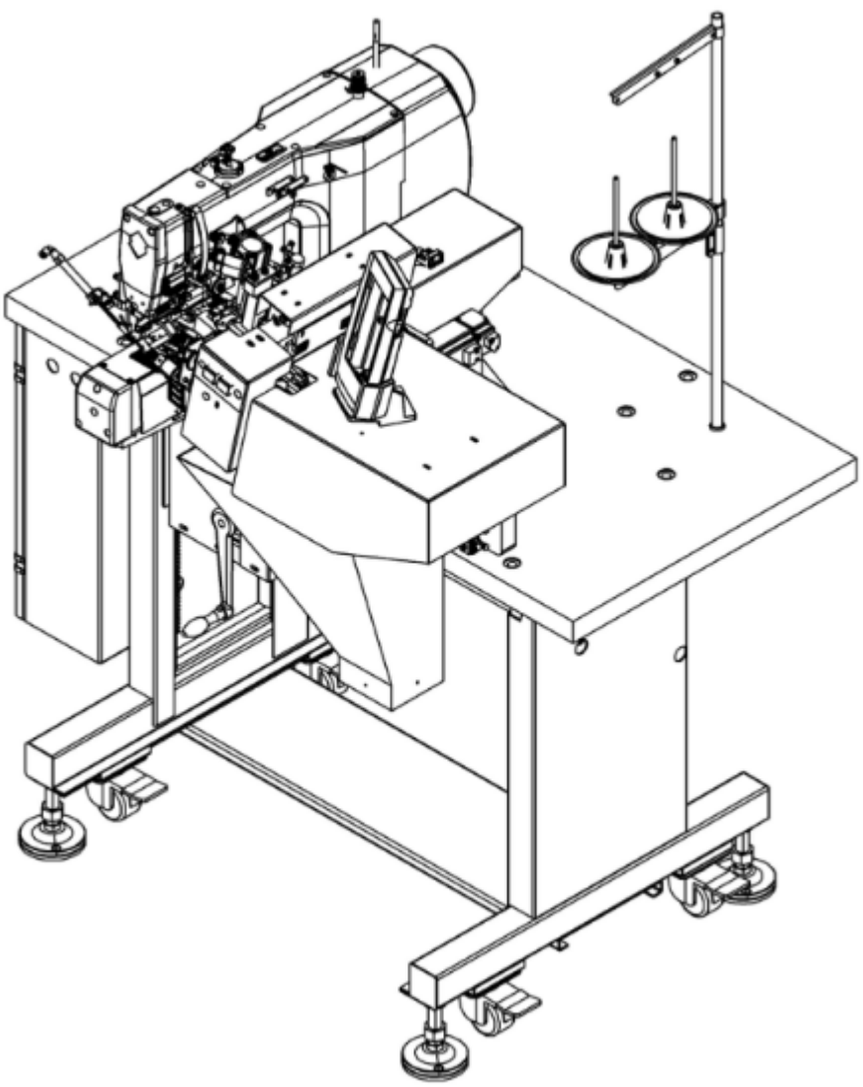
双针自动钉襻机

Automatic double needle belt loop attaching machine

NS-254GT-H

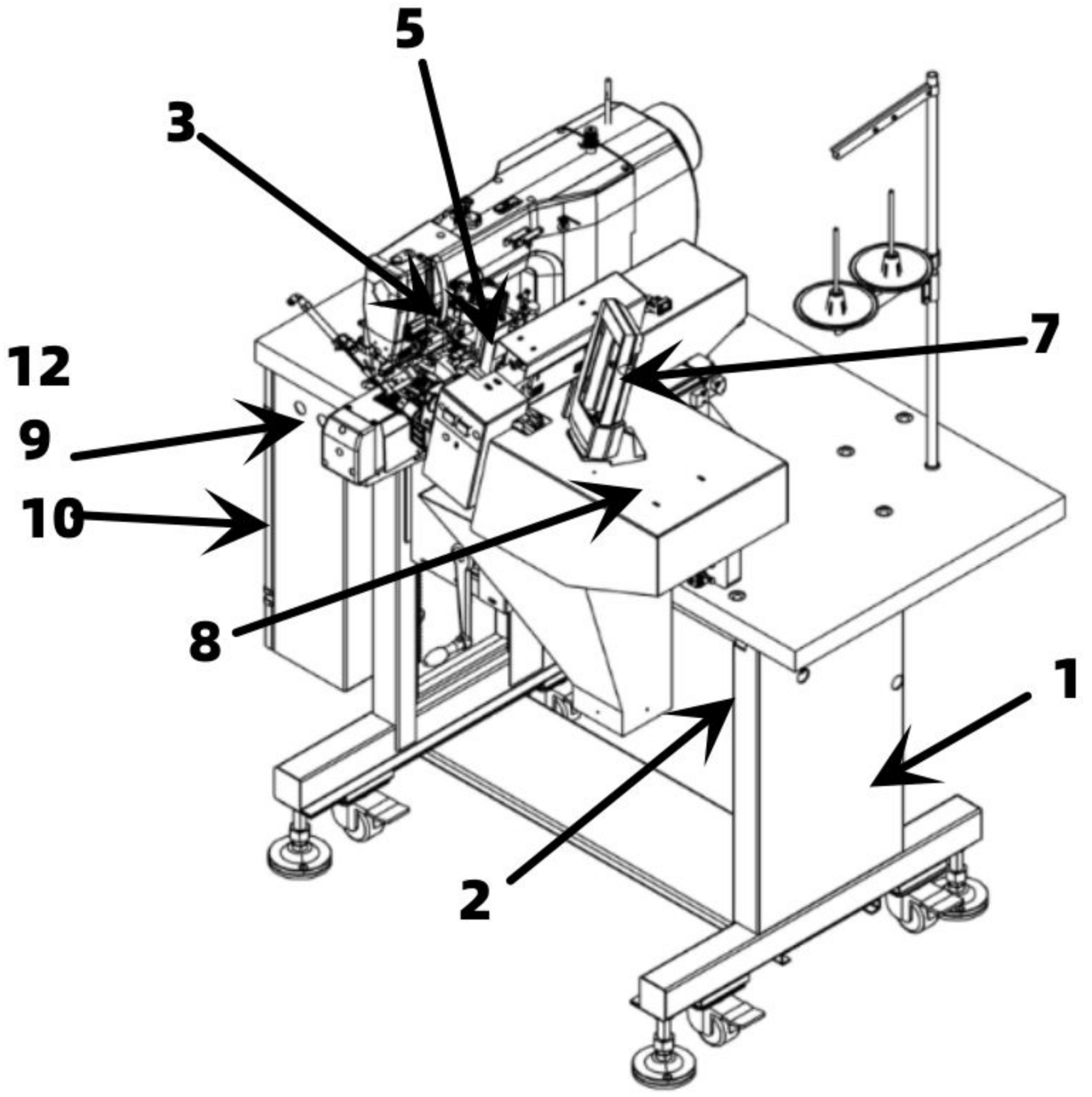


为了安全地使用，请您在使用之前一定阅读本使用说明书。

另外，请您注意保管本使用说明书，以便随时查阅。

Catalog

1、 Basic information of equipment



1: Lifting rack 2: air source processor 3: head 4: head lighting 5: Trouser loop supply device

