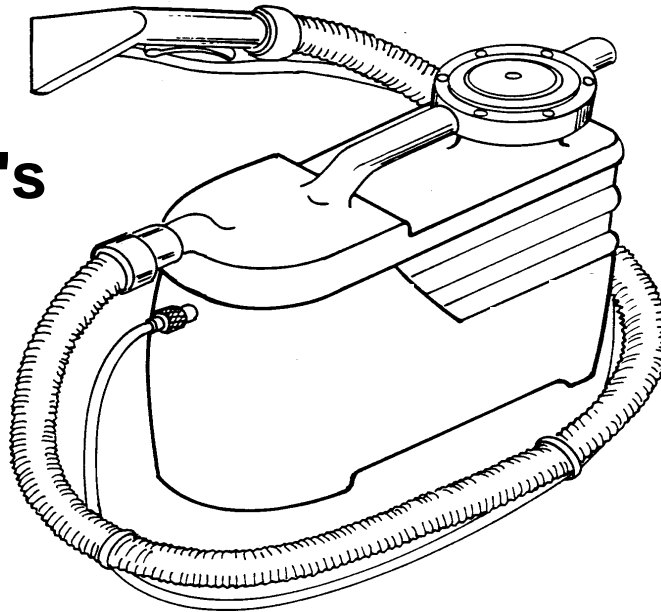


ALTO[®]

CLARKE
TECHNOLOGY

**Operator's
Manual**



**Image
Mini Spot**

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 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 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 US Inc., 2100 Highway 265, Springdale, Arkansas 72764.

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SPECIFICATIONS




Part Number	04133A	04134A
Solution Pump	55 PSI	55PSI
Power Cable	15' 14/3-wire	15' 14/3-wire
Solution Tank	2 gallons	2 gallons
Recovery Tank	2 gallons	2 gallons
Hose Length	8 Feet	8 Feet
Waterlift	62"	62"
Vacuum	Peripheral Discharge 1.25 HP, 2 Stage	Peripheral Discharge 1.25 HP, 2 Stage
Electrical	120 Volt 50/60 Hz	230 Volt 50/60 Hz
Dimensions	17"H x 19"W x 8"D	17"H x 19"W x 8"D
Weight	22 lbs.	22 lbs.
Shipping Weight	24 lbs.	24 lbs.


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.

 **WARNING:** To reduce the risk of fire, electric shock or injury:

1. Do not leave appliance unattended when plugged in. Unplug from outlet when not in use and before servicing.
2. To reduce the risk of electric shock use indoors only.
3. Do not allow to be used as a toy. Close attention is necessary when using by or near children.
4. Use only as described in the manual. Use only manufacturer's recommended attachments.
5. Do not use with damaged cord or plug. If appliance is not working as it should, has been dropped, damaged, left outdoors, or dropped in water, return it to a service center.
6. Do not pull or carry by cord, use cord as a handle, close a door on cord, or pull cord around sharp edges or corners. Do not run appliance over cord. Keep cord away from heated surfaces.
7. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
8. Do not handle plug or appliance with wet hands.
9. Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair and anything that may reduce air flow.
10. Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.
11. Do not pick up anything that is burning or smoking, such as cigarettes, matches or hot ashes.
12. Do not use without filters in place.
13. Turn off all controls before operating.
14. Use extra care when cleaning on stairs.
15. Do not use to pick up flammable or combustible liquids such a gasoline or use in areas where they may be present.
16. Connect to properly grounded outlet. See "Grounding Instructions".

 **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:** Do not operate this unit in standing water. This may result in electrical shock which could cause severe personal injury or fatality.
- ⚠ WARNING:** Operating this unit without it completely assembled could result in injury. Do not operate this unit unless it is completely assembled.
- ⚠ WARNING:** Do not touch electrical wires or components while this unit is running or connected to electrical outlet. They can be sources of electrical shock.
- ⚠ WARNING:** Do not expose this unit to freezing weather. If freezing occurs, thaw completely. Always protect your portable cleaning unit from freezing. Freezing will void the warranty.
- ⚠ WARNING:** Use standard cleaning chemicals with this equipment. NEVER use solvents.
- ⚠ WARNING:** DO NOT use this unit as a dry vacuum. This unit is not equipped with a dust filtration system. The dust may damage the vacuum motor(s).
- ⚠ WARNING:** DO NOT attempt repairs. Unauthorized or improper maintenance will void the warranty. Repairs should only be done by an authorized service center.
- ⚠ WARNING:** Always use defoamer if foaming occurs. Foam will suspend large particles which may damage vacuum(s), as well as allow liquid into the vacuum motor(s) without activating the float shutoff.

Grounding Instructions 120V Machines

Follow the instructions below 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.

- ⚠ WARNING:** DO NOT remove the ground prong from your power cord. This could result in serious injury or fatality.

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 1. Make sure that the product is connected to an outlet having the same configuration as the plug. No adapter should be used with this product.

- ⚠ WARNING:** DO NOT use an extension cord with this unit.

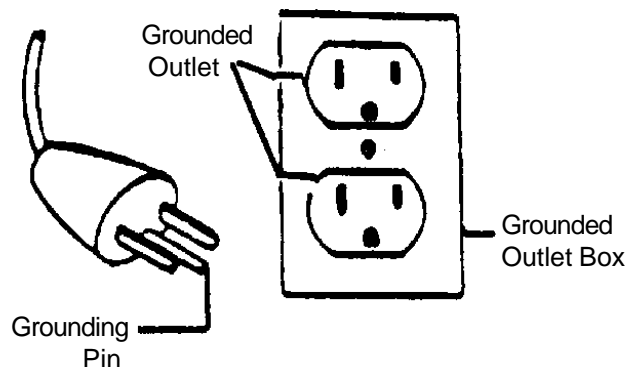


Figure1

Grounding Instructions 230V Machines

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 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 1. 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 1.5mm².

WARNING: If you use an extension cord, use an extension cord with 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 to get an authorized person to make the connection.

