Security Engineered Machinery
Model 200E Disintegrator
OWNER'S MANUAL

POP-0030 Rev. 1

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Safety Considerations

- ✓ Read and understand instruction manual and be aware of all warning stickers
- ✓ Make sure that all guards and access panels are in place at all times, **EXCEPT** when the power is locked off for maintenance work or cleaning
- ✓ **Always** know where emergency stop buttons are located
- ✓ **Always** know or have quick access to emergency phone numbers
- ✓ **Always** ensure that all maintenance and operating personnel read and understand this manual, including those personnel working second or third shift
- ✓ **Always** have a standard break-in time for a new operator……. A minimum of two hours suggested
- ✓ **Always** wear safety glasses when operating shredder
- ✓ **Always** "lock-out" power, at the, disconnect when shredder is not in use, when serving shredder or when performing routine shredder maintenance including cleaning
- ✓ **Never** operate this or any other machine while under the influence of drugs, alcohol or medications
- ✓ **Never** wear loose fitting clothing, ties or jewelry while in the vicinity of this shredder.
- ✓ **Never** allow long hair to be worn in the vicinity of the machine without use of a protective hair net
- ✓ **Never** place any part of your body in or on any part of the machine while in operation
- ✓ **Never** allow tools, rags, lunch pails or debris to be placed on the input conveyor or on top of the machine
- ✓ **Never** change machine direction without first allowing machine to come to a complete stop
- ✓ **Neve**r allow other personnel within ten feet of this machine while in operation
- ✓ **Never** remove guards, perform maintenance or clear jam up debris without first locking out power disconnect
- ✓ **Never** allow horse play around machine

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1 - Unpacking

The Model 200E has been secured to a pallet for shipping. Please inspect equipment immediately of any shipping damage.

Important Note: Prior to unpacking, if there is any visible damage to the Model 200E or to the crate during shipping, the receiver must note what is damaged on the Bill of Lading and contact the shipping company immediately.

Unpacking:

1. Remove sides of crate
2. Position ramps so that metal tabs are placed in holes at front of pallet
3. Gently guide machine down ramps

Unit Location:

The Model 200E can be located in an office or warehouse area within 6 feet of a wall receptacle. It is recommended that the machine be at least 3 to 4 inches away from the wall for proper ventilation.

2 – Installation

2.1 Power Requirements

FOR 115 VOLT/1 PH /60 HZ

Note to Installer:
The Model 200 Disintegrator System has been supplied with a power cord and male plug for **20 amp** service.

The male plug is a NEMA # 5-20P and requires a female connection as noted below.
Ref: NEMA 5-20R.

FOR 220 VOLT / 1 PH / 50-60 HZ

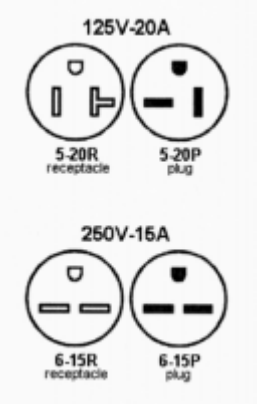
Note to Installer:
SEM has provided a power cord with male plug for **15 amp** service.

The male plug is a NEMA # 6-15P and requires a female connection as noted below.
Ref: NEMA # 6-15R
On overseas applications, a round pin type plug with ground (32 amp rating) has been supplied.

Alternative Options:

- Replace plug with customer supplied substitute while conforming to local electrical codes, and maintaining proper amperage ratings
- This machine can be hardwired to a safety disconnect for permanent installations. This must be done by a licensed electrician while observing local electrical codes

Plug & Receptacle Info



115 volts – 125 volts single phase SEM supplies a NEMA #5-20P the customer needs to supply a NEMA #5-20R receptacle 20 amps

220 volts – 250 volts single phase SEM supplies a NEMA #6-15P the customer needs to supply a NEMA #6-15R receptacle. 15 amps

Note: Any over sea or European shipments at 220 volts single phase 50 cycles must supply their own plug unless otherwise specified at time of the order.

