INSTRUCTION MANUAL
For
RENA MODEL
AF500

Part #: M-3031
Revision Date: 5/2/05
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AF500 Instruction Manual

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Introducing the Rena AF500

To get the most out of your feeder you should first become familiar with all of the features of the machine. Please take the time to read the entire manual to learn about all controls and connections. Once you have done this, you should be ready to adjust and successfully run the machine.

Although the AF500 Automatic Feeder was designed for use with Rena Tabbers and Rena Inkjet Printers, its use is not limited to these machines. It can be used to efficiently separate, singulate, and feed a wide variety of cut sheet materials into any machine that will accept material presented to it from the feeder. The feeder can be positioned to feed from left to right, or right to left, giving it greater flexibility when using it with other equipment.

The picture below (Figure 1) shows a typical configuration:

![Figure 1](image)

**Figure 1.**
The Rena AF-500 Feeder and Rena XPS-ProTab Labeler/Tabber. Shown with optional feeder table.
One of the design features that make the Rena AF500 unique is a part called the *gate assembly* (Figure 2). This patented device is the main reason the feeder can separate, singulate, and feed individual sheets with accuracy and reliability, even at high speeds. A single knob adjustment allows the operator to easily setup the feeder for many different types of material.

**NOTE:** Many of the line drawings (Figures) shown in this manual are of a similar feeder model and not of the AF500. In some of these figures you will notice an *optical sensor* mounted to the exit end of the feeder. This sensor is not an option for the AF500 and should be ignored.
Identifying Items & Accessories

The main components and accessories of the feeder are shown below in Figure 3 and 4. A brief description of each can be found in Table 1 on the following page.

![Figure 3](image)

**Figure 3.**

![Figure 4](image)

**Figure 4.**

Side Guide Attachment
Screws.

Use two flat head allen screws (provided) and a 1/8 inch allen wrench, to attach each side guide.
# AF500 Item Descriptions

<table>
<thead>
<tr>
<th>Position Number</th>
<th>Item Name</th>
<th>Description of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Triangle Wedge Assembly</td>
<td>Lifts the material to keep it off the table top, reduces excessive contact with the feed belts and helps push the material against the curvature of the gate assembly. To accommodate different material widths, the AF500 is shipped with two sets of triangle wedge assemblies.</td>
</tr>
<tr>
<td>3</td>
<td>Gate Assembly &amp; Hold Down Roller Assembly</td>
<td>Mounted on the gate bracket, directly above the feed belts, the gate device provides a curvature to help pre-shingle stacked material. When properly adjusted, a clearance is created to help singulate and feed material. The Hold Down Roller Assembly provides transport pressure to the material, which helps guide the material, keeping it straight as it exits the gate assembly and feeder.</td>
</tr>
<tr>
<td>4</td>
<td>Side Guide Assembly “Hopper”</td>
<td>Holds the stack of material to be fed and helps keep it straight for proper entry through the gate assembly area. The AF500 is shipped with the side guides detached from the feeder. See Figure 4 for side guide attachment information.</td>
</tr>
<tr>
<td>6</td>
<td>Base (Table-top)</td>
<td>The Triangle Wedge attaches to the tabletop of the unit.</td>
</tr>
<tr>
<td>600</td>
<td>Speed Control</td>
<td>Used to adjust the AF500’s material feed speed to match the speed of the device (DA615, UT361…) accepting the material.</td>
</tr>
<tr>
<td>601</td>
<td>Power Entry Module &amp; On/Off Switch</td>
<td>The “standard” AF5000 is shipped as 115V units. If a 230V unit is desired, it must be “special ordered”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Warning!</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Verify receptacle setting before connecting power cord to unit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The “standard” AF500 should be set to 115V and only connected to a 110 -120 VAC source.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Please be sure the AF500 is only connected to a properly Earth Grounded outlet.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>When connecting to 110 -120 VAC, two 3 Amp/250 V line fuses are to be used this module.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The power switch (On/Off Switch) is also located in this module.</td>
</tr>
<tr>
<td>602</td>
<td>A/B Speed Range Select Switch</td>
<td>Used to select the speed range of the feeder.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To expand the flexibility of the AF500 the speed range switch can be used. In most cases, the “B” range is satisfactory. But in cases where a higher material feed speed is necessary, the “A” range can be selected.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Setting the feeder for the proper range will give the operator more accurate control over the speed setting. For example, selecting the “B” range will make the speed control pot increments less sensitive.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“A” = Faster “B” = Slower</td>
</tr>
<tr>
<td>603</td>
<td>Jog Button</td>
<td>With the power switch on, and the speed control set to zero, this button is used to jog material through the feeder. This button is useful when initially setting up the height, angle and distance between the AF500 and the machine (DA615, UT36, …) accepting the material.</td>
</tr>
<tr>
<td>604</td>
<td>External Run Input</td>
<td>When connected to an appropriate control device, the feeder can be stopped or started using this input. See page 21 for details.</td>
</tr>
</tbody>
</table>
Connecting Power to the AF500.

