

Clarke®



READ THIS BOOK

This book has important information for the use and safe operation of this machine. Read and understand this book before starting the machine. Keep this book and tell all operators to read the book. If you do not follow the instructions, you can cause injury, or damage equipment, furniture or buildings.

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.

OPERATOR'S MANUAL and PARTS LIST

Model DS-20

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A Note to the User:

This manual was written to help you use and care for your Clarke® product and to help you enjoy the many years of dependable, efficient and safe service for which it was designed. Keep this manual handy and refer to it often. Features of this machine may be unlike ones you are familiar with. Learn to use them correctly for maximum utility, safety and satisfaction. Remember, a few moments of your time spent reviewing this operator's manual will extend the life of your investment and assure safe operation.

Refer to the drawings, part lists, and figures to locate the parts mentioned on the following pages.

If your machine arrives with shipping damage, notify the carrier company immediately and request inspection and/or claim. Check the contents against the packing slip; notify carrier immediately in the event of shortages. Check the machine for nuts, bolts and fasteners that may have come loose during shipping, and adjust as necessary.

As always, we thank you for selecting Clarke®.

OPERATOR SAFETY INSTRUCTIONS


 **WARNING**

 **AVERTISSEMENT**














 **ADVERTENCIA**

For the safe operation of this machine, read and understand all warnings and cautions. Look for these symbols:



“ **WARNING**” means: If you do not follow the instructions in a **WARNING**, injury can occur to you or to other personnel.

“ **CAUTION**” means: If you do not follow the instructions in a **CAUTION**, damage can occur to the machine.

-  **WARNING:** You must have training in the operation of this machine before using it. **READ THE INSTRUCTION BOOK.**
-  **WARNING:** Machines can cause an explosion when operated near flammable materials and vapors. Do not use this machine with or near fuels, grain dust, fine dust, solvents, thinners, or other flammable materials.
-  **WARNING:** Do not operate this machine unless it is completely assembled.
-  **WARNING:** Do not use this machine as a step or furniture.
-  **WARNING:** To prevent electric shock, always remove the electrical plug from the electrical outlet before doing any repairs or maintenance to this machine.
-  **WARNING:** To prevent injury, always remove the electrical plug from the electrical outlet before changing the brush or pad driver and before leaving the machine.
-  **WARNING:** Maintenance and repairs must be done by authorized personnel only. Keep all fasteners tight. Keep adjustments according to specifications.
-  **WARNING:** Always use a three-wire electrical system connected to the electrical ground.
-  **WARNING:** To prevent damage to the power cord, do not let the turning brush, pad, or pad driver touch the power cord. Always lift the power cord over the machine.
-  **WARNING:** Make sure that all labels, decals, warnings, cautions and instructions are fastened to the machine. Get new labels and decals from Clarke.
-  **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 being cleaned.
-  **WARNING:** Precaution should be taken during the use of a floor-sanding machine to prevent formation of a combustible mixture of flyings and air. A floor sanding operation should be conducted only in a well-ventilated area.
-  **WARNING:** To prevent injury, keep hands, feet and loose clothing away from the rotating pad.

The Clarke® Model DS-20 is a floor maintaining machine that can be used for polishing, spraying, buffing, stripping, scrubbing, and sanding at low speeds. The machine can be used on wood, vinyl, terrazzo or cement floors.

HOW TO PREPARE THE MACHINE FOR OPERATION

⚠ WARNING: Disconnect the machine from the power source before installing or removing the brush.

NOTE: After use, a new pad will expand approximately one inch. Use only 19" pads on this machine.

How To Install The Brush Or Pad Driver

To install the brush or pad driver, follow this procedure:

1. Put the handle in the upright position.
2. To lock the handle, push the locking lever down. See figure 1.
3. Tilt the machine backward until the handle is on the floor.
4. Put one foot on each side of the machine.
5. Align the lugs on the locking plate with the drive adapter openings. See figure 2.
6. To lock the brush or pad driver into position, turn the brush or pad driver clockwise.

NOTE: If you are using the pad driver, install the pad and lock ring on the pad driver. To install the pad and lock ring, follow this procedure:

1. Align the hole in the pad with the center of the pad driver.
2. Put the lock ring in the center of the pad.
3. Tighten the lock ring. To tighten the lock ring, turn the lock ring clockwise. See figure 3.
4. Turn the lock ring counterclockwise to remove the lock ring.
5. Pull the pad away from the pad driver to remove the pad.
7. Turn the brush or pad driver counterclockwise to unlock and remove the brush or pad driver.
8. Lift the machine to the vertical position.

NOTE: To prevent damage to the brush or pad driver, remove the accessory while not in use. Keep the brush in a cool dry place.

How To Adjust The Handle

To adjust the handle, follow this procedure:

1. The locking lever is on the lower part of the handle tube. See figure 1. Lift the lever with your foot.
2. Lower the handle to the best operating position.

NOTE: For the best operating position, keep your back straight, bend only your arms. See figure 4.

3. Push the locking lever down to lock the handle in position.
4. Hold the handle against your body for the best control.

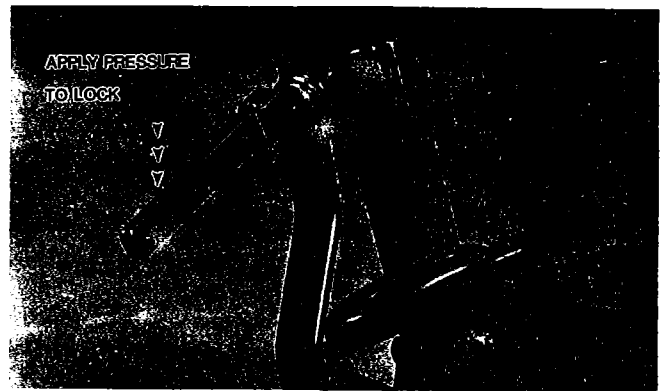


Figure 1

The Locking Lever

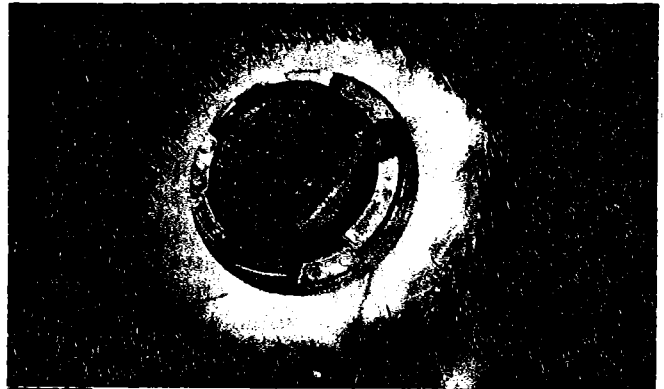


Figure 2

How To Install The Brushes



Figure 3



Figure 4

ACCESSORIES

The following accessories are available for the Model DS-20

1. Polishing and waxing brushes.
2. Brushes with natural or synthetic bristles for scrubbing.
3. Synthetic pad holders.
4. Synthetic pads for polishing, scrubbing, stripping and spray buffing.
5. Lambswool polishing pad.
6. Brushes with metal or wood backs and with holes to let the solution flow through.
7. Solution tank.
8. Solution Buff Accessory - Kit number 440570-0.
9. Sanding discs.

WARNING: Fine dust from a floor sanding operation can cause an explosion. Use a floor sanding machine only in an area with good ventilation.

