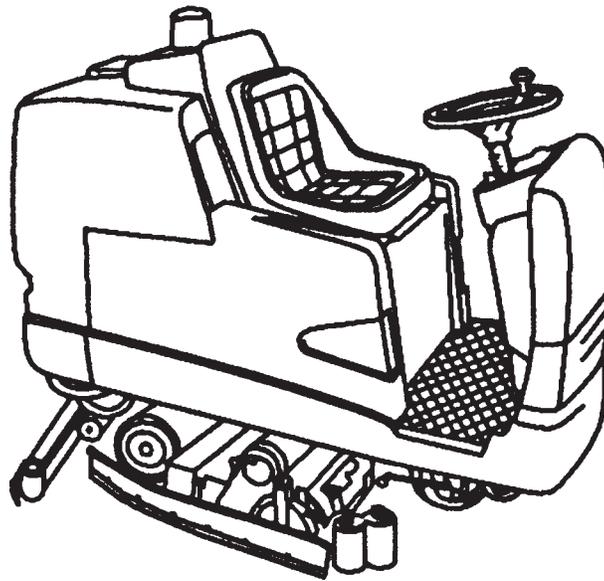


Clarke®

Division of
ALTO®

**Operator's
Manual**



MINI-MAX

READ THIS BOOK

▲ CAUTION: Read the Operator's Manual before using the appliance.

This book has important information for the use and safe operation of this machine. Failure to read this book prior to operating or attempting any service or maintenance procedure to your Clarke machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well. You must have training in the operation of this machine before using it. If operator(s) cannot read this manual, have it explained fully before attempting to operate this machine.

Si Ud. o sus operadores no pueden leer el Inglés, se hagan explicar este manual completamente antes de tratar el manejo o servicio de esta máquina.

All directions given in this book are as seen from the operator's position at the rear of the machine.

For new books write to: Clarke®, 2100 Highway 265, Springdale, Arkansas 72764.

Table of Contents

Operator Safety Instructions	3
Introduction & Machine Specifications	5
Symbols Used on MINI-MAX	6
Machine Control Panel	7
Machine Controls and Features	8
How to Prepare the Machine for Operation	9
How to Unpack the Machine	9
How to Install the Batteries	9
Battery Maintenance	10
How to Charge the Batteries	11
Recharging the Batteries	11
Level Indicators for the Charge on the Batteries	12
How to Install the Squeegee	12
How to Adjust the Squeegee	12
How to Install the Rotary Brush Head Unit	13
How to Install the Rotary Brushes	13
How to Install and Adjust the Brush Housing on the Rotary Brush Head Unit	14
How to Remove the Rotary Brush Head Unit	14
How to Install the Cylindrical Brush Head Unit	15
How to Install the Cylindrical Brush	15
How to Install and Adjust the Side Skirts on the Cylindrical Brush Head Unit	16
How to Remove the Cylindrical Brush Head Unit	16
How to Operate the Machine	17
How to Operate the Squeegee and the Vacuum Motor	17
How to Fill the Solution Tank	17
Operating the Machine	18
Do These Procedures When You Begin Your Work Period	19
How to Clean a Floor	19
How to Clean a Very Dirty Floor	20
Do These Procedures When You End Your Work Period	20
Maintenance	22
Maintenance to Be Done Every Week	22
Battery Inspection and Cleaning	22
Cleaning the Recovery Tank and Filter	22
Cleaning the Solution Tank and Filter	23
Squeegee Maintenance	24
Front Squeegee Blade Replacement	24
Rear Squeegee Blade Replacement	24
How to Correct Problems in the Machine	25
Applications	26
Accessories	27

SECTION II Parts and Service Manual

Frame and Front Cover Assembly Drawing	30
Parts List	31
Steering Assembly Drawing	32
Parts List	33
Wheel and Transaxle Assembly Drawing	34
Parts List	35
Brake Assembly Drawing	36
Parts List	37
Recovery Tank Assembly Drawing	38
Parts List	39
Seat and Solution Tank Assembly Drawing	40
Parts List	41
Brush Head Carriage Assembly Drawing	42
Parts List	43
Rotary Brush Head Assembly Drawing	44
Parts List	45
Rotary Gear Box and Brush Assembly Drawing	46
Parts List	47
Cylindrical Brush Head Assembly Drawing	48
Parts List	49
Squeegee Lift Assembly Drawing	50
Parts List	51
Squeegee Assembly Drawing	52
Parts List	53
Electrical Panel Assembly Drawing	54
Parts List	55
36 Volt Battery Pack and Battery Charger	56
Vac Motor Assembly	57
Electrical Connection Diagram 26/30	58
Electrical Schematic 26/30	59
Electrical Connection Diagram 28	60
Electrical Schematic 28	61

OPERATOR SAFETY INSTRUCTIONS

 **WARNING**

 **AVERTISSEMENT**

 **ADVERTENCIA**

 **DANGER:** Failure to read and observe all **DANGER** statements could result in severe bodily injury or death. Read and observe all **DANGER** statements found in your Owner's Manual and on your machine.

 **WARNING:** Failure to read and observe all **WARNING** statements could result in injury to you or to other personnel; property damage could occur as well. Read and observe all **WARNING** statements found in your Owner's Manual and on your machine.

 **CAUTION:** Failure to read and observe all **CAUTION** statements could result in damage to the machine or to other property. Read and observe all **CAUTION** statements found in our Owner's Manual and on your machine.

 **DANGER:** Failure to read the Operator's Manual prior to operating or attempting any service or maintenance procedure to your Clarke machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well. You must have training in the operation of this machine before using it. If your operator(s) cannot read English, have this manual explained fully before attempting to operate this machine.

 **DANGER:** Operating a machine that is not completely or fully assembled could result in injury or property damage. Do not operate this machine unless it is completely assembled. Inspect the machine carefully before operation. Operate only when lids, doors and access panels are securely closed.

 **DANGER:** Machines can cause an explosion when operated near flammable materials and vapors. Do not use this machine with or near fuels, grain dust, solvents, thinners, or other flammable materials. This machine is not suitable for picking up hazardous dust or flammable materials. Use only commercially available floor cleaning waxes intended for machine operation. **DO NOT** put gasoline, combustible or flammable materials in the solution or recovery tank.

 **DANGER:** Lead acid batteries generate gases which can cause an explosion. Keep sparks and flames away from batteries. Do not smoke around the machine. Charge the batteries only in an area with good ventilation. Make sure that the AC charger plug is unplugged from the wall receptacle before connecting or disconnecting the DC plug to or from the battery pack.

 **DANGER:** Working with batteries can be dangerous! Always wear eye protection and protective clothing when working near batteries. Remove all jewelry. Do not put tools or other metal objects across the battery terminals, or the tops of the batteries.

 **DANGER:** Using a charger with a damaged power cord could result in an electrocution. Do not use the charger if the power cord is damaged.

 **WARNING:** Do not turn the machine on a ramp. Do not use on surfaces having a gradient exceeding that marked on the appliance.

 **WARNING:** Machines can topple over and cause injury or damage if guided over the edges of stairs or loading docks. Stop and leave this machine only on a level surface. When you stop the machine, put all switches into their "OFF" position. Turn the key switch "OFF", remove the key and engage the parking brake.

 **WARNING:** Skidding may occur when traveling at high speeds and attempting sharp turns, especially on wet surfaces.

-  **WARNING:** Maintenance and repairs performed by unauthorized personnel could result in damage or injury. Maintenance and repairs must be performed by authorized Clarke personnel only.
-  **WARNING:** Any alterations or modifications of this machine could result in damage to the machine or injury to the operator or other bystanders. Alterations or modifications not authorized by the manufacturer voids any and all warranties and liabilities.
-  **WARNING:** Electrical components of this machine can "short-out" if exposed to water or moisture. Keep the electrical components of the machine dry. Wipe the machine down after each use. This appliance is for dry use only and is not to be used or stored outdoors in wet conditions. For storage, keep the machine in a building.
-  **WARNING:** Operating a machine without observing all labels and instructional information could result in injury or damage. Read all machine labels before attempting to operate. Make sure all of the labels and instructional information are attached or fastened to the machine. Do not cover them for any reason. If labels or decals are missing or become damaged, get replacement labels and decals from your Clarke distributor immediately.
-  **WARNING:** Wet floor surfaces can be slippery. Water solutions or cleaning materials used with this type of machine can leave wet areas on the floor surface. These areas can cause a dangerous condition for the operator or other persons. Always put "Caution" signs around/near the area you are cleaning.
-  **WARNING:** Improper discharge of waste water may damage the environment and be illegal. The United States Environmental Protection Agency has established certain regulations regarding discharge of waste water. City, state and national regulations regarding this discharge may also be in effect in your area. Understand and follow the regulations in your area. Be aware of the environment hazards of chemicals that you dispose.
-  **WARNING:** Only use the brushes provided with the appliance or those specified in the Operator's Manual. The use of other brushes may impair safety.
-  **CAUTION:** Use of this machine to move other objects or to climb on could result in injury or damage. Do not use this machine as a step or furniture.
-  **CAUTION:** Your machine warranty will be voided if anything other than genuine Clarke parts are used on your machine. Always use Clarke parts for replacement.
-  **CAUTION:** This machine contains lead acid batteries. The batteries must be disposed of in an environmentally acceptable manner.
-  **WARNING: GENERAL SAFETY RULES**
The rules below have to be followed carefully in order to avoid injury to the operator and damage to the machine:
- During the operation of this machine, pay attention to other people around you, especially children.
 - Use care when reversing machine in confined areas.
 - Do not mix different kinds of detergents. Avoid harmful odors.
 - Do not place any liquid containers on to the machine.
 - The recommended operating temperature should be between 32° F and 104° F.
 - The humidity for operating this machine should be between 30 and 95%.
 - Do not use acid solutions that could damage the machine.
 - In order to prevent floor damage, do not leave brushes running when machine is standing still.
 - In case of fire, use a powder extinguisher. Do not use water.
 - Do not strike shelving or scaffoldings, where there is danger of falling objects.
 - Adapt the utilization speed to the adhesion conditions.
 - Do not exceed the declared hill climbing capacity, otherwise the machine could become unstable.
 - For any maintenance operation take off the power supply from the machine.
 - Do not disassemble any parts which require the use of a tool to be removed.
 - Do not wash the machine with direct water jets or with high water pressure nor with corrosive material.
 - After every 200 working hours have machine checked by an authorized service person.

Introduction & Machine Specifications

Introduction & Machine Specifications

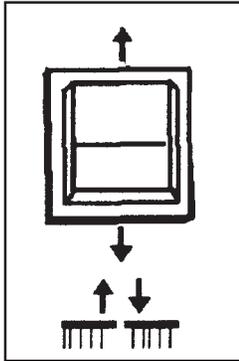
This is a floor cleaning machine which, using the mechanic abrasive action of two rotary brushes or two cylindrical brushes and the chemical action of a water-detergent solution, is able to clean any type of floor. During its advance movement, it picks up the removed dirt and the detergent solution which has not been absorbed by the floor.

SPECIFICATIONS:

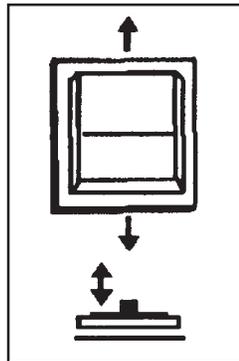
Model	MINI MAX 26 (Rotary)	MINI MAX 30 (Rotary)	MINI MAX 28 (Cylindrical)
Cleaning Width	26 inch (66 cm)	30 inch (76 cm)	28 inch (71 cm)
Brush Deck Side Movement	2 inch (5 cm)	2 inch (5 cm)	2 inch (5 cm)
Squeegee Width	33 inch (83.8 cm)	40 inch (101.6 cm)	40 inch (101.6 cm)
Working Capacity	32,000 sq ft/hr (2970 sq m/hr)	36,000 sq ft/hr (3344 sq m/hr)	34,000 sq ft/hr (3150 sq m/hr)
Brushes (2)	13 inch (33 cm)	15 inch (38 cm)	6 x 26.5 inch (15 x 67 cm)
Brush Speed	200 rpm	200 rpm	850 rpm
Brush Pressure	170 lbs. (77 kg)	190 lbs. (86 kg)	160 lbs. (73 kg)
Brush Motor	1 ¼ hp (900 W)	1 ¼ hp (900 W)	2 x 1 hp (2 x 650 W)
Traverse Motor	.6 hp (450 W)	.6 hp (450 W)	.6 hp (450 W)
Wheel Diameter	9.75 inch (24.8 cm)	9.75 inch (24.8 cm)	9.75 inch (24.8 cm)
Traverse Speed (Max)	250 ft/min (76 m/min)	250 ft/min (76 m/min)	250 ft/min (76 m/min)
Maximum Cleaning Grade	10% (6 degree)	10% (6 degree)	10% (6 degree)
Vacuum Motor	1 hp (670 W)	1 hp (670 W)	1 hp (670 W)
Solution Tank	30 gallon (110 liter)	30 gallon (110 liter)	30 gallon (110 liter)
Recovery Tank	30 gallon (110 liter)	30 gallon (110 liter)	30 gallon (110 liter)
Base Machine Length	65.5 inch (166.4 cm)	65.5 inch (166.4 cm)	65.5 inch (166.4 cm)
Base Machine Height	49.6 inch (126 cm)	49.6 inch (126 cm)	49.6 inch (126 cm)
Base Machine Width	25.5 inch (64.8 cm)	25.5 inch (64.8 cm)	25.5 inch (64.8 cm)
Brush Deck Width	29.5 inch (74.9 cm)	32 inch (81.3 cm)	31.5 inch (80 cm)
Batteries	36 volt (6-6V batteries) 250AH	36 volt (6-6V batteries) 250AH	36 volt (6-6V batteries) 250AH
Machine Weight w/Batteries	1,123 lbs. (509 kg)	1,137 lbs. (516 kg)	1,110 lbs. (503 kg.)
Shipping Weight w/Batteries	1,288 lbs. (584 kg)	1,302 lbs. (590 kg)	1,275 lbs. (578 kg)

Symbols Used On MINI-MAX 26/30/28

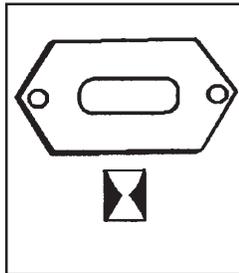
Brush Up/Down



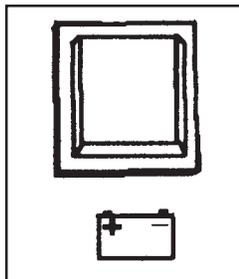
Squeegee Up/Down



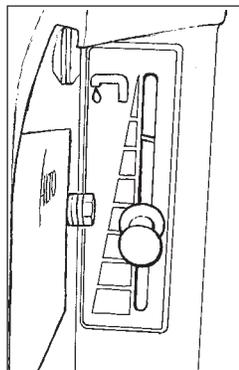
Hour Meter



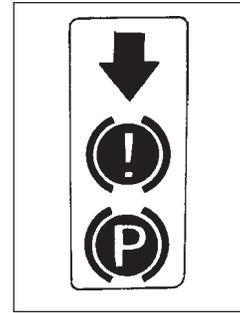
Battery Meter



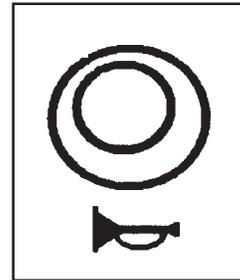
Solution Flow Valve



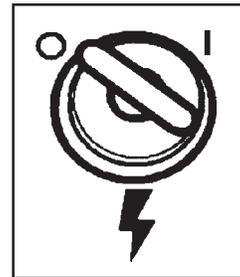
Parking Brake



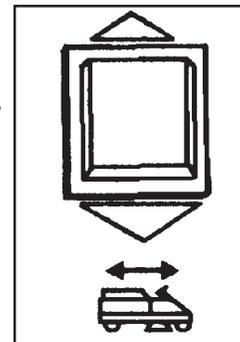
Horn Button



On/Off Switch



Forward/Neutral/Reverse Switch



Warning Label



Machine Control Panel

Brush Up/Down Switch (see figure 1, Item A)

To lower brush head, push the brush switch to the down position. To lower the brush head completely to the floor, continue to hold the switch in the down position until the travel stops (normal scrub position). The brush motors will start and solution will flow (provided the solution flow valve is turned "ON") when the accelerator pedal is pressed and the machine begins to traverse. To raise the brush head, push the brush switch to the up position until the brush head travel stops.

Squeegee Up/Down Switch (See figure 1, Item B)

The squeegee switch is used to raise and lower the squeegee and to turn on and off the vacuum motor. The vacuum motor is turned on when the switch is placed in the middle or lower position. **NOTE: When the squeegee switch is placed in the lower position, the vacuum motor will turn on, but the squeegee will not lower until the accelerator pedal is pressed and the machine begins to traverse forward.**

To raise the squeegee, place the switch in either the middle or up position. The middle position is used during transport to clear the vacuum hose. The vacuum motor will stop when the switch is placed in the up position.

Hour Meter (See figure 1, Item C)

The hour meter indicates the number of hours the machine has operated. It runs only when the machine is traversing forward.

Battery Meter (See figure 1, Item D)

The battery meter indicates the relative charge on the battery pack.

Forward/Neutral/Reverse Switch (See figure 1, Item E)

The forward/neutral/reverse switch is used to select the direction of the machine. The machine will move forward when the switch is placed in the forward direction, the operator is seated properly on the seat and the accelerator pedal is pressed. The machine will not traverse when the switch is placed in the neutral position. The machine will travel in reverse when the switch is placed in the reverse direction, the operator is seated properly on the seat and the accelerator pedal is pressed.

Solution Flow Valve (See figure 2, Item F)

The solution flow valve regulates the flow of chemical solution to the floor. To increase the flow, slide the handle down. To decrease the flow, slide the handle up. To shut off the solution, slide the handle to the up most position.

Horn Button (See figure 1, Item G)

The MINI-MAX is equipped with a horn and is activated by the button located on the control panel. The horn will sound automatically when the machine is reversed.

On/Off Key Switch (See figure 1, Item H)

The key switch turns "ON" the power to the control panel. "O" is the "OFF" and "I" is the "ON".

Circuit Breakers (See figure 3, Items I, J, K, L, M, & N)

The circuit breaker reset buttons are located on the right side of the steering column. The breakers are as follows:

- | | |
|--------------------------------|------------------------------------|
| Item I - General (3.5 amp) | Item J - Traverse (3.5 amp) |
| Item K - Water (3.5 amp) | Item L - Horn (8 amp) |
| Item M - Brush Actuator (8amp) | Item N - Squeegee Actuator (8 amp) |

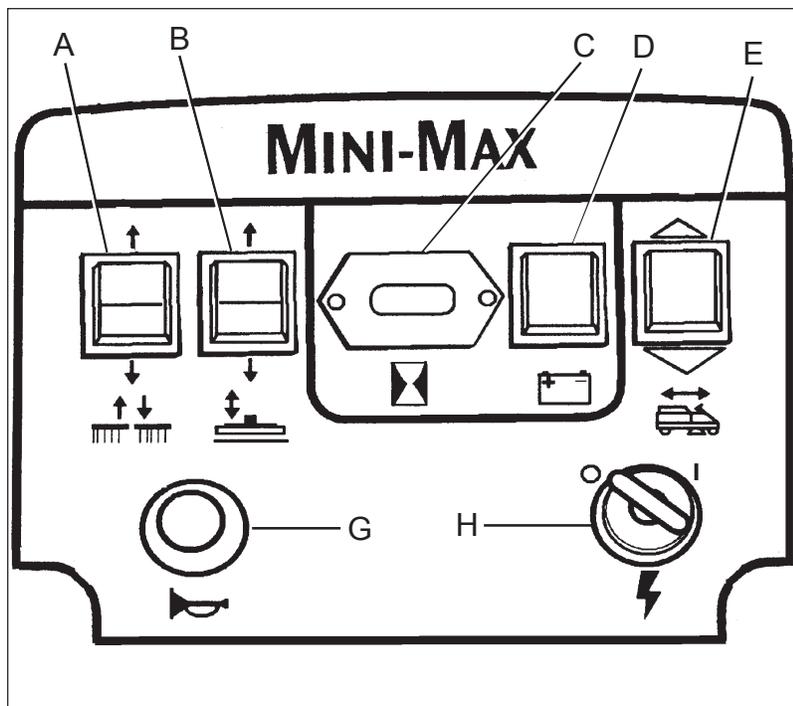


Figure 1

Figure 2

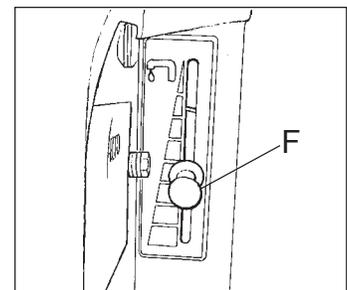
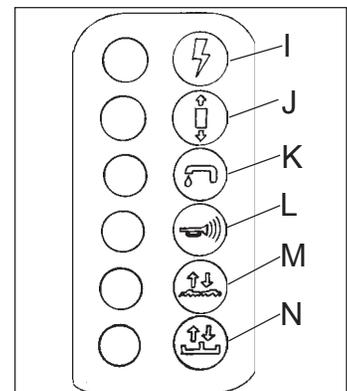


Figure 3



Machine Controls and Features

Recovery Tank Float

The MINI-MAX is equipped with a float that blocks the vacuum port when the recovery tank is full. The vacuum motor will continue to run, but will produce a high pitch sound. The squeegee will no longer pick up water. If this should happen, raise the squeegee and empty the recovery tank.

The Traverse

The MINI-MAX is equipped with an electronically controlled traverse system with variable speeds in forward and reverse.

1. To traverse the machine, the power to the machine must be turned on with the key switch; the forward/neutral/reverse switch must be positioned in either the forward or reverse direction; and the operator must be properly seated.
2. The machine will traverse when the accelerator pedal is pressed (see figure 4, item 1).
3. The traverse speed can be adjusted by varying the pressure on the acceleration pedal.

NOTE: During reverse motion, the squeegee raises and the solution flow stops automatically.

Brakes (see figure 4).

The machine is equipped with an electronic braking system. The electronic braking is activated automatically when the foot is removed from the acceleration pedal (see figure 4, item 1).

If the electronic braking system is not working properly or you must come to an emergency stop, use the mechanical brake pedal located on the left side (see figure 4, item 2). With your foot, push downwards on the mechanical brake pedal.

Parking Brake

The mechanical brake can be used as a parking brake. To set the brake, push downwards on the pedal with your foot and pull backwards with your foot at the same time, till it locks into position.

To release the parking brake, press downwards on the pedal with your foot and push the pedal forward. Remove your foot and the pedal should return to the full up position.

Blinking Light (see figure 5, item 1).

The machine is equipped with a blinking light that turns on automatically when you turn the key to the "ON" position.

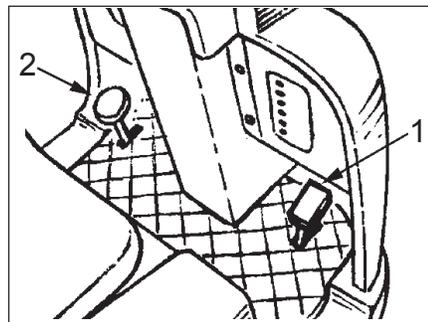


Figure 4

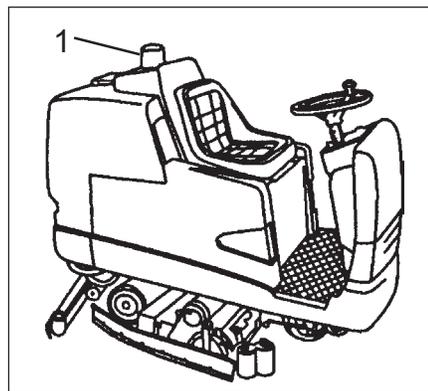


Figure 5

How To Prepare the Machine For Operation

How To Handle the Packed Machine

The machine is packed in a specific package provided on a pallet so that it can be moved with a forklift.

