

INSTRUCTIONS FOR CARE AND OPERATION — PARTS LIST

CLARKE

MODEL 504

DRUM SANDER

Your sander comes to you with exhaust pipe and handle detached. The motor and chassis frame are assembled as one unit. In one crate there are five separate packages which contain the following:

1. Exhaust pipe and handle unit
2. Carrying handles
3. 100 ft. conductor cable with plug attached and trailing wire guide
4. Paper cutting templet
5. Paper envelope containing direction sheet, dust bag, pair of drum wrenches.

TO ASSEMBLE MACHINE: (1) Attach handle with two bolts, hook lower end of drum pressure control spring through eye-bolt in rear of frame and at the same time slip end of control rod over pin in frame, locking in place with cotter pin; (2) Attach exhaust pipe; (3) Attach trailing wire guide bracket to exhaust pipe (in position shown on illustration); (4) Attach bag to exhaust pipe by drawing cord tight, then wrap cord around bag next to flange and tie. Proper tying will prevent leakage.

ELECTRIC CURRENT: Make sure that the cycle and phase of your current supply are the same as that stamped on motor name plate. If motor is for alternating current (AC) it will operate on 220 Volt.

To plug in trailing wire, press it in socket in switch box; then turn right which locks in place. Turn left and pull out to disconnect. For best results connect to meter box. For longer extensions, use #10 cable.

LUBRICATION: All moving points of the Model 504 except fulcrum shafts are mounted on ball bearings which are packed in grease. The fulcrum shaft bearings are needle roller bearings and should be greased about every six months by removing pipe plug from each end of shaft and greasing through same. We supply tube grease for this purpose.

The ball bearings in motor and drum are of seal type and are packed with grease by the ball bearing manufacturer. These bearings need no attention whatsoever. The bearings in the fan housing are of sealed type and need no lubrication. Bearings in the truck chassis are packed with grease and will last the life of the machine as these turn very little and slowly.

Using light machine oil, lubricate the two pins in the control handle and the pin, which secures the control rod to frame, often enough to keep these points from sticking.

TO CHANGE ABRASIVE: Raise drum guard up so that it engages with spring clip which holds guard in place while changing abrasive.

Great care should be taken when installing paper. Each wrap should be cut by templet furnished with each machine, each end of paper being turned over where templet is hinged. Next operation is to turn cams so that the flats are parallel and in line with slot in drum. The flats are on side that arrow points to.

Place one end of abrasive paper in slot in the drum. Roll drum away from you keeping paper even with edge of drum until slot is again opposite you. Insert other end of paper. Press paper down in the slot about $\frac{1}{4}$ ", using care to keep it even and turn cams at an equal rate until paper is drawn snug. Do not draw too tight. When installing grits #1 $\frac{1}{2}$ and finer, it is necessary to use a shim $1\frac{1}{4}$ " x 8" placed between the cams before drawing up. When using grits #1 $\frac{1}{2}$ and finer, be careful not to draw it too tightly as you are liable to cause flats at edge of slot which cause chatter marks on floor.

OPERATION: Before sanding, sweep floor clean and be sure that no nails stick up which might tear paper and rubber covering on drum. If nails, paper, cloth, etc. are picked up by machine, it may damage the fan or clog the dust system.

Start motor with drum off floor. Holding handle with one hand, push machine slowly along floor, at the same time, grasp control lever with other hand; then let drum down until abrasive starts cutting. Let the pressure on the drum increase gradually until you can let go of control lever. Continue moving the machine along the floor slowly and at an even rate of speed to edge of floor. Reverse direction of machine along floor as quickly as possible, raising drum slightly so that there is no cutting at the instant the forward movement stops. Lower the drum again immediately after backward movement starts. Raise drum from floor before stopping machine at any time. Always start moving machine along the floor before the drum starts cutting.