For more information, see your dealer or the nearest Clarke branch.

HOW TO OPERATE THE MACHINE

The Control For Variable Speed

NOTE: You must have training in the operation of this machine before you use this machine.

NOTE: The first time you operate the machine, put the variable speed knob in the "Low" setting until you can operate the machine with ease. See figure 5.

To change the speed of the motor, turn the knob on the shroud. To select a slower speed, turn the knob toward the "Low" setting. To select a higher speed, turn the knob toward the "Med" and "Hi" setting.

How To Start/Stop The Machine

WARNING: Never start a polisher when the handle is in the vertical position.

The switch to start and stop the machine is activated by the interlock switch, and the levers under the handle grips. See figures 6 and 7. To start the machine, follow this procedure:

1. Lower the handle.
2. Lock the handle in the best position for operation. See figure 8.

WARNING: Control safety interlock switch with hands only.

NOTE: Make sure you hold the handle with both hands.

3. Push the interlock switch, and apply pressure to the levers.

How To Control The Machine

NOTE: Make sure you hold the handle with both hands.

The side to side movement of the machine is controlled by raising the handle and pressing down on the handle. To move the machine to the left, press down on the handle slightly. To move the machine to the right, raise the handle slightly.

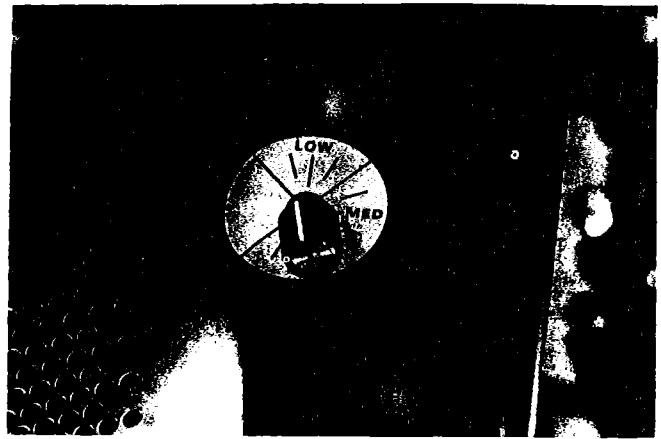


Figure 5
The Variable Speed Knob

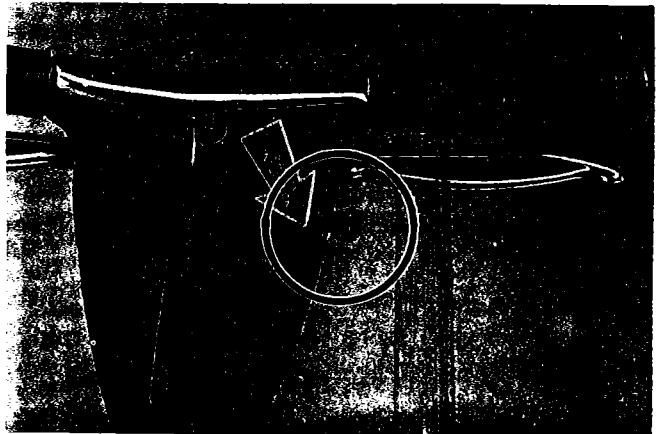


Figure 6
The Interlock Switch

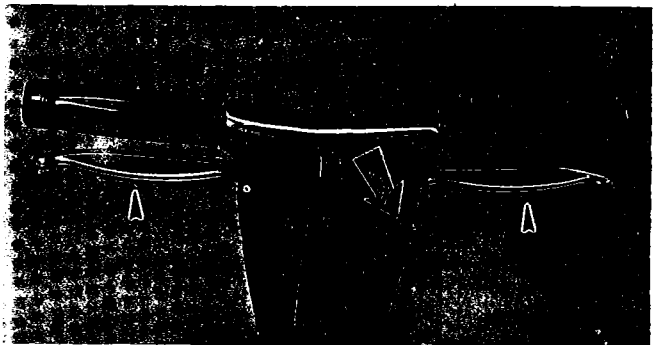


Figure 7
The Start/Stop Levers

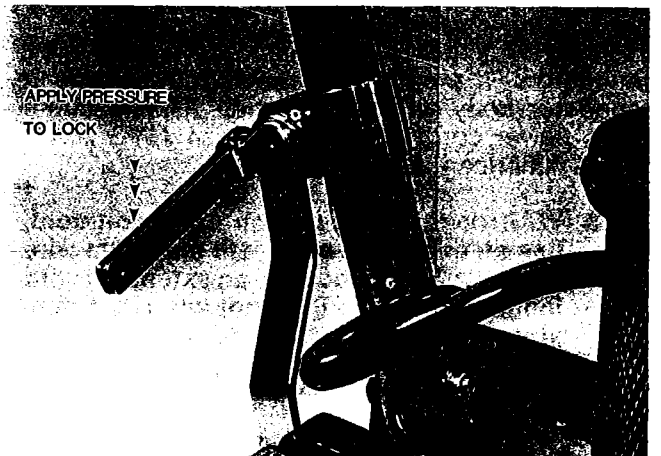


Figure 8
The Locking Lever

120 VOLT MACHINES

INSTRUCTIONS FOR CONNECTION TO THE POWER SUPPLY AND THE ELECTRICAL GROUND

This machine must be connected to the electrical ground to protect the operator from electric shock. The machine has an approved power cord with three conductors and a plug with three terminals. Connect the plug to a receptacle that has three holes and is connected to the electrical ground. For maximum protection against electric shock, use a circuit that is protected by a ground fault circuit interrupter. The green (or green and yellow) conductor in the cord is the ground wire. Never connect this wire to any terminal other than the ground terminal.

This machine uses a 120 volt AC 60 cycle electrical circuit. Make sure you have the correct frequency and voltage before connecting the power cord to an outlet. The machine has a plug as shown in figure 11. If a receptacle connected to the electrical ground as shown in figure 11 is not available, have one installed by an electrical contractor. Do not use an adapter.

- ⚠ WARNING:** To prevent possible electric shock, protect the machine from rain. Keep the machine in a dry building.
- ⚠ WARNING:** To prevent possible electric shock, always use a 3-wire electrical system connected to the electrical ground. For maximum protection against electrical shock, use a circuit that is protected by a ground fault circuit interrupter. Consult your electrical contractor.
- ⚠ WARNING:** Do not cut, remove or break the ground pin. If the outlet does not fit the plug, consult your electrical contractor.
- ⚠ WARNING:** Have worn, cut or damaged cords replaced by an authorized service person.

EXTENSION CORDS

Use only an approved extension cord with three conductors, a plug with three terminals, and a connector body with three holes. The machine has a power cord with wire size 14 AWG (AWG means American Wire Gauge).

- ⚠ WARNING:** If you use an extension cord, use an extension cord with minimum wire size 12 AWG. Do not use an extension cord longer than 50 feet. Do not join two extension cords.

