

FORMAX[®]

FD 282-10
Heavy Duty Friction Feeder

3/2016

Operator Manual
First Edition

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SAFETY

Before operating your feeder, read the following safety hints carefully both for your own safety as well as to ensure the reliable operation of the feeder. Be sure to heed all **cautions** and **warnings** in this manual, as well as other information marked or labeled on the feeder. Keep this manual in a safe place so that the information it contains is available to you at all times.

Hazards Associated with the Feeder

The feeder has been constructed in line with state-of-the-art technology and is safe to operate. However, hazards cannot be excluded if it is operated by persons unfamiliar with its use. The same applies if it is used in an inappropriate way or in a manner not in accordance with its intended purpose.

Ignoring the information in this manual exposes the user to the following hazards:

- Electric shock
- Injury by rotating rollers and belts
- Damage to the feeder

General Notes on Safety

- The feeder can be ordered as a 110-120 VAC model or a 220-240 VAC model. It is not field selectable. It is therefore vital to check the serial tag (type plate) to be sure you received the correct model for your supply voltage and it is also vital to check the supply voltage before connecting the feeder to the outlet.
- The power plug may only be connected to a grounded socket! Make sure that the grounding has not been rendered ineffective by the use of an extension cable without a ground conductor. Any break in the ground conductor inside or outside the feeder is dangerous and is not permissible.
- The feeder is fused via only one electrical terminal! Even if a fuse blows, electrical parts in the feeder may continue to be live.
- Run the power lines so that no-one can trip over them. Make sure that no objects are placed onto the power cables.
- Unplug the feeder from the power supply if it is not being used for a longer period of time. This avoids any damage in the event of voltage surges. The use of a surge protector is advised.
- Never touch any moving parts of the feeder! Such action can lead to injury from being caught up in the rotating rollers or belts. Also be sure to keep long hair and clothing away from the feeder while it is running.
- Protect the feeder from moisture. If moisture does penetrate it, this may lead to the danger of electric shock and damage to the feeder.
- Always unplug the feeder before cleaning it.
- Do not use any cleaning agents other than what is outlined in this manual.

- You must unplug the feeder and have it checked by an authorized service technician in the following circumstances:
 - If the power cable or power plug has worn or been damaged.
 - If water or other liquid has penetrated the feeder.
 - If the feeder does not operate properly even after the operating instructions have been followed.
 - If the feeder has been dropped or its housing is damaged.
 - If the feeder shows marked discrepancies from normal operation.
- Do not dismantle the feeder beyond the level described in this manual. The housing must not be opened by unauthorized persons. Repairs may be carried out only by authorized service personnel.
- Prohibition of conversions: any conversions or modifications carried out by unauthorized persons are prohibited for reasons of safety.
- This is a class-A instrument. It may disturb radio equipment in the home or office. If this happens, the operator may be required to take appropriate action.

Location of the Feeder

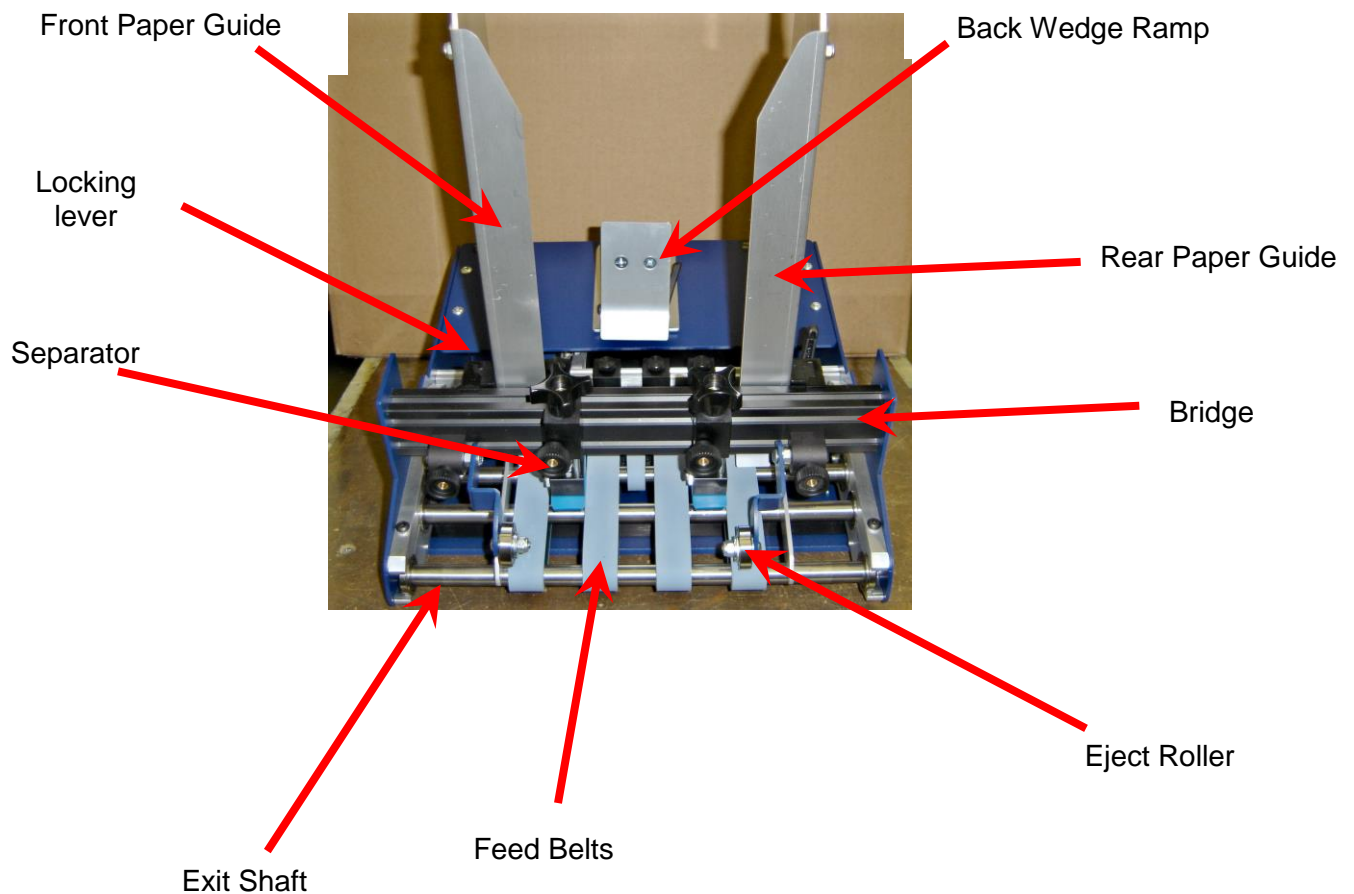
- When setting up the feeder, ensure that it is placed on a smooth and level surface which is wider than the feeder.
- The surface on which the feeder stands must be sufficiently stable. If the feeder tips or is dropped, this may lead to personal injury or damage to the feeder.
- Select an installation or storage location which protects all parts of the feeder from direct sunlight, excessive heat and extreme temperature/humidity fluctuations.
- The feeder must not be exposed to vibrations or shocks.
- Position the feeder so that you can pull the power plug from its socket easily, at any time.

