

**MODEL 200 DISINTEGRATOR
WITH 3-POSITION OFF-DELAY SWITCH
WITH ENCLOSED VACUUM UNIT**



**OPERATION AND MAINTENANCE
INSTRUCTION MANUAL
(WITH SELECTOR SWITCH CONTROL)**

Instruction Manual Security Disintegrators

SEM Model DS-200 Disintegrator With Shredder and Vacuum collection With Selector Switch Control

**Please read this entire manual carefully. It will answer all of
your questions regarding installation, operation and
maintenance.**

IMPORTANT

**Be sure to adhere to all
safety suggestions listed.**



World Leader in Document and Sensitive Waste Destruction Solutions

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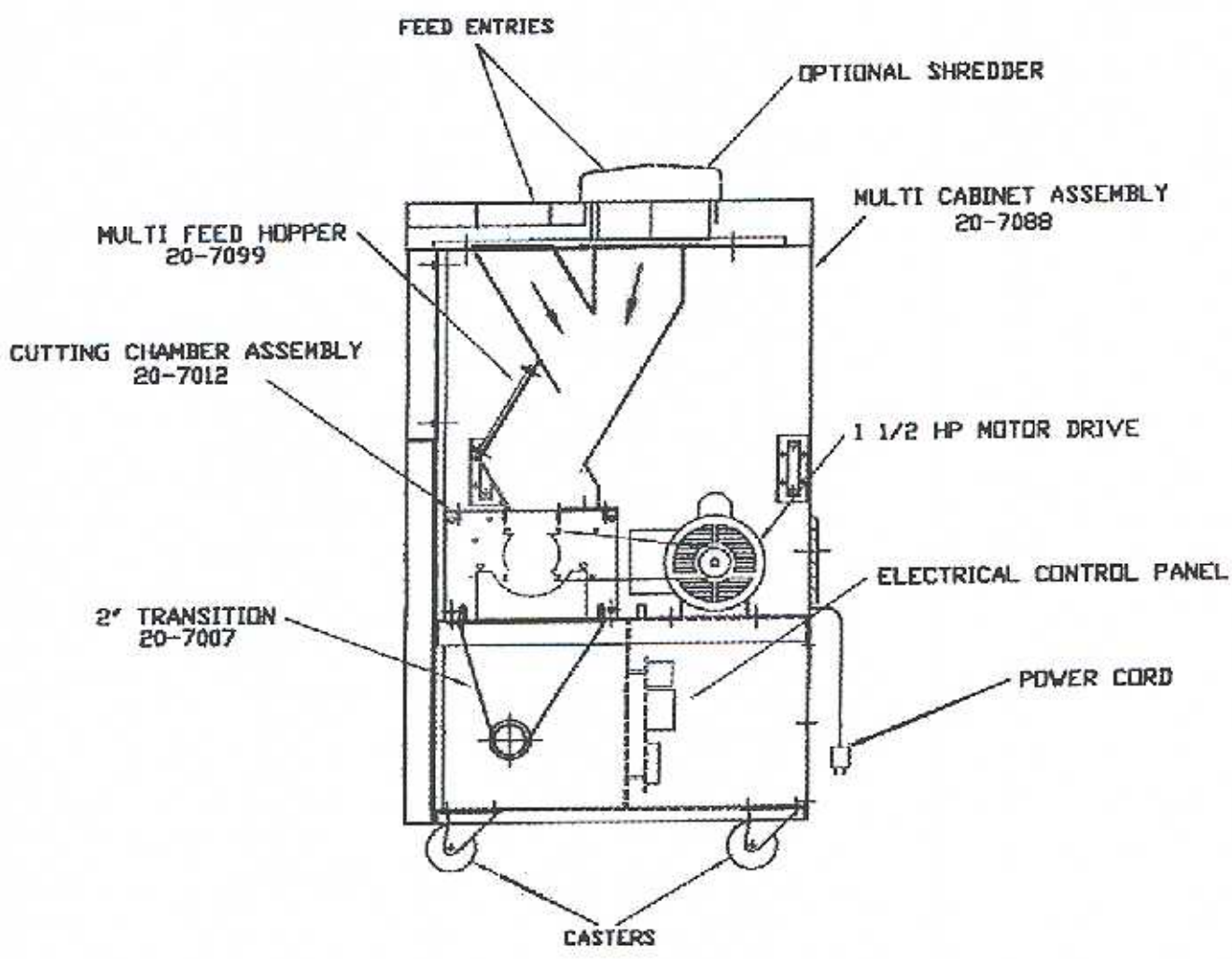
*****IMPORTANT SAFETY SUGGESTIONS*****

Your new paper shredder 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 untrained in or incapable of understanding the 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 shredded into the feed openings!
3. Do not operate or come in close proximity to this equipment wearing long hair, necktie, loose clothing or jewelry, which may activate a photoelectric on/off switch and/or be pulled into the machine!
4. Maintenance or repair of this equipment should be performed only by trained, authorized service personnel!
5. Always disconnect electric power (unplug) before removing or opening the cover or other panel giving access to internal mechanisms!

GENERAL ASSEMBLY OF MODEL 200



INSTALLATION AND OPERATING INSTRUCTIONS

DISINTEGRATOR LOCATION:

The Model 200 can be located in an office area within 6 feet of a wall receptacle with a dedicated 30 amp line. It is recommended to allow 6 to 9 inches between rear of machine and wall for proper ventilation.

TO CONNECT VACUUM CABINET AND DISINTEGRATOR CABINET

See page 4

Electrical Wiring:

See pages 11 and 12

- A. The machine includes an appropriate power cord and 30 amp male plug for operating the 200. The unit is activated by a top mounted selector switch with illuminated lamp.
- B. Access to the cutting chamber for service is provided by the main cabinet door. A safety unit switch activated by the main door prohibits operation when opened.
- C. The Model 200 has been wired per your specification. The motor supplied operates on single phase voltage.

NOTE: Some motors have manual overload reset button on motor. Others are automatic. Each machine will be clearly marked.

