



# LP-C1

## Paper Cushion Machine User Manual



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## Preface

Thank you for using Locked Wave paper cushion machine. In order to ensure that you use the equipment correctly, please read this manual carefully before operation!

**Note:** The operation of different models is slightly different, please pay attention to the tips in the manual.

## Disclaimer

The manufacturer and its authorized distributor are not liable for any accidents or damages resulting from the failure to comply with warnings or instructions depicted on this machine or contained in this operator manual, including:

- Improper use or maintenance
- Use for applications or under conditions other than those outlined in this operator manual
- Use of unauthorized parts
- Repairs or modifications made without the permission of the manufacturer
- Unauthorized alterations to the machine such as:
  - a) Alterations to the control system;
  - b) Welding, mechanical treatments etc;
  - c) Extensions to the machine or the control system;

The manufacturer and its authorized distributor are not liable for:

- Indirect damages caused by errors or malfunctions of the machine (e.g. damages to products, company interruptions, delays, etc.)

## Safety

This machine has been well designed for safe use in accordance with the application, conditions and rules describe in this operator manual. Anyone that works with or on this machine must read the operator manual and follow the instructions carefully.

## Operator

Only those who read and understand the Sections "Safety" and "Installation and Use of the Machine" should operate the machine. Special training is not required.

Operator tasks include:

- Operating the machine
- Regular maintenance (see Section 6)
  - Remove paper scraps
  - Remove excessive paper dust

## Service Technicians

Only service technicians employed by Locked Wave or Locked Wave distributor are permitted to conduct the service on the machine. For these individuals, a separate service manual is available.

## Rules of Safety

- a. The power used for the machine must be consistent with the parameters on the nameplate on the machine, misconnection is strictly prohibited. In order to prevent damage to the machine, please only use the power cord provided with the machine.
- b. Always plug the machine into a ground-type wall socket.
- c. When transporting and moving, please pay attention to the occurrence of short circuit or open circuit of the wiring inside the safety switch.
- d. Safety devices are not allowed to be switched off or removed.
- e. Do not remove or cover warning labels (see Machine Warnings).
- f. Keep the working area clean and free of obstacles.
- g. Unplug the machine and gather all loose cords before moving the machine.
- h. Pay attention when using hand tools such as knives or scissors to avoid injuring your hands due to the risk of cutting.

- i. Ensure that:
  - Cords cannot be damaged
  - The **w**orking area is sufficiently lit
  - The working area is sufficiently ventilated

## Machine Warnings

- a. When the machine is working, it is strictly forbidden to touch any rotating parts.
- b. To ensure the safety of equipment during maintenance, the machine will not work when the front or rear covers are opened.
- c. Non-technicians are prohibited from opening the machine maintenance cover.
- d. During maintenance or repair, it is strictly forbidden to touch the blades near the marks in the figure below to avoid hand cutting.



- e. During maintenance, it is strictly forbidden to put your fingers inside the paper feeding slot to avoid hands injuring.



- f. When the machine is functioning smoothly, if there are motor abnormalities, paper jams or other faults, the sensor will detect these issues, alarm sounds and machine stops.
- g. In following situations, please press the Emergency Stop Switch to cut off the main power of the machine:
  - Any unusual objects in the inlet
  - Unusual sounds inside the machine
  - Other abnormal operating conditions

## Improper Use

The following applications or acts are not suitable for the machine and constitute improper use of the machine:

- Use of materials other than those produced by Locked Wave and intended for use in the

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machine

- Use outside or in a humid area
- Use in areas subject to an explosion hazard
- Washing or cleaning the machine with excessive quantities of water
- Standing on the machine
- Placing objects against or on top of the machine
- Moving the machine while it is functioning or connected to the AC power supply

## Storage

- The storage room must be dry.
- The machine must not be set up or stored in a place where it is subject to moisture or water.
- Before using the machine after a long-term storage period, it must be inspected by a trained

service technician.



If the machine is taken from a cold to a warm area, temporary condensation (both internally and externally) can form on the machine. In this case, turning the machine on right away may damage the machine and create problems for the operator. Let the machine reach room temperature and wait for the condensation to evaporate before turning it on.

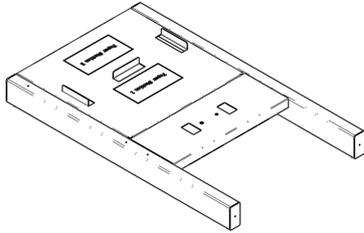
## Transport

- The machine should not have severe vibration and shock during transportation;
- The machine should not be exposed to the sun or rain, and should be stored under the required temperature and humidity range .

# Assembly Guide

## A. Assembly Instructions for Mobile Bracket

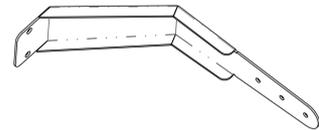
Base gasket (including tray)



