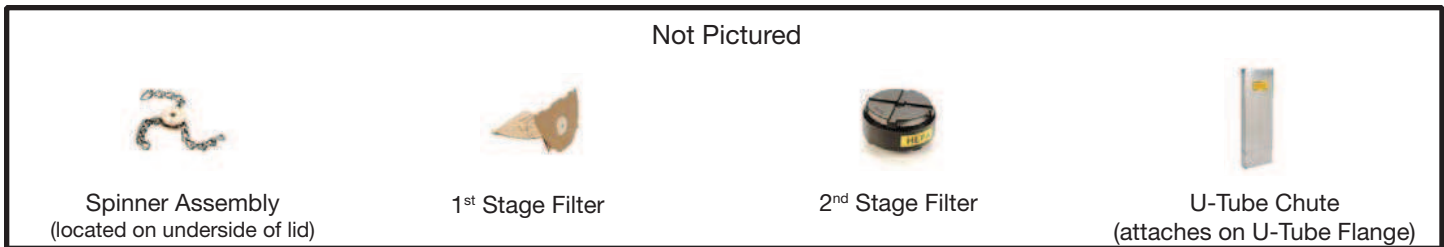
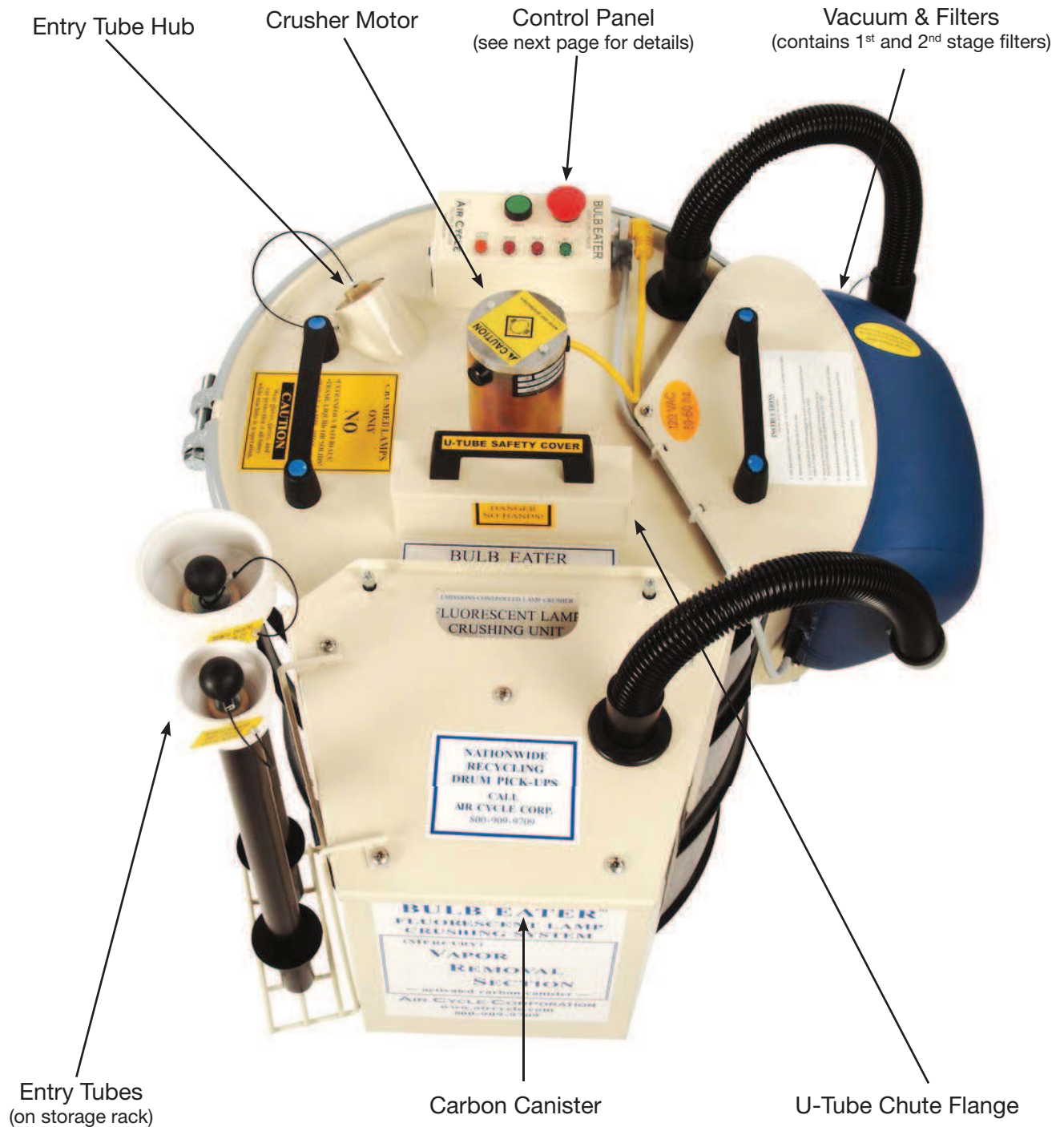