- D. If for any reason the machine is rotating in the wrong direction, remove metal plate on motor and change leads as shown on plate diagram.
- E. **NOTE:** Motors are normally dual voltage, 115/230 but can only be operated at the specific voltage as wired at the factory. If voltage change is required in the field, contact factory for proper instructions.
- F. **NOTE:** Power required
115 volt / 1 PH / 60 CY - 30 amps
Disintegrator Motor-18 amps, Vacuum Motor-7.5 amps, Shredder Motor-3.2amps

220 volt / 1 PH / 60 CY - 20 amps

Disintegrator Motor-11.5 amps, Vacuum Motor-4.5 amps, Shredder Motor-1.6amps

NOTE: The Disintegrator System is supplied with a power cord and plug*. The vacuum and shredder are also supplied with plugs for cabinet receptacles.

SEM

MODEL DS-200 POWER SUPPLY REQUIREMENTS

For Connecting to Single Phase Power

FOR 115 VOLT/1 PH /60 HZ

Note to Installer:

The Model DS-200 Disintegrator System has been supplied with a power cord and male plug for 30 amp service.

The male plug is a Hubbell # 2611 and requires a Hubbell female connection as noted below. Ref: NEMA L5-30R

OPTIONS:

- 1) Provide a Hubbell female connector # 2613 with cord and hang from a power supply disconnect switch.
- 2) Provide a Hubbell flanged receptacle # 2616 and mount to a power supply panel for simple "Plug-in" feature.
- 3) Cutoff supplied plug and hardwire the power-cord to a power disconnect switch.

FOR 220 VOLT / 1 PH / 50-60 HZ

Note to Installer:

SEM has provided a power-cord with a male plug for 20 amp service.

On overseas applications, a round pin type plug with ground (32 amp rating) has been supplied.

OPTIONS:

- A) If it doesn't fit your power receptacle, simply cut off and replace plug to conform to local electrical requirements.
- B) Cut off plug and hardwire to a power disconnect switch.

INSTALLATION AND OPERATING INSTRUCTIONS

DISINTEGRATOR LOCATION:

The Model 200 can be located in an office area within 6 feet of a wall receptacle with a dedicated 30-amp line. It is recommended that the machine be 6 to 9 inches away from the wall for proper ventilation.

To Connect Vacuum Cabinet and Disintegrator Cabinet

See Page 5

Electrical Wiring:

See Diagrams Page 13 and 14

- A) The machine includes an appropriate power cord and 30-amp male plug for operating the 200. The unit is activated by a top mounted push button switch illuminate indicator light.
- B) Access to the cutting chamber for service, is provided by the main cabinet door. A safety unit switch activated by the main door prohibits operation when opened.
- C) The Model 200 has been wired per your specification. The motor supplied operates on single-phase voltage.

Note: Some motors have manual overload reset button on motor, others are automatic. Each machine will be clearly marked.

- D) If for any reason the machine is rotating in the wrong direction, remove metal plate on motor and change leads as shown on plate diagram.
- E) **Note:** Motors are normally dual voltages, 115/230 but can only be operated at the specific voltage as wired at the factory. If voltage change is required in the field, contact factory for proper instructions.
- F) **Note:** Power required 115 volt / 1 PH / 60 CY-30 amps
Disintegrator Motor-18 amps, Vacuum Motor-7.5 amps, Shredder Motor-3.2 amps

220 volt / 1 PH / 60 CY –20 amps

Disintegrator Motor-11.5 amps, Vacuum Motor-4.5 amps, Shredder Motor-1.6 amps

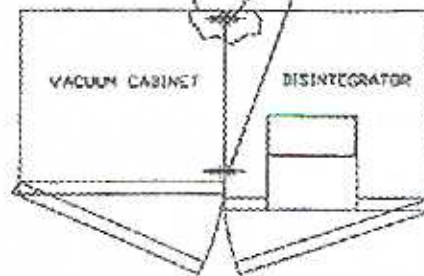
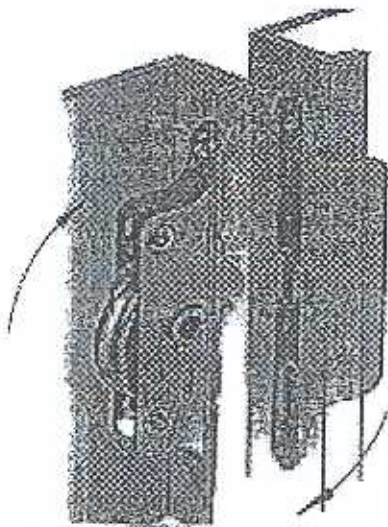
Note: The Disintegrator System is supplied with a power cord and plug. The vacuum and shredder are also supplied with plugs for cabinet receptacles.

IMPORTANT: Only run "one" vacuum motor on 115v systems.

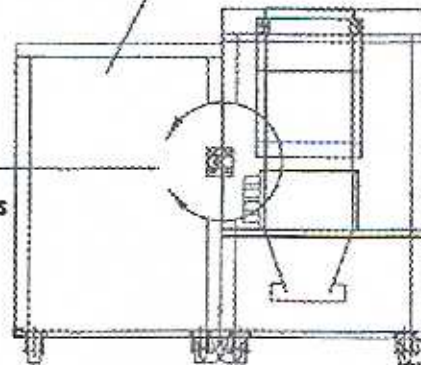
VACUUM CABINET CONNECTING/DISCONNECTING

STEP 02 PUSH CABINETS TOGETHER WITH BACK PANELS FLUSH

STEP 01 ALIGN PANEL FASTENERS



STEP 03 OPEN VACUUM CABINET DOOR AND REMOVE VACUUM



STEP 04 INSERT SUPPLIED ALLEN WRENCH INTO SLOT AND TURN CLOCK WISE UNTIL CABINETS ARE TIGHT TOGETHER REVERSE PROCESS TURNING COUNTER CLOCKWISE TO SEPERATE