INTRODUCTION

Thank you for your purchase of the FD 282-10 heavy duty friction feeder. Our feeders are designed to offer you years of reliable use with minimal maintenance. Your new feeder offers the ability to feed a wide variety of media types and sizes with ease, along with exclusive features designed to reduce paper jams and paper skew.

The purpose of this manual is to familiarize you with standard set up procedures for the FD 282-10, along with suggestions for setting up the feeder for various paper types, sizes and thicknesses.

The picture below illustrates the main components of the FD 282-10:



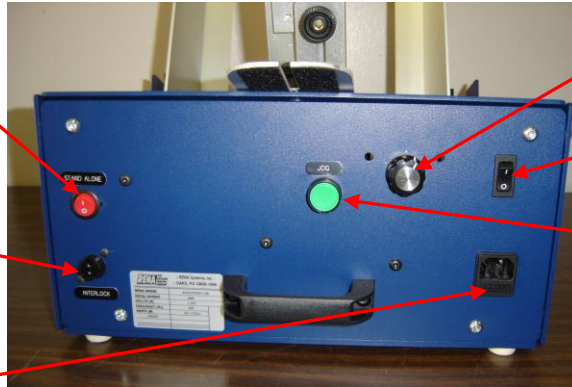
After unpacking your feeder, install the front and back paper guides onto the bridge using the flat head screws provided. Make sure that the paper guides are not pressing against the feed belts. Supply power to the feeder and test operation by turning the power on and adjusting the speed control knob.

FEEDER CONTROL FUNCTIONS

Stand Alone Switch
Allows machine to run
when not signaled by
host

Interlock Connector
(Feeder Interface)

AC Power Receptacle
Please verify voltage
before connecting.



Speed Control Knob

Power Switch

Jog Button.
Runs feeder at preset
speed for setup
(independent of host
machine signal)

Note: The green JOG button will run the feeder at a preset speed regardless of the position of the slide switch (shown below) or the red rocker switch (Stand Alone Switch).

INTERLOCK CONTROL (Feeder Interface)

The FD 282-10 is equipped with a dry contact Interlock connection; allowing for connectivity with other equipment (inkjets, tabbers etc.), so that the feeder can run when the host machine signals it to do so. The connector is an AMP 4 pin connector, using pins 1 and 4.

This machine is also equipped with a two position slide switch, located on the bottom of the unit. When this switch is in the N.O. (normally open) position, the feeder will run only when the host machine closes the leads attached to the AMP connector (jumps pins 1 & 4). When the slide switch is in the N.C. position, the red rocker switch (Stand Alone Switch) on the back plate can be turned on to “override” the interlock signal so the feeder can run when not interfaced with the host machine, or when the host machine is not signaling the feeder to run.
TURN OFF FEEDER BEFORE MOVING THE SLIDE SWITCH



When the slide switch is in the N.C. position, the feeder will run when the host machine is NOT closing the leads attached to the AMP connector, OR when the interlock cable is removed from the feeder.

With the switch in this (N.C.) position, the feeder will stop running when the host machine closes the leads attached to pins 1 & 4 on the AMP connector.

NOTE: The red rocker switch (Stand Alone Switch) should be in the OFF position only when the slide switch is on N.C.!

FEEDER INTERFACE CABLES

Standard Interface Cables

Application	Feeder Interface Cable	Riser Stand
FD 282-10 Feeder FD 282 Tabber	35E-500-191, Cable A (Included with Tabber)	FD 282-15

INNOVATIVE FEATURES

The FD 282-10 Feeder offers many unique features. These features and their benefits are described below.

