



## Electronic Service Manuals

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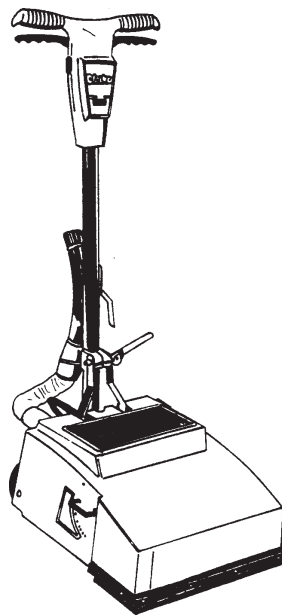
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## Operator's Manual



## PB-12 Power Brush For Extraction

### 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 you cannot read English, have this manual explained fully before attempting to operate this machine.

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: ALTO U.S. Inc., 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 our 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 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 you or 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.


 **DANGER:** Using a machine with a damaged power cord could result in an electrocution. Do not use the machine if the power cord is damaged. To prevent damage to the power cord, do not move this machine over the power cord. Always lift the power cord over the machine. Do not use the electrical cord to move the machine.






 **DANGER:** Electrocution could occur if maintenance and repairs are performed on a unit that is not disconnected from the power source. Disconnect the power supply before attempting any maintenance or service.

 **DANGER:** Electrocution or fire could occur if the machine is used on a power circuit that repeatedly trips or is undersized. Have a licensed electrician check the fuse, circuit breaker or power supply, and/or contact your local Clarke distributor for assistance.

 **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:** 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, put all switches into their "OFF" position.

 **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:** 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.
-  **WARNING:** Always use a three-wire electrical system connected to the electrical ground. For maximum protection against electric shock, use a circuit that is protected by a ground fault circuit interrupter. Consult your licensed electrician and/or contact your local Clarke distributor for assistance.
-  **WARNING:** To reduce risk of electric shock, use only on carpet moistened by cleaning process. Do not immerse. Protect the machine from rain. Keep the machine in a dry building. Always clean the machine with a clean dry cloth.
-  **WARNING:** Do not use water that is hotter than 140°F. It could damage the machine.
-  **WARNING:** Improper discharge of waste water may damage the environment and be illegal. The United States Environmental Protection Agency has established certain regulations regarding discharge of waste water. Also, city and state regulations regarding this discharge may be in effect in your area. Understand and follow the regulations in your area. Be aware of the environment hazards of chemicals that you dispose.

Model PB-12	04016B 115V	04017B 230V	04087A 230V
Dimensions	17.75" (45.1 cm) Long 16.75" (42.5 cm) Wide 8.78" (22.5 cm) High (Base)		45 cm long 43 cm wide (base) 23 cm high
Weight	60 lbs.	60 lbs.	
Shipping Weight	66 lbs.	70 lbs.	
Noise (dBA)			< 70
Vibration (m/s/s)			< 2.5

## INTRODUCTION

### Model PB-12 Power Brush Tool

**NOTE:** In this book, "machine" and "power brush tool" mean the Model PB-12. "Extractor" means another machine that gives the solution and vacuum.

**NOTE:** When using the PB-12 and the extractor to clean carpets, follow this procedure.

1. Do not walk on freshly cleaned carpets for at least four hours or until the carpet is dry to touch.
2. Do not remove aluminum or plastic pieces that have been placed under the legs of the furniture until the carpet is dry.
3. Do not allow children or pets to crawl or walk around on the damp carpet.
4. Vacuum right after the carpet is dry and then vacuum the carpet once a week or as needed.

## How To Assemble The Machine

To assemble the machine, follow this procedure:

1. Put the machine on a bench.
2. Put the brush adjusting lever in the unlock position.  
See figure 1
3. Lift the cover.
4. Remove the pivot pin from the plastic bag.
5. Put the handle in position. See figure 2
6. From the inside of the machine, slide the pivot pin through the handle tube tongue and the main frame. See figure 3.
7. Close the cover. Put the lever in the locking position.
8. Install the cotter pin. See figure 4.
9. Remove the locking cam from the plastic bag.