WARNING: The packages cannot be placed on top of each other.

How to Unpack the Machine

1. Remove the outer package.
2. The machine is fixed on the pallet with banding straps and wooden blocks to prevent movement during shipment. Remove the bands and blocks.
3. The MINI-MAX is shipped with the batteries already installed. The machine can be driven off of the pallet if the operator is thoroughly familiar with its operation.
4. Lower the ramp. Release the parking brake and remove the machine. Avoid violent blows to the base unit.
4. Keep the pallet for future transport necessities.

How to Install the Batteries

WARNING: The batteries are heavy. Lifting batteries without help could result in an injury. Get help to lift the batteries.

WARNING: Working with batteries can be dangerous. Always wear eye protection and protective clothing when working near batteries. **NO SMOKING!**

WARNING: Hydrogen gas is formed during the charging operation and is explosive. Only charge batteries in a well ventilated area with the seat base lifted.

WARNING: Pulling out the charger plug, with the timer on, will cause an arc and must be avoided.

The batteries are fitted in the appropriate compartment under the seat and under the recovery tank (figure 6). The MINI-MAX uses six - 6 volt batteries. They must be handled by using appropriate lifting equipment suitable for the weight and for the coupler system. For maintenance and daily recharge of the batteries, it is necessary to follow all instructions given by the manufacturer.

For Battery Installation follow these steps (See figure 6):

1. Make sure that the key switch is in the "OFF" position and the parking brake is set.
2. Lift and rotate the base support of the seat forward.
3. Lean the seat on to the steering wheel.
4. Lift the front of the recovery tank and rotate it towards the rear until it locks in place.
5. Put the batteries into position and connect the battery cables as shown in figure 7.
6. Join the connector from the battery pack to the machine connector (see figure 8).

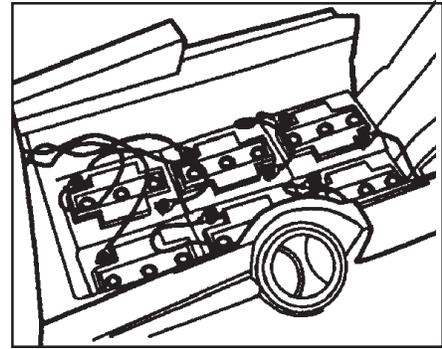


Figure 6

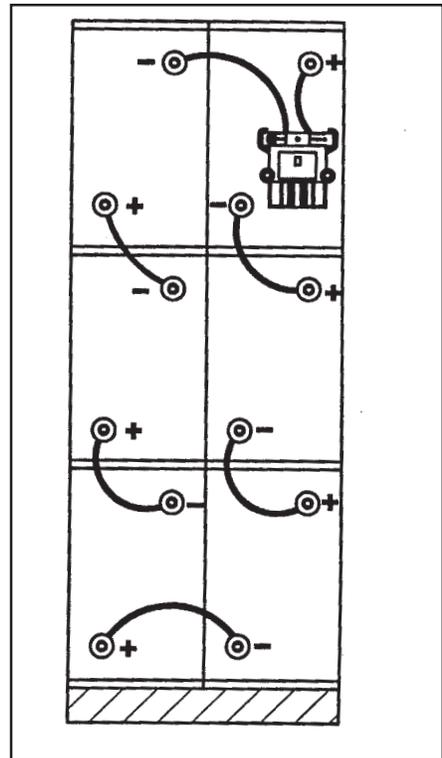


Figure 7

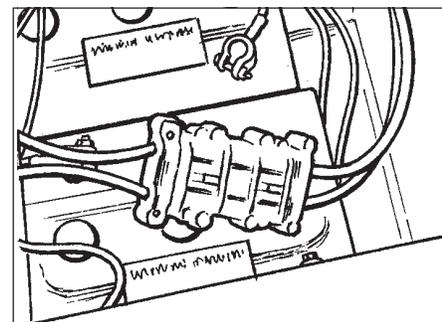


Figure 8

7. Unlatch the recovery tank support and carefully rotate it forward to the normal operating position.
8. Lower the base support of the seat.
NOTE: Charge the batteries before using.

How To Prepare the Machine For Operation

Battery Maintenance

The electrical power to operate the machine comes from the storage batteries. Storage batteries need preventative maintenance.

WARNING: Working with batteries can be dangerous. Always wear eye protection and protective clothing when working near batteries. **NO SMOKING!**

To maintain the batteries in good condition, follow these instructions:

1. Keep the electrolyte at the correct level. The correct level is between 1/4" (1/2 cm) below the bottom of the tube in each cell and above the tops of the plates. Check the level of the electrolyte each time you charge the batteries (see figure 9).

NOTE: Check the level of electrolyte prior to charging the batteries. Be sure the plates in each cell are covered with electrolyte before charging. Do not top off the cells prior to charging the battery. Electrolyte expands during charging. As a result, the electrolyte could overflow from the cells. Always top off the cells with distilled water after charging.

CAUTION: Irreversible damage will occur to the batteries if electrolyte does not cover the plates. Keep the electrolyte at the correct level.

CAUTION: Machine damage and discharge across the tops of the batteries can occur if the batteries are over filled. Do not fill the batteries up to the bottom of the tube in each cell. Wipe any acid from the machine or the tops of the batteries. Never add acid to a battery after installation.

CAUTION: Batteries must be refilled with distilled water only. Do not use tap water as it may contain contaminants that will damage batteries.

2. Keep the tops of the batteries clean and dry. Keep the terminals and connectors clean. To clean the top of the batteries, use a damp cloth with a weak solution of ammonia or bicarbonate of soda solution. To clean the terminals and connectors, use a terminal and connector cleaning tool. Do not allow ammonia or bicarbonate of soda to get into the batteries.
3. Keep the batteries charged.

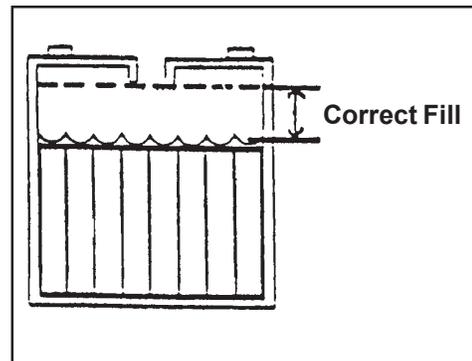


Figure 9

How To Prepare the Machine For Operation

How to Charge the Batteries

- ⚠ WARNING:** Charging the batteries in an area without adequate ventilation could result in an explosion. To prevent an explosion, charge the batteries only in an area with good ventilation.
- ⚠ WARNING:** Lead acid batteries generate gases which could explode. Keep sparks and flames away from batteries. **NO SMOKING!**
- ⚠ WARNING:** Failure to disconnect the AC plug from the wall receptacle before connecting or disconnecting the DC connector on the charger could result in an explosion. Always disconnect the AC plug from the wall receptacle before connecting or disconnecting the DC connector on the charger.

To charge the batteries, follow this procedure:

1. Put the charger on a flat surface. Make sure the vents on the sides are at least two inches away from walls and other objects. Make sure there are no objects near the vents on the bottom of the charger.
2. Make sure the key switch is in the "OFF" position.
3. Set the parking brake by pushing on the pedal and pulling it backwards with your foot. Make sure the pedal is locked in position (see figure 10).
4. Raise the seat base support.
5. Disconnect the machine connector and the battery connector.
6. Connect the battery charger connector to the battery pack connector in the machine (see figure 11).

NOTE: The MINI-MAX uses a battery adapter cable as an interface between the battery charger and the battery pack. The adapter battery cable was delivered in the package with the machine. Connect the adapter cable to the charger and then to the battery pack. See the instruction booklet for the battery charger.

Recharging the Batteries (See figure 12)

Make sure the battery charger fits the installed batteries either for capacity or for type (lead/acid or GEL and equivalents).

- ⚠ WARNING:** Never charge a GEL battery with an unsuitable battery charger. Carefully follow the instructions given by the manufacturer of the batteries and battery charger.

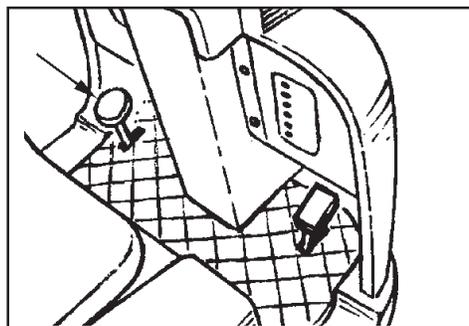


Figure 10

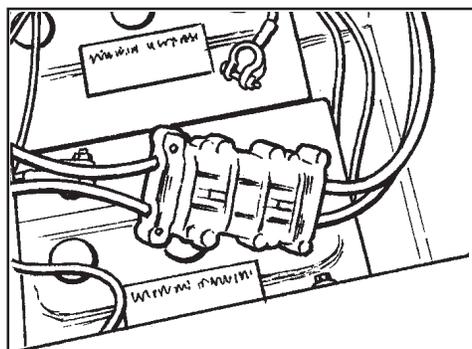


Figure 11

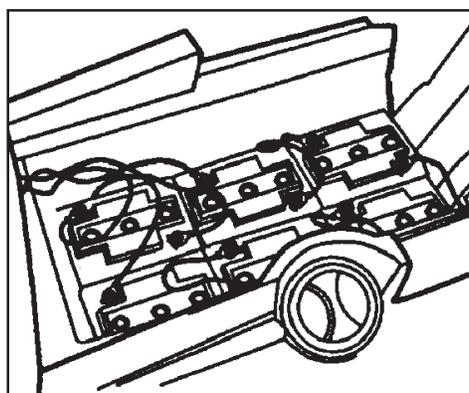


Figure 12

How To Prepare the Machine For Operation (cont.)

NOTE: To prevent permanent damage to the batteries, avoid their complete discharge. Never leave the batteries completely discharged, even if the machine is not being used. When recharging the batteries, keep the base support of the seat lifted. After every 20 recharging operations, check the level of the electrolyte and if necessary top off with distilled water.

Level Indicators for the Charge of the Batteries

The battery meter (see figure 13) on the control panel has a digital read out with 4 fixed positions and also a blinking indicator. The numbers that appear on the display show the approximate charge level. 4 = maximum charge, 3 = 3/4 charge, 2 = 2/4 charge, 1 = 1/4 charge, 0 = (blinking) discharged battery.

NOTE: A few seconds after the meter reads "0" it will start blinking. The brush motors will then automatically switch off.

How To Install the Squeegee

To install the squeegee onto the machine, follow this procedure:

1. Insert the left stud bolt (1) on the squeegee into the left slotted hole in the support frame on the machine. Install the hair pin (2) into the stud bolt hole (see figure 14).
2. Attach the vacuum hose cuff to the squeegee hose fitting (see figure 15).
3. The squeegee assembly has a break away feature that is also used for mounting the squeegee on the right side. Loosen the spring loaded tension knob on the squeegee. Slide the stud with the washer and spring into the slotted hole in the support frame on the machine. The washer should be located above the support. Tighten the knob to apply the spring tension (see figure 16).

NOTE: To prevent damage to the squeegee or machine, the squeegee was designed to break away from the machine on the right side. If the squeegee is impacted and it breaks away from the machine, simply reinstall it by following step 3.

How to Adjust the Squeegee

During operation, the rear squeegee blade should have a constant 3/16" flare along the entire squeegee blade (see figure 17).

1. The squeegee body can be tilted to adjust the squeegee blade flare in the middle to match the flare on the ends. To adjust the tilt, loosen the lock nut (3) on the adjusting bolt located on the left side of the squeegee (see figure 14).
2. Turn the adjusting bolt counter clockwise to increase the flare in the middle.
3. Turn the adjusting bolt clockwise to decrease the flare to the middle.

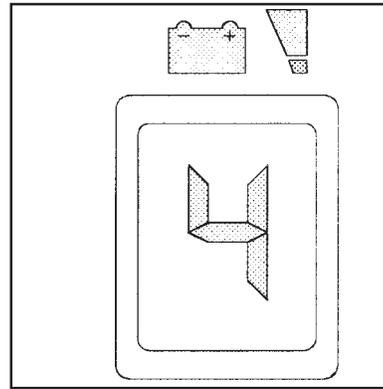


Figure 13

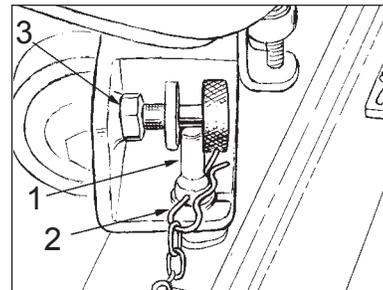


Figure 14

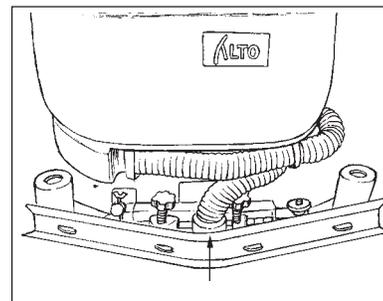


Figure 15

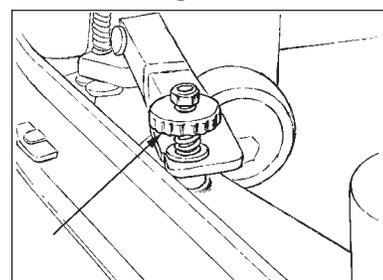


Figure 16

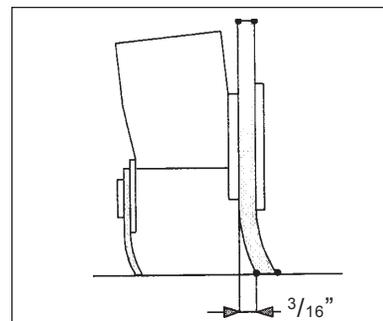


Figure 17

How To Prepare the Machine For Operation

4. After making adjustments, retighten the lock nut.
5. The amount of squeegee blade flare can be increased or decreased by adjusting the height of the two squeegee wheels (see figure 18).
6. Turn the squeegee wheel adjusting knobs clockwise to decrease the squeegee blade flare.
7. Turn the squeegee wheel adjusting knobs counter clockwise to increase the squeegee blade flare.

NOTE: It is important that the right and left wheels are set properly in order for the squeegee to work parallel to the floor.

NOTE: As the rear squeegee blade wears, it can be rotated and/or flipped to obtain four good edges before having to change blades.

How to Install the Rotary Brush Head Unit (See figure 19)

To install the rotary brush head unit follow this procedure:

1. Set the parking brake.
2. Position the brush head unit on the left side of the machine.
3. Align the mounting rails of the machine with the channels on the brush head unit (see figure 20).
4. Turn the key switch to the "ON" position.
5. Raise or lower the mounting rails on the machine using the brush up/down switch such that the channels on the brush head align in the vertical direction.
6. Turn the key switch to the "OFF" position.
7. Carefully slide the brush head unit into the machine until it stops.

NOTE: The electrical connections between the brush motors and the machine are connected automatically once the brush head is fully inserted into the machine.

8. Rotate the two clamping studs (with knobs) located on the left side of the machine towards the inner part of the brush head unit (see figure 21).
9. Secure the brush head unit into the machine by tightening the two knobs.
10. Attach the solution hose quick connect coupling to the machine (see figure 22).

How to Install the Rotary Brushes

1. Set the parking brake.
2. Connect the battery pack connector into the machine connector.
3. Turn the key to the "ON" position.
4. Push the brush up/down switch to raise the brush head.
5. Turn the key to the "OFF" position. Remove the key from the machine.

⚠ WARNING: Injury could occur if you do not remove the power source from the machine before you assemble the brushes.

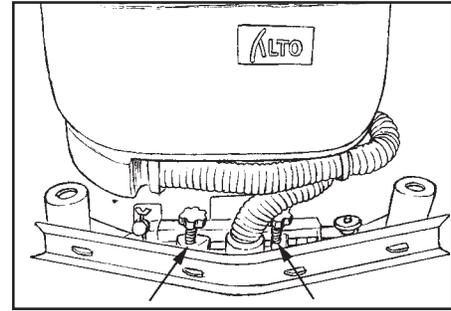


Figure 18

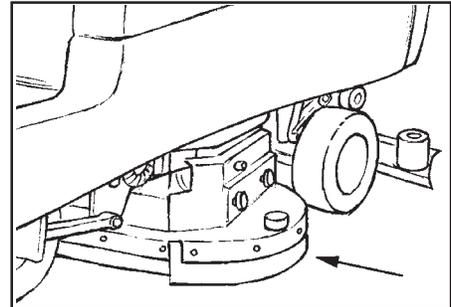


Figure 19

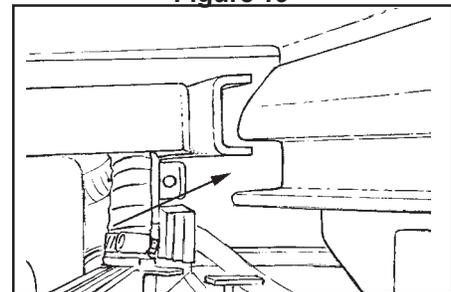


Figure 20

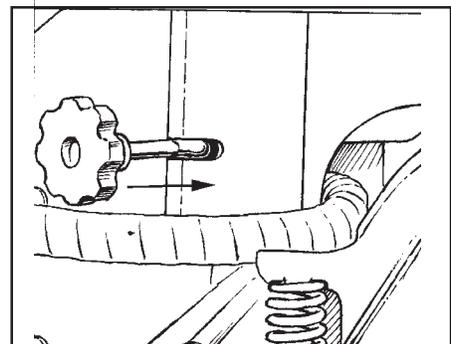


Figure 21

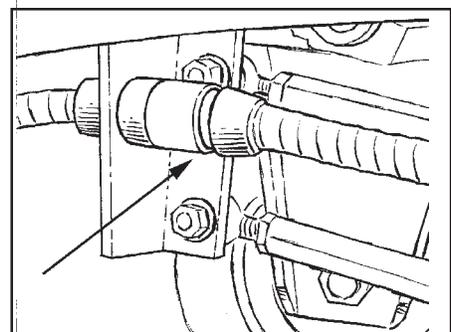


Figure 22

How To Prepare the Machine For Operation

6. With the brush base in the up position, insert the brushes into the seat of the plate under the base until the three buttons fit into the holes of the plate (see figure 23).
7. Turn the brush so that the buttons are pushed towards the retaining springs until the brush is clamped into place. Figure 23 shows the correct direction to rotate the right side brush when installing the brush.
8. The left brush has to be rotated in the opposite direction for installation.

▲ WARNING: Use gloves to protect your hands when performing the steps listed above.

NOTE: It is recommended to swap daily the position of the right brush with the left brush or vice versa. If the brushes are old and show deformed bristles, then it is better to reassemble them in the same position (the right to the right side and the left to the left side). This will help avoid overload to the brush motors due to the inclination of the bristles, and also to avoid excessive vibrations (see figure 24).

9. To remove the brushes, reverse the appropriate procedure.

How to Install and Adjust the Brush Housings on the Rotary Brush Head Unit

Follow this procedure to install the brush housings and side skirts:

1. Mount the left brush housing onto the two studs on the brush head unit.
2. Attach the brush housing to the brush head with the two knobs (see figure 25).
3. Follow steps 1 and 2 to mount the right brush housing to the brush head unit.
4. To remove the brush housings, follow the above procedure in the reverse order.

Follow this procedure to adjust the side skirts:

1. Loosen the two clamping knobs holding the brush housing on both sides of the brush head unit (see figure 25).
2. With the brushes on the floor, position the skirts such that they are touching the floor with a slight flare to the outside. **NOTE: Too much flare on the side skirts will cause the brushes to interfere with the side skirts during operations.**
3. Tighten the clamping knobs on both brush housings.

How to Remove the Rotary Brush Head Unit

The rotary brush head unit is removed from the left side of the machine. To remove the rotary brush head unit, follow this procedure:

1. Set the parking brake.
2. Turn the key switch to the "ON" position.
3. Lower the brush head unit with the brush up/down switch such that the brushes just touch the floor.
4. Turn the key switch to the "OFF" position.

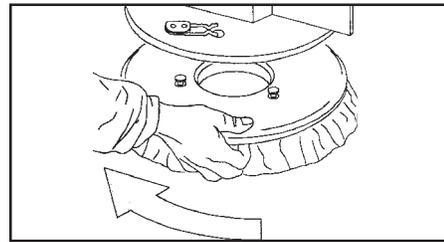


Figure 23

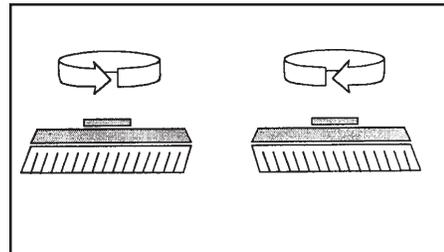


Figure 24

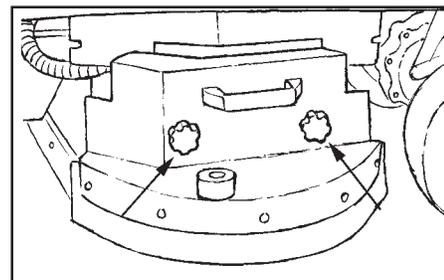


Figure 25

How To Prepare the Machine For Operation

5. Remove the clamping knobs and the side brush housings with skirts from the brush head unit.
6. Disconnect the solution hose quick connect coupling from the machine.
7. Loosen the two knobs on the clamping studs located on the left side of the machine. Rotate the two studs outward from the center of the brush head unit.
8. With the brushes still on the unit, carefully pull the brush head unit towards you and slide the unit out of the machine.

How to Install the Cylindrical Brush Head Unit (see figure 26)

To install the cylindrical brush head unit, follow this procedure:

1. Set the parking brake.
2. Position the brush head unit on the left side of the machine, with the brushes, side skirts and hopper removed.
3. Align the mounting rails of the machine with the channels on the brush head unit (see figure 27).
4. Turn the key switch to the "ON" position.
5. Raise or lower the mounting rails on the machine using the brush up/down switch such that the channels on the brush head align in the vertical direction.
6. Turn the key switch to the "OFF" position.
7. Carefully slide the brush head unit into the machine until it stops.

NOTE: The electrical connections between the brush motors and the machine are connected automatically once the brush head is fully inserted into the machine.

8. Rotate the two clamping studs (with knobs), located on the left side of the machine, towards the inner part of the brush head unit (see figure 28).
9. Secure the brush head unit into the machine by tightening the two knobs.
10. Attach the solution hose quick connect coupling to the machine (see figure 29).
11. Install the brushes, hopper and side skirts.

How to Install the Cylindrical Brushes

1. Set the parking brake.
2. Connect the battery pack connector into the machine connector.
3. Turn the key to the "ON" position.
4. Push the brush up/down switch to raise the brush head.
5. Turn the key to the "OFF" position. Remove the key from the machine.



WARNING: Injury could occur if you do not remove the power source from the machine before you assemble the brushes.