# The Premium Bulb Eater®



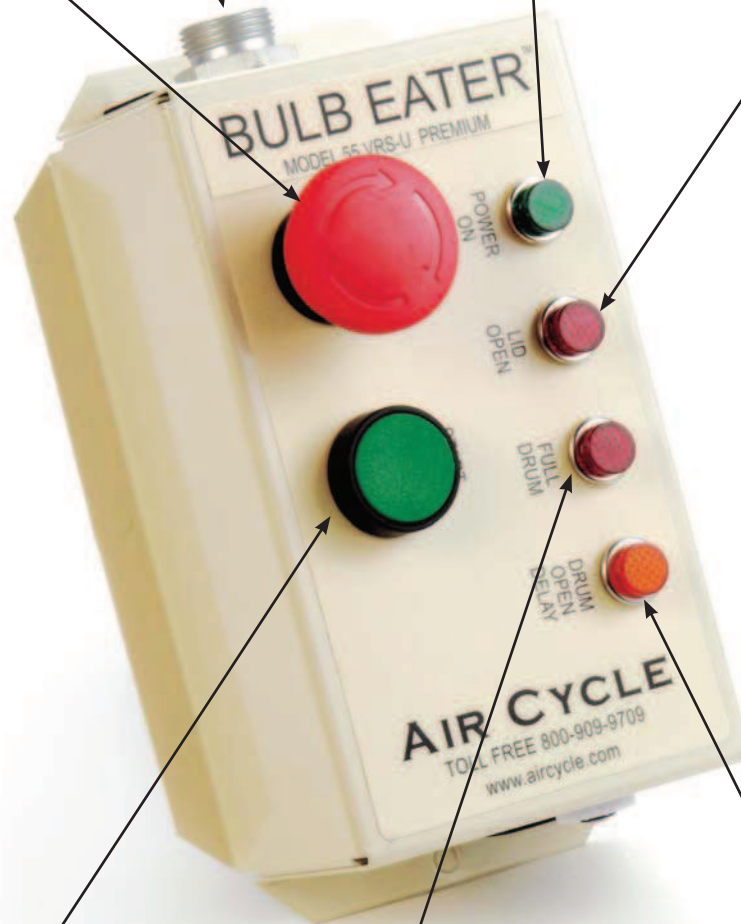
# Premium Bulb Eater® Control Panel

**Stop Switch**  
Push to stop.  
Twist to release.

**Power Outlets**  
Vacuum & Motor.

**Power On**  
Power is present when lit.

**Lid Open**  
Stops system when the lid is lifted off the drum.



**Start Switch**  
Only operates if the stop switch is released.

**Full Drum**  
Stops system when the fragments reach the sensor.

**Drum Open Delay**  
The crusher motor stops with the stop button, but the filtration system will continue to purge the vapors from the drum for approximately 30 seconds.