IMPORTANT!
The “standard” AF500 is shipped as a 115V unit and should only be connected to 100-120 VAC. If needed, the AF500 can be “special ordered” as a 230V unit. Please be sure your feeder is properly configured before connecting it to 220-240 VAC. Just setting the power entry module to 230V does not automatically configure it correctly for 220V-240 VAC. This conversion must be done at the factory.

The AF500’s power entry module (Figure 5) must be configured and set for the correct source voltage, before it is connected to the wall outlet.
1. Before connecting the power cord to the AF500, make sure the correct voltage selection (115V or 230V) is visible, at the “input voltage indicator”, in the power entry module. If the wrong voltage selection is showing then the module must be opened, and the switch block must be removed, turned 180 degrees and re-inserted so the opposite voltage selection shows through the window when the receptacle is closed.
2. When connected to 115 VAC, the AF500 is protected by two 3 Amp / 250 Volt fuses. These fuses are located inside the power entry module. To replace/inspect the line fuses, open the module, and remove the switch block. In each side of the switch block, you will find a fuse. If the fuse has blown, it will normally show discoloration. Replace the blown fuse with a new fuse of the same type and rating. Re-insert the switch block, being sure that the correct voltage source tag shows through the window when the Module is closed.
3. Make sure the power switch is set to the off (zero) position.
4. Connect the power cord to the AC socket in the power entry module. Connect the other end of the power cord to an earth grounded outlet that will provide the correct voltage source.
AF500 Adjustment (Set-up)

Adjustments to the AF500 must be made in the following order:
1. Gate Assembly Adjustment
2. Side Guide Adjustment
3. Triangle Wedge Adjustment
4. Load Material into the Hopper.
5. Power On Feeder.
6. Alignment of AF500 with Machine Accepting Material.
7. Speed Adjustment

Gate Assembly Adjustment
The gate assembly provides the curvature to help preshingle material and provides the proper gap to help the feed belts pull material through the gate assembly area—one at a time. The downward pressure (or weight) of the stack in the hopper will provide the force to help push the material against the curvature of the gate assembly and help it contact the feed belts. This preshingling will allow the gate assembly to separate (and singulate) material as it moves forward.

To achieve the optimum separation, you have to use the gate adjustment knob (Figure 8&10) to either increase or decrease the gap between the gate assembly and the feed belts.
NOTE: Depending on the characteristics of the material you are using, you may have to change the gate assembly from the factory-set high spring tension setting to the low spring tension setting. See Gate Spring Tension Adjustment.
- Turning the gate adjustment knob counter-clockwise will lower the gate assembly and increase pressure.
- Turning the gate adjustment knob clockwise will raise the gate assembly and decrease pressure.

