



Security Engineered Machinery Co., Inc

## **OPERATIONAL & MAINTENANCE MANUAL**

**For  
SEM Model 250 Key Tape  
Disintegrator/General Configuration  
w/Vacuum Collection**



**Rev. 2  
Created 04/07/09**

**Security Engineered Machinery Co., Inc.**

### **NATIONWIDE SERVICE**

Phone Toll Free: 1(800)225-9293

**Email:** [Service@SEMSHRED.com](mailto:Service@SEMSHRED.com)

Fax: (508)366-6814

Website: [WWW.SEMSHRED.COM](http://WWW.SEMSHRED.COM)

# \*\*\*IMPORTANT SAFETY PROCEDURES\*\*\*

Your new Key Tape Disintegrator incorporates powerful, heavy duty cutting mechanisms, **serious and permanent injury may result** if proper precautions are not followed.



1. This equipment should never be operated by children or individuals that are untrained or incapable of understanding these safety precautions!



2. Do not reach into the feed opening for any reason! Never insert fingers, hands, other extremities, or objects not meant to be destroyed into the feed opening!



3. Do not operate or come in close proximity to this equipment wearing long hair, necktie, loose clothing, or jewelry which may become caught and pulled into the disintegrator.



4. Maintenance or repair of this equipment should be performed only by trained, authorized service personnel.

5. Always disconnect electrical power (unplug) before removing or opening the cover or other panels providing access to internal mechanisms.

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## READ CAREFULLY BEFORE USING

Proper care of your new Key Tape Disintegrator will ensure many years of trouble free operation, with minimum of maintenance or repair.

**CAUTION:** Before operating this disintegrator please be sure that you have read all safety precautions, installation and operating instructions before use of this unit.

Please note that all packaging should be retained by the customer for (30) days from the time of receipt. In the event that this unit needs to be sent back for replacement or repair this packaging will be required to do so. Should the packaging have been discarded before the (30) day requested period, packaging costs will be incurred by the customer.

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## Customer Service

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Fax: 508-366-6814

Website: [www.semshred.com](http://www.semshred.com)

E-mail: [info@semshred.com](mailto:info@semshred.com)

Order On-line:

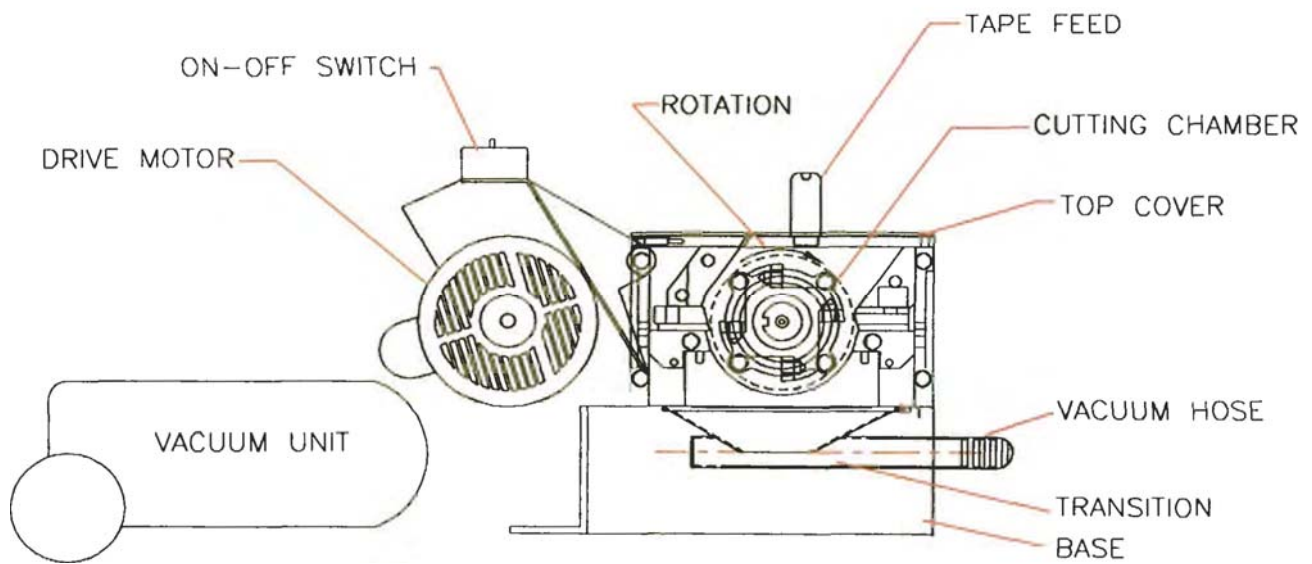
GSA Customers: [www.fedshred.com](http://www.fedshred.com)

