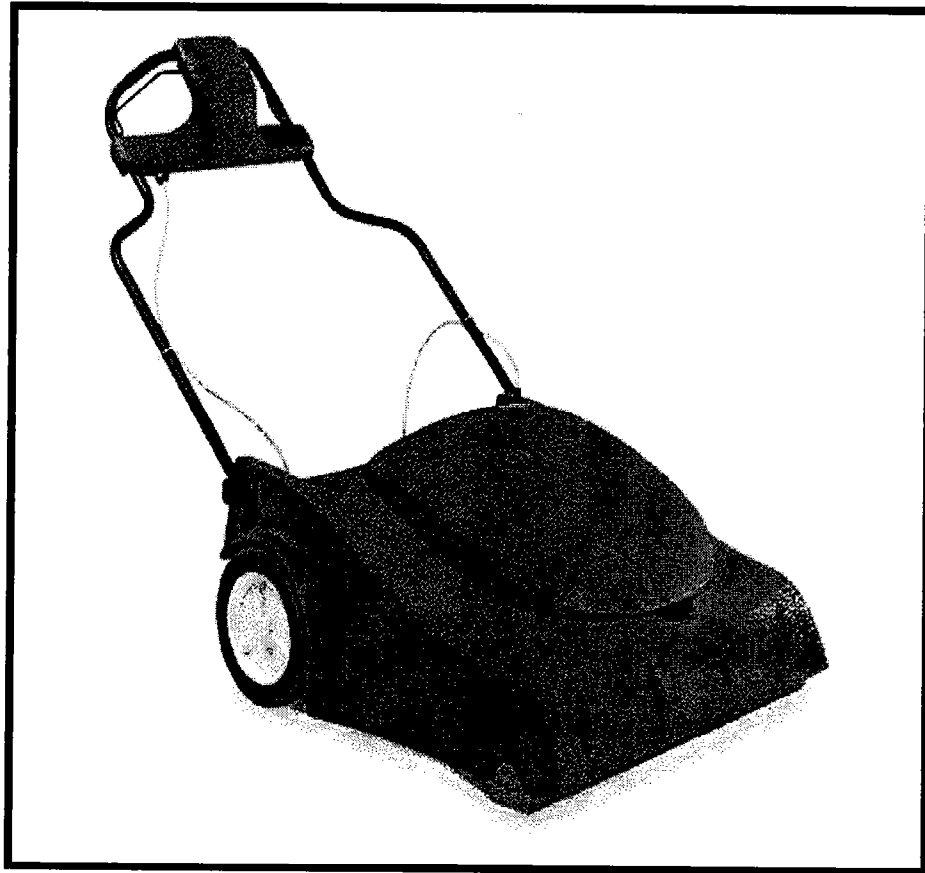


TORNADO® INDUSTRIES  
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# Tornado®

## WIDE AREA VACUUM CLEANER

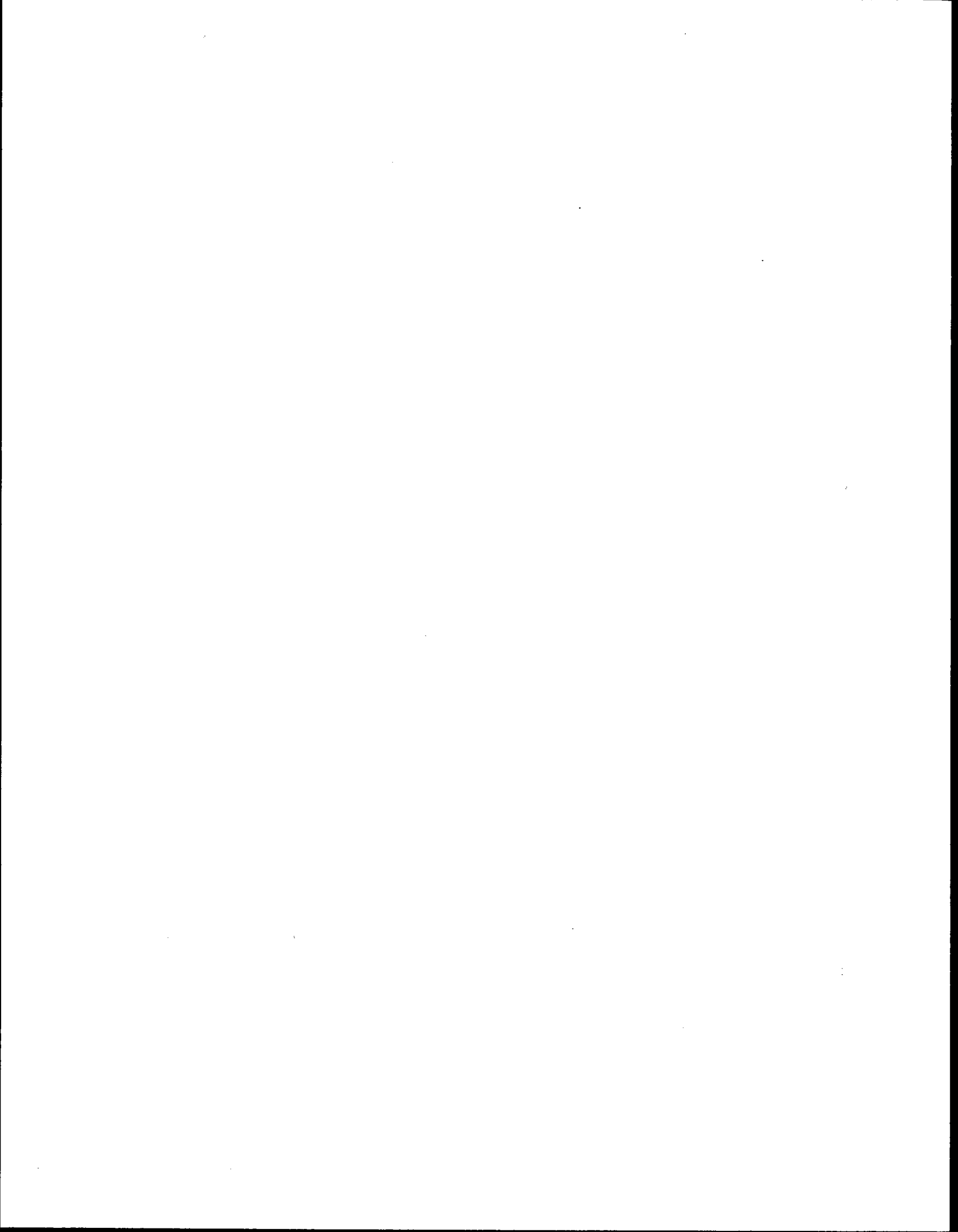


## Operation & Maintenance Manual / Parts List

For Commercial Use Only

L3030DD (2/00) FOR COMMERCIAL USE ONLY

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**(L3030 MANUAL)**

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## **PERFORMANCE FEATURES:**

- **Advanced Styling With Durable Construction**
- **Clean Air Filtration**
- **30" Wide Cleaning Path**
- **Height Adjustable Folding Handle**
- **(4) Row Chevron Brush (28" Long x 3" Diameter)**
- **PMDC Brush Motor, ½ HP, 2.3 Amps, 2600 RPM**
- **(2) Ametek Vacuum Motors:  
1 HP, 6.7 Amps, 98 CFM, 63" Waterlift**
- **4 Stage "Clean Air" Filtration:**
  - **Stage 1: Disposable Paper Bag**
  - **Stage 2: High Efficiency Reusable Cloth Bag**
  - **Stage 3: Vacuum Motor Intake Filter**
  - **Stage 4: Motor Exhaust Filter Cartridge**
- **Rotationally Molded Housing and Lid**
- **10" Diameter, 125 Lb. Rated Main Wheels**
- **5 Foot Operated Brush Height Adjustment Levels**
- **Easy Access Poly-V Drive Belt**
- **Stainless Steel Brush Shoe**
- **75 Foot Power Cord**

## Specifications

CATALOG NO.	93030	93032
SERIES	D	D
CLEANING PATH (WIDTH)	30"	30"
HP - BRUSH MOTOR	1/2 HP	1/2 HP
HP - VAC MOTOR	2 x 1 HP	2 x 1 HP
VOLTS	115V	115V
AMPS	15	15
CERTIFICATION	Pending	Pending

All specifications are subject to change without notice.

All information and specifications printed in the manual and parts list are current at the time of printing. However, because of Tornado's policy of continued product improvement we reserve the right to make changes at any time without notice.