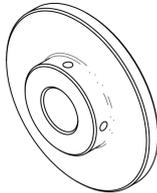
Column



Paper guide shaft support\*2



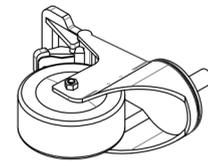
Paper Guide Shaft Rib\*4



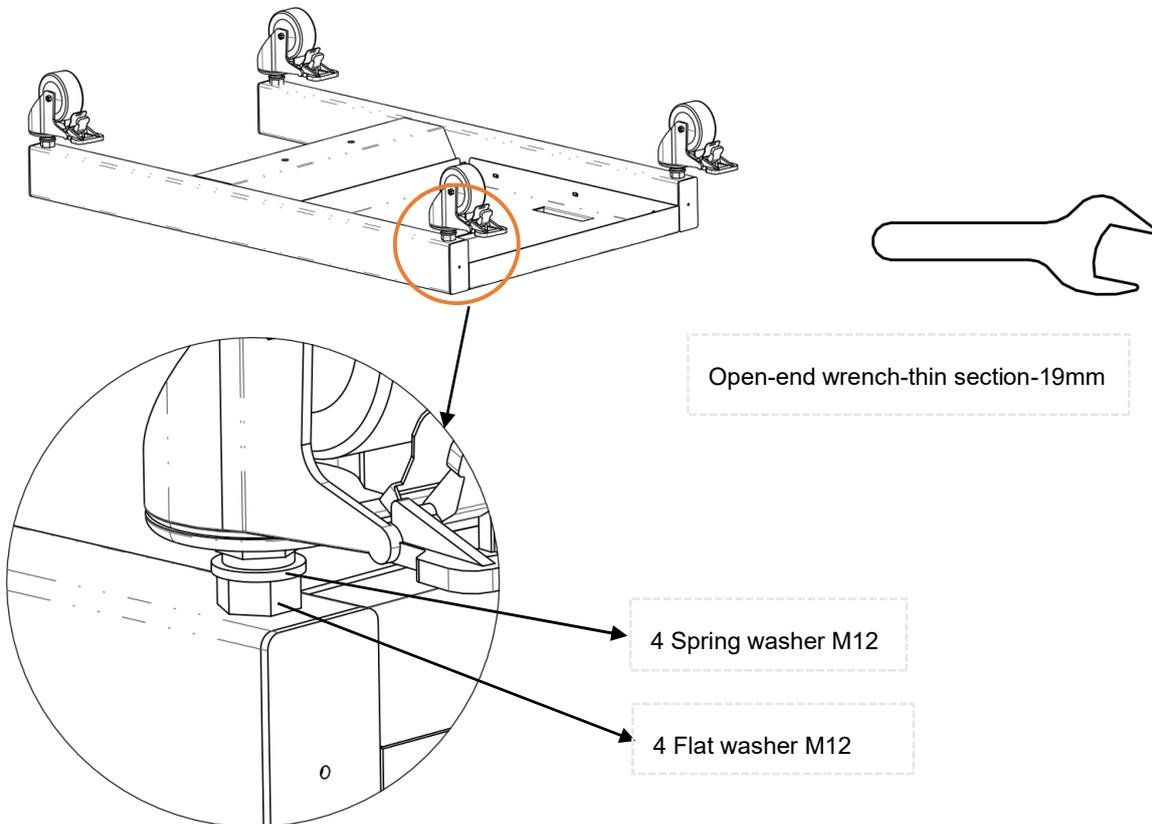
Paper guide shaft\*3



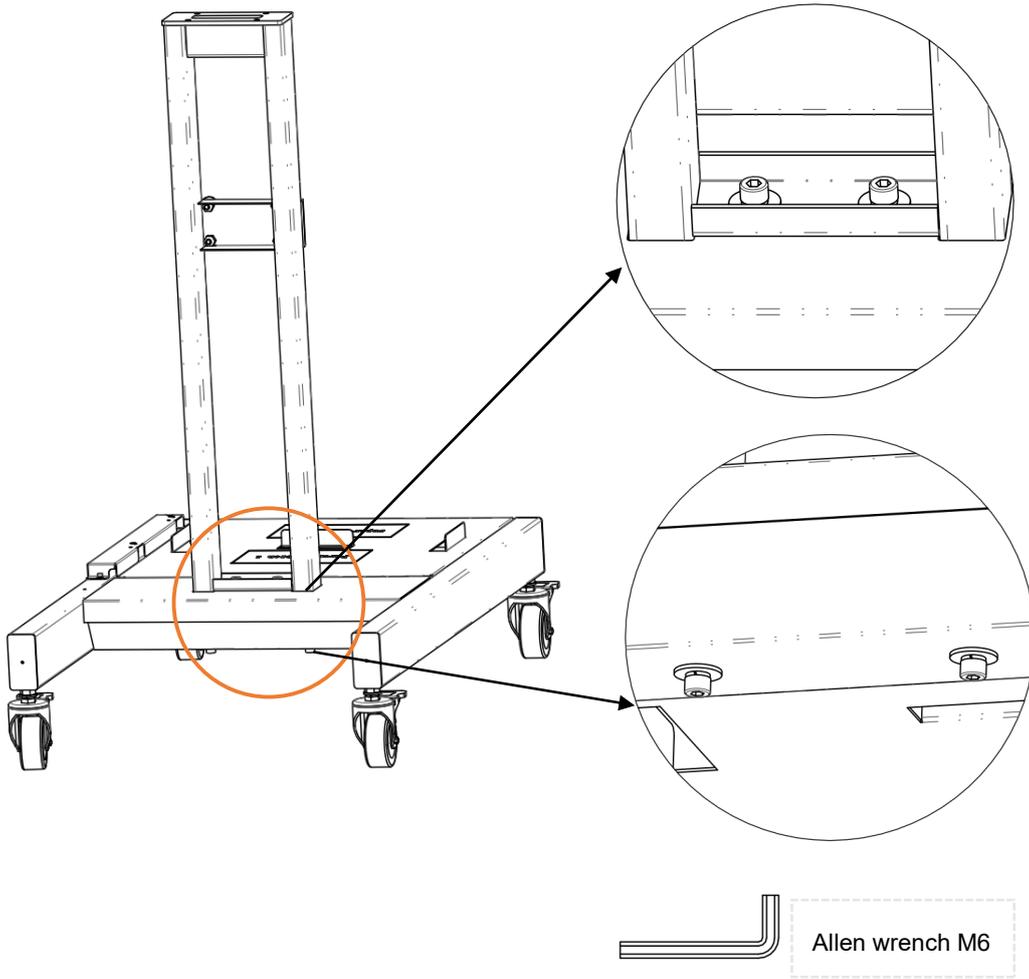
Swivel Casters\*4



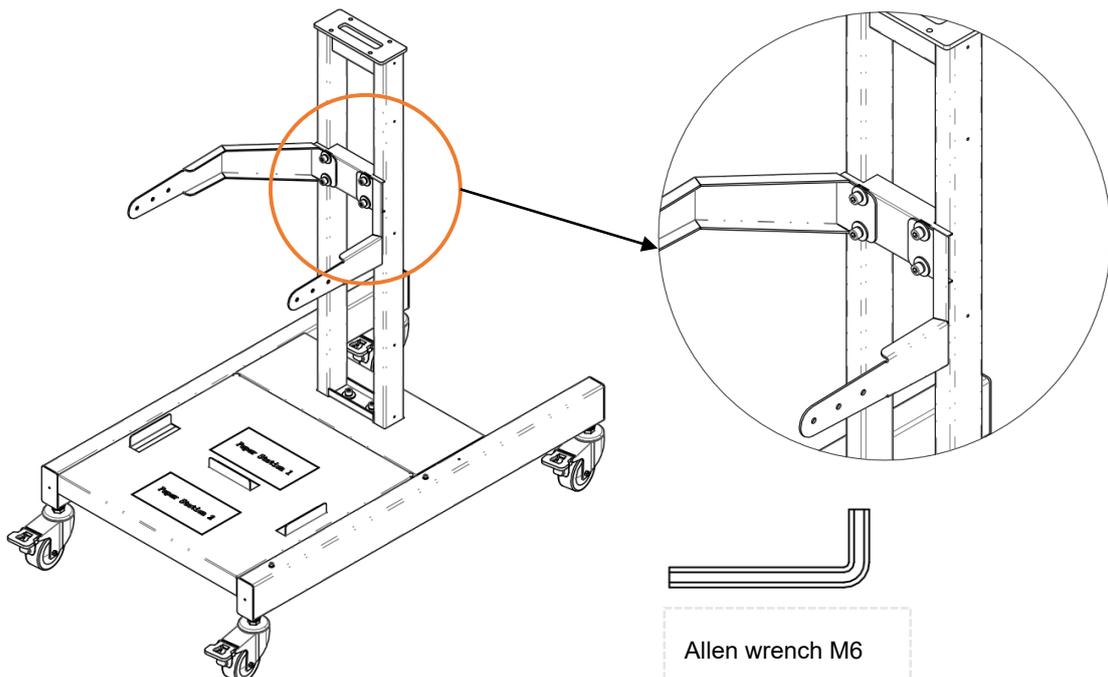
① **Installing Swivel Casters:** Use M12 washers and nuts along with a 19mm open-end wrench to secure the casters to the tray



② **Installing Column** : "M8\*20 combination screws are used, assembled and fixed with an M6 Allen wrench.

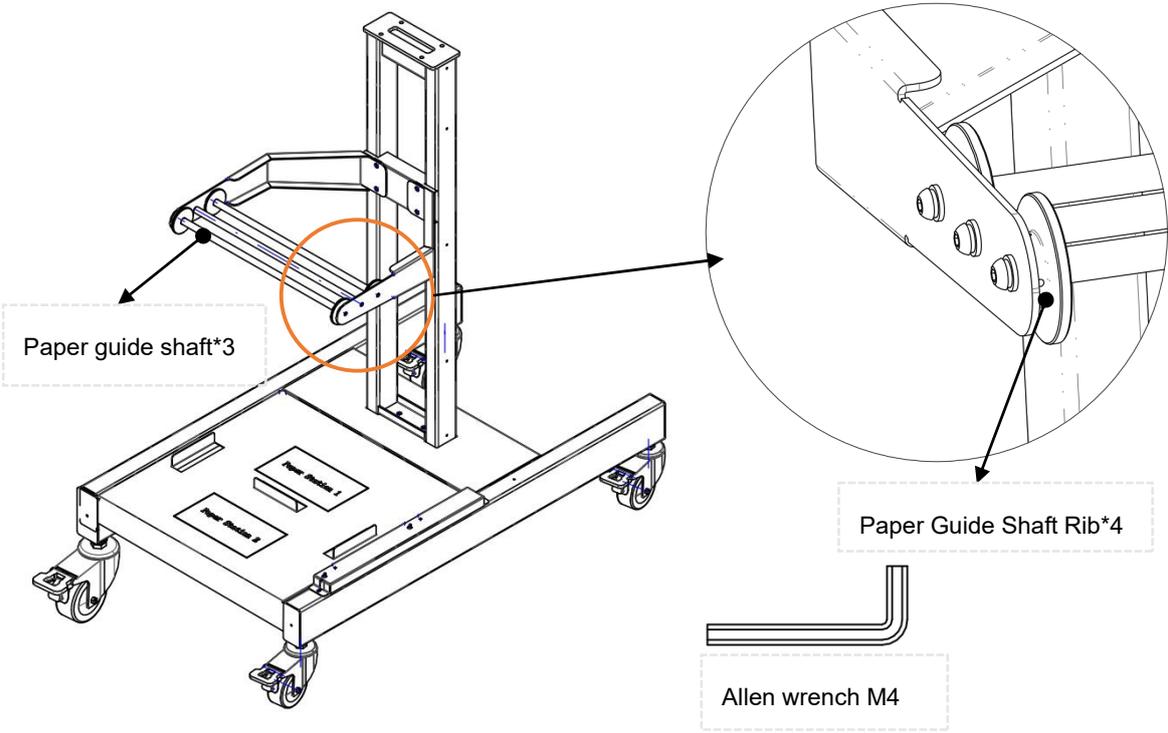


③ **Installing Paper guide shaft support**: "M8\*20 combination screws are used, assembled and fixed with an M6 Allen wrench