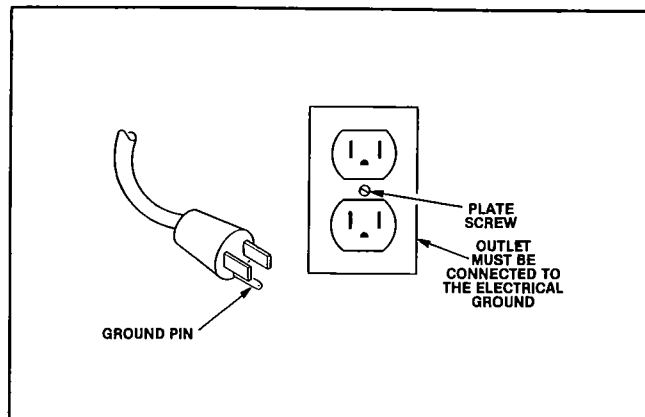


Figure 9

How To Check The Commutator And The Carbon Brushes

WARNING: Electrical inspections must be made by a person authorized to do maintenance. Electrical repairs must be made by a person authorized to make electrical repairs.

To check the commutator and the carbon brushes, follow this procedure:

1. Remove the drip cover from the motor shroud.
2. Inspect the commutator.
3. Take the machine to a Clarke Authorized Repair Location if you see any of the following conditions:
 1. Small holes in the surface of the commutator.
 2. Uneven color. Look for an even, dark brown color. Clean areas or very dark areas indicate a problem.
 3. High mica. The mica insulation must be lower than the commutator bars. See figure 9.
4. Use a hook to pull back each spring. Pull the carbon brush out of the holder.
5. Replace all eight carbon brushes if any carbon brush is shorter than $7/16$ inch. See figure 10. If the carbon brushes are shorter than $9/16$ inch, get new carbon brushes. Be ready to replace the carbon brushes earlier than the normal inspection time.
6. To replace the carbon brushes in the motor, follow this procedure:
 1. Replace the brush and lead.
 2. Use a hook to pull the spring out of the way. Install the brush in the slot. Put the spring in position on the end of the brush. The lead must not prevent free movement of the brush in the holder.
 3. Connect the motor lead wires and the motor ground lead wire. Install the cover on the motor shroud.

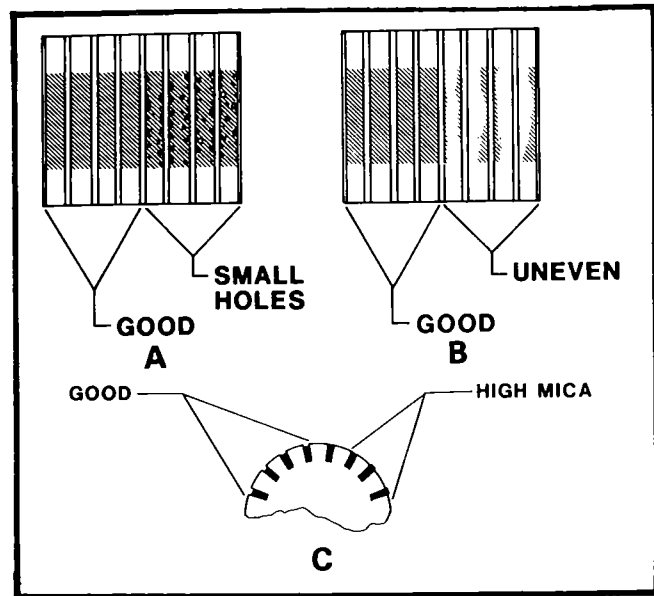


Figure 10

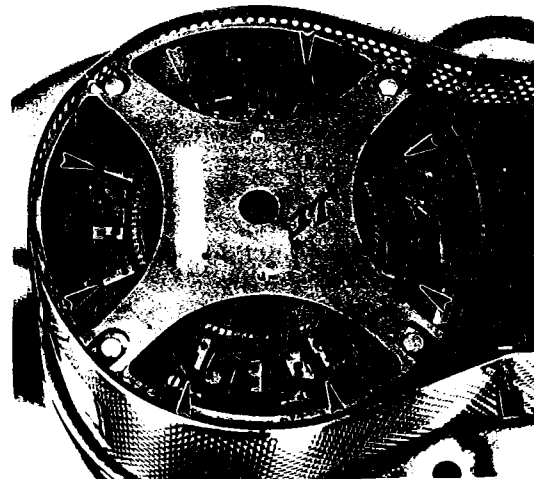


Figure 11
The Carbon Brushes

The Speed Control

If the machine blows fuses, or will not run at the needed speed, the speed control could be damaged. Take the machine to an authorized repair location to have a Clarke authorized repair person replace the speed control.

Repairs

If repairs to the motor are needed, do not disassemble the motor. Return the machine to the nearest Clarke Authorized Service Center.

MAINTENANCE

⚠ WARNING: Maintenance must be performed by authorized personnel only.

⚠ CAUTION: Keep all adjustments according to specifications.

Maintenance Instructions

Return the machine to a Clarke Authorized Service Location every 12 months for maintenance inspections.

Switches

⚠ WARNING: All electrical repairs must be done by authorized personnel only. The machine must be tested after electrical repairs to make sure it is safe to operate. Disconnect the electrical plug from the outlet before doing any electrical repairs to this machine.

The start and stop switch has an interlock which prevents the contacts from being closed. If any part of the switch is not operating, replace the part. If any part of the electrical system of the machine is not operating or is damaged, replace the part. Make sure all connections are tight. Return the machine to the Clarke Service Branch or a Clarke Authorized Service Center for electrical repairs or testing.

Maintenance Of The Motor

The Model DS-20 has a DC permanent magnet motor that uses a motor fan, a commutator, carbon brushes, and a rectifier. Every three months, remove and clean the shroud. Use compressed air to remove the dust from the fan and motor. See figure 12. If dust and wax accumulate on the surface of the shroud before three months, remove and clean the shroud. Failure to do so may cause motor damage.

Indicator Light

The Model DS-20 has an indicator light that illuminates when the carbon brushes become worn. See figure 13.

The carbon brushes (1) must be changed within six hours of operation after the light illuminates. The commutator (2) must be inspected each time the brushes are changed. See figure 14.