### **Tornado<sup>®</sup> Standard Warranty Program\***

**10 Years:** All plastic tanks and rotationally-molded bodies

**2 Years:** Parts and Labor on all Tornado and Tornado/Karcher cleaning equipment \*\*

**1 Year:** Warranty on batteries, one full year, not pro-rated.

Warranties do not cover components subject to normal wear or abuse and misuse, and have other limitations not specified here. For full details, contact your Authorized Tornado Distributor, Service Center, or the Tornado Technical Service Department.

\* Effective January 1<sup>st</sup>, 2000. Terms subject to change without notice.

\*\* Windshear<sup>™</sup> Blower-Dryer, Insulation Blowers, CW 50, CW 100, and Duo Upright Carpetkeepers<sup>™</sup> are warranted for 1 (one) year for parts and labor.

**IMPORTANT SAFETY INSTRUCTIONS FOR  
COMMERCIAL USE ONLY  
WHEN USING AN ELECTRICAL APPLIANCE BASIC PRECAUTIONS SHOULD ALWAYS BE  
FOLLOWED INCLUDING THE FOLLOWING:**

**READ ALL INSTRUCTIONS BEFORE USING THE MACHINE**



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

Do not leave machine unattended when plugged in. Unplug from outlet when not in use and before changing bags or attempting any maintenance or adjustment.

To avoid electrical shock, Use indoors only. Do not use outdoors and do not expose to rain.

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 machine 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 machine 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 machine with wet hands.

Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.

Turn off all controls before unplugging.

Connect to a properly grounded outlet only. See Grounding Instructions.

Do not put hands under base - rotating parts could cause injury. Always keep hands feet and loose fitting clothing away from moving parts to prevent possible injuries. Use care to keep electrical supply cable from contacting moving parts, such as floor brushes.

**Risk of explosion:** Use this machine only in a well ventilated area, free from any flame or match. Do not use machine in areas where flammable and/or explosive vapors or dust are present.

Make sure voltage and frequency at the wall power receptacle correspond with that indicated on name plate before plugging in machine. A 20 amp circuit is recommended.

Never use a device to lock the switch lever in the ON position.

Use only a 12 Ga. three-wire extension cable which have 3-prong grounding type plugs and 3-prong receptacles that accept the machine's plug.

**Save These Instructions**

## BEFORE OPERATING MACHINE



**WARNING:** Failure to adhere to these instructions could result in serious bodily injury or property damage.

Read this manual completely before attempting to operate machine. This manual has important information for the use and safe operation of the machine. Keep this manual on file and handy. If additional information is needed, please contact your local distributor or call:

**TORNADO INDUSTRIES**  
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CHICAGO, IL 60706

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1-800-VACUUMS  
Fax: (708) 867-6968  
<http://www.tornadovac.com>

## Grounding Instructions

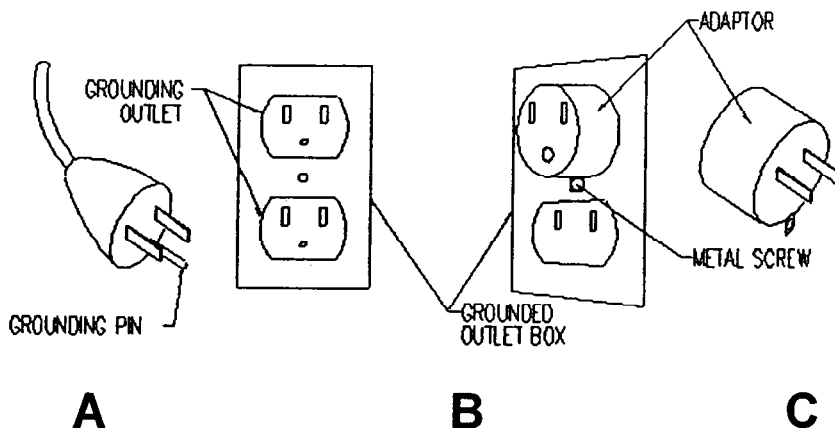


**WARNING:** Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

This appliance 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 machine 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.

This appliance is for use on a nominal 120-volt circuit, and has a grounding plug that looks like the plug illustrated in sketch A. A temporary adapter that looks like the adapter illustrated in sketches B and C may be used to connect this plug to a 2-pole receptacle (sketch B) if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet (sketch A) can be installed by a qualified electrician. The green-colored rigid ear, lug, or tab extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place by a metal screw.

**NOTE:** In Canada, the use of a temporary adapter is not permitted by the Canadian Electrical Code.



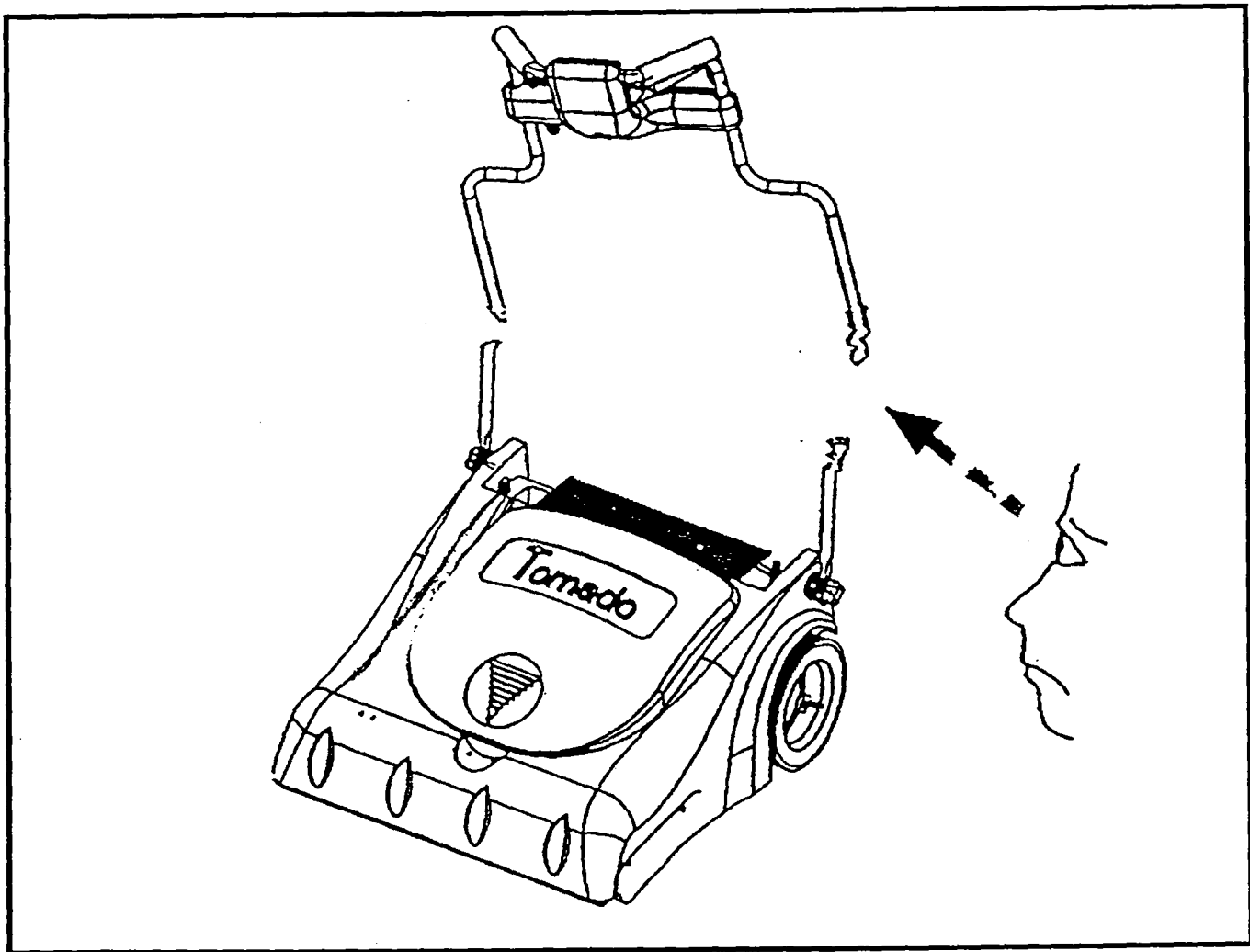
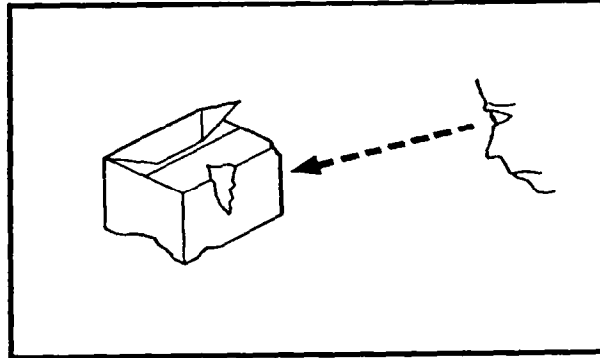
## EXTENSION CORD

If an extension cord is used, use only a three wire 12 gauge extension cord that has three prong grounding type plugs and three prong receptacles that accept the machine's plug. This machine is equipped with a 14 gauge power cord. Replace or repair all damaged cords.



