

Bulb Eater®

Model 55 VRS(U) Premium Owner's Manual



VRS-U Premium



VRS Premium

Air Cycle Corporation

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800-909-9709

Model 55 VRS Premium Bulb Eater[®]

(Vapor Removal System)

Assembly Instructions

When you receive your unit, you need to do the following:

1. Mount the Bulb Eater[®] onto the drum, tightening the bolt ring with a 15/16 wrench or socket.
2. Screw the entry tube into the lid. This tube can be removed and replaced with T8, T12, or T17 entry tubes. The machine comes with a standard T12 (1.5" diameter) entry tube. If you use the newer T8 (1" diameter) lamps, please purchase a T8 entry tube. Proper entry tube use minimizes the likelihood of fluorescent lamp breakage outside the entry tube.
3. Slowly pour the activated carbon granules into the beige carbon canister avoiding breathing carbon dusts that may be generated, dispose of the bag, and tightly screw down the lid with the five screws provided. Now hang the canister on the drum edge on the small standoffs provided, and plug-in the HEPA filter exhaust air hose from the blue filter casing into the black hole.

⚠ CAUTION



wear eye protection

Training video available at www.aircycle.com/media/video

Notes and Special Information

1. You are the proud owner of our latest product, the Bulb Eater[®] Model 55 VRS Premium. Please call Customer Service to inform us of any problems you may experience.
2. What is in a lamp? – About poisonous materials – Neither the glass nor white powder (“phosphors”) in fluorescent lamps are, in themselves, poisonous. The powder is not phosphorus as some think, but rather a mixture of minerals (that glow in the presence of ultraviolet light) that are a lot like clay. The powder does, however, get contaminated by the mercury in a lamp and should be avoided.
3. Mercury – There is, however, a tiny ball of liquid mercury in each lamp that is very poisonous. The lamp interior is a vacuum, which holds or forms some mercury vapor, just as water evaporates forming water vapor. The amount of mercury is small and getting smaller every year. The mercury concentration is about 40 milligrams a lamp in older lamps, and has been steadily reduced over the last 5 year to about 10-20 milligrams per typical four-foot lamp today (3-5 mg per foot based on lamp length). This is about the size of one half of a pinhead. About 1% of this mercury evaporates into the vacuum, forming a mercury vapor, which carries the electricity down the length of the lamp. Your new Bulb Eater[®] Premium will remove virtually all airborne powder and mercury vapor (over 99%). This will allow for lamp destruction in closed quarters, but it is highly recommended that crushing is done in well ventilated areas to minimize exposure.
4. The HEPA– HEPA stands for High Efficiency Particulate Arrestor (HEPA filters capture at least 99.97% of powder with particle sizes of 0.3 micron, or greater. A micron is 1/1000 of a millimeter, the small marks on a metric scale). Your new VRS system contains a dust removal system that exceeds this standard by removing 99.99% of these particles. In your blue case, there are two filters. The first stage is a bag filter that removes 99% of the dust and larger particles, is inexpensive, and must be replaced twice with every full drum of crushed lamps. (Change when the drum is half full and again when it is entirely full. Make sure to put both filters on top of the crushed lamps so they can be easily removed for processing.) Twenty extra 1st Stage filters are included with your Bulb Eater[®] system. There is a second filter (the HEPA filter), which filters out any remaining particles. This filter is a molded assembly located behind the 1st Stage filter, and is screwed in by hand – requiring a quarter turn. This filter will require replacement after every 10 full drums or as needed.
5. Vapor Removal – The airstreams exiting the blue filter case flow through a black hose to the beige canister containing 22 pounds (lbs.) of activated carbon specially formulated with sulfur. This activated carbon filter can capture, absorb and hold high concentrations of mercury vapor because the sulfur treated carbon converts the vapor into a mineral, allowing the vapor to be bound into the carbon bed. The carbon filter can hold as much as 25% of its weight in mercury. Since the mercury filter holds 22lbs. of carbon, 5.5lbs of mercury can be collected before saturation, this multiplies out to a calculated capacity of millions of 4’ lamps!
6. Disposal Issues – A user may have to deal with the fluorescent lamp fragments as hazardous waste, following all federal, state, and local environmental regulations. As of January 6th, 2000, lamps were included under a subsection of Hazardous Waste Regulations called the Universal Waste Rule (UWR). While crushed lamps do not fall under the Federal Universal Waste Rule, many states do recognize crushed lamps as a Universal Waste. We encourage users to contact Air Cycle Corporation or your state EPA office for more details regarding lamp disposal requirements in your locale. (NOTE: Air Cycle Corporation offers a nationwide recycling program for facilities to recycle their lighting wastes. Please contact our Sales Department for

