

QINGDAO HONGSHENGHONG MACHINERY CO., LTD.

USER MANUAL

FOR

CNC WOOD PANEL SAW MACHINE

MODEL: MJ280 / MJ330 / MJ380 A/B SERIES

QINGDAO HONGSHENGHONG MACHINERY CO., LTD.

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1. Purpose and characteristic

This machine is suitable for the panel furniture who has high capacity production. The characteristics are as follow:

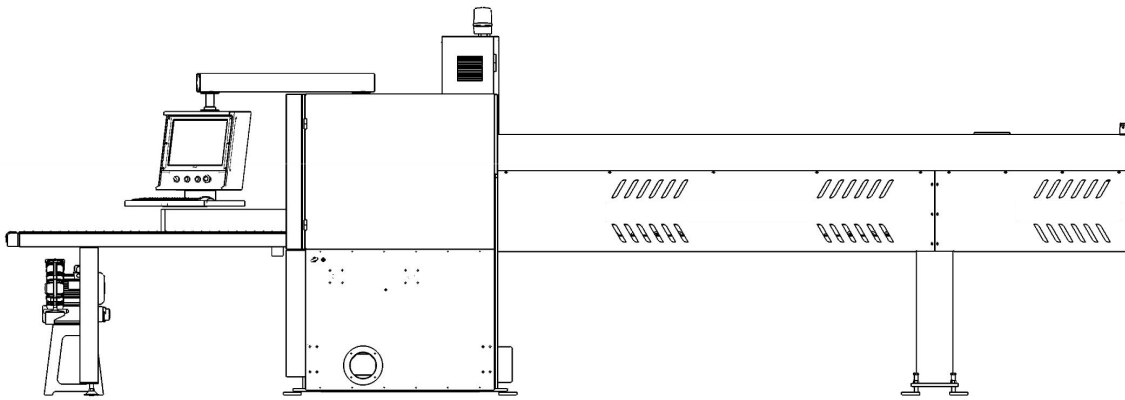
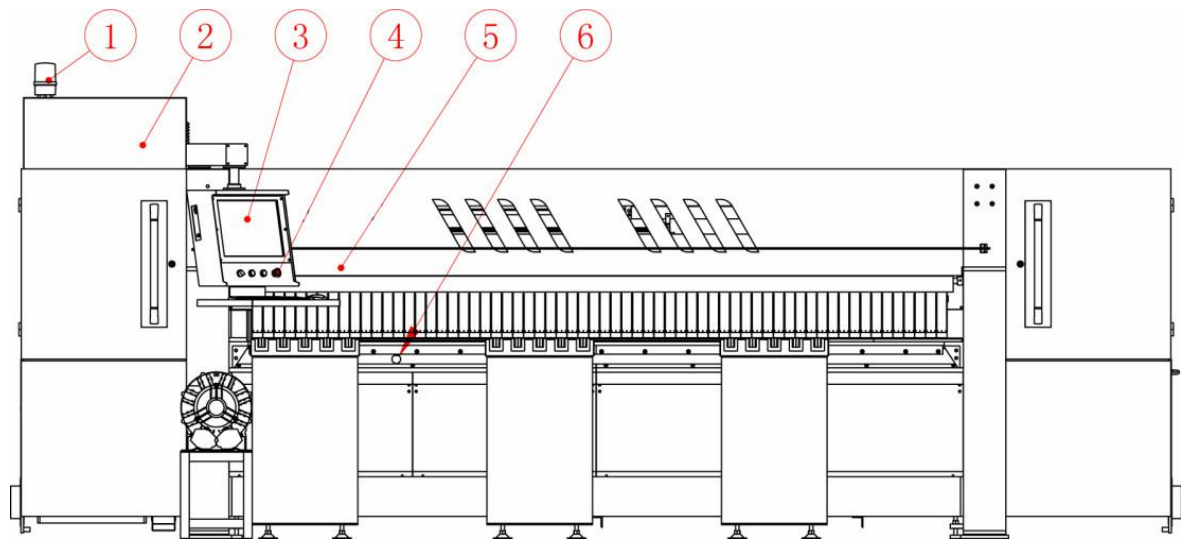
1. We need to make pre-programme according to the panel size. It feeds the workpiece automatically so that improves the efficiency. It is 3-4 times faster than normal panel saw.
2. English touch screen helps the operator to hold it easily.
3. The machine will stop automatically when it happens error. And we can easily find out the problems.
4. The electronic parts, pneumatic parts and other key parts are chosen the suppliers of international famous brand. It ensures the precision and reliability.

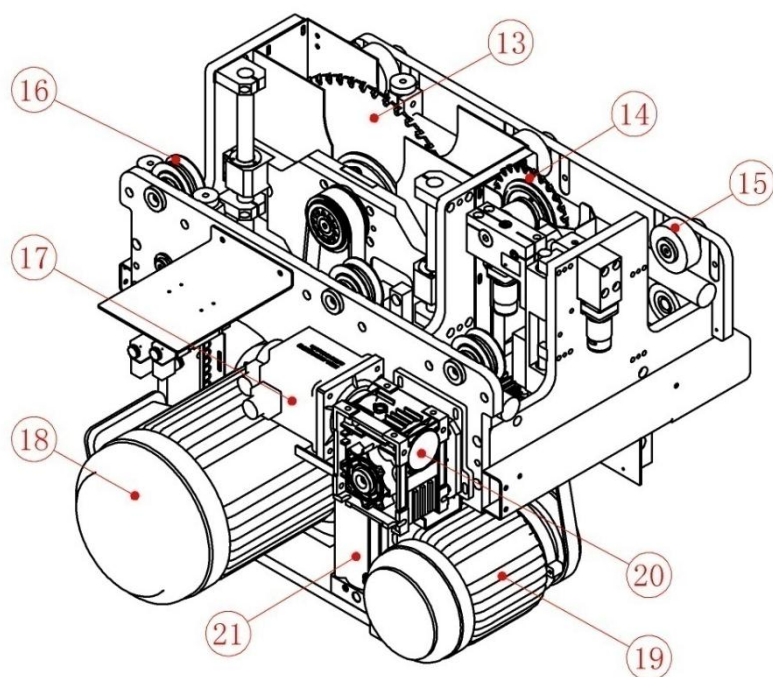
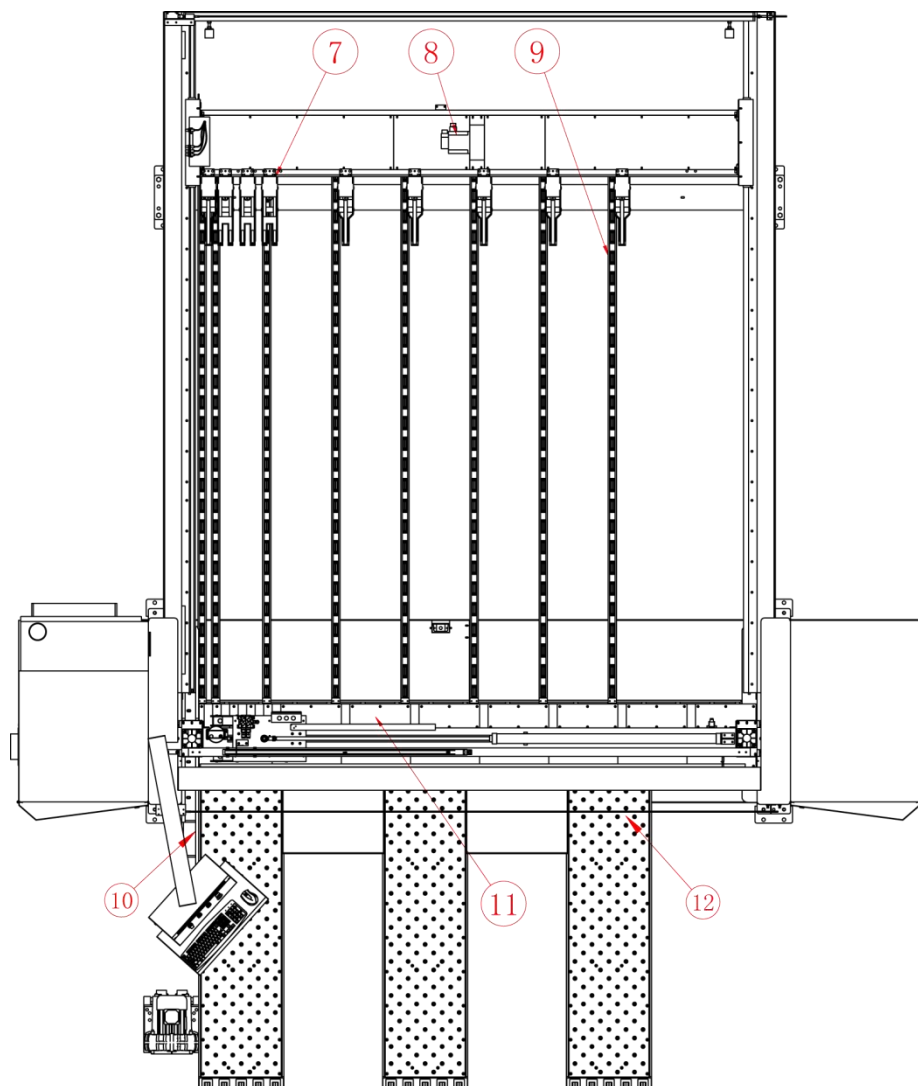
2. Safety operation and attention

1. Serviceman and operator must read this manual carefully in case the accident happens. We are not responsible for any accident which is beyond the user manual.
2. Machine must be connected to the ground wire to prevent leakage.
3. All the tools and things can not be put on the machine before turning on.
4. Switch off the power of machine before changing the saw blade, testing or maintaining.
5. Keep the working place clean.
6. Switch off the machine power before leaving it.
7. Do not repair the electronic parts in the electrical cabinet if you are not professional person.
8. Check the main saw and scoring saw blade if is tight. The worn saw blade should be replaced in time and pay attention to the rotation of it.
9. Do not put the hand in the pushing stick or under the pressing beam.
10. Do not overload operate the machine. It will stop automatically when it comes to overload.

