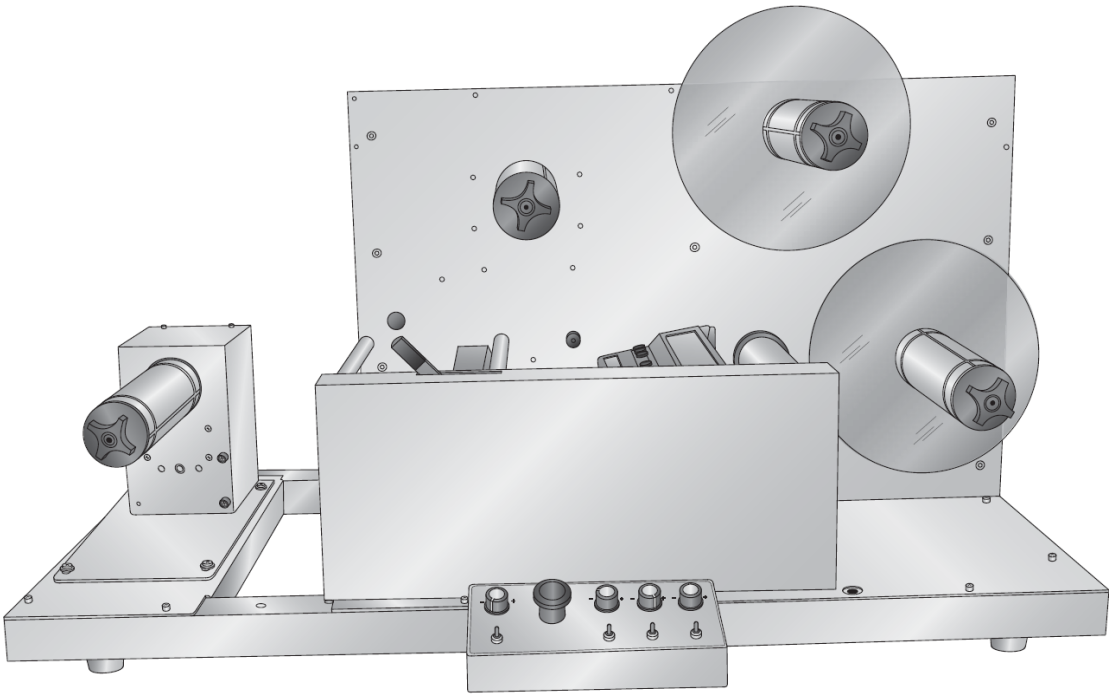
FX1000
MATRIX REMOVAL SYSTEM



Operator's Guide

PRIMERA

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Printing History
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FCC Compliance Statement: This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For Users in the United States: This product is intended to be supplied by a UL listed Direct Plug-In Power Supply marked "Class 2"or a UL listed ITE Power Supply marked "LPS" with output rated 19v, 3.42 amps or higher. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Use of shielded cables is required to comply with the Class A limits of Part 15 of the FCC Rules. You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate and/or obtain warranty service for this equipment.

For Users in Canada: This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the Radio Interference Regulations of the Canadian Department of Communications. Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

Table of Contents

Section 1: Warnings, Cautions and Notes

Thank you for purchasing the FX1000 Matrix Removal System. Please read the following Warnings, Cautions and Notes before operating your FX1000.

Note: *Notes are used to notify of installation, operation, or maintenance information that is important but not safety related. Notes will be found throughout this manual.*

Caution: *Caution is used to indicate the presence of a hazard, which if ignored may result in damage to the unit.*

Warning: *Warning means that a potential safety hazard exists and indicates procedures that must be followed exactly to avoid serious personal injury.*

Warnings

- Do not operate the FX1000 while wearing loose fitting clothing or neck ties. Serious injury may result. If clothing or fingers are caught in the rollers, immediately press the STOP button on the front of the unit.

- Keep your hands away from the FX1000 at all times while it is running. The electric motors in the FX1000 are extremely powerful and are capable of crushing fingers at the nip point in the paper path. The nip point is where the paper is compressed so it can be pulled or pushed through printer. If fingers are caught in the nip point, press the **stop button** immediately and open the nip points by pushing the levers to the right.

- To prevent fire or shock hazard, do not expose the unit to rain or moisture. To reduce the risk of electric shock, do not remove exterior panels. No user-serviceable parts are inside. Refer to qualified service personnel. Operate the unit with only proper electrical specifications as labeled on the unit and the AC adapter.

Caution

- Do not use media that is wider than specified in the specifications section of this manual.

Section 2 Setup

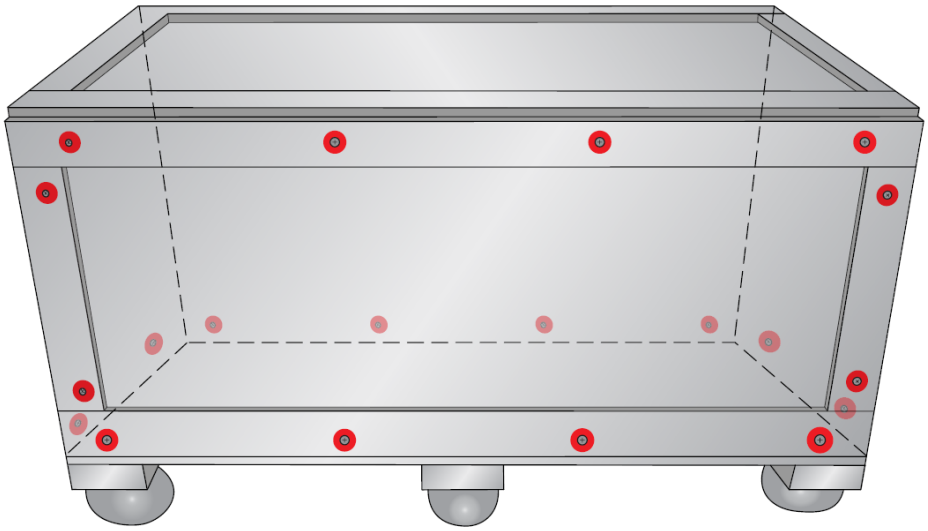
Section 2.1: What is Included

The FX1000 includes everything you need to remove the matrix and slit a roll of printed material. The following items are included.

- Euro and USA/Japan power cord located in supply box.
- 7 Slitter Blades. These are preinstalled in the slitter station.
- Assortment of Cardboard Cores. (Located in the media box)
- 2 mm Hex Driver.
- 3mm Hex Driver.
- Foam Weeder Rollers.

Section 2.2: Unpack and Assemble

1. Disassemble the top and sides of the crate by removing the screws from the red dots. Remove the supply box and the input mandrel box.

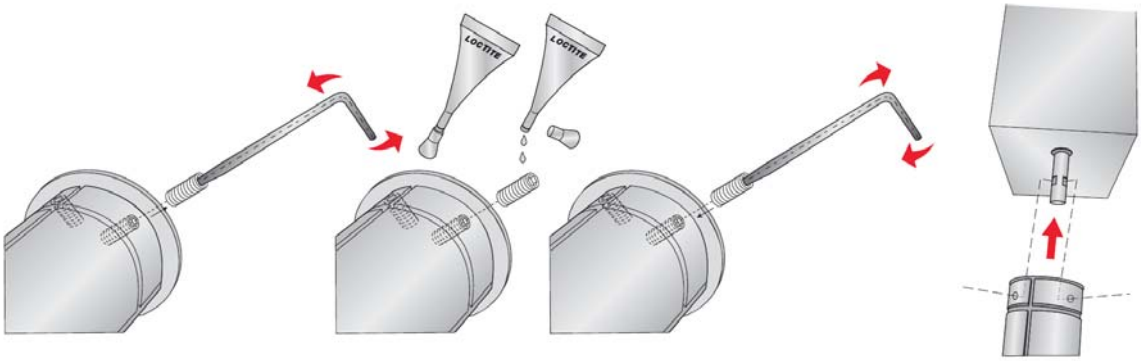


2. Using the yellow nylon lifting straps, lift the FX1000 out of the crate and onto the floor. Using an M5 Allen wrench remove the straps and replace the bolts. The straps are not useful for lifting to heights above the knees.