Commercial Customers: [www.semshred.com](http://www.semshred.com)

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# General Assembly of the Model 250 Key Tape Unit (Table Top Version)

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Shown out of position  
Placed aside chamber and base

Space Requirement Reference: Approximately 21" x 21" x 12" High

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# **Installation and Power Requirements**

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## **Disintegrator Location:**

The Model 250 can be located in an office area within (6) feet of a wall receptacle with a dedicated 20-amp line. It is recommended that the unit be (2 – 3) inches between the rear of the unit and the wall.

## **Electrical Wiring: (See Page 12 for Electrical Diagram)**

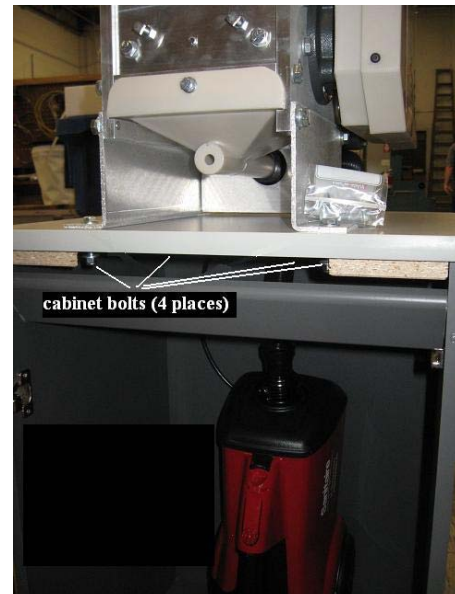
- A. The Model 250 includes an appropriate power cord and 20-amp male plug. The Model 250 is activated by a front mounted ON/OFF toggle switch.
- B. The 1-Gallon capacity vacuum unit is supplied with a plug for 115V (7.3 amp) or 220V (4.8 amp) to suit the customer's order requirements. The vacuum plugs directly into the receptacle supplied in the unit's base.
- C. The Model 250 has been wired to your original order specifications. The motor supplied operates on single phase voltage (115V or 220V).
- D. If for any reason the Model 250 is rotating in the wrong direction, disconnect the power (unplug), and remove the metal plate on the motor and change the leads as shown on the plate diagram.
- E. Note: motors are normally dual voltages, 115/230V, but can only be operated at the specific voltage as wired at the factory, if voltage change is required in the field contact the factory for proper instructions.

## **Power Requirements:**

115 Volt/1-Phase/60 Cycle requires 18 amps  
115 Volt/1-Phase/50 Cycle requires 23 amps  
230 Volt/1-Phase/60 Cycle requires 9.6 amps  
230 Volt/1-Phase/50 Cycle requires 11.5 amps

## **Cabinet Installation and Setup**

- A. Place cabinet in location approximately 2-3 inches From wall and within (6) feet of dedicated 20-amp Receptacle.
- B. Place Model 250 on top cover with front of unit door and the (4) base holes aligned with the cabinet top holes.
- C. Using the supplied bolts, place a bolt and flat washer in Each of the (4) holes from the top and secure tightly with additional washer and locknut from below.
- D. Place vacuum upright inside rear of cabinet and feed hose up through large center hole. Attach hose to rear of collection transition.
- E. Feed vacuum power cord down through remaining hole and connect to vacuum plug.