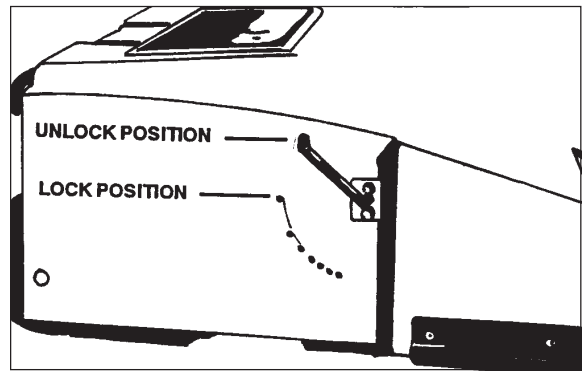


Figure 1

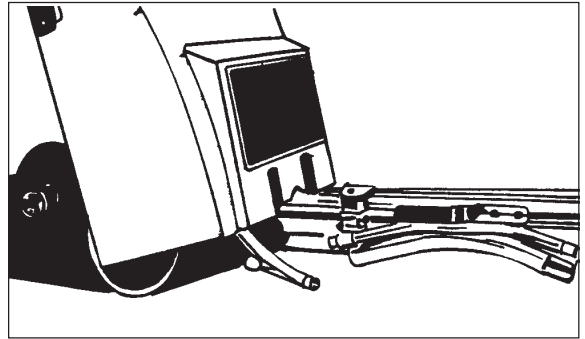


Figure 2



Figure 3

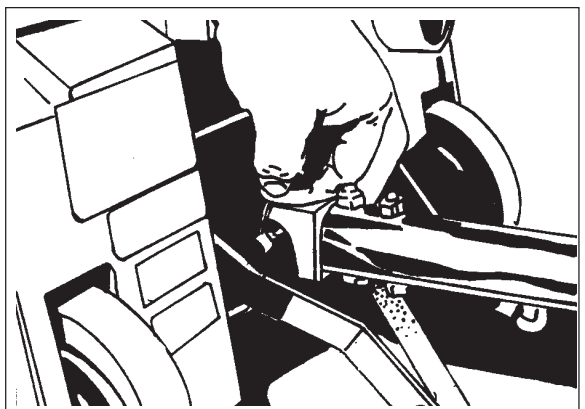


Figure 4

## How To Assemble The Machine (cont)

10. Remove the nut and one plain washer from the locking cam. Leave one plain washer on the locking cam. See figure 5

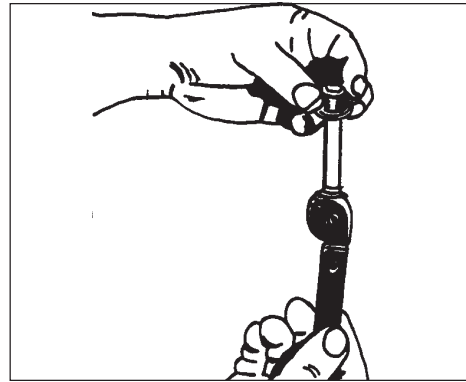


Figure 5

11. Raise the handle and align the holes. See figure 6.

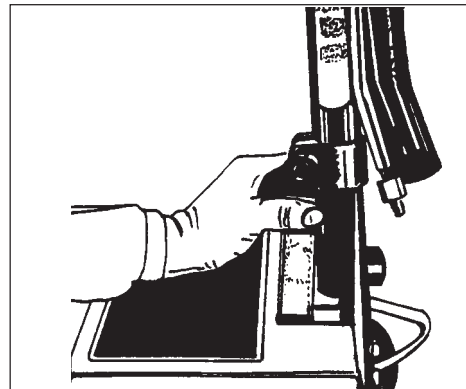


Figure 6

12. Insert the cam through the link arms and the handle tube clamp. See figure 7.

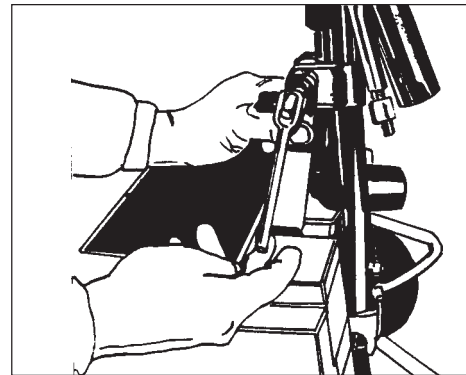


Figure 7

13. Install the washer and the locking nut.

14. Install the solution hose around the outside of the handle to the fitting on the handle tube. See figure 8.

15. Install the vacuum hose. See figure 9.

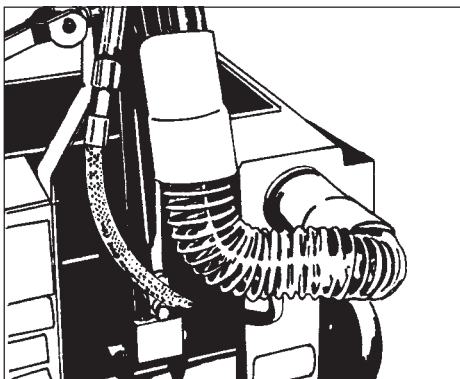


Figure 9

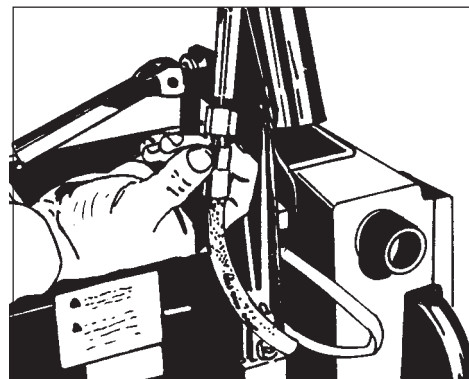


Figure 8

## THE CONTROLS

The lever on the right side of the handle starts and stops the brush motor and applies the solution.

The lever on the left side of the handle starts and stops the brush motor.

The lever on the right side of the housing raises and lowers the brush. See figure 10.

The lever on the lower part of the handle locks the handle. See figure 11.

The solution and brush indicator lights are on the front of the handle assembly.

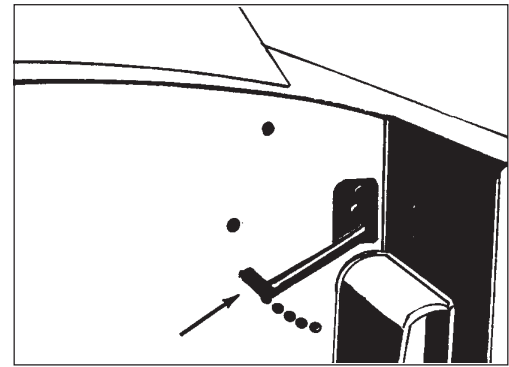


Figure 10

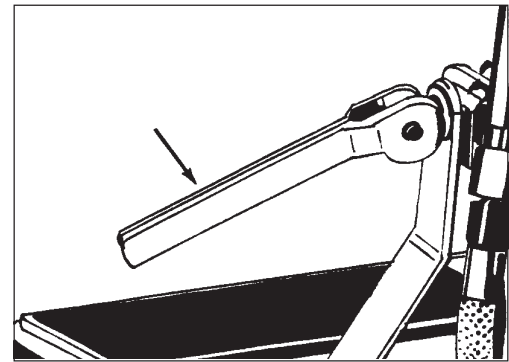


Figure 11

## HOW TO PREPARE THE MACHINE FOR OPERATION

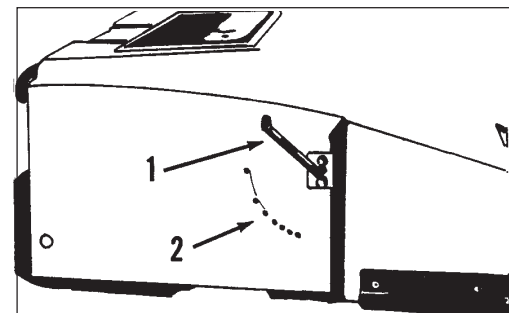
**NOTE:** For instructions for preparation and operation of your tank extractor, read the operator's manual given with your tank extractor.

### How To Adjust The Brush

The machine has seven brush settings. The adjustment lever is on the right side of the housing. See figure 12.

To set the brush height, follow this procedure:

1. Place your foot behind one wheel.
2. Pull the adjustment lever out of the detent.
3. Put the adjustment lever in the "HIGH" setting.
4. Move the lever toward the "LOW" setting.
5. When the brush comes in contact with the carpet, push the adjustment lever in the detent.



1. The Lever

2. The Settings

Figure 12

**CAUTION:** Be careful when cleaning long shag. The carpet can go around the brush, and slow and stop the

## How To Prepare The Machine For Operation (cont)

### How to Connect the Hoses

The hoses for the solution and vacuum are provided with the tank extractor.

Connect the vacuum hose to the hose connector on the extractor and to the hose connector on the power brush tool.

The solution hose has quick-disconnect couplings. To connect the solution hose to the extractor, follow this procedure:

1. Pull the knurled collar back.
2. Put the coupling over the fitting on the handle assembly.
3. Release the knurled collar.

See figure 13

### 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. Lift the lever with your foot.
2. Lower the handle to the best operating position.