Gate Assembly Adjustment Procedure:
1. Slide two pieces of material under the gate assembly. You may have to pull up on the adjustment knob to allow the material to be inserted (Figure 6).
2. Test the top piece for clearance. Grasp the material with two hands and slide it forward and backward under the gate assembly (Figure 7). A proper adjustment allows for a “slight” amount of drag on the top piece of material.
3. Test the bottom piece of material for clearance. It should move freely, without any resistance.
4. Using the gate adjustment knob, raise or lower the gate assembly to obtain the desired drag on the material. Clockwise raises the gate and decreases pressure. Counter-clockwise lowers the gate and increases pressure. (Figure 8&10).
5. Once the desired resistance is achieved, remove the top piece of material and turn the adjustment knob counter-clockwise ¼ turn to lower the gate assembly. This should set the optimum gap of 1.5 times the materials thickness.
A low-tension spring setting provides the following benefits:

- Allows the gate assembly to adjust to the irregular thickness of material.
- Prevents marking on the material by the gate assembly.
- Prevents peeling back of the top sheet of a multi-page item.

**Procedure for changing from high to low spring tension:**

1. Remove the gate assembly from the gate bracket. To do so, pull the cylinder down, with one hand, lift up on the adjustment knob with the other hand, and tip the gate assembly at a slight angle to remove it.
   
   **Note:** The holds down rollers are attached to the gate assembly, and will be removed with it. Please note the direction of the gate assembly and hold down roller assembly before removing them.

2. Remove the adjustment knob, from the gate assembly, as shown in Figure 11A, by turning the knob (Figure 10) counter-clockwise.

3. Then lift the cylinder off the top of the spring (Figure 11B).

4. Turn the cylinder around so that the cylinder collar faces up (Figure 11C). Then place the cylinder back on top of the spring.

5. Replace the adjustment knob (Turn the knob clock-wise about 8 revolutions.).

6. Reinstall the gate assembly, placing the Gate assembly back into the gate bracket.

---

**Figure 9**

**Figure 10**

**Figure 11**

*Adjusting Gate Assembly for Low Tension*
Side Guide Adjustment

The *Side guides* hold the stack of material being fed and guide the material through the feeder in a straight line of movement. You can adjust the *side guides* to accommodate different sizes of materials.

Procedure:
1. Loosen the *side guides* by turning the Side Guide Securing Levers (Figure 12) counter-clockwise about ½ turn.
2. Slide the *side guides* left or right to accommodate the width of your material. Be sure to position the guides so the material is centered on the AF500’s feed belts. Also be sure to leave a small gap (about the width of a dime) between the one of the *Side guides* and your material. This will allow room for the material to drop as the bottom pieces are pulled from under the stack of material.
3. It is also important to be sure the *Side guides* are evenly spaced (parallel with each other) from top to bottom. Test by moving a small stack of material up and down between the *Side guides*, over the entire height of the *side guides*, checking for binding points where the distance between the guides may be too narrow, or loose points where the distance between the guides may be too wide.
4. Secure the *side guides* into position, by turning the levers clockwise.
   
   **NOTE:** The Side Guide Securing levers are “ratcheted”. If you pull out on the lever you can rotate the lever to any position, without loosening or tightening the *side guide*. This feature becomes useful when positioning the *side guides* close to the sidewalls of the AF500.

**NOTE:** It is not always recommended to use the full height of the material *side guides*. You will notice the feeding characteristics change, with the height or weight of the stack of material. Through experimentation and use, you will learn the maximum and minimum heights of the material stack that gives you the best performance.
Triangle Wedge Adjustment

The triangle wedge provides proper lift to the material to help keep it off the tabletop and feed belts. It also creates the force necessary to push material against the gate assembly. By adjusting the triangle wedge back and forth or pivoting it side to side, you can create the lift and force necessary to preshingle material against the curvature of the gate assembly. The triangle wedge also keeps other sheets off the feed belts until proper separation of the bottom sheet, at the gate assembly, has occurred.

Adjustment Procedure

1. Grasp a handful of material, approximately 2 – 2.5 inches thick, and preshingle the edges, as shown in Figure 13.
2. Place the preshingled material in the AF500’s hopper so that the edges rest against the curvature of the gate assembly, as shown in Figure 14.
3. Turn the wedge-securing knob counter clockwise to loosen the wedge assembly.
4. Move the wedge assembly forward or backwards until the bottom sheet is not touching the tabletop (Figure 15).
5. Make sure the wedge assembly is parallel with the back edge of the material stack (Figure 16).
6. Secure the wedge assembly to the tabletop by tightening the knob.
7. Check that the individual wedges are evenly spaced to provide enough support to lift the material off the tabletop and feed belts, without any bowing or twisting (Figure 17).
Correcting for Feeding Problems using the Wedge Assembly

Incorrectly positioning the *wedge assembly* can cause many different feeding problems. It is also possible to use the wedge position and angle to correct for some feeding problems. A few feeding problems that can be corrected by properly positioning the *wedge assembly* are: double feeding, skewing, poor singulation, ink or varnish buildup on belts and jamming of material at the gate assembly area.