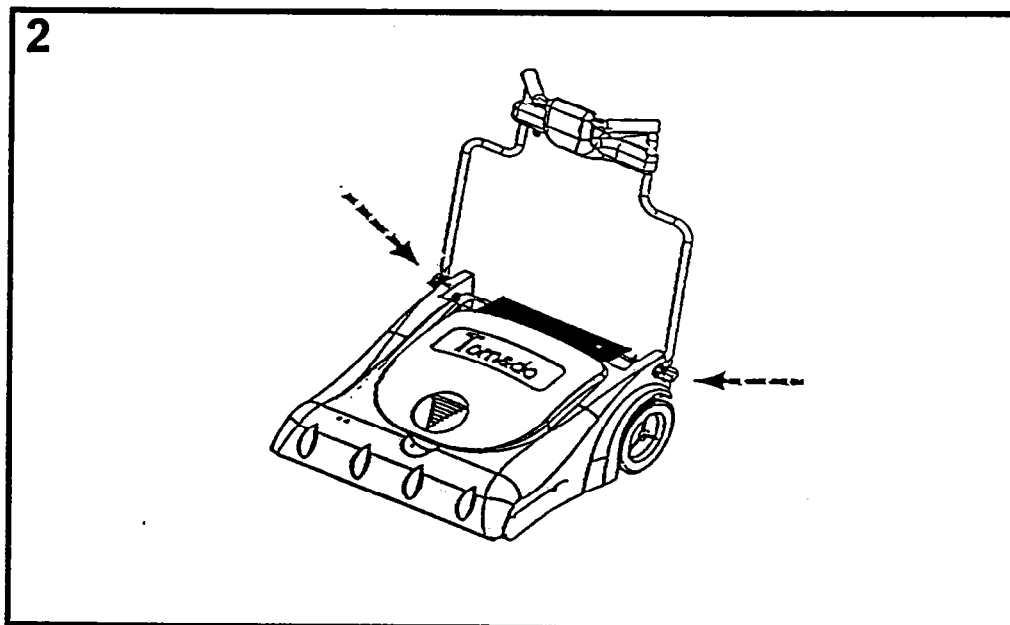
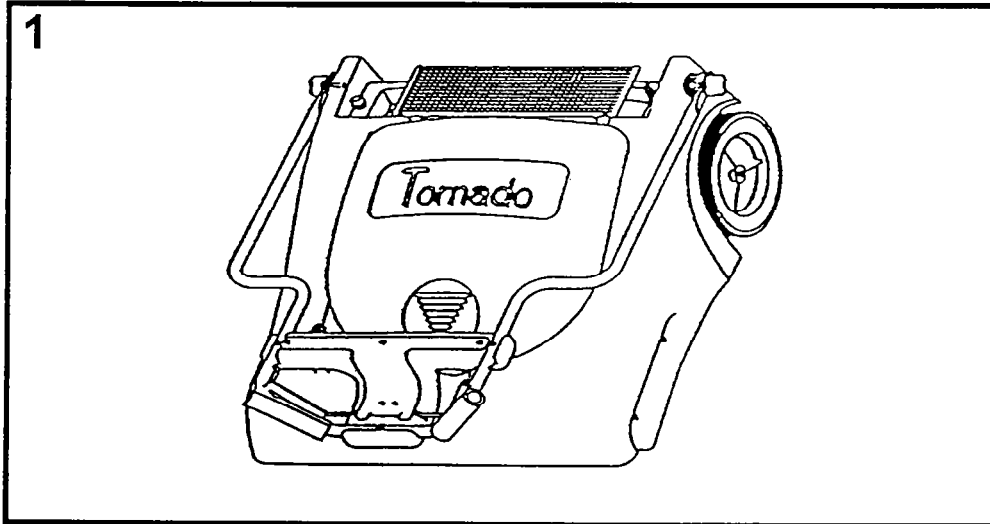
### WHEN THE MACHINE IS DELIVERED

If machine is damaged, notify the carrier immediately and request an inspection. Be sure to keep the carton, packing inserts, packing lists, and carrier's receipt until the inspector has verified your claim.



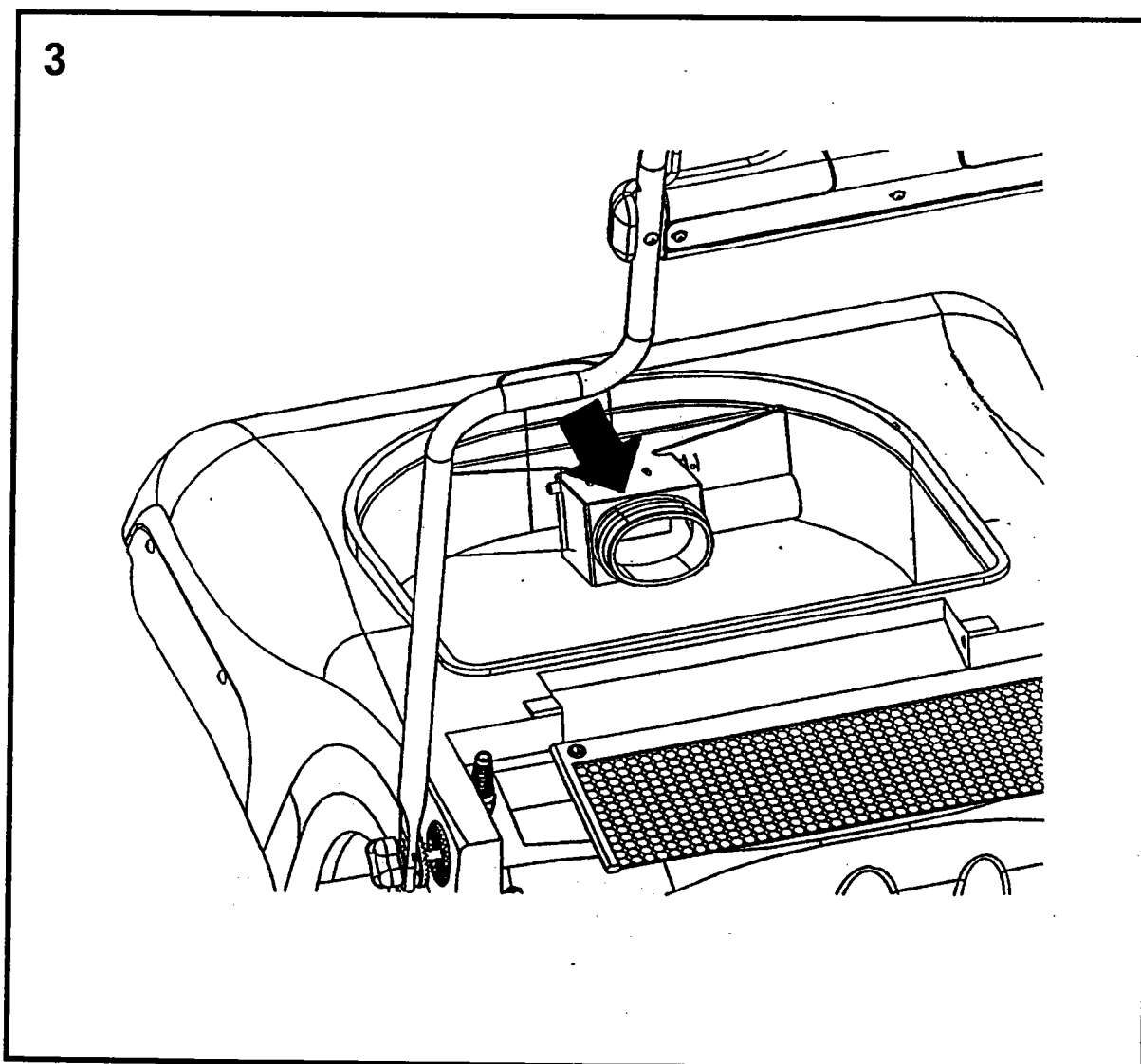
## **ASSEMBLY INSTRUCTIONS:**

1. Loosen handle pivot knobs and adjust handle to comfortable operation height.
2. Tighten knobs to lock handle in place.



