



Electronic Service Manuals

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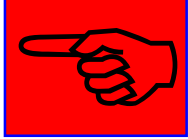
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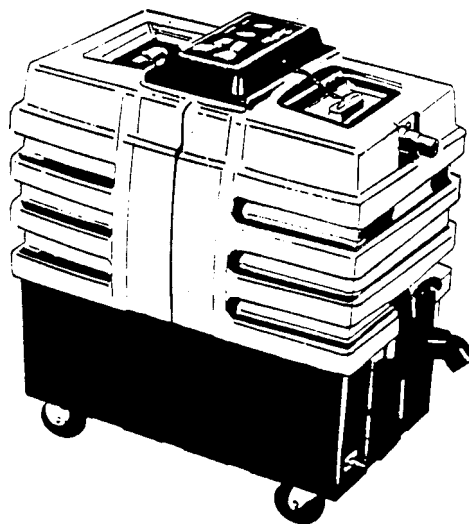
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Serving the Cleaning Industry Since 1922

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**Operator's
Manual**



**EXT 10-15
Extractor**

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 ALTO 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: ALTO U.S. Inc., 2100 Highway 265, Springdale, Arkansas 72764.

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OPERATOR SAFETY INSTRUCTIONS



WARNING


















AVERTISSEMENT



ADVERTENCIA

For the safe operation of this machine, read and understand all warnings and cautions.

-  **DANGER** means: Severe bodily injury or death can occur to you or other personnel if the **DANGER** statements found on your machine or in your Owner's Manual are ignored or are not adhered to. Read and observe all **DANGER** statements found in your Owner's Manual and on your machine.
-  **WARNING** means: Injury can occur to you or to other personnel if the **WARNING** statements found on your machine or in your Owner's Manual are ignored or are not adhered to. Read and observe all **WARNING** statements found in your Owner's Manual and on your machine.
-  **CAUTION** means: Damage can occur to the machine or to other property if the **CAUTION** statements found on your machine or in your Owner's Manual are ignored or not adhered to. Read and observe all **CAUTION** statements found in your Owner's Manual and on your machine.

-  **WARNING:** You must have training in the operation of this machine before using it. **READ THE INSTRUCTION BOOK FIRST.**
-  **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:** Do not immerse. To reduce the risk of an electric shock, use only on a carpet that has been moistened by a cleaning process. Protect the machine from rain. Keep the machine in a dry building. Always clean the machine with a clean dry cloth.
-  **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 electrical contractor.
-  **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 leaving the machine.
-  **WARNING:** Do not use this machine as a step or furniture. Injury could occur to the operator.
-  **WARNING:** To avoid serious injury, use proper lifting procedures when lifting the machine. Use two able persons to lift the machine from a vehicle.
-  **WARNING:** Maintenance and repairs must be done by authorized personnel only.
-  **WARNING:** Keep all fasteners tight. Keep the adjustments according to specifications.
-  **WARNING:** Make sure that all the labels, decals, warnings, cautions and instructions are fastened to the machine. Replace them when necessary by ordering them from Clarke Technology.
-  **WARNING:** **Do not use water that is hotter than 60°C (140°F).**

OPERATOR SAFETY INSTRUCTIONS (CONT.)

- ⚠ 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 regulation regarding this discharge may be in effect in your area. Understand and follow the regulations in your area. Be aware of the environmental hazards of chemicals that you dispose.
- ⚠ CAUTION:** To prevent damage to the power cord, do not move this machine over the power cord, instead, lift the power cord over the machine.
- ⚠ CAUTION:** To prevent damage to the power cord and hoses, do not use the power cord or hoses to pull the machine.

INTRODUCTION and MACHINE SPECIFICATIONS

Use the extractor for cleaning the carpet. When used with a floor tool, the machine applies cleaning solution to the carpet and removes the dirty solution and soil from the carpet.

The extractor has controls to start the pump for the solution and the motor for the vacuum. The floor tools have controls to release the solution. The power brush tools have controls to release the solution and to operate the brush.

The extractor has a demand pump. The pump starts when the solution lever on the floor tool is activated. The pump stops when the lever is released.

Code No.	07042A	04043A	04044A	04045A
Model	EXT-10	EXT-10 CE	EXT-15	EXT-15 CE
Electrical	115 V 60 Hz	230V 50Hz	115 V 60 Hz	230V 50Hz
Amps (Vac motor & pump)	14.5A	7A	14.5A	7A
Solution Pump	105 psi	7 bar	105 psi	7 bar
Solution Tank	10 Gal	38 liters	15 Gal.	57 liters
Recovery Tank	9 Gal.	34 liters	13.5 Gal.	51 liters
Solution Flow	2.0 Gal. /M	7.61/m	2.0 Gal. /m	7.61/m
Vacuum Motor (x2)	1 hp (x2)	0.75kw(x2)	1 hp (x2)	0.75kw(x2)
Power Cable	35'	11m	35'	11m
Weight	88 lbs.	40kg	94 lbs.	43kg
Shipping Weight	98 lbs.	45KG	105 lbs.	48kg
Dimensions	31"x 20" x 32"	79x51x81cm	31"x20"x32"	79x51x81cm
Warranty	1 year	1 year	1 year	1 year
Noise (dBA)		<70		<70

NOTE: When using 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 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 as needed.

The Vacuum Motor Switch

The vacuum motor switch is on the top of the extractor. Put the switch in the "I" position to start the motor. Put the switch in the "O" position to stop the motor.

The Pressure Gauge

The pressure gauge is on top of the machine. The gauge indicates the amount of pressure.

The Vacuum Gauge

The vacuum gauge is on top of the machine. The gauge indicates the inches of water.

The Switch to Activate The Pump

The pump motor switch is on the top of the extractor. Put the switch in the "I" position to start the pump motor. Press the lever on the floor tool to activate the pump. Release the lever on the floor tool to stop the pump. Put the switch in the "O" position to stop the pump motor.

NOTE: While the machine is in operation the pump will shut off automatically when it reaches full pressure. The pump will automatically turn on when the pressure decreases.

The Hour Meter

The hour meter is on top of the machine. The gauge indicates the amount of time the machine has been operated.

The Solution Hose Adapter

The solution hose adapter is on the front of the machine.

The Vacuum Hose Adapter

The vacuum hose adapter is on the front of the machine.

The Drain Valve

The drain valve is below the vacuum hose adapter. Lift the handle to open the drain.

HOW TO PREPARE THE MACHINE FOR OPERATION

To prepare the machine for operation, follow this procedure:

1. Connect the vacuum hose to the hose connector on the extractor (1) and to the end of the vacuum tube on the floor tool (2). See figure 1
2. Connect the solution hose to the extractor (1) and the floor tool (2). Fasten the quick-disconnect fitting, slide the knurled collar on the solution hose away from the opening. Put the knurled collar around the quick-disconnect and release the knurled collar. See figure 2

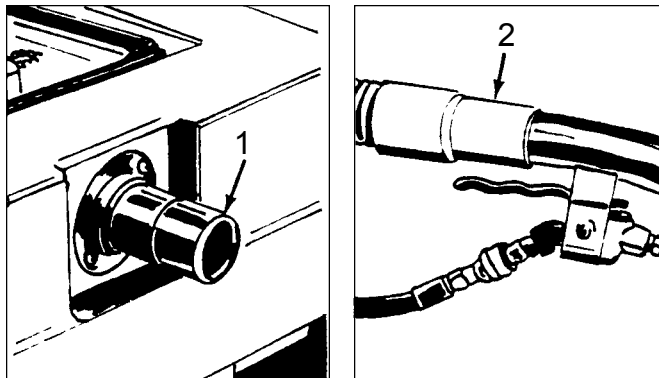


Figure 1

WARNING: Do not use water that is hotter than 60°C (140°F).

