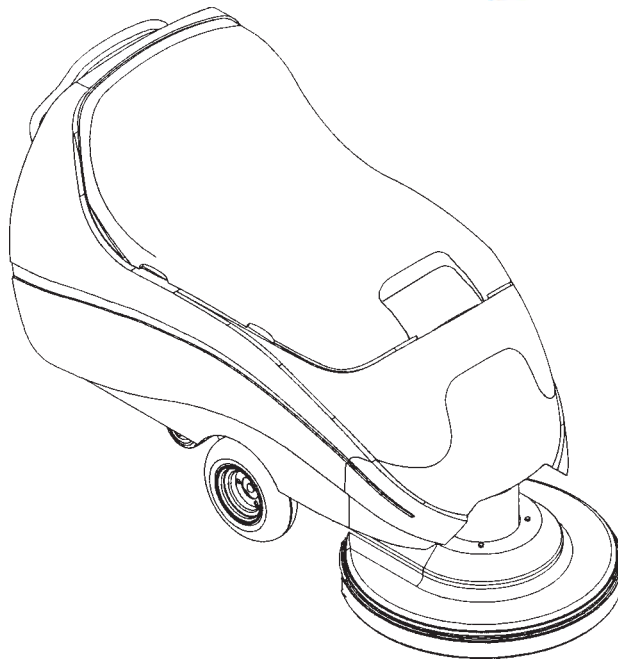

Clarke®

Division of
ALTO®

Operator's Manual



Fusion 27 Battery Burnisher

Patent Pending

READ THIS BOOK

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 your operator(s) cannot read English, have this manual 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.

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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 your Owner's Manual and on your machine.



DANGER:

Failure to read the Owner'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 until it is completely assembled. Inspect the machine carefully before operation.



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.



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. Unplug the AC charger from the wall outlet before operating the machine.



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:

Operating this machine from anywhere other than the back of the machine could result in injury or damage. Operate this machine only from the rear.









WARNING:

This machine is heavy. Get assistance before attempting to transport or move it. Use two able persons to move the machine on a ramp or incline. Always move slowly. Do not turn the machine on a ramp. If operating machine on a gradient over 2%, do not stop, turn or park. Read the "Procedures For Transporting" in this manual before transporting.



WARNING:

Machines can topple over if guided over the edges of stairs or loading docks and cause injury or damage. Stop and leave this machine only on a level surface. When you stop the machine, turn the key "OFF".

-  **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. For storage, keep the machine in a dry 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. Get replacement labels and plates from your Clarke distributor.
-  **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. Do not ride on this machine.
-  **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.

Introduction & Machine Specifications

Introduction & Machine Specifications

Clarke's newly designed Fusion 27 battery burnisher is an efficient and superior floor burnishing machine . The machine uses a pad to burnish a path 27 inches wide. The powder created by burnishing is collected by a dust system.


The machine comes complete with six - 6 volt batteries, one on board battery charger, a pad driver and one operator's manual.

SPECIFICATIONS:

Model Fusion 27	(01264A)
Motor, Pad	3 hp
Power Supply	36V 370 Ah
Dust Tank	1/2 gallon
Motor Traction	1/2 hp
Pad Speed	1500 rpm
Pad Pressure	50 lbs.
Speed, Forward	192 ft./min.
Speed, Reverse	167 ft./min.
Charger	36V 23A
Length	74"
Width - Machine	30"
Height	45"
Buffing Rate	26,000 Sq. ft /hr.
Buffing Swath	27"
Weight w/Batteries (370Ah)	1,150 lbs.
Shipping Weight w/batteries (370Ah)	1,300 lbs.

PROCEDURES FOR TRANSPORTING

How To Put The Machine In A Van Or Truck

 **WARNING:** The machine is heavy. Make sure you use two able persons to assist the machine in climbing the ramp.

1. Make sure the loading ramp is at least eight (8) feet long, and strong enough to support the machine.
2. Make sure the ramp is clean and dry.
3. Put the ramp in position.
4. Turn key switch "ON".
5. Align the machine on a level surface ten (10) feet in front of the ramp.
6. Put the traverse speed in the "HI" position.
7. Push the control handles toward the machine all the way.
8. Push the machine to the top of the ramp.
9. Turn the key switch "OFF".
10. Fasten the machine to the vehicle.

How To Remove The Machine From A Van Or Truck

1. Make sure there are no obstructions in the area.
2. Make sure the unloading ramp is at least eight (8) feet long and strong enough to support the machine.
3. Make sure the ramp is clean and dry.
4. Put the ramp in position.
5. Unfasten the machine.

 **WARNING:** The machine is heavy. Make sure you use two able persons to assist in moving the machine down the ramp.

6. Turn the key switch "ON".
7. Carefully and slowly, pull the machine to the top of the ramp.
8. Put the traverse speed in the "HI" position.
9. As the machine begins to travel down the ramp, push the control handles toward the machine to maintain a slow downward speed.

SYMBOLS USED ON FUSION 27



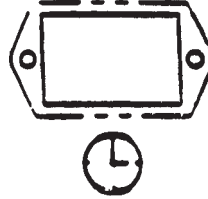
Warning



Pad Pressure



Power



Hour Meter



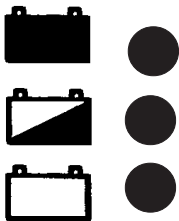
Traverse Speed Control



Pad Up/Down



Warning Label



Charge/Battery Meter

MACHINE CONTROLS

NOTE: Reference figures #1, 2 and 3 on page 9.

Key Switch (See Figure #1, Item "A")

The key switch turns "ON" the power to the control panel. "0" is "OFF" and "1" is "on".

Traverse Speed (See Figure #1, Item "B")

The speed control varies from low to high speed. To increase the speed, turn the knob to the right. To decrease the speed, turn the knob to the left.

Head Position Switch (See Figure #1, Item "C")

The head switch has three positions: "Up" positions the pad driver up; "Down" positions the pad driver on the floor. The middle position stops the actuator. The head motor operates only when the head is down and the machine is traversing.

Pad Pressure Meter (See Figure #1, Item "D")

The pad pressure meter indicates the relative pressure of the pad on the floor. Do not continue to run the machine when the meter is in "red" area. This will trip the pad motor circuit breaker.

Control Handle (See Figure #1, Item "E")

The control handle is located at the rear of the machine. It controls the direction of the machine. Push forward to go forward. (See Figure #2, page 9). Pull back to move in reverse. (See Figure #3, page 9).

Circuit Breakers (See Figure #1, Item "F"-"H")

The circuit breaker reset buttons are located on the rear cover, below the control handle. The breakers are located as follows:

- Item F - Pad Motor (90A)
- Item G - Traverse Motor (30A)
- Item H - Actuator Motor, Brush Head (5A)

If a circuit breaker trips, determine which motor is not operating and turn the key switch "OFF". Wait five minutes and push the reset button back in. Turn the key switch "ON", and try again. An authorized service person should be contacted if the breaker trips again.

Hour Meter (See Figure #1, Item I)

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

Charge / Battery Meter (See Figure #1, Item J)

The charge/battery meter indicates the battery is being charged when the charger is plugged into a live outlet and it indicates the amount of charge left in the batteries while they are being discharged. It will shut the pad motor off when the battery voltage gets too low.

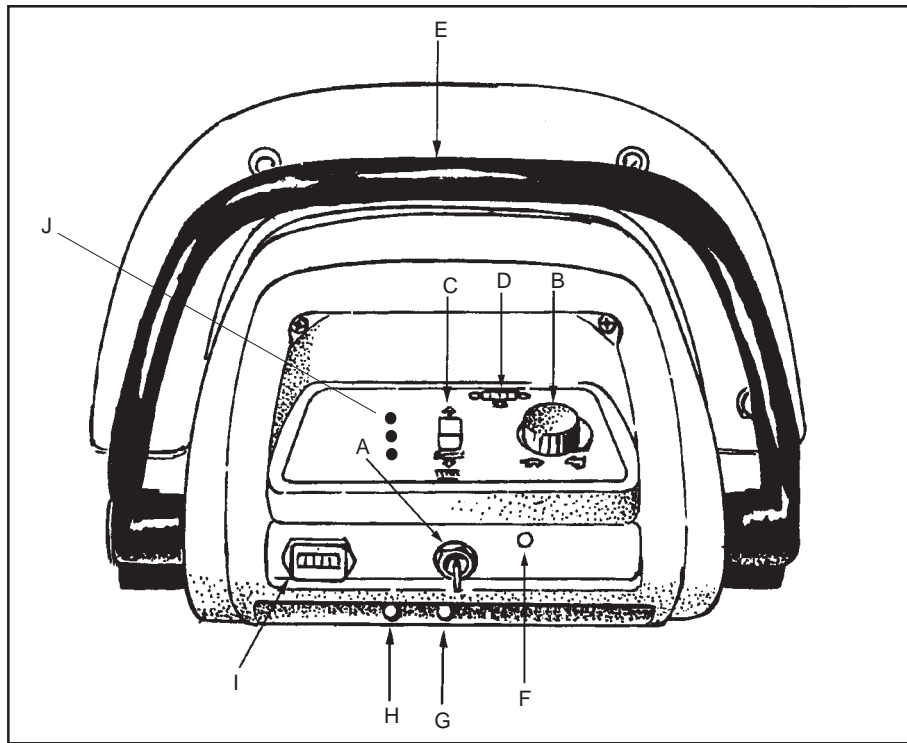


Figure #1

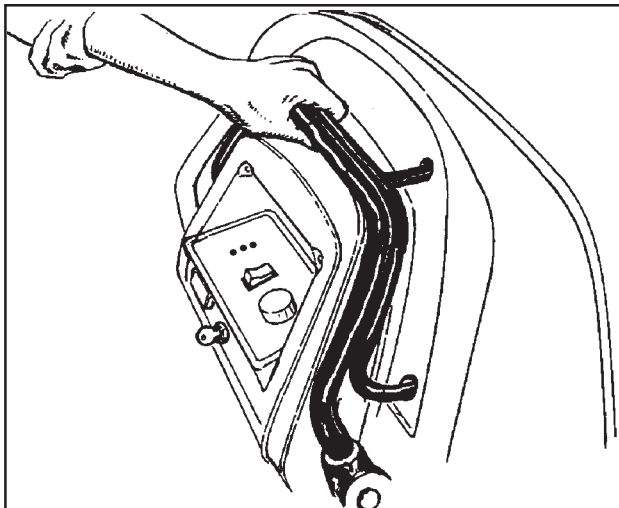


Figure #2

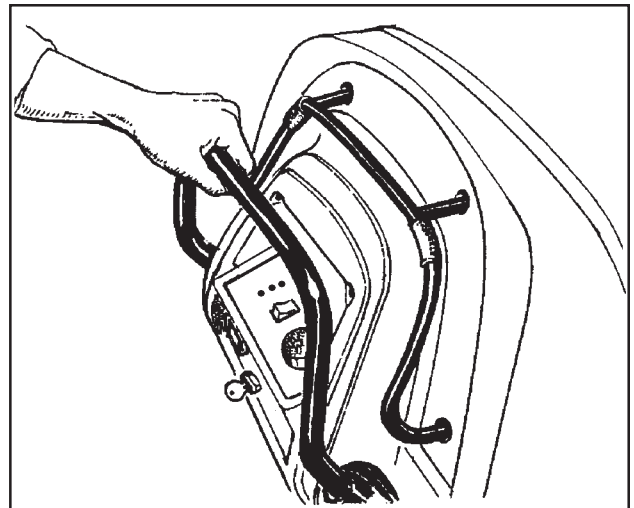


Figure #3

HOW TO PREPARE THE MACHINE FOR OPERATION

How To Install The Batteries

The Fusion 27 machines uses six 6-volt batteries. The batteries are located in the battery compartment under the battery cover.