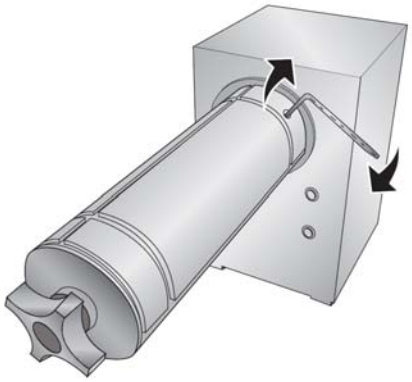
3. Lift the FX1000 on to a sturdy table or bench capable of holding at least 250 lbs (114 Kg). You will need 4 people, one at each corner, to comfortably lift the FX1000 from the floor onto a table. The back right corner has the most weight.

4. In the supply box, locate the supply mandrel, 3mm Allen wrench and the bottle of Loctite.

5. Partially remove the two set screws on the mandrel so that approximately ½ inch (1 cm) is exposed. Crack the top off the Loctite container and place two drops on each set screw. Reset each screw until it is flush with the outside of the mandrel. Attach the mandrel to the unwinder (left side) drive shaft. Line up the holes in the chuck with the flat edges on the drive shaft. The holes must correspond with the flats or the set screws will not hold the chuck in place.



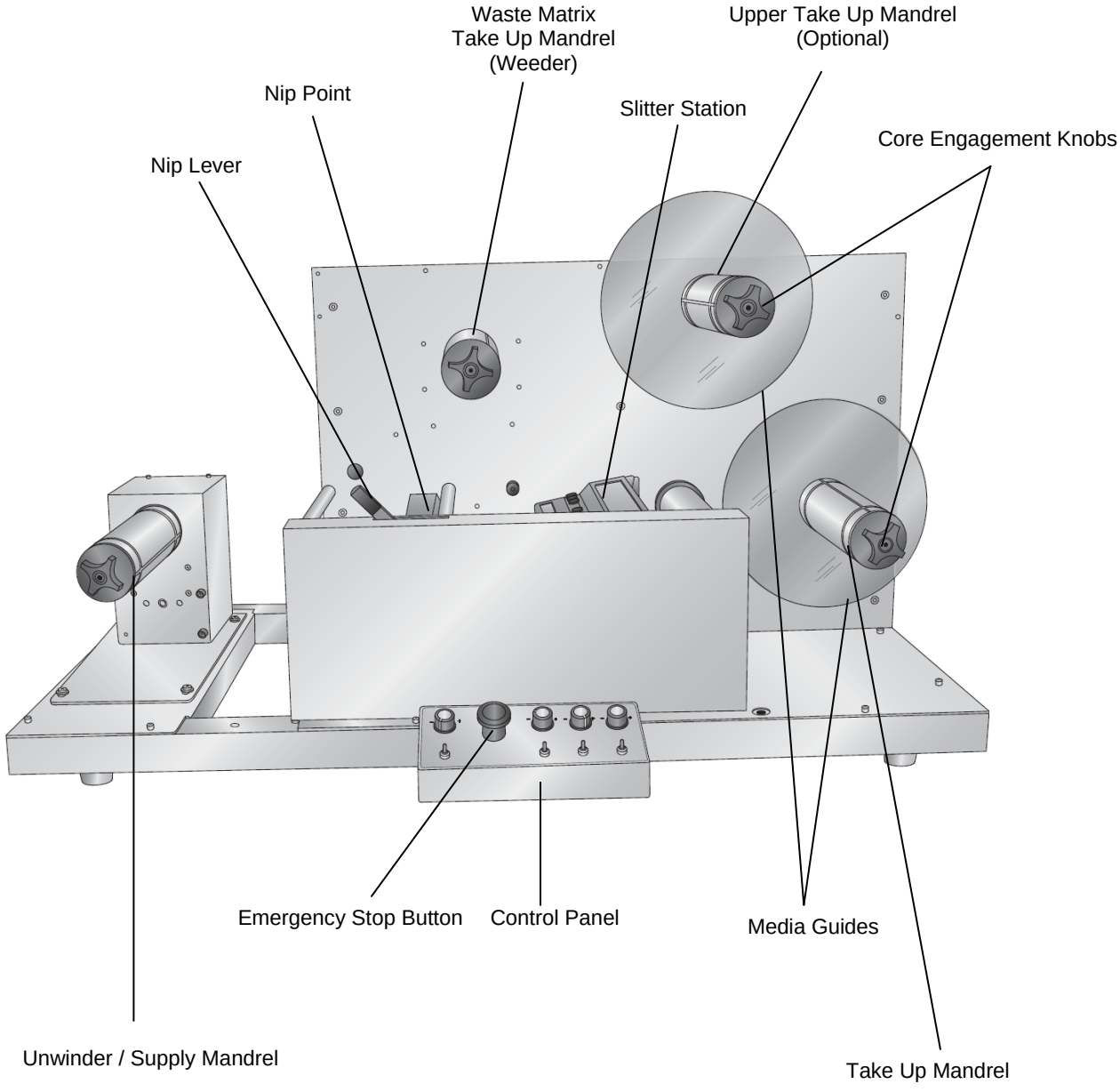
6. Tighten the set screws using the 3mm Allen wrench. Once they are tight, attempt to rotate the mandrel forward and backward while watching the drive shaft. The drive shaft should move with the mandrel. If it does not move with the mandrel, loosen the set screws slightly and turn the mandrel until the set screws are even with the flats. The Loctite will dry in 24 hours.



7. Connect the power cable and switch on the unit.

Section 2.3: Indentifying the Parts

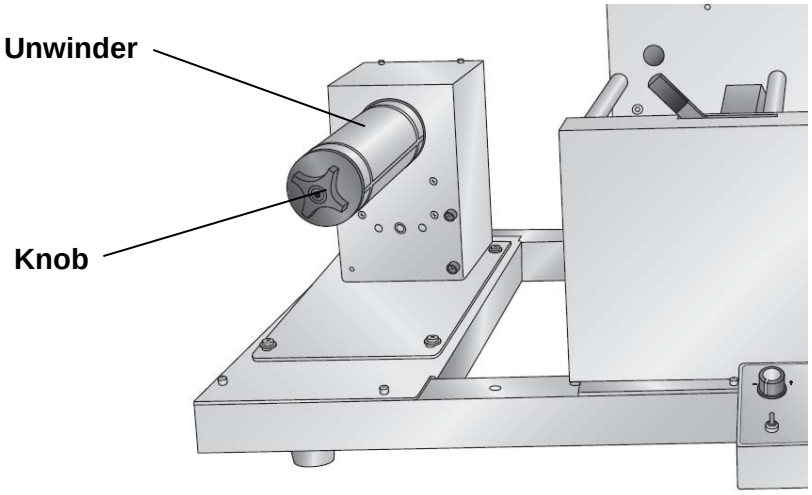
FX1000 Overview



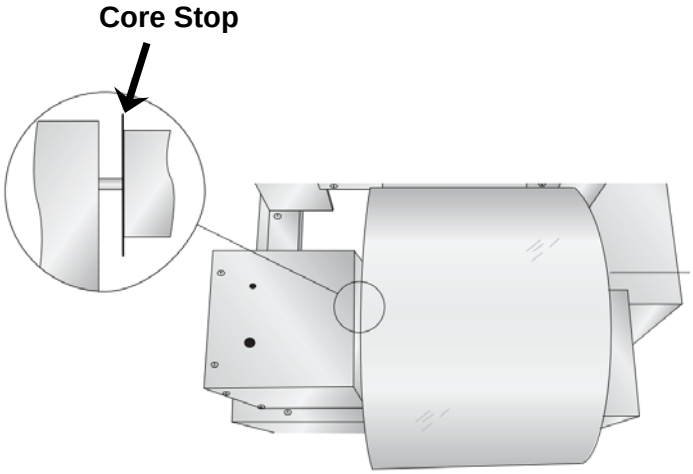
Section 3 Run a Job

Section 3.1: Load a Printed Roll

1. On the unwinder/supply mandrel loosen the core engagement knob and remove the remaining portion of the previous roll, if any.