3. Name of every part

① Error alarm	② Electronic cabinet	③ Touch screen
④ Manual controlling panel	⑤ Pressing beam	⑥ Lifting hole
⑦ Feeding clamping base	⑧ Feeding servo motor	⑨ Feeding roller
⑩ Front vertical guiding fence	⑪ Working table	⑫ Feeding floating table
⑬ Main saw blade	⑭ Scoring saw blade	⑮ Carriage eccentric wheel
⑯ Carriage wheel	⑰ Carriage driving servo motor	⑱ Main saw motor
⑲ Scoring saw motor	⑳ Carriage driving gear box	㉑ Main saw lifting cylinder





4. Technical specification

ITEM	<u>MJ280A</u>	<u>MJ330A</u>	<u>MJ380A</u>
Max. cutting length	2700mm	3200mm	3800mm
Max. cutting thickness	90mm	90mm	90mm
Diameter of main saw blade	∅ 355mm	∅ 355mm	∅ 355mm
Diameter of main saw spindle	∅ 65mm	∅ 65mm	∅ 65mm
Rotation speed of main saw	5600r/min	5600mmr/min	5600mmr/min
Diameter of scoring saw blade	∅ 180mm	∅ 180mm	∅ 180mm
Diameter of scoring saw spindle	∅ 30mm	∅ 30mm	∅ 30mm
Rotation speed of scoring saw	6300r/min	6300r/min	6300r/min
Carriage forward speed	5~60m/min	5~80m/min	5~80m/min
Carriage backward speed	30-120/min	0-120m/min	0-120m/min
Power of main saw driving motor	15kw	15kw	15kw
Carriage driving motor	1.5kw	1.5kw	1.5kw
Power of feeding motor	1kw	1kw	1kw
Feeding speed	0-80m/min	0-80m/min	0-80m/min
Air pressure	5~8m/min	5~8m/min	5~8m/min

5. Hoisting and installation

The packages of this machine includes main body, feeding device and floating tables which were packed before delivery. Please assemble the machine following diagram 5.1.

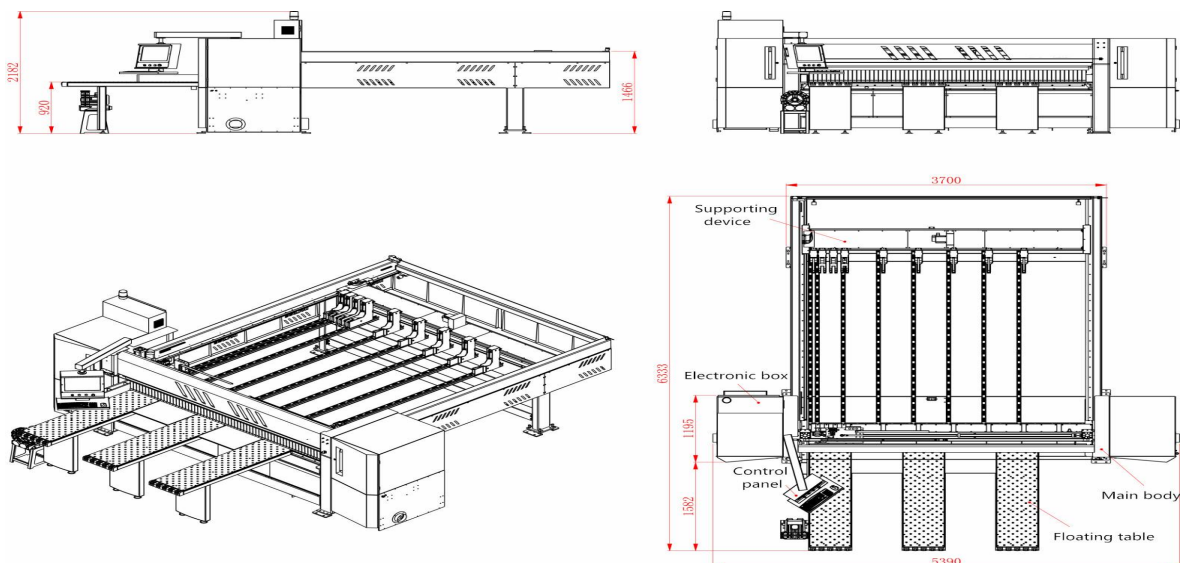


Diagram 5.1

5.1 Hoisting and installation of machine body

5.1.1 Hoisting of main body

There are two situations for hoisting

- a. When it is hoisted by crane, it's better to hang the steel wire on the rings where were installed in the two side of machine. Please pay attention to the center of the body to ensure the balance.

See Diagram 5.2

- b. When it is moved by forklift, the legs should be put under the machine. See diagram 5.3.

Attention:

- a. The load-bearing of the crane must be more than 3 tons.
- b. Pay attention to the balance of machine.
- c. When you choose forklift, the legs should be put under the machine across it.
- d. When you choose the steel wire to lift it, the angle should be less than 90 degrees.