To Install the batteries, follow this procedure:

1. Turn key switch off.
2. Remove the battery cover.
3. Place the batteries in the body as shown in figure 4.

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

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

4. Connect the battery cables between batteries as indicated. See figure 4.

NOTE: Charge the batteries before using the machine.

Battery Maintenance

The electrical power to operate the machine comes from the storage batteries. Storage batteries need preventive 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. Remove each cap to all of the cells of the batteries.
2. Check the electrolyte level in the batteries. The minimum level is just above the tops of the plates. See figure 5 A.

NOTE: Check the level of electrolyte prior to charging the batteries.

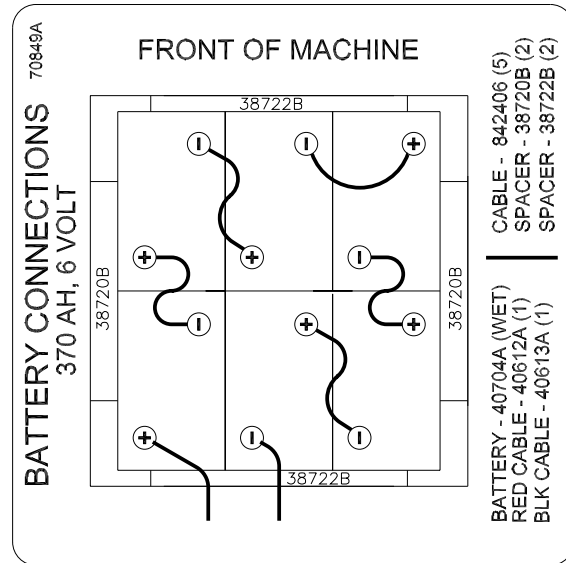


Figure #4

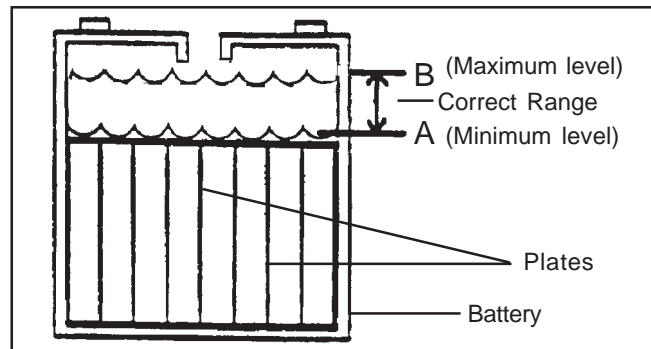




Figure #5

HOW TO PREPARE THE MACHINE FOR OPERATION

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


3. Reinstall the caps.
4. After charging, top off the batteries. **NOTE: USE DISTILLED WATER ONLY. THIS SHOULD BE DONE AFTER CHARGING.** The maximum level is within 1/4 inch of the bottom of the tube in each cell. See figure 5 B. For instructions on how to charge the batteries, see "How To Charge The Batteries" below.


 **CAUTION:** Machine damage and discharge across the tops of the batteries can occur if the batteries are filled above the bottom of the tube in each cell. 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:** Tap water may contain contaminants that will damage batteries. Batteries must be re-filled with distilled water only.

5. 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 batteries.
6. Keep the batteries charged.

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!**

To charge the batteries, follow this procedure:

1. Make sure the key switch is in the "OFF" position.
2. Connect the charger to a properly grounded single phase (3-wire) wall receptacle having the voltage, frequency, and ampere capacity specified on the nameplate of the charger.

HOW TO PREPARE THE MACHINE FOR OPERATION

How To Install The Pad

To install the pad on the machine, follow this procedure:

1. Position the pad centered on the pad driver.
See figure 6
2. Install and tighten the pad retainer.



Figure #6

How To Remove The Pad

To remove the pad on the machine, follow this procedure:

1. Loosen and remove the pad retainer.
2. Pull the pad from the pad driver. See figure 7.



Figure #7

HOW TO OPERATE THE MACHINE

Pad Pressure Operation

In order to maintain the amount of "pad pressure" being applied to the floor, this machine comes with:

1. **Pad Pressure Meter** - "10 Bar" LED, (2) Yellow, (6) Green and (2) Red. This is located on the upper right side of the control panel. See figure 8.
2. **90 amp circuit breaker**
3. **Pad Pressure adjustment nut**

The color bands on the pad pressure meter indicate whether the pad pressure is too low (Yellow); within recommended pad motor specifications (Green); or too high (Red). If the machine is operating in the Red band for more than 5 - 10 seconds, the circuit breaker will "pop", indicating that the pressure on the floor has exceeded the pad motor specifications. Excessive "popping" (or blowing) of the circuit breaker will cause the breaker to stop functioning and will need to be replaced.

This machine operates on a "Pivot-Control" system. This allows for the machine to "float" along the floor consistently and continues to burnish the floor as the pad wears. When the pad pressure meter starts to operate in the Yellow band, it is recommended that the pad be checked for excessive wear and possible replacement.

If the machine operates in the (Red) band for more than 2-3 seconds, it is recommended that you reduce the amount of pad pressure being applied to the floor. Refer to the "Pad Pressure Adjustment" instructions.

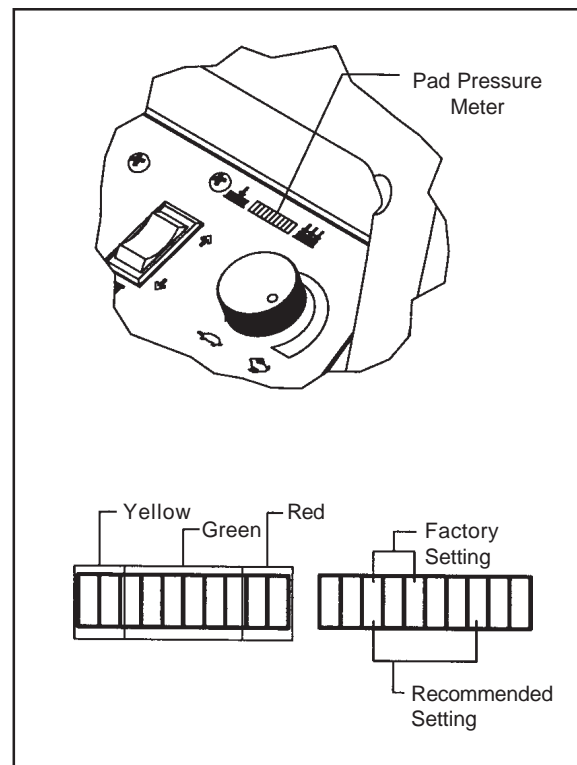


Figure #8

HOW OPERATE THE MACHINE

Pad Pressure Operation (Continued)

While operating the machine, you may notice that the pad pressure meter moves from Yellow to Green to Red to Green etc. This is due to the condition of the floor being burnished. The more consistent the floor, the more stable the reading on the meter.

Depending on the type of pad and the finish being used, the pad pressure may need to be adjusted in order to keep the pressure within specifications. Refer to the "Pad Pressure Adjustments" instructions.

Pad Pressure Adjustments

1. Locate the pad pressure adjustment nut located underneath the machine between the rear casters. See figure 9.
2. Using a 3/4" wrench (1/2 turn increments only), tighten the nut to reduce the pad pressure or loosen the nut to increase the pad pressure.
3. Run the machine for a few seconds in order to get a reading from the pad pressure meter.
4. If adjustment is still needed, follow steps 2-3 until the pad pressure meter stays within the "Green" band.

Operating the Machine

NOTE: Put the machine in the slow traverse speed (less than 1/2 speed). Use the machine in an area that has no furniture and objects until you can do the following:

1. Move the machine in a straight direction, forward and backward.
2. Stop the machine safely.
3. Move the machine in a straight direction after you turn the machine.

To move the machine, follow this procedure:

1. Turn the key switch "ON" position.
2. Press and hold the top of the head position switch until you hear the actuator ratchet.
3. To go forward, push the control handles toward the machine. See figure #10.
4. To stop the machine, put the handles in the center position.
5. To go backward, pull the handles away from the machine. See figure #11.
6. To turn the machine, push the rear of the machine to the side.
7. When you stop the machine, turn the key switch "OFF".

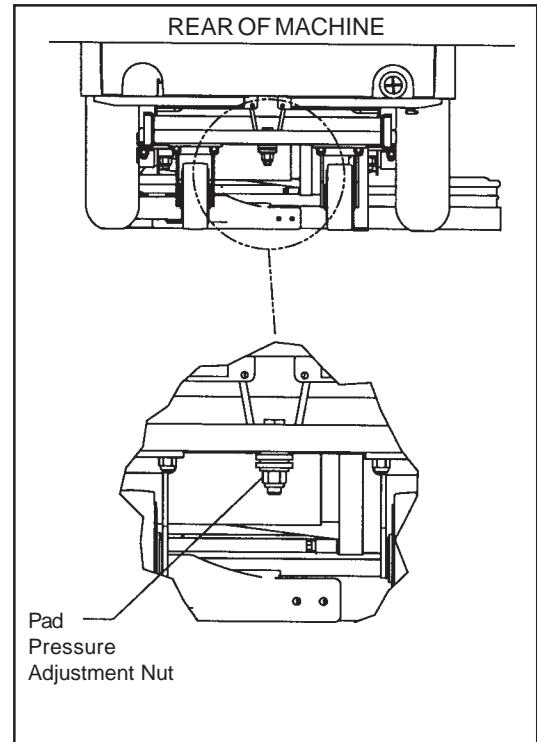


Figure # 9

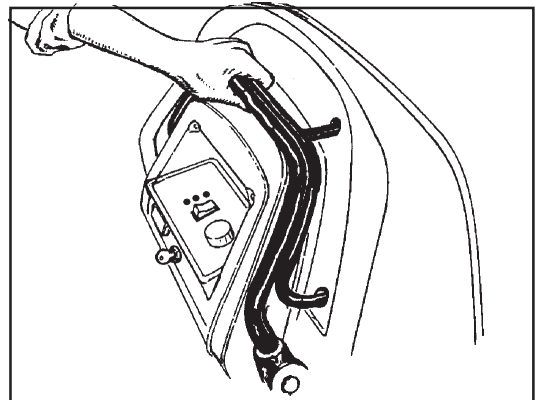


Figure #10

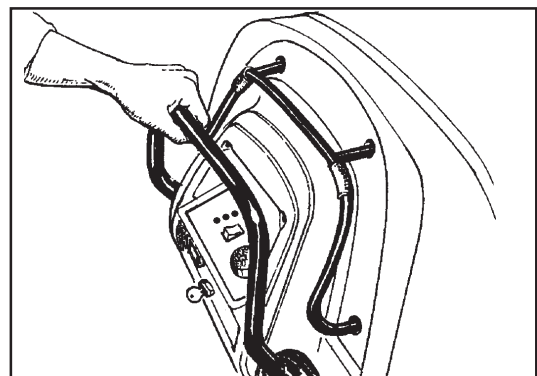


Figure #11

MAINTENANCE

⚠ WARNING: Maintenance and repairs must be done by authorized personnel only.

