

Operating Manual

Macro Computerized Controlling Surface Winding Slitting Machine

WARNINGS:

1. This machine should be operated and maintained by the well-trained operator. Non-professional people should not touch this machine.
2. All the warning marks on this machine should not be torn off. And the user should be noticed well about these warning marks.
3. The user should know well the positions of each emergency stop switch, so that he can stop the machine immediately once abnormal cases happen.
4. If user has long hair, he/she should wear a hat or other necessary cloth to prevent the hair from winding into the machine.
5. We suggest the user do not wear long suit, necktie, scarf, necklace nor other long accessories when operate this machine.
6. The user should tighten his/her sleeves before he/she operate this machine.
7. The machine and space around should be clean. It is prohibited to put anything onto this machine when it is running.
8. This machine is equipped with sharp blades. The user should wear gloves when replace the blades.
9. Turn off the power before any necessary inside check
10. Keep non-related people, especially children away from this machine when run it.
11. Make sure all the safe guard facility on this machine be closed well before start the machine.
12. Make sure the pay-off shaft is fixed well before start.
13. Use a torch light when check the inside of the machine.
14. Keep a regular maintenance and lubricating to this machine.
15. Any modification to this machine should be consult with us before you take action. Any potential danger in this machine, please inform us immediately.
16. It is possible that machine runs at high speed when material is torn off. At this time, the user should stop the machine by pressing down the emergency stop switch.

Catalog

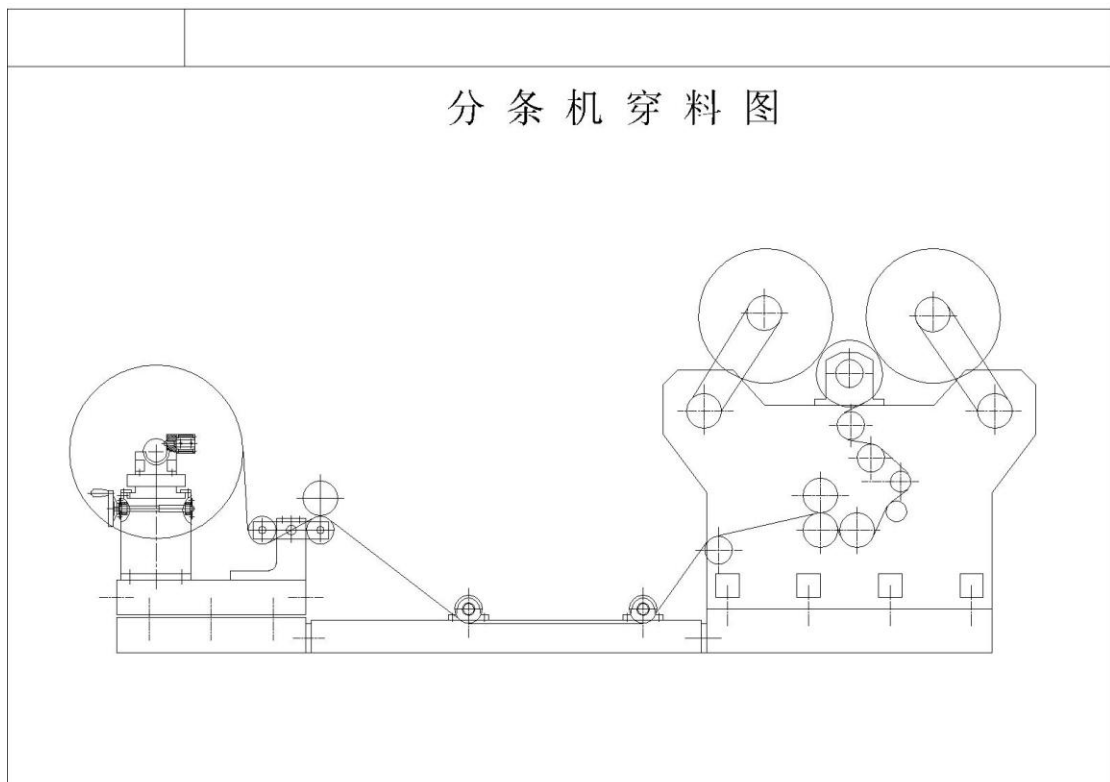
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i. machine specification

