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Operations & Maintenance Manual
For Commercial Use Only



CK LW 13/1 8 LB. LIGHTWEIGHT VACUUM
MODEL NO: 97130 (115V) & 97131 (230V)

NOTES

Write your machine serial number here: _____

For warranty information go to www.tornadovac.com

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.

This instruction book covers:

MODEL NO.	97130	97131
VOLTS	115	230
SERIES	LW 13/1	LW 13/1

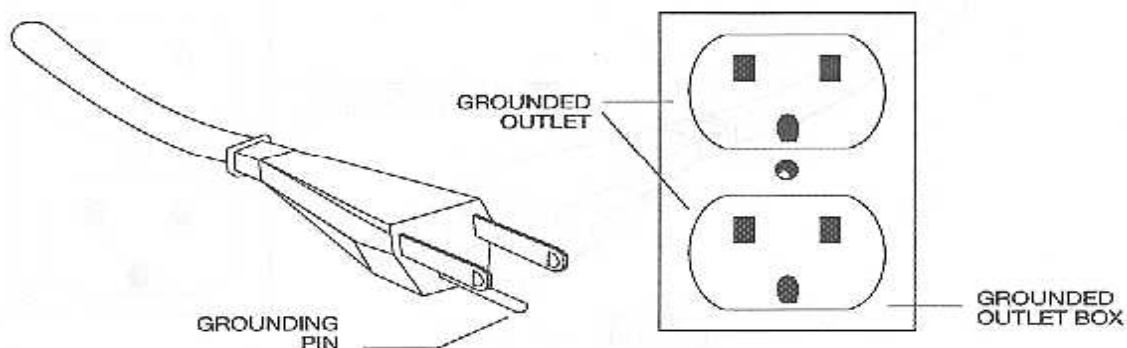
ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

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 115-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.

This machine is intended for commercial use only. It is designed exclusively to pick up dirt, dry debris and dust in an indoor environment and is not constructed for any other use. The pick up of any type of fluid or dangerous / toxic materials is prohibited. Use only recommended accessories.

READ ALL INSTRUCTIONS BEFORE USING THIS APPLIANCE.

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

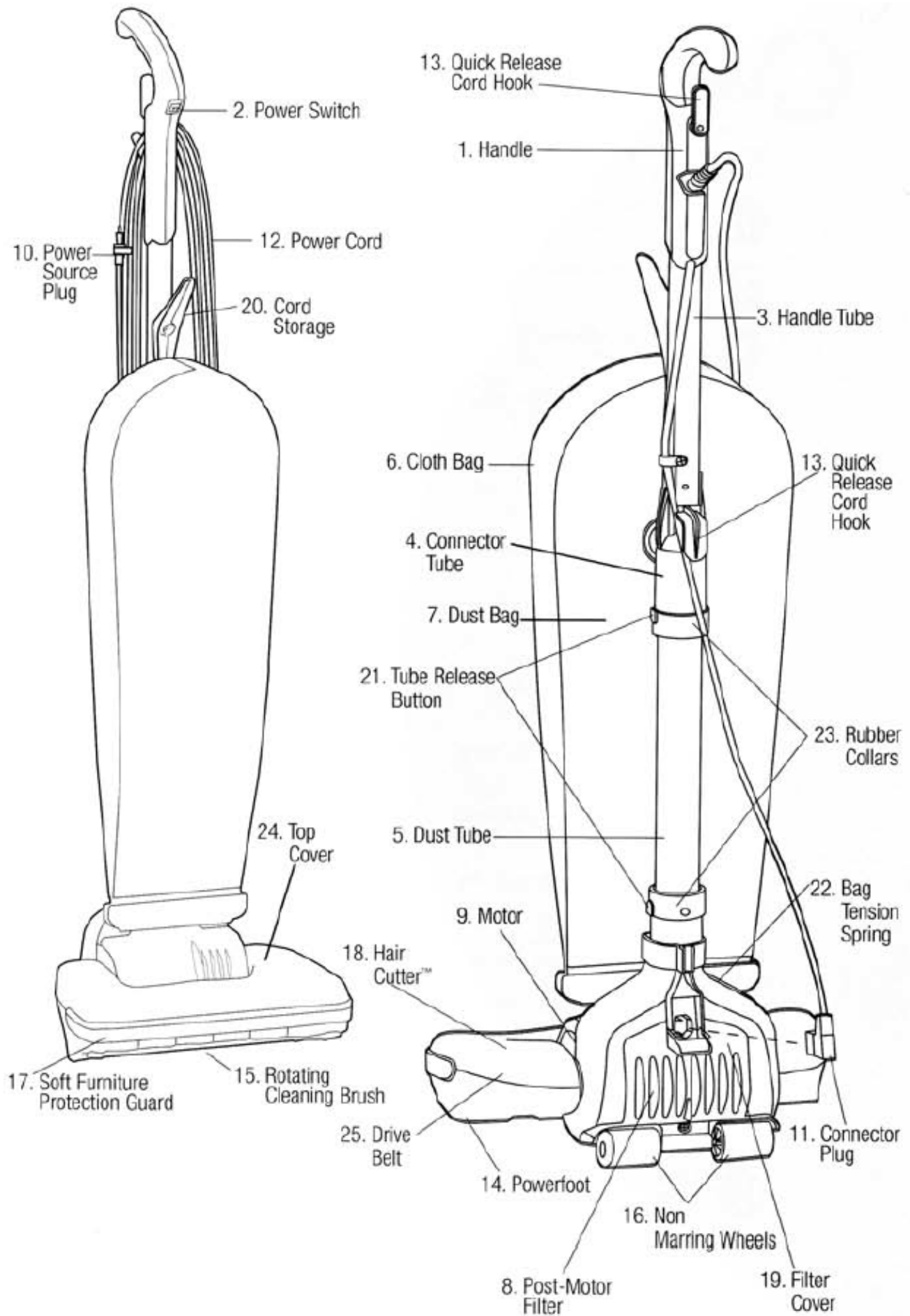
SAVE THESE INSTRUCTIONS.