**NOTE:** For best operation, raise the handle until the wheels are just above the floor. Keep your back straight.

3. Using your foot, push the locking lever down. See figure

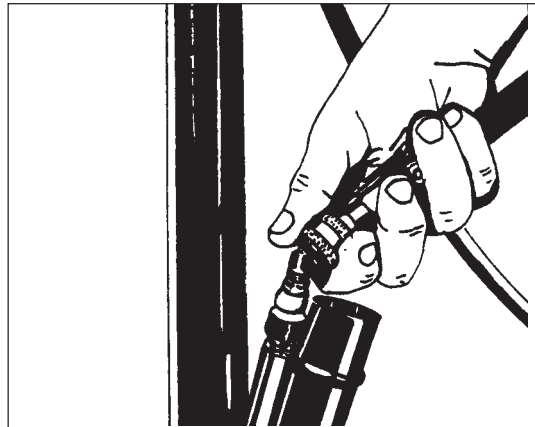


Figure 13

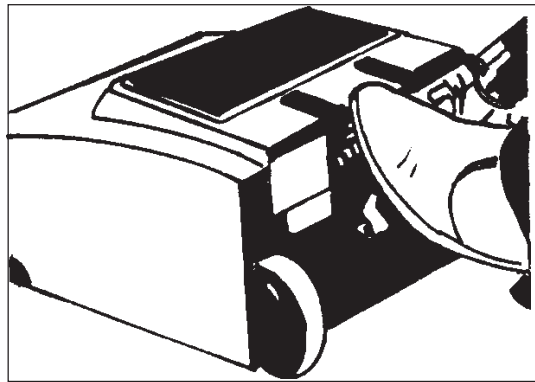


Figure 14

**120 VOLT, 50/60 CYCLE MACHINES  
INSTRUCTIONS FOR CONNECTION  
TO THE POWER SUPPLY  
AND THE ELECTRICAL GROUND**

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**⚠ WARNING:** **Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.**

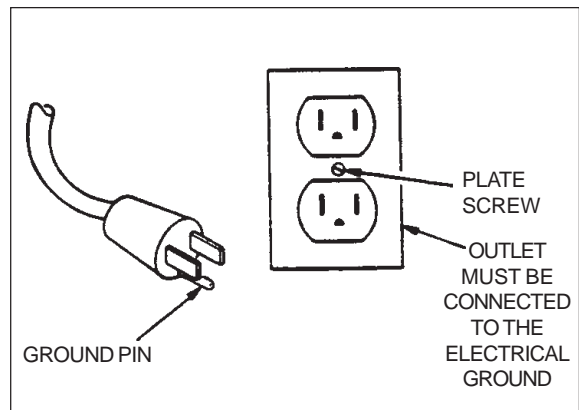


Figure 15

This product is for use on a nominal 120 volt circuit and has a grounding attachment plug that looks like the plug illustrated in Fig. 15. Make sure that the product is connected to an outlet having the same configuration as the plug. No adaptor should be used with this product.

This machine is intended for commercial use.

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.

**⚠ 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 and plugs 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 14 AWG. Do not use an extension cord longer than 50 feet. Do not join two extension cords.**

**230 VOLT MACHINES  
INSTRUCTIONS FOR CONNECTION  
TO THE POWER SUPPLY  
AND THE ELECTRICAL GROUND**

**⚠ CAUTION:** This machine will operate only on AC frequency and electrical voltage shown on the nameplate. Make sure you have the correct frequency and voltage before connecting the power cord to an outlet.

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances. See figure 16

**⚠ WARNING:** Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

This product is for use on a nominal 230 volt circuit and has a grounding attachment plug that looks like the plug illustrated in Fig. 16. Make sure that the product is connected to an outlet having the same configuration as the plug. No adaptor should be used with this product.

This machine is intended for commercial use.

This machine must be connected to the electrical ground to protect the operator from electrical shock. The machine has a power cord with two main conductors and one earthing conductor. Connect the plug to the receptacle. The green and yellow conductor in the cord is the ground wire. Never connect this wire to any terminal other than the ground terminal.

**⚠ WARNING:** Always use this machine with an AC three-conductor electrical system connected to the electrical ground. Replace any worn, cut or damaged cords. Replace any damaged plugs, receptacles, or connector bodies. Do not move the machine over an electrical cord. Always lift the cord over the machine.

**EXTENSION CORDS**

Use only an approved extension cord with two main conductors and one earthing conductor. The machine has a power cord with wire size 1.5mm<sup>2</sup>.

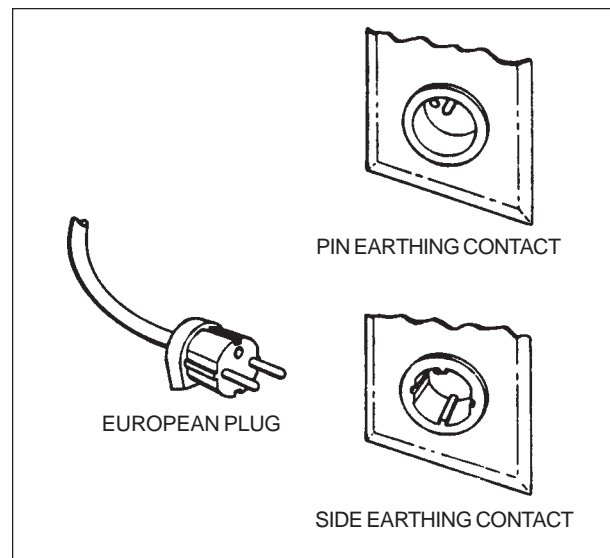


Figure 16

**⚠ WARNING:** If you use an extension cord, use an extension cord with minimum wire size 1.5mm<sup>2</sup>. Do not use an extension cord longer than 15 meters. Do not join two extension cords.

**⚠ WARNING:** Do not cut, remove or break the ground terminal. Do not try to fit a three-terminal plug into a receptacle or connector body that does not fit the plug. If the receptacle or connector body does not fit the plug, see your authorized Clarke dealer to get an authorized person to make the connection.

## HOW TO OPERATE THE MACHINE

- ⚠ CAUTION:** To prevent damage to the power cord, do not let the brush touch the power cord when the machine is running. Always lift the power cord over the machine.

To operate the machine, follow this procedure:

1. Start the pump for the solution, and the motor for vacuum on the extractor.
2. Apply pressure to the lever on the right side of the handle to start the brush and apply the solution.
3. To start the brush motor, apply pressure to the lever on the left side of the handle.
4. Raise the handle until the wheels are just above the carpet.
5. Pull the machine backward at a steady speed of approximately 30 feet per minute.
6. To make sure all of the solution is removed from the carpet, release the solution lever one foot before you stop moving backward.
7. Release the lever for the brush motor when you stop the machine.

