4	069 777 145	Nut, Retainer	4
5	61377	Bushing	1
6	069 777 123	Handle	1
7	069 777 176	Handle, Clutch	1
8	069 777 144	Cable Assembly	1
9	08868	Strip	2
10	069 777 035	Catch	2
11	600 082 000	Rod, Support	1

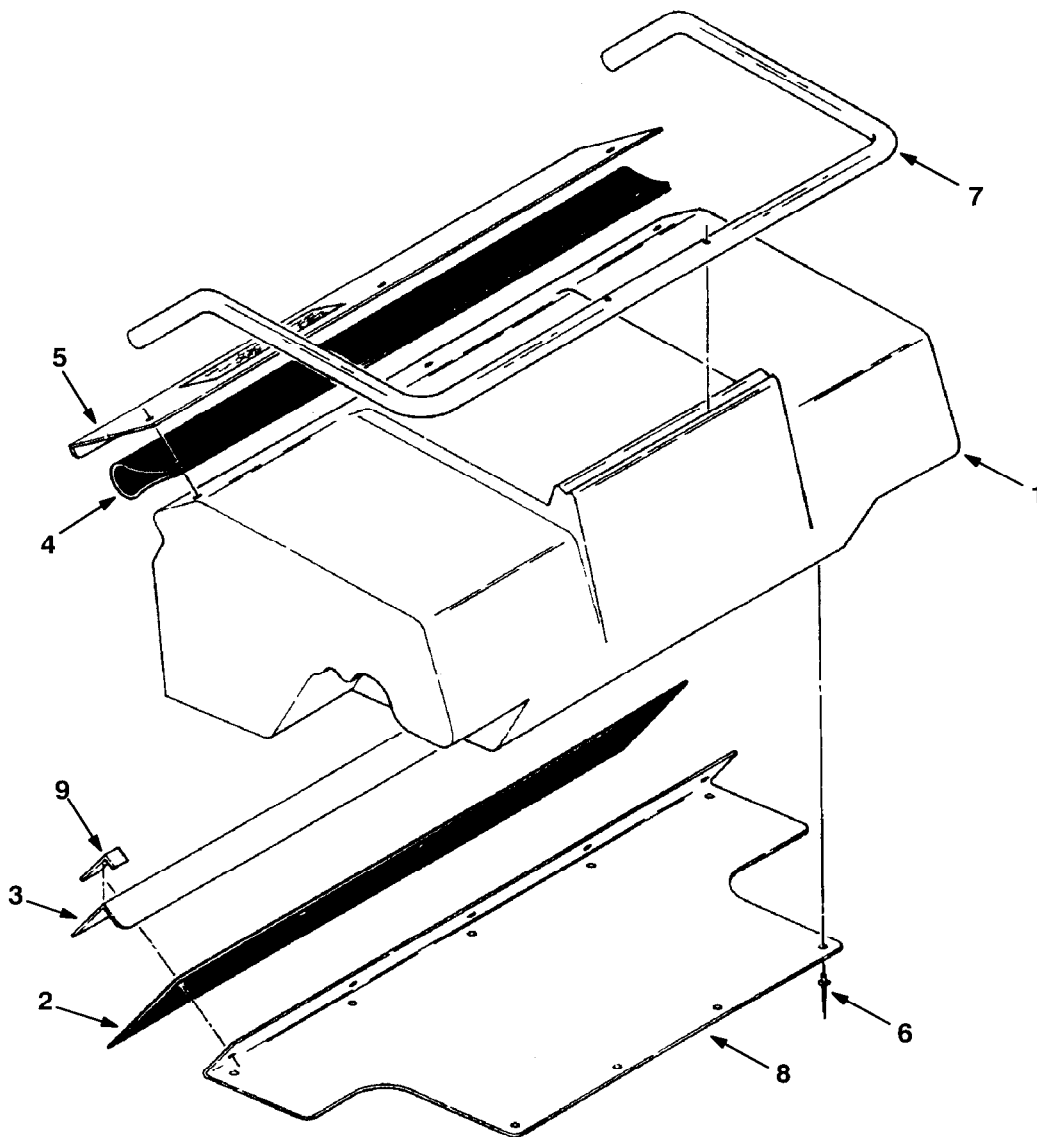


Fig. 5 - Hopper Assembly

01155

Key	Part No.	Description	Qty.
1	069 777 404	Hopper Assembly	1
2	069 777 017	Skirt, Hopper	1
3	069 777 100	Bracket, Hopper	1
4	069 777 119	Skirt	1
5	069 777 079	Retainer and Label Assembly, Seal	1
6	600 029 000	Rivet, Pop	9
7	069 777 115	Handle, Hopper	1
8	069 777 101	Shield, Hopper	1
9	069 777 439	Seal	2