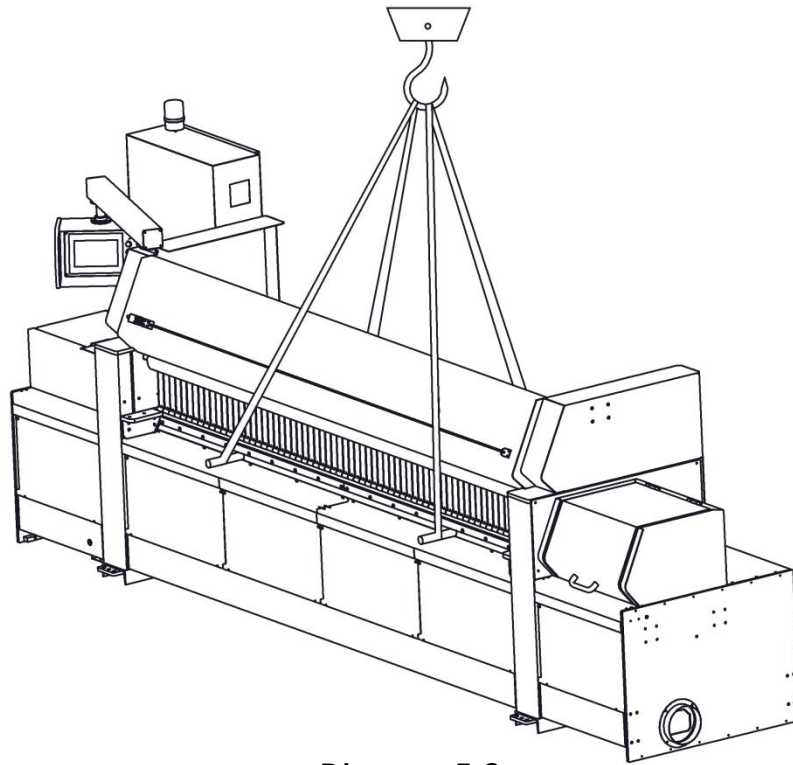


Diagram 5.2

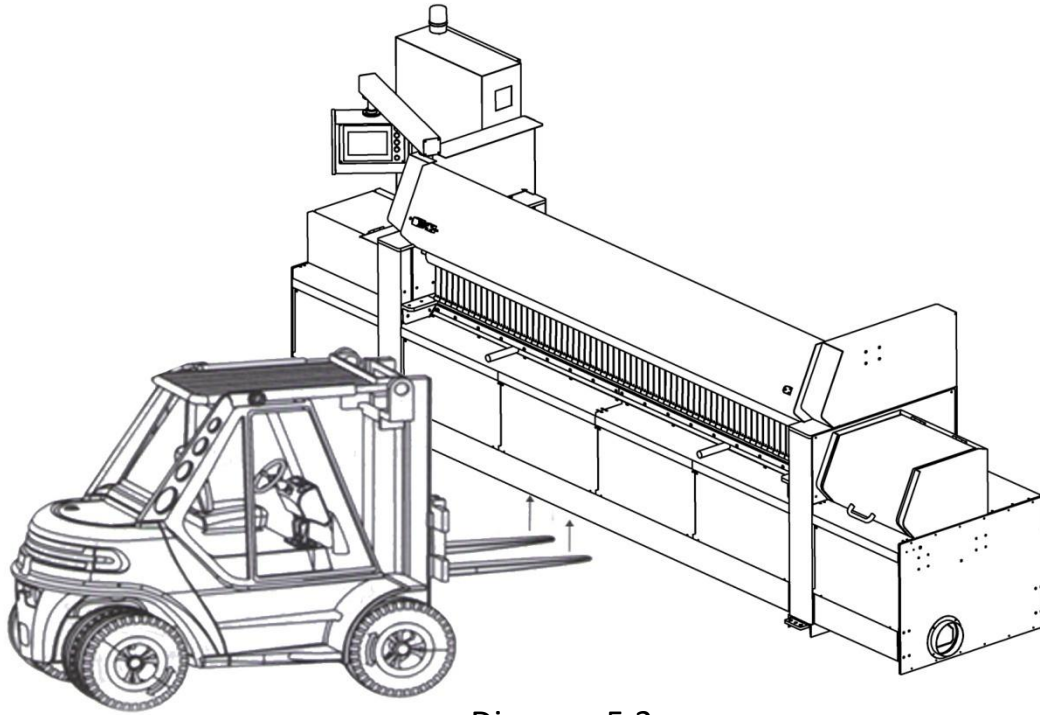


Diagram 5.3

5.1.2 Installation

5.1.2.1 Installation location

- Please obligate enough space for machine installation. The distance of machine's left, right and back side(includes output table) from the wall should be more than 1000mm. There should be enough space for stacking panel in front of the machine.
- The installing ground should be cement floor. The thickness of cement should be more than 200mm.
- The location of the machine should be kept out of the sun and rain.

5.1.2.2 Degreasing

The processing surface of the machine was coated rust-preventative oil before delivery. Use the soft cloth with diesel oil to clean the surface clearly.

Attention: Do not choose gasoline or volatile liquid to clean the oil in order to avoid the painting damage.

5.1.2.3 Adjustment of balance

After locating the machine, put the gradienter(0.02/1000) on the working table to correct the horizontal level.

Testing: Put the gradienter on the table in five places. Adjust the 8 screws to balance the machine till the indication of five gradienters are less than 0.1/1000. See diagram 5.4

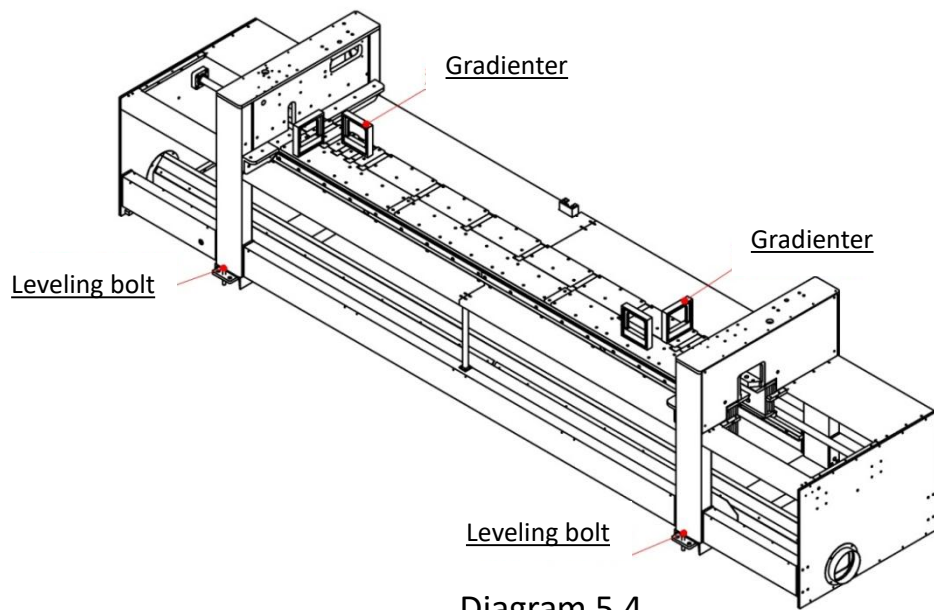


Diagram 5.4

5.1.2.4 Installation of back feeding

(Diagram 5.5)

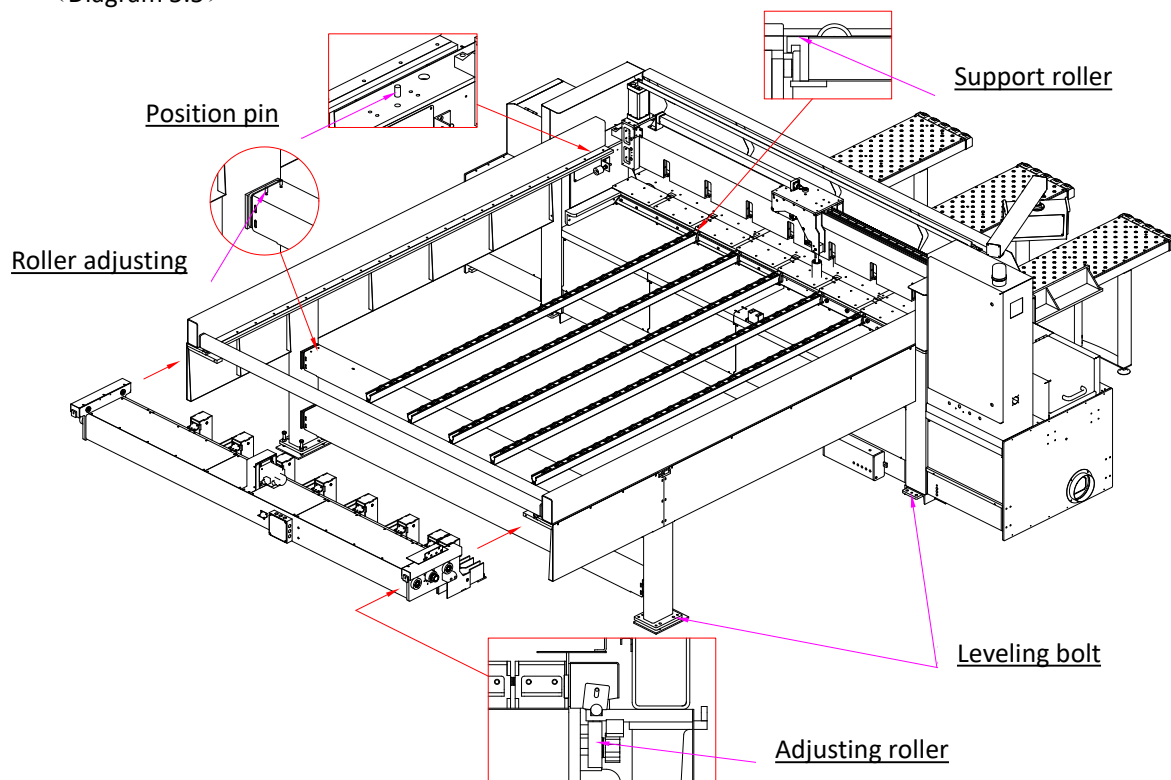


Diagram 5.5

5.2 Check the connection of cable

After connecting the power line and base line, you should check the power contact point. Checking method:

1. Switch on the power on the control panel.
2. Press “control the AC contactor of scoring saw”. This time the scoring saw rotation will act like the diagram 5.6.
3. If it moves in the opposite way, please change the two lines connection in the three-phase supply.

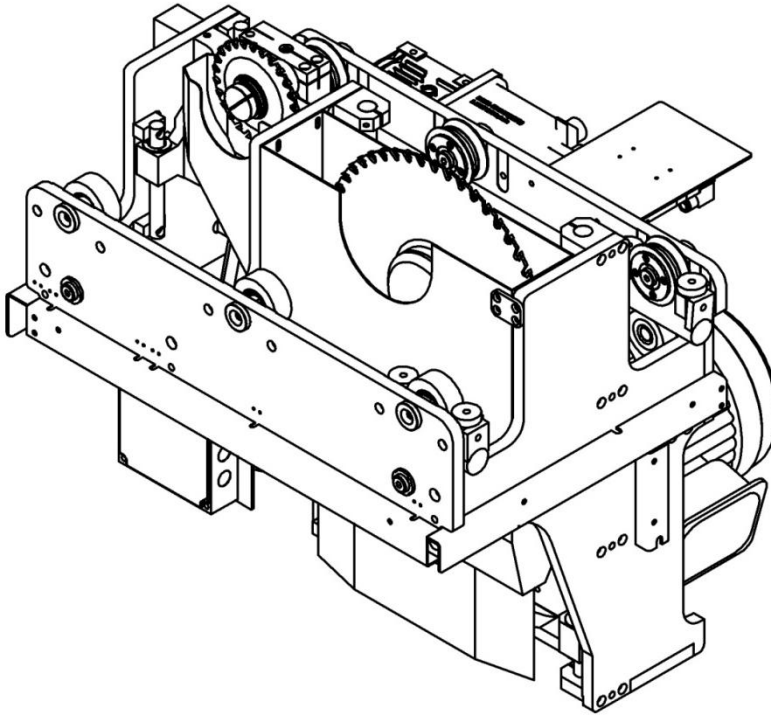


Diagram 5.6

5.3 Air connection

The triplet of this machine is installed at the right back side of main body. Connect it with the air supply from the workshop. Normal pressure is 5-8Kg/cm² (See diagram 5.7).