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## **Operation and Feed Rates**

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*Please read this section carefully, most problems occur during the first hours of operation. Most problems can be avoided and/or eliminated by a careful review of the operating, maintenance, and recommended service period instructions.*

- A. The Model 250 has been shipped complete, tested, and is operational when received.
- B. The Model 250 requires a 20-amp dedicated electrical line, equipped with a 20-amp receptacle and a separate 115V circuit receptacle for the vacuum unit.
- C. Once positioned, verify that the vacuum is connected, and that all access points are closed. Turn the toggle switch to the “ON” position and the unit will start. Both the disintegrator and the vacuum should come on together. ***In the event that the vacuum does not start, locate the power button on top of the vacuum to start the vacuum.***
- D. The Model 250 was designed to destroy Key Tape, and Optical Media (CD’s/DVD’s) at a rate shown below. As with any type of machinery, it can be overloaded or jammed if overfed. The product destruction rate depends on the material type, material size, and desired destroyed particle size. When feeding use the concept of “Less is More” by feeding the unit with less volume more often will result in steady and better feed rates, resulting in reduced operating costs.
- E. The Model 250 is not a shredder, but a rotary knife mill, which dictates how the unit is fed and the rate it can be fed. Again the rule of thumb is “Less is More”, creating steady output without over feeding. Looking at the top of the Model 250 you will notice that there are (2) feeding slots, the smaller feeding slot is for key tape while the other is for Optical Media (CD’s/DVD’s). Key tape media can be put on the spool attachment on the top cover of the cutting chamber.

### **Maximum Feed Rates:**

- Optical Media (CD’s/DVD’s) with a 3/32” dia. Screen (8) pieces per minute
  - Optical Media (CD’s/DVD’s) with a 5/64” dia. Screen (4) pieces per minute
- F. When destruction is complete, allow the Model 250 and vacuum to operate an additional (60) seconds after the last fed piece of material; this will prevent build up in the cutting chamber area and evacuation line, ensuring proper operation for the next user.
  - G. The vacuum collector as with any conventional shredder, the Model 250’s waste collection bag must be periodically emptied for proper operation.

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# **Troubleshooting**

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## **The Model 250 will not start:**

- A. Check that the unit has been plugged-in and is plugged into a working receptacle.
- B. A Motor Thermal Overload is located in the units starter, located on top of the unit. As a safety feature the heater in the controls may “kick out” after an overload. Simply reset the control to restart the Model 250.
- C. The rotor in the cutting chamber may be jammed.
  - 1. Switch the power to the “OFF” position and unplug the power cord from the wall.
  - 2. Remove the top cover of the cutting chamber and remove the cover of the belt guard.
  - 3. Looking inside of the opened cutting chamber, look for any loose or jammed material inside of the chamber, taking precautions of the sharp knives inside of the cutting chamber, carefully remove all debris from the chamber.
  - 4. If the rotor is in fact jammed, rotate the rotor counter clockwise by means of the drive belt by hand to clear the clogged material.
  - 5. Remove all remaining debris and replace the top cover of the cutting chamber, and belt guard cover.
  - 6. Plug the power cord back into the wall power receptacle and turn the unit back to the “ON” position.

## **The cutting chamber starts, but the vacuum doesn't:**

- A. Check that the vacuum is plugged into the connector that goes to the starter, if not reconnect.
- B. Check that the power button on the vacuum has not been switched off, if so turn the vacuum to the on position.

## **The cutting chamber area is getting jammed more frequently:**

- A. Be sure that you are not over feeding the unit. See the section on operation and feed rates.
- B. Check the condition of the knives, they may require re-sharpening. See sections on replacing and sharpening knives.

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# Maintenance

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*Before performing any type of maintenance on the Model 250, always unplug the power cord from the wall receptacle and follow all safety precautions.*

## **Belt Adjustment:**

Remove the belt guard cover. The motor is mounted on a slotted frame. Loosen the mounting bolts and adjust the motor for proper belt tension. This is determined by extending thumb pressure on the belt causing a slight bow on slack side. This should be no more than ½". **Important:** The belt should be checked and tightened if required after the first several days of operation, after that it should be checked monthly.

## **Lubrication:**

Grease fittings can be found on both rotor bearings. The bearings should be greased twice a year using Gulflex "A", multi-purpose, or equivalent grease.

## **Knives:**

For full efficiency, knives should be sharpened from (2) to (5) times a year, depending upon use. If for example, your knives require sharpening after three months of operation, your sharpening schedule should be every three months. It is highly recommended that a spare set of knives be available for your disintegrator to eliminate down-time. Knives should not go beyond (200) hours of operation without knife sharpening.