⚠ WARNING: Keep all fasteners tight.

These Maintenance Procedures Must Be Done Every Day

Keep the machine clean, it will need fewer repairs and have longer life.

Do These Procedures When You Begin Your Work Period

1. Turn off key switch.
2. Disconnect the plug on the charger from the wall. See figure #12.
3. Make sure pad skirt is in position on the head.
8. Make sure pad is in position and installed correctly

These Maintenance Procedures Must Be Done Every Week:

⚠ WARNING: Maintenance and repairs must be done by authorized personnel only. Keep all fasteners tight.

⚠ WARNING: Always wear eye protection and protective clothing when working near batteries. 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 battery after installation.

NOTE: Always turn off key switch before servicing the machine.

WARNING: Always wear eye protection and protective clothing when working near batteries. **NO SMOKING!**

1. To inspect the batteries, tilt the battery cover. See Figure #13.
2. 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.
3. Check the hoses for leaks, obstructions and other damages.
4. Use a grease gun to lubricate the casters. See figure #14.
5. The main tires are foam filled. They do not require air.



Figure #12



Figure #13

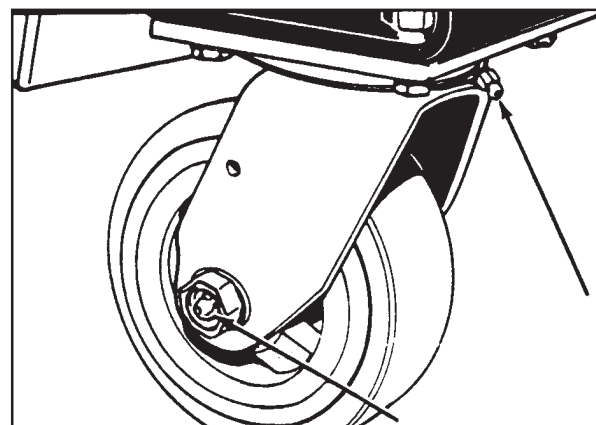


Figure #14

Clarke®

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Fusion 27 Battery Burnisher

Section II Parts and Service Manual

(70788A)

Patent Pending

HOW TO CORRECT PROBLEMS IN THE MACHINE

PROBLEM	CAUSE	ACTION
The batteries do not give the normal running time.	<p>The battery terminals are dirty or damaged.</p> <p>The electrolyte level is too low.</p> <p>The batteries are not fully charged.</p> <p>The charger is damaged.</p> <p>The battery is defective.</p> <p>The batteries are disconnected.</p>	<p>Clean the terminals and connectors. Replace the damaged cables. Charge the batteries.</p> <p>Add distilled water to each cell and charge the batteries.</p> <p>Charge the batteries for a full 16 hour charge.</p> <p>Have an authorized service person repair the charger.</p> <p>Check voltage of each cell while discharging.</p> <p>Connect the batteries.</p>
The burnishing is not even.	<p>The pad is worn.</p> <p>There is damage to the pad assembly.</p> <p>The pad motor is not running</p>	<p>Replace the pad.</p> <p>Have an authorized service person make the needed repairs.</p> <p>Check for tripped breaker, reset. Check for loose connections.</p> <p>NOTE: If the motor continues to stop consult an authorized service person.</p>
The machine does not run.	<p>The machine loses power.</p>	<p>Reset the circuit breaker. Check wire connection to traverse motor.</p> <p>Replace the fuse.</p> <p>Check the battery connections.</p> <p>NOTE: If the motor continues to stop, consult an authorized service person.</p>
Pad motor circuit breaker trips.	<p>Pad pressure is too high</p>	<p>Tighten the adjustment nut between the rear casters.</p>
Pad pressure meter readings are too low.	<p>Pad pressure is too low.</p>	<p>Loosen the adjustment nut between the rear casters.</p>
Machine vibrates	<p>Unbalanced pad.</p>	<p>Recenter pad on driver.</p> <p>Install new pad.</p>
Machine pulls right.	<p>Pad pressure too high on right.</p>	<p>Tighten right front lift plate nut.</p>
Machine pulls left.	<p>Pad pressure too high on left.</p>	<p>Tighten left front lift plate nut.</p>

MAINTENANCE

Adjusting Pad Head Limit Switch: (See figure 13)

1. Turn "ON" the key switch.
2. Press and hold the top of the head position switch to raise the head.
3. Press and hold the bottom of the head position switch to lower the head.
4. Traverse the machine to verify the pad motor comes on. If not, the lever on the touch down switch must be bent to contact the main frame sooner.

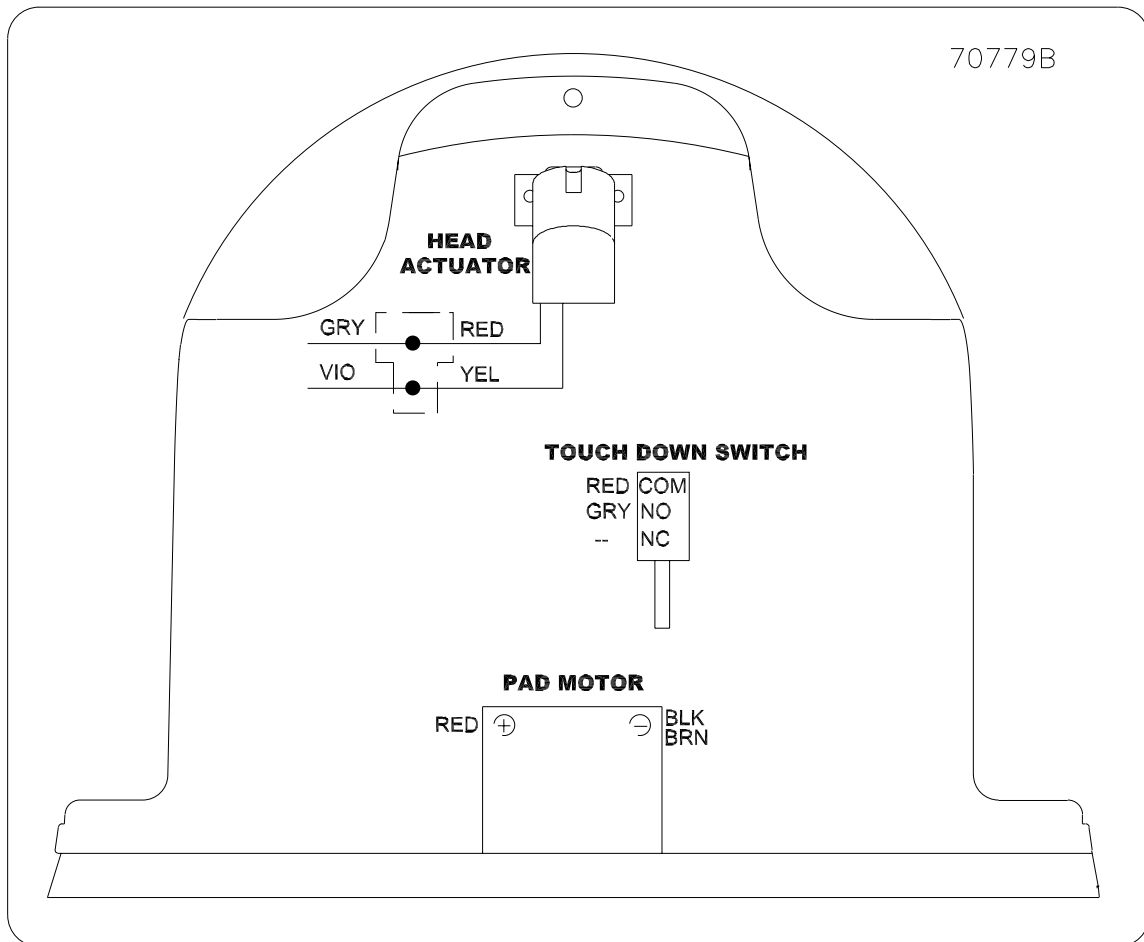
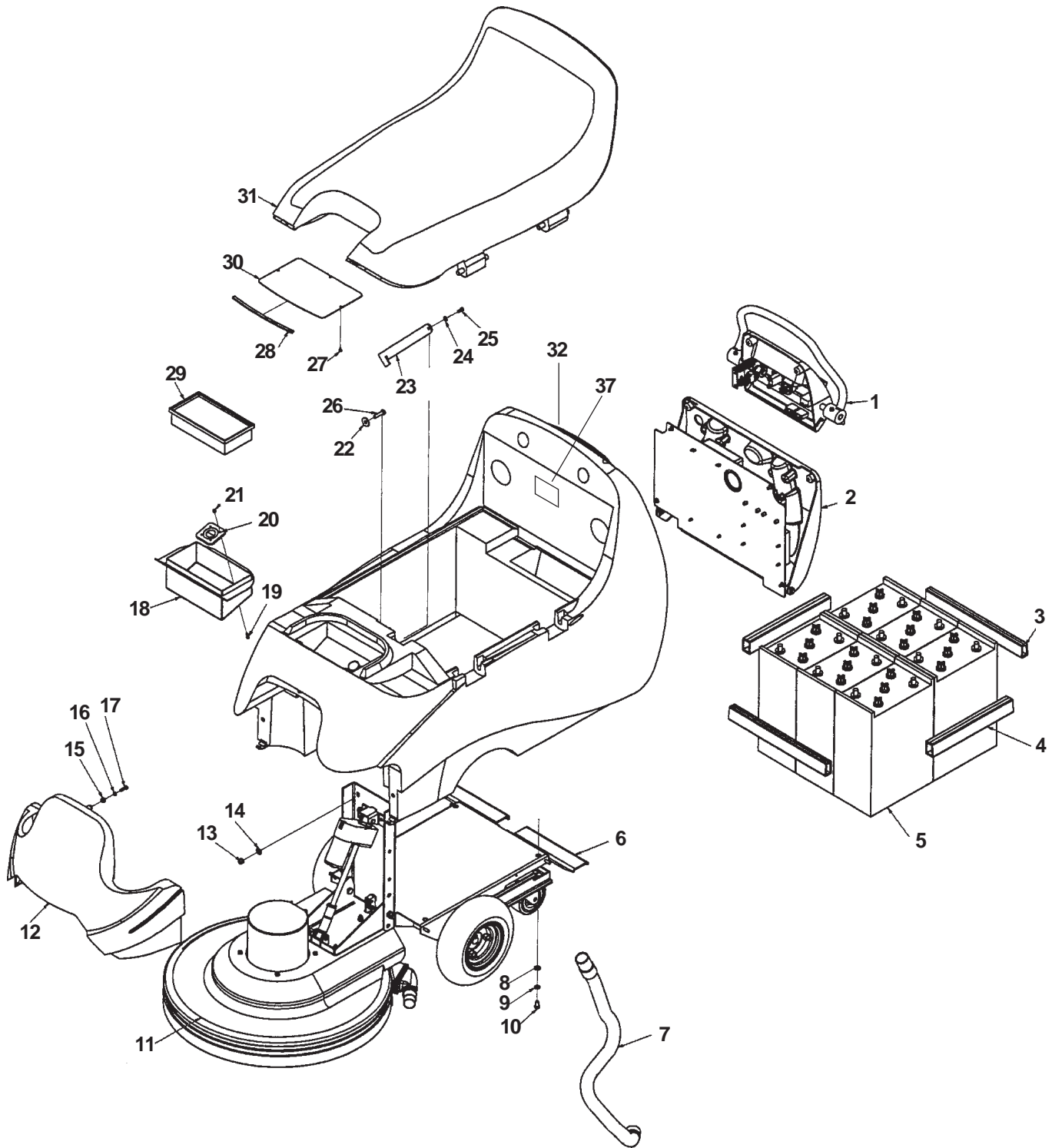


