

(NP1002D-1-S7300A-305P)

Instruction Manual

Thank you for purchasing this industrial sewing machine from SILMAQ
Before using this automatic unit, please read the following instructions, which will help you to understand how the machine operates.
These instructions illustrate the correct working methods to comply with current regulations.

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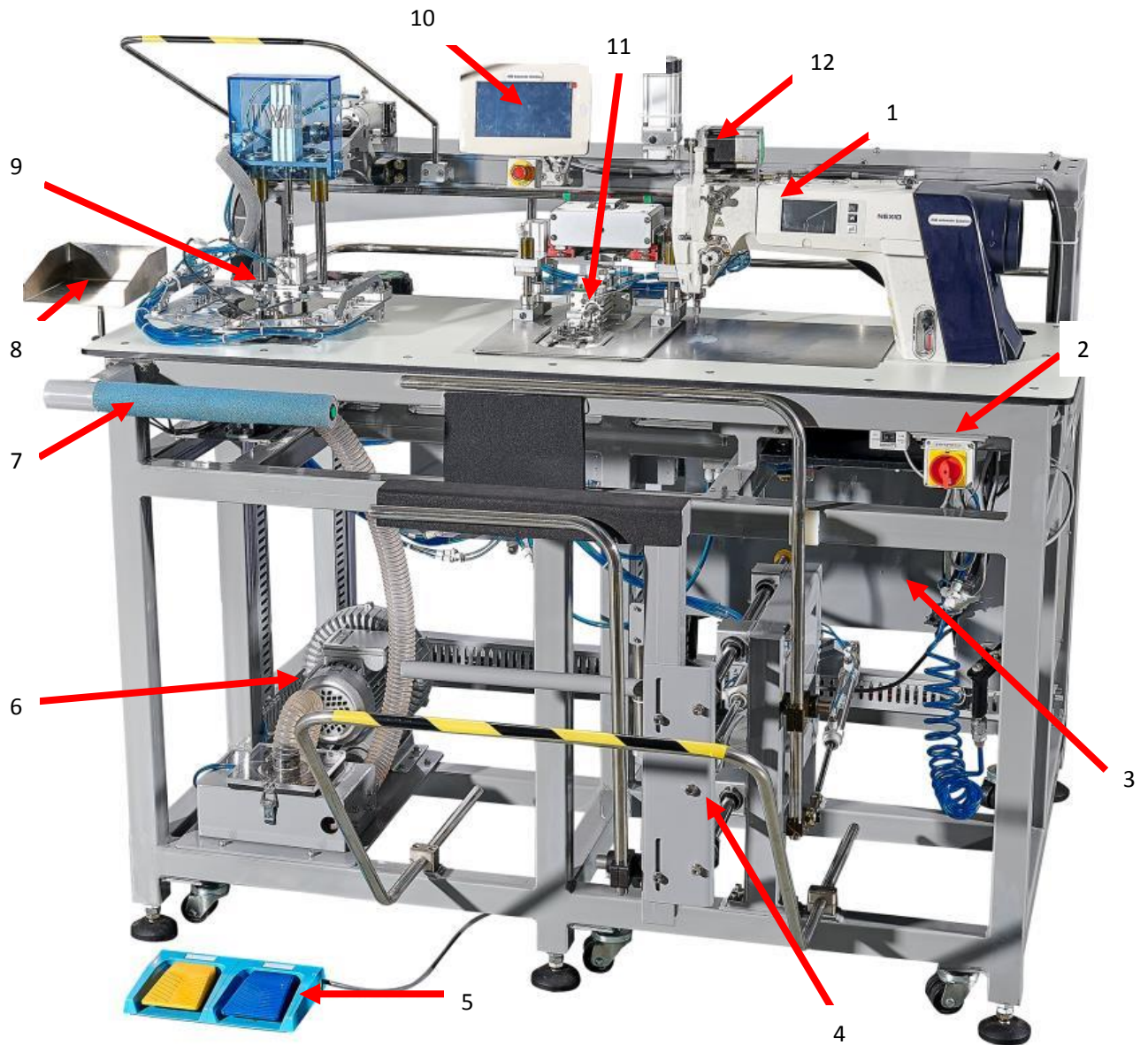
We are happy to receive suggestions and/or indications on ways we could improve this manual.

ENGLISH

Catalog







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1. Basic information of the equipment





1: Machine head; 2: Power switch; 3: Control box; 4: Stacker; 5: Pedal;
6: Suction system; 7: Loader; 8: Pocket loader; 9: Folding group; 10:
Touch screen; 11: Activity template organization; 12: presser foot lifting mechanism.

2、 Technical parameters of the equipment

NP1002D Chino Pocket Setter			
1	Machine head	Brother -1-S7300A-303P	
2	Maximum sewing speed /rpm	2800	
3	Table (Optional)	Compact Laminate	
		Stainless steel	
4	Working voltage /V	220	
5	Working pressure /Mpa	0.5	
6	Spindle, X/Y control	AC Servo motor	
7	Stitch length /mm	1--4	
8	Working efficiency	150 pcs/h	
9	Way of the mould	Fast changing mould	
10	Size/mm	2000L×1300W×1550H	
11	Weight/kg	395	
12	Needle type	DB*1	
13	Shape		Size:mm Large: 140*140--180*180 Middle: 95*110--140*140 Small: 73*79--95*110
			
			
			
			
			

3、 Safety precautions

Considerations for safe use of automata

 危険	<p>1. In order to prevent accidents caused by electric shock, please do not open the cover of the electrical box of the motor or touch the parts in the electrical box when the power is connected.</p>
 注意	<p>1. In order to prevent personal injury, please do not operate the machine in the state of removing the belt guard, finger protector and other safety devices.</p> <p>2. In order to avoid being involved in the machine's personal accident, please do not let your fingers, hair, clothes near the pulley, v-belt, motor, and do not put items on it during the operation of the sewing machine.</p> <p>3. To prevent personal injury, please do not put your finger near the needle when turning on the power or running the machine.</p> <p>4. In order to prevent personal injury, please do not put your fingers in the wire pole guard during the operation of the sewing machine.</p> <p>5. When the machine is running, it turns at a high speed. To prevent damage to the hand, never let the hand near the cutter during operation. In addition, when changing the cable, please be sure to turn off the power.</p> <p>6. In order to prevent personal injury, please be careful not to pinch your fingers when the machine moves up and down or when you return to the original position.</p> <p>7. Please do not cut off the power or air supply while the machine is running.</p> <p>8. In order to prevent accidents caused by sudden starting, please remove the cloth guide when the preparation work is finished and the sewing state is reached.</p> <p>9. In order to prevent accidents caused by electric shock, please do not operate the sewing machine when the ground wire of the power supply is removed.</p> <p>10. In order to prevent accidents caused by electric shock and damage to electrical parts, be sure to turn off the power switch before inserting or unplugging the power plug.</p> <p>11. In order to prevent accidents caused by damage of electrical parts, please stop the operation for safety when it thunders and pull the power plug.</p> <p>12. In order to prevent accidents caused by damage to electrical parts, condensation will occur when moving from a cold place to a warm place immediately, so please wait until the water drops dry before switching on the power.</p> <p>13. As this product is a precision machine, please pay full attention to it during operation, do not splash water or oil on the machine, and do not let the machine fall and give the machine impact.</p> <p>This machine is A class A industrial machine. The use of this machine in the home environment may cause the phenomenon of radio interference. At this point, please take appropriate measures to solve the problem of radio interference.</p> <p>15. After the power switch is turned off when the accumulator moves, the</p>

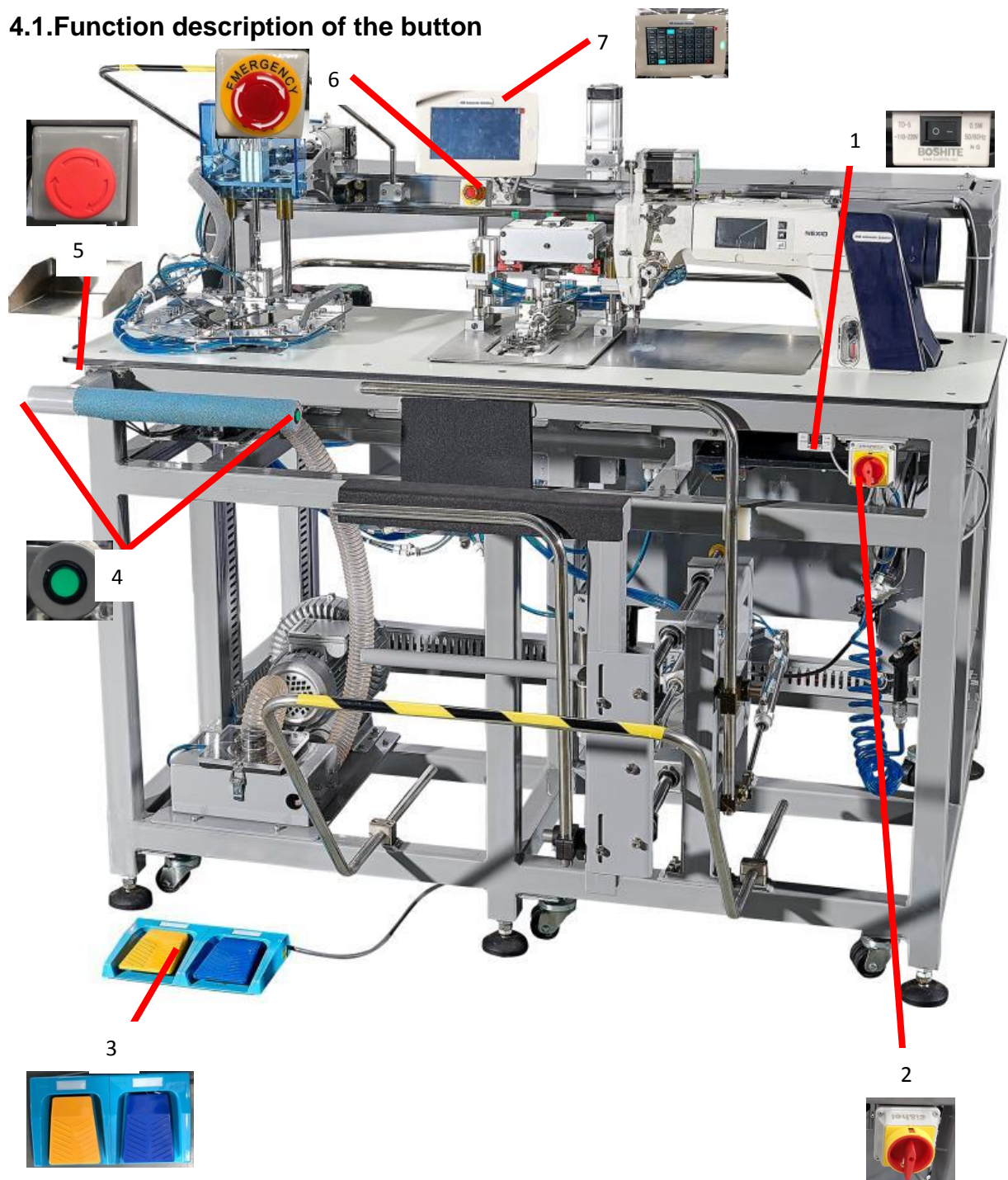
	<p>accumulator lever moves, so please be careful not to clip your finger, etc.</p> <p>16. When the power switch is turned off during the foot press action, please be careful not to pinch your fingers.</p> <p>17. During folding operation, please be careful not to clip the cylinder to your finger when putting your finger into the folding machine.</p>
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*** important safety information:**

