# RECOsystems®

# OWNER'S MANUAL

## RL39S / RL69S

Read all instructions carefully before use.

# TABLE OF CONTENTS

## 1. INTRODUCTION

Thank you for choosing a **RECOsystems** laminator. It has been designed and manufactured to provide years of continuous service. For complete operating and maintenance information please read this manual thoroughly. Upon receipt of your laminator, please inspect the box, the machine and all other contents for shipping damage. Damage should be brought to the immediate attention of the delivering carrier (See page 3 for list of shipment elements).

## 2. SAFETY PRECAUTIONS

Failure to comply with any of the following safety procedures could result in serious injury. Please read the instructions carefully and keep for future reference.

1. Only a licensed electrician should install wiring and outlet for the laminator.

2. Ensure the unit is plugged into a properly grounded outlet with the correct voltage.

3. Keep hands and clothing (i.e. Neckties) away from rollers.The rollers have pinch points that can trap body parts or clothing and cause serious injury.

4. Keep flammable and wet objects away from the machine.

5. Place machine on a level surface.

6. Avoid excessive sunlight, humidity and extreme temperatures.

7. Ensure the unit is turned off, cooled, and unplugged from the outlet prior to moving and/or repairing.

8. Keep out of reach of children.

9. Only **RECOsystems** authorized maintenance and service technicians should make repairs.

10. Do not attempt to laminate items that exceed total recommended material thickness for the unit

11. When cleaning the machine, don't use flammable sprays or materials.

12. Do not touch the rollers when they are hot or place foreign objects inside the machine.

13. Do not cover the surface of the machine until the machine has completely cooled.

## 3. INCLUDED WITH LAMINATOR

| PART NAME | EA | REMARK | PART NAME | EA | REMARK |
|---|---|---|---|---|---|
| FUSE(65TS) (AC250V  10A) | 1 | Power supply: 220V~240V | FUSE(65TS) (AC250V  20A) | 1 | Power supply: 100V~120V |

## 4. PRODUCT IDENTIFICATION
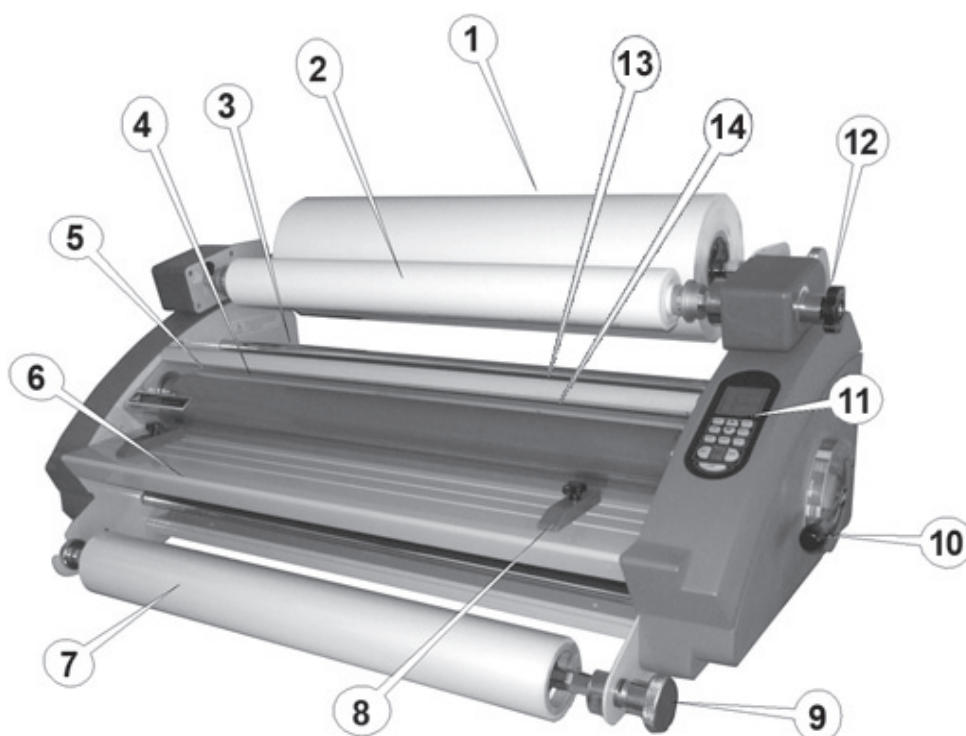


| NO | PART NAME | NO | PART NAME |
|---|---|---|---|
| 1 | UPPER FILM | 8 | GUIDE-DOCUMENT |
| 2 | TAKE-UP BOBBIN | 9 | HANDLE-TENSION |
| 3 | IDLE BAR | 10 | PRESSURE LEVER |
| 4 | HOT ROLLER | 11 | CONTROL PANEL |
| 5 | SAFETY COVER | 12 | KNOB-TENSION |
| 6 | FRONT-TABLE | 13 | DECURLING BAR |
| 7 | LOWER FILM | 14 | IDLE BAR |