Figure #13

Clarke®
Fusion 27
Final Assembly Drawing 9/04
Drawing # (01264A)



Clarke®
Fusion 27
Final Assembly Parts List 9/04

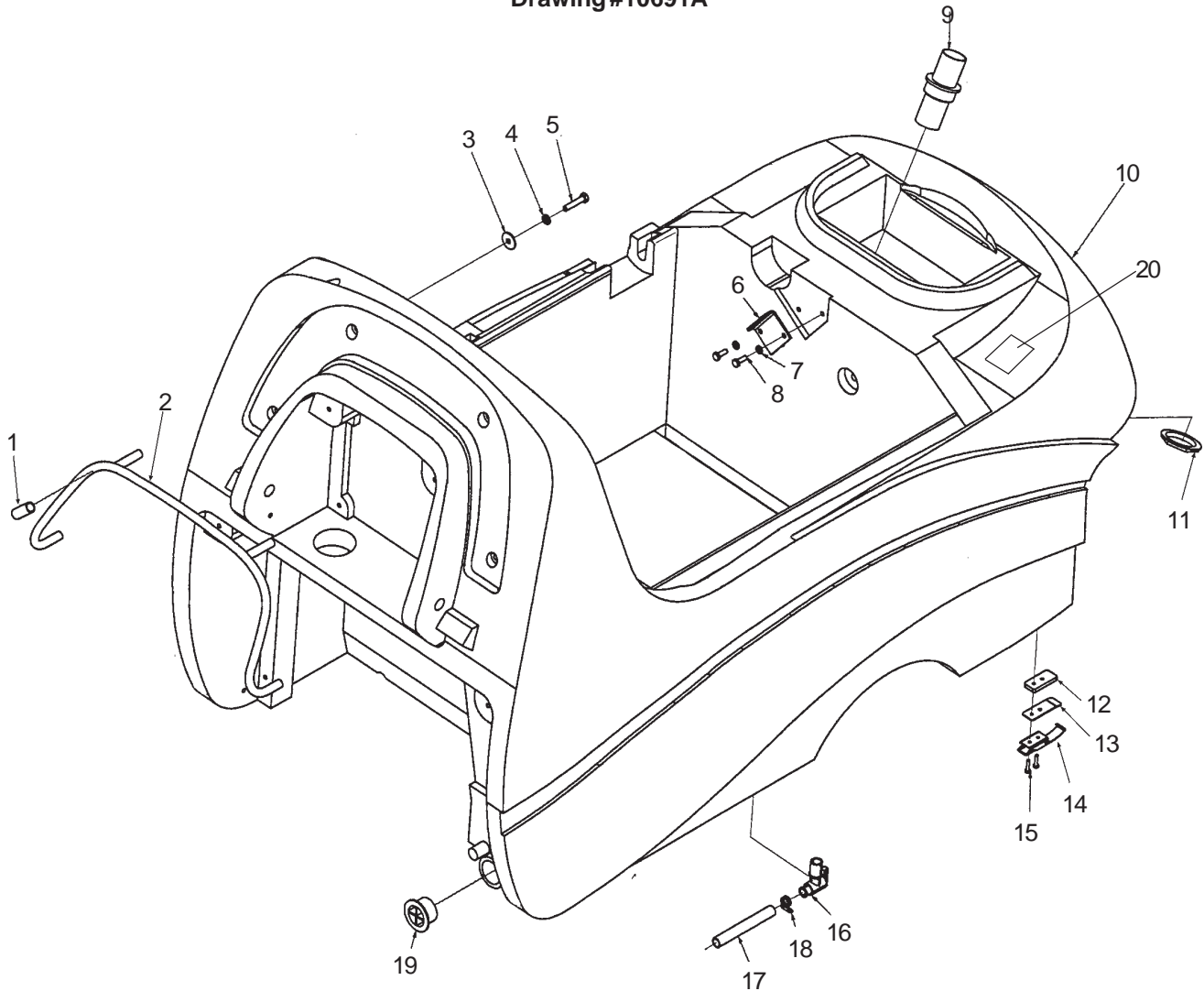
Ref #	Part No.	Description	Qty
1	pg 28,29	Control Panel Asm.	ref.
2	pg 30,31	Rear Cover Asm.	ref.
3	38722B	Spacer*, Battery 3/4 x 2 x 18	2
4	38720B	Spacer**, Battery 1¼ x 2 x 15	2
5	40704A	Battery	6
6	pg 21	Head/Mainframe Asm.	ref.
	pg 22,23	Mainframe Asm.	ref.
7	30424A	Hose	1
8	87000A	Washer, Flat 3/8	4
9	980638	Washer, Lock 3/8	4
10	962244	Screw, 3/8-16 x 3/4	4
11	pg 24,25	Pad Head Asm.	ref.
12	30480B	Front Cover	1
13	81105A	Nut, Lock 3/8-16	2
14	980645	Washer, Flat 3/8	2
15	39713A	Washer, Rubber	1
16	87032A	Washer, Flat 1/4	1
17	85524A	Screw, 1/4-14 x 3/4	1
18	61569A	Weldment, Dust Container	1
19	85614A	Screw, #8-32 X 3/4	4
20	30587A	Diaphragm	1
21	920065	Nut, Lock #8-32	4
22	87054A	Washer, 3/8	2
23	69548A	Recovery Tank Support	1
24	87622A	Washer, Nylon	1
25	80043A	Screw, Shoulder 5/16	1
26	85703A	Screw, 3/8-16 X 1 1/2	2
27	962957	Screw, #10-16 X 1/2	3
28	193951	Snakeskin	1
29	53396A	Filter, Dust	1
30	61578A	Screen	1
31	30543A	Top Cover	1
32	pg 20	Dust Tank Asm.	ref.
33◆	842406	Cable, Series (NI)	5
34◆	40612A	Cable, Red (NI)	1
35◆	40613A	Cable, Black (NI)	1
36◆	77092A	Label, Gases (NI)	1

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

*Front and Back Spacers

** Left and Right Spacers

Clarke®
Fusion 27
Dust Tank Assembly Drawing and Parts List 9/04
Drawing #10691A

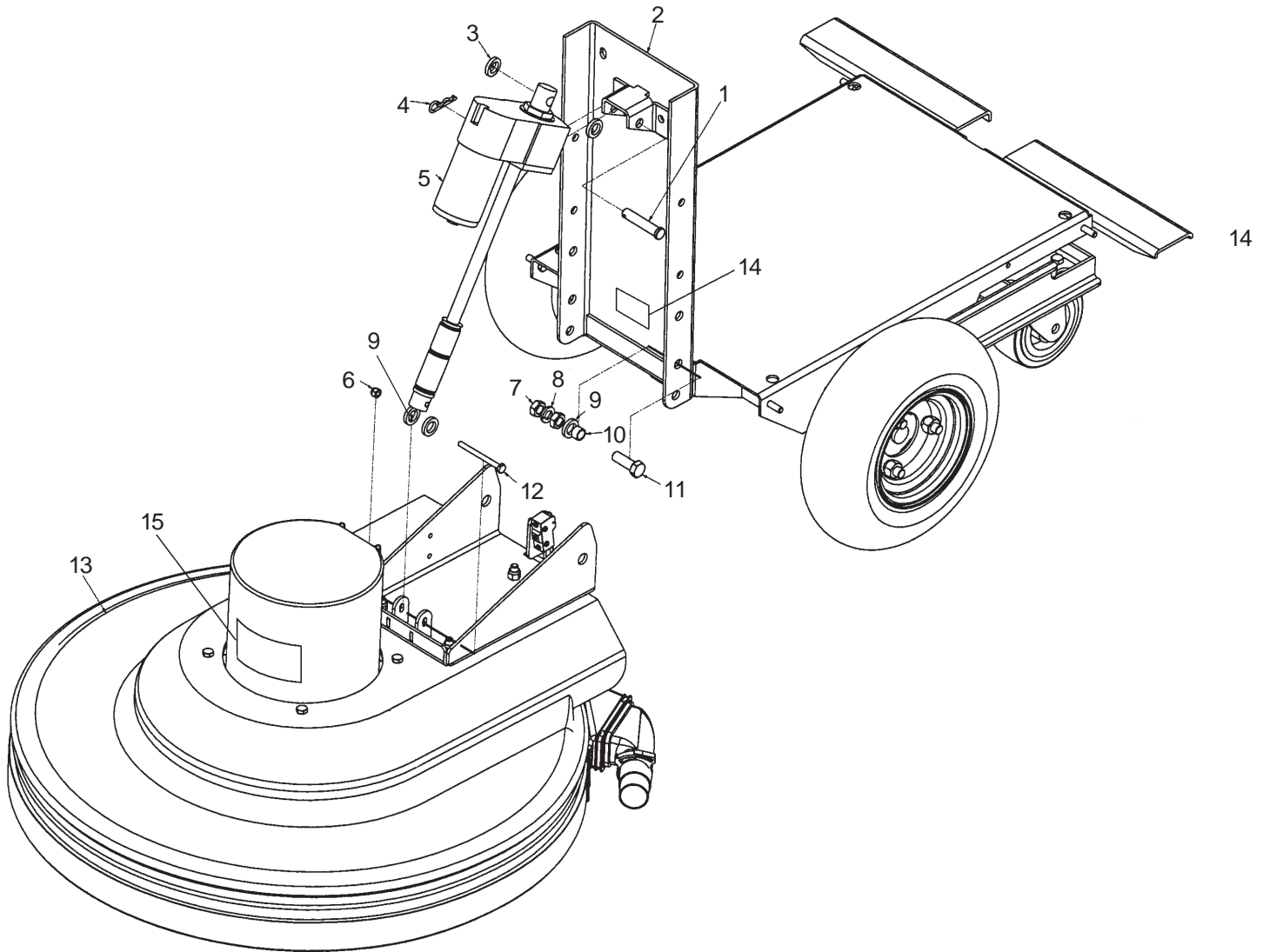


Ref #	Part No.	Description	Qty
1	30454A	Tube, Vinyl	2
2	64900A	Handle, Stationary	1
3	980205	Washer, Flat 5/16	4
4	980652	Washer, Lock 5/16	4
5	85815A	Screw, 5/16-18x1-1/2 Hex	4
6	69879A	Bracket, Support	1
7	170892	Washer, Lock 1/4 SS	2
8	170915	Screw, 1/4-20 x 3/4 SS Hex	2
9	30586A	Adaptor, Dust Hose	1
10	30481A	Tank	1

