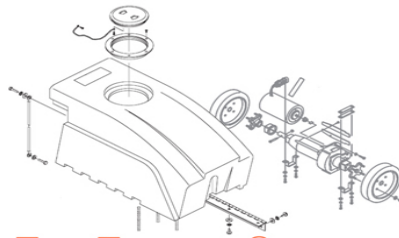


# MPV-31 Wide Area Vacuum

Model:  
C27120-00  
C27230-00



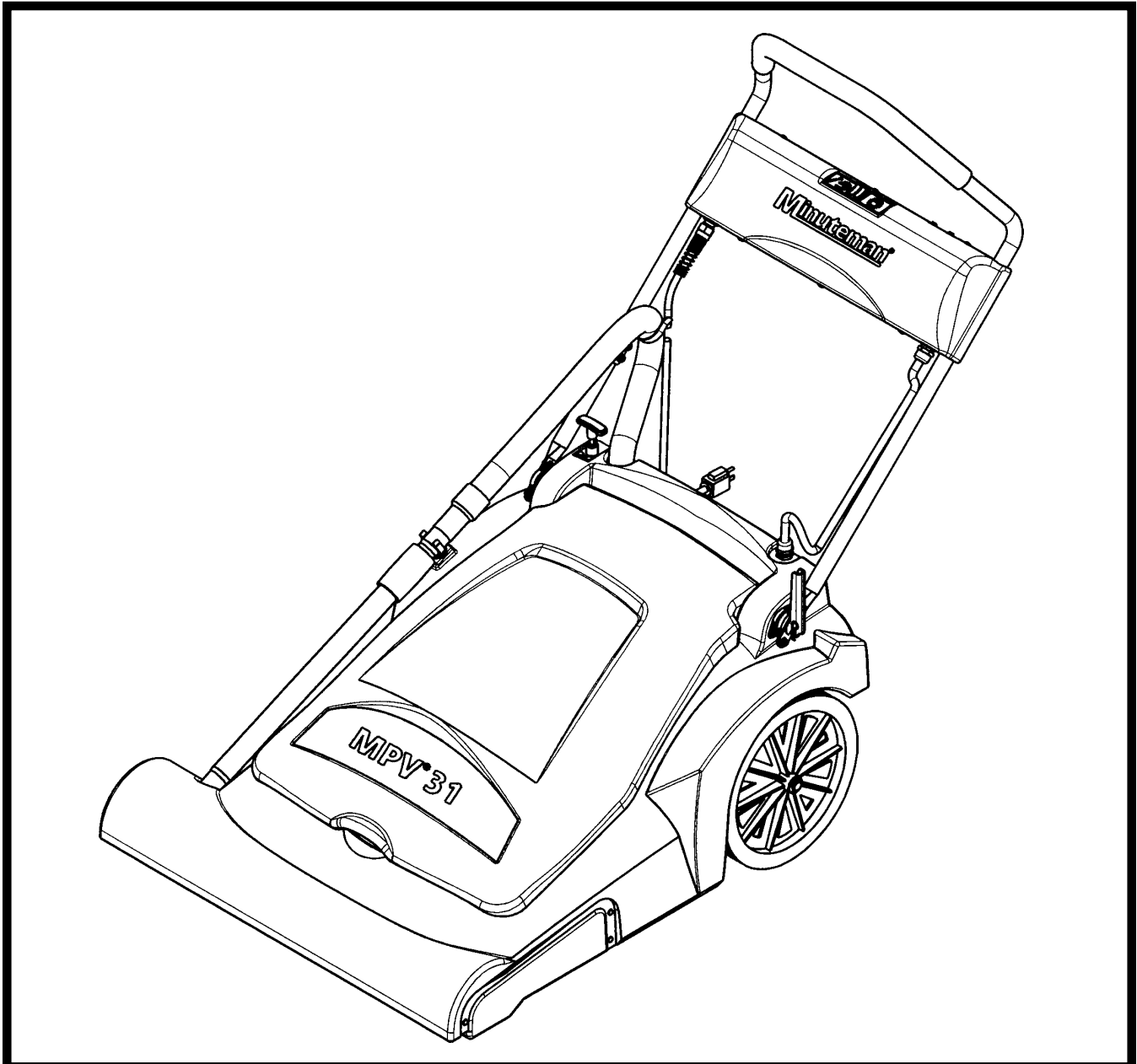
[FLOOREquipmentPARTS.COM](http://FLOOREquipmentPARTS.COM)

OPERATION

SERVICE

PARTS

CARE



Revised 1/03

**Minuteman**<sup>®</sup>

# EC Declaration of Conformity

according to Directives 72/23, 89/392, and 89/336

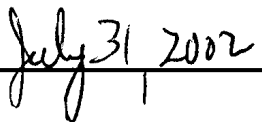
We, Minuteman International Incorporated, of 111 South Rohlwing Road Addison Illinois 60101 USA, declare under our sole responsibility that the product C27230-00 an MPV 31 Vacuum to which this declaration relates corresponds to the relevant requirements of the EC Directives 72/23, 89/392 and 89/336. The following standards were used to determine compliance with the Directives: EN 292, EN 294, EN 811, EN 55014, EN 55104 and EN 60335-1.

SOUND		VIBRATION									
<b>75 dB Operator</b>	<b>70dB At 3m</b>	<b>.5 m/s<sup>2</sup> At Operators Handle</b>									
<p>Tests were conducted on 7/20/02 with calibrated sound and vibration equipment under the conditions noted below:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">General Condition: Indoors</td> <td style="width: 33%;">Wind: 0 km/hr</td> <td style="width: 33%;"></td> </tr> <tr> <td>Temperature: 25°C</td> <td>Humidity: 70%</td> <td></td> </tr> <tr> <td>Barometric Pressure: 29.5</td> <td></td> <td></td> </tr> </table>			General Condition: Indoors	Wind: 0 km/hr		Temperature: 25°C	Humidity: 70%		Barometric Pressure: 29.5		
General Condition: Indoors	Wind: 0 km/hr										
Temperature: 25°C	Humidity: 70%										
Barometric Pressure: 29.5											


---

 Jeff Pollack, Standards Engineer


---

 Date

## Table of Contents

Precautions .....	1
Operating Instructions .....	2
Inspection .....	2
Machine Overview .....	3 - 4
Maintenance & Operation .....	5
Main Assembly .....	6 - 10
Diverter .....	11
Handle Assembly 120V .....	12 - 13
Handle Assembly 240V .....	14 - 15
Brush Assembly .....	16
Replacement Parts .....	17
Wiring diagram, 120V .....	18 - 19
Wiring diagram, 240V .....	20 - 21
Warranty .....	Back Cover

# FOR COMMERCIAL USE ONLY

## IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic precautions should always be followed, including the following:

### READ ALL INSTRUCTIONS BEFORE USING

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

Do not leave appliance plugged in. Unplug from outlet when not in use and before servicing.

### WARNING

To avoid electric shock, use indoors only.

- Do not allow to be used as a toy. Close attention is necessary when used by or near children.
- Use only as described in this manual. Use only manufacturer's recommended attachments.
- Do not use with damaged cord or plug. If appliance is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, return it to a service center.
- 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.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Do not handle plug or appliance with wet hands.
- 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.
- Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
- Do not use without dustbag and/or filters in place.
- Turn off all controls before unplugging.
- Use extra care when cleaning on stairs.
- Do not use to pick up flammable or combustible liquids such as gasoline or use in areas where they may be present.
- Connect to a properly grounded outlet only. See grounding instructions.
- Stop only on level surfaces.

### SAVE THESE INSTRUCTIONS

# OPERATING INSTRUCTIONS

## INSPECTION

Carefully unpack and inspect your machine for shipping damage. Each unit is tested and thoroughly inspected before shipment, and any damage is the responsibility of the delivering carrier who should be notified immediately. Read all instructions carefully before operating.

## WARNING

To avoid electric shock, use indoors only.

- Electrical motors can cause explosions when operating near explosive materials or vapors. Do not operate this machine near flammable materials such as solvents, thinners, fuels, grain dust, etc.

## ELECTRICAL - 115 Volt

This machine is designed to operate on a standard 15 amp. 115 volt, 60 hz, AC circuit. Voltages below 105 volts AC or above 125 volts AC could cause serious damage to the motor.

## ELECTRICAL - 240 Volt

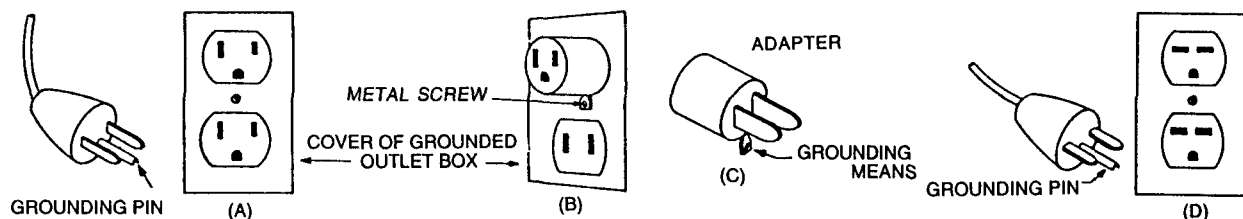
This machine is designed to operate on a standard 16 amp. type L fused 230 volt, 50 hz, AC circuit. Voltages below 200 volts AC or above 250 volts AC could cause serious damage to the motor. I.E.C. Class 1.