2. Place the new roll on the unwinder/supply mandrel. Push it back until it touches the core stop.

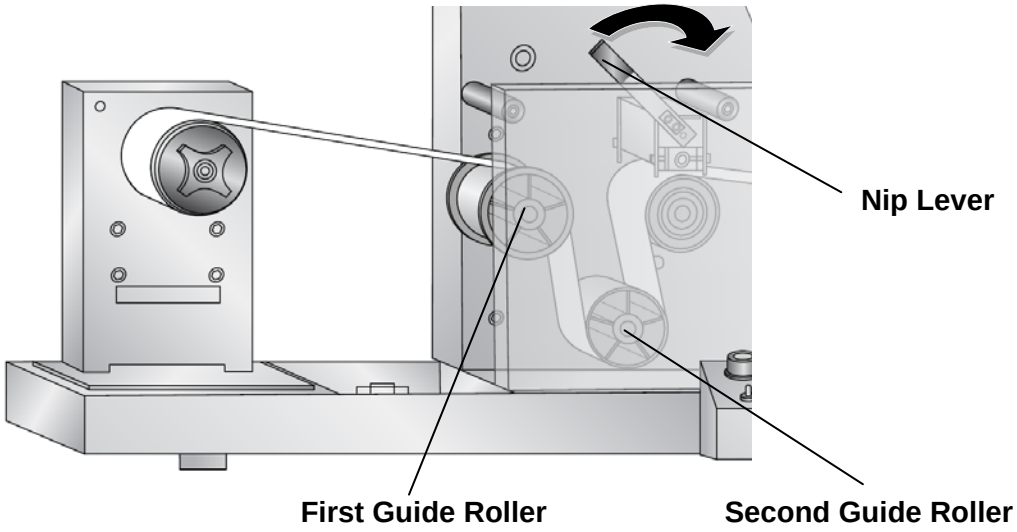


3. Be sure that the edge of the media corresponds with the edge of the core. If the media is coning in or out you will want to attempt to straighten the media on the core. If the core is shorter than the media width, pull the roll out so that the edge of the media is even with the core stop. If the core is wider than the media you may need to adjust the guide collars (Section 3.6) to accommodate the altered position of the web.

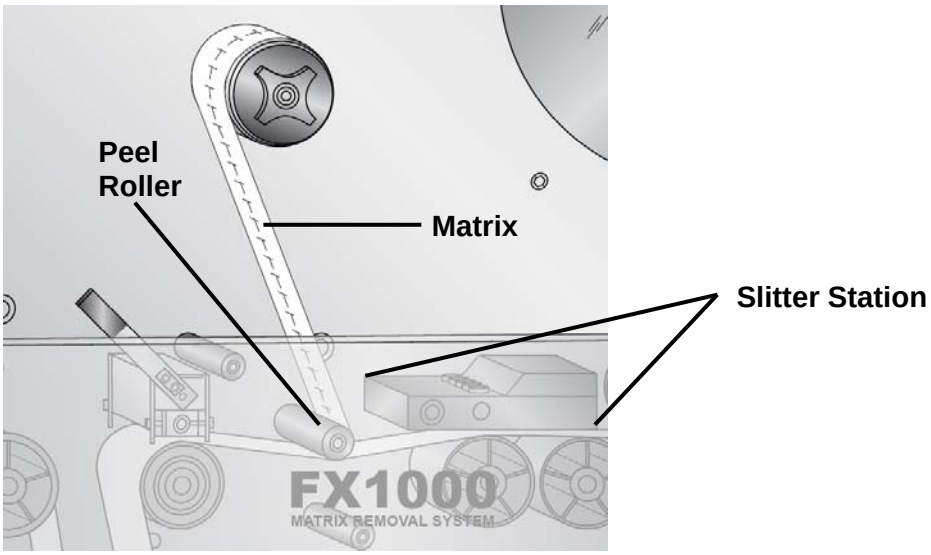
4. Turn the core engagement knob clockwise to lock the roll in place.

Section 3.2 Set Up the Weeder

1. Push the Nip Lever into the “Nip Open” position.



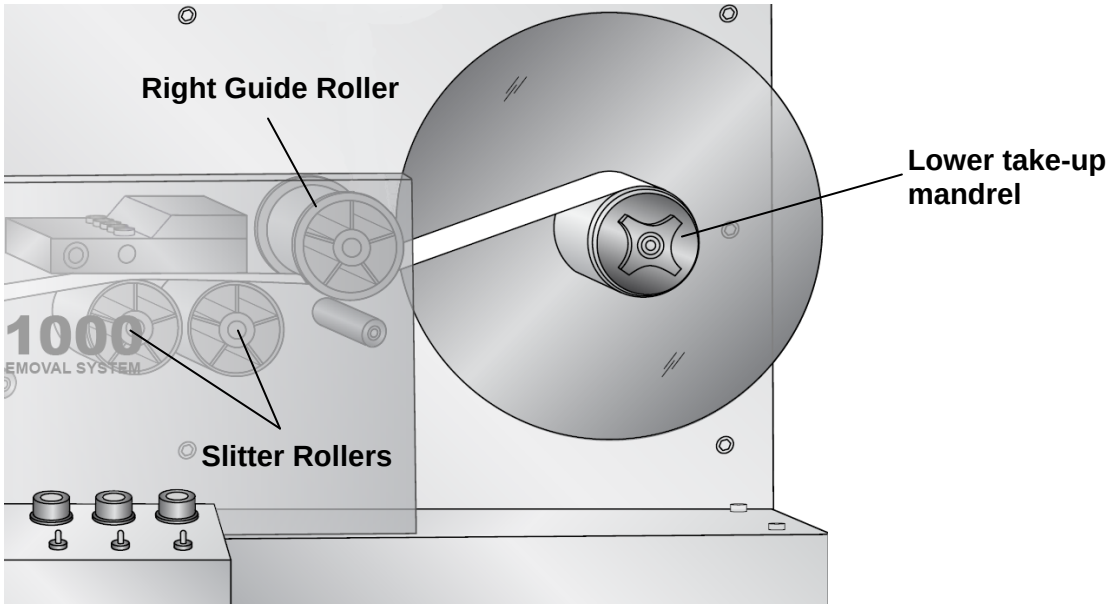
2. Feed the media OVER the first guide roller and UNDER the second guide roller.
3. Continue feeding the media through the nip point.
4. Once you reach the peel roller, peel the matrix from the liner.



5. Place an empty core on the Matrix mandrel and tighten the core engagement knob.
6. Pull the matrix from the liner and attach it to the Weeder. Manually turn the mandrel one full revolution.

If the matrix does not easily pull, manually turn unwinder to create some slack.

7. At the same time you are pulling the matrix from the liner pull the label slack through the slitter station over the slitter rollers and under the right guide roller.



8. Continue pulling the labels through the slitter and winding the matrix on the matrix mandrel until you have enough media to attach to the lower take-up mandrel.

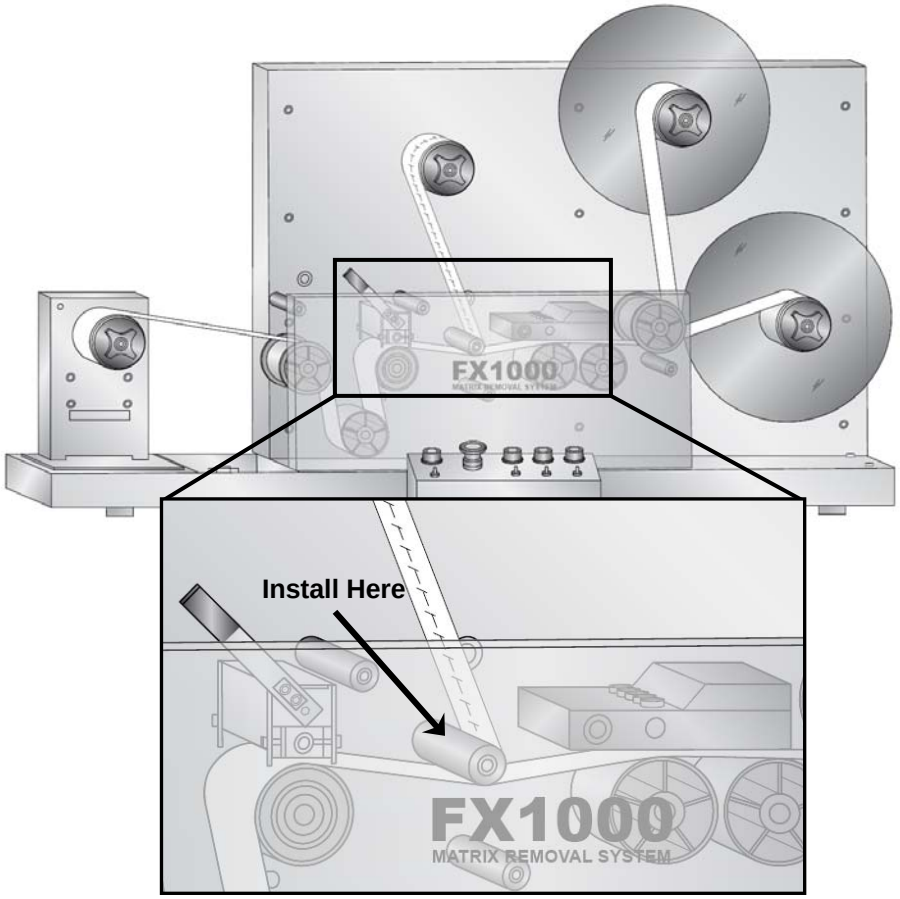
9. Attach an empty label core to the take up mandrel and tighten the core engagement knob.

