



Electronic Service Manuals

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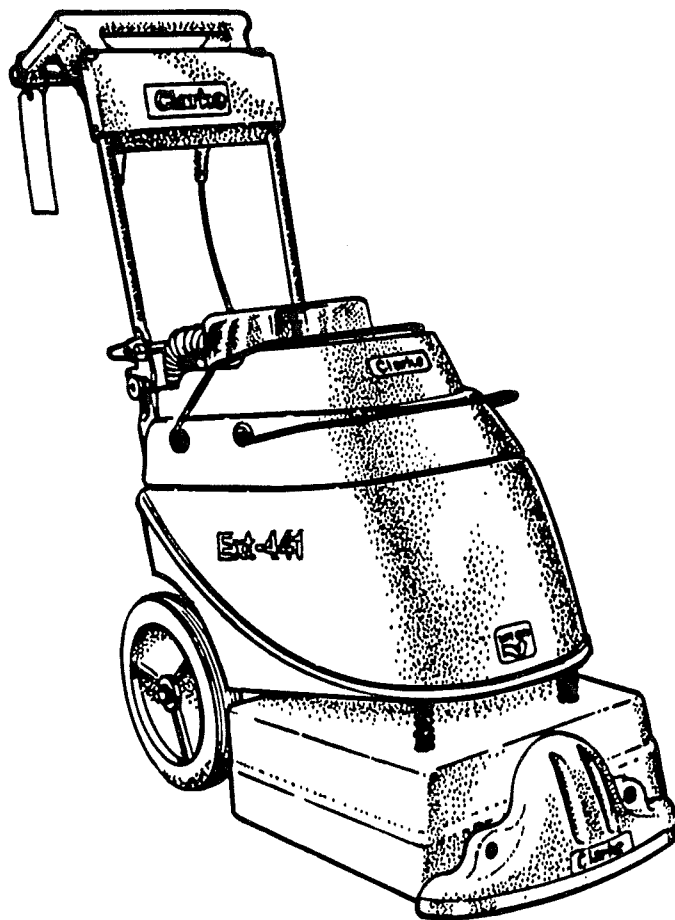
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Serving the Cleaning Industry Since 1922

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Clarke®



EXT - 441 PB Owner's Manual

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 or 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 ingles, se hagan explicar este manual completamente antes de tratar el manejo o servicio de esta maquina.

All directions given in this book are as seen from the operator's position at the rear of the machine.

For new books write to: Clarke Industries 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 Owners's Manual are ignored or not adhered to. Read and observe all **CAUTION** statements found in your Owner's Manual and on your machine.



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:

You must have training in the operation of this machine before using it. **READ THE INSTRUCTION BOOK FIRST.**



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:

Do not use this machine as a step or furniture.



WARNING:

To avoid serious injury, use proper lifting procedures when lifting the machine.



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.



WARNING:

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



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.

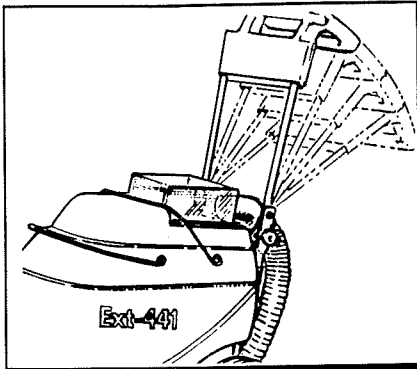


CAUTION:

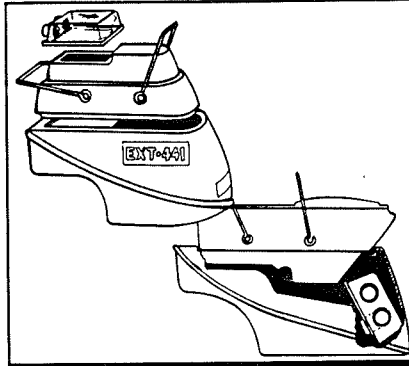
To prevent damage to the power cord and hoses, do not use the power cord or hoses to pull the machine.

INTRODUCTION and MACHINE SPECIFICATIONS

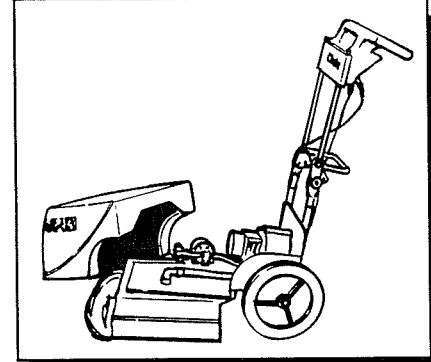
Adjustable Handle



Compact Design

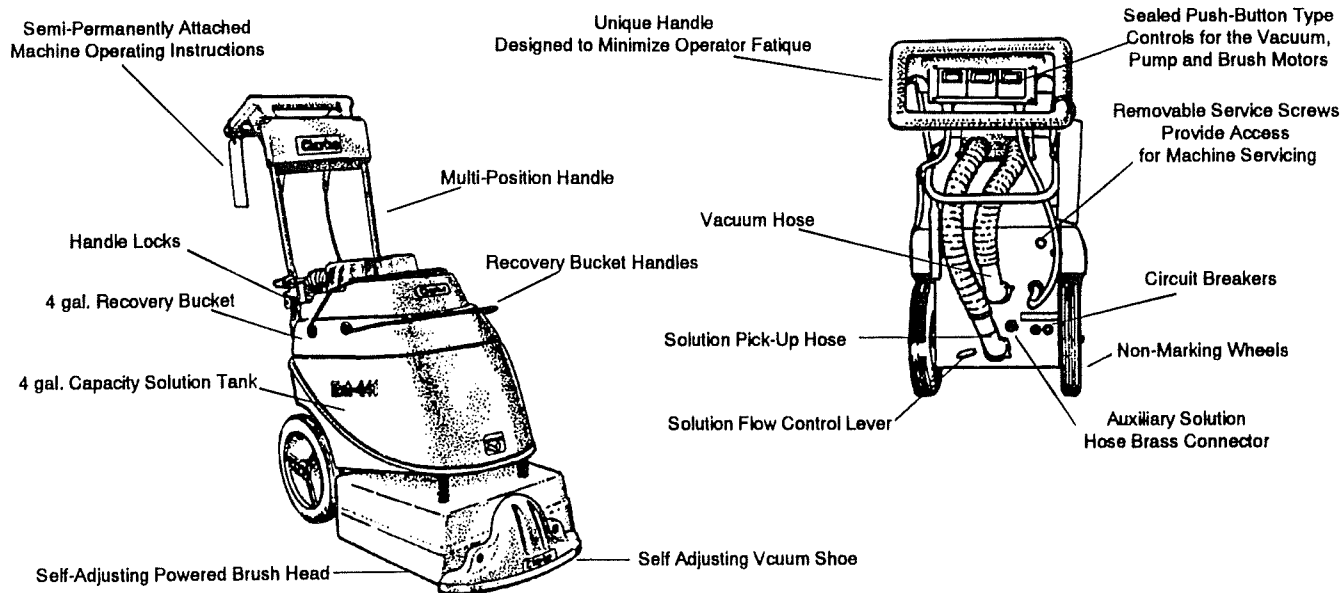


Easy Access for Serviceability



- A removable recovery bucket.
- Fold down and adjusting handles for storage and portability.
- Operator friendly push button controls.
- A 60 psi pump which can be operated intermittently or continuously for extended operation and quicker drying time.
- A 2 hp, 3 stage vacuum motor with 140" water lift.
- A power brush which can be used with the pump or by itself to work the cleaning solution into the carpet.
- A self-adjusting brush and extractor tool housing.
- An optional accessory tool adaptor for use in small areas, upholstery, stairways, and under furniture.
- Recovery tool shoe for use on carpet and hard floor surfaces.
- Easy maintenance, removable solution tank.
- Easy access to internal components.
- Filter system to prevent nozzle clogging.
- Shoe design for use on carpet and smooth hard floor surfaces.

Electrical	115 V 60 Hz or 230V 50 Hz
Machine Amps	12 Amp for 115 V, 6 Amp for 230 V
Solution Pump Motor	.8 gpm 60psi: .9 Amp 115V, .45 Amp 230V
Solution Tank Capacity	4 gal (15.4 liter)
Recovery Tank Capacity	4 gal (15.4 liter)
Waterlift	140"
Cleaning Swath (Vac Width)	16" (40.6 cm)
Scrub Width	14" (35.6 cm)
Handle Adjustment Range	29" to 39" (73.7 cm to 99.1cm)
Vacuum Motor	2 hp: 10 Amp 115V, 5 Amp 230V
Power Cable	35', 3-wire grounded (10.7m)
Spray Jets	3 spray jets
Brush Size	4" x 14" Chevron (10.2 x 35.6 cm)
Brush Motor	.20 hp: 1 Amp 115V, .5 Amp 230V
Wheels	2 - 10" (25.4 cm)
Dimensions	39 x 16.5 x 45" (99.1 x 41.9 x 114.3 cm)
Storage Dimensions	30.5 x 16.5 x 33" (70.5 x 41.9 x 83.8 cm)
Weight	73 lbs. (33.1 kg)
Shipping Weight	85 lbs. (38.6 kg)
Warranty	1 year



The **EXT-441PB** is a one-piece, portable extractor designed for cleaning carpet and smooth hard floor surfaces. The machine applies cleaning solution to the carpet and then removes the dirty solution and soil with a self-adjusting brush and recovery tool housing.