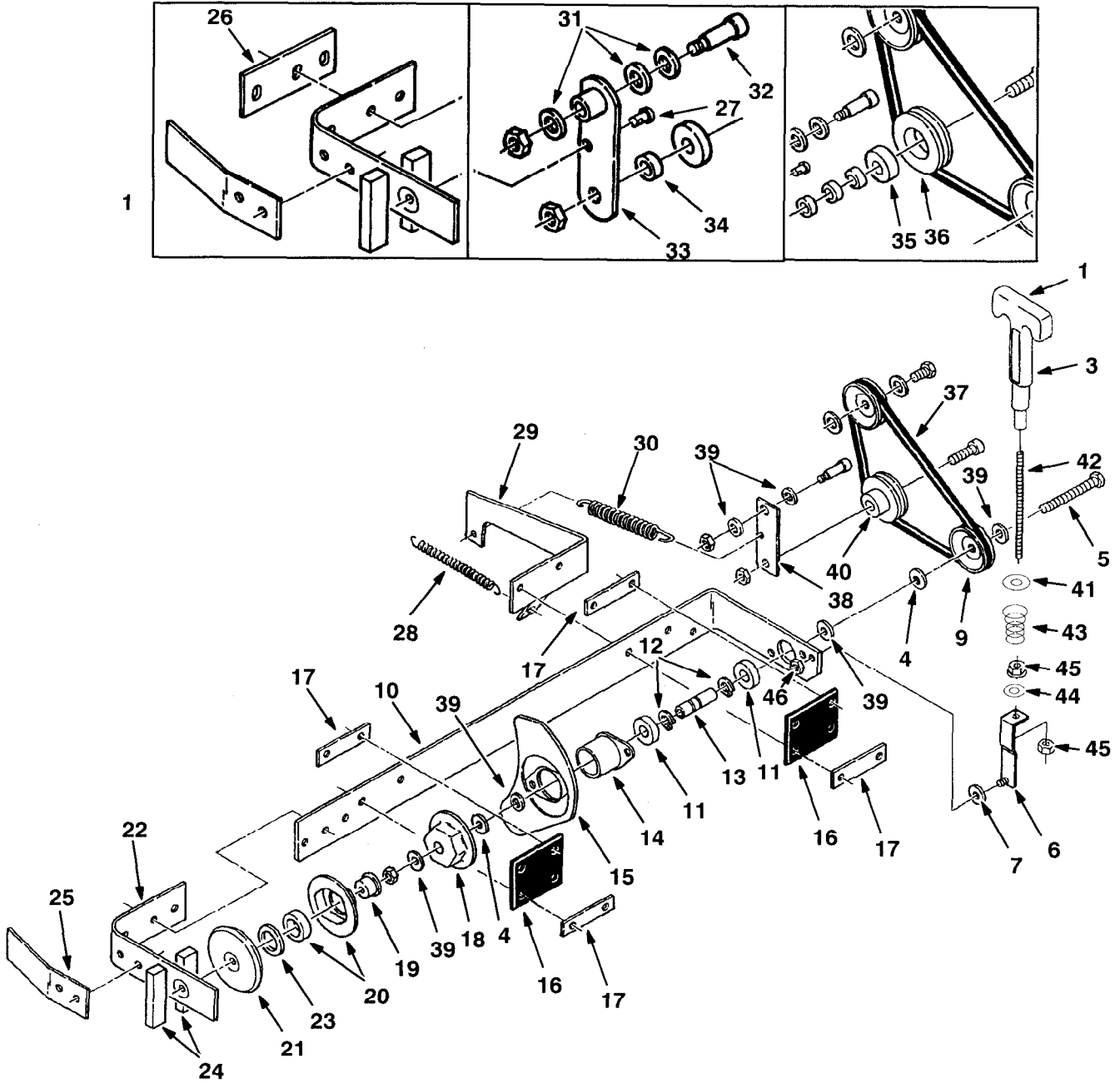


Fig. 6 - Brush Drive Group

Fig. 6 - Brush Drive Group

Key	Part No.	Description	Qty.
1	600113	Replacement Kit, Handle (Includes: 3, 6, 7, 42, 44, 45 & 46)	1
2	069 777 166	Bushing, Flange	1
3	25950	T-Handle	1
4	069 777 109	Washer, Lock	1
5	140232	Screw, Hex	1
6	069 777 078	Bracket, Brush Lift	1
7	069 777 036	Washer, Nylon	1
8	069 777 051	Spring	1
9	069 777 054	Sheave	1
10	069 777 019	Arm, Bail	1
	069 777 390	Shaft and Bearing Assembly	1
11	069 777 334	Bearing, Ball	2
12	069 777 288	Ring, Retaining	2
13	069 777 201	Shaft, Brush Pulley	1
14	069 777 091	Cup, Bearing	1
15	069 777 092	Cover, Flange	1
16	069 777 178	Hinge	2
17	069 777 097	Strip	4
18	069 777 089	Cup, Drive	1
	069 777 399	Arm Assembly, Brush Spring	1
19	069 777 333	Boss, Sleeve	1
20	069 777 400	Cup and Bearing Assembly	1
21	069 777 094	Guard, Cup	1
22	069 777 113	Plate, Spring	1
23	069 777 011	Spacer	1
24	069 777 134	Seal, Foam Rubber	2
25	069 777 147	Bracket	1
26	41864	Plate, Backing (Replace by two Std. Washers)	1
27	069 777 083	Pin, Clevis	1
28	069 777 046	Spring, Tension	1
29	069 777 165	Bracket, Spring Mounting	1
30	069 777 047	Spring, Tension	1
31	069 777 302	Washer	3
32	069 777 229	Screw, Shoulder	1
33	069 777 394	Idler Arm Replacement Kit	1
34	069 777 221	Sleeve	1
35	600 075 000	Bearing, Ball	1
36	069 777 171	Sheave (Idler Assembly Replacement Kit)	1
37	069 777 063	V-Belt	1
38	069 777 394	Arm, Idler	1
39	069 777 109	Washer	6
40	069 777 171	Sheave, Idler and Bearing	1
41	24227	Washer, Dished	1
42	600 036 000	Stud	1
43	069 777 051	Spring	1
44	T32984	Internal Lock Washer, 5/16"	1
45	T19313	Nut, Hex 5/16"-18	2
46	069 777 297	Nut, Lock Nylon, 1/4"-20	1