1. **Poor Singulation of Thinner Materials** can be corrected by moving the individual *triangle wedges* to the outside of the wedge assemblies shaft (Figure 18A). This will create a bow in the material, and help stiffen it to promote better singulation.

2. **Skewing of Material** can be corrected by pivoting the *wedge assembly* so that it is at an angle to the back edge of the material (Figure 18B).

3. **Multi-feeding of Material, and Premature Buildup of Ink or Varnish on the Belt Surfaces** can be reduced by positioning the *wedge assembly* closer to the feed belts. The *wedge assembly* should be positioned so only the bottom sheet touches the feed belts. If the *wedge assembly* is positioned too far away from the gate assembly, the other sheets will prematurely touch the feed belts and will be forced through the gate assembly causing multi-feeds, and or quicker build-up of ink or varnish on the belt surfaces (Figure 18C).

4. **Hesitations in Feeding** can be reduced by moving the *wedge assembly* farther away from the gate assembly. If the *wedge assembly* is positioned too far forward, the material will overhang the back edge of the *wedge assembly*, creating a lot of drag, making it difficult for the feed belts to pull the material into the gate assembly area (Figure 18D).

Figure 18
Correcting for Feeding Problems
Loading Material into the Hopper

1. Adjust the gate assembly as described previously.
2. Adjust the material side guide positions as described previously.
3. Place one piece of material in the Hopper so its lead edge rests under the gate assembly.
4. Preshingle a small stack of material (Figure 19) so that it conforms to the curvature of the gate assembly. Push the material gently toward the gate assembly, making sure the lead edges touch the gate bracket assembly and front edges of the hopper guides (Figure 20).
5. Set the correct position of the triangle wedge as described previously (Figure 21).
6. Gradually add more material to the hopper, after the initial stack is formed around the gate assembly, as described above. “Jog” each handful of material before it is placed in the hopper to make sure the lead edges are even.

**NOTE:** As mentioned previously, you will need to experiment with the stack height to determine the minimum and maximum stack height that works best with your material. To keep the material feeding correctly, you should continuously “jog” the stack as the material drops and as more material is loaded into the hopper.

![Figure 19](image1)

![Figure 20](image2)

![Figure 21](image3)
**Powering On the AF500**

The AF500 is powered on and off by means of the *power switch*, located in the *power entry module*. Power is applied to the feeder, by placing the *power switch* in the On (1) position. Depending on the position of the Speed Control Dial, the feeder belts may begin to turn. Set the Speed Control all the way counter-clockwise to stop the feed belts from turning.

Power is disconnected from the feeder, by placing the *power switch* in the Off (0, Zero) position. If you don’t want to affect the speed setting (speed control position), you can use the *power switch* to stop and start the feeder.

**Tip:** When using the *external run input* to control the AF500, be sure to power the feeder on after the receiving device (i.e. printer) is powered on. In addition, be sure to power the AF500 off before the receiving device (i.e. printer) is powered off. If this procedure is not followed, you will get a pile-up of material at the entrance end of the receiving unit.

**Note:** If the *external run input* is being used, the device connected to the feeder will control the feeders start/stop function. The feeder will not feed if a stop signal is being sent to the feeder. See page 19 for details.

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**Figure 22**
Using the Jog Button

The *jog button* is located at the entrance end of the feeder. With the *Power switch* in the On (1) position and the Speed Control Knob set fully counter-clockwise. The *jog button* can be used to “jog” material through the feeder. The AF500 will feed as long as the *jog button* is held down. The AF500 will stop feeding after the *jog button* is released.

