Qomolangma Precision Engineered

Wide Format Laminator

User Manual

MATE-140/160/170C

MATE-140/160/170W

MATE-140/160/170H

Please read this manual carefully before operation

CONTENT

THE IDEAL PARTNER FOR PHOTOGRAPHERS, PRINTERS, AND SIGN-MAKERS!

Thank you very much for choosing our Qomolangma brand Mate series laminator, Please read the manual carefully, including the installation, operation and maintenance to ensure the best output and the lifetime of the machine. For after sale service, please fill in the Warranty Card in the manual and fax or mail it to our company.

Smarter and people - oriented innovation in the design concept and details will give you simple and relax lamination experience.

Mate series is the newly developed pressure and high - speed laminator in 2018. Proper pressure can effectively improve the laminating quality. In addition to the traditional function of cold lamination, warm assist cold lamination, auto-peeling of liner paper and print take-up. The function can effectively improve the output quality.

Features

- Simple Control Panel
- Unlimited Speed control
- Top Roller Electric Driven Up and Down
- Pivot - up Feeding Table
- Roll to Roll Lamination
- Heating Range 0 - 40℃ (0-102℉) (Warm Series); Heating Range 0 - 120℃ (0-248℉) (Hot Series)
- Speed Can Be Reached 15m (49ft) / min
- Side Cutter After Lamination

Film Applications

* Cold Lamination film (C/W/H Model)
* Hot Lamination film (H Model)
* Non-liner lamination film (C/W Model)

Applications

Sign & display, window graphics, banner, poster, PoP, vehicle wrapping, wallpaper, cutting sheet sticker, labels & decals, proof, POS display, package, sign board, flyer, document fi nishing, floor graphics, rigid and fl exible indoor displays, board and many more.

Advantages:

Professional Series - High price, but quick returns
High value - added products capable of running a wider range of media and can generate higher process speeds.
> QOMOlANGMA: USA registered
> Cost - eff ective: very good quality, price and performance.
> Excellent results without air bubbles and defects.
> Hand crank and automatic motorized lifting of the upper roller. These two systems are more stable, meets the high - end needs , and has less issues versus pneumatic lift using air pressure.
> Rubber roller: High quality rubber roller are more elastic and durable.
> High precision design: Cut by highly precise laser, the frame and bars ensure the unwind / rewind shaft is parallel and prevents wrinkle and air-bubble when laminating.
> User friendly Control panel, it is easy to understand and operate.
> Mount images on panel, apply double-sided adhesive fi lms, application tape and protective films.
> Versatility in the materials used.
> Load and unload of rolls of materials in seconds.
> Photosensitive cells with automatic self-control of safety devices and emergency buttons.

1. INSTALLATION

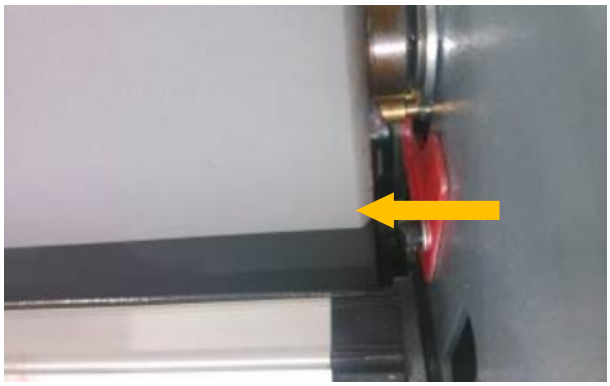
1.1 Notes:

1. Before unpacking, carefully check if there is damage for the packing and machine during transportation.
2. After unpacking, check if the service parts are correct as the packing list.
3. The installing place should be provided enough space for operating and free of dust, no vapor, no corrosive gas, no combustible or explosive substance around. The ground is smooth and easy to move. Keep the machine away from wind blowing place, otherwise will affect the roller temperature which might affect the laminating quality.
4. The power supply shall be consistent with the power supply indicated on the machine, and the capacity shall be large enough and reliably grounded.

Attention: Please move carefully since it is heavy equipment

1.2 Machine Installation

1) Take out the machine from crate and place in the specified location.
2) Shaft assembly（Refer to 4.3）
3) Take off the red supporting parts on both end of roller (Refer to A).



4）Connect the foot pedal and main power (Attention on the correct power supply)

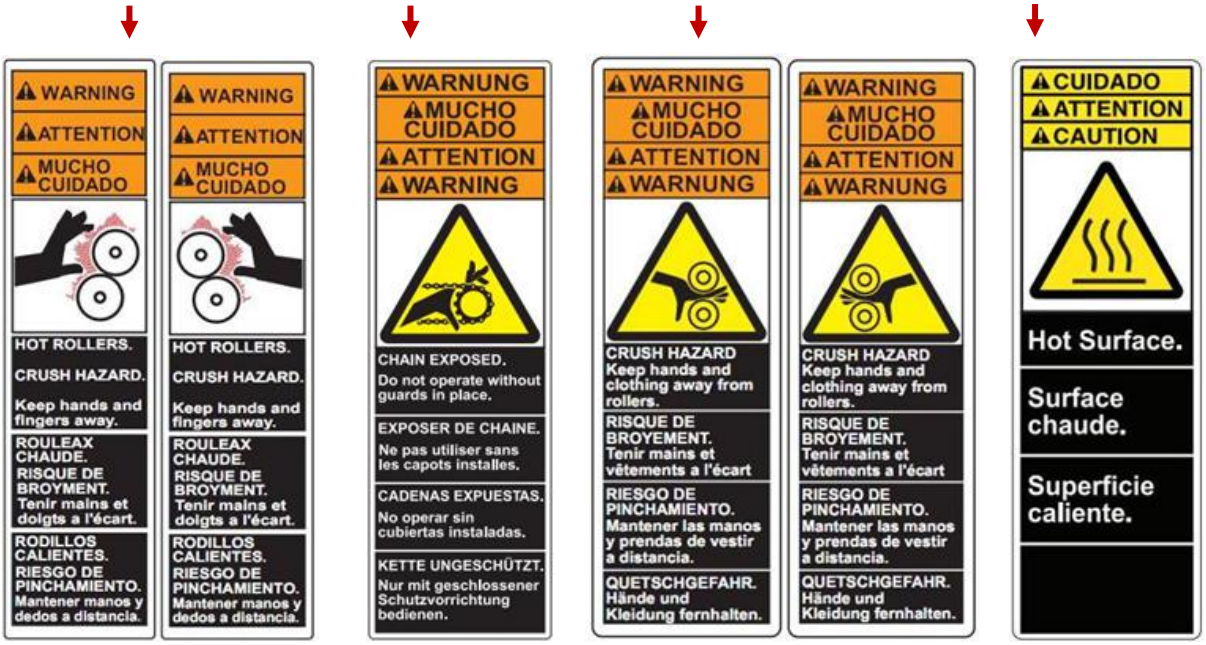
5）Turn on the machine, roller is rotating. Make trial laminating if everything is well and check the lamination result.

2. SAFETY

Read the safety instructions and familiarize yourself with the main structure, performance and operation before starting the machine. Trainings and examination is recommended when condition requires. In the operation and maintenance, please be aware of the warning symbols on the machine and proceed with caution to prevent hazards and ensure safety.
The operator should read the manual before using the machine.

2.1 Warning Symbols

A B C D



E F

A. Hand Anti-hot： The surface of roller could scald your hand or finger, keep away from heating roller.

B. Anti-chain Prick: Keep your hands away from chain and gear. Your long hair and clothing

would be caught in the rollers.

C. Anti-hand trapped: this safety notice means that your fingers and hands could be trapped and crushed in the rollers, clothing and long hair could be caught in the rollers and pull you into them.

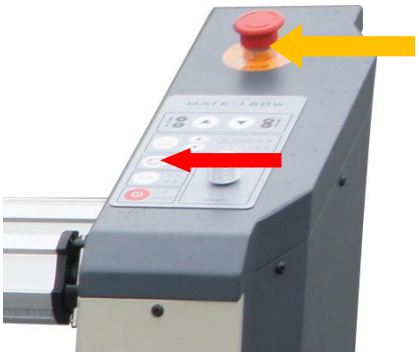
D. Warming: Be attention of high temperature.

E. Anti-electric shock： This safety notice means it is high voltage, should be turned off before adjustment.

F. EMERGENCY SWITCH： In case of emergency, press the red button to shut off the electric

2.2 Safety parts

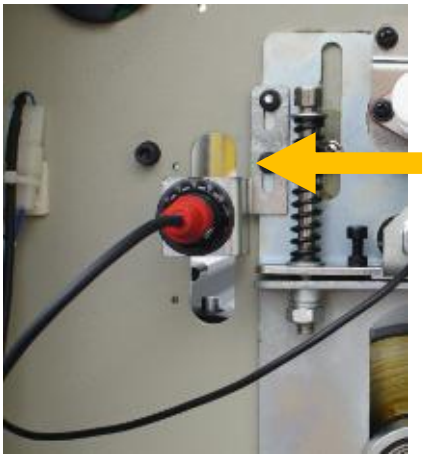
■ **Emergency**



In case of emergency, press the red button to shut off the electric, roller stopped. Turn the button clockwise, the button will rise up automatically. Press “on” from control panel, the roller can restart to rotate. Emergency stop switch is an important safety component. Please check whether its function is intact regularly.

Note： Please press the button immediately when emergency ！

■ **Safety Photocell：**



Safety sensor locates in front of roller and support shaft on the right frame. The roller stops rolling when hands or object get close to the sensor. To run again the machine, turn on the switch on the control panel. In order to protect the operator, please check if the sensor is workable before running the machine

Photoelectric switch is an important safety part of the machine. In order to prevent safety accidents caused by its failure, please check the sensitivity regularly.

Note: The sensor doesn't work when you use the foot pedal.

2.3 Safety Notice

- The operator should read the manual before using the machine and have a comprehensive understanding of the performance and structure of this machine. And abide by all warning signs to prevent accidents to ensure the personal safety of the operator.
- The power supply should match the power configuration on the nameplate. Use three feet type plug to connect the electric. Don't change the ground wiring.
- Be sure to turn off the main power to avoid electric shock or other physical damage to the operator when two side doors are opened to check the machine
- The power cord is not allowed to put on ground nor with object on top. Strictly prevent the power cord from rolling by the vehicle.
- The facility should be well ventilated. Keep the machine away from water, wet place or explosive products.
- To protect the machine, don't put any parts or tools such as: screw driver, screw, nut, etc., on the working table and top of side cover to prevent falling into the rotating roller, causing damage to the machine.
- Don't wash the machine by water to prevent from the short circuit and components rusty.
- Check regularly whether the rotating position is flexible and add high temperature grease to lubricate the bearings at both ends of the rollers.
- Check to see if the power supply cable and the foot pedal connection cable are broken on a regular basis to avoid electric shock

3. TECHNICAL PARAMETER

Item	Metric	British
Working width	1400mm/1600mm/1700mm	55in/63in/67in
Running Speed	0-15m/min	0-49ft/min
Roller diameter	120mm	4.72in
Roller Max Gap	35mm	1.38in
Heating type	Cold: Without heat / Warm&Hot Series: Top heat	
Temperature	0-40℃ (Warm Series） 0-120℃ (Hot Series）	32-104℉（Warm Series） 32-248℉（Hot Series）
Heater	1300W (Warm Series), 2380W (Hot Series）	
Lifting method	Electric driven	
Power supply	AC110V / 50-60Hz, 15A (Warm series) / 24A (Hot series) AC230V / 50-60Hz, 7A (Warm series) / 12A (Hot series)	
Power Consumption	Cold Series: 220W, Warm Series:1550W, Hot Series:2600W	

Motor	200W	
Shipping size	2050 x 460 x 1330mm	80.7in x 18in x 52in
Pedal Switch	1	
E-stop	2	
N/W	210/230/245kg	463/507/540LBS

4. PARTS OF LAMINATOR

4.1 Front View

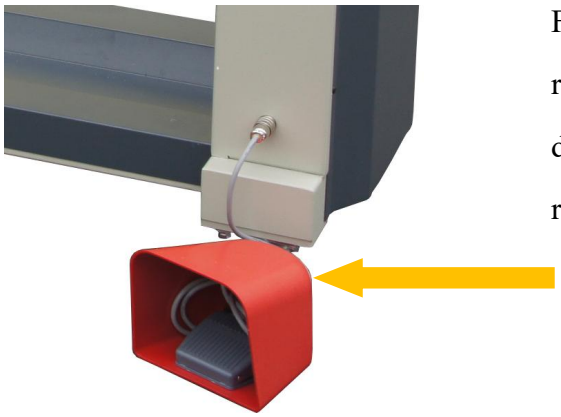
1. Caster 2. Motor 3. Prints unwind 4. Left cabinet 5. E-stop
5. Feeding table 7. Pressure plate 8. Top Roller 9. Liner rewind
10.Control panel 11.Right cabinet 12.Foot pedal

4.2 Back View

1、Power cable　2、Circuit breaker　3、Film unwind 4、Tension knob　5、Prints rewind

4.3 Notes

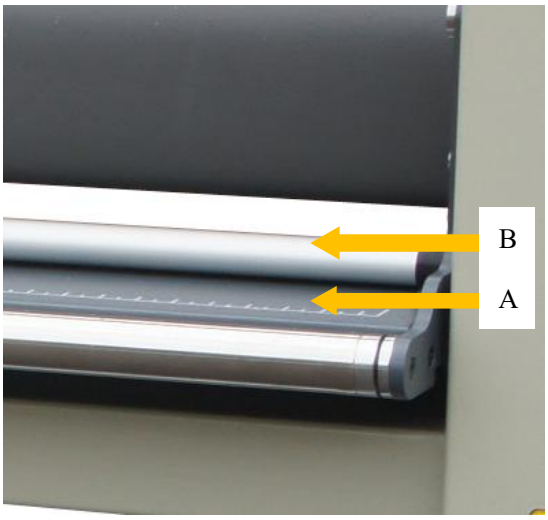
■ **Pedal Switch**



Foot pedal is another way to control the start and stop roller rotating. Step on the foot pedal, press the direction button to adjust the speed, then the roller runs, roller stops when loose.

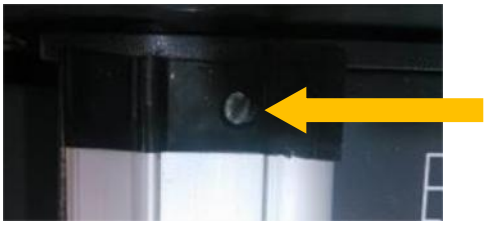
NOTE: The safety sensor can't be used with foot pedal together. Please pay more attention to protect your hands during foot pedal operation.

■ Feeding table and pressure plate



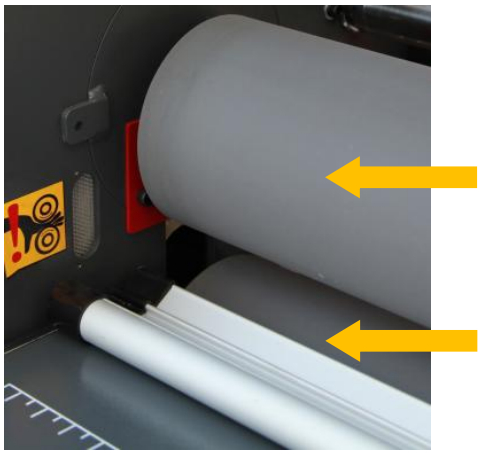
Feeding table (A) and pressure plate (B) are used to put tension on media and parallel with film edge. Feeding table can be pivoted up via the arm, and the tension can be adjusted by the spring inside of frame. The table should be pivoted up when insert prints/ lamination film or clear the roller; Pressure plate is removable; it should be taken away when putting media in, and put back after preparation work.

➢ Pressure plate taken and use：



Lift and take off the pressure plate. Insert screw in the holes of pressure plate to put back.

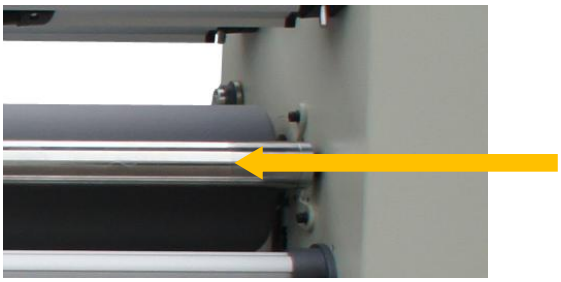
■ Top / Bottom Roller



Top and bottom rollers are the key component of the laminator and they directly affect the quality of laminating, being aware not to be scratched during laminating by any sharp tool. Both top and bottom is silicon roller for this machine. The advantage is good heating and acid and alkali resistance; prevent adhesion from cold laminating film. The bottom roller is controlled by motor, the top roller rotated by friction

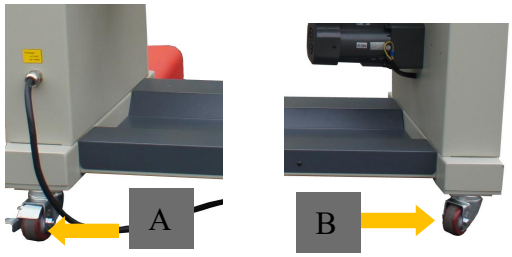
Caution: Don’t put your hands or finger between top and bottom roller, in case, press E-stop.

■ Idler bar



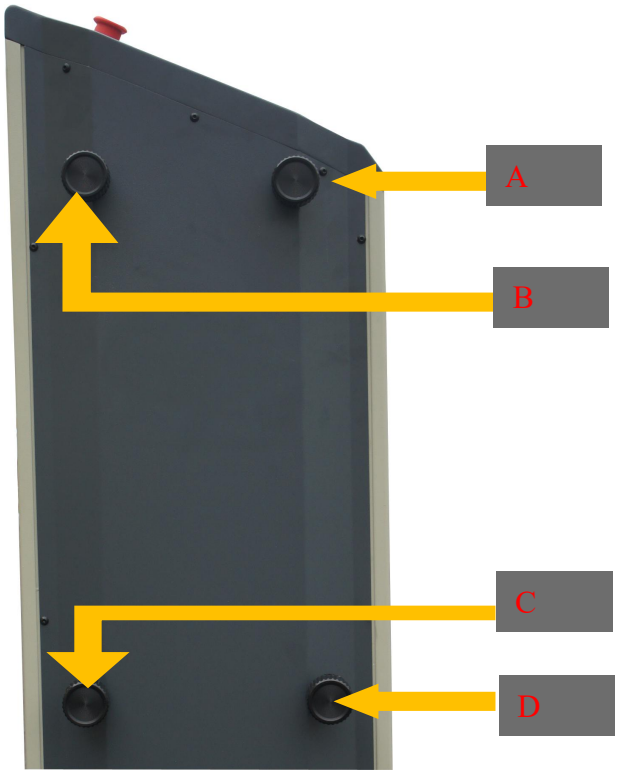
Idler bar is used to smooth the film when go through in 'S' direction, so the film is as flat as possible between the rollers.

■ Castor



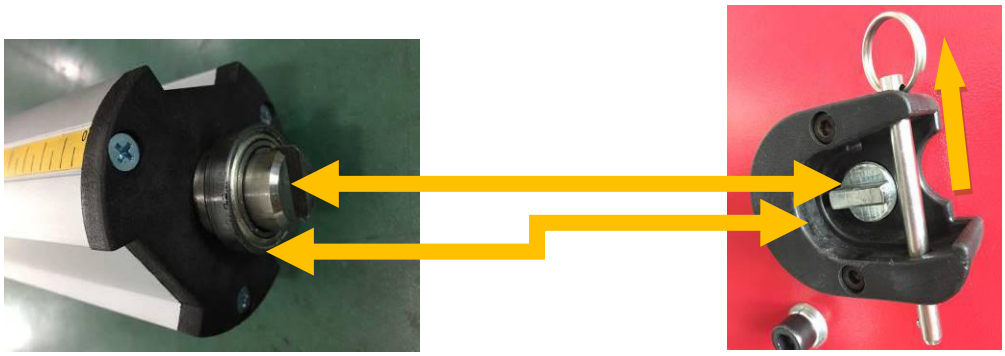
Total four castors for this machine, two with brake, and two without brake; they can be locked to prevent movement.

■ Unwind/rewind shafts



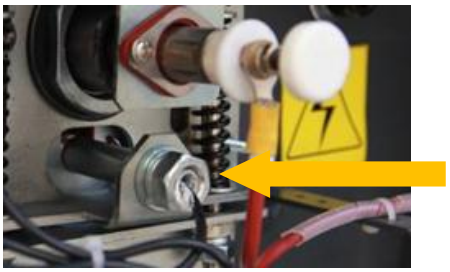
Four shafts for this machine, they are film liner rewind (A), film unwind (B), media rewind(C), media unwind (D), they are exchangeable to each other. It is motorized shaft for liner rewind and

media rewind, non-power for film unwind, media unwind. Take off the key from saddles then move out one side of shaft. For assembly, right side first, the driven end of each shaft is slotted to engage a key. Three rubber strip on the shaft to hold the carton tube.



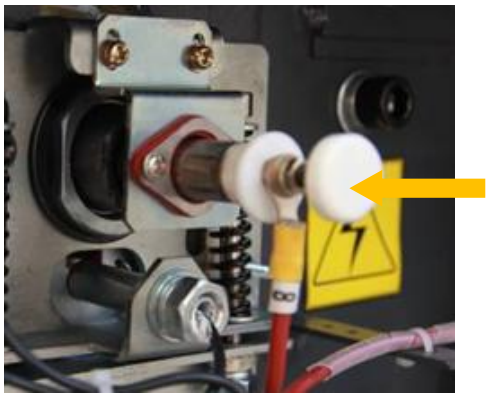
The tension knob is A,B,C D,E. Clockwise rotating to increase the friction, anti-clockwise rotating to decrease the friction. Adjust the speed by friction knob to get good laminating result.

■ **Temp sensor (Warm & Hot Series）**



Warm and hot series Temp sensor is touch type, placed end top roller on the right, which can be up and down together with top roller. It is sensitive, small, light, easy installation and can be used long time.

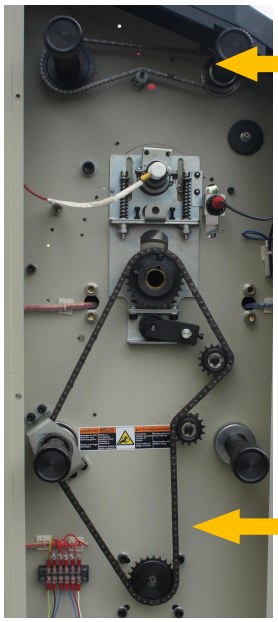
■ **Heater (Warm & Hot Series）**



The machine is installed with a 1300W (Warm series) / 2380W (Hot series) stainless steel heater. Do not touch the connection end while heating to prevent electric shock.

Note: Check the tightness of the fixed wire head hexagonal nut on a regular basis. If loose, please tighten it in time to prevent fire or burn out of electrical components. Please pay attention to cutting off the power supply when replacing the heater.

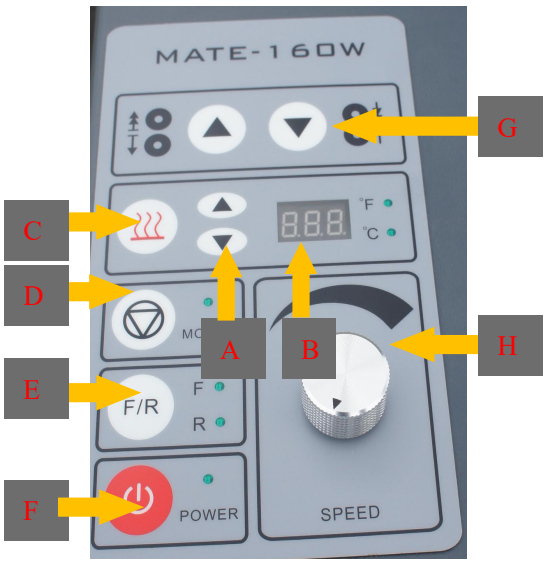
■ Conveyor System



The liner rewind sprocket is connected to film unwind sprocket through a chain, and the rotation of the liner rewind is driven by the rotation of the main roller. Because of the different number of teeth of the two sprockets, the speed is different. When it is necessary to readjust their speed ratio, it can be adjusted by the tension knob.

Motor drive roller and media take up through the sprocket wheel.

■ Control Panel



A- **Up/Down：** Used to set the heating temperature
B- **Display window**: Used to indicate the current temperature in Fahrenheit or Celsius.
C- **Heater on/off:** Start or stop the heating function
D- **Motor：** Control motor on or off
E- **F/R：** Control the rotation direction of the roller
F- **POWER:** To power on or off, the roller will be up automatically once it is off.
G- **Up/Down：** Roll up or down
H- **Speed：** Control the speed of the roller.

- **TEMPERATURE SET:** The roller temperature controlled by the heating button, the monitor indicates roller temperature in 6s.

Specifications setting： Press and hold："♨" for 3 second to enter in the specification setting；Press ♨ to show D-1,D-2,D-3,D-4, D-5 in order.； END to indicate the end of setting； Press up and down button to regulate the value of specification； If the buttons are not pressed in 1 minute, the specification setting state will be automatically ended.

CODE	DESPRIPTION	RANGE	DEFAULT
D-1	Temp calibration	-50---50℃ (-58℉--122℉)	0℃ (32℉)
D-2	Max temp alarm	10-170℃ (50℉-338℉)	60,150℃ (140℉, 302℉)
D-3	Max temp	10-150℃ (50℉-302℉)	40,120℃ (104℉， 248℉)
D-4	Temp unit	0-Celsius / 1-Fahrenheit	0℃ (32℉)
END	FINISH		

Notes:

- **The specifications are set before shipping from the factory. Do not change the specifications at random.**
- **It normally takes 20 minutes for the top roller to reach the temperature of 50℃ (122°F).**
- **It is normal that the temperature display differs the room temperature when start heating.**

5.USAGE OF MACHINE

■ Power Connection

- **Power cable**: It was installed the standard power supply plug , before plug in, please check your power supply voltage is same as the machine's rated operating voltage, also should verify the access to the socket is in requirements, and have a good grounding, and the capacity is large enough.

- **Main switch:** It is installed in the rear of machine (Cold series is the rocker switch, and Warm series is the airbrake switch), the switch has two positions, up to open, down to close.

■ Foot Pedal

Foot pedal is another way to control the start and stop roller rotating. Step on the foot pedal, press the direction button to adjust the speed, then the roller runs, roller stops when loose. Plug in and lock the screw before using

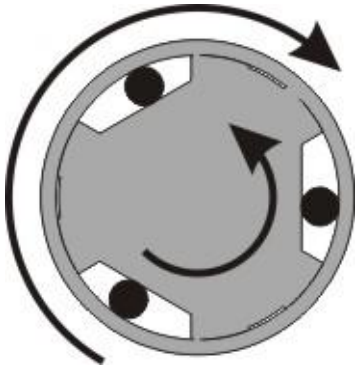
Note: The safety sensor will not work under foot pedal mode.

■ Emergency Stop

There are two red emergency switches in the back of the machine, and the power supply to the machine will be cut off immediately after pressing. In case of emergency, press the red button to shut off the electric, roller stopped. Turn the button clockwise, the button will rise up

automatically. Press “on” from control panel, the roller can start to rotate. The emergency stop button is an important safety features, check its function periodically.

- **Unwind / Rewind shaft installation and using**



Each shaft is drop in type, easily install and dismantle by aligning the “I” bracket (see 4.3). Three rubber straps on each shaft used to fasten the paper tube. Put 3” tube on the shaft, then rotate the paper tube to fix it on the shaft.

- **Friction pad checking and replacement**

Check and replace the friction pad in period, it is consumable parts.

- **Friction system for media unwind:** it is combined by bracket, metal friction pad, fiber friction pad, spring, spring bracket and black tension knob. Adjust pressure on spring by rotating the knob. When the shaft rotating, the key connects fiber friction pad and bracket to create friction, the shaft rotating controlled by friction. The friction pad create friction, the friction pad will be wear and tear during using. Replace the friction pad when friction disappeared.

✧ **Ways to replace:** take off the tension knob, spring, fiber friction pad, friction pad, then change a new friction pad.

- **Friction system of media rewind:** it is combined by bracket, metal friction pad, fiber friction pad, spring, spring bracket and black tension knob. Adjust pressure on spring by rotating the knob. When the shaft rotating, the key connects fiber friction pad and bracket to create friction, the shaft rotating controlled by friction. The rewind shaft controlled by motor, at the same time, rewind sprocket driven by friction rotation. When the shaft rotating, the key connects fiber friction pad and bracket to create friction, the shaft rotating controlled by friction. The friction pad create friction, the friction pad will be wear and tear during using. Replace the friction pad when friction disappeared.

✧ **Ways to replace:** take off the knob, spring, fiber friction pad, metal friction pad, then change a new metal friction pad.

- **Friction system for film unwind:** it is combined by bracket, metal friction pad, fiber friction pad, spring, spring bracket and black tension knob. Adjust pressure on spring by rotating the knob. When the shaft rotating, the key connects fiber friction pad and bracket to create friction, the shaft rotating controlled by friction. The friction pad create friction, the friction pad will be wear and tear during using. Replace the friction pad when friction disappeared.

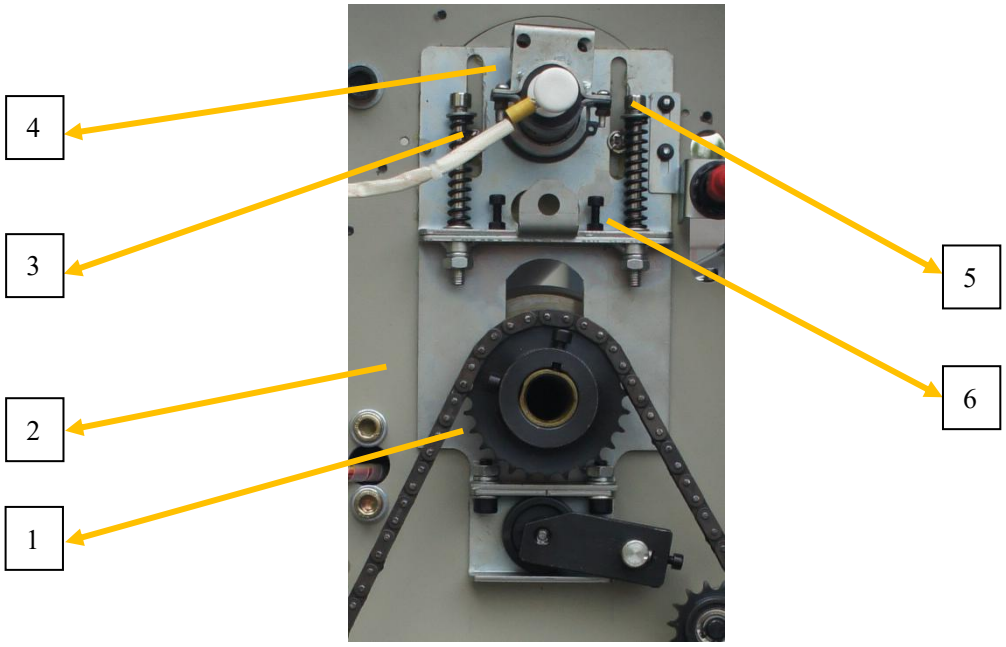
✧ **Ways to replace:** take off the handle, spring, fiber friction pad, metal friction pad, then change a new friction pad.

- **Friction system for liner rewind:** it is combined by bracket, metal friction pad, fiber friction pad, spring, spring bracket and black handle. Adjust pressure on spring by rotating the handle. When the shaft rotating, the key connects fiber friction pad and bracket to create friction, the shaft rotating controlled by friction. The friction pad create friction, the friction pad will be wear and tear during using. Replace the friction pad when friction disappeared.

✧ **Ways to replace:** take off the handle, spring, fiber friction pad, metal friction pad, then change a new metal friction pad.

■ ADJUST ROLLER PARALLELISM AND PREESURE

➢ Top/bottom roller parallelism and pressure calibration



1. Middle bracket of compression 2. Left / right cabinet 3. Compression spring
4. Upper compression bracket 5. Compression bolt 6. Parallelism nut

Top and bottom rollers parallelism are the key component of the laminator and they directly affect the quality of laminating. The rollers are parallel before shipment, but maybe the roller will be unparalleled due to the shaking in transportation. Below steps to adjust the roller parallelism.

- **Adjusting the pressure of the roller**

The unbalance pressure for top and bottom roller may cause the travel and wrinkling problem. The method of adjusting:

1) Take a record for the travel side. Turn off the machine and take off the side cover.

   Note: because the parts in the left box are less than the right one, in order to avoid the damage of unrelated parts caused by trouble or operation error, please take priority from left box when adjusting.

   Per indicated on the photo, Middle bracket of compression (1) and Upper compression bracket (4) is connected by two bolts, each of which has a spring and two nuts (see figure). The upper nut is welded and fixed with the pressure upper bracket, and the following is a movable fastening nut.

2) When the image travelled to the left side, the left side pressure must be bigger than right side. Adjust the bolts to reduce the pressure. It should be possible to keep same adjustment for bolts on both sides.

   NOTES: You can take a ruler to measure the height of the two bolts and adjust them to the same height.

3) When the image travelled to the right side, the left side pressure must be smaller than right side. Adjust the bolts to increase the pressure.

   NOTES：Check the spring changes when put max pressure on the machine after adjustment. If no change, it will cause the spring damage during laminating. If no extra space to adjust on left side spring, please try to adjust on right side.

4) After adjustment, fasten the nuts.

5) Put on the left side cover.

Adjustment principle: if the image is off-tracking to the left side, the pressure of the left side is higher than the right side. Loosen the spring on the left side to reduce its deflection.

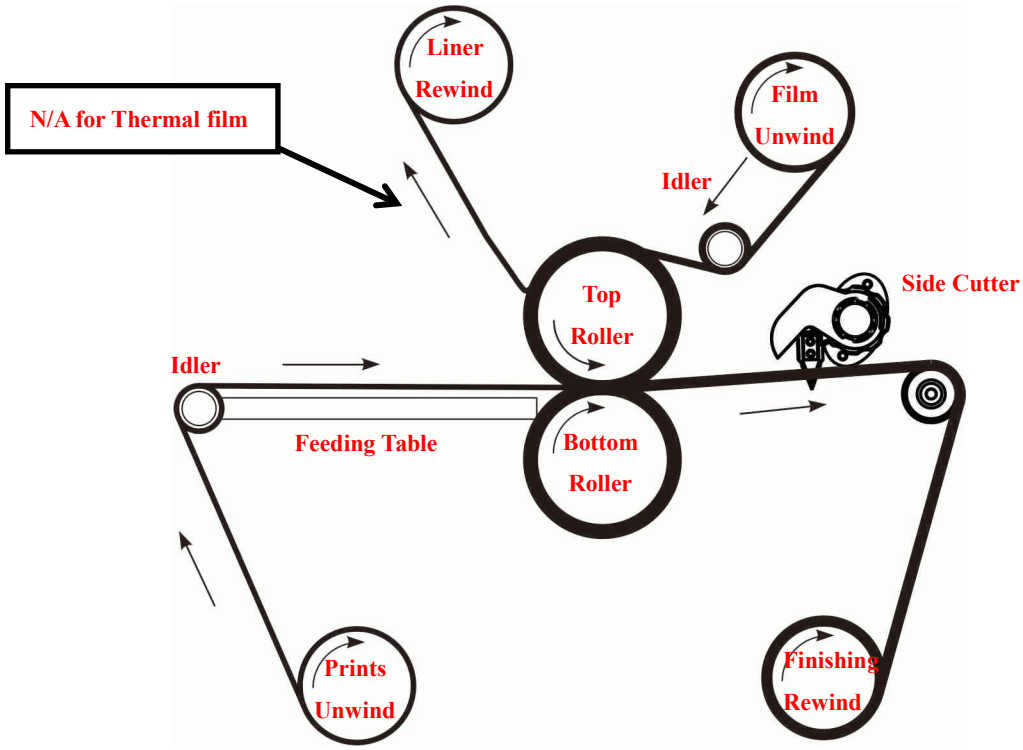
➢ ROLLER PARALLELISM ADJUSTMENT

Put the gap 1-2mm between top and bottom roller, if the gap isn't the same, take a record for the smaller gap side. Make the hand wheel feel loose, turn off the machine, open the left (right) side cover. Loose the parallel nut (6), the roller will be up if tightening down the bottom nut, then tighten the top nut; otherwise, it will be down.

NOTE: The roller is parallel before shipment. The roller parallel can't be changed. Pressure should be adjusted first when have the tilted problem. Only adjust the location of the nut when the roller isn't parallel. Roller pressure should be adjusted accordingly after change the location of the nut.

6. LAMINATING PROCESS

6.1 Laminating Principles



6.2 Operation Steps

Lamination is an experienced and more technical work. Starters should be under guidance of an experienced technician. Following is laminating instruction.

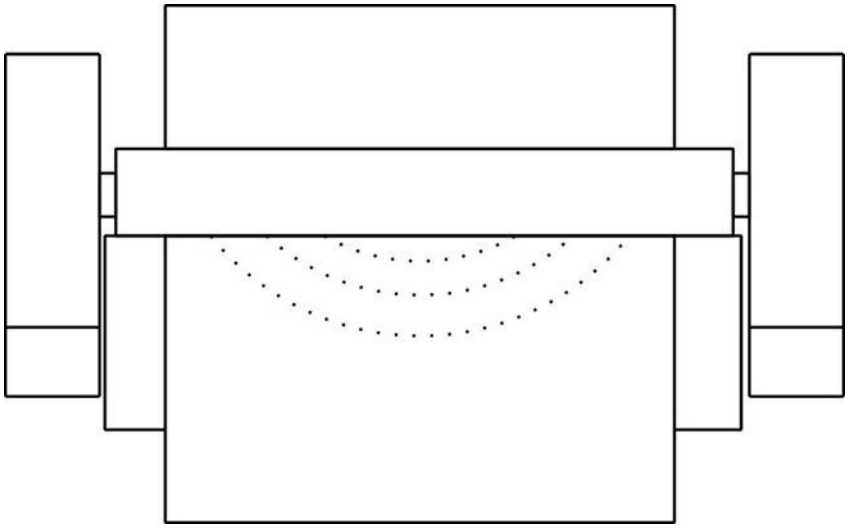
- **Pre-heating**

1. Raise the top roller and take off the pressure board.
2. Turn on the machine, press Forward switch, speed at lower value
3. Turn on heating, the set up temperature is 30-40℃ for cold lamination film. Turn off the roller rotating when reach the temperature.
4. Put the film roll on the shaft, insert the shaft to side bracket. Pull out several meters by hand and make sure some tension on the shaft. Adjust the friction by side wheel if needed.
5. Wrap the film around roller and idler bar according to above diagram. Be careful that the film should be with tension on and even.
6. When cold laminating, separate the liner paper and film by cutter and paste the liner on the rewind; but hot laminating, no liner paper process.
7. put the media on the shaft and adjust the friction. Insert the media in space between rollers. Be noted that the media should be even on the working table, media edge align with film edge to avoid walking deviation.(always operated by foot pedal).
8. Put the pressure plate in stable laminating process, put on the switch, put the laminated media on the shaft, adjust the friction to make automatically take up.
   Note: the laminating performance is related to the friction adjustment of all shafts.

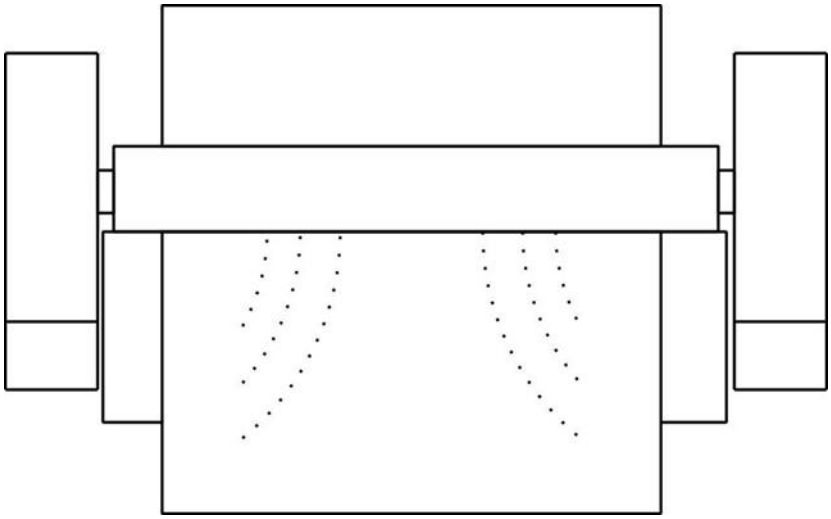
6.3 Notes for Operation

1. Place the laminator on a stable flat surface with good ventilation. Don’t put much staff around the machine to avoid the necessary problem.
2. The power cord not allow to put on ground nor with object on top.
3. Make sure suitable friction on all shafts. Adjust the friction of liner rewinder to separate the film.
4. Keep the edge flat of media and film roll.

5. don’t run so fast at the beginning. Increase the speed when everything is running well.
6. make sure the media is dry to guarantee the laminating result.
7. The “U” shape reflects normal pressure, if the “U” is too big, decrease the pressure to get good laminating result.



8. For the issue in above picture indicates the pressure is too small, please increase pressure to improve



9. If the image is off-tracking on the left right of the machine, it indicates the pressure on the left side is higher than that on the right side, please decrease the pressure (check chapter 4 -).
10. No need heating for cold lamination film. If your working condition is lower than 10℃ (50 ℉), please heat to 50℃ (122℉) to get satisfied performance.

7. Problems and Solutions

First of all, please check if any destroy parts on your machine, if so, repair the broken part then run the machine.

Trouble	Reason	Solution
Although the main is plugged in and the power-on button is pressed, the LED does not light up.	The power plug is not well-connected.	Check the plug to ensure connection.
	The voltage of the main does not adaptable to the required voltage.	Check the voltage of the main to ensure its adaption to the machine.
	Emergency stop is not switched on.	Turn on the emergency stop.
	The fuse link beside the power cable is un-installed or damaged.	Check the fuse to ensure it is not damage.
The power is connected; air break is turned on but trip.	The heater in the top roller is damaged which leads to short circuit.	Check and replace a heater.
The motor can not be started.	The speed controller fails.	Replace a speed controller.
The motor runs fast and its speed can not be controlled.	Potentiometer fails.	Replace a potentiometer.
The rotation of the rollers stops from time to time.	The chains are too loose.	Tighten the chains.
The film peeling-off separation point is too high.	The damping of the liner paper roll is too much.	Reduce its damping by turning its tension control knob.
The film peeling-off separation point is too low.	The damping of the liner paper roll is too less.	Increase its damping by turning its tension control knob.
The cold lamination film separated from its liner paper has diagonal lines.	The pressure on the two sides of the film is imbalanced.	Smooth the film by hand.
The image on the in-feed table has U-shape lines.	The pressure between the rollers is too much.	Reduce the pressure and use top plate to press it.
The image on the in-feed table has splay lines.	The pressure between the rollers is too less.	Increase its pressure.
The image is off-tracking.	The pressure on the left and right side is imbalanced.	Refer to the Section of Align the main rollers.

8. MAINTENANCE

1. Only experienced operator could open the cabinet, be noted following measures;
2. Don’t use abrasive cleaner to clean the machine surface.
3. Check the rotation parts regularly and and fill high-temperature grease to lubricate the two bearings of heating rollers.
4. Prevent water into the frame, this can damage the electrical circuits, cause electrical shock or corrosion.
5. During maintenance, don’t run the machine
6. During maintenance, don't change, move and dismantle the safety parts. Make sure the safety parts before using.
7. Cut the power supply before dismantle and assembly.

8.1 Maintenance of rollers

The main rollers are the critical parts of the machine. They directly relates to the output quality of lamination. Please make maintenance regularly.

1. Lift the upper rollers after work to prevent deformation of rollers.
2. Make sure the knife or sharp items will not scratch the rollers.
3. To extend the lifetime of the rollers, please ensure the rollers are clean. Please remove the adhesive residue by a piece of flannelette with alcohol, detergent or eraser.
4. Please remove the adhesive residue by a piece of flannelette with alcohol, detergent or eraser, but NOT allow using gas/petrol to clean.
   - Stop heating when wiping rollers and be sure that temperature is less than 40 degrees Celsius.
   - Gently wipe the rotating rollers, and avoid concentration of wiping one point to prevent partial damage roller surface.
   - Clean up the residual glue on the rollers, otherwise, it will affect the effect of laminating.

➢ **Roller replacement**

1. Open left/right side cover

2. Be sure disconnect the main power, and disconnect the heater wiring

3. Remove the sprocket and chain

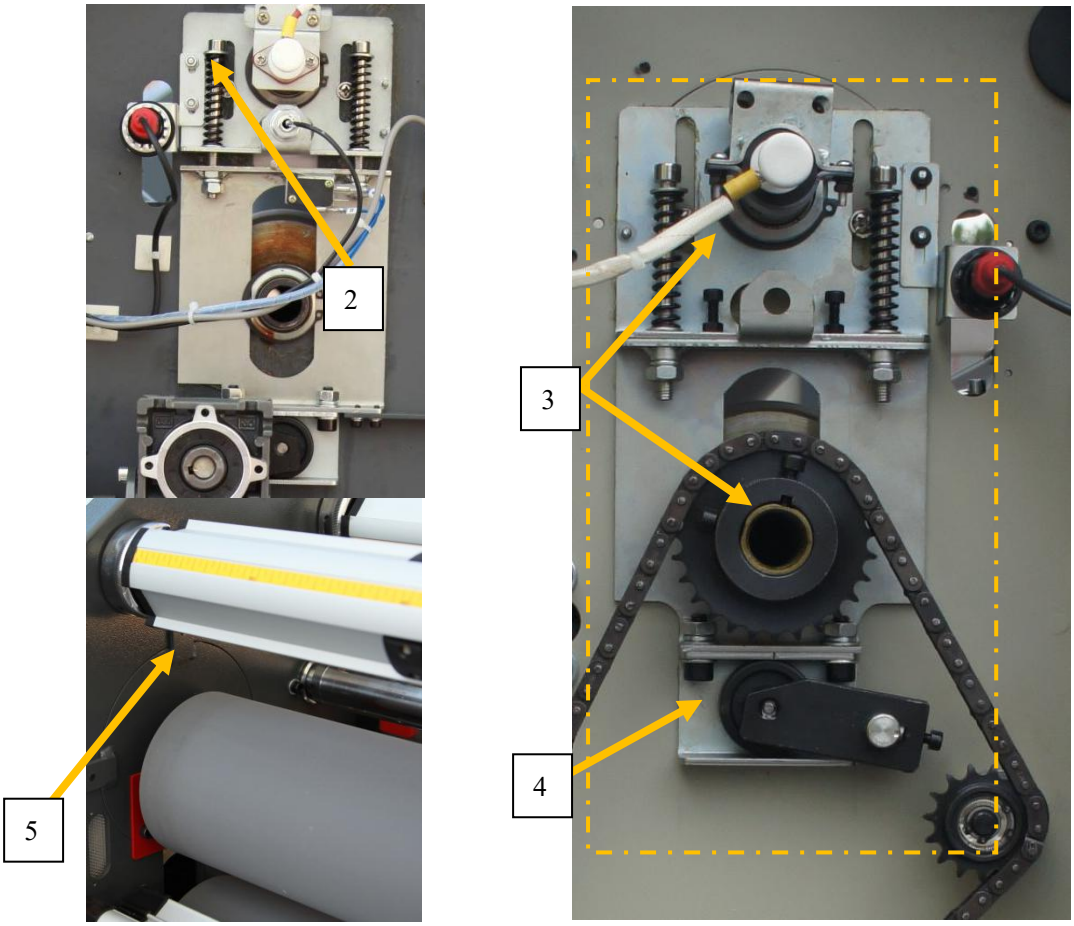
4. Remove the lift compression bracket kits and heater

5. Remove the C shape metal cover

6. Take off the old roller；

7. Install the new rollers；

8 Put all parts back as it was.



8.2 Cleaning

1. To extend the lifetime of the machines, please ensure the machine is clean.
2. Make sure environment clean and keep away from obstacles.

8.3 Checking

In order to ensure your safety, please check the safety of the machine regularly. If you find failures in the check, please refer to the section of Trouble shooting and solution. If you need to reset the pressure, please refer to the section of Pressure setting.

8.3.1 Visual checking

Visual checking prior to maintenance.

1. power supple is connected and cable undamaged.
2. Caster is stable.
3. Any damage on machine

8.3.2 Safety parts checking

- **Emergency switch**

1. Turn on machine
2. Press the emergency switch, machine stop or not
3. Turn on machine when emergency switch is on to see machine working well or not
4. Release the emergency switch, turn on and start to run machine to check it works or not

- **Photocell checking**

1. Turn on the machine
2. Roller rotating
3. Hide the photocell, check roller rotating or not
4. Move the obstacle, check roller rotating or not.

Caution: When use the pedal switch, the optical switch does not work.

Warranty Card

MODEL		LOT #	
BUYER		DATE	
SELLER		TEL	

Notes

i. The warranty card should be filled by seller and kept by buyer. Alterations are prohibited.

ii. The guarantee period is one year, and will be charged with material and labor cost after 24 months.

iii. No free repair is available for any damages caused by the improper use.