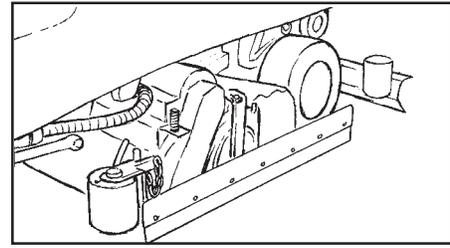


Figure 26

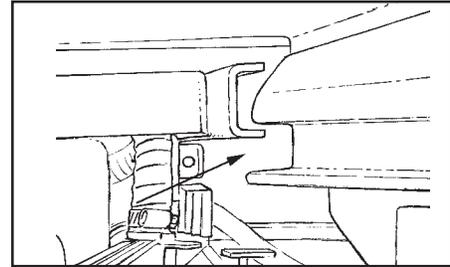


Figure 27

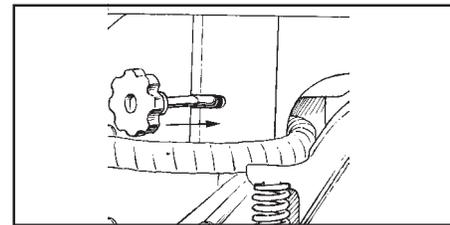


Figure 28

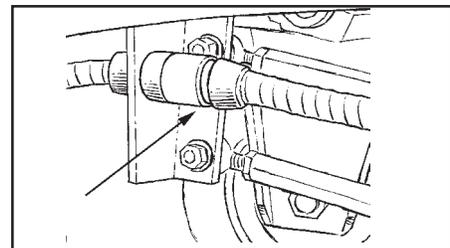


Figure 29

How To Prepare the Machine For Operation (cont.)

6. Remove the side brush skirts by removing the hair pin and mounting pin (see figure 30 and 30A).
7. With the brush head unit in the up position, remove the removable brush support hub by pushing downwards and then pulling it outwards (see figure 31).
8. Insert the cylindrical brush into the brush head tunnel. Align and insert the brush onto the driver hub on the opposite end.
9. Insert the removable support hub into the brush. While inserting the support hub into the brush, align the cantilever retention spring into the slot on the support hub (see figure 32).
10. Push the support hub plate downwards and then inwards to retain the support hub to the brush head.
11. Repeat steps 6-10 for installing the second brush.
12. Reinstall the side skirts.

⚠ WARNING: Use gloves to protect your hands when performing the steps listed above.

13. To remove the brushes, reverse the appropriate procedures.

How to Install and Adjust the Side Skirts on the Cylindrical Brush Head Unit

Follow this procedure to install the side skirts:

1. Align slot in side skirt with mounting stud on brush head and install side skirt onto brush head unit (see figure 33).
2. Install front mounting pin and insert hair pin (see figure 30 and 30A).
3. To remove side skirt, follow the above procedure in reverse order.

Follow this procedure to adjust the side skirts:

1. Loosen the lock nut on the vertical adjusting bolt located next to the front mounting pin (see figure 30).
2. With the brushes on the floor, adjust the bolt such that the front end of the side skirt just skims the floor.
3. Tighten the locking nut on the adjusting bolt.

How to Remove the Cylindrical Brush Head Unit

The cylindrical brush head unit is removed from the left side of the machine. To remove the cylindrical brush head unit, follow this procedure:

1. Set the parking brake.
2. Turn the key switch to the "ON" position.
3. Raise the brush head unit with the brush up/down switch such that the brush head unit is at its up most position.
4. Remove the side skirts, brushes and hopper.
5. Lower the brush head unit with the brush up/down switch such that the brush head unit just touches the floor.
6. Turn the key switch to the "OFF" position.
7. Disconnect the solution hose quick connect coupling from the machine.

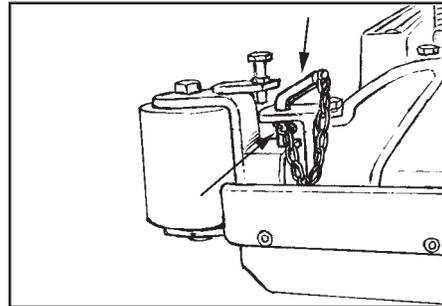


Figure 30

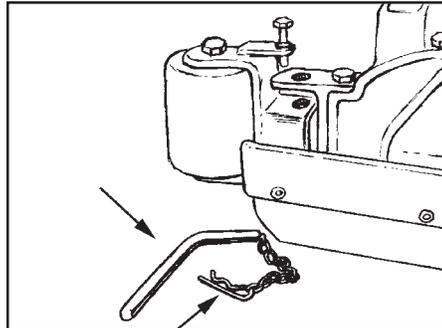


Figure 30A

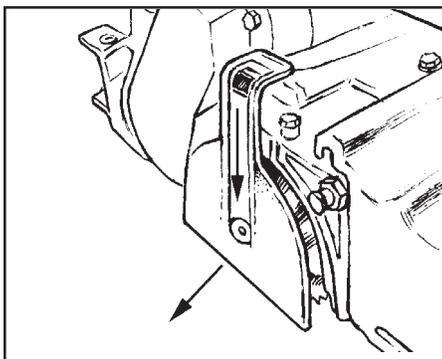


Figure 31

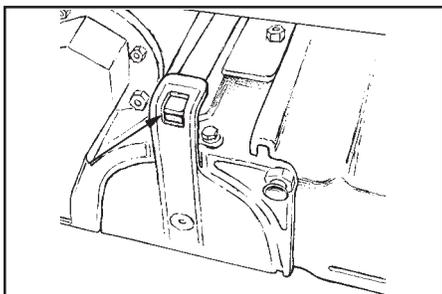


Figure 32

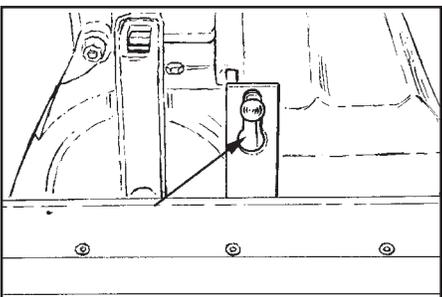


Figure 33

How To Prepare the Machine For Operation

- Loosen the two knobs on the clamping studs located on the left side of the machine. Rotate the two studs outward from the center of the brush head unit.
- With the side skirts and brushes removed, carefully pull the brush head unit towards you and slide the unit out of the machine.

How To Operate the Machine

How to Operate the Squeegee and the Vacuum Motor

The squeegee wipes the floor while the vacuum motor removes the dirty solution from the floor. To operate the squeegee, follow this procedure:

- To lower the squeegee and start the vacuum motor, press the squeegee up/down switch to the down position. **NOTE: The vacuum motor will start immediately when the down position of the switch is pressed, but the squeegee will not lower until the machine begins to traverse forward.**
- To raise the squeegee, press the squeegee up/down switch to the up position. The squeegee will then raise and the vacuum motor will shut off. **NOTE: The center position of the squeegee up/down switch will raise the squeegee, but lets the vacuum motor continue to run to avoid drips flowing back through the squeegee and onto the floor. This also allows the use of the off isle wand option.**

NOTE: The squeegee will rise automatically when traversing in reverse during scrubbing operations.

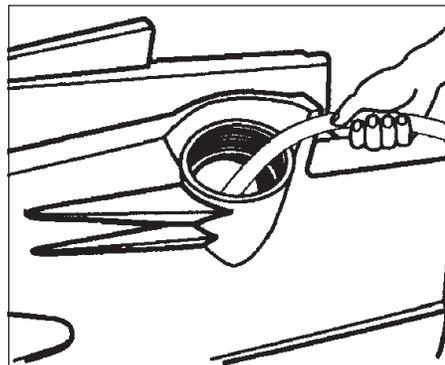


Figure 34

How to Fill the Solution Tank

The solution tank fill port is located under the seat (see figure 34). To fill the solution tank, follow this procedure:

- Turn the key switch to the "OFF" position and set the parking brake.
- Rotate the seat support forward and open the solution tank lid.
- Add a cleaning chemical to the solution tank. For the correct amount of chemical, follow the directions shown on the container. **NOTE: Excess foam in the recovery tank could damage the vacuum motor, so use only the minimum amount of detergent necessary.**



WARNING: Always use low foam detergent. To avoid the production of foam, before starting to clean, put a minimum quantity of antifoam liquid into the recovery tank. NEVER USE PURE ACID.

- Fill the solution tank with clean water (see figure 34).
- After filling the solution tank, close the solution tank lid and return the seat support.



WARNING: Water solutions or cleaning materials used with this type of machine can leave wet areas on the floor surface. These areas can cause a dangerous condition for the operator or other persons. Always put CAUTION signs near the area you are cleaning.

How To Operate the Machine (cont.)

WARNING: Machines can ignite flammable materials and vapors. Do not use with or near flammables such as gasoline, grain dust, solvents and thinners. Only use a cleaning concentration recommended by the chemical manufacturer.

WARNING: Clarke recommends a maximum water temperature of 120°F (49°C).

Operating the Machine

NOTE: Before scrubbing with the machine, become familiar with the operations and handling of the machine. Run the machine at the lowest traverse speed. Use the machine in an area that has no furniture or objects until you can do the following:

1. Traverse the machine in a straight direction, forward and backward.
2. Stop the machine safely.
3. Turn the machine both left and right and return to a straight direction.

To traverse the machine follow this procedure:

1. Sit on the driver seat.
2. Turn the key switch to the "ON" position (see figure 35, item A).
3. Raise the brush to the highest position (see figure 35, item B).
4. Raise the squeegee (see figure 35, item C).
5. Release the parking brake (see figure 36)
6. Place the forward/neutral/reverse switch to the forward position (see figure 35, item D).
7. Gently press on the accelerator pedal (see figure 37). The machine should begin to move.
8. To change the speed of the machine, press harder on the accelerator pedal.
9. To stop, remove your foot from the accelerator pedal.
10. To travel in reverse, place the forward/neutral/reverse switch in the reverse position (see figure 35, Item D).
11. Once again, gently press the accelerator pedal. The machine should then travel in reverse.
12. To stop, remove your foot from the accelerator pedal.
13. To turn the machine, rotate the steering wheel in the direction you want to turn.
14. When you stop the machine, turn the key switch "OFF", remove the key and set the parking brake.

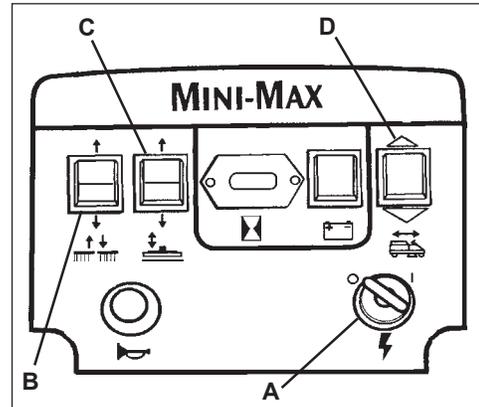


Figure 35

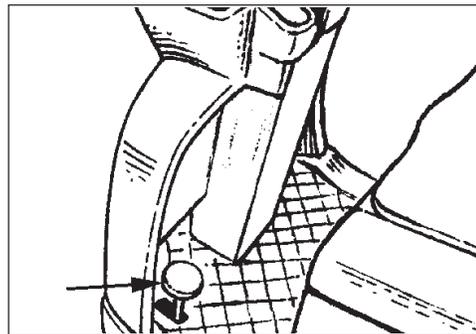


Figure 36

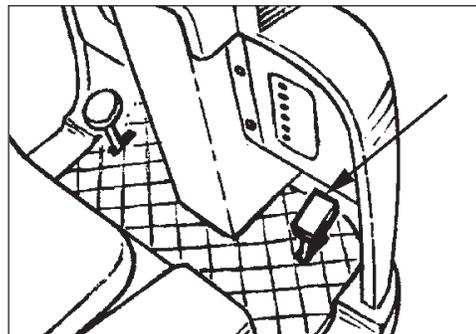


Figure 37

How To Operate the Machine

Do These Procedures When You Begin Your Work Period

1. Make sure the key switch is in the "OFF" position.
2. Disconnect AC power from battery charger (follow charger instructions).
3. Disconnect the connector on the battery charger from the battery pack connector.
4. Join the connector from the batteries to the machine connector.
5. Make sure the filter screen (1) to the vacuum motor is clean and installed properly in the recovery tank (see figure 38).
6. Make sure the recovery tank lid is in place and has been tightened (see figure 39).
7. Close and secure the lower cleaning port cover on the recovery tank (see figure 40).
8. Make sure that the plug in the recovery drain hose is in place and has been tightened (see figure 41).
9. Make sure that the brushes/pads are in position and installed correctly.
10. Make sure the brush housings and skirts are in position on the brush head.
11. Check the installation of the squeegee and squeegee hose.

How to Clean a Floor

⚠ WARNING: Water solutions or cleaning materials used with this type of machine can leave wet areas on the floor surface. These areas can cause a dangerous condition for the operator or other persons. Always put CAUTION signs near the area you are cleaning.

To clean a floor follow this procedure:

1. Turn the key switch to the "OFF" position and set the parking brake.
2. Put the water and a cleaning chemical in the solution tank.
3. Sit on the driver seat. **NOTE: The machine will not traverse if the operator is not properly seated.**
4. Release the parking brake.
5. Turn the key switch "ON". **NOTE: The key switch turns on the battery and hour meter displays.**

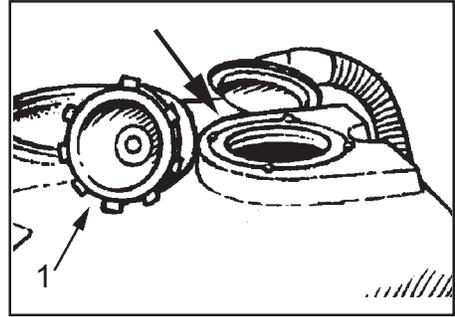


Figure 38

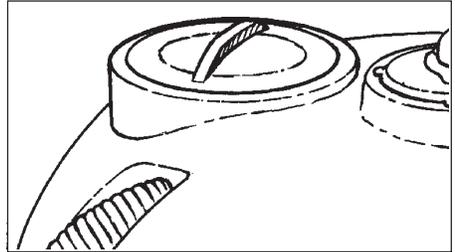


Figure 39

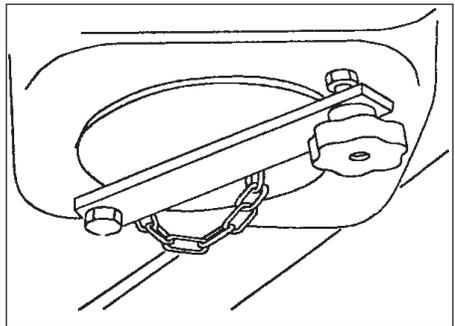


Figure 40

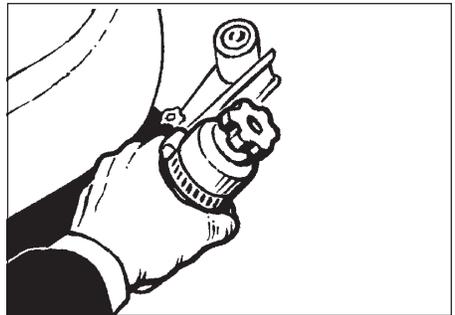


Figure 41

How To Operate the Machine (cont.)

6. Lower the squeegee. **NOTE: The vacuum motor will turn on when the squeegee up/down switch is placed in the middle or lower position.**
7. Lower the brush head until it reaches the full stroke down. **NOTE: The brushes will start rotating only when the accelerator pedal is pressed.**
8. Place the forward/neutral/reverse switch in the forward position.
9. Open the solution flow valve by lowering the lever. **NOTE: The solution will flow only if the machine is moving forward.**
10. Press the accelerator pedal. After the accelerator pedal is pressed the machine will begin to move, the squeegee will lower and the brushes will start to rotate.
11. After a few feet of scrubbing, check to see that the amount of solution being applied is correct and that the squeegee is picking up water and drying the floor. Make adjustments as required.
12. Once the machine is set properly continue to scrub until the solution runs out.



WARNING:

If the machine develops operating problems while working, remove your foot from the accelerator pedal and apply the emergency brake. Set the parking brake and turn the key switch "OFF". After resolving the problem, release the parking brake and continue working.

NOTE: When making multiple passes across the floor, let the brush clean approximately 2 inches (5 cm) of the area already cleaned by the brush.

NOTE: During most cleaning procedures, apply and remove the solution in one operation.

How to Clean a Very Dirty Floor

To clean a very dirty floor, follow this procedure:

1. Apply solution to the floor.
2. Do not lower the squeegee. This will keep the vacuum motor off.
3. Lower the brush or pad and scrub the floor.
4. Scrub the floor again with additional solution and lower the squeegee.
5. Pick up all the solution with the squeegee.

Do These Procedures When You End Your Work Period

Having finished the job and before any type of maintenance is done, follow these procedures:

1. Close the solution flow valve by sliding the handle to its up most position (see figure 42).
2. Press the brush up/down switch to the up position until the brush head has reached its up most position.

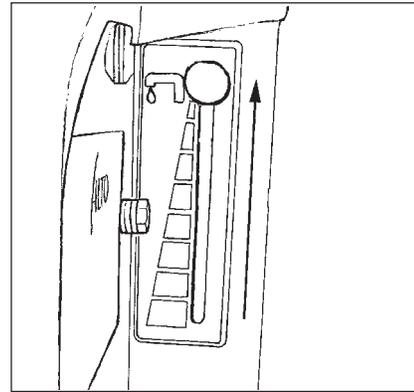


Figure 42

How To Operate the Machine

- Place the squeegee up/down switch in the middle position to raise the squeegee and allow the vacuum motor to continue to run. Allow the vacuum motor to run for another 20 seconds and then place the squeegee up/down switch to the up position. This will shut the vacuum motor off.
- Take the machine to a water drain.
- Turn the key switch "OFF" and set the parking brake.
- Remove the drain hose from the holding hook.
- Unscrew the drain plug and empty the recovery tank (see figure 43).

NOTE: To simplify the draining operation, it is recommended to hold the hose bent with one hand and with the other hand unscrew the knob and take off the plug. Slowly straighten the hose so the liquid will start draining at the desired speed.

WARNING: Use gloves to protect your hands from contact with dangerous solutions when performing the steps listed above.

- Flush the tank. Put clean water in the tank through the opening at the top.
- If the tank or drain hose has an obstruction, use water pressure to flush the tank or hose. Put the water hose into the drain hose.
- Leave the tank and drain plug removed to air dry.
- Check the squeegee blade. Use a cloth to clean the squeegee blade. If the squeegee blade is damaged or worn, turn or replace the blade.

NOTE: To avoid damage to the squeegee, the squeegee must be lifted when the machine is not in operation.

- Take off the brushes and clean them with a jet stream of water.
- If you are scrubbing with the cylindrical brush head unit, remove the hopper (see figure 44). Clean it carefully.
- Use a clean cloth and wipe the surface of the machine.
- Check the batteries and add distilled water as needed. The correct level is between $\frac{1}{4}$ ' ($\frac{1}{2}$ cm) below the bottom of the tube in each cell and above the tops of the plates. See the instructions in the section of this book called "Battery Maintenance".

CAUTION: Tap water may contain contaminants that will damage batteries. Batteries must be refilled with distilled water only.

WARNING: Lead acid batteries generate gases which can cause an explosion. NO SMOKING. Always wear eye protection and protection clothing when working near batteries.

- Charge the batteries. See the instructions in the section of this book called "How to Charge the Batteries".

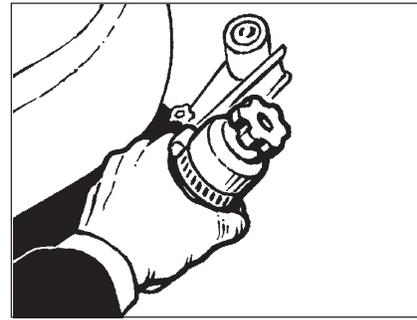


Figure 43

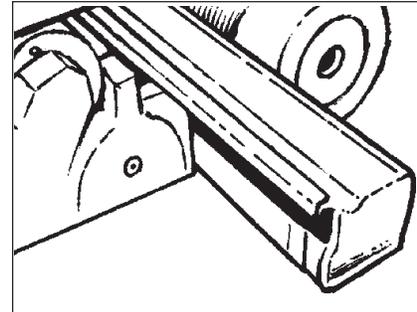


Figure 44

Maintenance

MAINTENANCE TO BE DONE EVERY WEEK

⚠ WARNING: Maintenance and repairs must be done by authorized personnel only. Always empty the solution tank and the recovery tank before doing any maintenance. Keep all fasteners tight.

⚠ WARNING: Always wear eye protection and protective clothing when working near batteries. **NO SMOKING!** Do not put tools or other metal objects across the battery terminals or the tops of the batteries.

⚠ CAUTION: To prevent damage to the machine, and discharge across the tops of the batteries, do not fill the batteries above the bottom of the tube in each cell. Wipe any acid from the machine or the tops of the batteries. Do not add acid to batteries after installation.

Battery Inspection and Cleaning

1. Turn the key switch to the "OFF" position and set the parking brake.
2. To inspect batteries, rotate seat support forward and lean it against the steering wheel. Lift and rotate recovery tank to the rear until it latches in the open position. Be sure the recovery tank is empty before lifting.
3. Disconnect the batteries. Use a cloth and a solution of ammonia or bicarbonate of soda to wipe the top of the batteries. Clean the battery terminals. Reconnect the batteries. See the instructions in the section of this book called "Battery Maintenance".
4. When battery inspection is completed, unlatch and close the recovery tank. Rotate the seat support back to the operating position.

Cleaning the Recovery Tank and Filter

1. Turn the key switch to the "OFF" position and set the parking brake.
2. Lift and rotate the seat support forward and rest it against the steering wheel.
3. Empty the recovery tank using the flexible drain hose by unscrewing the knob and taking off the plug (see figure 45).
4. Open the lower cleaning port cover by unscrewing the knob and rotating the clamping bar (see figure 46).
5. Remove the recovery lid, rinse the tank and clean the drain plug.

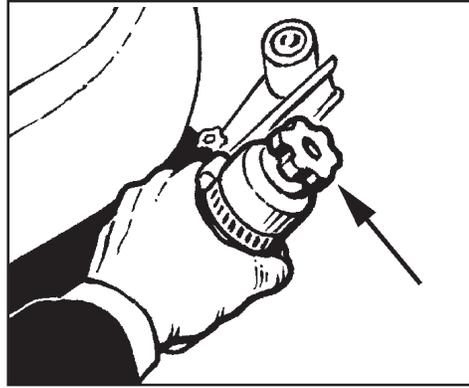


Figure 45

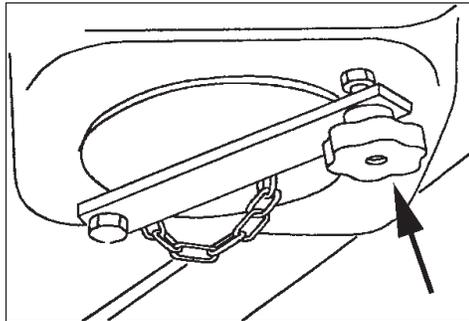


Figure 46

Maintenance

6. Clean the hose fitting in the recovery tank and spray water down the squeegee hose to clean out debris.
7. Remove the vacuum hose adapter from the top of the recovery tank by rotating it counter-clockwise and pulling it upwards (see figure 47).
8. Remove the filter and the float assembly from the recovery tank.
9. Rotate the filter inside the protection housing counter-clockwise and remove it.
10. Thoroughly clean the filter and all of the component parts with water.
11. Reinstall the filter and the float assembly and replace it in the recovery tank.
12. Reinstall the lower cleaning port cover, making sure that the gasket is in position.
13. Reinstall the drain plug and tighten.