- **WARNING!** To reduce the risk of fire, electric shock, or injury:
- Do not leave appliance unattended when plugged in. Unplug from outlet when not in use and before servicing.
- **WARNING: ELECTRIC SHOCK COULD OCCUR IF USED OUTDOORS OR ON WET SURFACES.**
- 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 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.
- Turn off all controls before unplugging.
- 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 vacuum bag and / or filters in place.
- Use extra care when cleaning stairs.
- Do not use to pick up flammable or combustible liquids such as gasoline or use in areas where they may be present.
- Do not attempt to service the unit while appliance is plugged in.
- For grounded models, connect to a properly grounded outlet only. See Grounding Instructions.
- This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the machine by a person responsible for their safety.
- Keep children and unauthorized persons away from the machine when in use.

PRODUCT FEATURES AND BENEFITS

The Dual Suction System is a lightweight, yet powerful, cleaning system ideal for commercial use on all types of carpets and floors.

1. Handle – designed for comfort and easy maneuvering.
2. Power Switch – conveniently located in handle.
3. Handle Tube – lightweight, for easy movement and use.
4. Connector Tube – strong lightweight aluminum tube is designed for optimal airflow.
5. Dust Tube – large diameter dust tube designed to minimize clogging.
6. Cloth Bag – durable, reinforced material for years of service.
7. Dust Bag – top loading bag for clean and easy bag change.
8. The Post-Motor Filter – helps to reduce motor emissions.
9. Motor – 6 amps of full cleaning power, saves energy.
10. Power Source Plug – grounded for safe, reliable operation.
11. Connector Plug – for enhanced safety.
12. Power Cord – 50 foot heavy-duty, commercial quality for extended reach.
13. Quick Release Cord Hooks – for quick, easy removal of power cord.
14. Powerfoot – twin fan/dual suction design for deeply embedded dirt and superior edge cleaning.
15. Rotating Cleaning Brush – continuous, rotating dual action brush for thorough cleaning; white, non-marring bristles.
16. Non-Marring Wheels – safe for use on bare floors.
17. Soft Furniture Protection Guard – helps protect furniture while vacuuming.
18. Hair Cutter – ensures that any long hair or other fibers are cut and broken down into lengths that are manageable for the vacuum. This helps to prevent clogs.
19. Filter Cover – easily removes with one screw for easy access to filter.
20. Dual Cord Storage – wrap cord around the back of the unit, or simply hang cord on the front Cord Storage Hook.
21. Tube Release Buttons – allows for easy access in the unlikely event of the tube clogging.
22. Bag Tension Spring – keeps the bag secure at the base of the bag.
23. Rubber Collars – designed to seal air path at critical connections, preventing loss of airflow.
24. Top Cover – simply removes with 3 screws allowing for easy belt change.
25. Drive Belt – designed for optimal life and performance.



WARNING: Plastic bags or film can be dangerous. To avoid danger of suffocation, keep away from babies and children.

The dual Suction System is packaged for convenience and requires minimal assembly.