- ⚠ CAUTION:** To prevent damage to the carpet, do not clean an area more than two times unless you let the carpet dry first.

## MAINTENANCE OF THE MACHINE

### How To Remove The Brush

To remove the brush, follow this procedure:

1. Disconnect the electrical plug from the electrical outlet.
2. Put the machine on a bench.
3. Put the brush adjusting lever in the unlock position. See figure 17.

- ⚠ CAUTION:** Be careful not to damage the hoses that enter the back of the machine when you lift and lower the cover.

4. Lift the cover of the machine.
5. Turn the machine so that the right side is up.
6. Remove the two screws that fasten the brush.
7. Remove the brush.

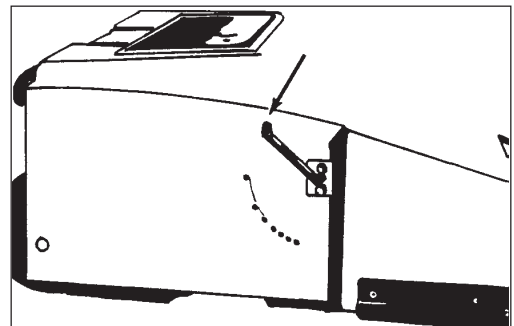


Figure 17

### **How To Install The brush**

**⚠ CAUTION: Keep all fasteners tight. Keep adjustments according to specifications.**

To install the brush, follow this procedure:

1. Put the two pins on the brush housing plate in the two holes in the brush end plate. See figure 18
2. Make sure the shaft assembly is in position. See figure 19.
3. Install the two screws that fasten the brush.
4. Lower the cover if the machine.
5. Put the brush adjustment lever in the locking position.

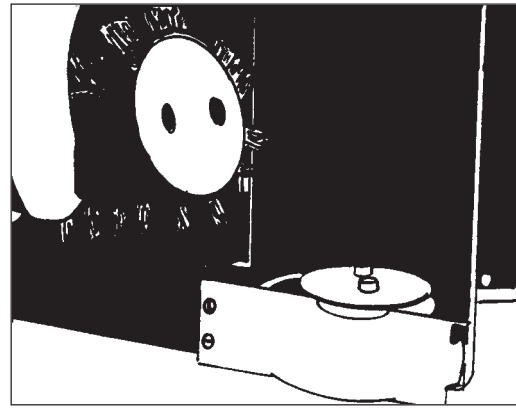


Figure 18

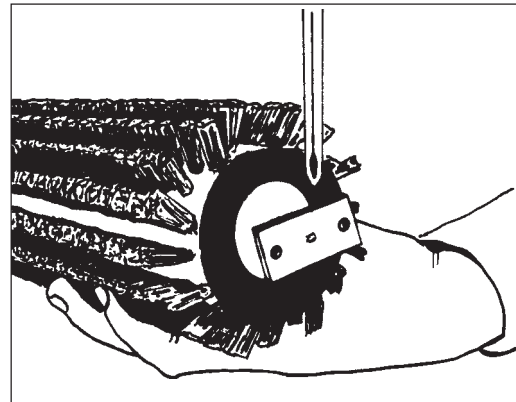


Figure 19

### **How to Remove The Brush Drive Belt**

To remove the brush drive belt, follow this procedure:

1. Disconnect the electrical plug from the electrical outlet.
2. Put the machine on a bench.
3. Release the handle.
4. Turn the machine so the right side is up.
5. Loosen the four screws that hold the motor.
6. Slide the motor toward the front of the machine.
7. Put the brush adjusting lever in the unlock position.
8. Lift the cover.
9. Remove the two screws that fasten the brush.
10. Remove the brush.
11. Remove the three screws that hold the belt guard. See figure 20.
12. Remove the belt guard.
13. Turn the machine so that the left side is up.
14. Remove the two pins from the brush housing plate.
15. Remove the plate.
16. Remove the bolt that holds the pulley.
17. Remove the pulley and the belt.

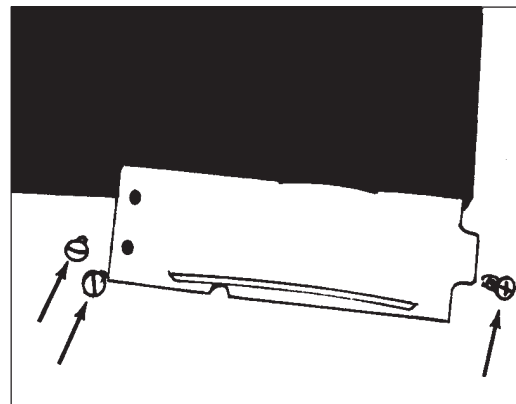


Figure 20

## **How to Install The Brush Drive Belt**

To install the brush drive belt, follow this procedure:

1. Turn the machine so that the left side is up.
2. Put the belt on the pulley.
3. Make sure the spacer is in position between the outside frame and the pulley. See figure 21.
4. Install the pulley.
5. Install the bolt that holds the pulley. See figure 22.
6. Install the belt guard with the three holding screws.
7. Turn the machine so that the right side is up.
8. Install the brush with the two screws that hold the brush.
9. Install the belt on the pulley on the motor.
10. Install the belt, slide the motor toward the back of the machine. The tension of the belt is correct when the belt is tight but not extended.
11. Tighten the four screws that hold the motor.
12. Close the cover.

**⚠ WARNING:** To prevent electrical shock, always disconnect the electrical plug from the electrical outlet before doing any repair or maintenance to this machine.

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

After each use of the machine, follow this procedure:

1. Flush the solution system with clean water from the extractor.
2. Disconnect the solution hose and the vacuum hose from the machine.
3. Drain the solution system. To drain the solution system, press the pin in the male connector. Apply pressure to the brush and solution lever.
4. Disconnect the plug from the electrical outlet. For storage, put the electrical cord around the cord hook and the top of the handle.
5. Use a stick of wood approximately six inches long to remove the carpet fibers and objects caught under the brush housing.
6. Wipe the machine with a dry cloth.
7. Check the objects in the vacuum opening. Use a stick to remove any objects caught under the brush housing. See figure 23
8. Check for leaks at all connections.