2.2 General Information

A. The machine includes an appropriate power cord and 20-amp male plug. The unit is activated by a top mounted selector switch with 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 door is open.

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.

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.

Note: Power required 115 volt /1 PH /60 CY 20 amps Disintegrator motor 9.6 amps, Vacuum motor 11.0 amps.

E. 220 volt /1 PH / 60 CY -20 amps Disintegrator motor 4.9 amps, Vacuum motor 5.5 amps.

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

3 – Operation

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

Product destruction rate depends on the material, size and desired particle size. All units are equipped with timed-shutdown to help prevent jamming of the disintegrator. When Selector Switch is in the OFF DELAY position the disintegrator will run for an additional 60 seconds to clear the chamber. This will help to prevent jams that would require some disassembly to gain access to the cutting chamber

3.1 Start-Up Procedure

Pre-start-up procedure:

- ✓ Familiarize yourself with all controls and button locations.
- ✓ Ensure that all guards and covers are in place.
- ✓ Ensure the area is clean.

Start – up:

1. First make certain that the cabinet door is closed
2. Close top-feed door completely
3. Turn green selector switch to 'ON'
4. Listen for machine to engage

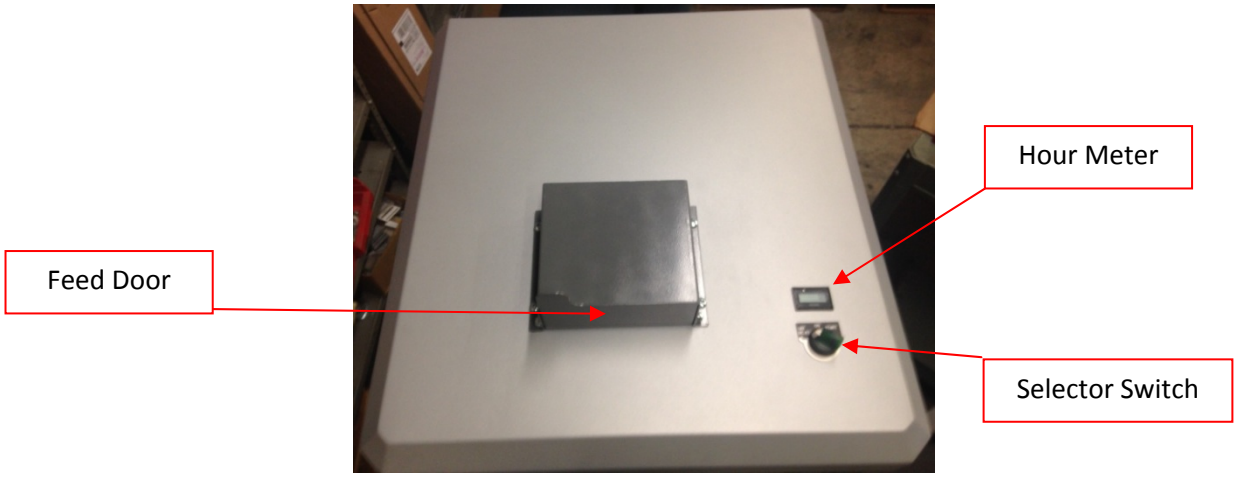


Figure 3.0: Top view of the Model 200E

3.2 Clearing a Jam

Important: In case of emergency, or overfeeding - opening the front door of the disintegrator cabinet will disengage a safety limit switch and immediately shut down the machine. This procedure should be reserved for emergency situations only. Bypassing the timed-shutdown can result in a jam.