3. Before moving the extractor onto the carpet, put clean hot water into the solution tank.
4. Add a cleaning chemical, such as Clarkare® Extractor Concentrate, to the hot water. For the correct amount, follow the directions shown on the container.
5. If the extractor removes an excess amount of foam from the carpet, add a de-foamer such as Clarkare® De-foamer Concentrate to the recovery tank. The amount needed will vary according to the amount of detergent already in the carpet.

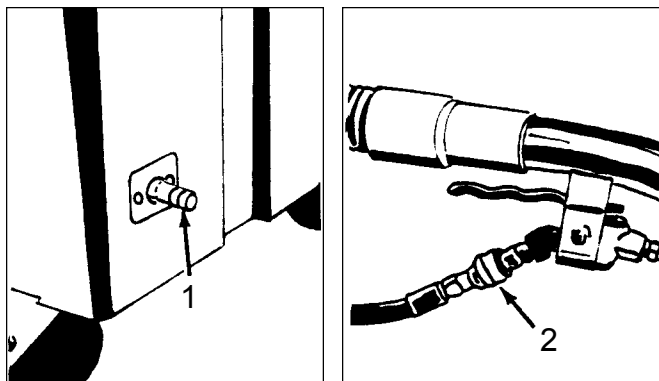


Figure 2

CAUTION: To prevent damage, use a water-based de-foamer rather than an oil-based de-foamer.

CAUTION: Do not leave the extractor or other cleaning machines or tools on the carpet when not in use. Cleaning solution in the machines and tools can leak onto the carpet and cause light spots or stains.

NOTE: To order Clarkare® Extractor Concentrate, order part no. 398421. To order Clarkare® Defoamer, order part no. 398420.

For instructions for preparation and operation of your floor tool or power brush tool, read the operator's manual given with your floor tool or power brush tool.

INSTRUCTIONS FOR CONNECTION TO THE POWER SUPPLY AND ELECTRICAL GROUND 115 V

This product must be grounded. If it should malfunction or break-down, 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.

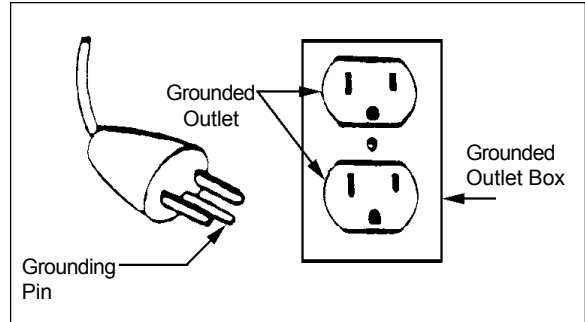


Figure 3

This product is for use on a nominal 120 volt circuit and has a grounding attachment plug that looks like the plug illustrated in Figure 3. 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.

⚠ WARNING: To reduce the risk of fire, use only commercially available floor cleaners and waxes intended for machine application.

This machine is intended for commercial use.

⚠ 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 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 two main conductors, and one earthing conductor. This machine has a power cord with a wire size of 16 AWG (AWG means American wire gauge).

⚠ WARNING: If you use an extension cord, use one that has a minimum wire size of 14 AWG. Do not use an extension cord longer than 50 feet. Do not join two extension cords.

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

⚠ WARNING: 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 machine must be connected to the electrical ground to protect the operator from electric shock. The machine has a power cord with two main conductors and one earthing conductor. Connect the plug to the type of receptacle shown in figure 4. 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 ground. When replacing any worn, cut, or damaged cords contact an authorized electrician. Do not move the machine over the 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 1.5mm².

⚠ WARNING: If you use an extension cord, make sure the cord has a minimum wire size 1.5mm². 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 Technology dealer or get an authorized electrician to make the connection.

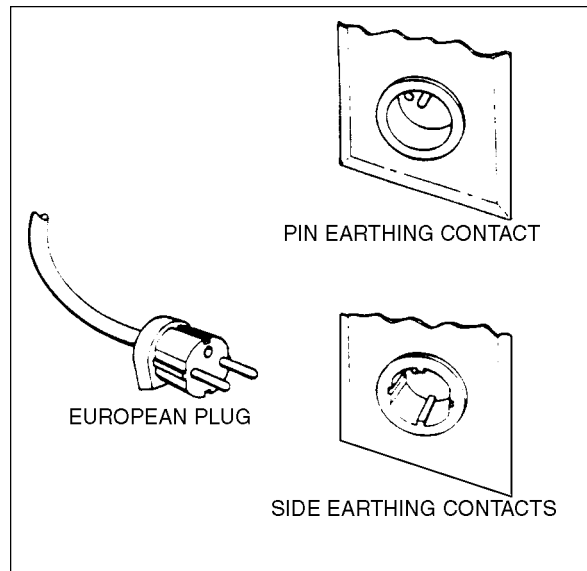


Figure 4

MACHINE OPERATING INSTRUCTIONS

How to Clean an Area of Carpet See Figure 5

▲ WARNING: Do not use water that is hotter than 140°F.

To clean an area of carpet, follow this procedure:

1. Start the pump for the solution and the motor for the vacuum on the extractor.
2. Begin at the right-hand corner of the carpet.
3. Hold the floor tool at the angle that gives the best vacuum seal between the tool and the carpet.
4. Apply pressure to the lever for solution release. Pull the tool toward you at a slow, steady speed. To remove as much solution as possible, release the lever before you stop moving backward.
5. To clean the edge of a room, move the tool along the baseboard until the edge of all the carpet is cleaned.
6. To clean a small area of carpet, clean the carpet in sections three feet square. As you make more passes, repeat one inch of the area already cleaned.
7. To remove more liquid from the carpet, make passes over the area already cleaned, but do not apply pressure to the lever for the solution.



Figure 5

How To Clean A Larger Area Of Carpet See Fig. 6

To clean a larger area of carpet, follow this procedure:

1. Begin at the right-hand corner of the carpet.
2. Make a pass halfway along the edge of the carpet. Pull the tool backward at a steady speed.
3. Move to the edge of the carpet. Make another pass next to your first pass.
4. As you make more passes, repeat one inch of the area already cleaned. If you use a power brush tool, repeat one inch of the area already cleaned by the brush. Make each pass four inches different in length to prevent making a line in the center of the carpet.
5. Make more passes until half of the carpet is cleaned. To remove more liquid from the carpet, make passes over the area already cleaned, but do not apply pressure to the lever for the solution.
6. Move to the right-hand corner of the part of the carpet not yet cleaned.
7. Make a pass halfway along the edge of the carpet.
8. As you make passes, repeat one inch of the area already cleaned.
9. Make more passes until all of the room is cleaned.

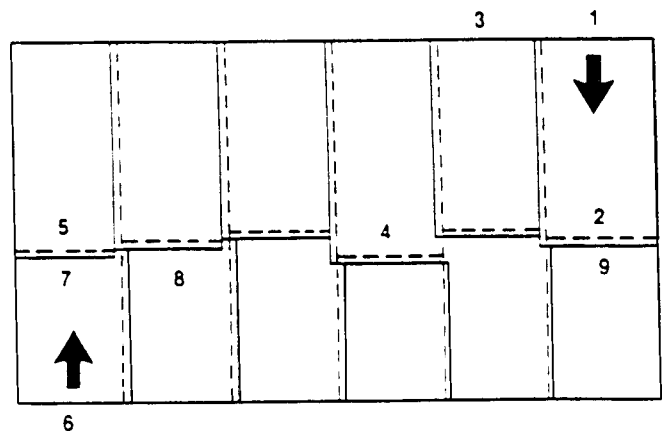


Figure 6

▲ CAUTION: Clarke Technology will not be held liable for damage to the carpet, or poor results because of the operator's lack of ability.

MAINTENANCE

⚠ WARNING: Maintenance and repairs must be done by authorized personnel only. Keep all fasteners tight. Use only genuine Clarke Technology parts.

⚠ WARNING: Do not operate this machine unless it is completely assembled.

NOTE: For maintenance of the floor tools or power brush tools, read the manual given with the tools.