**⚠ CAUTION:** To prevent damage to the spray jet, do not push a wire or other object through the opening in the jet.



Figure 21

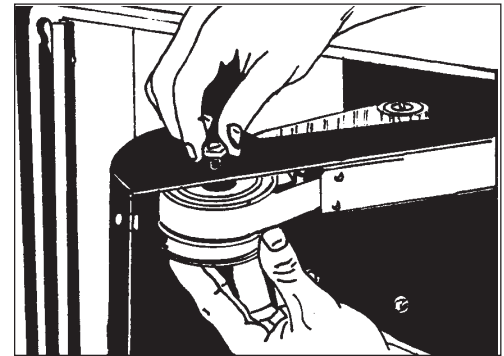


Figure 22

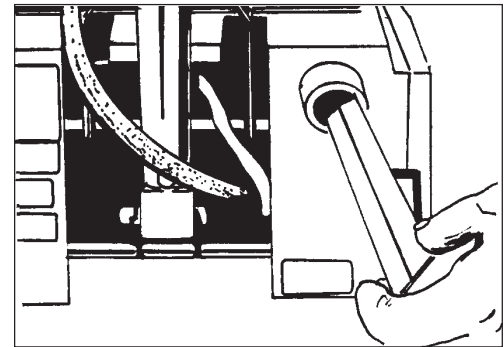



Figure 23

## **MAINTENANCE** (cont)

9. Check the spray jet. If the spray jet is not working, follow this procedure.
  - a. Remove the jet from the machine.
  - b. Put the jet into a solution of ammonia and water.
  - c. Blow compressed air through the jet.
  - d. Install the jet on the machine.
10. Use a dry cloth to wipe the machine.
11. Apply a small amount of silicone lubricant to the quick-disconnect fittings on the brush adjustment lever.
12. Every three months, apply a drop of light oil to the handle pivot and the axles of the wheels.

### **Electrical**

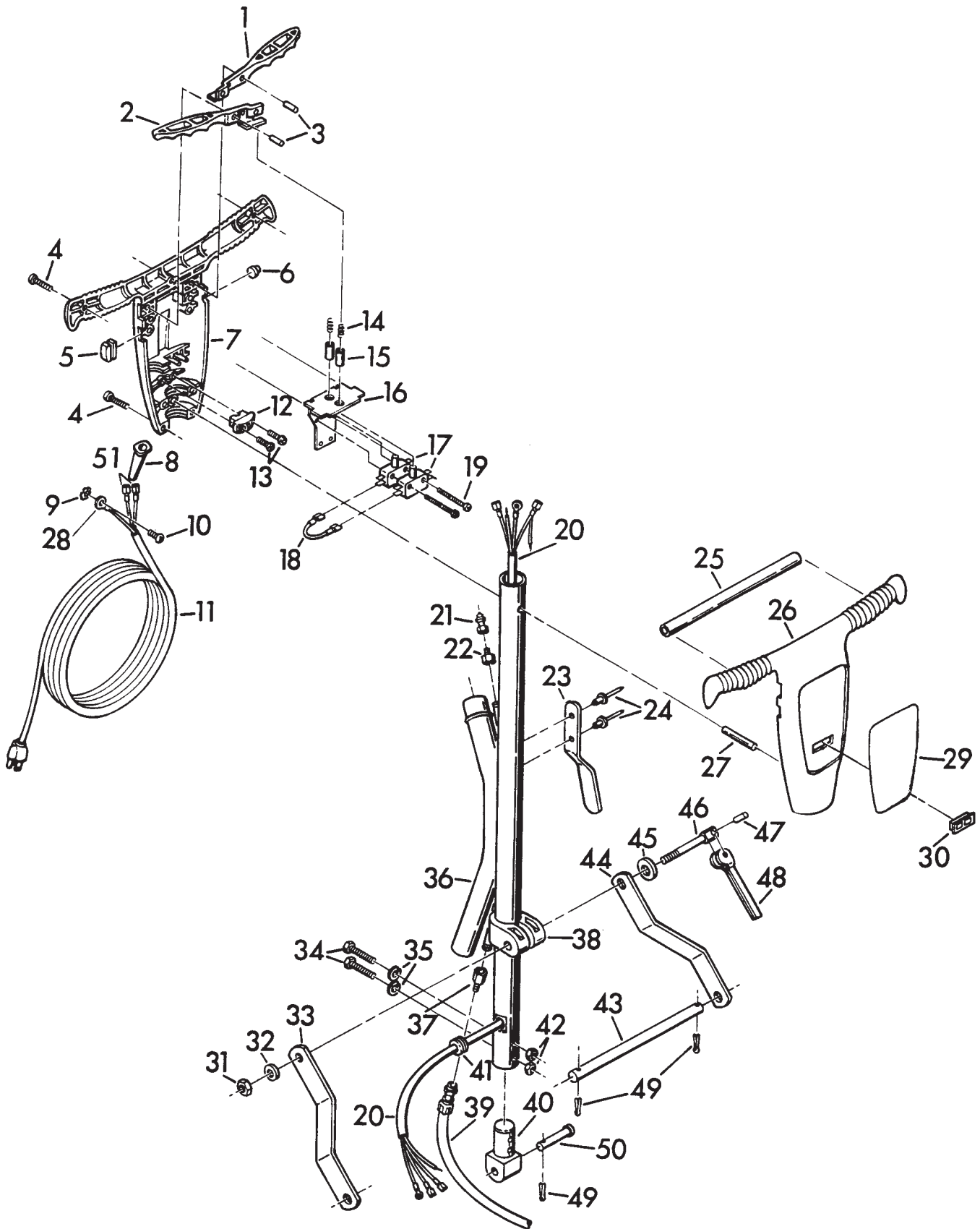
 **WARNING: Electrical repairs must be done by authorized personnel only.**

 **WARNING: After electrical repairs are done to the machine, the machine must be tested for electrical safety.**

For electrical repairs, return this machine to a Clarke Authorized Repair Center.



