



KRENDL™
The Innovator in Insulation Equipment



OWNERS MANUALS
MODEL #550



55 YEARS OF AMERICAN INGENUITY

**KRENDL MACHINE COMPANY • 1201 SPENCERVILLE AVE
DELPHOS, OHIO 45833 • TELEPHONE 419-692-3060 • FAX 419-695-9301
E - MAIL: krendl@krendlmachine.com • WEB SITE: www.krendlmachine.com**

CONGRATULATIONS ON YOUR PURCHASE OF KRENDL EQUIPMENT

**MODEL #550
OWNER'S MANUAL**

FOR ASSURED SAFETY AND CONFIDENCE, PLEASE READ THIS MANUAL CAREFULLY BEFORE INSTALLING AND OPERATING YOUR MACHINE.

**E-MAIL ADDRESS IS: krendl@krendlmachine.com
WEB SITE IS: www.krendlmachine.com**

Table of Contents

	PAGE
INTRODUCTION.	1
GENERAL SAFETY INFORMATION.	2-3
DECALS	4-5
WARRANTY.	6
RETURNED GOODS PROCEDURE.	7
BASIC COMPONENTS.	8
THEORY OF OPERATION.	9
OPERATING INSTRUCTIONS.	9-11
MECHANICAL SETTINGS.	12
GENERAL MAINTENANCE.	13-15
ELECTRICAL SYSTEM.	16-17
TROUBLESHOOTING.	18-19
PARTS LIST.	20-25


INTRODUCTION

Thank you for purchasing a **KRENDL FIBER MOVING MACHINE**. With over fifty years experience in manufacturing fiber moving equipment, we have designed and built your machine with the highest quality to provide years of reliable service.

This manual has been prepared to help you obtain the maximum efficiency and service from your Krendl equipment. The machine is designed to accept recycle fibers with the utmost in dependable performance. Our primary objective is to build equipment which will provide complete satisfaction so that you may confidently recommend Krendl to others.

We do not manufacture or sell fibers. Our interest lies only in the proper performance of the equipment we manufacture. We make no recommendations or guarantees concerning various fibers.

CAUTION:

 This manual contains important information regarding the **safe** assembly and operation of your machine. We urge you to read it carefully and follow the instructions provided. If your questions are not answered in this manual, may we hear from you? We want you to be able to operate this unit safely and confidently.

UNPACKING: Store and unpack carton with correct side up. Unpack your machine **IMMEDIATELY** and check for damage in shipping. **Place any damage claim with delivering carrier, saving all packing materials for inspection.** Our warranty covers manufacturer's defects only. **DO NOT** return to shipper.

FILL IN AND RETAIN:

Krendl Machine Company
1201 Spencerville Ave.
Delphos, Ohio 45833 U.S.A.

Telephone: 419-692-3060
Fax: 419-695-9301
E-mail: krendl@krendlmachine.com
Web Site: www.krendlmachine.com

For your protection in the event of theft or loss, please fill in the information requested for your own records. This information will be needed for in-warranty repairs. You may also want to attach a copy of your invoice.


Machine model number _____ Agitator motor manufacturer _____


Serial number _____ Speed reducer manufacturer _____

Date of purchase _____ Supplier _____

The model and machine serial numbers are located on the base of the machine unit.

GENERAL SAFETY INFORMATION

 **Important:** Read **all** instructions **before** operating this unit. This equipment can be potentially dangerous and must be used in strict accordance with instructions.

 **Disclaimer Notice:** The manufacturer will not be legally responsible for any injury or damage resulting from the improper use of this equipment or the failure to follow instructions.

Unpacking

Handle cartons with care to avoid damage from dropping or bumping. Store and unpack cartons with the correct side up. Completely remove machine from the packaging and from any shipping pallet or skid to which it might be attached. In addition, completely remove all shipping materials from **inside** the machine.



General Safety

1. Read this manual carefully and become familiar with your machine unit. Know its applications, limitations, and any hazards involved.
2. This machine was designed and manufactured for specific applications. Do not attempt to modify the unit or use it for any application it was not designed for. If you have any questions about your intended use or the machines suitability, ask your dealer/distributor or consult the factory. The manufacturers' could not possibly anticipate every circumstance that might involve a hazard. For that reason, warnings in the manual and warning tags or decals affixed to the unit, are **not** all-inclusive. If you intend to handle, operate, or service the unit by a procedure or method not specifically recommended by the manufacturer, first make sure that such a procedure or method will not render this equipment unsafe or pose a threat to you and others.



Electrical Safety

- The **National Electric Code** (NEC) in the United States and many international electrical codes require frame and external electrically conductive parts of this machine to be properly connected to an approved earth ground. Local electrical codes may also require proper grounding of machine. Consult with local electricians for grounding requirements in your area.
- Never handle any kind of electrical cord or device while standing in water, while barefoot or while hands or feet are wet. Dangerous electrical shock will result.
- Use a ground fault circuit interrupter (GFCI) in any damp or highly conductive area. (metal decking or steel work)
- Reference NFPA 79, 70E, or OSHA safe work practices when performing energized work procedures.



Safety/Caution

- **Be Safe** - Keep away from moving parts.
- **Be Safe** - Make sure all guards and hopper bar are in proper place **before** operating machine. Guards and safety devices/switches should not be removed, modified or by-passed. Hands should **never** pass below hopper bar.
- **Be Safe** - Do not remove motors or lift hopper when unit is connected to power supply.
- **Be Safe** - Make sure machine is properly grounded. Protect all electrical supply cords from sharp objects, moisture, and other potentially hazardous materials. Keep power cords in good repair. Electrical service must be performed by a qualified electrician.
- **Be Safe** - Disconnect power supply **before** inspecting or adjusting unit.
- **Be Safe** - Consult a qualified technician to answer questions **before** attempting to operate, or injury may result.
- **Be Safe** - Do not operate machine alone.
- **Be Safe** - Do not leave machine unattended and energized.
- **Be Safe** - Turn machine off and disconnect electricity before clearing and feeding jam or attempting to remove any object dropped in the hopper.
- **Be Safe** - Keep hands, loose clothing, jewelry and hair away from agitators, gears, chains and other moving parts.
- **Be Safe** - Use proper lifting when moving fibers and loading machine.
- **Be Safe** - Keep work area clear of debris.
- **Be Safe** - Wear proper safety equipment, including protective gear, such as respirators, eye and ear protection.
- **Be Safe** - Violation of the Owner's Manual or safety precautions may void warranty.



Make Sure!

- Hopper is empty of foreign objects **before** starting.
- Adequate electrical power is supplied or damage to unit will result.
- Machine must be on **before** adding fiber.
- Agitator motor is not run with hopper empty for more than a few minutes, or damage to seals will result.
- Sprockets, chains, belts and pulleys are correctly **aligned** and **tensioned**.
- Pieces of bag are **not** left in the machine as this can bind and stall your machine.
- This machine should only be used with good quality fibers that are dry, undamaged and that meet a certain industry specification or quality standards.

DECALS



Indicates this unit has two power sources that should be disconnected before servicing to reduce the risk of serious injury or death.



Rotating parts can be dangerous! You can snag clothes, hair, hands, etc. This can cause serious injury or death.



Manufacturer information is provided here along with machine model, and serial number.



Made in the U.S.A.



Opens and closes the material feed gate which in turn controls the production.



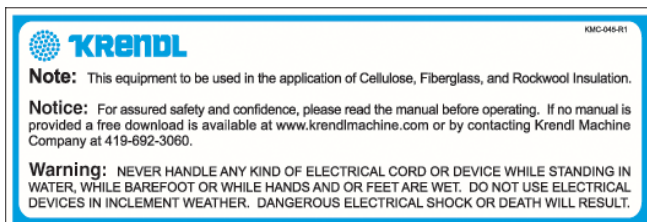
Emergency stop button for machine.



Identifies position of material feed gate.



General safety information intended to reduce the risk of serious injury or death



Identifies what type of insulation should be used with this machine and that the manual should be read before operating. Warns to be careful around electrical components! This can cause serious injury or death.



Reset button for motor.



Operating machine at specified voltage will result in longer machine life and better performance.



Indicates that the electrical on this machine is 24VAC and to be used with line power.



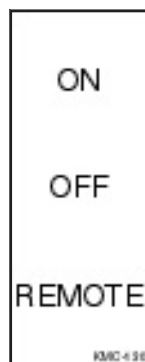
Indicates that the electrical on this machine is 12VDC and to be used with gas or diesel machines.



Rotating parts will be moving in this direction.



Part number for identification and tracking.



Indicates if machine is On, Off, or being ran remotely off the primary machine.