6: Emergency stop button 7: touch screen 8: bobbin assembly 9: power switch 10: electric control box

11: Loop pre delivery device 12: start switch.

2. Technical parameters of equipment

1	Maximum speed	2500rpm (sewing space less than 3.4mm)
2	Spinning shuttle	Filling the oil core of the vertical semi rotary shuttle
3	Shuttle core	Filling the oil core of the vertical semi rotary shuttle
4	Take-up rod	Loop take-up bar
5	Machine needle	DPx17
6	Line specification range	Cotton yarn 30-50 spinning yarn 30-50
7	Pin number	28Pin, 36 pin, 42 pin optional
8	Needle bar stroke	45.7mm
9	Width of reinforcement joint	1.0mm ~ 3.0mm (ex factory 2.5mm)
10	Length of reinforcement joint	7.0mm ~ 22.0mm (ex factory 10.0mm)
11	Shear line mode	Cutter type (front needle plate cylinder thread cutting; rear needle plate electromagnet thread cutting)
12	Presser foot rise	21mm (from the plane of needle plate to the underside of presser foot)
13	Delivery mode	Intermittent feeding (pulse motor driving mode)
14	Driving mode of sewing machine	Servomotor
15	Pressing line driving mode	Cylinder driven
16	Presser foot drive mode	Cylinder driven
17	Clamping drive mode	Cylinder driven
18	Oiling mode of sewing machine	Manual refueling
19	Use oil	Sewing machine oil
20	Needle core distance adjustment mode	Manual adjustment mode of needle part; driving mode of rotary shuttle pulse motor (0.01mm)
21	Reinforced loop length	45.0mm to 70.0mm

22	Trouser loop width	9.0mm to 20.0mm
23	Cut way of trouser loop	Selection of cross cutting and flat cutting (range: 9.0mm ~ 20.0mm)
24	Check the trouser loop joint	Detection mode of positioning automatic joint
25	Machine height	Manual regulator to adjust (920mm ~ 1250mm) (920mm ~ 1250mm)
26	weight	230kg
27	air pressure	0.5MPa
28	Power Supply	AC220 50Hz
29	Outline size	1200mmX800mmX1350mm

3、 Safety precautions

Precautions for safe use of automata

 危险	1. In order to prevent accidents caused by electric shock, please do not open the cover of the motor electrical box or touch the parts in the electrical box when the power is turned on.
 注意	1. In order to prevent personal injury, please do not operate the machine with the belt guard, finger protector and other safety devices removed. 2. In order to prevent personal accidents involving the machine, please keep fingers, hair and clothes away from the belt pulley, V-belt and motor, and do not put objects on it during the operation of the sewing machine. 3. In order to prevent personal injury, please do not put your finger near the needle when turning on the power or when the sewing machine is running. 4. In order to prevent personal injury, please do not put your fingers in the cover of the take up bar during the operation of the sewing machine. 5. When the sewing machine is running, it turns at high speed. In order to prevent injury to your hands, please never let your hands near the cloth cutter during operation. In addition, please turn off the power supply when changing the cable. 6. In order to prevent personal injury, please take care not to pinch your fingers when the sewing machine moves up and down or returns to its original position. 7. Please do not cut off the power supply or air supply during the operation of the sewing machine. 8. In order to prevent accidents caused by sudden start-up, when the preparatory work is finished and the sewing can be carried out, please remove the cloth guide. 9. In order to prevent accidents caused by electric shock, please do not operate the sewing machine when the power ground wire is removed. 10. In order to prevent accidents caused by electric shock and damage of electrical parts, please turn off the power switch before plugging in and out the power plug. 11. In order to prevent the accident caused by the damage of electrical parts, please stop the operation and unplug the power plug for safety. 12. In order to prevent accidents caused by damage to electrical parts, condensation will occur when moving from cold places to warm places, etc., so please turn on the power supply after the water drops are completely dry. 13. Since this product is a precision machine, please pay full attention to the operation, do not splash water and oil on the machine, and do not let the machine fall to impact the machine. 14. This machine is a class a industrial machine. If this machine is used in the home environment, the phenomenon of radio interference may occur. At this time, please take appropriate measures to solve the problem of radio interference.