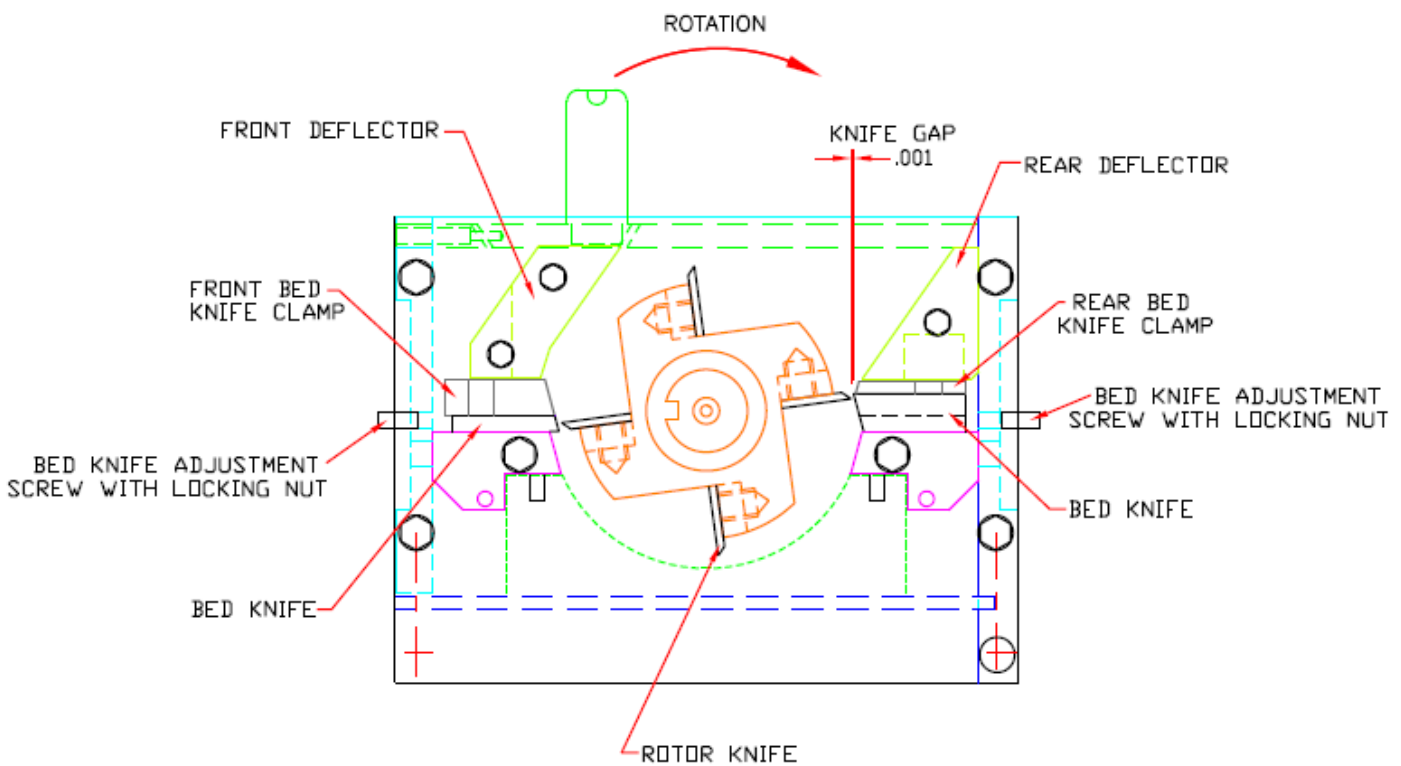
## **Replacing Knives (See diagram on page 9)**

1. Again be sure that the power cord has been unplugged from the wall receptacle.
2. Remove the top cover screws to access the knives.
3. Prior to removing or replacing the rotor knives, back off the bed knife adjusting screws. Cover the edge of each knife with a heavy gauze tape such as scotch filament or cloth tape. Remove the rotor knives first, and be sure to remove all rotor and bed knives prior to replacing any of the knives.
4. To remove the bed knives, remove the (2) bolts on the right and (2) bolts on the left of the aluminum deflectors. Remove the (3) bed knife bolts from each bed knife. Remove the Bed Knife Holder and finally the Bed Knife itself.
5. Take the spare bed knife and insert it exactly the way the dull knife came out. Insert the bed knife bolts and only hand tighten for the moment. Finally replace the rotor knives and tighten with a torque wrench to 50 Ft/Lbs. Remove the tape covering the edges of all knives and adjust the distance between the rotor knife and bed knife by manually rotating the rotor in the reverse operating direction. Using the bed knife adjusting screws will allow you to make slight adjustments to move the bed knife closer to the rotor knives. The knife gap between the rotor and bed knives should be adjusted to .001 to .002 inch clearance using a feeler gauge. **Note: Tool kits are available from SEM.**