Indicates that this is the remote cord and specifies which outlet it is intended for on the primary machine electrical box.



Indicates the input power of the machine.



Indicates that the electrical box on the machine is in compliance with UL codes.



Indicates which employee date equipment was inspected.

WARRANTY:

Krendl Machine Company (Company) warrants to each original purchaser (Buyer) of its machines that such products will be free of manufacturing defects for a period of 2 years from the date of shipment to the Buyer. (This does not include accessories, pumps, blowers, wall scrubbers, etc.)

No warranty is made with respect to:

1. Components or accessories manufactured and warranted by others. Warranties for purchased component parts as supplied from vendor such as engine, electric motor, blower, gearbox, transmission, etc., if furnished by the manufacturer of the component, are on file at the Company's main office and copies will be furnished at request of Buyer. Component(s), shipping costs prepaid, shall be sent to Company who in turn shall forward to vendor for evaluation and warranty determination.
2. Any defect caused by repair, alteration and/or adjustment performed by Buyer or customer/ vendor of Buyer without the express written authorization of the Company.
3. The labor costs of replacing parts by parties other than the Company.
4. Any machine that has not been operated and/or maintained in accordance with normal industry practice and the written recommendations of the Company. (e.g. machine operated with an improperly sized, worn or damaged hose, improper or inattention to preventative maintenance, etc.)
5. The product has been subjected to misuse, negligence or accident or results of any application or use of the blowing equipment not in accordance with the Company recommendations.

This limited warranty does not cover the free replacement of component parts that become inoperative due to wear and usage and need to be replaced on a regular basis, including but not limited to: airlock seal(s), agitator(s), shredder(s), auger(s), fuse(s), switch(es), clutch(es), hose(s), shaft seal(s), chain(s), belt(s), sprocket(s), pulley(s), bearing(s), cable(s), battery(ies), filter(s), fan(s), etc.

The Company's obligation under this warranty is limited to repairing or replacing (at Company option) any part that is determined by the Company to be suffering from a manufacturing defect. The Company (at Company option) will provide any required parts and labor to the Buyer. If the equipment or parts must be returned to the Company for repair, all transportation costs shall be the Buyer's responsibility.

THIS LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES AND / OR WARRANTIES, ORAL OR WRITTEN, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTY OF MERCHANTABILITY. NO WARRANTY, EXPRESS OR IMPLIED, OTHER THAN THE AFORESAID WARRANTY IS MADE OR AUTHORIZED BY COMPANY. COMPANY SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES TO PROPERTY OR INJURY TO ANY PERSON OR COSTS ASSOCIATED WITH LOSS OF PRODUCTION RESULTING IN LOSS OF REVENUE, PROFITS OR LOSS OF EQUIPMENT THROUGH THE USE OF THIS EQUIPMENT.

Note: Special job circumstances incurring costs for specialized repair and next day delivery of parts will not be reimbursed by the manufacturer unless authorized by factory.

RETURNED GOODS PROCEDURE:

When returning products to Krendl for repair, first obtain a return goods authorization, and you will be given shipping instructions. The product must be shipped **PREPAID**:

Krendl Machine Company
1201 Spencerville Ave.
Delphos, Ohio 45833 U.S.A.

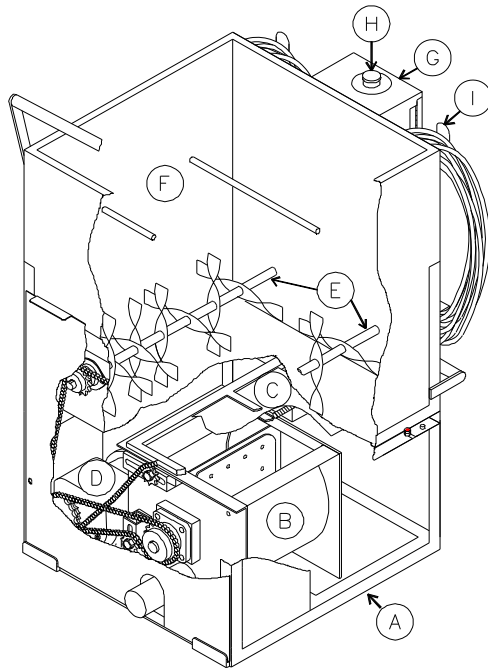
Telephone: 419-692-3060
Fax: 419-695-9301
E-mail: krendl@krendlmachine.com
Web Site: www.krendlmachine.com

IF MACHINE WAS NOT PURCHASED DIRECTLY FROM KRENDL MACHINE COMPANY, CONTACT YOUR SUPPLIER.

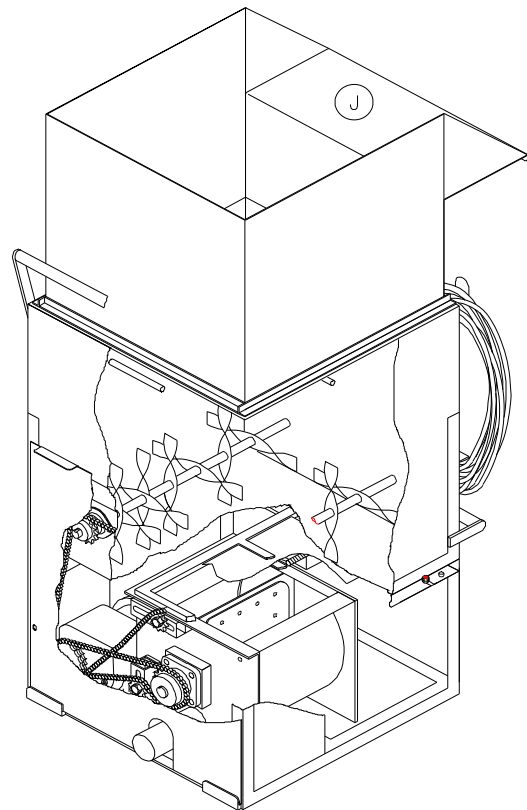
Once unit is received, it will be inspected. In-warranty units will be repaired and returned immediately. Estimates of repair charges will be provided for out-of-warranty units.

BASIC COMPONENTS

This is a view of the basic components of your machine. It shows the location of each item and gives the function of each. Use this as a guide throughout the manual.



(illustration A)



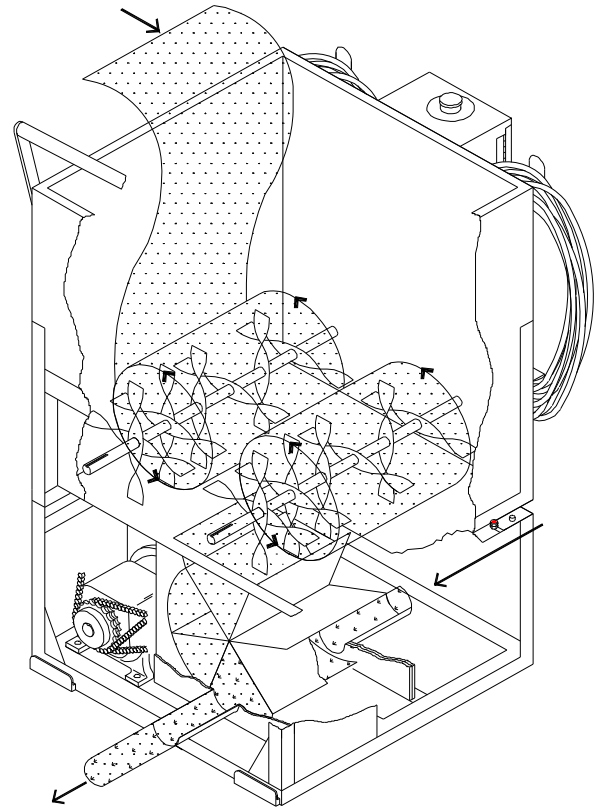
(illustration B)

- A) BASE UNIT**—Lower frame unit supporting speed reducer, motor, airlock and hopper.
- B) AIRLOCK**—Traps air and fiber while providing a metered flow.
- C) SLIDEGATE**—Meters amount of fiber dropping into the airlock by controlling size of airlock opening.
- D) SPEED REDUCER**—Increases output power while decreasing speed of agitator/airlock drive motor.
- E) AGITATOR**—Conditions fiber in the hopper.
- F) HOPPER**—Upper unit of machine holding fiber.
- G) MAIN CONTROL PANEL**—Connects with main power, allowing operation of unit at machine or Remote Cord.
- H) EMERGENCY STOP BUTTON** — Safety device for immediate stopping of machine. (Located on electrical box)
- I) REMOTE CORD HANGERS**—Storage for remote control and power cord.
- J) HOPPER EXTENSION (optional)**—Increases overall hopper capacity.