The only tool you will need is a Phillips head screwdriver.

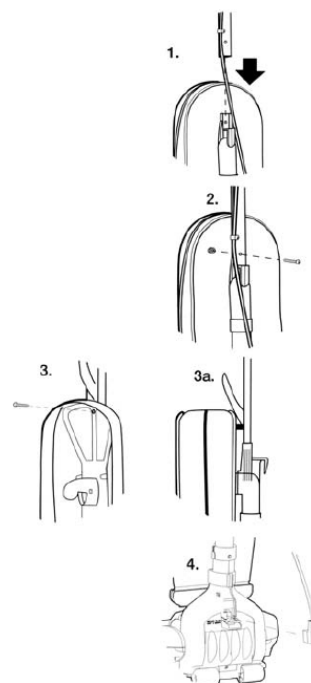
1. Slide the handle Tube into the Connector, aligning the hole in the Handle Tube with the molded hole at the top of the Connector.

2. Hold the hex nut in front of the Connector in the hex shaped cavity while inserting the screw with your finger from the back. Tighten the screw while placing your finger over the hex cavity to hold the hex nut in place. After a few turns, tighten further with a Phillips head screwdriver. Do not overtighten.

3. Slide screw through plastic Cord Hook from the inside of Cloth Bag. Align screw with hole in Handle Tube. Tighten screw.

4. Remove screw from Filter Cover. Remove Filter Cover. Insert the Connector Plug into the back of the unit at the rear of the Powerfoot – Make sure the Connector Plug is fully inserted. Replace Filter Cover. Replace Filter Cover Screw.

Your Vacuum cleaner is now ready to use.



Tip. Before cleaning under low furniture, always check area first for objects that might harm the Rotating Cleaning Brush or get caught in the Dust Tube.

Power Supply

The Power Cord is stored at the back of the vacuum cleaner, and is looped around the Quick Release Cord Hooks. The polarized Power Source Plug is designed to attach to the Power Cord during storage. Before using, make sure the Connector Plug is securely attached to the Powerfoot and that the Power Source Plug is plugged into a polarized outlet.

Power Switch

The Power Switch is located in the Handle of the cleaner. Push down (I) to turn ON. Push up (O) to turn OFF.

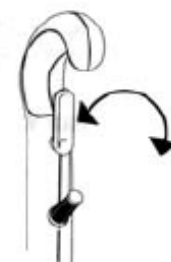
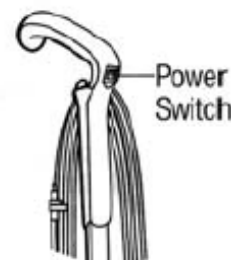
Power Cord Storage

When you are finished using your vacuum, return it to the upright position. Make sure the vacuum is turned OFF. Always unplug the vacuum by grasping the Power Source Plug (NOT the Power Cord) and disconnecting from the outlet. Properly store the Power Cord by winding the cord around the Quick Release Cord Hooks on the back of the vacuum in a continuous loop, or by hanging the cord on the Cord Storage Hook located on the front of the vacuum. Attach the Power Source Plug to the Power Cord.

Operation

This vacuum, with Dual Suction System is designed to effectively and safely clean all types of carpeting, wood, linoleum, and vinyl floors. Its wide 14-inch Powerfoot makes cleaning quick and easy.

To place the vacuum in position for use, lightly press your foot on the Powerfoot and tip the Handle backwards.



Routine Maintenance

For maximum performance from your vacuum, check and maintain vacuum parts regularly.

Replacing the Dust Bag

Check the Dust Bag weekly. Replace the Dust Bag when it is near full or when cleaning suction diminishes. Never reuse a Dust Bag.

WARNING: To avoid electrical shock or injury from moving parts, always turn OFF the Power Switch and unplug the Power Source Plug before performing maintenance or trouble shooting. Always unplug by grasping the Power Source Plug; NEVER pulling on the Power Cord to unplug.

Tip: Vacuuming new carpet or vacuuming fine powders may clog the Dust Bag. Check Dust bag often.

Unplug vacuum by grasping and pulling on the Power Source Plug.

Unzip Cloth Bag. Remove collar retainer by pressing on the two tabs and pulling the top towards you. Dispose of Dust Bag.

Slide collar of new Dust Bag completely into collar retainer. Push collar retainer back into position and secure in place. Tuck the remainder of the Dust Bag completely inside the Cloth Bag. Make sure it lays flat, top to bottom, without bunching. Zip Cloth Bag.