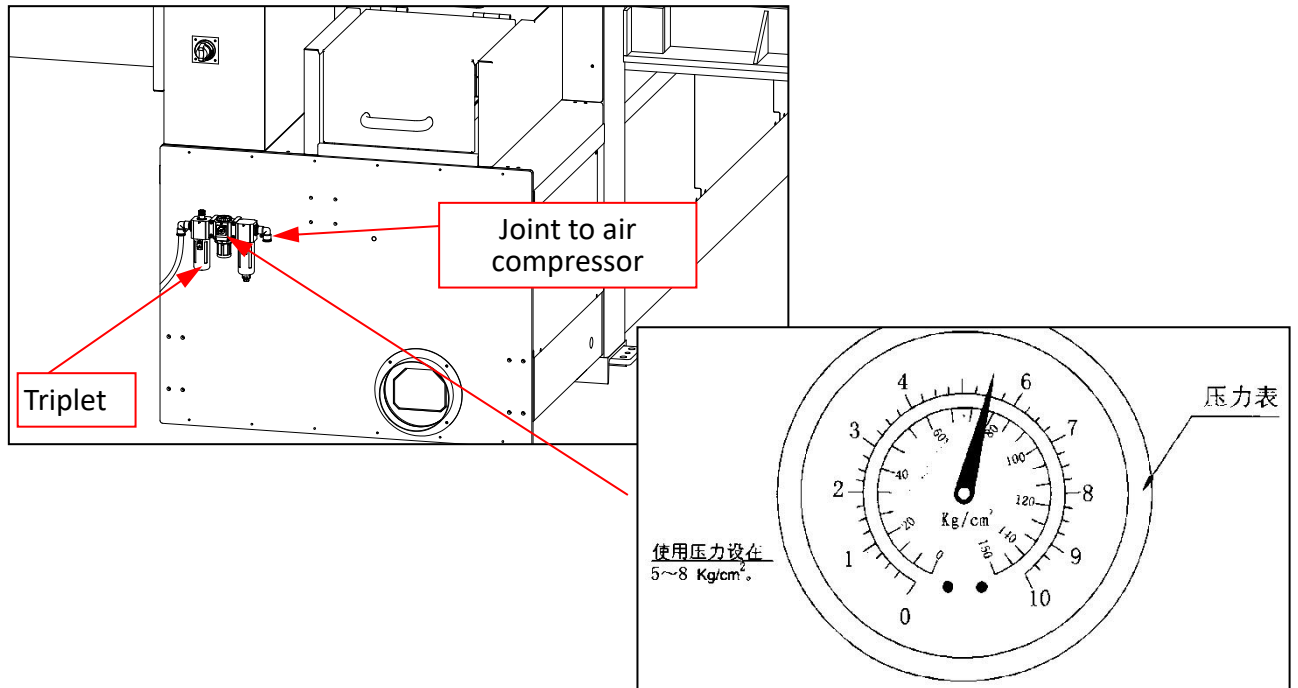


Diagram 5.7

5.4 Installation of feeding floating table

The tables were discharged and packed individually before delivery. Connect the tables to the machine body after testing the level of the body. See diagram 5.8. Pressure gage

- Put the floating table in front of the machine body on the positioning plate. Adjust the screw A to level the tables.
- Put the gradienter on the table and the connecting surface.
- Adjust the bolt B on the floating table to adjust the leveling with the working table.
- Fix the tables by screw C.

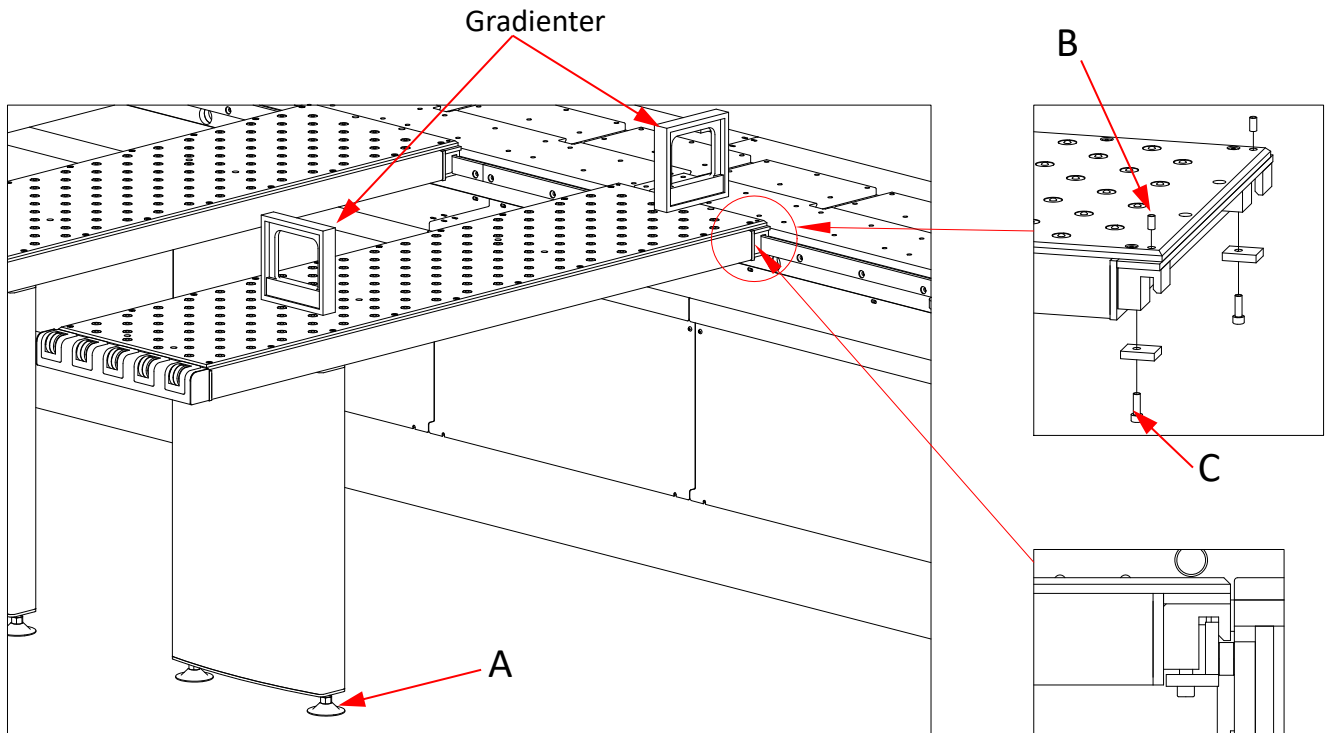


Diagram 5.8

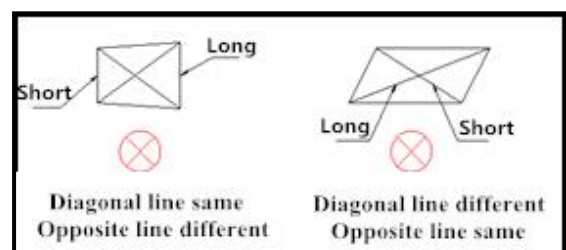
5.5 Adjustment of front guiding fence

Judge if is needed to adjust

- Put a piece of panel board which the size is about 1000*500mm beside the front guiding fence. Press the button of "Saw blade ON" and "Single recycle" to cut the side of the panel. Then position the cutting surface beside the guiding fence and repeat the same operation till finished the four sides.
- Measure two opposite sides and diagonal line of the panel. The length of the opposite side can not be different from another more than 0.2mm. And the diagonal line can not be different from another more than 0.6mm. Otherwise, you need to adjust the front guiding fence.

Adjustment method:

- Loose the bolts where at the bottom and side of the fence. See diagram 5.9.
- Adjust the bolt to level the fence.
- Fix the bolts after adjusting.