# Premium Bulb Eater® Assembly Instructions

What You'll Need:



55-Gallon Drum



15/16<sup>th</sup> Wrench or Socket



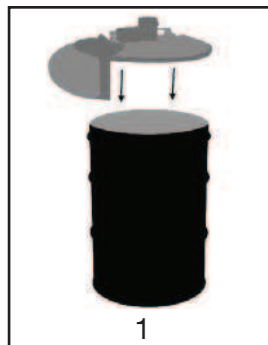
Safety Glasses



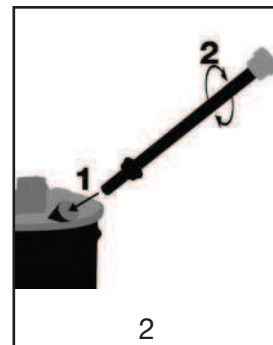
Safety Gloves

## Instructions:

1. Mount the Bulb Eater® onto the drum, tightening the bolt ring with a 15/16 wrench or socket.
2. Unscrew the cap on the entry tube hub and screw the entry tube into the lid.
3. Connect the vacuum hose to the drum lid by inserting the nozzle end into the black rubber grommet on the drum lid and screwing the other end into the hole on the right side of the blue filter case.
4. Remove the carbon bag from the beige carbon canister and slowly pour the activated carbon granules into the carbon canister.
5. Attach the lid and entry tube rack to the carbon canister – Use rubber grommets between the entry tube rack and lid and align all screws before tightening.
6. Hang the canister on the drum edge on the small standoffs provided as hooks.
7. Plug in the hose from the blue vacuum into the black rubber grommet on top of the carbon canister to complete the filtration system. Make sure the nozzle is pushed in deep for a good seal.
8. Finally, connect the power cord to the control panel on your Bulb Eater® and plug it into an outlet.



1



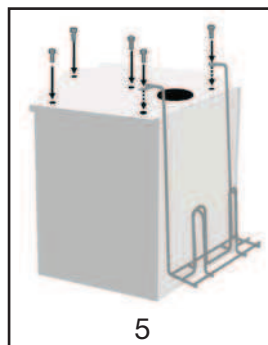
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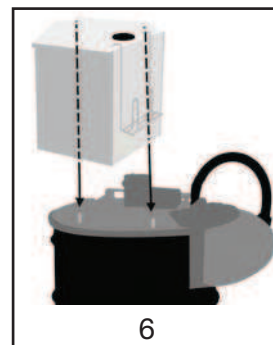
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4



5



6



7



8

Watch the Bulb Eater® Training Video at:  
[www.aircycle.com/videos/](http://www.aircycle.com/videos/)

# Premium Bulb Eater® Operating Procedures

## Before Operating the Bulb Eater®

- Crush lamps in a well-ventilated area
- Wear safety glasses, protective gloves, and ear protection
- Screw in appropriate entry tube for lamp diameter
- Remove rubber plug from top of entry tube

- 
1. Release the stop switch and press green START button. Confirm suction at top of entry tube and air flow out of carbon canister before crushing lamps.
  2. Insert lamp into entry tube roughly 3 inches and then let go. Do not force the lamp down the entry tube.
  3. After crushing, press STOP button to stop the crusher motor and begin purge cycle (approximately 30 seconds).
  4. Once the purge cycle is complete, seal the top of the entry tube with the rubber plug. When the machine is not in use, make sure that all openings are sealed.
  5. Before removing lid: Let the machine sit OFF for at least 15 minutes after the purge cycle is done to allow dust to settle before opening the lid.

### **ATTENTION:**

Drum **MUST** be kept closed at all times  
Do **NOT** crush more than one full drum of lamps per 8-hour period

## Recycling Full Drums

### **Schedule a Recycling Pickup**

- Call Air Cycle at 800.909.9709
- Schedule a pickup online at [www.aircycle.com/services/](http://www.aircycle.com/services/)
- Use the “Pickup Request Form” located in the Forms & Reference section of this manual

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Air Cycle offers bulk pickup service to allow you to continue enjoying cost-effective recycling solutions after you have crushed your lamps, conserve your storage space, save money over other recycling solutions, and help keep our environment clean.

### **With Air Cycle’s Crushed Lamp Bulk Pickups You Can:**

- Have large amounts of crushed lamps picked up
- Recycle various types of universal waste with a single pickup (including batteries, ballasts, and electronics)
- Track your recycling progress online 24/7 with online recycling reports
- Certify your progress for regulatory or management review with Recycling Certificates

# Filter Changing Procedures

1<sup>st</sup> Stage Filter must be changed at least twice every full drum of crushed lamps

2<sup>nd</sup> Stage HEPA Filter must be changed at least once every 10 drums of crushed lamps

Spent filters must NEVER be left exposed. Spent filters must either remain in the blue vacuum case attached to the unit, be sealed in a full drum of crushed lamps, or bagged in a zip-top bag to avoid mercury release. DO NOT DISPOSE OF FILTERS IN THE TRASH.