CONTROLS and MACHINE FEATURES

The Vacuum, Pump, and Brush Motor Switches

The vacuum motor switch is located on the left side of the control panel. The pump switch is located in the center of the control panel. The brush switch is located on the right side of the control panel. Depress switches to activate/deactivate.

The Handle

The handle is adjustable to four operator positions plus an additional storage/transporting position.

The Vacuum and Pick-Up Hose Connections

The vacuum hose is connected to the dome assembly. The pick-up hose is connected from the pick-up tube to the recovery dome.

The Recovery Bucket

The recovery bucket is located on the top of the machine and has a 4 gallon capacity.

The Solution Tank

The solution tank is on the bottom of the machine below the recovery bucket. The solution tank has a 4 gallon capacity.

The Auxiliary Solution Hose Connector

The auxiliary solution hose connector is a brass connector, located on the lower right side of the back of the machine. This connection is used to hook-up optional auxiliary floor and upholstery tools.

Solution Control Lever

The solution control lever allows the use of attachments with the EXT- 441 PB. The lever is located in the rear of the machine in the lower left center.

The Self Adjusting Brush/Shoe

The brush height is self-adjusting; no adjustments are required.


HOW TO PREPARE THE MACHINE FOR OPERATION

To prepare the machine for operation, follow this procedure:

 **CAUTION:** Flush the antifreeze solution from the system before using the extractor.

1. Before moving the extractor onto the carpet, put clean, hot tap water, (no hotter than 140°), into the recovery bucket and pour into the solution tank. The solution tank capacity is approximately four gallons.
2. For every gallon of water, add between two and ten ounces of "Clarkare® Extractor Concentrate", depending on the carpet's condition.
3. 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.


 **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.

MACHINE OPERATING INSTRUCTIONS

How to Clean an Area of Carpet

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

1. Remove the transparent cover and lift up on the handles to remove the bucket underneath.
2. Fill the recovery bucket with 4 gallons of clean, hot tap water.  **CAUTION:** Do not fill past the fill line.
3. Add 2 to 10 ounces of "Clarkare® Extractor Concentrate" for every gallon of water (this amount will vary depending on the condition of the carpet).
4. Replace the recovery bucket and transparent cover.
5. Plug the Ext-441 PB into a grounded outlet.

 **DANGER:** This machine must be grounded!

NOTE: Before adding any cleaning concentrate, operate the machine with clean water only to check for residual shampoo concentration left from previous carpet cleaning(s). This will prevent excessive shampoo and foam buildup in the machine and carpet nap.

6. Press "ON" the vacuum, brush, and pump switches. For intermittent use of the pump, press and depress the pump switch for the desired solution flow.
7. Slowly and steadily, pull the machine **BACKWARDS**.
8. Toward the end of the cleaned pass, shut off **only** the pump, then vacuum an additional six inches.
9. Once the solution tank is empty, the recovery bucket will need to be emptied. If the recovered solution is foamy then the bucket will need to be emptied more often. To empty the recovery bucket follow this procedure:
 1. Press "OFF" the vacuum, brush, and pump switch.
 2. Remove the transparent cover and lift out the recovery bucket.
 3. Pour out the dirty solution.
 4. Rinse out the bucket thoroughly and fill with clean water.

Transporting and Storing the Ext-441

To transport or store the Ext-441 PB follow these procedures:

1. Remove the dome and place it into the solution tank.
2. Turn the recovery bucket over and set it down onto the solution tank.
3. Pull out on the two knobs, one at a time, and rotate them 1/4 turn. Put the handle down into the storage position.
4. To transport the machine, lift only where indicated by the "Lift Here" labels. Be sure to use proper lifting procedures.

How to Install and Use the Auxiliary Floor Tool

1. Turn the solution valve to the "Optional Floor Tool" position.
2. Remove the hose tool from the recovery bucket dome.
3. Connect the auxiliary floor tool vacuum hose to the recovery bucket dome and to the auxiliary tool.

 CAUTION: Do not press "ON" the brush switch. Carpet damage may result.

4. Connect the solution hose to the machine and to the floor tool.
5. Press the vacuum and pump switch to "ON".
6. Operate the optional cleaning tool as normal.

NOTE: When finished cleaning with the optional floor tool, return the solution control lever to the "Normal Operation" position.

After Each Use of the Machine

1. Disconnect the power cord from the outlet.
2. Drain and rinse out the recovery bucket.
3. Use a clean dry cloth to wipe out both tanks and the tools, both inside and out.
4. Inspect and clean the filter screen in the bottom of the solution tank. To remove the filterscreen, turn the filter counterclockwise. To install the filter, turn the filter clockwise.


After Cleaning the Carpet

1. Do not walk or place heavy objects on the carpet for at least four hours or until the carpet is dry to the touch.
2. Vacuum right after the carpet is dry and vacuum at least once a week, or as often as needed.

 **CAUTION:** Clarke will not be held liable for damage to the carpet or for poor results because of the operator's errors.


3. To speed drying time of the carpet try a Clarke CCD-2500 carpet dryer.


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

 **CAUTION:** This machine will operate only on an AC frequency and on the specified 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 an electrically ground circuit in order to protect the operator from electric shock. This machine has an approved power cord with three conductors as well as a plug with three terminals. Connect the plug to a three holed receptacle. For maximum protection against electric shock, use a circuit that is protected by a ground fault circuit interrupter.

This machine uses a 115 volt AC 50/60 cycle electrical circuit. Make sure you have the correct frequency and voltage before connecting the power cord to an outlet. Do not use an adaptor to plug in this machine. Contact an electrical contractor and have one installed.

 **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:** If the cords or plugs are worn or damaged in any way, have them replaced by an authorized service person.

Extension Cords - 115V

Use only an approved extension cord with three conductors, a plug with three terminals and a three-holed connector body. This machine has a power cord with a wire size of 14 AWG. (AWG stands for American Wire Gauge).

 **CAUTION:** If you use an extension cord, use one that has a minimum wire size of 14 AWG. Be sure your extension cord is no longer than 50 ft. Do not join two extension cords.


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

 **CAUTION:** This machine will operate only on AC frequency and on 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 an electrically ground circuit in order to protect the operator from electric shock. This machine has an approved power cord with three conductors as well as a plug with three terminals. Connect the plug into a three holed receptacle. For maximum protection against electric shock, use a circuit that is protected by a ground fault circuit interrupter.

This machine uses a 230 volt AC 50/60 cycle electrical circuit. Make sure you have the correct frequency and voltage before connecting the power cord to an outlet. Do not use an adapter to plug this machine in. Contact an electrical contractor if you need one installed.

 **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:** If the cords or plugs are worn or damaged in any way, have them replaced by an authorized service person.

Extension Cords - 230 V

Use only an approved three-pronged extension cord with two main conductors and one earthing conductor. This machine's power cord has a wire size of 1.5mm².

 **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 other than a three plug receptacle or connector body. Contact your authorized Clarke dealer to get an authorized person to install a three holed receptacle.

 **CAUTION:** If you use an extension cord, be sure it has a wire size of 1.5mm². Do not use an extension cord that exceeds 15 meters in length. Do not join two extension cords together.

MAINTENANCE

 **WARNING:** Maintenance and repairs must be done by authorized personnel only. Use only genuine Clarke parts.

 **CAUTION:** Do not operate this machine unless it is completely assembled. Keep all fasteners tight.

NOTE: For maintenance of the optional tools, read the manual that is supplied with the tools.

After Each Use of the Machine


1. To prevent damage to the valves and to the jets, flush one gallon of clean water through the solution system.
2. If the auxiliary tools have been used, be sure to flush them out with clean water.
3. Disconnect the power cord from the outlet.
4. Drain and rinse out the recovery bucket.
5. Drain the solution tank with long hose (provided) #824103. Insert hose into dome and then place hose into solution tank. Turn the vacuum motor on and solution will be removed from solution tank into recovery tank.
6. Use a dry cloth to wipe the solution tank, the recovery bucket, and the tools both inside and out.
7. Inspect and clean the filter screen in the bottom of the solution tank. To remove the filter, turn the filter counter-clockwise. To install the filter, turn the filter clockwise.