To clear a jammed or locked rotor:

1. Make sure selector switch is in OFF position
2. Unplug power cord
3. Open front door of disintegrator cabinet
4. Remove plate on front hopper to access the cutting area
5. Remove loose product
6. Rotate rotor toward the front of the machine (using the drive belt)to free its movement

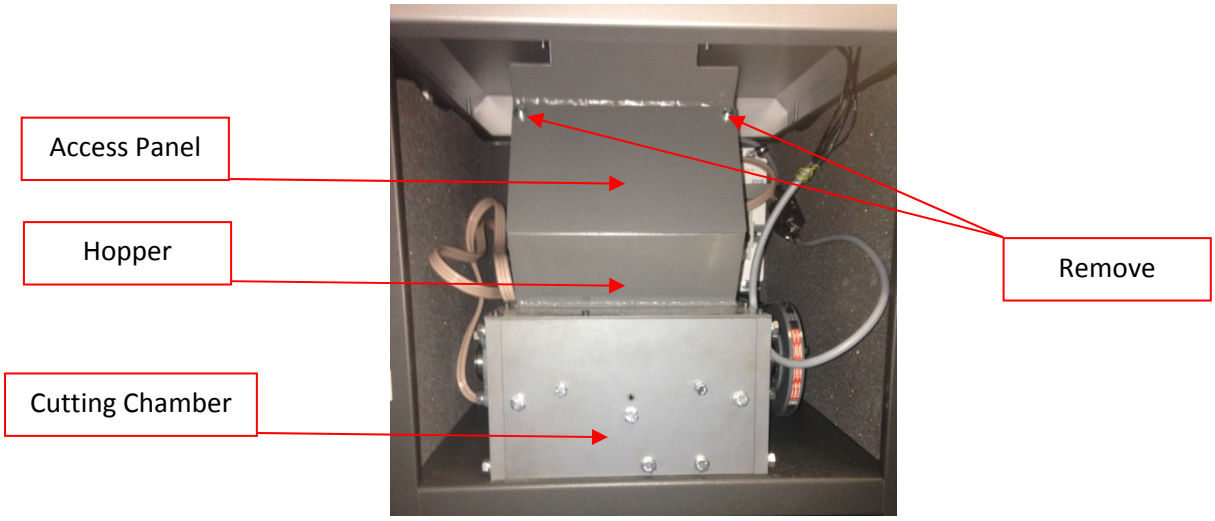


Figure 3.1: Hopper access panel

To restart:

1. Re-secure plate on front hopper
2. Connect to power
3. If necessary, reset circuit breaker switch or motor contactor, located above motor
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 above motor.

3.3 Feeding Information

- Before introducing any material into the feed slot, the Model 200E and its Vacuum must be turned on and operating. The material collection vacuum must be checked periodically and emptied for continued operation.

- Destruction Material: The Model 200E is capable of processing a variety of materials safely and effectively. Products that can be destroyed include products with light metals, plastics and paper. See Section 3.4 for materials that can be destroyed using the Model 200E. Please consult the manufacturer before attempting to destroy anything not listed here. SEM Customer Service 1-800-225-9293.

- Destruction Rate: follow the rule of thumb, "less is more" which creates a steady output without over-feeding. Listening to the machine while operating is an easy way to gauge when you should be feeding more material

- When destruction is complete, allow the Model 200E and vacuum to operate an additional 60 seconds after the last piece of material is destroyed. This will prevent build up in the cutting area and evacuation line, ensuring proper operation for the next user.

- Vacuum collector must be periodically emptied for proper operation.

Note: For optimal sound reduction after inserting documents or other materials close Feed Door. Destruction rates can change depending on the screen size being used

Feeding:

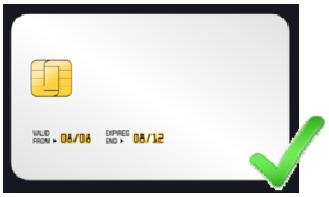
1. Connect power to the machine
2. Turn selector switch to ON
3. Listen for vacuum and cutting chamber to engage
4. Pull feed slot open
5. Place material into feed slot
6. Close feed slot and the material will fall into the cutting chamber

3.4 Acceptable Materials

The materials listed below have been tested, and approved for destruction using the Model 200E. Please contact the manufacturer before attempting to destroy anything that isn't listed here. **SEM Customer Service 1-800-225-9293.**

Compact Flash Cards

Thumb/Flash Drive



CAC/Credit Card

SIM Card

SD/MicroSD Card

Caution: Care must be taken when destroying media with the Model 200E. In some instances the media shown above will have undesirable counterparts that should not be introduced to the Model 200E. Below is an example of a thumb drive that should not be destroyed using this machine. Please contact **SEM Customer Service** at **1-800-225-9293** with any questions.