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- Confirm that the Bulb Eater® is clearly “off” and not operating.
- The operator must wear safety glasses and gloves when changing either of the two Bulb Eater® filters

## **Replacing the 1st Stage filter:**

1. Locate the right-hand door on the blue filter case of the Bulb Eater®.
2. Remove black nozzle from blue door and immediately cap the end of the black nozzle to prevent dust from falling to the floor.
3. Press the yellow label marked PUSH on the far most right edge of the curved blue vacuum case to open the filter case door.
4. Carefully remove the door from the blue filter case.
5. Immediately place a circular white label from your Bulb Eater® filter kit over the center hole on the front of the 1st Stage filter. This prevents mercury-laden dust from escaping during the change-out process.
6. With the 1st Stage filter safely covered with the white label, grab each side of the brown cardboard front of the filter with both hands.
7. Carefully pull the 1st Stage filter slowly out of the blue vacuum case and place it on top of the full drum of crushed lamps (within the drum) or store in a zip-top bag if drum is not yet full. Avoid compression of the filter to minimize the release of mercury-laden dust.
8. Insert a new filter into the filter case, making sure the cardboard “front” is securely in place and the bag portion of the filter is unfolded and beside the cartridge, not rolled up in front of the cartridge.
9. Replace the blue door and verify that it is latched.

## **Replacing the 2nd Stage HEPA filter:**

1. Follow steps 1 through 7 above to remove the 1st Stage filter.
2. Locate the 2nd Stage filter in the middle of the blue case.
3. Rotate the filter a quarter turn counter-clockwise.
4. Once the HEPA cartridge is free, carefully remove it from the blue filter case and place it in the full drum along with the crushed lamps and 1st Stage filters for disposal.
5. Replace both filters and replace the blue door, verifying that the door is secure.

### **ATTENTION:**

Only lamps and filters, placed on top of the crushed lamps, can be inside the drum  
Do not place any extraneous materials or liquids in the drum



# Spinner Replacement Procedures

The Bulb Eater® spinner assembly should be changed every 10 drums or as needed.

Gloves and eye protection should be worn while changing the spinner.

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## With the Bulb Eater® on a clean, empty drum:

1. Carefully stand the Bulb Eater® on edge.
2. With an allen wrench, loosen the set screw holding the spinner on the motor shaft.
3. Slide off the old spinner and replace with new spinner in the same position.
4. Tighten the set screw firmly to secure the spinner to the motor shaft.

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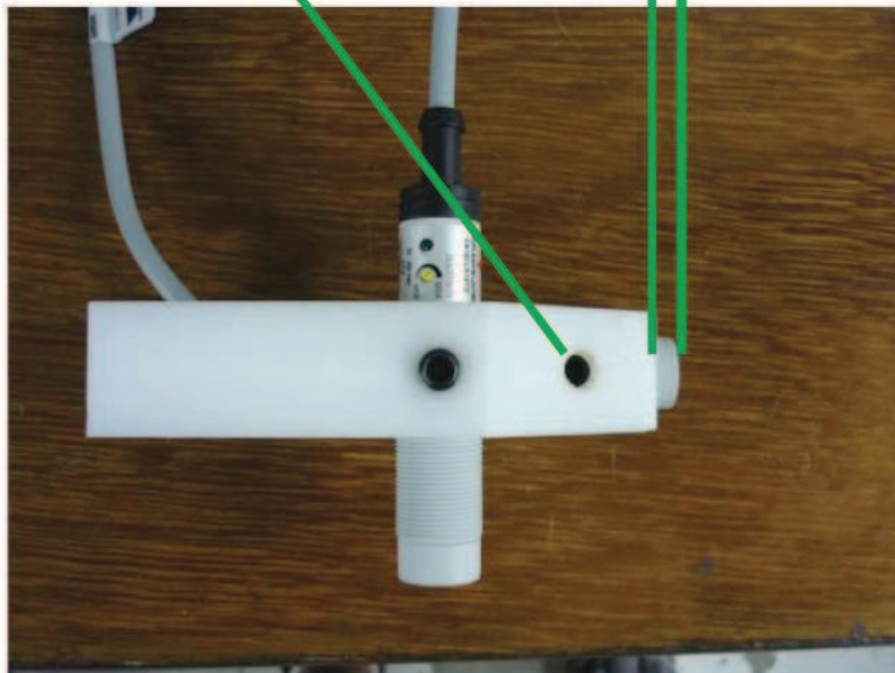
## Adjusting the Lid Sensor

