AL-MEISTER®
AUTO LAMINATOR
ALM3220

Thank you very much for purchasing the FUJIPLA model ALM3220 Auto Laminator. Please read through this manual carefully before operation. Please keep this manual and refer to it whenever necessary.

Ver 1.1 [US]
Ver 2 by Brian Jennett 11/7/11, 4/19/12, 9/25/13, 12/2/13, 2/3/14, 2/28/14, 3/20/14, 3/27/14, 4/22/14, 4/29/14, 10/16/14
(With inclusions from Ver 1.6 [US] 11/6/12, 12/16/14, 1/26/15, 9/8/15 BJ)

FUJIPLA

TABLE OF CONTENTS

1. IMPORTANT SAFETY PRECAUTIONS

The following safety precautions must be observed for your safety during the operation of this product. Please read the cautions and warnings carefully. Please retain this manual and refer to it whenever necessary.

1-1. GENERAL CAUTIONS

Electric Shock Indicates the potential for electric shocks.

Tangling Warning Indicates possible injuries caused by tangling in a rotating machine part.

Amputation Warning Indicates possible serious injuries such as finger amputation.

Heat Warning Indicates the potential for injuries caused by extreme heat.

Don't Do Indicates unspecified acts that are forbidden.

Unplug immediately Indicates a dangerous situation. Unplug the ALM3220 from the wall outlet and call for service.

These two different words are used on the machine according to the level of danger.

WARNING In the case of incorrect use, there can be serious injury.

CAUTION Injury to the operator or damage to the equipment is possible.

1. IMPORTANT SAFETY PRECAUTIONS (cont'd)

1-2. INSTALLATION CONSIDERATIONS
To avoid fire, electric shock, or any danger, do not install the machine in a place like:

🚫   In direct sunshine or near an air conditioner.   🚫   In an extremely humid/dry area.

🚫   In an extremely cold area.   🚫   In/near a heating appliance or extremely hot area.

🚫   In an extremely dusty area.   🚫   On an uneven or shaky floor.

1-3. POWER SUPPLY/GROUND WIRE
1. Use the appropriate power supply. Always connect to AC120V. Unstable voltage may cause electric shock, fire, or damage to the machine. Always avoid using multiple outlet connections.

2. Pay attention to the amperage. Unless the amperage is enough, it may cause fire or malfunction. A dedicated circuit is highly recommended.

3. Ensure a ground connection is correctly made to avoid any danger or electrical problems. Do not alter the power cord.

4. Handle power cord with care.
Do not set the machine on the power cord. Do not pull the power cord forcibly.
Do not place the machine near heated equipment.

Damage to the power cord may cause fire, electric shock or damage to the machine and the operator.

1. IMPORTANT SAFETY PRECAUTIONS (cont'd)

1-4. SAFETY PRECAUTIONS

Always follow these instructions for safe operation.

1. WHAT TO WEAR

In order to avoid any possible danger
• Do not wear neck-ties or necklaces that are loose.
• Do not wear loose clothes. If entangled, turn off the power or unplug immediately.
• Be careful that your hair does not get caught in the machine.

2. OPERATION

• Always close the covers.
• When you are in a closed room, ventilate well.
• Do not spill water on the machine or handle it with wet hands.
• Do not leave the machine during operation. The socket outlet should be installed near the equipment and be easily accessible.

3. IN AN EMERGENCY

• If a malfunction occurs switch off and/or unplug immediately.
• Contact your dealer or DryLam Tech-Line.
• Do not attempt to disassemble/repair /alter the machine yourself.

4. OTHER CONSIDERATIONS

In order to avoid serious personal injury or damage to the machine:
• Do not use the machine for any other purposes than what it was designed for.
• Do not put heavy items on the machine or subject it to physical abuse.
• Always unplug the machine before moving it.
• Remember that the laminated objects can be very hot.
• Machine may be damaged when incorrectly used.
• Do not drop metal items such as paper clips or staples inside the machine.
• Do not remove the covers from the machine or otherwise defeat the safety switches.
• Never alter or modify the machine.
• Do not remove caution labels from the machine.
• Always use our exclusive AL-ROLL lamination film.

1. IMPORTANT SAFETY PRECAUTIONS (cont'd)

1-4. SAFETY PRECAUTIONS (cont'd)

Do not laminate:
• Money or valuable securities.
• Paper with staples.
• Magnets, or magnetic documents.
• Flammable paper or material that is affected by heat such as vinyl chloride or polyethylene.
• Unique and irreplaceable documents.
• Paper thicker than 0.4mm including film thickness.
• Paper that discolors and changes in quality with heat such as thermal papers and crayoned pictures.
• Paper that contains a lot of moisture.
• Items other than paper (magnets, vinyl, etc.)
• Paper that is curved or has creases.

CLEANING OF EXTERIOR

Be sure that the machine is unplugged.
Before cleaning the machine turn off the power and let the machine cool down.
Wipe off stains with a soft cloth. When stains are persistent use a firmly squeezed soft cloth soaked in a small quantity of water or detergent. Wipe off the residue of detergent with a cloth soaked in water.

USEFUL INFORMATION – FILM END

This model has a function that gives caution that the film will end soon. The final few feet of film has either black colored film or the black colored tape on the film. Please note when doing continuous lamination, that one or two sheets may be laminated with the black tape when film runs out. Therefore, in order to avoid this problem, please check the remaining film amount on the display from time to time. It is recommended to provide extra prints when laminating.

RECYCLING INFORMATION

This is a serviceable electronic device which contains components which should be replaced at the end of their effective lives. You can help control emerging risks by disposing of the electronic device separately from your domestic waste. Electric and electronic devices marked with a crossed out waste bin indicate that these products should not be disposed of together with domestic waste as there may be a severe impact on the environment as well as human health due to the possibly of hazardous materials.

2. COMPONENT NAMES AND FUNCTIONS

2-1. INCLUDED ACCESSORIES
Please check all these components are included.

- ALM3220 Auto Laminator
- Feeder Tray
- Feeder Tray Extension
- Exit Tray
- Power Cord
- Instruction Manual
- Waste Collection Box
- Stand
- Stand Assembly Instructions
- Tool for assembling Stand
- Screws for assembling Stand
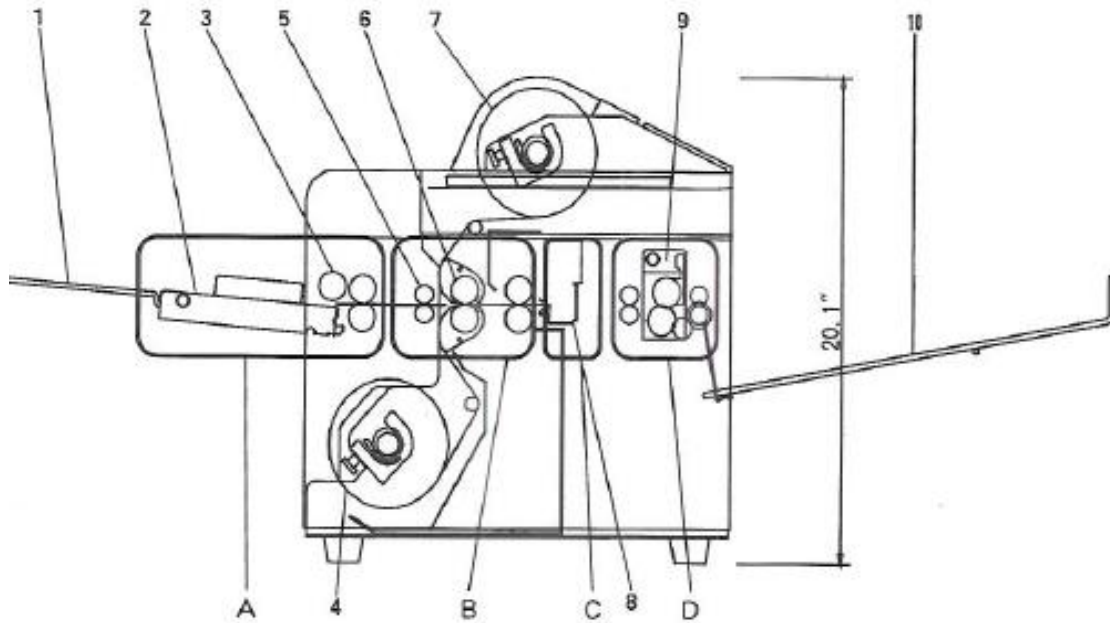
2. COMPONENT NAMES AND FUNCTIONS (cont'd)