- ✓ improper operation of the machine may cause personal injury. Please read this instruction carefully and operate correctly before operation.
- ✓ Please ventilate the machine before it is officially powered on.
- ✓ do not turn on the internal parts of the electric cabinet or touch screen while the power is on.
- ✓ this machine should be used after receiving training or under special instruction to ensure the safety of the user.

4、 key function description

4.1.Function description of the button



- (1): Headlight source switch -- after turning on, the headlight source is turned on.
- (2): Power switch -- rotate the power switch to ON by -90° to energize and ventilate the equipment.
- (3): Pedal--- After the Yellow pedal on the left side is stepped down, the placed pockets are checked; When the blue pedal on the right side is depressed, the air suction is turned on.
- (4): Sewing switch: after pressing both sides at the same time, the equipment will start

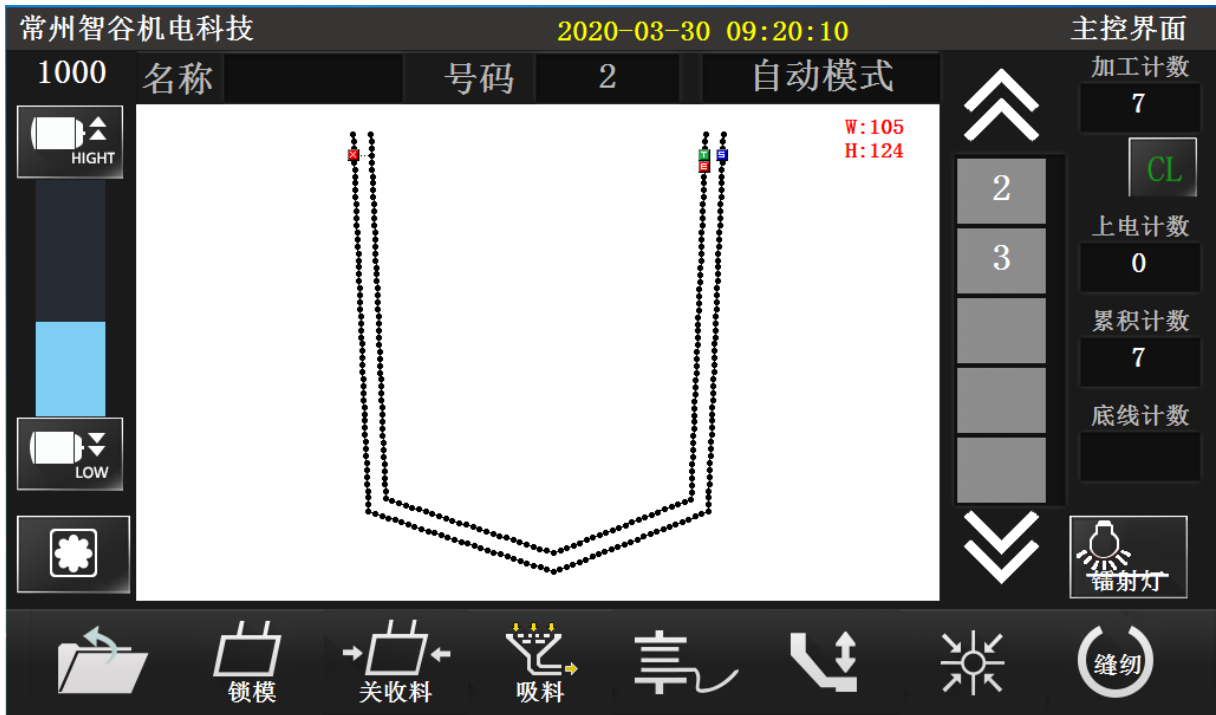
sewing.

(5): Emergency stop button of folding group --- press the button to stop the folding group.

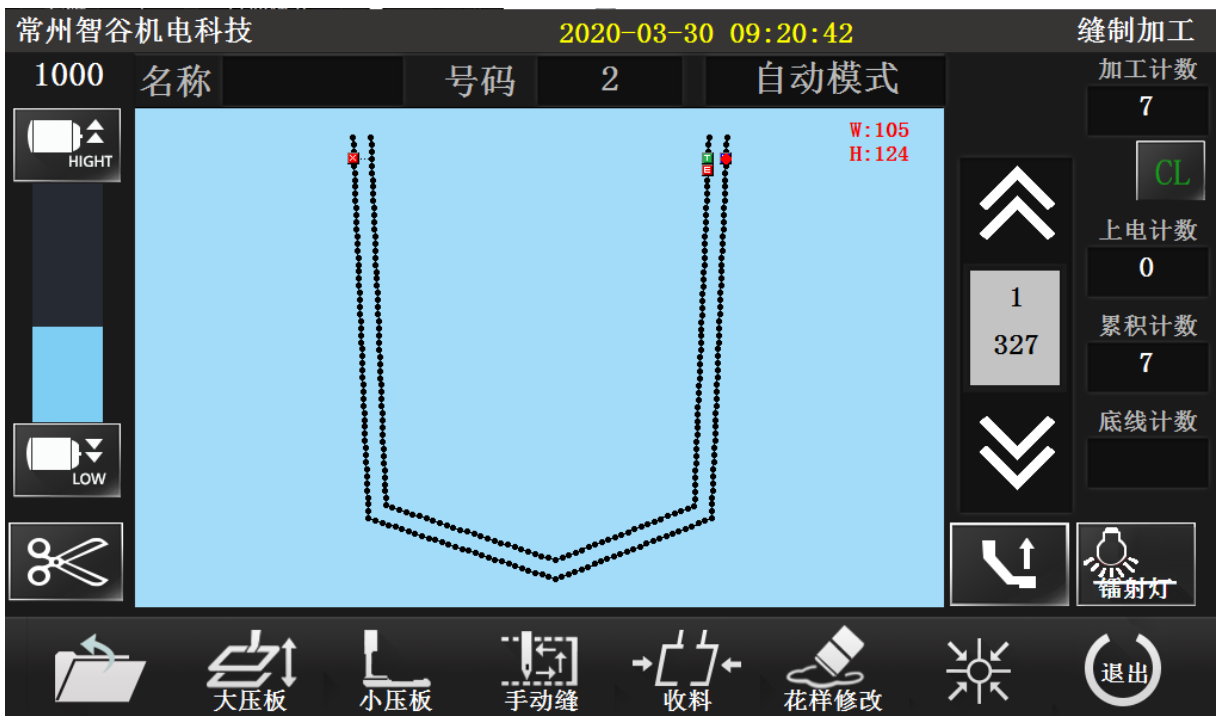
(6): Sewing emergency stop button - press to stop sewing.

(7): Touch screen---See 《MB1002D interface description》

a: Main interface





b: Sewing interface



4.2.Reset operation instructions



4.2.1 Boot reset operation


Steps	Instructions	The key way to
1	Boot	4.1 (2)
2	Reset	4.1 (7) --a 
3	Switch sewing mode	4.1 (7) --a  --b

4.2.2 Emergency stop reset operation

Case 1: emergency stop of folding group, steps of reset: turn the emergency stop switch of folding group clockwise to reset, and the fabric is placed again.

Case two: sewing emergency stop, reset steps: emergency stop switch clockwise rotation reset,

(1) continue sewing: (6) --b--  Back to the sewing point, click “  ” continue sewing;

(2) re-sewing: (6) --b-- reset. 