**Note:** If the *external run input* is being used, the device connected to the feeder will control the feeders start/stop function. The *jog button* will not function when a stop signal is being sent to the feeder. See page 19 for details.

![Figure 23](image_url)
Positioning the Feeder

In order for the material to accurately feed into the unit accepting the material, the following settings must be observed.

The distance between the AF500’s exit rollers and the receiving units entrance rollers, should be about the same as the length of the material you are feeding, as shown below in Figure 24.

- If the AF500 is positioned too close to the receiving unit, the material may be held back by the feeder. This may cause erratic label/tab/address positioning, skewing, and or may stall the transport system of the receiving unit.
  In some cases it is acceptable to have the material still under the very last rollers of the AF500 while it is just being pulled into the receiving unit. It depends on the strength of the receiving units feed system.
- If the AF500 is positioned too far away from the receiving unit, this may cause material skewing, over-lapping and or jamming.

The height of the AF500 should be set so the mail piece enters the receiving unit at the correct height. This can be accomplished by using a tabletop stand (riser), or by using the optional adjustable floor stand available for the AF500. The optional floor stand has a crank on it, which allows the height of the AF500 to be easily adjusted. If you are not using the optional floor stand, a number of table top stands (risers) are also available, from Rena Systems, for use with specific Rena models. In some cases, it may be necessary for you to make a custom tabletop stand for your specific application.

It is also very important that the material is being delivered to the receiving unit as straight as possible. Position the AF500 or receiving unit so the material hits the entrance rollers of the receiving unit squarely. Material that is delivered to the receiving unit crooked (skewed) will also be fed through the receiving unit skewed.

Distance between rollers (D) = Material length (M)

Figure 24
Setting the Feeding Speed

To expand the flexibility of the AF500 the speed range switch, located at the entrance end of the feeder, can be used. In most cases, the “B” range is satisfactory. But in cases where a higher material feed speed is necessary, the “A” range can be selected. Setting the feeder for the proper range will give the operator more accurate control over the speed setting. For example, selecting the “B” range, will make the speed control pot increments less sensitive.

“A” = Faster
“B” = Slower

In order to generate a gap between each piece of material, the AF500’s feed speed must normally be set a little slower than the receiving units transport/feeding speed.

NOTE: When using the AF500 with an Inkjet Printer, you must pay close attention to the AF500’s speed setting. If the feeder should deliver the material faster than the printer can finish printing the previous address, you will notice blanks passing through the printer (pieces not being printed) or the printer may stop and display a warning message. It is best to set the AF500’s feeding speed a little slower than the maximum speed the printer can print, without passing through blanks or giving a warning message.

Proper Starting Procedure
1. Start the receiving unit first.
2. Start the AF500.

If this procedure is not followed, you will get a pile-up of material at the entrance end of the receiving unit.

Tip: The external run input, and the appropriate interface cable, can be used to control the start/stop function of the feeder. See page 19 for details.

Proper Stopping Procedure
1. Stop the AF500 first.
2. Stop the receiving unit.

If this procedure is not followed, you will get a pile-up of material at the entrance end of the receiving unit.

Tip: The external run input, and the appropriate interface cable, can be used to control the start/stop function of the feeder. See page 19 for details.

Figure 25
External Run Input (External Start/Stop Control)

AF500 S/N 400 and higher are equipped with an external run input. When this connection is attached to a compatible device, the feeder can be stopped and started by the device it is connected to. See the chart below for the interface cables that are available for our Tabbing and inkjet printing devices.

Note: The speed of the feeder is not controlled by this connection. The operator must manually adjust the feeder to the appropriate speed.

AF500 External Run Input Control Function

<table>
<thead>
<tr>
<th>Closed</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Start (Run)</td>
</tr>
</tbody>
</table>

The feeder can be stopped and started using a dry contact or electronic relay input. When the connection to pins 1 & 4, on the external run input connector, are closed, the feeder will stop. When the connection to pins 1 & 4, on the external run input connector, are opened, the feeder is allowed to run (start). Depending on the condition of the power switch and the speed control setting.