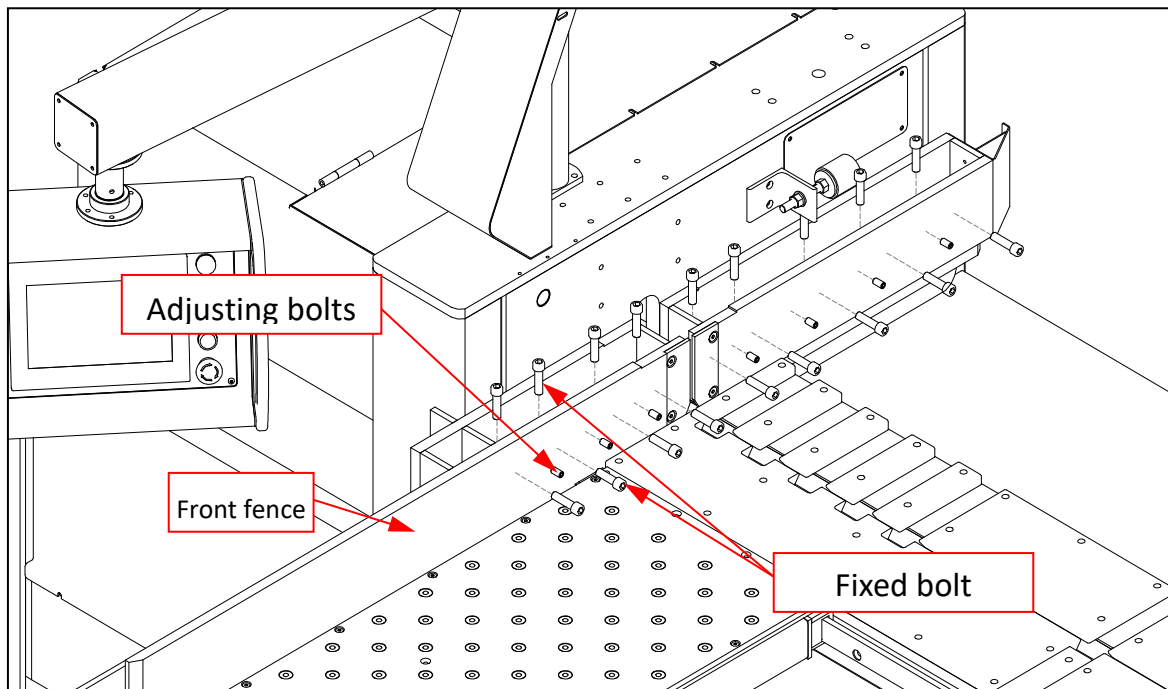


Diagram 5.9

5.6 Adjustment of rear guiding fence

Rear vertical guiding fence adjustment (See diagram 5.10)

1. Adjust the rear fence after adjusting the front one.
2. Put a standard panel on the table beside the front and rear guiding fence. Adjust the rear fence which is subject to the front fence and make them in one straight line.
3. Adjust the rear guiding fence by two bolts.
4. After adjusting, please fix the nut and four bolts of the fence.

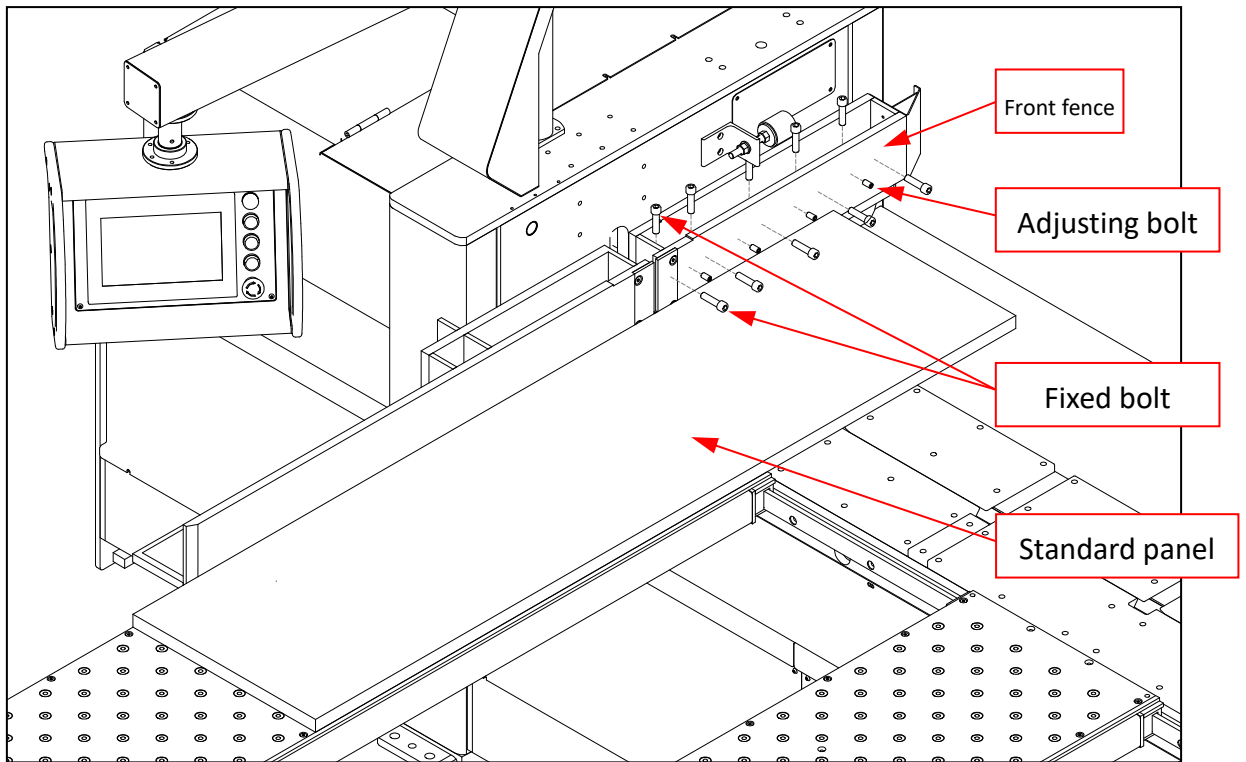


Diagram 5.10

5.7 Saw belt adjustment

Main saw blade is transmitted by timing belt. Scoring saw belt is transmitted by flat belt. You can rotate the adjusting bolt to control the loose and tight of the belt. Please loose the nut before adjusting the belt. And fix it after finishing. See diagram 5.11.

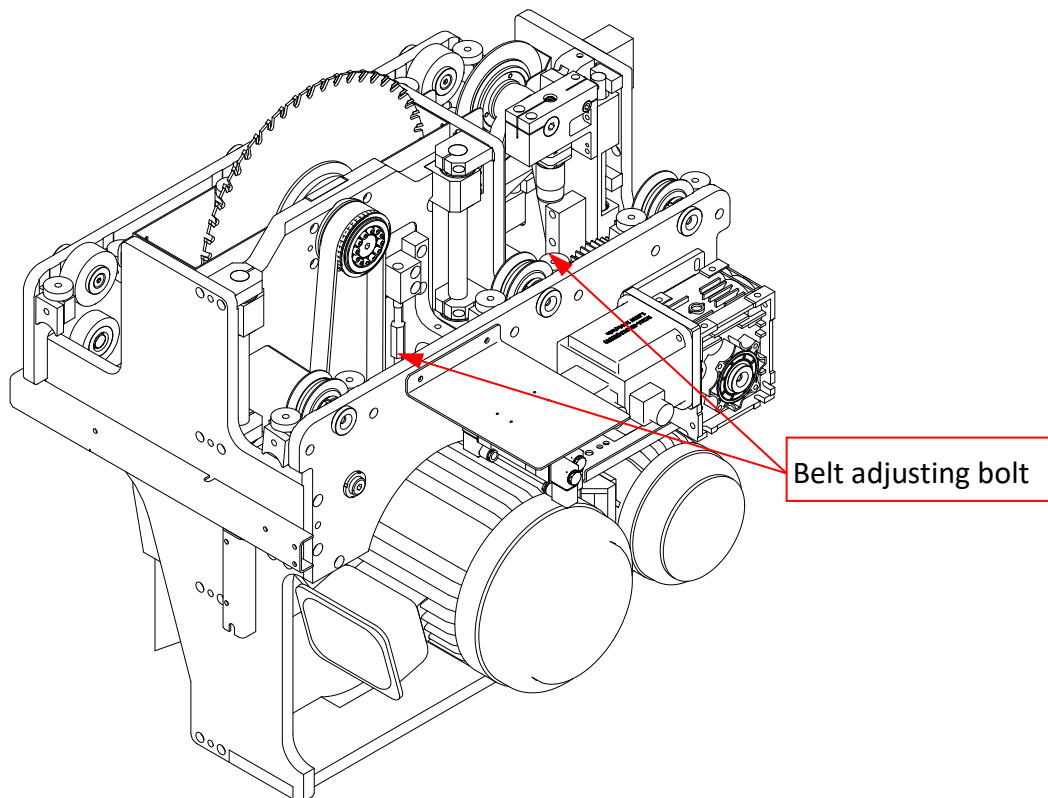


Diagram 5.11

5.8 Tightness Adjustment of rack and gear

1. Loose screw A and B (Se diagram 5.12).
2. Move the gear C up and down to make the gap suitable.
3. Fix screw A and B after adjusting.