After Each Use of the Machine

1. To remove unused cleaning solution from the solution tank, put the end of the vacuum hose in the solution tank. Start the vacuum motor. Stop the motor when the tank is empty.
2. To prevent damage to the valves and jets, flush one gallon of clean water through the solution system and the tools.
3. Disconnect the power cord from the outlet.
4. Put a bucket under the drain valve (1).
5. Pull the drain valve handle (2). See figure 7.
6. Drain the dirty solution from the tank.
7. Discard the dirty solution.
8. Use a dry cloth to wipe the tools and both tanks, inside and out.
9. Apply a small amount of silicone lubricant to the quick-disconnect fittings. To prevent damage to the O-rings, do not use an oil lubricant.
10. Inspect the gasket or the vacuum shut-off valve. If the gasket is damaged, replace the gasket.
11. Inspect and clean the filter screen in the bottom of the solution tank. See figure 8. To remove the filter, turn the filter to the left. To install the filter, turn the filter to the right.

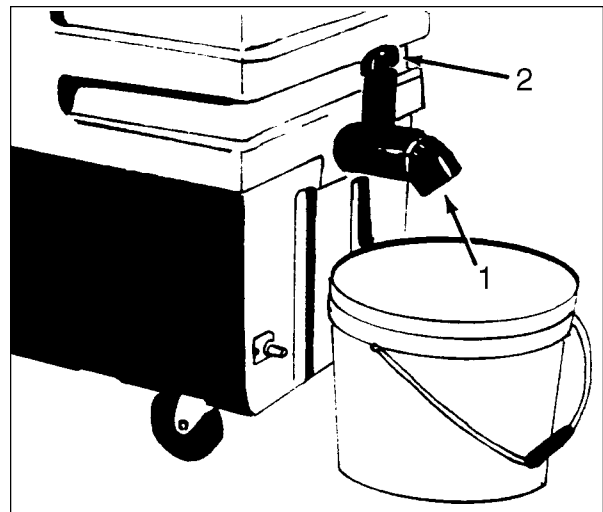


Figure 7

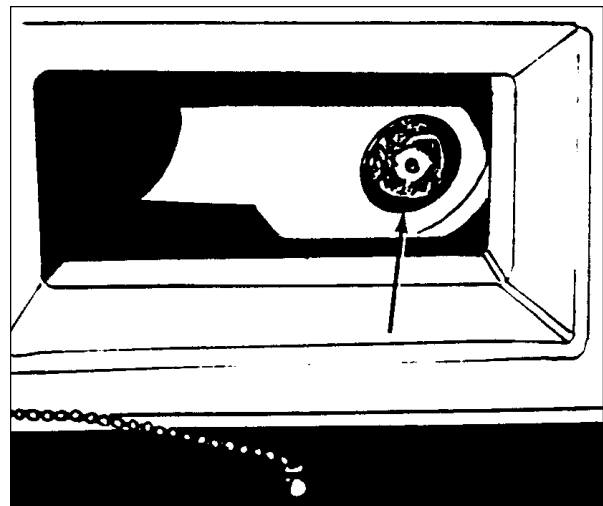


Figure 8

MAINTENANCE (CONT)

How To Prevent Damage From Freezing Temperatures

To prevent damage from freezing temperatures follow this procedure:

Remove all of the solution from the pumping system before putting the machine in storage or moving the machine in below-freezing temperatures.

To remove all the solution, follow this procedure:

1. Use the vacuum hose to remove all the solution from the clean solution tank.
2. Connect the solution hose to the extractor and a floor tool.
3. Put approximately 1 quart of windshield washer or RV antifreeze solution in the solution tank.
4. Put the switch for the pump in the "I" position.
5. Put the end of the floor tool in the recovery pail.
6. Press the lever on the floor tool to activate the pump.
7. Make sure the solution runs through the system.
8. Release the lever on the floor tool to stop the pump.
9. Flush the antifreeze solution from the system before using the extractor.
10. Make sure the machine is the same temperature as the room before using the machine.

⚠ 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.

How To Get Access To The Pump and Vacuum Motor

To get access to the pump and the vacuum motor, follow this procedure:

1. Put the machine on its side.
2. Remove the screws that hold the bottom panel to the machine. See figure 9
3. Remove the bottom panel from the machine.

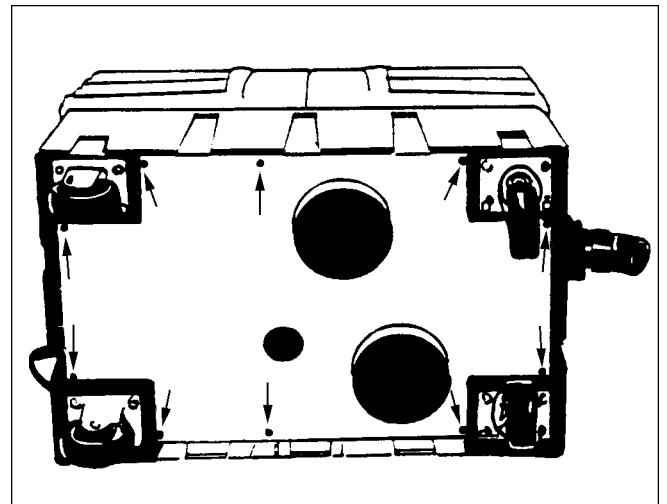


Figure 9

Maintenance Of The Motor

This machine has a vacuum motor that uses carbon brushes. The carbon brushes in the motor must be checked every three months, or every 500 hours of operation, whichever comes first. If either of the brushes is shorter than 3/8 inch, replace both of the carbon brushes.

How To Check The Commutator And The Carbon Brushes

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

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

1. Disconnect the power cord from the electrical outlet.
2. Empty both tanks.
3. Put the machine on its side.
4. Remove the ten screws that hold the bottom panel to the machine.
5. Remove the bottom panel from the machine. See Figure 10.
6. Disconnect the ground wire and wire clips.
7. Remove the plastic motor cover.
8. Inspect the commutator. Take the machine to a Clarke Technology authorized repair location if you see any of the following conditions:
 - a. Small holes in the surface of the commutator. See "A" in figure 11.
 - b. Uneven color. Look for an even dark brown color. Clean areas or very dark areas indicate a problem. See "B" in figure 11.
 - c. High mica. The mica insulation must be lower than the commutator bars. See "C" in figure 11.
9. To check the carbon brush assemblies, remove the two screws from the holding bracket.
10. Remove the bracket.
11. Remove the carbon brush assemblies.
12. Check the carbon brush assembly. Replace both carbon brush assemblies if either carbon brush is shorter than 3/8 inch. If either brush is shorter than 1/2 inch, order replacement brushes. Be ready to replace both carbon brushes earlier than the normal inspection time.
13. Put the motor brushes in position.
14. Using the two screws, install the bracket that holds the carbon brushes.
15. Install the plastic motor cover.
16. Install the motor and fasteners.