STANDARD MODEL PARTS

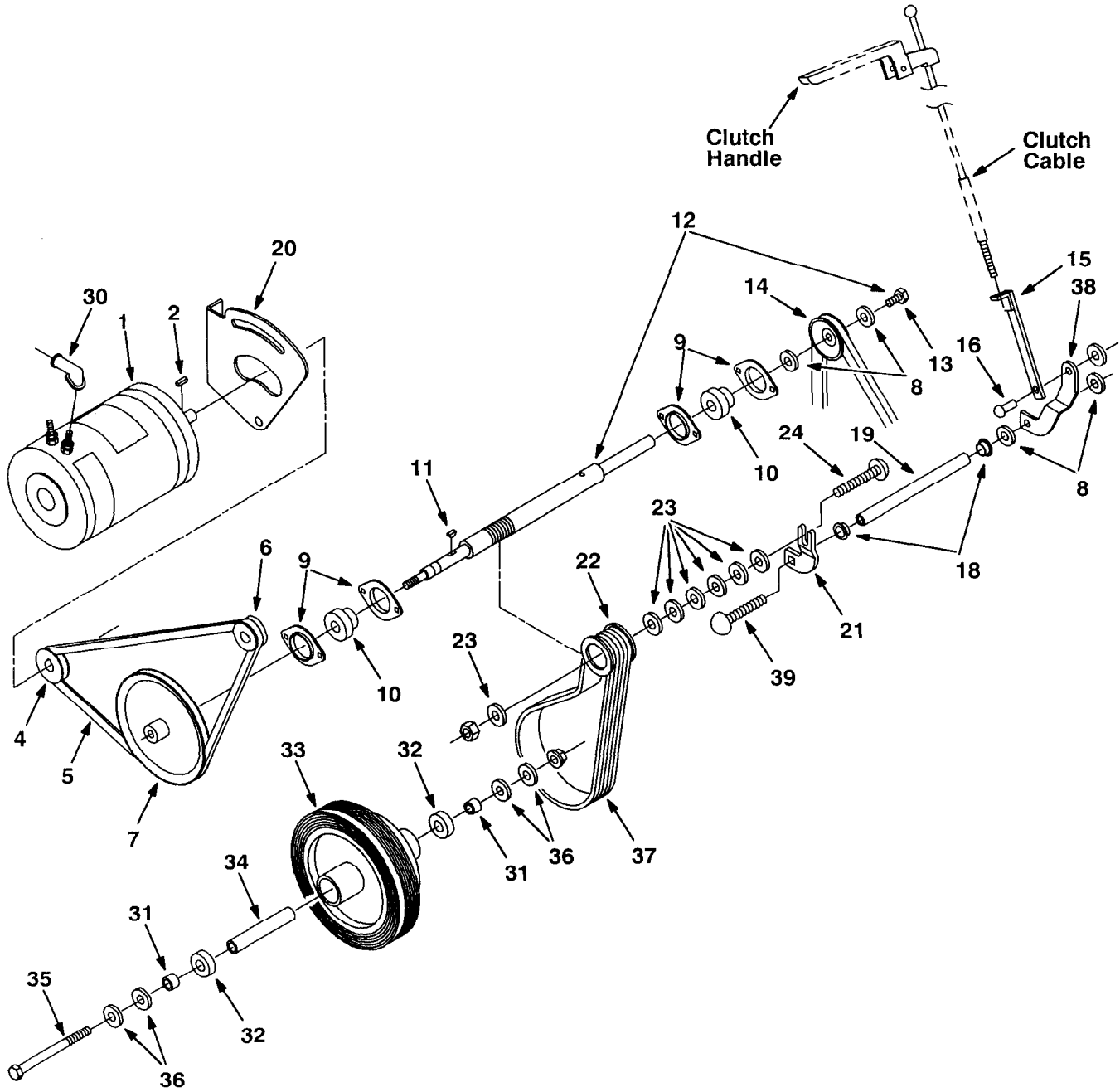
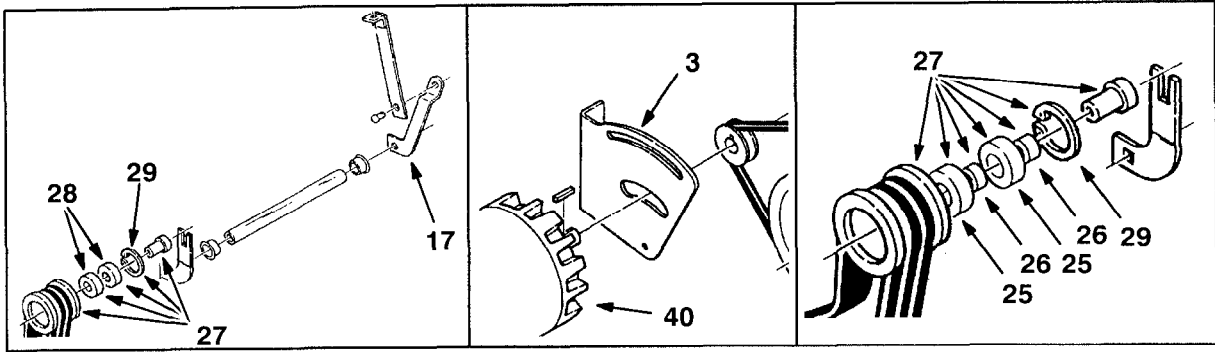


Fig. 7 - Motor and Wheel Drive Group

Fig. 7 – Motor and Wheel Drive Group

Key	Part No.	Description	Qty.
1	600 079 000	Motor, Electric	1
	50122	Brush Set	1
	50125	Brush and Ring Assembly	1
2	01844	Bearing, Ball	1
	46390	Bearing, Ball	1
	069 777 387	Key, Square	1
3	069 777 183	Mount, Motor	1
4	069 777 043	Sheave	1
5	069 777 177	V-Belt	1
6	069 777 433	Sheave	1
7	069 777 187	Sheave	1
8	600 025 000	Washer, Belleville	4
9	069 777 216	Flange, Bearing	4
10	069 777 377	Bearing and Collar	2
11	069 777 311	Key, Woodruff	1
12	069 777 086	Shaft Replacement Kit, Drive	1
13	600 040 000	Screw, Hex, L.H.	1
14	069 777 055	Sheave	1
15	069 777 173	Bracket, Clutch	1
16	069 777 010	Pin, Clevis	1
17	600 074 000	Arm Replacement Kit, Clutch, L.H.	1
18	069 777 099	Bushing, Flange	2
19	069 777 124	Shaft, Clutch	1
20	069 777 183	Bracket, Motor	1
	069 777 391	Arm Assembly, Clutch, R.H.	1
21	069 777 116	Arm, Clutch, R.H.	1
22	069 777 112	Pulley, Idler-Flanged	1
23	069 777 302	Washer, Flt	7
24	19577	Bolt, Carriage	1
25	069 777 039	Bearing, Ball	2
26	29090	Sleeve	2
27	069 777 391	Pulley, Idler Replacement Kit	1
28	50040	Bearing, Idler Replacement Kit	2
29	01513	Ring, Retaining	1
30	600 087 000	Cover, Terminal	1
	069 777 397	Wheel Assembly, Drive	1
31	069 777 044	Sleeve	2
32	069 777 039	Bearing, Ball	2
33	069 777 105	Tire and Wheel Assembly	1
34	069 777 110	Tube	1
35	069 777 426	Screw, Hex	1
36	069 777 163	Washer, Flt	4
37	069 777 111	V-Belt	1
38	600 074 000	Arm, Clutch, L.H.	1
39	10819	Bolt, Carriage	1
40	(See Note Below)	Motor, Electric	1

Note: Old style motor is no longer available. Order Motor #600 079 000 and Motor Bracket #069 777 183 for replacment.