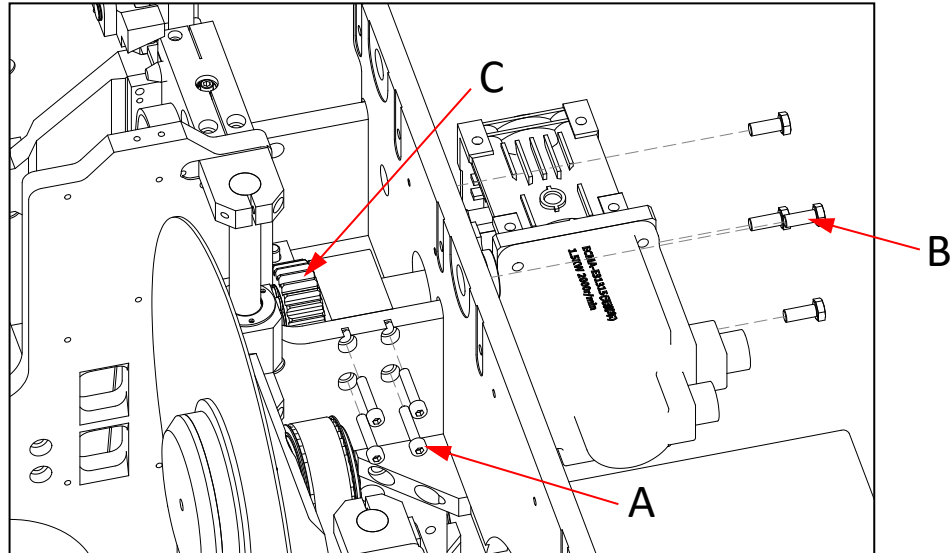


Diagram 5.12

5.9 Change the main saw blade

1. Turn on the lifting of saw blade. Lift the blade to the highest point.
2. Insert the main shaft pin A (see diagram 5.13) into the main saw shaft so that the main saw shaft is fixed and free of revolving, press the shaft with hand, employ the gland nut wrench B of the saw blade to revolve and loosen the nut clockwise, then take out the saw blade.
3. When loading a new saw blade, firstly wipe the journal and flange end surface for loading saw blade clean, and then load the new saw blade; pay attention to the saw tooth direction, as shown in the following figure. See diagram 5.13.

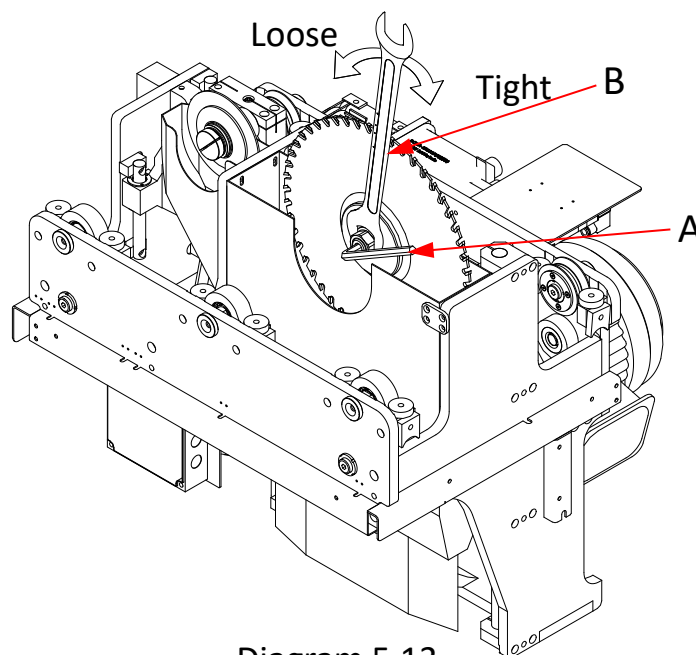


Diagram 5.13

5.10 Change the scoring saw blade

1. Start the dropping switch of saw blade and lower blade to the highest point.
2. Set the saw blade gland nut wrench A (see diagram 5.14) into gland nut of the scoring saw spindle B.
3. Rotate the scoring saw gland nut B to loose the blade and take it out. See diagram 5.14.
4. When installing the new saw blade, firstly clean the axle journal and its end face in the place where the saw blade is installed. And then install new saw blade. Care shall be taken for that the direction of sawtooth is clockwise, as shown in the following diagram 5.14.

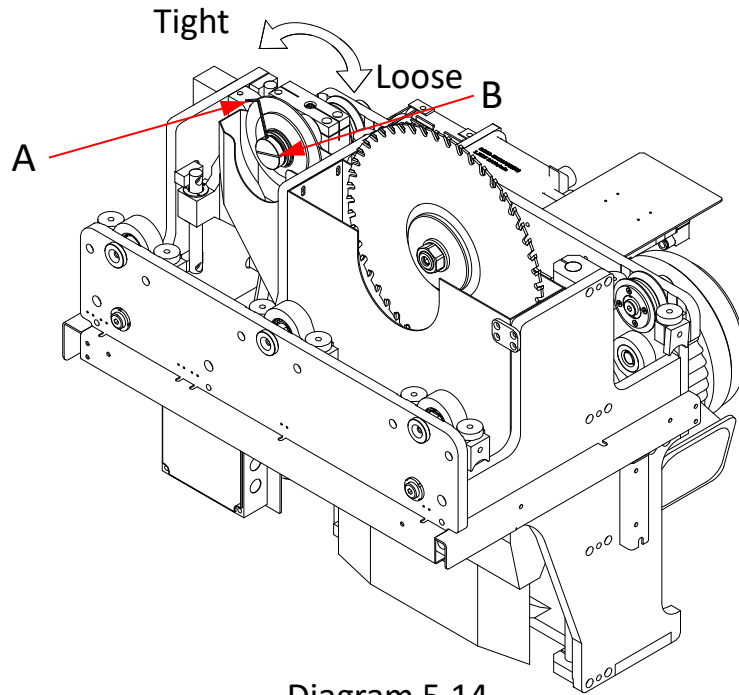


Diagram 5.14

5.11 Adjustment for positioning the scoring saw blade

Position of scoring saw of this device can be adjusted up & down as well as back & forth. When cut of the saw is attached with burr or bevel, it is required to adjust scoring saw blade and enable it to be proper position relative for main saw blade; various positions of scoring saw blade are as shown in diagram 5.16.

Adjustment for front & back positions of scoring saw blade

When one side of the saw cut is attached with burr and other edge is not attached with any burr, it is required to make front & back adjustments for scoring saw blade. If front side of saw cut is attached with burr, while back side no any burr attached, it is required to move scoring saw blade forward. Before removing, first loose lock-screw A, and then rotate scoring saw spindle with clockwise with hook wrench B. If back side of saw cut is attached with burr, and front side no any burr attached, it is required to rotate the scoring saw blade backward. Rotate allen wrench B anti-clock to adjust the scoring saw spindle. Fasten lock-screw A after adjusting (See diagram 5.15).

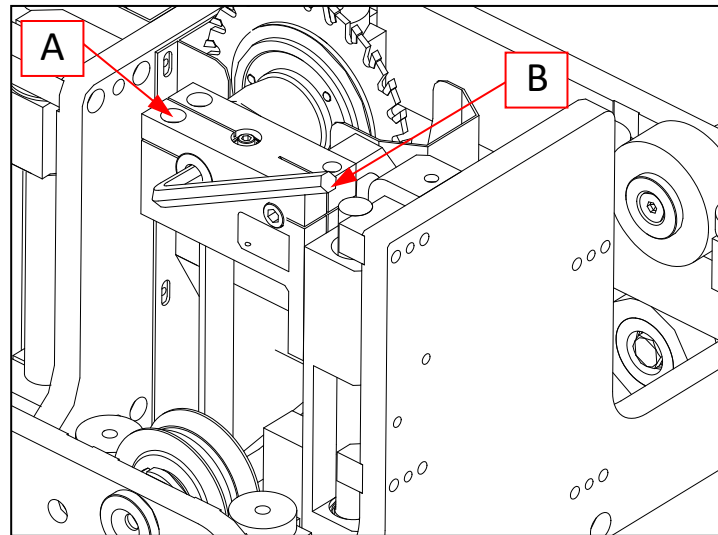


Diagram 5.15

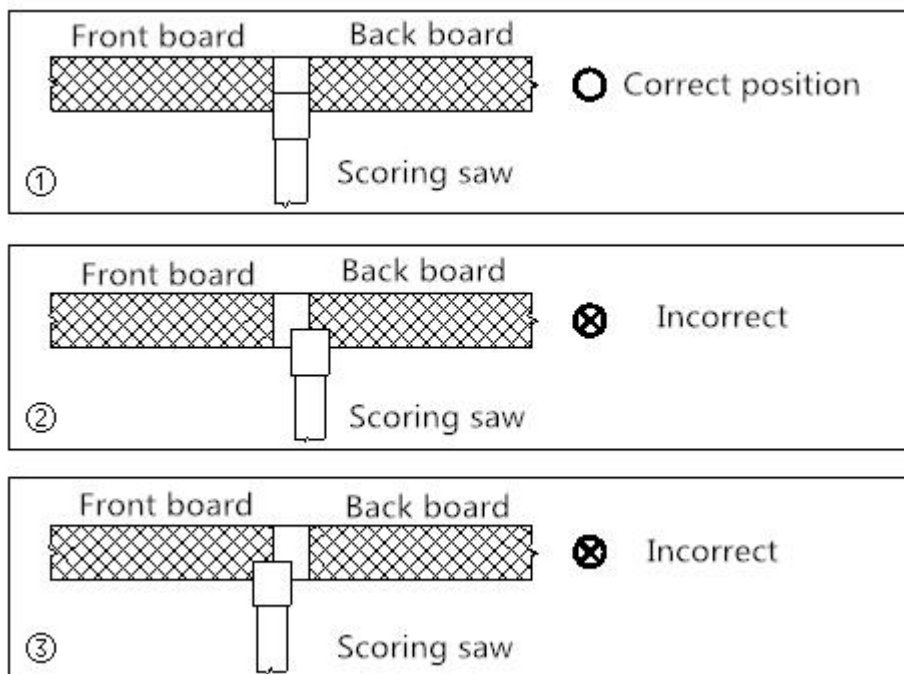


Diagram 5.16

Regular maintenance of the device

1. Check the air supply triplet. Drain the water-filtering cup and refill the oil cup (with turbine oil).
2. Clean the pressing beam support everyday by using an air blow gun and lubricate it with oil.
3. Clean the periphery of saw support and pulley every day by using an air blow gun.
4. Clean the round guide of saw support and refill oil.
5. Clean the dust collecting groove to ensure a smooth route for dust suction.
6. Check the tension of the driving belts for the main and scoring saw blades and make adjustment if required.
7. Except for automatic lubricating points, other operation positions are required to lubrication with refill engine oil appropriately on/off work everyday.
8. Refill the gear oil for driving worm-gear case of saw support, replace once half a year, based on oil level, and refill oil in time when it is insufficient.
9. Keep device clean all the time regularly, and clean the whole device by using an air blow gun when leaving work.