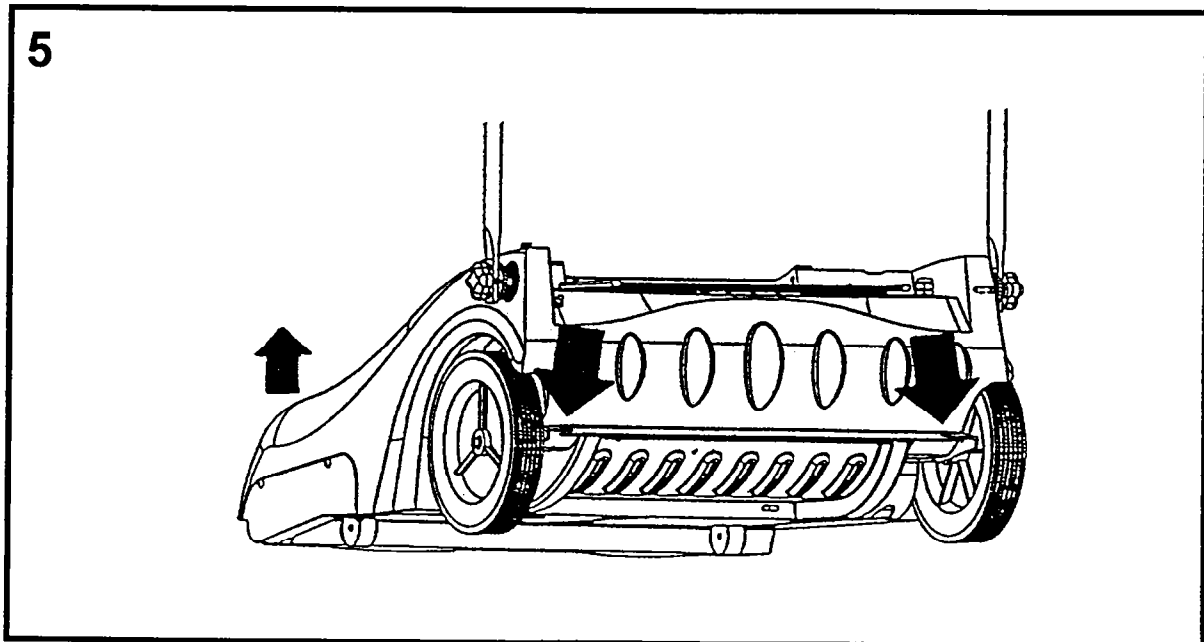
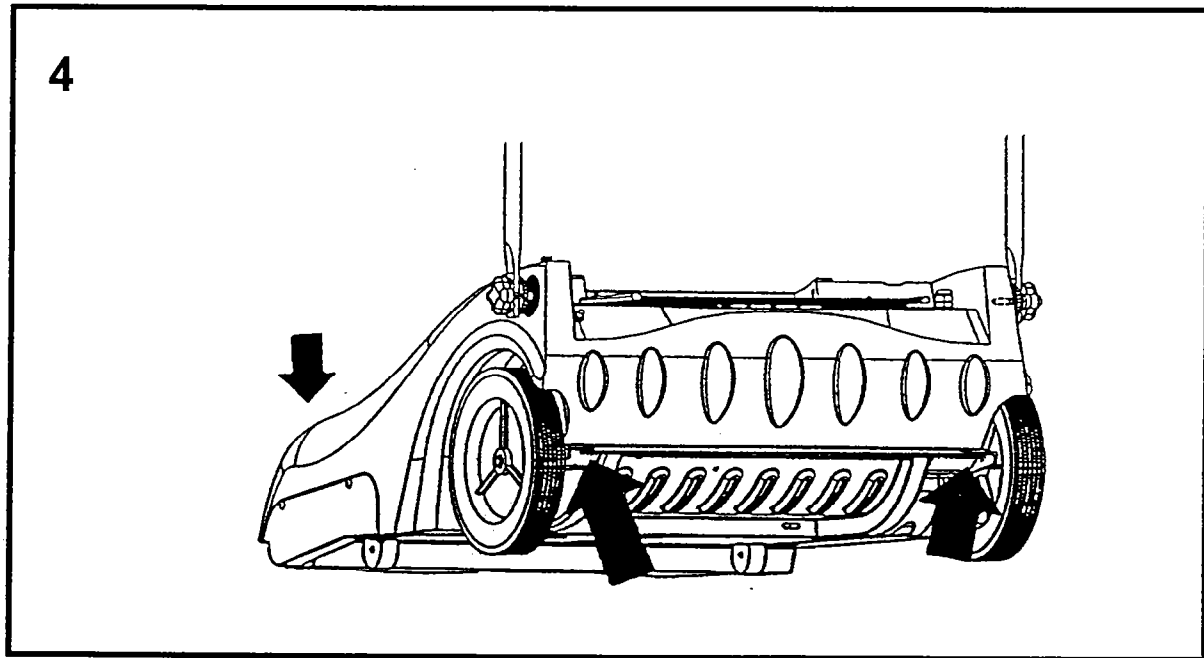
## **BAG INSTALLATION INSTRUCTIONS:**

1. Open Wide Area Vacuum lid.
2. Unzip cloth bag and install paper bag inside.
3. Attach both bag openings together onto vacuum intake housing (see diagram 3 below).
4. Make sure bag is properly deployed inside machine housing.
5. Completely close zipper on cloth bag and close lid of machine.



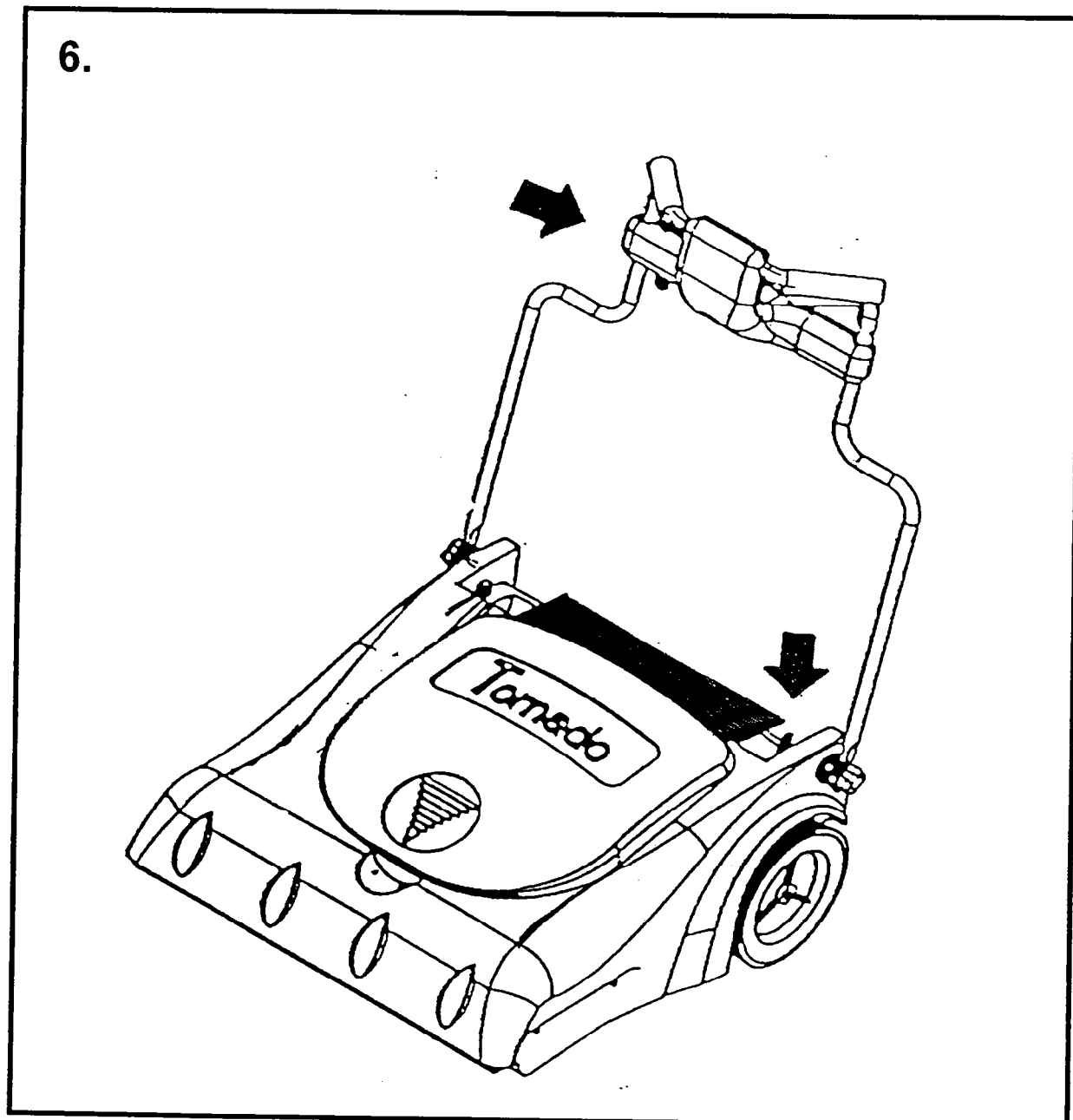
## **BRUSH HEIGHT ADJUSTMENT:**

1. This machine has 5 brush adjustment levels.
2. **To raise brush height level:** lift up height adjustment bar until desired brush height is attained (see diagram 4 below).
3. **To lower brush height level:** push down on height adjustment bar until desired brush height is attained (see diagram 5 below).