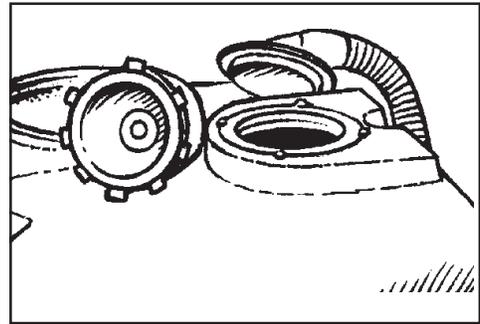


Figure 47

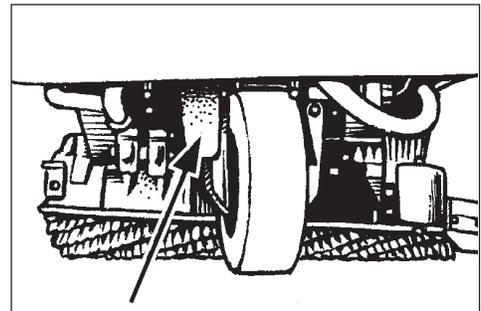


Figure 48

Cleaning the Solution Tank and Filter

1. Move the machine so that the solution tank filter assembly is located directly over a floor drain.
NOTE: The solution tank does not have a drain hose. It is drained through the filter body located in the front and underneath the machine (see figure 48).
2. Turn the key switch to the “OFF” position and set the parking brake.
3. Close the solution flow valve by sliding it to its up most position (see figure 49).
4. Unscrew the filter housing by turning it counter-clockwise (see figure 48). Remove the filter screen from the housing and clean it carefully.
5. With the filter body located above the floor drain, slide the solution flow valve downward to its full open position. The solution tank will immediately start draining.
6. Clean inside the solution tank with a jet stream of water.
7. Close the solution flow valve.
8. Replace the filter inside the housing and reinstall on machine.

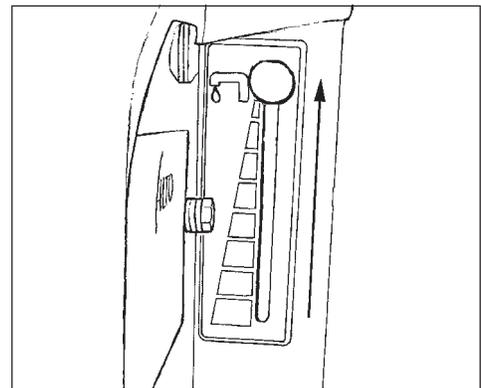


Figure 49

Maintenance (cont.)

Squeegee Maintenance

Clean the squeegee with a jet stream of water and a damp cloth. Inspect the front and rear squeegee blades for wear. Readjust or replace if necessary.

Front Squeegee Blade Replacement

To replace the front squeegee blade, follow this procedure:

1. Remove the squeegee assembly from the machine.
2. Remove mounting screws and front squeegee blade.
3. Install new front squeegee blade and reinstall mounting screws.
4. Replace squeegee on machine.

Rear Squeegee Blade Replacement

If the rear squeegee blade is worn and does not dry the floor well, follow this procedure:

1. Remove the squeegee assembly from the machine.
2. Push and rotate the small tabs on the squeegee so that they will slip through the holes in the squeegee blade clamping plate (see figure 50).
3. Remove the squeegee blade and inspect it.
4. Rotate the squeegee blade to obtain a new cleaning edge. Replace if necessary.
5. Reinstall the squeegee blade.
6. Reinstall the squeegee assembly on the machine.
7. Readjust the settings on the squeegee as required (see "How to Adjust Squeegee").

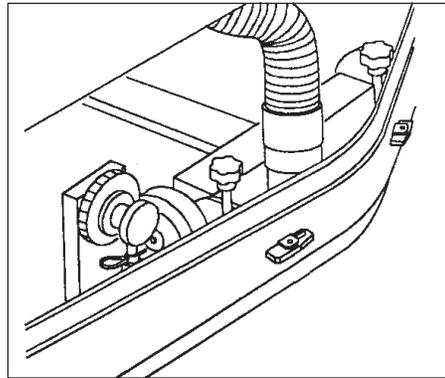


Figure 50

HOW TO CORRECT PROBLEMS IN THE MACHINE

PROBLEM	CAUSE	ACTION
Insufficient water onto the brushes	<p>The solution flow valve is not open.</p> <p>There is no water in the solution tank.</p> <p>The solution filter is dirty.</p> <p>A circuit breaker has tripped.</p>	<p>Make sure the solution flow valve is open</p> <p>Fill the solution tank.</p> <p>Clean the solution filter.</p> <p>Reset the circuit breaker.</p>
The machine does not clean satisfactorily	<p>The brushes are worn.</p> <p>Need to use a different kind of brush.</p>	<p>Check the brushes and replace if necessary. (the brushes have to be replaced when the bristles reach approximately .59 inches (15mm height.)</p> <p>Use a different kind of brush. For cleaning operations on floors where the dirt proves to be particularly resistant, we recommend using special brushes. See Accessories page.</p>
The squeegee does not dry the floor	<p>The squeegee is dirty.</p> <p>The height of the squeegee support needs to be adjusted.</p> <p>The suction group needs to be cleaned.</p> <p>The squeegee blades are worn.</p> <p>The circuit breaker has tripped.</p>	<p>Clean the squeegee.</p> <p>Adjust the height of the squeegee support. See "How to Adjust the Squeegee".</p> <p>Clean the suction group. See "Routine Maintenance" section.</p> <p>Replace the squeegee blades. See "Routine Maintenance" section.</p> <p>Reset the circuit breaker.</p>
The vacuum motor does not function	<p>The squeegee up/down switch is not in the low or middle position.</p>	<p>Put the squeegee in the low or middle position.</p>
The machine does not start	<p>The operator is not properly seated.</p> <p>The parking brake is engaged.</p> <p>The key is not in the "ON position".</p> <p>The connector is not connected to the batteries.</p> <p>The batteries are not charged or not connected properly.</p> <p>The circuit breaker has tripped.</p>	<p>The operator must be properly seated in the driving position.</p> <p>Release the parking brake.</p> <p>Turn the key to the "ON" position.</p> <p>Connect the connector to the batteries.</p> <p>Check to make sure the batteries are connected properly and charge if necessary.</p> <p>Reset the circuit breaker.</p>
The brush motors do not work WARNING: To avoid damage to the floor, the motor starts only when the machine goes forward.	<p>The brush head unit is not down.</p> <p>The batteries are not charged or not connected properly.</p> <p>Poor electrical connection at the brush head unit.</p>	<p>Put the brush head unit down.</p> <p>Check to make sure the batteries are connected properly and charge if necessary.</p> <p>Connect the electrical connection at the brush head unit.</p>
It is not possible to raise or lower the brush head unit.	<p>The circuit breaker has tripped.</p>	<p>Reset the circuit breaker.</p>
The horn does not work.	<p>The circuit breaker has tripped.</p>	<p>Reset the circuit breaker.</p>

Clarke®
MINI MAX
APPLICATIONS - 1/01

BRUSH HEAD APPLICATIONS

Description

Rotary Brush Head Unit

Used For

All types of floors with dirt and small amounts of solid debris.

Cylindrical Brush Head Unit

Surfaces that are littered with debris and shavings. These are collected into a hopper without obstructing the squeegee blades.

BRUSH / PAD APPLICATIONS

Description

Polypropylene Brush

Used For

All types of floors which are hot water resistant (not more than 60° C) Keeps its shape even working on wet floors.

Super Grit (Tynex) Brush

To clean very dirty floors. The brush bristles are charged with very aggressive abrasives. To avoid floor damage, work strictly only with the necessary pressure.

Pad Holder

Recommended to clean glossy areas. The traditional pad holder is equipped with anchor points which allow the abrasive pad to be held and dragged during the work process.

Clarke®
MINI MAX
ACCESSORIES - 5/02

ACCESSORIES

<u>Description</u>	<u>Part No.</u>
Suction Hose Adapter 1½" / 2"	30108A
Power Wand Kit	10488A
Squeegee Tool w/Scrub Brush	638856
Clarke Care Kit	14607A
Polydur Protectant	50478A
Kit, Grease Gun	55420A

BRUSH HEAD UNITS AND PAD / BRUSH COMPONENTS

<u>Description</u>	<u>Part No.</u>
26" Brush Head Unit (Rotary) - <i>Brushes not included</i>	51282A
13" Pad Driver	51283A
13" Soft Polypropylene Brush	51284A
13" Medium Polypropylene Brush	51286A
13" Heavy Polypropylene Brush	51285A
13" Super Grit Brush	51287A

<u>Description</u>	<u>Part No.</u>
30" Brush Head Unit (Rotary) - <i>Brushes not included</i>	51299A
15" Pad Driver	51300A
15" Soft Polypropylene Brush	51301A
15" Medium Polypropylene Brush	51303A
15" Heavy Polypropylene Brush	51302A
15" Super Grit Brush	51304A

<u>Description</u>	<u>Part No.</u>
28" Brush Head Unit (Cylindrical) - <i>Brushes included</i>	51294A
28" Polypropylene Brush Heavy	51295A
28" Polypropylene Brush Lite	38027A
28" Nylon Brush	38026A
28" Clear Grit	38024A
28" Super Grit	38025A

SQUEEGEE ASSEMBLIES AND SQUEEGEE BLADES

<u>Description</u>	<u>Part No.</u>
33" Squeegee Assembly Complete	51288A
Front Squeegee Blade	51289A
Rear Squeegee Blade	51290A

<u>Description</u>	<u>Part No.</u>
40" Squeegee Assembly Complete	51305A
Front Squeegee Blade	51306A
Rear Squeegee Blade	51307A

Clarke[®]

Division of
ALTO[®]

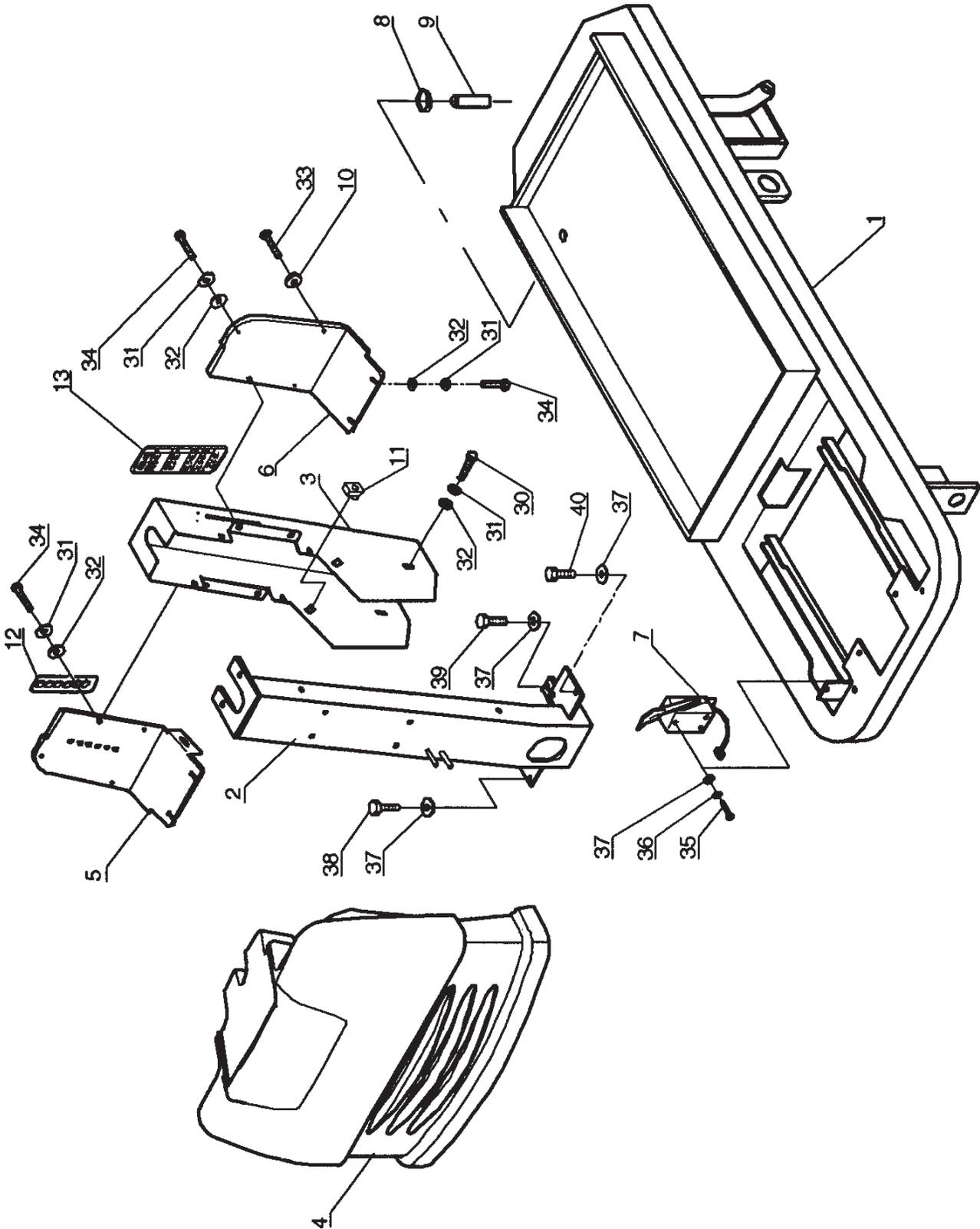
MINI-MAX

Section II

Parts and Service Manual

(70241R)

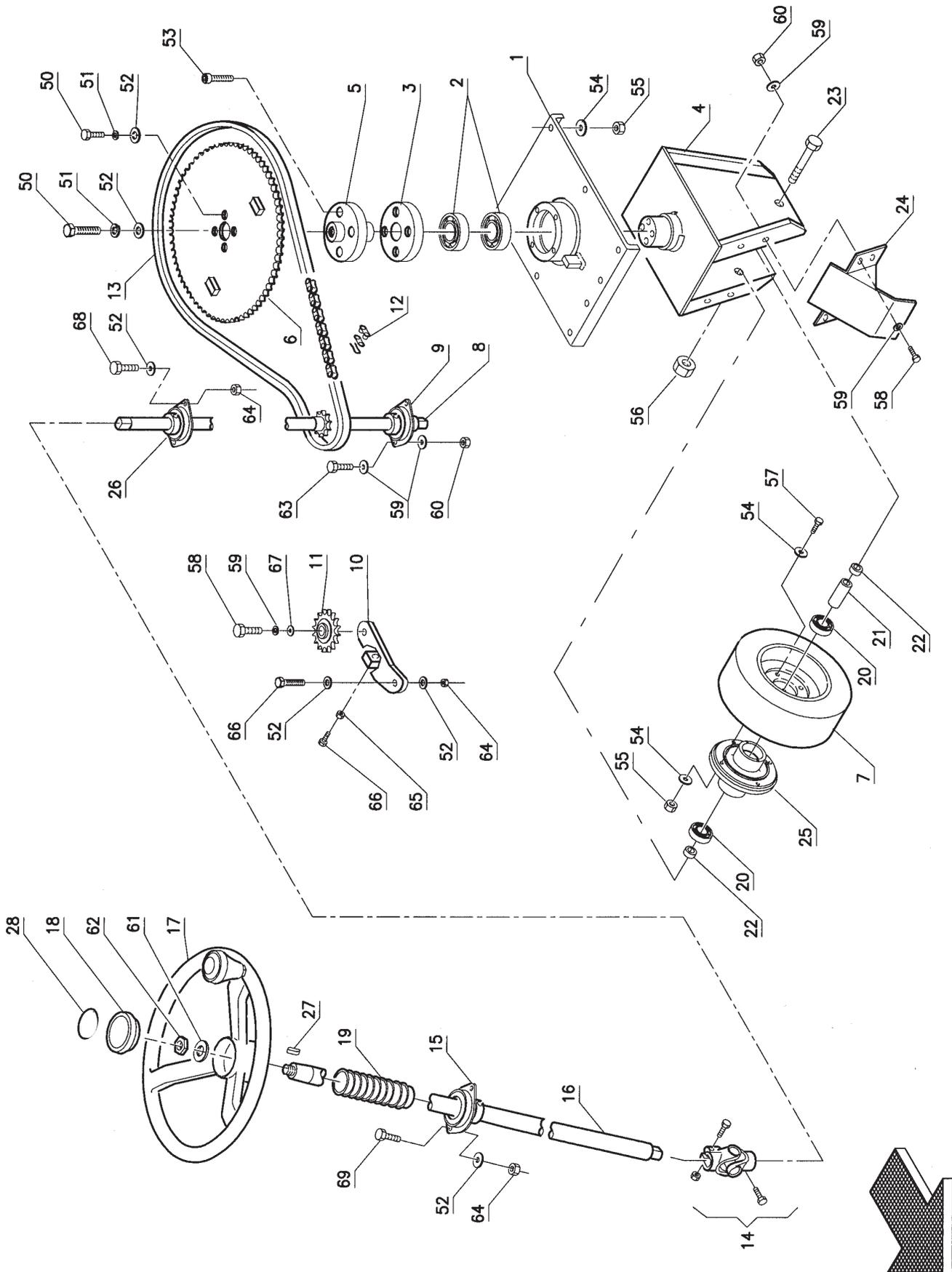
Clarke® MINI-MAX 26/28/30
Frame and Front Cover Assembly Drawing 12/02



Clarke® MINI-MAX 26/28/30
 Frame and Front Cover Assembly Parts List 12/02

Ref	Part No.	Description	Qty
1	52282A	Frame	1
2	52283A	Frame, Front	1
3	52284A	Steering Cover	1
4	52856A	Front Cover	1
5	52857A	Right Fender	1
6	52858A	Left Fender	1
7	40248A	Pedal, Accelerator	1
8	52288A	Clamp	1
9	51658A	Hose	1
10	52143A	Washer	6
11	52291A	Nut	2
12	52292A	Decal	1
13	52293A	Decal	1
30		Screw, M6x20	
31		Lock Washer, Ø 6	
32		Washer, Ø 6x12	
33		Screw, M5x16	
34		Screw, M6x16	
35		Screw, M8x16	
36		Lock Washer, Ø 8	
37		Washer, Ø 8x17	
38		Screw, M8x60	
39		Screw, M8x20	
40		Screw, M8x25	

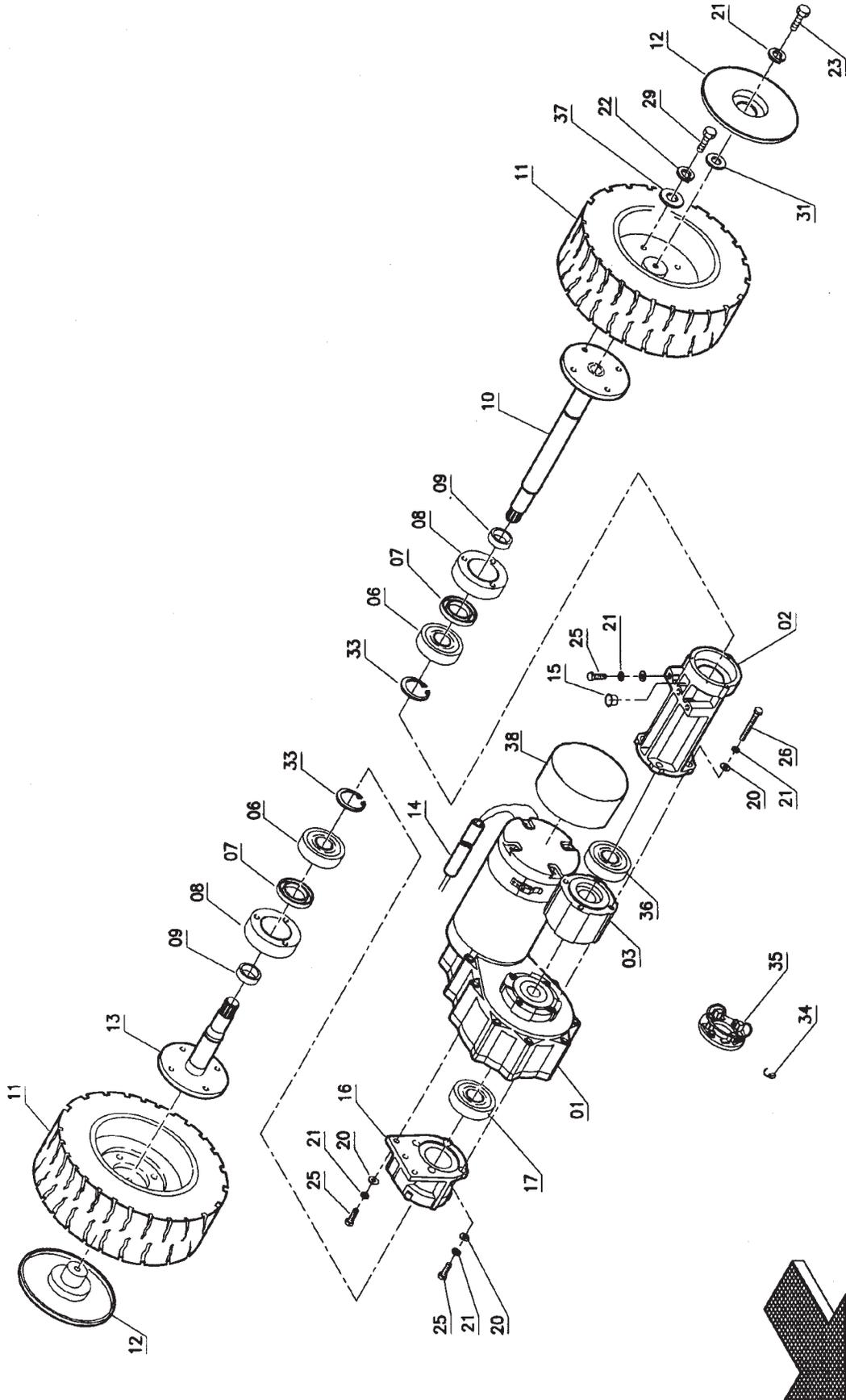
Clarke® MINI-MAX 26/28/30
Steering Assembly Drawing 12/02



Clarke® MINI-MAX 26/28/30
Steering Assembly Parts List 12/02

Ref	Part No.	Description	Qty
1	51669A	Plate	1
2	51670A	Bearing	2
3	51671A	Box	1
4	51672A	Support	1
5	51673A	Hub	1
6	51674A	Sprocket	1
7	51675A	Anti-skid Wheel	1
8	51676A	Shaft	1
9	51677A	Support	1
10	51678A	Support	1
11	51679A	Chain Tightener	1
12	51680A	Joint Chain	1
13	51681A	Chain	1
14	51682A	Universal Joint	1
15	51683A	Support	1
16	51684A	Shaft	1
17	51685A	Steering Wheel	1
18	51686A	Plug	1
19	51687A	Bellows	1
20	51688A	Bearing	2
21	51689A	Spacer	1
22	51690A	Spacer	1
23	51691A	Pin	1
24	51692A	Mud Guard	1
25	51693A	Wheel Hub	1
26	51694A	Support	1
27	51564A	Key	1
28	70769A	Label, Clarke	1
50		Screw, M8x40	
51		Washer, Ø 8	
52		Washer, Ø 8x17	
53		Screw, M10x25	
54		Washer, Ø 10x21	
55		Lock Nut, M10	
56		Lock Nut, M20	
57		Screw, M10x35	
58		Screw, M6x16	
59		Washer, Ø 6x12	
60		Lock Nut, M6	
61		Washer, Ø 15x28	
62		Nut, M14	
63		Screw, M6x20	
64		Lock Nut, M8	
65		Nut, M8	
66		Screw, M8x6	
67		Washer, Ø 6x24	
68		Screw, M8x25	
69		Screw, M8x20	