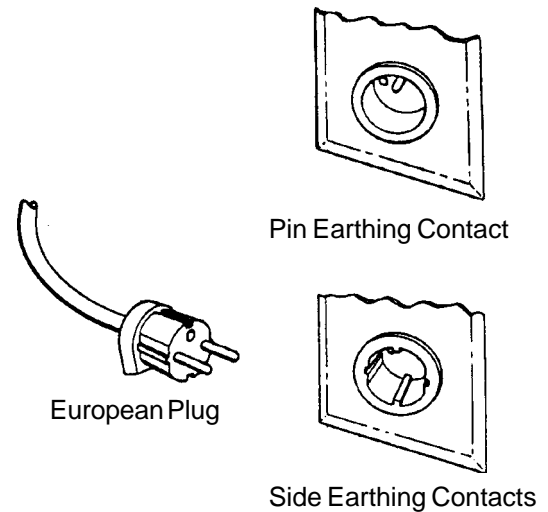


Figure 2

How To Prepare the Machine For Operation

Before using this machine check the following:

1. Check all fittings and connectors for proper assembly.
2. Check all hoses for leaks. Repair or replace any damaged hoses.
3. Check power cord for any damage. If damaged, replace.

Filling the machine:

1. Fill the solution tank with clean hot or cold water.

⚠ WARNING: Do not use water that is hotter than 140°

2. Use only brand name cleaner and mix the cleaner per package instructions

Water Pump

Turn the pump switch ON. This pump is a by pass pump and operates continuously.

Hose Connection (see figure 2)

This unit is equipped with a 1/8" male quick connect for solution hose attachment. The vacuum hose hookup is for 1" I.D. vacuum hose. Attach your vacuum and high pressure hoses to the tool and the unit.

Vacuum (see figure 2)

1. Be sure deck plate is on vacuum tank.
2. Make sure the latch connecting the vacuum tank and the solution tank is secure.
3. Turn switch ON.

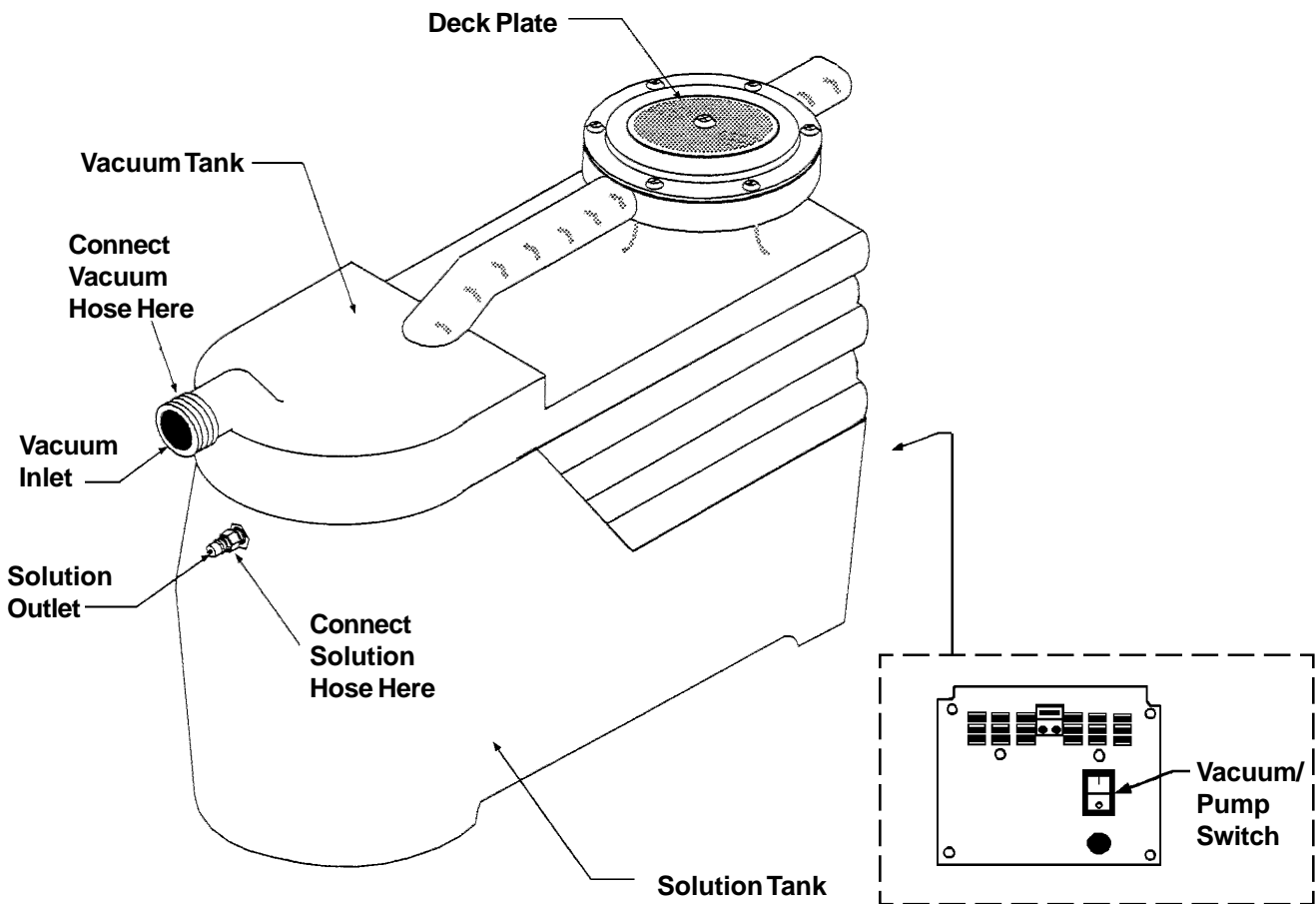


Figure 2

Operating the Machine

Observe the following guidelines, while cleaning:

⚠ WARNING: Always use defoamer if foaming occurs. Foam will suspend large particles which may damage vacuum(s), as well as allow liquid into the vacuum motor(s) without activating the float shutoff

1. Before proceeding, make certain that the nozzle is functioning properly.
 - a. To check, hold the hand tool about one foot above the surface to be cleaned and open the hand tool valve. A full spray should be observed from the cleaning nozzle.
 - b. If the nozzle is not showing a full spray pattern, adjust nozzle for proper pattern, clean, or replace nozzle.
2. Normally, chemical is applied on the push stroke of the hand tool when cleaning. Vacuuming is done on the pull stroke. For heavily soiled carpets the hand tool may be used in a scrubbing manner, applying chemical in both push and pull strokes. Always finish up an area with a vacuum pull stroke.
3. When cleaning, keep the working opening (hand tool mouth) flat on the surface being cleaned. Keep the hand tool moving when the valve is open.
4. The shutoff float inside the vacuum tank will impede the vacuum flow when the vacuum tank is full. When this occurs, empty the vacuum tank by removing the deck plate from the vacuum tank (fig. 2, pg.3) and pouring the contents into a five gallon pail or toilet. Dispose of the waste in a proper manner. Once the vacuum tank has been emptied, you may proceed with cleaning.