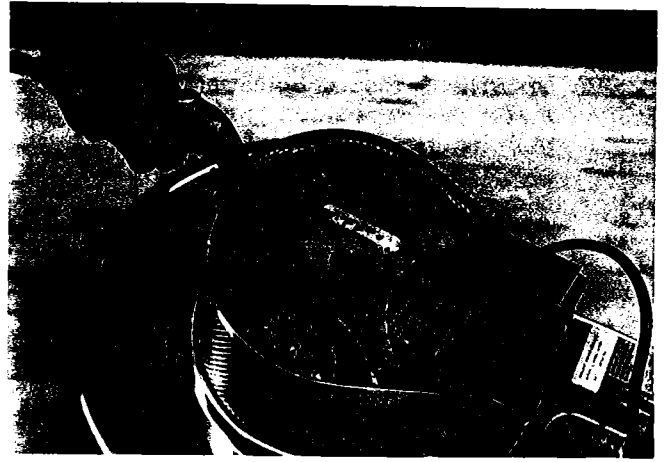


Figure 12
The Motor



Figure 13
The Indicator Light

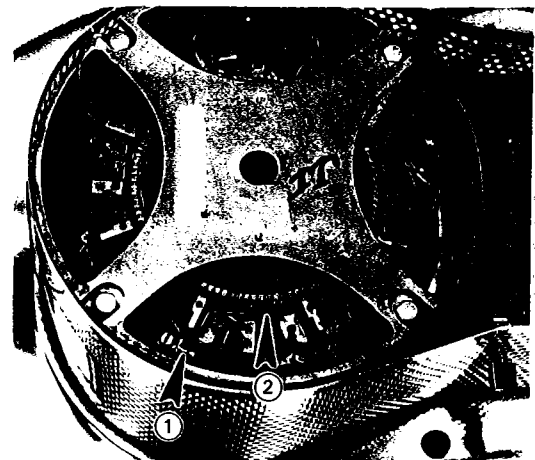
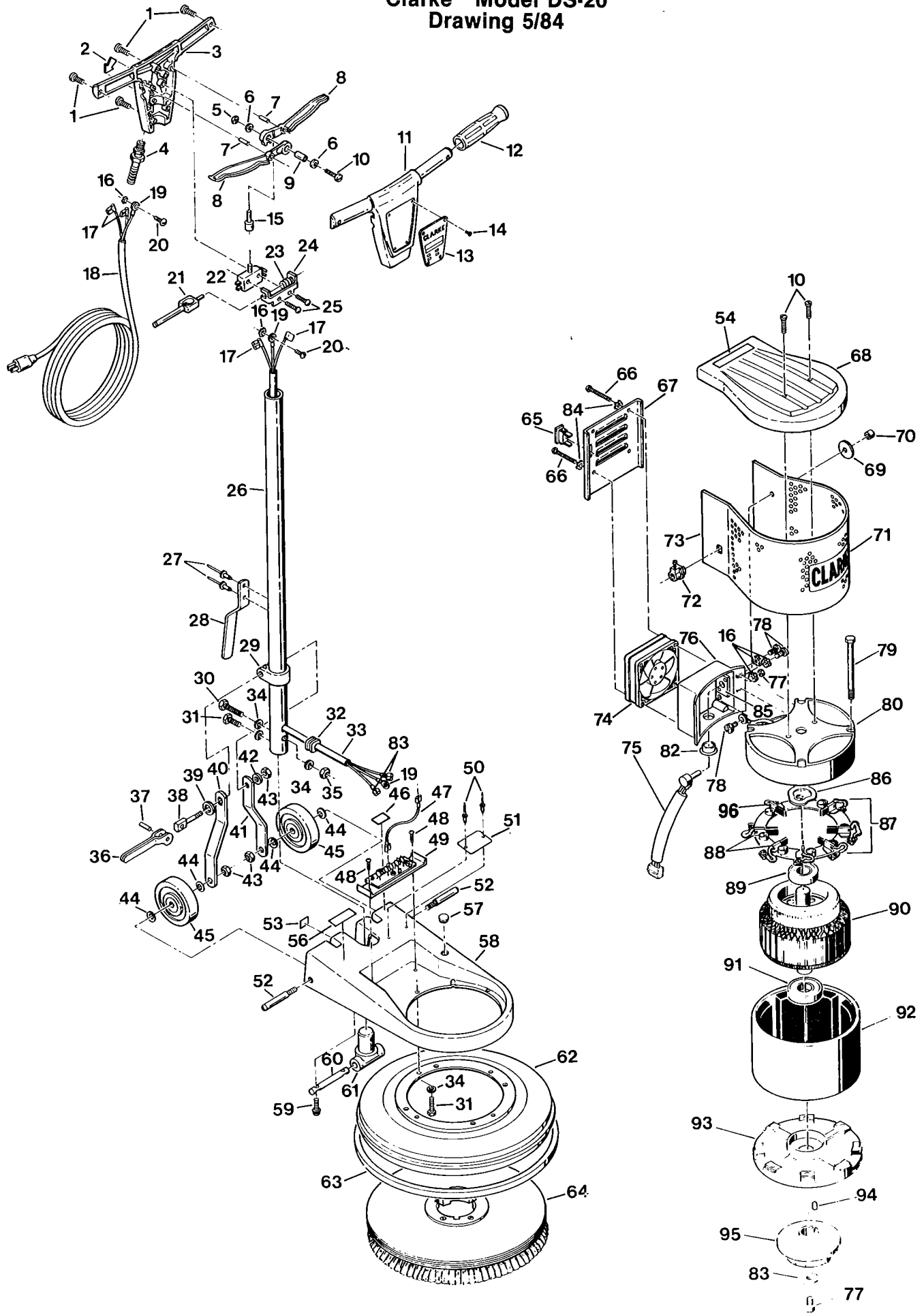


Figure 14
1. The Carbon Brushes
2. The Commutator

NOTES

Lined area for notes, consisting of approximately 30 horizontal lines.