5、 Operating instructions

5.1. Preparation before operation

- ✓ The machine head shall be in the stop state when the operator checks it
- ✓ Check whether the pressing plate sponge is intact
- ✓ Check whether the sewing thread has been put on correctly
- ✓ Check whether the needle has been installed
- ✓ Clean the sundries on the machine table to ensure that there are no sundries hindering the operation of the machine
- ✓ Check the pressure of the air pressure gauge to make it meet the use requirements of the machine
- ✓ Check whether the eye guard has been installed correctly

5.2. Operation process description

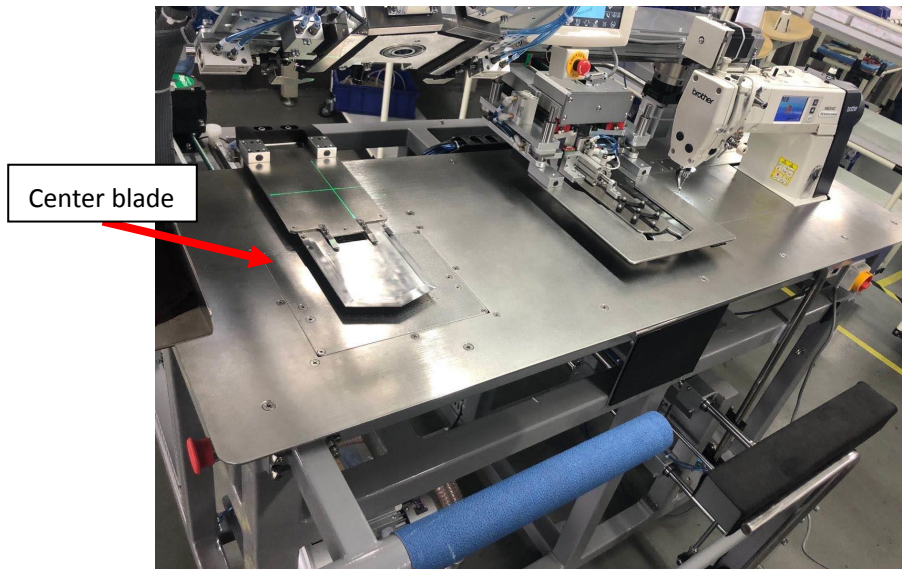
5.2.1 Boot device

Rotate the power switch at 90° to the ON position, and the equipment will be powered ON.



5.2.2 Reset operation

Perform the machine power on reset operation. Please refer to: 4.1. Key function description -- 4.2.1 power on reset operation. The following figure shows the status of the device after the reset.



***NOTICE:**

A: Pedal mode

If the center blade is retracted, the machine is in pedal mode. At this time, step on the pedal continuously, extend the center blade, and open the air suction

B: Automatic mode

If the center blade is extended, suction is on. The machine is in automatic mode

5.2.3 Fabric placement

Align accurately according to the laser spotlight, and place the back parts as shown in the figure below.

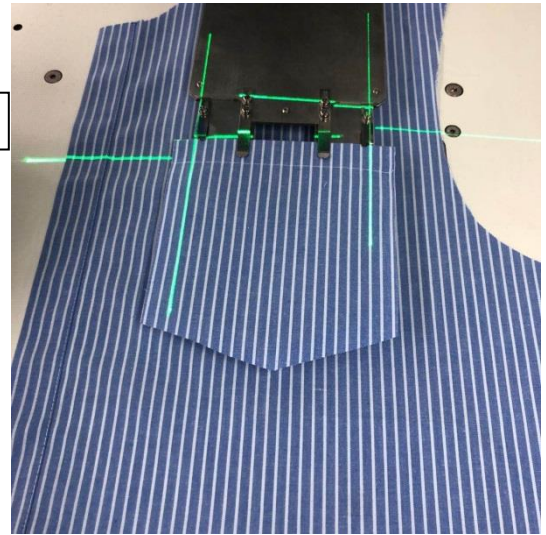
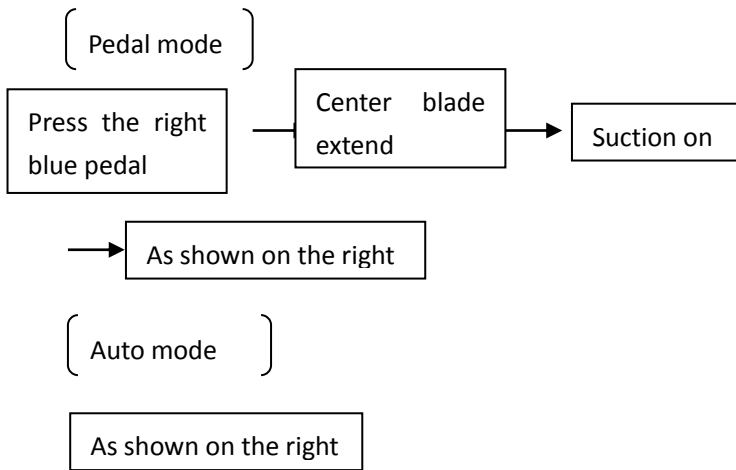


Pedal mode



Automatic mode

5.2.4 Pocket placement



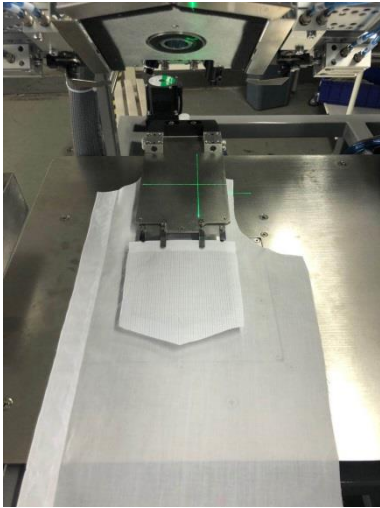
***When placing the pocket, check the strip if necessary: press the Yellow pedal on the left side, the pocket template will descend to the table top, and check the strip, as shown in the following figure:**



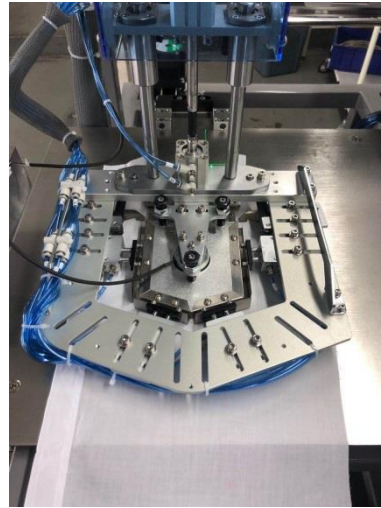
5.2.5 Automatic folding and sewing

1. Press the 4.1 (4) sewing switch, and the folding group will press down the automatic folding; see figure (a)
2. The folding is completed, as shown in figure (b) below. The center blade is pressed down together with the folding group, and the folding group is restored to its original position. After the cloth feeding plate is moved to the left over the center blade, it is pressed down to press the pocket, and the center blade is withdrawn backward, and the cloth feeding plate is moved to the right to start sewing, as shown in figure (c) below.
3. After sewing, the material will be automatically received, as shown in figure (d), and the cloth feeding plate will return to the original point.

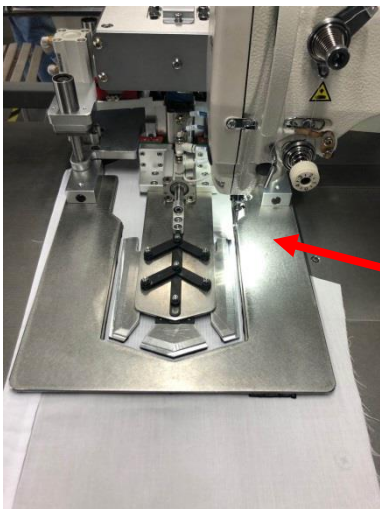
***Move the cloth feeding plate to the right of the sewing area, and continue to place the fabric on the left side, and operate in turn.**



a



b

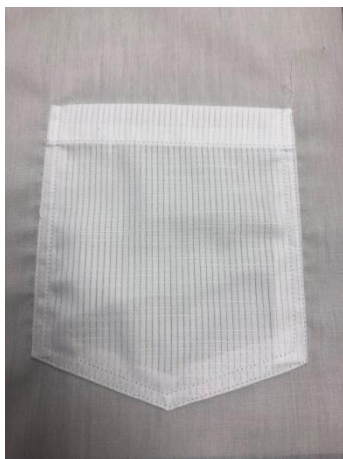


c

Feeding
plate



d



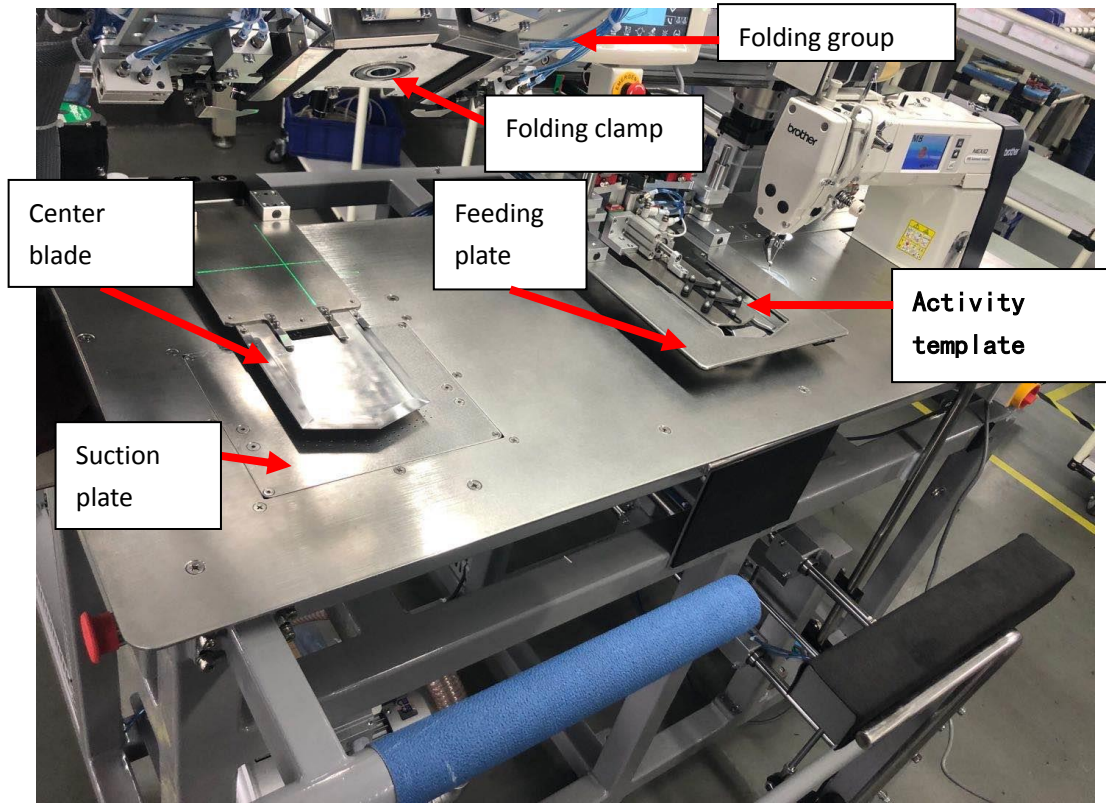
Sewing sample

5.2.6 Shutdown

After operation, turn the power switch 90 ° to the off position, and the equipment will be shut down.