2-2. EXTERIOR VIEWS
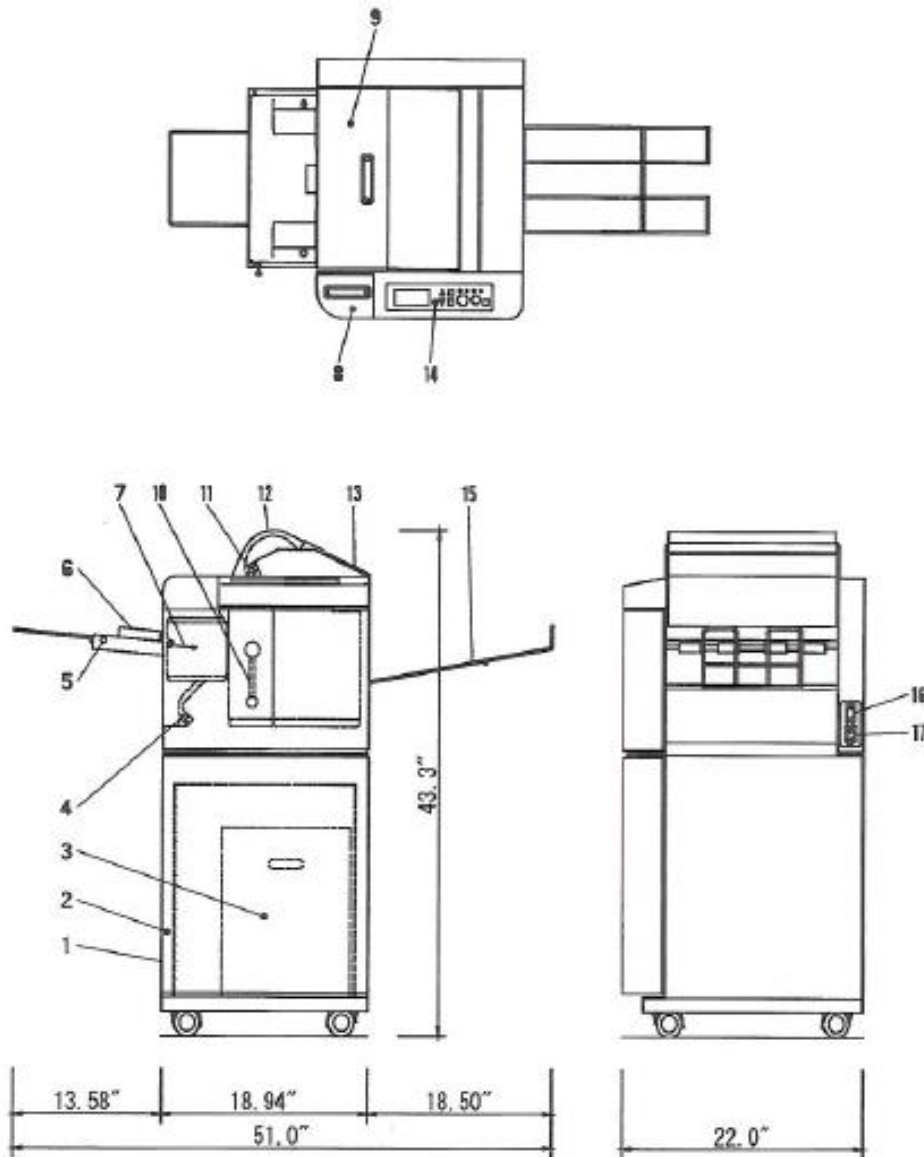
1	Stand	10	Operation Lever
2	Stand Door	11	Upper Tension Controller
3	Waste Collection Box	12	Roll Film Cover
4	Lower Tension Controller	13	Trimmer Cover
5	Feed Adjustment Knob	14	Operation Panel
6	Feeder Tray	15	Exit Tray
7	Feeder Flex (Paper Pressure Lever)	16	Power Switch
8	Front Cover	17	AC Inlet
9	Feeder Cover		

2. COMPONENT NAMES AND FUNCTIONS (cont'd)

2-3. INTERIOR VIEWS

	SECTIONS	
A	Feeder Section	
B	Lamination Section	
C	Cutter Section	
D	Trimmer Section	
	COMPONENTS	
1	Feeder Tray Extension	For letter, double letter and digital paper size laminations
2	Feeder Tray	Tray for paper
3	Feeder Roller	Picks paper from feeder tray and aligns it at the Stopper/Gate Rollers
4	Lower Film Roll	
5	Stopper/Gate Roller	Corrects skew and feeds paper to lamination rollers
6	Heat Rollers	Laminates upper and lower films with heat and pressure
7	Upper Film Roll	
8	Cutter Unit	Cuts front and back of the film (leading and trailing edges)
9	Trimmer Unit	Cuts sides of paper (operator and non-operator sides of the machine)
10	Exit Tray	Tray for finished papers

2. COMPONENT NAMES AND FUNCTIONS (cont'd)

2-4. OPERATION PANEL
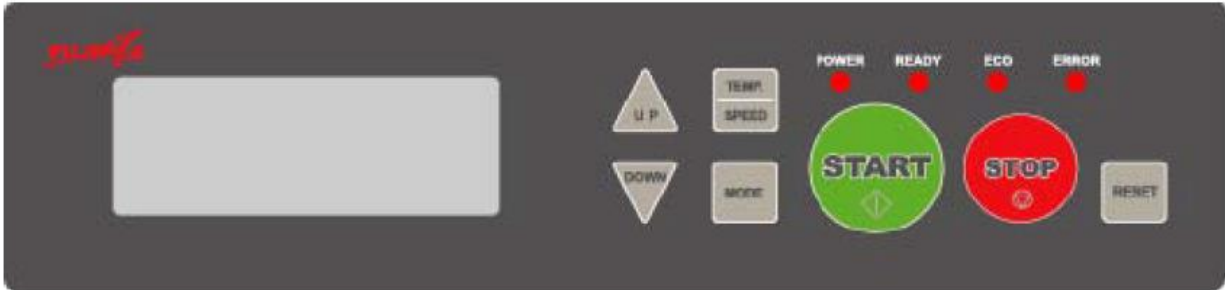
|		
START	START	Press to start operation
STOP	STOP	Press to stop operation.
RESET	RESET	Press to return to the operation mode and to reset the counter.
UP	SCROLL (UP)	Press to raise set value.
DOWN	SCROLL (DOWN)	Press to reduce set value.
MODE	MODE	Press to select MODE setting.
TEMP./SPEED	TEMP/SPEED	Press to select temperature or speed setting. Press continuously to see the current temperature.
POWER	POWER LAMP	Indicates the power is on.
READY	READY LAMP	Indicates that the set temperature has been achieved.
ECO	ECO LAMP	Lights during the power saving mode.
ERROR	ERROR LAMP	Lights when an operation error occurs. To aid in servicing note the error message that is generated on the LCD display.
	LCD DISPLAY	Shows status of the settings. See Chapter 2-4 LCD DISPLAY.

2. COMPONENT NAMES AND FUNCTIONS (cont'd)

2-5. LCD
POWER UP/WARM UP

ALM3220

Ver.B03.1

When powered up the LCD will indicate the model and software version.

————— WARM UP —————

TEMP = 210

/ F

1
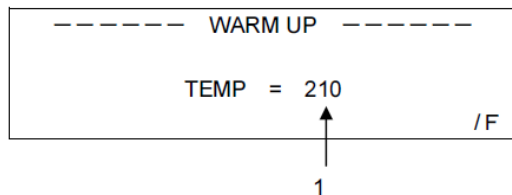
In a few seconds the LCD will indicate that the machine is being heated up.
Operation is not possible during this time.

1) Indicates the set temperature in Fahrenheit.

When the machine's heat is being regulated the buzzer beeps three times.

READY appears if machine is fully heated. If the machine has been properly threaded it is ready to be run in automatic mode. To thread the machine see chapter 3 on page 13.

2   3

———— READY ————
TEMP : 210   SPEED : 40
MARGIN : ON
SET COUNT : MULTI

4   5
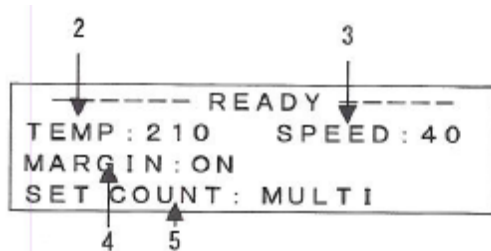
2) [TEMP] indicates the set temperature in Fahrenheit.

3) [SPEED] indicates the set speed in inches per minute.

4) [MARGIN] indicates that the trimming and cutting is with/without margin on the front and back (leading and trailing edges) of the laminated paper. NOTE: A "margin" is a (sealed) edge of film around the laminated paper.

Example: MARGIN:

ON   ••   A 0.12"laminated margin has been added to your CUT ADJUST setting.
OFF   ••   No laminated margin has been added to your CUT ADJUST setting.

5) [SET COUNT] indicates number of the papers to be processed.

2. COMPONENT NAMES AND FUNCTIONS (cont'd)

Example: SET COUNT:

MULTI   ••   laminates all the paper on the feeder tray.

012/100   ••   indicates the set number (100) and the number of processed sheets (12 have been finished).

2. COMPONENT NAMES AND FUNCTIONS (cont'd)

2-6. OTHER OPERATION SWITCHES
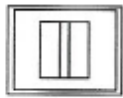
Open the trimmer cover.

1) Manual MOVE Switch
Use to set/feed film or to take out paper when it is stuck
To feed forward, turn the switch to left.
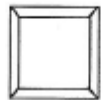To feed backward, turn the switch to right.
* Set the trimmer adjuster to Film Set position.

2) Manual CUT Switch
Use when setting film or cutting film which is stuck in the laminator. It only works once.
*It does not work when a cutting error has occurred.

CAUTION: Manual Switch works on any setting. Account for all film going into the machine. If film does not exit the discharge in less than 5 seconds **STOP!** Film may be accumulating within the machine. If this is allowed to continue, damage to the machine will occur.

*If you believe an excess amount of film has gone into the machine release the MOVE switch. Raise the Lamination Handle and pull the film back out the front of the lamination area. Use the MOVE switch to assist.

*When you use the manual MOVE Switch, move enough film out the discharge to grab on to. Then CUT the film by using the manual CUT Switch. Pull out the cut film/paper from the discharge.

*After the film waste has been pulled from the discharge the machine is ready to be run in automatic mode. Do NOT run the MOVE switch again unless CUT is performed immediately afterward.
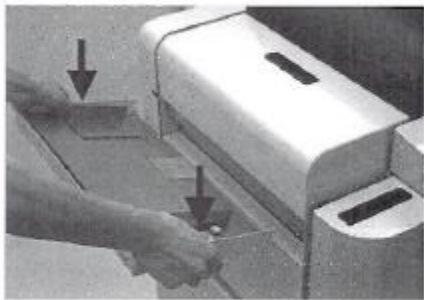
3. INSTALLATION OF THE ALM3220

3-1. INSTALLING THE ALM3220

Allow an area about 18"' around the machine and trays for operation.
*Read the safety instructions regarding installation carefully.

