

TORNADO INDUSTRIES, LLC
3101 WICHITA COURT
FORT WORTH, TX 76140
PHONE 800-VACUUMS
FAX 817-551-0719
WWW.TORNADOVAC.COM



Operations & Maintenance Manual
For Commercial Use Only



SINGLE AND DUAL EXTERNAL FILTER
ELECTRIC JUMBO VACUUM
MODEL NO: 95954/95960



Long Term Buyer Protection Limited Warranty

Tornado Industries, LLC. (Tornado) warrants to the end/user customer that the Tornado product(s) will be free from defects in material and workmanship for the duration(s) described below. This limited warranty DOES NOT cover machines and/or components subject to normal wear and tear, damage that occurs in shipping, failures resulting from modification, accident, unsuitable operating environment, misuse, abuse, neglect, or improper maintenance by you. For full details, contact your Authorized Tornado Distributor, Service Center, or the Tornado Technical Service Department. Tornado sales and service representatives are not authorized to waive or alter the terms of this warranty, or to increase the obligations of Tornado under the warranty.

10 Years*

Plastic water tanks and Rotationally-molded bodies

2 Years*

Parts on all Tornado cleaning equipment

1 Year*

Labor on all Tornado cleaning equipment

1 Year*

Warranty on batteries, one year prorated

All battery warranties are handled directly by the battery manufacturer, on a one year prorated basis

Terms subject to change without notice

1. Except all Windshears™ Blowers, Storm, TV2SS, Side and Downdraft, Insulation Blowers, CV 30, CV 38, CK14/1 PRO, CK 14/2 PRO, SWM 31/9, CK LW13/1, CK LW 13/1 ROAM, CV 38/48 Dual, PV6, PV10, PV6 ROAM, Wall Mount Vacuum and all chargers are warranted for 1 (one) year for both parts and labor.
2. All non-wear item parts purchased after warranty expiration are warranted for 90 days.
3. Warranty starts from the date of sale to the consumer or, at Tornado's discretion, 6 months after the dealer purchased the unit from Tornado, whichever comes first.
4. The EB 30 is warranted for a period of 90 days for both parts and labor.
5. The warranty on engines used on propane powered equipment is limited to motor manufacturer's warranty.
6. Ride-on Scrubbers are warranted for 24 months, parts, 6 months labor or 1,000 hours, whichever occurs first.

Note: Tornado, The Latest Dirt, Floorkeeper, Carpetkeeper, Carpetrinser, Carpetrinser/Dryer, Headmaster, Taskforce, PAC-VAC, T-Lite, Glazer, Windshear, Max-Vac and Trot-Mop are trademarks of Tornado Industries

Website: www.tornadovac.com
Phone 1-800-VACUUMS
Fax 817-551-0719
Address 3101 Wichita Court
Fort Worth, TX 76140



NOTES

Your new Tornado unit is a high quality, precision-made product. All parts used in the manufacturing of this unit have passed rigid quality control standards prior to assembly. Please safeguard the original receipt / invoice. If you experience any problems with your unit during the warranty period, the original receipt / invoice will act as proof of purchase. Contact Tornado for any warranty inquiries.

IMPORTANT SAFETY INSTRUCTIONS

READ AND UNDERSTAND ALL INSTRUCTIONS BEFORE USING THIS UNIT

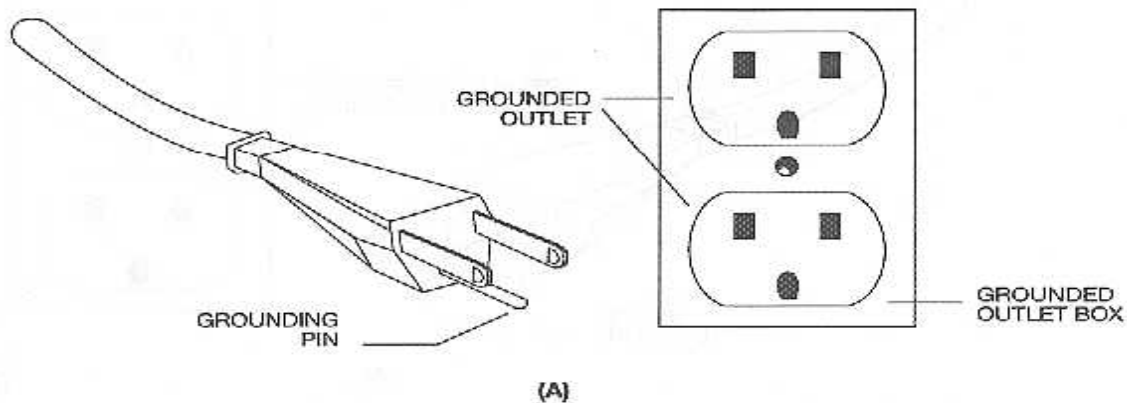
Read and understand this owner's manual and all labels on the unit before operating. Safety is a combination of common sense, staying alert and knowing how your unit works. Use this unit only as described in this manual. Use only manufacturer's recommended attachments. To reduce the risk of personal injury or damage to your unit use only Tornado recommended accessories.