## GROUNDING INSTRUCTIONS

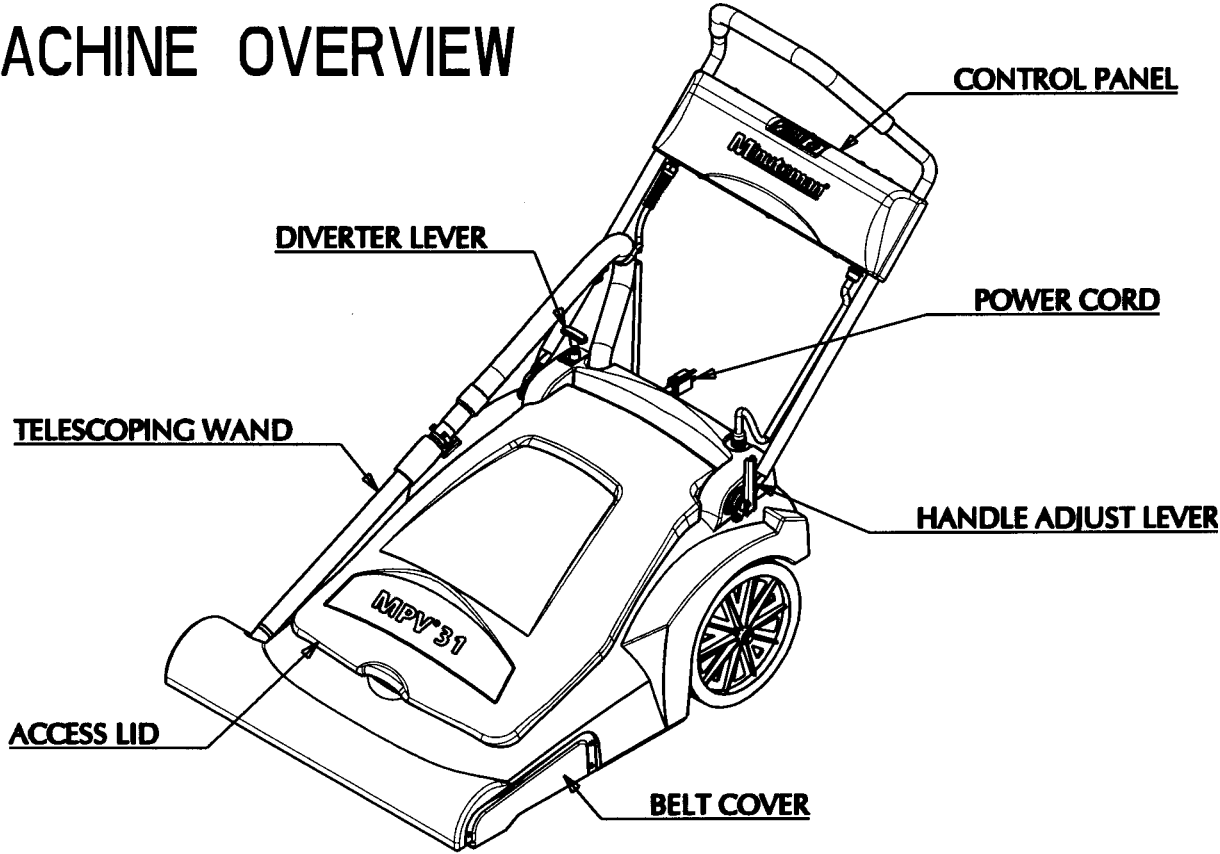
To protect the operator from electrical shock, this machine must be grounded while in use. This machine is equipped with an approved three-conductor power cord and grounding type plug to fit the proper grounding type receptacle.

This machine is for use on a nominal 120-volt circuit and has a grounding plug that looks like the plug illustrated in sketch A. Make sure that the machine is connected to an outlet having the same configuration as the plug. No adapter should be used with this machine.

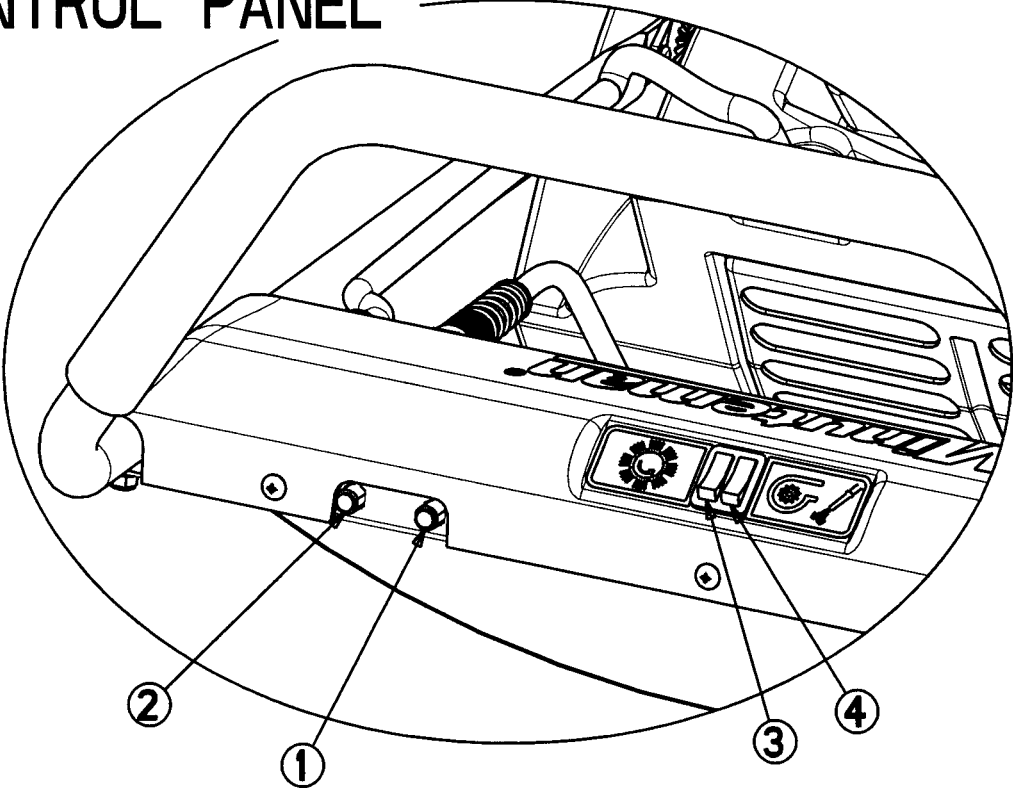
For equipment rated 150-250 volts: If the machine is provided with an attachment plug as shown in sketch below, it is intended for use on a 240 volt (nominal circuit.) No adapter is available for this plug.



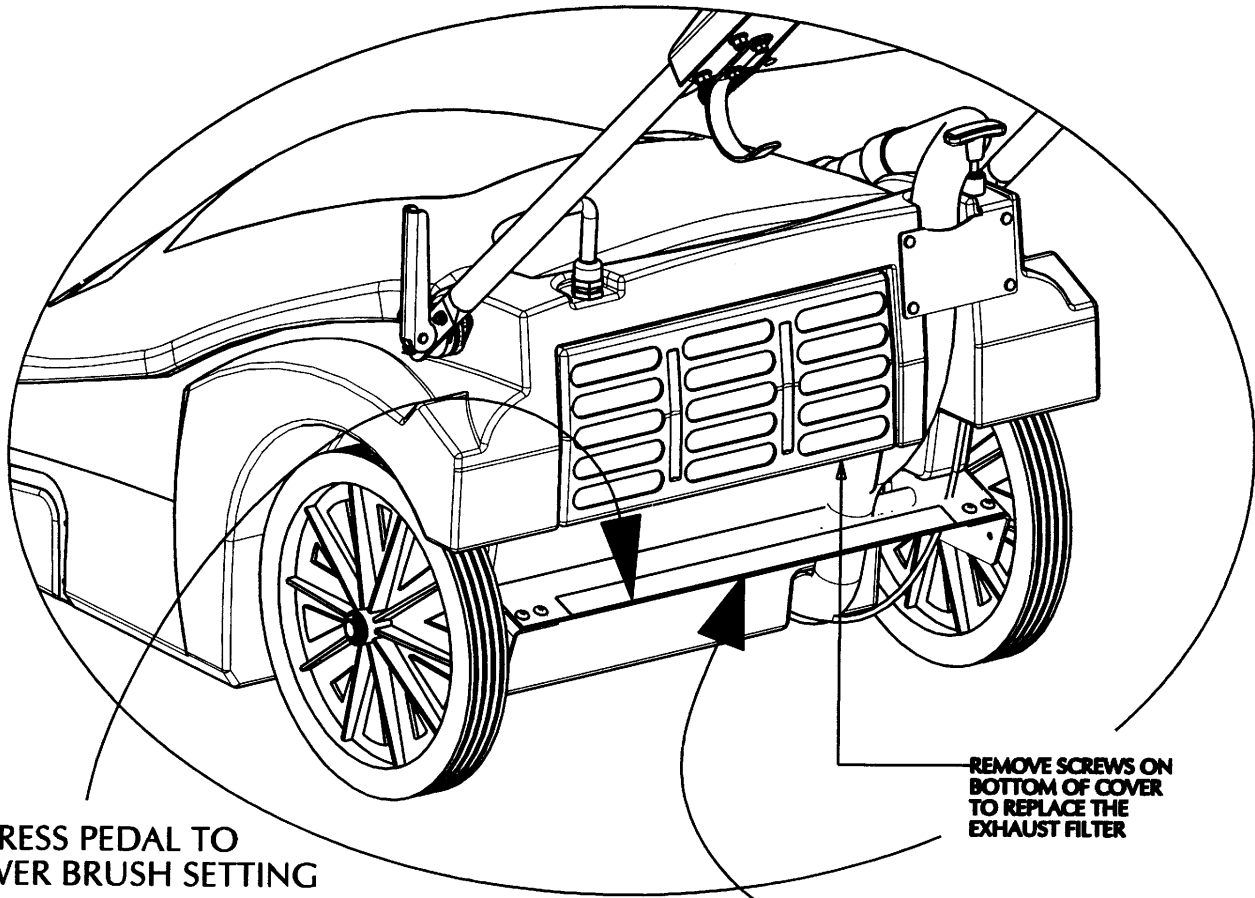
# MACHINE OVERVIEW



# CONTROL PANEL



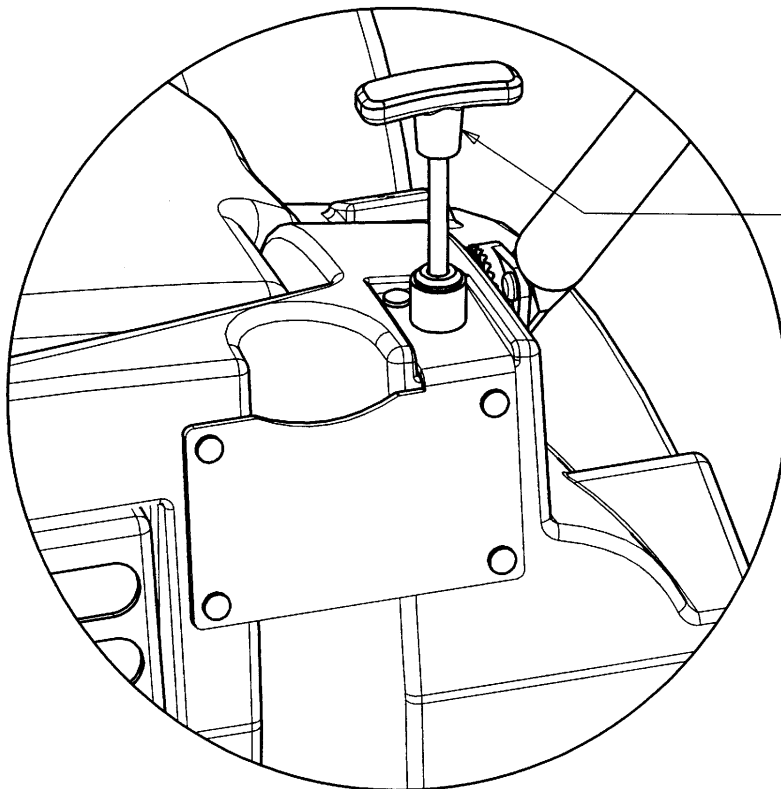
- 1. CIRCUIT BREAKER - BRUSH MOTOR - 3A (120 VAC) - 1.5A (240 VAC)
- 2. CIRCUIT BREAKER - VAC MOTOR - 15A (120 VAC) - 10A (240 VAC)
- 3. BRUSH POWER SWITCH
- 4. VACUUM POWER SWITCH