Thumb Drive with aluminum body

4 – Maintenance

Important / Caution: Before performing any service or maintenance on this machine, make certain to unplug the power cord from the receptacle!

4.1 Emptying the Waste Collection Vacuum

The waste collection vacuum is located inside of the cabinet on the lowest shelf. The vacuum has a 3 gallon capacity and should be checked regularly. Upon the first few cycles the customer should frequently check the vacuum so that they can gauge how often it will need to be emptied. Follow the instructions below to check/empty the waste collection vacuum.

1. Unplug the unit
2. Open the cabinet
3. Disconnect the vacuum hose at the vacuum
4. Remove the vacuum from the cabinet
5. Remove the vacuum lid
6. If the vacuum is more than ½ full then it is suggested that you empty it and proceed
7. Reinstall vacuum in reverse order

NOTE: The waste collection level should be checked frequently, and during every pre-startup procedure. Overfilling the waste collection vacuum can result in damage to the vacuum unit, and to the Model 200E.

4.2 Belt Adjustment

The drive belt should be inspected, periodically, for wear/damage.

1. Disconnect the machine from power
2. Remove the feed assembly

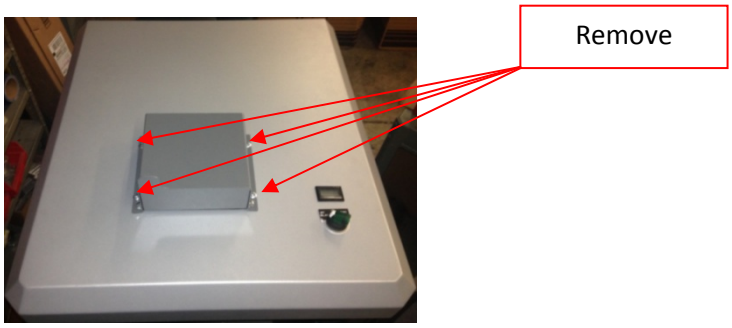


Figure 4.0: Feed assembly