1. slitting speed: 0 – 250m/min.
2. unwinding width: 1000mm
3. unwinding diameter: 800mm
4. unwinding inner diameter: 3”
5. unwinding roll weight: 500kg
6. slitting width: 5mm minimally
7. winding diameter: 650mm
8. stroke of edge aligning: 120mm
9. installed power: 17kw, 380v, 50Hz
10. winding inner diameter: 3”, 6”
11. workable material: non-woven tape, water blocking tape, aluminum foil, PET, paper

ii. necessary checks before starting

1. If the pay-off shaft is fixed well.
2. If the material roll is fixed well.
3. If the material delivered well in the machine according the diagram.



4. If the edge aligning device is set well.
5. If the meter counter is set well
6. If the rubber roller pressed onto the master roller

7. If the blades are fixed well on the blade carrying shaft.
8. If the scrap blower is turn on.
9. If the scrap is guided into the blowing tube
10. If the winding shafts are fixed well
11. If the core tubes are fixed well on the winding shafts.
12. If the winding shafts balance are adjusted well
13. If the pneumatic/hydraulic controlling system act correctly.
14. If the tension for winding and unwinding are set well

iii. operating system

1. controlling system of each section
2. operating manual
pneumatic/hydraulic controlling system



Axial region A

- (1) pressure parameter for axial region A
- (2) bearing force adjusting valve. Turn left to reduce the force and turn right to increase. Normally the pressure should be $1.5\text{kg/cm}^2 - 2\text{kg/cm}^2$, depending on the material
- (3) axial A lifting button. Press down to lift the shaft, pressure is adjustable

- (4) axial A dropping button. Press down to drop down the shaft, pressure is adjustable
- (5) bearing force button for axial A (the pressure between the shaft A and the central master roller when shaft A presses on the master roller. When slitting this button must be pressed down. Normal pressure is 2kg/cm^2)
- (6) inching button of shaft A. When press this button, the shaft A will lift once. The lifting distance is depending on how long this button is pressed.