6、 Debugging method

6.1 Jig position




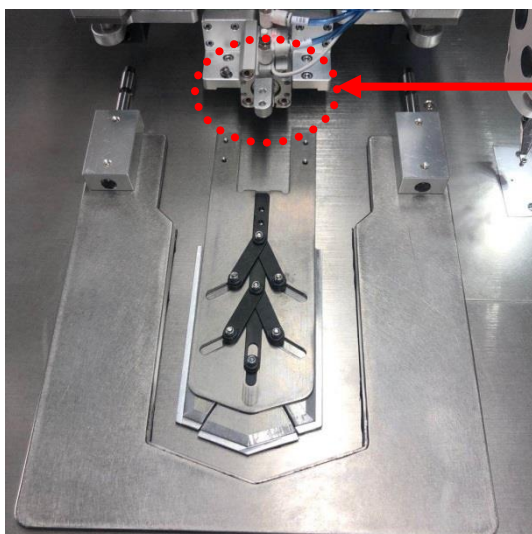
6.2 Jig changing procedure

6.2.1 Dismantling jig

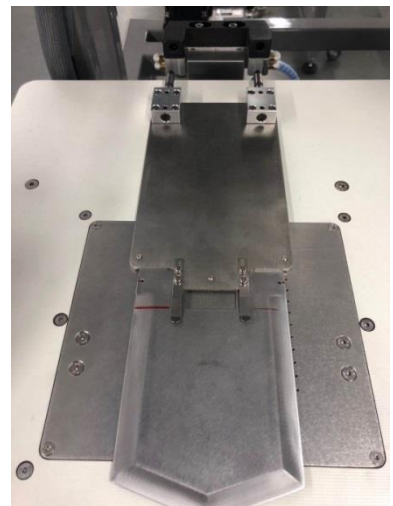
Disassembly and assembly of the mould shall be carried out as follows::

Disassembly and assembly of cloth feeding plate and center blade: Touch screen 4.1

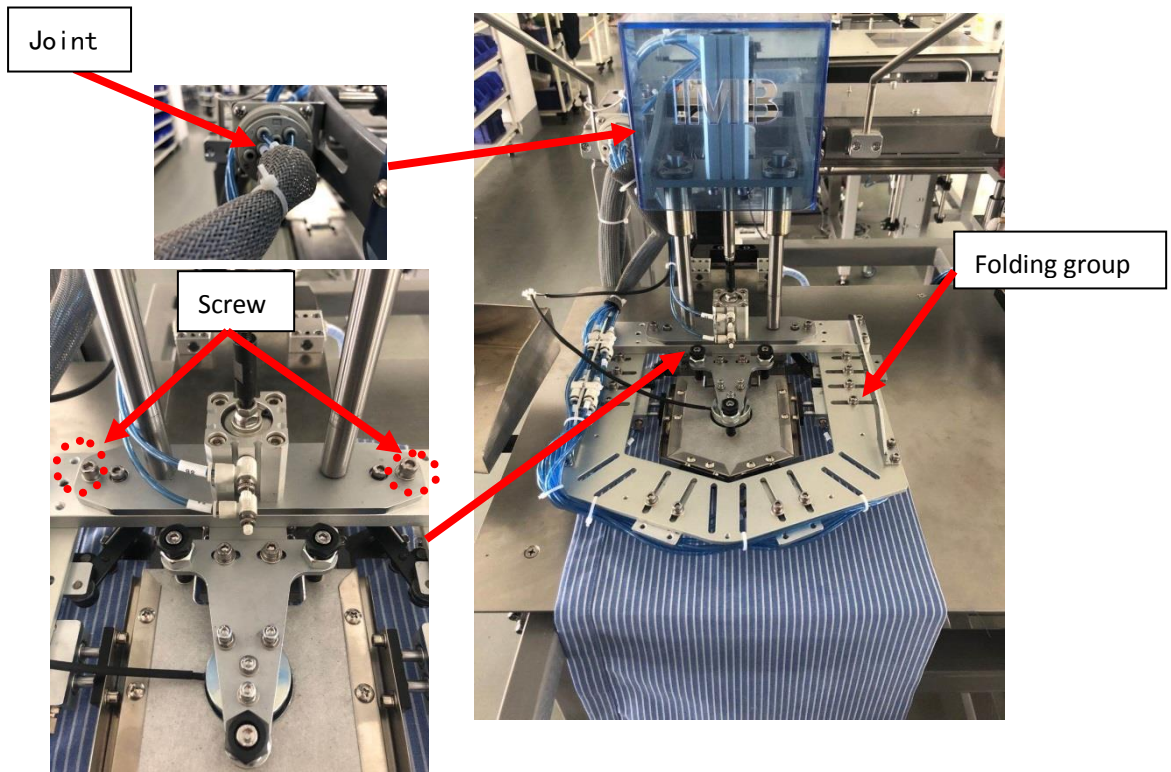
(7) a “”, Unlock the mould cylinder, and directly remove the cloth feeding plate and center blade as shown in the figure below:



screw

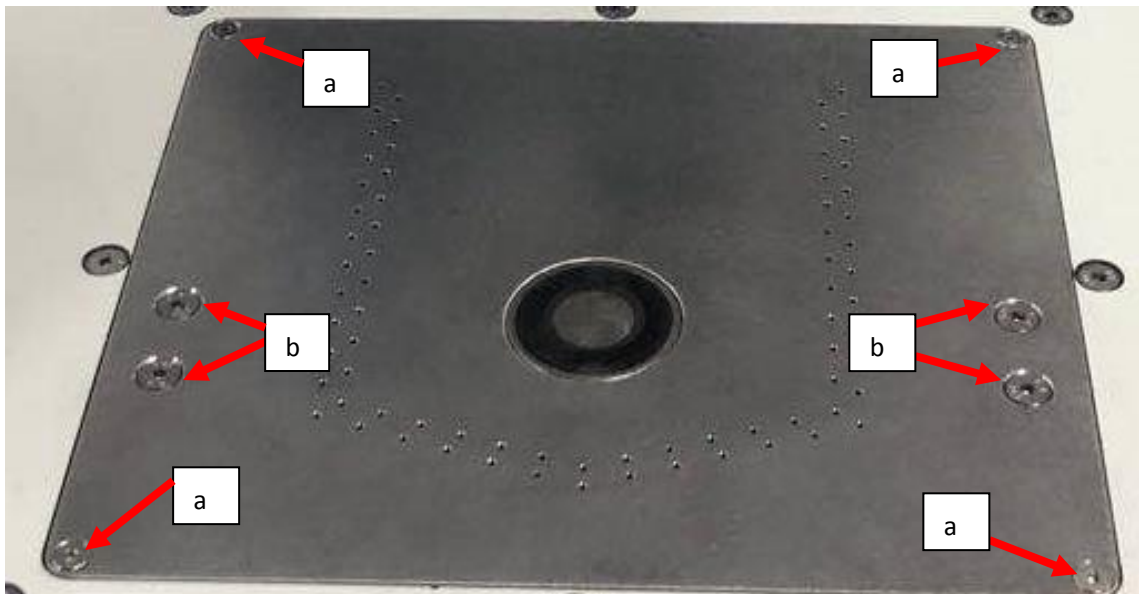


1. Disassembly and assembly of folding group: First, turn off the 4.1 (2) power switch, and the equipment will enter the shutdown state, as shown in the following figure



At this time, the whole folding group can be removed by removing the screw and the joint.

2. Remove the air suction cover plate: remove the screws a and B in the figure below, and then remove the air suction cover plate.



a: 4-M4*8

b: 4-M5*8

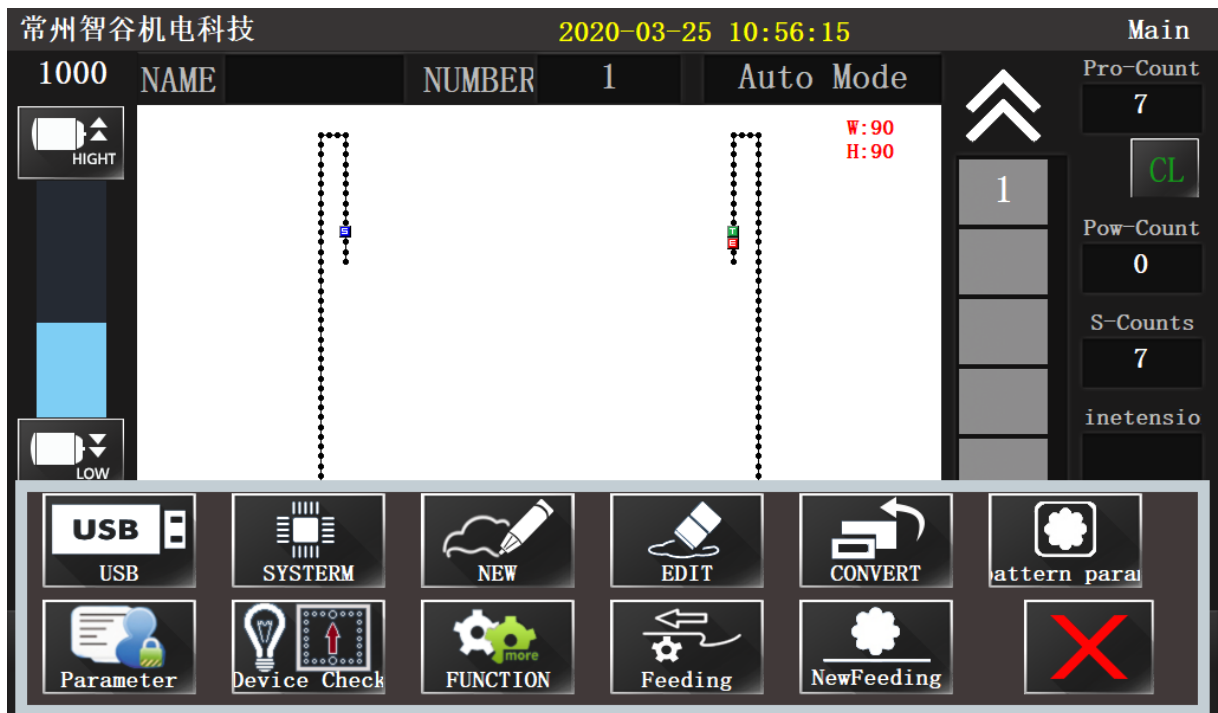
****Pay attention to the order of mold removal: 1. Remove the center blade and cloth feeding plate – 2. Remove the folding group – 3. Remove the air suction cover plate. The installation sequence is the reverse of the removal sequence**