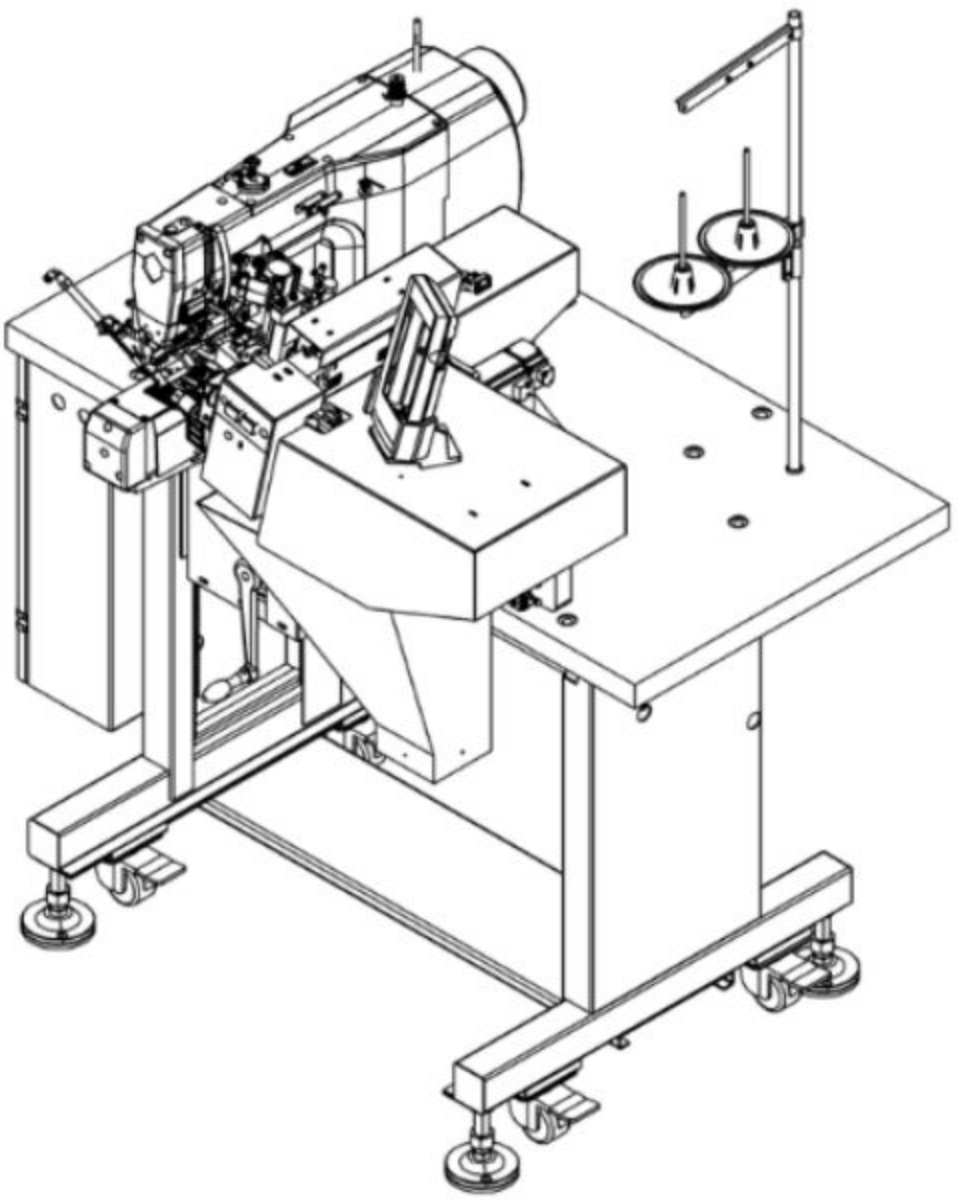
	15. After the power switch is turned off when the stacker acts, the stacker will act, so please be careful not to clamp your fingers, etc. 16. After the power switch is turned off in the cloth presser foot action, the cloth presser foot action, so please pay attention not to pinch fingers, etc. 17. During the folding operation, when placing the finger in the folding machine, please be careful not to let the cylinder clamp the finger.

*Important safety information:

√ improper operation of the machine may cause personal injury. Please read this instruction carefully and operate it correctly before operation.
√ please ventilate the machine before power on.
√ it is strictly prohibited to open the internal parts of the electric control box or touch screen when it is powered on.
√ the machine needs to be used after receiving training or under the guidance of a special person to ensure the personal safety of the user.

4、 Key function description

4.1. Button function description



(1) : power switch: turn the power switch 90 ° to on, and the equipment is powered on and ventilated.

(2) : bobbin winding device switch - used when winding wire to lock cylinder;

Press the start button on the left side to start the device;

Press the stop button on the right side to stop the device.

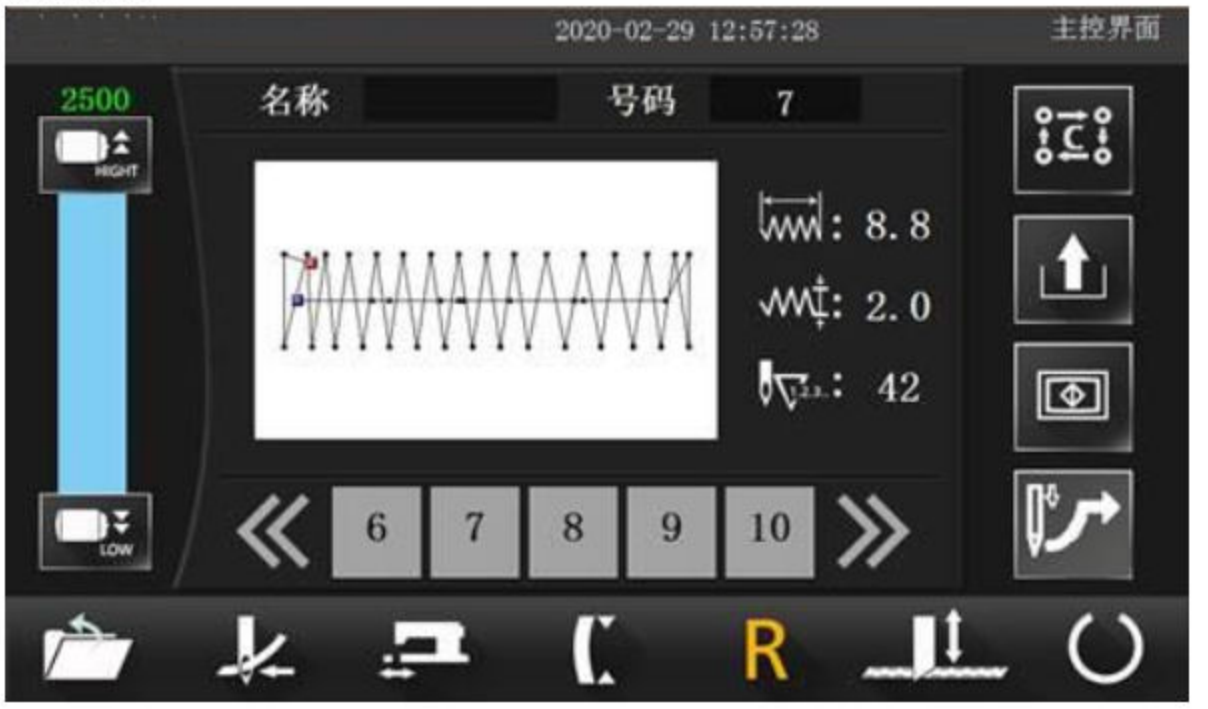
(3) : touch screen —— see mb6004b jeans loop machine interface description for details.