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6. Before tightening the bed knives securely, determine that the knives are set properly by manually rotating the rotor in the reversed operating direction to ensure that no rotor knife touches the bed knives and that the proper gap has been established. Tightening one bed knife at a time, torque the bed knife bolts to 45 Ft/Lbs. and re-check the gap of the bed knife. If the gap is correct move on to the last bed knife and repeat this step. If the gap is not correct loosen the bed knife bolts and readjust the bed knife again until the proper knife gap is achieved.

## **Recommended Rotor and Bed Knife Setting Assembly**



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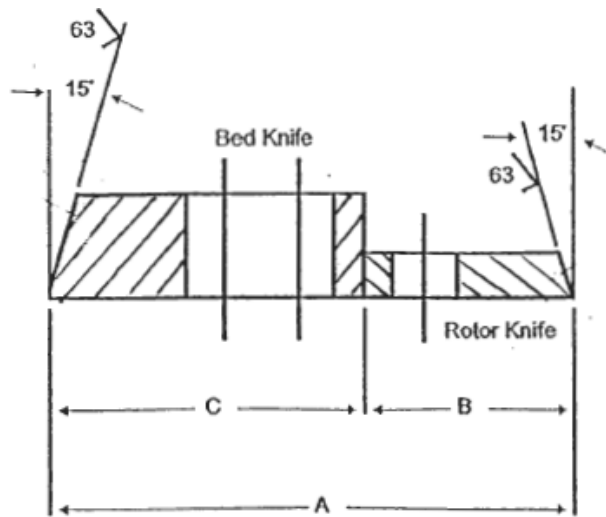
## Knife Sharpening

Knives may be sent to Security Engineered Machinery (SEM) for sharpening or they may be sharpened by a capable machine shop in your area. **When sharpening the rotor knives they must be sharpened as a set to maintain the proper tolerance between the bed knives.** If knives are badly nicked the machinist should not try to eliminate the entire nick so as to conserve the edge and prolong knife life. The knives will still function very well even with some nicks after sharpening.

### Notes on Knife Grinding:

1. After regrinding several times, the knives must be checked to be sure that there will still be adjustment left in the bed knives. The general rule is to place a rotor knife and bed knife back to back as shown in the diagram shown below, and then measure the total width (dimension "A") of both knives.
2. If dimension "A" is close to or below the minimum, knives should be replaced.

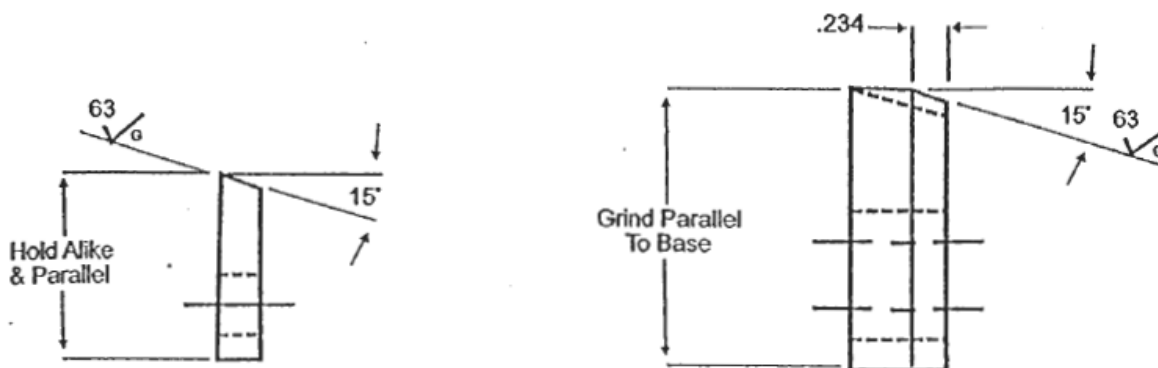
### Standard Form Rotor and Bed Knife Sharpening Dimensions



