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Operations & Maintenance Manual
For Commercial Use Only



13 GALLON EXTRACTOR
MODEL NO: 98260



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, TV 2, Side and Dowlraft, Insulation Blowers, CV 30, CV 38, CK14/1 PRO, CK 14/2 PRO, SWM 31/9, CK LW13/1, CV 38/48 Dual, PV6, PV10, 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

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NOTES

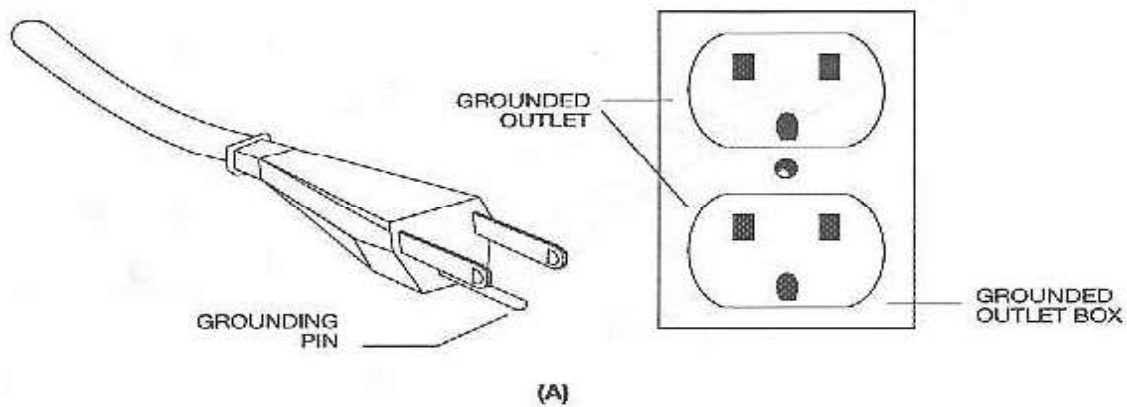
Your new Tornado unit is a high quality product. All parts used in the manufacturing of this unit have passed rigid quality control standards prior to assembly. Please safeguard the original receipt / invoice. If you experience any problems with your unit during the warranty period, the original receipt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

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.



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.

FOR COMMERCIAL USE

SAVE THIS MANUAL FOR FUTURE REFERENCE

This machine was shipped with window washer antifreeze, during the winter months, in the solution line system to protect the pump and valves from freezing during transportation and storage. Before you use the unit, rinse the solution line system with clean water (refer to Protect From Freezing).

READ ALL INSTRUCTIONS BEFORE USING THIS UNIT

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

WARNING: TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY:

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

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.

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.

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.

Turn off all controls before unplugging.

Use extra care when cleaning on stairs.

Do not use this unit near flammable liquids, gases, or explosive vapors like gasoline or other fuels, lighter fluid, cleaners, oil-based paint, natural gas, hydrogen, or explosive dusts like coal dust, magnesium dust, grain dust or gun powder. Sparks inside the motor can ignite flammable vapors or dust.

Do not use to pick up flammable or combustible liquids, such as gasoline or use in areas where they may be present

Do not pick up hot ashes, coals, toxic, flammable or other hazardous materials.

If machine tips over during use, shut it off immediately and set it upright and wait for the motor to stop completely.

Do not expose machine to freezing temperatures.

Do not store near hazardous materials

Do not use the unit with a torn filter or without the filter installed.

To reduce the risk of injury from accidental starting, unplug the power cord before changing or cleaning filters.

To reduce the risk of health hazards form vapors or dusts, Do not vacuum toxic materials.

WARNING: Turn unit off immediately if foam or liquid comes from the machine exhaust. Empty and clean out recovery (dirty water) tank and use defoamer to correct the problem.

When using an extension cord with your unit, refer to the following table to determine the required A.W.G. wire size. Before using the unit make sure the power cord and extension cord are in good working condition. Make repairs or replacements before using the unit.

Only use extension cords that are rated for outdoor use.

Length of Extension Cord				
	25 Feet	50 Feet	100 Feet	150 Feet
110V-120V	7.5 Meter	15.25 Meter	30.5 Meter	45.7 Meter
Amps	A.W.G. Wire Size			
0-6	18	16	16	14
7-10	18	16	14	12
11-12	16	16	14	12
13-16	14	12	Not recommended	

Model	Extractor	
Catalog Number	98260	
Dimensions (L x W x H)	23"X19"X41"	584 mm x 482 mm x 1041 mm
Weight	65lbs	29 kg.
Recovery Tank	13 Gallon	49l
Cord Type	14/3 Yellow	1630 mm/3
Cord Length	20'	6 M
Tank Construction	Roto-mold	
Solution Hose Length	50'	15 M
Waterlift	117"	2971 mm
PSI	220	15, bar
Sound Level	67dB(A)	
Vacuum Motor	673 Peak Airwatt	

OPTIONAL ACCESSORIES AND REPLACEMENT PARTS	
Description	Part Number
20' Vacuum hose	95567A
Wand	98398
Standard Utility Tool	98340
Upholstery Hand Tool	98343
Crevice Detailer Extraction Tool	98342
Utility Stair Tool	98344

NOTE - FOR COLOR FASTNESS: Before using carpet cleaning chemicals, test on an inconspicuous part of the carpet for color fastness. Place the solution on a small piece of clean white cloth or tissue. Rub the carpet area vigorously with the cleaning chemical. Excessive amounts of dye showing on the material would indicate that the colors are not colorfast, and should not be wet cleaned.