(4) : emergency stop button —— sewing emergency stop.

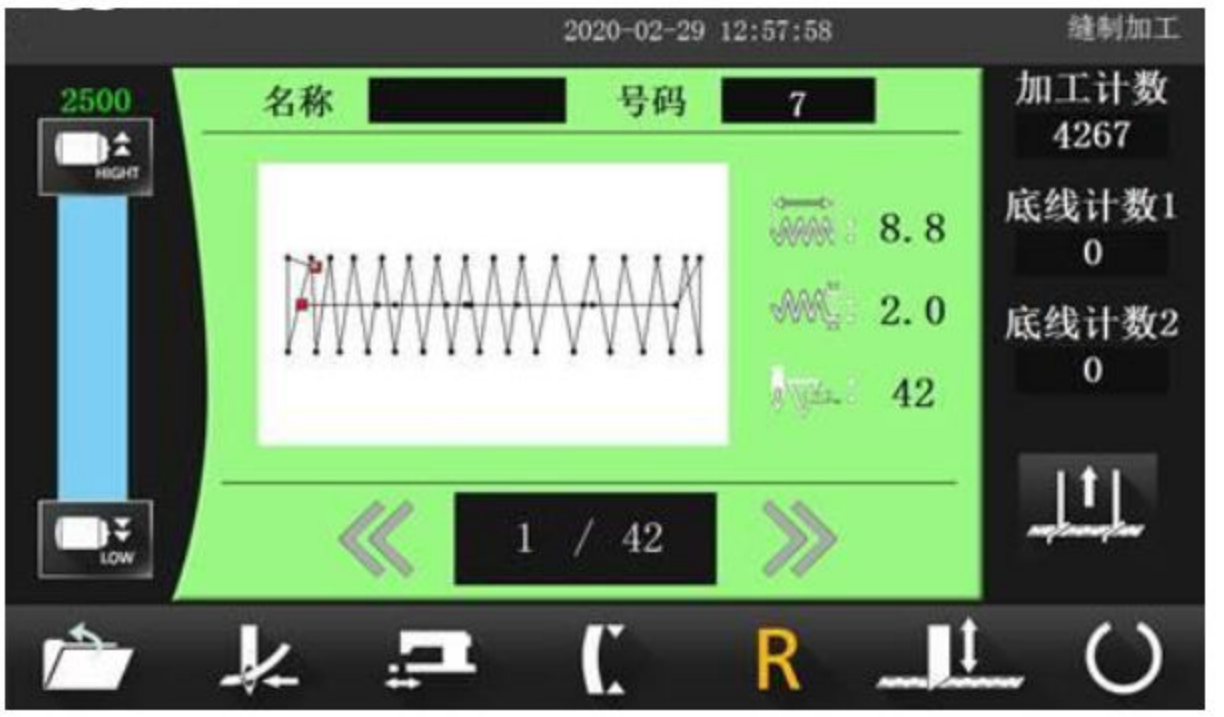
(5) : lighting switch: switch to control LED lighting.

(6) : Start switch: start switch for sewing.

a: Main interface



b: Sewing interface



4.2. Reset instructions

4.2.1 Power on reset operation

step	Explain	Key press method
1	Boot up	(1)
2	reset	(3) -- a main interface 
3	Switch sewing mode	(3) -- a main interface  -- B sewing interface

4.2.2 Emergency stop reset operation

Sewing e-stop and reset steps: turn the e-stop switch clockwise to reset, put the fabric again, and press the start switch (6) after placing.

5、 Operating instructions

5.1. Preparation before operation

√ the machine head shall be in the stop state during the inspection by the operator

√ Check whether the sewing thread has been correctly put on

√ Check whether the needle has been installed

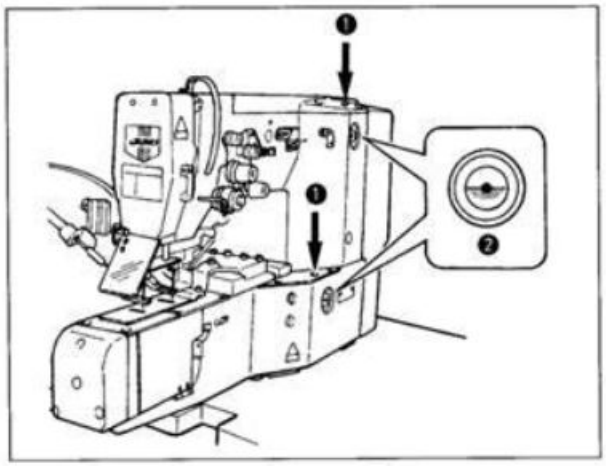
√ clean the sundries on the machine table to ensure that there are no sundries

√ hindering the operation of the machine

√ Check the pressure of the barometer to make it meet the requirements of the machine

√ Check whether the eye guard has been installed correctly

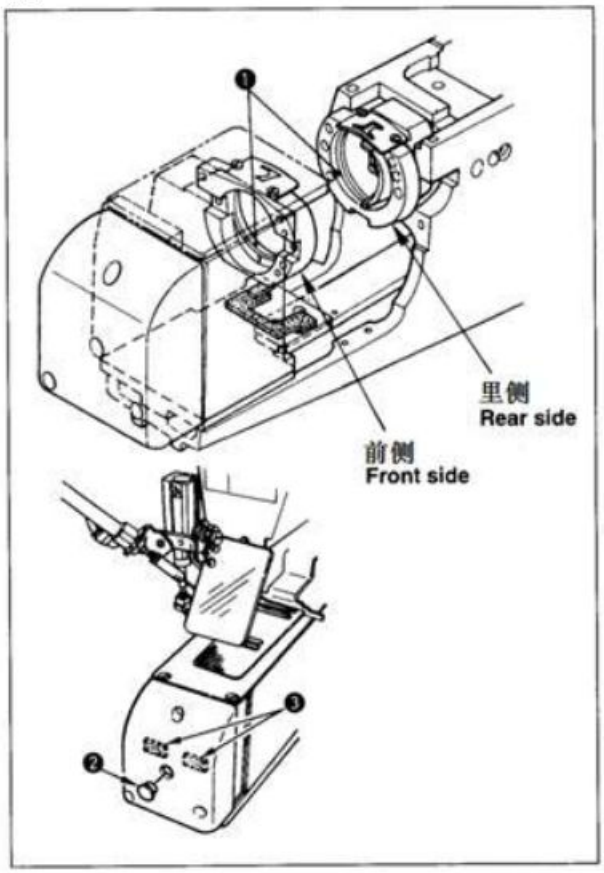
5.1.1Come on



(1) Nose part

Add oil from the oil filling port ① (2 places) of the head to the red mark in the center of the oil meter ②. Just add it once a day.