⚠ WARNING: Improper discharge of waste 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 the 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.

Shut Down and Daily Maintenance

Shut Down Procedures

For shut down and daily maintenance, follow these procedures:

1. Turn "OFF" pump and vacuum switch.
2. Unplug power cord from outlet
3. Disconnect hand tool.
4. Open deck plate. Pour contents into a five gallon pail or toilet.

NOTE: We recommend removing as much moisture from your vacuum hose as is possible. This will prevent spillage of solution.

5. Unhook the cleaning tool, solution hose, and vacuum hose.
6. Empty the vacuum tank by removing the deck plate from the vacuum tank and pouring the contents into a five gallon pail or toilet. Dispose of the waste in a proper manner.
7. Remove any debris or sediment which may have accumulated inside the vacuum tank.
8. Place the deck plate back on the vacuum tank.

Daily Maintenance Procedures

If properly maintained, this unit will have a long and trouble-free life. We recommend that you make these maintenance procedures a part of your daily work schedule.

⚠ CAUTION: Unplug power cord before servicing or making any repairs.

1. Inspect the power cord daily for any sign of damage. If damaged, replace the cord.
2. Inspect the solution hose daily for any damage. If the hose shows any signs of damage or impending rupture, replace the hose.

⚠ CAUTION: DO NOT attempt to repair hoses. Repairing high pressure hoses may result in severe burns and serious injury.

3. Inspect the vacuum hose daily for any damage, breaks, or tears. Repair or replace the hose, if necessary.
4. Check spray tips daily. Clean spray tips, if plugged.
5. Monthly or as often as necessary, clean out any debris which may be in the vacuum tubing and hose.



Image Mini Spot

Section II

Parts and Service Manual

(79041B)

HOW TO CORRECT PROBLEMS IN THE MACHINE

⚠ WARNING: Maintenance and repairs must be done by authorized personnel only. Use only Clarke Technology parts. Maintenance performed by someone other than a Clarke Technology distributor or Clarke Technology replacement parts could void your warranty.

Electrical System

PROBLEM	CAUSE	ACTION
No electrical power.	<ol style="list-style-type: none"> 1. House or building circuit breaker tripped... 2. Defective power cord... 	<ol style="list-style-type: none"> 1. Reset circuit breaker. 2. Contact an authorized service person.
Switch is turned on. Power is intermittent to all motor(s).	<ol style="list-style-type: none"> 1. Faulty electrical cable... 2. Defective switches... 3. Loose terminal or discolored terminal connections... 	<ol style="list-style-type: none"> 1. Contact an authorized service person. 2. Replace Switch 3. Contact an authorized service person.