GROUNDING INSTRUCTIONS

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 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.

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 is for use on a nominal 120-volt circuit, and has a grounding plug that looks like the plug illustrated in sketch A.



Features:

- Capable of simultaneous wet/dry pickup when using external filter(s)
- This unit is constructed for recovering water or other solutions without any adjustments.
- Liquid shutoffs are available.
- Ideal for materials from powder to oily metal chips.
- Recovers fluids from water to medium weight oils.
- External filter(s) collect lighter particles and resist clogging.
- 55-gallon drum collects heavier waste (approximately 95% of all pickup); light particles collect in large external filters.
- Known for high C.F.M. (cubic feet of air per minute) and moderate suction (static water lift).

General Specifications

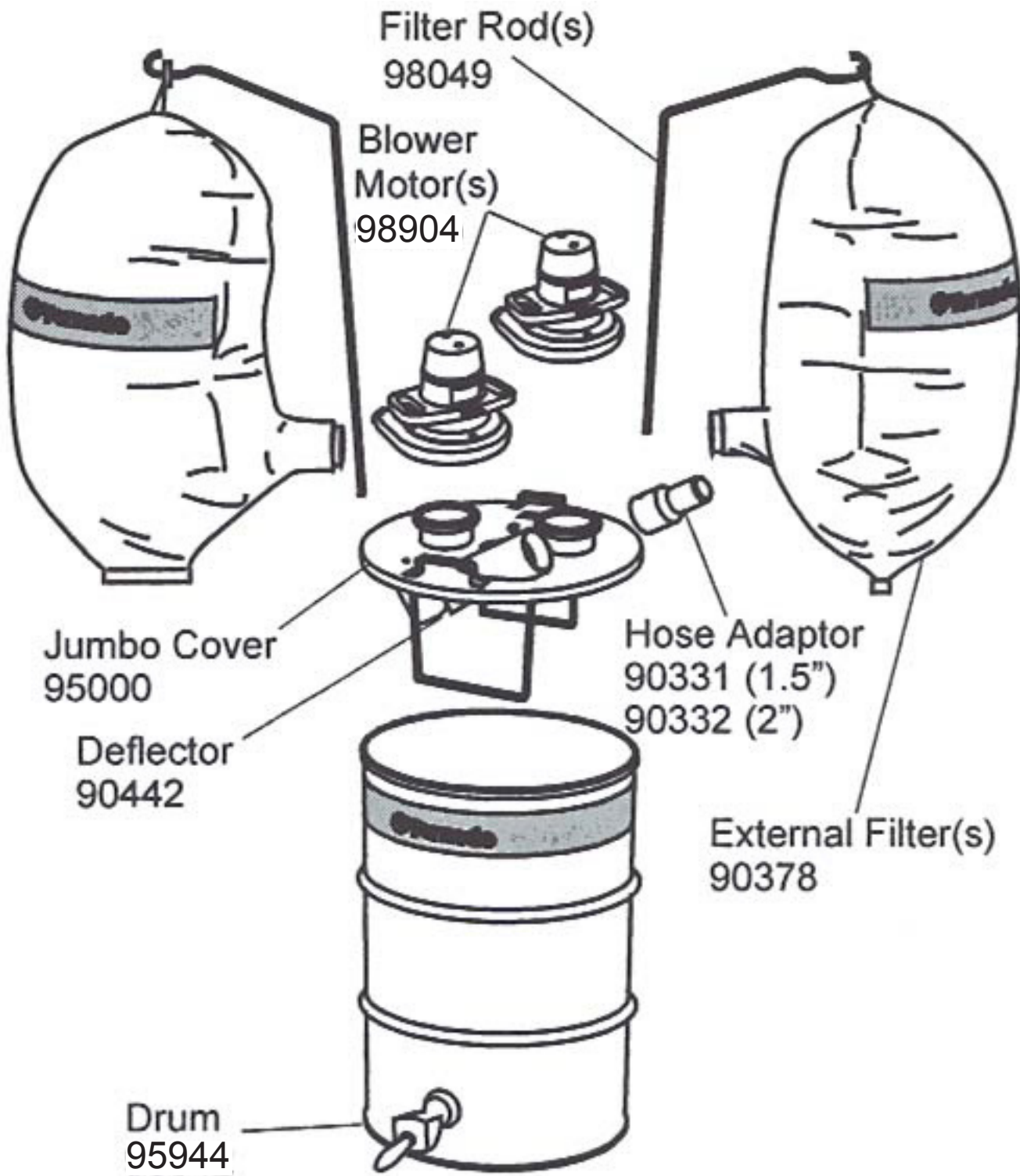
The Single and Dual External Filter Electric Jumbo Vacuums are heavy duty wet/dry industrial vacuums. They pick up wet and dry waste simultaneously without the need to change any filters. Both units are designed to fit onto a 55-gallon rolled tip steel drum (Tornado part number 95944) for volume pick-up with maximum efficiency. Heavier waste settles in the drum, while lighter particles are trapped in the large external filters. The 2.25 h.p. vacuum motors create tremendous CFM for pick-up power. Both units handle a wide variety of waste with ease, ranging from fine powders to medium-grade viscosity products. Accommodates 1.5" to 3" hose and attachments, depending on the model.