How to Prevent Damage from Freezing Temperatures

To prevent any damage from freezing temperatures, follow this procedure:

1. Remove any solution remaining in the solution tank.
2. Make sure that the machine and the pump are completely dry.
3. Pour antifreeze into the solution tank until the screen in the bottom of the tank is submerged.
4. Turn on the pump for 30 seconds.
5. Flush the antifreeze solution from the system before using the extractor.
6. Make sure the machine is at room temperature before using it.

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.

NOTE: For electrical repairs, return this machine to a Clarke authorized repair center.

The Vacuum 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.

▲ WARNING: Maintenance and repairs must be done by authorized personnel only. Always empty the solution tank and the recovery tank before doing any maintenance to this machine. Keep all fasteners tight.

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

NOTE: Consult your authorized Clarke® service person to do the service procedures.

Serviceability

Access for service to the pump and vacuum motor requires removing the two service screws and disconnecting the quick disconnect between the solution tank and the pump. To disconnect the quick disconnect, depress the tab and pull the solution tank hose off.

SPOT REMOVAL GUIDE*

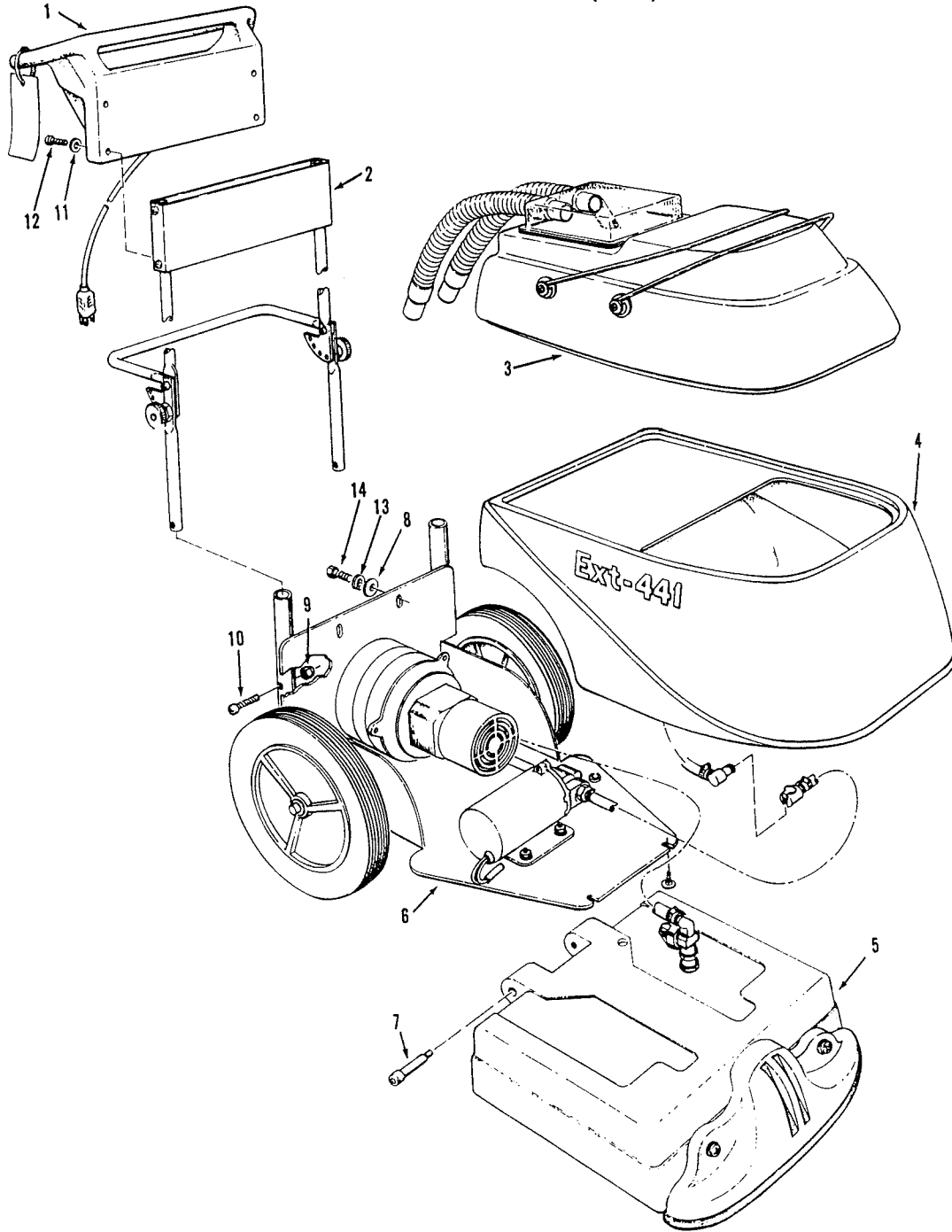
Type of Spot:	Water-base Shampoo	Grease Breaker	High-foam Emulsifier	Dry cleaning Solvent
Ball Point Pen		✓		✓
Beer			✓	
Berry Stain	✓	✓	✓	
Blood		✓	✓	
Butter				✓
Candy	✓	✓	✓	
Catsup			✓	
Chocolate	✓	✓	✓	
Coffee, Tea, Coke			✓	
Cooking Oil				✓
Crayon		✓		✓
Dirt	✓	✓		
Egg	✓	✓		
Grease, Oil		✓		✓
Ice Cream	✓		✓	
Lipstick		✓		
Liquor	✓	✓	✓	
Marking Pen				✓
Milk	✓	✓		
Mustard		✓	✓	
Paste Wax				✓
Salad Dressing		✓		✓
Urine		✓	✓	
Wine			✓	✓

*Source: ISSA Spot Removal Guide

HOW TO CORRECT PROBLEMS IN THE MACHINE

Problem	Cause	Action
The machine will not run.	The machine may have no power...	make sure the machine is connected to the correct voltage and frequency and that all connections are tight or,
	The power cord may be damaged...	make sure the machine is plugged in. contact an authorized service person.
There is no suction.	The vac motor may not run...	depress the vac motor switch.
	There may be an obstruction in the vacuum hose...	remove the obstruction.
	The vacuum hose may be damaged...	replace the hose.
	The dome gasket may be worn or damaged...	replace the gasket.
	The motor brushes may be worn...	replace the brushes.
	There may be a loose motor connection...	contact an authorized service person.
	The vac motor switch may be defective...	contact an authorized service person.
Uneven or no spray from	Solution control lever may be in the wrong position...	turn the solution flow control lever to the "Normal Operation" position.
	The spray tips may be dirty or plugged or worn...	clean or replace the tips.
The solution pump runs but no solution comes out of the spray nozzle.	The solution tank screen may be plugged...	clean or replace the screen.
	Check valve may be clogged...	clean the check valve.
	The pump may be worn...	contact an authorized service person.
	Air lock in pump....	depress the auxilliary solution fitting to release the air.
The solution pump leaks.	A seal in the pump may be faulty...	contact an authorized service person.
	The pump may be worn...	contact an authorized service person.

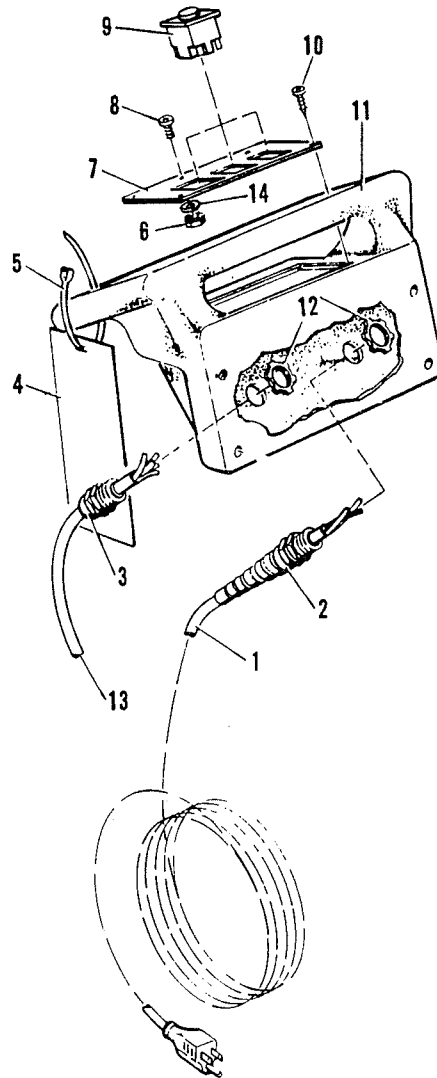
Clarke®
Ext-441 PB Final Assembly Drawing & Parts List 4/93
Form #04066A (115V)
Form #04067A (230V)