10. Attach the media to the core.

11. Manually turn the mandrel until media is tight

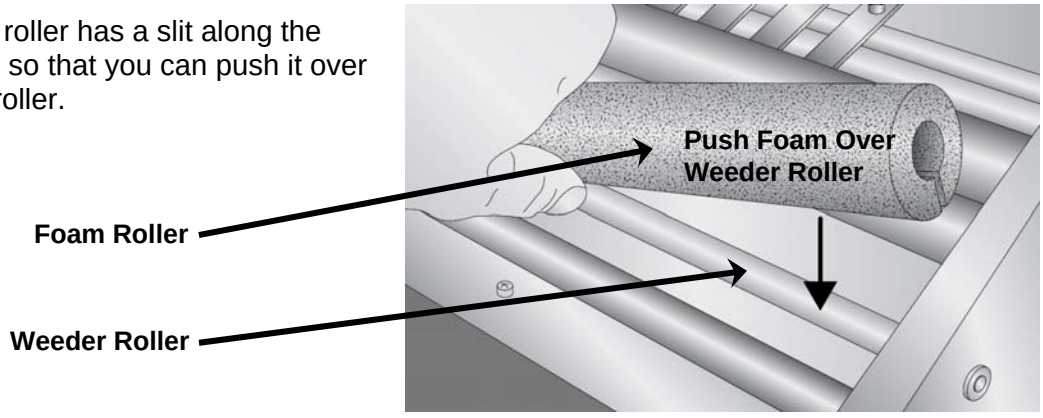
Section 3.3 Foam Weeder Roller Installation (Optional)

Install the Foam Weeder Roller for improved weeding performance when using synthetic materials such Polyester, Polypropylene and Vinyl. You may also choose to install the weeder roller to improve weeding performance for non-standard die cuts or any time the labels are being pulled up with the matrix.



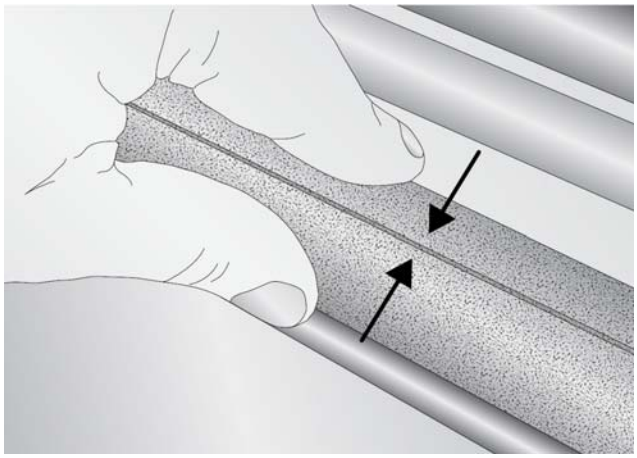
Installation Instructions:

1. The foam roller has a slit along the entire length so that you can push it over the weeder roller.



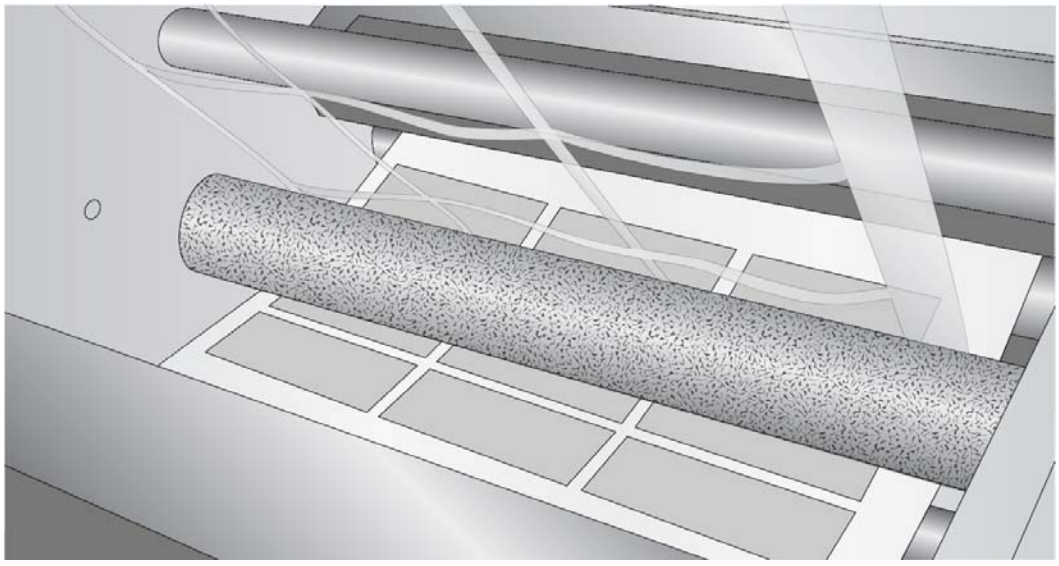
2. Rotate the foam roller so the slit is facing up. Remove the protective paper covering the adhesive.

3. Push the foam together along the entire length of the slit in the foam roller. The adhesive will hold it together.



Note: Make sure the foam roller freely rotates on the weeder roller.

The graphic below shows a correctly installed foam roller in use.

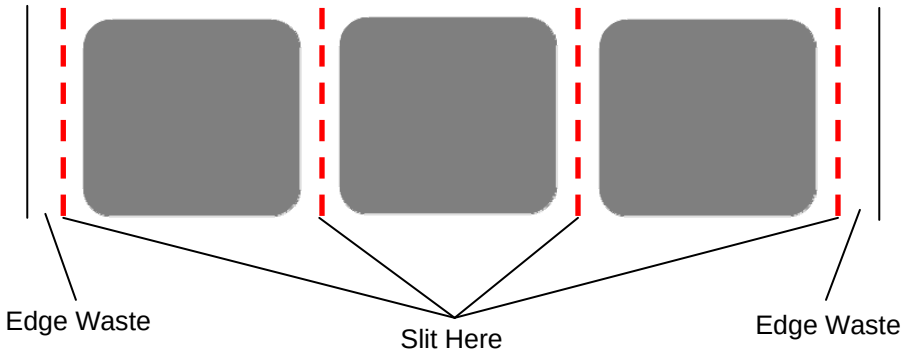


Section 3.4 Set Up the Slitter

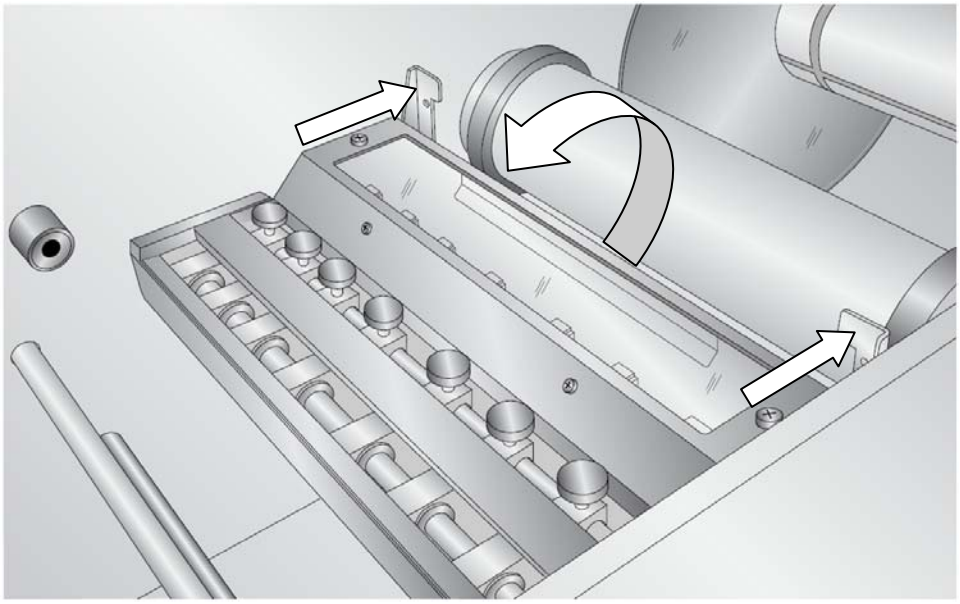
1. Seven blades are preinstalled in the retracted position in your FX1000. The FX1000 slitter station allows you retract or engage slitting blades without removing them from the unit. You will need to decide how many to engage to slit your labels. For example, depending on what type of applicator will be used you may need to slit and remove edge waste. Use this table as a guide.