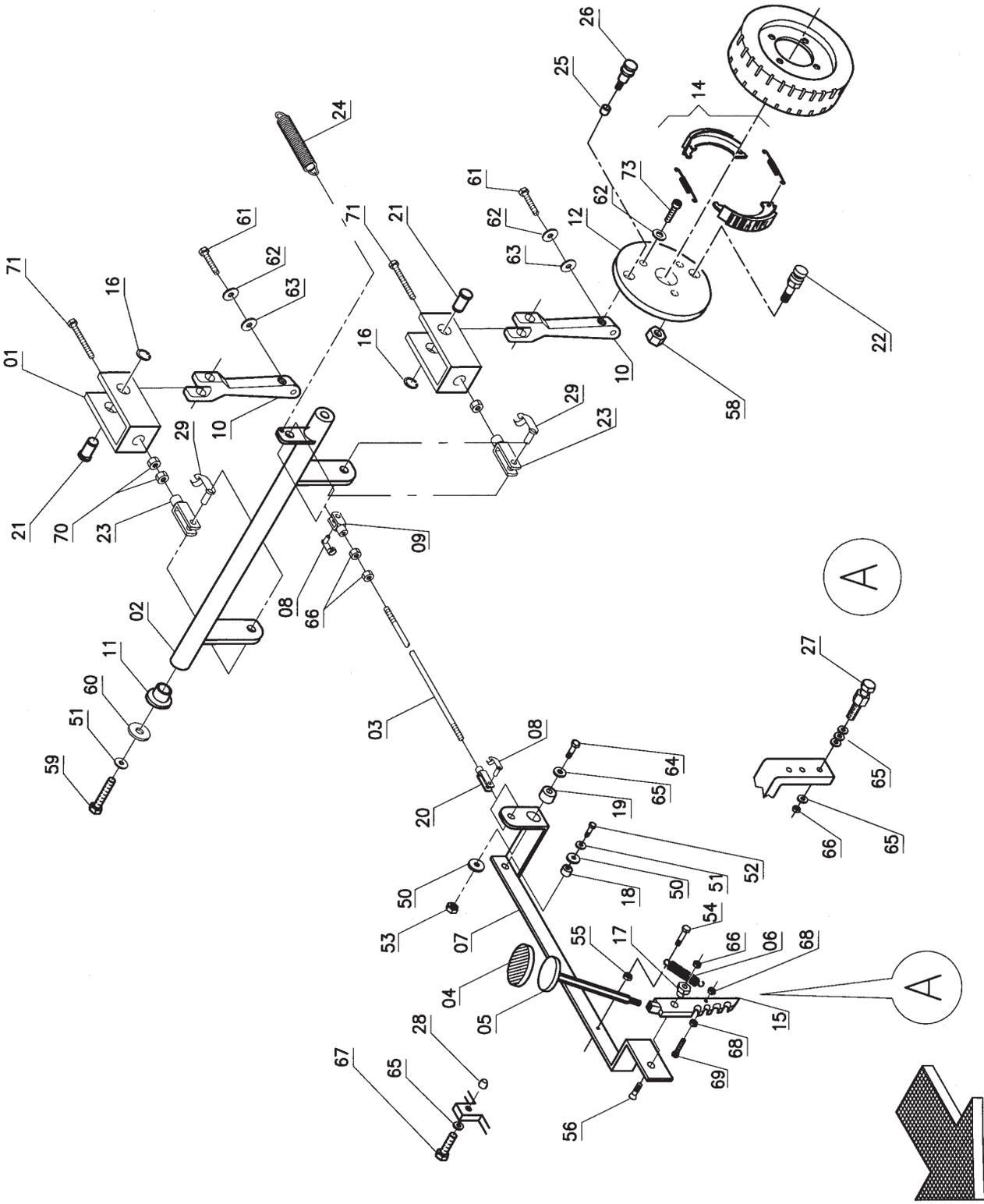
Clarke® MINI-MAX 26/28/30
Wheel and Transaxle Assembly Drawing 2/02



Clarke® MINI-MAX 26/28/30
Wheel and Transaxle Assembly Parts List 2/02

Ref	Part No.	Description	Qty
1	51756A	Geared Motor	1
2	51757A	Support	1
3	51758A	Spacer	1
6	51759A	Bearing	2
7	51760A	Oil Seal	2
8	51761A	Spacer	2
9	51762A	Spacer	2
10	51763A	Left Axle Shaft	1
11	51765A	Anti-Skid Wheel	2
12	51766A	Wheel Cover	2
13	51767A	Right Axle Shaft	1
14	51768A	Sheath, Wiring	1
15	51769A	Cap	1
16	51770A	Support	1
17	51771A	Bearing	1
20		Washer, Ø 8x17	
21		Washer, Ø 8	
22		Washer, M8x20	
23		Screw, M8x20	
25		Screw, M8x25	
26		Screw, M8x60	
29		Screw, M10x25	
31		Washer, Ø 8x24	
33	52443A	Ring, Retainer	2
34	51593A	Carbon Brush Motor	4
35	52441A	Carbon Brush Holder	1
36	52442A	Bearing	1
37		Washer, Ø 10x21	
38	52475A	Cover, Transaxle	1

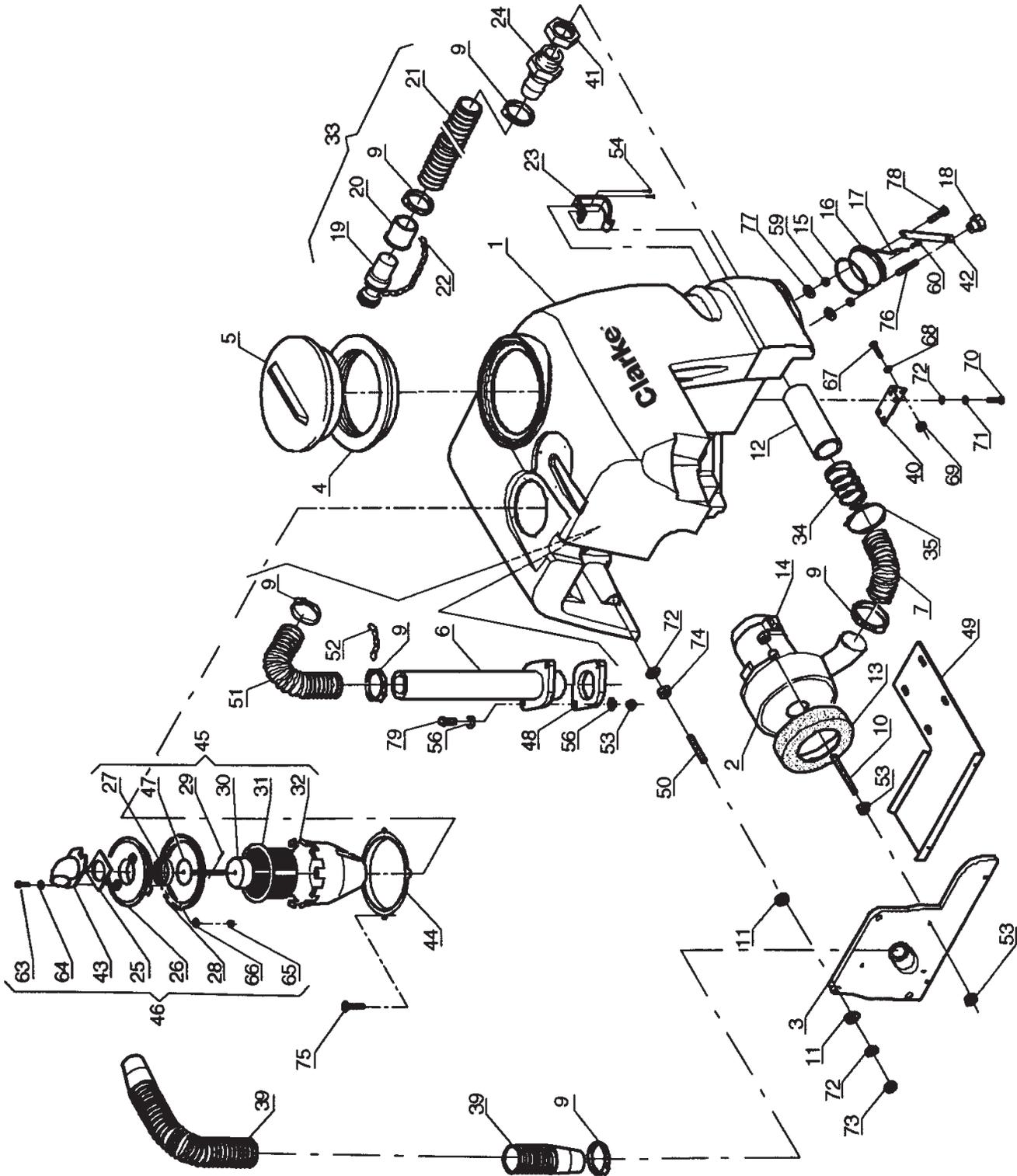
Clarke® MINI-MAX 26/28/30
Brake Assembly Drawing 2/01



Clarke® MINI-MAX 26/28/30
 Brake Assembly Parts List 3/01

Ref	Part No.	Description	Qty
1	51772A	Fork	2
2	51773A	Shaft	1
3	51774A	Rod	1
4	51775A	Pedal Cover	1
5	51776A	Pedal	1
6	51777A	Spring	1
7	51778A	Lever	1
8	51779A	Fork Pin	2
9	51780A	Fork	1
10	51781A	Lever	2
11	51782A	Bushing	2
12	51783A	Brake Shoe-Holder	2
14	51784A	Brake Assembly	2
15	51785A	Lever	1
16	51786A	Retainer Ring	2
17	51787A	Bushing	1
18	51789A	Bushing	1
19	51790A	Spacer	1
20	51791A	Fork, Left	1
21	51792A	Pin	2
22	51793A	Pin	2
23	51794A	Fork	2
24	51624A	Spring	1
25	51796A	Bushing	2
26	51797A	Pin	2
27	51798A	Pin	1
28	51799A	Cap	1
29	52069A	Fork Pin	2
50		Washer, Ø 8x24	
51		Washer, Ø 8	
52		Screw, M8X25	
53		Lock Nut, M8	
54		Screw, M5x35	
55		Nut, M5	
56		Screw, M8x20	
58		Lock Nut, M10	
59		Screw, M8x20	
60		Washer, Ø 8x32	
61		Screw, M6x25	
62		Washer, Ø 6	
63		Washer, Ø 6x12	
64		Screw, M8x45	
65		Washer, Ø 8x17	
66		Nut, M8	
67		Screw, M8x20	
68		Nut, M4	
69		Screw, M4x25	
70		Nut, M6	
71		Screw, M6x50	
73		Screw, M6x40	

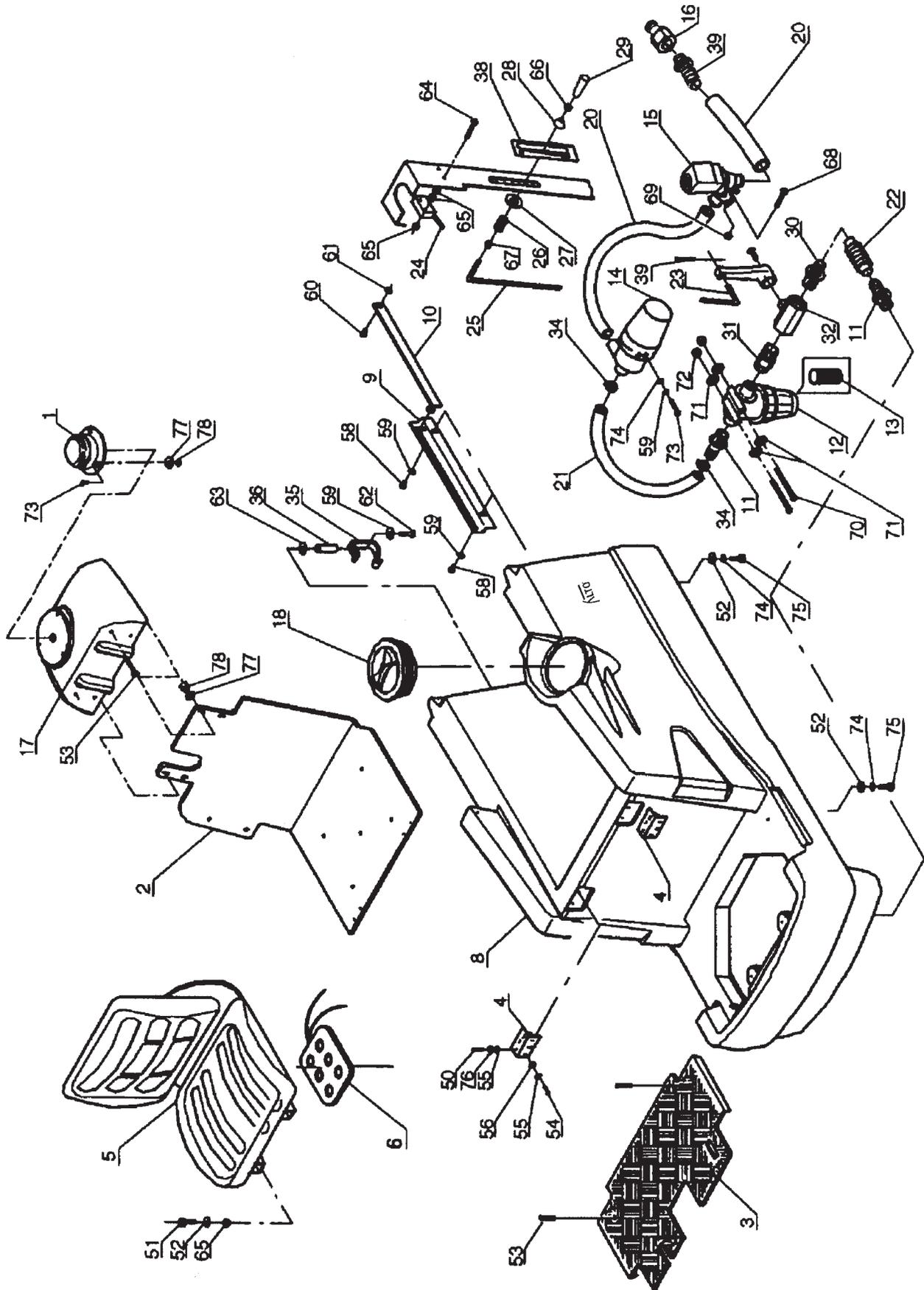
Clarke® MINI-MAX 26/28/30
 Recovery Tank Assembly Drawing 12/02



Clarke® MINI-MAX 26/28/30
Recovery Tank Assembly Parts List 12/02

Ref	Part No.	Description	Qty	Ref	Part No.	Description	Qty
1	52874A	Recovery Tank	1	36	52185A	Foam, Sound Deadening	1
2	45019A	Vacuum Motor (will also need to order 2 each of 14 and 14A)	1	37	52186A	Foam, Sound Deadening	3
3	52859A	Plate	1	38	52187A	Foam, Sound Deadening	1
4	52155A	Ring with Gasket	1	39	52188A	Hose	1
5	52156A	Plug	1	40	52073A	Hinge	2
6	52860A	Pipe	1	41	52190A	Ring Nut	1
7	52158A	Hose	1	42	52191A	Blade	1
9	52160A	Clamp	4	43	52192A	Coupling	1
10	52161A	Stud Bolt	3	44	52193A	Filter-Holder Seat	1
11	52162A	Fairlead	6	45	52194A	Assembly Housing + Filter	1
12	52163A	Deadening Hose	1	46	52195A	Assembly Suction Plug	1
13	52164A	Gasket	1	47	52196A	Rod	1
14	41809A	Contact	2	48	52863A	Gasket	1
14A	43401A	Housing, Black	2	49	52864A	Bassin	1
15	51338A	O-Ring	1	50		Dowel, M5x45	
16	52166A	Plug	1	51	52865A	Tube	1
17	52167A	Chain	1	52	52866A	Chain	1
18	52168A	Knob	1	53		Nut, M6	
19	52169A	Drain Hose Plug	1	54		Screw, 4.2x16	
20	52170A	Coupling	1	55		Washer, Ø 6x20	
21	52171A	Hose	1	59		Nut, M8	
22	52172A	Chain	1	60		Screw, Ø 4.89x13	
23	52149A	Coupler	1	63		Screw, M4x25	
24	52174A	Connector	1	64		Washer, Ø 5x20	
25	52175A	Gasket	1	65		Nut, M4	
26	52176A	Plug	1	66		Washer, Ø 4x9 Nylon	
27	52177A	Gasket	1	67		Screw, M6x16	
28	52178A	Gasket	1	68		Washer, Ø 6	
29	52179A	Split Pln	2	69		Lock Nut, M6	
30	52180A	Float	1	70		Screw, M6	
31	52181A	Filter	1	71		Washer, Ø 5	
32	52182A	Housing	1	72		Washer, Ø 5x10	
33	51332A	Drain Hose Assembly	1	73		Lock Nut, M5	
34	52183A	Spring	1	74		Nut, M5	
35	52184A	Clamp	1	75		Screw, 4.5x16	
				76		Dowel, 4.5x16	
				77		Washer, Ø 8x17	
				78		Screw, M8x35	
				79		Bolt, M6x25	

Clarke® MINI-MAX 26/28/30
Seat and Solution Tank Assembly Drawing 5/03



Clarke® MINI-MAX 26/28/30
Seat and Solution Tank Assembly Parts List 5/03

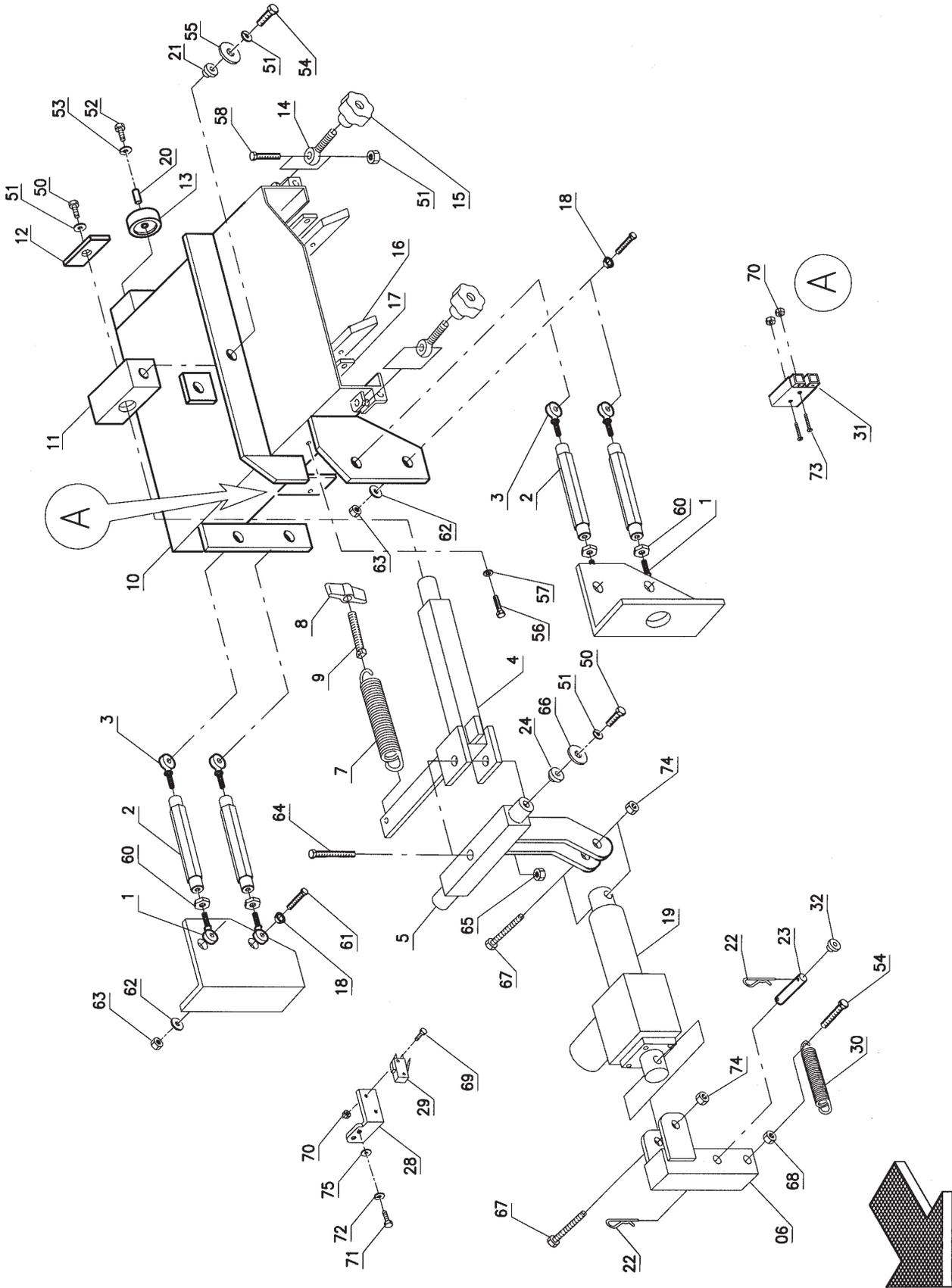
Ref	Part No.	Description	Qty
1	40246A	Flashing Light	1
2	52867A	Seat Support	1
3	52868A	Bottom Plate	1
4	52073A	Hinge	2
5	52869A	Seat	1
6	40233A	Microswitch	1
8	52870A	Solution Tank	1
9	52077A	Support	1
10	52078A	Prop	1
11	51655A	Connector	2
12	52080A	Filter	1
13	52081A	Filter Cartridge	-
14	40227A	Pump	1
15	40225A	Solenoid Valve	1
16◆	51566A	Quick Coupling, Male	1
17	52871A	Cover	1
18	52872A	Solution Lid	1
20	52086A	Hose	2
21	52136A	Hose	1
22	52137A	Bellows	1
23	52138A	Valve Lever	1
24	40234A	Microswitch	1
25	52139A	Rod	1
26	52140A	Spring	1
27	52141A	Washer, Ø 6x30x3	1
28	52143A	Washer	1
29	52144A	Knob	1
30	52145A	Connector	1
31	52146A	Nipple	1
32	52147A	Valve	1
34	52148A	Clamp	3
35	52149A	Coupler	1
36	51733A	Bushing	1

Ref	Part No.	Description	Qty
38	52151A	Decal	1
39◆	53361A	Hose Fitting	1
50		Screw, Ø 4.2x13	
51		Screw, M6x30	
52		Washer, Ø 6x18	
53		Screw, M6x16	
54		Screw, M5x12	
55		Lock Washer, Ø 5	
56		Washer, Ø 5x10	
58		Screw, M6x20	
59		Washer, Ø 6x12	
60		Screw, M8x25	
61		Washer, Ø 8x24	
62		Screw, M6x50	
63		Washer, Ø 6x24	
64		Screw, M3x40	
65		Nut, M3	
66		Nut, M5	
67		Nut, M5	
68		Screw, M4x12	
69		Lock Nut, M4	
70		Screw, M8x80	
71		Washer, Ø 8x17	
72		Lock Nut, M8	
73		Screw, M6x16	
74		Lock Washer, Ø 6	
75		Screw, M6x20	
NI	70079A	Warning Plate	1
NI	83010A	Pop Rivet	3
NI	70253A	Battery Connection Label	1
NI	77093A	Falling Objects Label	1
NI	77092A	Gases and Chemical Label	1
NI	77221A	Serial Tag	1

*NI = Not Illustrated

NOTE: ◆ indicates a change has been made since the last publication of this manual.