6.2.2 Equipment debugging and parameter setting

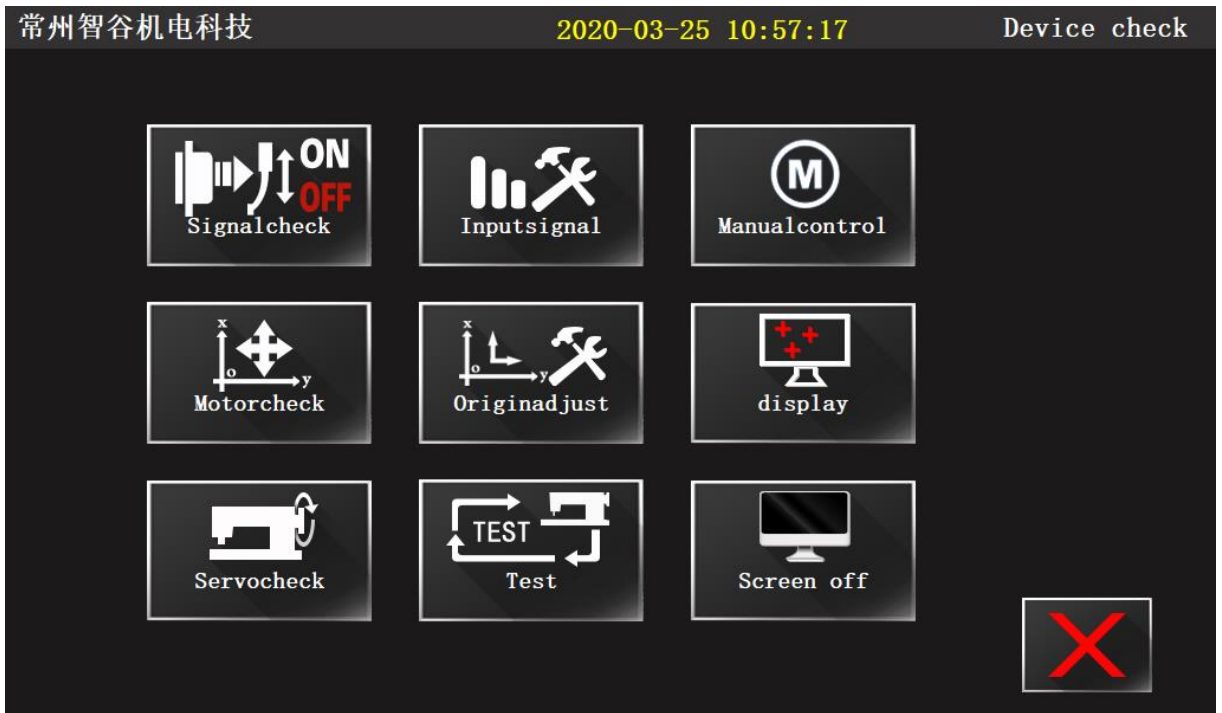
Equipment debugging shall be carried out as follows


6.2.2.1 Horizontal debugging of cloth feeding board

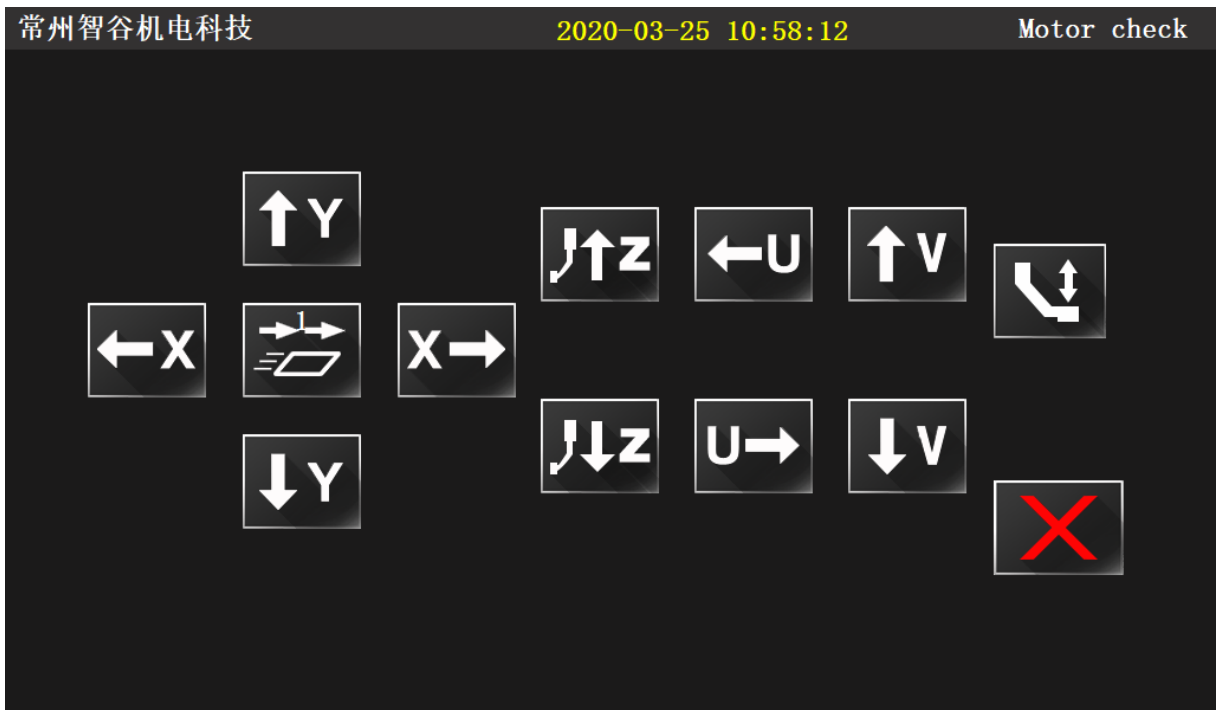
Press 4.1 (7) a  ” Enter the following interface::



Click  ”, Enter the equipment detection interface, as shown below:



Click “” Enter the step motor detection interface, as shown in the following figure;

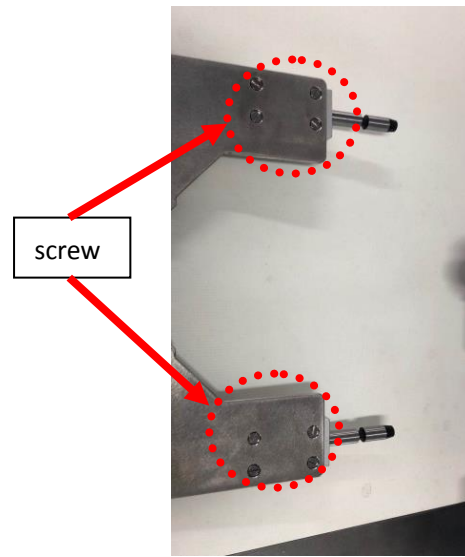


Press “” Move the position of the cloth feeding plate as shown in Figure A. confirm

the horizontal and vertical position of the cloth feeding plate by taking the needle as the reference. If the position of the cloth feeding plate cannot meet the requirements of the equipment, adjust the position of the cloth feeding plate by the screw in Figure B.