a detailed lamp-recycling proposal. If you will be crushing in one of these states: CA, CT, MA, ME, MN, MO, RI, a permit is currently required to operate the machine. Please note that CESQG generators in MA do not need to obtain a permit, only SQG and CQG need permits. Call for more information.)

7. Safety Precautions – Suitable eye protection (e.g. safety glasses or protective goggles), protective gloves must be worn at all times while the machine is in operation! Steel-toed safety shoes and disposal overalls is recommended to be worn during waste drum change-out or system removal for storage. (NOTE: a full drum can weigh over 500 pounds and care must be taken when lifting and moving full drums.) After crushing lamps, insert the rubber plug provided in to the opening of the entry tube to seal the drum. When separating the machine from the drum (i.e. when changing from a full drum to an empty drum) let the machine sit “off” for at least 15 minutes before opening the lid. This will allow for most of the residual dust in the headspace of the drum to settle. **It is strongly recommended that the drum be sealed within 2 minutes to minimize potential release of remaining mercury vapors present in the waste drum. Therefore, Air Cycle operation recommends the lid removal drum change-out procedure be practiced to ensure the operation is performed efficiently and as quickly as possible.** (Call Air Cycle Corporation for further directions, if needed.)
8. Changing the Spinner- The “spinner”, or breaking chain, needs to be changed every 10 full drums of lamps or as needed. The chain gradually wears down with use and will eventually lose links as they thin down. To replace a spinner, (after changing to a clean, empty drum) carefully stand the Bulb Eater® on edge. With an allen wrench, loosen the set screw holding the “spinner” on the motor shaft. Slide off the old “spinner” and replace with new “spinner” in the same position. Tighten the set screw to secure the “spinner” to the motor shaft.
9. Once you have adequately reviewed all operating instructions and are aware of all safety precautions, have practiced the drum change-out procedure, donned protective equipment and clothing, connected the proper lamp entry tube and assembled the machine, you are ready to begin crushing your lamps. - To crush your lamps, turn the machine “on.” Check for suction (i.e. negative pressure) using a gloved hand placed over the end of the entry tube. Carefully insert the fluorescent lamp into the entry tube, allowing roughly 3 inches of the lamp to enter the entry tube, and then release the lamp. DO NOT force the lamp down the shaft! If the machine is running properly, you should feel the suction or negative pressure pulling the lamp into the machine. The operator of the machine should crush no more than one full drum of lamps per 8-hour work shift. This helps ensure OSHA and EPA regulatory compliance! **Please read and review the Operating Instructions (found in this book) before attempting to operate this equipment for lamp crushing.**

Bulb Eater[®] Operating Procedures

(Model 55 VRS Premium)

To properly use your Bulb Eater[®] lamp crushing system, you must...