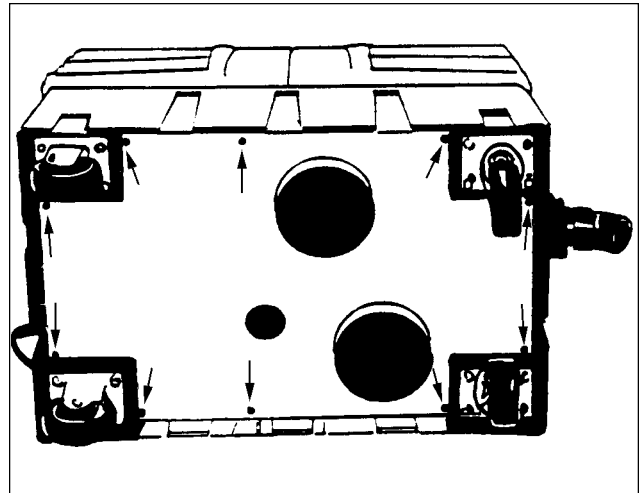


Figure 10

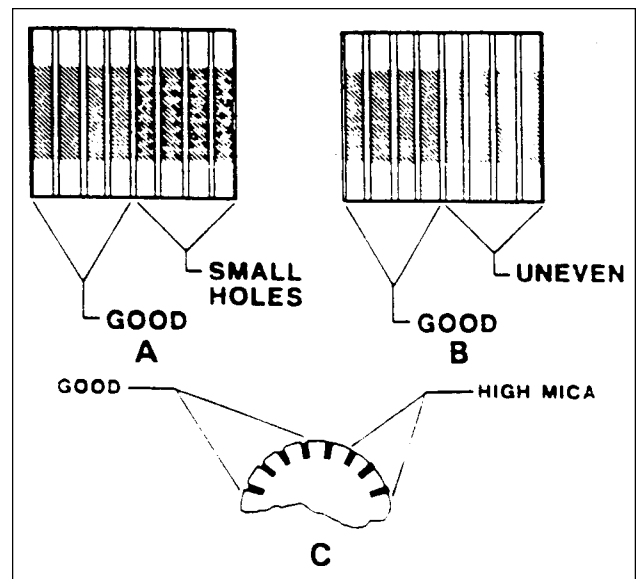


Figure 11

HOW TO CORRECT PROBLEMS IN THE MACHINE

Problem	Cause	Action	
The machine will not run.	1. The machine has no power.	1. Make sure the machine is connected to the correct frequency and voltage, and all connections are tight. Make sure the plug is in the electrical outlet.	
	2. The power cord is damaged.	2. Contact an authorized service person to replace the cord.	
There is no suction.	1. The vac motor does not run.	1. Put the switch for the vacuum in the "I" position.	
	2. The vac motor switch is defective.	2. Contact an authorized service person.	
	3. There is a loose motor connection.	3. Contact an authorized service person.	
	4. There is an obstruction in the vacuum hose.	4. Remove the obstruction.	
	5. The recovery tank is full.	5. Remove the liquid from the tank.	
	6. The dome gasket is worn or damaged.	6. Contact an authorized service person to replace the gasket.	
	7. The dome is not in the correct position.	7. Put the dome in the correct position.	
	8. The internal vac hose is damaged or stopped.	8. Contact an authorized service person.	
	9. The dome is damaged.	9. Replace the dome.	
	10. The motor brushes are worn.	10. Replace the motor brushes.	
	11. A wrong size pail is being used.	11. Use only the pail given with the machine.	
There is no pressure.	1. The switch is in the "OFF" position.	1. Put the switch in the "I" position.	
	2. The pressure switch is damaged.	2. Contact an authorized service person.	
	3. The pump motor will not run.	3. Contact an authorized service person.	
	4. The pump motor brushes are worn.	4. Contact an authorized service person.	
	5. The quick disconnect fitting is dirty or stopped.	5. Contact an authorized service person.	
	6. The solution hose is bent.	6. Straighten the hose. Replace if damaged.	
	7. The pump is worn.	7. Contact an authorized service person.	
	8. The pump switch is defective.	8. Contact an authorized service person.	
	9. The pump connections are loose.	9. Contact an authorized service person.	
	10. The pump intake and outlet valves are worn.	10. Contact an authorized service person.	
	11. The thermo protector is open.	11. Contact an authorized service person.	
	12. The solution tank is empty.	12. Fill the solution tank.	
	13. The intake screen is dirty.	13. Clean the screen.	
	14. The rectifier in the pump motor is bad.	14. Contact an authorized service person.	
	The solution tank leaks.	1. The intake gasket is worn.	1. Contact an authorized service person.
		2. The tank is damaged.	2. Contact an authorized service person.
	The recovery tank overflows.	1. The float is dirty or damaged.	1. Clean the float. Replace if damaged.
2. There is too much foam.		2. Put defoamer in the solution. Order P/N 398420.	
3. The float gasket is dirty or damaged.		3. Clean the gasket. Replace if damaged.	

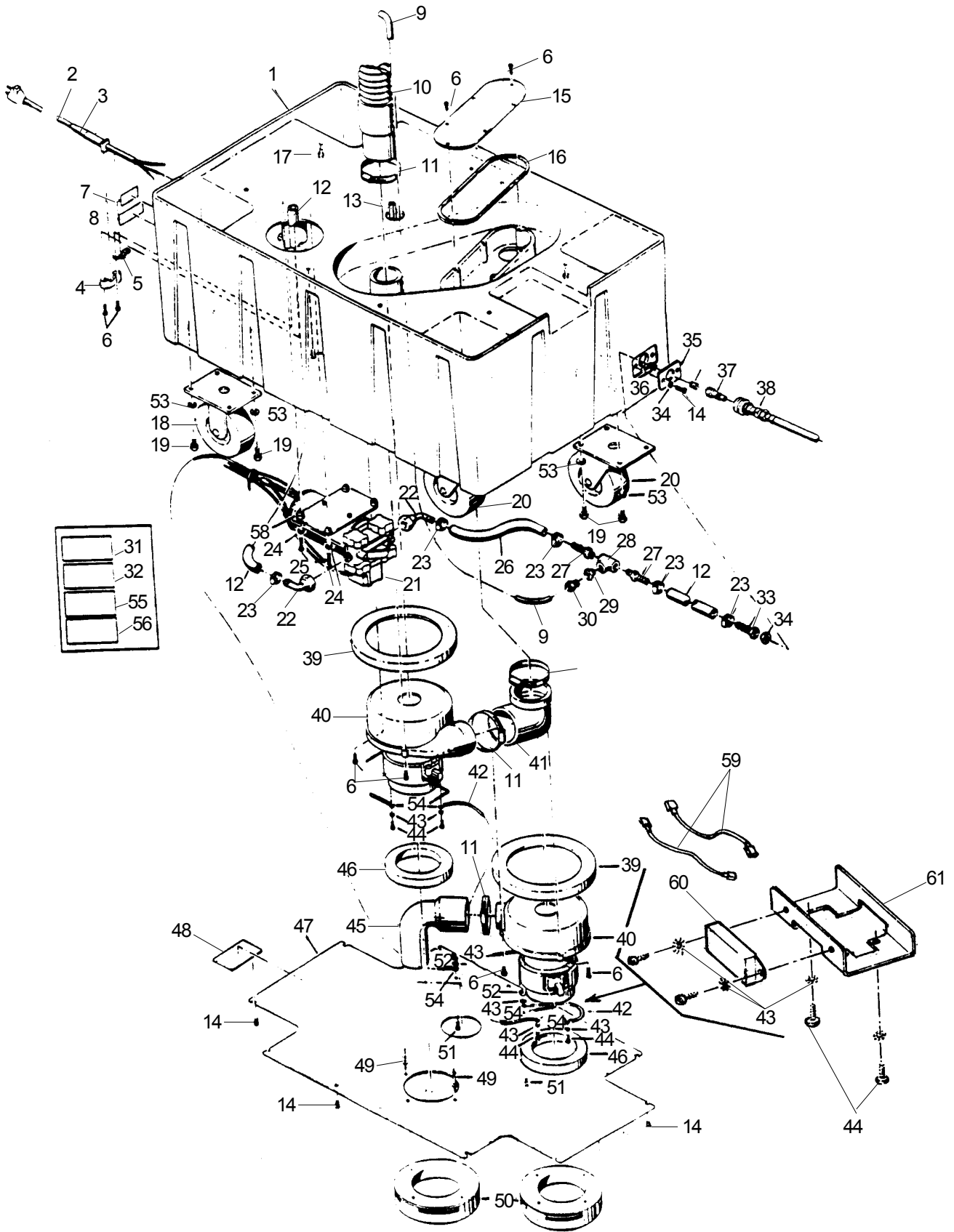
**Clarke Technology EXT- 10, 15
Machine Variables and Accessories 11/98**