**DEPRESS PEDAL TO LOWER BRUSH SETTING**

**REMOVE SCREWS ON BOTTOM OF COVER TO REPLACE THE EXHAUST FILTER**

**RAISE PEDAL TO SET BRUSH AT HIGHER PILE SETTING**



**TURN AND LIFT HANDLE FOR OFF-AISLE WAND USE**

**OFF-AISLE WAND USAGE**

- 1. TWIST HANDLE 1/2 TURN COUNTER-CLOCKWISE, TO UN-LOCK CABLE**
- 2. LIFT HANDLE UP (ABOUT 1" OF TRAVEL)**
- 3. TWIST HANDLE 1/2 TURN CLOCKWISE TO LOCK**

## Maintenance and Operation Instructions for MPV-31 Wide Area Vacuum Cleaner

The MPV-31 is designed primarily for use on carpet, although it also performs very well on hard surface floors. Sand, dust, paper, etc. are readily vacuumed from these types of floors. However, it is not recommended that this machine be used to vacuum metal slugs, shavings, or similar type of debris from floors, carpeted or otherwise.

Inspect MPV-31 carton for shipping damage when received. Report any damage to delivering freight carrier immediately.

### Operating Instructions

Before starting, familiarize yourself with machine and controls (see 'Machine Overview' and 'Control Panel' diagrams). Large debris such as paper cups, plates, etc. should be picked up before starting the cleaning process. To operate machine, do the following:

1. Make sure unit is used only on voltage shown on nameplate.
2. From storage position (handles folded), position machine so all four wheels are on floor.
3. Adjust handle to a desired and comfortable position by lifting up on adjustment lever located on left side of machine at base of metal handle. After desired handle position is set, lock in place by closing adjustment lever.
4. Install paper and/or cloth bags inside main compartment by pushing rubber collar onto flanged bag adaptor.
5. If using both bags, install cloth bag as described above, unzip it, and place paper bag inside. Push rubber gasket seal over adaptor. Zip up cloth bag and make sure there is no damage to paper bag. Close lid.
6. There are four (4) brush settings for different carpet piles. This can be adjusted by either depressing foot pedal (lowest level) for short naps, such as indoor/outdoor carpeting, or by lifting pedal for taller naps (highest setting). **Set brush height to lightly hit carpet surface.**
7. Turn on vacuum and brush switch (see control panel). Keep machine moving while brush is activated. Damage to carpet could occur if brush is kept in same spot.
8. The rate at which the operator pushes machine depends on debris load, type of debris, and carpet nap length. In areas where large amounts of 'tracked in' sand are present, carpets should be vacuumed with a double pass (forward and backward pass made without turning machine around at the end of one pass). A slow, moderate walking pace by the operator normally gives a good cleaning result.
9. To use off-aisle wand, turn off brush power switch, pull up and twist to lock control cable (see machine overview) to divert air from main nozzle to auxiliary hose.
10. For storage, handle may be folded over and machine parked in an upright position to increase closet space. To fold for storage, unlock handle adjustment lever when the machine is on all four wheels, push handle forward as far as it will go and relock the handle adjustment lever. Tilt machine back on large wheels until it is in an upright position and ready to be stored.

### Maintenance

Periodic maintenance should be followed for good performance and longer machine life. **Unplug power cord from electrical source before making any repairs or adjustments to machine.**

#### Daily:

For cloth bags, shake down bag daily. For paper bags, check if full and replace as necessary.

Check power cord for damaged or frayed insulation.

Return machine to 'storage' position when not in use.

Check and remove any string, lint, or debris from around brush and brush housing.

#### Monthly:

Remove rear wheels and clean axle. Apply thin coat of silicone lubricant on each wheel axle and front casters. This should be done at least twice a year.

The cloth filter bag can be washed twice before losing its filtering capabilities. Wash with mild detergent and cool water, drip dry. Make sure bag is totally dry before reinstalling to machine, otherwise electrical shock may occur.

Inspect all hoses, cables, filters, and gaskets. Clogged filters and damaged hoses and gaskets can result in loss of vacuum.

### Brush Adjustment/Replacement

Inspect brush for wear. Adjust or replace brush when necessary.

#### Adjustment:

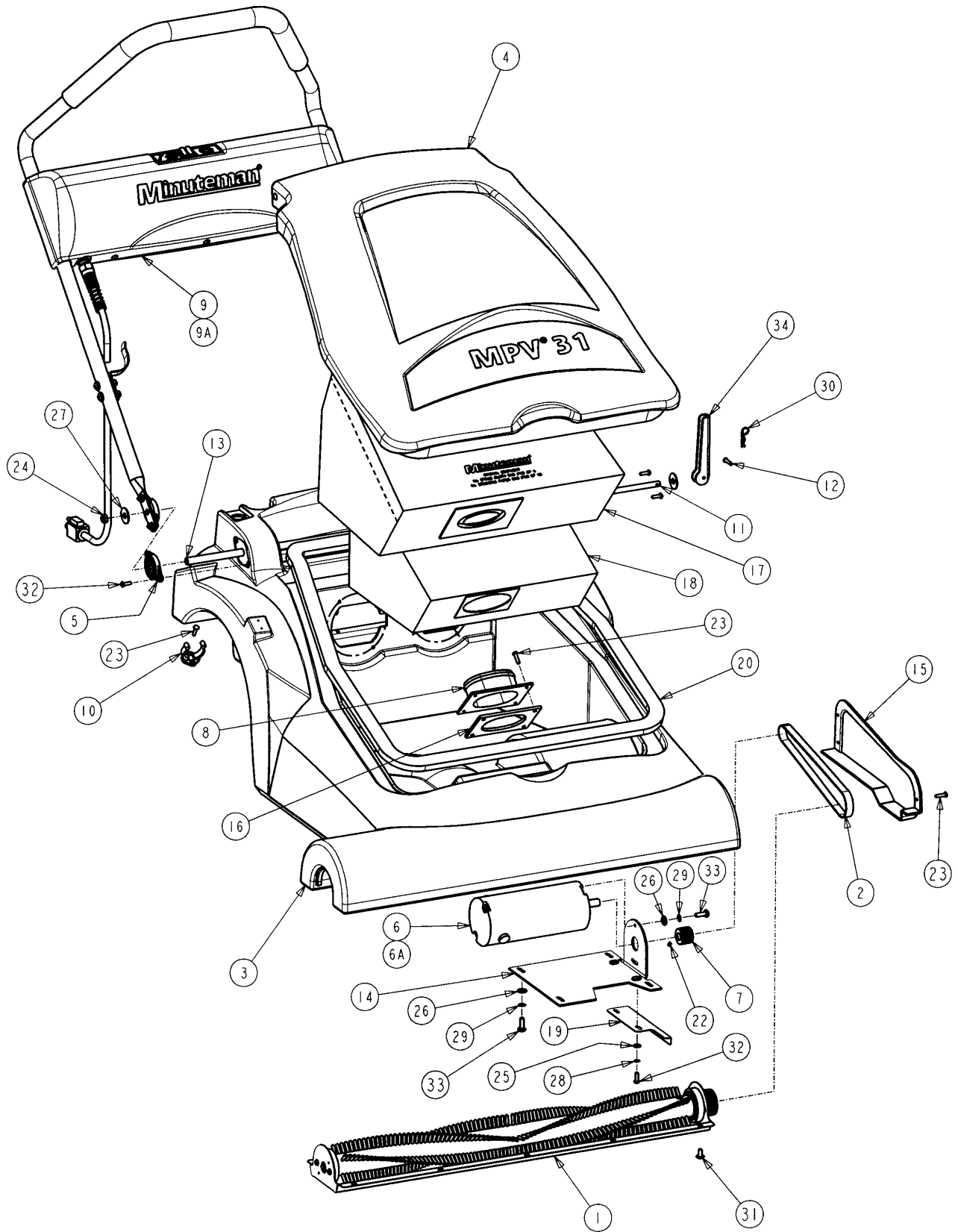
1. The brush housing is set up so you can change the brush position to extend the brush life. When bristles are worn down enough so there is no contact with floor on lowest setting, you may reposition brush as described:
2. Unplug power cord from electrical source.
3. Remove belt cover by removing three #10 Hi/Lo screws.
4. Remove the two #10-32 screws and washers from each end of brush housing (it may be necessary to remove housing assembly for easier access).
5. Rotate bearing retainer ring and bearing support ring so that they line up with second set of mounting holes, which lowers the brush by 1/16".

#### Replacement:

1. Unplug power cord from electrical source.
2. Remove belt cover by removing three #10 Hi/Lo screws.
3. Loosen brush motor plate and roll belt off brush pulley.
4. Remove the ten screws securing brush housing assembly from main body.
5. Loosen set screw, remove pulley from shaft.
6. Remove the two screws and washers from each end of brush assembly.
7. Remove the two flathead screws that attach brush to shaft, slide shaft out of brush core.
8. Inspect bearings; make sure to remove the two bushings at each brush end to replace them on new brush.
9. Install new brush to shaft and assemble accordingly.
10. When attaching bearing retainer and supporting ring, make sure screws and washers are placed on normal (horizontal) position otherwise machine will not function right.
11. After reinstalling brush housing assembly check for proper belt tension.