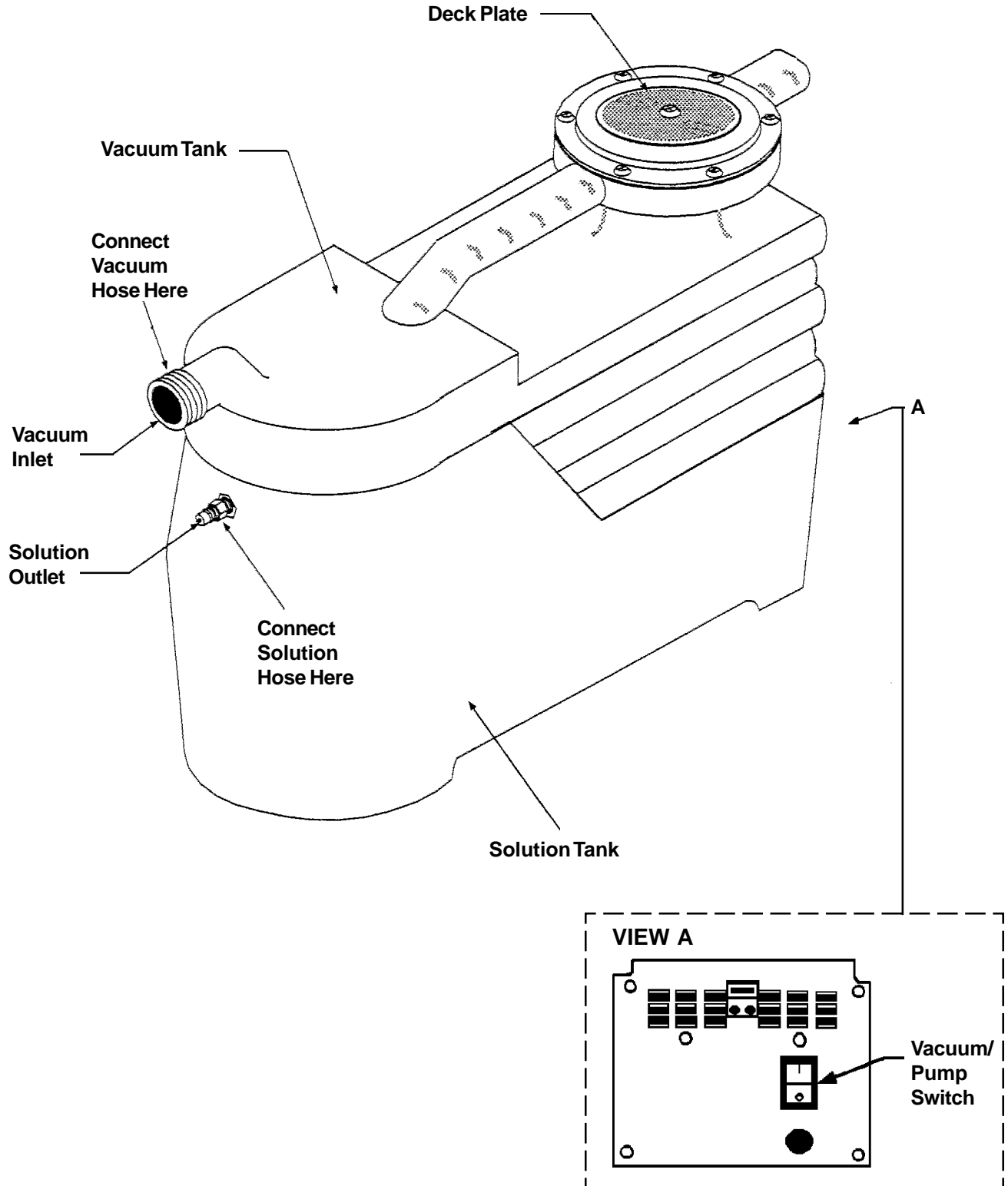
Vacuum System

PROBLEM	CAUSE	ACTION
No vacuum.	<ol style="list-style-type: none"> 1. Loose vacuum hose or loose vacuum connection... 	<ol style="list-style-type: none"> 1. Secure hose connections
Low vacuum.	<ol style="list-style-type: none"> 1. Defective vacuum hose... 2. Loose connection to the vacuum motor(s)... 	<ol style="list-style-type: none"> 1. Repair or replace hose. 2. Secure connections

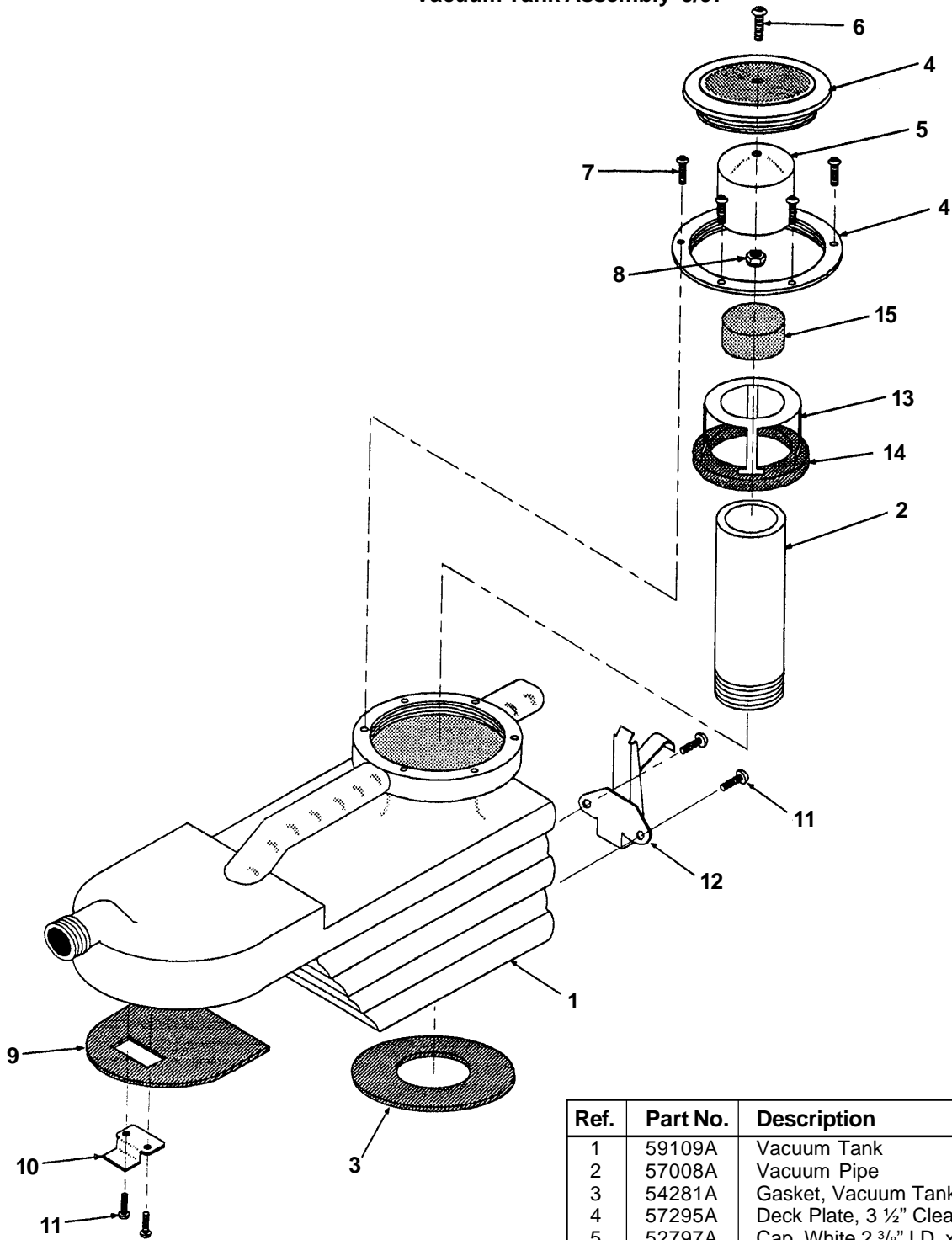
Solution System

PROBLEM	CAUSE	ACTION
Pump motor on, no spray thru accessory tool(s).	<ol style="list-style-type: none"> 1. Clogged spray tips. 2. Punctured pump diaphragm... 3. Defective pump check valve 4. Crack in pump housing. 	<ol style="list-style-type: none"> 1. Clean spray tips 2. Contact an authorized service person. 3. Contact an authorized service person. 4. Contact an authorized service person.
Uneven or weak spray from tips.	<ol style="list-style-type: none"> 1. Clogged or dirty spray tips... 2. Worn pump bearings (excessive noise)... 3. Punctured pump diaphragm... 4. Defective rectifier or motor... 	<ol style="list-style-type: none"> 1. Contact an authorized service person. 2. Contact an authorized service person. 3. Contact an authorized service person. 4. Contact an authorized service person.
Vacuum motor(s) working, pump motor fails to turn on.	<ol style="list-style-type: none"> 1. Loose plug connector. Loose wiring connection... 2. Defective pump motor or rectifier... 	<ol style="list-style-type: none"> 1. Check connections and tighten if necessary. 2. Contact an authorized service person.