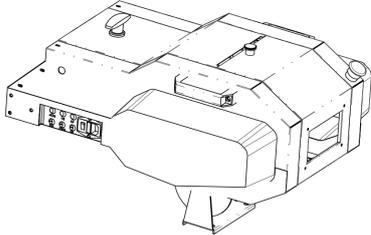
④ **Installing Paper guide shaft:**Assembling Fixed Components with M6\*12 Combination Screws and M4 Allen

Wrench

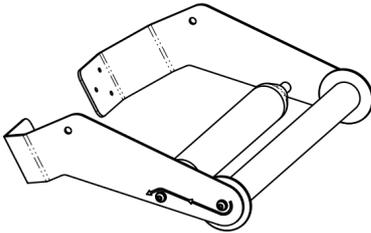


**B. Assembling the equipment**

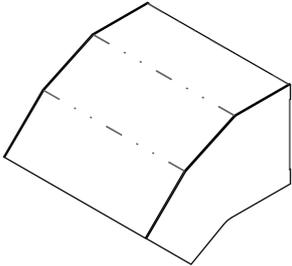
KRAFT PAPER MACHINE



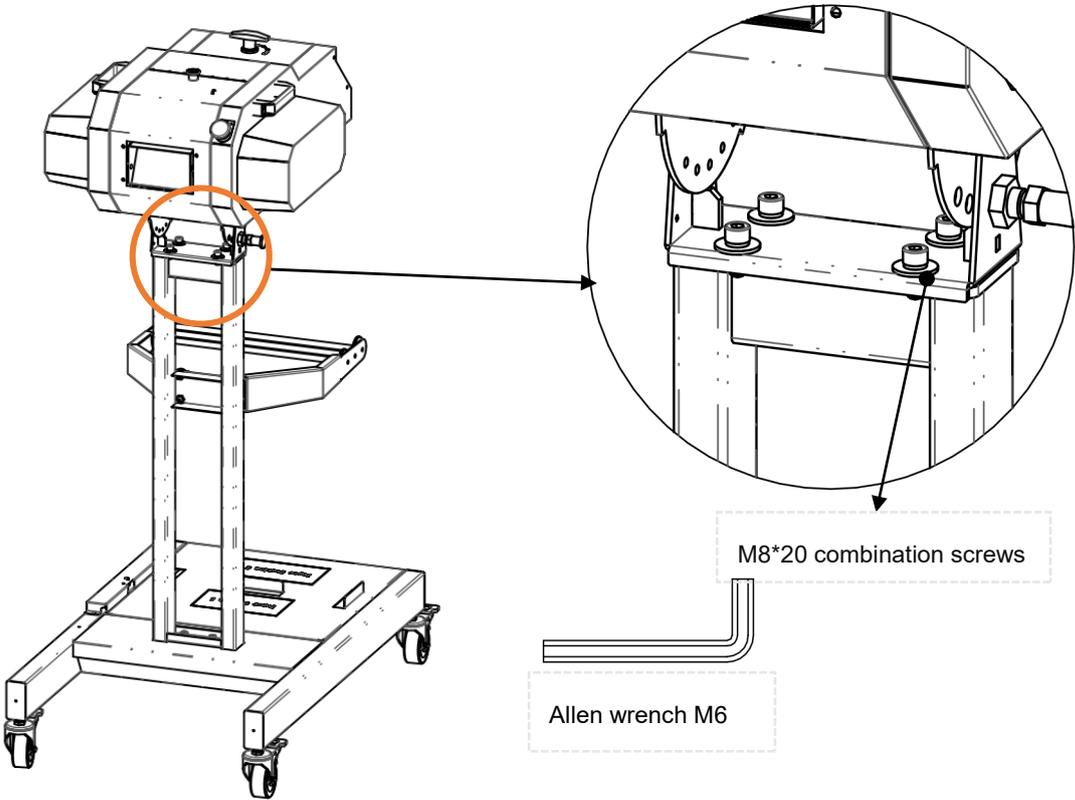
Tail stock



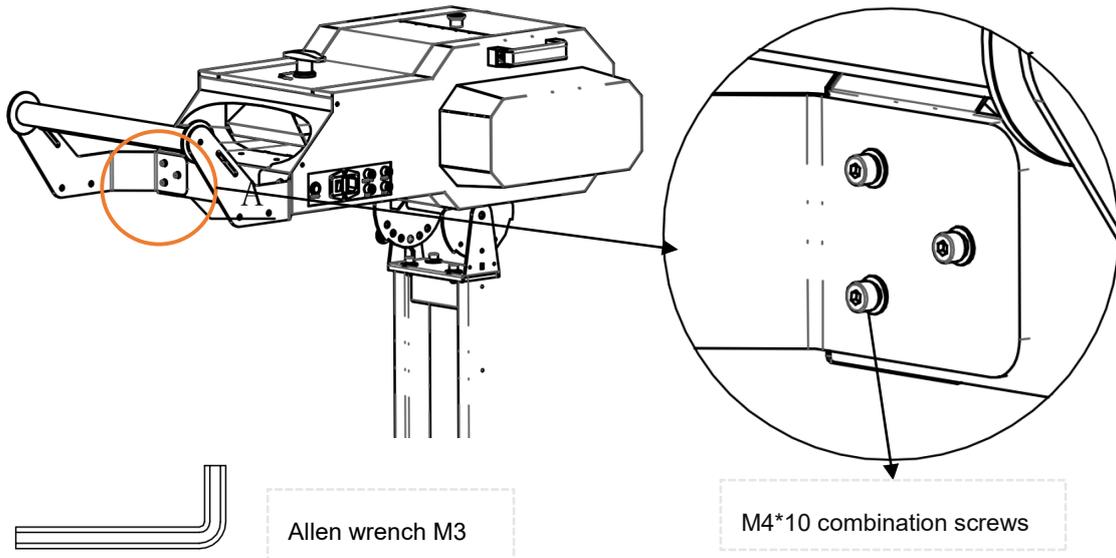
Outlet



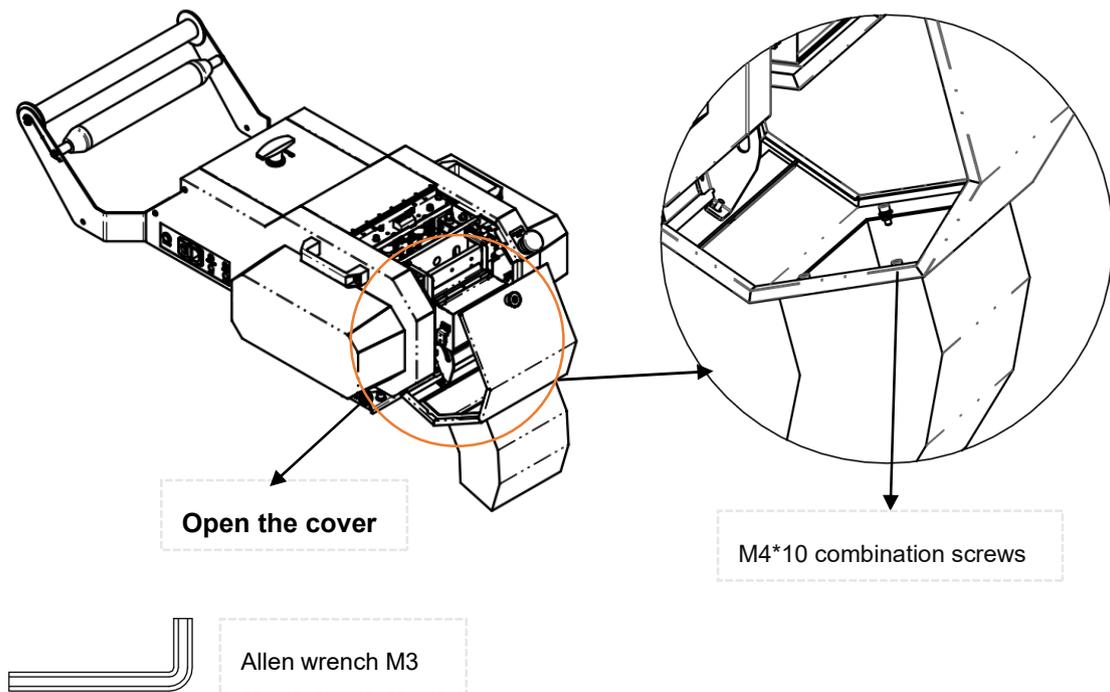
① M8\*20 combination screws are used, assembled and fixed with an M6 Allen wrench