Ref #	Part No.	Description	Qty
11	920797	Locknut	1
12	61493A	Spacer, Latch	2
13	61494A	Plate, Cover Support	2
14	55723A	Latch	2
15	85614A	Screw, #8-32x3/4 Pn.	4
16	59614A	Valve, Battery Drain	1
17	35196A	Hose	1
18◆	50248A	Clamp, Hose	1
19	53427A	Plug, 1-1/2	1
20◆	70849A	Label, Battery Install	1

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

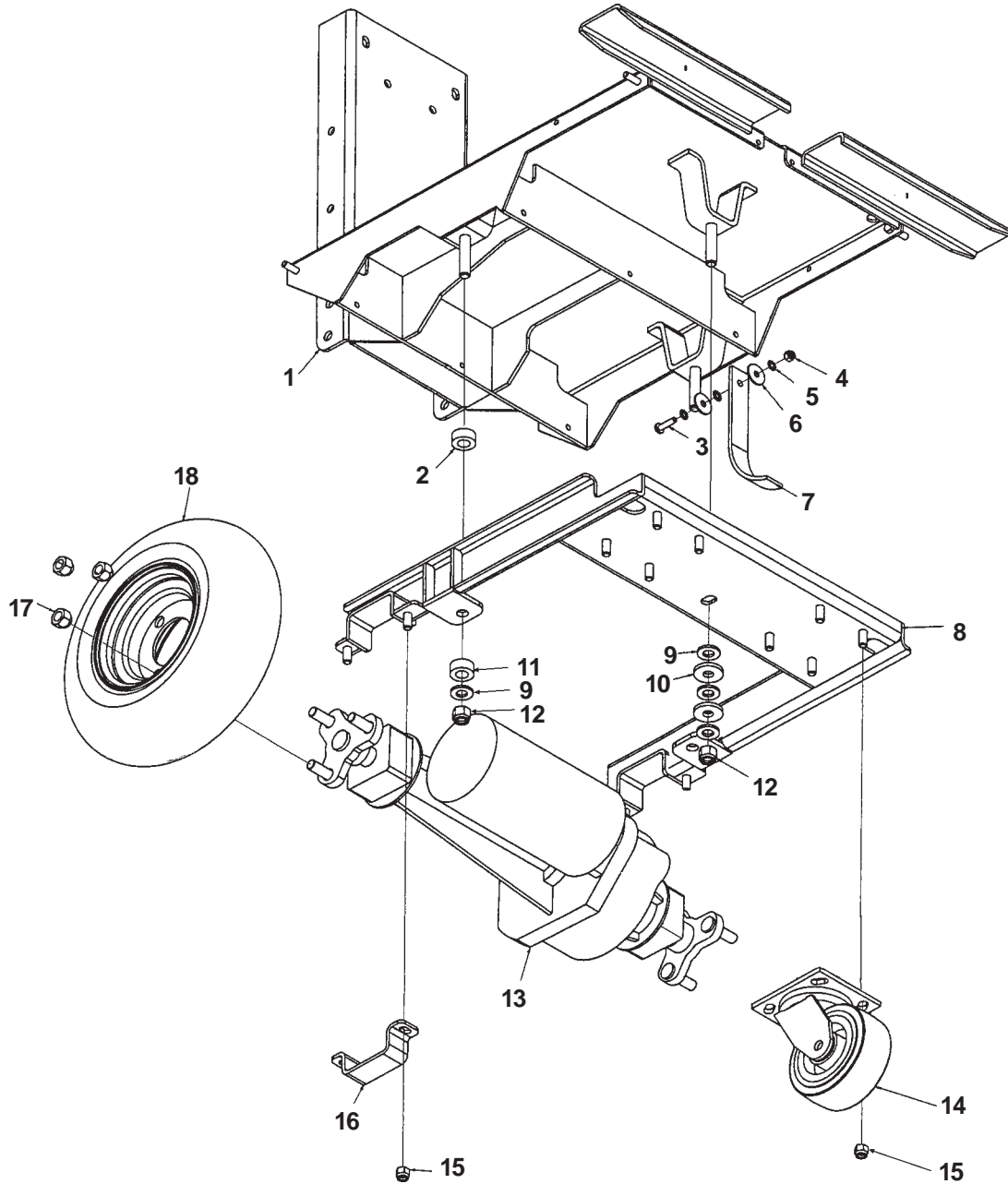
Clarke®
Fusion 27
◆Head/MainFrame Assembly Drawing and Parts List 9/04
Drawing # (01594A)



Ref #	Part No.	Description	Qty
1	82501A	Clevis Pin, 3/8 x 2 1/4	1
2	Pg 22,23	Mainframe Asm.	ref
3	38708A	Spacer, Nylon - Black	2
4	766780	Hairpin	1
5◆	50208A	Actuator	1
6	81104A	Nut, Nylock 1/4 SS	1
7	920278	Nut, Hex Jam 1/2-20	4
8	980626	Washer, Lock 1/2	2
9	38723A	Spacer, Nylon - White	4
10◆	67705B	Bearing, Sleeve	2
11◆	85838A	Bolt, Hex 1/2-20 x 1 1/2	2
12	85602A	Screw, Hex Cap 1/4-20 x 3	1
13◆	Pg 24,25	Pad Head Asm.	Ref.
14◆	70779B	Label	1
15◆	70673A	Label	1

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

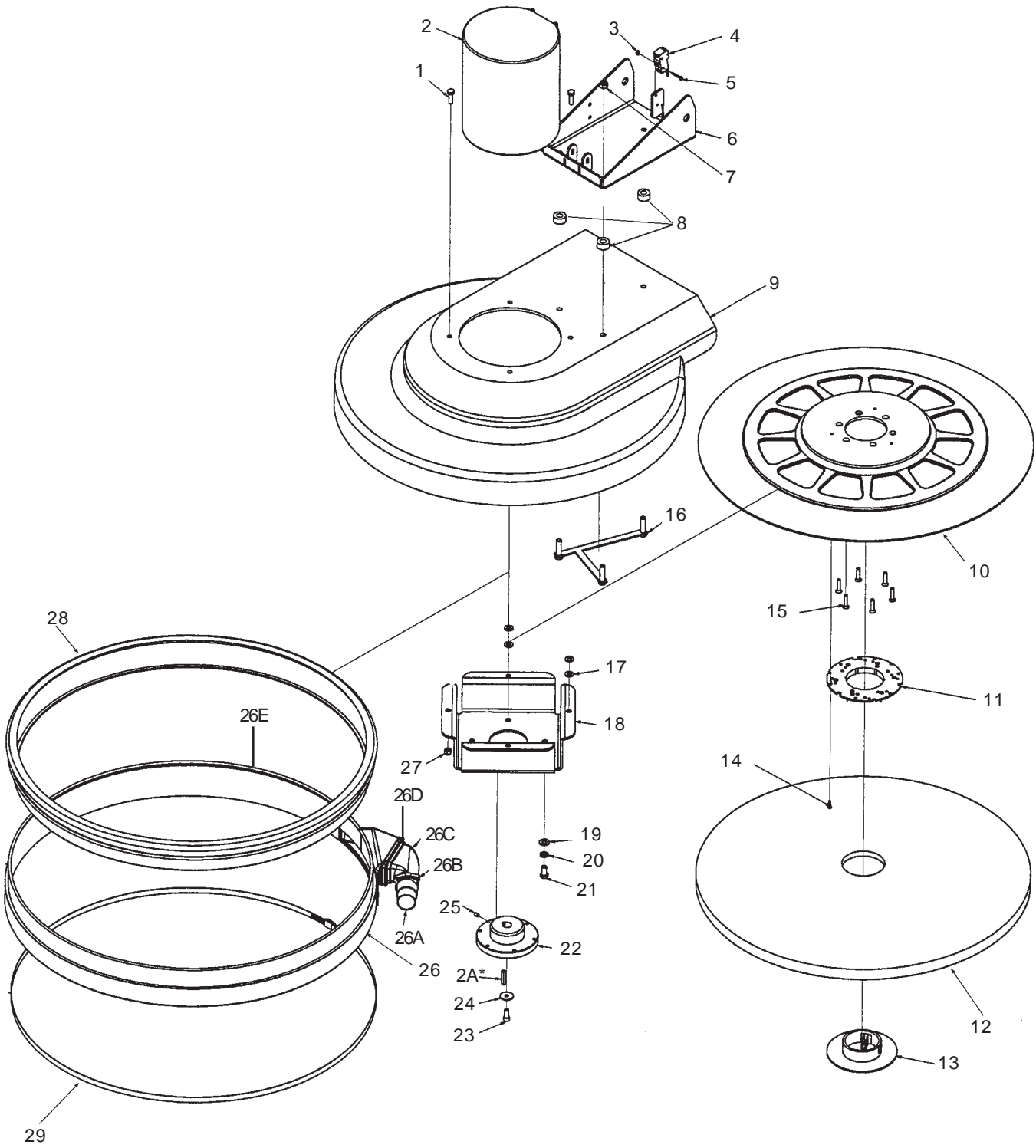
Clarke®
Fusion 27
Mainframe Assembly Drawing 7/04
Drawing# (10597A)



Clarke®
Fusion 27
Mainframe Assembly Parts List 10/04

Ref #	Part No.	Description	Qty
1	61488B	Main Frame	1
2	30499A	Spring, Urethane-Blue	2
3	85700A	Screw, 1/4-20 x 1	1
4	81104A	Nut, Nylock 1/4 SS	1
5	980614	Washer, Star Lock 1/4	3
6	980205	Washer, Flat - .312 x 1.06 x .075	2
7	69639A	Strap, Static	1
8	61571A	Frame, Pivot	1
9	980648	Washer, Flat, 1/2" SAE	5
10	30588A	Washer, Rubber 1.38 x .50	2
11	30577A	Spring, Urethane, Red	2
12	920365	Nut, Nylock - 1/2-13	3
13	59116A	Transaxle	1
14	899769	Caster, Asm.	2
15	81105A	Nut, Lock 3/8-16	12
16	65963A	Mount, Transaxle	2
17	81221A	Nut, 1/2-20	6
18	59955A	Wheel Asm., Foam Filled	2