THEORY OF OPERATION

This unit is designed to accept all recycled fiber materials into the hopper area of the machine, passing through a multistep agitation system and dropping into the rotating airlock feeder. The airlock feeder has a crankgate control providing precision feeding of fiber for recycled spray-on applications. Fiber is then rotated to the bottom of the airlock where air from the blower motors provided by the primary machine pushes dry and recycle fiber from the rotating chambers through the hose. (The combined dry and recycle material exiting the #550 machine gives a better blend of final product to the contractor.) Material and air is prevented from escaping into the machine while in the airlock by six rubber seals, which conform to the airlock inner wall as the chambers revolve.

Note: This machine does not come equipped with blower motors. Connecting the model #550 in-line with a primary machine will provide the blowing power desired.



OPERATING INSTRUCTIONS

Machine Hook-up

This unit comes ready for connection to the primary machine's connection hose.

This unit provides a direct connection to 3" insulation hose. Connect hose from primary machine outlet to model #550 inlet. Slide hose on to the model #550 outlet and secure with a hose clamp. (See illustration C on page 7.) All hose connections should have hose clamps to prevent air leakage from blower to nozzle. This helps to prevent hose plugging.

When assembling unit, make sure on/off/remote toggle switch is in the **off** position and close **slidegate**.

1. Connect 120V power input cord into a separate 15-amp circuit line power. When using extension power cords, wire gauge size should not be less than input cord on unit and not to exceed 50' in length. **(See Voltage Drop Chart On Next Page.)** The 150' hard wired 24 VAC on/off network cord must plug into the primary machines 24 VAC auxiliary outlet in order to be switched on and off. (Optional units with 12 VDC must hookup to 12 VDC power supply) (See illustration C on page 11.) **Note:** Primary machine needs to have an ELU95 or newer to accept #550 network cord.

Caution: Operating unit with less than required voltage or inadequate generator size will result in damage to electrical components. This machine is marked with the correct input voltage on input cords located on bottom of the Main Control Panel. **Note:** Agitator motor should only be operated with steady or constant flow of electricity between 110-120 volts. **Do not** operate machine with less than required voltage. Damage to motors and other electrical parts will result.

VOLTAGE DROP CHART

Typical voltage drop values based on conductor size and one-way length* (60 C termination and insulation)

25 FEET								
	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	3 AWG	2 AWG	1 AWG
AMPERES	20	1.98	1.24	0.78	0.49	0.31	0.25	0.19
	30		1.86	1.17	0.74	0.46	0.37	0.29
	40			1.56	0.98	0.62	0.49	0.39
	50				1.23	0.77	0.61	0.49
	60					0.93	0.74	0.58

50 FEET								
	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	3 AWG	2 AWG	1 AWG
AMPERES	20	3.95	2.49	1.56	0.98	0.62	0.49	0.39
	30		3.73	2.34	1.47	0.93	0.74	0.58
	40			3.13	1.97	1.24	0.98	0.78
	50				2.46	1.55	1.23	0.97
	60					1.85	1.47	1.17

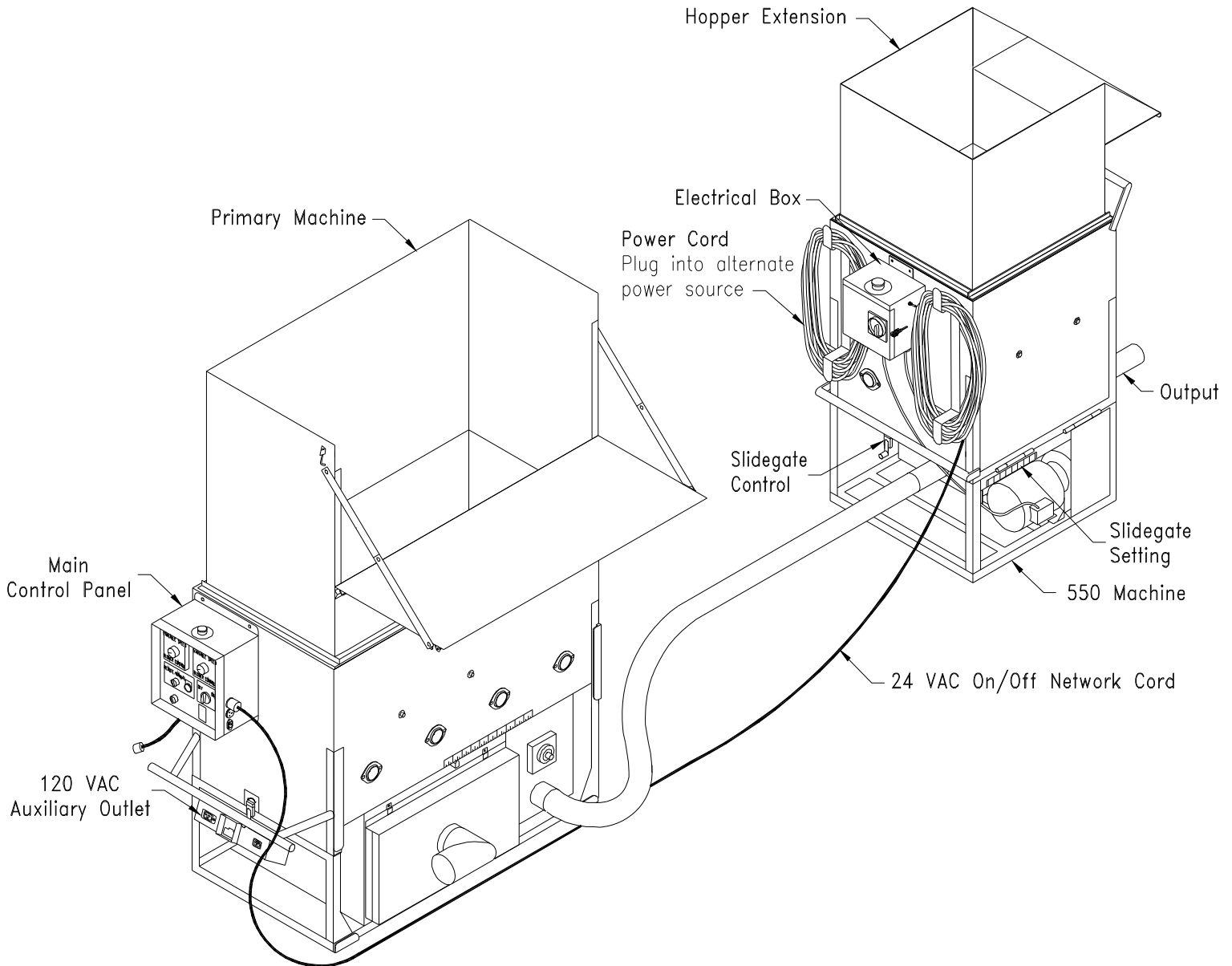
75 FEET								
	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	3 AWG	2 AWG	1 AWG
AMPERES	20	5.93	3.73	2.34	1.47	0.93	0.74	0.58
	30		5.59	3.52	2.21	1.39	1.1	0.87
	40			4.69	2.95	1.85	1.47	1.17
	50				3.69	2.32	1.84	1.46
	60					2.78	2.21	1.75

100 FEET								
	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	3 AWG	2 AWG	1 AWG
AMPERES	20	7.90	4.97	3.13	1.97	1.24	0.98	0.78
	30		7.46	4.69	2.95	1.85	1.47	1.17
	40			6.25	3.93	2.47	1.96	1.56
	50				4.92	3.09	2.45	1.94
	60					3.71	2.94	2.33

125 FEET								
	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	3 AWG	2 AWG	1 AWG
AMPERES	20	9.88	6.21	3.91	2.46	1.55	1.23	0.97
	30		9.32	5.86	3.69	2.32	1.84	1.46
	40			7.81	4.92	3.09	2.45	1.94
	50				6.15	3.86	3.06	2.43
	60					4.64	3.68	2.92

150 FEET								
	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	3 AWG	2 AWG	1 AWG
AMPERES	20	11.85	7.46	4.69	2.95	1.85	1.47	1.17
	30		11.18	7.03	4.42	2.78	2.21	1.75
	40			9.38	5.90	3.71	2.94	2.33
	50				7.37	4.64	3.68	2.92
	60					5.56	4.41	3.50

Ex: A two-wire 20-ampere circuit using 12 AWG with a one-way distance of 25 feet will drop 1.98 volts;
 120 volts - 1.98 volts = 118.02 volts as the load voltage.
 240 volts - 1.98 volts = 238.02 volts as the load voltage.