"A" (Minimum) = 2-5/8"

"B" = Bed Knives must be held alike and parallel in sets within .010"

"C" = Rotor Knives must be held alike and parallel in sets within .002"



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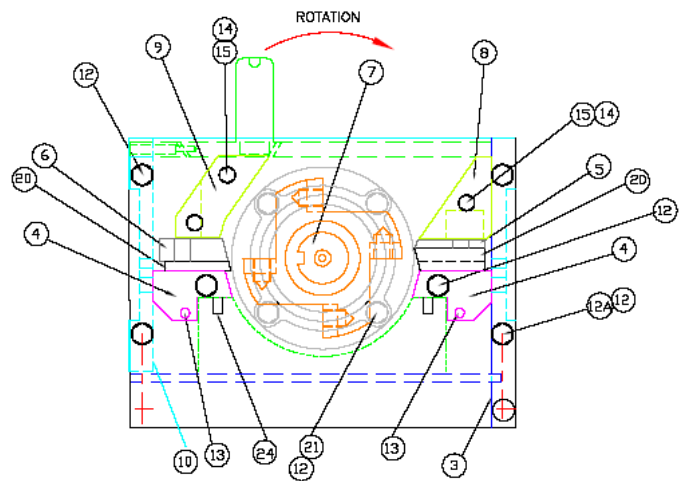
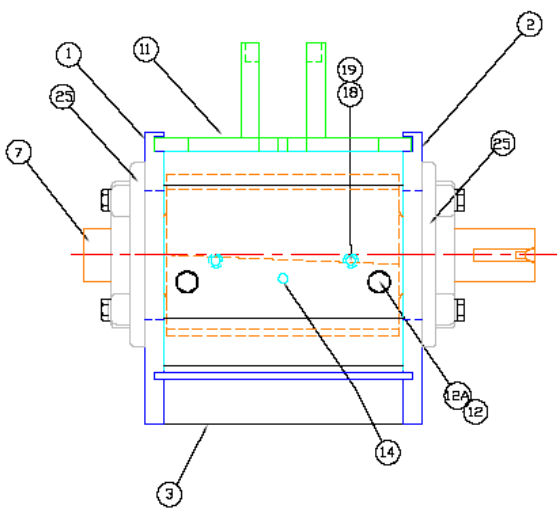
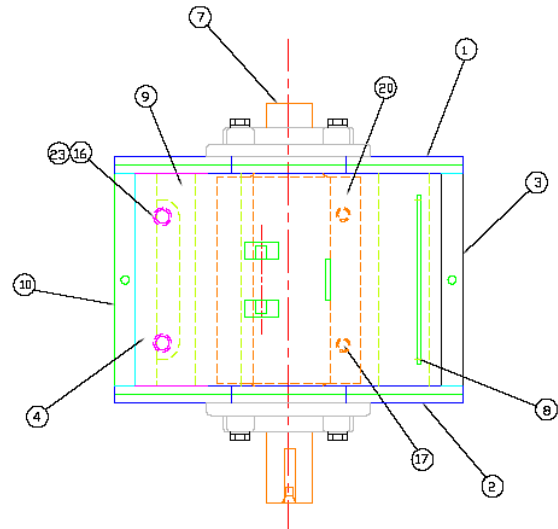
## **Changing the Screen**

1. Unplug the power cord from the wall receptacle.
2. Remove nuts from the combination Screen/Transition.
3. Lower the Screen.
4. Insert the new Screen and re-tighten the nuts.
5. Plug the power cord back into the receptacle.