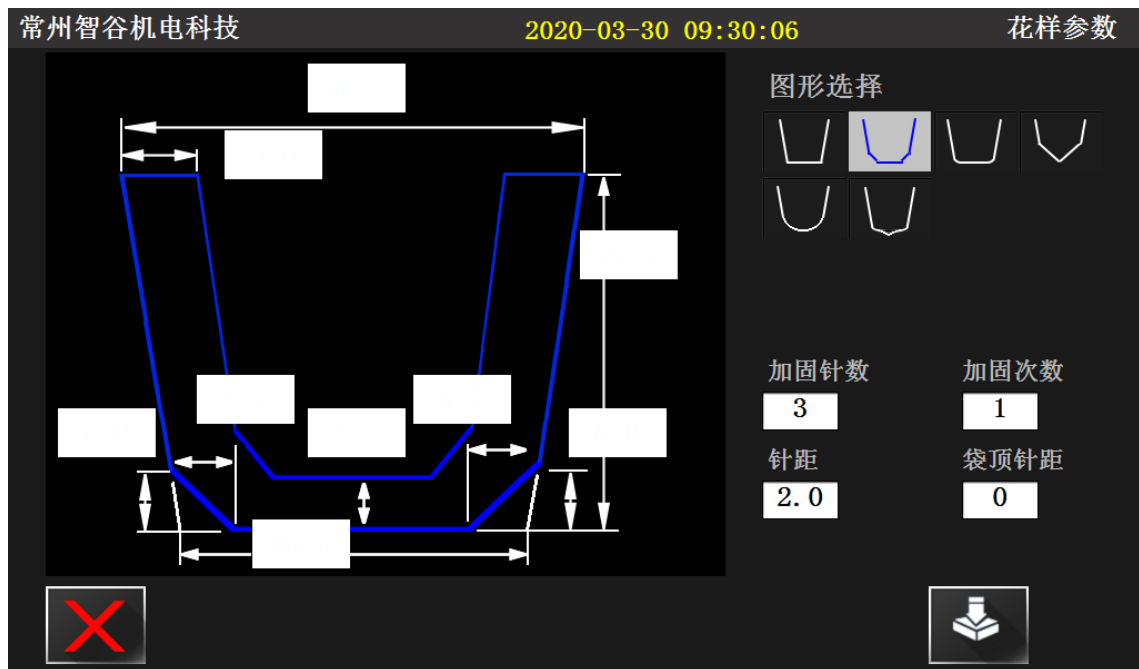
a



b

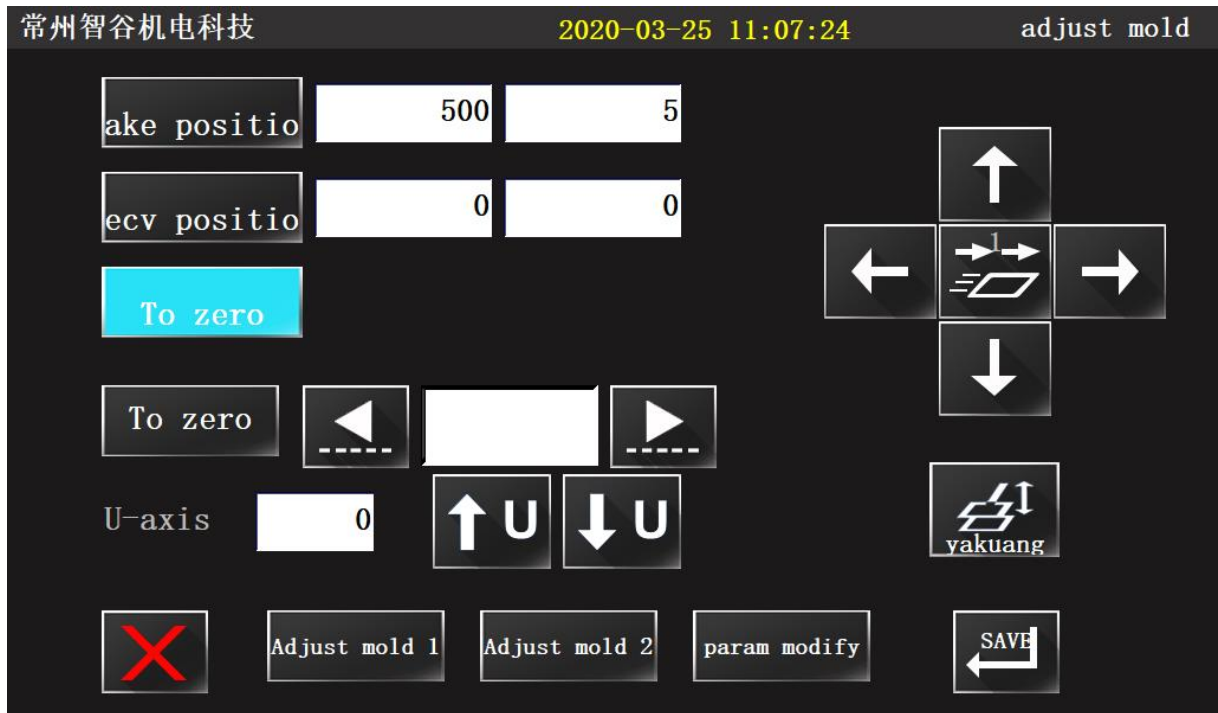
6.2.2.2 Parameter setting


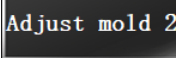
Press 4.1 (7) --Main interface a--  --  go to the following interface and  input the required size, press “” to save





6.2.2.3 Adjust mold 1 or 2

Touch screen 4.1 (7) --Main interface a--  to the following interface:



Press “” or “”, Move the cloth feeding plate to the position

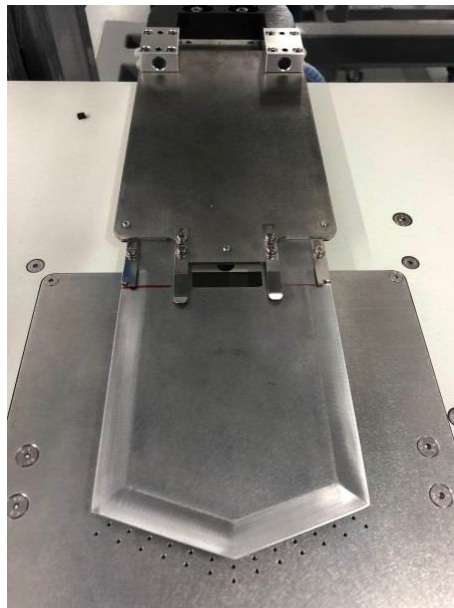
shown below, Move the cloth feeding plate through “” to confirm the position matching

between the cloth feeding plate and the needle, and click after matching “”。



6.2.2.4 Picking position debugging

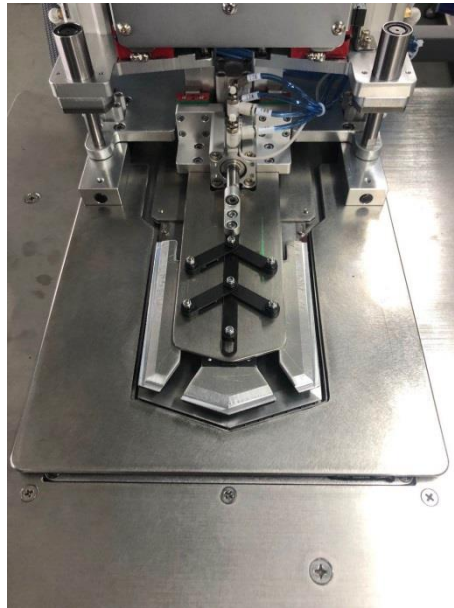
Click “ake positio” , a Press “”、“” Adjust the front and rear positions (U-axis position) of the center blade to match the center blade with the air suction cover plate, as shown in the following figure:



B Press “” Adjust the position of the cloth feeding plate, move it to the top of the center blade as shown in the figure below, and start to align the center blade, so that

the cloth feeding plate is consistent with the center blade, Press “” , Press the

cloth feeding plate down, and then confirm whether the cloth feeding plate is consistent with the center blade, Click “**To zero**” after debugging, Return the cloth feeding plate and center blade to the position.

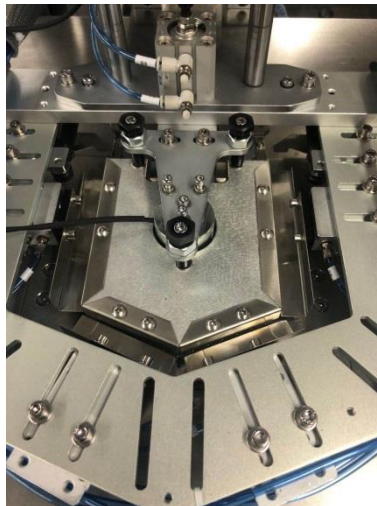


6.2.2.5 Folding group debugging

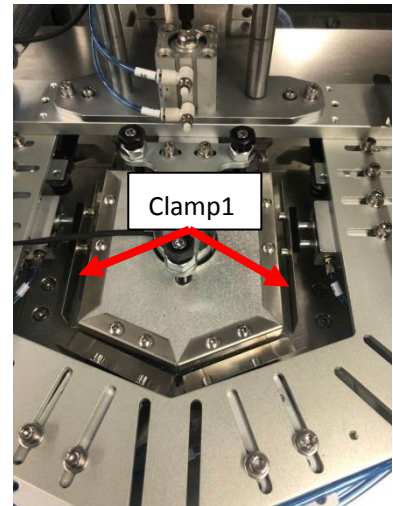
Press “**To zero**”, then press “”, “” Adjust the equipment steps, check the position of the formwork and the folding effect