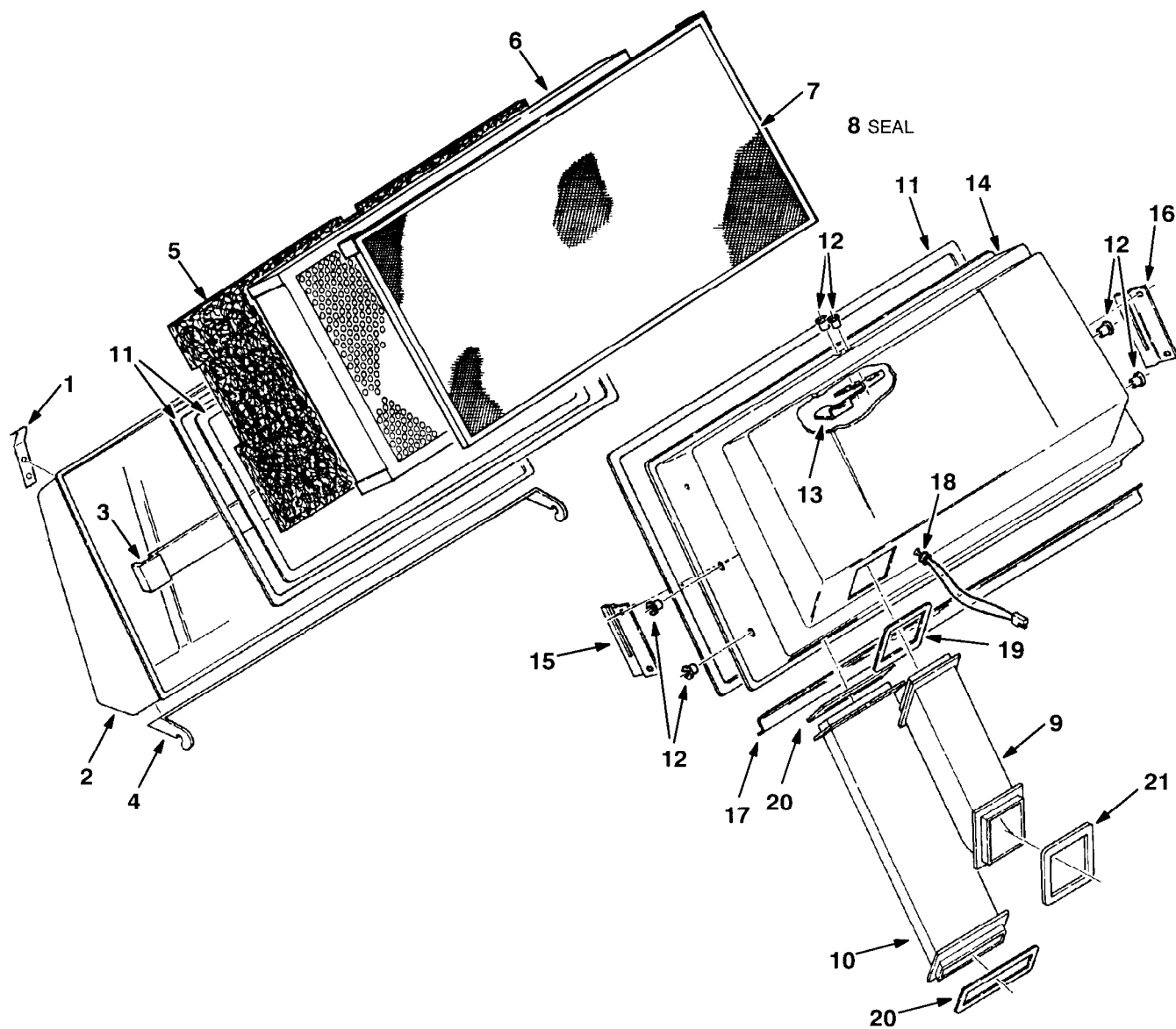


Fig. 8 - Filter Group

Fig. 8 - Filter Group

Key	Part No	Description	Qty.
1	069 777 443	Clip, Draw-Pull Latch	2
2	069 777 233	Cover, Rear Filter Box	1
3	069 777 172	Retainer, Filter	1
4	069 777 251	Bracket, Pivot	1
	02594	Fine Particle Filter Assembly	1
5	069 777 061	Screen, Pre-filter	1
6	069 777 001	Element, Filter	1
7	465 777 900	Filter Assembly, Fine Particle (OPTIONAL)	1
8	60378	Seal (NOT SHOWN)	1
9	069 777 125	Duct, Output	1
10	069 777 126	Duct, Input	1
11	069 777 185	Seal, Foam Rubber	3
12	069 777 184	Nut, Well	6
13	069 777 052	Retainer, Latch	1
14	069 777 232	Cover, Front Filter Box	1
15	069 777 217	Bracket, Retainer, R.H.	1
16	069 777 218	Bracket, Retainer, L.H.	1
17	069 777 132	Retainer, Seal	1
18	47591	Strain Relief	1
18	29232	Strain Relief	1
19	069 777 180	Gasket, Duct	1
20	069 777 181	Gasket, Duct	2
21	069 777 179	Gasket, Duct	1