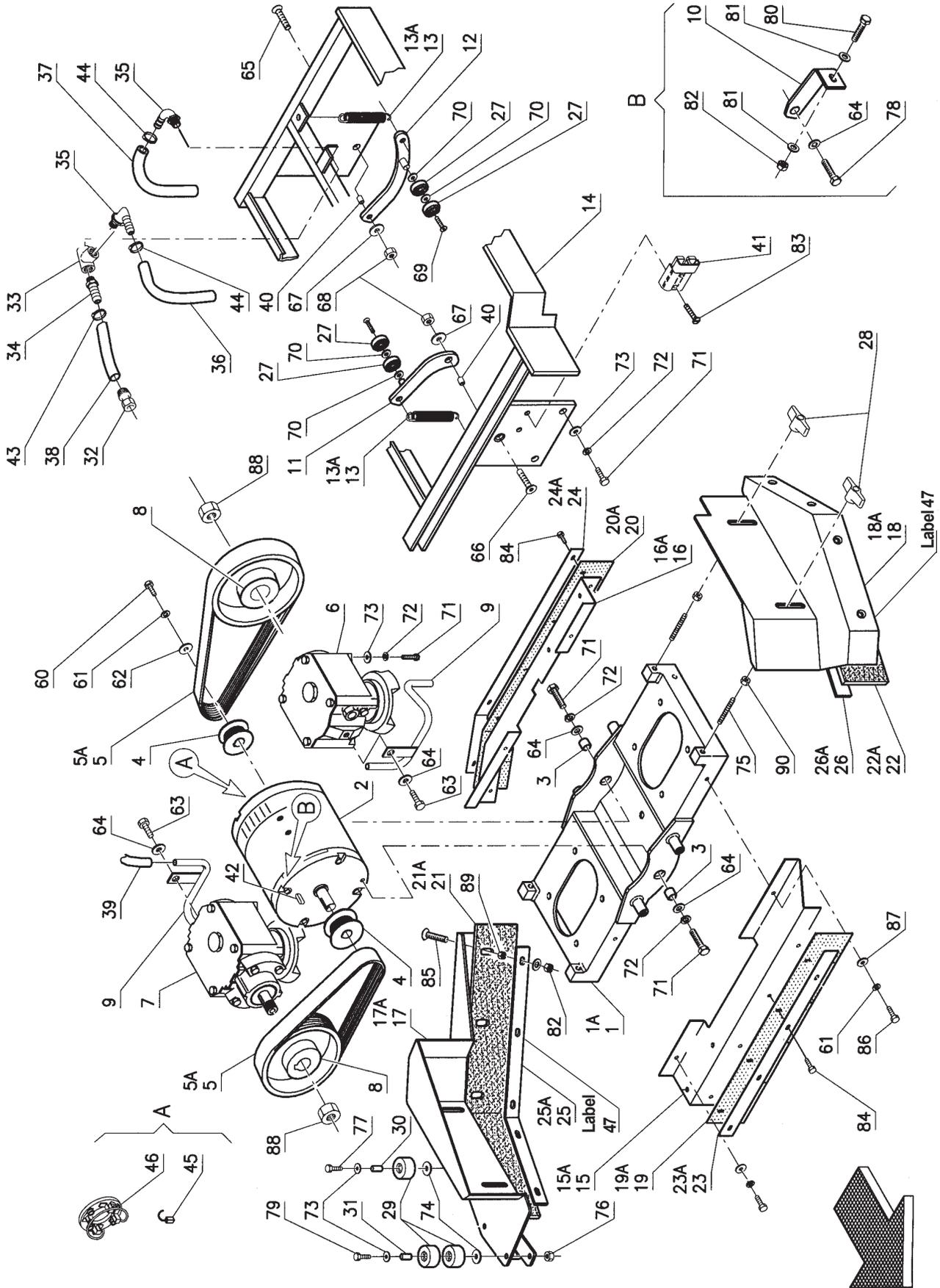
Clarke® MINI-MAX 26/28/30
Brush Head Carriage Assembly Drawing 2/01



Clarke® MINI-MAX 26/28/30
Brush Head Carriage Assembly Parts List 3/01

Ref	Part No.	Description	Qty
1	52295A	Rod End, Left	4
2	52296A	Turnbuckle	4
3	52297A	Rod End, Right	4
4	52298A	Arm	1
5	52299A	Shaft	1
6	52310A	Coupling	1
7	52311A	Spring	1
8	51649A	Wing Nut	1
9	52313A	Adjuster	1
10	52314A	Support	1
11	52315A	Stop Ring	1
12	52316A	Plaque	1
13	51650A	Wheel	1
14	52318A	Tie Rod	1
15	52168A	Knob	2
16	52320A	Guide	2
17	52321A	Shim	2
18	52322A	Spacer	16
19	52323A	Actuator	1
20	51651A	Bushing	1
21	51789A	Bushing	2
22	52326A	Clip	2
23	52327A	Pin	1
24	51782A	Bushing	2
28	52329A	Support	1
29	40234A	Microswitch	1
30	52330A	Spring	1
31	51539A	Connector	1
32	52332A	Bushing	2
50		Screw, M8x20	
51		Lock Washer, Ø 8	
52		Screw, M8x35	
53		Washer, Ø 8x17	
54		Screw, M8x25	
55		Washer, Ø 8x24	
56		Screw, M6x20	
57		Lock Washer, Ø 6	
58		Screw, M6x30	
59		Lock Nut, M6	
60		Nut, M12	
61		Screw, M1x60	
62		Washer, Ø 12x24	
63		Lock Nut, M12	
64		Screw, M8x55	
65		Lock Nut, M8	
66		Washer, Ø 8x32	
67		Screw, M10x60	
68		Nut, M8	
69		Screw, M3x16	
70		Lock Nut, M3	
71		Screw, M5x12	
72		Lock Washer, Ø 5	
73		Screw, M3x25	
74		Lock Nut, M10	
75		Washer, Ø 5x10	

Clarke® MINI-MAX 26/30
 Rotary Brush Head Assembly Drawing 2/01



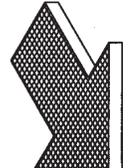
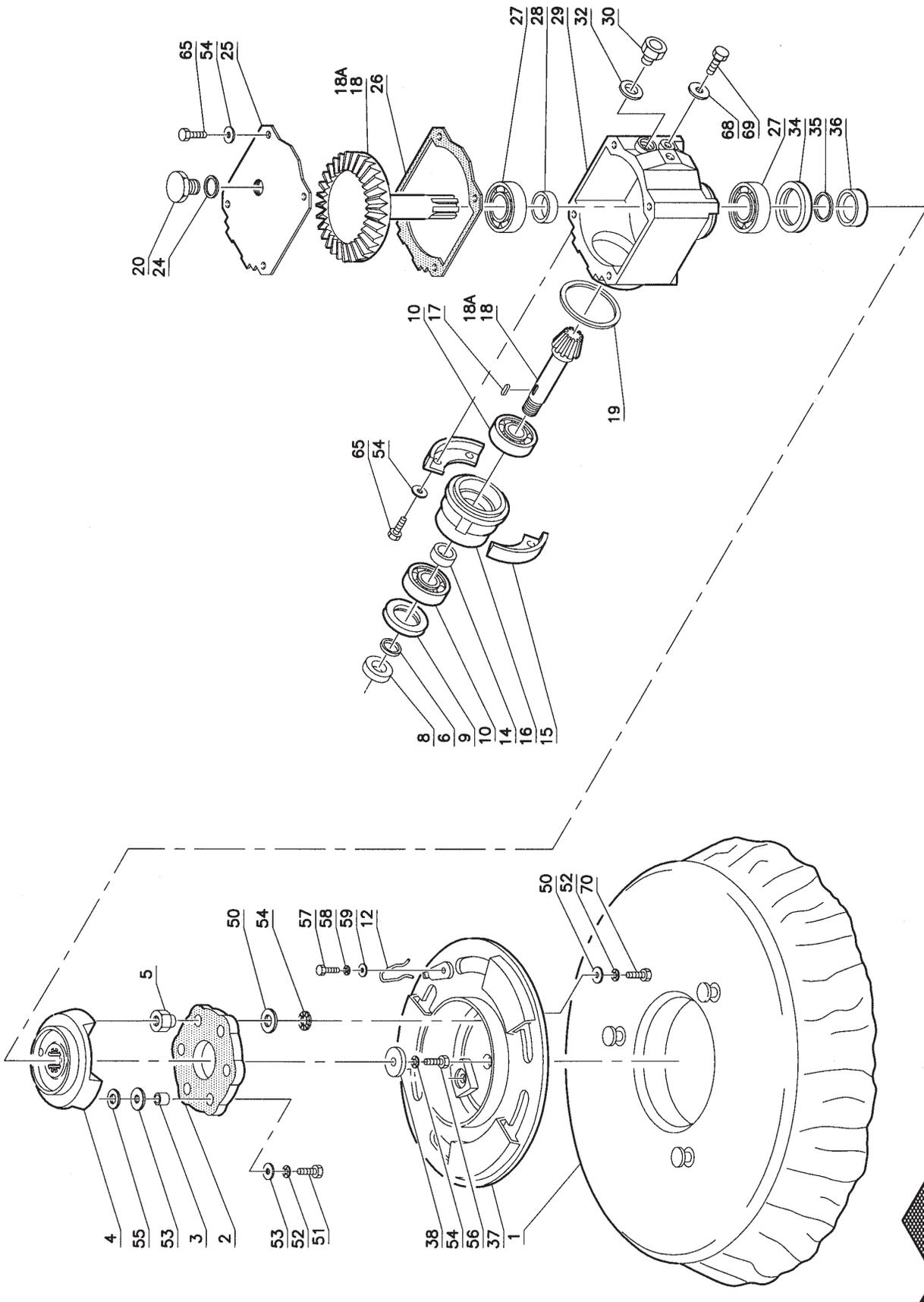
Clarke® MINI-MAX 26/30
Rotary Brush Head Assembly Parts List 5/03

Ref	Part No.	Description	Qty	Model	Ref	Part No.	Description	Qty	Model
1	51596A	Base, Brushes	1	26	33	51654A	Fitting	1	All
1A	51597A	Base, Brushes	1	30	34	51655A	Connector	1	All
2	51598A	Motor	1	All	35	51656A	Connector	2	All
3	51599A	Bushing	2	All	36	51657A	Hose	1	All
4	51614A	Motor Pulley	2	All	37	51658A	Hose	1	All
5	51334A	Belt	2	26	38	51659A	Hose	1	All
5A	51335A	Belt	2	30	39	51660A	Hose	2	All
6	51616A	Left Gearbox Assembly	1	All	40	51661A	Bushing	2	All
7	51617A	Right Gearbox Assembly	1	All	41	51539A	Connector	1	All
8	51618A	Pulley	2	All	42	51564A	Key	2	All
9	51619A	Pipe	2	All	43	51592A	Clamp	1	All
10	51620A	Support	1	All	44	51665A	Clamp	2	All
11	51621A	Support	1	All	45	51666A	Brush		All
12	51622A	Support	1	All	46	51667A	Support		All
13	51623A	Spring	2	26	47	77091A	Moving Parts Label (*NI)	2	All
13A	51624A	Spring	2	30	60		Screw, M6x16		All
14	51625A	Coupling	1	All	61		Washer, Ø 6		All
15	51626A	Support	1	26	62		Washer, Ø 6x24		All
15A	51627A	Support	1	30	63		Screw, M10x12		All
16	51628A	Support	1	26	64		Washer, Ø 10x21		All
16A	51629A	Support	1	30	65		Screw, M10x35		All
17	51630A	Support	1	26	66		Screw, M10x35		All
17A	51631A	Support	1	30	67		Washer, Ø 10x30		All
18	51632A	Support	1	26	68		Lock Nut, M10		All
18A	51633A	Support	1	30	69		Screw, M8x16		All
19	51634A	Front Skirt	1	26	70		Washer, Ø 15		All
19A	51635A	Front Skirt	1	30	71		Screw, M8x25		All
20	51326A	Rear Skirt	1	26	72		Washer, Ø 8		All
20A	51330A	Rear Skirt	1	30	73		Washer, Ø 8x17		All
21	51636A	Right Skirt	1	26	74		Washer, Ø 8x24		All
21A	51637A	Right Skirt	1	30	75		Dowel, M8x40		All
22	51638A	Left Skirt	1	26	76		Lock Nut, M8		All
22A	51639A	Left Skirt	1	30	77		Screw, M8x30		All
23	51640A	Front Blade	1	26	78		Screw, M10x20		All
23A	51641A	Front Blade	1	30	79		Screw, M8x70		All
24	51642A	Rear Blade	1	26	80		Screw, M6x20		All
24A	51643A	Rear Blade	1	30	81		Washer, Ø 6x12		All
25	51644A	Right Blade	1	26	82		Lock Nut, M6		All
25A	51645A	Right Blade	1	30	83		Screw, M3x16		All
26	51646A	Left Blade	1	26	84		Screw, M5x16		All
26A	51647A	Left Blade	1	30	85		Screw, M6x25		All
27	51565A	Bearing	4	All	86		Screw, M6x10		All
28	51649A	Wing Nut	4	All	87		Washer, Ø 6x18		All
29	51650A	Wheel	4	All	88		Lock Nut, M16x1,5		All
30	51651A	Bushing	2	All	89		Nut, M6		All
31	51652A	Bushing	1	All	90		Nut, M8		All
32◆	52082A	Quick Coupling, Female	1	All					

*NI = Not Illustrated

NOTE: ◆ indicates a change has been made since the last publication of this manual.

Clarke® MINI-MAX 26/30
 Rotary Gear Box and Brush Assembly Drawing 2/01

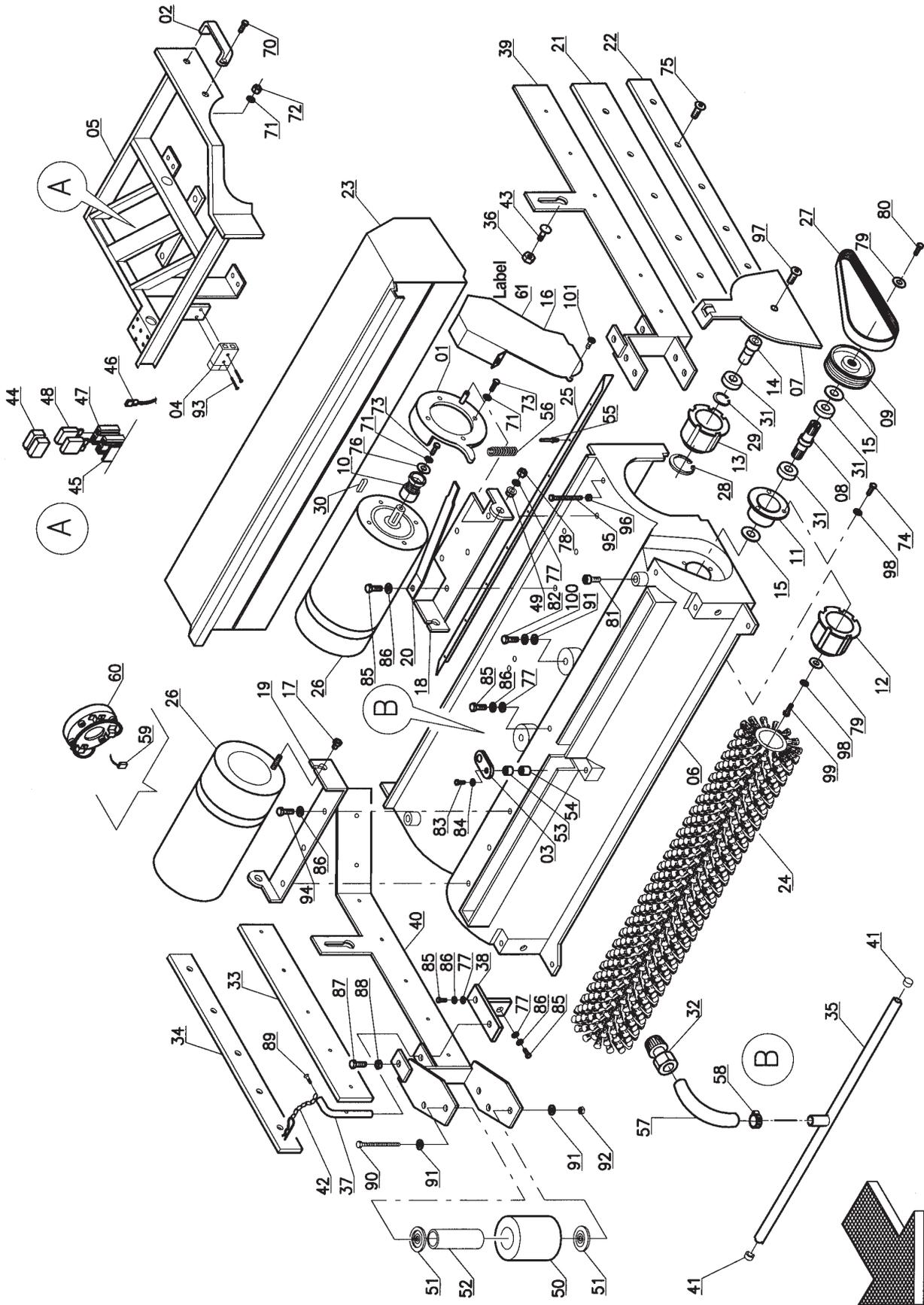


Clarke® MINI-MAX 26/30
Rotary Gear Box and Brush Assembly Parts List 3/01

Ref	Part No.	Description	Qty
1	*	Brush	2
2	52239A	Flexible Coupling	2
3	52240A	Spacer	6
4	52241A	Flange	2
5	52242A	Bushing	6
6	52243A	Gasket	2
8	52244A	Spacer	2
9	51336A	Oil Seal	2
10	52245A	Bearing	4
12	52246A	Spring	2
14	52247A	Spacer	2
15	52248A	Clamp, Gearbox	4
16	52249A	Support	2
17	52250A	Key	2
18	52251A	Bevel Gear Pair Left Red.	1
18A	52252A	Bevel Gear Pair Right Red.	1
19	52253A	Gasket	2
20	52254A	Breather	2
24	52255A	Gasket	2
25	52256A	Cover	2
26	52257A	Gasket	2
27	52258A	Bearing	4
28	52259A	Spacer	2
29	52270A	Gear Box Housing	2
30	52271A	Level Plug	2
32	52272A	Gasket	2
34	51337A	Oil Seal	2
35	52273A	O-Ring	2
36	52274A	Spacer	2
37	52275A	Plate, Diver	2
38	52276A	Special Washer	2
50		Washer, Ø8x18	
51		Screw, M8x30	
52		Lock Washer, Ø8	
53		Washer, Ø8x24	
54		Split Washer, Ø8	
55		Washer, Ø 8x17	
56		Screw, M8x18	
57		Screw, M8x18	
58		Washer, Ø6	
59		Washer, Ø6x24	
64		Lock Nut, Ø6x24	
65		Screw, M8x20	
68		Washer, Ø10x16	
69		Screw, M10x12	
70		Screw, M8x30	

***See Accessory Page 27 for Available Brushes**

Clarke® MINI-MAX 28
Cylindrical Brush Head Assembly Drawing 2/01



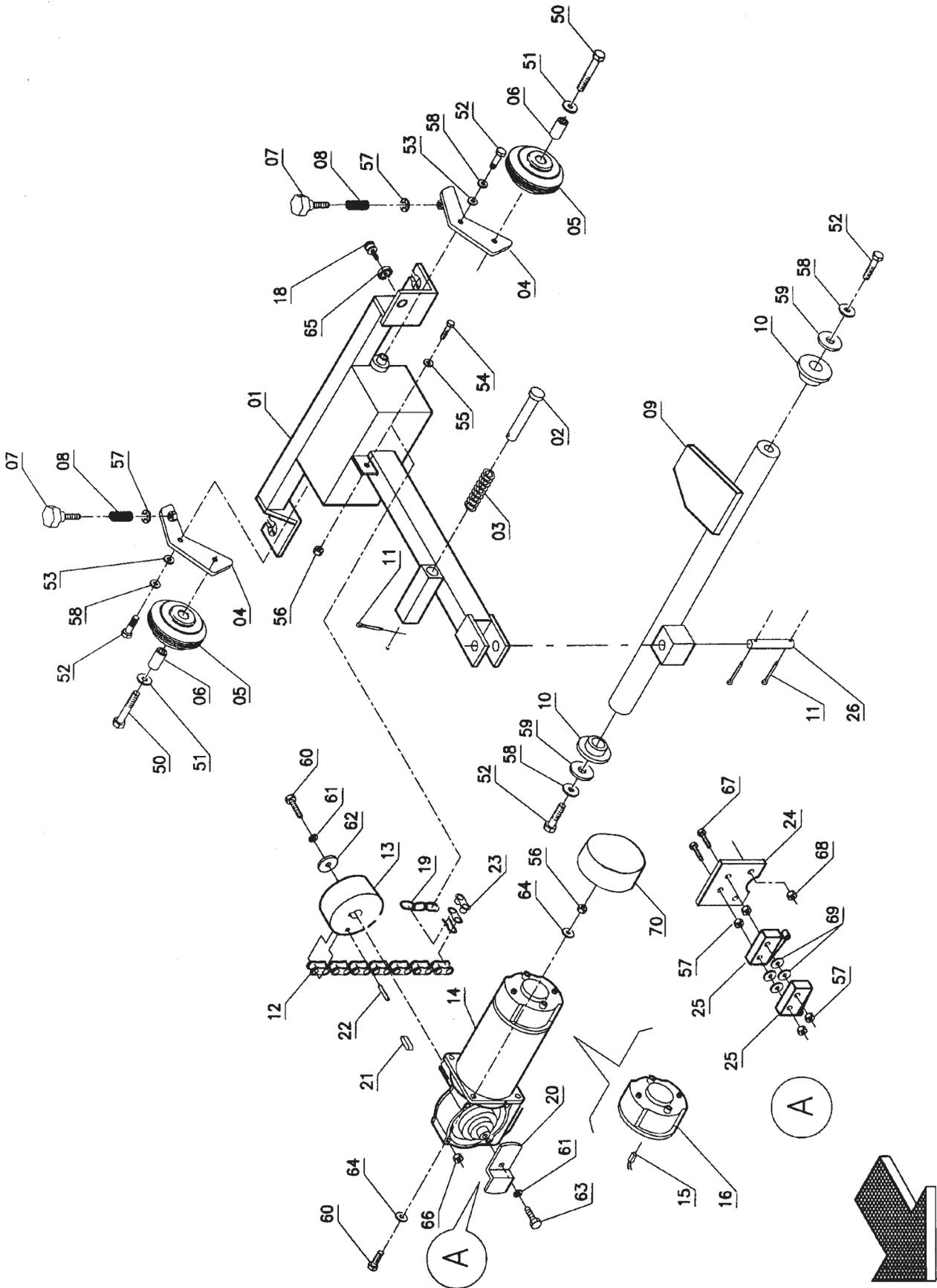
Clarke® MINI-MAX 28
Cylindrical Brush Head Assembly Parts List 5/03

Ref	Part No.	Description	Qty	Ref	Part No.	Description	Qty
1	51536A	Plate	2	48	51582A	Fuse, 40A	2
2	51537A	Handle	1	49	51583A	Bushing	2
3	51538A	Retainer Plate	1	50	51584A	Wheel	3
4	51539A	Connector	1	51	51585A	Special Washer	6
5	51540A	Coupling	1	52	51586A	Pipe	3
6	51541A	Housing, Brushes	1	53	51587A	Spacer	1
7	51542A	Plate	2	54	51588A	Spacer	1
8	51543A	Shaft	2	55	51589A	Rivet	9
9	51544A	Pulley	2	56	51590A	Spring	2
10	51545A	Motor Pulley	2	57	51591A	Hose	1
11	51546A	Support	2	58	51592A	Clamp	1
12	51547A	Hub	2	59	51593A	Carbon Brush, Motor	
13	51548A	Hub	2	60	51594A	Holder, Carbon Brush	
14	51549A	Pin	2	61	77091A	Moving Parts Label (*NI)	2
15	51550A	Spacer	4	70		Screw, M6x20	
16	51551A	Cover	2	71		Lockwasher, Ø 6	
17	51552A	Bushing	2	72		Lock nut, M6	
18	51553A	Support	1	73		Screw, M6 x 16	
19	51554A	Support	1	74		Screw, M6x10	
20	51555A	Spring	2	75		Screw, M5x16	
21	51556A	Left Side Skirt	1	76		Washer, Ø 6x18	
22	51557A	Blade	1	77		Washer, Ø 8x17	
23	51558A	Drawer	1	78		Lock nut, M8	
24	51295A	Cylindrical Brush	2	79		Washer, Ø 6x24	
25	51559A	Blade	1	80		Screw, M6x10	
26	51560A	Motor	2	81		Screw, M8x18	
27	51561A	Belt	2	82		Screw	
28	51562A	Retainer Ring	2	83		Screw, M5x25	
29	51563A	Retainer Ring	2	84		Lock Washer, Ø 5	
30	51564A	Key	2	85		Screw, M8X20	
31	51565A	Bearing	2	86		Lock Washer, Ø 8	
32◆	52082A	Quick Coupling, Female	1	87		Screw, M8x30	
33	51567A	Right Side Skirt	1	88		Nut, M8	
34	51568A	Blade	1	89		Screw, M4x12	
35	51569A	Tube	1	90		Screw, M10x120	
36	51570A	Spacer	2	91		Washer, 10x21	
37	51571A	Spring Pin	2	92		Lock Nut, M10	
38	51572A	Coupling	2	93		Screw, M3X16	
39	51573A	Support	1	94		Screw, M8x16	
40	51574A	Support	1	95		Screw, M6x60	
41	51575A	Plug	2	96		Nut, M6	
42	51576A	Chain	2	97		Screw, M10x16	
43	51577A	Screw	2	98		Lock Washer, Ø 6	
44	51578A	Cover	2	99		Screw, M6x12	
45	51579A	Support Plate	1	100		Lock Washer, Ø 10	
46	51580A	Terminal	4	101		Screw, M8x30	
47	51581A	Fuseholder	2				

NOTE: ◆ indicates a change has been made since the last publication of this manual.