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Instrumentation and Hose Connections
Exterior Detail

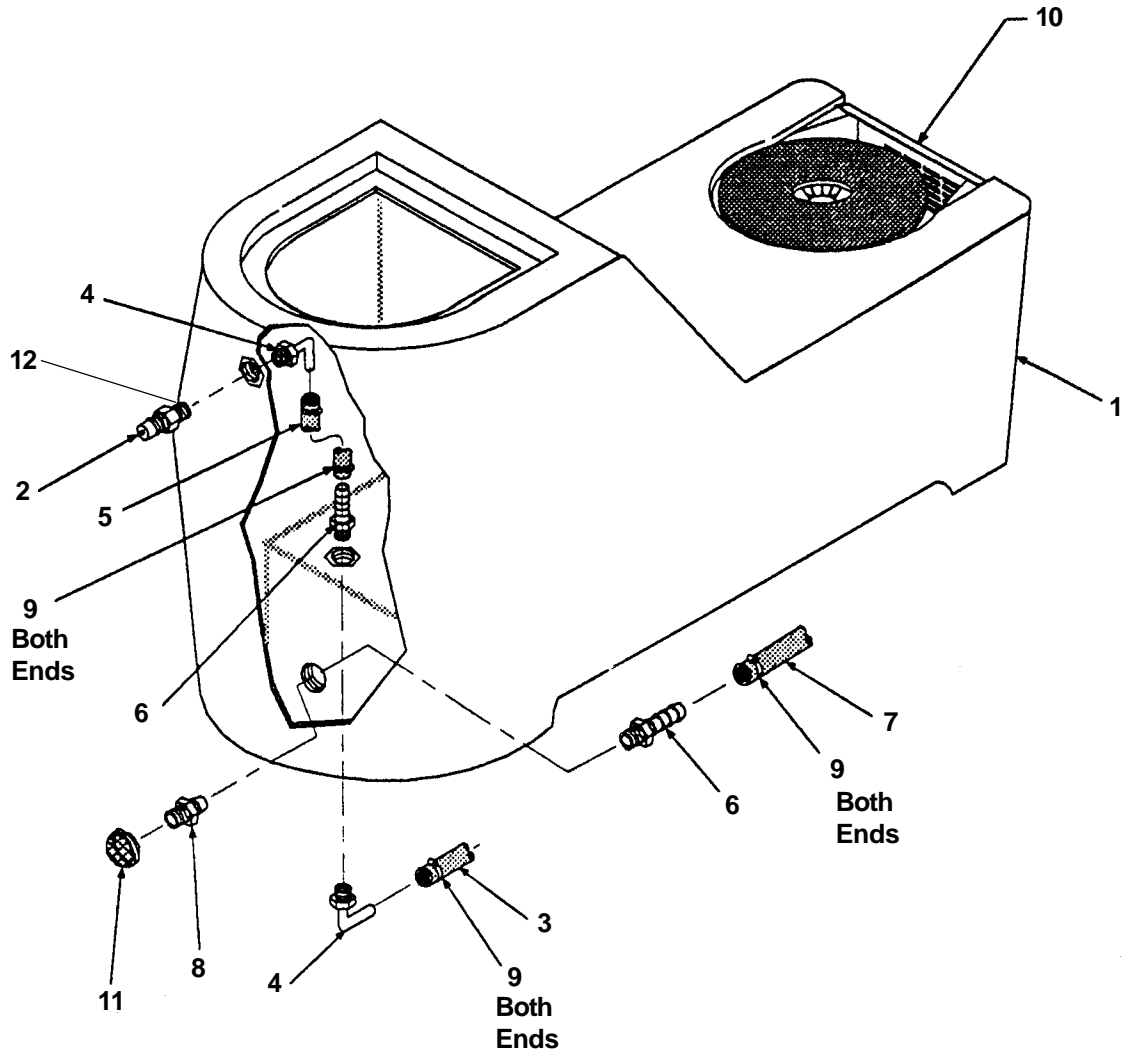


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Image Mini Spot
Vacuum Tank Assembly 9/97