STANDARD MODEL PARTS

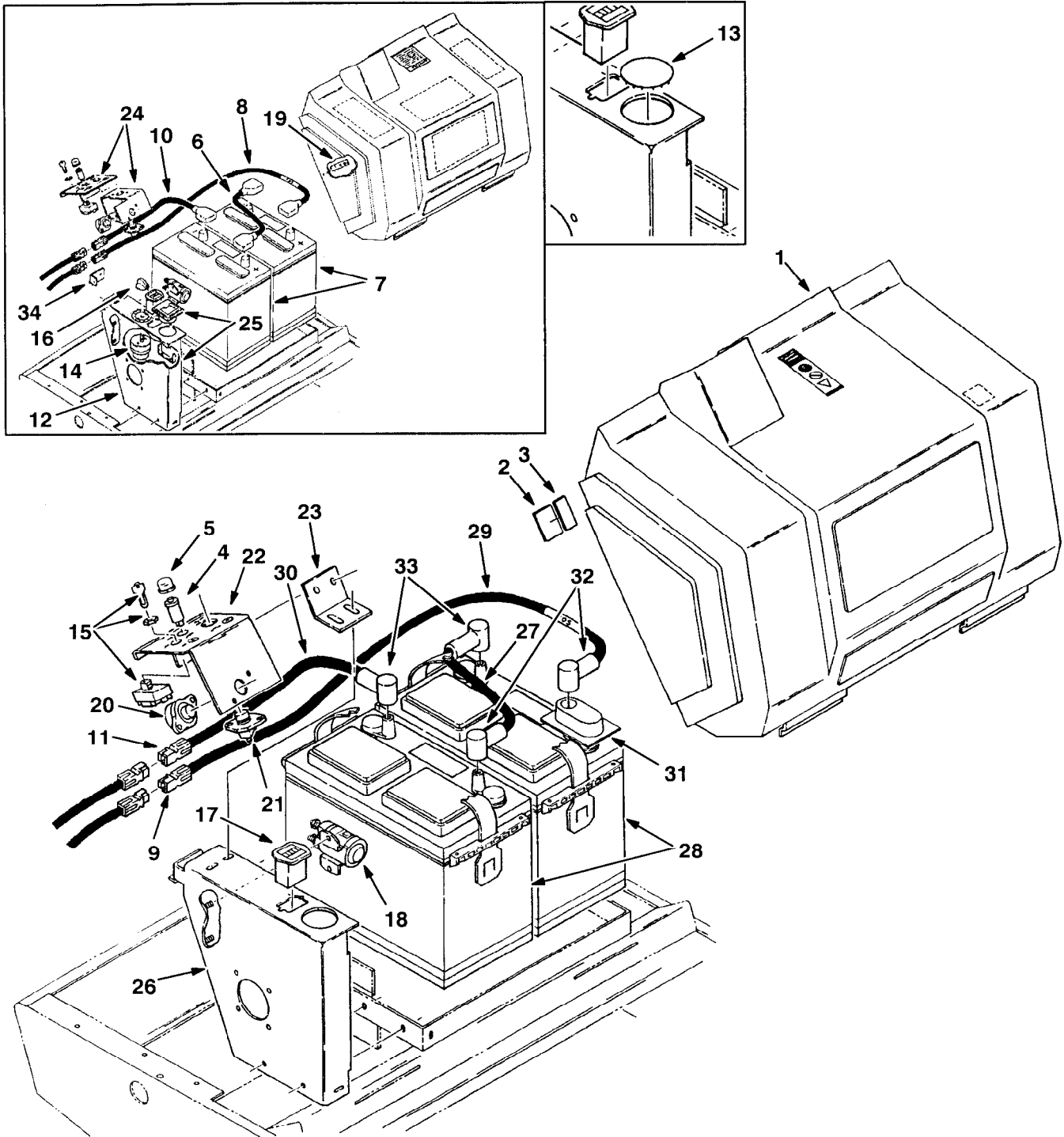


Fig. 9 - Battery Group

Fig. 9 - Battery Group

Key	Part No.	Description	Qty.
1	600118	Shroud Assembly, Battery	1
2	600 035 000	Fastener, Velcro	2
3	600 071 000	Velcro Strip	2
4	600 063 000	(Circuit Breaker	1
5	600 064 000	(Boot, Circuit Breaker	1
6	069 777 223	Cable Assembly	1
7	069 777 004	Battery, Replacement Kit, Wet	2
7	61385	Battery, Replacement Kit, Dry	2
8	069 777 191	Cable Assembly, Battery, Positive	1
9	600 012 000	Connector, Red	1
10	069 777 192	Cable Assembly, Battery, Negative	1
11	600 013 000	Connector, Black	1
12	600 027 000	Support Replacement Kit, Fan	1
13	82747	Plugbutton	1
14	600 059 000	Switch, Timer (old style)	1
15	600 065 000	Key Switch Assembly	1
	600 066 000	Key Set	1
16	600 031 000	Knob, Timer	1
17	069 760 618	Hour Meter	1
18	600 058 000	Contacto	1
19	60463	Replacement Kit, Latch	2
20	600 060 000	Circuit Breaker	1
21	44078	Switch	1
22	25116	Bracket, Switching Mounting	1
23	600 062 000	Angle, Bracket Support	1
24	600 055 000	Mounting Bracket Replacement Kit	1
25	600 032 000	Ammeter, Charger	1
26	600 027 000	Support, Fan	1
27	069 777 223	(Cable Assembly	1
28	069 777 004	Battery, Wet, 12V	2
28	61356	Battery, Dry, 12V	2
29	069 777 191	Cable Assembly, Battery, Positive	1
30	069 777 192	Cable Assembly, Battery, Negative	1
31	611 223 000	Cover, Terminal	4
32	61364	Boot Terminal, Red	2
33	61365	Boot Terminal, Black	2
34	069 777 195	Bracket, Connector	1
OPTIONAL			
	190974	Kit, Battery Pac 24V	1