Clarke® Model DS-20
Drawing 5/84



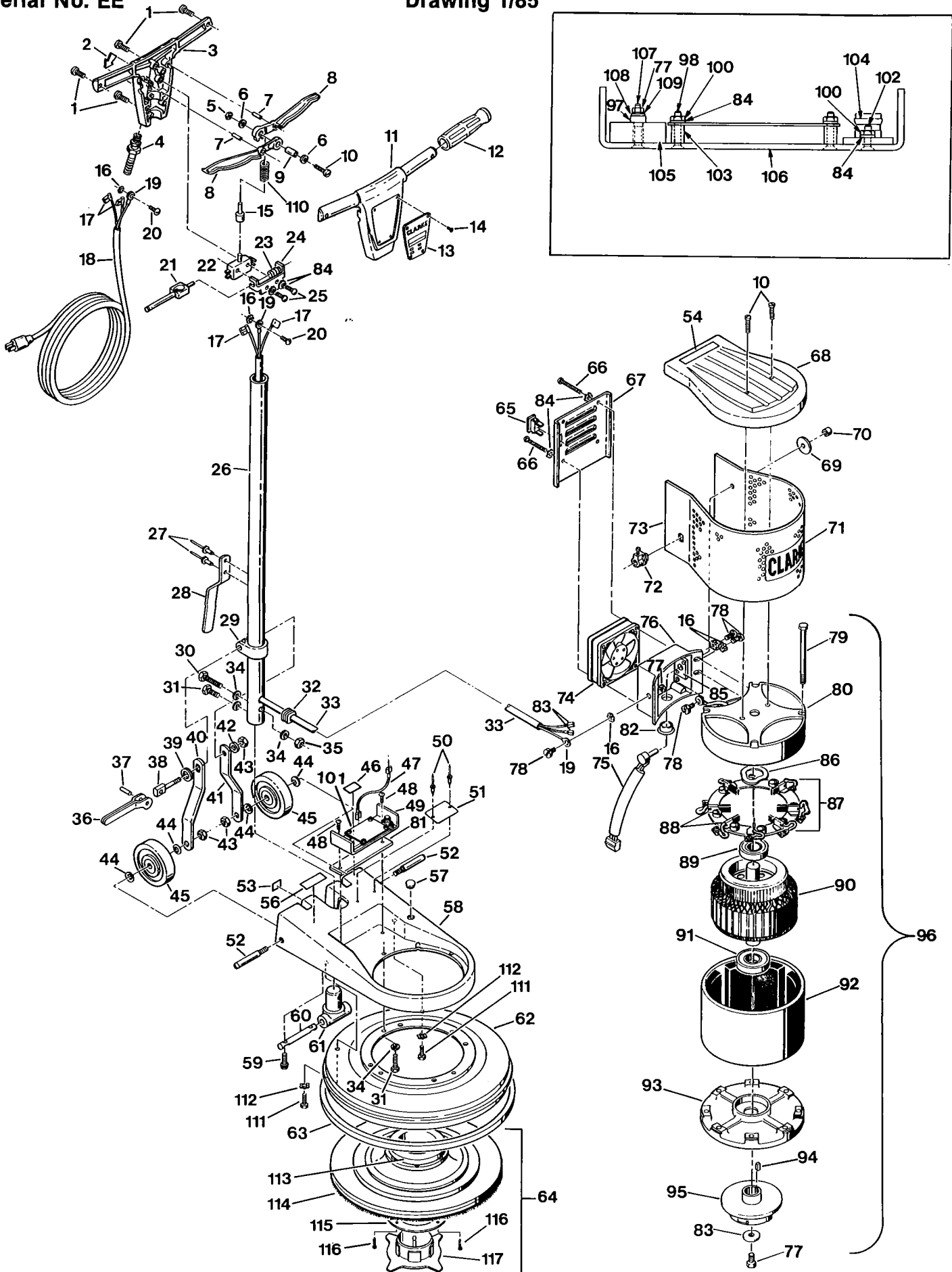
**Clarke® Model DS-20
Parts List 5/84**

Ref. No.	Code No.	Description	No. Req'd.
1	962487-5	Screw - 1/4-20 x 3/4 Mach.	1
2	445178-7	Label - Interlock	1
3	442376-0	Cover - Switch Housing	1
4	467504-7	Strain Relief	1
5	920296-1	Nut - #10-24 Stop	1
6	980643-1	Washer - #10 Plain	2
7	925189-3	Pin - 3/16 Dia. x 1" Lg. Dowel	2
8	445174-6	Lever - Switch	2
9	508204-5	Spacer - Switch Lever	1
10	962794-4	Screw - #10-24 x 1" Lg. Pn.	3
11	444274-5	Housing - Switch	1
12	503702-3	Grip - Handle	2
13		Plate - Serial No.	1
14	962282-0	Screw - 00 x 3/16 Lg. Drive	4
15	440202-0	Adapter - Switch	1
16	980621-7	Washer - #8 Shakeproof	5
17	911594-0	Terminal Clip	4
18	42021A-5	Cord Assembly - 50 Ft.	1
19	911933-0	Terminal Clip	3
20	962065-9	Screw - #8-32 x 1/4 Pn.	2
21	448573-6	Stop - Switch Interlock	1
22	911690-6	Switch	1
23	67900A-8	Spring - Switch Lever	1
24	440873-8	Bracket - Switch Stop	1
25	962980-9	Screw - #6-32 x 1" Lg. Pn.	2
26	449071-0	Tube - Handle	1
27	930107-8	Rivet - 5/32 Pop	2
28	414552-0	Hook - Cord	1
29	442001-4	Clamp - Handle	1
30	962891-8	Screw - 5/16-18 x 2" Hex	1
31	962158-2	Screw - 5/16-18 x 7/8 Lg. Hex	5
32	747553-6	Strain Relief	1
33	41901A-2	Cord Assembly - Handle	1
34	980652-2	Washer - 5/16 Lock	7
35	920110-4	Nut - 5/16-18 Hex Stop	1
36	461404-6	Cam - Complete Locking	1
37	925592-8	Pin - 1/4 x 1" Spirol	1
38	441301-9	Bolt - Locking Cam	1
39	980349-5	Washer - Wear	1
40	440301-0	Arm - Link R.H.	1
41	440302-8	Arm - Link L.H.	1
42	980645-6	Washer - 3/8 Plain	1
43	920248-2	Nut - 3/8-16 Hex	3
44	980681-1	Washer - Wave	4
45	419752-1	Wheel	2
46	805160-9	Label - Inspection	1
47	49001A-4	Lead Assembly - Cooling Fan	2
48	962015-4	Screw - #10-24 x 3/8 Lg. Rd.	2
49	16301A	Control - Speed	1
50	930074-0	Rivet - 1/8 Dia. Closed End	2

Ref. No.	Code No.	Description	No. Req'd.
51	506359-1	Plate Warning	1
52	437761-0	Shaft - Wheel	2
53	215108-2	Label - Mfg. Date	1
54	73211A-0	Label - Operation	1
55			
56	73212A-9	Label - Caution	1
57	411370-0	Button	1
58	23400A-6	Frame - Main	1
59	962830-6	Screw - 1/4-20 x 1" Lg. Hex	2
60	447702-2	Shaft - Handle Tongue	1
61	449201-3	Tongue - Handle Tube	1
62	67501A-1	Shield - Brush	1
63	441296-1	Bumper	1
64	480916-6	Brush Assembly	1
65	44201A-3	Light - Pilot	1
66	85300A-6	Screw - 6-32 x 2.00 Pn. Hd.	4
67	67304A-0	Shroud - Rear	1
68	32305A-3	Cover - Drip	1
69	73202A-1	Label - Speed Control	1
70	55500A-7	Knob	1
71	505106-5	Label - Clarke	1
72	437561-4	Strain - Relief	1
73	67301A-3	Shroud - Motor	1
74	42700A-3	Fan - Cooling	1
75	45700A-6	Potentiometer Assembly	1
76	50302A-8	Fan Adapter - Bracket	1
77	920108-8	Nut - #8-32 Hex	2
78	962027-9	Screw - #8-32 x 1/2 Lg Rd	3
79	961028-8	Thru Bolt	4
80	50605A-2	Commutator - Bracket	1
81			
82	50608A-9	Bushing	1
83	980350-3	Washer	1
84	980607-6	Washer - #6 Shakeproof	4
85	43600A-2	Insulator	1
86	59805A-1	Washer - Helical	1
87	50607A-0	Brush Board Assembly	1
88	51405A-2	Brush Assembly	8
89	51104A-6	Bearing - F.E.	1
90	50102A-0	Armature Assembly	1
91	51103A-7	Bearing - B.E.	1
92	57909A-0	Stator Frame Assembly	1
93	50606A-1	Bracket	1
94	915044-2	Key - 3/16 x 1" Lg. Sq.	1
95	20300A-3	Adapter - Motor	1
96	448396	Brush Spring	8