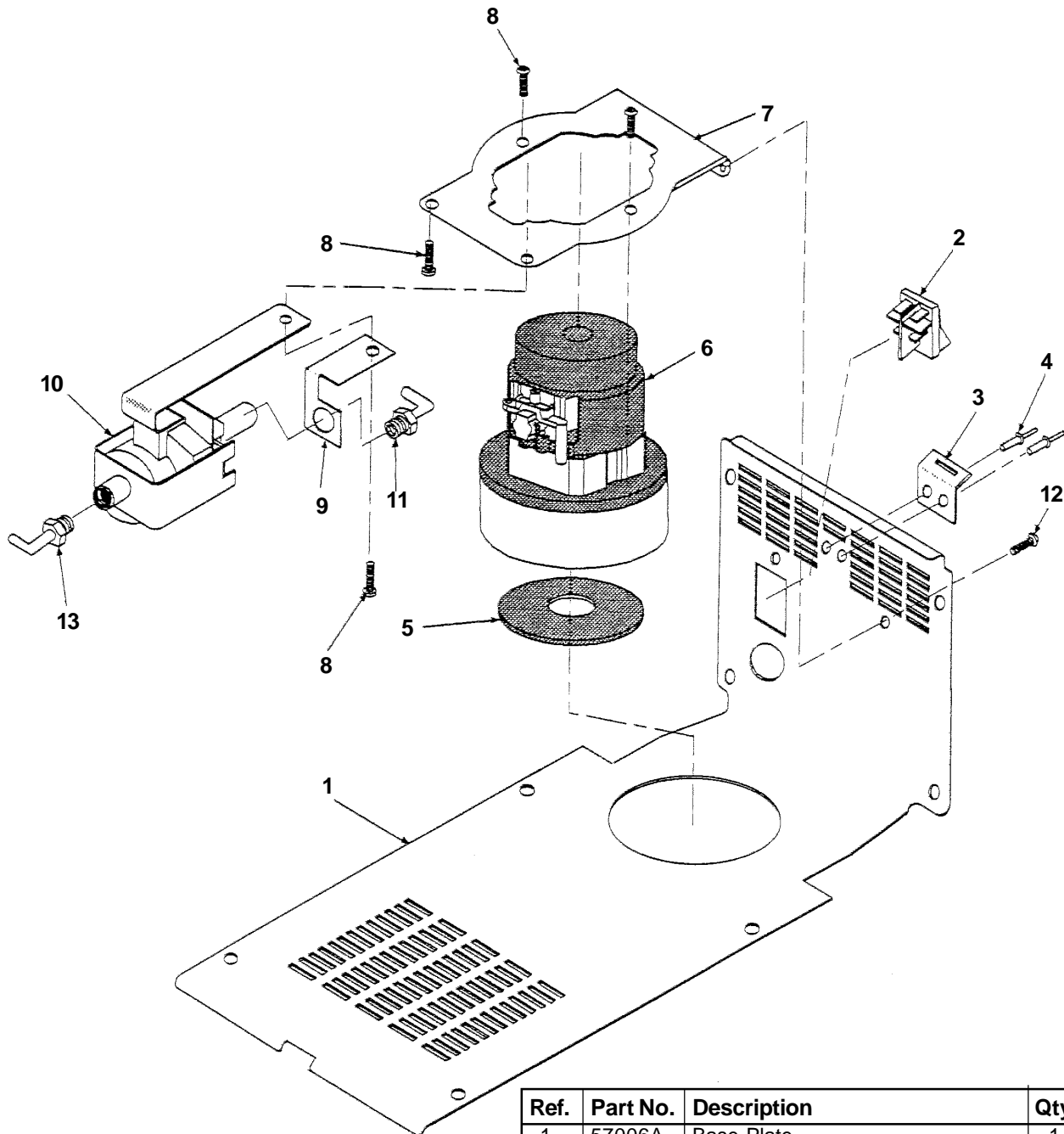
Ref.	Part No.	Description	Qty
1	59109A	Vacuum Tank	1
2	57008A	Vacuum Pipe	1
3	54281A	Gasket, Vacuum Tank	1
4	57295A	Deck Plate, 3 1/2" Clear ABS	1
5	52797A	Cap, White 2 3/8" I.D. x 1 1/2" D	1
6	962281	Screw, 8-32 X 1" SS	1
7	962957	Screw, SLFDR #8 x 1/2"	6
8	81109A	Nut, 8-32 SS	1
9	52796A	Gasket, Vac/Sol Tank	1
10	50356A	Bracket, Catch Hold Down	1
11	962350	Screw, 10-32 X 1/2" SS	4
12	55718A	Latch, Vacuum Tank	1
13	58070A	Float, Vacuum Tube Ring	1
14	57504A	Float, Washer	1
15	58071A	Screen, Filter	1

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Image Mini Spot
Solution Tank Assembly 9/97



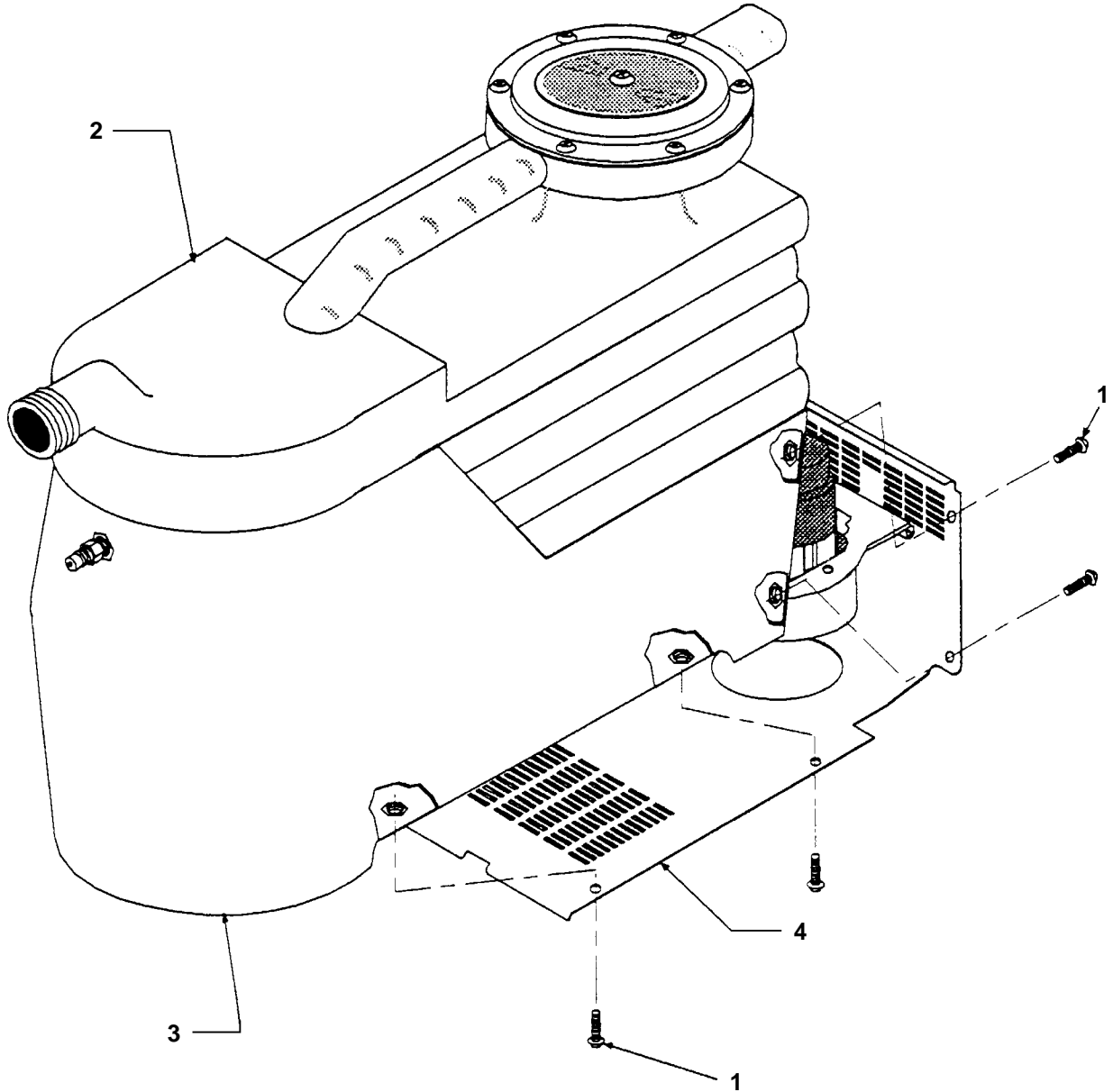
Ref.	Part No.	Description	Qty
1	59108A	Solution Tank Moulding	1
2	737140	Disconnect, 1/8" M x 1/8" FPBR	1
3	55172A	Hose, 1/4" x 7"	1
4	54054A	Elbow, 1/8" P x 1/4" H.B.	2
5	55168A	Hose, 1/4" x 6 1/2"	1
6	54053A	Barb, 1/8" P x 1/4" H.B.	2
7	55168A	Hose, 1/4" x 6 1/2"	1
8	55182A	Barb, 1/8" P x 1/4" H.B. (modified)	1
9	722021	Clamp, Hose #4	6
10	(see pg.10)	Base Plate Assembly	REF
11	58072A	Screen, 1/8" FP	1
12	725729	Nipple, 1/8" x CLBR	1