② **Installing Tail stock:** M4\*10 combination screws are used, assembled and fixed with an M3 Allen wrench

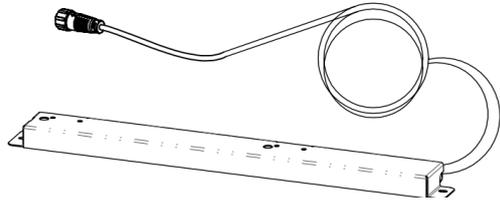


③ **Installing Outlet:** M4\*10 combination screws are used, assembled and fixed with an M3 Allen wrench

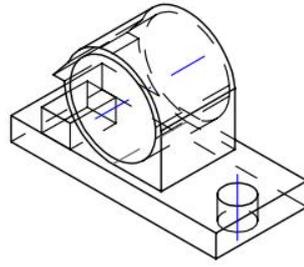


### C. Installing Detection components

Detection components



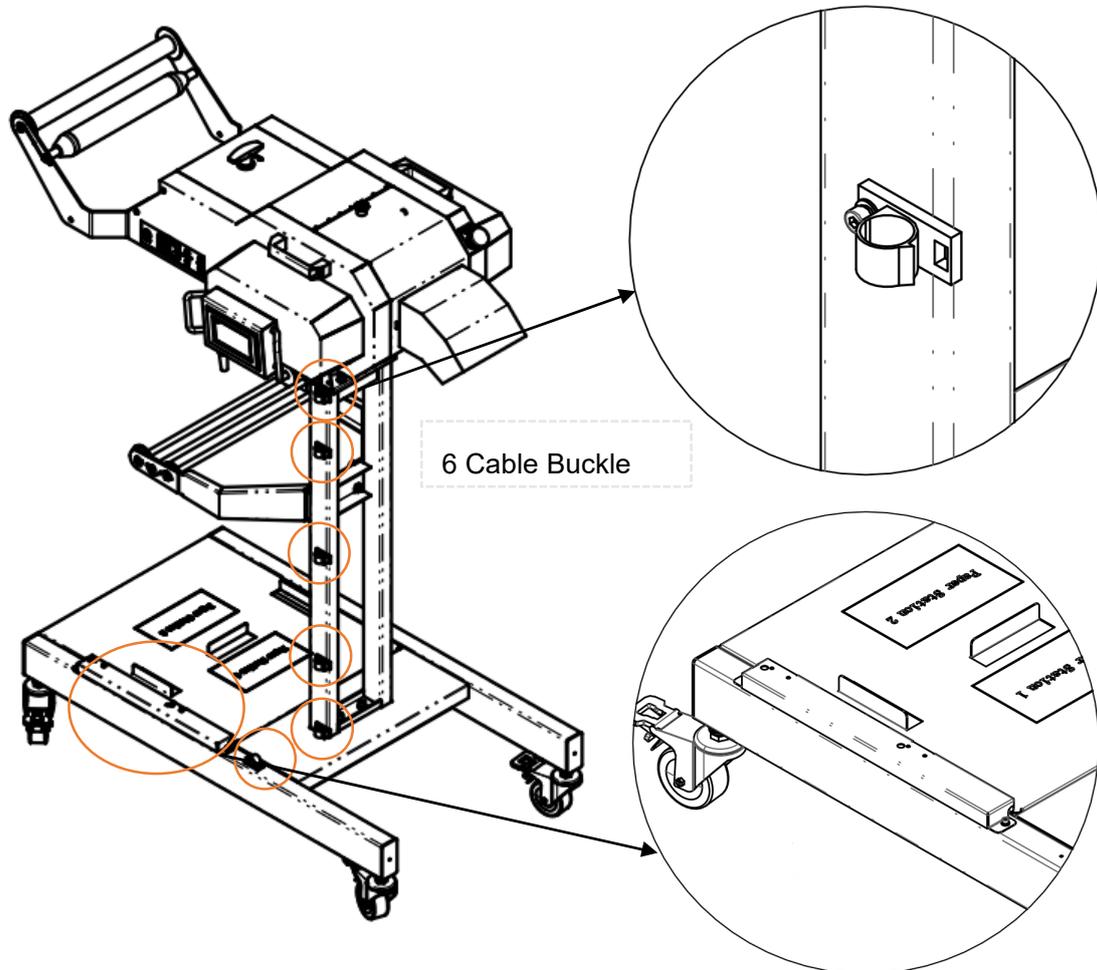
Cable Buckle



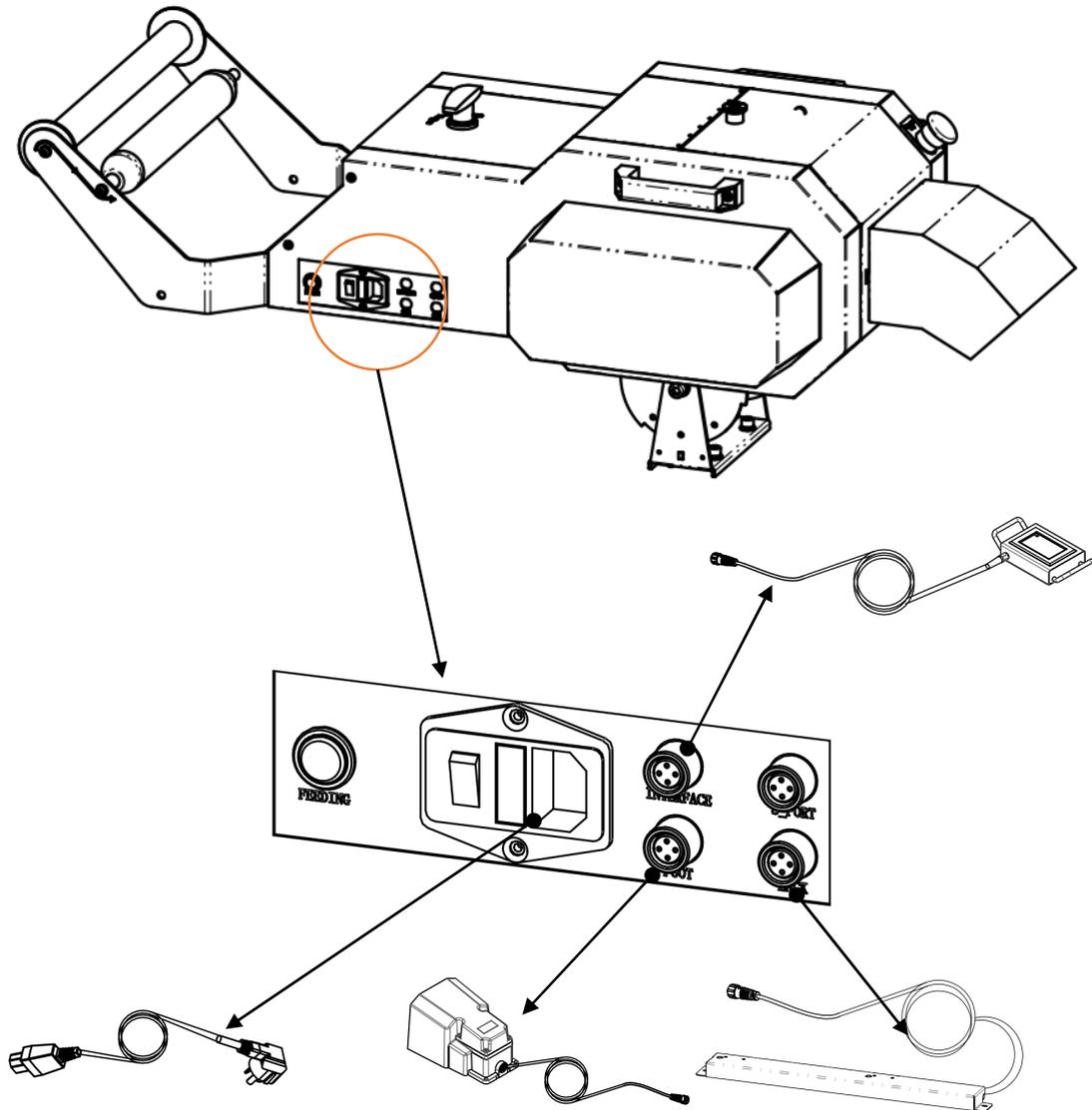
① **Installing Cable Buckle:** M4\*8 combination screws are used, assembled and fixed with an M3 Allen wrench