Independently repositionable feed belts.

- * Each feed belt can be moved laterally, allowing you to put the friction where it is needed the most.

Multiple, independently adjustable sheet separators.

- * Each separator can be positioned where you want. This feature allows you to work around problem areas, such as staples, or pieces with varying thicknesses. This also allows you to offset the separators to one side of the piece in the case of folded or bound media.
- * Since each separator's height can be adjusted independently, you can easily handle documents that vary in thickness from side to side.
- * Separators can be easily removed and added to the feeder so you can use as many or as few as the job requires.

Bow Separation.

- * Separators are positioned **between feed belts** rather than over them, to create separation with less friction than other feeders.
- * Reduces damage to difficult media
- * Reduces wear and tear on belts and separator tips
- * Allows feeding of media with varying thicknesses (such as stuffed envelopes or media with attachments)
- * Reduces drag on media, helping to eliminate skew

Heavy duty paper guides that guide paper all the way.

- * Keeps media **straight**, enhancing production and **reducing waste**
- * Guides descend **below** the surface of the feed belts so pieces cannot slip out underneath them.

Ten Minute Belt Replacement

- * Reduces downtime and maintenance costs

SETTING UP THE FEEDER

Setting up the feeder includes five different steps:

1. Setting the *PAPER GUIDES*
2. Setting the *BELT POSITIONS*
3. Setting the *SEPARATORS*
4. Setting the *BACK WEDGE*
5. Setting the *EJECT ROLLERS*

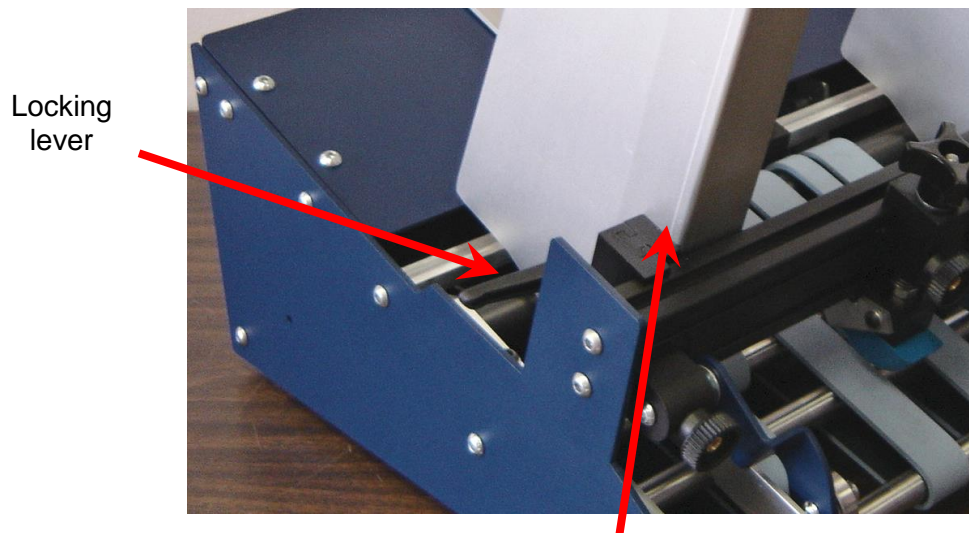
NOTE: Although it not required, it is normally best to set up the media in the center of the feeder. This will allow you to use the BACK WEDGE properly.

NOTE: To get the best results, you should always use as many feed belts and separators as possible based on the width of your media. Determine how many belts and separators your media width will allow, keeping in mind that the separators should be positioned ***between feed belts.***

SETTING THE PAPER GUIDES

The paper guides can be adjusted laterally by loosening the locking lever on the paper guide block and sliding the guide into position.*

When running narrow stock, when all feed belts are not required, the paper guides can be raised to slide over the belts, and repositioned between feed belts.



Guides can be raised to slide over belts

STEP 1. Loosen each paper guide locking lever and slide the paper guides outward toward the edges of the feeder.



The width of your document should dictate how many of the feed belts you use. You will position the appropriate amount of belts between the paper guides. Here are a few common document sizes, along with the appropriate number of belts to use:

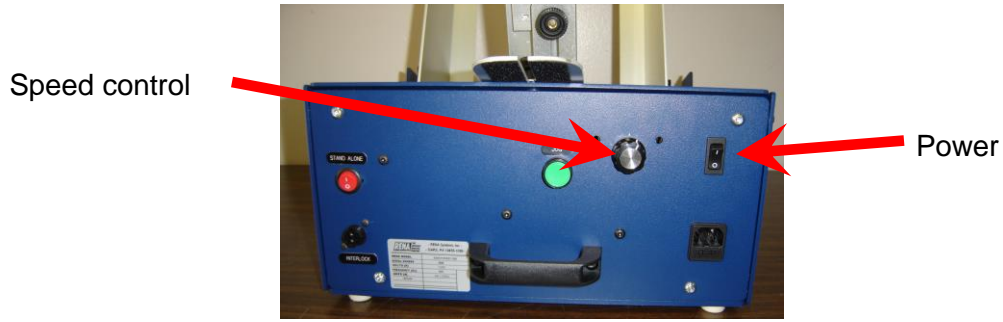
- Trifold pieces and #10 envelopes -- 2 belts and 1 separator
- 5 ½" wide self mailers or postcards -- 3 belts and 2 separators
- 8 ½" wide documents -- 4 belts and 2 separators

Examples of setup for different size documents are shown later in this manual.