Cleaning the Dust Tube

The vacuum features Dust Tube designed to optimize cleaning power. For best performance, routinely check and clear excess dust and other debris.

Note: Cover floor with newspaper to catch any loose material or dust removed during cleaning.

Release Bag Tension Spring.

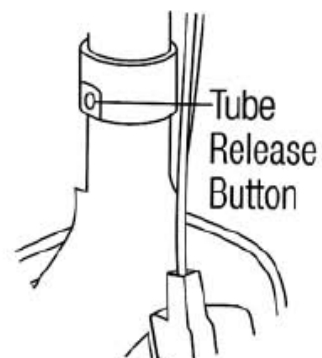
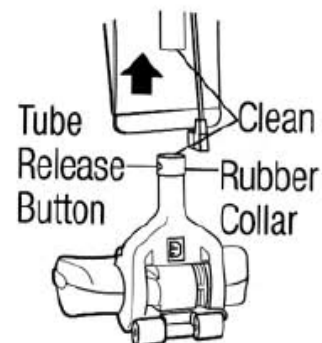
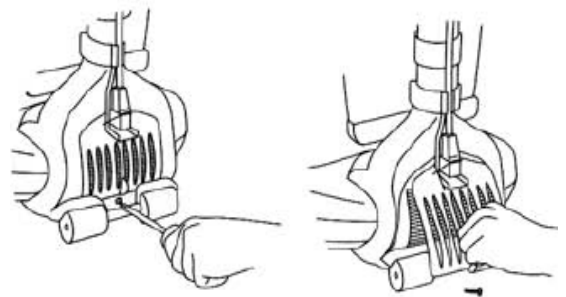
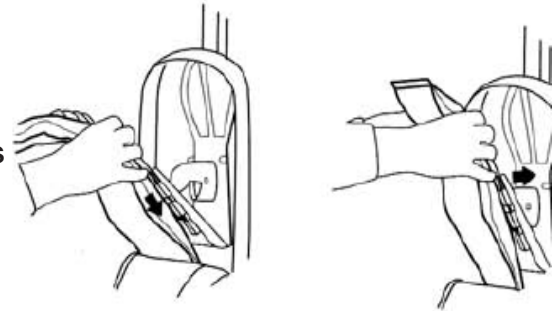
Remove Filter Cover screw and then remove Filter Cover.

Unplug Connector Plug.

Locate the Tube Release Button at the top of the Powerfoot. The Tube Release Button is hidden under a Rubber Collar on the side of the Dust Tube and can be pressed through the Rubber Collar. Lift off the Dust Tube while pressing on the Tube Release Button.

Use a wire brush to clean out the inside of the Dust Tube and the top section of the Powerfoot where they connect. Reconnect the tube with the Powerfoot. It should snap into place. Make sure that the tube release button on the Tube lines up with the Tube Release Button on the Rubber Collar. Plug the Connector Plug back into base of vacuum.

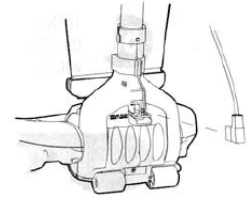
WARNING: To avoid electrical shock or injury from moving parts, always turn OFF the Power Switch and unplug the Power Source Plug before performing maintenance or trouble shooting. Always unplug by grasping the Power Source Plug; NEVER pulling on the Power Cord to unplug.



Cleaning the Filter

The post-motor HEPA filter is located in the Powerfoot of your vacuum cleaner. It should be checked often, and cleaned when the post-motor HEPA filter becomes dirty.

1. To clean post-motor HEPA filter, remove the screw with a Phillips head screwdriver.
2. Lift out filter cover.
3. Remove post-motor HEPA filter and blow out with air.
4. Reinstall post-motor HEPA filter.
5. Replace filter cover by sliding in the two tabs at the top of the filter cover and centering over the screw hole.
6. Replace screw.

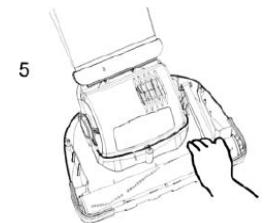
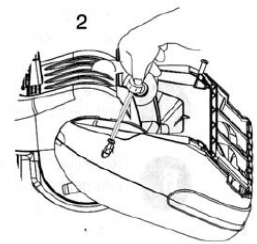


Cleaning the Rotating Cleaning Brush/Replacing the Drive Belt

Check the Rotating Cleaning Brush and Drive Belt regularly for wear or damage. Keep the Rotating Cleaning Brush ends free of string, hair, and carpet fibers. These can become entangled and reduce the vacuum's cleaning effectiveness.