② **Installing Detection components:** M4\*8 combination screws are used, assembled and fixed with an M3

Allen wrench

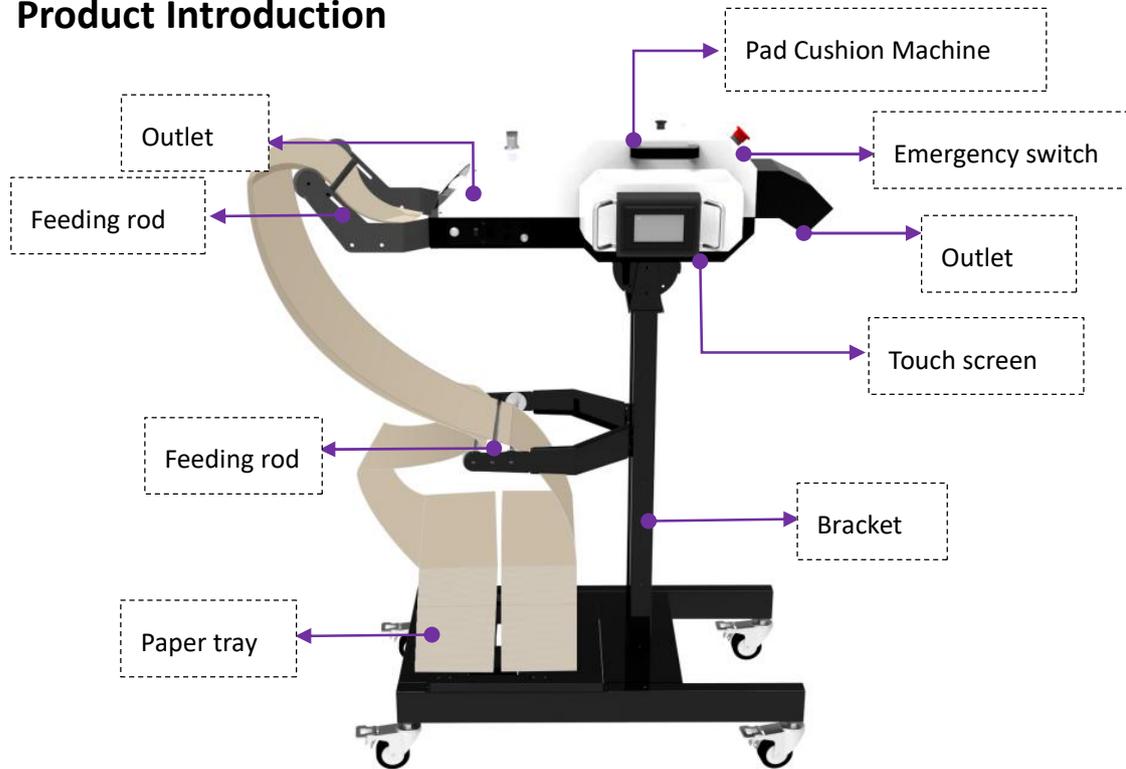


D. Aviation socket interface



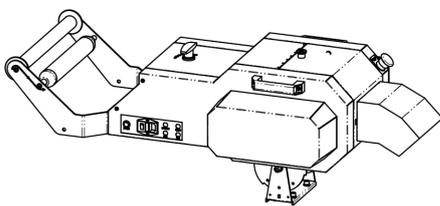
# 1. Introduction

## 1.1 Product Introduction

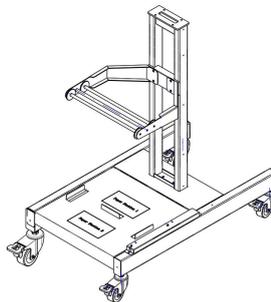


## 1.2 List of Basic Configuration Components

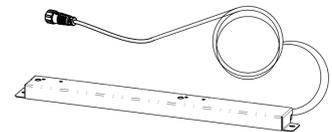
Main Body



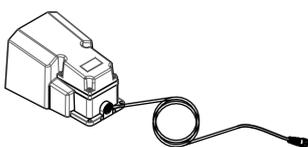
Bracket



Paper Lacking Sensors



Pedal Switch



Touch Screen



Power Cable



## 2. Operate

### 2.1 Turn the machine on

First, check that the machine meets the followings:

- Plug in the touch screen
- Plug in the pedal switch
- Emergency switch button is locked
- All protective covers are closed
- Keep your hands away from the paper outlet of the machine (there is a cutter inside)

Then, do the following:

- 1) Plug in the power supply
- 2) Turn on the switch

### 2.2 Loading the paper

1) Place two bundles of paper on the corresponding positions of Paper Tray 1 and Paper Tray 2, cut off and pull out the strapping tape on each bundle;

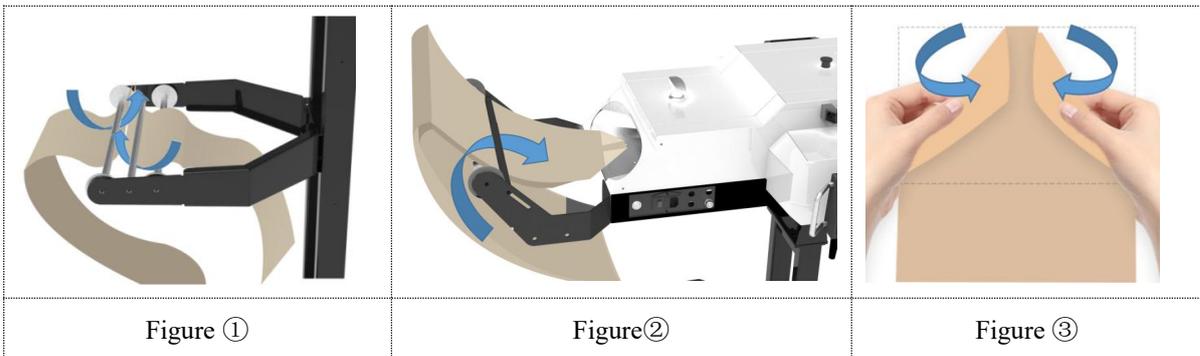
2) Wind the two bundles of paper onto the feeding rod of the tray as shown in Figure ①;

3) After two bundles of paper converge and emerge into double-layer, as shown in Figure ②, then go around into the feed inlet;

4) Fold the two corners on the top of the paper into a triangle as shown in Figure ③;

5) Push the folded paper forward, then press “ FEED” button, the machine will automatically pull the paper inside;

6) Keep pressing” FEED” button until you find paper at the outlet, then release the “Feeding” button. When the paper feeding is finished successfully, the machine can be used normally.