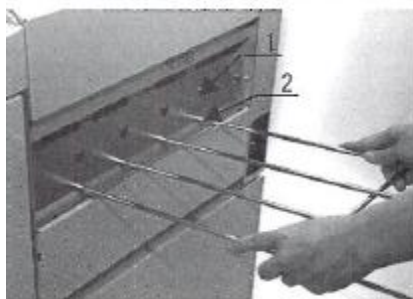### 3-2. SET FEEDER TRAY

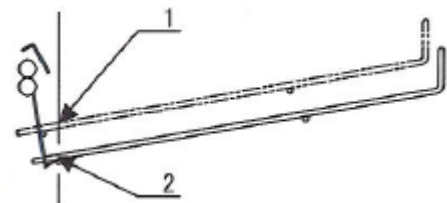Attach the tray by holding the feeder tray downward.

* When you laminate materials in double letter and digital paper sizes set the extension tray on the feeder tray as shown.

3-3. SET EXIT TRAY

Attach the exit tray firmly in the holes. Select upper or lower holes according to the film thickness.

1	1.5mil - 3 mil film thickness
2	4mil -5 mil film thickness

3. INSTALLATION OF THE ALM3220 (cont'd)

3-4. SET WASTE COLLECTION BOX

Open the door. Set the waste collection box to the right so that there is no space between the box and the side.

3-5. CONNECT POWER CORD

Connect power cord to the machine firmly.

4. INITIAL THREADING OF THE ALM3220 (MANUAL MODE)

1. AL-ROLL film is the exclusive lamination film for the ALM3220. The ALM3220 can perform double sided, or single lamination. Regardless of single side or double side lamination **always use a combined set of upper and lower film rolls from the same box**. Prior to loading film inspect the rolls for possible shipping damage. Some steps shown in the following procedure will vary depending of which type of lamination is to be performed.

 CAUTION Do not install damaged or "shifted (telescoped)" rolls of film on the ALM3220.

2. Open the cover at the trimmer. Adjust the levers to the FILM SET position. Adjust both left and right levers. Do not close the cover for the next step.

 CAUTION **Always make sure that the levers are at the film set position when threading.** Otherwise, the threading card will get caught on the trimmer blades. Damage to the trimmer blades and jamming of film may occur.
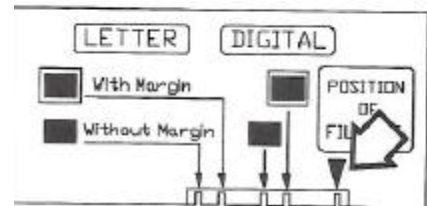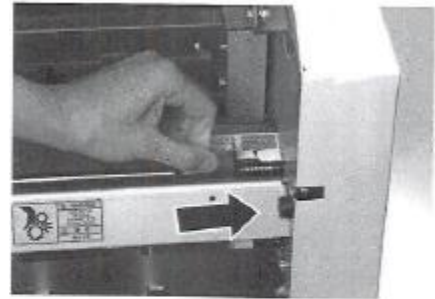
3. Open the covers in the following order: Front Cover, Feeder Cover and Film Cover. Feeder Cover can only be opened when the front cover is open.

NOTE: Components on the inside of the machine get very hot. Always be careful.
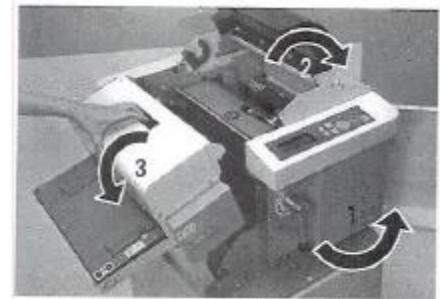
4. Loosen the two tension controllers, if necessary. Set the roll of film in the upper mandrel holders. However, the black tape on the film roll end should match up with the one on the mandrel holder.
DOUBLE SIDE: Either film roll may be used in either upper or lower position.
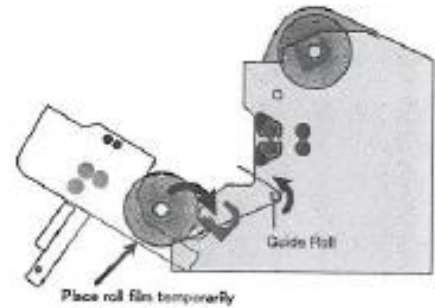**SINGLE SIDE:** Use the roll with adhesive for the upper roll.
NOTE: If the film roll is incorrectly loaded adhesive may contact the heat chambers or rollers and cause damage.
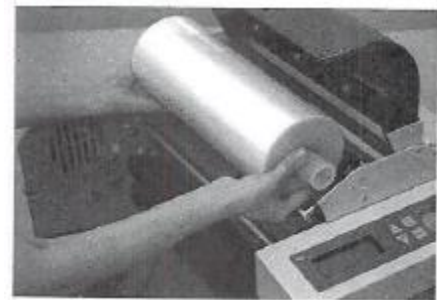
4. INITIAL THREADING OF THE ALM3220 (cont'd)

5. For the lower film roll, place it back from the mandrel holders in the feeder area.

6. Pull about 8-10" of the film off the roll.
DOUBLE SIDE: Thread the sheet of film behind and up around the lower rotating idler bar.
SINGLE SIDE: Do not thread the sheet behind the lower
Loosen the two tension controllers, if necessary. Place the film roll in the lower mandrel holders firmly. Lay the end of the film back on top of the film roll.

NOTE: If the film roll is incorrectly loaded adhesive may contact the heat chambers or rollers and cause damage.

7. Raise the Lamination Handle to the OPEN position to separate the chambers and heat rollers.

8. Pull the upper film off the roll. Pull it down and **over the upper rotating idler bar**. Bring the end of the film down until it just touches the lower film. This should overlap both chambers by a few inches.

Bring the lower sheet of film up and over the upper sheet of film. There should now be two sheets of film crossing overlapping the heat chambers by about 8"

NOTE FOR SINGLE SIDED LAMINATION: The lower sheet of film should be coming straight up off the film roll and into the heat chambers. **Single sided film should not be threaded around the lower rotating idler bar.**

4. INITIAL THREADING OF THE ALM3220 (cont'd)

9. Using an 11" long threading card, push both sheets of film between the chambers (and into the 'nip'). Holding the card level continue to push both sheets of film all the way through the machine. There should only be 1" of threading card exposed at the fronts of the chambers at this time.
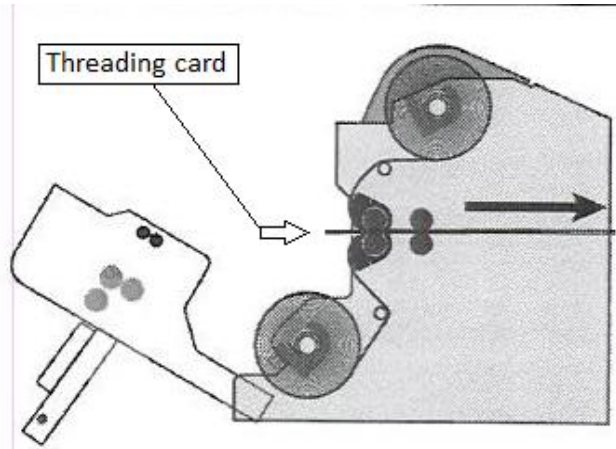
If the threading card will not pass a point about 4" into the machine it is likely being stopped by the film guides on the Cutter Unit. The threading card MUST pass yet another 4", or so, beyond that point before the lamination handle is lowered. Putting plenty of slack in the film and holding the threading card as level as possible and "stabbing" the card until it passes through the film guides will help to get the card fully inserted. If this part of the threading is not performed correctly damage to the film guides on the Cutter Unit, or other damage to the machine will result.

10. Do NOT lower the Lamination handle at this time.

11. Turn on the power switch, if not already on.

NOTE: During the following instructions (i.e. during "normal threading") do not use the "MOVE" switch without the intent of "moving" film out of the rear of the laminator. Always use the "MOVE" switch until film appears at the exit (but, do not use over 10 seconds if film does NOT exit). Then, and always, use the "CUT" button and pull that sheet of waste from the exit.

12. Push the Manual MOVE Switch towards the exit of the machine. Even though the Lamination Handle is up the threading card and film should start to move. If they do not move it may be necessary to push the threading card firmly at the chambers to make it engage the rollers at the exit. In one or two seconds the threading card, along with two sheets of film should exit the discharge.

4. INITIAL THREADING OF THE ALM3220 (cont'd)

CAUTION

If the card and film to do exit the machine within 5 seconds **STOP!** Film could be accumulating within the machine. If this is allowed to continue damage to the machine will occur!

If the threading card and film do not emerge from the discharge **within 5 seconds** pull the threading back out of the nip and repeat the threading process at step 6. **If the machine is not threaded properly damage will occur.**

13. After the threading card and film combination emerge lower the Lamination Handle.
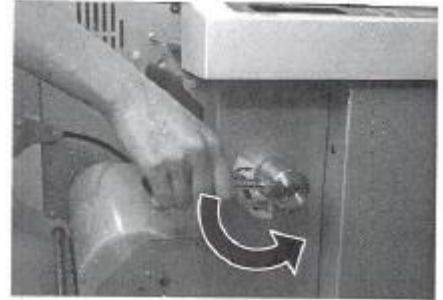
14. Perform the remainder of this procedure with the machine warmed up (READY light on). Before running paper in the machine in automatic mode examine the lamination quality of the film.