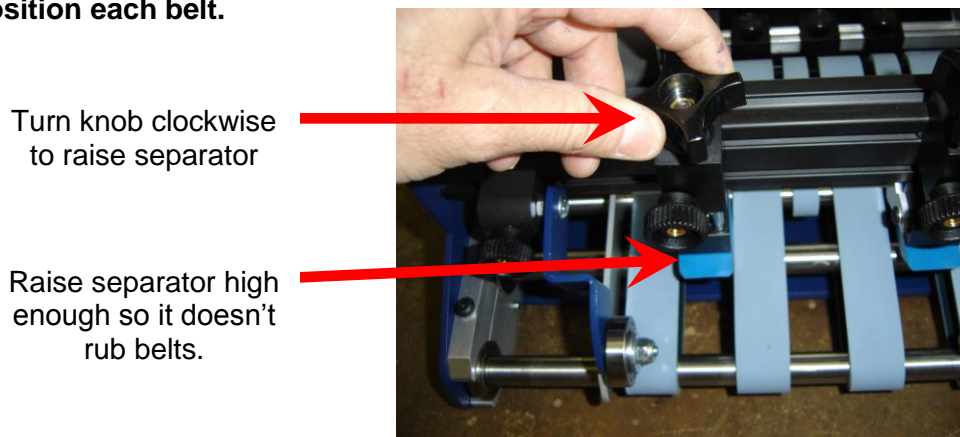
STEP 2. Start the feeder and set speed control to a moderate speed.

Caution! When performing these procedures please be sure to keep all body parts and loose items (clothing, hair, necklaces, etc.) away from the moving parts of the feeder.

NOTE: If the feeder interlock won't allow you to run the feeder to perform this task, flip the "Stand Alone" switch to the opposite position so that the feeder will run without the interlock. Please be sure to return this switch to the correct position after performing this task.



STEP 3. Raise each separator a bit so that the belts do not rub on them as you reposition each belt.



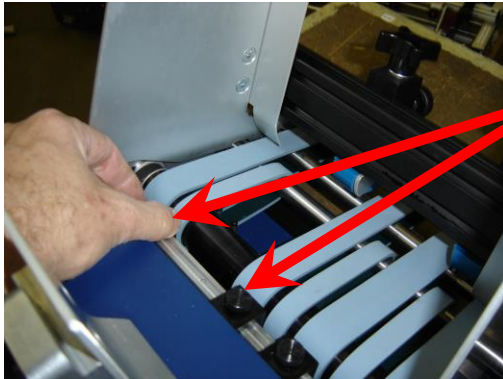
STEP 4. Loosen the locking levers on the belt guides and SLOWLY slide the belts you intend to use toward the middle of the feeder.



With feeder running, loosen knob and move belt guide block by pressing against the block.

DO NOT TOUCH MOVING BELTS!

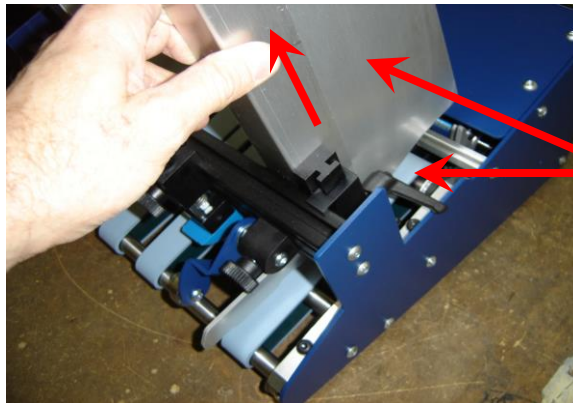
STEP 5. If not using all the feed belts, slide one or more of the belts outward toward the edge of the feeder.



With feeder running, loosen knob and move belt guide block by pressing against the block.

DO NOT TOUCH MOVING BELTS!

If you are not using ALL the feed belts, you will need to position one or more of the belts **outboard** of one or both of the paper guides. To do this, loosen the paper guide locking lever, raise the paper guide up approximately 1/2" and slide **OVER** the belts.



Raise guide to slide over the belt

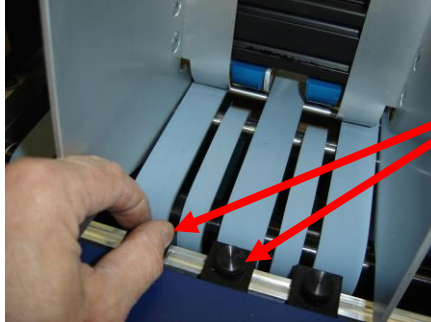
STEP 6. Turn feeder off, and place a single document on the belts in the center of the feeder. Then slide the paper guides into position adjacent the document and lock them into place with the locking levers.



Locking lever

SETTING THE BELT POSITIONS

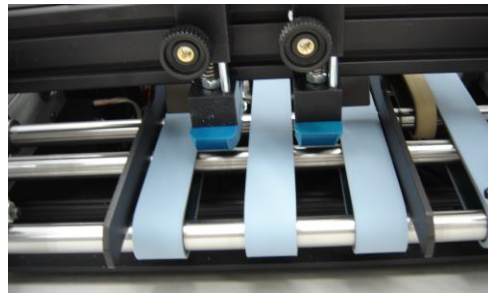
STEP 1. With the motor running, position the remaining belts generally evenly, with approximately a 1¼" gap between the larger belts. The separators will be positioned between feed belts.