Beginning with
Serial No. EE

Clarke® Model DS-20
Drawing 1/85



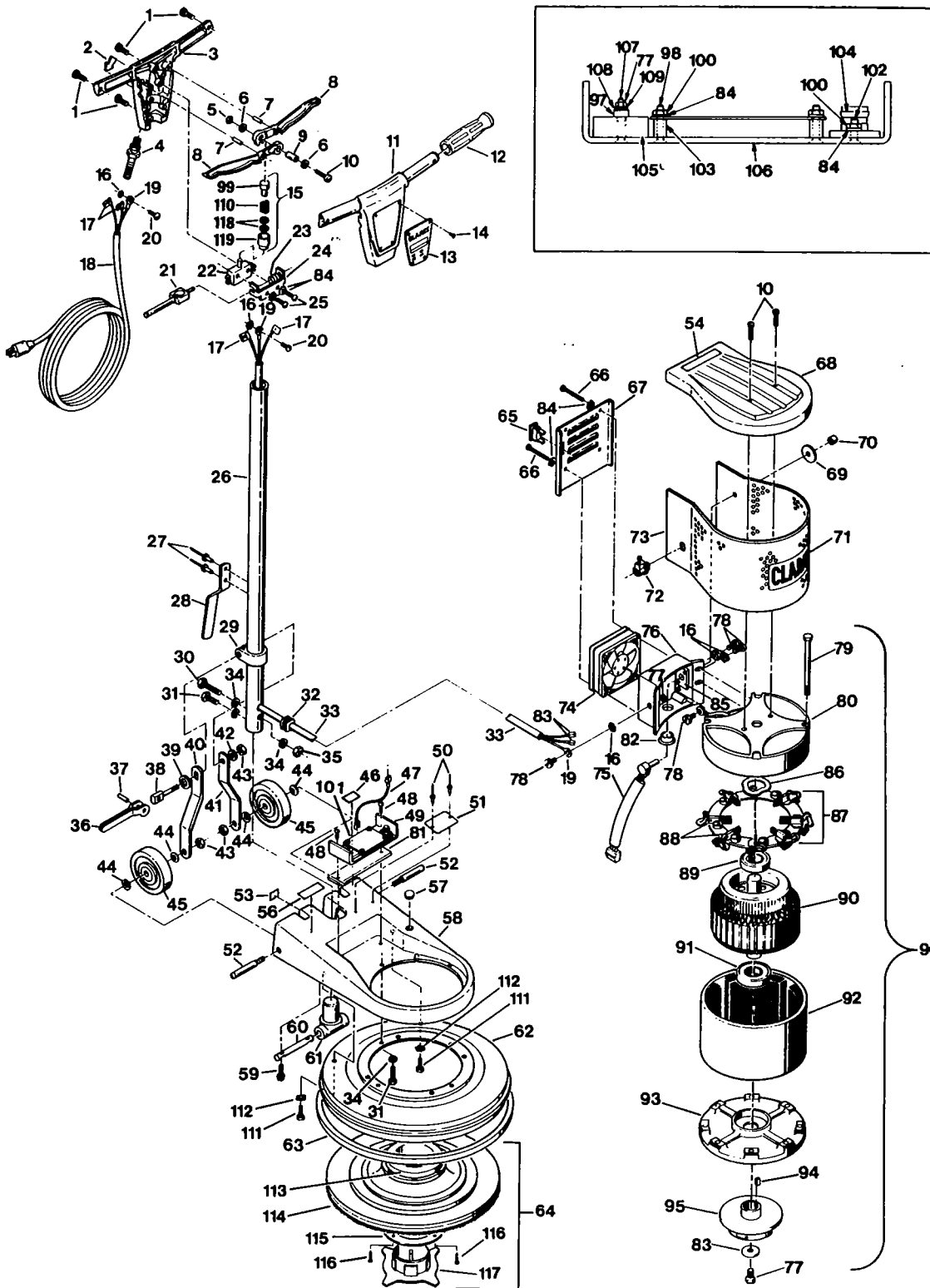
**Beginning with
Serial No. EE**

**Clarke® Model DS-20
Parts List 1/85**

Ref. No.	Code No.	Description	No. Req'd.
1	962487-5	Screw - 1/4-20 x 3/4 Mach.	1
2	445178-7	Label - Interlock	1
3	442376-0	Cover - Switch Housing	1
4	467504-7	Strain Relief	1
5	920296-1	Nut - #10-24 Stop	1
6	980982-3	Washer - #10 Plain Steel	2
7	925189-3	Pin - 3/16 Dia. x 1" Lg. Dowel	2
8	445174-6	Lever - Switch	2
9	508204-5	Spacer - Switch Lever	1
10	962794-4	Screw - #10-24 x 1" Lg. Pn.	3
11	444274-5	Housing - Switch	1
12	503702-3	Grip - Handle	2
13		Plate - Serial No.	1
14	962282-0	Screw - 00 x 3/16 Lg. Drive	4
15	440202-0	Adapter - Switch	1
16	980621-7	Washer - #8 Shakeproof	5
17	911594-0	Terminal Clip	4
18	11601A-8	Cord Assembly - 75 Ft.	1
19	911933-0	Terminal Clip	3
20	962065-9	Screw - #8-32 x 1/4 Pn.	2
21	448573-6	Stop - Switch Interlock	1
22	911690-6	Switch	1
23	67900A-8	Spring - Switch Lever	1
24	440873-8	Bracket - Switch Stop	1
25	962980-9	Screw - #6-32 x 1" Lg. Pn.	2
26	449071-0	Tube - Handle	1
27	930005-4	Rivet - 5/32 Pop	2
28	414552-0	Hook - Cord	1
29	442001-4	Clamp - Handle	1
30	85817A-2	Screw - 5/16-18 x 2" Hex	1
31	85812A-7	Screw - 5/16-18 x 7/8 Lg. Hex	5
32	747553-6	Strain Relief	1
33	41901A-2	Cord Assembly - Handle	1
34	980652-2	Washer - 5/16 Lock	7
35	920110-4	Nut - 5/16-18 Hex Stop	1
36	461404-6	Cam - Complete Locking	1
37	925592-8	Pin - 1/4 x 1" Spirol	1
38	441301-9	Bolt - Locking Cam	1
39	980349-5	Washer - Wear	1
40	440301-0	Arm - Link R.H.	1
41	440302-8	Arm - Link L.H.	1
42	980645-6	Washer - 3/8 Plain	1
43	920248-2	Nut - 3/8-16 Hex	3
44	980681-1	Washer - Wave	4
45	419752-1	Wheel	2
46	805160-9	Label - Inspection	1
47	49022A-9	Lead Assembly - Cooling Fan	2
48	962015-4	Screw - #10-24 x 3/8 Lg. Rd.	2
49	16301A	Control - Speed	1
50	930074-0	Rivet - 1/8 Dia. Closed End	2
51	506359-9	Plate Warning	1
52	437761-0	Shaft - Wheel	2
53	215108-2	Label - Mfg. Date	1
54	73211A-0	Label - Operation	1
55	448396	Brush Spring	8
56	73212A-9	Label - Caution	1
57	411370-0	Button	1
58	23408B-6	Frame - Main	1
59	962830-6	Screw - 1/4-20 x 1" Lg. Hex	2
60	447702-2	Shaft - Handle Tongue	1

Ref. No.	Code No.	Description	No. Req'd.
61	449201-3	Tongue - Handle Tube	1
62	67501B-9	Shield - Brush	1
63	441296-1	Bumper	1
64	17512A-3	Pad Driver Ass'y	1
65	44201A-3	Light - Pilot	1
66	85300A-6	Screw - 6-32 x 2.00 Pn. Hd.	4
67	67304A-0	Shroud - Rear	1
68	32305A-3	Cover - Drip	1
69	73202A-1	Label - Speed Control	1
70	55501A-6	Knob	1
71	505106-5	Label - Clarke	1
72	437561-4	Strain - Relief	1
73	67301A-3	Shroud - Motor	1
74	42700A-3	Fan - Cooling	1
75	45701A-5	Potentiometer Assembly	1
76	50302A-8	Fan Adapter - Bracket	1
77	962747	Nut - #8-32 Hex	3
78	962027-9	Screw - #8-32 x 1/2 Lg Rd	3
79	961028-8	Thru Bolt	4
80	50605A-2	Commutator - Bracket	1
81	67321A-9	Shim - Heat Sink	1
82	50608A-9	Bushing	1
83	980350-3	Washer	1
84	980607-6	Washer - #6 Shakeproof	12
85	43600A-2	Insulator	1
86	59805A-1	Washer - Helical	1
87	50607A-0	Brush Board Assembly	1
88	51405A-2	Brush Assembly	8
89	902654-3	Bearing - F.E.	1
90	50102B-8	Armature Assembly	1
91	51103A-7	Bearing - B.E.	1
92	57909A-0	Stator Frame Assembly	1
93	50606A-1	Bracket	1
94	915044-2	Key - 3/16 x 1" Lg. Sq.	1
95	20300A-3	Adapter - Motor	1
96	45006A-7	Motor - D.C., P.M. 95V, w/ Fan	1
	45000C-9	Motor - D.C., P.M. without Fan	1
97	53501A-1	Spacer - Phenolic	1
98	962358-8	Screw - #6-32 x 3/4 Flt. Hd.	4
99			
100	920112-0	Nut - 6-32 Hex	6
101	41109B-0	Control - Circuit Board	1
102	962974-2	Screw - #6-32 x 1/2 Flt. Hd.	2
103	58504A-7	Spacer - Nylon	4
104	46803A-0	Triac Ass'y.	1
105	46804A-9	Rectifier Bridge	1
106	623048-9	Chassis - Heat Sink	1
107	962054-3	Screw - 8-32 x 1 Flt. Hd.	1
108	980608-4	Washer - #8 Plain	1
109	87601B-6	Washer - #8 Belleville	1
110	67912A-4	Spring - Switch Lever	1
111	962139-2	Screw - 1/4-20 x 5/8 Hex ST Cap	2
112	980657-1	Washer - 17/64 x 31/64 x 1/16	2
113	466617-8	Plate - Locking	1
114	55103A-8	Holder - Pad	1
115	50641A-8	Base - Center Grip	1
116	962737-2	Screw - 8-00 x 5/8 Pn	3
117	57818A-0	Ring - Lock	1