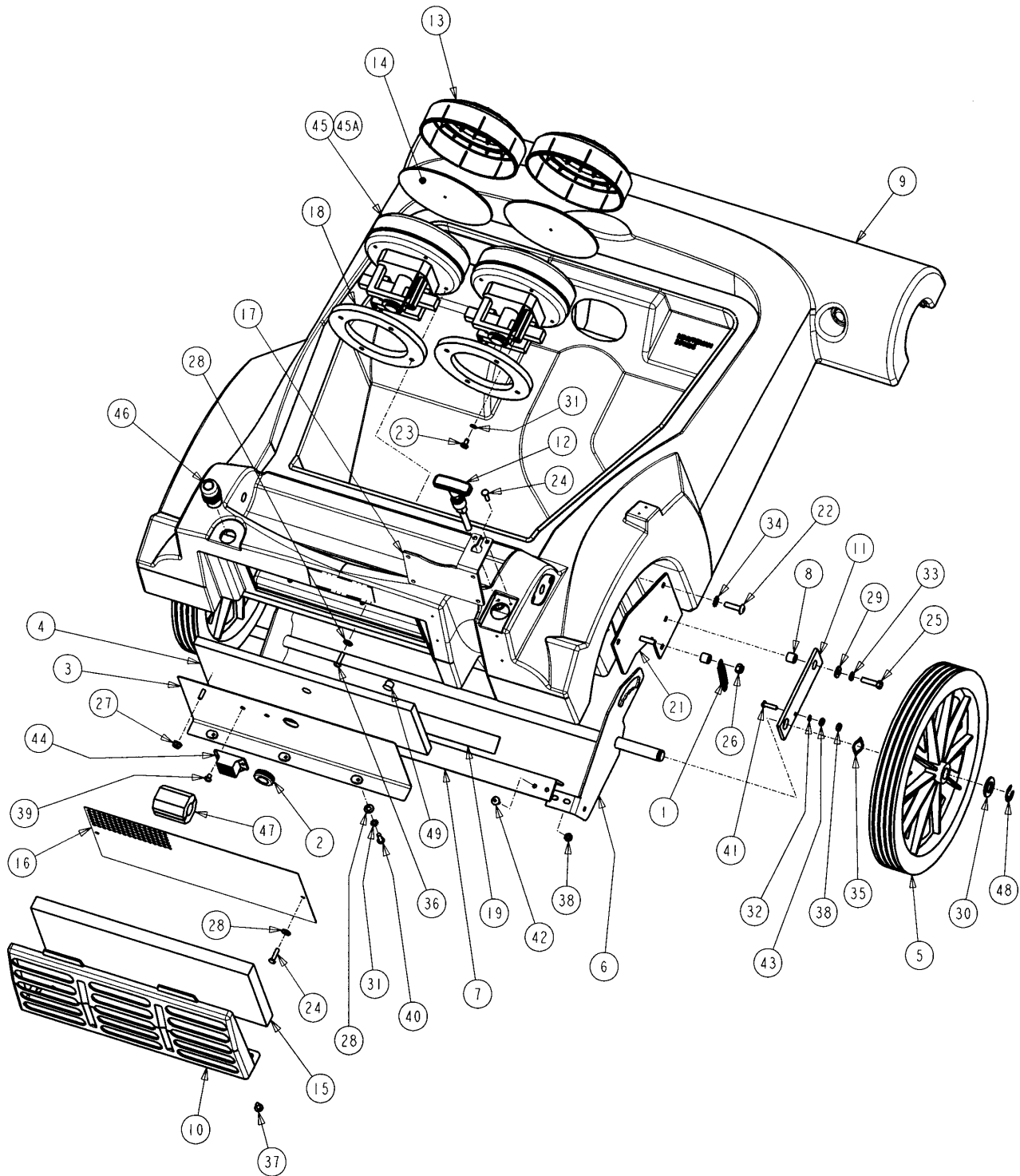
# Main Assembly - Front Veiw



## Parts List

Item	Part No.	Qty.	Description
1	270101	1	Brush Main Assy
2	270112	1	Belt, Brush Drive
3	270125	1	Body Wide Area Vac
4	270126	1	Lid, Wide Area Vac
5	270143	2	Handle Pivot Jaw
6	270144	1	Brush Motor
6A	270144-240	1	Motor, Brush - 240 VDC
7	270145	1	Pulley, Brush Motor
8	270146	1	Bag Adapter Flange
9	270159	1	Handle Assy Wav - 120 Vac
9A	270159-230	1	Handle Assy Wav 230 Vac
10	270161	1	Tool Clip
11	270163	1	Handle Tension Rod
12	270164	1	Clevis Pin, .188 x .875
13	270166	1	Handle Adjust Tube
14	270173	1	Brush Motor Bracket
15	270174	1	Belt Cover
16	270181	1	Gasket, Nozzle Adapter
17	270182	1	Filter Bag, Cloth (Optional)
18	270183	1	Filter Bag, Paper
19	270187	1	Belt Guard, Rear
20	270193	1	Gasket, Lid
21	361218	2	Cable Tie, BBlack
22	711003	2	SCR-SK 10-32 x .25
23	711161	9	SCR Hi/Lo #10 3/4 PL
24	711375	1	Nut-Nyloc 3/8-16 x 1/2 Nut
25	711503	2	WSR, Flat #10
26	711505	6	WSR-Flat 1/4
27	711507	2	WSR-Flat .37 x 1.12 x .06
28	711534	2	WSR-External Lock #10
29	711564	6	WSR-External Lock 1/4
30	711808	1	Cotter Pin-Hair #13
31	712560	10	SCR-MCH 1/4-20 x .50 SS NYL
32	712812	6	SCR-MC 10-24 x .62 PPH ST PL
33	713002	6	BLT-HH 1/4-20 x 3/4 #5
34	270178MCH	1	Lever, Kick, w/Hole

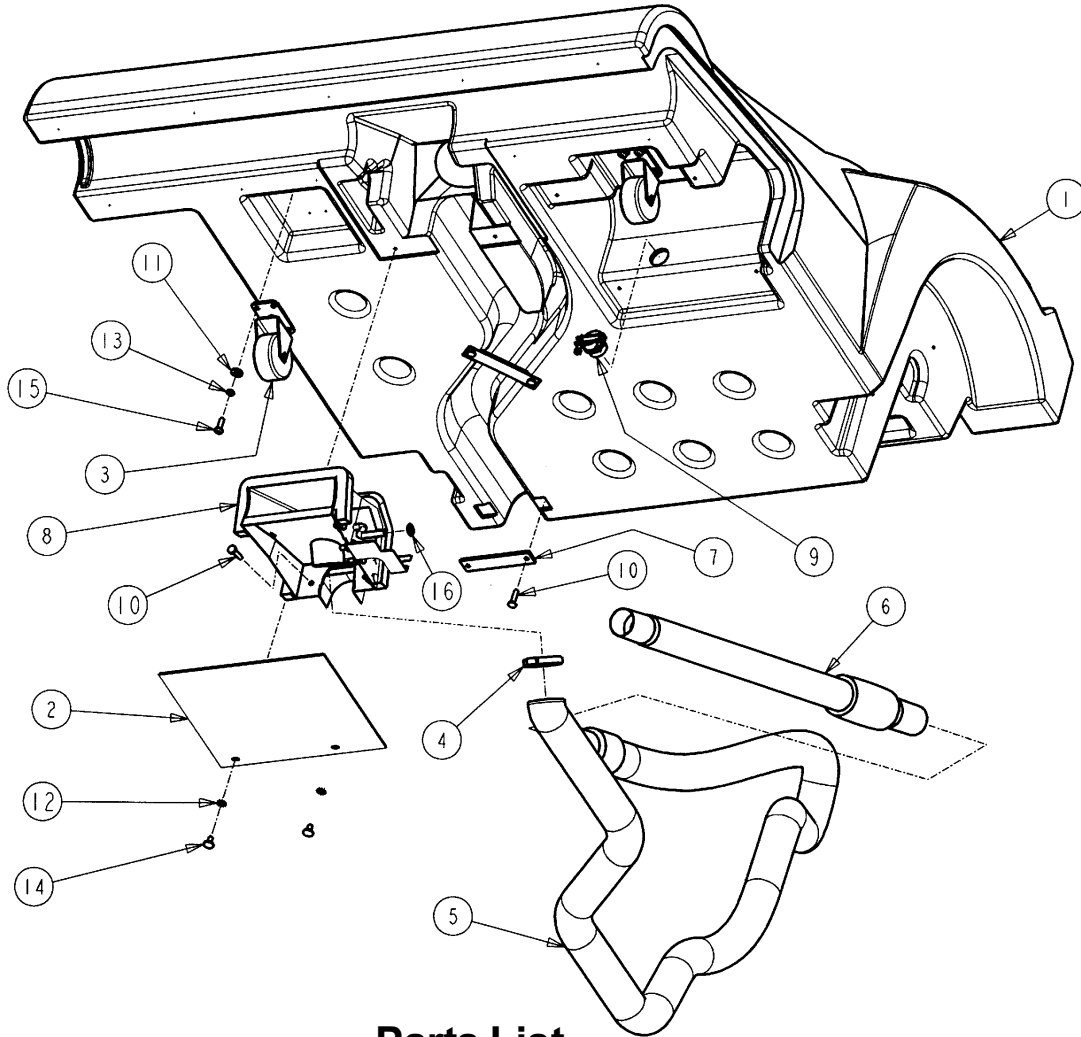
# Main Assembly - Rear Veiw



## Parts List

Item	Part No.	Qty.	Description
1	210413	2	Spring, Extension
2	260274	1	Grommet Z-421
3	270115	1	Sound Isolation Plate - WMT
4	270116	1	Sound Isolation Felt
5	270117	2	Wheel, Rear
6	270118	1	Rear Axle Weldment
7	270122	1	Foot Adjust Bar
8	270124	4	Wheel Roller Tube
9	270125	1	Body, Wide Area Vac
10	270127	1	Exhaust Filter Cover
11	270133	2	Offset Arm
12	270138	1	Remote Cable Assy, Diverter
13	270147	2	Dome Filter
14	270148	2	Post Filter, Dome
15	270168	1	Exhaust Filter
16	270186	1	Exhaust Filter Support
17	270189	1	Hose Retainer - Large
18	270210	2	Seal w/MTG Holes
19	270215	1	Non-Slip Strip
20	270218	1	Wheel Back Plate WMT - LF (Not Shown)
21	270219	1	Wheel Back Plate WMT - RT
22	710182	6	SCR-MC 1/4-20 x 1.00 STPL
23	711124	2	Pan Head ST #10 x .37 NI
24	711161	8	SCR-Hi/Lo #10 x 3/4 PL
25	711207	2	BLT-HH 1/4-20 x 1.00 STPL
26	711373	2	Nut-Hex 1/4-20
27	711427	1	Nut-Flanged Wizz 10-32
28	711503	13	WSR-Flat #10
29	711505	2	WSR-Flat 1/4
30	711527	2	WSR-Flat .63 x 1.12 x .09
31	711534	5	WSR-External Lock #10
32	711543	2	WSR-Helical #10
33	711544	2	WSR-Helical 1/4
34	711565	6	WSR-External Lock 5/16
35	711583	2	WSR-Wave .78 x 1.00 x .02
36	712131	8	SCR-TR 10-24 x .75 - Torx
37	712540	2	SCR-MC 10-24 x .37 SS TH
38	712638	6	Nut, Hex 10-24 SS Nyloc
39	712800	2	SCR-MC 10-24 x .24 ST PL
40	712812	3	SCR-MC 10-24 x .62 PPH ST PL
41	712813	2	SCR-MC 10-24 x .75 STPL
42	712822	4	SCR-MC 10-24 x .50 TH SS
43	712900	2	Nut-Hex 10-24 STPL
44	741300	1	Terminal Block C=2 P=4
45	746004	2	Vac Motor Assy Wav
45A	746027	2	Vac Motor Assy Wav 230 Vac
46	746033	1	Heyco 3200, Strain Relief
47	746034	1	Ferrite MPV-31 (230V Model Only)
48	808756	2	E Ring .62 5133-62
49	830804	5	Hole Plug - Heyco Blk 2633