Machine Hook-up (cont.)

(illustration C)

IMPORTANT NOTE FOR 3-WIRE CORD:

A separate isolated ground is required that connects the frame of the machine to an earth ground source. Serious injury or death may result if machine is **not** properly grounded. If you have any further questions, consult a qualified electrician.

Mechanical Settings

The control end of your machine contains slidegate controls to adjust your machine for each application and type of fiber. (See illustration D) **Slidegate** (material feed) and **sprocket speed** (See illustration E) are adjusted according to:

- APPLICATION:** Open blow, retro-sidewall and spray-on applications vary in amounts of control.
- TYPE OF MATERIAL:** Cellulose, fiberglass, and mineral wool have different textures and densities that respond to machine settings.
- HOSE:** Corrugations or roughness of interior surface, diameter, length and elevation of hose will also require varying adjustments.
- WEATHER CONDITIONS:** Temperature and humidity may require day to day adjustment of machine settings.

Opening or closing slidegate (material feed) controls the amount of fiber dropping into the airlock which changes the production rate (lbs. per hour). (See illustration D) For calibration purposes the scale located on right side of machine indicates how many inches the airlock slidegate is opened.

These settings control the following:

- **Density** of fiber blown in retro-sidewall application.
- **Velocity** of material impact when spraying.
- **Dust** on open blow.
- Material **spread rate** or coverage.
- **Production** rate (lbs. per hour blown).

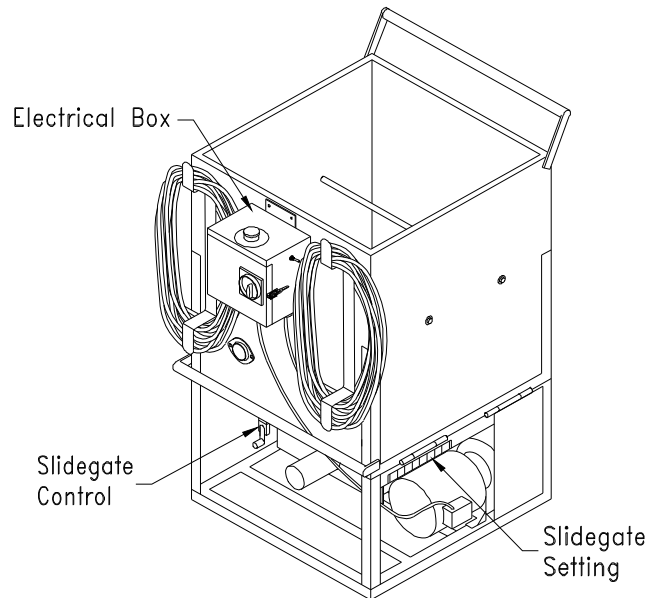
GENERAL SLIDEGATE SETTINGS:

Since specific settings need to be determined by each operator, the following are only suggested guidelines. Consult the fiber manufacturer for additional recommendations specific to **their** product.

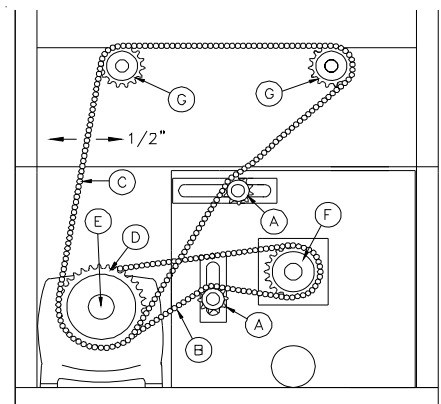
SPROCKET SETTING GUIDE: (See illustration E)

- A. Idler sprocket for motor/reducer drive chain (15-T x 1/2")
- B. Motor/reducer drive chain to airlock with connecting link (#40 x 37")
- C. Motor/reducer drive chain to upper agitators w/connecting link (#40 x 59")
- D. Motor/reducer double sprocket with key (30T-30T x 1")
- E. Motor/reducer shaft (1")
- F. Airlock sprocket with key 30T x 1"
- G. Agitator sprocket with key 24T x 1"

Control End of Machine



(illustration D)



(illustration E)

Standard Model #550

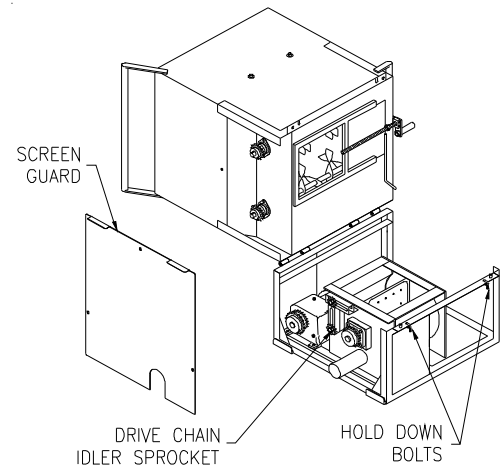
GENERAL MAINTENANCE

Periodic preventive maintenance will add years of life to your equipment. Reviewing the information in this manual will go a long way in reducing downtime and lost income. **To Flip hopper up** for easy maintenance of lower base unit: (See illustration F) Remove side screen guard of machine. Loosen idler sprocket and remove drive chain. Release hold down bolts at airlock end of machine and lift hopper back gently until it rests safely on the floor.

AIRLOCK:

SEAL REPLACEMENT: The purpose of the airlock seal is to trap air and fiber until it rotates 180° to the 6:00 o'clock position. At this point, fiber is pushed by air from the blower, out of the chamber. Worn or damaged seals allow air and fiber to escape back into hopper, thus reducing production and coverage. When it is necessary to replace seals, follow these directions:

Airlock rotor plates that are damaged (bent) will need replaced. (Refer to Rotor Plate Replacement below.) Take out rubber seal by removing six plate fastening bolts and top plate. The base plate will remain attached to airlock shaft. To install a new seal, reverse procedure. Seal should be inserted tight against the back base plate, pressing the lower tabs of seal down under the adjacent seal with a flat blade screwdriver. (See illustration G on page 10) Make sure all bolt holes are aligned while each side of seal is equally pressed against the end plates, before tightening bolts. Seal should be bent backwards for **counterclockwise** rotation, viewing from drive side of machine.

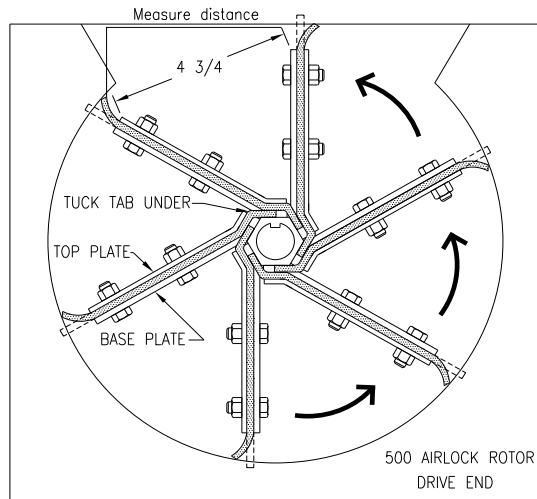


(illustration F)

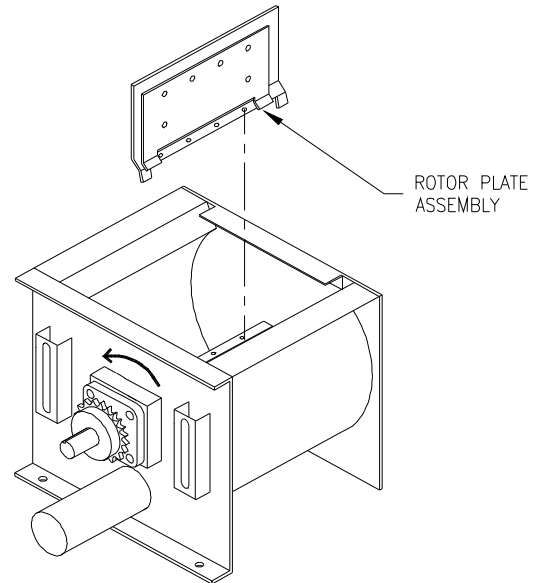
ROTOR PLATE REPLACEMENT:

1. To check plates for proper angle, measure distance between outer edge of metal plates. (See illustration G on page 14) This measurement should be 4 3/4". Measure all six plates and replace as needed.
2. Remove damaged baseplate assembly from shaft using ratchet drive wrench with extension and 1/2" socket.
3. Check seal for wear and damage. (Installing seal and top plate on the bench is quick and easy). Remove bolts from plate assembly and replace with new seal. Make sure seal and top plate are assembled on **correct** side of base plate before assembling in airlock. Seal should press backward towards top plate when installed correctly into airlock chamber. (See illustration G on page 14)
4. Install the rotor plate assembly into the airlock. The airlock runs **counterclockwise** viewing it from the sprocket drive shaft. (See illustration H on page 14) Align the base plate with holes on airlock shaft using a tapered punch. **Caution:** Do not mount rotor plate backwards. If installed improperly, damage to seals will result and put undue stress on agitator motor. This causes overheating and poor production. Seal should be bent backward to allow for a **counterclockwise** rotation of rotor.
5. As rotor plate is installed, press bottom tab of seal under adjacent seal with flat blade screwdriver. (See illustration G on page 14)



General Maintenance (cont.)