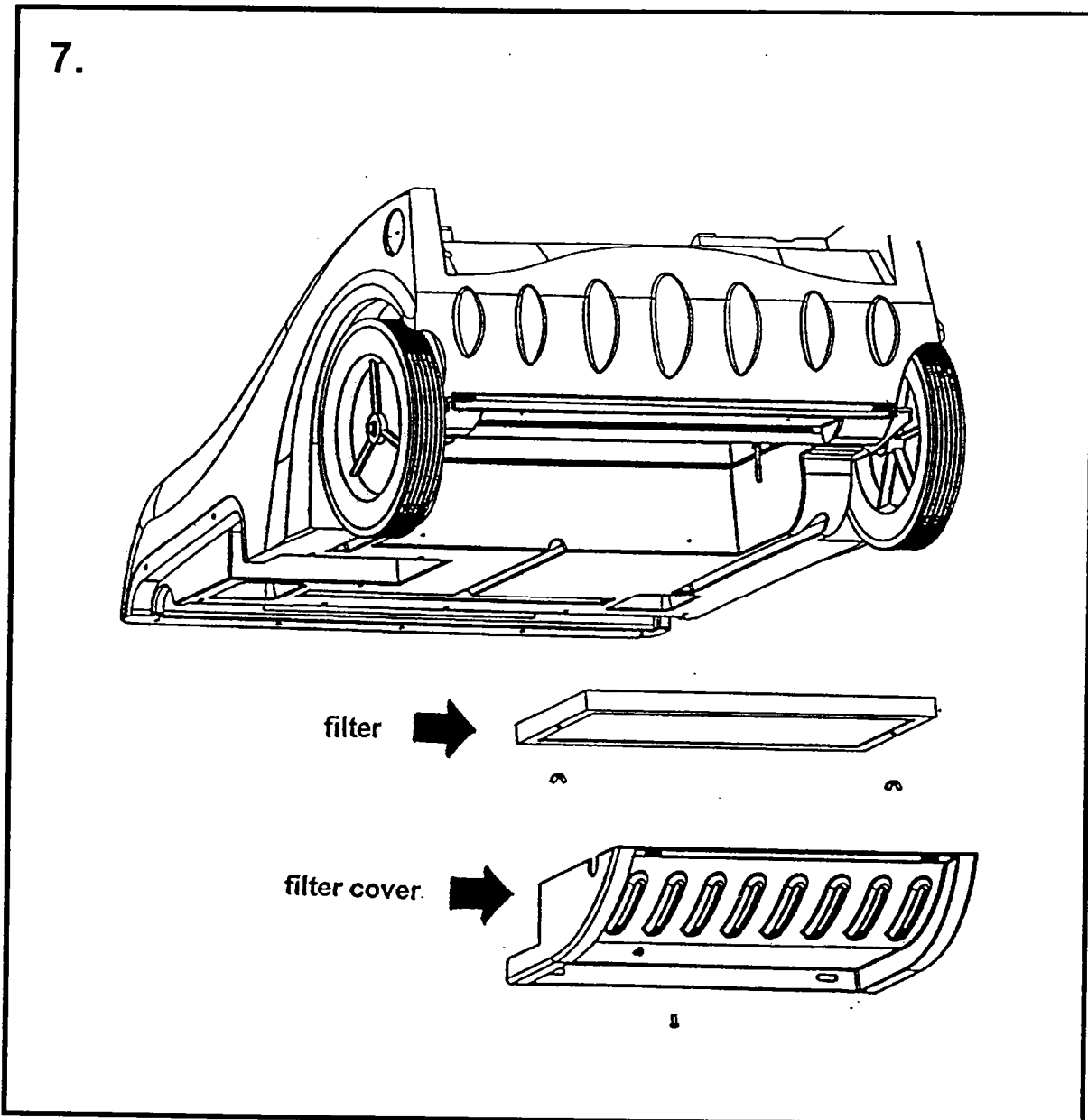
## OPERATION OF MACHINE:

1. Depress foot switch (located at rear left of machine) to turn on machine.
2. To operate brush squeeze trigger bar.
3. Adjust height for proper pick-up (refer to height adjustment instructions and diagram 6 below).



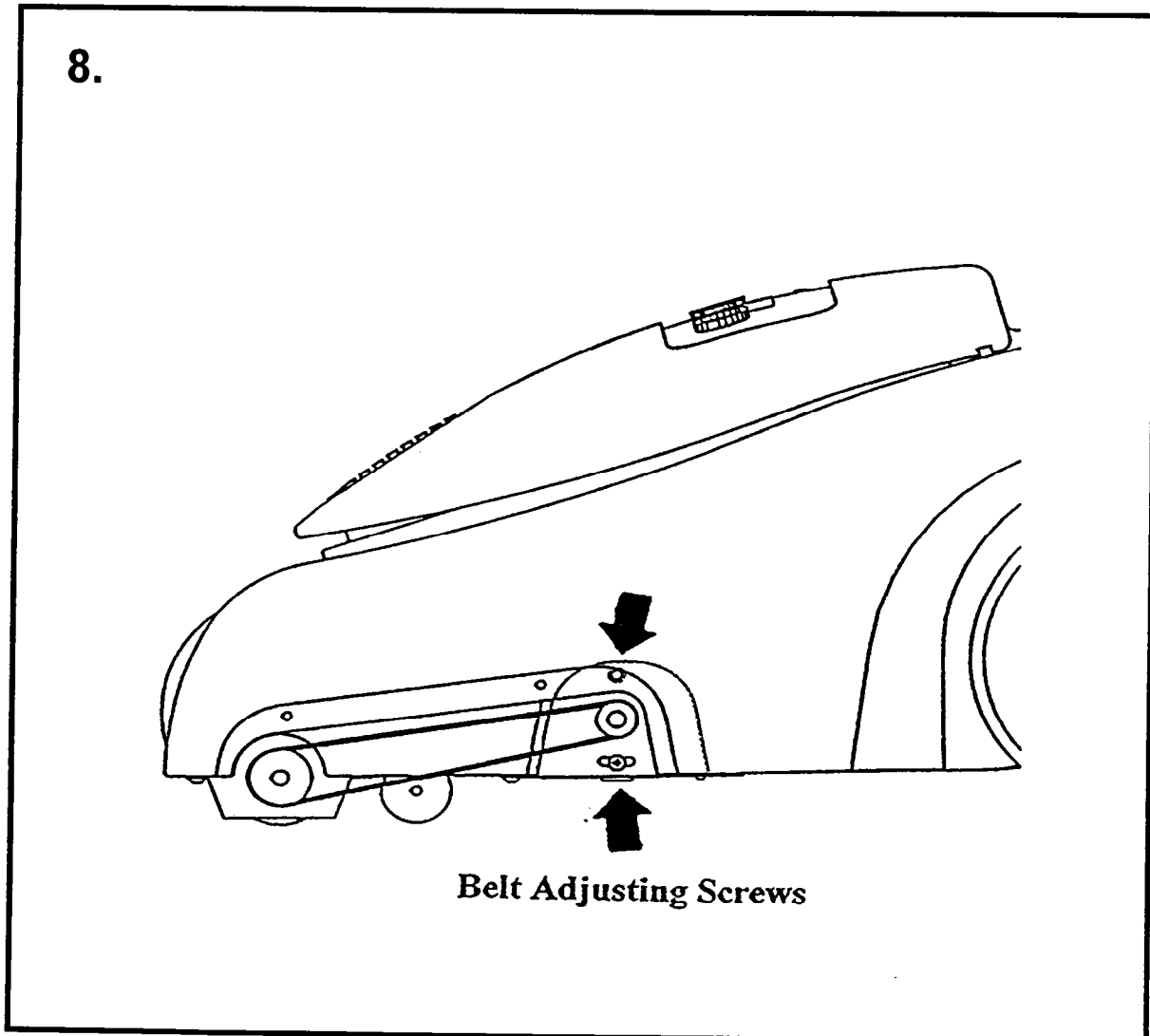
## FILTER REPLACEMENT:

1. Remove filter cover screws at back of machine (see diagram 7 below).
2. Remove the two nuts holding filter onto machine.
3. Replace filter in proper position and tighten nuts.
4. Reinstall filter cover.