With feeder running, loosen knob and move belt guide block by pressing against the block.

DO NOT TOUCH MOVING BELTS!

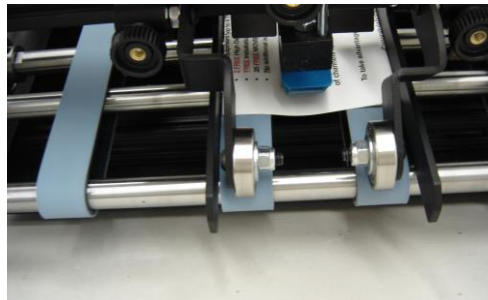
Normally the belts will give the best performance when evenly spaced across the document, with just enough room between them for the separators.



The following pictures show the proper belt and separator positions for many common size documents:

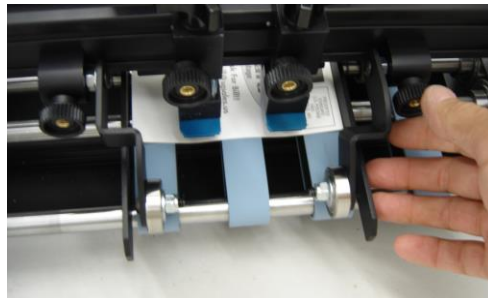
Tri-fold mailers, #10 envelopes or other narrow documents.

Two belts and one separator



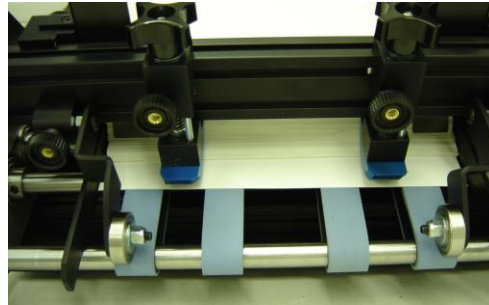
5 ½" wide mailers, 5 or 6" postcards or booklets

Three belts and two separators



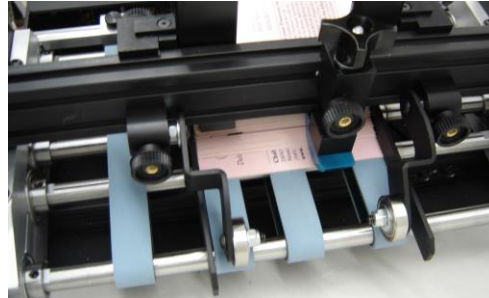
8 ½" wide documents,
calendars, catalogs, etc.

Four belts and two separators



Catalogs booklets bound on
one edge

3 or 4 belts and one separator
positioned near the bound edge



These are just examples. The FD 282-10 Feeder offers many different setup options with many different belt and separator configurations available. A bit of experimentation can be helpful.

REMEMBER, IT IS IMPORTANT THAT YOU POSITION THE BELTS SO THE SEPARATOR TIP CAN FIT IN BETWEEN THEM TO ENABLE SEPARATION

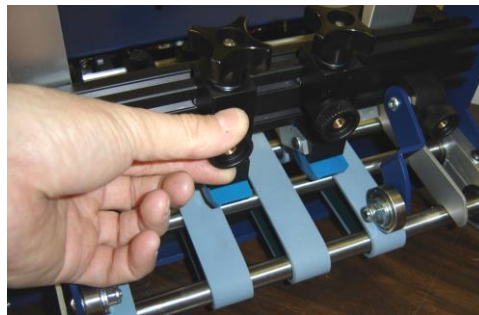
SETTING THE SEPARATORS

Your new feeder uses a unique technique for separating the bottom piece from your stack of media. This technique eliminates the high friction "nip" point common on other feeders. With this feature, the FD 282-10 separates with very little friction meaning you can successfully feed many hard to feed products with minimal jamming or tearing of your media. Even stuffed envelopes with varied thicknesses can be fed from a single stack!

It is important to understand the proper method for setting the separators to take advantage of this unique feature. There is no exact position to set the separators, and the FD 282-10 gives you the ability to move each separator independently both laterally and vertically. A little experimentation is necessary and helpful to achieve the best results for different media types and sizes

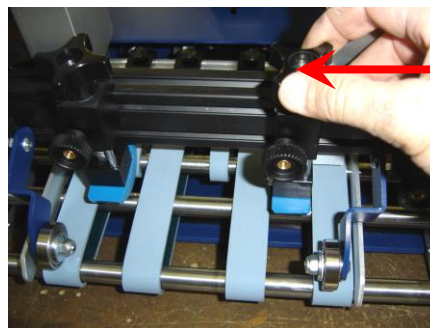
IMPORTANT: The separators are designed to be positioned **BETWEEN** feed belts. **On thin stock, try to position the feed belts within ¼" of each side of a separator.** This will give a pronounced "bow" to reduce doubles.

STEP 1. On the bridge, loosen the locking knob on the front of the separator(s) and slide each separator into position between two feed belts. Lock in place securely.