Clarke®
Fusion 27
Pad Head Assembly Parts List 9/04

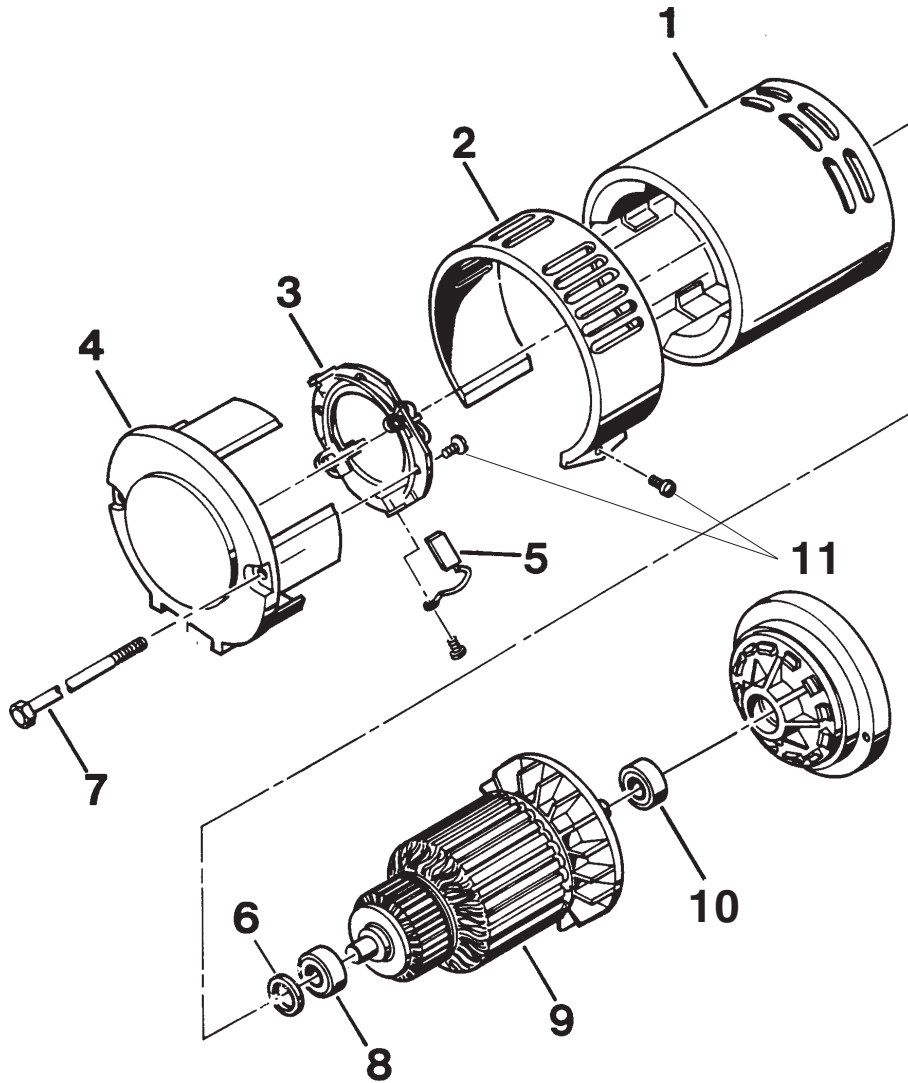


Clarke®
Fusion 27
Pad Head Assembly Parts List 9/04

Ref #	Part No.	Description	Qty
1	85813A	Screw, 5/16-18 x 1	4
2	40660B	Motor, 3.25 HP (includes #2A)	1
2A	915102	Key (included w/ #2)	(1)
3	920056	Nut, Lock #6-32	2
4	47374A	Switch, Lever	1
5	962980	Screw, #6-32 x 1	2
6	61379B	Lift Plate	1
7	81105A	Nut, Lock 3/8-16	3
8	30585A	Spring, Urethane-Yellow	3
9◆	21076B	Housing	1
10	30351A	Driver, Pad - 27"	1
11	57370A	Base, Pad Retainer	1
12	99953A	Pad, Beige-27"	1
13	57369A	Retainer, Pad	1
14	80242A	Screw, #8-18 x 5/8	3
15	962285	Screw, 1/4-20 x 1	6
16	61384B	Stud Plate	1
17	980651	Washer, Flat 5/16	4
18	61378A	Mount, Motor	1
19	87000A	Washer, Flat 3/8	4
20	980638	Washer, Lock 3/8	4
21	962244	Screw, 3/8-16 x 3/4	4
22	61377A	Hub	1
23	962714	Screw, 5/16-18 x 3/4	1
24	980205	Washer, Flat	1
25	962593	Screw, Set 1/4-20 x 3/8	1
26◆	10833A	Skirt Asm (incl. 26A - 26E)	1
26A	30589A	Sleeve	(1)
26B	832002	Clamp, Hose	(1)
26C	30478B	Adaptor, Scoop	(1)
26D	53186A	Tie, Cable - 14"	(1)
26E◆	30576A	Skirt	(1)
27	920110	Nut, Nylock 5/16-18	4
28	30570A	Bumper	1
29	53555A	Clamp, Hose 95"	1
30◆	77091A	Label	2

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Clarke®
Fusion 27
Pad Motor 40660B
1/04

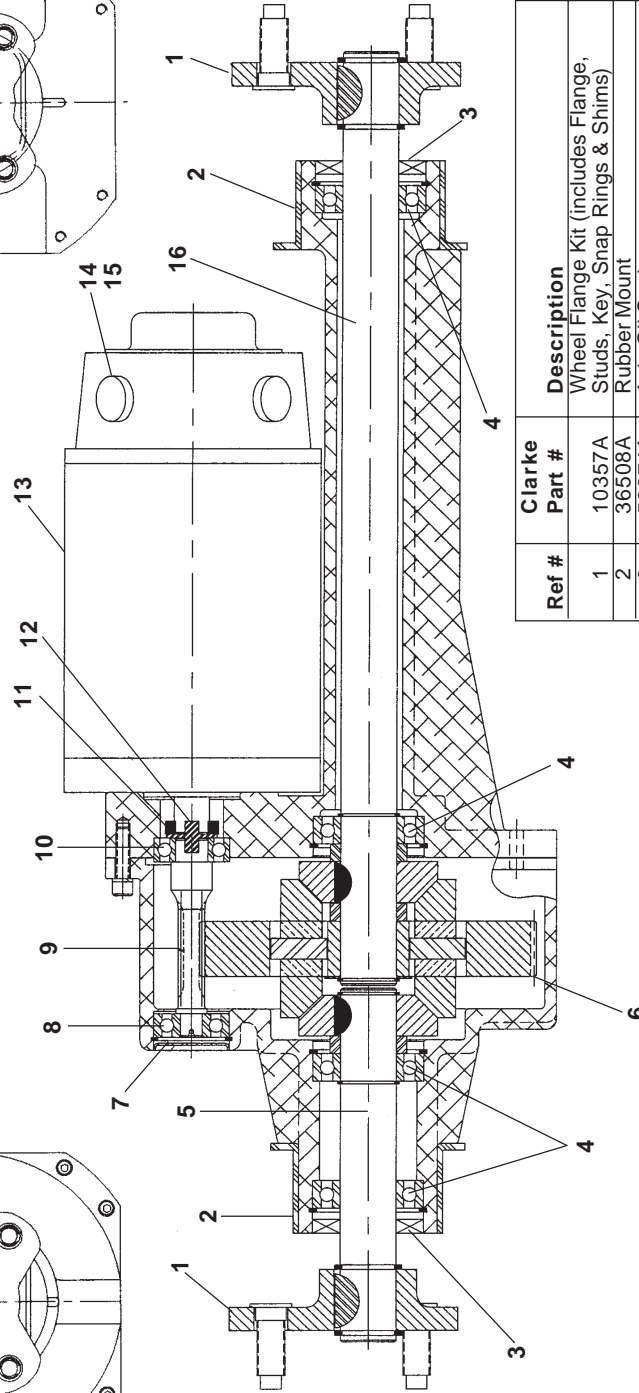
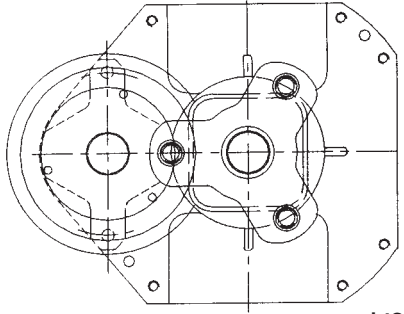
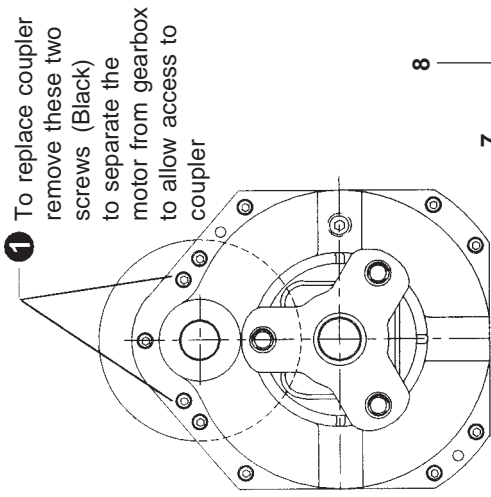


Ref #	Part No.	Description	Qty
1		Field	1
2		Cover	1
3		Brush Board	1
3A	7-76-00110	Spring	4
4		Bracket	1
5		Brush	4
6		Wave Washer	1
7		Screw	2
8	902550	Bearing	1
9		Armature Assembly	1
10	98660A	Bearing	1
11	85517A	Screw	8

Clarke®
Fusion 27
Imperial Transaxle Parts 1/04
PN59116A
Transaxle has black motor
All models after SN#YH