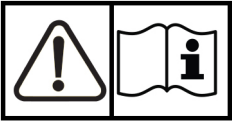
Unit Specifications

95954 SINGLE INCLUDES	
98904	2.25 h.p. Vacuum Motor (1)
90378	Large Poly External Filter (1)
98049	Support Rod for Large Filter (1)
95944	55-Galon Drum
98088	4-Wheel Dolly
90331	1-1/2" Adaptor

95960 DUAL INCLUDES	
98904	2.25 h.p. Vacuum Motor (2)
90378	Large Poly External Filter (2)
98049	Support Rod for Large Filter (2)
95944	55-Galon Drum
98088	4-Wheel Dolly
90332	2" Adaptor

	SINGLE	DUAL
AMPS	15	15 (per head)
RPM	15,750	15,750 (per Head)
HORSEPOWER	2.25	2.25 (each head)
CFM	184@1.5" hose	243@2" hose, 340@3" hose
STATIC WATER LIFT	51"	51"
EXTERNAL FILTER AREA	1874 sq. in.	1874 sq. in. (each head)
HORIZONTAL REACH	30 ft.	50 ft.
HOSE ADAPTOR	15." included	2" included
POWER CORD	50ft. 14/3	50 ft. 14/3 (each head)
SHIPPING WEIGHT	84 lbs.	113 lbs.





WARNING: Failure to read and understand these instructions could result in serious bodily injury or property damage

SAFETY INSTRUCTIONS

When using this unit, basic precautions should always be followed. Read all instructions before using this unit.



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 or attempting any maintenance or adjustment.

To avoid electrical shock, store indoors only.

Do not expose to rain.

Do not allow to be used as a toy.

Close attention is necessary when used near children.

Use only as described in this manual.

Use only manufacture's recommended attachments.

Do not use with a 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 the 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 any object into openings. Do not use with any opening blocked. Keep openings free of dust, lint, hair, and anything that may reduce air flow.

Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.

Do not pick up flammable or combustible liquids, such as gasoline, or use machine where they may be present.

Do not use without filters in place.

Use extra care when cleaning on stairs.

Always replace worn or torn external filters immediately. This will prevent possible injury due to flying objects.

Never operate with intake unguarded. Strong suction will pull fingers and/or clothing into blades and other moving parts.

Always point exhaust port in a safe direction. Air exits blower at very high velocity.

Always wear safety glasses when in vicinity of this unit.

If unit is hand held, hold firmly when starting. High torque when starting will cause the unit to jerk and cause injury and/or damage.

Use voltage and current listed on unit nameplate.

When not in use, coil motor cord and place on top of unit.

ASSEMBLY OF THE UNIT

1. Remove all components from packaging
2. Attach blower motor(s) to Jumbo cover adaptor rings by turning clockwise and locking into place. Make sure exhaust nozzles(s) face outward.
3. Install external filter support rod(s) by placing them in access hole(s) located in the Jumbo cover.
4. Attach external filter(s) by attaching to filter support rod(s) and installing inlet collars onto exhaust nozzle(s). Turn collars(s) clockwise to lock. Do not twist filter.
5. Install hose adaptor into Jumbo housing. Lock in place by lining up adaptor indent with lock screw and tightening lock screw.
6. Place Jumbo cover assembly onto drum. The weight and suction power of the Jumbo cover assembly will form a seal onto the drum

STARTING/STOPPING OF MACHINE

1. Plug blower motor cord into a 20 Amp wall outlet.
2. Start by turning ON/OFF switch located on blower to the ON position.
3. Stop by turning ON/OFF switch located on blower to the OFF position.

OPERATING RULES

Use 1.5" to 3" hoses and attachments. **1.5" attachments are not recommended for dual model.**

Use multiple 20 Amp outlets when using the Dual Electric Jumbo.

Use to recover water, light weight oils, powders, grindings, and metal shavings.

Extension cords must be equivalent or heavier than the input cord(12/3), with a 50' maximum extension cord length.