(2) Shuttle slide surface



Inside side

1) Please put a drop of oil on the shuttle slide surface ①.

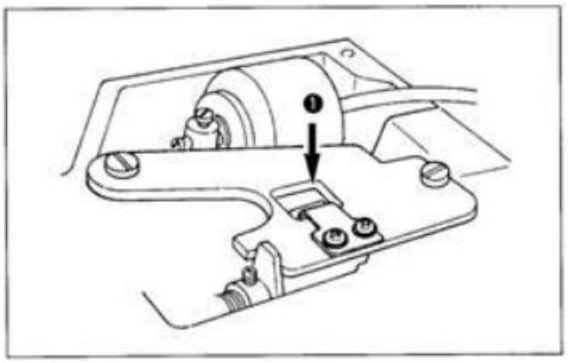
Front side

2) Add a drop of oil to the shuttle slide surface ①.

After the rubber plug ② is removed, add a proper amount of oil to the felt pad ③ of the rotary table.

(note) if the sewing machine is not operated for a long time, please refuel it if you use it again.

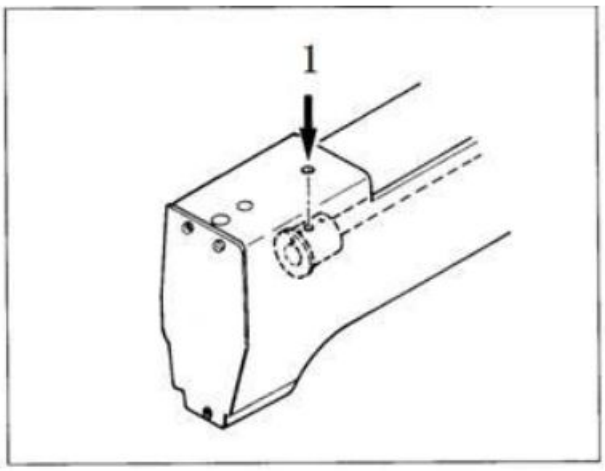
(3) Crank connecting rod oil filler plate



Remove the upper cover of the housing and add oil to the crank connecting rod oil filler plate ①.

(note) if the sewing machine is not operated for a long time, please refuel it if you use it again.

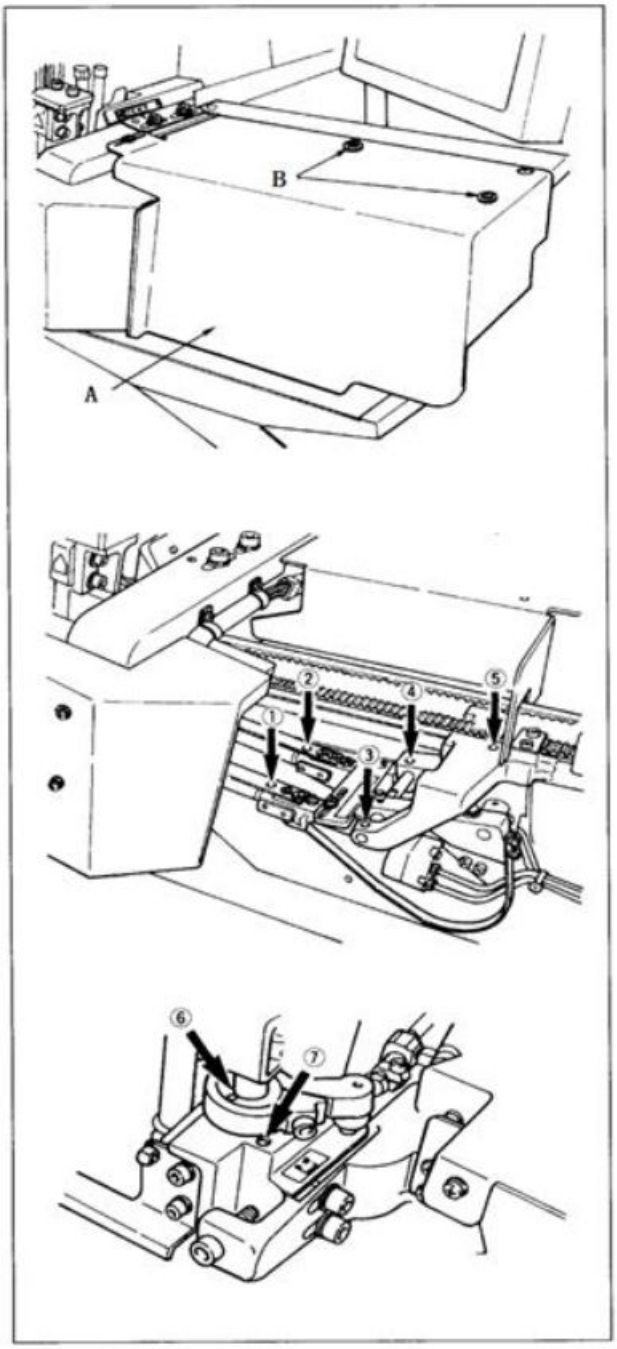
(4) Oil filling for upper shaft copper sleeve



Please add oil to the copper sleeve part ① of the upper shaft.

(note) if the sewing machine is not operated for a long time, please refuel it if you use it again.

(5) Oiling of trouser loop supply device



Loosen the hand nut B, open the acrylic window, and then add oil at the place with yellow paint (marked with thick line).