On lower part of control handle is provided a ratchet drum pressure unit ranging from 52 to 80 pound pressure. There are five notches in the bracket. As the lever is lifted, more tension is put on the spring and more pressure is constant and relieves the operator from applying any pressure by hand. This should be varied according to the kind of floor and its condition. When using a new sheet of paper, half the drum pressure is sufficient. As paper wears, increase drum pressure. If maximum drum pressure is used on new paper, it breaks down the grit and increases paper cost by cutting down the floor coverage per sheet of paper. A little experience will show you what pressure is best as well as the amount of overlap necessary.

Two drum speeds of 1800 and 2550 RPM are provided to meet the requirements of the floor sander operator. High speed is desirable for final finishing and ripping off old varnish.

Empty dust bag when one-third full in order to maintain efficient dust collecting. Never allow drum to rest on floor while the machine is not in use. This may produce a flat spot which will cause chatter marks.

Always sand with the grain unless the floor is exceptionally rough and covered by many old finished coats. With either of these conditions you may sand diagonally across the grain at a 45 degree angle. Do not sand at right angles to the grain. With parquet floors you have no choice, but use extra fine abrasives.

ADJUSTMENTS OF DRUM: The drum is properly adjusted at the factory and should require no further attention. If drum gets out of adjustment, check as follows:

Alignment of drum - place the 504 Sander on a level surface. With motor stopped, let drum down on surface. First loosen lock screw at top of each drum suspension arm. Tighten leveling screw until arm compresses rubber pad to $5/16$ ". Raise drum from surface, start motor, and sand a strip. If drum cuts too heavily on one side, raise drum at that end by turning leveling screw to right until it cuts evenly.

NOTE: Turning the screw to the right raises the drum; to the left lowers the drum.

DRUM CLEARANCE: Disconnect one end of control rod and turn swivel yoke at top of control rod up or down until drum is raised $\frac{1}{2}$ " from floor. Check this when control rod has been re-connected and control lever is up.