Variable Code			
04042A	<i>Breakdown:</i>	04042A	EXT -10 120V/60 Hz
04043A	<i>Breakdown:</i>	04043A	EXT -10 220V/50/60 Hz
04044A	<i>Breakdown:</i>	04044A	EXT -15 120V/60 Hz
04045A	<i>Breakdown:</i>	04045A	EXT -15 220V/50/60 Hz

ACCESSORIES

Descriptions	Part No.
Clarkare® Concentrate - case (4-1 gal.)	398425
Defoamer - case (4-1 gal.)	398426
Traffic Lane Spotter - case (4-1 gal.)	398427
Upkeep Shampoo - case (4-1 gal.)	398430
Carpet Dryer Deluxe	04130B◆
4" Metal Hand tool	59228A◆
4" Plastic Hand Tool	59231A◆
4" Tool & Hose Assembly	55173A◆
8" Plastic Wand	59230A◆
12" Metal Wand	59229A◆
PB - 12 Power Brush 12"	04016B
10' Hose Assembly	59232A◆
20' Hose Assembly	55183A◆
1½ to 1½" Coupler	682408

CLARKE TECHNOLOGY EXT-10, 15
Main Frame Assembly Drawing 11/98



CLARKE TECHNOLOGY EXT-10, 15
Main Frame Assembly Parts List
11/98

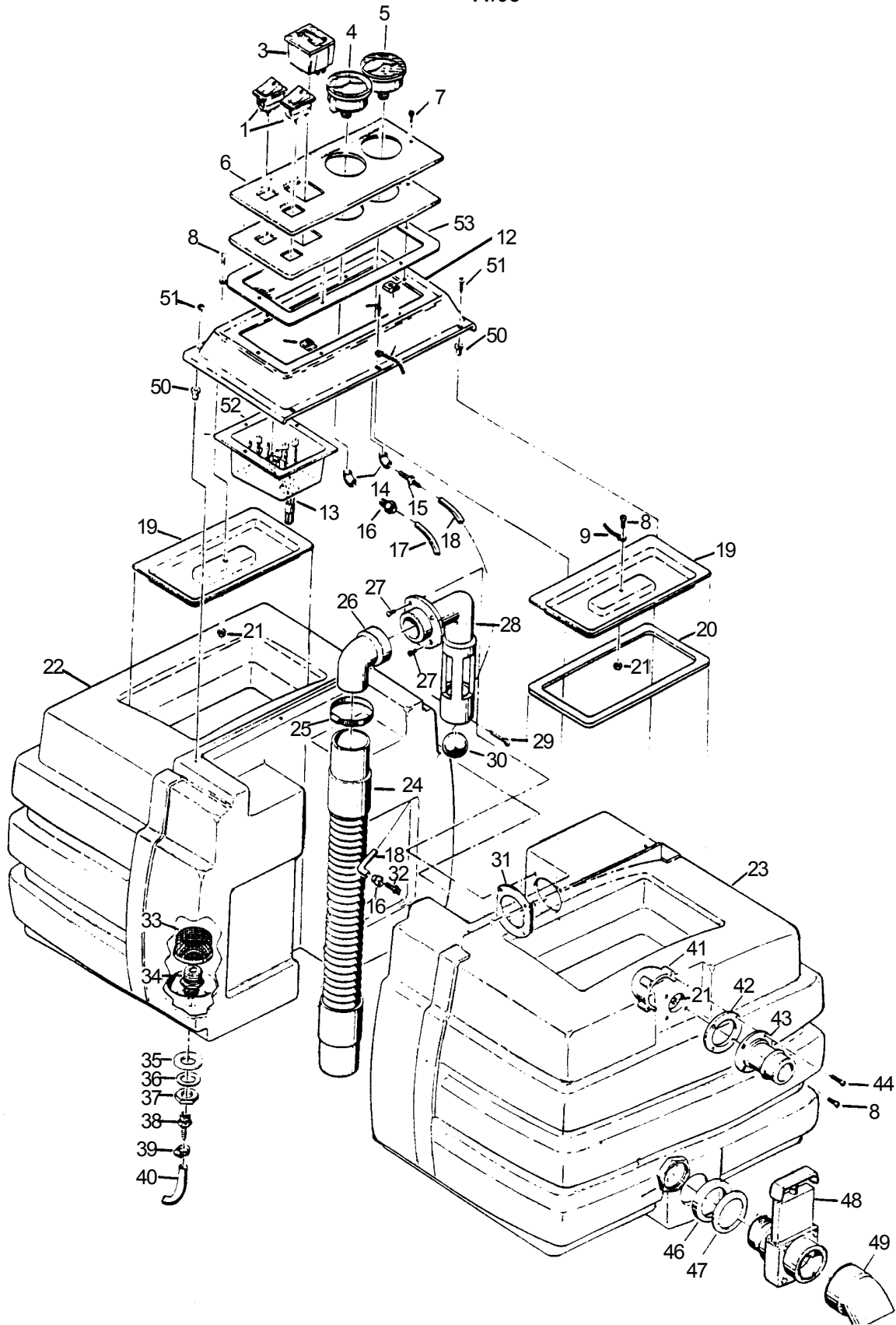
Item #	Part No.	Description	Qty.
1	34003B	Main Frame EXT-10/15	1
2	42214A	Cord, Power 120 Volt	1
	42231A	Cord, Power 230 Volt	1
3	38002A	Strain, Relief	1
4	672011	Clamp, Strain Relief	1
5	672012	Clamp, cord	1
6	85522A	Screw, 10-16 x 1 Pan Hd	19
7	215103	Label, Caution	1
8	215104	Label, Warning	1
9	35114B	Hose, Pressure Gauge	1
10	35115A	Hose, Vacuum	1
11	672013	Clamp, Hose	4
12	35147A	Hose, Intake	4
13	49612A	Harness Assembly	Ref
14	962957	Screw, 10-16 x 1/2 PN*ST	16
15	62604A	Cover, Upper Chamber	1
16	34217A	Gasket, Upper Chamber	1
17	962983	Screw, 1/4-20 x 5/8 Pn	8
18	692473	Caster, Rear	2
19	962901	Screw, 9/32 -16 x 3/4 Hx	16
20	692472	Caster, Front, Swivel	2
21	45905C	Pump, 115 Volt	1
	45929A	Pump, 230 Volt	1
22	692870	Elbow, Swivel 3/8 Hose Barb	2
23◆	50248A	Clamp, Hose	5
24	980982	Washer, #10 Plain	10
25	962970	Screw 10-6 x 1 1/4 Pn Hi-Lo	4
26	69404A	Hose, Discharge	1
27	170030	Coupling, 1/4 MPT x 1/8 MPT	1
28	729221	Tee, 1/4 FPT	1
29	851144	Bushing, 1/4 MPT x 1/8 FPT	1
30	52401A	Connector, 1/4 Tube x 1/8 FPT	1
31	215104	Label, Fire Warning	1
32	73275A	Label, Warning, Rain	1
33	50300A	Adapter, 1/8 FPT to 3/8 H	1
34	980645	Washer	3

Item #	Part No.	Description	Qty.
35	66617A	Plate, Q.D. Mounting	1
36	725729	Nipple, 1/8 Hex	1
37	737140	Quick Disconnect	1
38	15631A	Hose, Assembly, Applicator	Ref
39◆	643418	Gasket, Vacuum Motor	2
40◆	44906A	Motor, Vacuum 120 Volt	2
	44907A	Motor, Vacuum 230 Volt	2
41	674112	Hose, Exhaust	1
42	954010	Wire, Assembly, Ground	2
43◆	980603	Washer, #10 Shakeproof	8
44◆	962987	Screw 10-24 x 1/2 Pn St.	6
45	620281	Adapter, Accessory	1
46	693473	Gasket, Vac Motor, Bottom	2
47	62605A	Cover, Frame Bottom	1
48		Serial Plate	1
49	930093	Rivet, 1/8 Dia., Pop	8
50	30602A	Baffle Assembly, Air Intake	2
51	962109	Screw, 10-24 x 5/8 Pn SS	2
52	920200	Nut, 10-24 Hex	2
53	980651	Washer 5/16 Plain	16
54	911933	Terminal	1
55	73276A	Label, Spanish	1
56	73277A	Label, Water	1
NI	911177	Nut, Wire (Not Shown)	4
NI	899254	Tie, Wire (Not shown)	1
58	66653A	Plate, Pump, Adapter	1
59◆	49310A	Lead Asm. (CE Machine only)	2
60◆	47201A	Filter Asm. (CE Machine only)	1
61◆	69894A	Bracket (CE Machine only)	1
NI	962009	Screw	4
NI	81901A	Nut, Keps #10-24	4
NI	47802A	Terminal, Ring	1
NI	47701A	Terminal, 1/4 FIFQDC	2
NI	42910A	Fuse	1
NI	43004A	Fuse Holder	1

NI = Not illustrated

NOTE: ◆ indicates a change has taken place since last publication of this manual.