(illustration G)



(illustration H)

CHAIN: (#40 Nickel Plated)

ADJUSTMENT: A smooth operating chain drive should have proper chain tension and idler adjustment. New chains should be installed under slight tension as they will elongate a small amount due to seating of pins and bushings during the first few days of operation. Idler adjustment sprockets should have at least one (1) 7/16" washer on both sides of idler and be tightened to 20 ft. lbs. of pressure. This will prevent jamming and overheating on the center bushing of the sprocket. After the chain is tensioned and idler adjusted, the chain should have 1/2" of give from side to side. (See illustration E on page 12) Excessive chain tension or loose chain will cause shortened life of bearings, chain and sprocket. Chain should be kept in good condition by proper lubrication (dry film lubricant Dow 321) and occasional cleaning. Soaking chain in container of 10 weight oil will provide for internal lubrication of pins and bushings. However, excess oil must be drained and wiped away as excessive lubrication will cause fiber accumulation on chain. Worn out chain should be replaced. When chain is replaced, worn sprockets should also be replaced, preventing further damage to new chain.

SPROCKETS:

CHECK SPROCKETS FOR WEAR. Misalignment and/or loose sprockets and improper chain tension causes the premature wear of chain and sprockets. All sprockets, except speed reducer and idler sprockets, have been secured with a medium grade Loctite (general purpose thread locker), to prevent gradual movement. The set screws and key are also inserted with a medium grade Loctite. If sprocket is difficult to remove, it may be heated with a propane torch to loosen.

Caution: Do not overheat sprocket or damage to bearing will result. A pulley or bearing puller can then be used to remove the sprocket and key. Replace new sprocket on shaft with key and medium grade Loctite applied to shaft. Align sprocket with corresponding sprocket, using a straightedge placed along face of teeth and tighten set screw. Speed reducer sprocket (C on illustration E) does **not** require Loctite.

BEARINGS:

AGITATOR BEARINGS in hopper are prelubricated, double-sealed, self aligning ball bearings. **No** lubrication is necessary. If bearings produce noise or heat (*too-hot-to-touch*), the bearings should be replaced.

General Maintenance (cont.)

AGITATOR BEARING REPLACEMENT: Spray area with rust penetrant (WD-40). Remove sprocket (See SPROCKET section above). Remove the two bolts from bearing flange and outer flange from bearing insert. Loosen set screws on bearing hub at each end of agitator shaft. Since all set screws are installed with a medium grade Loctite, a propane hand torch may be used to assist in removing them. Do not overheat unit, causing shaft to expand. Using a rubber mallet, drive agitator shaft an inch in one direction, creating a space between hopper and bearing unit. A bearing puller can then be used to remove the bearing. Eliminate any metal burrs from shaft with file and install new bearings with felt seals. Use a medium grade Loctite on set screws before securing bearing to shaft.

AIRLOCK BEARINGS are prelubricated, double sealed, self aligning ball bearings. Lubrication **is** required at three month intervals of normal running time, or sooner if bearings produce a noise or become *too-hot-to-touch*. Relubrication at the grease fittings is done with a lithium base grease conforming to a NLGI GRADE TWO consistency. The grease should be pumped in slowly until a slight bead forms around the seals. This bead, in addition to acting as an indicator of adequate lubrication, provides additional protection against the entry of foreign matter. **Important:** If a slight bead does **not** form, indicating a failure of lubrication, or if bearing shows signs of wear, replace bearing.

AIRLOCK BEARING REPLACEMENT: Remove four bolts from airlock bearing flange (two bolts from shredder bearing flange) and follow steps above for agitator bearing replacement.

SPEED REDUCER:

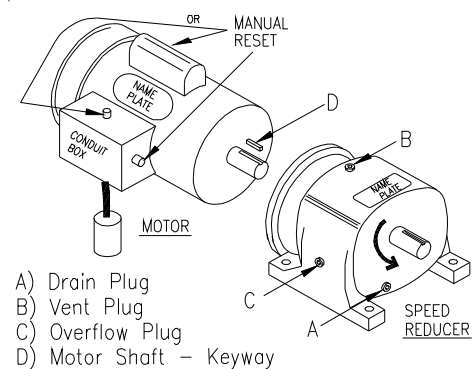
Periodically check oil level in reducer. Do not lay machine on its side as lubricant will drain from vent plug. If speed reducer malfunctions because of improper oil level or type used, **warranty is voided**. Oil seals at input and output drives are considered to be replaceable maintenance items and can affect oil level. These are available at power transmission suppliers.

LUBRICATION: This speed reducer was filled with oil at the factory to operate within +30°F to +125°F ambient temperature. After 1500 hours of operation, drain and refill with Mobilgear 630 gear oil. If Mobilgear 630 gear oil is not available, use multipurpose gear oil SAE #90 for ambient temperatures from +40°F to +120°F. For temperatures below +40°F use SAE #80 multipurpose gear oil. Correct oil level for mounted unit is just below pipe plug(C on illustration I) in side position.

LUBRICANT REPLACEMENT: (See illustration I)

1. Drain: With output shaft of speed reducer facing you, remove plug (A) lower front with 1/4" hex key wrench. Allow unit to completely drain and replace plug.
2. Remove vent plug (B) on top of reducer, and plug (C) on left side.
3. Fill with recommended lubricant (use Mobilgear 630 gear oil) through vent plug (B) opening, using a flexible funnel, until lubricant exits the left side opening (C). (Make sure speed reducer is level when replacing lubricant.)
4. Replace vent plug (B) and left plug (C).

(illustration I)



Electrical System**Electrical Diagram Description for Page 17:**

Tags have been placed at the end of each wire in the electrical system to identify specific wires. This identification code is as follows:

- First letter - identifies component classification
- Second number - indicates specific component
- Decimal number/letter - identifies the terminal on the component

Letter next to identification code indicates **color code**.

Second series of numbers and letters **after dash** which identify connection at opposite end of wire are as follows:

- First letter - identifies component classification
- Second number - indicates specific component
- Decimal number/letter - identifies the terminal on the component

Example: R1.8-4SBL.1

Wire is connected between Relay #1, terminal 8 and Four Position Selector Switch Bottom Left, terminal 1.