Item #	Part No.	Description	Qty.
1	Pg. 12	Asm. Control Handle	1
2	Pg. 13	Asm., Handle	1
3	Pg. 14	Asm., Recovery Tank	1
4	Pg. 15	Asm., Solution Tank	1
5	Pg. 16	Asm., Brush Housing	1
6	Pg. 18	Asm., Chassis 115V	1
	Pg. 20	Asm., Chassis 230V	1
7	86106A	Screw, Shoulder	2
8	980413	Washer	2
9	920349	Nut, 1/4-20	2

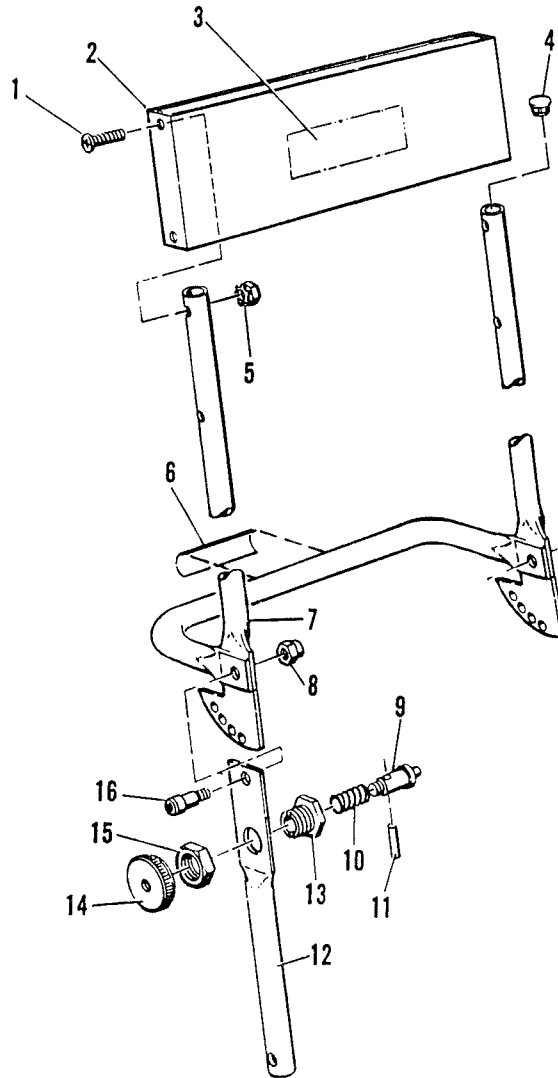
Item #	Part No.	Description	Qty.
10	85382A	Screw, 1/4-20 x 1 1/4	2
11	87109A	Washer	4
12	86107A	Screw, Cap Button Head	4
13	170892	Washer, Lock S.S.	2
14	170915	Screw, 1/4-20 x 3/4 Hc. S.S.	2
NI	699203	Tag, Caution	1
NI	682408	Hose, Connection	1
NI	824103	Hose, Switch Drain	1
NI	77046A	Label, TUV GS (230V)	1

Clarke®
Ext-441 PB Control Handle Assembly Drawing & Parts List 4/93
Form #15327A (230V)
Form # 15324A (115V)



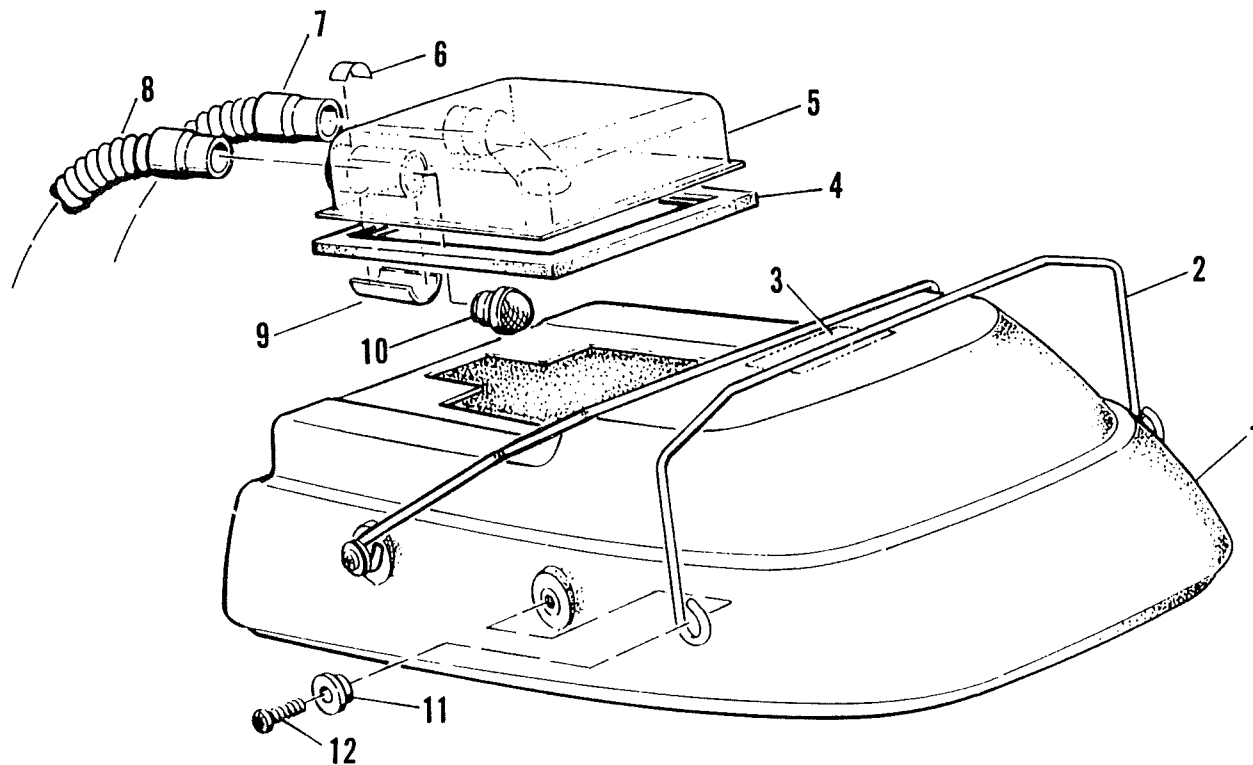
Item #	Part No.	Description	Qty.
1	42084B	Cord, Set 230V	1
	42083A	Cord, Set 115V	1
2	58013A	Relief, Strain Cord	1
3	56459A	Relief, Strain	1
4	73378A	Label, Oper. Instruction	1
5	899254	Tie, Nylon	1
6	81901A	Nut, Keps #10-24	2
7	66350B	Panel, Control	1
8	962968	Screw, 10-24 x 1/2 PN Blk.	2
9	47316B	Switch, Rocker	3
10	962957	Screw, 10-16 x 1/2 PN Hi-Lo	4
11	34803A	Handle, Control	1
12	82100A	Locknut, 1/2" Conduit (230V)	2
	170686	Locknut, 1/2" Conduit (115V)	2
13	49653A	Harness, Wiring (230V)	1
	49665A	Harness, Wiring (115V)	1
14	980603	Washer, Shakeproof	4
NI	44301A	Marker, Wire "L" (230V)	1
NI	44302A	Marker, Wire "N" (230V)	1