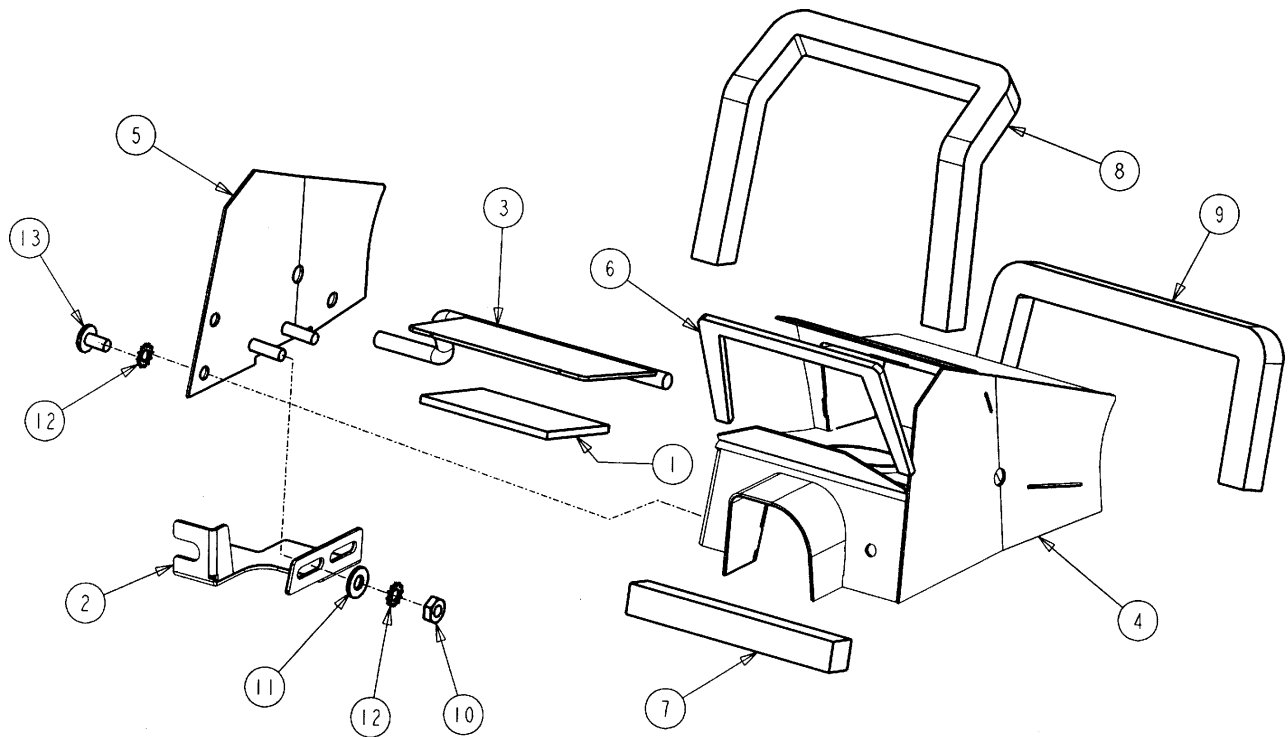
## Main Assembly - Bottom View



### Parts List

Item	Part No.	Qty.	Description
1	270125	1	Body, Wide Area Vac
2	270134	1	Diverter Base Plate
3	270141	2	Caster - 2.00" Dia Jarvis
4	270142	1	Crimp Clamp 1-5/8 Dia (410R)
5	270160	1	Hose and Cuff Ass'y
6	270162	1	Telescoping Wand
7	270188	3	Hose Retainer - Small
8	270204	1	Diverter Ass'y
9	270217	1	Strain Relief, Romex 1/2"
10	711161	8	SCR Hi/Lo #10 x 3/4 PL
11	711503	8	WSR, Flat #10
12	711534	2	WSR-External Lock #10
13	711543	8	WSR-Helical #10
14	712540	2	SCR-MC 10-24 x .37 SS TH
15	712812	8	SCR-MC 10-24 x .62 PPH ST PL
16	75-89-A	1	Speed Nut

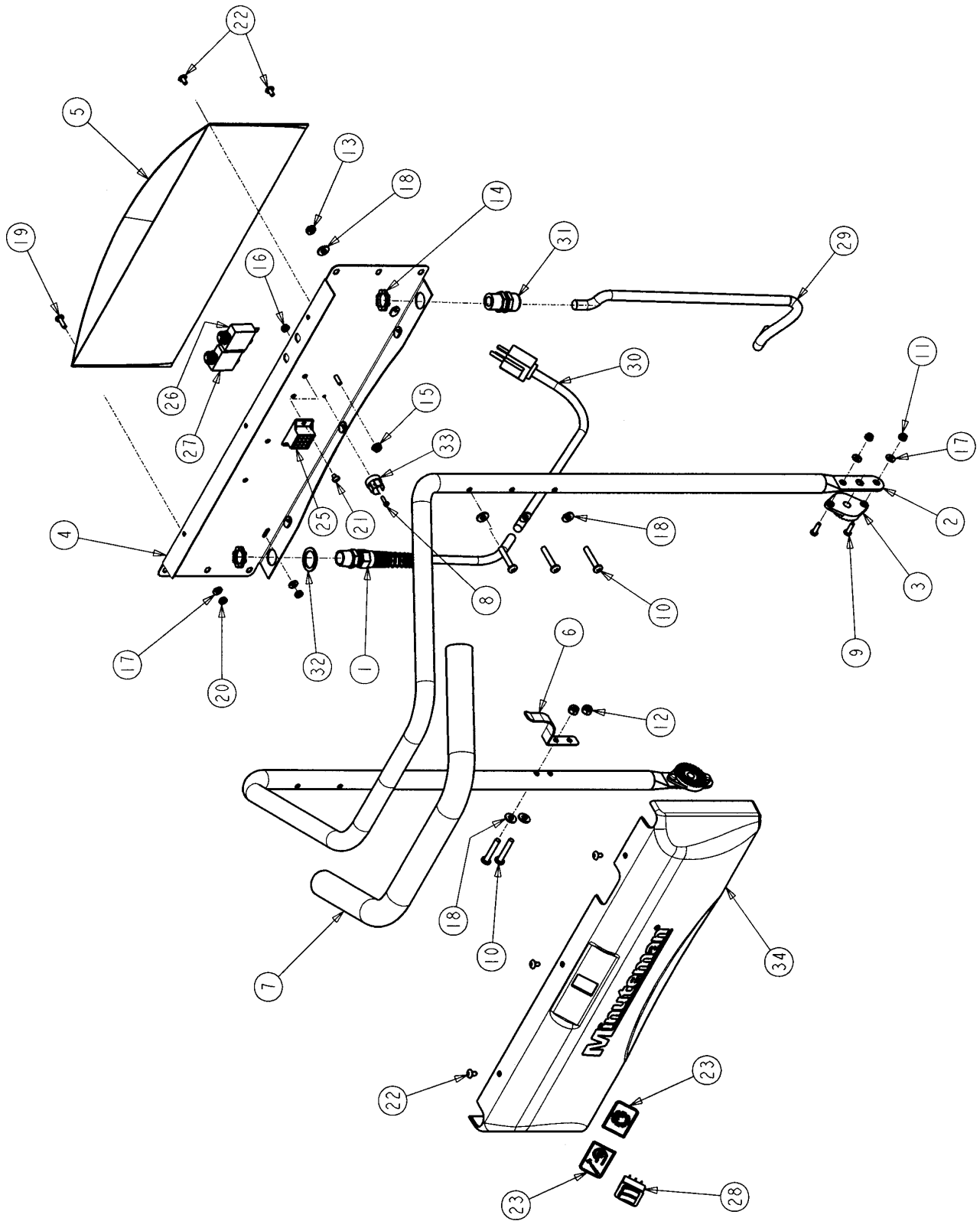
# Diverter Assembly



## Parts List

Item	Part No.	Qty.	Description
1	270190	1	Diverter Flap Gasket
2	270191	1	Diverter Cable Adj Bracket
3	270196	1	Diverter Flap Sub-Assy
4	270197	1	Diverter Base Assy
5	270202	1	Diverter Wall -Right
6	270208	1	Diverter Flap Seal
7	270211	1	Diverter Seal - Rear
8	270212	1	Diverter Seal - Top
9	270213	1	Diverter Seal - Front
10	711310	2	Nut, Hex 10-32 ST PL
11	711503	2	WSR, Flat #10
12	711534	5	WSR-External Lock #10
13	712540	3	SCR-MC 10-24 x .37 SS TH