*NI = Not Illustrated

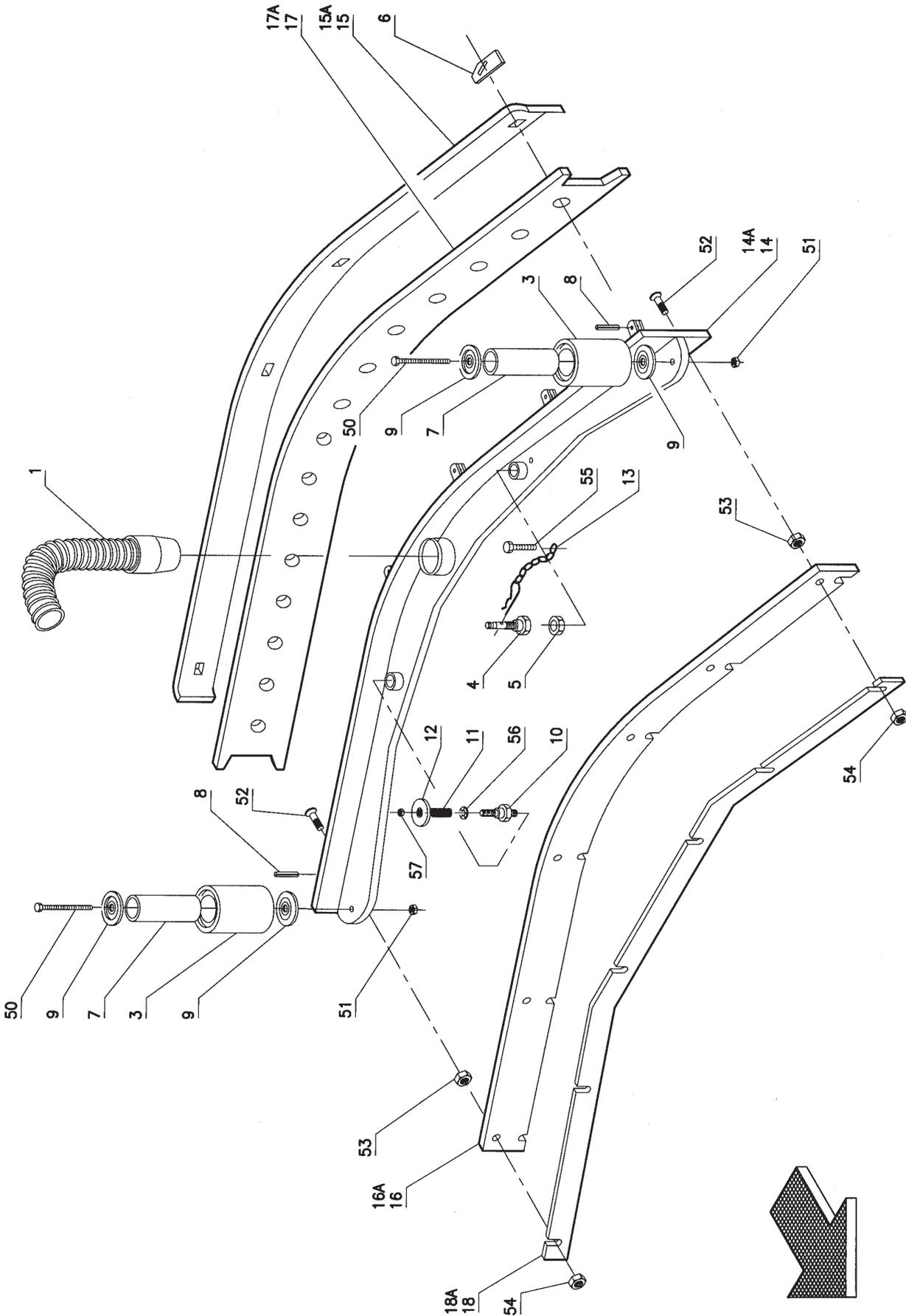
Clarke® MINI-MAX 26/28/30
Squeegee Lift Assembly Drawing 2/02



Clarke® MINI-MAX 26/28/30
Squeegee Lift Assembly Parts List 2/02

Ref	Part No.	Description	Qty
1	52197A	Arm	1
2	52198A	Pin	1
3	52199A	Spring	1
4	52220A	Wheel Support	2
5	51322A	Wheel, Squeegee	2
6	52221A	Bushing	2
7	52222A	Knob	2
8	52223A	Spring	2
9	52224A	Shaft	1
10	52225A	Bushing	2
11	52179A	Split Pin	3
12	52227A	Chain	1
13	52228A	Roller	1
14	52229A	Geared Motor	1
15	40228A	Carbon Brush, Motor	2
16	52230A	Holder, Carbon Brush	1
18	52231A	Squeegee Adjusting Screw	1
19	52232A	Chain	1
20	52233A	Actuator, Switch	1
21	51564A	Key	1
22	52235A	Spring Pin	1
23	51680A	Joint Chain	1
24	52237A	Support	1
25	40231A	Microswitch	2
26	52238A	Pin	1
50		Screw, M10x60	
51		Washer, Ø 10x21	
52		Screw, M8x16	
53		Washer, Ø 8x24	
54		Screw, M6x20	
55		Washer, Ø 6x18	
56		Lock Nut, M6	
57		Nut, M4	
58		Washer, Ø 8	
59		Washer, Ø 8x32	
60		Screw, M6x20	
61		Washer, Ø 6	
62		Washer, Ø 6x24	
63		Screw, M6x16	
64		Washer, Ø 6x12	
65		Nut, M10	
66		Nut, M5	
67		Screw, M4x50	
68		Lock Nut, M5	
69		Washer, Ø 5x10	
70	52474A	Cover, Squeegee Motor	1

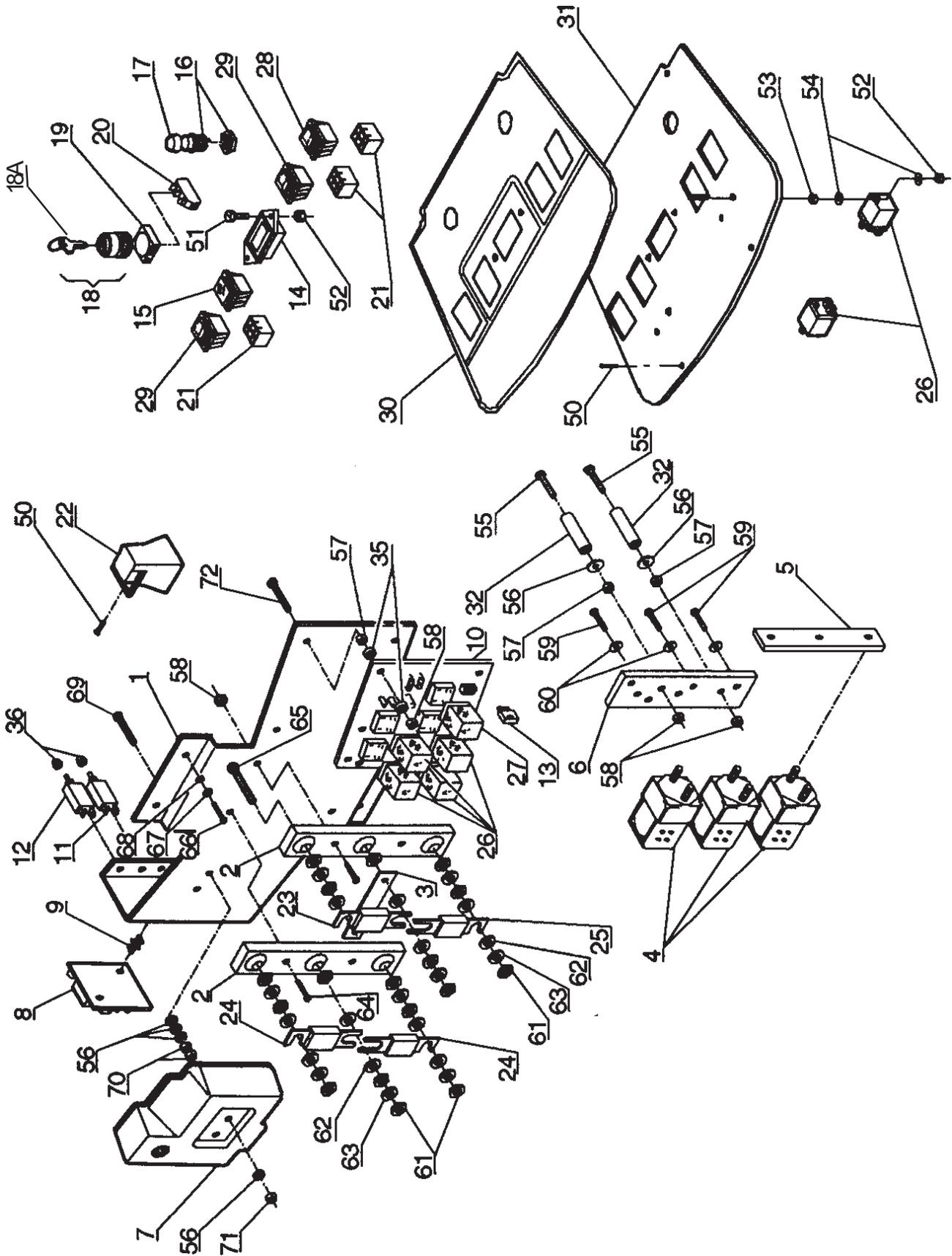
Clarke® MINI-MAX 26/28/30
Squeegee Assembly Drawing 2/01



Clarke® MINI-MAX 26/28/30
Squeegee Assembly Parts List 3/01

Ref	Part No.	Description	Qty	Models
1	51738A	Hose	1	All
3	51584A	Wheel	2	All
4	51740A	Stud Bolt	1	All
5	51741A	Special Nut	1	All
6	51742A	Locking Tab	4	All
7	51586A	Pipe	2	All
8	51744A	Spring Pin	4	All
9	51585A	Special Washer	4	All
10	51746A	Stud Bolt	1	All
11	51747A	Spring	1	All
12	51748A	Adjuster Nut	1	All
13	51749A	Chain with Pin	1	All
14	51750A	33" Squeegee Body	1	26
14A	51751A	40" Squeegee Body	1	28/30
15	51752A	33" Rear Clamping Plate	1	26
15A	51753A	40" Rear Clamping Plate	1	28/30
16	51289A	33" Front Squeegee Blade	1	26
16A	51306A	40" Front Squeegee Blade	1	28/30
17	51290A	33" Rear Squeegee Blade	1	26
17A	51307A	40" Rear Squeegee Blade	1	28/30
18	51754A	33" Front Clamping Plate	1	26
18A	51755A	40" Front Clamping Plate	1	28/30
50		Screw, M10x110		All
51		Lock Nut, M10		All
52		Screw, M6x25		All
53		Nut, M6		All
54		Lock Nut, M6		All
55		Screw, M5x10		All
56		Washer, Ø 8x24		All
57		Lock Nut, M8		All
	51288A	33" Squeegee Assembly		26
	51305A	40" Squeegee Assembly		28/30

Clarke® MINI-MAX 26/28/30
 Electrical Panel Assembly Drawing 12/02

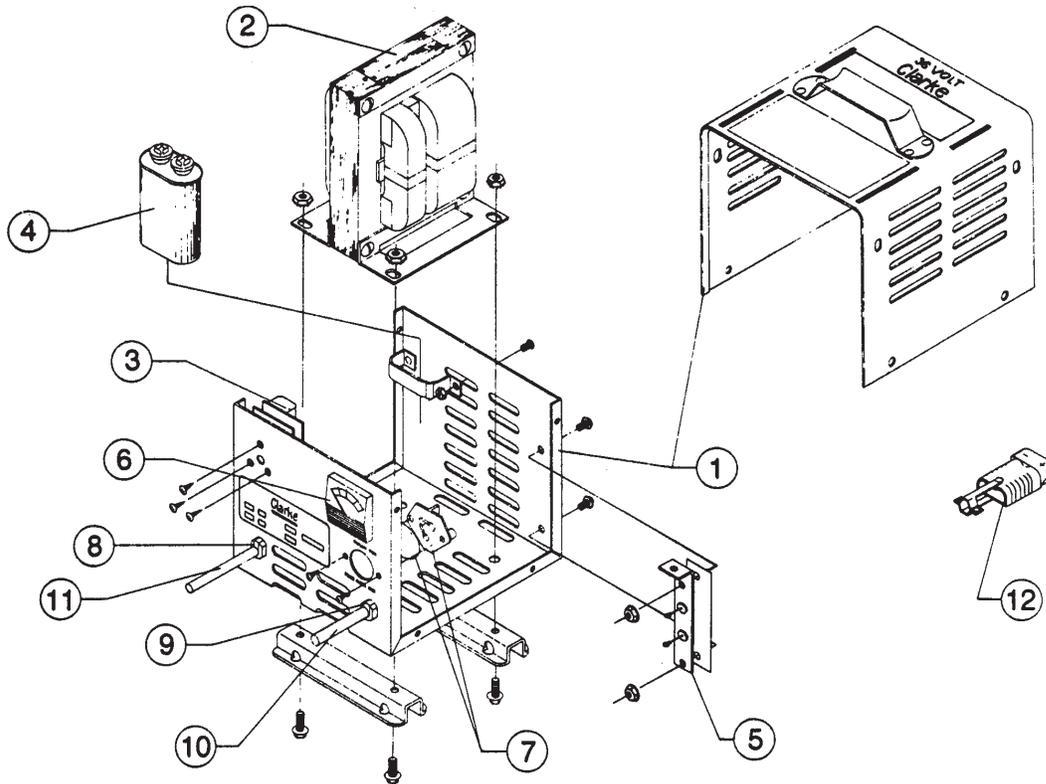


Clarke® MINI-MAX 26/28/30
Electrical Panel Assembly Parts List 12/02

Ref	Part No.	Description	Qty
1	51697A	Panel	1
2	51698A	Fuseholder	2
3	51699A	Bridge	1
4	40224A	Contactor	3
5	51721A	Bridge	1
6	51722A	Support	1
7	40219A	Motor Controller	1
8	40220A	Battery Card	1
9	51723A	Coupler	2
10	40221A	Control Card	1
11	40235A	Circuit Breaker, 8A	3
12	40236A	Circuit Breaker, 3.5A	3
13			
14	51724A	Hour Meter	1
15	40240A	Battery Meter	1
16	51725A	Switch	1
17	51726A	Protection Cap	1
18	40238A	Switch, Key	1
18A	80151A	Key, Spare	1
19	40239A	Flange	1
20	40237A	Contact	1
21	51727A	Polarized Base	3
22	51728A	Buzzer	1
23	40242A	Fuse, 35A	1
24	40243A	Fuse, 80A	2
25	40244A	Fuse, 160A	1
26	40223A	Relay, 24V 20A	6
27	40222A	Relay, 24V 30A	1
28	51729A	Switch, Momentary	1
29	51730A	Rocker Switch	2
30	70490A	Label, Control Panel	1
31	52873A	Control Panel	1
32	51733A	Bushing	2
35	51736A	Washer, Ø 4x8x3 Nylon	8
36	51737A	Protection Cap	6
50		Screw, Ø 4,2x16	
51		Screw, M3x16	
52		Lock Nut, M3	
53		Nut, M3	
54		Washer, Ø 4x8	
55		Screw, M4x50	
56		Washer, Ø 5x10	
57		Nut, M4	
58		Lock Nut, M4	
59		Screw	
60		Lock Washer, M4x6	
61		Nut, M10	
62		Washer, Ø 10	
63		Lock Washer, Ø 10	
64		Screw, M4x20	
65		Screw, M10x40	
66		Screw, M6x20	
67		Lock Washer, Ø 6	
68		Washer, Ø 6x12	
69		Screw, M5x30	
70		Nut, M5	
71		Lock Nut, M5	
72		Screw, M4x20	

Clarke® MINI-MAX 26/28/30
36 Volt Battery Pack and Battery Charger

BATTERY PACK COMPONENTS			
Part #	Description	Qty.	Model
40136A	Battery, 250 Ah - 6 Volt	6	All
41217A	Series Battery Cable, 16"	5	All
40177A	Battery Connector Cable	1	All
40189A	Battery/Charger Adapter Cable	1	All
38720B	Battery Spacer	1	All



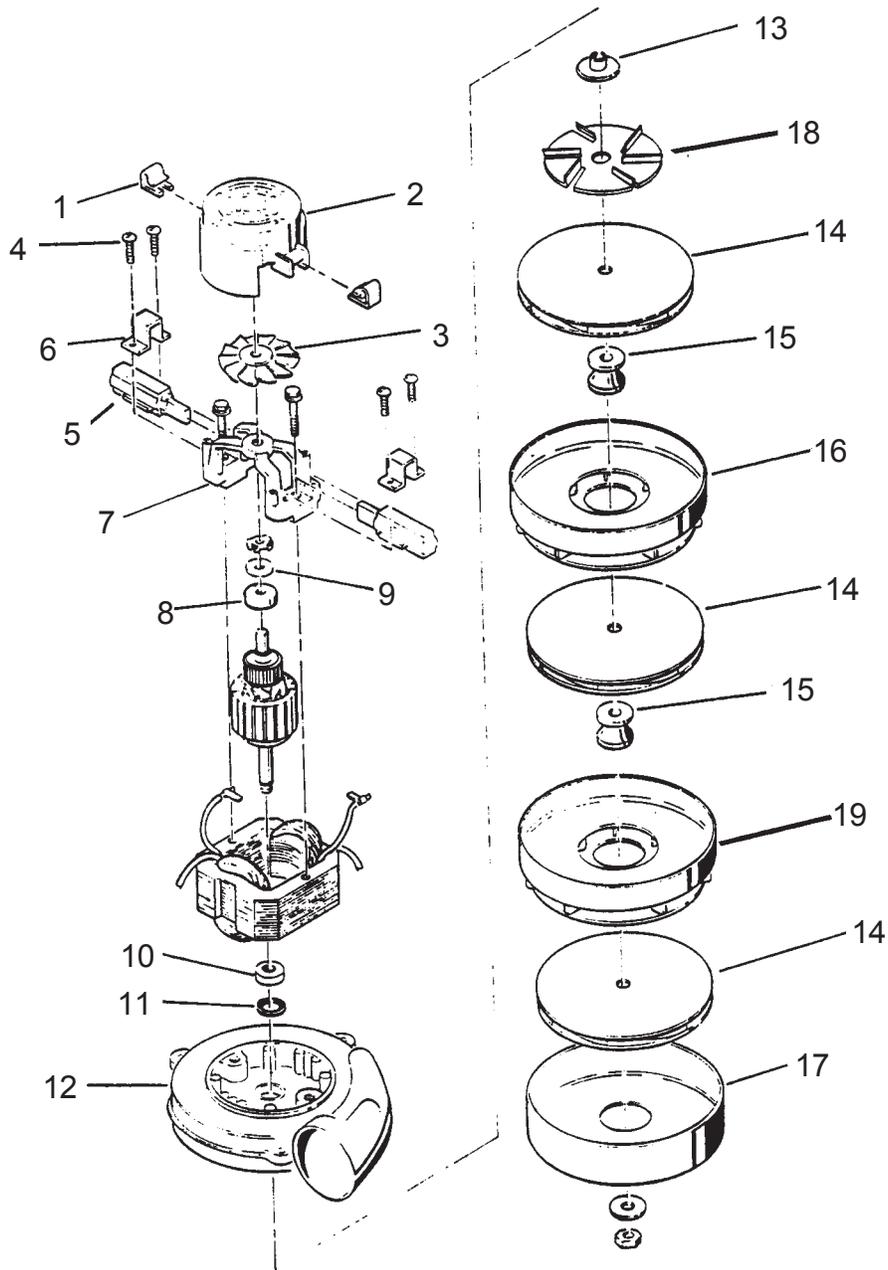
WARNING: All electrical repairs must be performed by qualified personnel only.