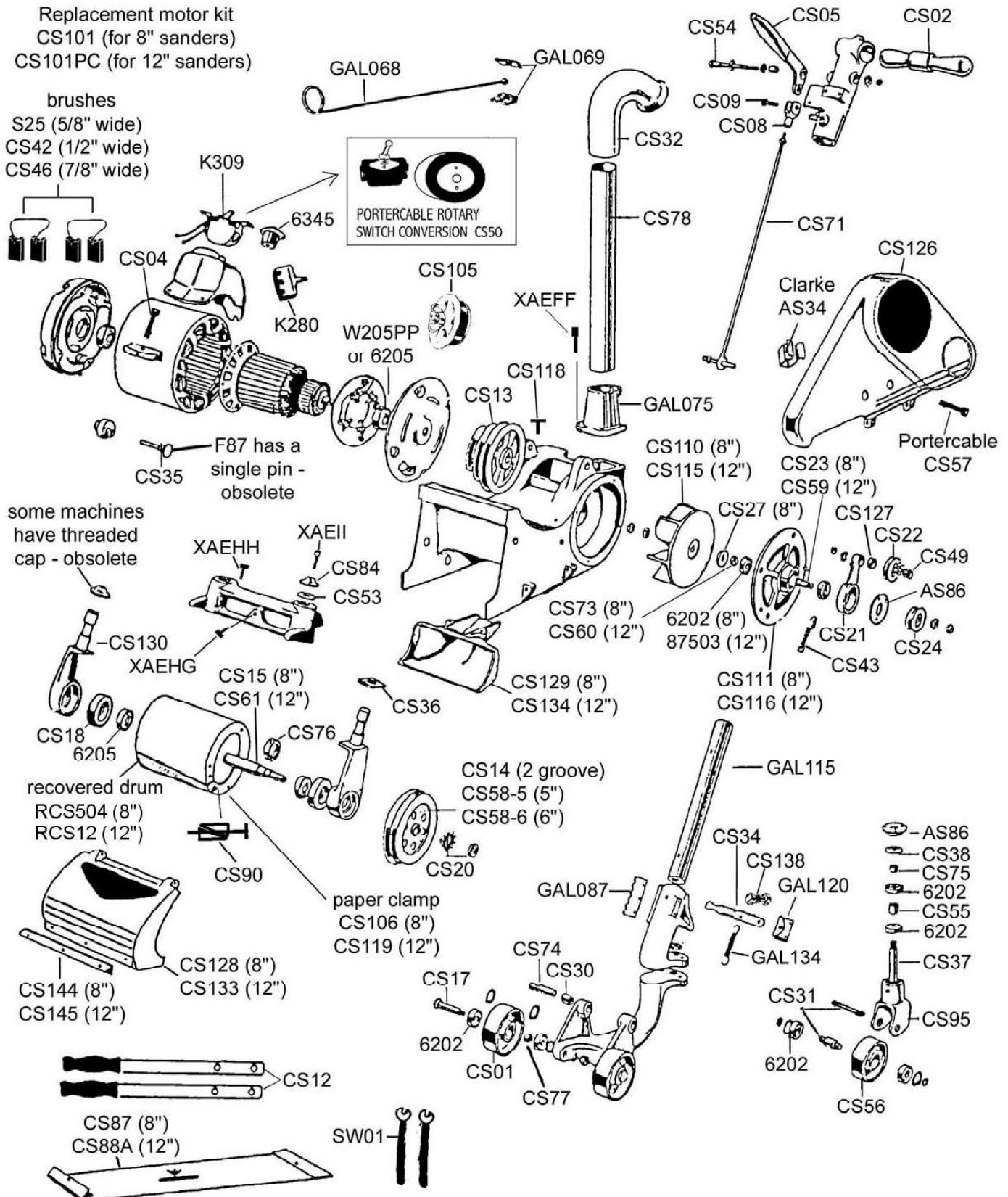
Ref. No.	Code No.	Description	No. Req'd.	Ref. No.	Code No.	Description	No. Req'd.
1	143903	Carrying Handle Assembly	2	85	980672	Washer - #1134 Shakeproof	1
2	987108	Wrench	2	86	962385	Screw - #10 - 24 x 1/2 Bdg. Hd.	5
3	911052	Plug Body	1	87	126402	Plate - Pressure Control Ratchet	1
5	911464	Off - On Switch	1	88	121916	Chassis - Upper Truck	1
6	911688	Assembly - Switch Lead	2	89	962300	Screw - 5/16 - 18 x 1-1/4 Soc. Cap.	2
7	143620	Guard - Switch	1	90	902588	Bearing	2
8	127810	Motor End Bell	1	91	121912	Chassis - Lower Truck	1
9	962160	Screw - 1/4-20 x 5/8 Rd. Hd.	3	92	143924	Handle - Control	1
10	960220	Screw - Motor Adjusting	1	93	141120	Bushing - Control Handle	1
11	902594	Bearing	1	94	980300	Washer - Wear	1
12	125218	Motor Assembly with Switch Housing	1	95	108404	Stud - Control Handle	1
13	146704	Plate - Motor Release Pin	2	96	925036	Pin - 3/32 x 3/4 Cotter	2
14	123108	Assembly - Field and Housing	1	97	146718	Pin - Clevis	1
15	100324	Arm - Right Drum	1	98	149908	Yoke - Control Handle Rod	1
16	125905	Pad - Rubber Drum	1	99	920260	Nut - 3/8 - 16 x 5/16 Hex.	1
17	925136	Pin - 1/2 x 2 Type 2 Groove	2	100	121912	Rod Assembly - Control Handle	1
18	123632	Guard - Drum	1	101	126708	Pin - Control Rod	1
19	962027	Screw - #8-32 x 1/2 Rd. Hd. Mach.	5	102	980615	Washer - 3/8 Plain	2
20	987516	Wrench - 1/4 - 20 Allen	1	103	962301	Screw - 3/8 - 16 x 1-1/4 Soc. Cap	1
21	987096	Wrench - 3/8 Allen	1	104	962373	Screw - 1/4 - 20 x 5/8 Soc. Hd.	8
22	128708	Template - Paper	1	105	962382	Screw - 5/16 - 18 x 3/4 Thumb	2
23	962268	Screw - #10-24 x 5/8 Allen Cap	12	106	123409	Gasket - Dust Bracket	1
24	126712	Pin - Motor Release	2	107	920276	Nut - 1/2 - 20 x (3/16) Hex. Special Jam	2
25	962375	Screw - 7/16 - 14 x 1-1/2 Hex. Hd.	2	108	123008	Fan - Vacuum	1
26	980100	Washer - Drum Arm	2	109	915020	Key - 1/8 x 1/2 Woodruff	2
27	122404	Assembly - Cartridge	2	110	147604	Seal - Bearing Housing	1
28	902547	Bearing	2	111	128212	Collar - Fan	1
29	962507	Screw - #10 - 24 x 3/8 Self Tapping	2	112	124202	Housing - Fan Bearing	1
31	911018	Base - 3 Prong Twist Lock	1	113	128309	Spring - Fan Brg. Tension	1
32	122320	Cover - Changeover Switch Hole	1	114	123212	Frame	1
33	911178	Connector - Wire	1	115	109004	Tube - Handle	1
34	104210	Housing - Switch	1	116	962372	Screw - 3/8 - 16 x 2-1/2 Soc. Cap.	2
35	120312	Assembly - Armature	1	117	920128	Nut - 1/2 - 20 Hex.	1
36	120904	Brush - Motor	4	118	962157	Screw - 5/16 - 18 x 1-1/4 Hex.	2
37	902595	Bearing	1	119	145104	Lever - Pressure Control	1
38	120824	Bracket - Drum Support	1	120	140818	Bracket - Pressure Lever	1
39	121304	Assembly - Brush Block	1	121	962031	Screw - #8 - 32 x 1/2 F.H. Mach.	6