# Handle Bar Assembly 270159

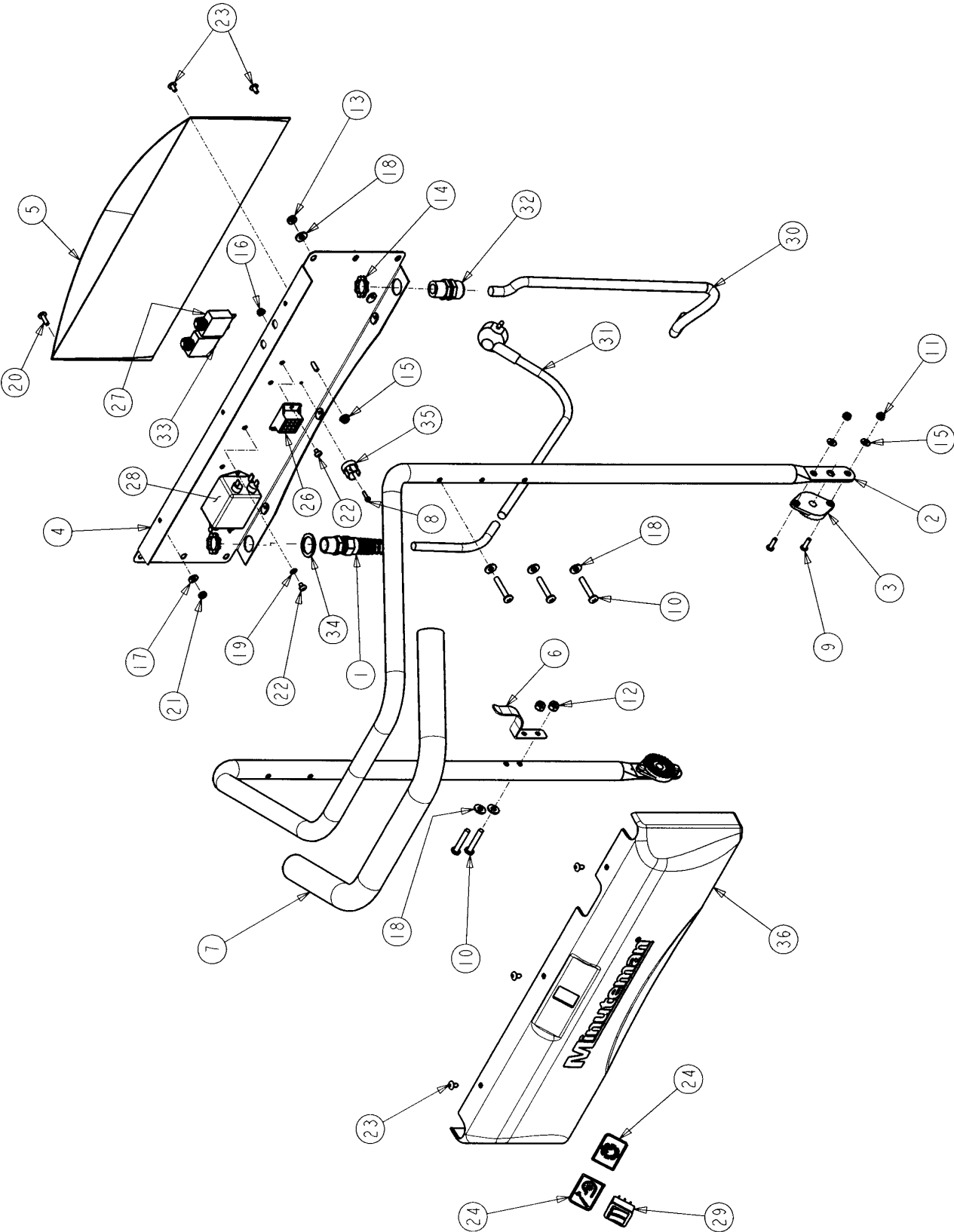


## Parts List

Item	Part No.	Qty.	Description
1	150003	1	Relief, Strain 100 x 50
2	270113	1	Handle, Wide Area Vac
3	270143	2	Handle Pivot Jaw
4	270154	1	Tool Caddy Weldment
5	270167	1	Tool Net, Mesh
6	270216	1	Hang-Up Hook
7	360108	1	Handle, Sleeve
8	710303	1	SCR-MC 6-32 x .50 ST PL Pan HD
9	710356	4	SCR-MC 10-32 x .62 Pan HD
10	710385	8	SCR-MC 1/4-20 x 1.50 ST NI
11	711350	4	Nut Nyloc 10-32
12	711373	2	Nut-Nloc 1/4-20
13	711387	6	Nut-Nyloc 1/4-20 1/2 Nut
14	711400	2	Nut-Pipe Lock 1/2"
15	711427	1	Nut-Flanged Wizz 10-32
16	711435	1	Nut-Flanged Wizz 6-32
17	711503	6	WSR, Flat #10
18	711505	14	WSR-Flat 1/4
19	712536	2	SCR-MC 10-24 x .62 SS
20	712638	2	Nut, Hex 10-24 SS Nyloc
21	712800	4	SCR-MC 10-24 x .25 ST PL
22	712816	8	SCR-MC 10-24 x .37 STPL
23	715428	1	Decal, Brush/Vacuum
24	740099	2	Cable Tie - Small
25	741300	1	Terminal Block C=2 P=4
26	746005	1	Circuit Breaker - 15A
27	746006	1	Circuit Breaker - 3A
28	746007	1	Switch, Dreeds Dual 25A Illuminated
29	746019	1	Cord Assy 14/5 SJT
30	746021	1	Cord Assy 12/3 x 75'
31	746033	1	Heyco 3200, Strain Relief
32	829720	1	Washer
33	831261	1	Rectifier 12A 400V
34	270155SP	1	Tool Caddy Top - Printed



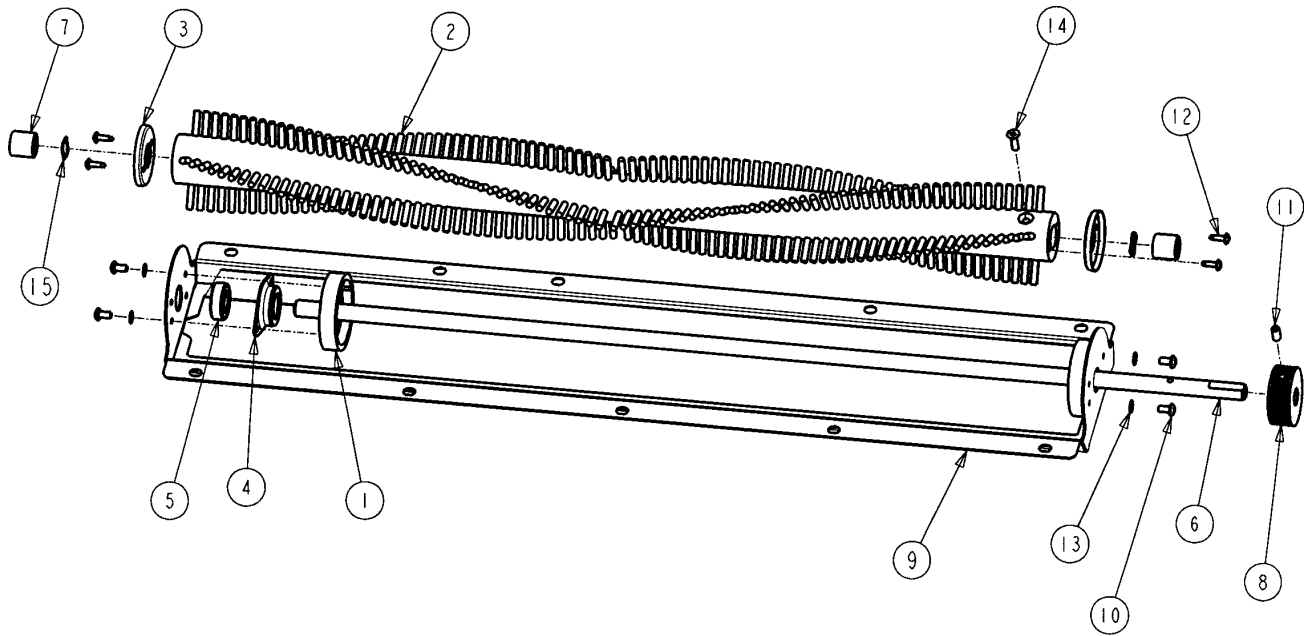
# Handle Bar Assembly 270159-230



## Parts List

Item	Part No.	Qty.	Description
1	150003	1	Relief, Strain 100x 50
2	270113	1	Handle, Wide Area Vac
3	270143	2	Handle Pivot Jaw
4	270154	1	Tool Caddy Weldment
5	270167	1	Tool Net, Mesh
6	270216	1	Hang-Up Hook
7	360108	1	Handle, Sleeve
8	710303	1	SCR-MC 6-32 x .50 ST PL Pan HD
9	710356	4	SCR-MC 10-32 x .62 STPL
10	710385	8	SCR-MC 1/4-20 x 1.50 ST NI
11	711350	4	Nut Nyloc 10-32
12	711373	2	Nut-Nloc 1/4-20
13	711387	6	Nut-Nyloc 1/4-20 1/2 Nut
14	711400	2	Nut-Pipe Lock 1/2"
15	711427	1	Nut-Flanged Wizz 10-32
16	711435	1	Nut-Flanged Wizz 6-32
17	711503	6	WSR, Flat #10
18	711505	14	WSR-Flat 1/4
19	711534	2	WSR-External Lock #10
20	712536	2	SCR-MC 10-24 x .62 SS
21	712638	2	Nut, Hex 10-24 SS Nyloc
22	712800	4	SCR-MC 10-24 x .25 ST PL
23	712816	8	SCR-MC 10-24 x .37 STPL
24	715428	1	Decal, Brush/Vacuum
25	740099	2	Cable Tie - Small
26	741300	1	Terminal Block C=2 P=4
27	746400	1	Circuit Breaker - 10A
28	742256	1	RFI Filter Corcom 10VSI
29	746007	1	Switch, Dreefs Dual 25A Illuminated
30	746019	1	Cord Assy 14/5 SJT
31	746032	1	Cord Assy 14/3 x 75' Power Wav 230V
32	746033	1	Heyco 3200, Strain Relief
33	746035	1	Circuit Breaker - 2.0A
34	829720	1	Washer
35	831261	1	Rectifier 12 A 400V
36	270155SP	1	Tool Caddy Top - Printed

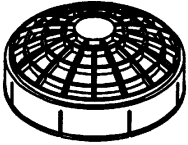
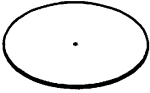
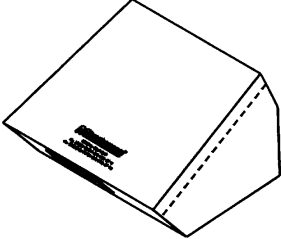
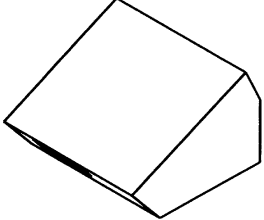
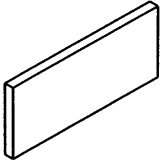
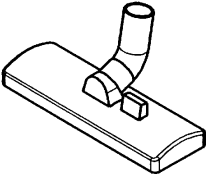
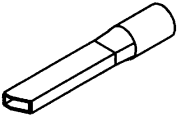
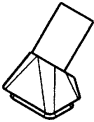
## Brush Assembly 270101