1. Make every effort to crush lamps in a well-ventilated area.
2. Wear safety glasses and protective gloves at all times while machine is in operation.
3. Screw in appropriate entry tube (T12 entry tubes are standard – T8 and T17 entry tubes are available through Air Cycle Corporation.) It is important that a T17 entry tube is used while crushing T17 lamps, T12 entry tubes for T12 lamps, and T8 entry tubes for T8 lamps. (A T8 fluorescent lamp is 1 inch in diameter, a T12 lamp is 1.5 inches in diameter, and a T17 lamp is 2 inches in diameter.) This will greatly minimize outside lamp breakage.
4. Once the appropriate entry tube is screwed into the drum lid, remove the rubber plug from the top of the entry tube and turn on the machine. The start switch is located on the machine control panel (see next page for picture).
5. Once the system is running, place hand over the lamp entry tube to check for suction (i.e. negative pressure. If you do not feel suction on your hand, turn off your machine and call the customer service department at Air Cycle Corporation for further assistance.)
6. Low suction pressure normally indicates that a filter, located in the blue case, is full and needs to be changed. The 1st Stage filter bag should be changed after every half drum of crushed lamps, or as needed. The 2nd Stage filter cartridge should be changed after every 10 full drums of crushed lamps, or as needed. (See Bulb Eater[®] Change Procedure sheet for more information on how to properly change the system's filters.)
7. Once you have determined that the drum is under negative pressure, you can now safely crush dry fluorescent lamps. **Do NOT crush any wet lamps. Lamps that have been stored outside need to dry before crushing.**
8. Line the fluorescent lamp up over the lamp entry tube and allow for roughly 3 inches of the lamp to enter the tube. Let the vacuum pull the lamp into the drum. **Do NOT force the lamp down the entry tube!** Should a lamp become wedged while entering the drum through the entry tube, simply grab the remaining lamp tube, pull the tube up an inch or two, and then release the tube. (Occasionally you may need a wood stick to clear a jam). This will dislodge the jam and the tube should fall the rest of the way into the drum.
9. **Do NOT crush more than one full drum of lamps per 8-hour period per employee.** This will help insure that OSHA Safety Standards are met.
10. After crushing, 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 (if you plan on removing the crushing apparatus from the drum for any reason). Otherwise, simply seal the top of the entry tube with the rubber plug once the purge cycle is complete. When the machine is not in use, make sure that all openings are sealed.

Stop Switch
Push to stop.
Twist to release.

Power Outlets
Vacuum & Motor

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

Power On
Shows power is present.



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.

Premium Bulb Eater® Filter Change Procedure

1st Stage Filter changed **twice every full drum** of crushed lamps
2nd Stage HEPA Filter changed at least **once every 10 drums** of crushed lamps

1. Confirm that the Bulb Eater® is clearly “off” and not operating.
2. The operator must wear the following personal protective equipment when changing *any* of the two Bulb Eater® filters:
 - Safety glasses or protective goggles
 - Gloves

**** Note that spent filters must NEVER be unattended. Spent filters must either remain in the blue filter case attached to the unit, be sealed in the drum of crushed lamps, or bagged (i.e. ziplock) to avoid mercury release. DO NOT DISPOSE OF FILTERS IN THE TRASH****

Replacing the 1st Stage filter:

3. Locate the right-hand door on the blue filter case of the Bulb Eater®.
4. Remove black nozzle from blue door and immediately cap the end of the black nozzle to prevent dust from falling to the floor.
5. Press the yellow label marked PUSH on the far most right edge of the curved blue filter case to open the filter case door.
6. Carefully remove the door from the blue filter case.
7. 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.
8. Once the entry hole to the 1st Stage filter is safely covered with the white label, grab each side of the brown cardboard front of the filter with both hands.
9. Carefully pull the 1st Stage filter slowly out of the blue filter case and place it on top of the crushed glass within the drum for disposal. ***Avoid compression of the filter to minimize the release of mercury-laden dust.***
10. 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.
11. Replace the blue door and verify that it is latched.

Replacing the 2nd Stage HEPA filter:

12. Follow steps 1 through 7 above
13. Locate the 2nd Stage filter in the middle of the blue case.
14. Rotate the filter a quarter turn to the left (counter-clockwise).
15. 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.
16. Replace both filters and replace the blue door, verifying that the door is secure.

WARNING! Only lamps and filters (placed on top of the crushed glass) can be inside the drum! No extraneous materials or liquids!

Bulb Eater[®] Do's & Don'ts

Don'ts

- Forget to check for suction (i.e. negative air flow) at the top of the entry tube and also for air blowing out the bottom of the beige carbon canister.
- Turn “on” machine without removing safety plug. Failure to remove plug will ultimately damage vacuum.
- Use the wrong entry tube. If you intend to crush T8 lamps (1” diameter), then you must use a T8 entry tube.
- Crush any lamps without confirming that both 1st and 2nd stage filters are in place.
- Crush wet lamps. Wet powder will cause system errors.
- Force the lamp down the entry tube.
- Crush more than one full drum of lamps per 8-hour period without confirming with Air Cycle that the quantity is ok.
- Remove the crushing lid directly after crushing the lamps. Let the machine sit for at least 15 minutes before opening lid.
- Leave a drum of crushed lamps open without a lid in place for longer than 2 minutes.