OPERATION / TROUBLESHOOTING

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

- A. The Model 200 has been shipped complete, tested and is operational when received.
 - B. The Model 200 requires only a dedicated line equipped with a 30 amp receptacle (See page 3 options)
 - C. Once positioned, verify vacuum is connected, all access points are closed. By turning selector switch, the unit will start and will illuminate the green operating lamp.
 - D. The Model 200 was designed to destroy plastics, film and light volumes of paper products. But as with any type of office machine, it can be overloaded or jammed if overfed. Product destruction rate depends on the material, size and desired particle size. When feeding the concept of less is more. By feeding the unit less volume more often will result in better feed rates and reduce the operating costs.
 - E. Never stop the Model 200 during operation. Stopping the unit in the middle of destruction will result in jamming the unit requiring some disassembly to gain access to the cutting area. **Note:** 3-Position Selector Switch Models have an off-delay shutdown/time period of 30-40 seconds to prevent jams.
 - F. To clear a jammed or locked rotor:
 - 1. Make sure selector switch is in OFF position
 - 2. Unplug power cord
 - 3. Open main door
 - 4. Remove service access door by lifting up then forward
 - 5. Remove clear plastic view window on hopper
 - 6. Remove loose product
 - 7. Rotate rotor counter clockwise by means of the drive belt by hand to clear clogged material
- To restart:
- 1. Re-secure plastic window
 - 2. Re-plug power cord
 - 3. If necessary, reset circuit breaker switch or motor contactor, located in rear
 - 4. Close main door
 - 5. Turn selector switch to 'on' start position.

NOTE: Repetitive jams also can be a result of knives that require sharpening. If machine has no power, reset circuit breakers on electrical panel located behind rear cover panel.

READ IMPORTANT FEEDING INFORMATION ON NEXT PAGE.

MODEL 200 IMPORTANT FEEDING INFORMATION

1. Before introducing any destruction material into either feed slot (Shredder or Disintegrator), the Model 200 and its Vacuum must be turned on and operating. The material collection vacuum must be checked periodically and emptied for continued operation.
2. **Destruction Materials:** The Model 200 is capable of processing a variety of materials safely and effectively. Products that can be destroyed include plastics, products with light metals and paper. Check your operation manual for a list of products or contact SEM's Customer Service at 1-800-225-9293 before use.
3. **Paper Destruction:** The Model 200 is not a Shredder but a Rotary Knife Mill, which dictates how the unit is fed and the rate it can be fed at. Rule of thumb, "Less is More" which creates steady output without over feeding. **Maximum feed rate is 4-5 sheets approximately every 10 seconds averaging 5-6 reams of paper per hour.**
4. When destruction is complete, allow the Model 200 and Vacuum to operate an additional 60 seconds prior to the last feed of material. This will prevent build up in the cutting area and evacuation line, ensuring proper operation for the next user.
5. **Vacuum Collector:** As with a conventional shredder, the Model 200's waste collection bag must be periodically emptied for proper operation. **Bag capacity is 15 gallons or approximately 2000 sheets (4 reams) of paper.**

Destruction rates of paper are based on 20 lb. bond 8-1/2" x 11" using 3/32" destruction screen.

MAINTENANCE

Unplug Cord from Receptacle

A. Belt Adjustment:

Open top cover the motor is mounted on a slotted frame. Loosen four (4)-mounting bolts and adjust motor toward rear of machine to tighten or move forward for belt removal. Proper belt tension is determined by extending thumb pressure on the belt causing a slight bow on slack side. This should be no more than ½".

IMPORTANT: Belts should be checked and tightened if required after first two (2) days of operation. After that, check monthly.

B. Lubrication:

Grease fittings are accessible when cabinet cover is opened. Grease twice Yearly with Gulflex "A" multi-purpose or equivalent. Grease fittings are located on rotor bearings (C-14).

KNIVES:

For full efficiency, knives should be sharpened from two to five times a year, depending on 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.

Changing Knives: See diagram pages 9 and 10

A. Unplug cord from receptacle

B. Remove top cabinet cover

Note: When cover is open a safety limit switch contact opens. This insures that no one accidentally starts the disintegrating if power cord has not been unplugged.

C. Remove the feed hopper from cutting chamber (unplug cord)

D. Prior to removing or replacing the rotor knives, back off bed knife adjusting screws. Cover the edge of each knife with a heavy gauze tape such as scotch filament or cloth tape. Remove all knives prior to replacing any of the knives.

E. Bed Knife: Remove bolts, (2) on the right, and (2) on the left of each of the aluminum deflectors. Remove three bed knife bolts from each bed knife. Remove bed knife holder plate and bed knife. Take spare bed knife and insert exactly the way the dull knife came out. Insert bed knife bolts and hand tighten. Finally replace the rotor knives. Remove the tape covering the edge of both rotor knives and adjust the distance between the rotor knife and bed knife by manually rotating rotor in reverse direction. Adjust to a minimum of .001 to .002 inch clearance using feeler gage.

Note: Tool kits are available from Factory.

Maintenance Continued

Knives Continued:

- F. **Caution:** Before tightening bed knife securely determine that the knives are set properly by manually rotating rotor in the operating direction to insure that no rotor knife touches the bed knife.

Knife Torque's:

- Knife Bolt Torque's required:
 - 45 FT. lbs. for bed knives
 - 50 FT. lbs. for rotor knives

Sharpening Knives:

See diagram Page 12

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 must be sharpened as a set to maintain proper tolerance between the bed knife. If knives are badly nicked the machine should not try to eliminate the entire nick so as to conserve the edge and prolong knife life. The knives will function very well with nicks after sharpening.

Changing a Screen:

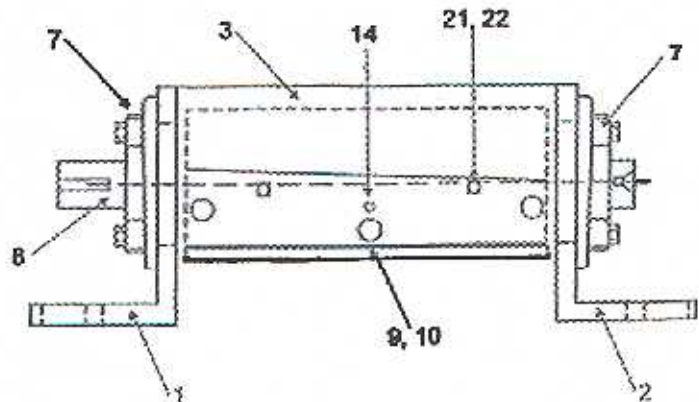
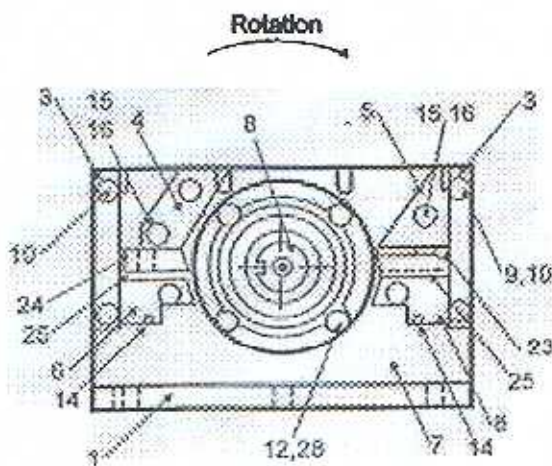
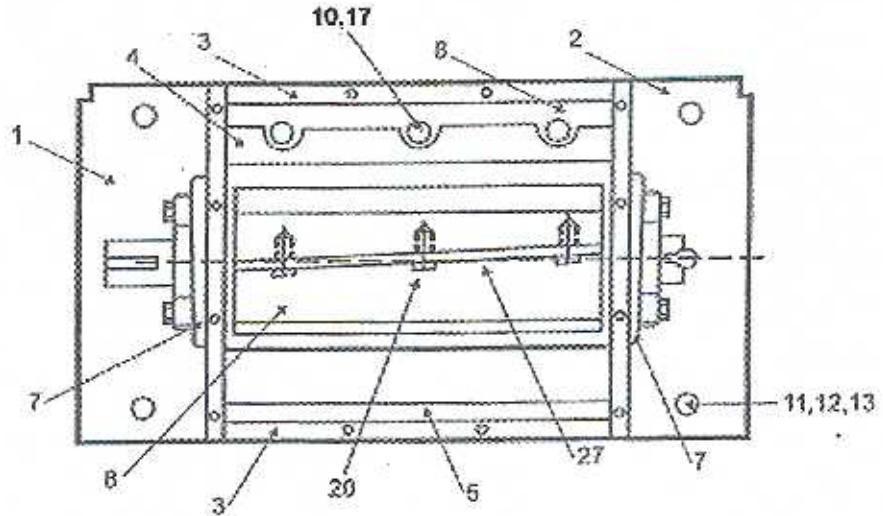
- A. Unplug power cord
- B. Open front main door
- C. Remove nuts from the combination screen/transition
- D. Lower screen
- E. Insert new screen and nuts, re-tighten
- F. Close front access door

If Disintegrator will not start:

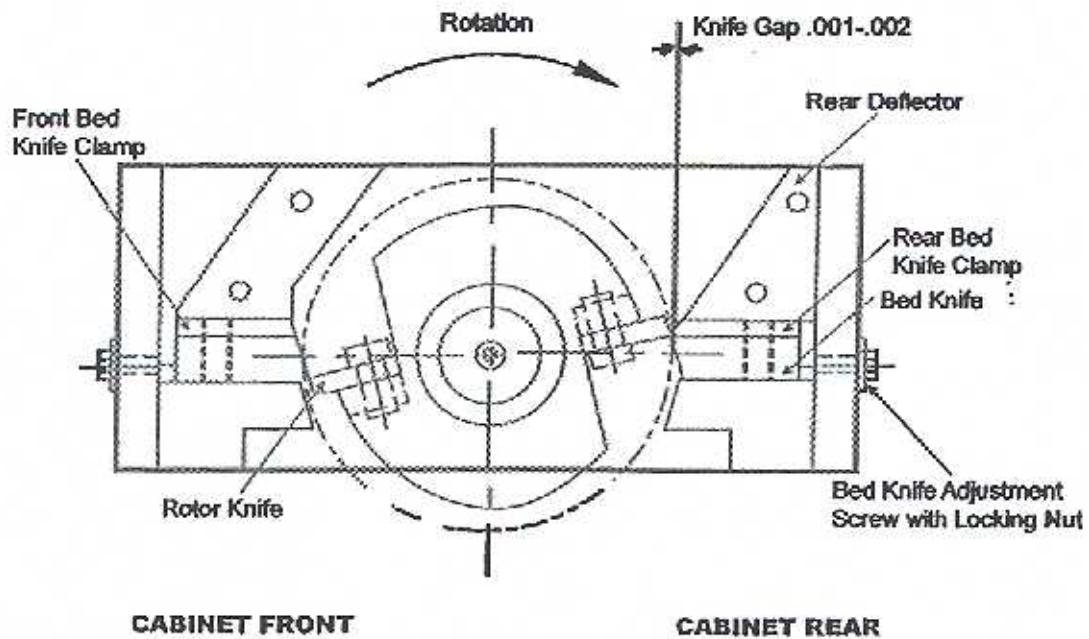
1. Front access door is fully closed to activate safety switch.
2. Top cover-safety switch is fully closed or depressed.
3. Motor thermal overloads and a circuit breaker are located on the machine control panel, located in the rear of the cabinet. As safety feature, the units in the controls may "kick out" after an overload. Simply reset the control(s) to re-start machine operation.