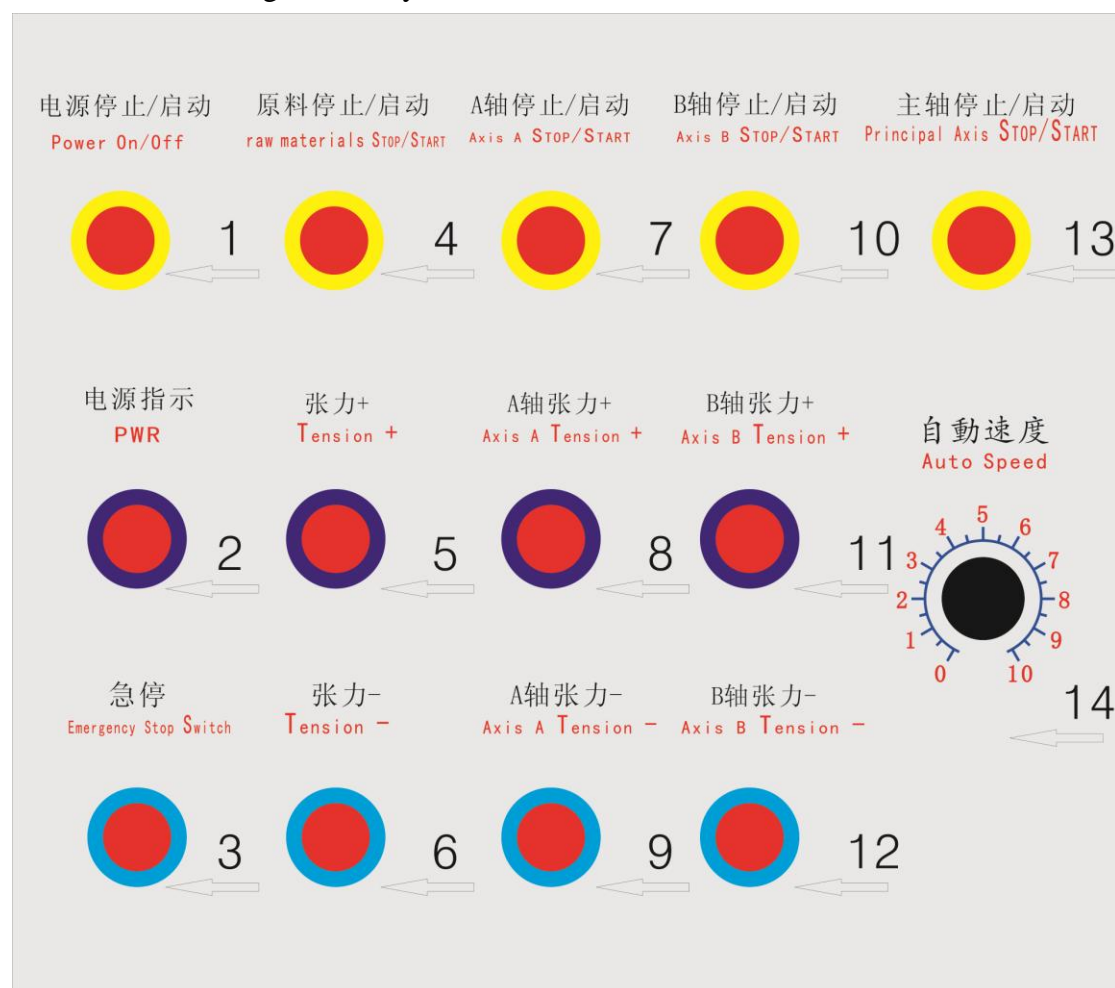
Axial region B

Same as axial region A

Axial region C

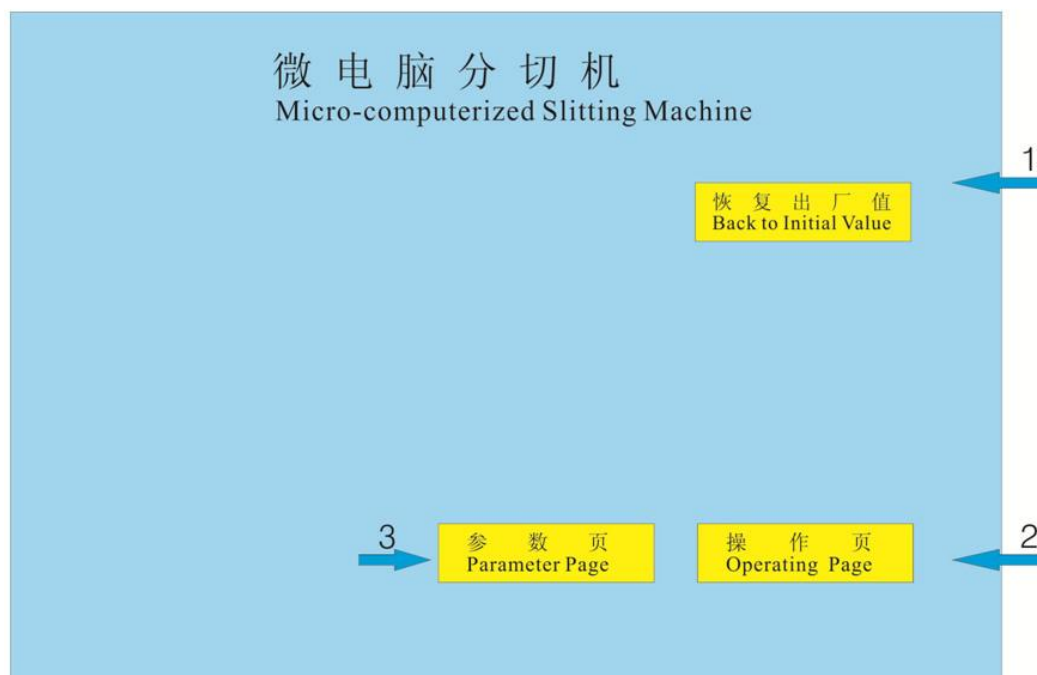
- (7) pressure parameter for pressing roller
- (8) bearing force adjusting valve. Turn left to reduce the force and turn right to increase. Normally the pressure should be $1.5\text{kg/cm}^2 - 2\text{kg/cm}^2$, depending on the material
- (9) pneumatic pressure valve. Turn the valve left to lift the pressing roller, turn left to drop down