Do's

- Read the manual from cover to cover.
- Have all employees using the Bulb Eater[®] read the manual.
- Test all employees who use the machine on how to properly use the system.
- Call Air Cycle Corporation should any problems arise.
- Take advantage of Air Cycle Corporation's recycling services throughout North America for intact/crushed lamps, ballasts, batteries, and e-waste.
- Call Air Cycle Corporation with any suggestions. All of our best improvements have come as a result of customer feedback. Help us improve our program for you and for others to come.
- Let us know if there is anything else we can do to help you.

Mercury Hazards

Mercury Emissions

The disposal of mercury-containing fluorescent lamps and the potential for emissions is of concern because mercury is a highly toxic metal that bioaccumulates through the food chain. Mercury also has a vapor pressure of 2×10^{-3} mm (at 25°C) and is volatile (i.e., readily forms mercury vapor) at room temperature. Therefore, emissions of mercury in liquid or vapor form require health and environmental consideration. The volatilization is especially significant with respect to human health, as it results in ambient mercury vapor that can be absorbed into the human body through various pathways. These include direct inhalation, ingestion through surface contamination and percutaneous absorption of elemental mercury. Generally, excessive exposure to various forms of mercury has been shown to adversely affect the human central nervous system, lungs, kidneys, skin, and reproductive system.

Local Effects

Mercury is a primary irritant of the skin and mucous membranes. It may occasionally be a skin sensitizer in some individuals.

Systemic Effects

Acute (short-term) poisoning due to mercury vapors adversely affects the lungs primarily, in the form of acute interstitial pneumonitis, bronchitis, and bronchiolitis.

Chronic (long-term) exposure to lower mercury levels over prolonged periods of time produces symptoms that can vary widely from individual to individual. These may include weakness, fatigability, loss of appetite, loss of weight, insomnia, indigestion, diarrhea, metallic taste in the mouth, increased salivation, soreness of mouth or throat, inflammation of gums, black line at the gums, loosening of teeth, irritability, loss of memory, and tremors of fingers, eyelids, lips, or tongue. In general, chronic mercury exposure produces four classical signs: gingivitis, excessive salivation, increased irritability, and muscular tremors. Rarely are all four seen together in an individual case. More extensive exposures to excessive mercury levels, either by daily exposures or one-time, can produce extreme irritability, excitability, anxiety, delirium with hallucinations, melancholia, manic-depressive psychosis, and adverse effects on the reproductive organs. Either acute or chronic exposure may produce permanent changes to affected organs and organ systems. Excessive exposure to various forms of mercury has been shown to adversely affect the human central nervous system, kidneys, and reproductive system.

Table 1 provides a summary of the clinical importance of various forms of mercury.

Abrasion and Cut Hazards

The primary hazard resulting from handling broken lamps or crushing lamps is the potential release of airborne glass particulates resulting in skin, eye, and respiratory tract irritation with the possibility for cuts and lacerations to the eye, skin, and respiratory tract tissue upon contact. The eyes and skin can also be cut or lacerated by sharp glass edges or metal components contained in the crushed lamp waste.

Crushing Hazards

Perhaps the greatest potential for physical injury during the Bulb Eater® use other than laceration from broken glass or metal components is physical injury from movement or mishandling of the 55-gallon drums. Thus, forklifts or other suitable lifting devices equipped with drum grabbers and drum cradles must be used for transporting, moving, and positioning the lamp waste collection drums when filled with crushed fluorescent lamps. It is also extremely important that the manual be followed closely. Failure to operate the machine properly could lead to dangerous mercury vapor exposure. While boxing lamps intact, be careful to avoid breaking the lamps. When intact lamps break, unfiltered vapors are released.