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# Cutting Chamber Assembly

ITEM	QTY	DESCRIPTION	PART/DWG#
1	1	Left Side Plate	2-20-7500-00
2	1	Right Side Plate	2-20-7499-00
3	1	Extd. Bed Knife Support Plate	2-20-7501-00
4	2	Bed Knife Seat	2-20-6164-01
5	1	Bed Knife Clamp (front)	2-20-6274-01
6	1	Bed Knife Clamp (rear)	2-20-6275-01
7	1	Rotor 4 Blade	4-20-6991-01
8	1	Front Deflector	20-6167-01
9	1	Rear Deflector	20-6168-01
10	1	Bed Knife Support Plate Std	2-20-6165-01
11	1	Top Cover	99-7450
12	16	3/8-16x1-1/4 Head Grade 5	
12A	30	3/8 Lock Washers	
13	6	1/4" Roll Pin x 1"	
14	6	5/16-18x1-14 Hex Nut	
15	10	5/16 Lock Washer	
16	4	3/8-16x1-1/2" Socket HD Cap Grade 8	
17	8	3/8-24x3/4" Socket HD Cap Grade 8	
18	4	1/4-20x1-1/4" Square Head	
19	4	1/4-20 Hex Nut	
20	2	Bed Knife	
21	8	3/8-16x1-1/2" Hex HD Cap Grade 5	
22	4	Rotor Knife	
23	4	3/8 Hardened Washer	
24	4	5/16-18x1-14 Socket Set Screw	
25	2	Flange Bearing #SFC-22	



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# Model 250 Vacuum Directions

## HOW TO MAINTAIN

The instructions given in this booklet serve as a guide to routine maintenance. To avoid unnecessary service calls, check the hose, bag and filter often. Clear a clogged hose with the blower, change the bag if it is full, and clean the motor filter when it is dirty.

### Disposable Dust Bags and Filters

The dust bag and motor filter play a very important role in the efficiency of the vacuum cleaner. The purpose of the dust bag is to trap dirt, but at the same time, the paper bag must be porous enough to allow air to pass through. If the bag or the motor filter become clogged, no air can pass through the cleaner and no cleaning can take place regardless of how powerful the unit is. To keep the cleaner operating at maximum efficiency, change the dust bag frequently and clean the filter as needed. Some fine particles can restrict airflow very quickly and will decrease performance even before the bag appears to be full. For that reason, when vacuuming carpet fresheners or cleaners, powder, plaster dust, or similar fine substances, the bag and filter may need to be changed more often.

Look for the **GENUINE EUREKA PRODUCT** symbol.

### FILTERAIRE® Disposable Dust Bag (optional)

Our high filtration bag is a two-layer, disposable bag that combines our standard paper bag with a nonwoven air filter inside. Use a Filteraire dust bag to create a cleaner indoor environment because the bag filters better than our standard bag. The bags are available (three in a package) from your local dealer, or you can call 1-800-282-2886 for other locations. Look for the Genuine Eureka Filteraire dust bag—Style MM.

### How to Remove Disposable Dust Bags—Style MM

**NOTE:** Turn off vacuum and unplug the electrical cord before changing dust bag or cleaning motor filter. Never operate the vacuum cleaner without the dust bag or filter.

- 1 Turn off and unplug cleaner.
- 2 Open lid by pushing down hood latch.
- 3 Fold BAG CLOSURE FLAP down and push behind rubber seal.
- 4 Insert finger into upper left notch then pull out and remove bag.



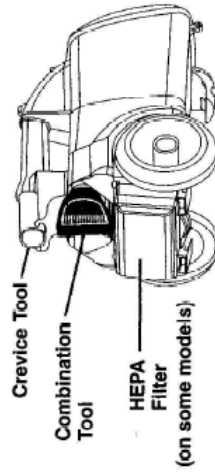
## HOW TO USE

**CAUTION:** Moving parts. Make sure on/off switch is in off position before plugging in.

A carpet should be cleaned regularly over heavily traveled areas, and once a week over the entire carpeted area. Vacuum slowly, making several passes (forward and backward) over the carpet, covering small areas at a time. The time required to clean the carpet will depend on several factors—including type of carpet and amount of dirt.