CLARKE TECHNOLOGY Model PB-12  
Upper Unit Drawing 1/02



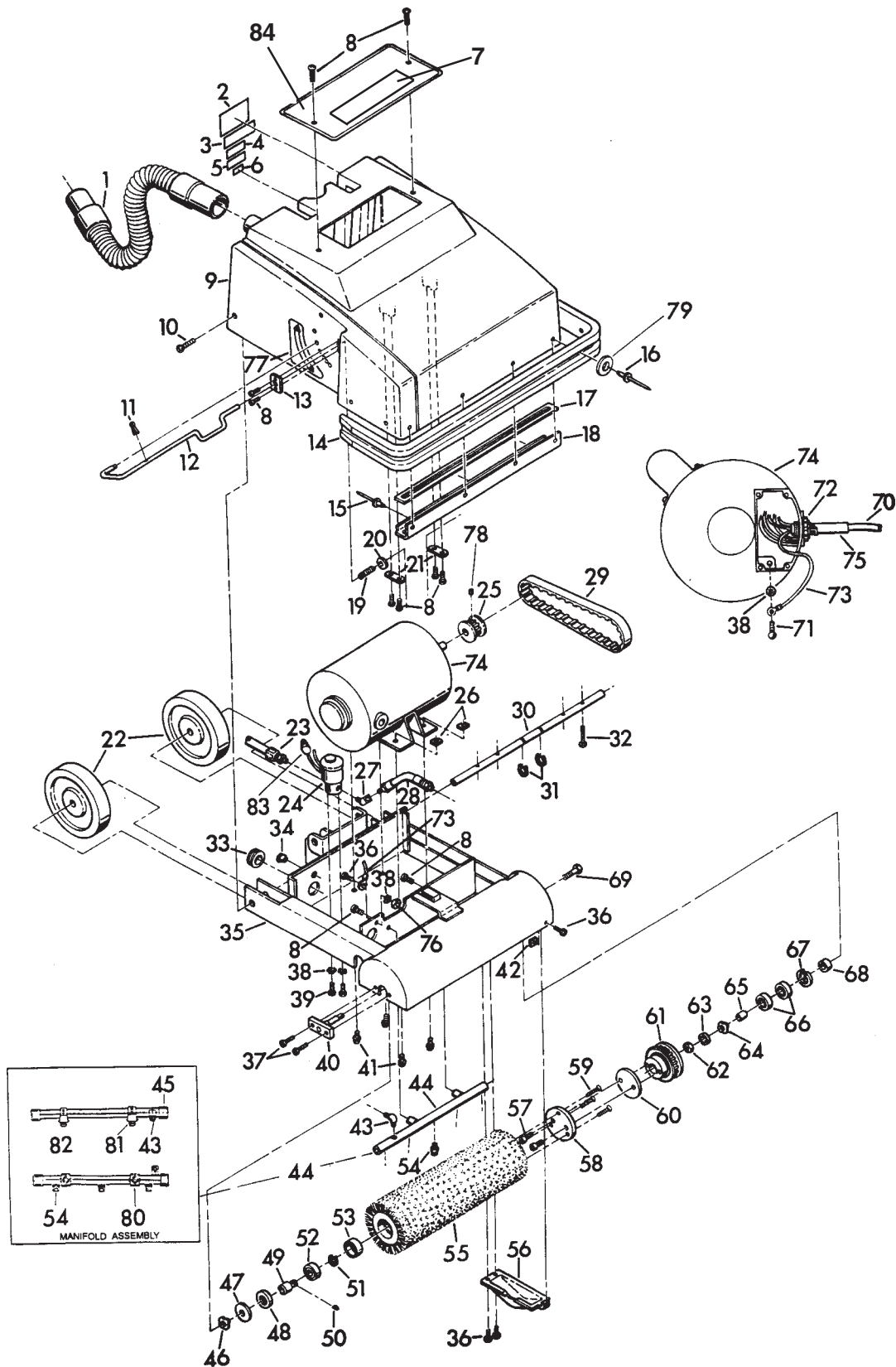
**CLARKE TECHNOLOGY Model PB-12  
Upper Unit Parts List 1/02**

Ref.	Part No.	Description	Qty.
1	16702A	Lever Assembly - Switch	1
2	16700A	Lever Assembly - Switch	1
3	446760	Pin - Pivot	2
4	962936	Screw- #13-16 x 3/4 HiLo	9
5	446860	Plug - Rubber	1
6	37400A	Plug	1
7	35233A	Cover, Housing Switch, Rear	1
8◆	38002A	Strain Relief	1
9	980603	Washer, #10 Shake	2
10	962929	Screw, #10-32 x 3/8 Pn Hd	2
11	42231A	Cord, Power, 35'	1
	42214A	Cord, Power, 35'	1
12	442060	Clamp, Cord	1
13	962954	Screw, 8-18 x 7/8 HiLo	2
14	768340	Spring	2
15	500241	Adapter, Switch	2
16	61102A	Bracket, Switch	1
17	911690	Switch	2
18	49000A	Wire, Assembly, Jumper	2
19	84807A	Screw, 6-32 x 1 5/8	2
20	49603B	Harness Assembly, Handle	1
21	737140	Nipple, Quick-Disconnect	1
22	727595	Reducer, Brass	1
23	64325A	Hook, Cord	1
24	930005	Rivet, 1/8 Pop	2
25	449061	Tube, Handle Support	1
26	35232A	Housing, Switch Front	1

Ref.	Part No.	Description	Qty.
27	925600	Pin, 1/4 x 1 7/8	1
28	911933	Terminal, Ring	1
29	73267B	Label, Switch Housing	1
30	44101A	Lamp Indicator - 220V	1
	44100A	Lamp Indicator - 120V	1
31	920248	Nut, 3/8 - 16 Lock	1
32	980645	Washer, 3/8 Plain	1
33	440302	Arm Link LH	1
34	962891	Screw, 5/16 - 18 x 2.0 Hx	2
35	980652	Washer, 5/16 Lock	2
36	19300A	Tube Assembly, Handle	1
37	743381	Fitting	1
38	442001	Clamp, Handle Tube	1
39	15600A	Hose, Assembly	1
40	509240	Tongue, Handle Tube	1
41	747553	Strain, Relief	1
42	920110	Nut, 5/16 - 18 ESNA	2
43	67400A	Shaft, Link Arms	1
44	440301	Arm, Link RH	1
45	980349	Washer, Wear	1
46	441301	Bolt, Locking Cam	1
47	925592	Pin, 1/4 x 1" Lg. Groove	1
48	461404	Cam, complete Locking	1
49	925036	Pin, Cotter	3
50	66500A	Pin, Handle, Tongue, Pivot	1
51	47711A	Terminal, .25 FIFQDC	2
NI*	899254	Tie, Wire	1