CLARKE TECHNOLOGY EXT-10, 15
 Tank Assembly Drawing
 11/98



CLARKE TECHNOLOGY EXT-10, 15
Tank Assembly Parts List
11/98

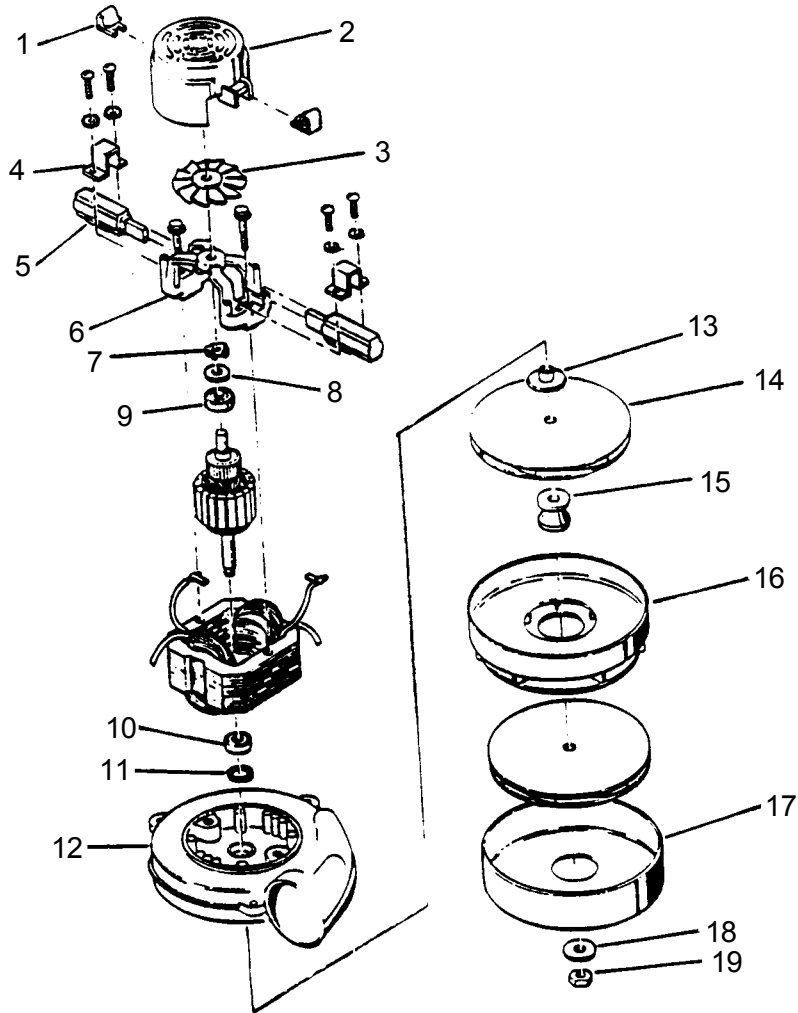
Item #	Part No.	Description	Qty.
1	47316B	Switch - On/Off	2
2			
3	44400B	Meter, Hour 120V	1
	44401B	Meter, Hour 230V	1
4	54204B	Gauge, Pressure	1
5	54205B	Gauge, Vac	1
6	37304C	Plate, Switch & Gauge, EXT10/15	1
7	85811A	Screw, 10-24 x 3/4 Pn St Blk	6
8	962109	Screw 10-24 x 5/8 Pn Hd SS	3
9	692409	Chain, Cover	2
10	83003A	Rivet, 1/8 Dia. Pop	2
11	920068	Nut, 10-24 Tinnerman	6
12	32317B	Cover, Tank, EXT-10/15	1
13	49612B	Harness Assembly	1
14	742880	Elbow, 1/8 Pipe Thread	2
15	693303	Fitting, 1/8 Hose x 1/8 Pipe	1
16	52401A	Connector, 1/4 Tube x 1/8 MPT	1
17	35114B	Hose, Pressure Gauge	Ref
18	694104	Hose, Vac Gauge	1
19	832322	Cover, Solution Tank	2
20	34218A	Gasket, Tank Cover	1
21	920296	Nut, 10-24 Elastic-Stop	3
22	◆ 38919C	Tank, Solution EXT-10	1
	◆ 38920C	Tank, Solution EXT-15	1
23	◆ 38916C	Tank, Recovery EXT-10	1
	◆ 38917C	Tank, Recovery EXT-15	1
24	35115A	Hose, Vac Tank to Base	Ref
25	672013	Clamp, 2 3/4"	1

Item #	Part No.	Description	Qty.
26	692802	Elbow, 90 Street	1
27	962350	Screw, 10-32 x 1/2	4
28	39303A	Tube, float Shut-Off	1
29	925596	Pin, Cotter 1/8 x 2"	1
30	691304	Ball-Float Shut-Off	1
31	34219A	Gasket, Float Tube	1
32	690208	Adapter, Minature Hose	1
33	728535	Strainer, solution Tank	1
34	60306A	Adapter, Filter	1
35	833401	Gasket, Drain	1
36	980630	Washer, 3/4 ID, Plain	1
37	920264	Nut, 3/4-16 x 3/8 Hx Jam	1
38	170030	Coupling, 1/4 P x 5/8 H	1
39	◆ 50248A	Clamp, Hose	1
40	35147A	Hose, Intake	Ref
41	692701	Deflector	1
42	693406	Gasket, Swivel Coupling	1
43	690212	Adapter, Vac Hose	1
44	85522A	Screw, 10-16 x 1 Pan Hd	3
45	920797	Nut, Drain Valve	1
46	733442	Gasket, Drain Valve	1
47	980422	Washer, Drain Valve	1
48	59721A	Valve, Drain	1
49	53606A	Elbow, 2" x 45° St	1
50	81800A	Well Nut	4
51	962113	Screw, 10-32 x 1 Pn Hd	4
52	33300A	Enclosure, Bottom	1
53	34238A	Gasket, Plate	1
NI	962983	Screw, 1/4-20 x 5/8	8

NOTE:

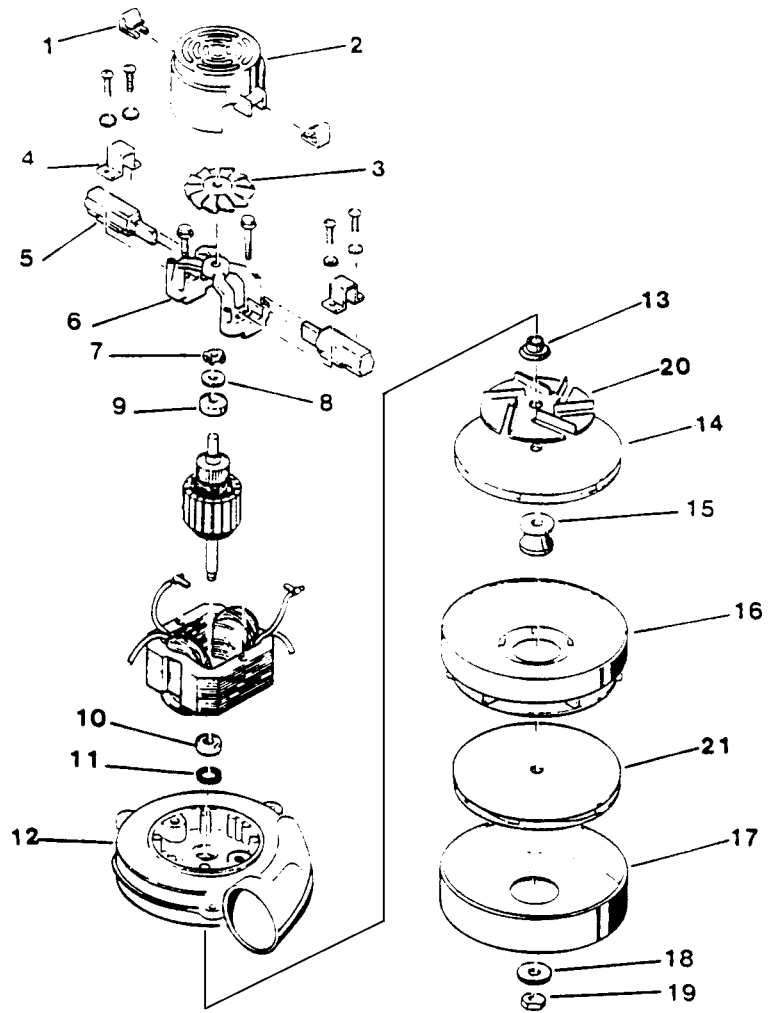
◆ indicates a change has been made since last publication of this manual since

CLARKE TECHNOLOGY EXT-10, 15
Motor 120V (44906A) Drawing & Parts List
 11/96



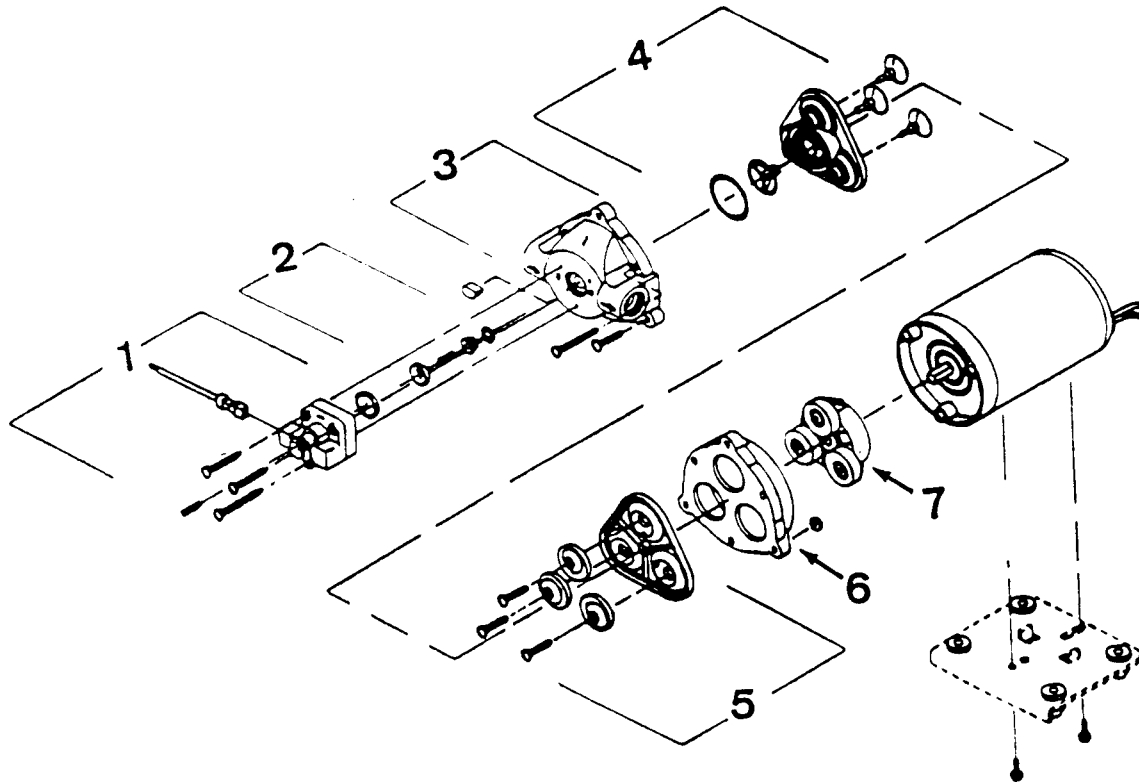
Item #	Part No.	Description	Qty.
1	51913A	Clip (Optional)	2
2	54809A	Housing, Vent	1
3	53905A	Fan	1
4	51914A	Clamp	2
5	51401A	Carbon Brushes	2
6	50618A	Commutator End Bracket	1
7	638313	Load Spring	1
8	53100A	Disc	1
9	902679	Ball Bearing	1
10	902648	Ball Bearing	1
11	59803A	Neoprene Washer	1
12	50610A	Fan End Bracket	1
13	58501A	Spacer	1
14	53914A	Vacuum Fan	2
15	658201	Spacer	1
16	53908A	Stationary Fan	1
17	57904A	Fan Shell	1
18	980205	Washer	1
19	920329	Nut	1

CLARKE TECHNOLOGY EXT-10, 15
Motor 230V-#44907A 11/96



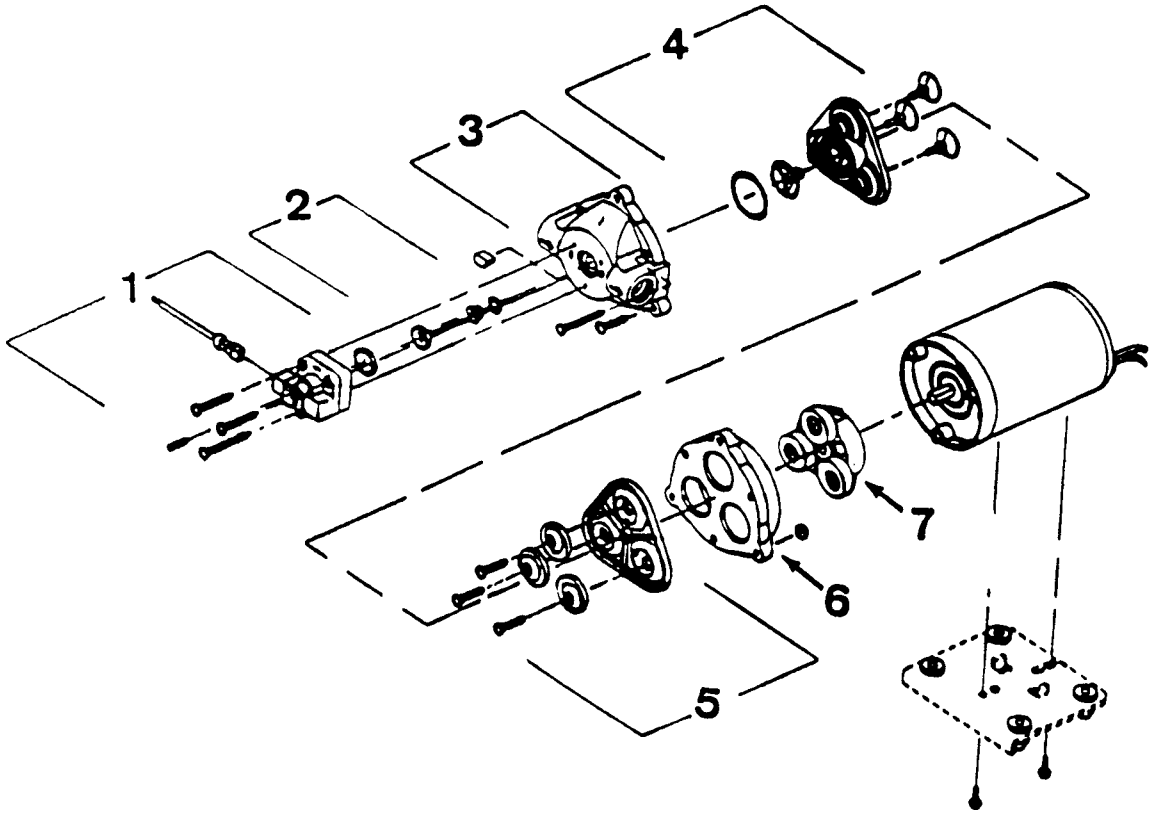
Ref #	Part No.	Description	Qty
1	51913A	Clip (Optional)	2
2	54809A	Housing, Vent	1
3	53905A	Fan	1
4	51914A	Clamp	2
5	40813A	Carbon Brushes	2
6	50618A	Commutator End Bracket	1
7	638313	Load Spring	1
8	53100A	Disc	1
9	902679	Ball Bearing	1
10	902648	Ball Bearing	1
11	59803A	Neoprene Washer	1
12	50610A	Fan End Bracket	1
13	58501A	Spacer	1
14	53914A	Vacuum Fan	2
15	658201	Spacer	1
16	53908A	Stationary Fan	1
17	57904A	Fan Shell	1
18	980205	Washer	1
19	920329	Nut	1
20	53906A	Fan	1