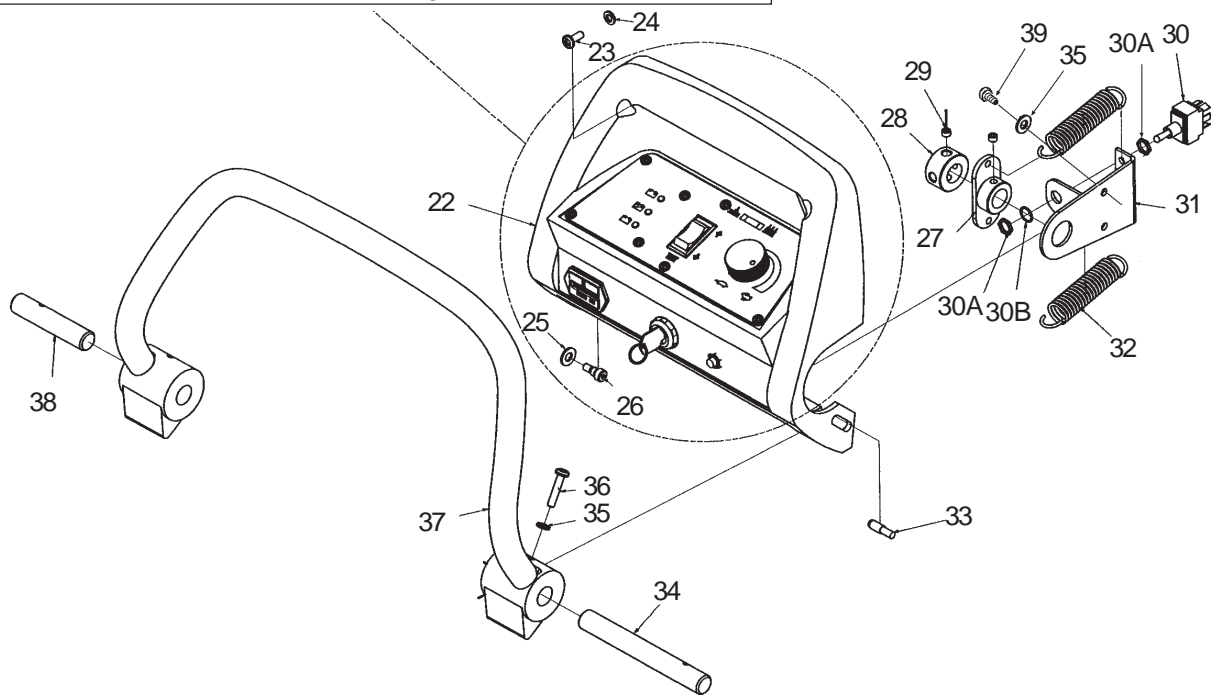
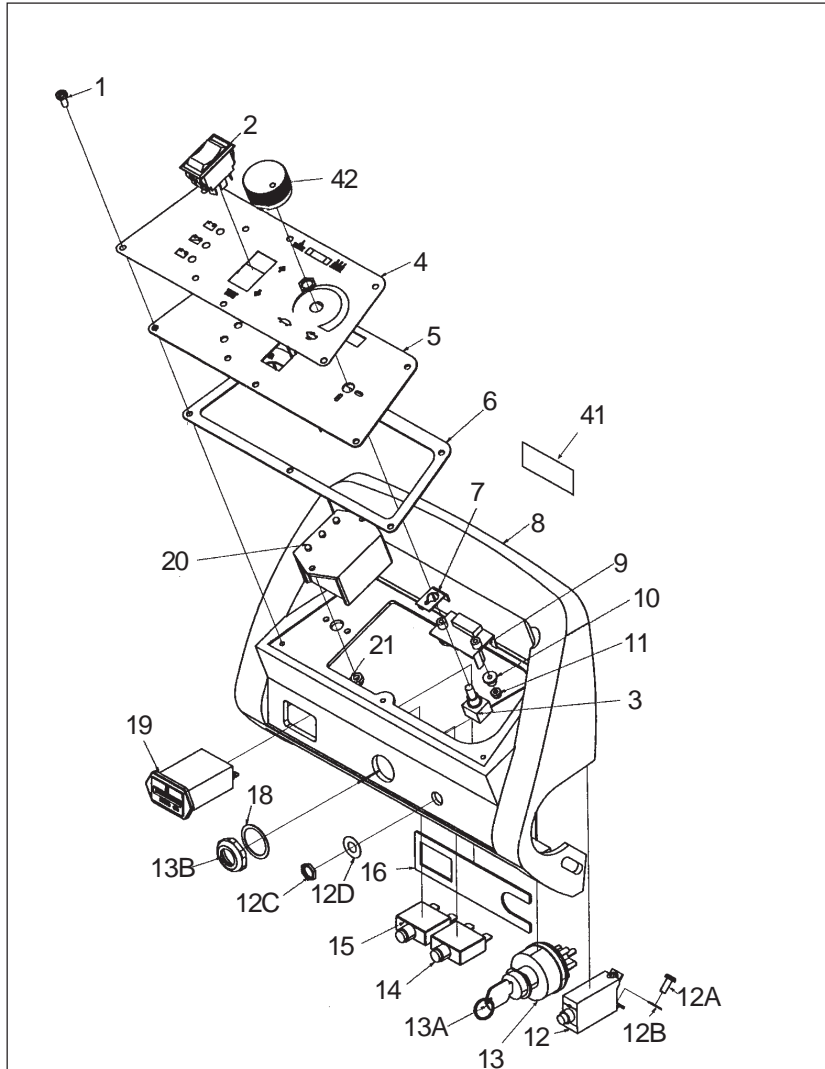
PERMANENT MAGNET MOTOR
MFG. IN USA

Model	4BC-2800	HP	.50
RPM	1200	Ins. Cl.	F
Volt	36 VDC	Mount	Flange
AMP.	15	Shaft	Tang
Duty	Cont	Ser. No.	
Date			
16:1 Ratio			



Ref #	Clarke Part #	Description	Qty
1	10357A	Wheel Flange Kit (includes Flange, Studs, Key, Snap Rings & Shims)	2
2	36508A	Rubber Mount	2
3	53374A	Axle Oil Seal	2
4	53375A	Axle Bearing	4
5	53376A	Short Axle	1
6	53377A	Output Gear	1
7	53378A	Input Plug	1
8	53379A	Outer Pinion Bearing	1
9	53380A	Pinion	1
10	53381A	Inner Pinion Bearing	1
11	52663A	Steel Ring, Coupler	1
12	69195A	Rubber Coupler	1
13	45048A	Motor	1
14	51720A	Brushes w/Springs (Set of 4)	1
15	30074A	Motor Brush Cap (Internal Threads)	4
	53382A	Motor Brush Cap (External Threads)	4
16	53383A	Long Axle	1
	54282A	Gearbox Asm w/o motor	1

Clarke®
 Fusion 27
 Control Panel Assembly Drawing 9/04
 Drawing# 10599A



Clarke®
Fusion 27
Control Panel Assembly Parts List 9/04

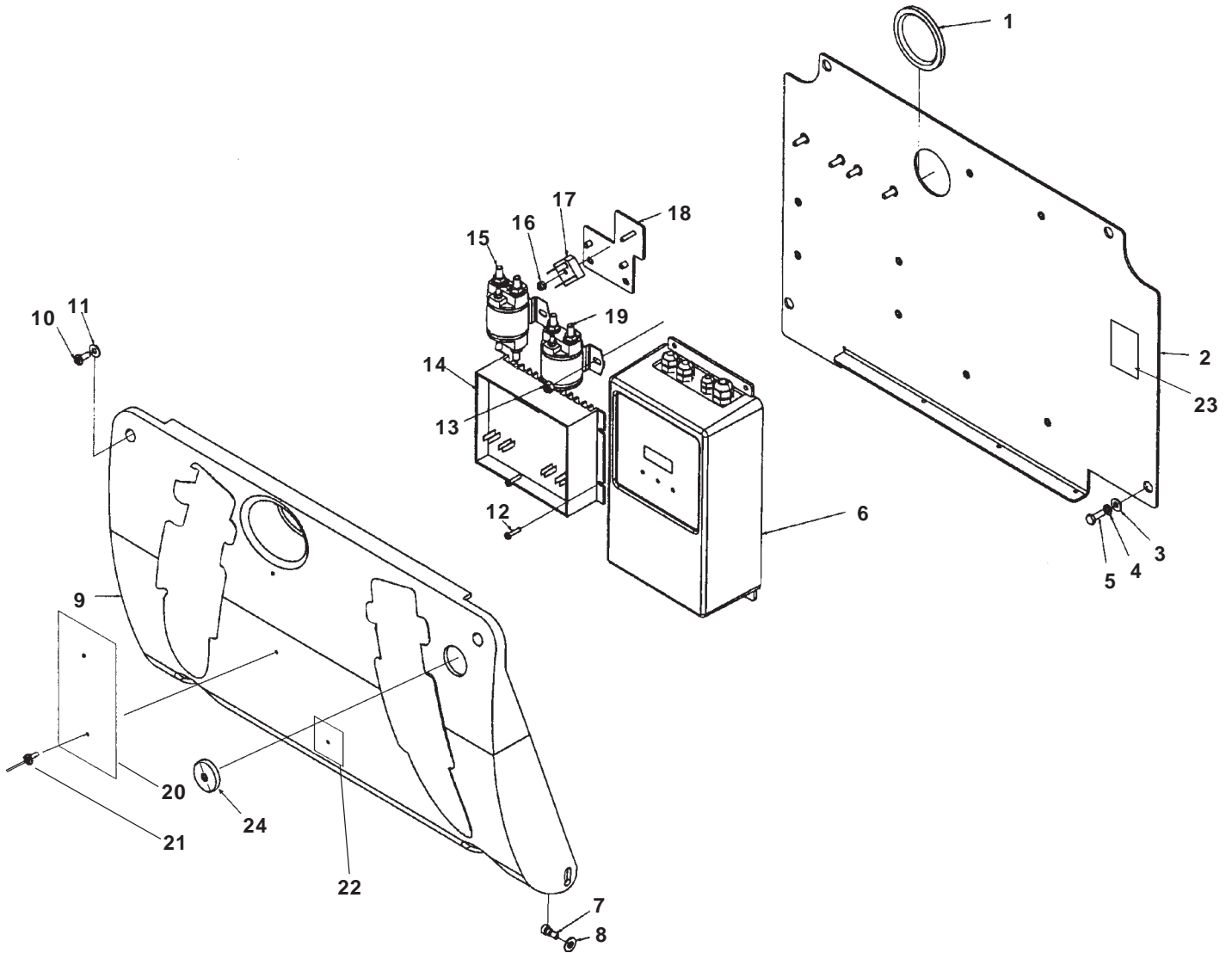
Ref #	Part No.	Description	Qty
1	84237A	Screw, #10-32 x 1/2	8
2	40168B	Switch, Rocker	1
3	40668B	Harness, Traverse	1
4	70770B	Label, Control Panel	1
5	61380B	Weldment, Console Panel	1
6	30022A	Gasket, Panel	1
7	50883A	Retainer, Potentiometer	1
8	30483A	Control Housing	1
9	40731A	Meter, Pad Pressure	1
10	38724B	Standoff, Nylon	2
11	920056	Nut, Lock #6-32	2
12	40664A	Circuit Breaker 90A (includes #12A-12D)	1
12A	80208A	Screw, M6-1 x 10 (included w/#12)	(2)
12B		Washer, Belleville (included w/#12)	(2)
12C		Nut, CB Mount (included w/#12)	(1)
12D		Washer, Wave (included w/#12)	(1)
13	47380A	Key Switch (includes 2 #13A, 1 #13B)	1
13A	55413A	Key	(1)
13B		Nut	(1)
14◆	41448B	Circuit Breaker 30A	1
15◆	41423B	Circuit Breaker 5A	1
16	66871A	Retainer, Switch	1
17	40667B	Harness, Meter (NI)	1
18	87052A	Washer, Flat Nylon	1
19	912226	Hour Meter	1
20	40898A	Meter, Charge/Battery	1
21	920722	Nut, Lock #10-32	2
23	85391A	Screw, 1/4-20 x 5/8	2
24	87032A	Washer, Flat 1/4	2
25	980651	Washer, Flat 5/16	1
26	80043A	Screw, Shoulder	1
27	60662A	Bracket Asm., Centering	1
28	61651A	Collar, Control Switch	1
29**◆	962304	Screw, Set 5/16-18 x 1/2	4
30	40084A	Switch, Toggle (includes #30A, 30B)	1
30A	"	Nut, Toggle Switch (included w/#30)	(2)
30B	"	Washer, Toggle Switch (included w/#30)	(1)
31	61266A	Bracket, Weldment, Control	1
32	53038A	Spring, Control Handle	2
33	60042A	Stud	1
34	66548A	Pin, Control Handle RH	1
35	170892	Washer, Lock 1/4 S.S.	4
36	85390A	Screw, 1/4-20 x 1 1/4	2
37	24309B	Handle, Control	1
38	66549A	Pin, Control Handle LH	1
39	170915	Screw, 1/4-20 x 3/4 SS	2
40*	40665B	Harness, Main (includes #40A)	1
40A*	42909A	Fuse AGC-5 (included w/#40) (NI)	(1)
41◆	70778B	Label	1
42◆	55502A	Knob	1
43◆	40667B	Harness, Charger/Battery Meter	1