Columns	Blades Needed	
	Remove Edge Waste	***Leave Edge Waste***
1	**2**	**0**
2	**3**	**1**
3	**4**	**2**
4	**5**	**3**
5	**6**	**4**
6	**7**	**5**
7	**Not Possible**	**6**
8	**Not Possible**	**7**

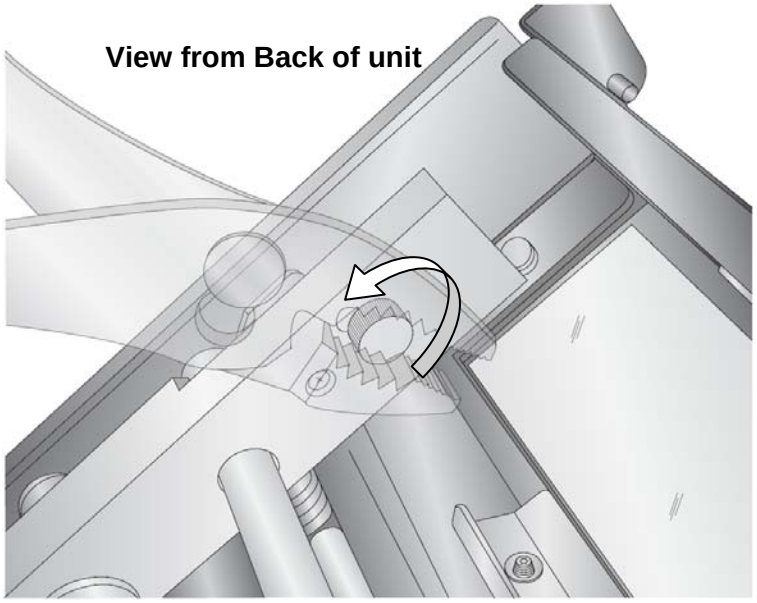
Typical Slitter Configuration for Three Columns.



2. Press the release latches to open the slitter station.

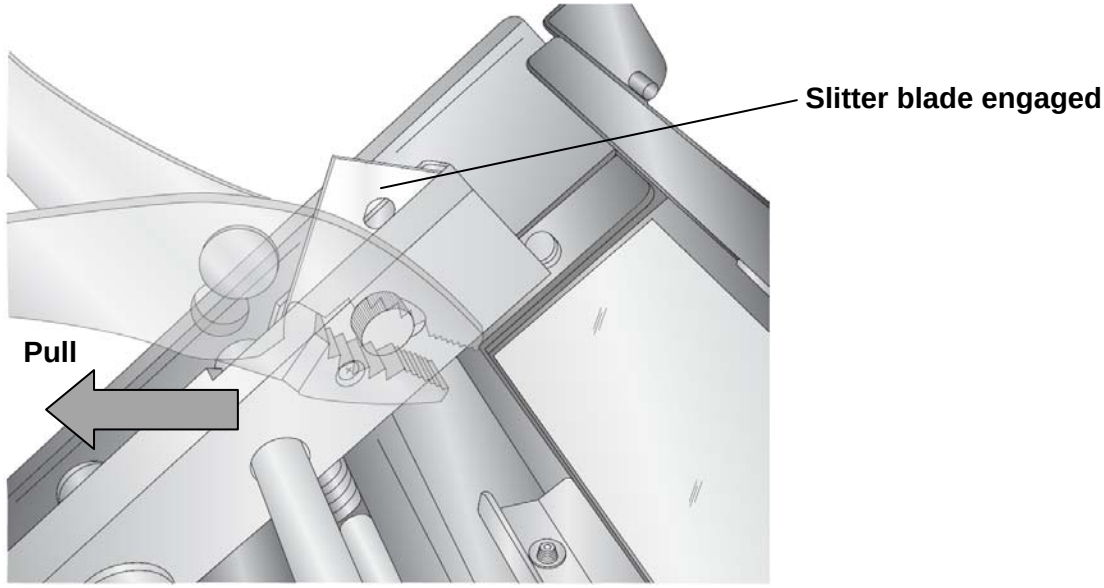


3. Loosen the thumbscrew on the blade housings you intend to engage. For optimal safety, it is recommended to use a pliers to loosen the blade housing thumb and move them into the engaged position.



Note: Before deciding which blades to engage make sure that the blade can actually be moved to the intended position. Each blade housing has a limited range of movement. If you cannot move the blade to the intended position you will need to choose a different blade housing.

4. Pull the thumbscrew toward you to engage the slitter blade. The thumbscrew moves inside a curved slot.



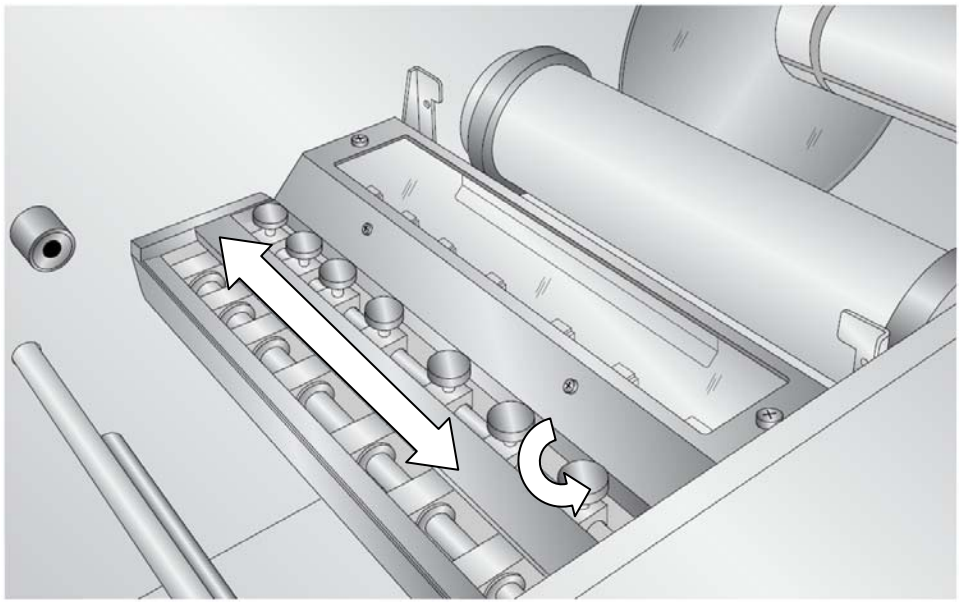
5. Tighten the thumbscrew once the slitter blade is engaged.

6. Start with the slitter blade furthest from you and repeat steps 2, 3 and 4 for each.

7. Once you have engaged the blades you want to use close the slitter station.

   Do NOT push the cover all the way closed! Let it rest on the spring loaded latches for now. The blades will not cut the media in this position.

8. Loosen the thumbscrews for the engaged slitters. Line them up with the correct positions between the die cut labels.

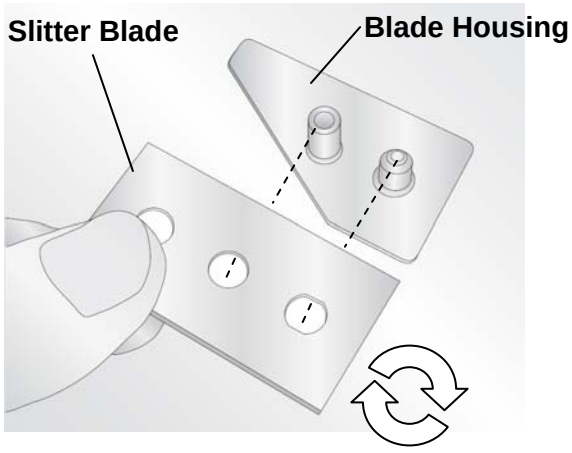


9. Once the blades are in the correct position, push the slitter station all the way closed. The blades will puncture the media once the slitter station is locked into place.