Tip: When using an electronic relay (i.e. opto-coupler), proper polarity must be observed to properly bias the electronic relay. For correct biasing the positive (+, anode) side of the electronic relay’s output must be connected to pin #1 on the external run input connector. When pins number 1 & 4 are closed; 12VDC is applied to the inhibit line of the feeder’s speed control board, which stops the feeder.

Interface Cable Required:

<table>
<thead>
<tr>
<th>Model</th>
<th>AF500 Feeder Interface Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA615</td>
<td>64-2110-07</td>
</tr>
<tr>
<td>PS1000 (With optional Feeder Interface Installed.)</td>
<td>64-2110-07M</td>
</tr>
<tr>
<td>XPS-1000 using PS1000 controller (With optional Feeder Interface Installed.)</td>
<td>64-2110-07M</td>
</tr>
<tr>
<td>XPS-1000 using PS2000 controller (With optional multifunction interface.)</td>
<td>620.1.728 (old #), replaced by 620.5.906</td>
</tr>
<tr>
<td>PS2000, XPS-2000/3000, DA620, XPS-80/90 (With optional multifunction interface.)</td>
<td>620.1.728 (old #), replaced by 620.5.906</td>
</tr>
<tr>
<td>Envelope Imager III</td>
<td>32-40215-001</td>
</tr>
<tr>
<td>XPS-ProTab</td>
<td>SE008400</td>
</tr>
</tbody>
</table>
Inspection and Maintenance

There are a few Operator maintenance procedures that should be performed by the user on a regular basis. To avoid personal injury or possible damage to your feeder, only qualified Rena Service Personnel should service your AF500 feeder. Please contact your local Rena Dealer to obtain service.

CAUTION: To avoid injury, when performing routine operator maintenance/cleaning, be sure the power has been turned off, and that the power cord has been disconnected from the feeder.

Operator Maintenance: (It is recommended that the following be cleaned at least once each week. In some cases, more frequent cleaning may be necessary.)

- Keep the Feeder free of dust, by blowing it off using compressed air.
- Clean the feed belts (Figure 26).
  1. Turn Off the feeder and remove the power cord from the unit.
  2. Using a cloth dampened with isopropyl alcohol, clean the surfaces of all the feed belts. Rotate the exit roller of the feeder to access the entire belt surface.

  WARNING: Use only isopropyl alcohol (98% concentration). Do not use any other types of solvents as they can cause premature wear of the belts, or even total breakdown of the belt material.

Clean the Gate Assemblies O-Rings (Figure 27).

1. Turn off the feeder and remove the power cord from the unit.
2. Remove the gate assembly from the gate bracket.
3. Dampen a cloth with isopropyl alcohol and clean all O-rings.
   Note: If O-Rings look worn, flat, you should rotate or replace them. See procedure on page 22.
4. Return the gate assembly to the gate bracket.
Inspecting the AF500 for Wear:

Check for Feed Belt Wear
If any of the following are visible, the Feeder should be serviced. Please call your local Rena Dealer for service.

- Belts are “walking” (Feed Belt Driver. Figure 29). Belts could be stretched, or rollers may be out of alignment.
- Cracking. Belt material is getting old and dry.
- Thinning. Belts are wearing from normal use. If belts thin quickly, the gate assembly and elevation block may not be properly adjusted causing premature belt wear.
- Noise coming from feed belts. Undersides of belts are sticky. The belts are breaking down, due to the use of improper cleaners. Isopropyl alcohol is the only cleaner that can be used on the belts.
Checking for Drive Belt Wear
If any of the following are visible, the Feeder should be serviced. Please call your local Rena Dealer for Service.
NOTE: There is another toothed drive belt located on the opposite side of the belt pictured below. Please be sure to check both belts in your AF500 for wear.
- Fraying.
- Drive Belts not tracking straight. See Figure 31.
- Missing Teeth. Material Jams can cause belts to be damaged. Belts may have stretched and are slipping which will damage belt teeth.
- Cracking. Belts are old and dry.