15. It is very important to look at the film as it exits the discharge. It should be well laminated (clear) and free of wrinkles. If wrinkles are observed adjust the tension knobs slightly on the film rolls. If the film is curled that could be an indication that the tension of one of the film rolls is tighter than the other. Film must exit the machine flat. If there is curl in manual mode (using the manual MOVE switch) there may be curl during automatic mode which will produce errors and possible damage to the machine.

4. INITIAL THREADING OF THE ALM3220 (cont'd)

16. **DOUBLE SIDE LAMINATION ONLY:** Adjustment of tension controllers:

There are four (4) tension controllers. Two for the lower film roll and two for the upper film roll. The purpose of the tension controllers is to apply resistance or "drag" on the film rolls which makes the film lay flat on the heat chambers and thereby eliminates creases and bubbles in the lamination. It is recommended that the right side and left side controllers on each roll be adjusted with the same amount of tension. The top pair of controllers versus the bottom pair of controllers may vary slightly only to eliminate "curl" in the laminated piece. If the laminated piece curls upward loosen the two upper controllers or tighten the two bottom controllers. If the exiting laminated piece curls downward, do the opposite and make the lower controllers looser than the upper controllers.
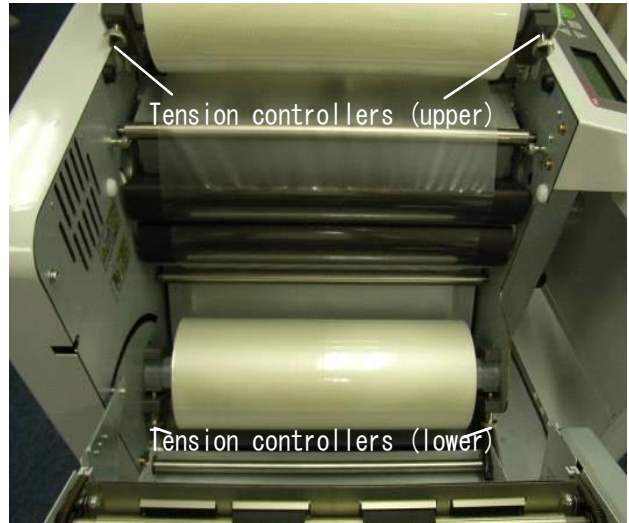
NOTE: Single sided lamination: Do not apply any tension to the upper or lower controllers. Leave all 4 thumbscrews loose.

17. When the laminator has "warmed-up" and the READY light is on, use the manual MOVE switch to run samples of film out of the laminator. Observe these samples for clarity and freedom from wrinkles. When all of the bubbles, wrinkles and creases disappear from the lamination and the film is lying flat on the heat shoes the machine is ready to be run in "automatic mode". If these lamination defects are not disappearing in a reasonable amount of film footage (3 or 4 feet), slightly increase tension on the controllers (equally). See Step 18.
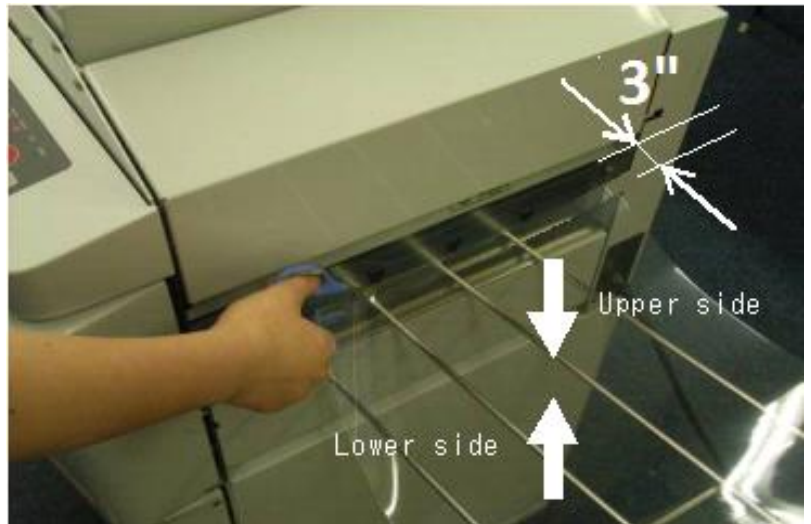
18. Test for film curl. This is important. If film will not exit the machine in "manual mode" in a "flat" state there may be jams and wraparounds occurring when the machine is run in "automatic mode".

If not already done, push the manual MOVE switch forward until about one (1) foot of film has exited the laminator. Then, using a pair of scissors cut the laminated film at a point approximately three (3) inches out from the laminator. Be sure to identify the upper side of the film from the lower side of the film.

4. INITIAL THREADING OF THE ALM3220 (cont'd)
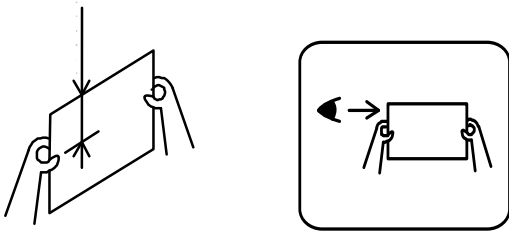
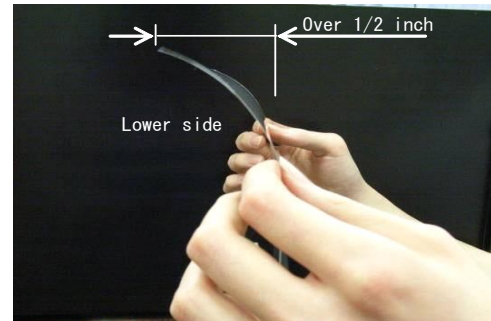19. Hold the film vertically about 2 inches from the cut side. Look at the film from the side.
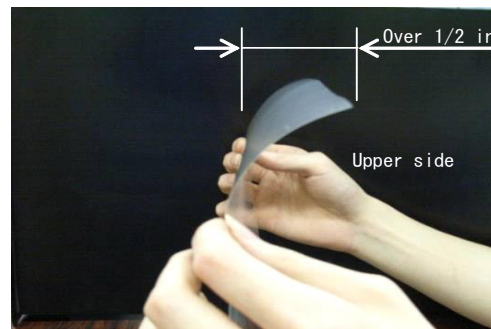
•If the curl is less than 1/2'' from the vertical plane, there is no need to adjust.
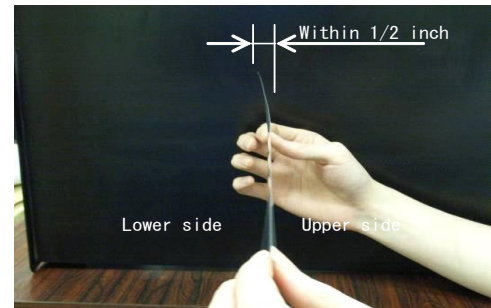
•If the curl is more than 1/2" to the lower side, tighten the two upper tension controllers with half turn.

•If the curl is more than 1/2" to the upper side, loosen the two upper tension controllers with half turn.
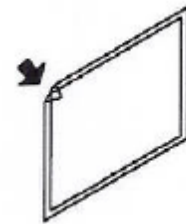
4. INITIAL THREADING OF THE ALM3220 (cont'd)

Minimizing the curl may avoid problems as shown below. If film is allowed to curl it will curl up or down into interior areas of the machine. This will results in errors and possible damage to the machine.
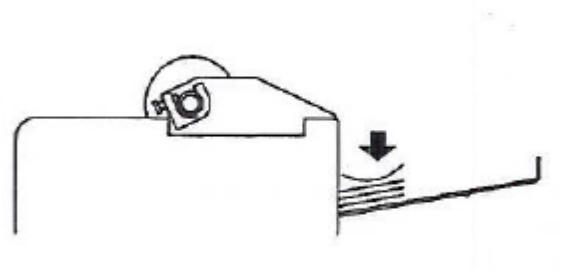
NOTE: DOUBLE SIDED LAMINATION ONLY: The proper tension set with new film rolls will likely be too great as film rolls get smaller with use. Too much tension will result in noise, poor performance and increased wear on the chambers and other internal components. Also, as film rolls reduce in diameter due to use, curling may begin. If curling is allowed to continue film may curl back up inside the ALM3220 and causes jams and wraparounds. If so, re-adjusting the tension controllers may be necessary.

Other results of poor tension controller settings:
A) The corner of the laminated film is folded.

B) Lamination scrap comes out with laminated film.
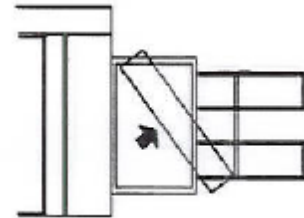
C) Jammed film/paper occurs.

In these cases remove the jammed film.
Follow the trouble shooting procedures of the instruction manual.
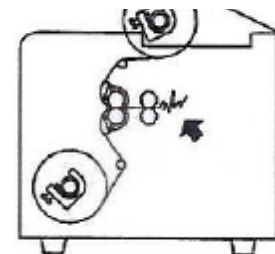
4. INITIAL THREADING OF THE ALM3220 (cont'd)

20. When:
- Film is properly overlapped
- Film is clear with no wrinkles or bubbles
- There is no curling in the film
- Film IS exiting the exit of the laminator

… the "CUT" button should now be pressed.