CUTTING CHAMBER ASSEMBLY OF MODEL 200

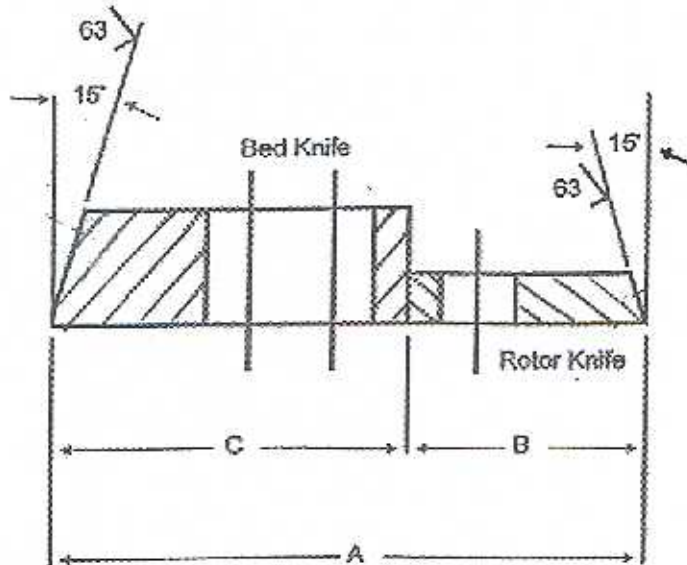
- 1 Left Side Plate (4-20-6168-00)
- 2 Right Side Plate (4-20-6166-01)
- 3 Bed Knife Support (4-20-6165-00)
- 4 Rear Deflector (4-20-6168-00)
- 5 Front Deflector (4-20-6168-00)
- 6 Bed Knife Seat (4-20-6166-00)
- 7 Flange Bearing
- 8 Rotor 2 Blade
- 9 3/8 - 18x1 1/4 Hex Head Grade 5
- 10 3/8 Lock Washers
- 11 3/8 - 16x1 1/2 Hex Head Grade 5
- 12 3/8 Flat Washers
- 13 3/8 - 16 Hex Nuts
- 14 1/4" Roll Pin x 1"
- 15 5/16 - 18x1 1/4 Hex Head
- 16 5/16 Lock Washers
- 17 3/8 - 16x1 1/4" Socket HD Cap Grade 8
- 18 5/16 - 18x3/4 Hex Head
- 19 5/16 Flat Washers
- 20 3/8 - 24x3/4" Socket HD Cap Grade 8
- 21 1/4 - 20x1 1/4" Square Head
- 22 1/4 - 20 Hex Nut
- 23 Bed Knife Clamp (Front)
- 24 Bed Knife Clamp (Rear)
- 25 Bed Knife
- 26 3/8 - 16x1 1/2" Socket HD Cap Grade 8
- 27 Rotor Knife



RECOMMENDED ROTOR AND BED KNIVES SETTINGS



CARBIDE TREATED LOW ANGLE FORM ROTOR KNIFE W/STANDARD FORM BED KNIFE

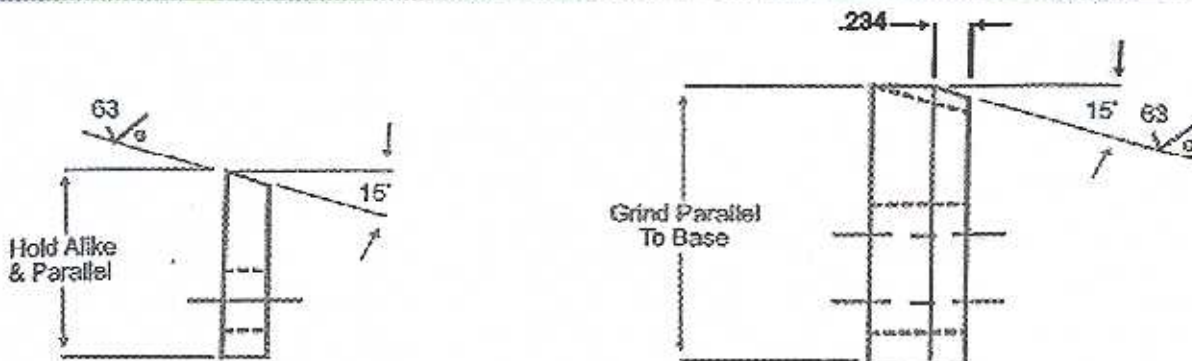


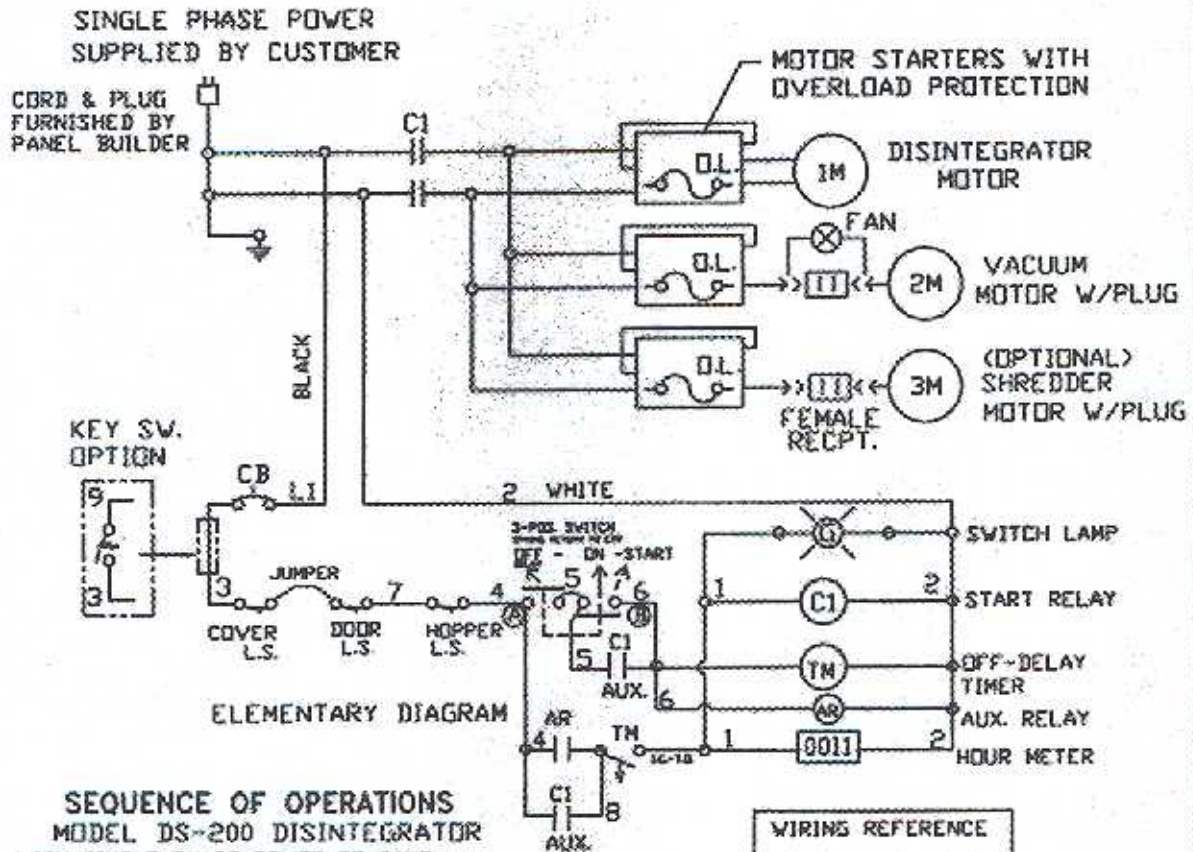
A (Minimum) - Model 200-2 5/8
 B = Bed Knives must be held alike and parallel in sets within .010"
 C = Rotor Knives must be held alike and parallel in sets within .002"

NOTES ON KNIFE GRINDING:

1. After regrinding number of times, the knives must be checked to be sure that there will be adjustment left in the bed knives. The general rule is to place a rotor knife and bed knife back as shown above, and measure the total dimension "A" distance.
2. If dimension "A" is close to minimum, a new set of knives should be ordered from the S.E.M. Customer Service Department.