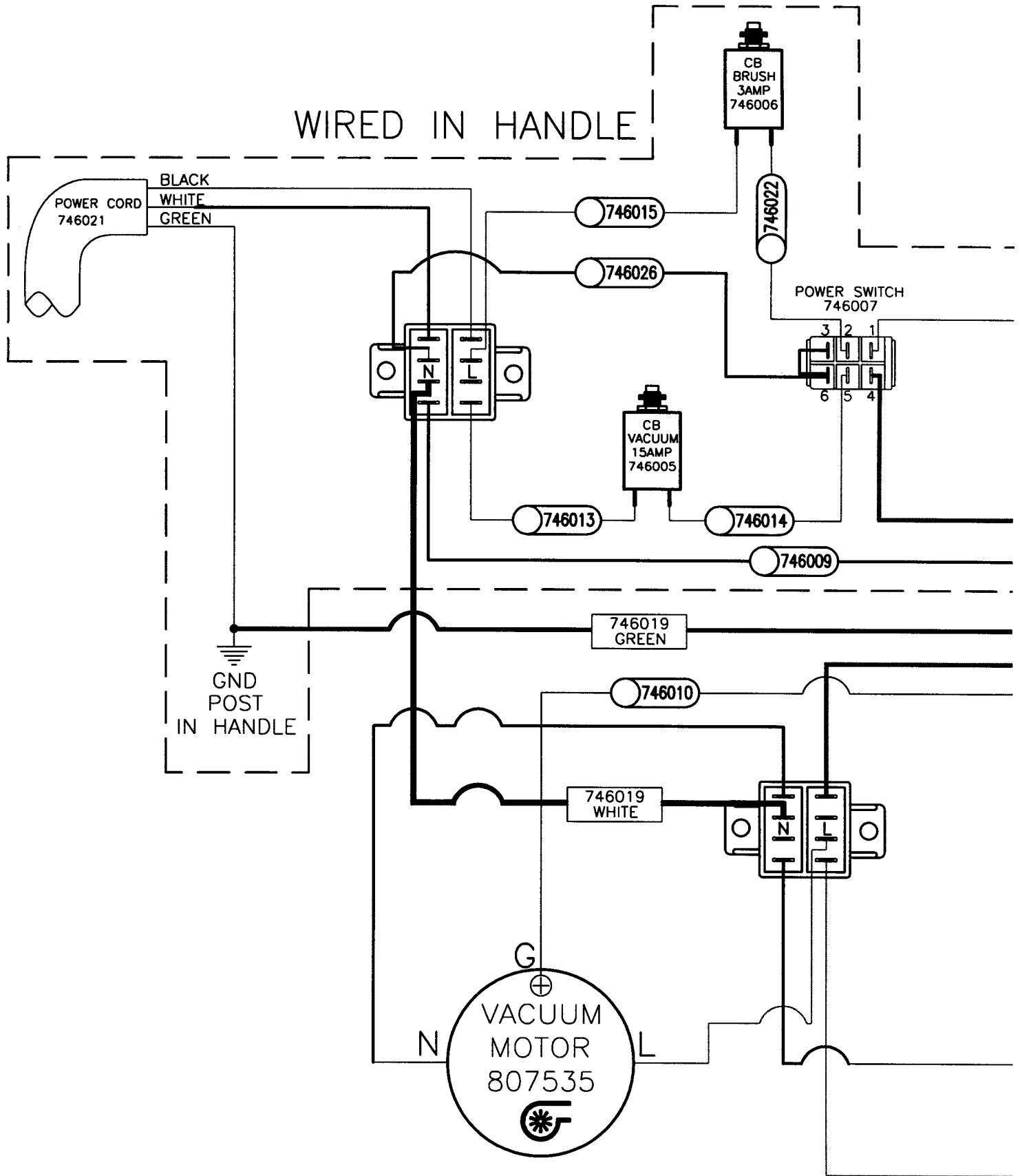
### Parts List

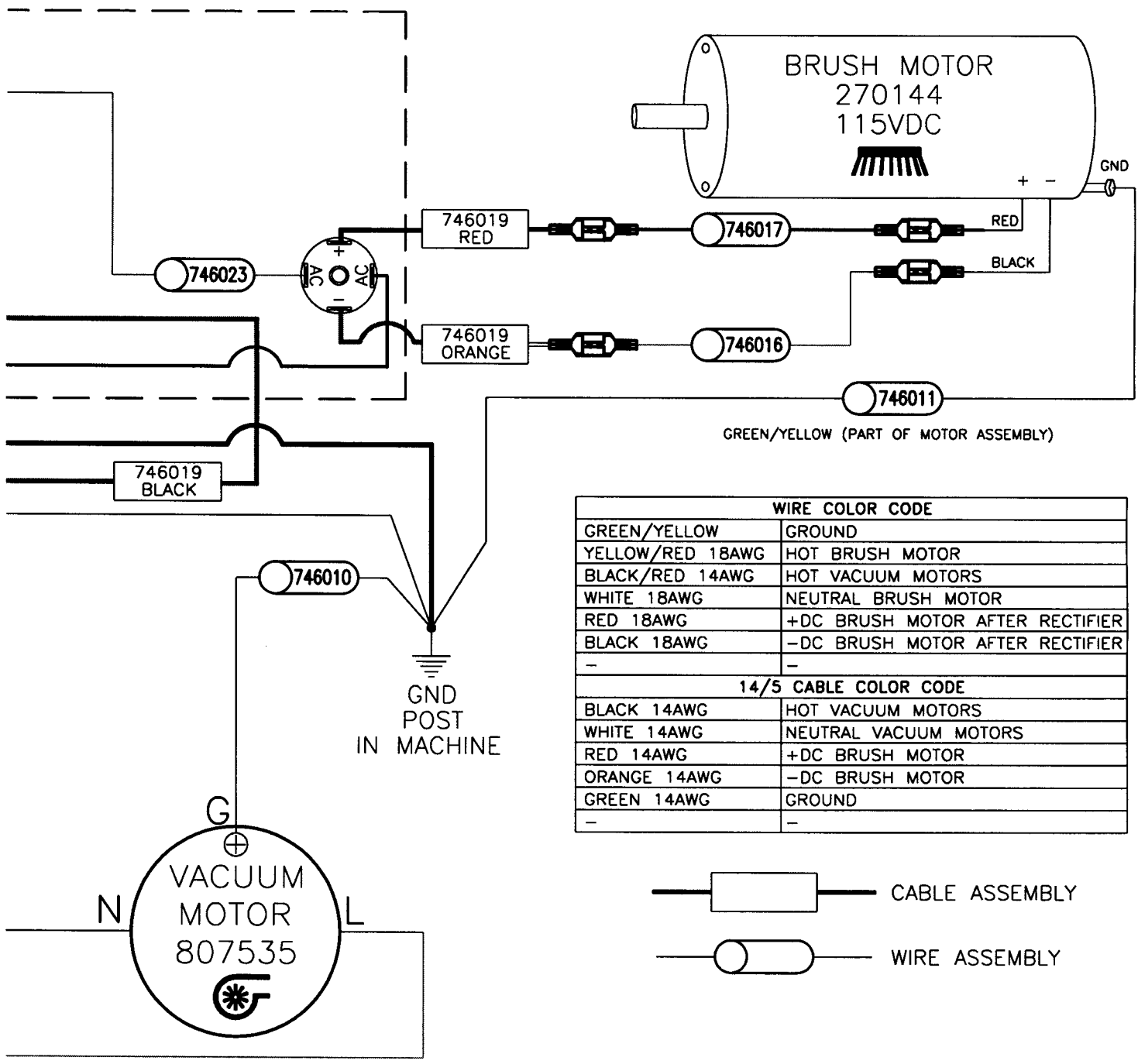
Item	Part No.	Qty.	Description
1	270102	2	Bearing Support Ring -Main Broom
2	270103	1	Broom - Main
3	270104	2	Dust Cap - Main Broom Bearing
4	270105	2	Bearing Retainer Ring
5	270106	2	Radial Ball Bearing
6	270107	1	Main Broom Shaft
7	270108	2	Bushing - Main Broom Spacer
8	270109	1	Brush Pulley
9	270110	1	Brush Shoe
10	710353	4	SCR-MC 10-32 x .37 ST PL
11	711016	1	SCR-SK 1/4-20 x .50 - Cup Pt. Set SCR
12	711181	4	SCR-ST-B Hi-Lo #8 x .50 PL
13	711534	4	WSR-External Lock #10
14	712826	2	SCR-FHMS 10-32 x .625
15	827903	2	Washer

## Replacement Parts

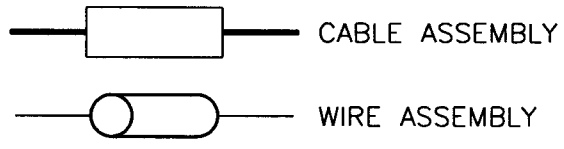
	270147	Dome Filter
	270148PKG	Post Filter, Dome (Qty 10/Pkg)
	270182	Filter Bag, Cloth
	270183PKG	Filter Bag, Paper (Qty 10/Pkg)
	270168	Exhaust Filter, Foam
	829561	Combination Floor Tool 1-1/4"
	829562	Crevice Tool 1-1/4"
	829563	Dust Bush 1-1/4"