Clarke®
Ext-441 PB Handle Assembly Drawing & Parts List
Form #15325A 4/93



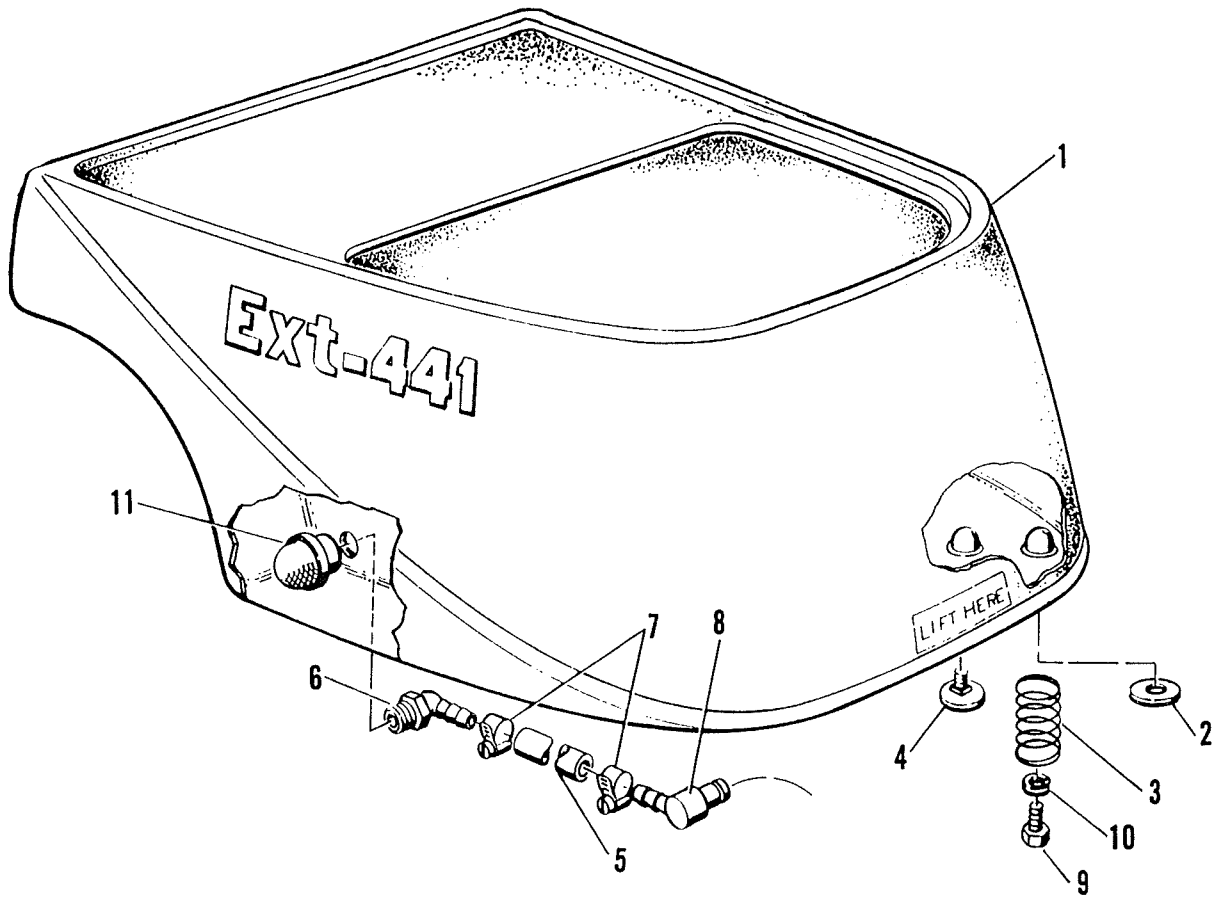
Item #	Part No.	Description	Qty.
1	962477	Screw, 10-24 x 1 ¹ / ₈	4
2	68713A	Weldment Handle	1
3	73323A	Label, Clarke	1
4	52021A	Plug, Button	2
5	81901A	Nut-Keps, 10-24	4
6	73379A	Label, Lift Here	1
7	64429A	Weldment, Handle	1
8	920349	Nut 1/4-20 ESNA	2
9	617001	Plunger, Handle Release	2
10	618301	Spring, Handle Release	2
11	925530	Pin, 3/32 x 1/2 Groove	2
12	68227A	Support Handle	2
13	617202	Retainer	2
14	615001	Knob, Handle Release	2
15	920280	Nut, 5/8-18 x 3/8	2
16	960357	Screw, Shoulder	2

Clarke®
Ext-441 PB Recovery Tank Assembly Drawing & Parts List
Form #19126A 4/93



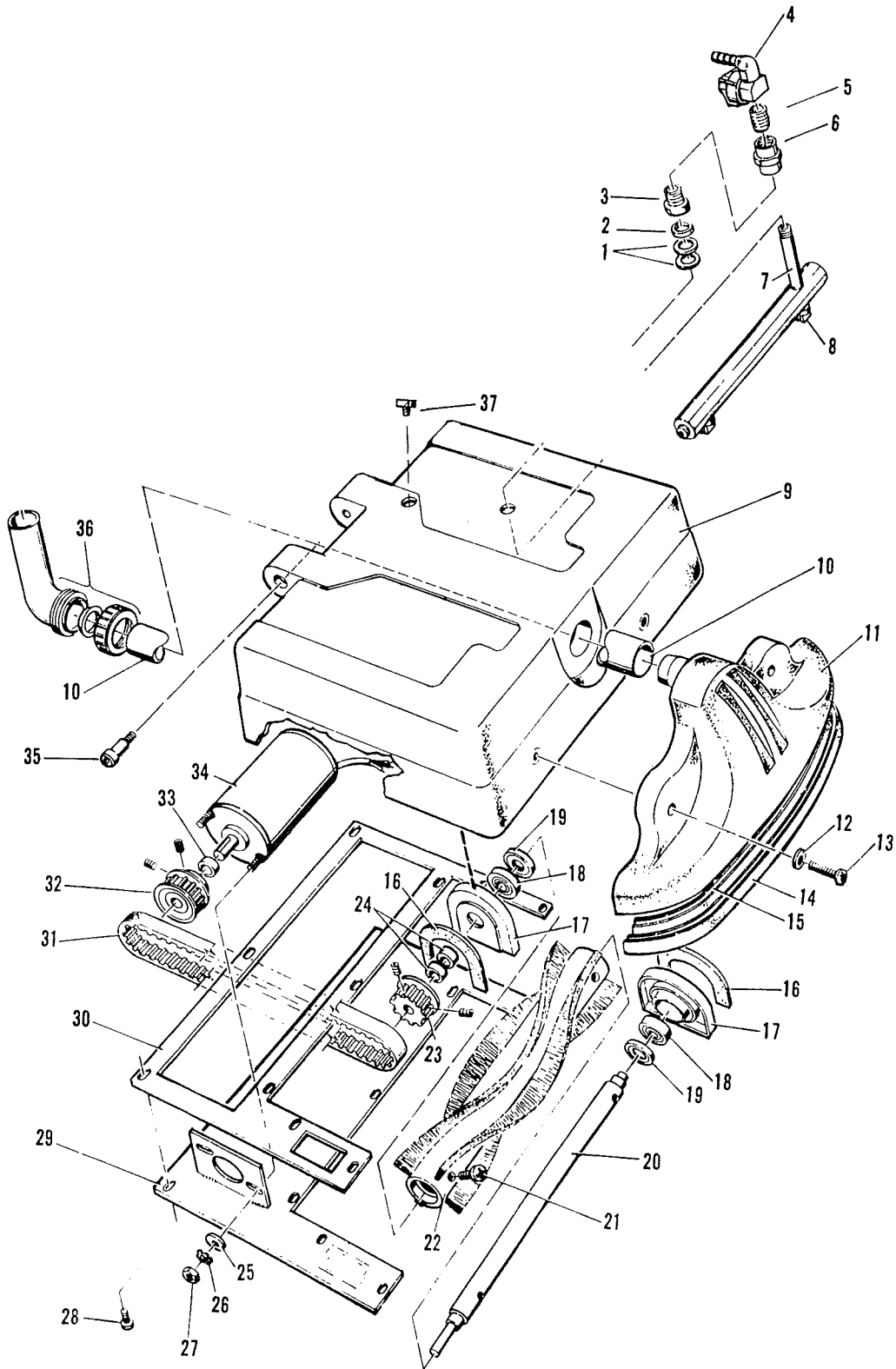
Item #	Part No.	Description	Qty.
1	30515A	Bucket, Recovery	1
2	64430A	Handle, Recovery	2
3	73380A	Label, Warning	1
4	34256A	Gasket, Dome	1
5	32513A	Dome, Recovery	1
6	73381A	Label, Vac Hose	1
7	30406A	Hose, Recovery	1
8	35174A	Hose, Vac Motor	1
9	32512A	Deflector, Splash (230V)	1
10	38008A	Screen	1
11	58514A	Spacer, .266 I.D. Nylon	4
12	85307A	Screw 10-32 x 5/8	4

Clarke®
Ext-441 PB Solution Tank Assembly Drawing & Parts List
Form #19125A 4/93



Item #	Part No.	Description	Qty.
1	38930A	Tank Solution	1
2	980205	Washer, Float	2
3	58612A	Spring, Compression	2
4	80007A	Bolt, Elv. Flat Head 1/4-20	2
5	35172A	Hose, 3/8 I.D. x 4 1/2"	1
6	53607A	Elbow 1/4 NPT x 3/8 Hose	1
7	722021	Clamp, Hose	2
8	53622A	Elbow, Shut Off	1
9	170915	Screw 1/4-20 x 3/4 H.C. S.S.	4
10	170892	Washer, Lock 1/4 S.S.	4
11	58035A	Screw, Solution	1