LEGENDS FOR ELECTRICAL DIAGRAMElectrical Component Abbreviations

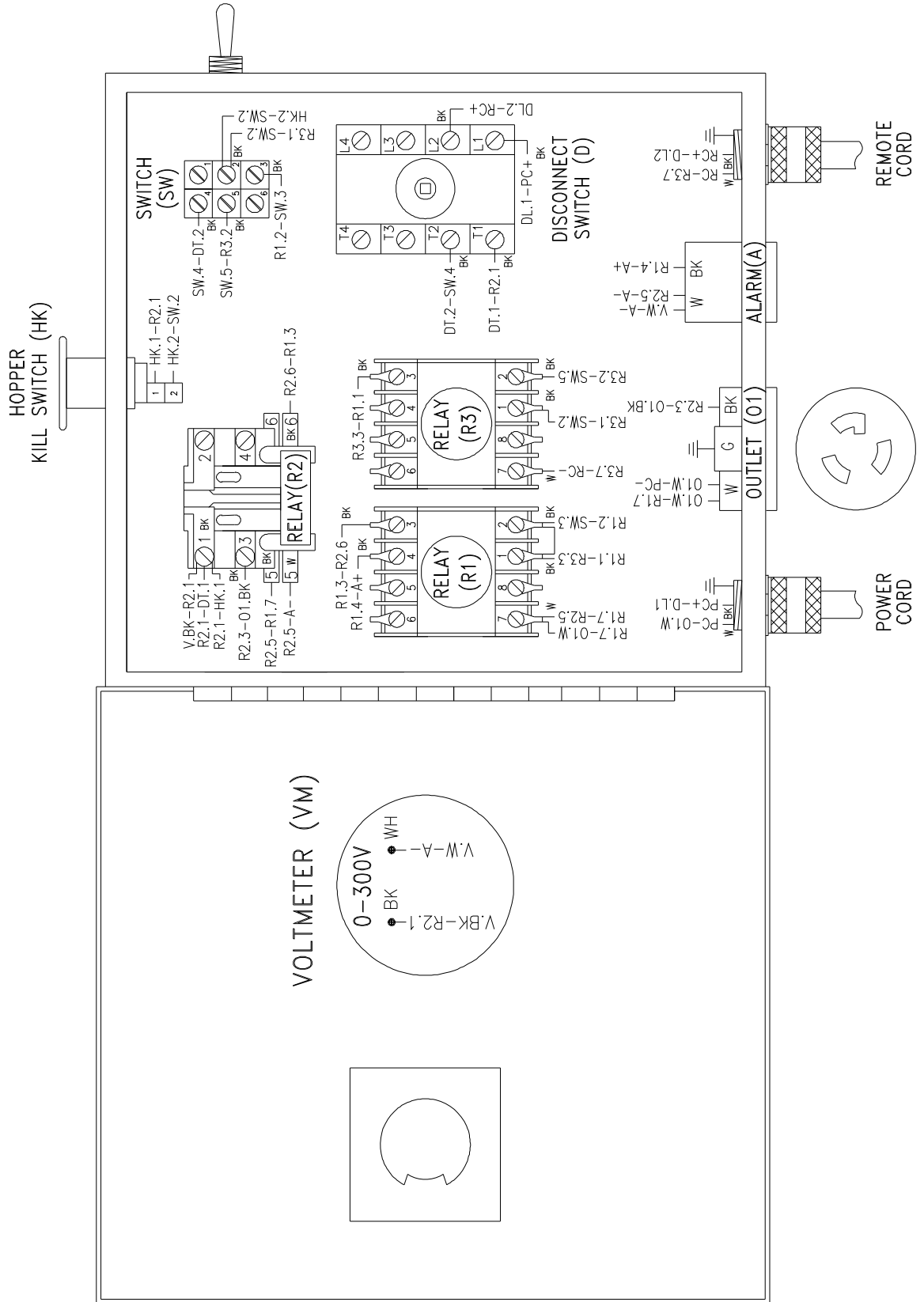
- R = Relay (R1,R2,R3,etc.)
- D = Disconnect Switch (.L = Disconnect input Line/ .T = Disconnect output Terminal)
- PC = Power Cord
- RC = Remote Cord
- O = Outlet
- V = Voltmeter
- A = Alarm
- HK = Kill Switch
- SW = Switch

NOTE: Decimal letters (.L , .N , .H , .X) indicate terminal locations on the component.


ELECTRICAL DIAGRAM:

Periodically, disconnect machine from power source and check all electrical connections and components for broken or loose wires.


MODEL #550
120 V.A.C. — 60 Hz



TROUBLESHOOTING**WARRANTY**

 This unit is backed by a warranty for manufacturer's defects. If machine needs service during that time, call your supplier immediately. **Do not** attempt to service, as this voids warranty.


IMPORTANT

 At any signs of trouble with your machine, stop immediately, disconnect power and call your supplier. Refer to *General Maintenance* section of this manual for further details. Always disconnect electrical power before making inspection or repairs.

Mechanical Troubleshooting

Problem	Corrective Action
1) Loud knocking sound.	A. Check machine agitators or airlock for foreign objects and remove. Refer to <i>General Maintenance</i> to flip up hopper for access to airlock. B. Check and re-tension chains.
2) Poor output or uneven flow through the hose.	A. Check hose. Remove hose from airlock outlet and check for blocked material. Clean out by shaking hose. Connect hose to airlock, turn blowers on high (no agitator/feed) for a few moments and try to free blockage. B. Check for misaligned agitator tines. C. Flip up hopper, inspect airlock seals and plates for damage or wear. Refer to page 13 and 14 of <i>General Maintenance</i> and follow instructions for replacing seals.

Electrical Troubleshooting**IMPORTANT**

 Whenever power is interrupted to #550 unit (i.e., unplugged, main disconnect switch off, kill switch depressed), make sure unit is plugged in, main disconnect switch is on, kill switch is rotated to upward position, and toggle switch on side of electrical box is flipped to on position.

Problem	Corrective Action
1) Agitator motor does not run.	A. Manual Reset on agitator is tripped. Disconnect power supply to machine. Wait until agitator motor cools, (approximately 15 minutes), and press button on motor to reset.

Electrical Troubleshooting (cont.)**Problem****Corrective Action**

- | | |
|---|---|
| 2) Agitator motor running improperly or hot. | <ul style="list-style-type: none">B. Check for loose plug-in connection at bottom of Electrical Box. If there is a good connection, unplug motor from bottom of Electrical Box and plug directly into a separate power source (i.e., extension cord). You will need to remove or change motor plug, and connect directly to power supply. (check for proper voltage 120/240 or 230 volt)
C. Visually inspect and/or replace agitator relay (R2), inside Main Control Panel. |
| 3) Agitator or airlock feeder not turning. | <ul style="list-style-type: none">A. Disconnect power. Check agitators and airlock for debris.
B. Low voltage. Try another electrical source. Use proper wire size for power input cords.
C. Check bearings, sprocket and chain for binding, failure, or drive system misalignment.
D. Remove outside vertical drive chain from upper agitators. Run motor/reducer and airlock assembly under power. Check amperage.
E. Make sure the voltage, cycle (hertz), phase (1), and direction of rotation is correct.
F. Replace agitator motor and/or speed reducer. |
| 4) Pre-alarm sounds too long or continues without activating machine. | <ul style="list-style-type: none">A. Check sprockets for missing key. Replace with 1/4" key.
B. Chain broken or off sprocket. Repair or replace.
C. Check gearbox for sheared key between motor and reducer or leaking oil.
A. Pre-alarm relay #1 (cube relay with knob adjustment), should be turned counterclockwise/left. This will reduce time duration of alarm.
B. Replace relay module. |

PARTS LIST

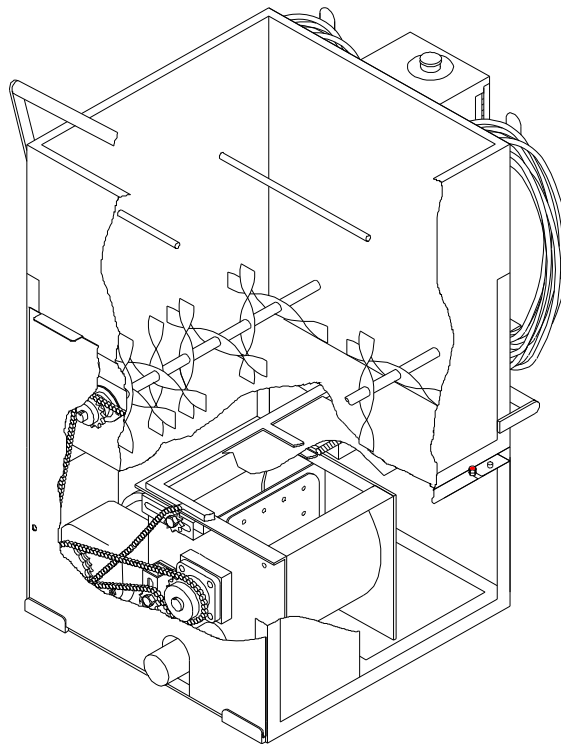
The manufacturer recommends that all repairs be made at its own factory service center. Machine repair done by the manufacturer is warranted for 90 days on repair parts and workmanship.

If you choose to have repairs made elsewhere, we offer replacement parts that have been carefully inspected to insure they meet the specifications of the original part. Any disassembly and reassembly of the unit to replace the defective part must be done with care to insure proper fit and alignment. No warranty consideration will be extended on parts that appear to be mishandled. All units should be run for a few minutes without material to insure proper alignment. All questions regarding replacement of parts should be directed back to the factory.