3. Remove the top cover - make sure to disconnect the black connector before completely removing the cover

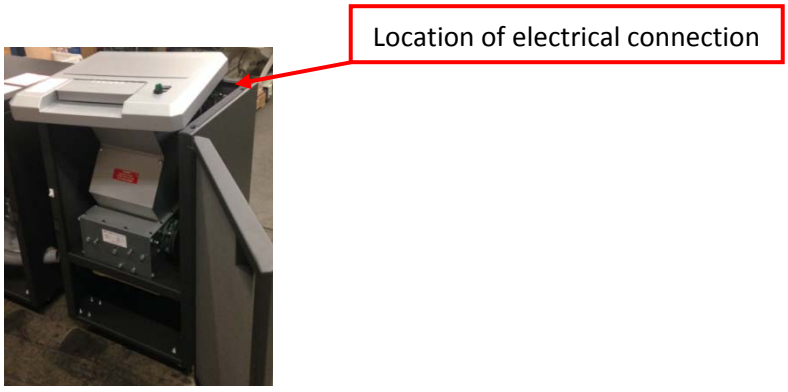


Figure 4.1: Removing top cover

4. Remove the hopper

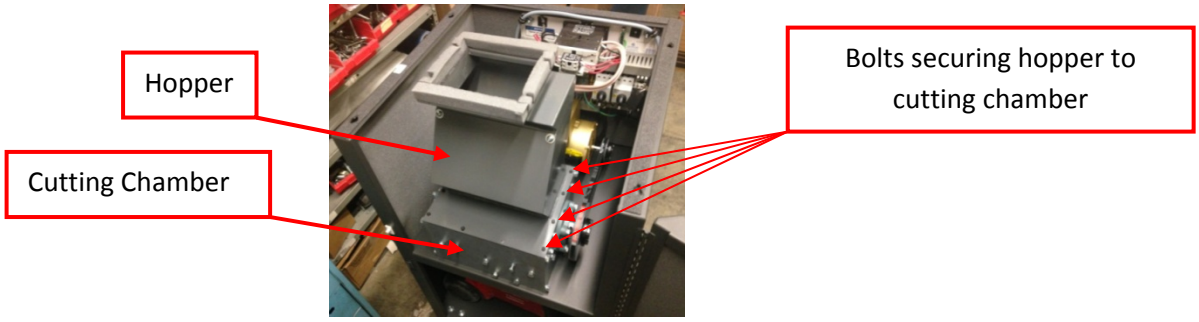


Figure 4.3: Removing hopper

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5. Loosen the four bolts securing the base of the motor
6. Use the two adjusting bolts to **evenly** adjust the motor

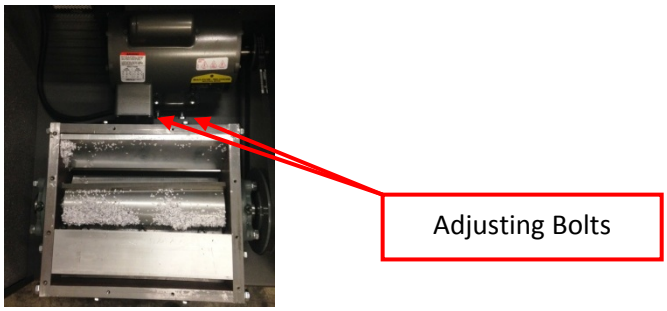


Figure 4.3: Motor adjustment

7. Check the tension of the drive belt

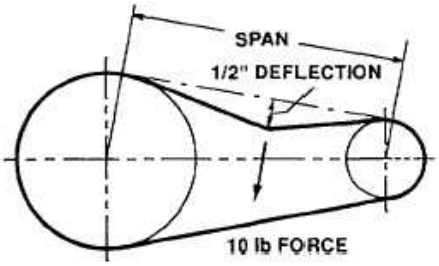


Figure 4.4: Checking belt tension

8. After the tension is satisfactory tighten the locking nuts on the adjusting bolts
9. Tighten the four bolts hold the motor to the cabinet
10. Reinstall hopper, cover, and feed assembly in reverse order

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

4.3 Knife Servicing

For full efficiency, knives should be sharpened from two to five times a year, depending on use. It is highly recommended that a spare set of knives be available for your Disintegrator, to reduce down time.

Replacing the knives:

7. Remove Bed Knives – 3 bolts for each side

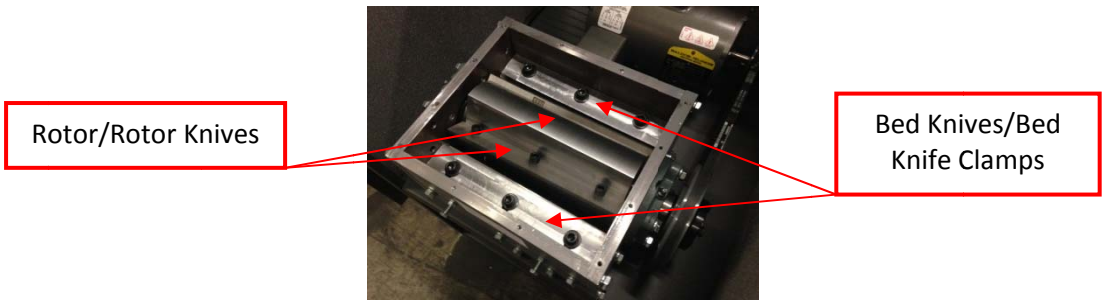


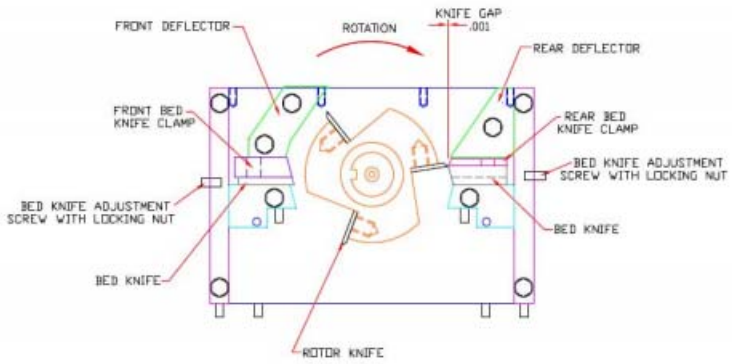
Figure 3.5: Inside the cutting chamber – rotor, knives, and knife clamps