### Use these tools to adjust the open lid and full drum sensors.

- If the “Open Lid” light remains on while the lid is closed, use the 1/8” hex wrench to adjust the lid sensor to extend 3/16” from the sensor housing.
- If necessary, use the included screwdriver to adjust the sensitivity on the full drum sensor. The factory setting is minimum sensitivity. (Remove control box cover to access sensitivity screw. Reseal bottom of control box when replacing)

Sensor set screw (w/1/8” hex wrench)  
(use light pressure)

3/16”



# Troubleshooting The Bulb Eater®

Carefully following the instructions and guidelines in this manual is the best way to keep your Bulb Eater® working properly. However, should you encounter problems, this guide will help you resolve issues that occasionally arise during normal use of the Bulb Eater®. If you are experiencing a problem that is not addressed here or if your problem persists after following these suggested procedures, do not hesitate to contact us at 800.909.9709 or info@aircycle.com for further assistance.

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## General Use

### **Bulb Eater® runs with low suction or is overheating**

Low suction and overheating can be an indication that your 1st or 2nd Stage filters need to be changed. In ideal conditions, crushing clean bulbs, 1st Stage filters should be changed twice a drum and the 2nd stage filters, every 10 drums. However, dirty bulbs and various environmental conditions can cause filters to fill more quickly.

1. Replace the 1st Stage filter (instructions can be found in the Maintenance & Troubleshooting section)
2. If the problem persists, replace the 2nd Stage filter.

### **Lamps break regularly in the entry tube**

1. Do not force lamps down the entry tube. The Bulb Eater®'s vacuum suction should be sufficient to pull the lamps into the machine.
2. Ensure that you always crush lamps using appropriately sized entry tubes to minimize external breakage. Entry tubes are available at [www.aircycle.com](http://www.aircycle.com) for a wide variety of lamp sizes.
3. If you are crushing lamps with significantly blackened ends, feed the lamps blackened end first. These portions of glass are slightly weaker and more prone to breakage outside the machine.
4. Crushing lamps that have previously been taped together can result in a buildup of adhesive in the Bulb Eater® entry tubes and cause breakage. Remove the entry tube from the machine and clean the inside of the tube with a rag soaked in an appropriate solvent like paint thinner.

Still having problems? Contact Air Cycle at 800.909.9709

## Control Panel Lights

### **“Power” light does not illuminate when machine is plugged in and is operating**

If your Bulb Eater® functions normally when plugged in but the power light does not illuminate, you likely have a faulty light. The Bulb Eater® will function properly with a faulty power light; you can continue using The Bulb Eater® with no changes.

### **“Lid Open” light is on when the Bulb Eater® properly secured to drum**

The lid open sensor is a safety shut off to prevent the operation of the machine if it is not installed on a drum.

If the light is lit when the lid is installed properly:

- If your machine has a white sensor block (found on the underside of the Bulb Eater® lid) – Follow the instructions found on page 8.
- If your machine has a black sensor block – Remove the set screw retaining the sensor and with a small screwdriver set, slide the sensor out so it is flush with the end of the block. Then reinstall the set screw to lightly hold the sensor in place.

Still having problems? Contact Air Cycle at 800.909.9709

# Frequently Asked Questions

Bulb Eater® users typically find the machine very easy to set up and use. However, we recognize that sometimes our customers have questions about their machines. Below is a list of frequently asked questions that address many common inquiries that we receive. If you require additional assistance please feel free to contact us at anytime by phone at 800.909.9709, through email at [info@aircycle.com](mailto:info@aircycle.com), or by visiting [www.aircycle.com/resources/FAQ](http://www.aircycle.com/resources/FAQ).

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## **What dangerous materials are in fluorescent lamps?**

Lamps contain many different components and materials, but the only one that is toxic is mercury. Each lamp typically contains 10-20 mg of mercury, some of which is evaporated. However, other components and materials of the lamp, such as the glass or powdered phosphors, can be contaminated by the mercury during the life of the lamp.