RECOMMENDED ROTOR AND BED KNIFE RESHARPENING





SEQUENCE OF OPERATIONS
MODEL DS-200 DISINTEGRATOR
WITH SINGLE PHASE POWER TO PANEL:

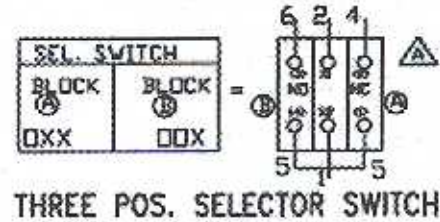
TURN SELECTOR SWITCH TO THE 'START' POSITION TO ENERGIZE CIRCUIT, STARTING DISINTEGRATOR MOTOR, VACUUM UNIT MOTOR AND THE VENT FAN. AT END OF FEEDING DOCUMENTS, TURN SELECTOR SWITCH TO THE 'OFF' POSITION. A 30-45 SECOND 'OFF-DELAY' CYCLE TIMER-RELAY WILL ALLOW PARTICLES TO CLEAR CHAMBER.

NOTE: IF THE DOOR/L.S. IS OPENED DURING OPERATION, ALL MOTORS WILL IMMEDIATELY SHUTDOWN. THE OPTIONAL SHREDDER (IF PURCHASED) HAS ITS OWN OFF-ON SWITCH. EACH MOTOR STARTER HAS ITS OWN OVERLOAD CURRENT PROTECTION UNIT. THE CONTROL CIRCUITRY HAS A CIRCUIT BREAKER.