8. Remove Rotor Knives – 3 bolts for each rotor knife
9. Install new Rotor knives and torque to 55 ft-lb
10. Install Bed Knives while leaving bolts finger tight
11. Check gap between Rotor and Bed Knives
    a. Place .001" feeler gauge between the Rotor and Front Bed Knife
    b. Spin Rotor in opposite direction of operation

Figure 3.6: Rotate the rotor toward front of machine while gapping the knives

    c. Adjust Bed Knives until the highest rotor knife strikes the feeler gauge (either at the ends, or in the middle of the knife), making a light clicking noise
    d. Tighten the Bed Knife to 50 ft-lb
    e. Repeat for rear Bed Knife

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.



Model 200E Torque	
Item	**Torque (ft-lb)**
Bed Knife	45
Rotor Knife	50

Measuring the spare knives:

1. Place knives flat, back-to-back
2. Measure from cutting edge to cutting edge

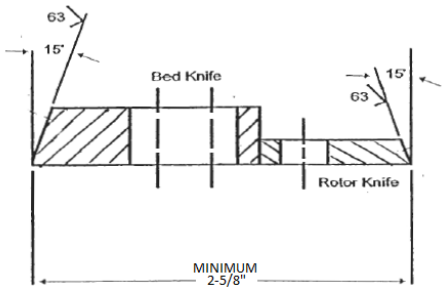
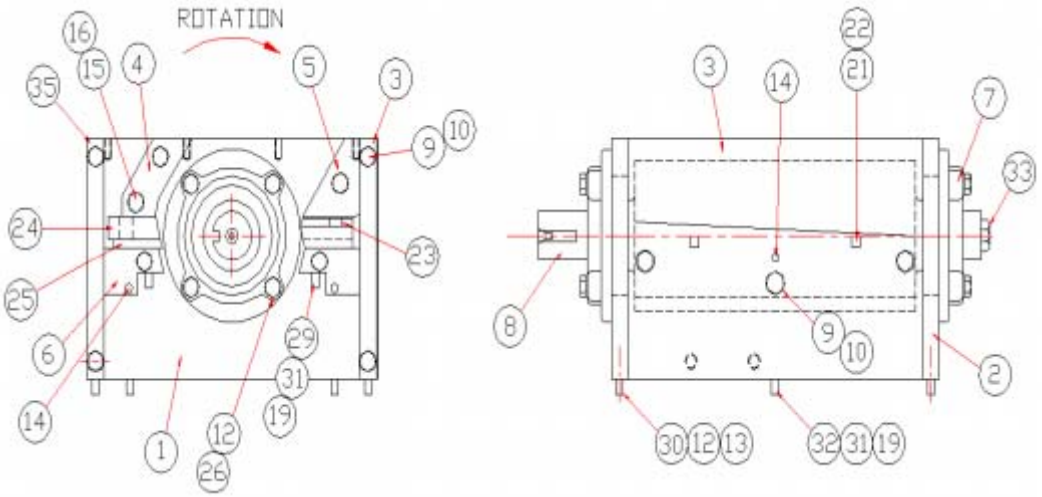