Replacing or Rotating Blades

If a blade becomes dull you will need to rotate the blade to one of the four cutting corners. If all cutting corners have been used, you will need to replace the blade. Follow this procedure:

1. Press the release latches to open the slitter station.
2. Loosen the thumbscrew on the slitter blade housing containing the dull blade. Completely remove the thumbscrew.
3. The blade and housing will detach from the opposite side.
4. Rotate or replace the blade.



5. Fit the blade over the locator pin and the thumbscrew capture pin.

Tip! Mark the dull blade corners with a permanent marker before rotating the blade.

3.5 Set Up the Take Up Mandrels

Before you can configure the take up mandrel you will need to run the media through the unit until the slits reach the lower take-up and wrap around at least once.

1. Switch on the Matrix.

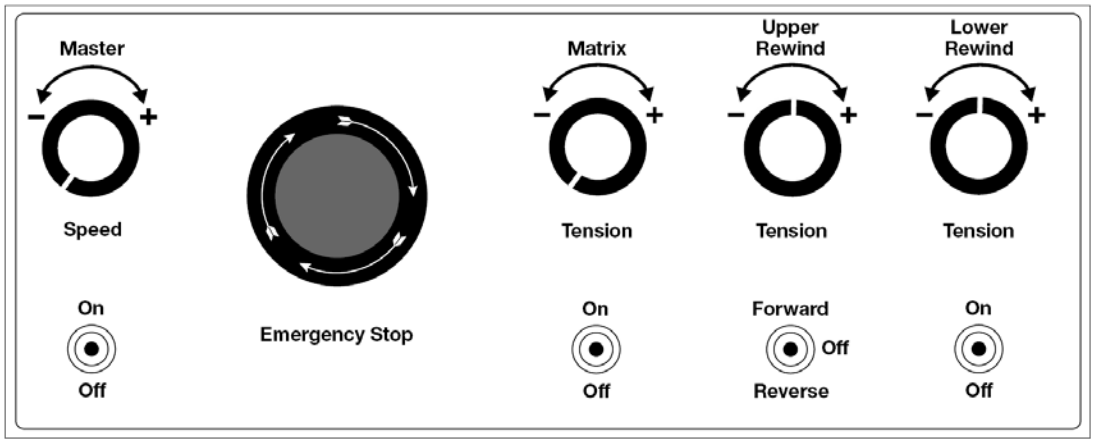
2. Switch on the Lower Rewind.

3. Set the tension on the Matrix, and Lower Rewind to 0%.

4. Set the Master Speed to the lowest value.

5. Switch on the master switch.

6. Slowly turn up the master speed until the media starts to move. Stop once the slits reach the lower take up/rewind and wrap around at least once.



Lower Rewind ONLY Model Instructions:

1. Manually turn back the take up mandrel until the first good labels are visible.

2. Cut between the labels at the same point for each roll. Remove the waste label core from the lower take up mandrel.

3. Place new cores on the lower take up mandrel. Standard sizes are included. Additional sizes can be purchased from Primera. The core width should equal the width of the finished roll. It can be a little smaller in some cases depending on what type of applicator will be used to apply the labels.

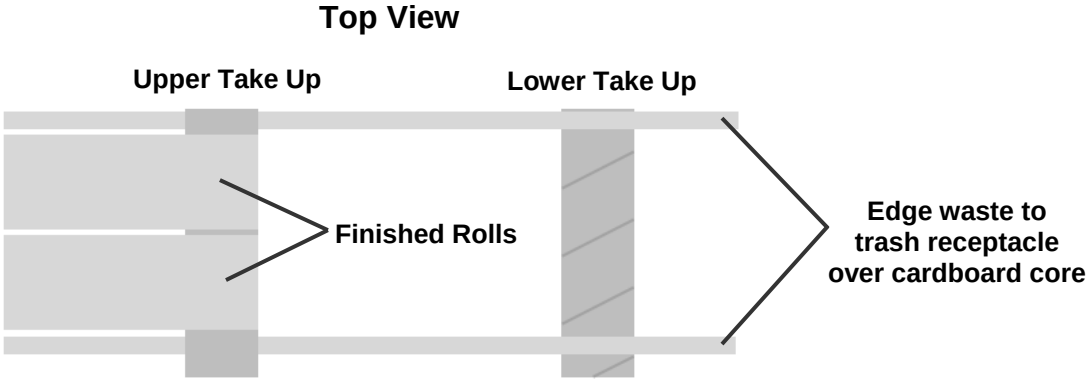
4. Attach the labels to the core using waste label or tape. Make sure the tension on both rolls is even. If they are not even and you have already attached them to the core you can easily equalize them by loosening the core engagement knob on the mandrel just a little. Now turn each core on the mandrel until both label rolls are taut. Tighten the knob again.

5. Feed the edge trim waste over the lower takeup mandrel and into a waste bin.

Upper and Lower Rewind Model Instructions:

You may configure the take up mandrels in many ways. The instructions below illustrate the recommended method assuming a two column cut wrapped onto two separate rolls on the upper take up mandrel with the edge waste trimmed and rolling over the lower take up mandrel.

Edge Waste over Lower Take Up (Recommended). This method is recommended if edge trim is required. It does not require additional guides or a vacuum system.



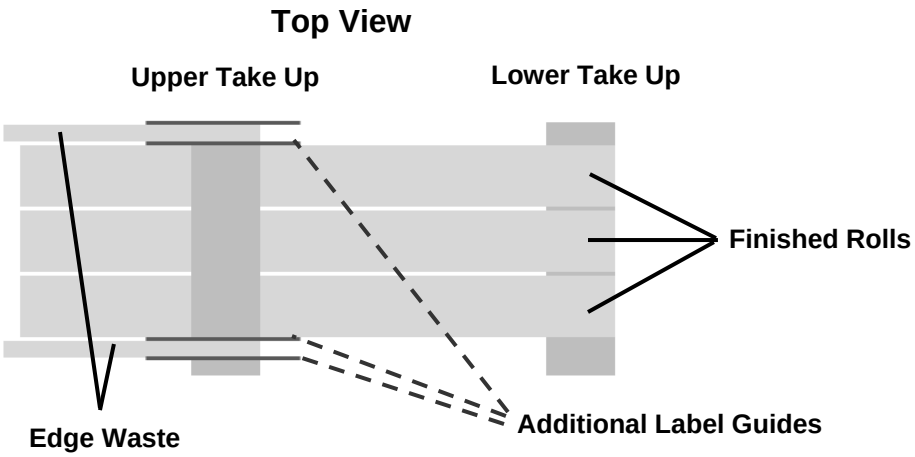
Follow these instructions to use the method above:

1. Manually turn back the take up mandrel until the first good labels are visible.
2. Cut between the labels at the same point for each roll.
3. Place cores on the upper take up mandrel. Standard sizes are included. Additional sizes can be purchased from Primera. The core width should equal the width of the finished roll. It can be a little smaller in some cases depending on what type of applicator will be used to apply the labels.
4. Attach the labels to the core using waste label or tape.

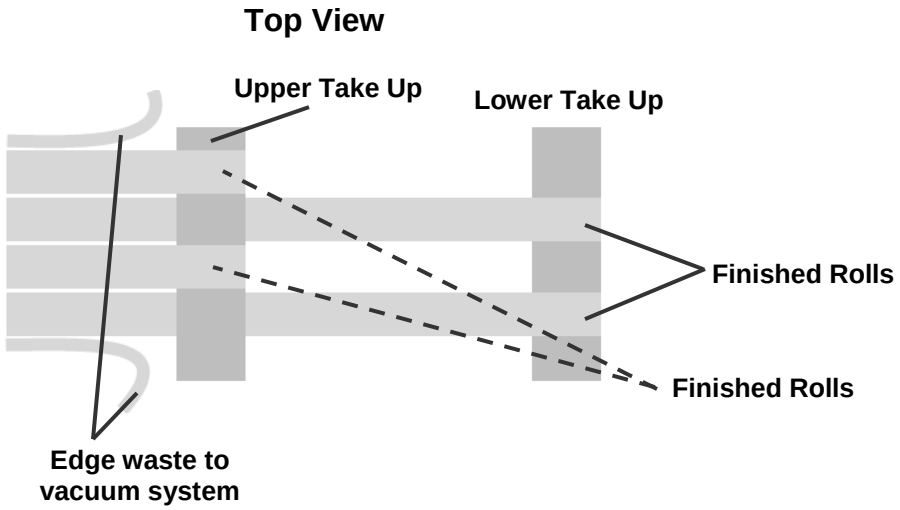
   Note: Make sure the tension on both rolls is even. If they are not even and you have already attached them to the core you can easily equalize them by loosening the core engagement knob on the mandrel just a little. Now turn each core on the mandrel until both label rolls are taut. Tighten the knob again.
5. Switch on the upper rewind.
6. Remove the waste label core from the lower take up mandrel.
7. Place a new core on the lower take up mandrel.
8. Switch OFF the Lower Rewind.
9. Feed the edge trim waste over the new core and into a waste basket.