40	962396	Screw - 3/8-16 x 1-3/4 Cap.	2	122	142309	Cover - Caster Yoke	1
41	962369	Screw - 3/8-16 x 3/4 Soc. Cap.	1	123	147608	Seal	1
42	980104	Washer - Drum Arm Rubber	2	124	148206	Collar (Short)	1
43	120504	Absorber - Shock	2	125	148209	Collar (Long)	1
44	127704	Shaft - Drum	1	126	902589	Bearing	2
45	915056	Key - 3/16 x 7/8 x 15/16	1	127	148420	Stud - Swivel Caster	1
46	915036	Key - 5/32 x 5/8 Woodruff	1	128	129204	Tire - Caster Wheel	1
47	122404	Assembly - Cartridge	2	129	149904	Yoke	1
48	100320	Arm - Left Drum	1	130	148203	Spacer - Caster Collar	2
49	122552	Assembly - Drum and Shaft	1	131	149708	Wheel - Caster	1
50	122550	Drum and Bracket Assy. (Not Shown)	1	132	920256	Nut - 5/16 - 18 Hex.	1
51	146804	Plug	3	133	148408	Stud - Control Lever	1
52	141204	Bumper - Rubber	1	134	128324	Spring - Pressure Control	1
53	127712	Shaft - Fulcrum	2	135	962376	Screw - 5/16-18 x 2-1/4 Soc. Cap	1
54	127720	Shaft - Front Wheel	2	136	100812	Bracket - Handle	1
55	902567	Bearing	9	137	103704	Grip - Handle	1
56	149712	Wheel - Front	2	138	980666	Washer - #1120 Shakeproof	2
57	148212	Collar - Wheel Spacer	2	139	002104	Clip - Wrench	1
58	128215	Collar - Front Wheel Spacer	2	140	120608	Bag - Dust	1
59	129202	Tire - Truck Wheel	2	141	127708	Shaft - Fan	1
60	129704	Wheel Assembly - Truck	2	142	120300	Arm - Idler	1
61	980669	Washer - #1124 Shakeproof	5	143	128209	Spacer - Idler Pulley	1
62	920132	Nut - 1/2 - 20 Hex. Jam	2	144	106942	Pulley - Idler	1
63	146804	Plug	3	145	127716	Shaft - Idler Pulley	1
64	920204	Nut - 3/8 - 24 Hex. Jam	4	146	962391	Screw - #10 - 24 x 1 Hex. Soc. Hd.	1
65	147704	Shaft - Caster Wheel	1	147	405801	Oiler	1
66	148203	Spacer - Caster Wheel	2	148	121312	Bar - Belt Guard Lock	1
67	148104	Sleeve - Caster Wheel	1	149	122309	Cover - Fan Brg. Retaining	1
68	143808	Assembly - Guide	1	150	903615	Belt	1
69	142009	Clamp - Support Bracket	1	151	903533	Belt	1
70	140824	Bracket - Guide Support	1	152	126921	Pulley - Fan	1
71	102804	Elbow - Swivel	1	153	123616	Guard - Belt	1
72	106004	Pipe - Dust	1	154	925516	Pin - 3/16 x 1-1/2 Type 2	2
73	122315	Cover Assembly - Cleanout	1	155	980645	Washer - 3/8 Plain	1
74	127812	Motor End Bell	1	156	908180	Cord - 100 Foot	1
75	100815	Bracket - Dust	1	157	129708	Wheel Assembly - Caster	1
76	962336	Screw - 3/8 - 16 x 1/2 Cup Pt. Set	3	158	128218	Collar	1
77	126951	Pulley - Motor	1	159	121216	Bumper Stop	2
78	127004	Pan - Dust	1	160	911564	Clip - Terminal	4
79	062108	Clip - Spring	1	161	123403	Gasket	1
80	962194	Screw - #8 - 32 x 3/8 Fil. Hd.	2	162	167312	Ring - Snap	7
81	126960	Pulley - Drum	1				
82	980664	Washer - #1118 Shakeproof	3				
83	962242	Screw - 5/16 - 18 x 3/4 Allen Hd. Cap	2				
84	920272	Nut - 7/8 - 14 Hex. Jam	1				