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Image Mini Spot
Base Plate Assembly 10/97



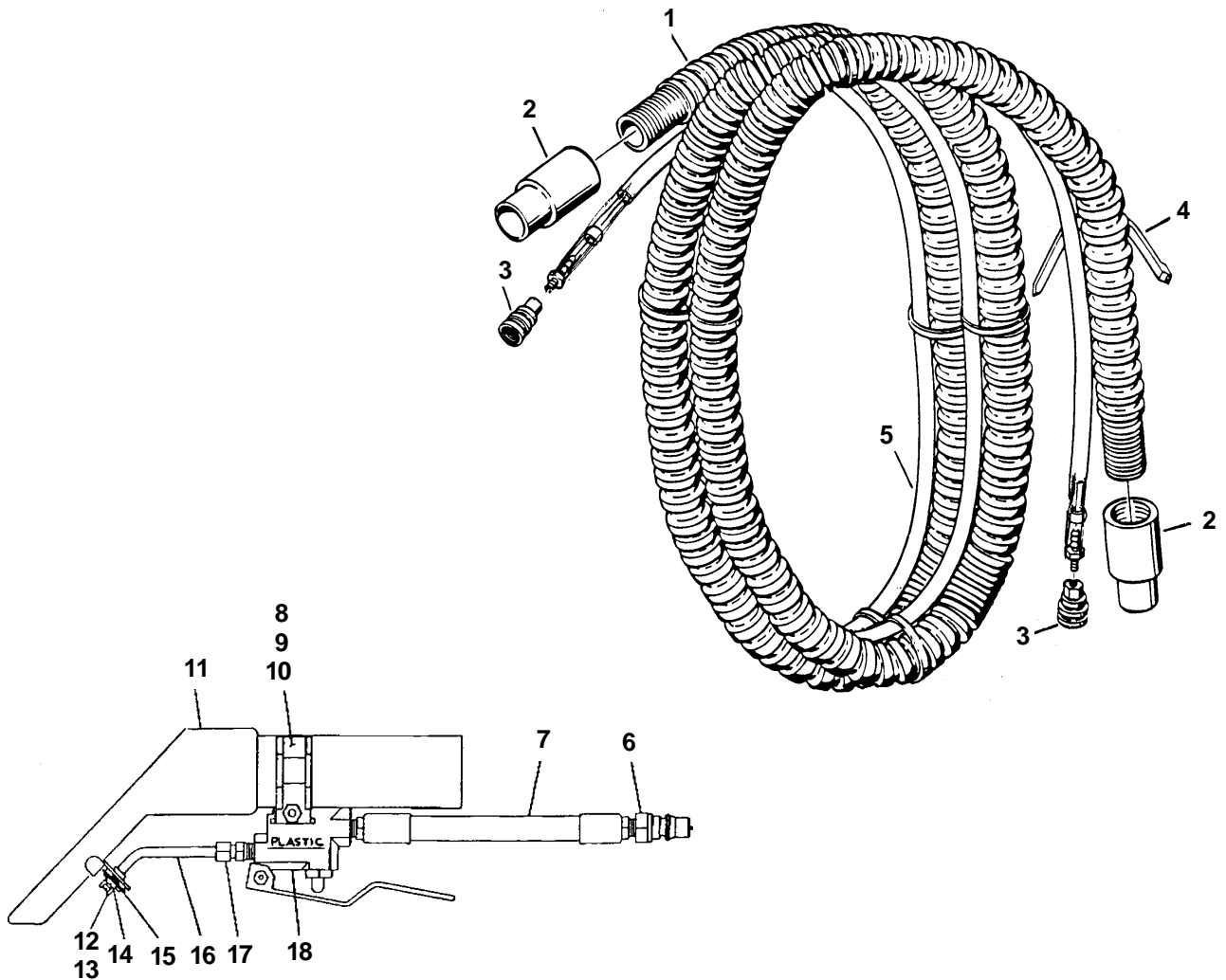
Ref.	Part No.	Description	Qty
1	57006A	Base Plate	1
2	53094A	Switch, Rocker (Illuminated)	1
3	55719A	Catch, Base Plate	1
4	83003A	Rivet	2
5	54281A	Gasket, Vacuum Motor	1
6	56072A	Vacuum Motor, 2 Stage 120V	1
	45204A	Vacuum Motor, 2 Stage 230V	1
7	57007A	Bracket, Vacuum Motor	1
8	84237A	Screw, 10-32 x 1/2" Allen head	4
9	50752A	Bracket, Pump	1
10	57009A	Pump 110/120V 60 Hz (Flojet)	1
	45948A	Pump 230V 60 HZ	1
11	54054A	Elbow, 90° Plastic	2
12	962350	Screw, Machine 10/32" x 1/2" SS PHIL HD	2
13	54054A	Elbow, 90° Plastic	2