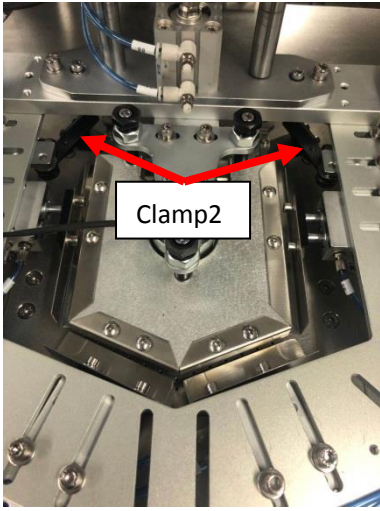
1 Step



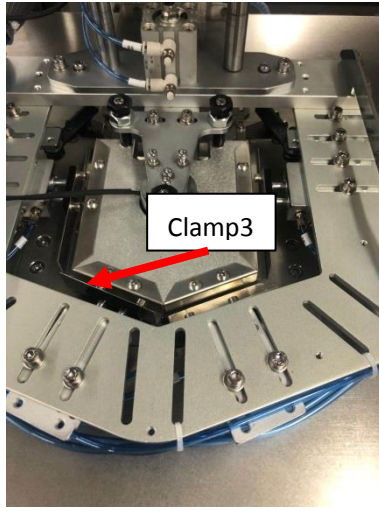
2 Step



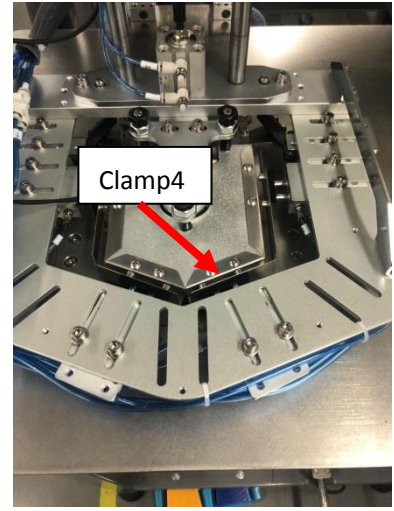
3 Step



4 Step



5 Step



6 Step



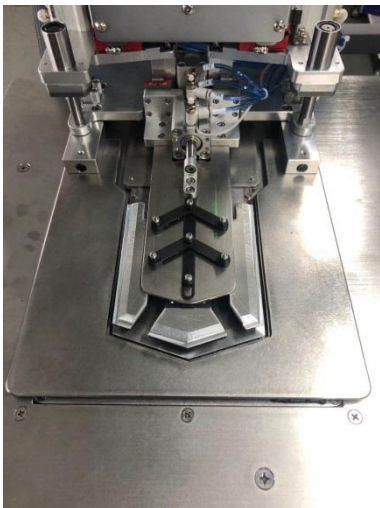
7 Step



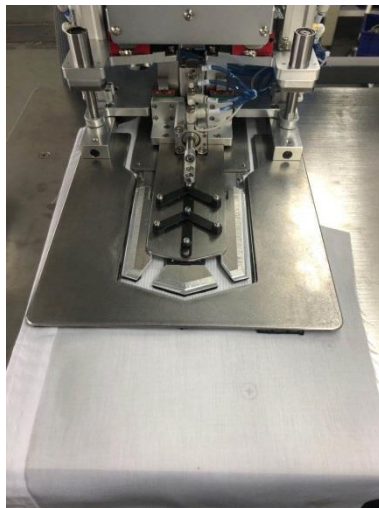
8 Step



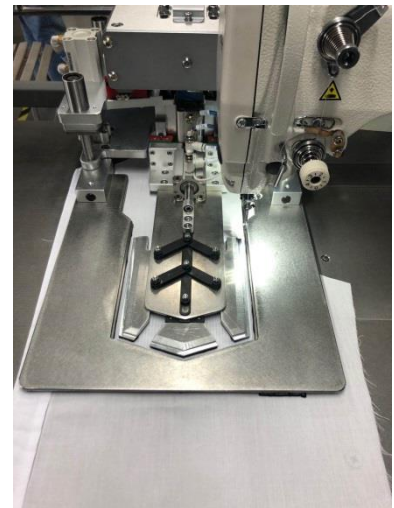
9 Step



10Step



11 Step

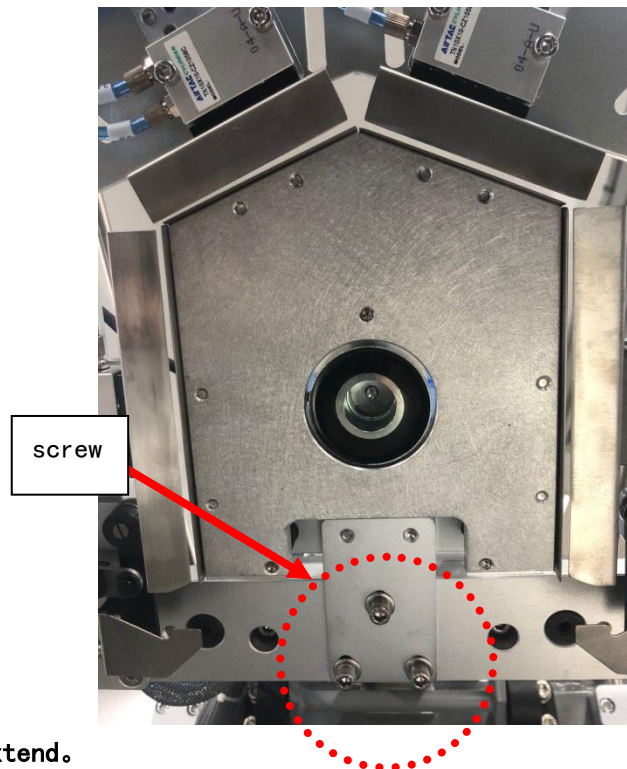


12 Step

1step: Center blade extend. (Press “”, “” to make fine adjustments)

2step: Press down the folding group, and adjust the position of the folding group through the adjusting screw of the folding group in the figure below, so that the folding group

matches the center blade.



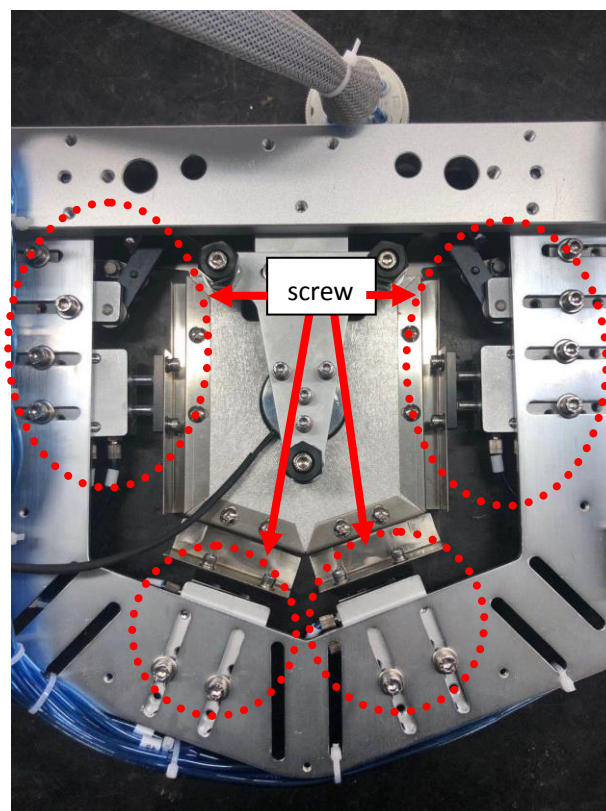
3step: Clamp 1 extend.

4step: Clamp 2 extend.

5step: Clamp 3 extend.


6step: Clamp 4 extend.

*3~6step: The folding position can be adjusted by the screw in the figure below to make the folded pocket meet the requirements.





7step: Press down the folding group and center blade to the table top.

8step: The clamp of the folding group is restored to its original position, and the folding group is lifted to its original position.

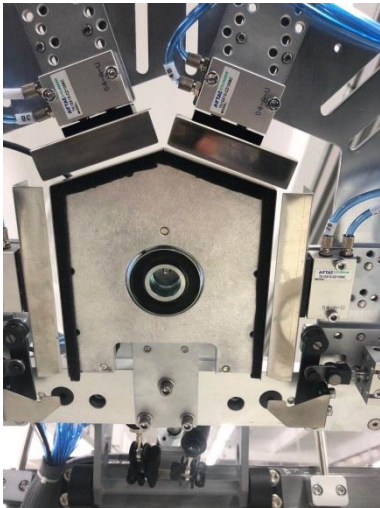
9step: Move the cloth feeding plate to the left over the center blade (press “” to make fine adjustments).

10step: Cloth feeding plate press down.

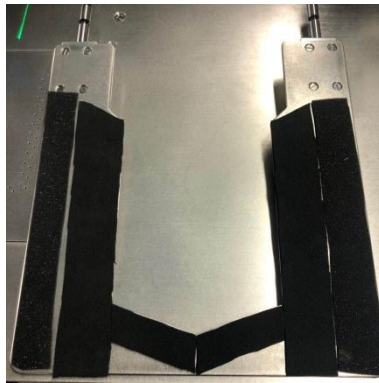
11step: The center blade is withdrawn from the origin, and the cloth feeding plate is moved to the right. .

12step: Long press or tap “”、“”, Or press the sewing switch to start the test sewing. .

***During the first commissioning, sponge shall be pasted on the pocket folding mold and cloth feeding board, as shown in the following figure (a, b). After the first sewing, sponge channel shall be widened along the sewing route, as shown in Figure C.**