Fig. 1



Fig. 2

1) Prepare room for cleaning, moving furniture as need to provide a clear working area. Cover bottoms of furniture legs where possible. (Aluminum foil or foam blocks are ideal for this purpose.) Pin up curtains and drapes.

2) Gather cleaning supplies: a clean, suitable sized bucket, carpet cleaning solution, de-foamer solution, and pre-treat solutions for heavily soiled traffic areas.

3) Measure carpet cleaning solution, per manufacturers recommended ratio, into the bath tub (or bucket) and fill with hot water up to 1/2 of standard bath tub.

WARNING: DO NOT exceed water temperature of 150° (65° C).

4) Place solution hose into tub making sure it is resting on bottom of tub.

5) With switches turned off connect the solution hose and the vacuum hose to the machine and to the wand.

WARNING: Do not attempt to connect solution hose to machine with pump switch turned on.

1) Plug the power cord into an outlet. **WARNING:** This machine must be properly grounded. See Grounding Instructions on page 4 for additional information.

2) With the solution line attached to the wand and the machine, press the pump switch to the "ON" position. See Fig.1 for a diagram on the operation switches. Squeeze the lever on the wand and spray until there is no air coming out with the water. This takes approximately 2-3 minutes.

3) With the pump still on, press the vacuum switch "ON" position. See Fig.1 for a diagram on the operation switches.

4) To clean the carpet, squeeze and hold the lever on the wand to apply the cleaning solution,

5) For optimum cleaning results it is suggested to use a V stroke pattern. Start with an area approximately 4' x 4'. On the back stroke pull the trigger on the wand for the solution to spray. Release the trigger about 4 inches before the end of the stroke for maximum water recovery. Push the wand forward at a slight angle until next stroke is slightly overlapping previous stroke. Go over area just cleaned with vacuum only stroke before moving to the next area. After a few passes, check the recovery tank to verify that no foam is present. Add extra de-foamer if necessary.

6) Empty the recovery tank when it is approximately 3/4 full by pulling up on the handle on the dump valve.

7) When finished, turn all switches "OFF". Before disconnecting solution hose relieve the water pressure from the wand by squeezing the lever on the wand. **WARNING:** Turn unit off immediately if foam or liquid comes from machine exhaust. Empty & clean out recovery (dirty) tank and use de-foamer to correct the problem.

8) To further decrease the drying time, use a Windshear Storm, or any other Windshear Carpet Blower that is appropriate to the size of the area cleaned.

When cleaning is finished and recovery tank emptied:

- 1) Remove the power plug from the outlet
- 2) Disconnect the solution hose on the back of the machine.
- 2) Flush recovery tank with clean water to remove any remaining debris and then empty into toilet by lifting up on the dump valve.
- 3) When the recovery tank is clean and emptied store the machine leaving the recovery tank open.
- 4) Coil power cord neatly after each use and store on machine with solution inlet hose Fig. 3.
- 5) Coil vacuum hose assembly and place in mesh storage bag. Hang on machine for storage and/or transportation. Fig. 4.



Fig. 3



Fig. 4

- 1) Remove any lint from the ball float screen (Fig. 5) in the recovery tank (it can be removed if necessary) and any debris from the solution tank inlet filter (Fig. 6). A damaged filter should be replaced, otherwise blockages and/or damage to the pump head and spray jet can occur.
- 2) Check the spray jet on the wand for blockage and a uniform spray pattern. Remove jet and blow through to clean. Do not use a pin or other sharp objects as this may cause damage to the jet.
- 3) Check and remove any debris or lint build-up from the wand vacuum inlet.
- 4) Always wash out the tank with clean water after use.
- 5) Wipe down the machine with a damp cloth. Do not hose off or power spray machine.
- 6) Inspect solution hose and vacuum hose for cracks or damage. Do not use hose if damaged.
- 7) Inspect electrical cord end on the machine for damage.



Fig. 5



Fig. 6

CAUTION: THIS UNIT MUST BE PROTECTED FROM FREEZING. Damage from freezing could cause machine to malfunction.

Troubleshooting Table

Problem	Solution
Vacuum motor runs but poor suction	Remove debris from vac shoe Recovery tank too full - drain tank Remove debris from suction hose
No power, nothing works	Plug in cord Check for loose wiring Call Service
Poor water spray	Spray jets clogged - remove and clean spray jets Check pump – remove spray jets and check water flow Call Service
Vacuum motor will not run	Activate vacuum switch Check for loose wiring Call Service

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"/> 0-10,000 (0-930)
	<input type="checkbox"/> 10-50,000 (930-4,650)	<input type="checkbox"/> 10-50,000 (930-4,650)
	<input type="checkbox"/> 50-250,000 (4,650-23,250)	<input type="checkbox"/> 50-250,000 (4,650-23,250)
	<input type="checkbox"/> Over 250,000 (over 23,260)	<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
333 Charles Ct. Unit 109
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