More information on mercury and disposal regulations can be found in the reference section of this manual.

## **How does the Bulb Eater® remove mercury while crushing lamps?**

Your Bulb Eater® will remove virtually all airborne powder and mercury vapor while crushing a lamp (over 99%). The Bulb Eater® filters the powder in two stages, with a bag filter and a High Efficiency Particulate Arrestor (HEPA) filter. The first stage bag filter removes 99% of the dust and larger particles from the air. The second stage HEPA filters out the remaining small particles. The HEPA has been shown to capture at least 99.97% of powder with particle sizes of 0.3 microns or greater. The Bulb Eater® filters mercury-containing vapors through a filter of activated carbon specially formulated with sulfur. This carbon filter converts mercury vapors into a mineral, allowing the vapor to be bound into the carbon bed.

## **How often should filters be changed?**

1st Stage Bag filter: should be changed twice with every full drum of crushed lamps. Change when the drum is half full and again when it is entirely full. The Bulb Eater® must be operated with the bag filter in place or the HEPA filter will be ruined.

2nd Stage HEPA filter: should be changed every 10 full drums.

Carbon filter: will last the entire life of the machine.

Using the filter log included in this manual will help you keep track of when filters should be changed out. Keep in mind crushing bulbs with heavy dust or other materials on them may require filters to be changed more often than the guidelines above.

Refer to page 8 of the owner's manual for filter-changing instructions.

## **Does the spinner assembly need to be changed?**

The breaking chain spinner should be changed every 10 full drums of lamps or as needed. Uneven wear causes heavy vibration.

Refer to the Maintenance & Troubleshooting section of the owner's manual for spinner-changing instructions.

## **What do I do when my drum is full?**

First, let the machine sit "off" for at least 15 minutes before opening the lid. This allows for dust to settle inside the drum. Once the Bulb Eater® is removed from the top of the drum it is strongly recommended that the drum be resealed as quickly as possible to minimize potential release of remaining mercury vapors present inside the drum (well under 2 minutes).

Once your drum is full, call Air Cycle at 800.909.9709 or visit [www.aircycle.com/services](http://www.aircycle.com/services) to schedule a pickup.

## **How can I order more filters or other replacement parts?**

Visit [www.aircycle.com](http://www.aircycle.com) or call 800.909.9709 to order more filters and replacement parts.



### **What safety precautions should I take when operating the Bulb Eater®?**

Because of possible lamp breakage outside of the drum, suitable eye protection and protective gloves must be worn at all times while the machine is in operation. Also, wearing steel-toed safety shoes and disposal overalls is recommended when changing out drums or moving full drums around for storage or pickup. Take care when lifting and moving drums of crushed lamps, as a full drum can weigh over 500 lbs.

Before using the machine it is extremely important for the operator to review and understand all instructions and safety precautions. Refer to the Operation Instructions in this manual for detailed information and procedures.

### **How should I clean up broken bulbs?**

1. Carefully scoop up glass fragments and powder using stiff paper or cardboard — DO NOT use a traditional vacuum or broom as these may spread the mercury-bearing phosphor powder.
2. Place fragments and powder in the drum with crushed lamps.
3. Use tape or a wet paper towel to clean up remaining fragments and powder.
4. Place tape or paper towel in a securely sealed zip-top bag and place bag on top of full drum of crushed lamps with spent filters.

### **What regulatory restrictions apply to operating the Bulb Eater®?**

As a part of staying compliant with EPA and OSHA regulations, Air Cycle recommends that the operator of the Bulb Eater® should be trained on how to properly operate and maintain the equipment and crush no more than one full drum of lamps per 8-hour work shift in a well-ventilated work area.

**Crushing lamps is a regulated activity by the United States Environmental Protection agency.** Air Cycle Corporation strongly urges all Bulb Eater® customers to thoroughly research all regulations that may apply to crushing, storage, shipping, labeling, employee training, and other crushing-related activities at their facility.

Detailed environmental and regulatory information can be found in the Mercury Information appendix beginning on page 14.

For More Information on The Bulb Eater® and  
Air Cycle Corporation visit [www.aircycle.com](http://www.aircycle.com)