STANDARD MODEL PARTS

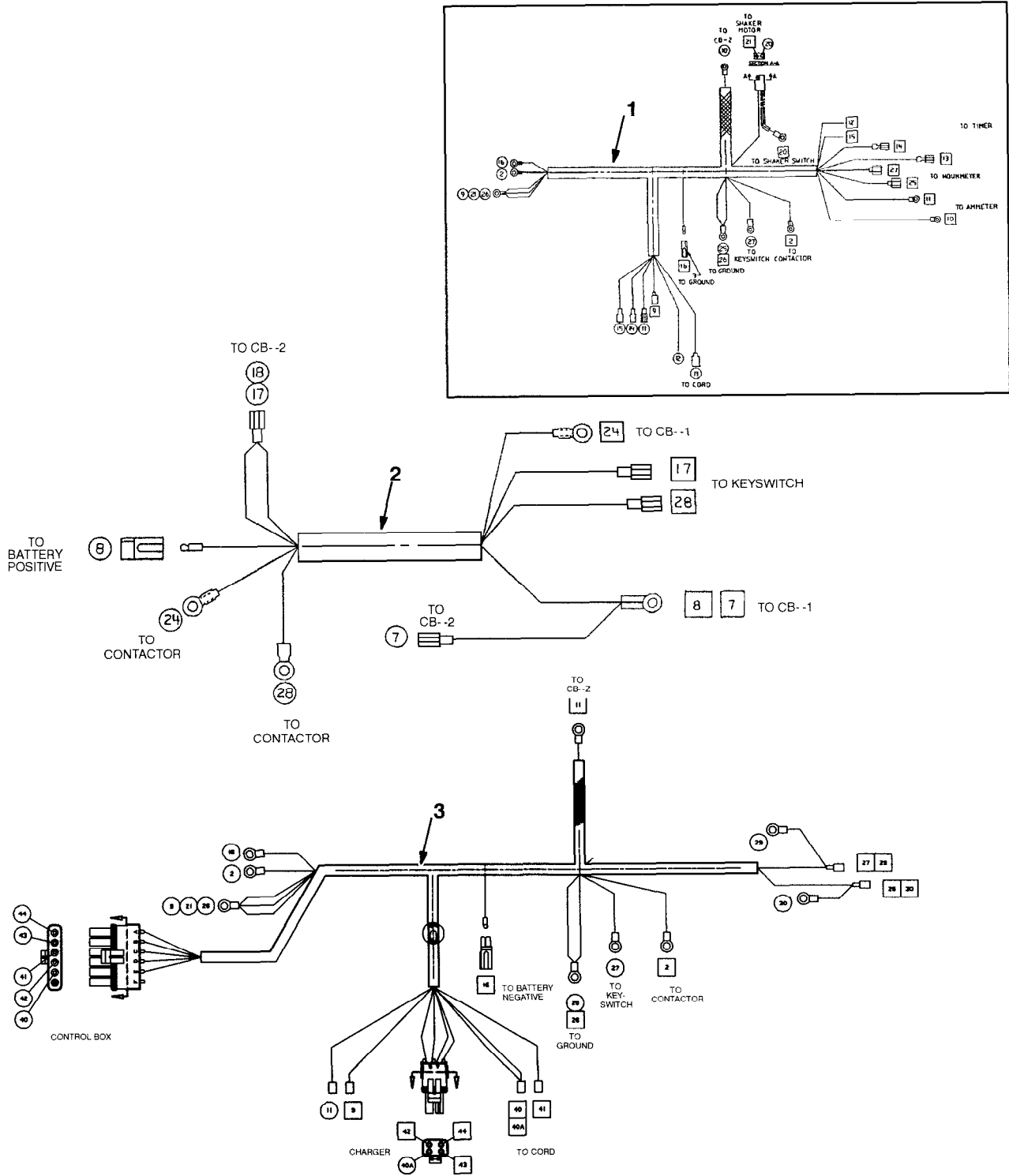


Fig. 10 - Wire Harnesses Group

02640

Key	Part No.	Description	Qty.
1	600 052 000	Wire Harness, Main (Includes connector) - Old Style	1
2	600 053 000	Wire Harness, Controls	1
3	60487	Wire Harness, Main (Includes Connector)	1
	600 013 000	Connector, Black	1
	600 012 000	Connector, Red	1

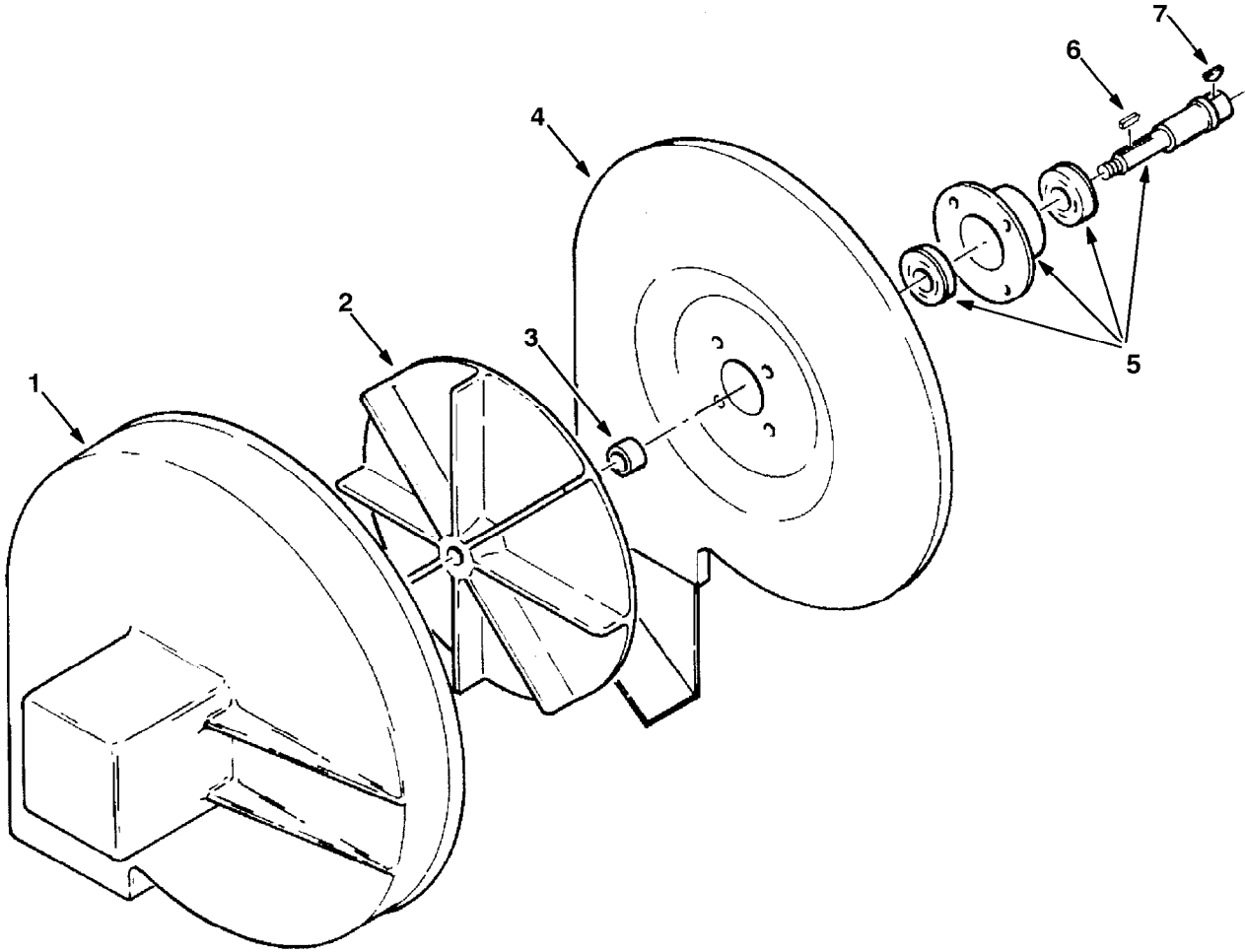


Fig. 11 - Vacuum Fan Group

01048

Key	Part No.	Description	Qty.
1	069 777 336	Housing, Fan	1
2	600 043 000	Impeller	1
3	600 044 000	Spacer	1
4	069 777 127	Plate, Fan Backing	1
5	069 777 403	Shaft and Bearing Assembly	1
6	069 777 388	Key, Square	1
7	069 777 311	Key, Woodruff	1