# 5. LOADING FILM

Auto Grip

Picture 1

screw-set

Picture 2

Picture 3    Lower Film

Picture 4    Upper Film
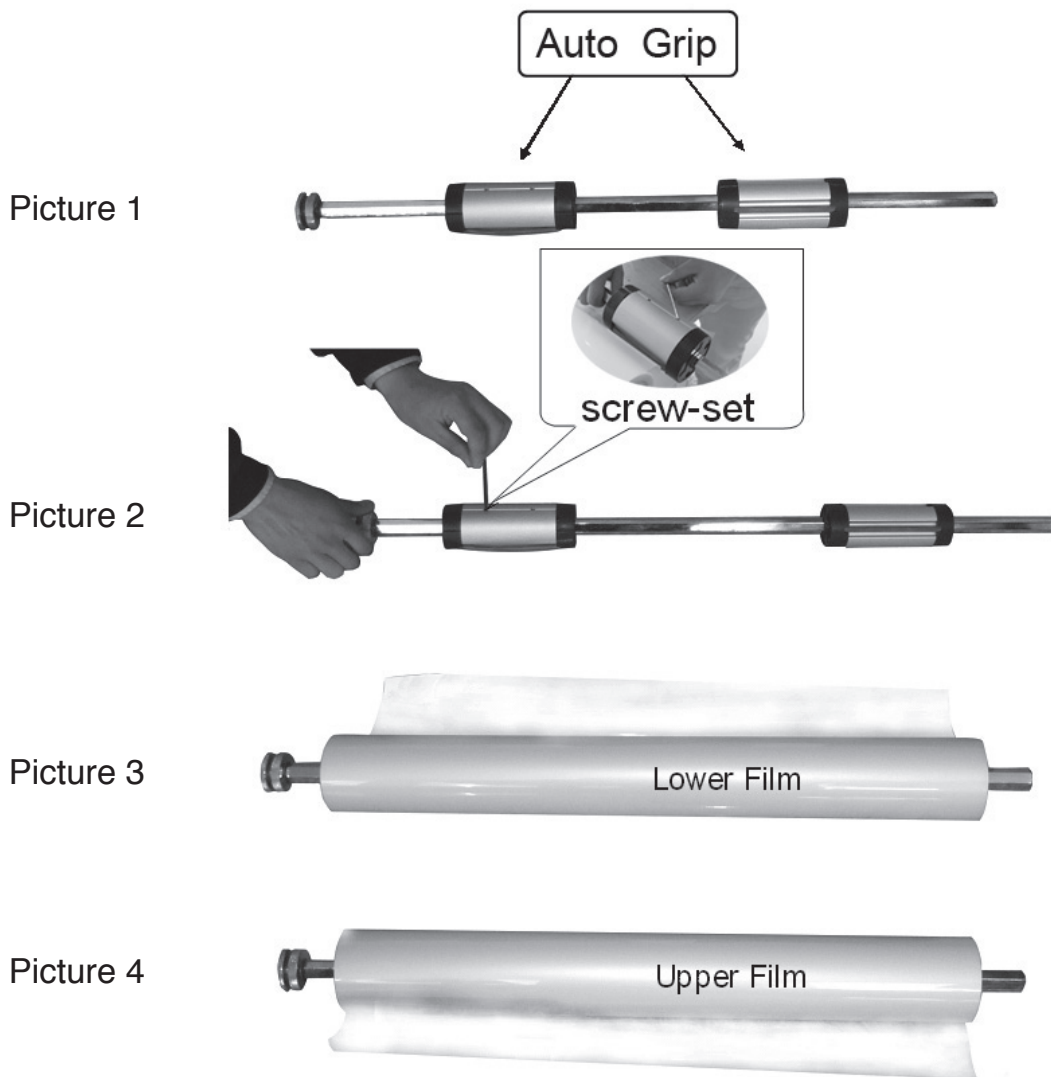
1. As shown in picture 1, insert auto grips onto the upper/lower film shaft.
2. As shown in picture 2, using the special tool, fix the auto grips on the
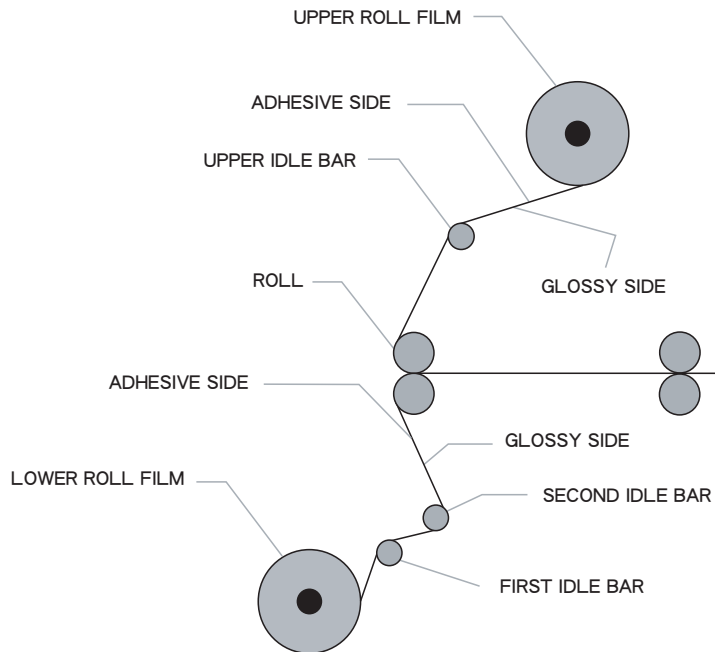    film shaft with set-screws.
3. Set the glossy side of the upper and lower film towards the heat rollers.
    ( Glossy side is PET film and matte side is thermal polymer laminating
    adhesive)
4. Center film as shown in picture 3 and 4.

# 6. THREADING FILM

## 6.1. HOT FILM

UPPER ROLL FILM

ADHESIVE SIDE

UPPER IDLE BAR

ROLL

GLOSSY SIDE

ADHESIVE SIDE

GLOSSY SIDE

LOWER ROLL FILM

SECOND IDLE BAR

FIRST IDLE BAR

1. Turn the power switch on("I" position). Power switch is located in the rear of the unit on the left side.

2. Complete the "Loading Film" steps as shown on page 4.

3. Set the temperature and speed according to the Recommended Temperature and Speed section.

4. Remove the Front Table.

5. Pull down the upper film over the Safety Cover to the lower film; align and center the lower film to upper film (Picture 1).

6. Rewind the upper film until the film aligns with the Safety Cover.

7. Thread the film over the Upper Idle Bar and underneath the Safety Cover until the film rests on the upper roller (Picture 2).
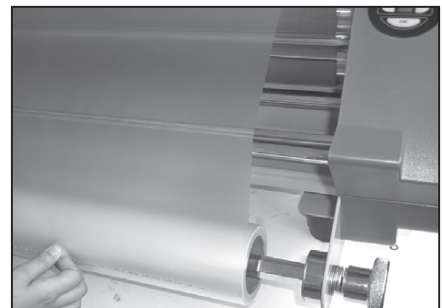
Picture 1
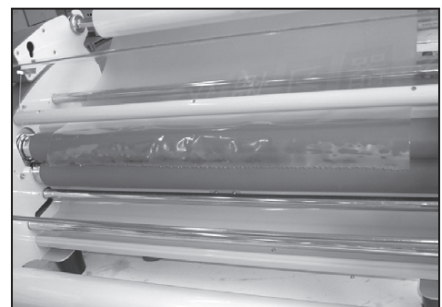
Picture 2

8. Carefully pull up the laminate from the lower roll up towards the first idle bar and then around the back side of the second Idler (Caution: lower roller may be hot).(Picture 3)

9. Tack the lower film to the upper film that is resting on the main roller (Picture 4).

10. Reinstall the Front Table and close the Safety Cover.

11. Adjust the nip setting to 1/4" (6mm).

12. Insert and push the leader boards on each end until boards reach the front nip point.

13. Adjust the nip setting to "Laminating" mode.

14. Push the Run button.

15. Push the leader boards between the pair of main rollers (Picture 5).

16. Press the Run button and adjust the supply roll tension knobs by rotating clockwise or counterclockwise. Turn it until the supply roll films have some resistance (the tension varies depending on the film thickness; the thicker the film the more tension is required) (Picture 6).

17. Press Stop button when the leader board has completely exited the rear of the unit.

18. Use the Cross Cutter to cut the leader board from the web (see page 18).

19. Peel Trim any excess film off of the leader board edges. The leader board can be reused.

20. Set the roller nip setting to the appropriate position for the lamination or encapsulation application.
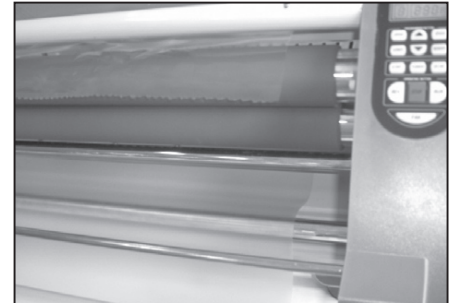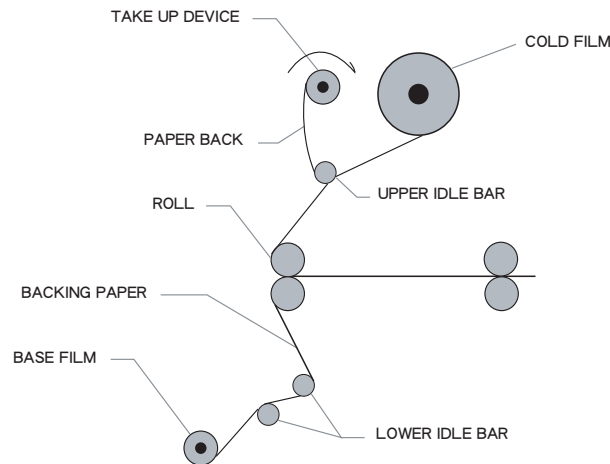


Picture 3
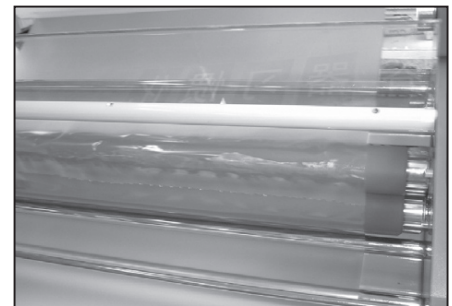


Picture 4



Picture 5



Picture 6

## 6.2. COLD FILM



1. Follow the steps in the "Loading Film" procedure by loading the upper shaft with pressure sensitive film, e.g. (Royal Print-Pro Film) and lower shaft with pressure sensitive mounting adhesive films or backing paper

2. Pull the upper laminate under the upper idle bar and separate the release liner from the laminate.

3. Tape the release liner to the Take-Up Paper Core and allow the laminate to hang over the main rollers.

4. Pull up the mounting adhesive and tack it to the laminate hanging over the rollers (do not use the Lower Idle Bar).

5. Reinstall the Front Table, and close the Safety Cover.

6. Adjust the nip setting to 1/4"(6mm).

7. Insert and push the leader board until board reaches the nip point.

8. Press the Run button and adjust the supply roll tension knobs by rotating clockwise or counterclockwise. Turn it until the supply roll films have some resistance (the tension varies depending on the thickness of a film; the thicker the film the more tension is required).

9. Press Stop button when the leader board has completely exited the rear of the unit.

11. Use the Cross Cutter to cut the leader board from the web (see page18).

12. Set the roller nip setting to the appropriate position for the lamination application.

## 6.3. MOUNTING

1. Lay the decaled image face down on a flat surface. Carefully peel back and put a crease along the edge of the release liner (Approximately 1 inch or 25mm, Figure 1).


Figure 1

2. With the image facing up, align the image onto the board. Press firmly from the center out (Figure 2).


Figure 2

3. Adjust the pressure lever to ensure the proper opening (Figure 3).


Figure 3

4. Flip the image over the upper roller and hold on to the release liner (Figure 4).


Figure 4

5. Press the Run Button , and then press the Stop Button while the board has being completely exited from the rear of the unit. Trim the board if necessary.(Figure 5).
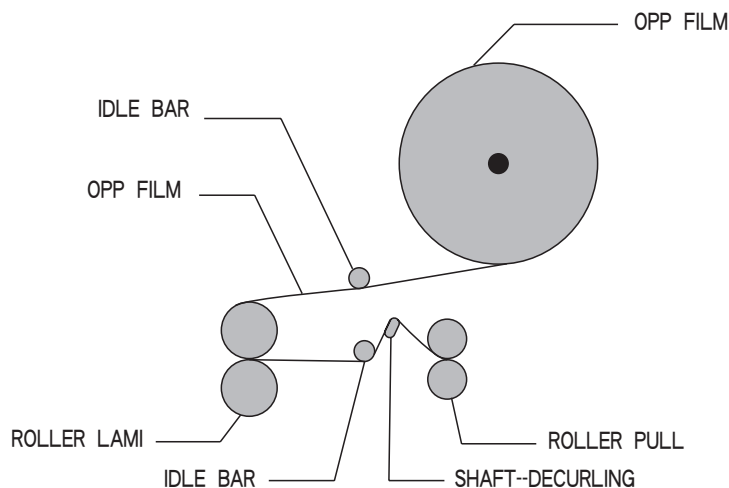

Figure 5

## 6.4. SINGLING LAMINATING



1. Turn the power switch on("I" position). Power switch is located in the rear of the unit on the  left side.
2. Follow the steps in the "Loading Film" procedure by loading the upper shaft with OPP Film.
3. Set the temperature and speed as: Temperature(Upper roller:110-130$^{o}$C;Lower roller:35$^{o}$C) and Speed 5-8.(It is a damage for the paper to laminate by single side while the rollers up and low are heating all together.)
4. Center  the OPP film.
5. Thread the film over the Upper Idle Bar and underneath the Safety Cover until the film rests  on the upper roller .
6. Pull a sheet of A3 paper into the laminating roller and pass between the idle-bar and shaft-decurling. Make sure the idle-bar being in the lower location while laminating.
7. Link the paper to the film.
8. Adjust the nip setting to "Laminating" mode.
9. Push the Run button. You must pull the film on the rear of machine avoid entangling while  being out of machine.
10.Cutting down the side film then the paper can level off.
11.Stop the laminator when all of the items have completely exited the rear of the machine.
12.Please loose the film tension as loosed as possible.
13.Clean the Roller just as the film stick to the roller and influence the quality of coating.

## 7. CONTROL OF ROLLER PRESSURE
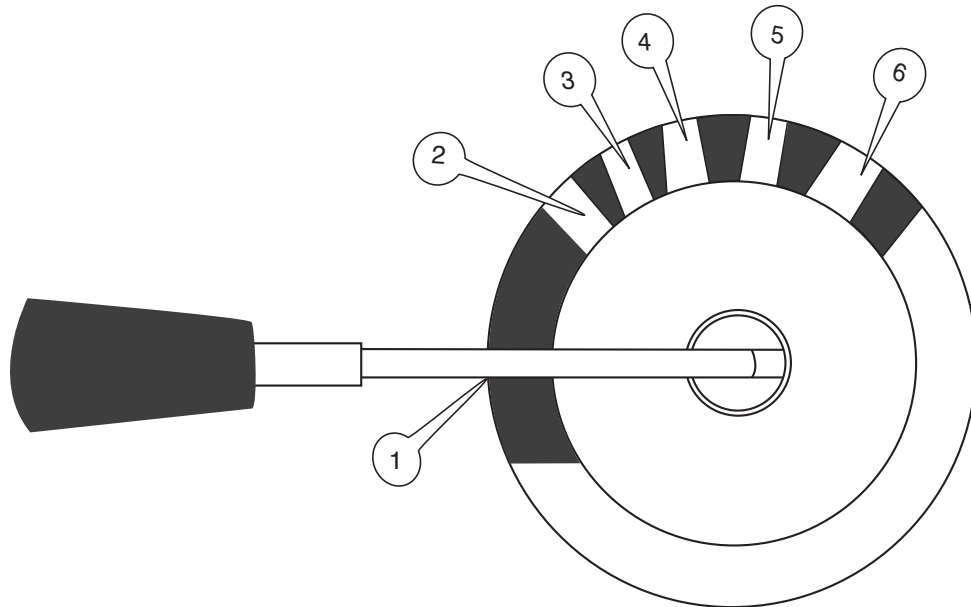
To set, pull the pressure lever outward and turn to one of the following positions.

① OPEN: For detaching and cleaning rollers.

② 6MM: For laminating 6mm[0.24in] thick board.

③ 5MM: For laminating 5mm[0.2in] thick board.

④ 3MM: For laminating 3mm[0.12in] thick board.

⑤ 1.5MM: For laminating 1.5mm[0.06in] thick board.

⑥ LAMINATING: For laminating 25~250micron(1~10mil) thick film and cold film.

# 8. CONTROL  PANEL

1. **UPPER**: To change upper roller temperature by pressing button, then up or down arrow. (range 32~302°F or 0~150°C)

2. **LOWER**: To change lower roller temperature by pressing button, then up or down arrow. (range 32~302°F or 0~150°C)

3. **SPEED**: To change speed of the rollers by pressing button, then up or down arrow. (range 1 through 9)

4. **MEMORY**: To recall or change presets. To recall the settings, press MEMORY then up or down arrow.  To save the settings, set desired temperatures and speeds then press the MEMORY button twice. (stores up to 9 different settings)
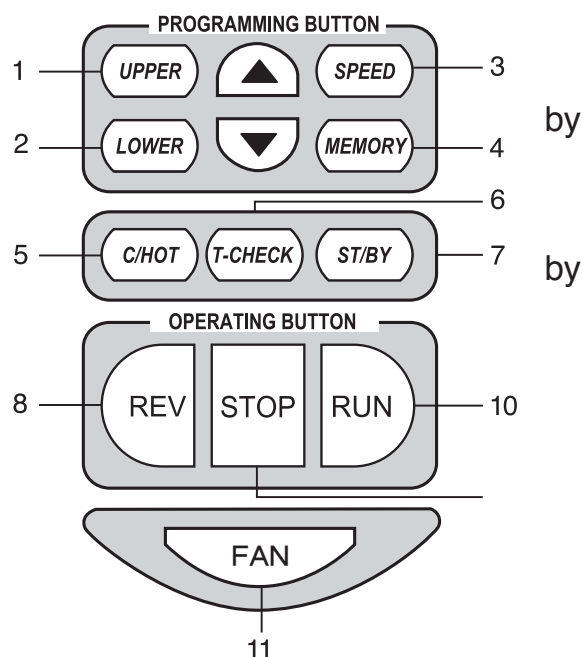
5. **C/HOT**: To change the mode from hot to cold or cold to hot lamination.  In cold mode, the speed defaults to 2 (speed 1~4 settings) and stand-by function is disabled.

6. **T-CHECK**: To check current upper and lower roller temperatures.Display automatically returns to the previous settings after 5 blinks.

7. **ST/BY**: To change to stand-by mode (temperature will automatically reset to 176°F (80°C). While in this mode, all the buttons on the control panel are disabled. Press ST/BY mode button to resume normal operation.
   **NOTE:** Auto stand by mode and auto power off mode
   -Stand by mode: If no activity is made within 2 hours after each use the machine will automatically switch into stand by mode.
   -Auto power off mode: If the machine is in stand by mode and no activity is made for 60 minutes the machine will automatically power off.
   -If any activity is made while in stand by or auto power off mode the machine will return to it's previous stage.

8. **REV**: To reverse the rollers.  Must press and hold the button to activate.

9. **STOP**: To stop the rollers from turning.

10. **RUN**: To start the rollers .

11. **FAN**: To activate the cooling fans.

# 9. LAMINATING   STEPS

## 9.1. HOT LAMINATING

1. Turn on the power switch located on the rear of the machine.

2. Set the pressure lever to the "Laminating mode".

3. Increase the roller temperature. If you already have a setting in the memory that you want to use press the (MEMORY) button and then the ▲ or ▼ buttons to select your desired setting.

4. When the desired temperature is met "READY" will be displayed on the screen and you will hear a beep.

5. Press the (RUN) button. The rollers should begin to turn, if they do not turn make sure the safety cover is closed or check the troubleshooting section of the manual.

6. Use the upper and lower Tension knobs to properly adjust the tension of the roll film. Having the tension too tight will slow down or prevent the rollers from turning and if the tension is set too low this can cause wrinkles in your lamination.

7. For ease and convenience set the document guides in position.

8. Set document on the table. You should allow at least 5mm(1/4") space on each side for perfect lamination.

9. Press the (STOP) button when lamination is competed.

10. When lamination is completed your item may be hot and can easily bend. Lay on a flat surface to properly cool.

11. When you have completed all of your lamination, set the pressure lever to the OPEN position.

12. Turn the Power switch off.

## — Useful Information —

1. You can preset up to 9 temperature and speed settings in the memory for faster easier use.

2. When laminating continuously "WAIT" may appear on the display, if this occurs lower the speed by 1 increment, "READY" should appear and you may continue laminating.

3. When laminating a document much smaller than the film, place the document in the center of the film for better lamination results.

4. When laminating at high temperatures (> 248°F/120°C) you may want to press the FAN button to allow the cooling fan to cool the document being laminated.

## 9.2. COLD LAMINATING

1. Put cold roll film on upper shaft. Load backing paper on the lower shaft as per illustration 6.2 on page 7.

2. Pull COLD film and fix it so that the Release Liner can be wound on take-up mandrel clockwise. (Revolve core to make Release Liner a little tight)

3. Set pressure lever to the proper position according to your laminating condition.

4. After pressing the [C/HOT] button, choose and set proper speed by using the [SPEED] and [▲] [▼] button.

5. It is [READY] when ready is dispalyed on the screen and beeps three times.

6. Turn on the take up device and set the proper film tension by pressing the"RUN "button. Lower tension would make better operation.

7. Center the document on the table. For ease and convenience set the document guides in position

8. Press the"RUN "button and "take up motor" at the same time.The liner and film will roll at the same time.

9. When lamination is completed, press the [STOP] button.

10. Set pressure lever at the "OPEN" mode.

11. Turn off the power switch.
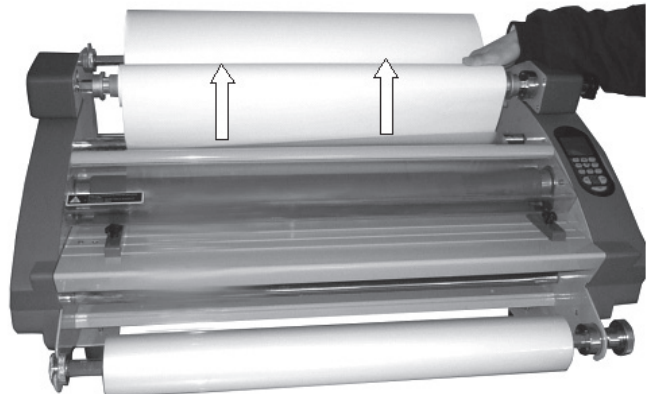
# 10. USING CROSS CUTTER

The cross cutter is located on the rear exit table of the machine.

1. After lamination, move the cutter approximately to the center of the completed application at the desired point of detachment (Figure 1).

2. Grasp film with one hand, press the cutter downward into the application and slide it first to one end of the application, then to the other end to complete the cut (Figure 2 & 3).
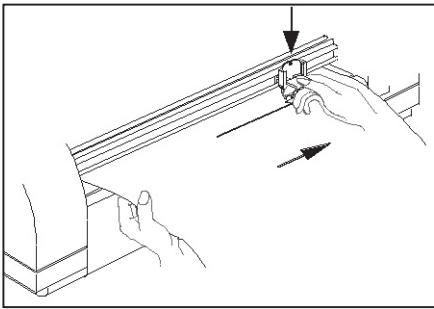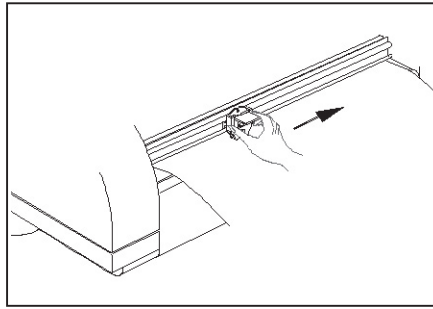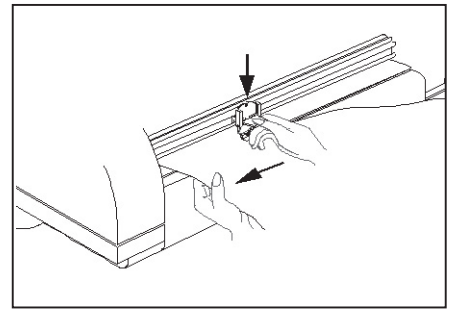
Figure 2              Figure 1              Figure 3

# 11. MAINTENANCE

Cleaning the Body of the laminator

To clean the machine body, dampen a cloth with water only and gently wipe the machine clean.

Removing Adhesive Build Up

1. Remove the film from the laminator.

2. Use a damp (water only) cloth and a rubber gum eraser to remove

   the adhesive on the Teflon (metal) and silicone rollers.

   **NOTE: Rub firmly but do not scrub the rollers vigorously as this may scratch  the surface. Do not use sharp metal objects, steel wool, or abrasive, as these may also damage the rollers.**

## 12. TROUBLESHOOTING

| Symptom | Cause | Possible Solution |
|---|---|---|
| Machine will not turn on: | a. Power switch is in "0" (Off) position<br>b. Tripped circuit breaker.<br>c. Blown main power fuse. | a. Put the power switch to the "I" (On) position<br>b. Reset the circuit breaker.<br>c. Replace the fuse. |
| There is power, but the rollers are not turning after the "RUN" button is pressed: | a. Safety cover is not closed.<br>b. Paper guide is not installed correctly.<br>c. Blown motor fuse. | a. Close the safety cover to active the safety switch.<br>b. Properly install the paper guide so that the micro switch is activated.<br>c. Replace the motor fuse. |
| The unit is not heating up | a. The machine is in "COLD" mode.<br>b. Set temperature is lower than the room temperature. | a. Switch to "HOT" mode.<br>b. Raise the temperature according to the recommended film temperature. |
| Curled lamination: | a. Upward curl.<br>b. Downward curl. | a. Loosen the top roll film tension.<br>b. Loosen the bottom roll film tension. |
| Unclear lamination: | The main roller temperatures are too low and/or lamination speed is too fast. | Raise the roller temperatures and/or lower the lamination speed. |

## 13. Recommended Temperature and Speed Settings.

| NO | Film thickness | Preset | | | User | | Remark |
|---|---|---|---|---|---|---|---|
| | | Temp | Speed | Func'No | Temp | Speed | |
| 1 | Opp film 32 micron (1.3 mil) | 110°C (230°F) | 5 | 1 | | | |
| 2 | Opp film 32 micron (1.3 mil) | 130°C (266°F) | 7 | 2 | | | |
| 3 | Opp film 32 micron (1.3 mil) | 130°C (266°F) | 8 | 3 | | | |
| 4 | 38 micron (1.5 mil) | 110°C (230°F) | 5 | 4 | | | |
| 5 | 75 micron (3 mil) | 110°C (230°F) | 5 | 5 | | | |
| 6 | 125 micron (5 mil) | 120°C (248°F) | 4 | 6 | | | |
| 7 | 125 micron (5 mil) | 120°C (248°F) | 5 | 7 | | | |
| 8 | 175 micron (7 mil) | 130°C (266°F) | 5 | 8 | | | |
| 9 | 250 micron (10 mil) | 140°C (284°F) | 4 | 9 | | | |

NOTE: Speed and temperature should be adjusted in accordance with film manufacturer's recommendations.

## 14. SPECIFICATIONS

| Description | RSL-2702S | RSL-382S |
|---|---|---|
| Power supply | AC 100, 200, 220~240V  50/60Hz  120V  60Hz | |
| Power consumption | 1500W | 1200W |
| Max. laminating width | 685mm / 27" | 380mm / 14.9" |
| Film thickness | 25~250 mic / 1~10mil  /  Opp film 32mic | |
| Paper thicknees — Single | 200~250g | |
| Paper thicknees — Double | 80~250g | |
| Max. laminating speed | 4.5m/min | |
| Ready time | 10min | |
| Heating method | Hot roller | |
| Driving motor | DC geared | |
| Max. Temperature control | 150°C / 302°F | |
| Speed control | 9 settings | |
| Transport type | 4 Roller | |
| Film core size | Auto grip (2",3") | Auto grip (2",3");Core 1" |
| Cooling system | 2 AC FAN | No |
| Cross cutter | Yes | |
| Hot lamination — Single | Yes | Yes |
| Hot lamination — Double | Yes | Yes |
| Cold lamination | Yes | |
| Mounting thickness | 6mm / 0.24" | |
| Take up system | Chain link to main motor | |
| Reverse | Yes | |
| Unit dimensions (w x d x h) | 970×540×470 (mm)  38"×21.5"×18.5" | 640×550×470 (mm)  25"×22"×18.5" |
| Unit weight | 56kg / 124lbs | 40kg / 89lbs |
| Carton dimensions (w x d x h) | 1130×740×600(mm)  44.5"×24"×23.5" | 805×740×505(mm)  31.2"×29"×20" |
| Gross Weight | 71kg / 157lbs | 52kg / 114lbs |