# Wiring Diagram 120VAC

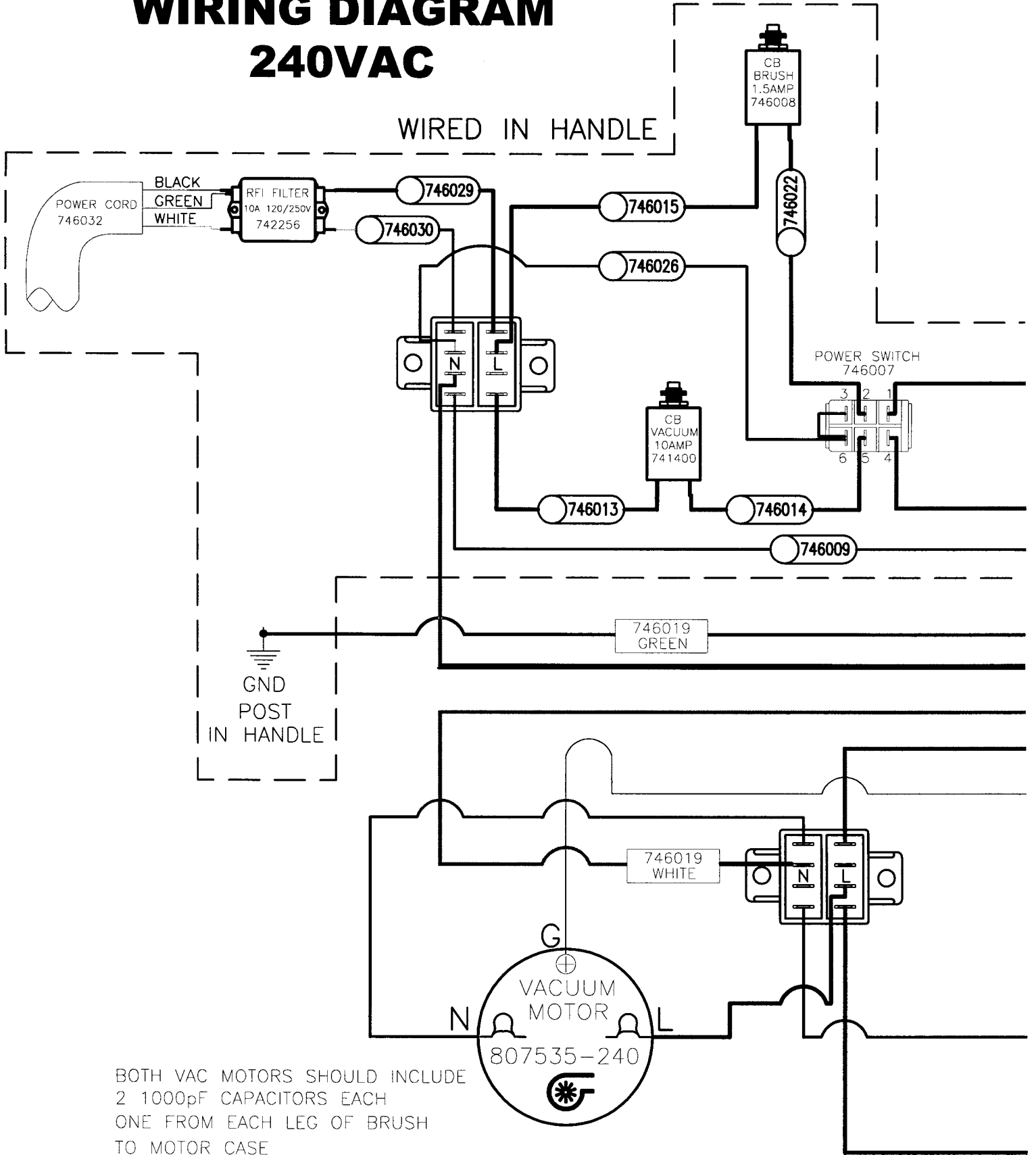




WIRE COLOR CODE	
GREEN/YELLOW	GROUND
YELLOW/RED 18AWG	HOT BRUSH MOTOR
BLACK/RED 14AWG	HOT VACUUM MOTORS
WHITE 18AWG	NEUTRAL BRUSH MOTOR
RED 18AWG	+DC BRUSH MOTOR AFTER RECTIFIER
BLACK 18AWG	-DC BRUSH MOTOR AFTER RECTIFIER
-	-
14/5 CABLE COLOR CODE	
BLACK 14AWG	HOT VACUUM MOTORS
WHITE 14AWG	NEUTRAL VACUUM MOTORS
RED 14AWG	+DC BRUSH MOTOR
ORANGE 14AWG	-DC BRUSH MOTOR
GREEN 14AWG	GROUND
-	-

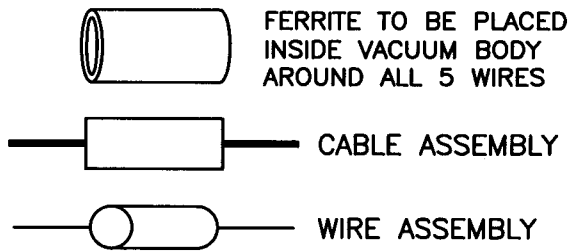


# WIRING DIAGRAM 240VAC

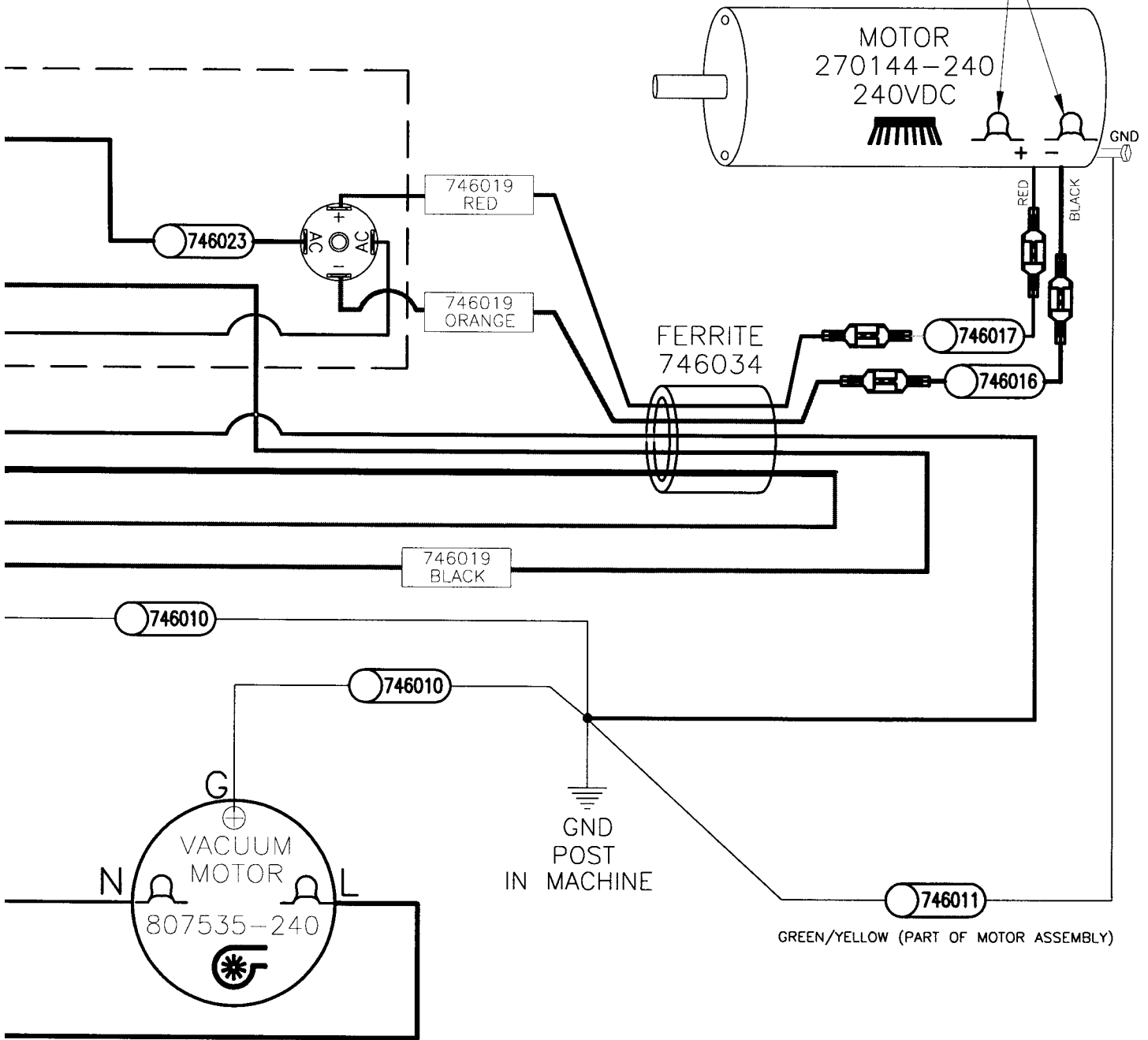


BOTH VAC MOTORS SHOULD INCLUDE  
2 1000pF CAPACITORS EACH  
ONE FROM EACH LEG OF BRUSH  
TO MOTOR CASE

WIRE COLOR CODE	
GREEN/YELLOW	GROUND
YELLOW/RED 18AWG	HOT BRUSH MOTOR
BLACK/RED 14AWG	HOT VACUUM MOTORS
WHITE 18AWG	NEUTRAL BRUSH MOTOR
RED 18AWG	+DC BRUSH MOTOR AFTER RECTIFIER
BLACK 18AWG	-DC BRUSH MOTOR AFTER RECTIFIER
-	-
14/5 CABLE COLOR CODE	
BLACK 14AWG	HOT VACUUM MOTORS
WHITE 14AWG	NEUTRAL VACUUM MOTORS
RED 14AWG	+DC BRUSH MOTOR
ORANGE 14AWG	-DC BRUSH MOTOR
GREEN 14AWG	GROUND
-	-



2 INTERNAL 1000pF CAPACITORS  
ONE FROM EACH LEG OF  
BRUSH TO MOTOR CASE





# LIMITED WARRANTY

Minuteman International, Inc. warrants to the original purchaser/user that this product is free from defects in workmanship and materials under normal use and service for a period of three years from date of purchase. In addition, Minuteman International, Inc. will, at its option, honor labor warranty claims for the first 12 months from date of sale, provided such claims are submitted through and approved by factory authorized repair stations. Minuteman International, Inc. will, at its option, repair or replace without charge, except for transportation costs, parts that fail under normal use and service when operated and maintained in accordance with the applicable operation and instruction manuals.

This warranty does not apply to normal wear, or to items whose life is dependent on their use and care, such as belts, cords, switches, hoses, rubber parts, electrical motor components or adjustments. Parts not manufactured by Minuteman International, Inc. such as engines, batteries, battery chargers, hydraulic pumps, and tires are covered by and subject to the warranties and/or guarantees of their manufacturers. Please contact Minuteman International, Inc. for procedures in warranty claims against these manufacturers.

**Special warning to purchaser** — Use of replacement filters and/or prefilters not manufactured by Minuteman International, Inc. or its designated licensees, will void all warranties expressed or implied.

A potential health hazard exists without exact original equipment replacement.

All warranted items become the sole property of Minuteman International, Inc. or its original manufacturer, whichever the case may be.

Minuteman International, Inc. disclaims any implied warranty, including the warranty of merchantability and the warranty of fitness for a particular purpose. Minuteman International, Inc. assumes no responsibility for any special, incidental or consequential damages.

This limited warranty is applicable only in the U.S.A. and Canada, and is extended only to the original user/purchaser of this product. Customers outside the U.S.A. and Canada should contact their local distributor for export warranty policies. Minuteman International, Inc. is not responsible for costs or repairs performed by persons other than those specifically authorized by Minuteman International, Inc. This warranty does not apply to damage from transportation, alterations by unauthorized persons, misuse or abuse of the equipment, use of non-compatible chemicals, or damage to property, or loss of income due to malfunctions of the product.

If a difficulty develops with this machine, you should contact the dealer from whom it was purchased.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow the exclusion or limitation of special, incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

## ***Minuteman***<sup>®</sup>

**World Headquarters**  
Minuteman International, Inc.  
111 South Rohlwing Road  
Addison, Illinois 60101

(630) 627-6900  
FAX (630) 627-1130

Minuteman Canada, Inc.  
2210 Drew Road  
Mississauga, Ontario  
L5S 1B1

(905) 673-3222  
FAX (905) 673-5161

983400  
Printed in U.S.A.