MAINTENANCE

BLOWER MOTOR

Damage to an armature invariably is caused by permitting carbon brushes to become worn to less than 1/4" in length. To prevent this from occurring, inspect brushes after the first 200 hours of operation and frequently thereafter, replacing when necessary. Failure to do so will nullify factory warranty.

To inspect brushes

1. Unplug power cord from outlet.
2. Remove the two screws located on the top cover.
3. Pull back U-clip (coil spring) to release carbon brushes.
4. Remove the two brushes and inspect for length.
5. Replace if necessary.

Note: No other maintenance of motor should be attempted during the first year after purchase refer to warranty). Any other type of service should be performed by an authorized Tornado service center.

EXTERNAL FILTER

For maximum operating efficiency and to ensure longer wear, remove filter(s) and empty by detaching the bottom clamp after every use

ALL OTHER MAINTENANCE

Empty and clean vacuum filter(s) and attachments after each days use for maximum performance

TROUBLESHOOTING GUIDE

Problem	Remedy
Machine does not start	Make sure power cord is plugged into a working receptacle. Inspect for defective power cord.
Machine stops running	Make sure power cord is plugged into a working receptacle. Check circuit breaker. Inspect for armature brush wear. Inspect for defective power cord.
Machine has no suction	Inspect for clogged or collapsed hose Inspect for clogged motor intake. Defective drum seal. Material too heavy for unit.
Blower motor overheats	Inspect armature brushes for length (See Maintenance section). Inspect for proper motor ventilation. Inspect for proper extension cord size (12/3 minimum, 50' maximum length).
Machine has poor recovery	Inspect for correct size hose and attachments. Defective drum seal. Material too heavy for unit. Inspect external filter(s). Empty and clean if necessary. Inspect drum cover gasket. Ensure blower motors are properly locked into Jumbo cover. Inspect connection of external filters. Inspect all seals for wear and/or damage.

Warranty Registration Form

Please provide additional information on
Tornado equipment: (Check choices below)

- | | |
|---|---|
| <input type="checkbox"/> Automatic Scrubbers | <input type="checkbox"/> Sweepers |
| <input type="checkbox"/> Propane Floor Machines | <input type="checkbox"/> Rotary Floor Machine |
| <input type="checkbox"/> High Speed Burnishers | <input type="checkbox"/> Carpet Vacuums |
| <input type="checkbox"/> Carpet Extractors & Spotters | <input type="checkbox"/> Wet/Dry Vacs |
| <input type="checkbox"/> Steam Cleaners | <input type="checkbox"/> Jumbo Vacs |
| <input type="checkbox"/> Ride-On Equipment | <input type="checkbox"/> Pressure Washers |

See complete product info at www.tornadovac.com

Selling Dealer: (Required) _____

Please Print Clearly

Company/Institution	
Contact Name	Title
Address	City/State/Zip Code
Phone	Fax
Date of Purchase	Email

See white metal plate or sticker on unit for this information.

MACHINE TYPE/MODEL NUMBER:	MACHINE SERIAL NUMBER:
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____

Facility Description (please circle all that apply)

1. School	9. Hospital	17. U.S. Govt.
2. Retail Store	10. Nursing Home	18. Other Govt.
3. Restaurant	11. Religious Institution	19. Auto Service
4. Office Building	12. Airport	20. Airport
5. Contract Cleaning	13. Warehouse	21. Non-Profit
6. Light Manufacturing	14. Apartment/Condo	22. Other (specify)
7. Heavy Manufacturing	15. Warehouse	
8. College/University	16. Supermarket	

How did you first learn about Tornado cleaning and maintenance equipment?	In square feet (<i>meters</i>)	
	Total Hard Floor Area	Total Carpeted Area Square feet (square meters)
<input type="checkbox"/> Contacted by local dealer <input type="checkbox"/> Previous experience with Tornado products <input type="checkbox"/> Reputation/ Recommendation <input type="checkbox"/> Advertising <input type="checkbox"/> Direct mail <input type="checkbox"/> Internet <input type="checkbox"/> Other	<input type="checkbox"/> 0-10,000 (0-930) <input type="checkbox"/> 10-50,000 (930-4,650) <input type="checkbox"/> 50-250,000 (4,650-23,250) <input type="checkbox"/> Over 250,000 (over 23,260)	<input type="checkbox"/> 0-10,000 (0-930) <input type="checkbox"/> 10-50,000 (930-4,650) <input type="checkbox"/> 50-250,000 (4,650-23,250) <input type="checkbox"/> Over 250,000 (over 23,260)

Damage or defect arising from abuse, neglect or other misuse is excluded from this warranty. Other items may or may not apply based on your specific machine. If any defect occurs, the warranty is voided if service is attempted by non-Authorized Tornado Service Centers.



Return to :
Tornado Industries
3101 Wichita Court
Fort Worth, TX 76140
Fax: 817-551-0719
or online at
www.tornadovac.com