Figure 3.4: Minimum measurement of knife pairs

3. If the measurement is below the minimum then the knives cannot be used and must be replaced

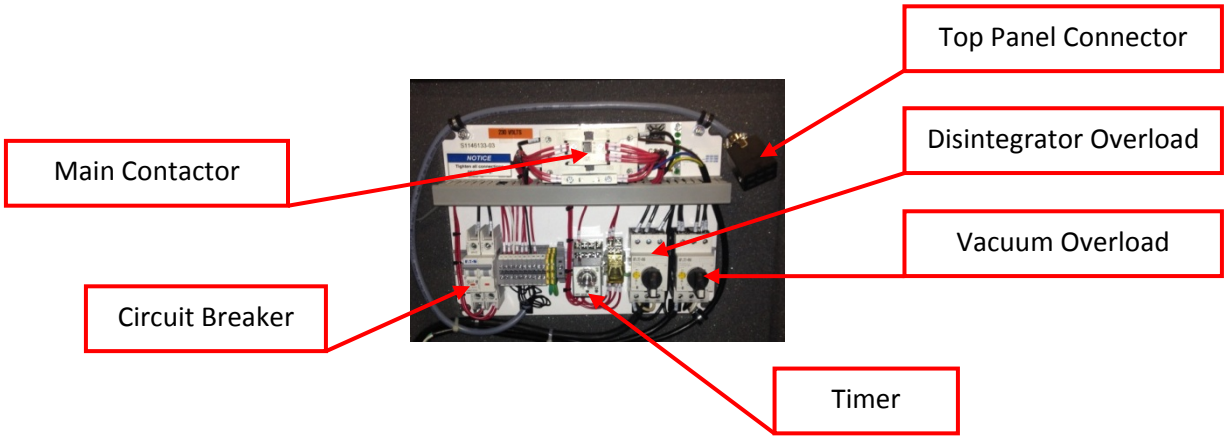
4.4 Cutting Chamber Assembly



ITEM	QTY	DESCRIPTION	PART NO	ITEM	QTY	DESCRIPTION	PART NO
1	1	Left Side Plate	3-20-6531-00	18	9	3/8-24 x 0.75 Socket Head Bolt	
2	1	Right Side Plate	3-206532-00	19	4	1/4-20 x 1.25 Square Head Set Screw	
3	1	Bed Knife Support	3-20-6165-00	20	4	1/4-20 Hex Nut	
4	1	Rear Deflector	3-20-6168-00	21	1	Bed Knife Clamp (Front)	2-20-6274-00
5	1	Front Deflector	3-20-6167-00	22	1	Bed Knife Clamp (Rear)	2-20-6275-00
6	2	Bed Knife Seat	3-20-6164-00	23	2	Bed Knife	
7	2	Flange Bearing		24	8	3/8-16 x 1.5 Hex Head Bolt	
8	1	Rotor (3 Blade)	4-20-6991-SL	25	3	Rotor Knife	
9	18	3/8-16 x 1.25 Hex Bolt		26	6	3/8 Hardened Washer	
10	32	3/8 Lock Washer		27	6	5/16-18 x 1.25 Socket Set Screw	
11	4	3/8 Flat Washer		28	4	3/8-16 x 1.5 Hex Head Bolt	
12	4	3/6-16 Hex Nut		29	8	5/16-18 Hex Nut	
13	6	0.25 x 1.0 Roll Pin		30	2	5/16-18 x 1.5 Socket Set Screw	
14	6	5/16-18 x 1.25 Hex Bolt		31	1	1/2-13 x 0.75 Hex Head Bolt	
15	14	5/16 Lock Washer		32	2	Motor Shim	4-20-6271
16	6	3/8-16 x 1.5 Socket Head Bolt		33	1	Bed Knife Support	3-20-6165-AB
17	8	5/16 Flat Washer					

4.5 Electrical Panel

The electrical panel is located in the main cabinet, behind the hopper.