Part numbers no longer
used go to ussander.com

Old 504 part Numbers no longer used call US Sander (866) 877-2637

Clarke 504 & 12" Portercable

most parts also fit Portercable F87 & Galaxy 506



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TO REMOVE DRUM FOR COVERING: First remove V Belts and then the three screws that fasten drum bracket to frame. Send this unit back to the factory for recovering. Do not disassemble unit unless necessary, for the factory will readjust the drum to its proper alignment after the drum has been recovered. You will then be assured of a proper working drum.

BELT CHANGE-OVER: To change over from one speed to the other, swing belt guard open to expose belt. Release belt tension by turning belt adjusting screw (located on front of motor) to left. Change belt over to speed desired and readjust belt tension and lock guard to frame. Do not draw bolt up too tightly as this will affect the operation of drum.

DUST COLLECTING SYSTEM: The dust pan is so set that when drum rests on floor, the edge of dust pan is 3/16" off floor. On the CLARKE Model 504 the pan raises and lowers with the drum so it does not interfere or get damaged when moving over thresholds, etc.

Should the dust system fail to collect dust properly, (1) remove the bag and clean it thoroughly. In time the pores of bag become clogged and prevent air circulation. If so, replace with a new bag. (2) See that fan belt is tight enough to drive fan. The fan belt is automatically taken up by a spring tension idler pulley; but should the belt be stretched too long, replace with new one as the cost is very small.