Electrical controlling buttons system



- (1) Power on/off button. Press down this button to power on the machine
- (2) Led light for power. When the machine is power on, this light will light.
- (3) Emergency stop switch. In case problem happens when machine is running, press down this button to stop the machine immediately.
- (4) Unwind material start/stop switch. Press down this button to turn on the tension of unwinding
- (5) Tension increase button. Press down this button to increase the unwinding tension.
- (6) Tension decrease button. Press down this button to decrease the unwinding tension.
- (7) Axial A start/stop button. Pressing once this button, the axial A will rotate and the light will be on. Pressing again, the axial A will stop and the light be off.
- (8) Tension increase for axial A. Press this button the tension of axial A will increase. The exact tension value could be set on the touch screen according to material specification.
- (9) Tension decrease for axial A. Press this button the tension of axial A will decrease. The exact tension value could be set on the touch screen according to material specification.
- (10) (11) (12) function is same as (7) (8) (9).
- (13) Principal axis start/stop button. Pressing once this button, the principal roller will rotate and the light will be on. Pressing again, the principal roller will stop and the light be off.
- (14) Automatic speed adjusting button. Turn this button to adjust the slitting speed.

Touch screen



- (1) Back to initial value. Touch this key to reset the setting to 0.
- (2) Operating page

(3) Parameter page



(4) Speed, indicating the machine running speed

Length reset. Press this key to reset the length record to 0. Under automatic production, the actual tension reset to the initial tension.

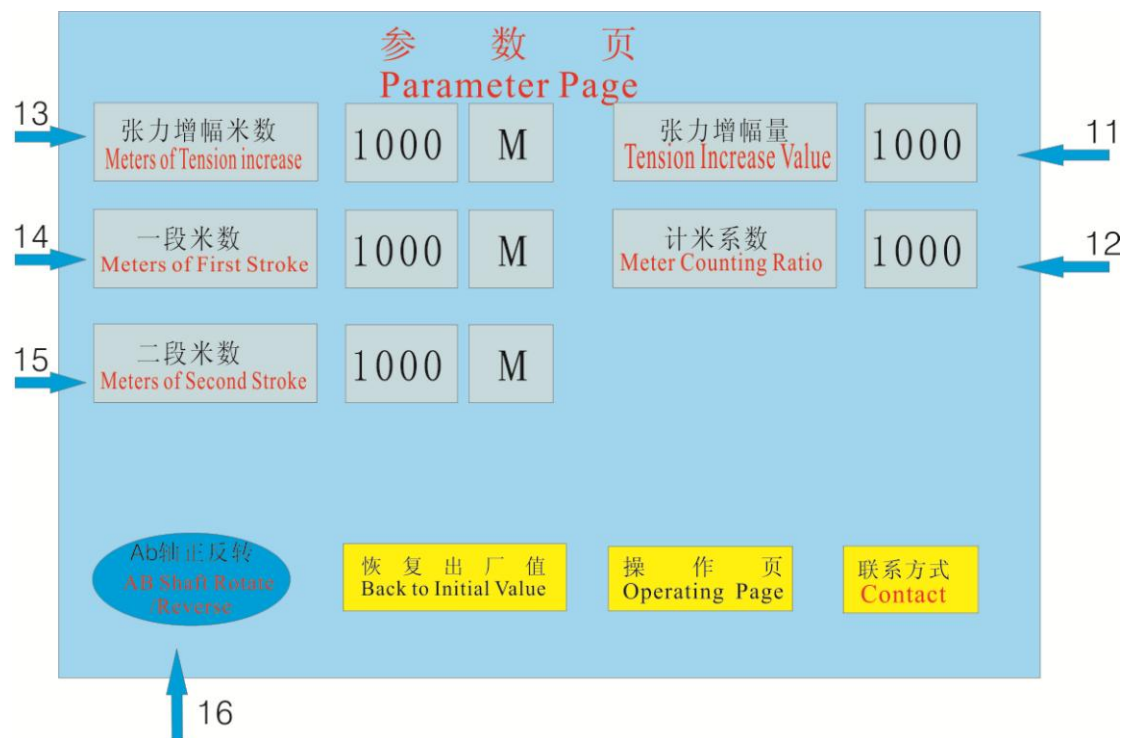
- (5) Initial tension of Shaft A, it is the set value according to the material specification
 Actual tension, it the current tension when machine is running in automatic mode
 Slop, the speed of the tension increasing when machine is running in auto mode.
 The bigger the slop is, the faster the tension increases.