Other

A review of manufacturers' fluorescent lamp Product Safety Data Sheets (PSDS) reveal there are no known health hazards from exposure to lamps that are intact. The PSDSs further disclose that no adverse effects are expected from occasional exposure to broken lamps but stated, "Avoid prolonged or frequent exposure to broken lamps unless there is adequate ventilation." The PSDSs indicate that the major hazard from an occasional broken lamp is the possibility of sustaining glass cuts.

Table 1. Clinical Importance of Elemental and Inorganic Forms of Mercury					
Form	Element State	Source	Absorption*	Primary Effects	Secondary Effects
Liquid Mercury	Hg ⁰	Thermometers; barometers; manometers; fluorescent lamps; switches; rectifiers; batteries (1)	Dermal contact – minimal absorption Ingestion – poor absorption	Poorly absorbed through GI tract (0.01%) or dermally; Systemic toxicity is rare	None
Mercury Vapor	Hg ⁰	Industrial	Inhalation – 80% absorbed Percutaneous – minimal absorption	Lungs, skin, eyes, gingiva (gums)	CNS**, kidneys (2)
Mercury Salts and Compounds	Hg ⁺¹ Hg ⁺²	Medicines; antiseptics; disinfectants; electric batteries; industrial compounds	Ingestion – 10% absorbed Dermal Contact – lethal doses can be absorbed by animals	Kidneys GI Tract	CNS

Table Abbreviations and Notes

- CNS Central Nervous System
- GI Gastrointestinal
- Hg Atomic symbol for elemental mercury
- * In humans, the biologic half-life of all forms of mercury is 40-70 days
- ** Crosses the blood-brain barrier
- (1) Breakage of any of these devices can result in the release and volatilization of liquid mercury in air as mercury vapor
- (2) Mercury accumulates in many tissues, but most importantly the brain and kidneys

Environmental Effects

Additionally, mercury is harmful to the environment. Mercury bioaccumulates in the food chain and as such poses many of the adverse effects described on the human body during the consumption of mercury-contaminated food (e.g., predator fish – swordfish, tuna, etc.) Mercury in the environment is deposited and revolatilized many times, with a residence time in the atmosphere of a few days.

Most mercury-containing fluorescent lamps must be recycled or disposed as a toxic characteristic hazardous waste as defined in the Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA). This is due to the concentration of the mercury and/or other toxic metal content in the waste typically exceeding EPA's Toxicity Characteristic Leaching Procedure (TCLP) limits quantified by TCLP analytical tests.

The most environmentally sound and preferred disposal method for spent fluorescent lamps is recycling. Fluorescent lamp recycling allows the mercury to be separated from the other fluorescent lamp components (e.g. glass, metal, etc.) and collected for reutilization.

Mercury Standards

Occupational Safety and Health Standards

The Occupational Safety and Health Administration (OSHA) regulation Title 29 of the Code of Federal Regulations (CFR) 1910.1000, Air Contaminants, Table Z-2, and an OSHA Compliance Directive Interpretation of 9 September 1996 regarding mercury exposure limits has set the Permissible Exposure (PEL) for all forms of mercury at 0.10 milligrams per cubic meter (mg/m^3) of air (equivalent to 6.1 parts per billion, ppb). The Permissible Exposure Limit (PEL) is an eight-hour Time Weighted Average (TWA) concentration limit in air that nearly all workers can be exposed to without adverse health effects. The American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents for 2001 has set recommended air standards for the elemental and inorganic forms of mercury (including inorganic mercury vapor) at 0.025 milligrams per cubic meter (mg/m^3) as an eight-hour Threshold Limit Value (TLV) Time Weighted Average (TWA) concentration in air. A “Skin” notation is also designated with the standard indicating skin, eye and mucous membrane contact as a significant pathway of absorption.

Table 2 provides a summary of mercury vapor exposure limits by various organizations including OSHA, ACGIH, the National Institute of Occupational Safety and Health (NIOSH) and the National Academy of Sciences (NAS).