6. Operation of device

Attention before operating

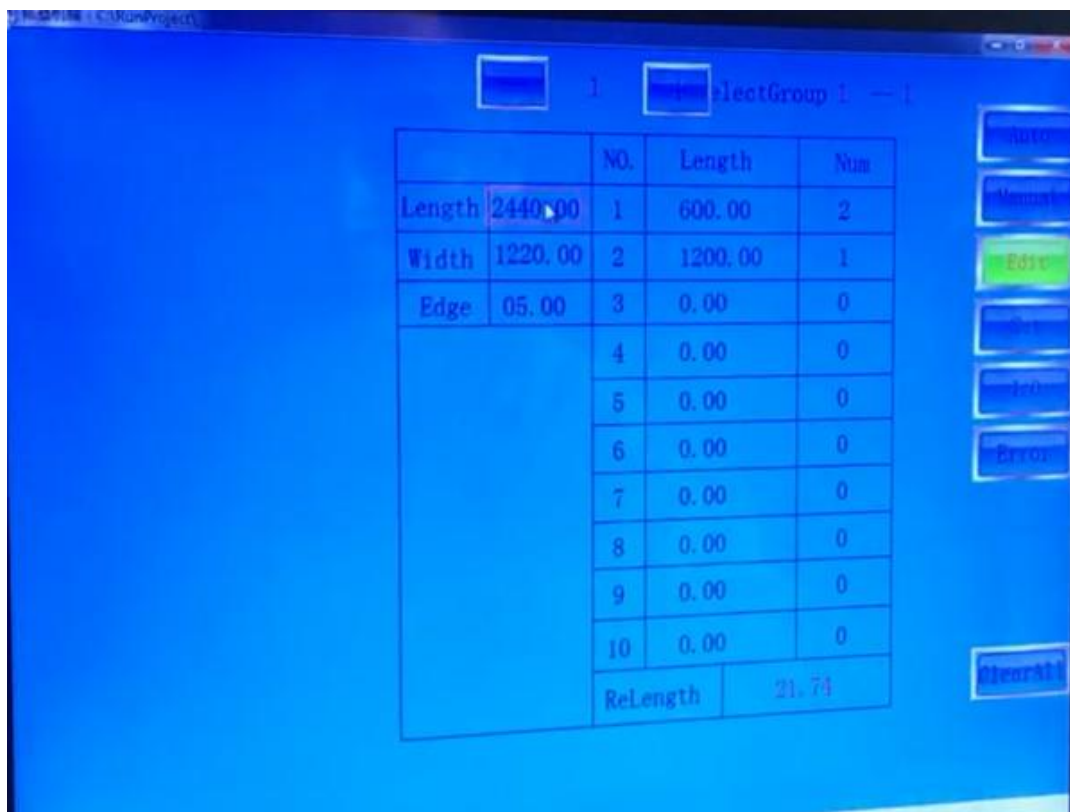
1. Check the air if is enough. The normal pressure is 5~8kg/cm².
2. Direction of the saw blade if is correct.
3. The saw blade if is tight enough.
4. Driving belt if is tight.
5. Lubricating oil if is enough. Add it at regular intervals.

Computer function of this device

1. Large storage capacity of 1000 groups of data.
2. Quick search and browse for parameters of group number of parameters can be carried out by touching fast-preserved button.
3. All set value can be long-term stored via back up battery in case of power failure, and pattern is then preserved permanently.
4. Buttons are mainly concentrated in touch screen with easy and simple operation, it is unnecessary to worry about bad contact caused from invading of saw chips and dust.
5. Strong automatic detection function is provided to display the error occurred on error screen at any time, and operating personnel may carry out the quick maintenance for device based on error screen.
6. Servo positioning control system with high resolution guarantees the quickness and accuracy of feeding material to increase the production efficiency greatly.

Operation Guide for the machine

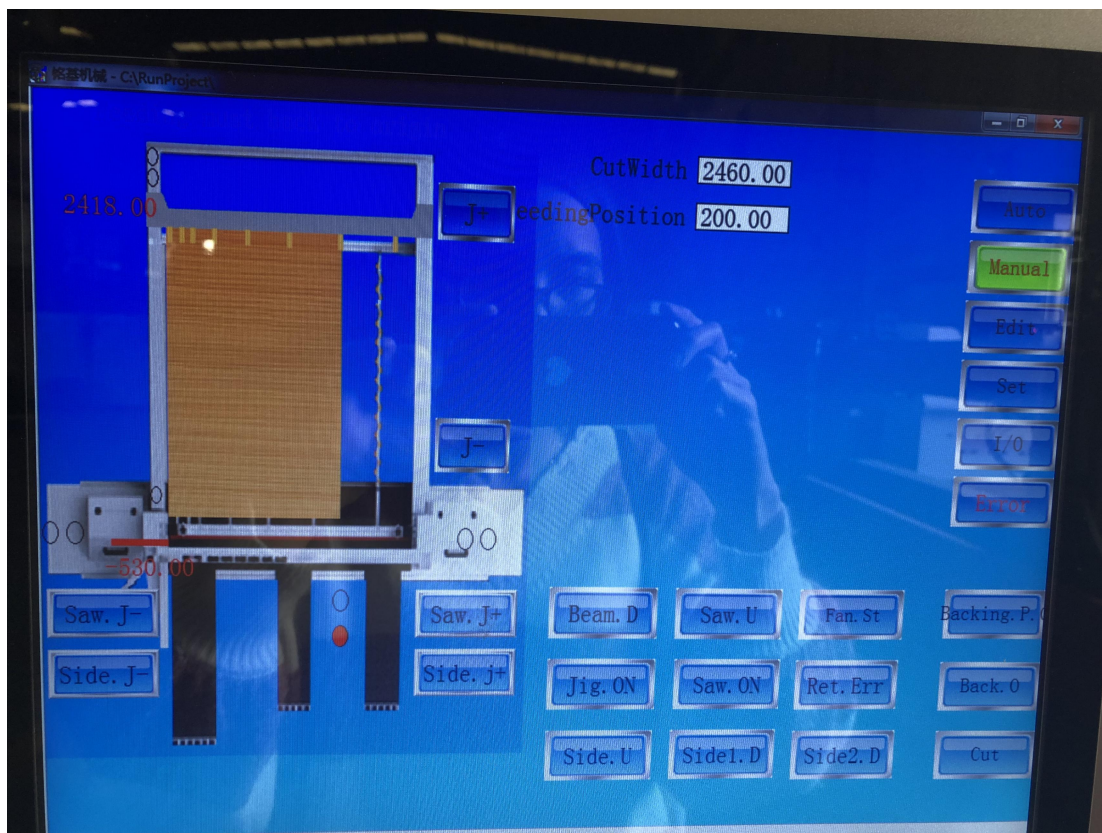
Edit Mode



Group	
Length	set the length of the panel
Width	the width of the panel
Edge	set the length needed to be trimmed before cutting
+ -	+ save the data of current group and go next group - Go to the previous group
Length	The cutting length you request for this panel
Num	the quantity of panels you request
Remaining	the remaining length after cutting this project
ClearAll	Delete the data of this group