Additional configurations include:

Edge Waste Wrap. Wrap the edge waste on small cores on the upper mandrel and wrap finished labels on the lower take up mandrel. This requires additional label guides (sold separately). You must wrap both sides of edge trim on the same mandrel to maintain even tension.



Alternating Finish Rollers. This method would prevent finished rolls from interleaving as they are wrapping. However, if edge waste is trimmed this method would probably require a vacuum system to remove the edge waste.



Edge Waste to Weeder. This involves running the waste directly from the Take Up Guide Roller to the underside of the Waste Matrix Take Up roll. This method will increase the size of the waste matrix more quickly and can cause problems for some types of cuts that require very even pulling force to properly pull the matrix.

3.6 Run Job and Evaluate Tension and Guides

You are now ready to run your job.

1. Switch on the Matrix.

2. Switch on either the Upper Rewind, Lower Rewind or both.

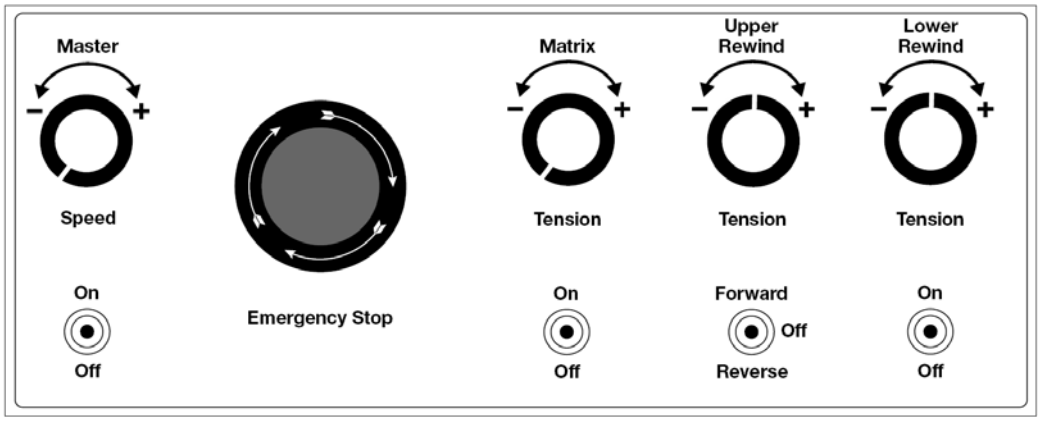
3. Set the tension on the Upper Rewind and Lower Rewind to 50%.

4. Set the tension on the Matrix to 0%.

5. Set the Master speed to the lowest value.

6. Switch on the master switch.

7. Slowly turn up the master speed.



Once the system is running you should evaluate the tension and the roller guides.

Evaluate Tension. The web should be tight at all points along the paper path. You can increase the tension of any of the mandrels. While the system is running, slowly turn the knob to increase tension

- Too little tension will cause the web to gather slack. Over time this will cause a jam and stop the job. It will also create loose finished rolls.

- Too much tension can cause a web break. The most likely place for this to occur is at the weeder.

  If the web breaks the job stops. Web break detection occurs when a sudden change in web tension is detected on any of the 3 or 4 media mandrels.

Note on label curling: If finished labels are curling or peeling up or under on the edges this is an indication that tension on the web is not balanced. Decrease tension on the supply mandrel or lamination mandrel if labels are curling up. Increase tension if they are curling under**.**

Note on Media Environment: 50% humidity and 72 degrees Fahrenheit is the optimal conditions for both storage and use of label stock. Store label stock in protective plastic wrappings. Rewrap partially used stock. Do not store stock directly on concrete floors.

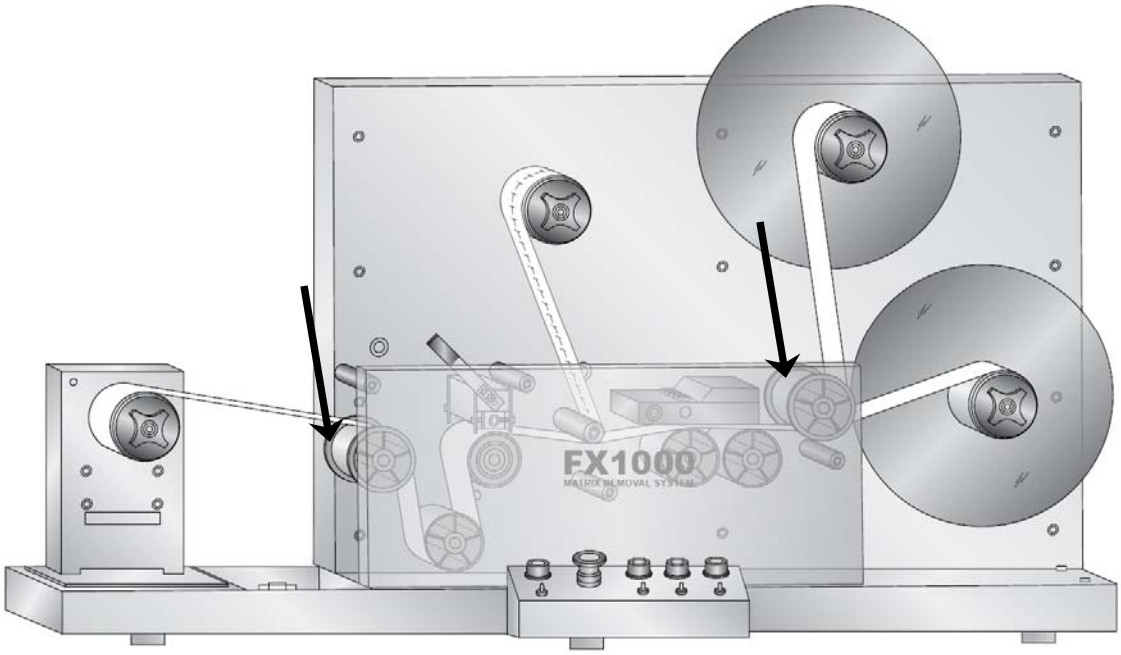
Label stock should be conditioned in this environment for 72 hours prior to use.

Failure to store media in these conditions may result in media tension problems. Too much humidity will cause labels to curl on the edges.

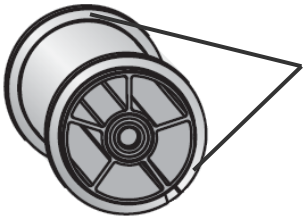
3.7 Adjust Guides

The guide collars will not generally affect the paper path. The web should not be touching the guides. Use them only to gauge whether the web is running straight through the system.

If the web is running too close or over a guide, check the position of the input roll. It is very likely that the roll is not pushed all the back to the stop or the labels are not even with the edge of the core. If the labels are not even with the core loosen the core engagement knob and either push or pull the roll so that the label edge is even with the core stop.