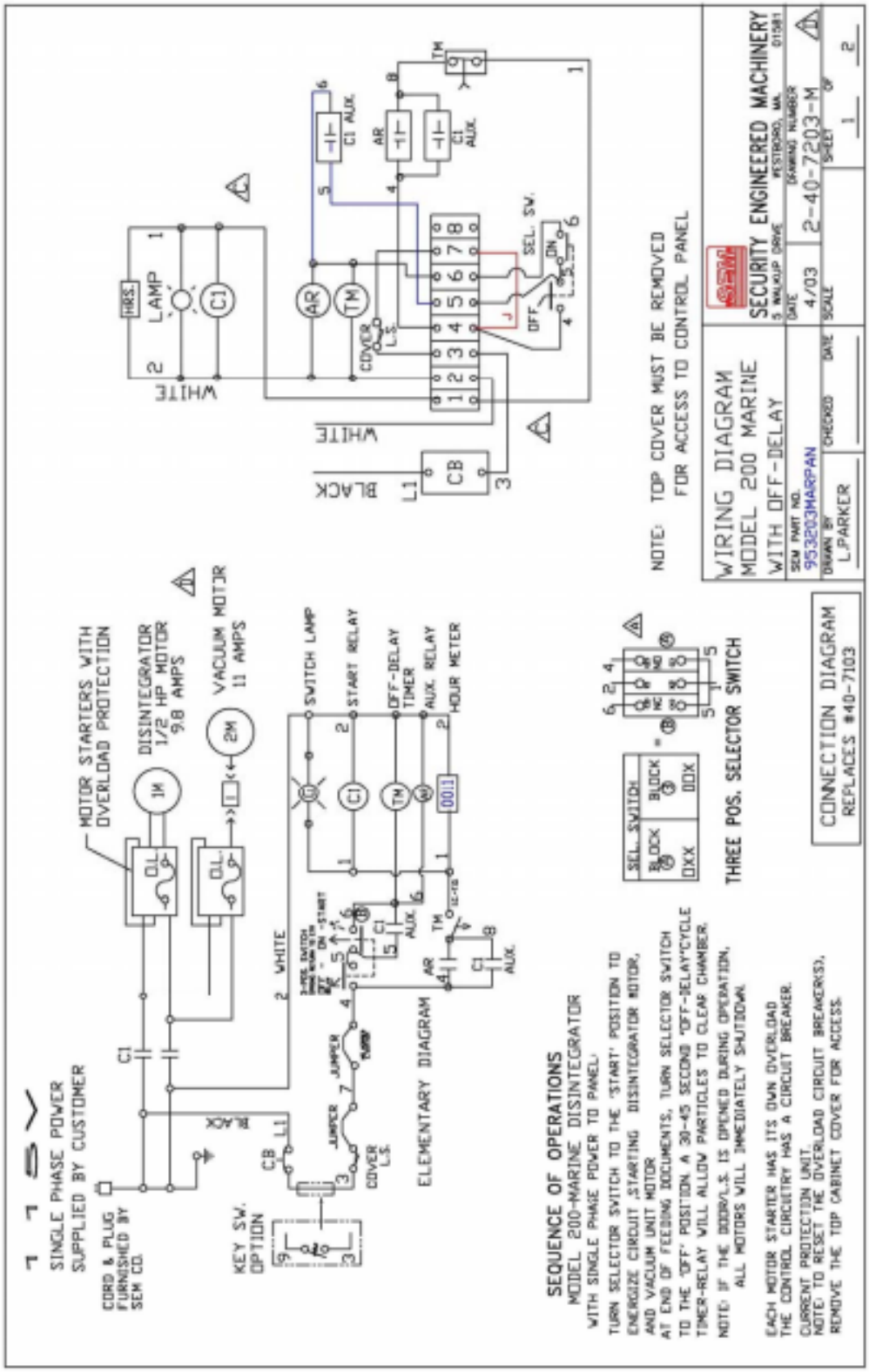


Note: Pre-Shredder overload is not shown

Accessing the electrical panel:

1. Open cabinet door
2. Removed feed assembly (see section 4.2)
3. Remove the top cover (see Section 4.2)
4. Remove hopper (see Section 4.2)

4.6 Electrical Diagram



5 – Extra Options

Option	Description	Part NO.
Maintenance Kit	Tool kit with an assortment of tools needed to service the machine	DMK200
Standard Knife Set	(1) set of standard knives (3 rotor & 2 bed)	391200K/3
Security Screen	Standard 3/32" security screen	341201332

For Parts or Service

Including Knife Sharpening & Preventative Maintenance

Contact Our

Customer Service Department

For details at 1-800-225-9293

Or order online at WWW.SEMSHRED.COM