If the trouble is not with the bag or belts, then inspect dust pan. By laying machine on its side and removing the two screws, the pan and air duct can be readily cleaned out if dust or any other particles have lodged in the air ducts. If this is not the trouble, then remove four screws which retain fan housing to frame. Remove fan assembly. Inspect air ducts and clean out if clogged. Inspect fan. If fan is damaged (nail or some other means) replace with new one. The entire unit can be exchanged or fan can be replaced by releasing nut on shaft.

If fan bearings become worn and noisy, replace, preferably at factory, or factory branch.

BELT TAKE-UP: By turning the belt tension adjusting screw (located in front of motor) to right, both the drive and fan belts are taken up. Turn left to release.

Do not take up belts too tightly as this puts an excessive and unnecessary load on the belts.

REMOVING MOTOR:

1. Swing belt guard open
2. Release belt tension adjusting screw and remove belts
3. Remove fulcrum pin at rear of motor. If pin is tight twist, until it removes freely.
4. Take hold of motor below switch housing and at the front ledge. Pull straight up to remove motor.

To replace motor, place a carrying handle in well of frame, rest motor on handle and insert motor fulcrum pin. Remove carrying handle.

MOTOR: New motors need to be "run in" several hours so that new brushes can seat themselves properly over commutator.

Should motor fail to run up to speed or fail to operate, inspect fuse box and cable connections to source of power supply. If this is not the trouble, see your local representative.

If corrections cannot then be made, remove motor and send direct to factory for inspection and repairs if needed.

FAN BELT IDLER ARM: To remove arm, swing belt guard open. Remove fan pulley. Remove guiding cover by removing the three screws. Pull out idler arm. If arm turns hard, clean bearing surface of all dirt so that arm turns freely.

If tension spring fails to hold proper tension on belt, remove and replace with new one.

GENERAL DIRECTIONS: In sanding, be careful not to run over the trailing wire. To help prevent the cord from being damaged, the machine is equipped with a trailing wire guide which is fastened to handle bracket. The guide should be swung from side to side, keeping the cord toward the sanded side. When not in use swing down.

Keep all parts of your CF-12 free from dirt and moisture as much as possible. Cover machine when not in use to protect it from dust. Before each machine is shipped from the factory, it is thoroughly inspected for mechanical conditions and is tested for defective insulation by the 1000 V. ground test. Should any trouble arise, read the instructions carefully. If the repairs are beyond your facilities, return unit parts or the machine to nearest CLARKE authorized service station, for less expense will be involved and expert repairing will be assured. In ordering any repair parts, be sure to give us type and serial number that is stamped on frame of your machine.

CLARKE WARRANTY

This Clarke Floor Product is guaranteed against defects in material and workmanship for ONE YEAR from date of purchase, when maintained and operated in accordance with instructions and when used in normal service.

This warranty does not cover accidental damage, improper use or lack of care. Normal wear parts such as cords, gaskets, wheels, switches, capacitors, relays, brushes, bearings, rubber parts and hoses are not covered by this guarantee. "Clarke" assumes no responsibility for repairs made or attempted by unauthorized persons.

This warranty is not intended to cover parts or labor which are required as a result of normal maintenance or wear.

Should difficulties develop, the machine or parts must be returned for inspection to the nearest authorized Clarke Branch or Factory. Transportation charges to and from our Branch or Factory must be paid by the owner. If defects are apparent, we will repair or replace without charge such defective parts.

Service

Atlanta, Baltimore, Birmingham, Boston, Buffalo, Charlotte, Chicago, Cincinnati, Cleveland, Dallas, Denver, Des Moines, Detroit, Houston, Indianapolis, Irvington, Jacksonville, Kansas City, Los Angeles, Memphis, Miami, Milwaukee, Minneapolis, New Orleans, New York City, Oklahoma City, Omaha, Philadelphia, Pittsburgh, Portland, St. Louis, Salt Lake City, San Francisco, Seattle, Syracuse, Washington, D.C.

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IN CANADA

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