(6) (7) is same as (5)

(8) Manual/Auto mode selection key to make machine work mode

(9) Blower. The switch to turn on or off the blower for piping the scraps

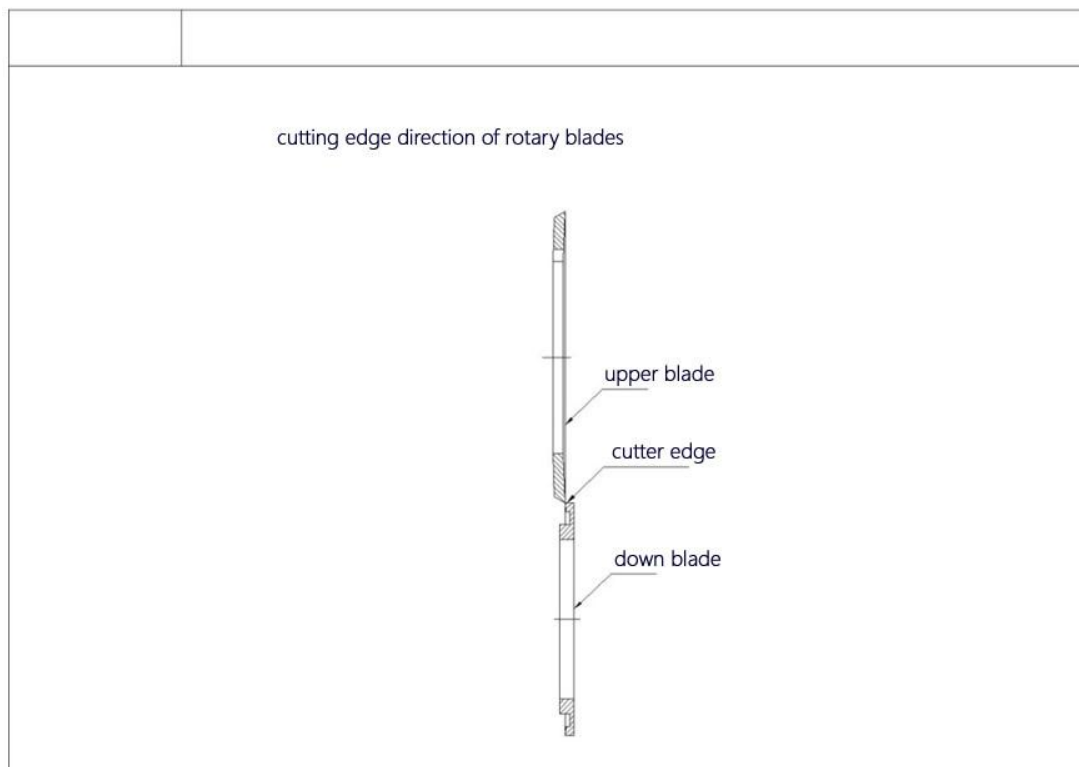
(10) Edge Align. The switch to turn on or off the master roll edge aligning machine.