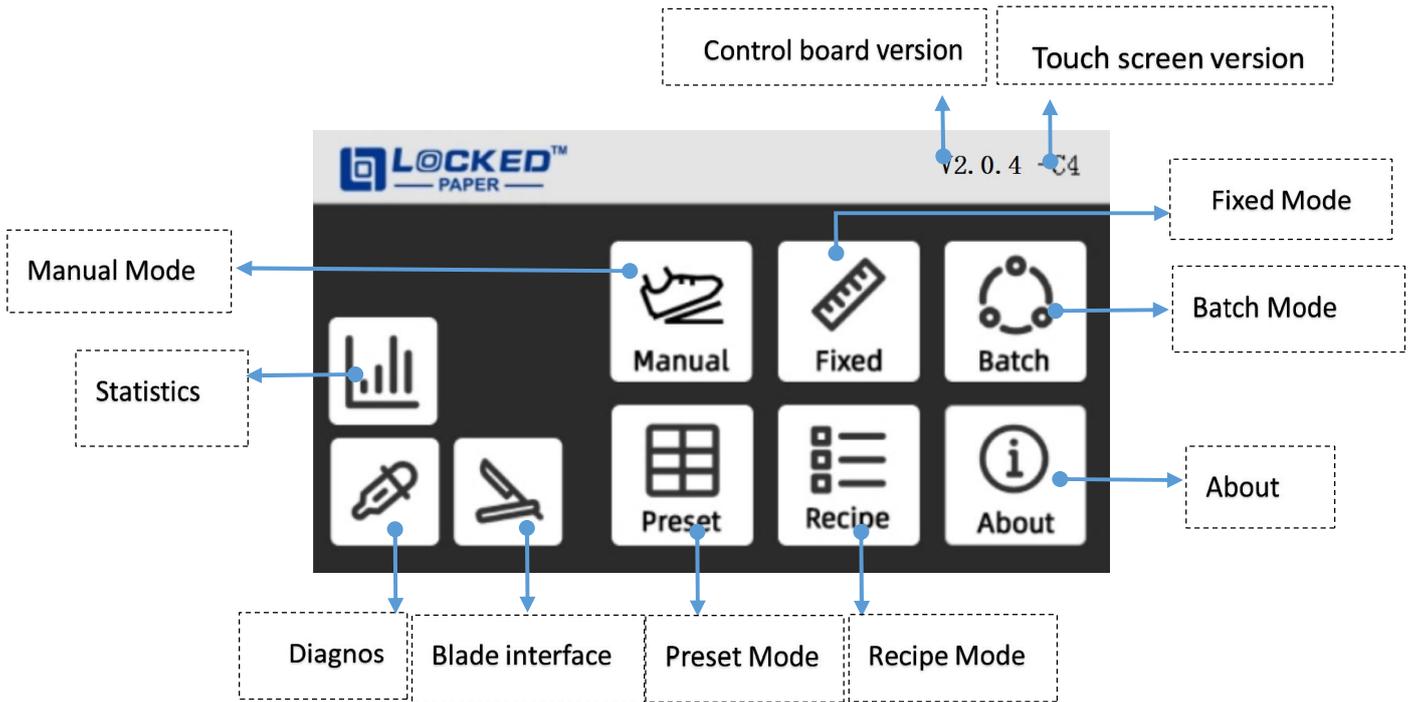


### 3. OPERATOR Instructions

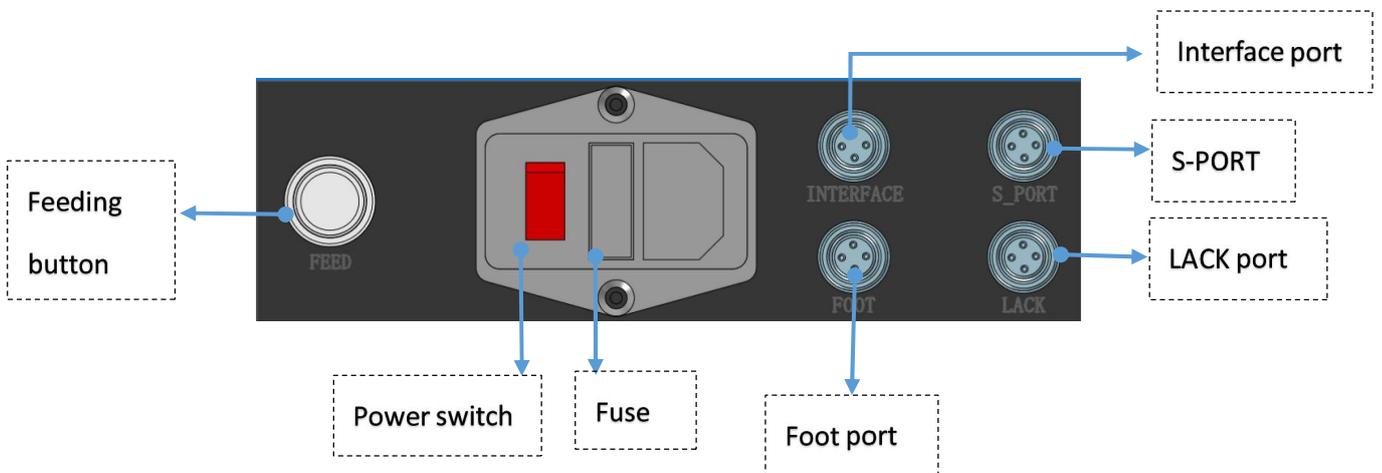
The following operating instructions take the metric version as an example

#### 3.1 Control

##### 3.1.1 Touch screen main interface



##### 3.1.2 Switch control



### 3.2 Manual mode

- Under this mode, users can get the length of paper pads you want by pressing and holding the pedal switch to start, release the pedal switch to cut paper pads off;

- 1) Click to enter Manual mode (Figure 1);
- 2) Click , use the numeric keyboard to set the speed of paper output speed (speed 60~100). Click back to mode interface;
- 3) Step on the pedal switch, the machine will feed paper according to the preset speed, step away the pedal switch to cut off the paper pad;

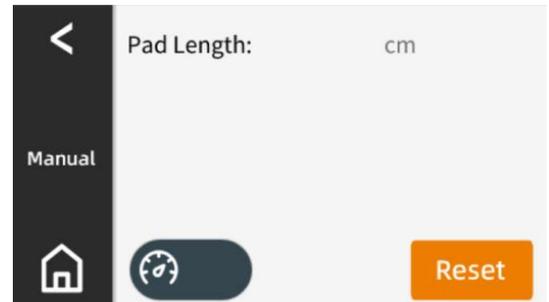


Figure1

Pad Length is used for tracking and displaying total paper output length, and its range is 25~3600cm/10~1417inch;

- 4) When the machine is in pause state, press or to end the current mode and return to the home interface;
- 5) It is used to handle abnormal alarm. No need to use this button when the machine is working normally or paused.

### 3.3 Fixed mode

- In this mode, operator could get paper pads with a preset length automatically. It can be set to automatically output a new section of paper pad every time a section is taken out, or automatically output the next section of paper pad every time you step on the pedal switch.

- 1) Click to enter Fixed mode (Figure 2);
- 2) Click Pad Length input box, use the numeric keyboard enter the preset length you want (25~3600cm/10~1417inch), and then click to complete the preset;
- 3) Click , use the numeric keyboard to set the paper output speed (speed 60~100), and click after the setting is completed ;

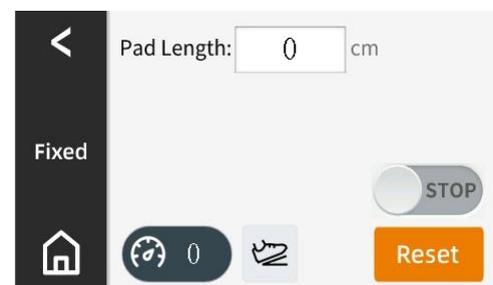


Figure2

- 4) If you want to use automatic mode, switch  to ;
- 5)  start producing paper pads;  stop producing paper pads;
- 6) In this mode, once started, the machine will start to produce the paper pads with the preset length according to preset speed automatically; after a section of paper pad is produced, it must be taken out from the paper outlet manually, thus the machine can produce the next piece;
- 7) If you need to use the pedal switch, switch to , under current mode when stepping on the pedal switch once or click RUN once and machine will produce a piece of paper pad;
- 8) When the machine is in pause state, press  or  to end the current mode and return to the home interface.