Clarke® Model DS-20
 Assembly Drawing 5/89
 Beginning with Serial No. NE-0074

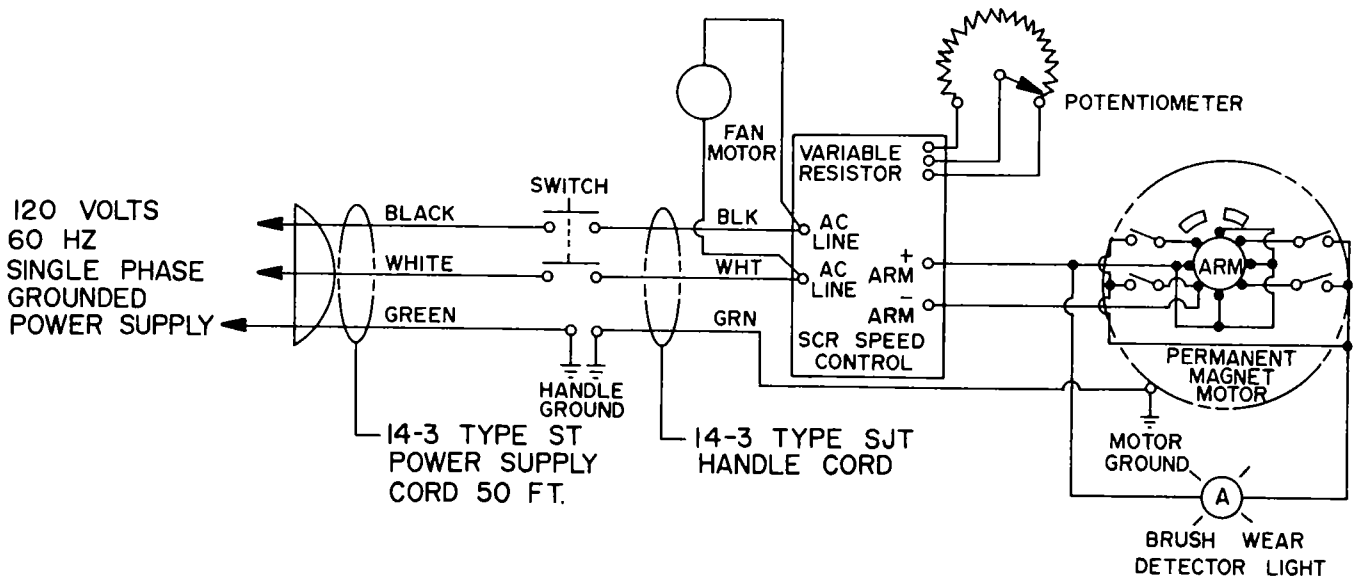


Clarke® Model DS-20
Assembly Drawing Parts List 5/89
Beginning with Serial No. NE-0074

Ref.	Part No.	Description	Qty.
1	962487	Screw 1/4-20 x 3/4 Mach.	1
2	445178	Label - Interlock	1
3	442376	Cove - Switch Housing	1
4	467504	Strain Relief	1
5	920296	Nut #10-24 Stop	1
6	980982	Washer - #10 Plain Steel	2
7	925189	Pin - 3/16 Dia x 1" Lg. Dowel	2
8	445174	Lever - Switch	2
9	508204	Spacer - Switch Lever	1
10	962794	Screw #10-24 x 1" Lg. Pn.	3
11	444274	Housing - Switch	1
12	503702	Grip - Handle	2
13		Plate - Serial No.	1
14	962282	Screw - 00 x 3/16 Lg. Drive	4
15	16029A	Kit, Switch Adapter	1
16	980621	Washer - #8 Shakeproof	5
17	911594	Terminal Clip	4
18	11601A	Cord Assembly 75'	1
19	911933	Terminal Clip	3
20	962065	Screw #8-32 x 1/4 Pn.	2
21	448573	Stop - Switch Interlock	1
22	911690	Switch	1
23	58665A	Spring - Switch Interlock	1
24	440873	Bracket Switch Stop	1
25	962980	Screw #6-32 x 1" Lg.Pn.	2
26	449071	Tube - Handle	1
27	930005	Rivet 5/32 Pop	2
28	414552	Hook - Cord	1
29	442001	Clamp - Handle	1
30	85817A	Screw 5/16 - 18 x 2" Hex	1
31	85812A	Screw 5/16-18 x 7/8 Lg. Hex	5
32	747553	Strain Relief	1
33	41901A	Cord Assembly - Handle	1
34	980652	Washer - 5/16 - 18 Lock	1
35	920110	Nut 5/16-18 Hex Stop	1
36	461404	Cam - Complete Locking	1
37	925592	Pin 1/4 x 1" Spirol	1
38	441301	Bolt - Locking Cam	1
39	980349	Washer - Wear	1
40	440301	Arm - Link R.H.	1
41	440302	Arm - Link L.H.	1
42	980645	Washer - 3/8 Plain	1
43	920248	Nut - 3/8 - 16 Hex	3
44	980681	Washer - Wave	4
45	419752	Wheel	2
46	805160	Label - Inspection	1
47	49022A	Lead Assembly - Cooling Fan	2
48	962015	Screw #10-24 x 3/8 Lg. Rd.	2
49	41108B	Control - Speed	1
50	930074	Rivet - 1/8 Dia. Closed End.	2
51	506359	Plate - Warning	1
52	437761	Shaft - Wheel	2
53	215108	Label - Mfg. Date	1
54	73211A	Label - Operation	1
55	448396	Brush Spring	8
56	73212A	Label - Caution	1
57	411370	Button	1
58	23408B	Frame - Main	1
59	962830	Screw - 1/4-20 x 1" Lg. Hex	2
60	447702	Shaft - Handle Tongue	1