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

* NI = Not illustrated

** #29 must use red loctite set screws.

Clarke®
Fusion 27
Rear Cover Assembly Drawing 9/04
Drawing # 10595A

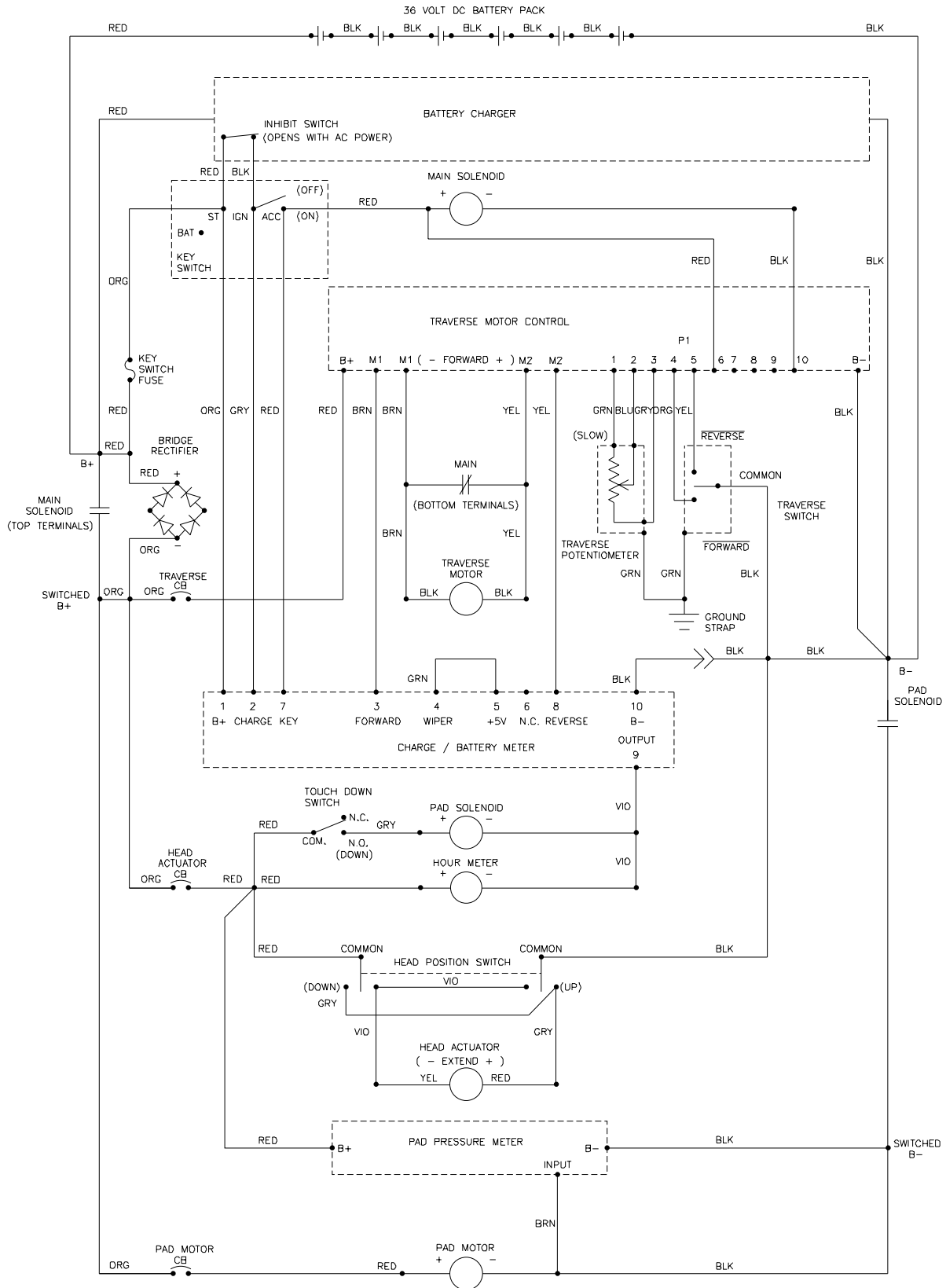


Clarke®
Fusion 27
Rear Cover Assembly Parts List 9/04

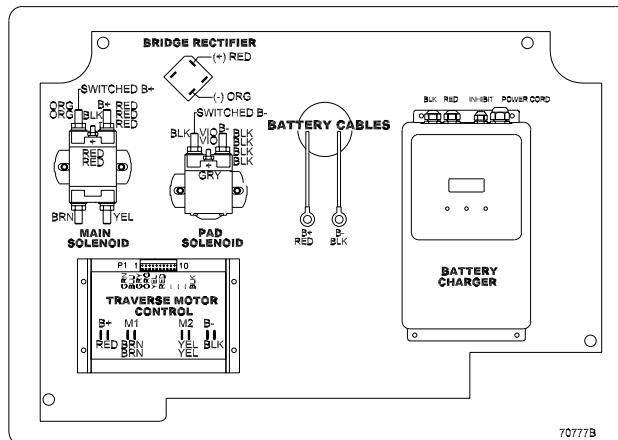
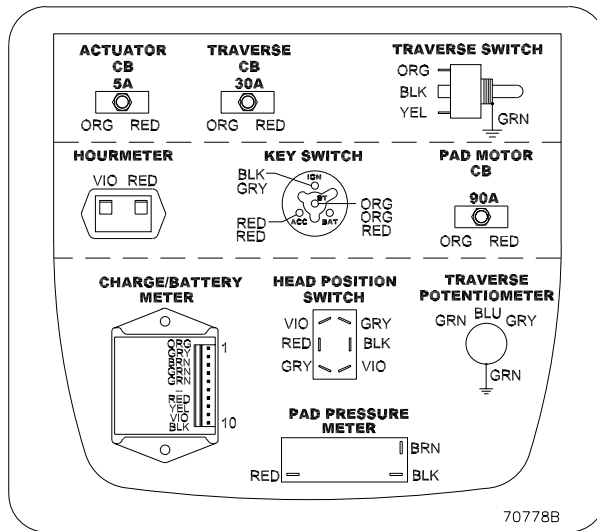
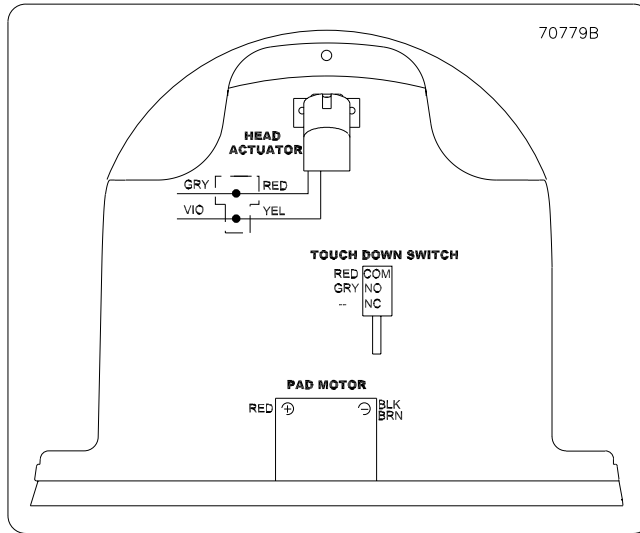
Ref #	Part No.	Description	Qty
1	193951	Trim, 8" Bulk	1
2	10686A	Panel, Lower Electrical	1
3	87007A	Washer, Flat 1/4	4
4	170892	Washer, Lock 1/4 S.S.	4
5	170915	Screw, 1/4-20 x 3/4 Hex	4
6	40666A	Charger, Battery	1
6A ♦	912064	Terminal, Ring (Not illustrated)	2
7	80043A	Screw, Shoulder 5/16	2
8	980651	Washer, Flat 5/16	2
9	30477A	Cover, Rear	1
10	85391A	Screw, 1/4-20x5/8	2
11	87026A	Washer, Flat 1/4 SS	2
12	85614A	Screw, #8-32 x 3/4	8
13	81104A	Nut, Nylock 1/4-20 SS	6
14	40662A	Controller, Traverse	1
15	41802A	Contactor, 36V (Main)	1
16	920722	Nut, Lock #10-32	1
17	912287	Bridge Rectifier	1
18	60552A	Bracket, Solenoid Main	1
19	41801A	Contactor, 36V (Pad)	1
20 ♦	70080A	Plate, Warning	1
21 ♦	930093	Rivet	3
22 ♦	-----	Serial Number Plate	(1)
23 ♦	70777B	Label	1
24 ♦	30484A	Retainer, Cord	1

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

Clarke® Fusion 27 Electrical Schematic 6/04



Clarke®
Fusion 27
Connection Diagrams 6/04
 INSIDE CONTROL HOUSING



ALTO[®] PRODUCT SUPPORT BRANCHES

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CORPORATE OFFICE

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16253 Swingley Ridge Road, Suite 200
Chesterfield, Missouri 63017-1725

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Springdale, Arkansas 72764
(479) 750-1000
Customer Service - 1-800-253-0367
Technical Service - 1-800-356-7274

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1100 Haskins Road

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2280 Elmhurst Road
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(303) 623-4367

Clarke[®], Houston, Texas 77040
7215 North Gessner Road
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29815 John R.
(810) 544-6300

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1455 Canton Road
(770) 973-5225

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Clarke American Sanders
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+47 2275 1770

Clarke® U.S. LIMITED WARRANTY

This Clarke Industrial/Commercial Product is warranted to be free from defects in materials and workmanship under normal use and service for a period of one year from the date of purchase, when operated and maintained in accordance with Clarke's Maintenance and Operations instructions.

The pad drive and traverse motors are warranted to be free from defects in materials and workmanship under normal use and service for one additional year, for a total of two years, from the date of purchase, provided the motors are 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 additional one-year 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.

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.

BATTERY WARRANTY

In addition to the items above (except as to the one-year period), 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.

POLYDUR® DUST RECOVERY TANK AND BATTERY COVER EIGHT-YEAR GUARANTEE

Your new Clarke burnisher has a polydur dust recovery tank and battery cover. 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.

UNIBODY FRAME FIVE-YEAR WARRANTY

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

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**