○ front ① rear ② of fork rotating shaft

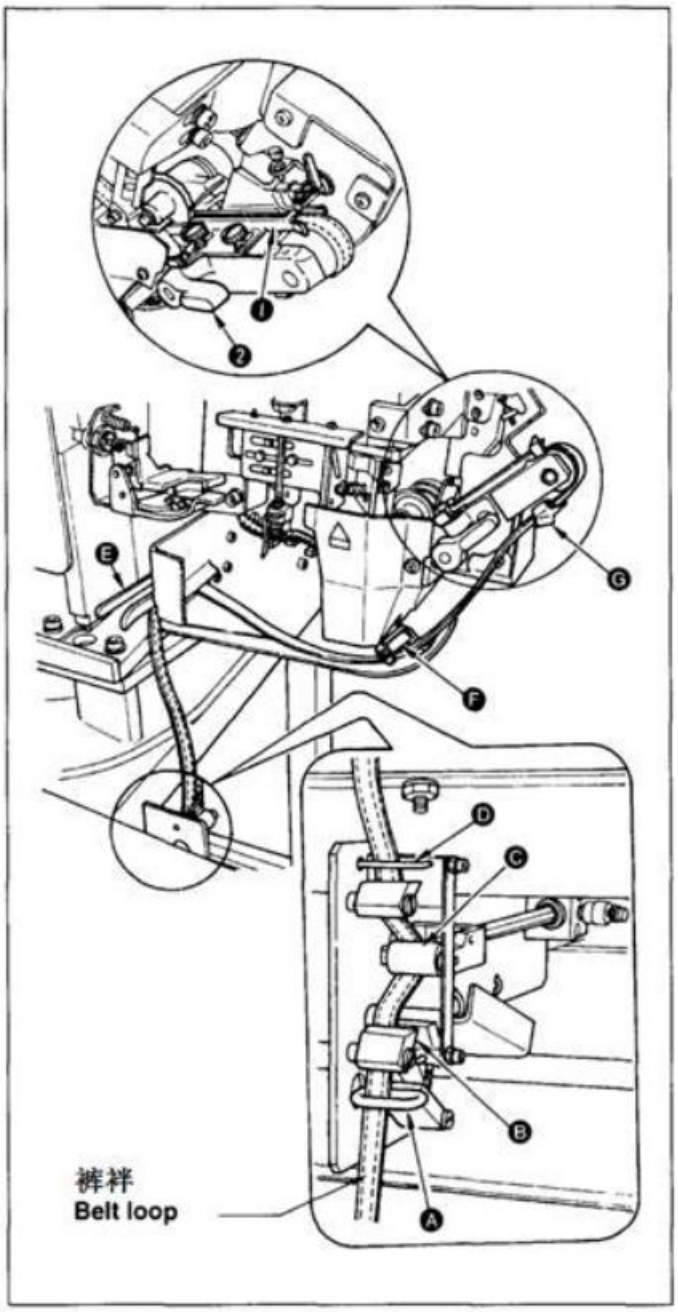
○ front ③ rear ④ of connecting shaft of fork rotating shaft

○ feed guide ⑤

○ upper part ⑥ and lower part ⑦ of trouser loop cutter

⚠ Refuel once a day.

5.1.2Trouser strap

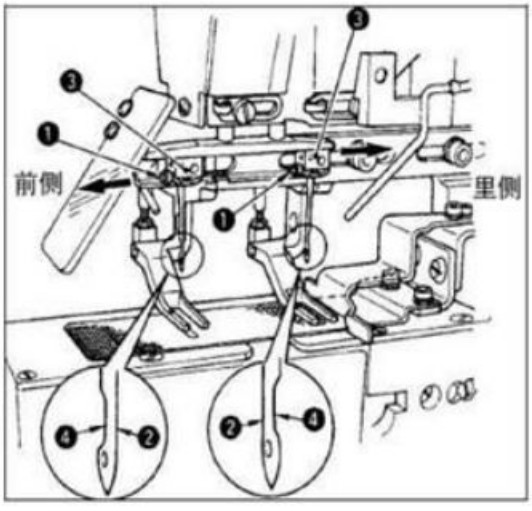


1) Pass through the trouser loop in the order of a, B, C, D, e, F and g of the guide.

2) Through the trouser loop width adjusting plate ①.

3) Press the feeding wheel to lift the wrench ② and press the trouser loop under the wheel.

5.1.3Installation needle



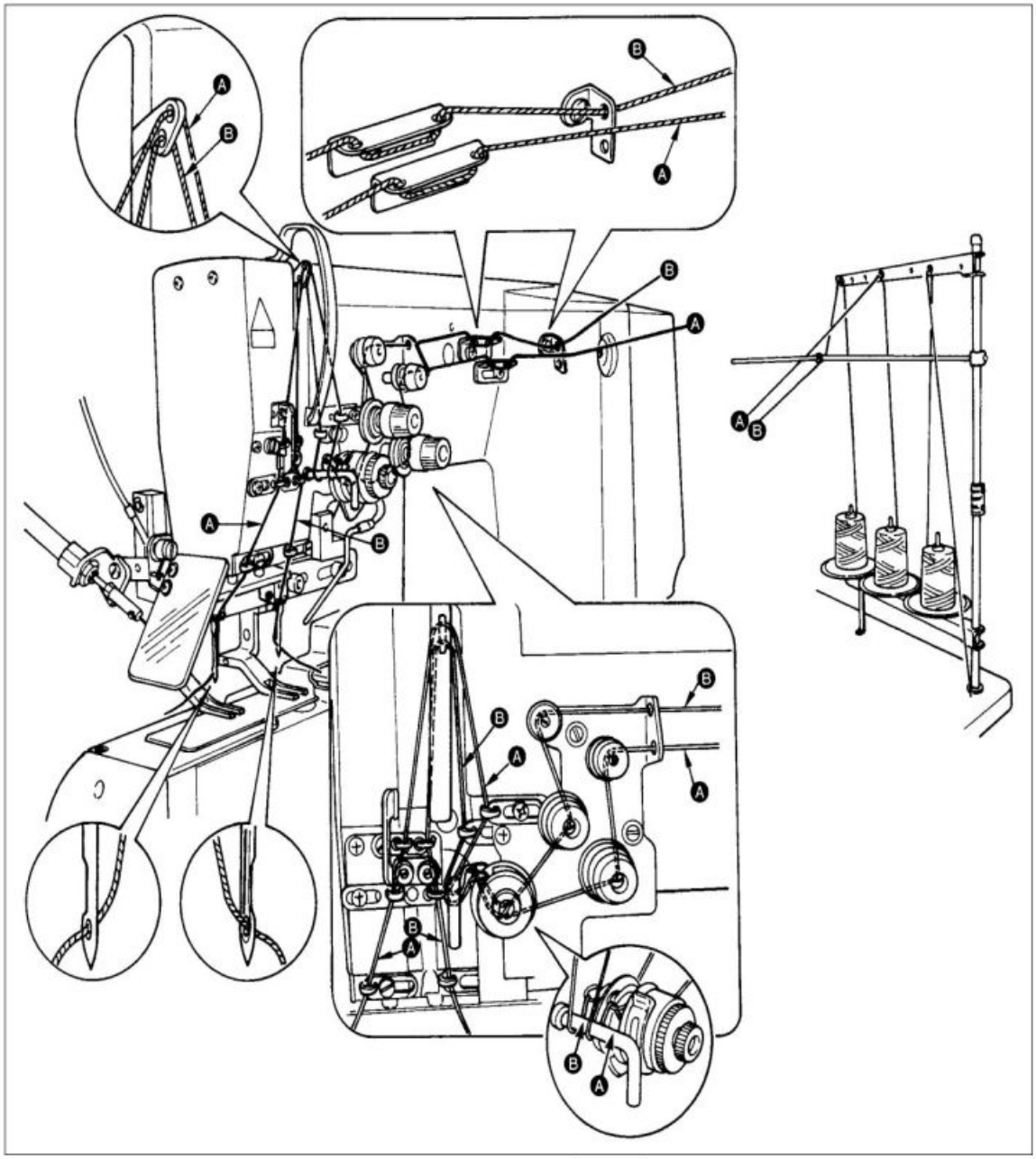
1) Loosen the set screw ①.