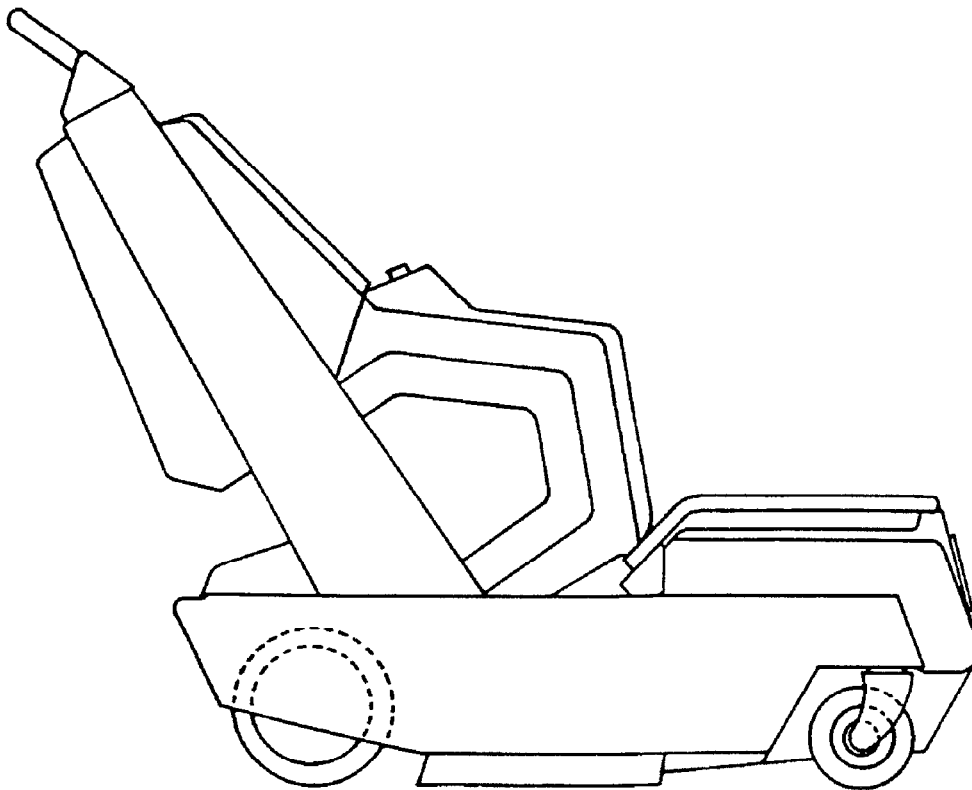
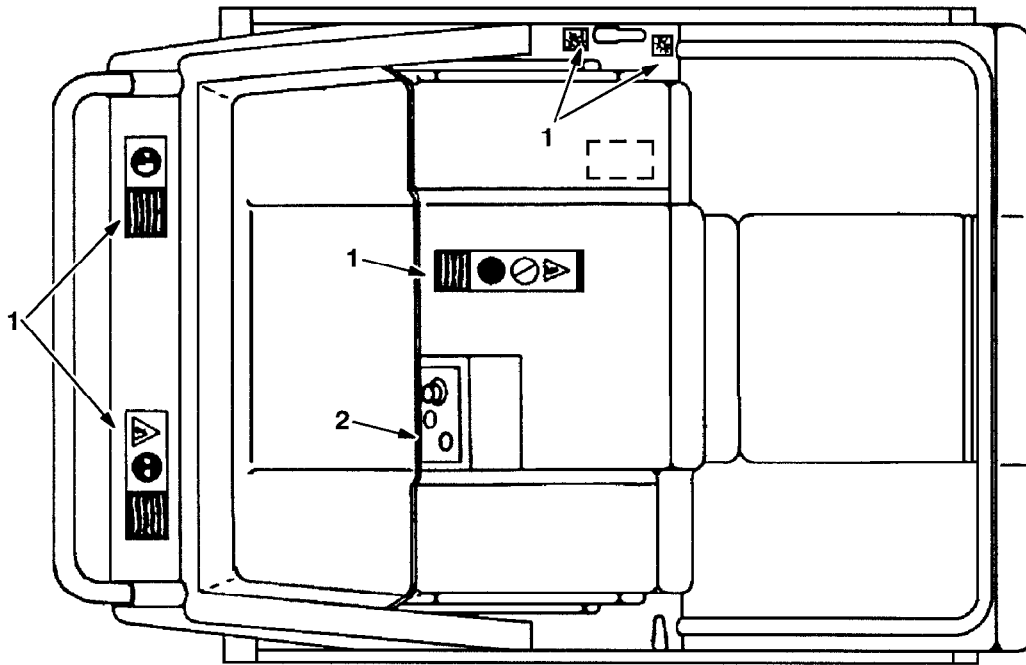


Fig. 12 - Label Kit

04655

Key	Part No.	Description	Qty.
1	02575	Label Kit, Complete	1
2	25117	Label, Instrument Panel	1