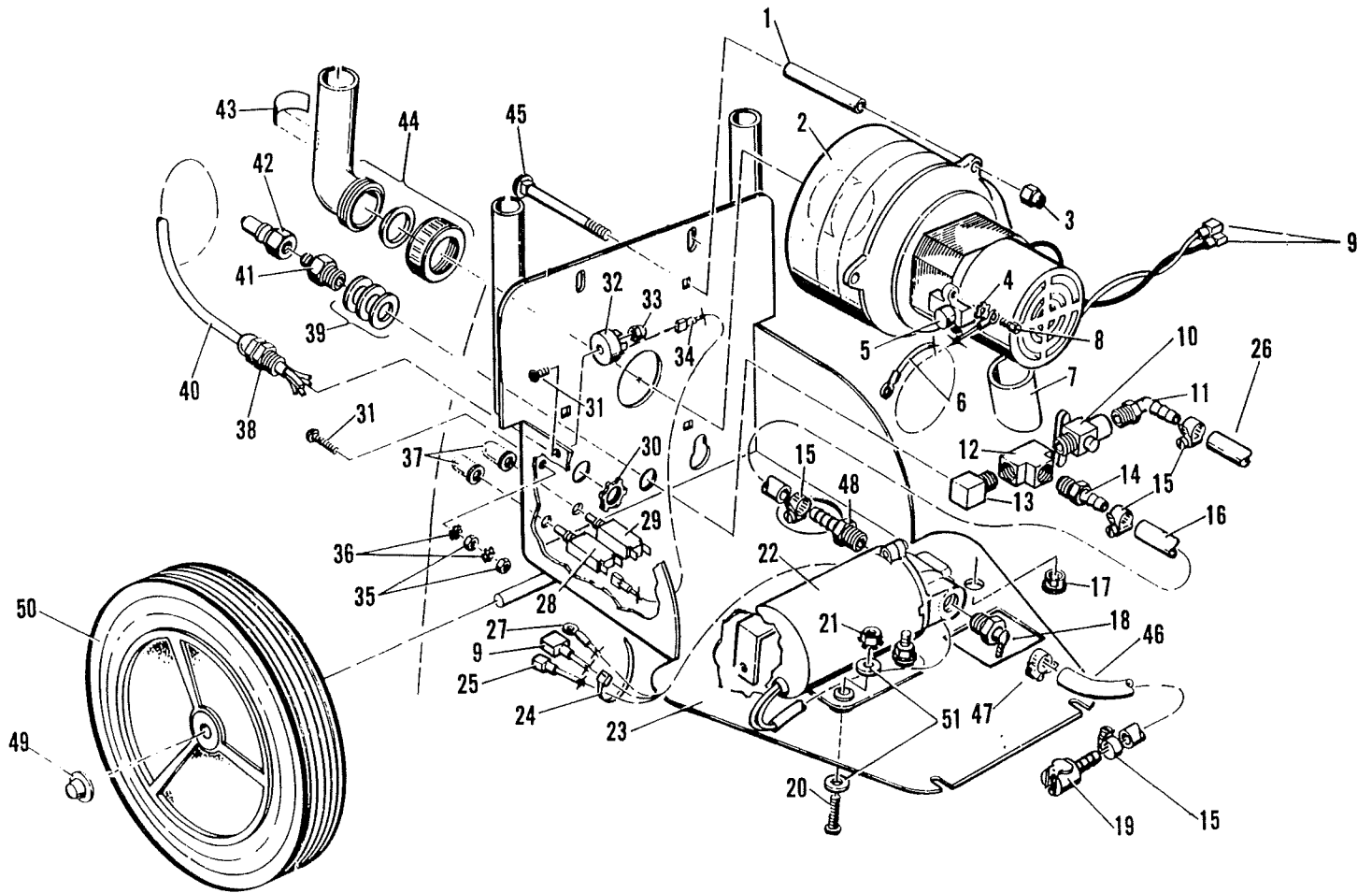
Clarke®
Ext-441 PB Brush Housing Assembly Drawing 4/93
Form #11413A (115V)
Form #11414A (230V)



Clarke®
Ext-441 PB Brush Housing Assembly Parts List 4/93
Form #11413A (115V)
Form #11414A (230V)

Item #	Part No.	Description	Qty.
1	980361	Washer, Thrust	2
2	56458A	Spacer, Manifold	1
3	170005	Bushing-Brass 1/4" x 1/8"	1
4	59727B	Valve, Check	1
5	170086	Nipple, 1/4" Close	1
6	170023	Coupling 1/4"	1
7	65926B	Manifold Asm.	1
8	56253A	Nozzle (included w/Item #7)	2
9	35224A	Housing, Brush	1
10	39315A	Tube, Extractor Tool	1
11	19216A	Tool, Extractor	1
12	87019A	Washer, Flat 5/16	2
13	85384A	Screw 1/4-20 x 1 1/2	2
14	38505A	Shoe Extractor	1
15	38506A	Shoe, Extractor	1
16	34244A	Gasket, Bearing Support	2
17	38007A	Support, Bearing	2
18	902648	Bearing	2
19	58121A	Seal	2
20	67433B	Shaft, Brush	1
21	85600A	Screw, 1/4-20 x 3/4	4
22	30514A	Brush, Chevron	1
23	57230B	Pulley, Motor 1/5 Pitch 24 T.	1
24	58512A	Spacer, Brush Pulley	2
25	980643	Washer, 7/16"	2
26	980603	Washer, Shakeproof #1110	2
27	920224	Nut, 10-32 Hex	2
28	962929	Screw 10-32 x 3/8 S.S.	10
29	67525B	Shield, Weldment S.S.	1
30	34255A	Gasket, Shield	1
31	50909A	Belt, Timing	1
32	57228A	Pulley, Motor	1
33	58517A	Spacer, Motor	1
34	45024A	Motor, Brush (230V)	1
	45022A	Motor, Brush (115V)	1
35	86106A	Screw, Shoulder 3/8 x 1 3/4	2
36	53621A	Elbow, 90° PVC	1
37	627580	Strain Relief	1

Clarke®
Ext-441 PB Chassis Assembly Drawing 4/93
Form #12405A (115V)

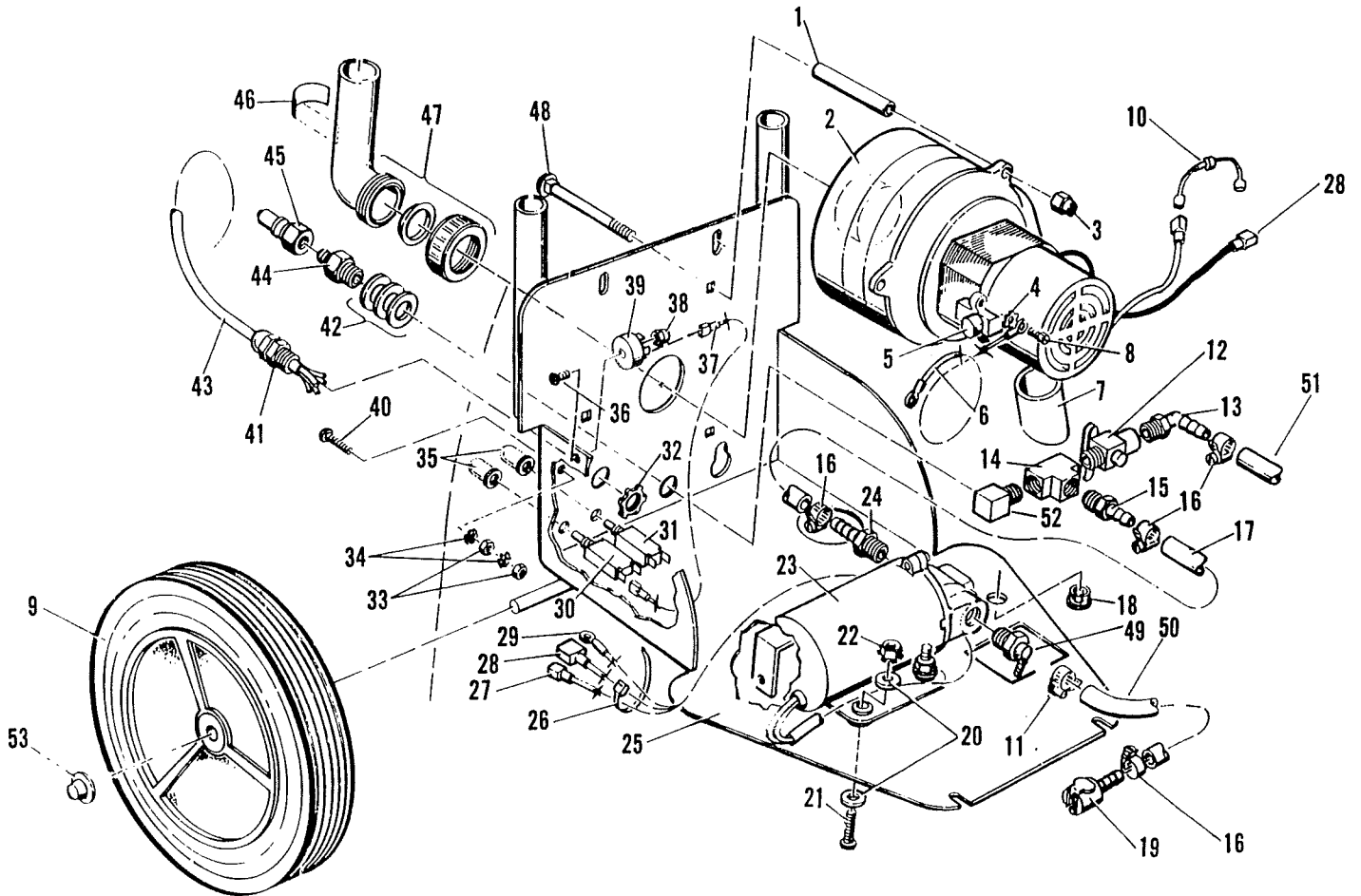


Clarke®
Ext-441 PB Chassis Assembly Parts List 4/93
Form #12405A (115V)