NOTE: TO RESET THE OVERLOAD CIRCUIT BREAKER(S), REMOVE REAR PANEL AT THE BOTTOM OF CABINET

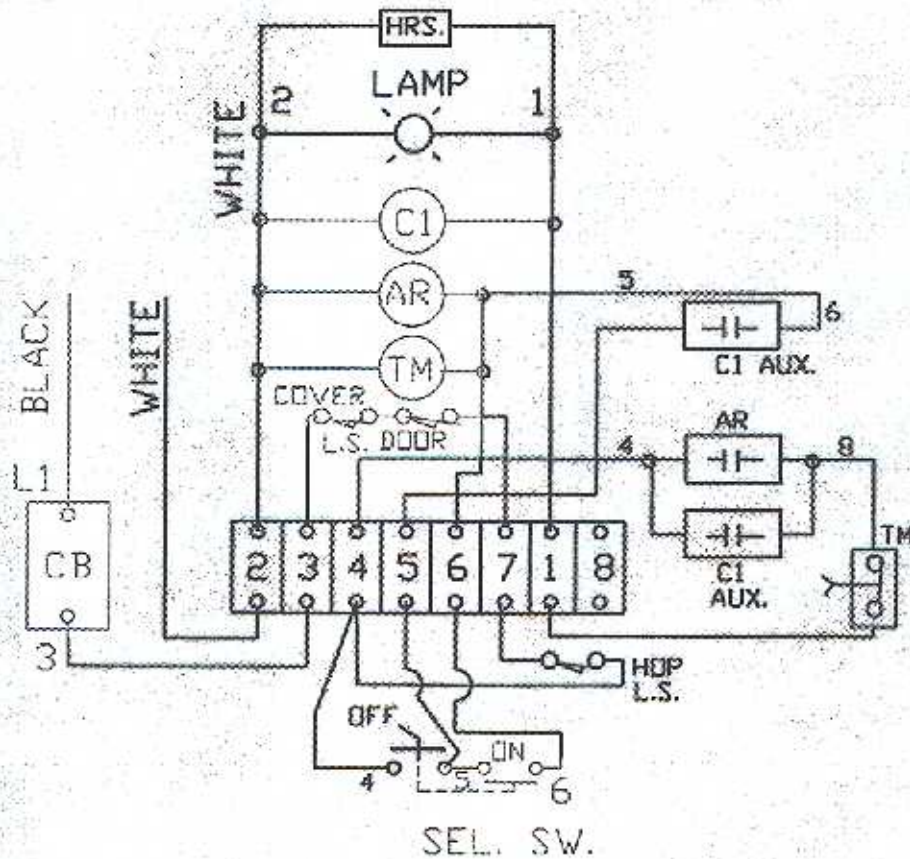
WIRING REFERENCE

CABLE NO.S	1 = 7	PLUGSOCKET CONNECTN NO.S
WIRE NO.S	2 = 8	
	4 = 9	
	5 = 10	
	6 = 11	
	7 = 12	



MODEL DS-200
WITH OFF-DELAY
WIRING DIAGRAM

DIAGRAM #M-40-7203
SECURITY ENGINEERED MACHINERY
5 WALKUP DRIVE WESTBORD, MA 01581

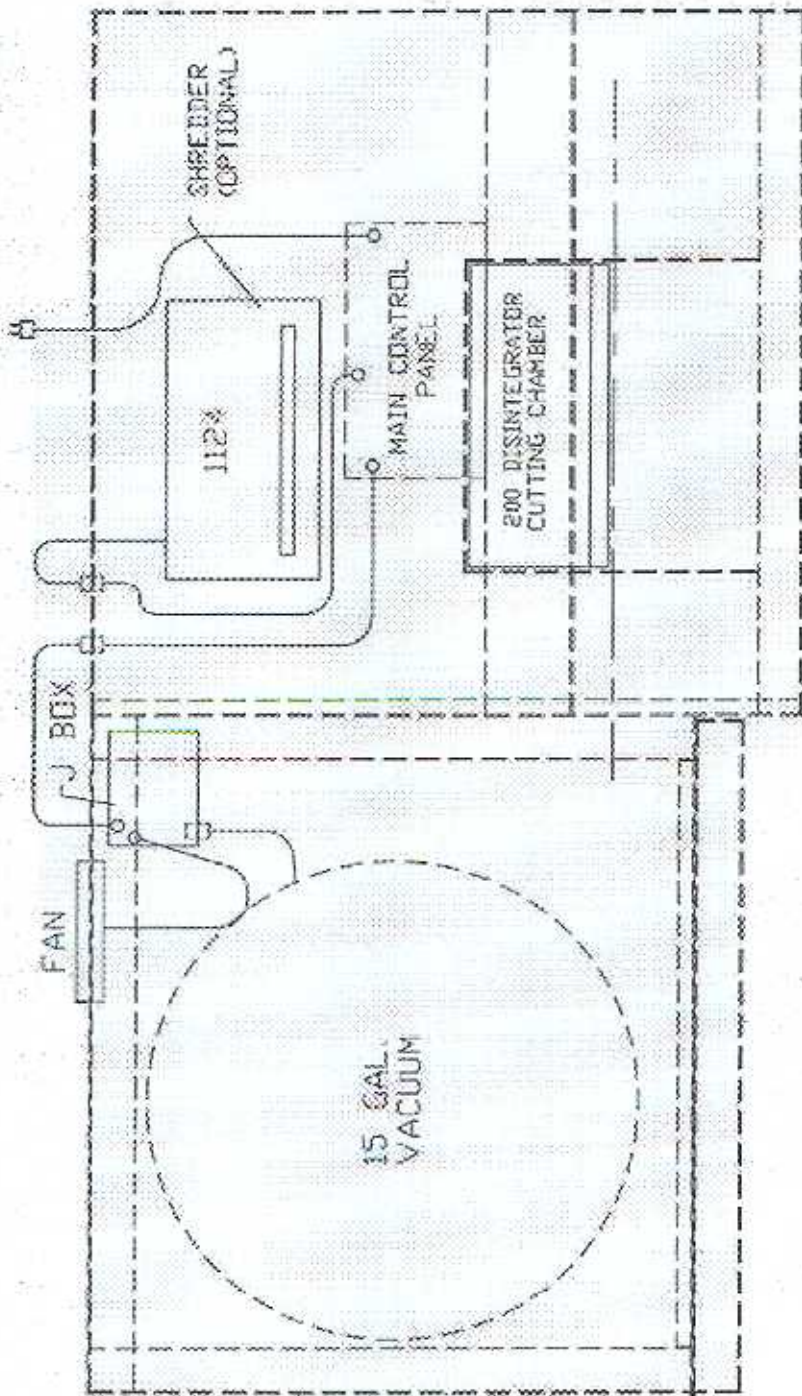


THREE POS. SELECTOR SWITCH
CONNECTION DIAGRAM

NOTE: TOP COVER AND HOPPER
MUST BE UNPLUGGED FOR REMOVAL TO SERVICE.