## **BELT ADJUSTMENT / REPLACEMENT:**

1. Remove belt cover on left side of machine (refer to diagram 8).
2. Loosen the two motor belt adjusting screws on moter bracket.
3. Remove belt.
4. Install new belt and tighten belt to eliminate excess slack.
5. Once proper tension is set, tighten motor adjusting screws tightly.
6. Replace belt cover on side of machine.



## FULL ASSEMBLY PARTS LIST(Refer to Exploded View)

<u>ITEM</u>	<u>QTY</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	16	00086	SCREW-PHILLIPS ROUND HEAD MACHINE 1/4-20 X 1/2
2	5	00600	SCREW-SLOTTED ROUND HEAD MACHINE #8-32 X 3/4
3	4	00851	WASHER-PLAIN 1/4
4	4	01604	NUT-FINISHED HEX
5	8	01713	WASHER-LOCK (H/S)
6	4	01993	SCREW-PHILLIPS FLAT HEAD MACHINE #10-24 X 3/4
7	1	02011	SET SCREW, BRUSH PULLEY
8	4	02658	WASHER-PLAIN 5/16
9	5	02956	NUT-HEX. LOCK (KEPS) *8-32
10	8	03660	SCREW-PHILLIPS PAN HEAD MACHINE #10-24 X 7/16
11	2	07870	WASHER-LOCK (I/T) 1/4"
12	4	10894	NUT-HEX. LOCK (P/T)
13	8	11240	SCREW-PHILLIPS PAN HEAD TAPTITE #10-24 X 1/2
14	2	11385	WASHER SEALING
15	2	15357	SPRING-LATCH RELEASE
16	8	15475	SCREW-PHILLIPS FLAT HEAD MACHINE #8-32 X 3/8
17	4	16433	SCREW-PHILLIPS FLAT HEAD MACHINE #10-32 X 1-3/4
18	4	16581	WASHER-PLAIN
19	8	17850	WASHER-PLAIN #10
20	4	18793	STRAIN RELIEF (LIQ.TITE)
21	2	19797	WHEEL 10" PLASTIC HUB 125 LB
22	2	19798	BRACKET GROOVED HANDLE
23	1	19802	BELT, BRUSH DRIVE-POLY
24	1	19803	MOTOR BRUSH DRIVE
25	2	19812	CASTER, 2" SWIVEL
26	1	19814	CHASSIS, MAIN-ROTO MOLDED ( 93030 )
*	1	30872	CHASSIS, MAIN-ROTO MOLDED ( 93032 )
27	2	19818	SPRING, 1/2 CURVED (VEND)
28	1	19819	COVER, BELT ROTO-MOLDED
29	1	19822	INTAKE DUCT ( 93030 )
*	1	30871	INTAKE DUCT ( 93032 )
30	2	19831	HUB CAP, WHEEL WAV
31	1	19832	LID, MOLDED (WAV) ( 93030 )
*	1	30870	LID, MOLDED (WAV) ( 93032 )
32	2	19834	FILTER VAC.MTR.INTAKE
33	1	19835	PULLEY, BRUSH DRIVE MOTOR
34	1	19836	MOUNT, BRUSH MOTOR (STEEL)
35	2	19841	ARM , WHEEL PIVOT - 3/16 X 1
36	1	19850	SWITCH, ON/OFF
37	2	19852	MOTOR VACUUM (115V)
38	1	19854	COVER EXHAUST.13" NOM.THK ( 93030 )
*	1	30875	COVER EXHAUST.13" NOM.THK ( 93032 )