Item #	Part No.	Description	Qty.
1	58515A	Spacer, .266 ID x 3.0 Lg	3
2	44913A	Motor, Vac	1
3	920349	Nut ¼-20 ESNA	3
4	980603	Washer, Star Lock	1
5	40812A	Brush, Carbon	2
6	48902A	Wire, Ground	1
7	30118A	Adapter, Tube Exhaust Vac	1
8	962546	Screw 10-24, Type 23	1
9	47905A	Terminal, Male Q.D.	3
10	59728A	Valve, Solution	1
11	53607A	Elbow, Plastic	1
12	170066	Tee ¼ NPT Brass	1
13	170040	Elbow Street ¼" x 90	1
14	53619A	Adapter, ¼ NPT x ¾ Barb	1
15	722030	Clamp, Hose	4
16	35176A	Hose ¾ ID x 7½" Lg.	1
17	611101	Bushing, Wire	1
18	53616A	Elbow	1
19	50328A	Adapter, Shut-off Q.D.	1
20	962477	Screw, 10-24 X 1½"	4
21	81901A	Nut, Keps 10-24	4
22	45909B	Pump, 115V 60 PSI	1
23	68402A	Weldment, Undercarriage	1
24	899254	Tie, Nylon	2
25	47701A	Terminal, Female Q.D.	1
26	35147A	Hose, ¾ ID x 14" Lg	1
27	911933	Terminal, Clip #10	1
28	41427A	Breaker, Circuit 2.5A	1

Item #	Part No.	Description	Qty.
29	41435A	Breaker, Circuit 1.25A	1
30	170686	Locknut ½ Conduit	1
31	962980	Screw 6-32 x 1	2
32	46103A	Rectifier	1
33	920056	Nut 6-32 Elastic	1
34	49044A	Wire, Red	1
35	920112	Nut 6-32	2
36	980607	Washer, Star Lock	2
37	58124A	Seal, Reset Button	2
38	56459A	Relief, Strain	1
39	980410	Washer, Flat S.S.	3
40	49665A	Harness Control	Ref
41	697501	Reducer, ¼ NPT to ⅛ NPT	1
42	737140	Quick Disconnect	1
43	73381A	Label, Vac Hose	1
44	53621A	Elbow, PVC 90°	1
45	80008A	Bolt ¼-20 x 4", Carriage	3
46	35172A	Hose ¾ ID x 4½"	1
47	722021	Clamp	1
48	53618A	Adapter, ¾ x ¾ NPT Plastic	1
49	920346	Pinut, Type W	2
50	59923A	Wheel 10" x 1¾"	2
51	980424	Washers	4
NI	73382A	Label, Optional Floor Tool	1
NI	73383A	Label, Normal Operator	1
NI	34257A	Gasket, Chassis EXT441	1
NI	980643	Washer 7/16 OD x .036 Thick	4

Clarke®
Ext-441 PB Chassis Assembly Drawing 4/93
Form #12406A (230V)

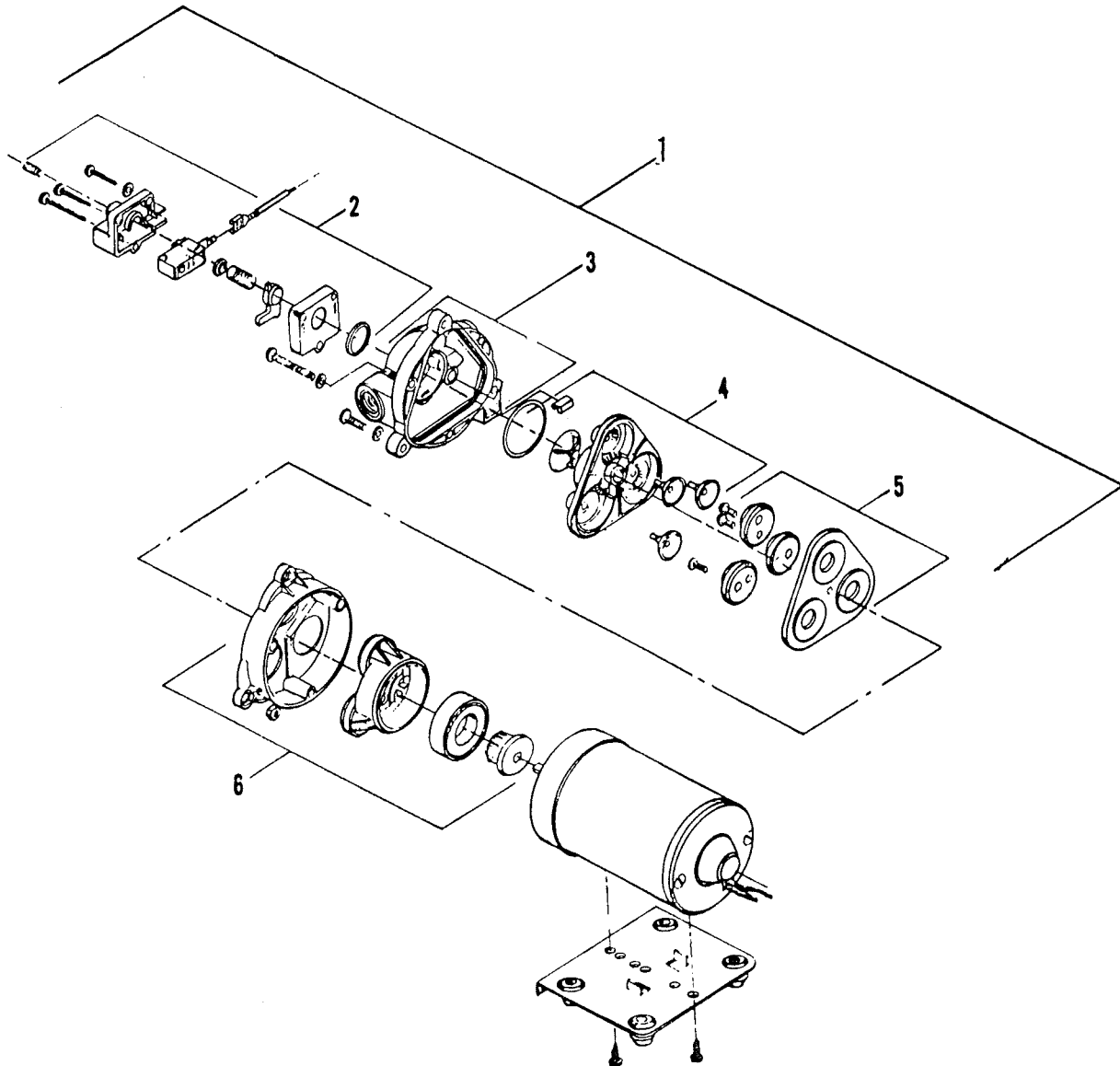


Clarke®
Ext-441 PB Chassis Assembly Parts List 4/93
Form #12406A (230V)

Item #	Part No.	Description	Qty.
1	58515A	Spacer, .266 ID x 3.0 Lg	3
2	44915A	Motor, Vac	1
3	920349	Nut ¼-20 ESNA	3
4	980603	Washer, Star Lock	2
5	40812A	Brush, Carbon	2
6	957002	Wire Asm. Mtr. to Mtr.	1
7	30118A	Adapter, Tube Exhaust Vac.	1
8	962546	Screw 10-24 Type 23	1
9	59923A	Wheel 10" x 1¾"	2
10	43004A	Fuse, Holder	1
11	722021	Clamp	1
12	59728A	Valve, Solution	1
13	53607A	Elbow, Plastic	1
14	170066	Tee ¼ NPT Brass	1
15	53619A	Adapter ¼ NPT x ¾ Brass	1
16	722030	Clamp, Hose	4
17	35176A	Hose ¾ ID x 7½" Lg.	1
18	611101	Bushing, Wire	1
19	50328A	Adapter, Switch, Q.D.	1
20	980424	Washers	4
21	962477	Screw, 10-24 X 1½"	4
22	81901A	Nut, Keps 10-24	4
23	45915A	Pump, 230V 60 PSI	1
24	53618A	Adapter, ¾ x ¾ NPT Plastic	1
25	68402A	Weldment, Undercarriage	1
26	899254	Tie, Nylon	2
27	47701A	Terminal, Female Q.D.	1
28	47905A	Terminal, Male Q.D.	3
29	911933	Terminal, Clip #10	1
30	41429A	Breaker, Circuit 1.5 Amp	1