a



b

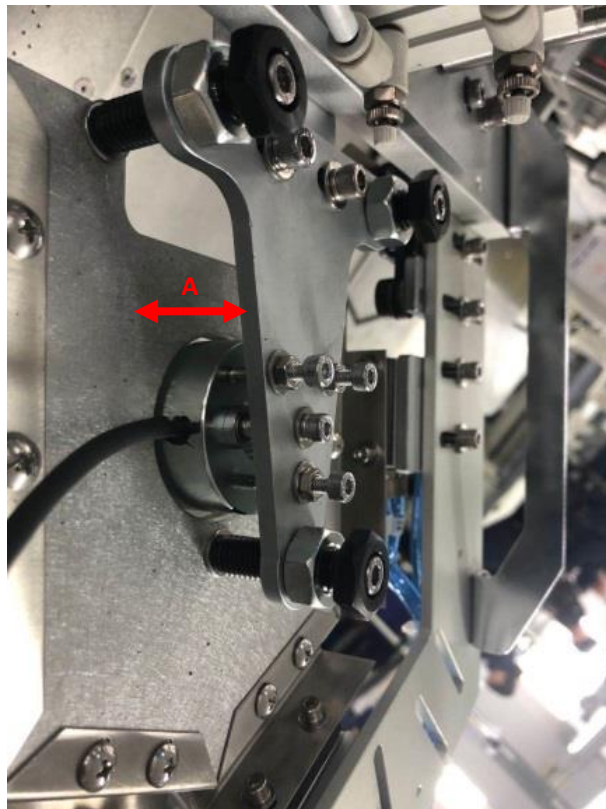


c

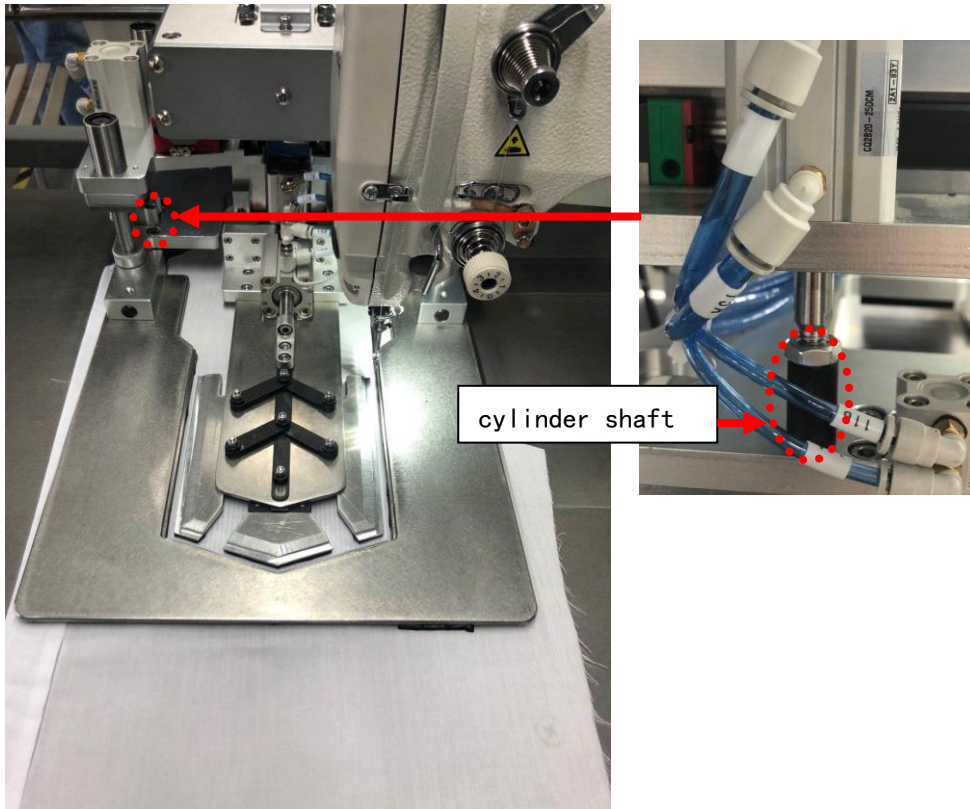
***The electromagnet needs to protrude 1 ~ 3mm from the pocket folding die, as shown in the figure below:**



**** The distance a between the electromagnetic hanging plate and the pocket folding die shall be 18 ~ 20mm, as shown in the figure below:**



***When adjusting the height of the cloth feeding plate, the cylinder shaft can be lifted through the following figure, and the upper and lower adjustment range is 2mm:**



7、Electrical wiring

7.1. Signal board:

MB1002B	PORT	NORM	CABLE NO	TO ZERO	REMARK
X Origin	IN1	1X3	1X3		
Y Origin	IN2	1X3	1X3		
Z Origin	IN3	1X3	1X3		
U Origin	IN4	1X3	1X3		
Folding down	IN5	1X3	1x2		
Spare	IN6	1X3	1X3		
Y2 Limit	IN7	1X3	1X3		
Pedal	IN8	1X3	1X3		
Spare	IN9	1X3	1X3		
Folding up	IN10	1X3	1x2		
Flip down	IN11	1X3	1x2		
Pressing clamp up	IN12	1X3	1x3		
(Break detection)24V	IN13	1X3	1x3		

Center blade 1	IN14	1X3	1x2		
Pressing clamp down	IN15	1X3	1X3		
Pressure detector	IN16	1X3	1x2		
Pedal 2	IN17	1X3	1x2		
Manual sewing	IN18	1X3	1x2		
Cycle sewing	IN19	1X3	1x2		
Spare	IN20	1X3	1x2		
Sewing stop	IN21	1X3	1x2		
Folding stop	IN22	1X3	1x2		
Spare	IN23	1X3	1x2		
Spare	IN24	1X3	1x2		
Spare	IN25	1X3	1x2		
Spare	IN26	1X3	1x2		
Spare	IN27	1X3	1x2		
Spare	IN28	1X3	1x2		
X axis alarm	Board	JK2	1X3		2 Public ground, direct docking
Y axis alarm	Board	JK2	1x2		
Break detection 5V	Board	J6/4	1x2		3 -5V 1 +5V 2 NONE
Spare	Board	J6/5	1x2		
Spare	Board	J6/6	1x2		

7.2 Expansion board electromagnetic valve

MB1002B	PORT NO		TO ZERO SWITCH	REMARK(METER)
Stacker 2	J1	Solenoid	OFF	76
Center blade 2	J2	Solenoid	OFF	52
Center blade	J3	Solenoid	OFF	53
Folding 1	J4	Solenoid	OFF	54
Folding 2	J5	Solenoid	OFF	55
Folding 3	J6	Solenoid	OFF	56
Thread clamp	J7	Solenoid	OFF	51
Outer clamp	J8	Solenoid	ON	72
Out89	J9	Solenoid	OFF	89
Out90	J10	Solenoid	OFF	90
Stacker 3	J11	Solenoid	OFF	61
Out91	J12	Solenoid	OFF	91
Stacker 1	J13	Solenoid	OFF	60

Suction	J14	Solenoid	OFF	62
Folding group 1	J15	Solenoid	OFF	65
Folding group 2	J16	Solenoid	OFF	59
Folding 4	J17	Solenoid		57
Suction2	J18	Solenoid		67
Mould	J19	Solenoid		92
Suction motor	J20	Solenoid		68
Clamping die	J21	Solenoid		69
Outer clamp 2	J22	Solenoid		70
Thread wiper	J23	Solenoid		78
Out83	J24	Solenoid		83
Folding group 3	J25	Solenoid		63
Folding group 4	J26	Solenoid		64
Secondary folding	J27	Solenoid		66
Out93	J28	Solenoid		93
Out94	J29	Solenoid		94
Out84	J30	Solenoid		84
Out85	J31	Solenoid		85
Out86	J32	Solenoid		86
Out79	J33	Solenoid		79
Out95	J34	Solenoid		95
Out96	J35	Solenoid		96
Out97	J36	Solenoid		97
Out87	J37	Solenoid		87
Out88	J38	Solenoid		88
Laser 1	J51	5V		81
Laser 2	J52	5V		82
Laser 3	J53	5V		98
Laser 4	J54	5V		99
Inner clamp	JC1	electromagnet		58
Presser foot	JC2	electromagnet		77
Trimmer	JC3	electromagnet		73
Inner clamp 1	JC4	electromagnet		74
Upper suction	JC5	electromagnet		71
Lower suction	JC6	electromagnet		75

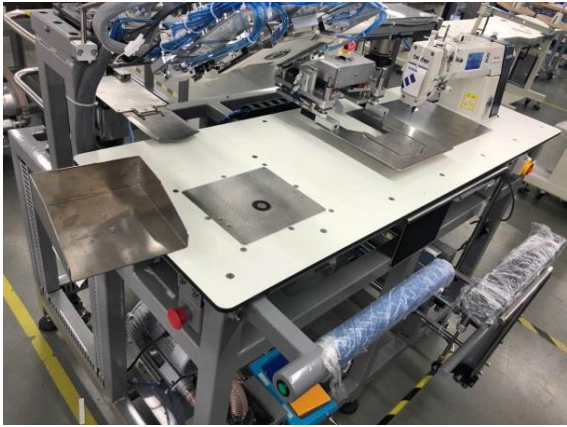
8、 Optional device

1、 There are two types of table to choose:

a Compact laminate table is suitable for small area of environmental humidity

b Stainless steel table is suitable for areas with high environmental humidity

See 《MB1002D Parts Manual》



Compact laminate table



Stainless steel table

2、 Table extension mechanism, suitable for large pieces of clothing, See 《MB1002D Parts Manual》



9、 Accessories box details

NO	ITEM		QTY
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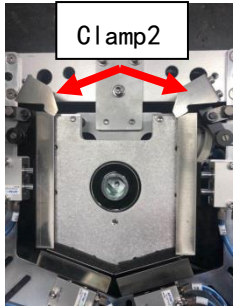
1	《Instruction manual》		1
2	《Parts Manual》		1
3	《Touch screen interface operation instructions》		1
4	Thread stand		1
5	Bushing		1
6	Bobbin		1
7	Sponge mats		
8	Non-slip leather		
9	Wrench		1
10	Slotted screwdriver		1

10、 Common problems and Solutions

10.1. See the table below for common problems and Solutions

10.2. More questions, See 《MB1002B Touch screen interface operation instructions》

Fault phenomenon	Image	Cause Analysis	Solutions
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Thread break / jumper	/	1: Needle roughness; 2: The hook distance is too large or too small;	1. Replace the needle; 2. Adjust the correct hook line distance ;
Poor edge		1: Pattern issue; 2 : The picking position is incorrect; 3: Fabric is not compacted.	1. Modified pattern; 2. Adjust the picking position; 3. Adjust the feeding plate pressure.
Fabric wrinkle		1: Feeding plate pressure is too low; 2: Needle or needle plate size is incorrect; 3: Stitches are too tight;	1. Adjust the appropriate pressure of the feed plate; 2. Replace the needle and needle plate with the appropriate size; 3. Adjust stitch;
Poor conner		Clamp 2 location is inaccurate	Adjust clamp2 

11、 Daily maintenance requirements

11.1. See the following table for the list and requirements of equipment maintenance

11.2. Please refer to brother 1-s7300a-303p for other maintenance requirements

NO	Project	Frequency				Requirement
		Daily	Weekly	Monthly	Half year	
1	Clean up the dust	√				Remove dust from equipment surface and parts
2	Cleaning up oil pollution		√			Clean the greasy dirt on the table , needle plate and bobbin
3	Fan filter		√			Clean the fan filter dust
4	Clamp sponge		√			Check whether the sponge is worn and deformed and needs to be replaced if damaged
5	Folding group			√		Keep level and check screw tightening
6	Center blade			√		Keep level and check screw tightening
7	Cloth feeding board			√		Keep level and check screw tightening
8	Air tube interface			√		The air tube interface is tight without air leakage
9	Oil			√		Oil volume not lower than warning line
10	Bobbin			√		Check if the bobbin is scratched
11	Sensor				√	Check if the sensitivity is accurate and if the position changes
12	Slider				√	Check slide lubrication and add lubricant if necessary
13	Electric control box				√	Cooling fan runs normally, clean up the dust in time

12、 Knowledge product protection statement

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