### 3.4 Batch mode

- This mode can set the length and quantity of paper pads, paper output automatically and continuously until the production is finished;

- 1) Click  to enter Batch mode;
- 2) Click the Pad Length box and use the numeric keyboard  to edit the paper output length (25~3600cm/10~1417inch); Click the Amount box and use the numeric keyboard  to edit the quantity (0~99999) of paper output; Done is used for showing the finished quantity of paper output (cannot be set);



Figure 3

- 3) Click , use the numeric keyboard  to set the paper output speed (speed 60~100), and click  after the setting is completed;
- 4)  start producing paper pads;  stop producing paper pads;

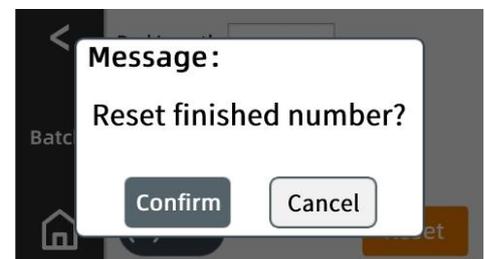


Figure 3a

- 5) In this mode, once started, the machine will automatically start producing paper pads with a preset length, and the Done box is used for showing the finished quantity of paper output, the machine will automatically stop after the set number of paper pads has been produced;
- 6) After producing the set number of paper pads, the number in the Done box will be automatically reset and  will be automatically switched to ;

7) When there is no alarm reminder on the interface and the machine is suspended, Click  or not to decide whether you need to clear the recorded data (Figure 3a). If you choose confirm, it will start counting from 1 when restarting.

### 3.5 Preset mode

- This mode can set multiple paper pads in advance, click the number to edit corresponding length;

- 1) Click  to enter Preset mode (Figure 4);
- 2) Click “Edit” to enter length editable interface (Figure 4a), then set multiple lengths of paper pads (25~3600cm/10~1417inch) according to requirements;
- 3) After finish the setting, press  to return to the preset mode interface (Figure 4)

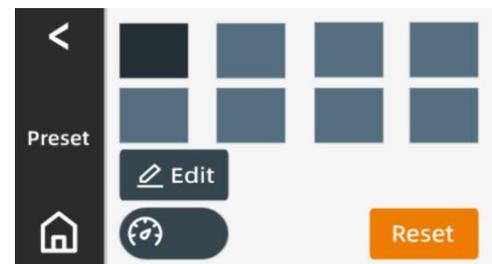


Figure 4

- 4) Set the paper output speed (60~100) by using button 
- 5) In this mode, click one number, the paper pad will be produced according to the desired length; No need to take out the paper pads from the outlet, you can click the next number to produce the next paper pad continuously;

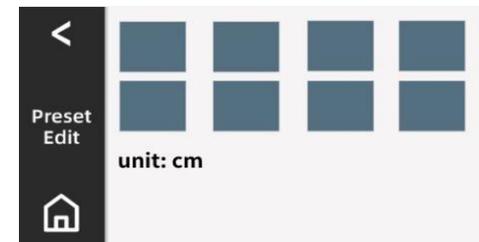


Figure 4a

- 6) If you need to produce the same length of paper pads continuously, you can use Batch or Fixed mode.

### 3.6 Recipe mode

- This mode can preprogram a series of paper pads of with various quantities and lengths, which can be completed with only one keystroke;

- 1) Click  to enter the Recipe mode (Figure 5);
- 2) In the recipe mode, you can click any # number box and click Edit to set the quantity and length (Figure 5a) ;



Figure 5

3) If you are setting the data of #1 ,Recipe # 1 will be displayed on the top of the interface in Figure 5a; from

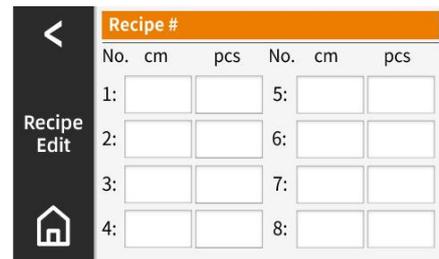
NO.1 to NO.8 in the setting interface,different paper pad lengths

(25~3600cm/10~1417inch) and quantities (0~9999) can be set in the

corresponding number (NO),

when the quantity is 0,the program will automatically skip this number

and enter next number when the machine is running. After the setting is



**Figure 5a**

completed,press  to return to the Recipe mode interface,when one of the data is

selected,#number box will turn into black color,which means that the machine will run this preset data;

4) Set the paper output speed (60~100) by using this button 

5) In Recipe mode,when the machine is stopped,you can choose paper output method:

A pedal switch control      B automatic switch control

C single cycle output      D multi cycle output

- When switching to  and  combination,the paper output method is press foot pedal once and output a section of paper pad, no need to remove of the outlet paper,the preset length and quantity of paper pads will come out cyclically;

- When switching to  and  combination,the paper output method is the as same as  and  combination;

- When switching to  and  combining,the selected recipe will be automatically stopped after being executed once. Click “RUN” the machine starts to output paper,remove one piece and then output the next piece,the paper output sequence is automatically processed from NO.1,after the production of all the paper pads in NO.1 is completed,NO.2 will be automatically processed,after NO.2 is all completed,will continue to NO.3,and then proceed in turn until the preset groups in the current recipe are fully produced,and the machine will automatically stop; If you need to pause during running,click STOP;

- When switching to  and  combination,the selected recipe will be executed cyclically,this needs to be stopped manually. Click the “RUN” machine will start paper output,the paper output sequence and method are the same as  and  combination;

6) When there is no alarm reminder on the interface and the machine is paused,  this means you can choose whether to clear the paper output records or not, after restart the paper will output from NO.1;

### 3.7 Statistics Interface

• This interface shows the data record of the machine operation, including Total Length, Power-on Time and Pad Amount (the data in this interface cannot be modified)

1) Press  on the home screen to access into the statistics interface;

“Total length” refers to the total length of the paper pads produced;

“Power-on Time” refers to the total running time;

“Pad Amount” refers to the total quantity of paper pads produced.

2) When the interface has no alarm alerts and the machine is paused,

Click  if need reset all the record (internal data is reserved);

3) Press  or  return to home screen.

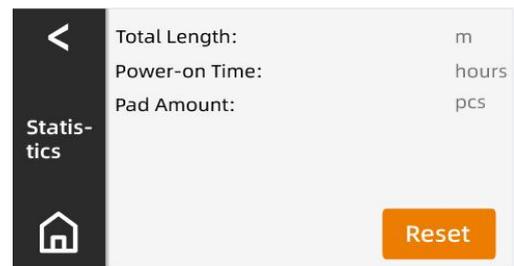


Figure 6



Figure 6a

### 3.8 Diagnosis Interface

• This interface is used to diagnose the operating status of the motor and the sensors control components

1) Press  on Home and input password: **32584** to enter Diagnosis interface (Figure 7a),

2) Under Diagnosis interface, the Feed Button is unavailable to work, will alarm with buzzers. To diagnose the Feed Motor's operation, :

long-press , the transmission gear will continue rotating in forward, then stop when released;

Long-press , the drive gear will continue rotating in reverse, then stop when released.

3) To diagnose Blade Motor's operation :



Figure 7

click , the blade will rotate forward;

click , the blade will rotate in reverse.

4) The indicator light of Sensor State:

The indicator lights flash in green when the corresponding sensor is operating, or remain white when unworking.

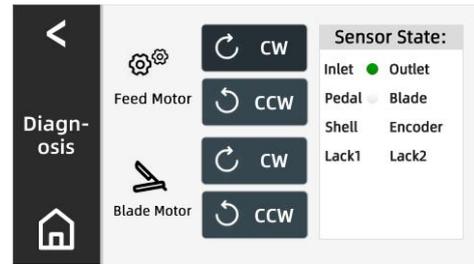


Figure 7a

Sensor State	 Green	 White
Inlet	Paper at inlet	No paper at inlet
Pedal	Step on the pedal	Release the pedal
Shell	Front cover is closed	Front cover is open
Lack1	Paper on tray1	No paper on tray1
Outlet	Paper at outlet	No paper at outlet
Blade	Blade in position	Blade not in position
Encoder	Gear under rotation	Gear not under rotation
Lack2	Paper on tray2	No paper on tray2

### 3.9 Blade interface

1) Press  on Home to enter Blade interface;

2) The screen default displays ,

STEP1: Press  converts to ;

STEP2: Long press  and Feed Button at the same time, will

 trigger  animation effect;

Exit the interface,  will convert to  automatically;

3) When the blade isn't at the original position, if you feed paper manually, either Diagnosis interface or Feed Button, an alarm for abnormal blade position would be triggered.



Figure 8

### 3.10 Engineer Interface

• This interface is used for temporary solutions of faults.

1) Long-press the Version at the top right corner of home screen for more than 5 seconds,access into Engineer Interface. (Figure 9)

2) This screen is used to switch the status of each sensor:

• “Inlet Detection” ON/OFF switch.

When switched OFF,cannot detect if there is paper at the inlet any more.

• “Outlet Detection” ON/OFF switch.