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

CLARKE TECHNOLOGY Model PB-12  
Lower Unit Drawing 1/02



**CLARKETECHNOLOGY Model PB-12  
Lower Unit Parts List 1/02**

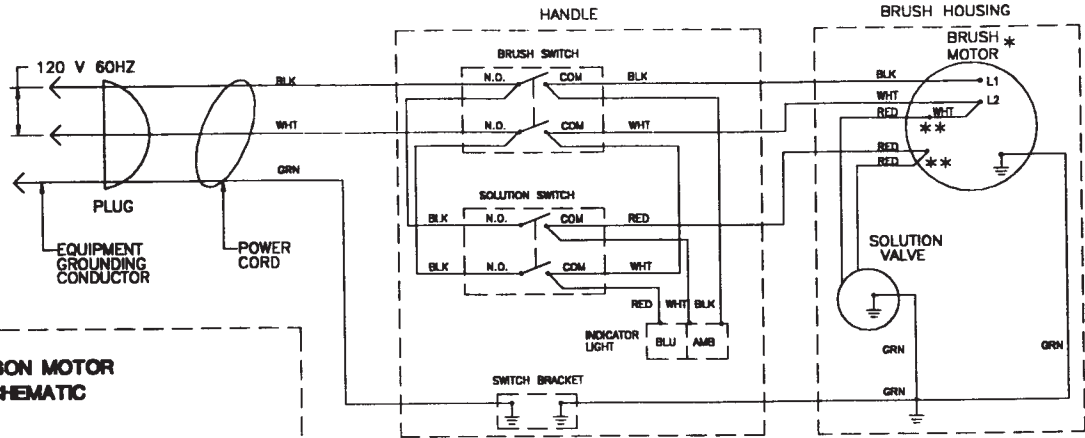
Ref.	Part No.	Description	Qty.
1	35105B	Hose Vac	1
2	635139	Label, Warning	1
3	215104	Label, Warning	1
4	215103	Label, Caution	1
5	305160	Label, Inspection	1
6	NI	Label, Serial	1
7	77376A	Label, Clarke Technology	1
8	962957	Screw, ¼-20 x ½ Pn St HiLo	8
9	352030	Housing, Outer	1
10	962098	Screw, ¼-20 x ¾ FL ST	2
11	925004	Pin, 1/16 Cotter	1
12	67101A	Rod, Cam	1
13	606640	Plate, Cam Rod	1
14	31202A	Bumper, 12"	1
15	930074	Rivet, 1/8 Dia. Pop	3
16	930124	Rivet, 3/16 x .59 Lg.	4
17	34201A	Gasket, Shoe 12"	1
18	67600A	Shoe, 12"	1
19	628382	Spring, Rod Return	1
20	980646	Washer, ¼ Plain	1
21	612050	Clamp, Cam Rod	2
22	439760	Wheel, 5" Dia.	2
23	15600A	Hose, Assembly	Ref
24	59700A	Valve, Solenoid 220V	1
	59735A	Valve, Solenoid 120V	1
25	57200A	Pulley, Motor	1
26	81600A	Nut, ¼-20 Speed	4
27	53600A	Elbow, 1/8 St. 45	1
28	15601B	Hose Assembly	1
29	50900A	Belt Gear	1
30	67401A	Shaft, Wheel Axle	1
31	877307	Ring, Snap	2
32	962954	Screw, #10-16 x 1 HiLo	4
33	761140	Bushing, Snap	1
34	701130	Bushing, snap	1
35	63400B	Frame, Main 12"	1
36	962015	Screw, #10-24 x 3/8 Pan Hd.	4
37	962968	Screw, #10-24 x 1/2 Pan Hd.	2
38	980603	Washer, #10 Shake	4
39	962929	Screw, #10-32 x 3/8 Pan Hd.	2
40	696614	Plate and Shaft Assembly	1
41	962557	Screw, ¼-20 x ¾ Hx Hd.	4
42	920068	Nut, #10-24	1
43	53601A*	Elbow, 90°	1*
44	36500B	Manifold, 12" Asm.	1

Ref.	Part No.	Description	Qty.
45	68347A*	Tube, with/Caps	1*
46	980195	Washer, Wave	1
47	743650	Guard, Thread	1
48	747650	Seal, Brush Roller	1
49	740250	Adapter, Brush Bearing	1
50	915012	Key, 3/32 x 1/2	1
51	467308	Ring, Retaining	1
52	902567	Bearing	1
53	747522	Race, Brush Bearing	1
54	56253A*	Nozzle, Spray	3*
55	60703A	Brush, 12"	1
56	34100A	Guard, Pulley	1
57	962799	Screw, ¼-20 x 3/8 Soc. Hd.	2
58	746654	Plate, Brush Drive	1
59	962801	Screw, #10-24 x 1 Fit Hd.	3
60	747851	Shield, Pulley	1
61	696902	Pulley, Brush	1
62	920256	Nut, 5/16 -18 Hex	1
63	980651	Washer, 5/16 Plain	1
64	980202	Washer, Wave	1
65	748150	Sleeve, Bearing	1
66	902658	Bearing, Brush Pulley	2
67	747350	Ring, Retaining	1
68	67800A	Spacer	1
69	962324	Screw, 5/16 -18 x 1 1/2 Hx. Hd.	1
70	48500A	Tubing	1
71	962507	Screw, #10-24 x 3/8 Rd. St.	1
72	170637	Clamp, Wiring	1
73	954002	Wire Assembly, Ground	1
74	44643A	Motor, 120/230V	1
75	816181	Sleeving (included on 49603B)	1
76	920200	Nut, #10-24 Hex	1
77	73225A	Label, Brush Adjust	1
78	962268	Screw, Set 8-32 x 5/16 (comes w/pulley(57200A))	1
79	980982	Washer	8
80	51809A*	Clamp	2*
81	53955A*	Flange, Clamp	2*
82◆	962823*	Screw	2*
83	56459A	Strain, Relief	1
84	60076A	Plate	1
NI	911413	Wire, Nut	2
NI	912064	Terminal, Solenoid Ring	1
NI	16283A	KIt, Literature	1
NI	722021	Clamp, Hose	1

\*NOTE: Included with item # 44.

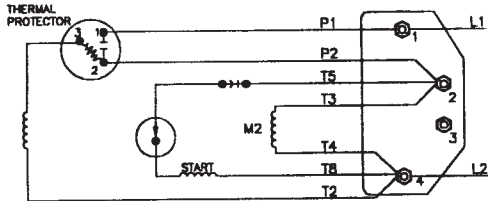
NOTE: ◆ indicates a change has been made since the last publication of this manual.

**CLARKE TECHNOLOGY Model PB-12  
120 Volt Wiring Diagram 4/95**



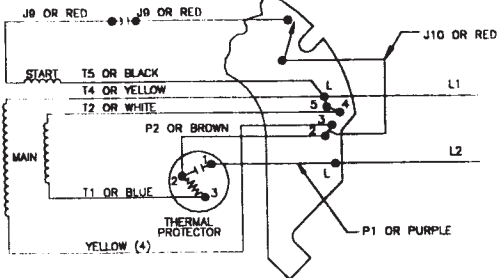
\* = SEE APPROPRIATE MOTOR SCHEMATIC  
\*\* = NON-MOTOR CONNECTIONS IN MOTOR JUNCTION BOX

**LEESON MOTOR SCHEMATIC**



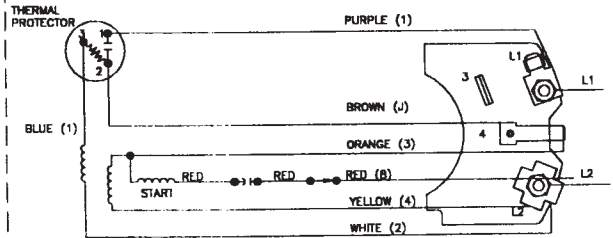
FOR C.C.W. ROTATION INTERCHANGE  
T5 AND T8