21. Pull the film that is exiting the laminator.
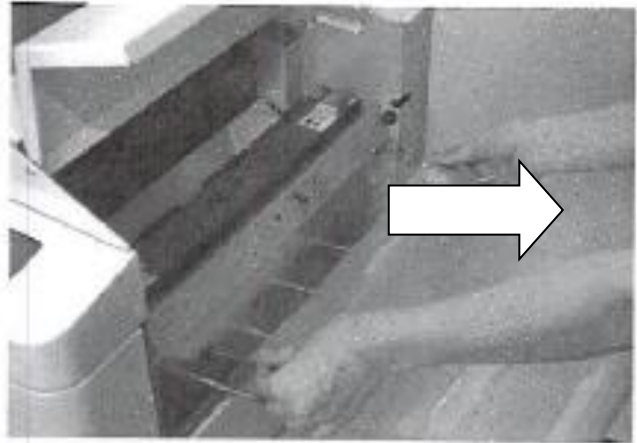
22. Set the Trimmer levers at their desired positions.
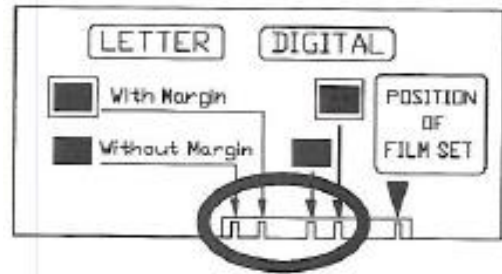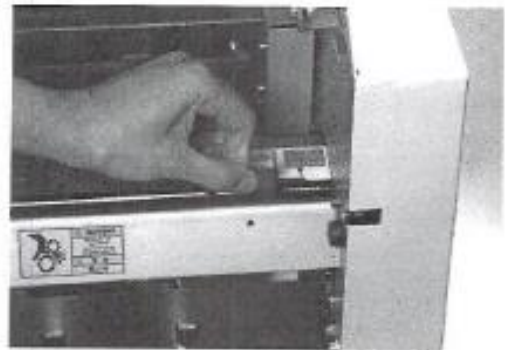
23. Close all the covers in the order of Film Cover, Feeder cover and Front Cover. The machine is ready for automatic operation.

5. AUTOMATIC OPERATION

5-1. WARM UP

CAUTION: Automatic mode should not be performed until the machine has been set up properly in Manual Mode. See page 16 for details.
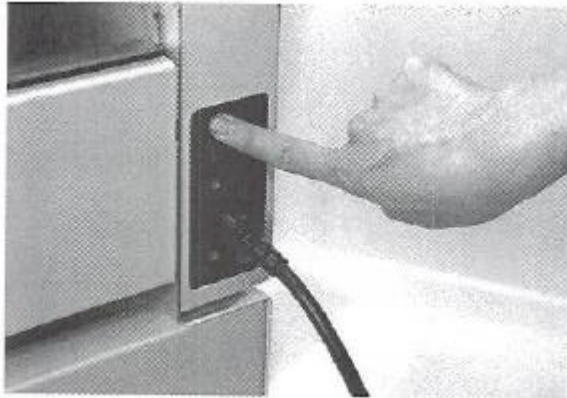
Connect the power cord to the wall socket. Turn on the power switch.

ALM3220

Ver.B03.1
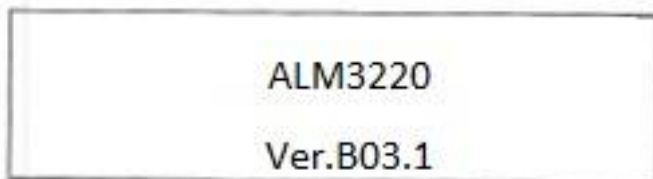
This display appears for 3 seconds.

─────── WARM UP ──────

TEMP : 210

／F
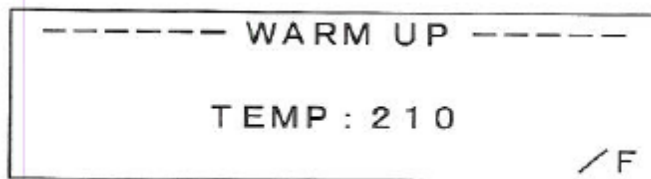
The POWER lamp lights and WARM UP appears on the screen.

5. AUTOMATIC OPERATION (cont'd)

5-2. SETTINGS

5-2-1. SET TEMPERATURE
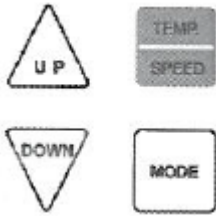
Press TEMP./SPEED key once.

```
------- SETTING -----

TEMP : 210
                    /F
```
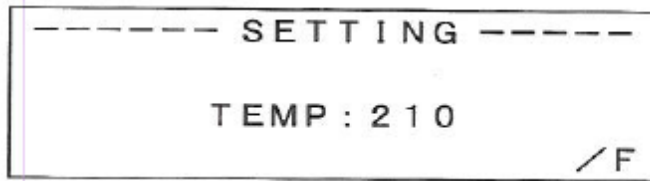
* The default is set at 210F. This is the power on default and may not be high enough for some paper stocks.
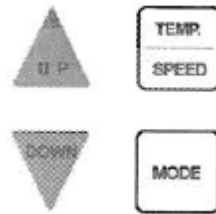
Press UP or DOWN key to set temperature. Temperature can be set in 10F increments. The temperature display blinks.
Press TEMP./SPEED key to confirm the temperature.

This table shows an example of temperature settings for different film and paper thicknesses. It pays to experiment with different temperatures and speeds to achieve quality laminations.

Film thickness	Copying paper	Thicker paper
1.5mil	210F - 40"/min	220F - 40" /min
3mil – 4mil	220F - 40" /min	230F - 40" /min
5mil	230F - 40"/min	240F - 40" /min

5. AUTOMATIC OPERATION (cont'd)

5-2-2. SET SPEED
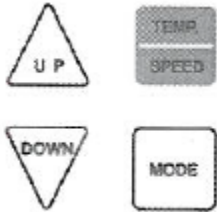
Press TEMP./SPEED key twice on the READY screen.

```
------ SETTING ------

    SPEED : 40
            inch/min
```

* The default is set at 40"/min.
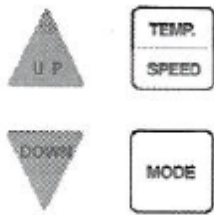
Press UP or DOWN key to set speed.
The speed can be set by 4"/min increments.
The speed display blinks. Press TEMP./SPEED key to confirm the speed.
Press TEMP./SPEED key again to return to the previous display.

5. AUTOMATIC OPERATION (cont'd)

5-2-3. SET MARGIN
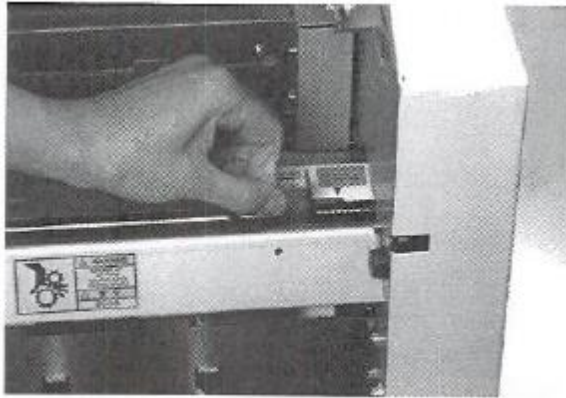
CAUTION: **Do not adjust the Trimmer Levers while the machine is running!**
Open the trimmer cover.
Adjust both the left and right levers to set either with or without margin.
The lever should be fixed in the appropriate groove firmly.
Close the cover.
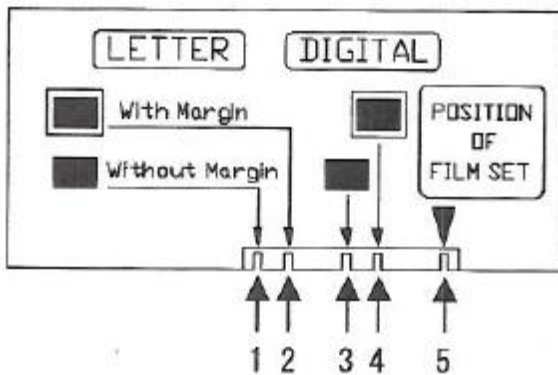
1) Without margin (without laminated frame)
2) With margin (with laminated frame)
3) Without margin (without laminated frame)
4) With margin (with laminated frame)
5) FILM setting position

*1 and 2) for letter size and double letter size widths
*3 and 4) for digital paper size widths

NOTES:
- When setting film, always set the lever to 5 (Position of Film Set). Otherwise the threading card used for film setting may cause damage to the trimmer blades and will not exit properly.
- Do not move the levers when the ALM3220 is running or when there is film remaining in the trimmer unit.

5. AUTOMATIC OPERATION (cont'd)

```
−−−−−− READY −−−−−
TEMP:210     SPEED:40
MARGIN:ON
SET COUNT: MULTI
```

Lamination with laminated frame is shown as MARGIN:ON.

```
−−−−−− READY −−−−−
TEMP:210     SPEED:40
MARGIN:OFF
SET COUNT: MULTI
```

Lamination without laminated frame is shown as MARGIN:OFF.

5. AUTOMATIC OPERATION (cont'd)

5-2-4. SET COUNTER
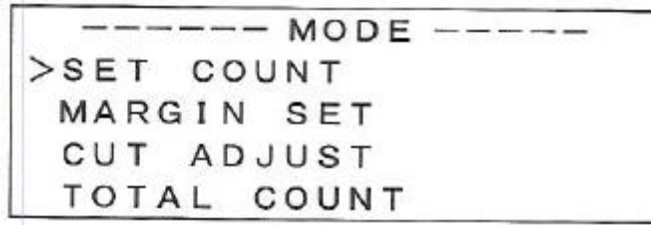
```
------ MODE ------
>SET COUNT
 MARGIN SET
 CUT ADJUST
 TOTAL COUNT
```
Press MODE key.
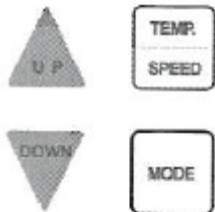
Move cursor by using UP or DOWN key.