![Drive Belt](image)

Figure 30

Figure 31

Checking for Gate O-Rings for Wear & How to Rotate O-Rings
If the O-Rings become flat (Figure 32) they can easily be rotated to a new position. Once the entire circumference of the O-Rings are worn (used) they must be replaced.
Procedure:
1. Turn off the power to the feeder and remove the power cord from the unit.
2. Remove the gate assembly from the gate bracket.
3. Insert a small flat bladed screwdriver into the slot on top of the gate assembly and rotate the screwdriver clockwise or counter-clockwise 360 degrees so as to move the worn area of the O-Ring about 1/8 to 1/4 of an inch. See Figure 33.
4. Reinstall the gate assembly.

![Gate O-Rings](image)

Figure 32

Figure 33
OPTIONAL AF500 ACCESSORIES

Load Compensating Wedge (Part # 63-3111-30)
- Effective for moderately thick material, where no mid-range support is required.

Setup:
The top angle of the wedge should be positioned so it preshingles the stack against the curvature of the gate assembly. The edges of the material should not extend beyond the tip of the wedge. Ideal separation occurs when the following is true. As the stack moves down the wedge, 3 or 4 sheets of material separate out and come to rest on the lower angle of the wedge. Then 3 or 4 sheets of material should fall to the tabletop. This cycle should repeat for the entire stack.

Figure 34
Articulating Roller Wedge (Part #63-3113-40)
Effective for very thick and/or ridged material where no mid range support is needed.

Setup:
Position so the roller edges preshingle the stack against the curvature of the gate assembly. Make sure the edges of the material do not extend back more than the midpoint of the roller.

Figure 35
Extended Narrow Wedge (Part # 63-3112-12)
Effective for moving in close to the gate assembly for supporting very small material, when the characteristics of the material require no mid range support.

Setup:
Position the Wedge so the roller edges pressingle the stack against the curvature of the gate assembly. Make sure the edges of the material do not extend back more than the midpoint of the wedge.

Figure 36
Bar Gate Assembly (Part # 13-5112-85)

Effective for Feeding:
- Very abrasive materials.
- Heavy weight coated stocks.
- High gloss or laminated materials, where sheets tend to stick together and cause multiple pieces to feed at once.

Maintenance: When the angled wedge, located at the bottom of the bar gate assembly, becomes worn, it can be easily removed and replaced (Figure 37).
**AF500 Heavy Duty Floor Stand** (Part #: AF 500 STAND)

![AF500 Heavy Duty Floor Stand](image)

*The AF-500 is shown with its optional heavy-duty steel stand. This adjustable stand allows the AF-500 to feed into almost any machine.*

**Warning**: The picture above shows the AF500, mounted to the *optional floor stand*, in an orientation that is not very stable. The normal orientation is 180 degrees from what is pictured. To reduce the chance of possible damage or injury, make sure the AF500 and Stand are arranged in a stable orientation.
Hold Down Assembly (Part # 67-5110-24)
Effective for Feeding:
- Small materials that tend to skew as they exit.
- High gloss or laminated materials, where sheets tend skew as they exit.

Figure 39
Technical data

Dimensions
L x W x H (mm) 533 mm x 311 mm x 673 mm
L x W x H (inches) 21” x 12.25” x 26.5”

Weight 22.65 kg (50 lbs.)

Material formats
Length in transport direction 102mm – 356 mm (4” – 14”)
Width 70 mm – 298 mm (2.75” – 11.75”)

Material thickness
Min.: 0.05 mm (0.002 in)
Max. 12.7 mm (0.5 in)

Material types Single sheets, envelopes, booklets, periodicals

Speed Variable, up to 26,000 pieces per hour

Special functions Variable Speed and Jog Functions.

Power connection *100-120 VAC ONLY
60 Hz
* 230V units can be “special ordered”

Power consumption 3 Amps max at 120 VAC.