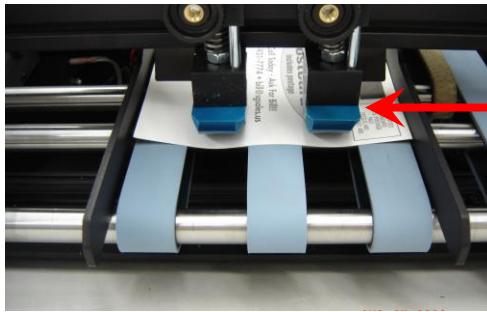
NOTE: When running wide stock (over 5" wide) you will likely be using two separators and at least three wide feed belts. When running narrow stock, you will be using only two wide belts and a single separator, positioned between them.

STEP 2. Raise each separator tip a few turns by turning the top knob **clockwise.**



Turn knob **clockwise**
to raise separator

STEP 3. Place a single piece of your media under the separator and slowly lower each separator by turning the top knob counter clockwise until the separator tip forces the stock to "bow" downward slightly between feed belts.



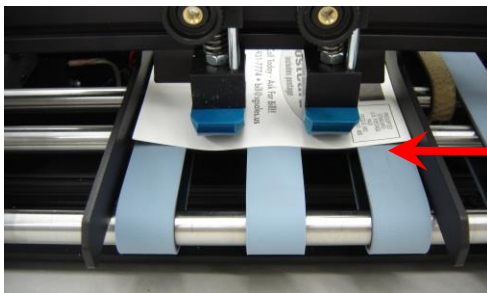
Bow stock downward between belts.

(More bow for thinner documents.)

TIPS AND TRICKS FOR USING THE SEPARATORS

The separators on the FD 282-10 offer tremendous versatility. Each separator can be adjusted independently for thickness and lateral position. In addition, since the separators can be easily removed and replaced, you can utilize as many of them as you need.

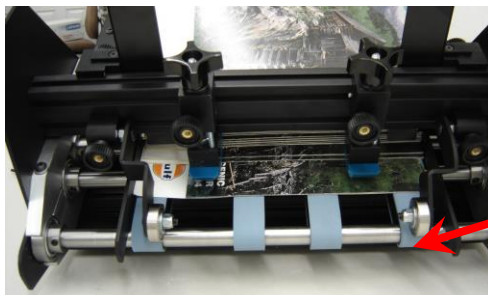
1. THIN MEDIA: When running thin stock, try to position the belts within ¼" of each side of the separators.



THIN STOCK

Try to position belts close to the separators so that the stock bends down sharply

2. THICK MEDIA: If your media is thick, like catalogs, a very slight bow under the separators is all that is necessary for good separation



THICK STOCK

You can position the belts a bit further away from the separators and buckle the stock only slightly.

3. OPEN ENDED PIECES SELF-MAILERS MAGAZINES NEWSPRINT

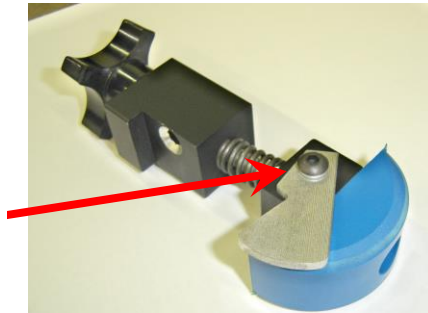
Pieces that have an open end toward the back or the front of the feeder are the most difficult for friction feeders.

Due to the friction of the stack resting on the bottom piece along with the separator tip on the top layer of the piece, the top layer(s) tend to want to "peel back" as the pieces are fed.

The FD 282-10's separators are easily removed so that you can try one of the techniques below to help with high friction pieces.

Picture 1 below shows the separator flag, the small piece of aluminum bolted to the side of the separator tip. The purpose of this flag is to keep the paper from contacting the urethane separator too much which would create a lot of friction on the paper. By loosening the button head screw holding the flag in place, you can rotate the flag downward, keeping the document away from the separator tip longer.

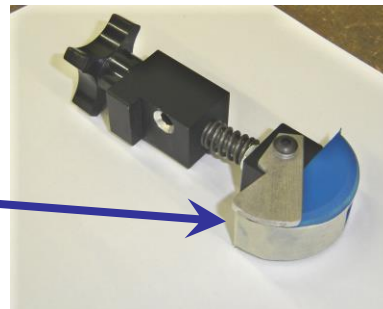
Loosen the screw and rotate the flag to adjust friction



Pic 1

You can also try applying a piece of tape to the separator tip to lessen the friction against your pieces as shown below.