Table 2. Mercury Vapor Exposure Limits Summary							
OSHA PEL 8-Hour TWA (mg/m^3)	ACGIH TLV 8-Hour TWA (mg/m^3)	ACGIH 30- minute Excursion Limit (mg/m^3)	ACGIH Instantaneous Excursion Limit (mg/m^3)	NIOSH REEL- TWA (mg/m^3)	NIOSH IDLH (mg/m^3)	NAS SMAC 1-Hour TWA (mg/m^3)	NAS SMAC 24-Hour TWA (mg/m^3)
0.1 (Skin) [12.2 ppb]	0.025 (Skin) [3.0 ppb]	0.075 (Skin) [9.1 ppb]	0.125 (Skin) [15.2 ppb]	0.05 (Skin) [6.1 ppb]	10.0 [1,219 ppb]	0.08 [9.8 ppb]	0.02 [2.4 ppb]

Table Abbreviations and Notes

ACGIH	American Conference of Governmental Industrial Hygienists - 2002 Threshold Limit Values
IDLH	Immediately Dangerous To Life And Health
mg/m^3	Milligrams Per Cubic Meter (air)
NAS	National Academy of Sciences
NIOSH	National Institute of Occupational Safety and Health
PEL	Permissible Exposure Limit
ppb	Parts per billion (in air)
OSHA	Occupational Safety and Health Administration
REEL	Recommended Environmental Exposure Limit
Skin	Percutaneous (dermal) exposure (as route of exposure)
SMAC	Spacecraft Maximum Allowable Concentrations for Selected Airborne Contaminants (1996)
TLV	Threshold Limit Value
TWA	Time Weighted Average

Recycling Instructions

By purchasing this machine, you are now part of our nationwide Recycling Program. Listed below are products you can recycle through us, and some guidelines to follow to properly package the items for pick-up. When you are ready for a pick-up, please fill out your Pick-Up Request Form and fax to (708) 344-7875.

Recyclable Items

- Fluorescent lamps
- HID lamps
- Computers, Monitors, Keyboards, Laptops, Modems, Copiers, Fax Machines, Hard Drives
- Batteries
- Ballasts

How to Pack and Ship Recyclables

Drums for Crushed Lamps:

Steel drums for crushed lamps are available through Air Cycle Corporation. Crushed lamps must be properly handled to avoid contamination of the air and surfaces in the surrounding area. **Nothing but crushed fluorescent lamps and Bulb Eater[®] filters can be put in the drum (i.e. tape, hardware, cardboard, or any other non-lamp foreign material) or additional charges will be levied. Filters should be placed on top of the crushed lamps.** (Foreign materials often shut down processing/recycling machines, requiring a clean out.) When the drum is filled, recover it with a lid and bolt-ring, and the crushing apparatus should be moved to an empty drum and clamped down. The drum must be properly labeled to indicate hazardous or universal waste.

Intact Lamps:

To save cost and the environment, whenever possible, use the same carton that your new bulbs came in. These cartons are well suited for reuse and will help prevent breakage. The dividers should be taken out and spent lamps carefully placed in the carton until full (approximately 30% more lamps than the original count of new lamps will fit in the carton). When full, close the end flaps and tape securely. Place a tag on the carton to properly mark it for recycling.

There are 4' and 8' boxes also available through Air Cycle Corporation. (The boxes will only be available through Air Cycle Corporation directly, so please call if you need them.)

U-shaped and circular lamps:

Whenever possible, reuse the packaging materials from your original lamps or your new lamps. If this is not possible select the box that will limit the movement of the lamps within the carton. **DO NOT TAPE LAMPS TOGETHER.**

Ballasts:

Make sure that PCB-containing ballasts are separated from the non-PCB containing ballasts. They must be placed in an U.N. approved, non-leaking container such as an Air Cycle drum or ballast bucket. If there are leaking ballasts, they must be put into a plastic bag, separated from the above mentioned.

Batteries & Computer Hardware:

All batteries and computer hardware equipment can be recycled as long as they are segregated from all other recyclables. (The batteries must be separated from the computer hardware as well).

Shipping:

Whenever possible, palletizing and securing lamps with shrink-wrapping will protect and speed up handling. Cartons should be stacked in an interleaved fashion to support each other. The cartons should not be stacked more than 5' high on the pallet.