Press MODE key to confirm.

[SET COUNT]
Set the number you want to laminate.
NOTE: Defaults to MULTI after power outage.
[MARGIN SET]
Make cuts either with, or without margin.
NOTE: Defaults to MARGIN ON after power outage.
[CUT ADJUST]
This parameter adjusts the cutting positions at the leading and trailing edges of each sheet.
NOTE: These settings are retained in memory after a power outage.
[TOTAL COUNT]
Total Count indicates the accumulated number of laminations since the RESET button was pushed.
NOTE: This record is retained in memory after a power outage.

5. AUTOMATIC OPERATION (cont'd)
5-2-4. SET COUNTER (continued)

```
----- SET COUNT -----

        MULTI
```
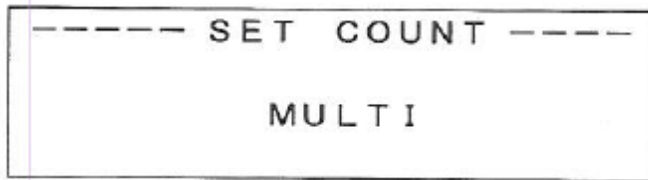
Select SET COUNT.
NOTE: Defaults to MULTI after power outage.
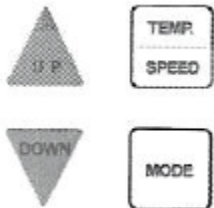
Press UP or DOWN key to enter numeric values. You can set up to 200 sheets. Unspecified number of lamination is displayed as multi.
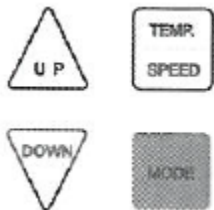
Press the MODE key one more time to confirm. The display returns to the previous display.

5. AUTOMATIC OPERATION (cont'd)
5-2-4. SET COUNTER (continued)

Example of setting 100 sheets:

```
------ READY ------
TEMP : 2 1 0     SPEED : 4 0
MARGIN : OFF
SET COUNT :  0 ⁄ 1 0 0
```

In this example:
0: finished number/100: set value

Lamination errors do not affect counting

Example of setting multi:

```
------ READY ------
TEMP : 2 1 0     SPEED : 4 0
MARGIN : OFF
SET COUNT :  MULTI
```

When you select multi all the papers in the feeder tray will be laminated.

* The default is set to multi.

5-2-5. MARGIN SET

```
---- MARGIN  SET ----
          >ON
           OFF
```

Select MARGI N SET.
NOTE: Defaults to MARGIN ON after power outage.
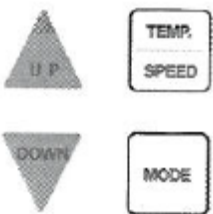
Press UP or DOWN key to turn MARGINS on or off.
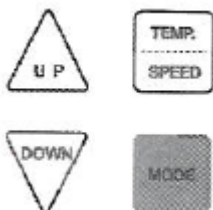
Press MODE key to confirm.

5. AUTOMATIC OPERATION (cont'd)

5-2-6. SET CUT ADJUST

This function adjusts the cutting positions at both the leading, and trailing edges of the paper.

```
———— CUT  ADJUST ———
  >F:OO  inch
   B:OO  inch
```

Select Cut Adjustment from the Mode display.
NOTE: These settings are retained in memory after a power outage.
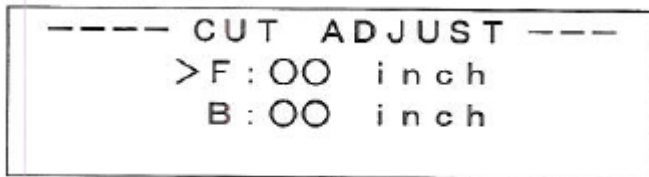
*Attention: Please read and take note of the value shown on the display before adjusting. Each unit has its own value. The numbers seen are relative only to this particular machine.

Press TEMP/SPEED key and move the cursor to F or B.

F: cutting position at the front end (leading edge)

B: cutting position at the back end (trailing edge)

Set value using the UP/Down buttons. Adjustment can be done between - 0.20" and + 0.20".

The **more positive** the number the more margin of film around the paper will remain.

The **more negative** the number the close to the paper the cutting will occur (with the possibility of cutting into the paper itself).

Press MODE key or wait for 5 sec. to get back to the mode display.

5.2.7. SET TOTAL COUNT

```
———— TOTAL  COUNT ———

      1 2 3 4 5 6 7 8 9
```
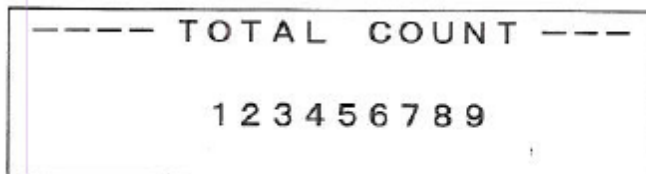
Select TOTAL COUNT from MODE display. The accumulated number of laminations is shown. Counts up to 99999999 until counter is reset.

Press RESET key to return the counter to "0".

5. AUTOMATIC OPERATION (cont'd)

5.2.8. PAPER PRESSURE ADJUST
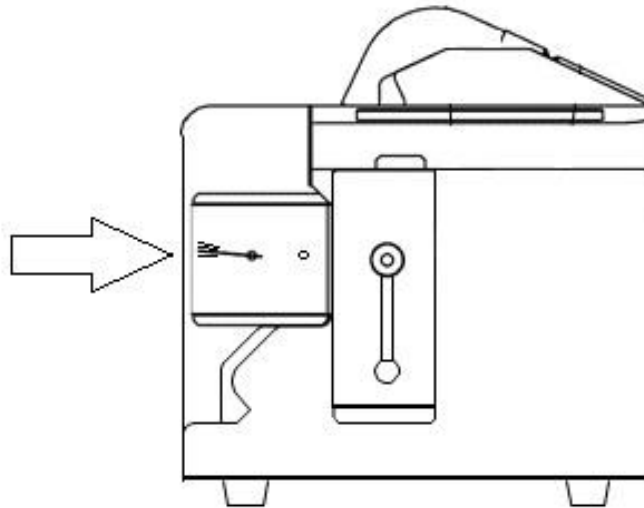
The Paper Pressure Adjust lever controls the amount of resistance applied to the stack of paper in the feeder tray to keep more than one sheet from being drawn from the tray and entering the lamination area.

- Upwards = more resistance to multiple sheets being drawn from the tray
- Downwards = less resistance to multiple sheets being drawn from the tray

PROCEDURE:

1. Remove the Paper Pressure Adjust lever from its current slot and adjust the amount of pressure as follows:
    a. If too many sheets are being fed at once adjust the lever **upwards**.
    b. If sheets are slow to enter, or will not enter at all (to the point that "LAMINATION ERROR", or other similar errors occur) adjust the lever **downward**.
2. Place the lever in the correct slot.

HINT: If sheets are not being pulled off the tray completely adjust the lever downward. If more than one sheet is drawn in consistently, move the lever upwards.

It is recommended to try one slot at a time until the optimal placement is found.

HINT: When "Lamination Error" and "Feeder Error" appear frequently adjust this lever downward slightly (in 1/8" increments).

5. AUTOMATIC OPERATION (cont'd)

HINT: There is no "perfect" setting. Experimentation is key. It is better to have the occasional sheet NOT drawn off the tray (i.e. lever set too high) than it is to have **too many** sheets drawn from the tray and entering the lamination section where jams can happen (i.e. lever set too low).

In some cases it may be necessary to raise or lower the lever beyond the slot range provided. These cases are rare but, if necessary, hold the lever in the optimal position with a magnet or adhesive tape.

5. AUTOMATIC OPERATION (cont'd)

5-3. SET PAPER
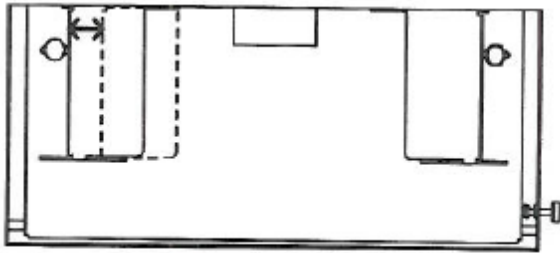
Loosen knobs to adjust the paper guide (left) according to paper size.
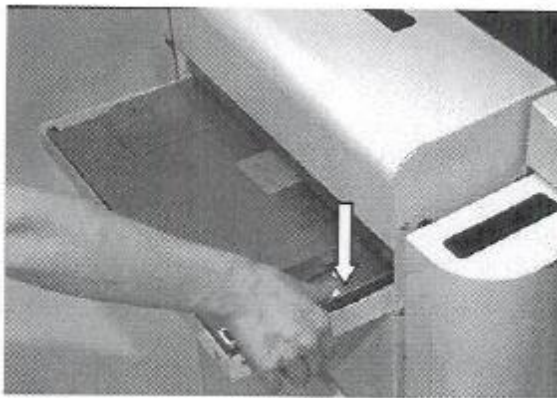
Press the edge of the feeder tray downward
Keep pressing it while loading paper.

Place paper in the feeder tray correctly.
* The picture shows how to set letter.

Release your hand from the tray. The spring action will push the paper upwards towards the feeder roller.

* If necessary, attach the extension tray for double letter and digital paper sizes.