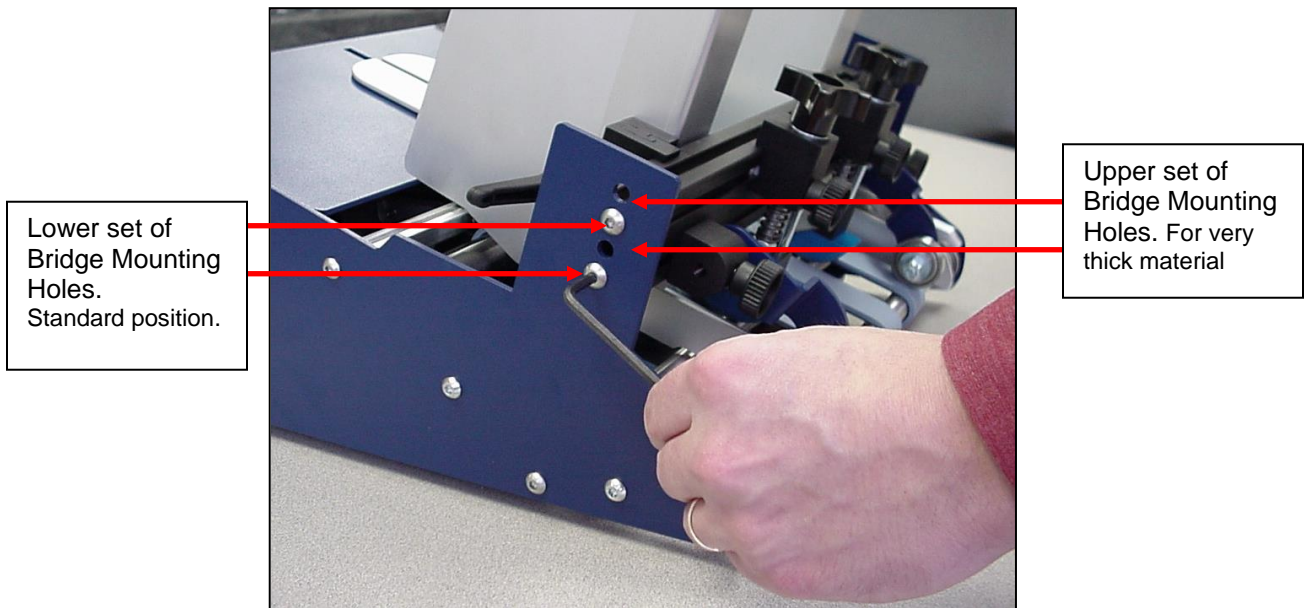
Place tape on this portion of the separator



RAISING THE BRIDGE TO ACCOMMODATE THICKER MATERIAL

This is only necessary when trying to use material that is thicker than ½ inch. Raising the bridge increases the maximum thickness capability to 1 inch.

1. With a 5/32" allen wrench, remove the four button head bolts holding the bridge onto the side-frames of the machine.



2. Align the bridge attachment holes with the upper set of holes in the side-frame, as indicated above, then insert and secure all bolts. This will increase the maximum thickness capability to 1 inch.

Note: If material thinner than ½ inch is used, then it will be necessary to lower the bridge again.

THE BACK WEDGE AND WEDGE RAMP

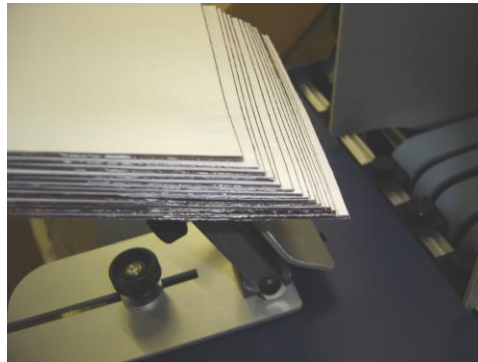
The back wedge and ramp are very important components of the feeder and must be used properly to reduce double feeding and improve production.

Often overlooked, the back wedge performs several important functions:

1. The back wedge tilts up the back end of the media stack to "bias" the lead edge toward the feed belts and separators
2. The back wedge supports the majority of the weight of the stack so the bottom piece can be pulled out by the feed belts.
3. **MOST IMPORTANT!** As the bottom piece is pulled away by the feed belts, the back wedge holds the second piece up off the feed belts so it doesn't start feeding until the first piece is mostly out of the hopper area.

SETTING UP THE BACK WEDGE AND RAMP

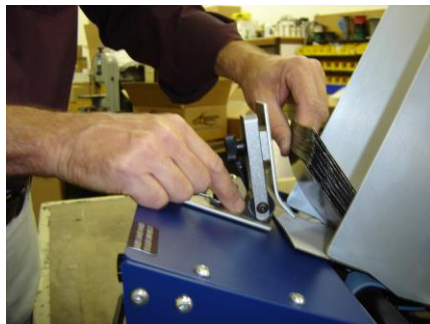
STEP 1. After setting your belts and separators, shingle a small stack of your media so the bottom-most sheet slides under the bridge.



STEP 2. Slide this stack under the bridge, helping the stack to conform to the curvature of the paper guides and separators. Hold the rear end of the stack up off the belts in the hopper.

STEP 3. Loosen the black locking knob on the back wedge plate so you can slide the back wedge assembly.

STEP 4. While holding the paper up, slide the back wedge assembly forward so the media will rest on the wedge ramp rather than the belts.



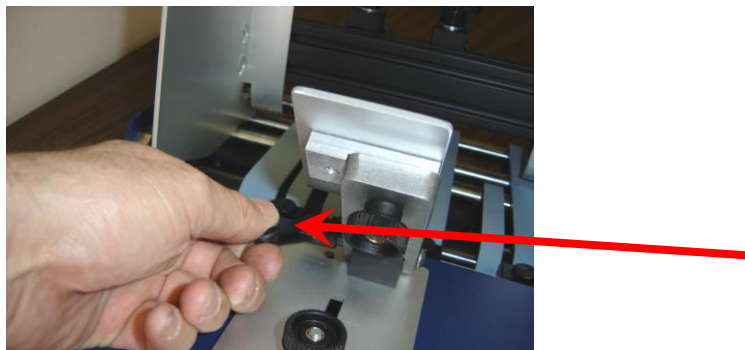
STEP 5. Tighten the locking knob to secure the back wedge in place.