Drive motor DC Motor

Fuses (Power input)
100-120 VAC, Two 3A 250V
# A. Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeder will not turn on.</td>
<td>1. On/Off switch in Off (0 position).</td>
<td>1. Check that the power switch is set to the ON (one) position.</td>
</tr>
<tr>
<td></td>
<td>2. Power cord loose or not plugged into outlet (AC power source).</td>
<td>2. Check and secure power cord at AC outlet.</td>
</tr>
<tr>
<td></td>
<td>3. Female end of power cable loose or not plugged into AC power inlet at rear of feeder.</td>
<td>3. Check and secure power cord at Power Entry Module.</td>
</tr>
<tr>
<td></td>
<td>4. Stop signal is being received at external run input.</td>
<td>4. Disconnect feeder interface cable from external run input. If the feeder begins to run, the receiving device is sending a stop signal. The feeder is OK.</td>
</tr>
<tr>
<td></td>
<td>5. Line Fuse(s) Blown</td>
<td>5. Check/replace Line Fuses. Make sure you are using the correct value fuses.</td>
</tr>
<tr>
<td></td>
<td>3. Dirty/Worn Gate Assembly O-Rings.</td>
<td>3. Clean/rotate/replace O-rings as described in this manual under “Maintenance” &amp; “Inspecting the AF500 for Wear”.</td>
</tr>
<tr>
<td></td>
<td>4. Material not loaded into hopper correctly, and/or stack height is too high.</td>
<td>4. See section on “Loading Material into the Hopper”.</td>
</tr>
<tr>
<td></td>
<td>5. Material interlocking or sticking together.</td>
<td>5. Make sure envelopes are not nested. If material sticks together, you may want to use the optional Bar Gate Assembly.</td>
</tr>
<tr>
<td></td>
<td>6. Static buildup causing pieces to stick together.</td>
<td>6. Static buildup is a common and sometimes unavoidable problem, especially in dry climates. One possible solution could be to use a humidifier in the environment.</td>
</tr>
<tr>
<td>Continuous feeding (No separation between material)</td>
<td>1. Bar Gate set too high/loose.</td>
<td>1. Review gate assembly adjustment procedure, found in this manual.</td>
</tr>
<tr>
<td>Feed belts are turning but material is not feeding.</td>
<td>1. Material stack weight is too low, or too high.</td>
<td>1. Review “Loading Material into the Hopper.”</td>
</tr>
<tr>
<td></td>
<td>2. Binding between material and Side Guides.</td>
<td>2. Adjust the side guides further apart to allow material to drop freely.</td>
</tr>
<tr>
<td></td>
<td>3. Feed belts are worn/dirty.</td>
<td>3. Clean belts using isopropyl alcohol. See maintenance section. Have feeder serviced by Rena Dealer.</td>
</tr>
<tr>
<td></td>
<td>5. Gate assembly set too low/tight</td>
<td>5. Review gate assembly adjustment.</td>
</tr>
</tbody>
</table>
| Feed belts not tracking straight on rollers | 1. Excessive weight in hopper  
2. Gate Assembly set too low.  
3. Material is not centered in hopper. and or stack is bearing down on edge of belt  
4. Belts are stretched.  
5. Rollers are out of alignment. | 1. Reduce weight of stack.  
2. Rotate the knob clockwise 1/8 turn to raise the gate assembly. Review “Gate Assembly Adjustment”.  
3. Re-position side guides to center material in hopper and or re-position stack, so edge does not contact belt.  
4. Have feeder serviced by Rena Dealer.  
5. Have feeder serviced by Rena Dealer. |
| Jamming occurs during operation. | 1. Improper adjustment of any of the following items: gate assembly, back wedge, hold down assembly or height distance between feeder output and machine accepting material is not correct.  
2. Not using correct start/stop procedure. | 1. To remove a jam: Turn the power switch off (0). Remove jammed material from the feeder. Try to determine why the jam occurred and verify proper AF500 adjustments.  
2. Make sure the AF500 is the last thing started, and the first thing stopped. |
| Material is skewing | 1. Back wedge not aligned properly.  
2. Hold down pressure is un-even.  
3. Material was not placed in the hopper straight.  
4. Side Guides are not adjusted correctly. | 1. Review back wedge adjustment.  
2. Check Hold down rollers for even pressure. You can adjust pressure so it is even on all rollers, by twisting the assembly slightly.  
3. Review Loading Material into Hopper.  
4. Review Side Guide Adjustment |