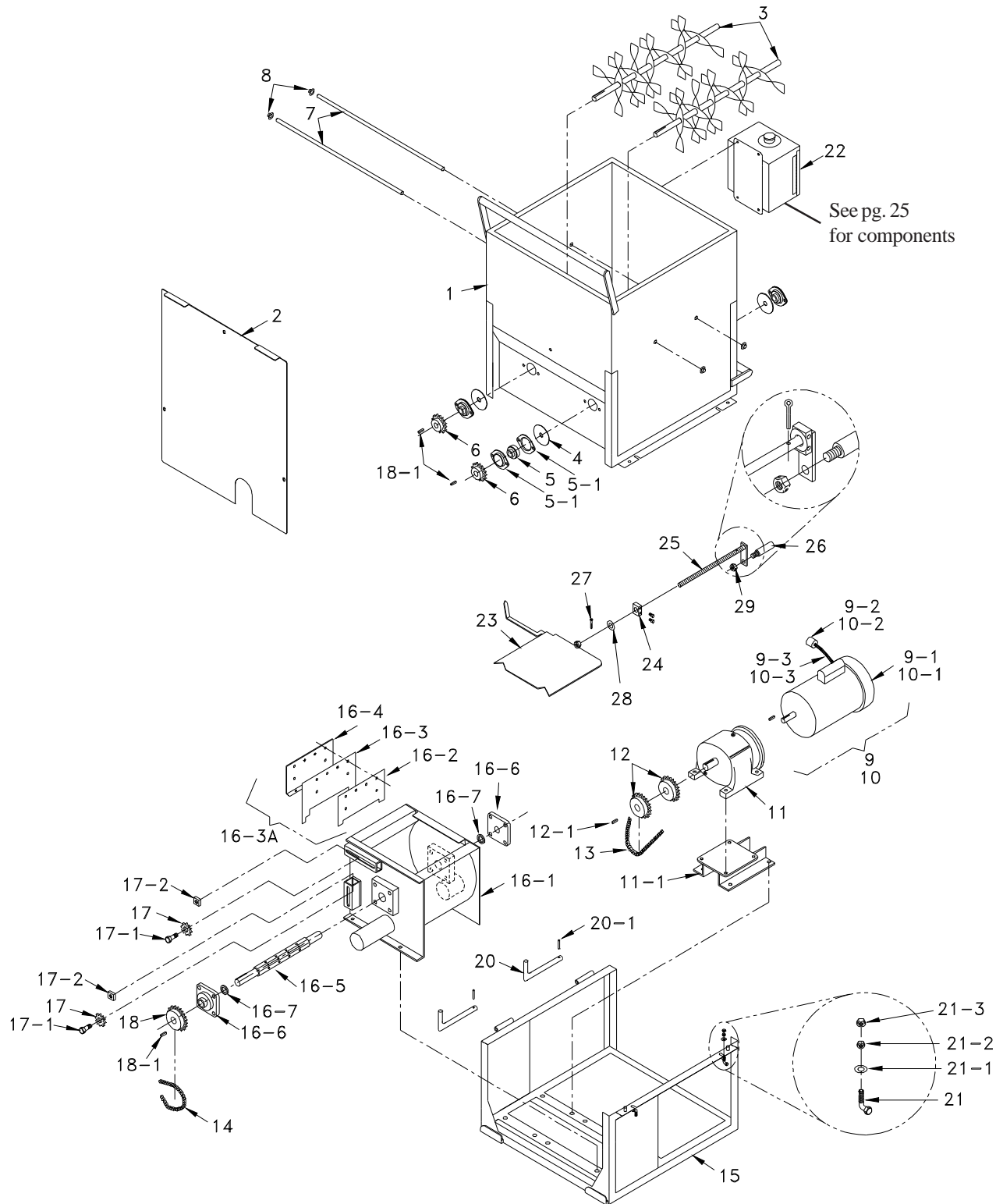
IMPORTANT: Certain information is needed concerning your specific machine when ordering replacement parts:

- Machine Model number (i.e. Model #550) • Serial Number
- Date Purchased
- Voltage of unit (main input): 120V, 240V or 230V (overseas) - single or double input
- Main input power - single phase (1Ø)
- Cycle: 50 or 60 hz. (U.S. and North American models are 60 hz.)
(**Most** overseas units are 50 hz. Check invoice for correct cycle.)

If this information is not known, contact supplier with serial number of machine. This information is needed on mechanical parts as well as electrical components. (Due to mechanical adjustments that compensate for electrical requirements, the above information is needed.)



UPPER HOPPER and LOWER BASE UNIT ASSEMBLY



**UPPER HOPPER and LOWER BASE UNIT ASSEMBLY
PARTS LIST**

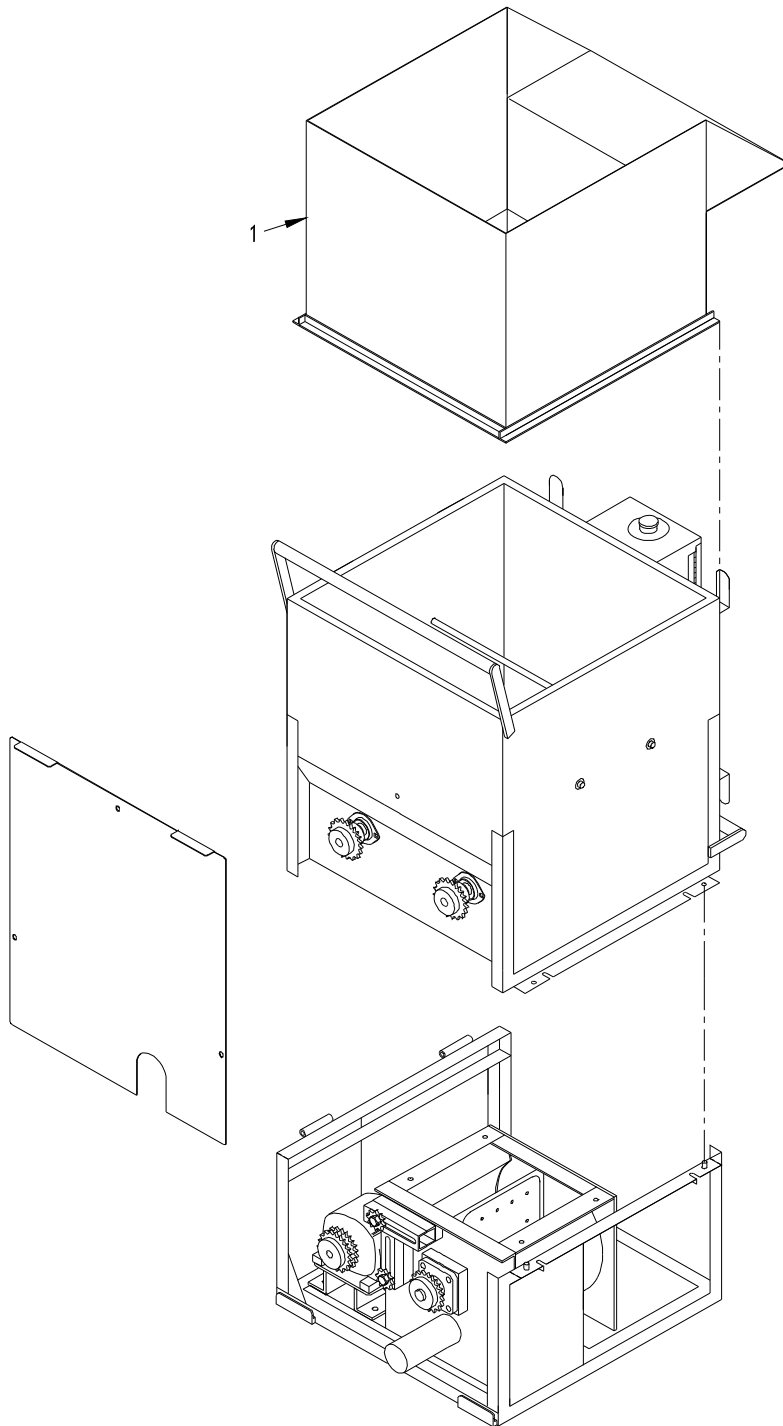
Item #	Part #	Description
1	550-1	Hopper
2	502-R3	Guard, Screen
3	505-1	Agitator, 1" (2)
4	564	Seal, Felt, 1" X 3 1/4" (4)
5	563	Bearing Insert only, 1" (4)
5-1	565	Housing, Flange, 2-Bolt, 1" (8)
6	588	#40 Sprocket, 24T x 1" (agitator) (2)
7	110	Hopper Bar (2)
8	FN009	1/2" Pushnut (4)
9	550-8-R1	Motor, Agitator, Assembly, 1 1/2 H.P., T.E.F.C. (120V, 60 Hz.)
9-1	550-8-1	Motor, 1 1/2 HP, 120V/240V
9-2	1538	Plug, NEMA# L5-15P
9-3	12-3 SJ	Wire, 12-3 (40")
10	109027-B	Motor, Agitator, Assembly, 1 1/2 H.P., T.E.F.C. (230V, 50Hz.)
10-1	109027-1	Motor, 1 1/2HP, 230V
10-2	434	Plug, NEMA# L6-15P
10-3	12-3-SJ-M	Wire, 12-3 SJ (45")
11	513-R3	Reducer, Speed, In-Line 28:1, 1" Dia. Shaft
11-1	513-MB	Bracket, Motor Mount #513-R3 Speed Reducer
12	109015	Sprocket, 30T x 1" (2) (60 Hz.) (50 Hz.) (speed reducer)
12-1	562	Key, 1/4" x 1 1/4"
13	584	Chain, #40 x 59"
14	109014	Chain, #40 x 37" (U.S.)
14	109017-3	Chain, #40 x 36" (Overseas)
15	550-2	Base Frame
16-1	550-4-1-R1	Chamber, Airlock, 12" x 10"
16-2	517-2	Plate, Top, Airlock, 10" (6)
16-3	517-3M	Seal, Airlock, 10" (6) 1/4" Rhinohyde
16-3A	517-3M-ASSY	Seal Assy, Airlock, 10"(6)(includes:Top Plate, Seal, and Bottom Plate)
16-4	517-4	Plate, Base, Airlock, 10" (6)
16-5	517-5-R4	Shaft, Airlock, 15 9/16"
16-6	517-6	Bearing, 4-Bolt Casted, 1" Bore (2)
16-7	517-7	Seal, Felt, Airlock, 1" Bore (2)
17	432	Sprocket, Idler, #40 17T x 5/8"
17-1	FSB120	SB 5/8" x 3/4" Shoulder Bolt (2)
17-2	40052	Nut, Square, 1/2-13 x 1" (2)