STEP 6. You can raise and lower the back wedge ramp to find the optimum height for your stack. To adjust the ramp height, loosen the locking knob on the back of the wedge upright and slide the ramp up or down to adjust. Then lock.

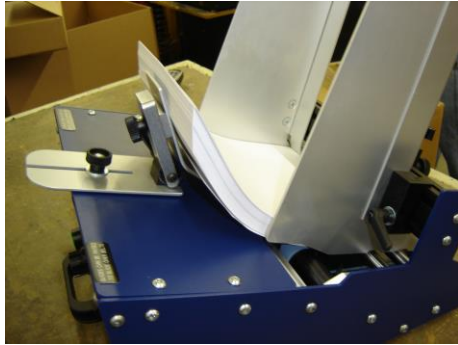


Step 7. You can adjust the angle of the back wedge upright for optimum results by loosening the locking lever on the side of the wedge upright, and pivoting the back wedge ramp to the desired angle.

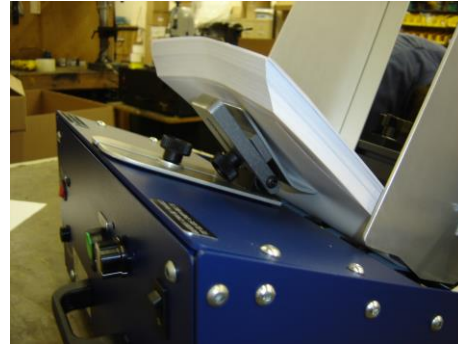


TIPS FOR RUNNING LONG or THIN DOCUMENTS

When running long or thin documents, the stack tends to “sag” in front of the back wedge, putting too much weight on the belts in the middle of the document. (Pic 1 below). Try lowering the back wedge angle and sliding it further under the stack to support the middle of the stack better for better separation, (pic 2)



Pic 1

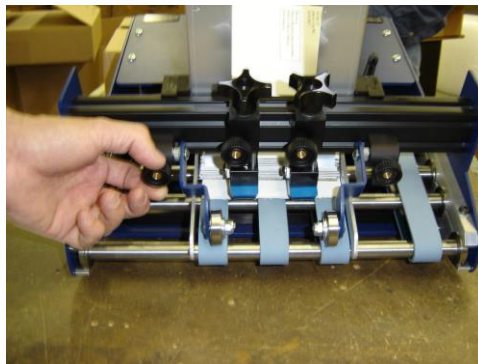


Pic 2

SETTING THE EJECT ROLLERS

The adjustable eject rollers are included to assist light media out of the feeder and into the equipment you are feeding.

After you have set the belts, paper guides, separators and back wedge, slide the eject rollers into position over the outer two feed belts you are using, and lock them in place.



TIP: * Make sure that the eject roller bar is not resting on the paper guide.

MAINTENANCE

CLEANING THE BELTS

***CAUTION! UNPLUG THE FEEDER FROM THE WALL
OUTLET BEFORE PERFORMING THESE PROCEDURES!***

- Do not apply power to the feeder to clean the feed belts. Doing so presents a safety hazard. Instead; rotate the feed belts by manually turning any of the drive shafts.
- Clean the feed belts often, especially after running glossy material.
- Do not use harsh chemicals on the belts as they can be damaged from the use of some chemicals.
- Do not use “Care” roller cleaner on this unit. Doing so may cause belt damage.
- A “citric based” cleaner is recommended for cleaning the feed belts. A light application of isopropyl alcohol after using the citric cleaner may also be helpful.
- Wipe any excess cleaners from the belts.

CLEANING THE FEEDER BODY

A coat of car wax or furniture polish on the paper guides will assist in smooth movement of your media stack as it descends in the feed hopper. (BE CAREFUL NOT TO GET IT ON THE FEED BELTS)

CHANGING FUSES

**CAUTION! UNPLUG THE FEEDER FROM THE WALL
OUTLET BEFORE PERFORMING THESE PROCEDURES**



Line fuse are located within the power inlet module.

Unplug the power cord then pull the bottom tab out, to slide out the fuse holder.

120V Model: Requires a single 5 amp/250V/fast-acting fuse.
A spare 5 amp fuse is included in the fuse holder

220V Model: Requires two 5 amp/250V/fast-acting fuses.

Note: Please be sure to use a 5Amp, 250V, fast-acting fuse. If the replacement fuse blows, please contact your local dealer for service. Do not use a fuse with a higher value than the one specified.

TECHNICAL SPECIFICATIONS

Speed:	Up to 40,000 pieces per hour (based on 4" x 6" postcard)
Controls:	Variable Speed Jog Feeder Interface (dry contact input)
Material Size:	Min: 3 1/8" W x 2" L Max: 12" W x 17" L
Material Thickness:	Single sheets up to 1"
Hopper Capacity:	13"; 625 No. 10 Envelopes
Dimensions:	14 1/2" W x 17" L x 19" H
Weight:	36 lbs (unboxed)
Electrical:	
Voltage:	110-120 VAC or 220-240 VAC (special order)
Frequency	50/60 Hz
Amperage	5 Amps
Line Fuse	5 A/250V/Fast-Acting

All specifications subject to change without notice.