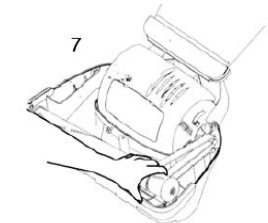
NOTE: The Rotating Cleaning Brush can most often be cleaned without removal from the vacuum. If there is an excessive amount of hair and debris, remove the Rotating Cleaning Brush for proper cleaning.

1. Unplug the vacuum and turn face down on a flat surface.
2. Remove all 3 screws from the bottom of the Powerfoot.
3. Grip both the Top Cover and base while turning unit back over. Lift off Top Cover.
4. Check Drive Belt. If it is broken or damaged, remove Rotating Cleaning Brush and replace Drive Belt.



WARNING: To avoid electrical shock or injury from moving parts, always turn OFF the Power Switch and unplug the Power Source Plug before performing maintenance or trouble shooting. Always unplug by grasping the Power Source Plug; NEVER pulling on the Power Cord to unplug.

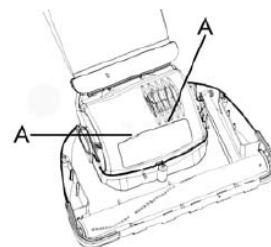
5. To remove the Rotating Cleaning Brush, pull the right side of the Rotating Cleaning Brush toward the front of the Powerfoot as you lift slowly.
6. Clean off Rotating Cleaning Brush as necessary.
7. Place existing or new Drive Belt over Rotating Cleaning Brush and the motor shaft. Insert the end cap pin on the left of the Rotating Cleaning Brush into the slot on the Powerfoot and slide the end cap pin on the right end of the Rotating Cleaning Brush in to the slot in the Powerfoot and lower until it clicks into place.
8. Make sure the Furniture Protection Guard is still intact.
9. Align the 3 tabs on the Top Cover with the 3 slots in the Powerfoot. Press into place, making sure the Furniture Protection Guard is on the outside.
10. Turn vacuum cleaner face down.
11. Reinstall the 3 screws beginning with the center screw.



WARNING: To avoid electrical shock or injury from moving parts, always turn OFF the Power Switch and unplug the Power Source Plug before performing maintenance or trouble shooting. Always unplug by grasping the Power Source Plug; **NEVER** pulling on the Power Cord to unplug.

To replace the light bulb.

1. Unplug the vacuum.
2. Insert a flat tipped screwdriver into slot A and remove light lens.
3. Grasp bulb and pull out. Discard old bulb and replace with new one.
4. Replace light lens.



Troubleshooting

Vacuum cleaner won't run.	
Possible Causes	Remedies
Vacuum Cleaner is not plugged in Household fuse/circuit breaker tripped	Check power Source Plug and Connector Plug Check/replace fuse – Reset breaker
Vacuum cleaner won't pick up dirt.	
Possible Causes	Remedies
Dust Bag is full Drive Belt not functioning Rotating Cleaning Brush bristles worn Rotating Cleaning Brush jammed Dust Tube is clogged	Replace with new Dust Bag Realign Drive Belt or replace if damaged Replace Rotating Cleaning Brush Remove Rotating Cleaning Brush and clean debris from brush ends; Reinstall Drive Belt Clean Dust Tube
Accumulation of dust inside Cloth Bag	
Possible Cause	Remedies
Dust Bag is clogged or dirty Dust Bag collar retainer not secure Inlet clogged	Replace with new Dust Bag Secure Dust Bag collar retainer Shake dust down to bottom of Dust Bag.



TORNADO®

Warranty Registration Form

Please Print Clearly

Company/Institution	
Contact Name	Title
Address	City/State/Zip Code
Phone	Fax
Date of Purchase	Email
Selling Dealer:(Required)	

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

<p>How did you first learn about Tornado cleaning and maintenance equipment?</p> <ul style="list-style-type: none"> <input type="radio"/> Contacted by local dealer <input type="radio"/> Previous experience with Tornado products <input type="radio"/> Reputation/Recommendation <input type="radio"/> Advertising <input type="radio"/> Direct mail <input type="radio"/> Website: _____ <input type="radio"/> Blog: _____ <input type="radio"/> Other 	<p style="text-align: center;">You can complete this form online at www.tornadovac.com/services/warranty-registration-form.aspx</p> <p style="text-align: center;">This form may also be returned to : Tornado Industries 3101 Wichita Court Fort Worth, TX 76140 Fax: 817-551-0719</p>
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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, and service is attempted by non-Authorized Tornado Service Centers, the warranty will be void.