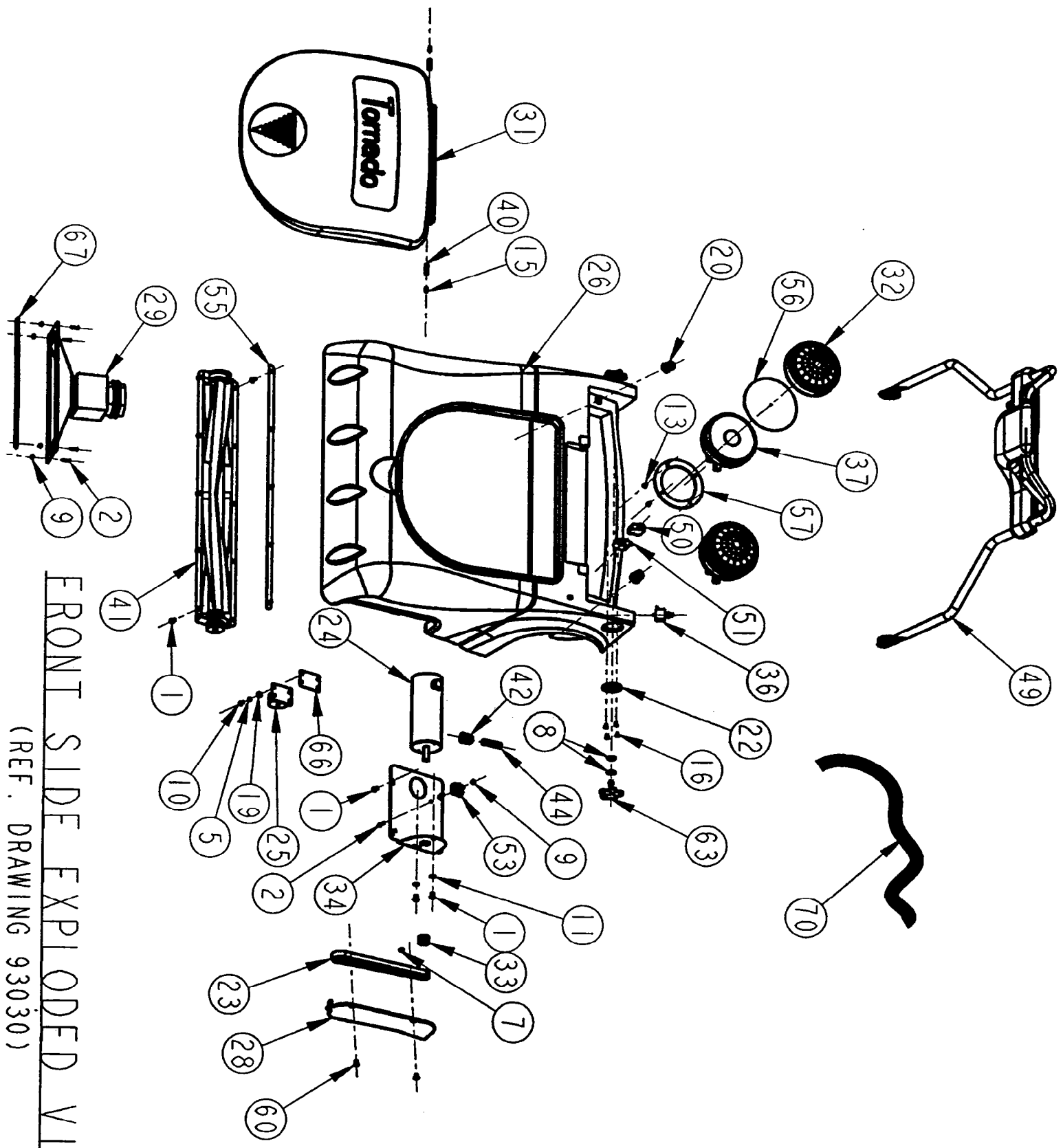


## PARTS LIST CONT...

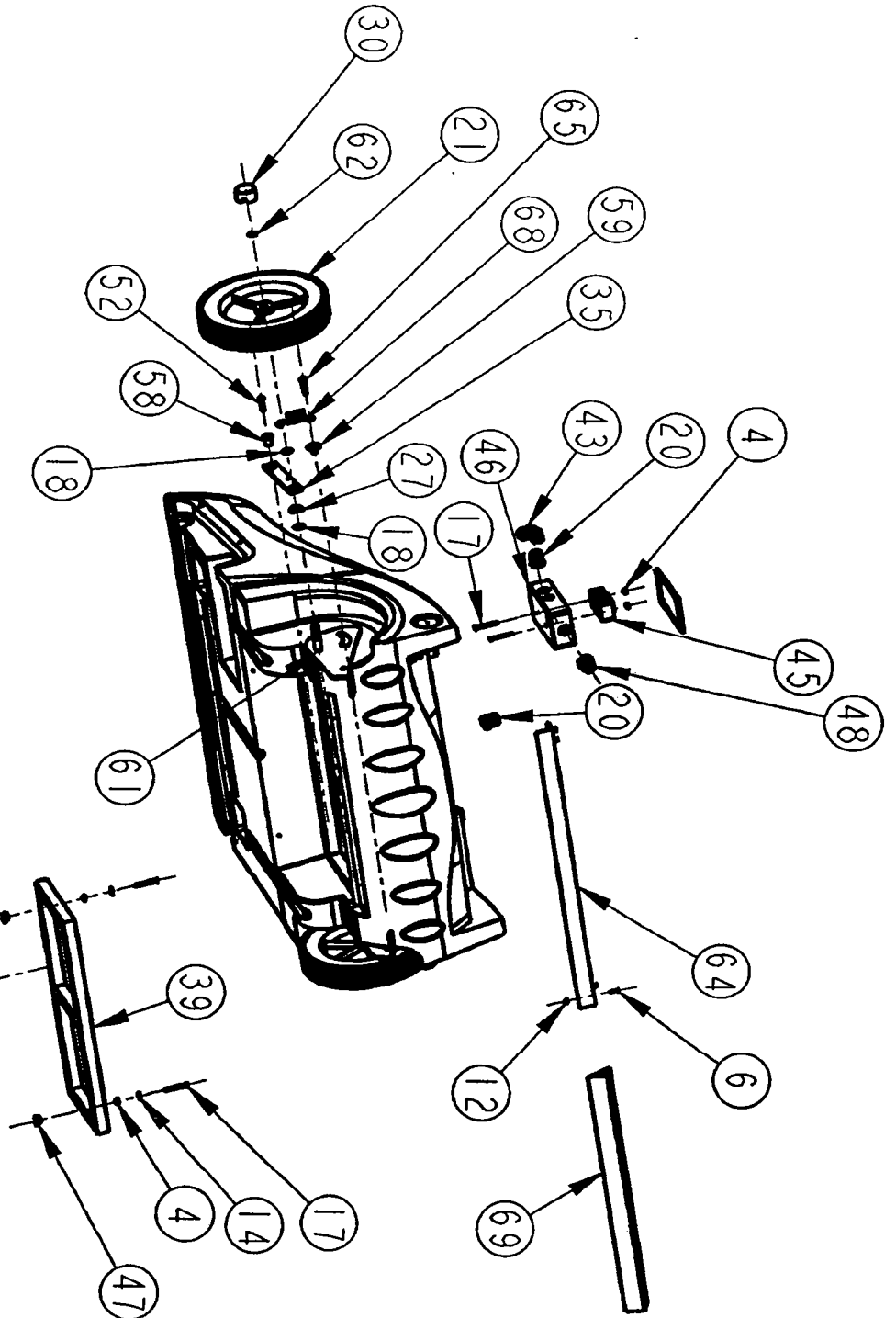
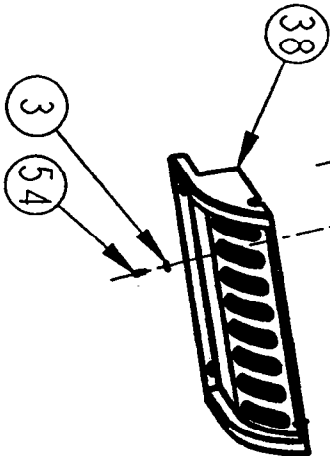
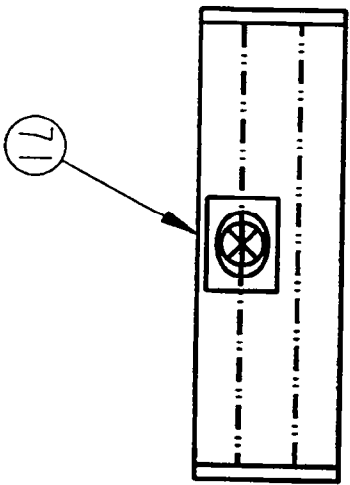
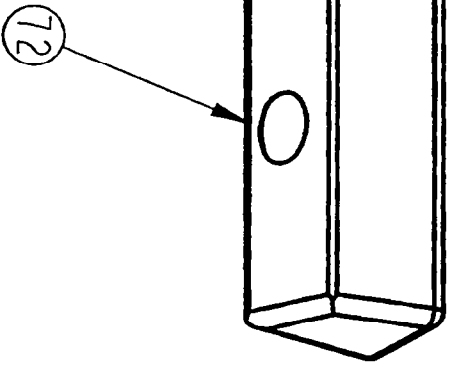
39	1	19855	FILTER, WAV EXHAUST
40	2	19864	PIN, LID HIMAGE STEEL .340"
41	1	19870	ASS'Y BRUSH
42	1	19875	FITTING STRAIGHT (BLK PLSTC)
43	1	19876	FITTING, ELBOW (FOR CABLE)
44	1	19878	CONDUIT-CABLE 10" LG.
45	1	19879	BLOCK TERMINAL
46	1	19880	BOX-ELECTRICAL
47	2	19975	NUT-WING (10-32) ZINC PL
48	1	19977	STRAIN RELIEF (PLACTIC)
49	1	19984	ASS'Y HANDLE ( 93030 )
*	1	30873	ASS'Y HANDLE ( 93032 )
50	1	19990	CIRCUIT BREAKER
51	1	19991	BOOT, RUBBER-ELEC. CONNECT
52	2	19999	SCREW-PHILLIPS ROUND HEAD MACHINE 1/4-20 X 1-1/8
53	1	24185	RECTIFIER 60 AMP
54	4	30018	SCREW-THUMB W/ SHOULDER #10-32 X 1/2"
55	1	30077	GASKET-SHOE (POLY FOAM)
56	2	30088	FILTER-PRE
57	2	30089	GASKET-MOTOR (POLY FOAM)
58	2	30461	SLEEVE PIVOT .5"(.25"ID)
59	2	30464	SLEEVE PIVOT (LRG).312"ID
60	2	30467	SCREW-PHIL. FLAT HD MACH
61	1	30491	ASS'Y AXLE WHEEL
62	2	30507	SNAP RING 1/2" EXTERNAL
63	2	30558	KNOB-HANDLE ADJ.(BLACK)
64	1	30595	PEDAL-FOOT ADJ. (STEEL)
65	2	30617	SCREW-SOCKET HD SHOULDER 5/16D X 1-1/2
66	2	30668	SPACE-CASTER
67	1	80605	GASKET MAT'L - NEOPRENE
68	2	30466	SPRING TENSION
69	1	30596	COVER PEDAL
70	1	19473	CORD-POWER (115V) 14/3 75' (MALE PLUG) YELLOW
71	1	19816	BAG, CLOTH
72	1	90701	BAG - PAPER, DISPOS - 10 PACK
(73)	4	18706	WIRE TIES 15" BLACK
(74)	1	30008	DECAL, WRING
(75)	1	30017	WIRING HARNESS - MAIN BODY
(76)	1	30078	GASKET-HOOD 54" (L-200)
(77)	1	30442	DECAL-REPLACEMENT PARTS
(78)	1	30618	DECAL-CARPET LEVEL