MODEL DS-200
WITH OFF-DELAY
WIRING DIAGRAM

SEM DIAGRAM #M-40-7203
SECURITY ENGINEERED MACHINERY
5 WALKUP DRIVE WESTBORO, MA 01581

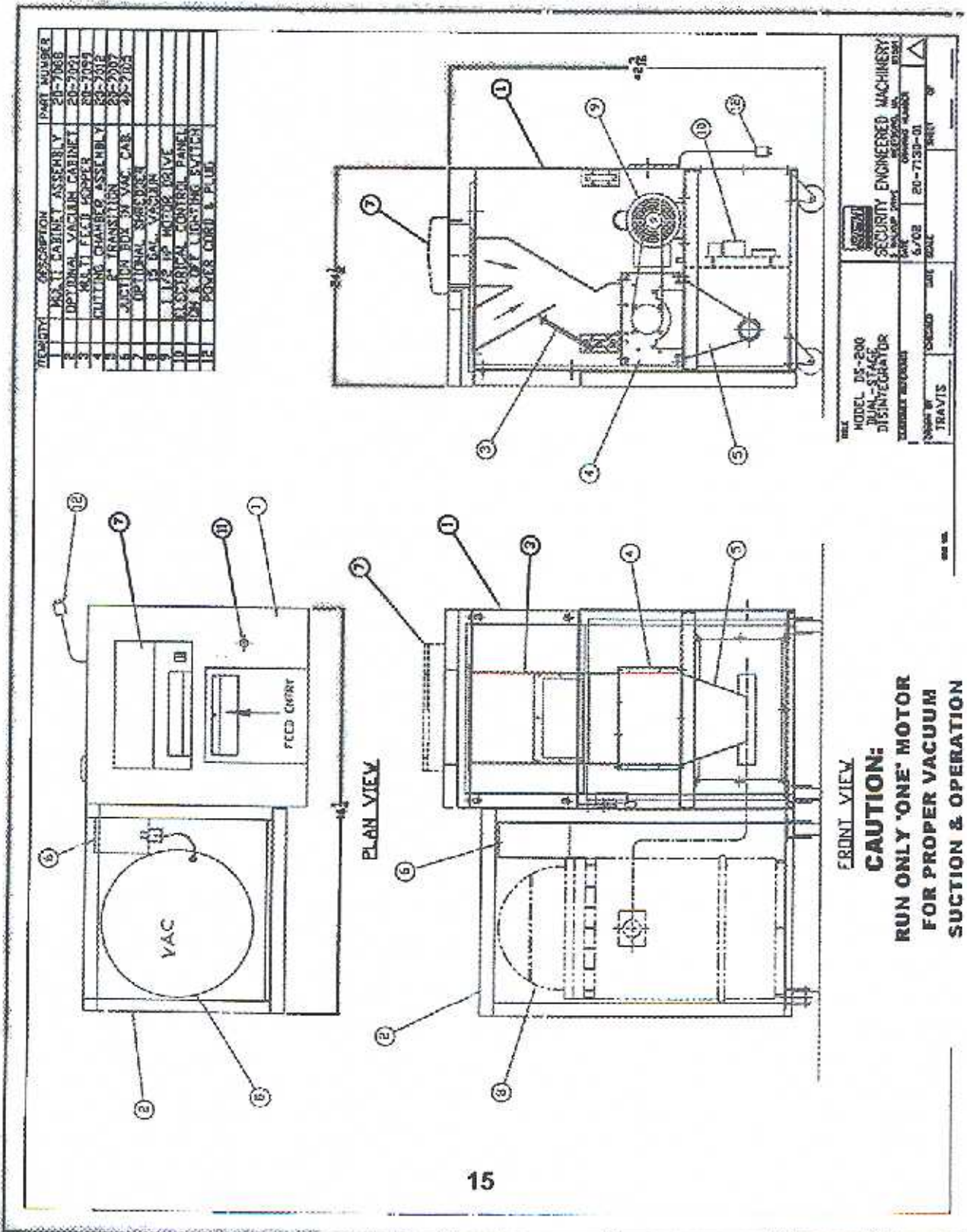


PLAN VIEW
DUAL STAGE-MODEL 200

 SECURITY ENGINEERED MACHINERY WESTBORO, MA. 01581 9 WALKUP DRIVE	TITLE DS-200 CONN. DIAGRAM		DRAWING NUMBER M-40-7103	SHEET OF 2 OF 3
	CUSTOMER REFERENCE TRAVIS	DATE 5/02		

CAD NO.

GENERAL ASSEMBLY OF MODEL 200



Options and Spare Parts

Options:

Maintenance Kit

P/N DMK200

Kit includes:

Spare Set of Knives

Shipping Case

Lifetime Sharpening

Knife Hardware

Spare Parts

Standard Knives

P/N 391200K/3

3 Rotor / 2 Bed

Perforated Security Screens

P/N 341201332

3/32" Dia.

Services

Knife Sharpening

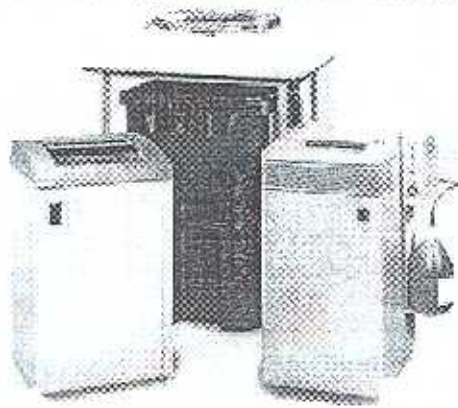
Service Contracts

**Contact our
Customer Service Department**
For details at 1-800-225-9293
Or order on-line at www.semshred.com

A Product for Every Application

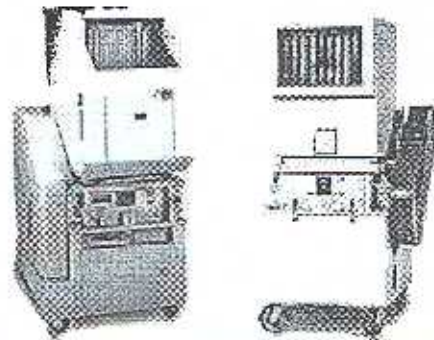
Paper Shredders

No matter what type of documents you need to shred, SEM has a shredder that's right for you, from strip cut executive models up to high volume Department of Defense approved models and everything in between. This brochure highlights our most popular models in three categories, Executive Use, Departmental Use and Enterprise Wide Use. If you're not sure which is best for your application give us a call, one of our application specialist will help you determine which unit is right for you.



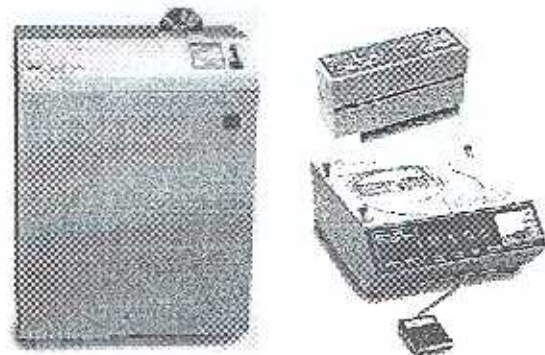
Product Destruction Equipment

You name it, we destroy it. From paper to plastic to glass and almost any type of off-spec product, expired inventory or returned goods. From stand-alone units to complete systems with sound dampening enclosures and vacuum evacuation systems, we offer more choices than anyone so we can tailor a system to your application instead of tailoring your application to our system.



Optical/Magnetic Media Destruction Equipment

Sensitive information exists all over your company. On computer hard drives, floppy discs, CD-Roms, computer backups, even audio and video cassettes. Our complete line of erasing and destruction equipment will render the data bearing surfaces of these media totally clean and/or unreadable allowing them to be safely disposed via normal means.

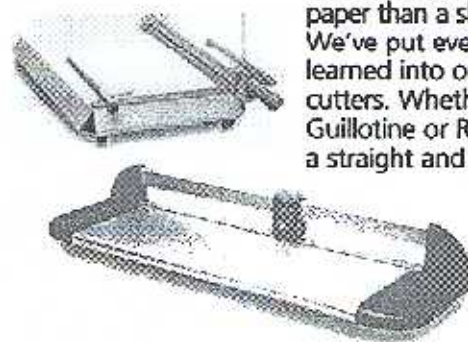


Waste Containers



Security Waste Containers are the answer to storing documents prior to destruction. Anyone can put documents in, but only authorized personnel can remove them.

Paper Cutters



Who knows more about knives and paper than a shredder company? We've put everything we've learned into our new line of paper cutters. Whether you choose Guillotine or Rotary Trim you'll get a straight and true cut every time.

SERVICE COVER REMOVAL

MODEL 200 – SERVICE COVER REMOVAL

The Model 200 is equipped with a removable top cover, which is safety interlocked preventing access during operation. The cover must be removed during service and has been designed to do so without the need for tools.

Reattaching Cover:

Step 1) – Align (4) locating pins on cover with mounting holes on top of cabinet.

Step 2) – When cover has been seated, push cover to the rear of the machine. This will lock the Cover into the Cabinets (4) key slots.

Removal of Cover*

Reverse the operation of attaching the cover by simply sliding the cover forward unlocking the (4) pins from the key slots. Then lift cover out of the (4) cabinet mounting holes. Pins must be lined up with the holes to allow cover to be lifted.