CLARKE TECHNOLOGY EXT-10, 15
 Pump 45905C/44906B - 11/96



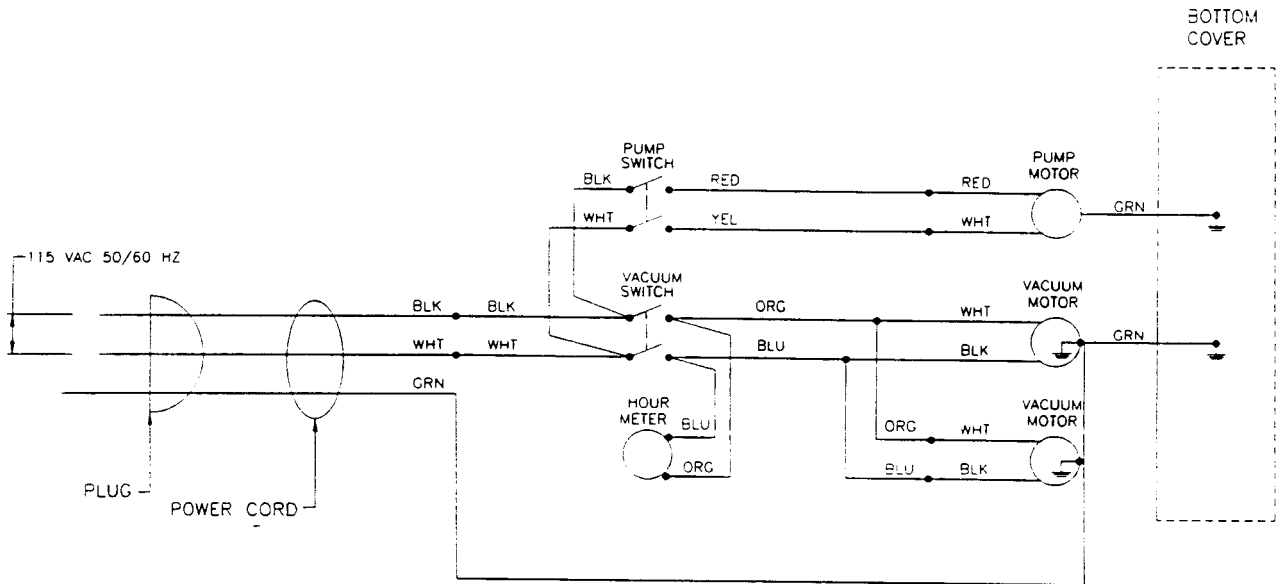
Ref #	Part No.	Description	Qty
1	55372A	Kit, Switch- Viton 80/100 psi	1
2	55374A	Kit, Dual Check Valves	1
3	54881A	Housing, Upper	1
4	55373A	Kit, Valve	1
5	53201A	Kit, Diaphragm	1
6	54882A	Housing, Lower	1
7	54837A	Kit, Drive assembly (45905C)	1
8	15884A	Kit, Drive Assembly (44906B)	1

CLARKE TECHNOLOGY EXT- 10, 15
 Pump 45929A - 11/96

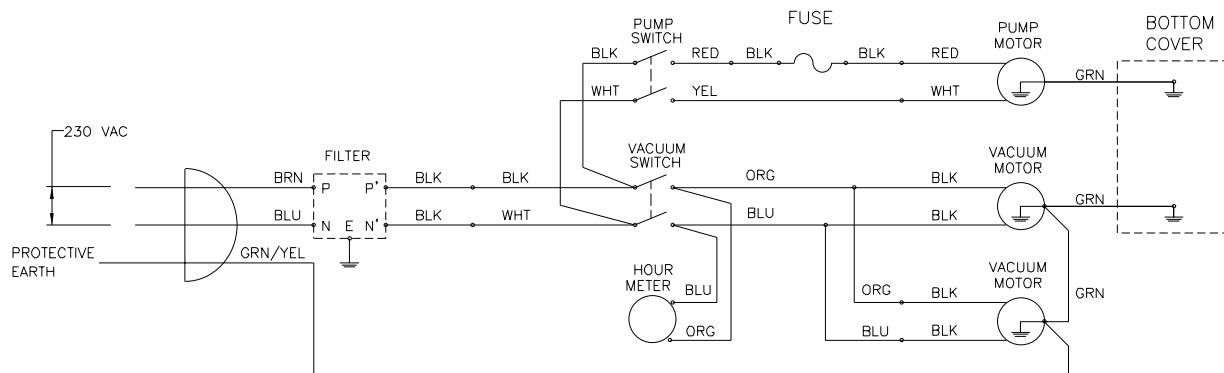


Ref #	Part No.	Description	Qty
1	53056A	Kit, Switch- Viton 80/100 psi	1
2	52908A	Kit, Check Valve	1
3	54881A	Housing, Upper	1
4	59783A	Kit, Valve	1
5	53205A	Kit, Diaphragm	1
6	54882A	Housing, Lower	1
7	52907A	Kit, Drive Assembly	1

CLARKE TECHNOLOGY EXT-10, 15
Wiring Diagram 120V - 11/96



CLARKE TECHNOLOGY EXT-10, 15
Wiring Diagram 230V - 11/98



ALTO® PRODUCT SUPPORT BRANCHES

U. S. A. Locations

HEAD OFFICE

ALTO U.S. Inc., St. Louis, Missouri
16253 Swingley Ridge Road, Suite 200
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Technical Service - 1-800-356-7274

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1100 Haskins

ALTO U.S. Inc., Clearwater, Florida 33765
1500 N. Belcher Road

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1955 West 13th Ave.
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29815 John R.
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ALTO U.S. Inc., Marietta, Georgia 30062
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CLARKE TECHNOLOGY LIMITED U.S. WARRANTY

This ALTO 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 Technology'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 Technology repair location or contact ALTO U.S. Inc. Service Operations Department, 2100 Highway 265, Springdale, Arkansas 72764, for the nearest authorized Clarke Technology repair location. Only these locations are authorized to make repairs to the product under this warranty.
- b) Return the product to the nearest Clarke Technology repair location. Transportation charges to and from the repair location must be prepaid by the purchaser.
- c) Clarke Technology will repair the product and/or replace any defective parts without charge within a reasonable time after receipt of the product.

Clarke Technology'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 ALTO product. Return the card to assist ALTO 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 Technology Parts for repair.**



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