( ) ITEMS NOT SHOWN

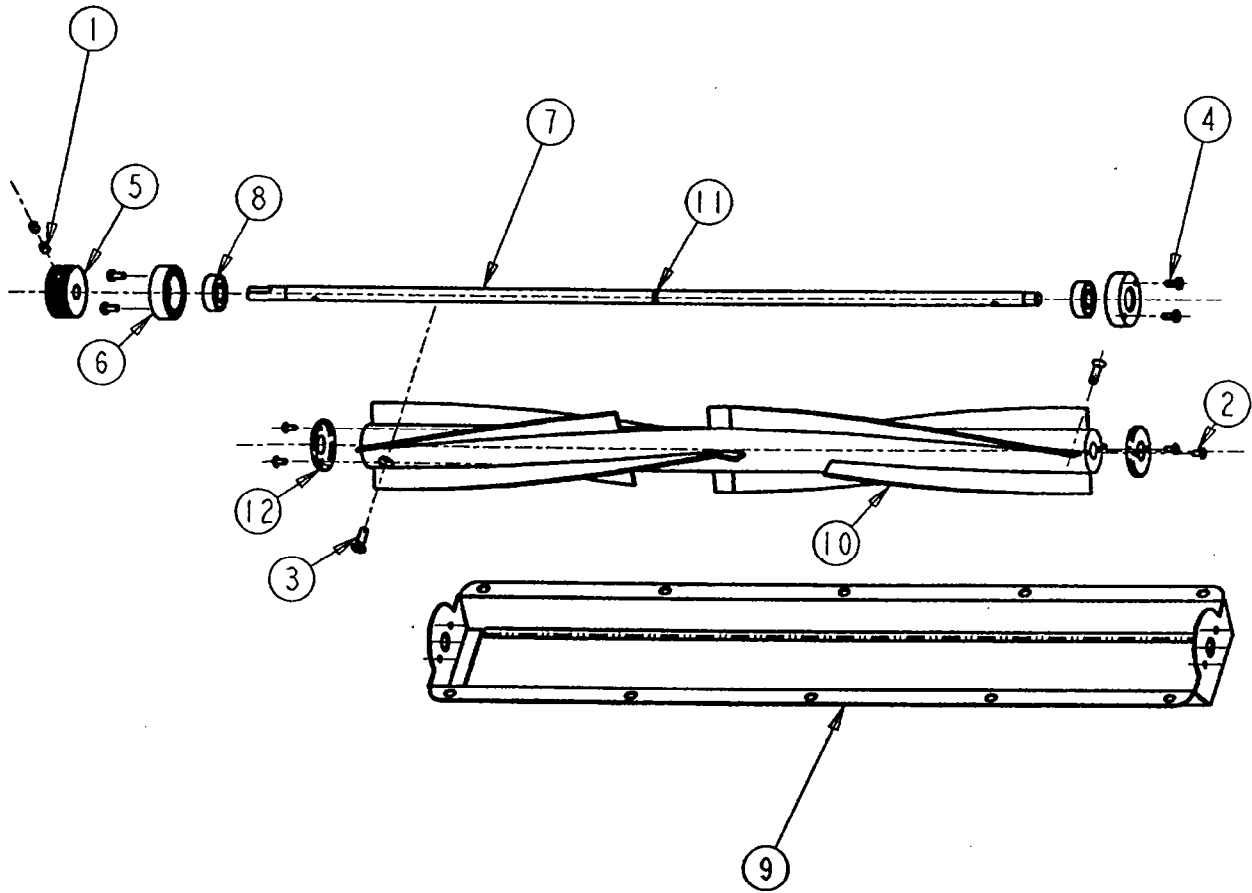
\* ITEM TO BE USED WHERE APPLICABLE



FRONT SIDE EXPLODED VIEW  
 (REF. DRAWING 93030)



BACK SIDE EXPLODED VIEW



### BRUSH ASSEMBLY PARTS LIST

(REF. DRAWING 19870)

<u>ITEM</u>	<u>QTY</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	2	02011	SET SCREW, BRUSH PULLEY
2	4	07535	SCREW #8-15 X .50 LG. (SHEET METAL)
3	2	11276	SCREW 1/4-20 X 7/8" LG. FLAT HEAD
4	4	16142	SCREW #10-32 X 1/2" LG. PAN HD (PHIL)
5	1	19804	BRUSH PULLEY
6	2	19805	BLOCK, BRUSH BEARING
7	1	19808	AXLE, WAV BRUSH
8	2	19809	BEARING, WAV BRUSH
9	1	19810	SHOE, WAV BRUSH MOUNT
10	1	19811	BRUSH 20" WAV
11	1	19838	"O" RING
12	2	19848	THREAD GUARD

## HANDLE ASSEMBLY PARTS LIST

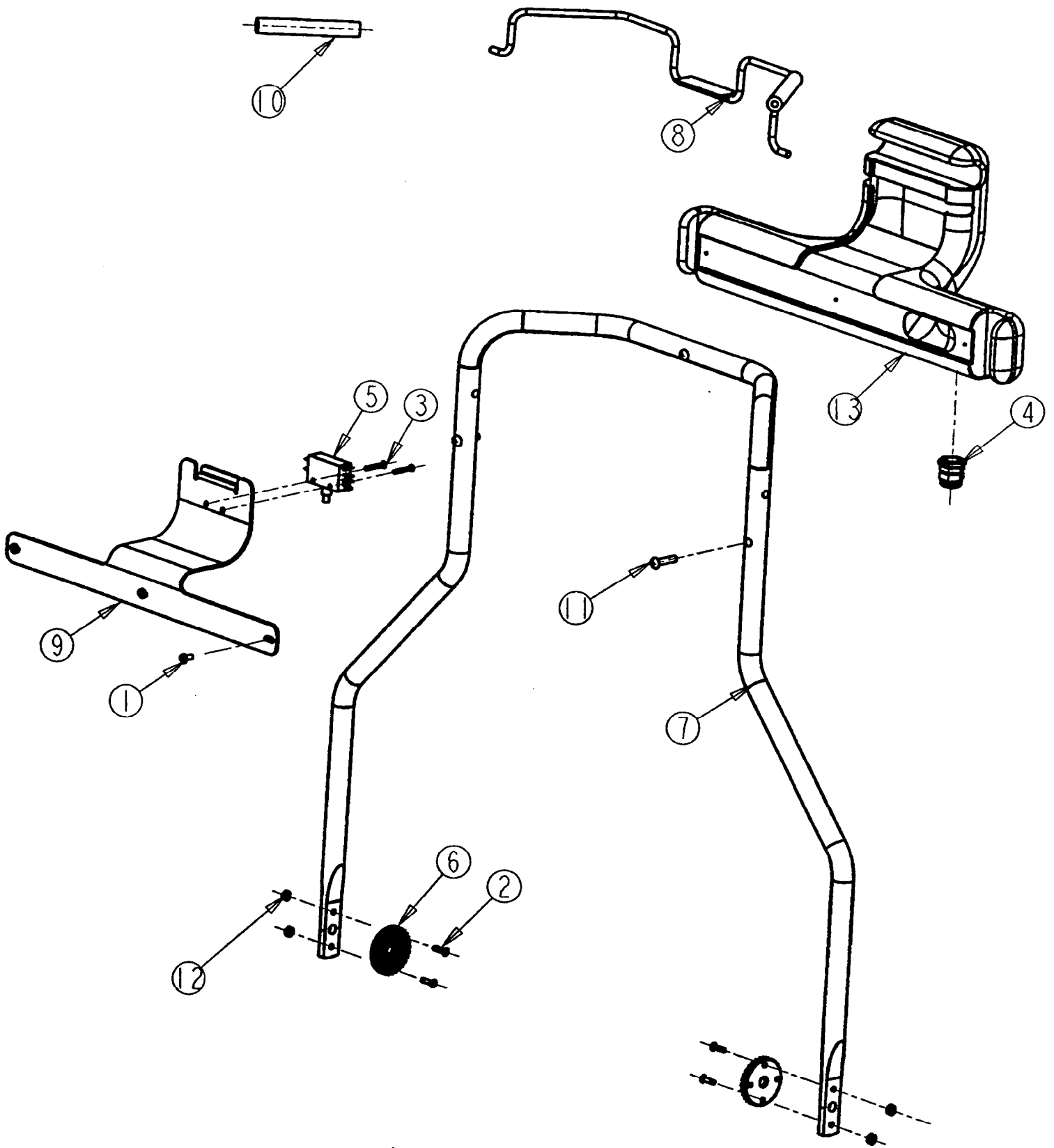
(REF. DRAWING 30873)

ITEM	QTY	PART #	DESCRIPTION
1	3	03660	#10-24 X 7/16" PAN HEAD SCREW
2	4	05769	#8-32 X 5/8" FLAT HEAD SCREW
3	2	06686	#6-32 X 3/4" PAN HEAD SCREW
4	1	18793	STRAIN RELIEF, CONTROL PANEL
5	1	19357	SWITCH, BRUSH
6	2	19798	BRACKET, HANDLE ADJUSTMENT
7	1	19829	HANDLE, MAIN STEEL TUBE
8	1	19849	TRIGGER, BRUSH SWITCH
9	1	19869	COVER, CONTROL PANEL
10	2	19971	FOAM GRIP TRIGGER
11	3	19999	1/4-20 X 1-1/8" ROUND HEAD SCREW
12	4	30074	HEX NUT LOCK
13	1	30874	CONTROL PANEL, WAV (93032)
*	1	19813	CONTROL PANEL, WAV (93030)
(14)	1	19996	WIRE HARNESS

\* ITEMS TO BE USED WHERE APPLICABLE

( ) ITEMS NOT SHOWN

**HANDLE ASSEMBLY**  
**(DRWG. P/N 30873)**



# WIRING DIAGRAM

WIDE AREA VACUUM

(DRAWING PART #30008)