- 1 Connect Hose
  - 2 Rotate Swivel Hook to release cord
  - 3 Plug in
- 

## 4 Store Tools



- 5 Push ON/OFF Switch (A thermostat automatically shuts the motor off if it overheats, see Automatic Motor Shut-Off)



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## **Recommended Spare/Optional Items Available**

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Standard Knives (4R/2B)	P/N: 390250K
Perforated Screen 5/64" Dia. Holes	P/N: 343250SCR564
Perforated Screen 3/32" Dia. Holes	P/N: 343250SCR18
Vacuum Bags (3) Pack	P/N: 75060295A-3A

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# SEM PRODUCT WARRANTY

SEM warrants, for a period of time listed below from date of shipment, that product will be free from defects in material and workmanship when used under normal operating conditions. Excluded from warranty coverage are normal wear items and electrical components. These items include and are not limited to Knives, Cutters, Belts, Chains, Switches, PC Boards, Optics and other electrical contactors. These items are not included for consideration unless the components are deemed defective. Any purchased part used in the assembly of a SEM System will carry the manufacturer’s original warranty for the original SEM customer. Warranty does not cover damages by freight handlers, misuse, neglect, acts’ of nature, unauthorized modifications or the use of other than the factory SEM components.

## WARRANTY TIME PERIOD

### New Disintegrator System

Disintegrators Lifetime parts, 90 days labor  
Waste Collection System and Accessories 1 Year parts, 90 days labor

### Remanufactured Disintegrator System

Disintegrator 3 Years parts, 90 days labor  
Waste Collection System and Accessories 1 Year parts, 90 days labor

### Reconditioned Disintegrator System

Disintegrator 1 Year parts, 30 days labor  
Waste Collection System and Accessories 6 months parts, 30 days labor

### Shredder Units ~ New & Demo

High Security Cross-Cut 1 Year parts, 90 days labor, 1 Year cutting head  
Executive Deskside\* (i.e. 1324 Series) 1 Year parts, 1 Year SEM return-to-factory labor  
All other shredder units 3 Years parts, 90 days labor, 6 Years cutting head  
Automatic Oilers 1 Year parts, 90 days labor  
Shredder / Baler Combo 3 Yr parts, 90 days labor, 6 Yr cutting head (Shredder)  
1 Yr parts, 90 days labor (Baler) Reconditioned Shredders  
All Units 1 Year parts, 30 days labor

### Magnetic Media Degaussers

Model P3 Series 5 Year parts, 90 days labor  
Model P2V 1 Year parts, 90 days labor  
All other models 2 Year parts, 90 days labor

### Optical Media (CD/DVD) Destroyers and IT Data Erasers

Model 0201OMD 1 Year parts, 90 days labor  
Model DX-CD2\* 1 Year parts, 1 Year SEM return-to-factory labor  
All other units 1 Year parts, 90 days labor

### Hard Drive Crusher

Model 0101 Sledgehammer 1 Year parts, 90 days labor

### Hard Drive Shredder

Model 0301 Jackhammer 2 Year parts, 90 days labor

\*All warranty labor will be performed at SEM factory, Westboro, MA

## WARRANTY PARTS RETURN

Warranty is conditional on notification to SEM’s Customer Service Department by calling (800)225-9293. All materials being returned for warranty credit must have the requested Return Goods Authorization number from the Customer Service Department, and must be returned within 30 days after the discovery of the defect. All shipping costs on returned material must be prepaid by the customer. Cartons must be marked on the outside with the RGA number and “Warranty Parts”. For executive model shredders, SEM, at our discretion reserves the right to repair or replace unit covered under warranty.

SEM Warranty: November, 2009

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## Security Engineered Machinery Co., Inc. Product Information



Paper Shredders

### Paper Shredders, Disintegrators/Industrial Shredders

Contract Number:	GS-02F-0111P
Contract Period:	October 1, 2006 to September 30, 2011
C3615	Shredders
C3615	Accessories/Attachments for Shredders and Disintegrators
C3615	Spare Parts for Shredders and Disintegrators
C3615	Disintegrators
C3615	Remanufactured Disintegrators



Disintegrators

### Information Technology

Contract Number:	GS-35F-0297J
Contract Period:	March 17, 1999 to May 15, 2009
132-8	Purchase of Equipment, FSC Class 7010, (IT)
132-12	Maintenance, Repair Service/Spare Parts, FPDS Code J070



Degausser



Hard Drive Shredders



Hard Drive Crushing

### Recycling Collection Containers Specialty Waste Receptacle

#### All types of Destruction Services

Open Market

Consult Factory

**For detailed product information including all application and specifications, contact our Customer Service Department at 1-800-225-9293 or visit us on line at [www.semshred.com](http://www.semshred.com) for commercial customers and [www.fedshred.com](http://www.fedshred.com) for government customer.**