- (11) Tension increase value, means the range of the tension increasing
- (12) Meter counting ratio, means the circle length of the meter counting roller. When the meter counting result is not correct, you can modify this value
- (13) Meters of tension increase,
- (14) Meters of first stroke
- (15) Meters of second stroke
- When the slitting length reaches the meters of second stroke, machine will stop automatically. For example, setting the meters of first stroke as 500m, and second stroke as 550, the machine will start to reduce speed when slitting length reaches 500m and stop completely when reaches 550m.
- (16) A/B shaft rotate / reverse, this is used to choose the rotating direction of the winding shaft

iv. use-method of rotary blade

1. upper rotary blade consists of blade, blade carrier, circlip and spring. According to the slitting width need, install the upper rotary blades onto the carrier shaft by adding the thickness of blade and spacer ring. Then lock the two ends of the barrier shaft with the lock rings. (remarks: we suggest you install the blades at the middle part of the carrier shaft)
2. install the down blades and spacer rings onto the down blades carrier shaft, and lock the two ends of the shaft.
3. Be careful to make the tool edge of upper blades and down blades same as below diagram



4. fasten the lock rings on the upper blades and down blades shaft
5. turn the blades feeding/withdrawing handle to make each upper blade come into the groove of down blade.
6. check if each pair of upper and down blades touch closely.
7. Once the blades positions are fixed well, the fixing bolt must be locked to prevent possible movement of blades in production.

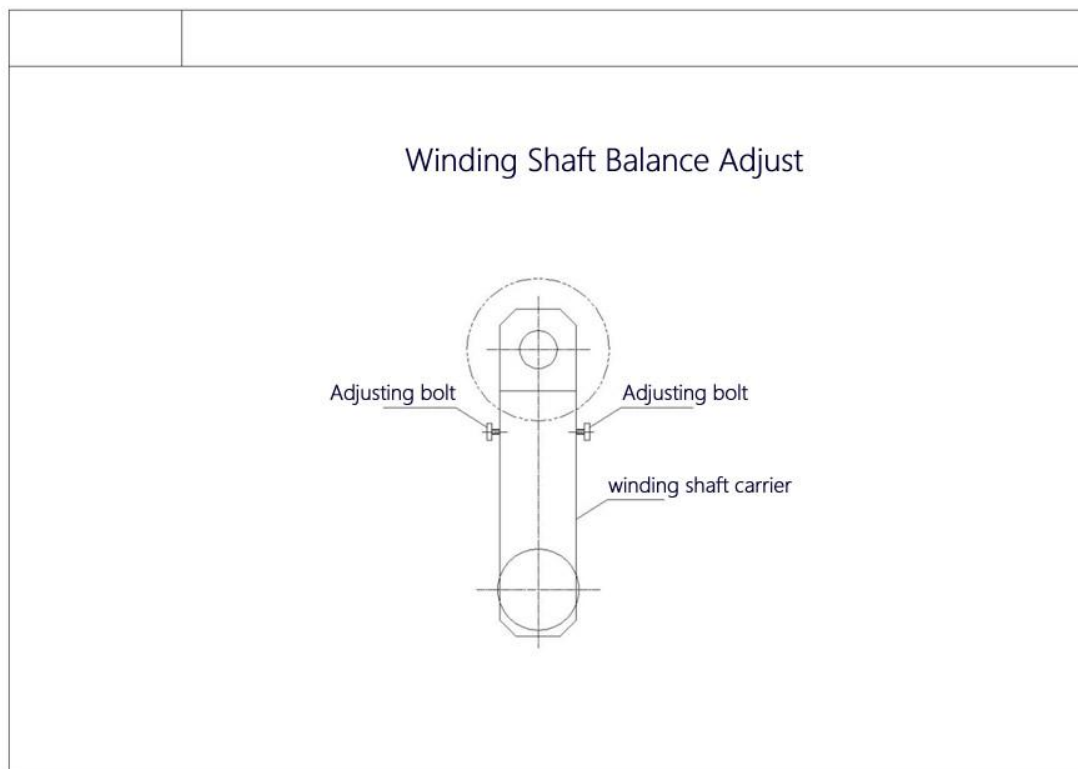
Cautions:

1. When machine is running, it is prohibited to turn the upper blades handle.
2. When machine is running, it is prohibited to turn the blades feeding/withdrawing handle
3. When it necessary to withdraw the blades, firstly unlock the upper blades locking handle to make the upper blades tool edge leave down blades tool edge.

v. cautions on grinding the rotary blade

1. when it necessary to grind the upper rotary blades, you should grind all the upper rotary blades which plan to be used in the same batch of production, so that to make the outer diameter of all blades are same. It is not correct to grind the worn blades only, and then use it with other different outer diameter blades.
2. Down blade has longer service life than upper blades. When need grinding, principle is same as upper blades.

vi. axis centre adjustment of the winding shaft



When the left and right ends of winding shaft are not in a balance level, it will lead the shaft only touch the master roller at one side while the other side suspended. Thus the winded coil will not be flat at the side face. You need to adjust the balance of the winding shaft according to following steps:

Put on a cardboard tube onto the winding shaft, drop down the shaft to make the tube pressing on the master roller

1. Loosen the two screw nut on the both sides of the shaft arm
2. Check the situation how the tube presses on the master roller
 - (1) If the end at the adjustable arm is higher and does not press on the master roller, turn one adjust screw clockwise and the other anti-clockwise to lower this end of shaft till the two ends are in a balance level.
 - (2) If the end of the adjustable arm is lower and the other end does not press on the master roller, turn one adjust screw anti-clockwise and the other clockwise to higher this end of shaft till the two ends are in a balance level.
 - (3) After adjusting well, lift up the winding shaft and drop down again to check the situation.
 - (4) Lock the adjusting screw hat.

vii. lifting, cleaning, installing and trial

1. this machine consists of four parts
 - a. material pay-off section

- b. connecting base section
- c. main body section
- d. electric controlling section

When moving and assembling/disassembling the machine, be careful not to lean or shake the machine too much. Placing the machine conversely is totally prohibited.

2. Cleaning of the machine

Use electric oil to clean the dirty place.

Lubricate every driving parts well.

Cautions:

1. It is prohibited to clean the rubber rollers with any chemical solution.
 2. It is prohibited to split oil onto the rubber rollers
 3. It is prohibited to split oil nor chemical solution onto the synchronize belts
 4. Protect the motors, magnetic clutch and other electrical wares being penetrated by moisture or water
3. Installation, this could be take reference to how it is disassembled. Adjust the machine balance by adjusting the foot screw.
4. Trial
- (1) Connect the power and compressed air source
 - (2) Check the blower rotate direction
 - (3) Check if each parts works well
 - (4) Check if each passing roller rotates well
 - (5) If each buttons on operating panel and keys in touch screen works well
- If any of above items have problem, please contact us.

viii. maintenance

1. cleaning

- (1) Do not put anything unrelated in the electric cabinet. Keep the circuit board clean. Do not put metal wares in the electric cabinet. When clean the electric cabinet, do shut off the power firstly.
- (2) All the passing rollers should be kept clean. Do not clean the rollers when machine is running.
- (3) Release the water from the compressed air pressure stabilizer.
- (4) Keep the photocell sensor clean

2. Lubricating

- (1) All the chains, gears, screw-nuts, wheels should be lubricated at regular interval.
- (2) If there is pneumatic – hydraulic converter, add oil in time.
- (3) If there is Bakelite, lubricate it at regular interval

3. Adjusting

- (1) Check the chains and belts at a regular interval. Adjust them if any loosen.
- (2) Belt wheel on the motors should be check at certain interval. Loosen or tighten then if necessary
- (3) Check all the screws each half year

Cautions:

If there is positioned and related gears, check and adjust at certain interval

ix. attachment

Manual for this machine

Manual for frequency converter

Manual for meter counter

Manual for edge aligning machine