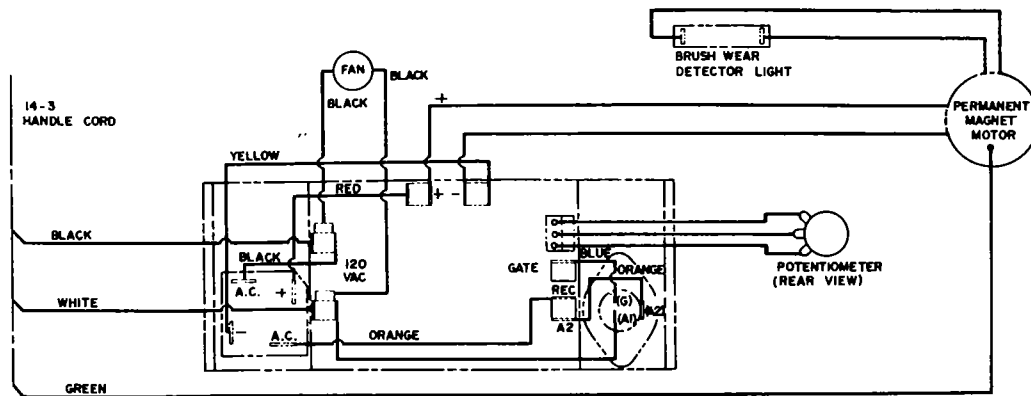
Ref.	Part No.	Description	Qty.
61	449201	Tongue - Handle Tube	2
62	67501B	Shield - Brush	1
63	441296	Bumper	1
64	17512A	Pad Driver Assembly	1
65	44201A	Light - Pilot	1
66	85300A	Screw 6-32 x 2.00 Pn. Hd.	4
67	67304A	Shroud - Rear	1
68	32305A	Cover - Drip	1
69	73202A	Label - Speed Control	1
70	55501A	Knob	1
71	505106	Label - Clarke	1
72	437561	Strain - Relief	1
73	67301A	Shroud - Motor	1
74	42700A	Fan - Cooling	1
75	45701A	Potentiometer Assembly	1
76	50302A	Fan Adapter - Bracket	1
77	962747	Nut #8-32 Hex	3
78	962027	Screw #8-32 x 12 Lg. Rd	3
79	961028	Thru Bolt	4
80	50605A	Commutator - Bracket	1
81	67321A	Shim - Heat Sink	1
82	50608A	Bushing	1
83	980350	Washer	1
84	980607	Washer #6 Shakeproof	12
85	43600A	Insulator	1
86	59805A	Washer - Helical	1
87	50607A	Brush Board Assembly	1
88	51405A	Brush Assembly	8
89	902654	Bearing - F.E.	1
90	50102B	Armature Assembly	1
91	51103A	Bearing - B.E.	1
92	57909A	Stator Frame Assembly	1
93	50606A	Bracket	1
94	915044	Key 3/16 x 1" Lg. Sq.	1
95	20300A	Adapter - Motor	1
96	45006A	Motor - D.C., P.M. 95V, w/Fan	1
	45000C	Motor - D.C., P.M. without fan	1
97	53501A	Spacer - Phenolic	1
98	962358	Screw #6-32 x 3/4 Flt. Hd.	4
99	51512A	Bushing, #6 Nylon	1
100	920112	Nut - 6-32 Hex	2
101	41109B	Control - Circuit Board	1
102	962974	Screw #6-32 x 1/2 Flt. Head	2
103	58504A	Spacer - Nylon	4
104	46803A	Triac Assembly	1
105	46804A	Rectifier Bridge	1
106	623048	Chassis - Heat Sink	1
107	962054	Screw 8-32 x 1 Flt. Hd.	1
108	980608	Washer #8 Plain	1
109	87601B	Washer #8 Belleville	1
110	58664A	Spring, Switch Adapter	1
111	962139	Screw 14-20 x 5/8 Hex St. Cap	2
112	980657	Washer 17/64 x 31/64 x 1/16	2
113	466617	Plate - Locking	1
114	55103A	Holder - Pad	1
115	50641A	Base - Center Grip	1
116	962737	Screw - 8-00 x 5/8 Pn	3
117	57818A	Ring - Lock	1
118	87023A	Washer #4 Stainless Steel Flat	2
119	30117A	Switch, Adapter	1

Clarke® Model DS-20
Wiring Diagram 10/83

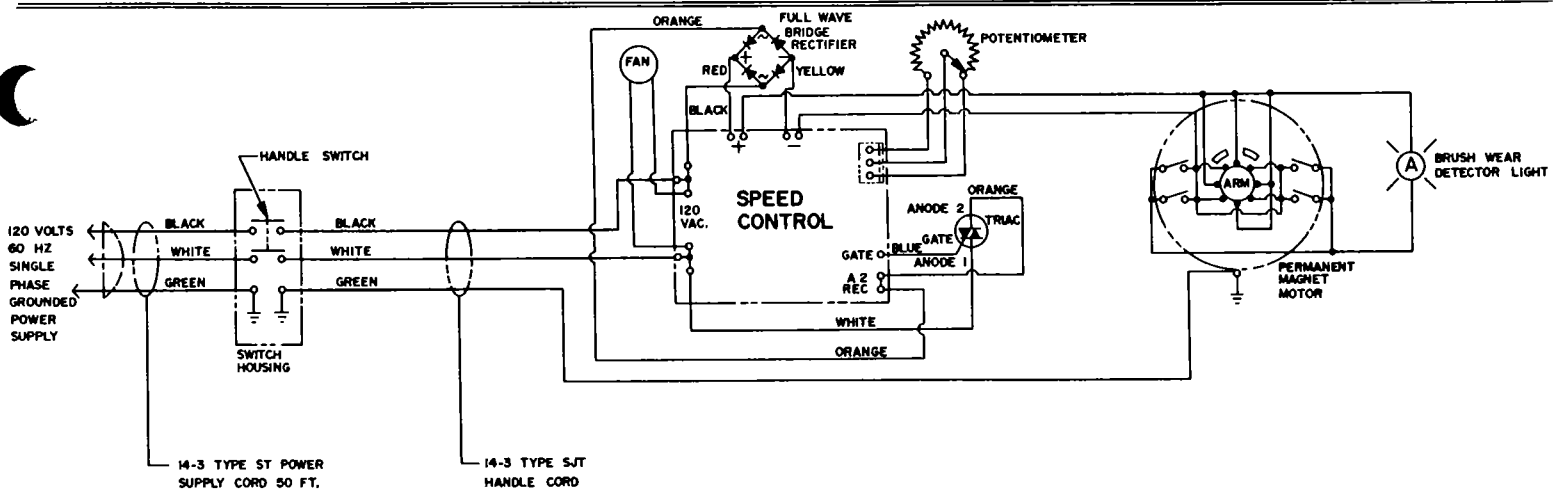


CAUTION - Repairs by qualified personnel only.
 ACHTUNG - Reparaturen nur durch facharbeiter.
 PRECAUTION - Reparations par personnel specialise seulement.
 PRECAUCION - Unicamente personal calificado deberian hacer reparaciones.

Clarke® Model DS-20 Wiring & Schematic Diagram 1/85
Beginning with Serial No. EE



CONNECTION DIAGRAM



SCHMATIC DIAGRAM

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

Clarke® 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.

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.

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.

(c). Clarke will repair the product and/or replace any defective parts without charge within a reasonable time after receipt of the product.

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.

Clarke, 2100 Highway 265, Springdale, Arkansas 72764.

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



Always use genuine Clarke Parts for repair.

Clarke®

2100 Highway 265
Springdale, Arkansas, 72764