The Bulb Eater® Filter Log

Location _____

New Drum Start Date	Date Drum Became Full	BLUE CASE FILTER	
		1st Stage Filter Changed? <i>change twice per drum</i>	2nd Stage HEPA Filter Changed? <i>change every 10 drums</i>
		<input type="checkbox"/> YES <input type="checkbox"/> NO Date _____	YES <input type="checkbox"/> NO Date _____
		<input type="checkbox"/> YES <input type="checkbox"/> NO Date _____	<input type="checkbox"/> YES <input type="checkbox"/> NO Date _____
		<input type="checkbox"/> YES <input type="checkbox"/> NO Date _____	<input type="checkbox"/> YES <input type="checkbox"/> NO Date _____
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		<input type="checkbox"/> YES <input type="checkbox"/> NO Date _____	<input type="checkbox"/> YES <input type="checkbox"/> NO Date _____

Reminders:

- *Place used filters on top of crushed lamps in drum for recycling.
- *Label each new drum with a Hazardous or Universal Waste Label.
(Depending on applicable state regulations.)

****Save this form for your records****

VRS/VRSU Premium Bulb Eater Parts List

Part #	Description	U/M
Machines		
330-010	BE 55 VRSU Premium Bulb Eater®	EA
330-005	BE 55 VRS Premium Bulb Eater®	EA
Entry Tubes		
55-483	T5 Entry Tube (24")	EA
55-484	T5 Entry Tube (48")	EA
55-476	T7 Entry Tube (24")	EA
55-485	T8 Entry Tube (24")	EA
55-486	T8 Entry Tube (48")	EA
55-487	T12 Entry Tube (24")	EA
55-488	T12 Entry Tube (48")	EA
55-490	T10 Entry Tube (24")	EA
55-495	T10 Entry Tube (48")	EA
55-304	T17 Entry Tube (48")	EA
55-305	T17 Entry Tube (24")	EA
55-306	U-Tube Removable Chute	EA
Filters		
55-310	Filter Bags for VRS (20 disposable 1st stage filters)	PKG
55-313	Power Filter Unit w/o Mounting Bracket 120v, 50-60hz	EA
55-325	Filter Cartridge (2nd stage HEPA grade)	EA
55-330	Filter Combo Kit (20 bag filters & one 2nd stage cartridge)	EA
55-333	Jumbo Filter Combo Kit (100 bag filters & 5 2nd stage cartridges)	EA
Safety Equipment		
330-792	Plug for T7 Entry Tube	EA
330-793	Plug for T8 Entry Tube	EA
330-794	Plug for T5 Entry Tube	EA
330-795	Plug for T12 Entry Tube	EA
330-796	Plug for T10 Entry Tube	EA
330-798	Plug for T17 Entry Tube	EA
330-799	EPA Plug	EA
330-870	U-Tube Safety Cover	EA
55-480	U-Tube Upgrade Kit (new lid, chute and cover)	EA
Bulb Eater Replacement Parts		
331-720	N/A Power Cord	EA
55-132	Spinner Assembly w/ wrench	EA
55-340	Inlet Filter Hose w/ Fittings	EA
55-345	Outlet Filter Hose w/ Fittings	EA
55-420	Carbon, Activated 22 lbs, Sulfur impregnated	EA
55-450	Carbon Canister w/carbon	EA
330-207	Carbon Canister, w/o Carbon	EA
55-400	55 Gallon Drum, Epoxy lined, plain lid & bolt ring clamp	EA
55-425	55 Gallon lid w/ gasket	EA
55-440	55 Gallon locking ring, heavy duty 12 gauge w/ bolt	EA
330-280	Lid for VRS	EA
330-282	Lid w/ U-Tube Opening	EA