PARTS LIST FOR BATTERY CHARGERS

40506A - 36 Volt D.C., 25A, 115 Volt A.C., 60 Hz

Charger Model Number	40506A	
Ref #	Description	Part #
1	Charger Case	42503A
2	Transformer	48400A
3	Electronic Timer Kit	41102A
4	Capacitor, 6 Mfd., 660 V.A.C.	912132
5	Heat Sink Assembly	912212
6	Ammeter	40200A
7	Fuse Assembly	912382
8	Strain Relief, A.C. Cord	837525
9	Strain Relief, D.C. Cord	747553
10	D.C. Cord Assembly	51973A
11	A.C. Cord Assembly	51974A
12	D.C. Plug	911185
	D.C. Plug Lock Key	795020

Clarke® MINI-MAX 26/28/30
 Vac Motor Assembly #45019A 2/01

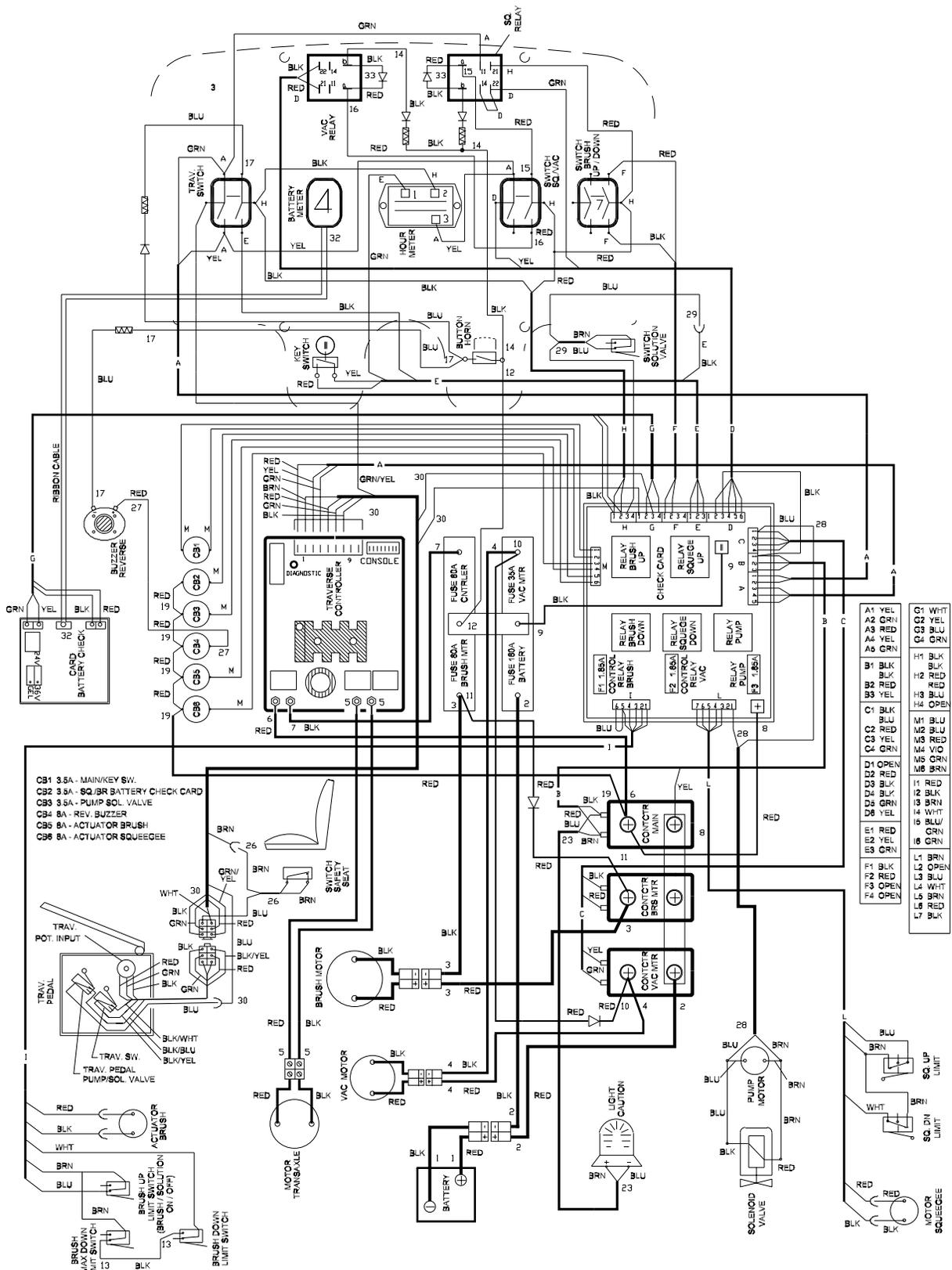


Ref #	Part No.	Description	Qty
1	51913A	Clip (optional)	2
2	54809A	Housing	1
3	53905A	Fan	1
4	85303A	Screw - 8-32 x 3/8	4
5	40830A	Carbon Brushes	2
6	51914A	Clamp	2
7	50618A	Bracket	1
8	53100A	Disc	1
9	902679	Bearing - Ball	1
10	902648	Bearing - ball, radial	1

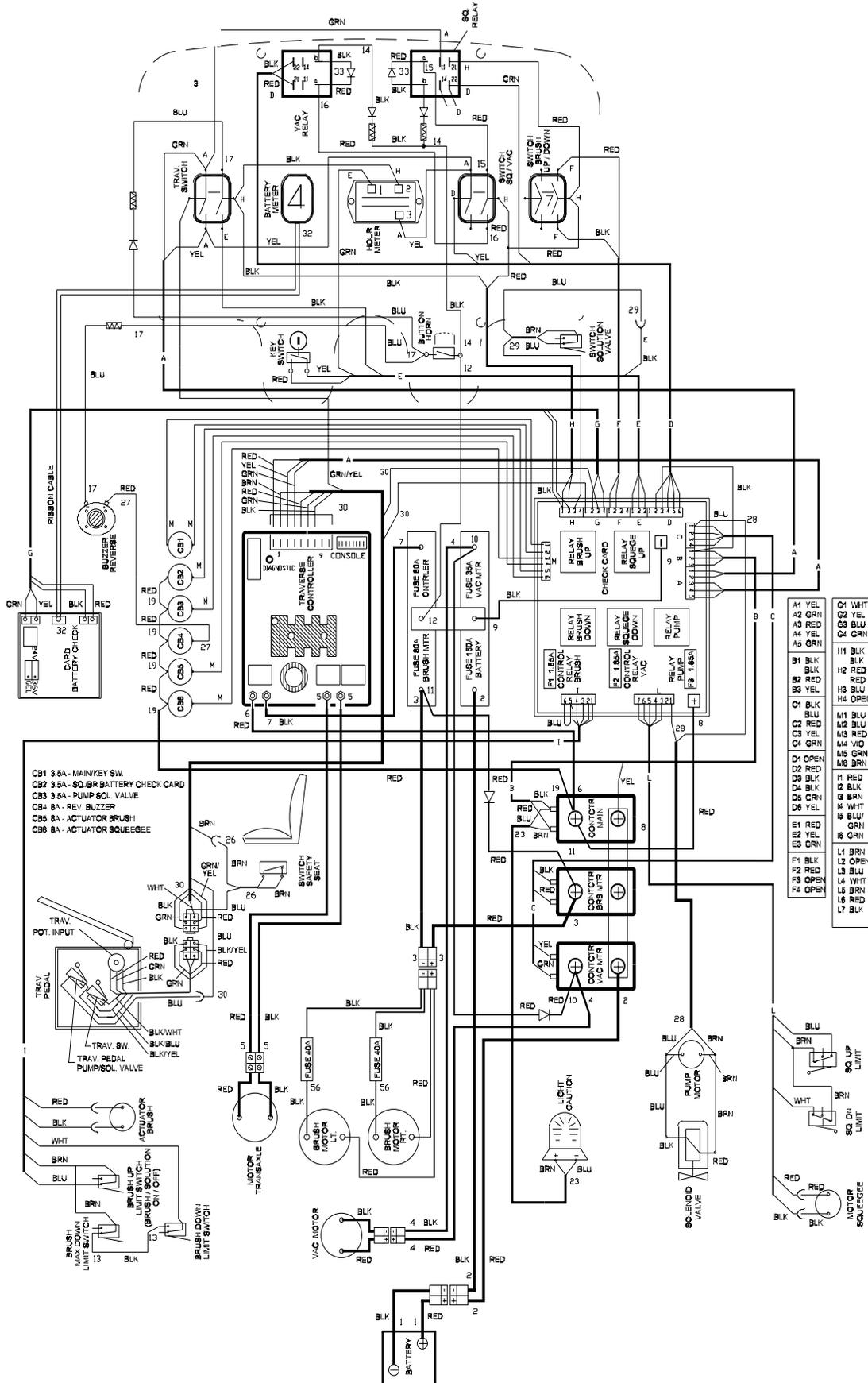
Ref #	Part No.	Description	Qty
11	59803A	Washer - neoprene	1
12	50610A	Bracket and shell	1
13	58501A	Spacer	1
14	53914A	Fan - Rotating	3
15	658201	Spacer	2
16	53908A	Fan - Stationary	1
17	658506	Shell	1
18	53995A	Fan, Air Seal	1
19	53996A	Fan, Stationary	1

Clarke® MINI-MAX 26/30

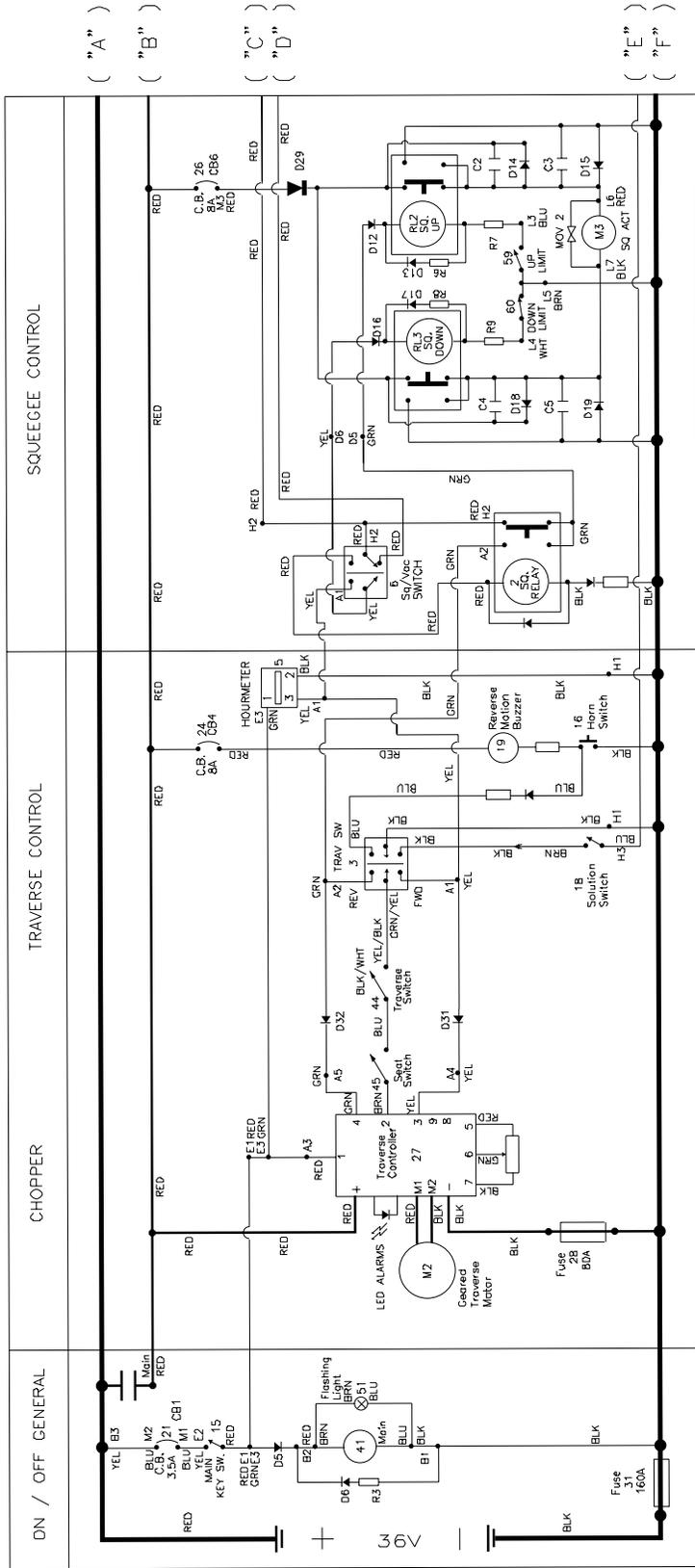
Electrical Connection Diagram 1/02



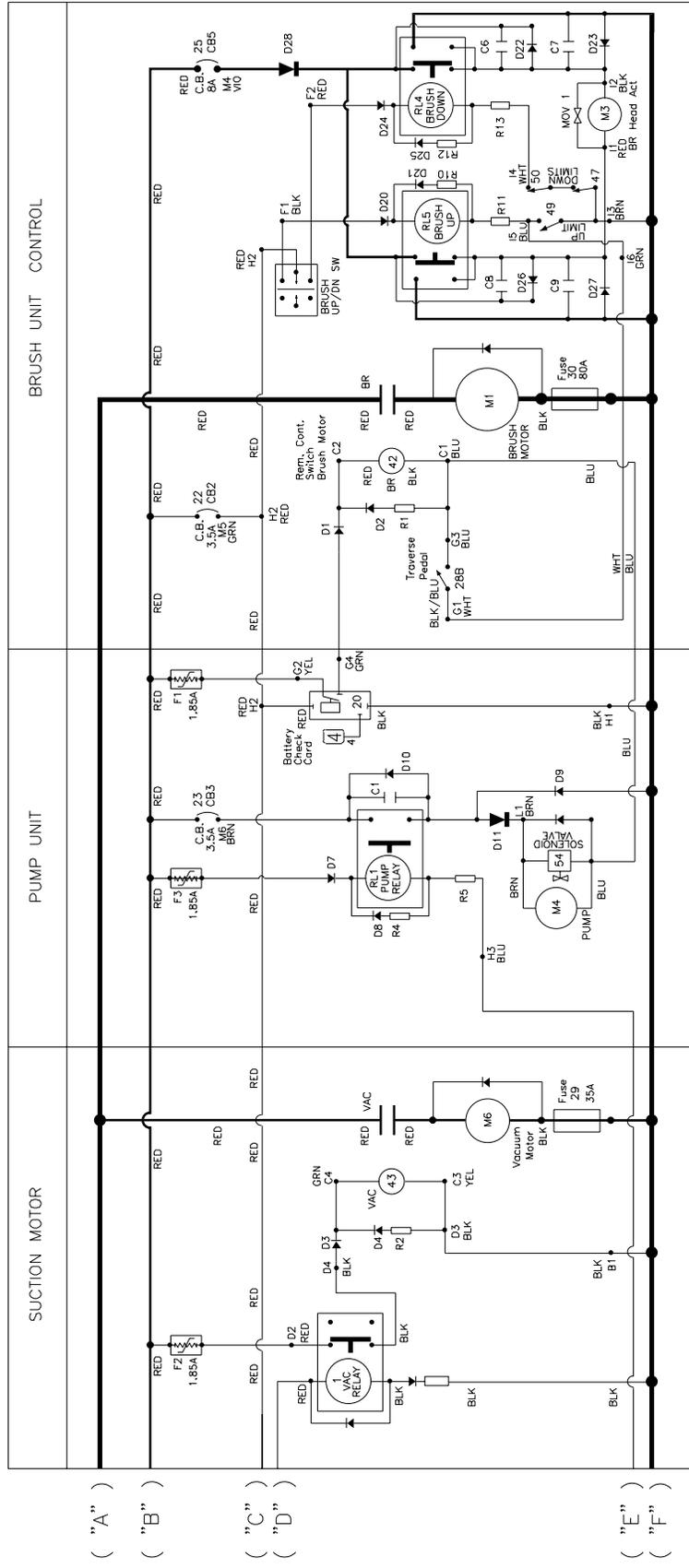
Clarke® MINI-MAX 28 Electrical Connection Diagram 1/02



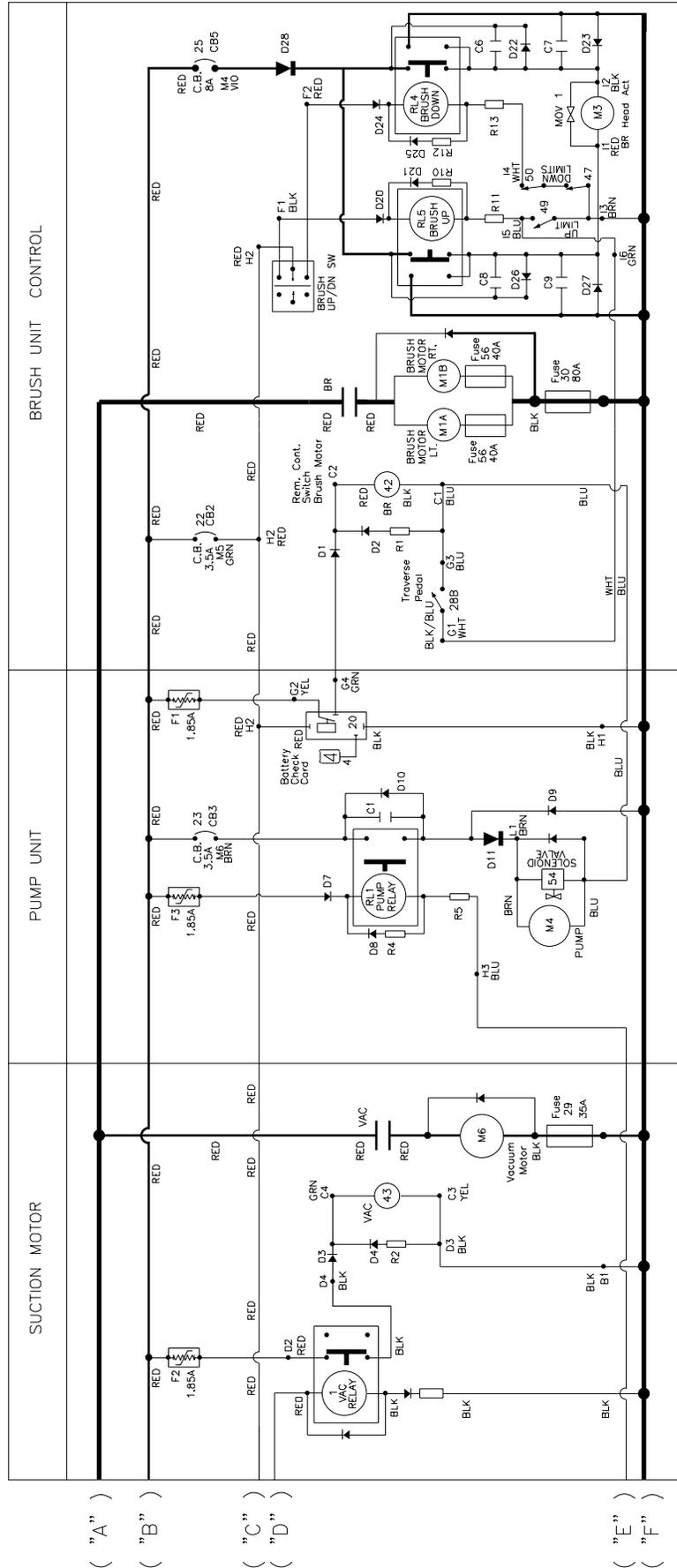
Clarke® MINI-MAX 26/30
 Electrical Schematic 1/02
 (continued on Page 61)



Clarke® MINI-MAX 26/30
 Electrical Schematic 1/02
 (continued from page 60)



Clarke® MINI-MAX 28
 Electrical Schematic 1/02
 (continued from page 62)



("A")
 ("B")
 ("C")
 ("D")
 ("E")
 ("F")

ALTO® PRODUCT SUPPORT BRANCHES

U. S. A. Locations

HEAD OFFICE

ALTO U.S. Inc., St. Louis, Missouri
16253 Swingley Ridge Road, Suite 200
Chesterfield, Missouri 63017-1725

PRODUCTION FACILITIES

Clarke®, Springdale, Arkansas
2100 Highway 265
Springdale, Arkansas 72764
(479) 750-1000
Customer Service - 1-800-253-0367
Technical Service - 1-800-356-7274

American Lincoln®, Bowling Green, Ohio 43402
1100 Haskins Road

SERVICE FACILITIES

Clarke®, Carlstadt, New Jersey 07072
150 Commerce Road
(201) 460-4774

Clarke®, Elk Grove, Illinois 60007
2280 Elmhurst Road
(847) 956-7900

Clarke®, Denver, Colorado 80204
1955 West 13th Ave.
(303) 623-4367

Clarke®, Houston, Texas 77040
7215 North Gessner Road

SALES AND SERVICE FACILITIES

American Lincoln® / Clarke®, Madison Heights,
Michigan 48071-0158
29815 John R.
(810) 544-6300

American Lincoln® / Clarke®, Marietta, Georgia 30062
1355 West Oak Common Lane
(770) 973-5225

Clarke®
Clarke American Sanders
A.L. Cook
Customer Service Headquarters and Factory
2100 Highway 265
Springdale, Arkansas 72764
(479) 750-1000

Technical Service
1-800-356-7274

European Locations

PRODUCTION FACILITIES

ALTO Danmark A/S, Aalborg
Blytaekkervej 2
DK-9000 Aalborg
+45 72 18 21 00

ALTO Danmark A/S, Hadsund
Industri kvarteret
DK-9560 Hadsund
+45 72 18 21 00

SALES SUBSIDIARIES

Clarke® Canada Ltd., Rexdale Ontario
24 Constellation Ct.
(416) 675-5830

ALTO Overseas Inc., Sydney (Australia)
1B/8 Resolution Drive
Caringbah NSW 2229
+61 2 9524 6122

ALTO Cleaning Systems Asia Pte Ltd., Singapore
No. 17 Link Road
Singapore 619034
+65 268 1006

ALTO Deutschland GmbH, Bellenberg (Germany)
Guido-Oberdorfer-Straße 2-8
89287 Bellenberg
+49 0180 5 37 37 37

ALTO Cleaning Systems (UK) Ltd., Penrith
Gilwilly Industrial Estate
Penrith
Cumbria CA11 9BN
+44 1768 868 995

ALTO France S.A. Strasbourg
B.P. 44, 4 Place d'Ostwald
F-67036 Strasbourg
Cedex 2
+33 3 8828 8400

ALTO Nederland B.V. Vianen
Stuartweg 4C
NL-4131 NJ Vianen
+31 347 324000

ALTO Sverige AB, Molndal (Sweden)
Aminogatan 18
Box 4029
S-431 04 Molndal
+46 31 706 73 00

ALTO Norge A/S, Oslo (Norway)
Bjornerudveien 24
N-1266
+47 2275 1770

Clarke® LIMITED U.S. WARRANTY

This Clarke Industrial/Commercial Product is warranted to be free from defects in materials and workmanship under normal use and service, when operated and maintained in accordance with Clarke's Maintenance and Operations instructions. The warranty period is subject to the conditions stated below.

3 YEARS FOR PARTS AND 1 YEAR FOR SERVICE LABOR (See exceptions below)

Motors must be inspected for carbon motor brush wear at six-month intervals by an authorized Clarke repair station. Failure to comply with the six-month inspection requirement or failure to replace worn motor brushes identified during the inspection will void the warranty on the motors. Cost of the six-month inspection and replacement of carbon motor brushes is the responsibility of the purchaser. In the event of a warranty claim on the motors, proof of inspection and any required motor brush replacement must be provided. This warranty is extended only to the original purchaser for use of the product. It does not cover normal wear parts such as electrical cable, rubber parts, hoses and motor brushes.

BATTERY WARRANTY

In addition to the items above, any original equipment Clarke Battery which becomes unserviceable under normal use within a period of ninety (90) days from date of sale to the original user will be repaired or replaced with one of equal specification at our option, F.O.B. any authorized Clarke Sales or Service Branch, with no charge to the user, except transportation costs. After expiration of the above ninety (90) day period, any battery which fails under normal use will be adjusted to the original user with a new battery of equal specification on an eighteen (18) months pro rate basis from the date of purchase. Adjustment will be determined using the then current list price, plus transportation costs.

Warranty is rendered null and void if battery is not kept filled to the proper level with DISTILLED WATER.

CLARKE: POLYDUR® AUTOMATIC SCRUBBER SOLUTION AND RECOVERY TANK EIGHT-YEAR U.S. GUARANTEE

Your new Clarke machine has polydur Solution and Recovery Tanks. Polydur is a rotationally molded, low-density linear polyethylene that won't crack or dent, and withstands most corrosives and temperature extremes. Clarke backs up your Polydur tanks with an eight-year guarantee. If a tank breaks or leaks under normal use within eight years of the date of purchase, it will be replaced free.

CLARKE UNIBODY FRAME FIVE-YEAR U.S. WARRANTY

Clarke warrants the frame for a period of five years against defects in materials and workmanship under normal use and service.

STATED WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED

Clarke's liability under this warranty is limited to repair of the product and/or replacement of parts and is given to purchaser in lieu of all other remedies, including INCIDENTAL AND CONSEQUENTIAL DAMAGES.

THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE SPECIFIED HEREIN. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. NO WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY, SHALL BE IMPLIED. A warranty registration card is provided with your Clarke product. Return the card to assist Clarke in providing the performance you expect from your new floor machine.

If a difficulty develops with the product, you should: a) Contact the nearest authorized Clarke repair location or contact the Clarke Service Operations Department, 2100 Highway 265, Springdale, Arkansas 72764, for the nearest authorized Clarke repair location. Only these locations are authorized to make repairs to the product under this warranty. (b) Return the product to the nearest Clarke repair location. Transportation charges to and from the repair location must be prepaid by the purchaser. Clarke will repair the product and/or replace any defective parts with out charge within a reasonable time after receipt of the product.

Clarke, 2100 Highway 265, Springdale, Arkansas 72764.

Clarke reserves the right to make changes or improvements to its machine without notice.

Always use genuine Clarke Parts for repair.



**2100 Highway 265
Springdale, Arkansas, 72764**