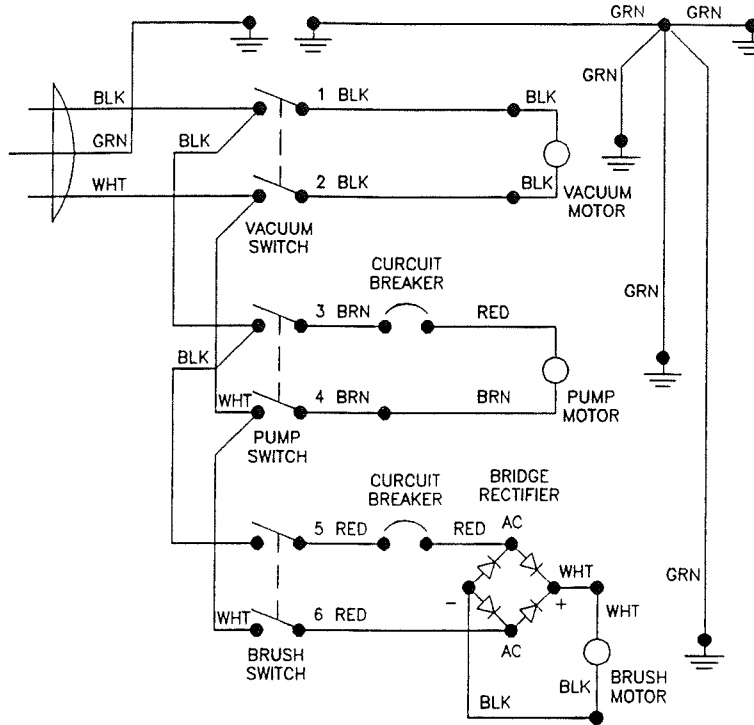
Item #	Part No.	Description	Qty.
31	41436A	Breaker, Circuit 1.0 Amp	1
32	170686	Locknut, ½" Conduit	1
33	920112	Nut 6-32	2
34	980607	Washer, Star Lock	2
35	58124A	Seal, Reset Button	2
36	85373A	Screw #4 40 x ½"	1
37	49044A	Wire, Red	1
38	920056	Nut 6-32 elastic	1
39	46103A	Rectifier	1
40	962980	Screw 6-32 x 1"	2
41	56459A	Relief, Strain	1
42	980410	Washer, Flat S.S.	3
43	49653A	Harness, Control	Ref
44	697501	Reducer, ¼ NPT to ⅛ NPT	1
45	737140	Quick Disconnect	1
46	73381A	Label, Vac Hose	1
47	53641A	Elbow, PVC 90°	1
48	80008A	Bolt ¼-20 x 4", Carriage	3
49	53616A	Elbow	1
50	35172A	Hose ⅛ ID x 4½"	1
51	35147A	Hose, ¾ ID x 14" Lg	1
52	170040	Elbow Street ¼" x 90	1
53	920346	Palnut, Type W	2
NI	73382A	Label, Optional Floor Tool	1
NI	73383A	Label, Normal Operator	1
NI	34257A	Gasket, Chassis EXT441	1
NI	980643	Washer 7/16 OD x .036 Thick	4
NI	35178A	Hose, Air ½ ID x 3½ Lg	1
NI	962477	Screw, 10-24 x 1½"	4
NI	962968	Screw, 10-24 x ½"	1
NI	962980	Screw, 6-32 x 1"	1
NI	42909A	Fuse 5A	1

Clarke®
Pump Drawing and Parts List 8/91
115 V and 230 V

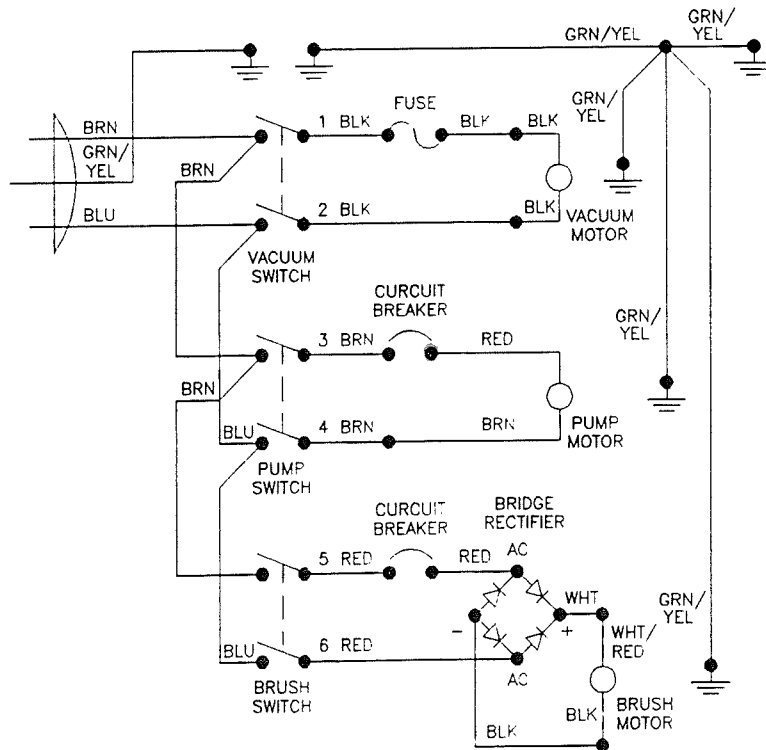


Item#	Part No.	Description	Qty.
x	45909A	Complete Pump - 115V	1
x	45915A	Complete Pump - 230V	1
1	54839A	Complete Pumphead 115V	1
	50409A	Complete Pumphead 230V	1
2	56426A	Switch Assembly 115V & 230V	1
3	54715A	Upper Housing Female NPT	1
	54714A	Upper Housing - Nylon	1
4	59729A	Valve Assembly - EPDM 115V & 230V	1
5	53201A	Diaphragm Kit - Santoprene 115V & 230V	1
6	54717A	Lower Housing - Drive Asm. 3.0 115V	1
	53113A	Lower Housing - Eccentric 2.0 230V	1

Clarke®
Ext-441 PB Wiring Schematic - 115 V 8/91



Clarke®
Ext-441 PB Wiring Schematic - 230 V 8/91



CLARKE PRODUCT SUPPORT BRANCHES

For parts or service, contact a Clarke Authorized Service Center or a Clarke Emergency Parts Depot.

COLORADO - Denver 80211
4640 Lipan
(303) 455-2413

ILLINOIS - Elk Grove Village (Chicago) 60007
2280 Elmhurst Road
(708) 956-7900

TEXAS - Houston 77040
7215 North Gessner Road
(713) 937-7717

CANADA - Rexdale (Toronto, Ontario)
24 Constellation Ct.
(416) 675-5830

NEW JERSEY - Rutherford 07070
71 Union Ave.
(201) 460-4774

GEORGIA - Marietta (Atlanta) 30067
American Business Center
1395 Marietta Parkway, Bldg. 200, Suite 203
(404) 427-1351/52



CLARKE - World Headquarters
St. Louis, Missouri

CLARKE - Customer Service Headquarters and Factory
2100 Highway 265
Springdale, Arkansas 72764
(501) 750-1000

Key:

- ▲ Customer Service Headquarters and Factory
- ★ World Headquarters
- Emergency Parts Depots
- Regional Office and Training Centers

CLARKE® WARRANTY

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

This warranty is extended only to the original purchaser for use of the product. It does not cover normal wear parts such as electrical cable, rubber parts, hoses and motor brushes.

If a difficulty develops with the product, you should:

(a). Contact the nearest authorized Clarke repair location or contact the Clarke Service Operations Department, 2100 Highway 265, Springdale, Arkansas 72764, for the nearest authorized Clarke repair location. Only these locations are authorized to make repairs to the product under this warranty.

(b). Return the product to the nearest Clarke repair location. Transportation charges to and from the repair location must be prepaid by the purchaser.

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

Clarke's liability under this warranty is limited to repair of the product and/or replacement of parts and is given to purchaser in lieu of all other remedies, including INCIDENTAL AND CONSEQUENTIAL DAMAGES.

THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE SPECIFIED HEREIN. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. NO WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY, SHALL BE IMPLIED. A warranty registration card is provided with your Clarke product. Return the card to assist Clarke in providing the performance you expect from your new floor machine.

CLARKE, 2100 Highway 265, Springdale, Arkansas 72764.

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



Always use genuine Clarke Parts for repair.

Clarke®

2100 Highway 265
Springdale, Arkansas, 72764