5. AUTOMATIC OPERATION (cont'd)

5-4. START OPERATION

•Close the Front Cover and make sure the Operation Handle is down in the Laminate position.

```
————— R E A D Y —————
TEMP : 210    SPEED : 40
MARGIN : ON
SET COUNT : MULTI
```
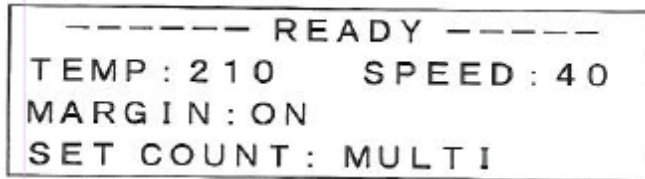
Check the settings.
Make sure READY lamp is on.

DO NOT START THE MACHINE UNLESS THE THREADING PROCESS HAS BEEN COMPLETED PROPERLY. SEE CHAPTER 4 FOR DETAILS! FAILURE TO PROPERLY THREAD THE ALM3220 COULD RESULT IN DAMAGE TO THE MACHINE!

Press the START key. Operation starts.

Press STOP key during the operation to stop the lamination.

* Lamination will stop when the process is done.

NOTE: SINGLE SIDED LAMINATION ONLY: Remove the carrier film from the backs of the sheets and discard.

FILM END

Our exclusive AL-ROLL Film has a special feature that allows the end of the film roll to be detected. The last 20" of each roll of film is colored in black. When this black "leader" passes the Cutter Sensor a lamination error is displayed and operation stops immediately.

5. AUTOMATIC OPERATION (cont'd)

5-5. ECO MODE (Power Saving Mode)

```
-----  E C O   M O D E  ----

 T E M P = 1 5 0 ╱ 1 3 0
            ▲         ▲
            |         |        ╱ F
            1         2
```
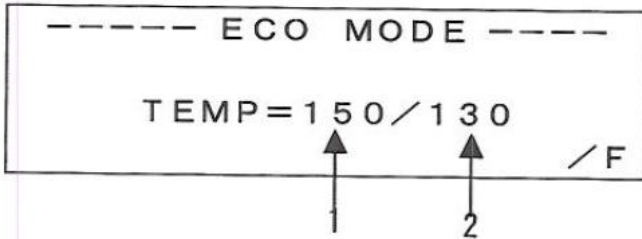
ECO MODE enters when the machine is idle and any buttons on the operation panel* have not been pressed in the past 15 minutes.

*This does not apply to the "MOVE" switch.

A buzzer will sound 1 minute before entering ECO MODE. ECO MODE will be deactivated by pressing any key. The 15 minute timer then starts again.

1) Current temperature
2) ECO MODE temperature goal (130F)

5-6. TERMINATE LAMINATION

1. Make sure the lamination has finished.
2. Turn off Power Switch. Disconnect the power plug.

6. LONG MODE

Machines which are equipped with version 3.1, or greater, of the ALM3220 software feature LONG MODE capability. These machines were produced after September 2011 with serial number 805, or greater. In Long Mode there is no limit to the length of paper that the machine will laminate.

To utilize LONG MODE function, the ALM3220 is started in this manner:

1. Turn the ALM3220 off.
2. Hold the START button.
3. While holding the START button turn the ALM3220 on.
4. After a few seconds "LONG MODE" will be seen on the LCD.
5. Release the START button.
6. LONG MODE remains active as indicated on the LCD until the machine is shut off and restarted normally.

In LONG MODE leading and trailing edge cuts will always be made according to the size of paper (just like in "Standard Mode" with its 20" paper limit). However, in LONG MODE there is no limit to the length of paper that will be laminated (beyond the 20" standard mode limit).

Some special considerations must be made when working in LONG MODE:

- In the event of a mis-feed or skew operation will continue non-stop. Therefore, it is **mandatory** that an operator be present at all times to monitor operation. If a malfunction occurs (paper jam, or otherwise) and the operator does not switch off the POWER switch severe damage to the machine could occur if the machine continues to run unchecked.
- In proportion to the length of paper being laminated there is the likelihood that paper will 'skew' within the machine, particularly if an operator is not monitoring paper feed from the tray. This will affect the performance of the Cutter and Trimmer Units and, in the event of significant skewing, damage may occur to the paper being laminated or to the machine.
- Cutting and trimming accuracy will be reduced according to the amount of any skewing.
- There are no alarms/errors in LONG MODE in regards to paper length.
- In LONG MODE, be sure to provide extra prints and test the paper before the actual production begins.

For a nominal charge model ALM3220 serial numbered 181 to 804 can be updated to Ver 3.1 using the FM-ONE interface and downloading the file "GAP3B03" into the machine. Instructions for this procedure are shown in the Maintenance Manual (contact the DryLam Tech-Line for a copy of this document). Version B03.1 is incompatible with machines numbered 181, or lower.

7. TROUBLESHOOTING/ERROR MESSAGES

When the ALM3220 stops operation abnormally an error message will occur on the LCD. Error messages are added to machine programming to aid in troubleshooting. Please note that certain messages are similar to others but can occur for different reasons. Please record any messages that should appear in order to assist your servicer and/or the DryLam Tech-Line provide timely assistance.

PROBLEM:	CHECK IF:	SOLUTION:	PAGE
"CUTTING ERROR" error or CUTTER DOES NOT CUT WELL	Trimmer Cover is open	Close Trimmer door and press the RESET key.	
	There are many reasons for cutting errors and poor cutter performance. Some reasons are not related directly to the Cutter Unit. DryLam has issued a white paper on the subject. Call the DryLam Tech-Line for support.	Open the Trimmer cover (between the Cutter and Trimmer modules). If loose film is present pull it up over the cover. Close the cover, (with the film exiting through the cover) press RESET, then press the manual CUT Switch. The loose film should be cut. Pull it out through the Trimmer cover. Be sure the guides under the Trimmer Cover are set to 'point' the film towards the exit of the machine. If the error is not solved contact your dealer or DryLam Tech-Line.	
	More than 1 sheet of paper is fed. Paper is very thin.	Remove the paper. Bring Paper Pressure Lever down by one notch. Ruffle the papers well. Flatten the papers. Press RESET key.	
	Improper trimmer roller pressure/tension.	Turn off the power. Contact your dealer or DryLam Tech-Line. Do not dismantle the machine unless instructed.	
	Are cuts being made through paper **and** film, rather than through just film alone? If paper is skewing within the film the cutter may not be hitting the side of the paper straight on.	Go to MODE	CUT ADJUST. Make a note of the current settings for F: and B: Increase the settings (make numbers more positive) to have the Cutter Unit avoid cutting through paper (cut only through film) or decrease the setting (make more negative) to hit paper directly from the side.	
	The surface of feeding rollers is not clean.	Remove paper. Open feeder cover. Wipe residue from the feeder rollers with a soft cloth. Press RESET key.	
	Paper is stuck between feeder and lamination sections.	Open Feeder Cover. Remove all stuck paper. For more solutions look at "FEEDING ERROR", above. Press RESET key. CAUTION: Lamination section may be hot.	
	Improper tension/pressure of the Trimmer Rollers	Turn off the power. Contact your dealer or DryLam Tech-Line. Do not dismantle the machine unless instructed.	
	Damage to the Cutter Unit.	Turn off the power. Contact your dealer or DryLam Tech-Line. Do not dismantle the machine unless instructed.	

	Temperature set too high	Lower the temperature of the ALM3220 to the lowest setting that adhesion will allow.	
"PAPER JAM" error	Paper is stuck in feeder, lamination, cutter or trimmer section(s).	A) Open Feeder, remove the Feeder Cover and look for any debris, possibly near the Feeder Sensor. There is a chance that the Feeder Cover could be causing the issue by reflecting light back to the Feeder Sensor. Another reason for "Paper Jam" could be that a second sheet was pulled in for a very short distance by the first sheet and now blocks the Feeder Sensor. In this case, set the Paper Pressure Lever up one slot to apply more resistance to s second sheet of paper entering the feeder. B) If the jam is not seen in the Feeder Section lift up the Trimmer cover, lift the upper flap and inspect and remove any stuck film/paper. To do so, 1) If they will move set the Trimmer Levers to "Position Of Film Set" (if they will not move leave them where they are). 2) Use the Manual MOVE switch, if necessary and 3) carefully move film out the back of the machine. Then, 4) cut the film using the manual CUT switch. 5) Pull out any paper/film from the back of the machine. 6) Press RESET key to clear the error on the display and 7) try running in automatic mode again. **CAUTION: Excessive use of the MOVE switch when film does not exit the machine may result in film wrapping inside the machine! Always account for film entering the machine and be sure it exits!** CAUTION: Chambers are HOT. Be careful that your fingers or clothes do not get caught in the rollers. When using the Manual MOVE Switch set the trimmer adjustment levers to POSITION OF FILM SET. Be careful that your fingers do not get cut.	
"LAMINATION ERROR" error (in order of probability)	A sheet of paper was pulled off the tray (and arrived at the Feeder Sensor), however,	1) Check the Paper Pressure lever and lower it if necessary, to allow paper to be pulled completely off the Feeder Tray. 2) There may be too may sheets of paper on	