Noted: when cutting several layers, the actual quantity=quantity*layer

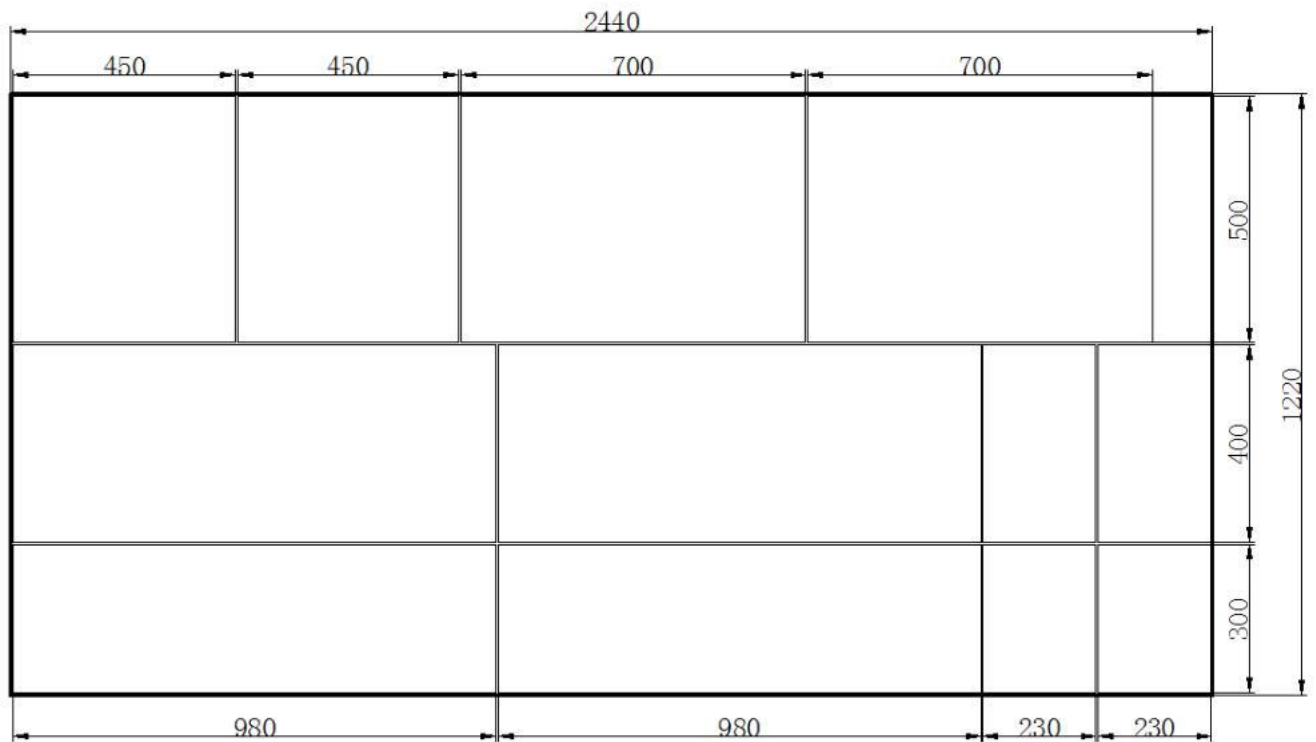
Manual mode

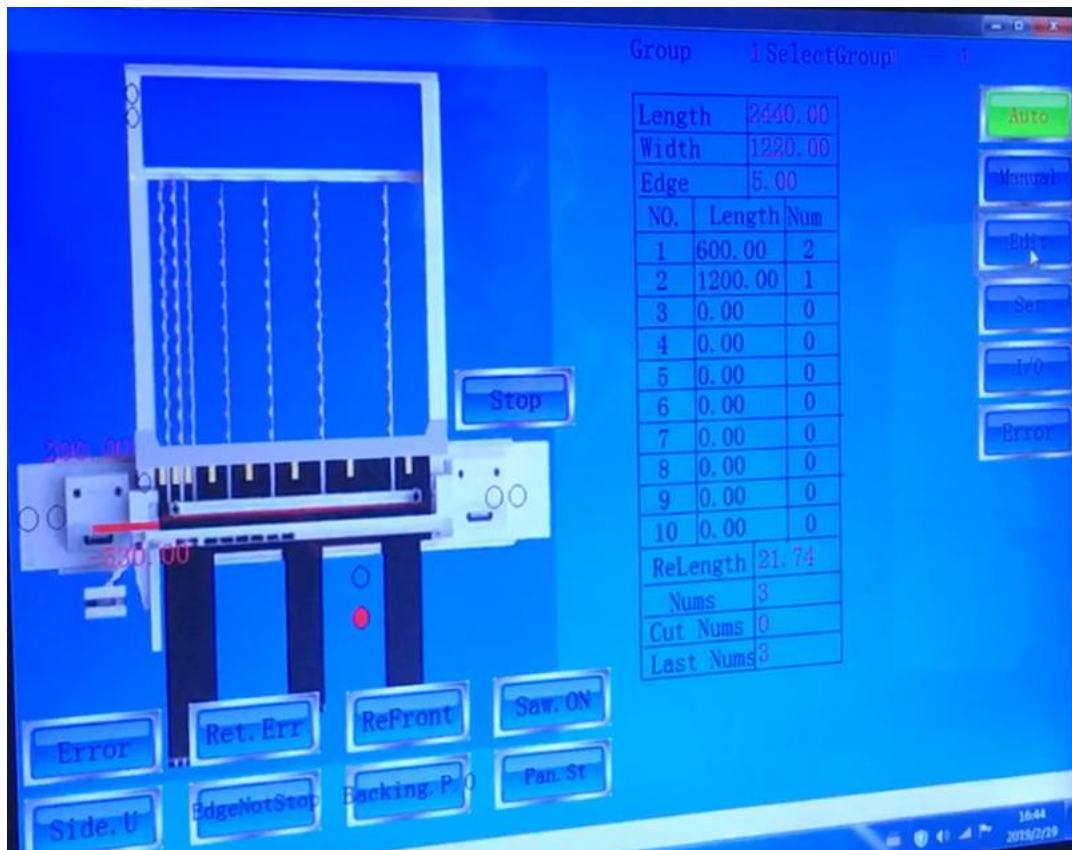


Feeding grippers	
Beam D	To control the beam up and down
Jig On	To control the grippers grab and loose
J-	To control the grippers moving, press this button to move backward
J+	To control the grippers moving, press this button to move forward
Back.O	To make the machine back to origin
Saw carriage	
Saw U	To control the main saw up and down
Saw J-	To control the saw carriage move to left
Saw J+	To control the saw carriage move to right
Side align equipment	
Side J-	To control the side align equipment move left

Side J+	To control the side align equipment move right
Side 1 D	Start the side align pillar 1
Side 2 D	Start the side align pillar 2

Working procedure





1. Start the machine, click back.0, make the machine back to zero
2. in manual mode, input the data of each group and save the data
3. click auto mode
4. load the panels needed for group 1
5. click backing P.O, make the grippers go to the position where you put the panels
6. click saw on, and start the air blower
7. press the "Auto operation" button, machine start cutting panels for group 1
8. after finish group 1, machine stop, and system come to group 2 and wait for start
9. pick up the remaining materials of group 1, and put the panels for group 2 correctly.
10. press the "Auto operation" button, machine start cutting panels for group 2
11. repeat the above steps and finish the cutting for all groups.

7. Trouble shooting

Trouble	Potential causes	Troubleshooting methods
Servo motor	1, overload caused by the high speed impact on limit switch 2, servo drive failure.	1, cut off power for 5 seconds or more. 2, check the servo drive on the display of the fault code. 3, replace the servo drive.
Frequency converter	1, overload caused by the inverter output cable slack 2, saw motor fault.	1, adjust the cable. 2. Check the motor and replacement of the saw.
Motor overload	1, power line terminal contact. 2, the main power supply failure. 3, motor contactor fault. 4, large cutting board load.	1, lock connection terminal. 2, exclusion. 3, replacement of contactor. 4, reduce the speed of cutting board.
Insufficient pressure	1, air compressor capacity is not enough. 2, pressure switch equipment error.	1, increase or reduce the use of gas equipment 2, make adjustment.
Lubricating oil lack	1, lack of oil. 2, lubricating oil controller failure.	1, refueling. 2, replace controller.
Loose rope	The cable will automatically loose with time passed.	1, adjust the rope.
Safety door open or emergency stop button action	1, safe door open after the replacement of the blade. 2, emergency stop button is not reset.	1, close the safety door. 2, reset the emergency stop button.
Back plate failure	1, the sensor installation position offset. 2, magnetic sensor error. 3, tracheal loosening or rupture.	1, adjust. 2, replacement. 3, adjust or replace.
Back pressure plate rise failure	1, the sensor installation position offset. 2, magnetic sensor error. 3, tracheal loosening or rupture.	1, adjust. 2, replacement. 3, adjust or replace.
Front pressure plate rise failure	1, the sensor installation position offset. 2, magnetic sensor error. 3, tracheal loosening or rupture.	1, adjust. 2, replacement. 3, adjust or replace.
Saw blade rise failure	1, the sensor installation position offset. 2, magnetic sensor error.	1, adjust. 2, replacement. 3, adjust or replace.

	3, tracheal loosening or rupture. 4, wood chips stuck.	4, clean the chips
Saw blade down failure	1, the sensor installation position offset. 2, magnetic sensor error. 3, tracheal loosening or rupture. 4, wood chips stuck.	1, adjust. 2, replacement. 3, adjust or replace. 4, clean the chips
Feeding motor back Meet the safety limit	1, the position is not right. 2, improper operation.	1, manual feeding position move forward to allow it to leave the back limit, to lift the failure.
Feeding motor forward Meet the safety limit	1, the position is not right. 2, improper operation.	1, manual feeding position move forward to allow it to leave the back limit, to lift the failure.