2) Put the needle top ② into the hole of needle clamp ③. Then turn the concave part ④ of the needle ②, turn the front side needle to the front side, and turn the back side needle to the inside side (refer to the left figure).

3) Tighten the set screw ①.

(note): for safety, the power must be turned off before the above operations.

5.1.4Threading



Press the touch screen (3) --- a main interface  ------ thread as shown in the sequence below.

5.2. Operation process description

5.2.1Boot device

90° Turn the power switch to the on position, and the equipment is powered on.

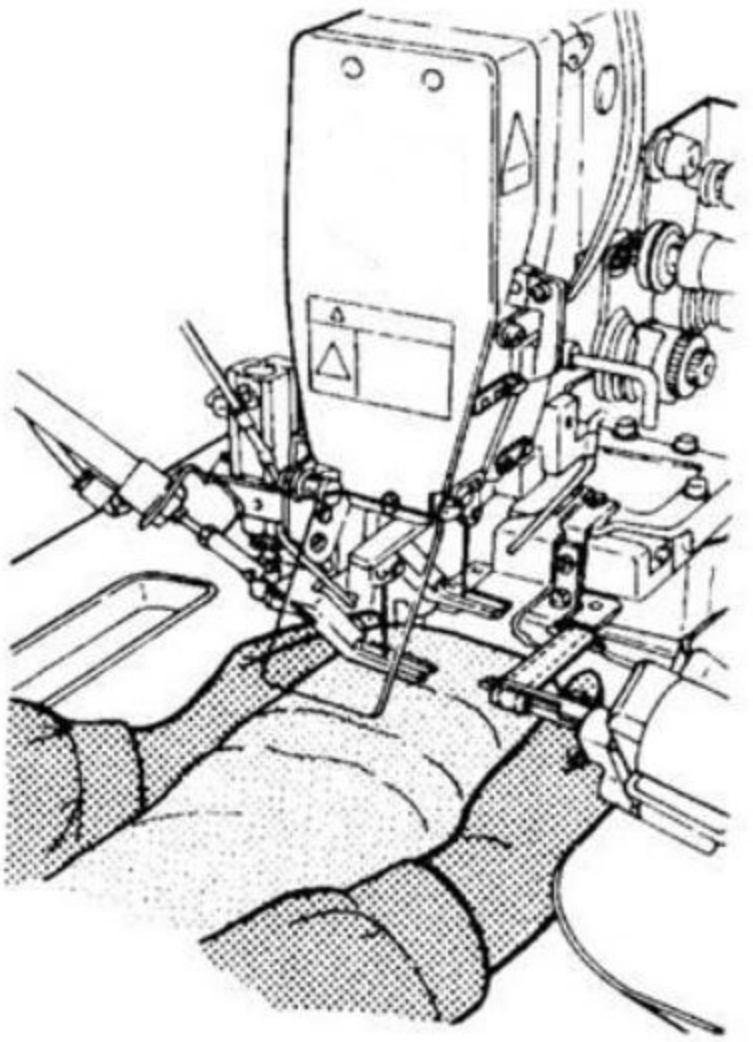
5.2.2 Reset operation

Perform the machine power on reset operation. Please refer to: 1. Key function description -- 2.1 power on reset operation.

5.2.3 Confirm sewing data

Confirm the sewing data; if the graphic data is wrong, refer to"Mb6004b jeans loop machine interface description" changes the graphics.

5.2.4 Place the sewing pieces



5.2.5 Press the start switch

Press the start switch (6) and the machine will start to sew automatically.

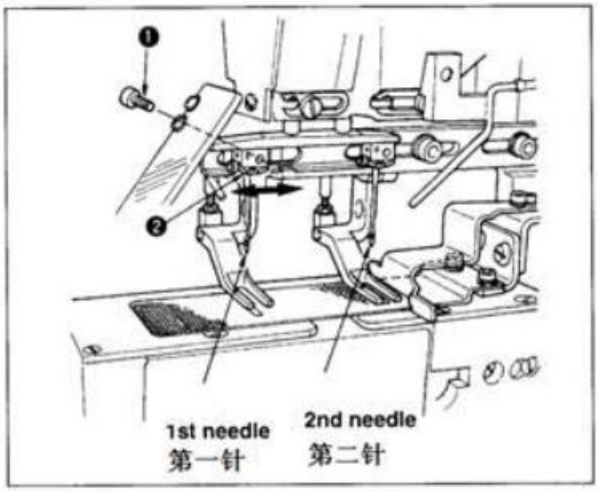
5.2.6 Shutdown

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

6、 Debugging method

6.1. Length adjustment of trouser loop

6.1.1Adjustment of needle width

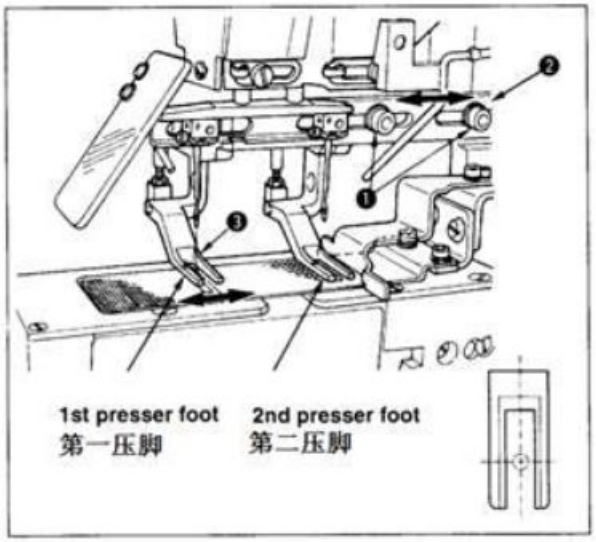


1) Loosen the first needle fixing screw ①, move the needle clamp left and right to change the needle width ②. (the second pin is the reference, so it can't be changed to keep it fixed.).