To Order New Machines or Parts Contact Air Cycle Corporation:

www.AirCycle.com

PH: 800-909-9709 FAX: 866-909-6725

2000 S 25th Ave, Suite C, Broadview, IL 60155

Pick-Up Request Form



AIRCYCLE

CORPORATION
2000 S. 25th Avenue, Suite C • Broadview, IL 60155

Tel (800) 909-9709 • Fax (866) 909-6725 • www.aircycle.com



Date: _____

Generator Pick-Up Location

Company: _____
 Address: _____
 City/State/Zip: _____
 Contact: _____
 Contact E-mail: _____
 Contact Phone: _____
 Contact Fax: _____
EPA ID#: _____

Generator Billing Information

Company: _____
 Address: _____
 City/State/Zip: _____
 Accounts Payable Contact: _____
 Accounts Payable Phone: _____
 Accounts Payable Fax: _____
PO#: _____

Transportation Requirements

A truck with a lift gate is required to pick up the material. Yes ___ No ___
 A forklift available for loading the material onto the truck. Yes ___ No ___
 The material will need to be manually loaded onto the truck. Yes ___ No ___
 Note: manpower charges for loading may apply
 A full size tractor-trailer can fit into the loading dock. Yes ___ No ___
 Height and length restrictions for the loading dock are: _____
 The material is stored: _____
Available Loading Hours: _____

Material To Be Delivered:

	Quantity
55 Gallon Steel Drums	_____
4' Fiber Drums	_____
4' Lamp Boxes	_____
8' Lamp Boxes	_____
5 Gallon Poly Pails	_____

Material To Be Picked Up:

Lamps:	Quantity	Batteries:	Weight	The Material Is Packaged In:	Quantity
55 Gallon Drums of Crushed Lamps	_____	Mixed	_____	Steel Drums (55 Gallon)	_____
4ft. or Less Fluorescent Lamps	_____	Alkaline	_____	Cardboard Boxes	_____
5ft. - 8ft. Fluorescent Lamps	_____	Lead Acid	_____	4' Fiber Drums (85 count)	_____
9ft. or More Fluorescent Lamps	_____	NiCad	_____	4' Fiber Drums (185 count)	_____
U-Bend / Circular	_____	NiMH	_____	8' Fiber Drums (85 count)	_____
HID (Mercury Vapor, Metal Halide, High-pressure Sodium)	_____	Lithium	_____	Poly Pails (5 Gallon)	_____
Compact w/o Ballast	_____	Mercury	_____	Other:	_____
Compact w/Ballast	_____	Zinc Carbon	_____	Total of Pallets:	_____
Shattershield / Coated	_____	Ballasts:	Weight		
Incandescent	_____	Non-PCB	_____		
UV	_____	PCB	_____		

Other Waste for Recycling Pick Up:

Office Machinery (E-scrap): _____
 Other Mercury Containing Devices: _____

Special Instructions:

The marked material is to be properly identified and prepared for transportation and tender in accordance with all applicable statutes, ordinances, permits, rules and regulations of the Federal, State, and Local governments in whose jurisdiction such material originates, passes through, or is tendered for delivery (certify for declare) under penalty of perjury that the foregoing is true and correct.

Please fill out this form completely and fax it to 866-909-6725 or e-mail to pickup@aircycle.com

****Warranty Information****

The company warrants The Bulb Eater® for one (1) year from the date of original purchase from the distributor or manufacturer against defects in workmanship and/or materials under normal usage. This warranty does not cover damage resulting from shipping, negligent handling, misuse or lack of reasonable care.

****Tampering with the machine and electronics will void this warranty****

Parts that prove to be defective during the one (1) year warranty period will be either repaired or replaced at the option of Air Cycle Corporation. The right is also reserved by Air Cycle Corporation to replace the product in lieu thereof.

The full remedy for breach of this warranty and sole obligation of Air Cycle Corporation is the repair or replacement of the defective Bulb Eater® at Air Cycle Corporation. Air Cycle Corporation shall have no liability whatsoever at any time for any personal injury or property damages or for any special, indirect, or consequential damages of any kind.

This warranty is strictly limited to its terms and is in lieu of any and all other understandings, warranties and conditions, written or oral, whether expressed or implied.

Thank you for your business.

Air Cycle Corporation

2000 S. 25th Ave. Suite. C

Broadview, IL 60155

800.909.9709

Fax: 708.344.7875

www.aircycle.com

Shipping date:

Serial#: