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# Clarke®

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# American Sanders

## CAV 16

### Vacuum 16 Gallon



## Operator'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 American Sanders 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 this manual, have it explained fully before attempting to operate this machine.

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

For new books write to: Clarke®, 2100 Highway 265, Springdale, Arkansas 72764




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# IMPORTANT SAFETY INSTRUCTIONS

- |   |   |
|---|---|
|  <b>DANGER:</b>  | Failure to read and observe all <b>DANGER</b> statements could result in severe bodily injury or death. Read and observe all <b>DANGER</b> statements found in your Operator's Manual and on your machine.  |
|  <b>WARNING:</b> | Failure to read and observe all <b>WARNING</b> statements could result in injury to you or to other personnel; property damage could occur as well. Read and observe all <b>WARNING</b> statements found in your Operator's Manual and on your machine. |
|  <b>CAUTION:</b> | Failure to read and observe all <b>CAUTION</b> statements could result in damage to the machine or to other property. Read and observe all <b>CAUTION</b> statements found in your Operator's Manual and on your machine.                               |

## READ ALL INSTRUCTIONS BEFORE USE

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

- Use only as described in this manual. Use only manufacturers recommended attachments.
- For indoor dry pick-up only. Do not expose to rain or weather.
- If machine is not working as it should, has been dropped, damaged, left outdoors, or dropped in water, return it to a service center.
- Turn off all controls before unplugging
- Do not handle plug or machine with wet hands.
- Do not use with damaged plug or cord.
- Do not unplug by pulling on cord. To unplug, grasp the plug not the cord.
- Do not pull or carry by cord, use cord as a handle, close a door on the cord, or pull cord around sharp edges or corners. Do not run machine over cord. Keep cord away from heated surfaces.
- Do not leave machine when plugged in. Unplug from outlet when not in use or before servicing.
- Do not put any objects into openings. Do not use with any openings blocked. Keep free of dust, lint, hair, and anything that may reduce airflow.
- Keep hair, loose clothing, fingers, and body parts away from openings and moving parts.
- Do not use to pick-up flammable or combustible liquids, such as gasoline or solvents. Do not use where they may be present.
- Do not use to pick-up hot, smoldering, or burning substances.
- Do not use where explosive vapors, such as gas, solvents, alcohol, fuels, or combustible materials such as grain, wood dust, are present in the air. Keep the work area well ventilated.
- Dust produced from sanding wood or varnish could self ignite causing injury or damage. If this material has been picked up, empty it immediately after use in a metal container.
- Do not use to pick-up health endangering dust.
- Do not use unless machine is fully assembled. Do not modify the machine. Read all instructional labels on the machine. Replace damaged labels.
- Do not allow to be used as a toy. Close attention is necessary when used around children.
- Use extra care when cleaning on stairs.
- Connect to properly grounded outlet. See "grounding Instructions".
- Do not use unless all filtering elements are present. Clean filtering elements frequently.

**SAVE THESE INSTRUCTIONS.**

## SPECIFICATIONS

### CAV16

Part Number	07190A (base unit) 07169A (with tool kits)
Motors	Two (2) single-phase motors that run independently of each other
Power	1640 watts peak
Voltage	120V/60Hz
Amps	14.3A peak
Air Flow	192 CFM max
Water Lift	77 in.*
Noise Level	78 dBA
Dust Capacity	16 gallons
Wheels	Non-marking gray
Filtration	Two-stage (tank liner, main filter)
Hoses	25 ft. of 2 in. (50 mm) and 2 x 25 ft. of 1.5 in. (38 MM)
Vacuum Tools	Metal wand with assorted fittings
Power Cable	40 ft., 12-3 SJT cable
Dimensions (L x W x H)	31 x 25.6 x 54 in.
Weight	149 lbs. (71.3 kg)
Warranty	Two years

\*Water lift is a performance rating and is not an indicator that this vacuum is meant for wet applications. *This is a dry vacuum only.*

## INTRODUCTION AND INSTRUCTIONS

The CAV 16 comes fully assembled. It is specifically designed for dry pick-up of fine dust made from grindings of wood or gypsum. It is mounted on tough rubber wheels, two of which swivel in order to make the machine easy to handle. It also has brakes to safely stop the machine in place.

NOTE: When performance has declined noticeably, empty tank and clean the filters accordingly.



Figure 1



Figure 2



Figure 3

## Features

### **Figure 1, 1 - Control Panel**

For explanation of controls, see "Controls" section this page.

### **Figure 1, 2 - Inlet**

This inlet is for installation of vacuum hose and accessories.

### **Figure 1, 3 and Figure 2, 1 - Debris Canister**

The debris canister should be emptied when the canister is full. To empty canister, lift debris canister lever (figure 3,2). Debris canister will lower until it rests with it's wheels on the floor. Grip the handle and remove the canister, then empty it's contents.

To fit the canister back in place, set it under the vacuum, making sure the balancing hose fitting (figure 3,1) remains visible from the outside. Then push lever (figure 3,2) downwards, allowing the canister to lift until it fits against filtering chamber.

### **Figure 1, 4 - Filter Cleaning Plunger**

This plunger (figure 1, 4) is used to clean the filters. When performance diminishes, press plunger down to release keeper. Raise plunger then thrust against spring. When finished, press plunger down and restore keeper. **Do not operate plunger with vacuum running.**

Wait a few minutes for the dust to settle then empty.

### **Figure 3, 2 - Debris Canister Lever**

Lift this lever so that debris canister can be removed and emptied. Make sure to lower the lever when you replace the debris canister.

### **Figure 3, 1 - Balancing Hose**

Balances vacuum around polytank liner (fig 2,2), so it's not sucked into the filter.

## Controls

### **Figure 4, 1 - Vacuum Motor Switches**

This model is fitted with two motors, so it has two vacuum motor switches on the control panel. Toggle up the switches to start the vacuum motors.

### **Figure 4, 2 - Illuminated Mains Voltage Indicator**

When on, this indicates that the vacuum is connected to the electrical supply.

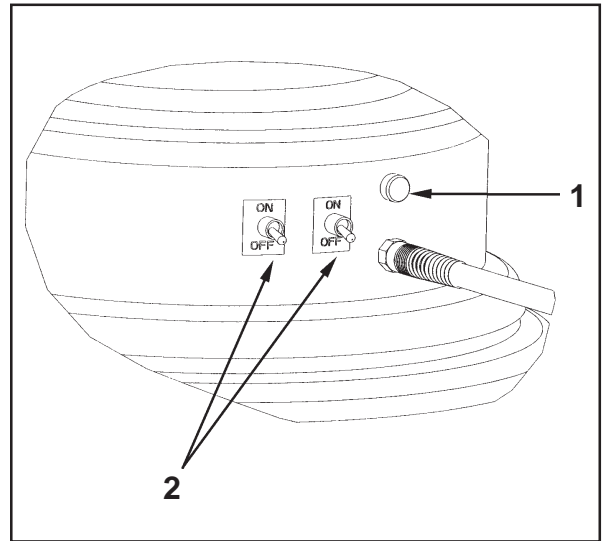


Figure 4

## OPERATING INSTRUCTIONS

To operate this machine follow these procedures:

1. Position the CAV 16 in a convenient location near a wall outlet and within reach of the working area. If the surface is not level, set the brakes on the casters.

**CAUTION:** Do not use an extension cord with the CAV 16 or you will experience a loss in performance. Should an extension cord be necessary, use one sized 12 AWG and no longer than 50' in length. An extension cord sized smaller than 12 AWG or greater than 50' in length will overheat and potentially cause a fire.

2. Connect the CAV 16 to a wall outlet matching one of the two shown in figure 5. No adaptor should be used with this appliance.

**WARNING:** This appliance must be grounded. Should an electrical malfunction occur, the grounding conductors provide a path to harmful current. Do not connect this appliance to any other wall outlet than one of those shown in figure 5. Consult an electrician if there is reason to doubt that the wall outlet is not wired correctly. Do not remove the grounding pin on the power cord. Do not use this appliance with a damaged power cord or plug.

3. The CAV 16 uses two individually activated vacuum motors that allow tailoring the delivery for the available electrical supply and application.

### *For Light Duty Applications:*

Activate one of the two vacuums. To activate a vacuum motor, toggle up one of the two switches (see figure 6). To deactivate the vacuum motor, toggle down the vacuum switch.

### *For Heavy Duty Applications or Multiple Simultaneous Users:*

Activate both vacuum motors.

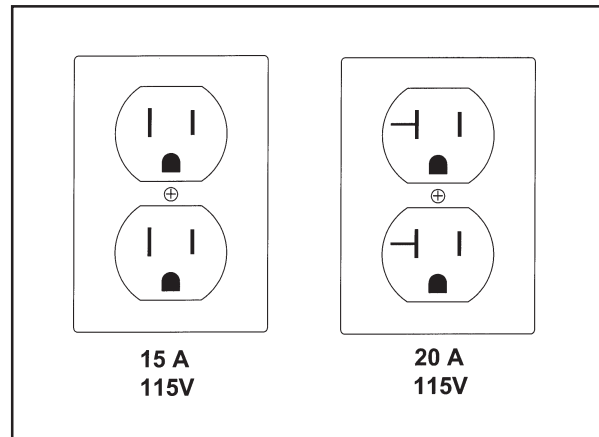


Figure 5

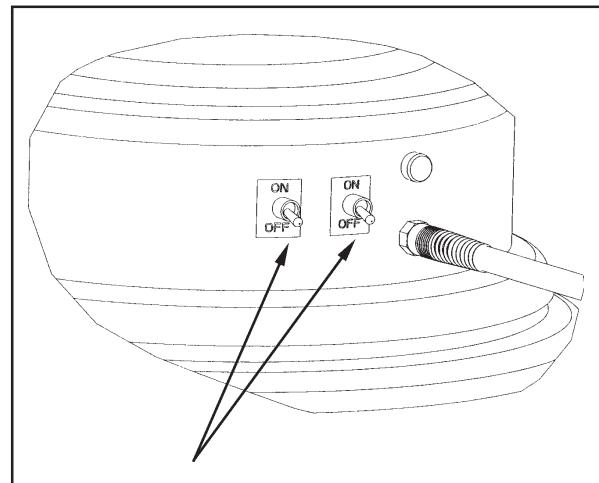


Figure 6

## OPERATING INSTRUCTIONS

4. Install a poly-liner (fig. 7, 1) in the debris canister (fig. 7, 2). To release the debris canister raise the lever (fig. 7, 3) as shown.. The poly-liner provides quick convenient disposal.
5. When the debris canister becomes full, deactivate all vacuum motors.
6. Allow time for the dust to settle, then operate the filter cleaning plunger (fig. 8, 1) several times.
7. Remove the poly-liner and replace with a new liner.
8. Replace the debris canister. To fit the canister back in place, set it under the vacuum and push the lever downwards. This allows the canister to lift until it fits against the filtering chamber.
9. For optimum performance, follow table 1.



Figure 7

TABLE 1

User(s)	Attachment	Recommended Hose
Single	Belt/Drum Sander	Up to 25' of 2"
	Edger/Rotary Sander	Up to 50' of 1½"
	Crevice/Floor Tool	Up to 50' of 1½"
Dual	Belt/Drum Sander	Not Recommended
	Edger/Rotary Sander	Up to 25' of 1½"
	Crevice/Floor Tool	Up to 25' of 1½"



Figure 8

**TROUBLESHOOTING**

<b>Problem</b>	<b>Cause</b>	<b>Action</b>
<b>The vacuum fails to start</b>	1. No power.	1. Check whether power is reaching the socket.  Check whether the plug and cable are in good condition.  Ask for assistance from an authorized service technician.
<b>The rpm rate of the vacuum increases.</b>	1. Clogged primary filter. 2. Suction hose clogged.	1. Shake the filter. Replace it if this is not sufficient. 2. Check the suction hose / wand and clean it.
<b>Dust leaks from the machine.</b>	1. The filter is torn. 2. Inadequate filter.	1. Replace it with another with identical characteristics. 2. Replace it with another with suitable characteristics.
<b>Noisy vacuum motors</b>	1. Worn or broken carbon brushes.	1. Remove and replace the carbon brushes.
<b>Electrostatic current on the vacuum.</b>	1. Nonexistent or ineffective grounding.	1. Check all ground connections. Especially check the suction inlet fitting.  Lastly, the hose must be strictly antistatic.



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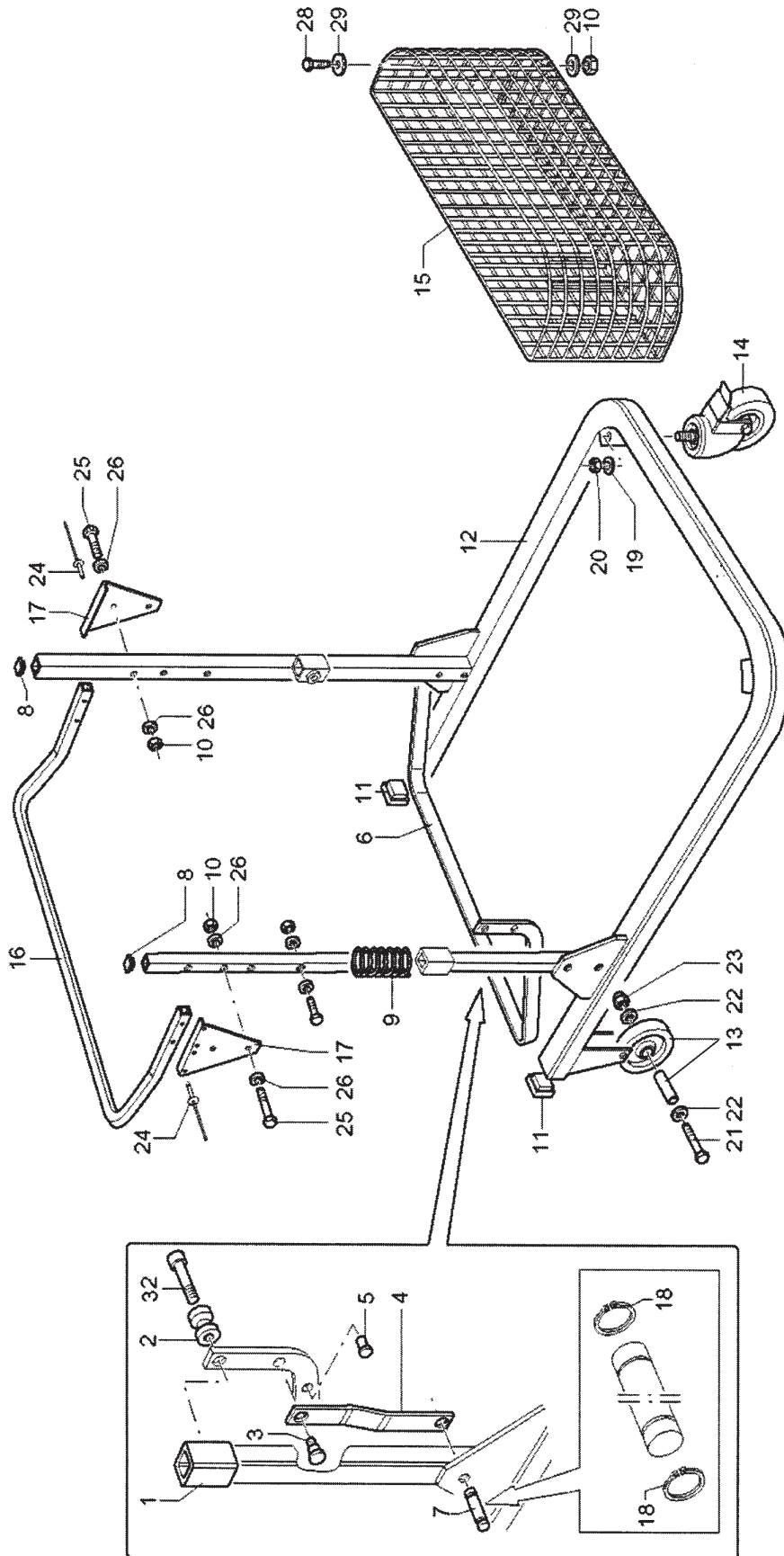
# **American Sanders**

**CAV 16**

**Vacuum 16 Gallon**

**Section II**  
**Parts and Service**

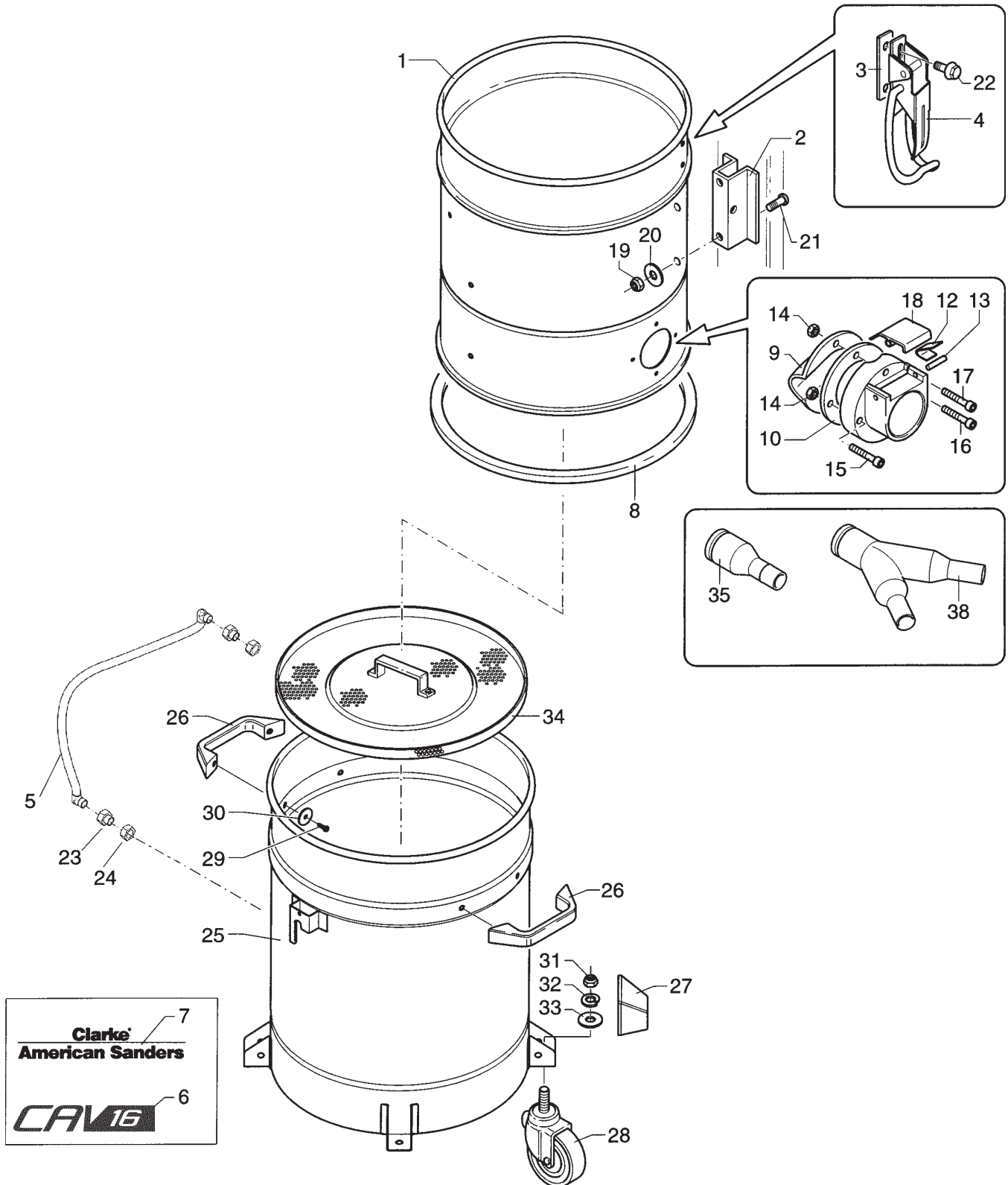
(71436A)





**Frame Assembly Parts List 10/07**

<b>Ref.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
1	836000	Tube	2
2	814028	Washer	2
3	814084	Pin	2
4	814085	Link	2
5	814087	Pin	2
6	814054	Lever	1
7	814083	Pin	2
8	840034	Plug	2
9	814135	Spring	1
10	80163A	Nut, M8	10
11	840035	Plug	2
12	8360619005	Cart	1
13	840581	Wheel, Cart	2
14	840582	Wheel, Caster	2
15	816060	Basket	1
16	818300	Handgrip	2
17	8182999005	Bracket	2
18		Retaining Ring	4
19	980648	Washer, Ø 12	2
20	920936	Nut, M12	2
21	80315A	Screw, M10 x 65	2
22	229044	Washer, Ø 10	4
23	80162A	Nut, M10	2
24	83002A	Rivet, Ø 6.4 x 15	8
25	98456A	Screw, M8 x 50	8
26	229102	Washer, Ø 8	16
28	80314A	Screw, M8 x 65	2
29	980205	Washer, Ø 8 x 24	4
32		Screw, M8 x 30	2



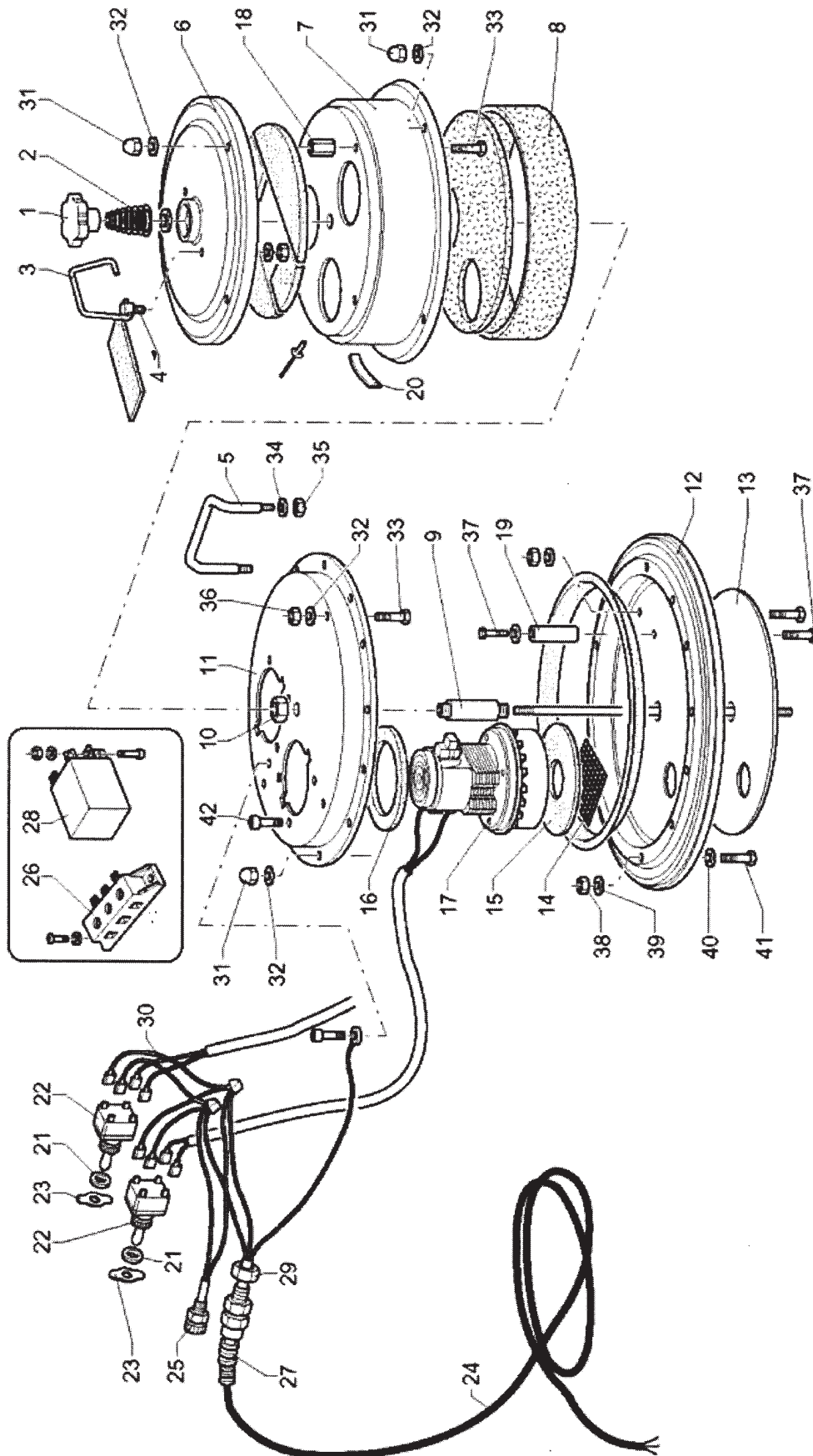
**Container Unit Assembly Parts List 10/07**

Ref.	Part No.	Description	Qty
1	831686G	Container	1
2	814018	Bracket	2
3	Ref.	Plaque	2
4	836028	Latch	2
5	560272	Hose, Balancing	1
6	Ref.	Label	1
7	Ref.	Label	1
8	817007	Seal, Inlet	1
9	812013	Deflector	1
10	817006	Seal, Container	1
11	Ref.	Filler	1
12	Ref.	Spring	2
13	Ref.	Pin, Ø 3 x 16	2
14	924004	Nut, M5	4
15	58413A	Screw, M5 x 20	1
16	58411A	Screw, M5 x 25	2
17	58414A	Screw, M5 x 30	1
18	Ref.	Push Button	1
19	80312A	Nut, M8 Block	4
20	424033	Washer, Ø 8 x 32	4
21	964058	Screw, M8 x 16	4
22	80214A	Screw, M6 x 12	4
23	840230	Bushing	2
24	840187	Ring Nut	2
25	830363G	Debris Canister	1
26	840771	Handle	2
27	817021	Bumper	4
28	840001	Wheel	4
29	964058	Screw, M8 x 16	4
30	229102	Washer, Ø 8	4
31	920936	Nut, M12	4
32	87101A	Washer, Ø 12	4
33	980648	Washer, Ø 12	4
34	831221	Grid	1
35	722001	Inlet Fitting	1
38	722064	Inlet Splitter	1

Ref. Items 11, 12, 13, 18 = Part No. 832178, Complete Inlet Asm., Qty. 1

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CAV 16**

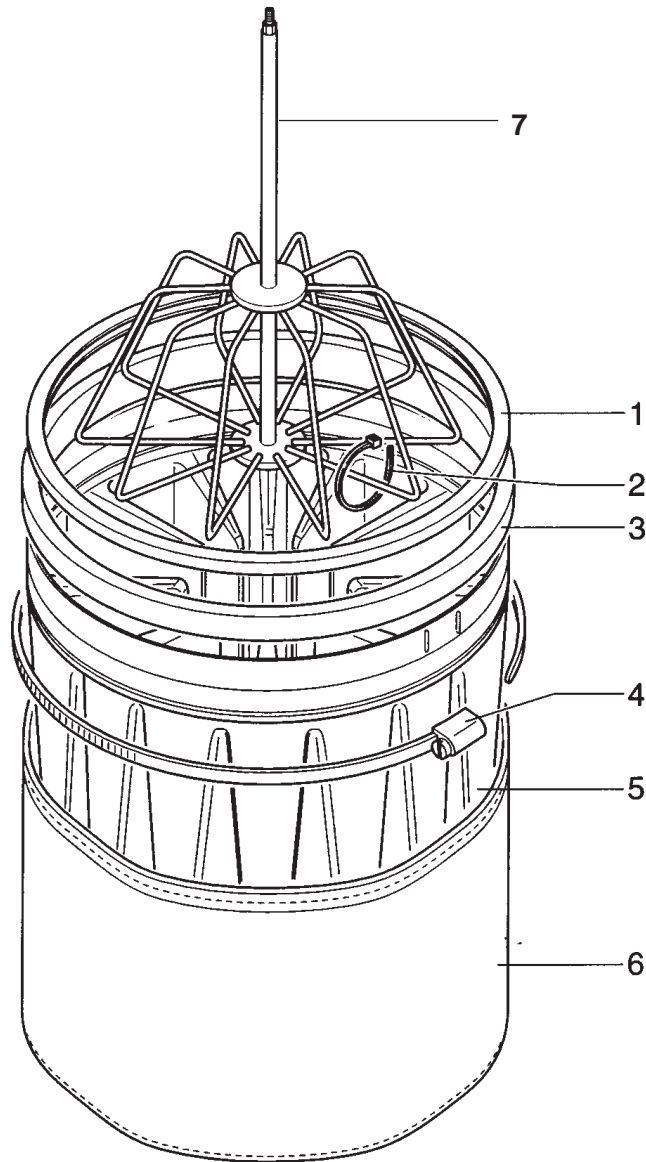
**Motorhead Assembly Parts List 10/07**



**Motorhead Assembly Parts List 10/07**

Ref.	Part No.	Description	Qty
1	840027	Knob	1
2	814079	Spring	1
3	818206	Hook	1
4	814061	Pin	2
5	818083	Handle	2
6		Cover	1
7	8160669005	Motor Cover	1
8	817229	Soundproofing Kit	1
9	814051	Bushing	1
10	814052	Nut	2
11	816008	Motor Locator	1
12	816003	Motor Platform	1
13	815032	Flange	1
14	813074	Screen	2
15	817002	Seal	2
16	817003	Seal	2
17	854002	Vacuum Motor	2
18	814030	Spacer	4
19	814032	Spacer	3
20	Ref.	Label	1
21	838041	Washer	2
22	839000	Switch	2
23	Ref.	Plate	2
24	8391160	Cable	1
25	839051	Voltage Indicator	1
26	839528	Connection Block	1
27	839097	Strain Relief	1
28	839533	Anti-Disturber	1
29	839567	Ring Nut	1
30	839576	Cable Kit	1
31		Nut	20
32		Lockwasher	20
33		Screw	4
34		Washer	4
35		Nut	4
36		Nut	4
37		Screw	8
38		Nut	4
39		Washer	12
40		Washer	20
41		Screw	12
42		Screw	4

Filter Group Assembly Drawing & Parts List 10/07



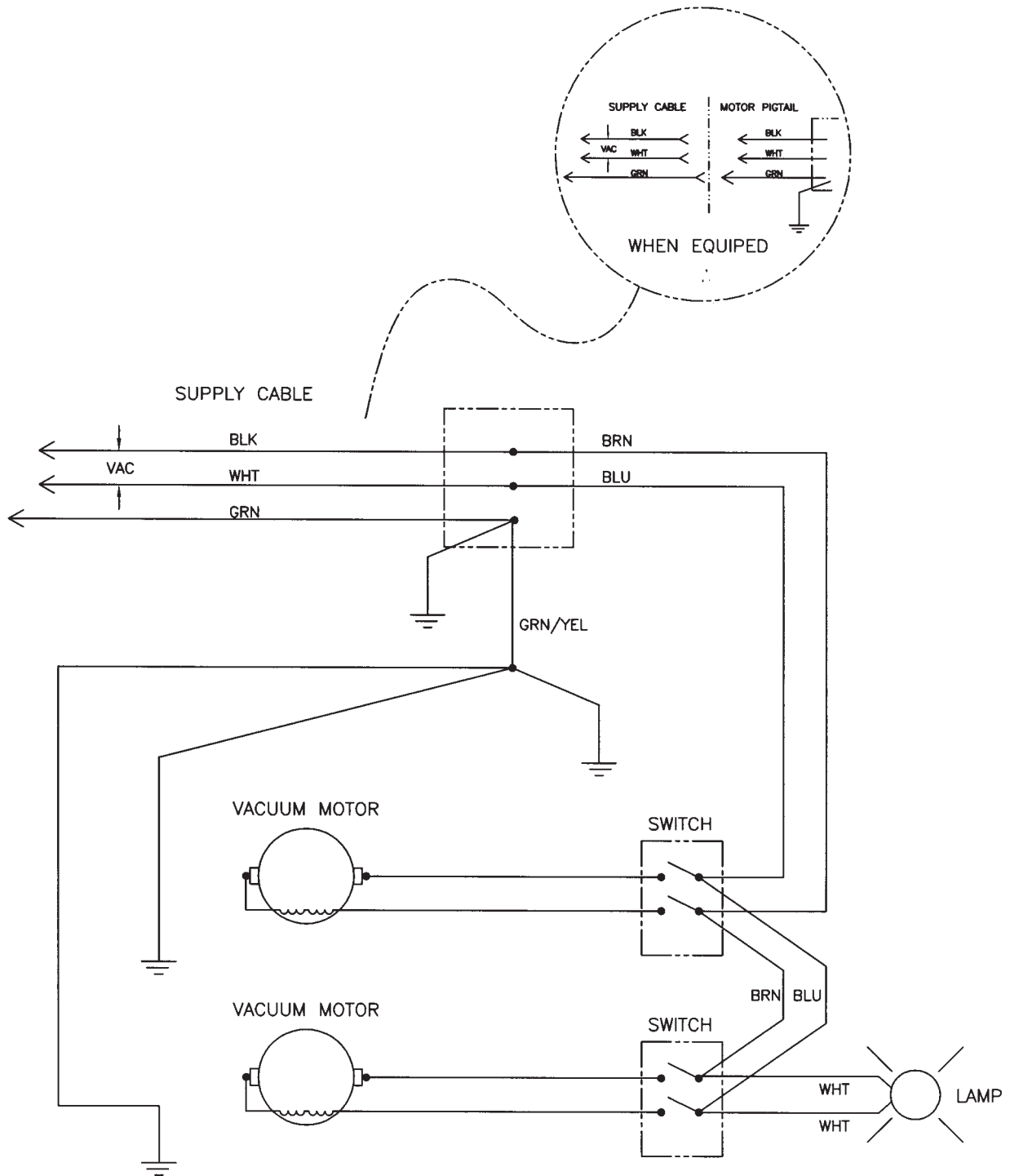
Ref.	Part No.	Description	Qty
NI	814081	Spring	1
1	817026	Seal	1
2	840053	Tie	8
3	815003	Ring	1
4	818079	Tie	1
5	817714	Filter	1
6	817749	Filter Liner, Polyester	1
7	833093	Cage	1

Ref. Items 1 - 5 and 7 = Part No. 8 33327, Complete Filter, Qty 1

NI = Not Illustrated



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**American Sanders**  
**CAV 16**  
 Electrical Schematic 10/07





# CLARKE PRODUCT SUPPORT BRANCHES

## U. S. A. Locations

### PRODUCTION FACILITIES

**Clarke®**, Springdale, Arkansas  
2100 Highway 265  
Springdale, Arkansas 72764  
(479) 750-1000  
**Customer Service - 1-800-253-0367**  
**Technical Service - 1-800-356-7274**

### SERVICE FACILITIES

**Clarke®**, Elk Grove, Illinois 60007  
2280 Elmhurst Road  
(847) 956-7900

**Clarke®**, Denver, Colorado 80204  
1955 West 13th Ave.  
(303) 623-4367

**Clarke®**, Houston, Texas 77040  
7215 North Gessner Road  
713-937-7717

### SERVICE AND SALES FACILITY

**American Lincoln® / Clarke**, Madison Heights,  
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(810) 544-6300

**American Lincoln® / Clarke**, Marietta, Georgia 30066  
1455 Canton Road  
(770) 218-2116

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**Clarke®**

**Clarke American Sanders**

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Springdale, Arkansas 72764  
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**Technical Service**  
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## **Clarke® American Sanders U. S. Warranty**

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

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

If difficulty develops with the product, you should:

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

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

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

Clarke American Sanders'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 American Sanders product. Return the card to assist Clarke American Sanders in providing the performance you expect from your new floor machine.

Clarke, 2100 Highway 265, Springdale, Arkansas 72764.

**Clarke American Sanders reserves the right to make changes or improvements to its machine without notice.**

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

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