**UPPER HOPPER and LOWER BASE UNIT ASSEMBLY
PARTS LIST**

Item #	Part #	Description
18	109015	#40 Sprocket, 30T x 1" (airlock) (U.S.)
18	588	#40 Sprocket, 24T x 1" (airlock) (Overseas)
18-1	561	Key, 1/4" x 1" (3)
20	541	Pin, Hinge (2)
20-1	FSB080	Roll Pin, 5/32" x 5/8" (2)
21	2530-1	Latch, Bent, 5/16-18 x 2" Hex (2)
21-1	FW007	Washer, 5/16" - 18 Hex (2)
21-2	FN011	Nut, 5/16" - 18 Hex (2)
21-3	FN014	Nut, 5/16" - 18 Lock (2)
22	550-5-1	Electrical Box
23	540-1	Slidegate, 10"
24	540-2	Crankrod Bracket
25	550-9	Crankrod w/Handle Bracket
26	4507	Handle, Crankrod
27	FSB078	Pin Cotter, 1/8"x1"
28	FW012	Washer, 1/2" Flat (2)
29	FN015	Nut, 3/8"-16 Lock
--	199	#40 Connector/Master Link, 1 per Chain (not shown)

**OPTIONAL HOPPER EXTENSION
PARTSLIST****Optional Hopper Extension Assembly (US-501)**

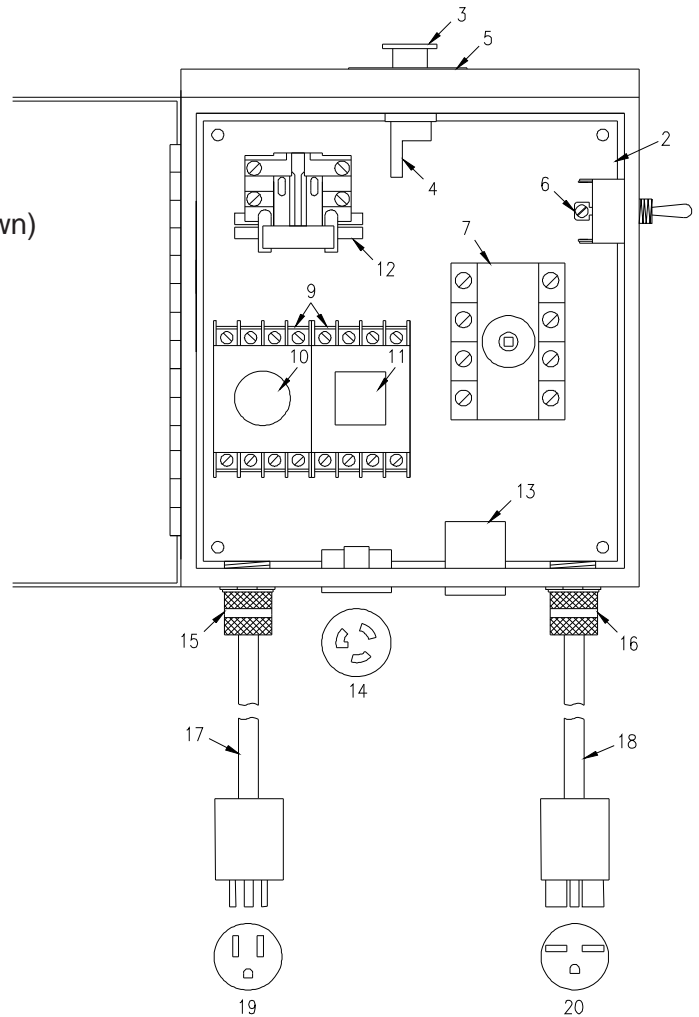
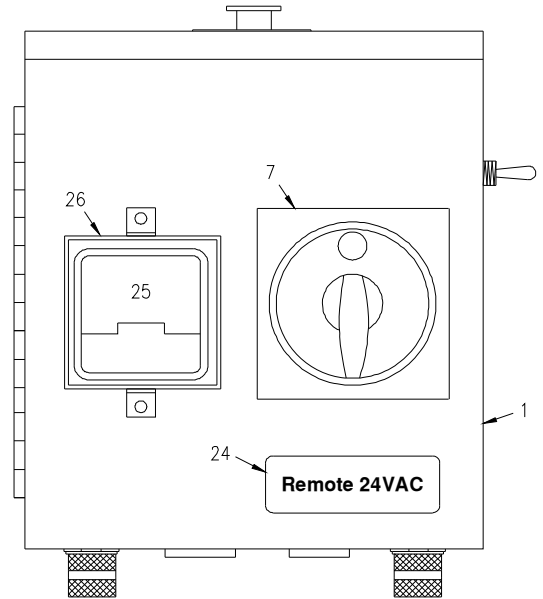
Item #	Part #	Description
1	CE-501-1	Hopper Extension



ELECTRICAL BOX PARTSLIST

Electrical Box Assembly, 24VAC (550-5-A)

Item #	Part #	Description
1	550-5-1*	Box, Electrical, (8" x 8" x 6")
2	550-10	Plate, Backing, Electrical
3	508-2	Switch, Kill
4	8075-1	Contactora, Kill Switch
5	KMC-203	Decal, Kill Switch
6	109066-9	Switch, Toggle, DPDT
7	543-M-33-85	Disconnect Switch Assembly
9	543-M-41	Socket, 8 Pin (2)
10	543-M-39	Relay, Pre-Alarm
11	543-M-58	Relay, Tubular, 24VAC
12	550-5-2	Relay, 120V, Heavy Duty
13	550-5-4	Pre-Alarm System, 120V
14	1542-A	Receptacle, NEMA# L5-15R
15	543-M-17	Connector, Liq. Tite, 1/2" Blue
16	391-N-2	Connector, Liq. Tite, 1/2" White
17	18-3 SJ	Wire, 18-3 SJ
18	12-3 SJ	Wire, 12-3 SJOW
19	127	Plug, NEMA# 5-15P
20	126-B	Plug, NEMA# 6-15P
21	KMC-079	Decal, 120VAC (Not Shown)
22	KMC-130	Decal, On/Off/Remote (Not Shown)
23	KMC-131	Decal, 24VAC (Not Shown)
24	KMC-134	Decal, Remote 24VAC
25	1531-B	Voltmeter, 0-300V
26	550-3	Guard, Voltmeter



Electrical Box Assembly, 12VDC (550-5-B)

Item #	Part #	Description
11	550-5-3	Relay, Cube, 12VDC
20	Note: 126-B is not used on 550-5-B	
23	KMC-133	Decal, 12VDC (Not Shown)
24	KMC-132	Decal, Remote 12VDC



55 YEARS OF AMERICAN INGENUITY

Made in the U.S.A.

**KRENDL MACHINE COMPANY • 1201 SPENCERVILLE AVE
DELPHOS, OHIO 45833 • TELEPHONE 419-692-3060 • FAX 419-695-9301
E - MAIL: krendl@krendlmachine.com • WEB SITE: www.krendlmachine.com**