**G. E. MOTOR SCHEMATIC**

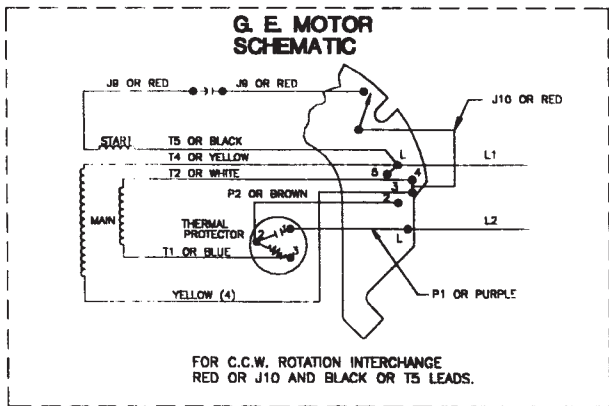
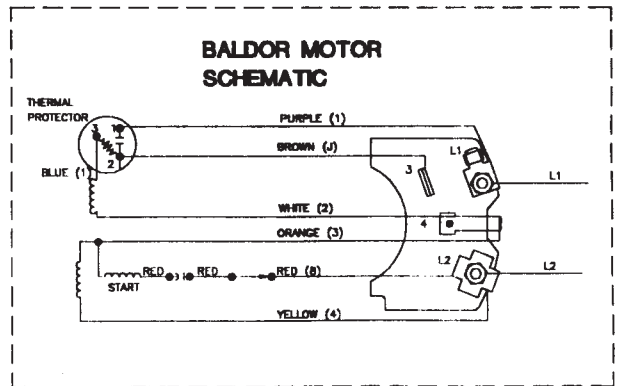
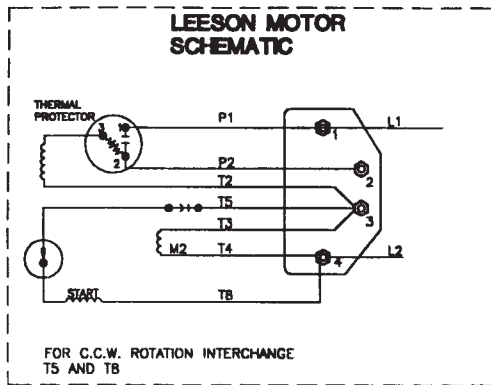
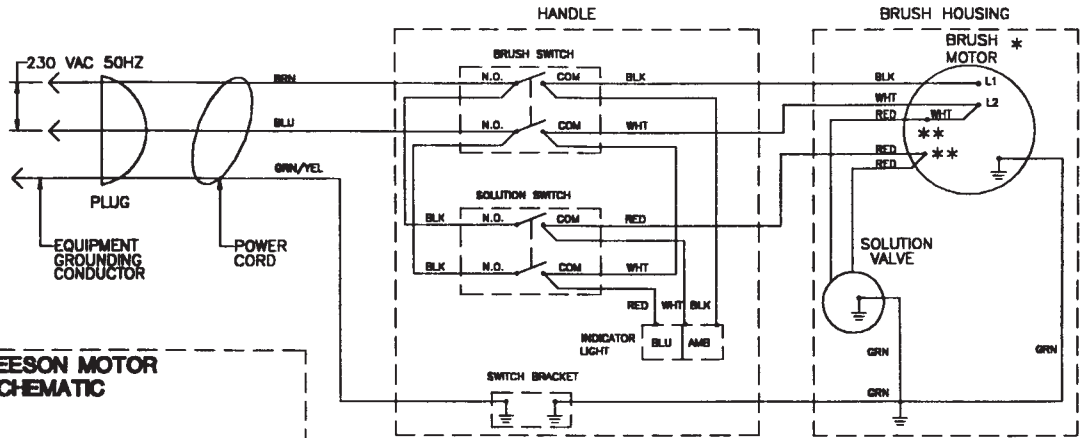


FOR C.C.W. ROTATION INTERCHANGE  
RED OR J10 AND BLACK OR T5 LEADS.

**BALDOR MOTOR SCHEMATIC**



**CLARKE TECHNOLOGY Model PB-12  
230 Volt Wiring Diagram 4/95**



\* = SEE APPROPRIATE MOTOR SCHEMATIC  
\*\* = NON-MOTOR CONNECTIONS IN MOTOR JUNCTION BOX



# ALTO® PRODUCT SUPPORT BRANCHES

## U. S. A. Locations

### HEAD OFFICE

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

### PRODUCTION FACILITIES

ALTO U.S. Inc., Springdale, Arkansas  
2100 Highway 265  
Springdale, Arkansas 72764  
(501) 750-1000  
**Customer Service - 1-800-253-0367**  
**Technical Service - 1-800-356-7274**

ALTO U.S. Inc., Bowling Green, Ohio 43402  
1100 Haskins

### SERVICE FACILITIES

ALTO U.S. Inc., Carlstadt, New Jersey 07072  
150 Commerce Road  
(201) 460-4774

ALTO U.S. Inc., Elk Grove, Illinois 60007  
2280 Elmhurst Road  
(847) 956-7900

ALTO U.S. Inc., Denver, Colorado 80204  
1955 West 13th Ave.  
(303) 623-4367

ALTO U.S. Inc., Houston, Texas 77040  
7215 North Gessner Road

### SALES AND SERVICE FACILITIES

ALTO U.S. Inc., Madison Heights, Michigan 48071-0158  
29815 John R.  
(810) 544-6300

ALTO U.S. Inc., Marietta, Georgia 30062  
1355 West Oak Common Lane  
(770) 973-5225

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**AMERICAN SANDERS TECHNOLOGY**  
**A.L. COOK TECHNOLOGY**  
**Customer Service Headquarters and Factory**  
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Springdale, Arkansas 72764  
(501) 750-1000  
**Technical Service**  
1-800-356-7274

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+45 72 18 21 00

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(416) 675-5830

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Caringbah NSW 2229  
+61 2 9524 6122

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Singapore 619034  
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Bjornerudveien 24  
N-1266  
+47 2275 1770

## CLARKE TECHNOLOGY 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 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.

ALTO U.S. INC., 2100 Highway 265, Springdale, Arkansas 72764.

**CLARKE TECHNOLOGY reserves the right to make changes or improvements to its machine without notice.**



**Always use genuine Clarke Parts for repair.**

**ALTO®**

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