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 Image Mini Spot
 Unit Assembly 9/97



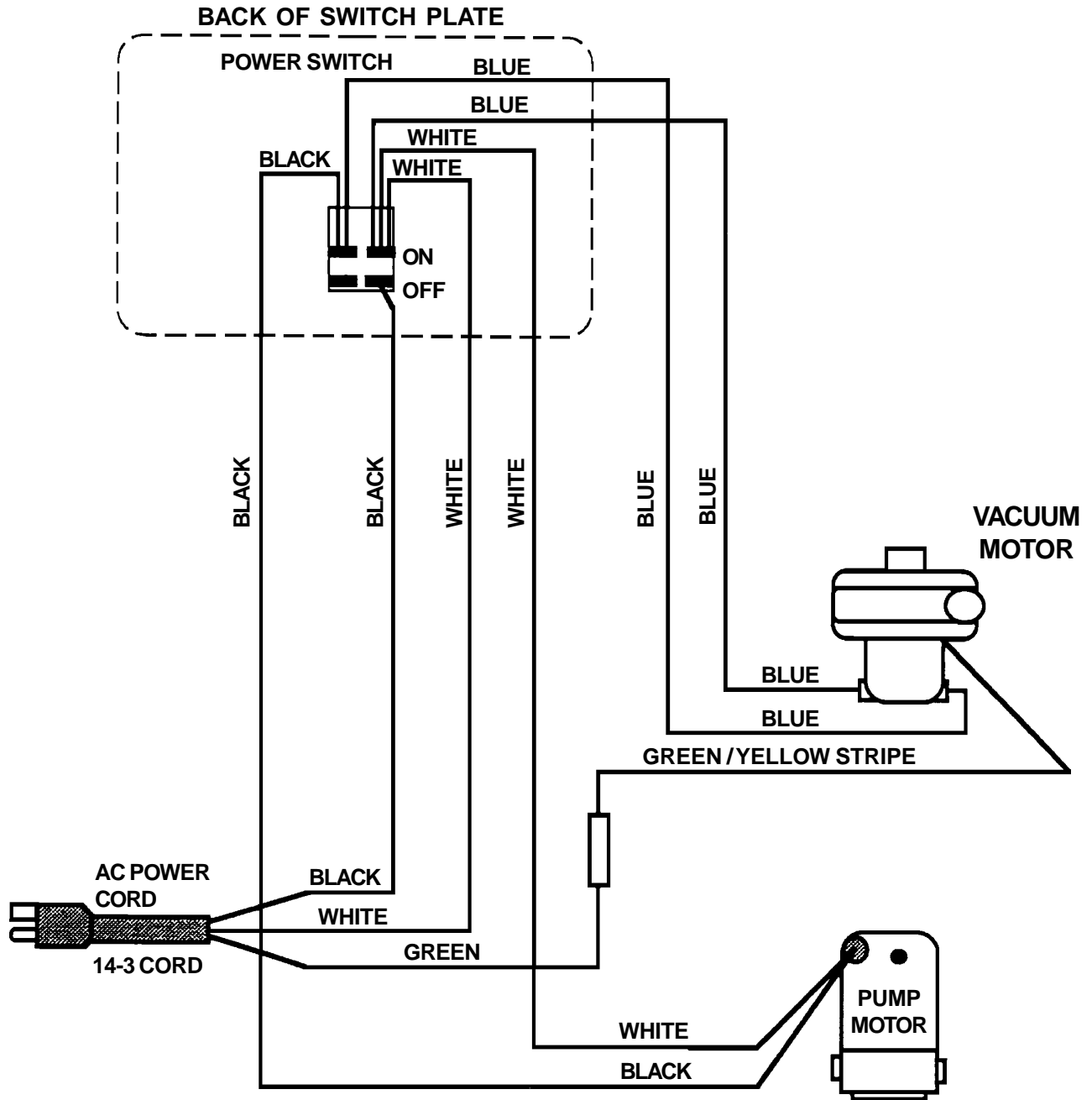
Ref.	Part No.	Description	Qty
1	84237A	Screw, 10-32 x 1/2" Philips	8
2	(see pg. 8)	Vacuum Tank Assembly	1
3	(see pg. 9)	Solution Tank Assembly	1
4	(see pg. 10)	Base Plate Assembly	1

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8' Hose Assembly Drawing and Parts List



Ref.	Part No.	Description	Qty
1	55171A	Hose, Vacuum 8'	1
2	55169A	Cuff, Vacuum Hose	2
3	737141	Quick Disconnect Female	2
4	54882A	Tie, Nylon Cable	4
5	55170A	Hose, Solution 8'	1
6	737140	1/8 FPT Male Quick Connector	1
7	55180A	Hose Assembly, Solution	1
8	920224	S.S. Hex Nut, 10-32	1
9	85611A	Screw, S.S. Pan Hd. 10-32x 1 1/4"	1
10	55181A	Valve hanger, 1 1/2"	2
11	55179A	Head and Tube Assembly	1
12	54177A	Plastic Tee, Jet	1
13	56508A	O'Ring	1
14	962802	Screw, S.S. 8-32 x 1/4"	2
15	57011A	Retainer Plate	1
16	56123A	Manifold	1
17	54060A	Ferrule Comp, Tube 1/8MPT x 3/16"	1
18	59618A	Valve Assembly, Plastic	1

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Image Mini Spot
Wiring Diagram 9/97



ALTO® PRODUCT SUPPORT BRANCHES

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1100 Haskins

ALTO U.S. Inc., Clearwater, Florida 33765
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(847) 956-7900

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1955 West 13th Ave.
(303) 623-4367

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

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ALTO U.S. Inc., Marietta, Georgia 30062
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CLARKE TECHNOLOGY 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 difficulty develops with the product, you should:

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

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

Always use genuine Clarke Technology Parts for repair.



**CLARKETECHNOLOGY
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