When switched OFF,Fixed Mode’s  function,Recipe mode’s  and  combination function &  and  combination function can be automatically disabled.

• “Tray Detection” ON/OFF switch.

When switch to OFF,can not use the Paper Lacking detection components any more.

• “Encoder” ON/OFF switch.

The encoder detects the length of the output paper.

When switch OFF,there will be large deviation in the length of the output paper.

3) Please operate the Engineer Interface with the assistance of a qualified technician,do not access unless necessary.

4) Press  or  return to home interface.

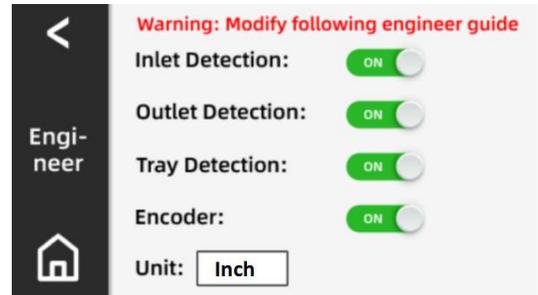


Figure 9

### 3.11 About Interface

• This interface is used to access into the website for related information and video.

1) Click  on the home screen to access into the About Interface. (Figure 10)

2) Use your mobile device to scan the QR Code to access into

 website for related information.



Figure10

## 4. Troubleshooting

A pop-up warning will alert the specific reason if there any malfunctioning or not running;

Refer to the followings for troubleshooting:

			
Pop-up①	Pop-up②	Pop-up③	Pop-up④

Serial NO.	Problem	Cause	Solution (check when machine power off)
1	E001: No paper at outlet.	1. Paper output with abnormal shape; 2. The outlet cover's structure abnormal; 3. The outlet's sensor or cable is loose or damaged.	1. Check the shape of the output paper and if the dotted lines torn; 2. Check if the outlet cover is deformed; 3. Check the installation of sensor or cable,replace if need (check if the indicator light is normal in Section 4.8)
2	E002: No paper at inlet.	1. Paper pad cracked or broken at the dotted line; 2. The inlet's sensor or cable is loose or damaged.	1. Check if the dotted lines of the paper torn; 2. Check the installation of sensor or cable,replace if needed (check if the indicator light is normal in Section 4.8)
3	E003: No paper upon the tray.	1. Insufficient supply on trays 1 or 2 2. Paper lacking detection components or cables loose or damaged.	1.Press "Back" to clear the fault and replenish the paper; 2. Check the installation of sensor or cable,replace if need (check if the indicator light is normal in Section 4.8)
4	E004: cover is open.	1. The safety switch is not closed when the front or rear covers are opened. 2. Safety switch or cables	1. Cover the front and rear covers,press "Retry" to exit the pop-up,then to clear the fault. 2. Check the installation of sensor or

		loose or damaged.	cable,replace if need (check if the indicator light is normal in Section 4.8)
5	E005: Paper Feed Failed.	The paper is not fed in time under the feeding condition	Reset the fault and refeed the paper.
6	E010: Blade IS NOT at initial position.	1.The blade is not in position. 2. The sensor's stopper is loose. Sensor or cable loose or damaged.	1. Click "Confirm" on the pop-up,then click "Reset" on current screen or return to the home screen to click  ; 2. Check the installation of sensor or cable,replace if need (check if the indicator light is normal in Section 4.8)
7	E011: Blade FAILED to leave initial position.	1. PCB,motors or motor cables loose or damaged. 2.The safety switch not closed.	1. Check if the PCB,motors or motor cables plugs are abnormal; 2. Check if the front/rear coves are closed.
8	E012: Blade FAILED to return to initial position.	1. PCB,motors or motor cables loose or damaged. 2.The safety switch not closed.	1. Check if the PCB,motors or motor cables plugs are abnormal; 2. Check if the front/rear covers are closed.
9	E013: Paper Jam at cut position.	The paper pad is too thick that cannot cut through.	Power off,check if there is a paper jam and remove.
10	E020: Feed Motor Error.	Encoder or cables are loose or damaged.	Check the installation of sensor or cable,replace if need (check if the indicator light is normal in Section 4.8)
11	E021: Paper Jam at outlet	Paper jam at outlet	Power off,clean up the paper jam,or follow the alarm guidelines.

## E013 & E021 Warning Handling:

### E013: Paper Jam at cut position.

- a. Enter Warning interface.



If click Back, it will keep flashing until recovered.

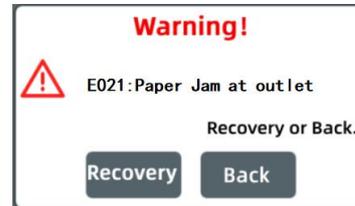
- b. Click Recovery, follow the steps on the interface to clear the Warning.



Notes: Under Warning, you can't enter the blade interface.

### E021: Paper Jam at outlet.

- a. Enter Warning interface.



- b. Click Recovery, follow the steps on the interface to clear the Warning.



## E010 & E012 Warning Handling:

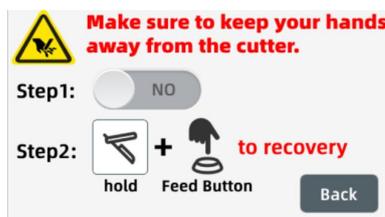
### E010: Blade IS NOT at initial position.

- a. Enter Warning interface.



If click Back, it will keep flashing until recovered.

- b. Click Reset, follow the steps on the interface to clear the Warning.



Notes: Under Warning, you can't enter the Blade interface.

### E012: Blade FAILED to return to initial position.

- a. Enter Warning interface.



If click Back, it will keep flashing until recovered.

- b. Click Reset, follow the steps on the interface to clear the Warning.



## 5. Specifications

### 5.1 Basic Specification

**Body Parameter:**

Weight: 40kg (88 lb)  
 Size: 1120\*566\*405mm L\*W\*H (44\*22\*16 inch)  
 Package size:  
 990\*590\*660mm L\*W\*H (38\*23\*26 inch)  
 Angle adjustment of the body' working position:  
 -20°~+60°  
 Paper output speed: 0.5m/s (30m/min)  
 Single output length range:  
 25~3600cm/10~1417inch  
 Counting range: 1~9999  
 Body life: 3years  
 Consumables life: 1year(blade/gear)

**Body Bracket:**

Weight: 28kg(61 lb)  
 Size: 890\*540\*1060mm (35\*21\*41.7 inch)

**Paper Bracket:**

Weight: 15kg (33 lb)  
 Size: 510\*410\*700mm (20\*16\*27.5 inch)

**Pedal:**

Weight: 1.2kg (2.64 lb)  
 Size: 200\*100\*74mm(7.8\*4\*2.9 inch)  
 Cable length: 6m (19.6FT)

**Electrical connection:**

Supply Voltage: 100~120VAC 200~240VAC  
 More details on machine label  
 Frequency: 50/60Hz  
 Rate: 350W

**Safety:**

Cover open stop: when the cover is opened,the hardware will automatically power off all motors to ensure the safety of the operator.

Warning labels: Warning labels at dangerous locations;

Safe design: The mechanical structure is designed to meet the CE safety criterion,and all dangerous parts are not touchable.

### 5.2 Environment

Operating Temp: 5°~40°

Operating RH: 10%~95%

Storage Temp: -25°~55°

Storage RH: 10%-95%

## 6. Maintenance

Before performing maintenance on the machine, the electrical supply must be turned off by pulling the power plug from the socket.

- Pay attention to sharp edges and corners of the machine due to cut risk.
- Do not operate the machine when the safety devices are switched off or removed.

Cleaning of the machine should be performed at least once a week.

- Open front and rear covers.
- Remove paper scraps.
- Wipe with a dry, damp cloth to remove excess paper dust.
- Close the front and rear covers
- At least once a year the machine needs to be inspected by a qualified person.

The following points need to be checked:

- Various machine adjustments
- Operation of all safety facilities
- Legibility of the warning stickers.
- Wear and tear of parts
- Clean the cutting area
- Quality of the paper pad

### 6.1 Repair/Replacing Parts

Repairs can only be carried out by a qualified service technician.

- Only  supplied parts are permitted for us as replacement parts.
- Parts can be ordered by a  distributor.
- Deviation from the instructions above can affect the safety of the machine. The manufacturer cannot accept liability for such deviations.