	leading edge of sheet did arrive at the Cutter Sensor within a predetermined amount of time (the time it would typically take for a 20" sheet of paper to make it).	the tray- the upward tension is the tray is greater with a higher number of sheets on the tray and the increased tray tension could be keeping sheets from moving off the tray. Note: Film runs while waiting for the Stopper/Gate to send a sheet into the nip. After the error there may find a sheet of film hanging down under the machine going to the scrap basket. Press RESET to clear the error, then press CUT to cut the sheet and discard it.	
	Lamination scrap is stuck in the trimmer section.	Open Trimmer Cover. Remove all the lamination scrap. Press RESET key. Be careful that your fingers do not get cut. Lamination scrap might not go straight down to the waste collection box. Turn the switch off remove all the scraps and prohibited from touching the cutter unit during removing them.	
	Lamination lever is in the OPEN position.	Open Front Cover. Raise Lamination Lever to OPEN position. There is a chance that damage could occur, therefore, Rethread the machine as per instructions. Press RESET key to clear the error.	
	Roll film has run out.	Remove the empty film rolls. Press RESET key. Load new film rolls. CAUTION: Heat Chambers may be HOT.	
	Paper is stuck in the Feeder section, Cutter Unit section or Discharge section.	Open Feeder and Trimmer Covers. Remove any paper/debris that may be stuck inside. Press RESET key.	
"PAPER STUCK" error (for version B03.1 see below)	Lamination scrap is stuck in Trimmer section.	Open trimmer cover. Remove any loose lamination scraps. If any film/paper is present that won't come loose pull film/paper up over the top of the Trimmer Cover and close the Trimmer Cover. Press RESET key, then press the CUT button. Film/paper should come loose and be pulled out from the Trimmer Cover. CAUTION: Be careful that your fingers do not get cut.	
	PAPER STUCK errors are also the result of feeder, cutter and/or discharge sensors sending messages to system control at the wrong time. The most common source is from the Cutter Sensor.	If you have cleared all paper/film from the paper path and the error remains contact your dealer or DryLam Tech-Line.	

Page 43 of 50

"COVER OPEN" error	The Feeder and/or Trimmer covers are open.	Close the cover(s). When closing the Trimmer cover be certain that the upper flap is down. Press RESET key to clear the error.	
"OVERHEAT" error **"TEMP. SENSOR BREAK" error** **"TEMP. SENSOR SHORT" error**		The ALM3220 is unable to properly regulate the heating cycle. Turn off the power. Then turn on the power. The problem will be solved in most cases. If the problem is not solved or happens frequently contact your dealer or DryLam Tech-Line. Do not dismantle the machine unless instructed.	
"LAMINATION MOTOR ERROR" or "MAIN MOTOR ERROR"	This is different than "LAMINATION ERROR" (see above for this error).	Turn off the power and turn back on. The problem will be solved in most cases. If the problem is not solved or happens frequently contact your dealer or DryLam Tech-Line. Do not dismantle the machine unless instructed.	
TRIMMER DOES NOT CUT WELL	Lamination scrap is stuck in trimmer section.	Contact your dealer or DryLam Tech-Line. Do not dismantle the machine unless instructed.	
LEFT AND RIGHT MARGINS ARE NOT EQUAL	Paper not centered within the film area	Set Trimmer levers to Position Of Film Set. Push the START button and laminate one sheet of paper. Look at how the paper is centered within the film area. If it is not centered adjust the paper tray adjustment screw (or the paper tray guides) to center the paper within the film area. Set Trimmer levers as desired and run again.	
	Check if the trimmer adjustment levers are correctly set.	Adjust the trimmer adjustment levers. It may be necessary to set the levers at positions that do not have slots. You may set the levers at any position desired, then secure with magnets.	
	Check if the paper is fed correctly. Paper may be skewing on the Feeder Tray.	If paper is skewing within the film area adjust the Paper Pressure adjustment lever. Lowering the lever will apply less resistance to a second sheet of paper entering the Feeder. This will improve skewing but may cause more than one sheet to enter the Feeder.	
CREASES APPEAR IN THE LAMINATED FILM	Tension knobs too loose.	Tighten the tension controllers slightly on each side of the film rolls. Do not apply any more tension than necessary.	
Error messages specific to version B03.1 (serial numbers 805, or greater, machines shipped to North America after Sept 2011)			
"DISCHARGE ERROR - CALL FOR SERVICE"	The manual feed switch will be disabled to prevent damage to the machine.	Turn the power off and back on again to activate the switch. Carefully remove all sheets that are stuck within the machine. Understand that use of the MOVE switch may cause	

		damage to the machine if stuck paper is not removed properly.	
"PAPER STUCK - CALL FOR SERVICE"	For diagnostic purposes one, or more numbers are also given which represent the sensor which is being blocked: 1= Feeder; 2= Cutter; 3= Discharge	Turn the power off and back on again to activate the MOVE switch. Carefully remove all sheets that are stuck within the machine. Understand that use of the MOVE switch may cause damage to the machine if stuck film/paper is not removed properly beforehand.	

8. CLEANING AND LUBRICATING THE HEAT CHAMBERS

With continuous use the heat chambers will accumulate adhesive and dirt. It is recommended that you periodically inspect them for adhesive build-up. Use DryLam Cleaning Kit (part number CLKIT), which contains Xenit Cleaner and a sponge, for removal of any adhesive build up.

Other suggested solvents are

Rubbing alcohol (isopropyl 70%, or higher)

Goof-Off®,

Acetone

Poly-Off®

Instructions for DryLam product CLKIT (Cleaning Kit):

Be sure to clean the heat chambers only when the laminator is cool.

Moisten the sponge pad with Xenit leaning fluid and wipe down the heat chambers. CAUTION: Coated heat chambers are easily scratched. Use only the recommended applicator pad.

Xenit Cleaner is not a solvent or a lubricant. The DryLam Maintenance Kit contains a Dry Film Lubricant for the heat chambers and is highly recommended after cleaning.

Instructions for DryLam product 01300 (Maintenance Kit):

After cleaning the chambers, as described above, **it is HIGHLY recommended to use the DryLam Maintenance Kit** (DryLam part number 01300). Be certain the heat chambers are clean (see above). This product is not a cleaner or a solvent.

The Maintenance Kit includes Dry Film Lubricant (**without silicone!**) and a microfiber cloth.

DO NOT SPRAY DRY FILM LUBRICANT DIRECTLY ON THE HEAT CHAMBERS! After the face of the chambers have been cleaned spray a liberal amount of the Dry Film Lubricant into the microfiber cloth and wipe on the face of the heat chambers. There will be a glossy shine afterwards. Lightly wipe off the excess but do not completely remove the residue of the

Page 47 of 50

lubricant. This lubricant allows the film to slide over the chambers easily thus reducing the tension required. This reduces noise and wear and will reduce linear scratches that may be seen in the film.

These products are available from your DryLam dealer or contact DryLam at 888-633-1975.

9. SPECIFICATIONS

Model	ALM3220
Maximum Laminating Paper Width	12.24"
Maximum Laminating Thickness	16mil (including film thickness) (.016"). See Table 1, below
Film Thickness	1.5 – 3mil - 5mil Exclusive AL-Roll Film (.0015" - .003" - .005")
Maximum Paper Thickness	See Table 1, below
Laminating Speed	20" - 48"/min. (adjustable in 4"/min. increments)
Temperature	170F- 270F
Warm-up Time	Approx. 5-7 minutes
Power Source	AC 120V 60 Hz
Power Consumption	900W
Dimensions	51.0"(W) X 22.0"(D) X 43.3"(H) with Stand, Feeder Tray, Feeder Tray Extension and Exit Tray installed.
Weight	Laminator : 110 LBS; Stand : 48.5 LBS; 158 LBS total
Feeder capacity	200 pages (copying paper)
Exit Tray capacity	200 pages (copying paper laminated with 5mil film)
Finished Size (utilizing slots in the Trimming Unit)	Letter (8.5 x 11"); With Margin: 8.74" X 11.24"; Without Margin: 8.38" X 10.88". Will process 200 sheets/hour at this size.
	Double Letter (11 x 17"); With Margin: 11.24" X 17.24"; Without Margin: 10.88" X 16.88"
	Digital Paper (12 x 18") With Margin: 12.24" X 18.24"; Without Margin: 11.88" X 17.88"
	*The finished size is accurate to within less than 20mil either way.
	Long Mode (version B03.1 only): Any of the above widths with unlimited length.
Remarks	Within the range of 32F to 105F (68 +/- 40F recommended)/an altitude below 6600'.
Attachments	Box 1: Feeder Tray -- Extension Feeder Tray -- Exit Tray -- Power Cord -- This manual -- Waste Collection Box Box 2: Stand -- Stand Assembly Instructions -- Screws and tool for assembling Stand.

NOTES:
*Corners are cut square.
*Warm-up time may differ according to the environment.

9. SPECIFICATIONS (cont'd)

MAXIMUM PAPER THICKNESS

The ALM3220 is spec'd for 16 mil maximum paper/film thickness. This table shows maximum paper stock thickness given the thickness and number of sheets of film used:

Available film thicknesses (MIL)	ALM3220 Absolute Maximum Paper Thickness Table								
	One-sided lamination					Two-sided lamination			
	MAXIMUM PAPER THICKNESS:					MAXIMUM PAPER THICKNESS:			
	MIL	COVER	INDEX	METRIC (gsm)		MIL	COVER	INDEX	METRIC (gsm)
1.2	14.8	120#	180#	312					
1.5	14.5	114#	170#	309		13	105#	158#	286
3	13	105#	158#	286		10	90#	135#	245
5	11	100#	150#	271		6	40#	60#	162

Table 1

For example, looking at Table 1 above, when laminating two sides of a sheet with 5 mil film, the film itself is 10 mil's thick. Hence, paper stock can be no thicker than 6 mil. 6 mil thickness equates to 40# cover or 60# index.

This is more of a limitation that involves the Cutter and Trimmer Units than it is of other areas (feeding, laminating) of the ALM3220. When cutting film only (i.e. outside the paper area) it MAY be possible to process UP TO 120# cover (#180# index) regardless of the thickness of the film utilized.

(end)