There are two Guide Collars on the FX1000. Use the 2mm hex wrench to adjust the guide collars. Each guide collar as two 2mm hex set screws



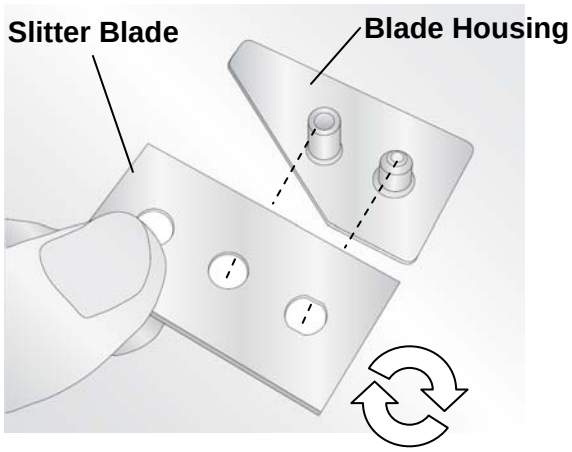
Guide Collars

Section 4: Maintenance and Troubleshooting

4.1: Replacing Slitter Blades

If a blade becomes dull you will need to rotate the blade to one of the four cutting corners. If all cutting corners have been used, you will need to replace the blade. Follow this procedure.

1. Press the release latches to open the slitter station.
2. Loosen the thumbscrew on the slitter blade housing containing the dull blade. Completely remove the thumbscrew.
3. The blade and housing will detach from the opposite side.
4. Rotate or replace the blade.

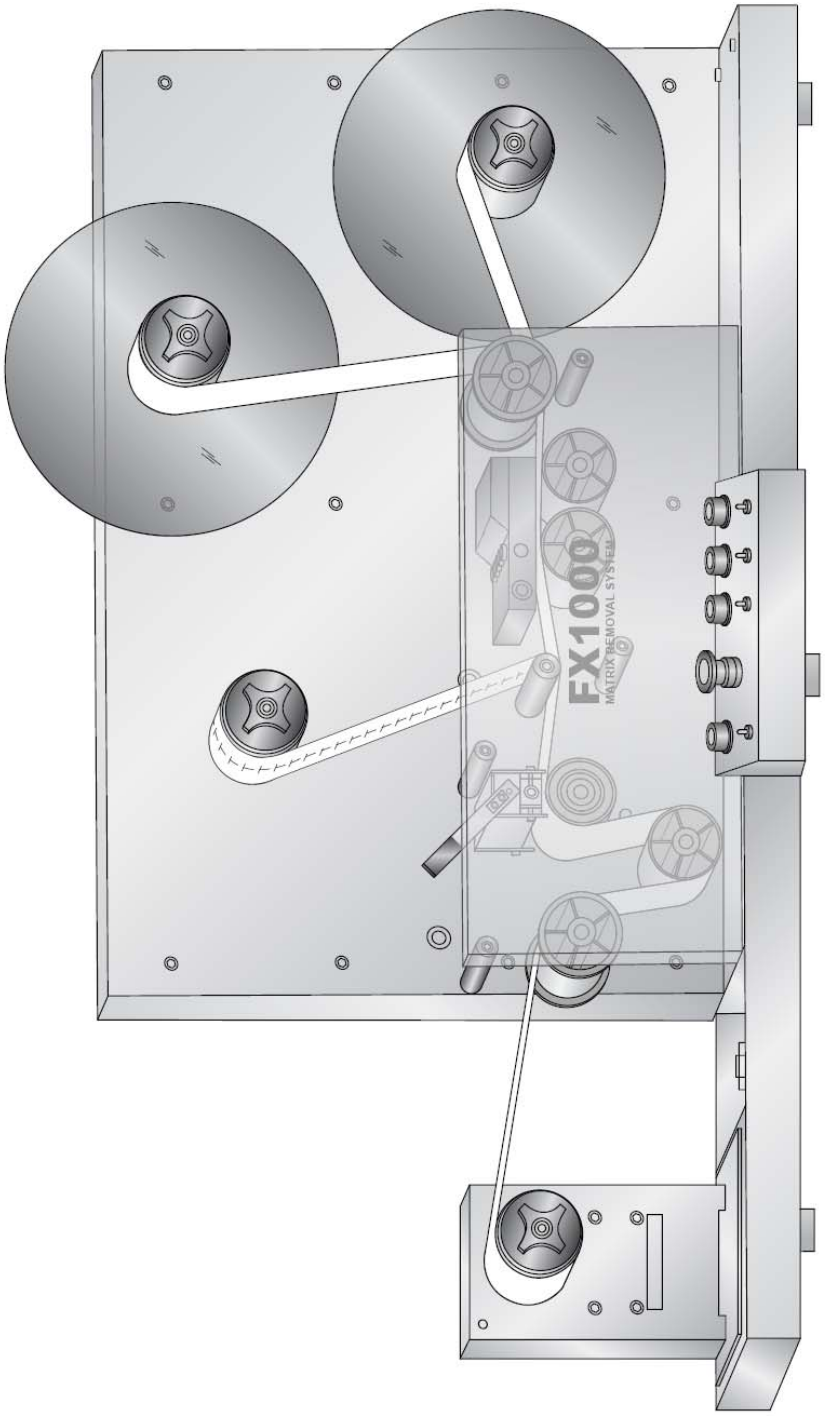


5. Fit the blade over the locator pin and the thumbscrew capture pin.

Tip! Mark the dull blade corners with a permanent marker before rotating the blade.

4.2: Paper Path Diagram

Paper Path Diagram



4.3: Cleaning and Maintenance

Basic periodic cleaning and maintenance is required to keep the FX1000 running smoothly.

Clean Rubber Nip Point Roller

The nip point roller is located on the left side of the unit. Adhesive from the edges of media can build up on this roller. Over time this will decrease the effective pinch pressure of the nip points which can cause the web to slip.

Clean the rollers with isopropyl alcohol. To access the rubber rollers open the nip points and remove paper from the system. Clean each area and then rotate the roller as you clean it.

The upper metal roller can be cleaned by using a small amount of alcohol on a folded paper towel. Feed the paper towel through the nip point with the alcohol facing up. Grab both ends of the paper towel and pull it tight. Move the paper towel up and down the direction of the web while at the same time slowly moving it from front to back. Rotate the metal roller and repeat the procedure.

Clean the inside of the Guide Collars

Over time adhesive can build up here. Clean the collars with isopropyl alcohol.

Label Cut Dust

Label cut dust can accumulate at any place along the cut path. Paper media creates more dust than synthetic material. Dust build up does not cause any specific immediate problems but it can eventually cause problems with the moving parts.

Periodically vacuum the entire paper path and rollers if you notice dust build up.

4.4 Problem - Solution Table

Problem	Solution
Cores are slipping on the mandrels.	1. Turn the core engagement knob tighter. 2. The core inner diameter may be too large. Try different cores.
The matrix is getting caught up in the slitter station.	1. Switch on the Matrix Mandrel. 2. Increase tension.
Paper is walking back to front across the web.	1. The edge of the input roll is not even with the stop disc. 2. The input roll is not wrapped tight enough. Manually pull the roll tighter while it is on the input mandrel.
FX1000 stops in the middle of a job.	Web Break Detection was activated or the Emergency Stop was depressed. 1. Make sure all cores are tight on the mandrels. Turn the core engagement knobs clockwise to tighten them. 2. Check for a torn/broken web (media). It typically breaks at the Matrix mandrel. Reconnect the matrix or take up mandrels. If it continues to break, tension at that point will need to be decreased.
Paper is ripping on the edges	1. Adjust the guide collars outward. (3.7) 2. Check the position of the input roll. Make sure it is even with the stop disc.
Paper is not feeding through the FX1000 but rollers are turning	Close the nip point.
Finished labels or curling up or under.	Too much humidity will cause labels to curl on the edges. 50% humidity and 72 degrees Fahrenheit is the optimal conditions for both storage and used of label stock. Store label stock in protective plastic wrappings. Rewrap partially used stock. Do not store stock directly on concrete floors. Label stock should be conditioned in this environment for 72 hours prior to use.

Section 6: Specifications

Input roll max. diameter:	12” (305mm)
Output roll max. diameter:	12” (305mm)
Minimum web width:	6” (152mm)
Maximum web width:	8.5” (216mm)
Throughput speed:	Up to 4” (101 mm) per second or 20 FPM (6.09 m per minute)
Controls:	Individual on/off and speed control for each mandrel; emergency stop switch
Number of slitting blades:	1 to 7
Operating Environment	Optimal Operating Environment: 40% - 55% relative humidity and 68-74 degrees Fahrenheit (20-23 °C)
Dimensions:	49.5”W x 26.5”D x 28.5”H (125.75 cm W x 57.3 cm D x 72.4 cm H)
Weight (estimated):	220 lbs. (100 kg)
Power requirements:	Internal 300 watt power supply. Input 100-240VAC, output 24v, 13 amp.
Agency certifications:	UL, UL-C, CE, FCC Class A