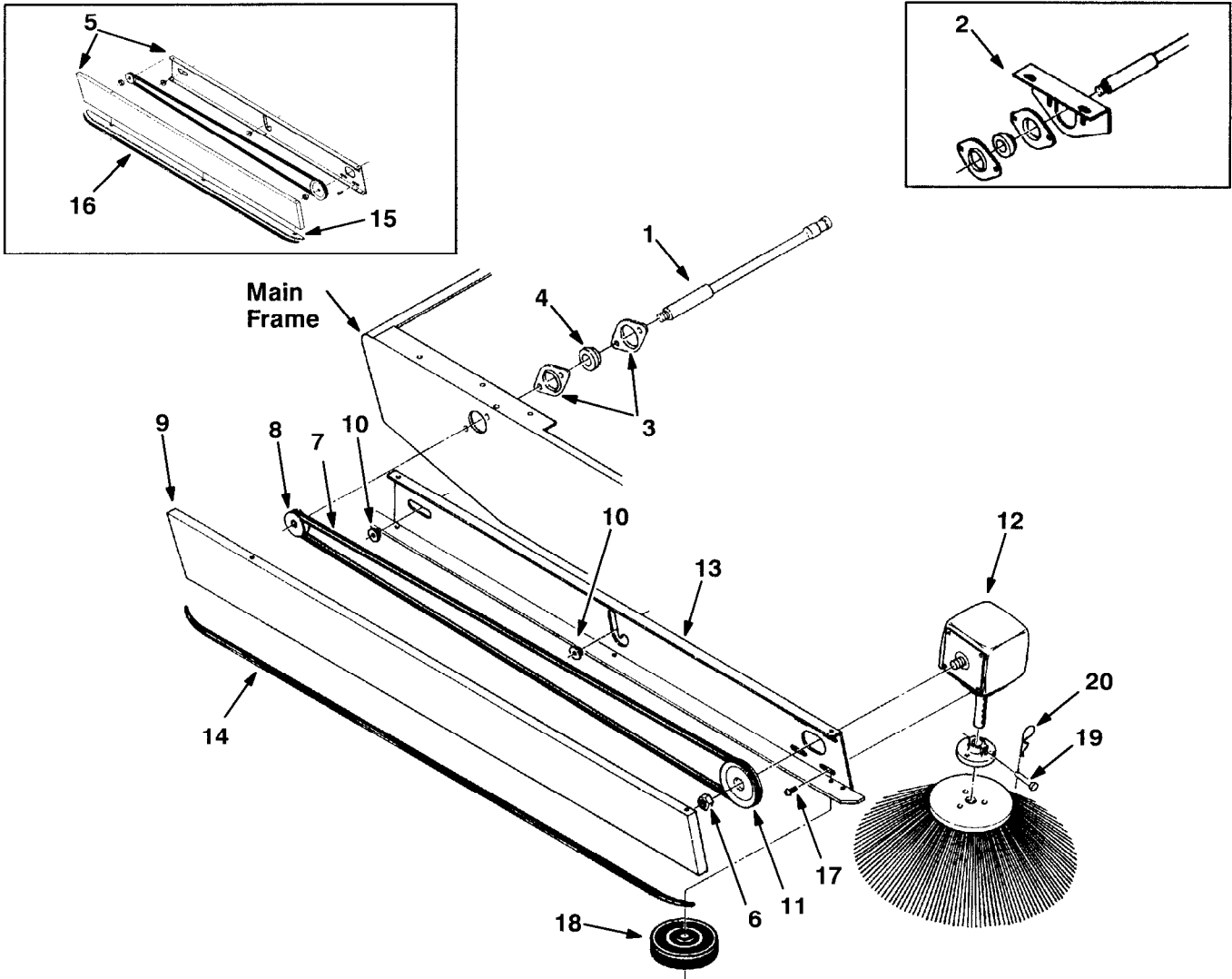


Fig. 1 - Side Brush Group

Key	Part No.	Description	Qty.
1	069 777 203	Shaft, Extension	1
2	069 777 238	Plate, Mounting	1
3	069 777 216	Flange, Bearing	2
4	069 777 377	Bearing And Collar	1
5	07894	Side Brush Arm Kit	1
6	069 777 085	Nut, L.H.	1
7	069 777 149	V-Belt	1
8	069 777 204	Sheave	1
9	600 045 000	Cover, Side Brush Arm	1
10	069 777 038	Retainer	2
11	069 777 209	Sheave	1
12	069 777 435	Gearbox Assembly	1
13	600 046 000	Arm, Side Brush	1
14	069 777 277	Molding, Rigid	1
15	069 777 237	Bumper, Side Brush	1
16	069 777 277	Molding, Rigid	1
17	069 777 160	Screw, Button	4
18	600 050 000	Wheel Assembly, Bumper	1
19	579021	Pin, Clevis	1
20	140611	Pin, Hair .058x1.12	1

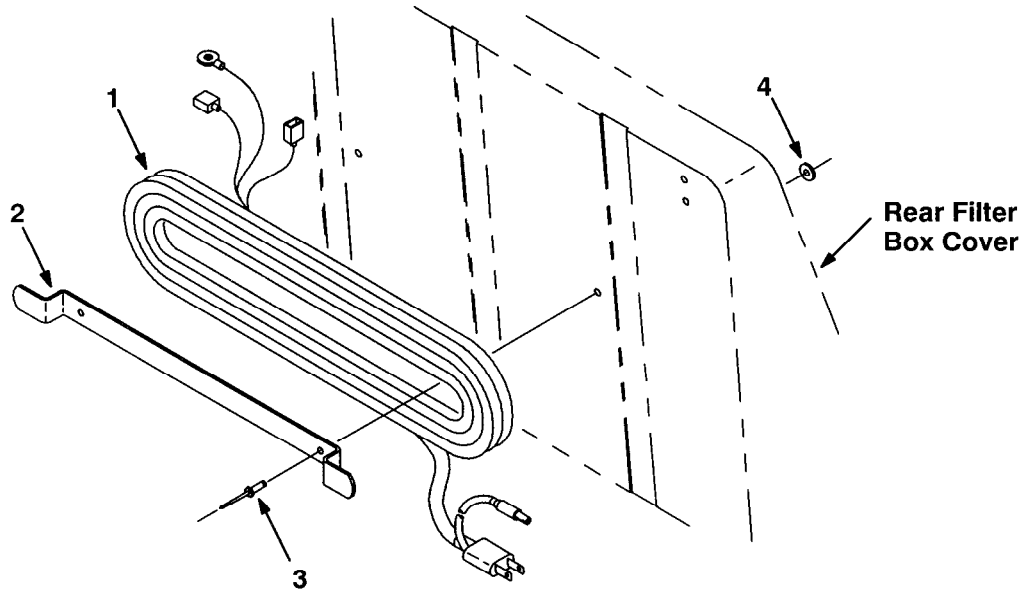


Fig. 2 - Cord Kit

06990

Key	Part No.	Description	Qty.
	50112	Cord Kit	1
1	60566	Cord Assembly	1
2	41788	Bracket	1
3	600 029 000	Rivet, Pop	2
4	069 777 273	Washer	2