2) The needle spacing can be adjusted in the range of 40-70mm.

3) After adjustment, tighten the needle fixing screw ①.

6.1.2Presser foot adjustment

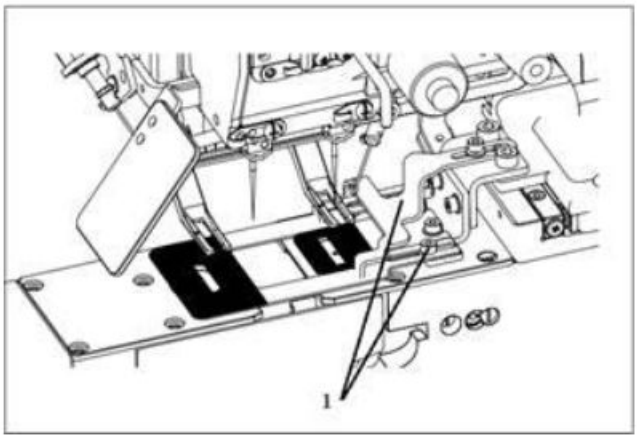


1) Loosen the two front presser foot set screws ①.

2) Move the front presser foot ② in the direction of the arrow, and adjust the position of the needle to the center of the presser foot groove.

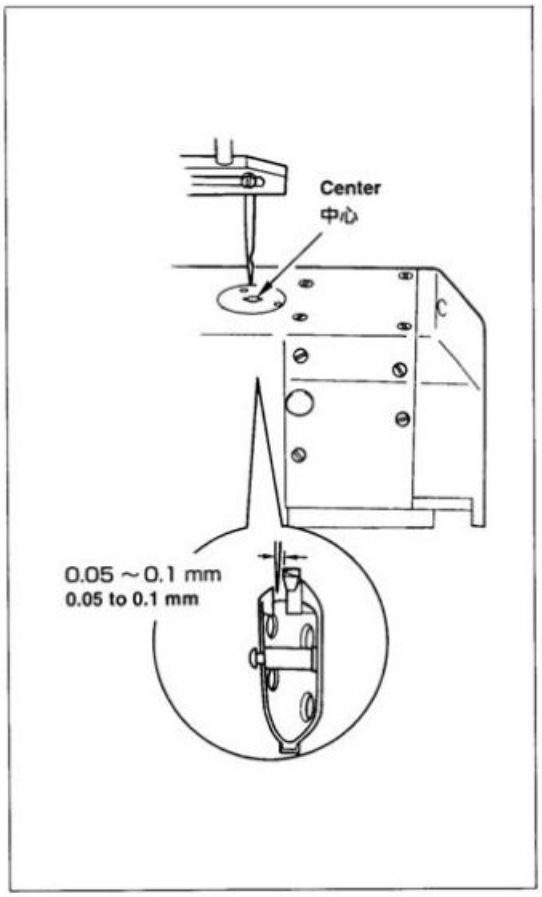
3) Tighten 2 fixing screws ① of front foot rest.

6.1.3Adjustment of base plate



Loosen the base plate fixing screw ①, adjust the position of the base plate gap to the same position as the presser foot gap, and then tighten the base plate fixing screw ①.

6.1.4Adjustment of front shuttle bed



1）Touch screen a main interface - reset key

2）Touch screen a main interface---  ---Input password6004--- 

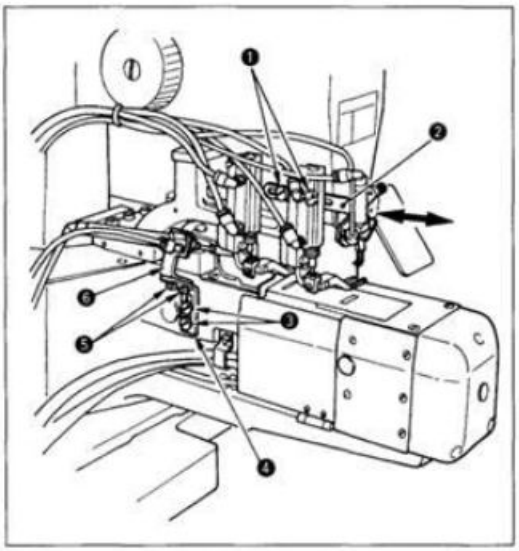
3）Press the direction speed adjustment key to adjust the movement interval. After pressing the key continuously, the front shuttle bed will move continuously

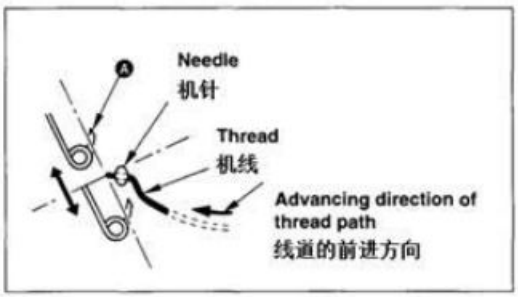
4）First, move the center of the needle hole and the center of the needle to the same position with the speed of 3 gears

5）Change the speed of gear 1 for minor adjustment. Adjust the clearance between the rotary hook tip and the needle as shown in the figure

6）Press the Enter key to return to the main interface

6.1.5Adjustment of hook





(1) Front hook assembly (stop position)

1. After loosening the fixing screw ①, the front hook mounting base ② moves in the direction of the arrow.

2. When adjusting the position, move the mounting base of the front hook by hand as shown in the figure. When part a of the hook touches the line and reaches the maximum extension, insert the line.

3. After adjustment, tighten the fixing screw ①.

(2) Rear hook assembly (usually the rear hook is fixed and does not need to be adjusted)

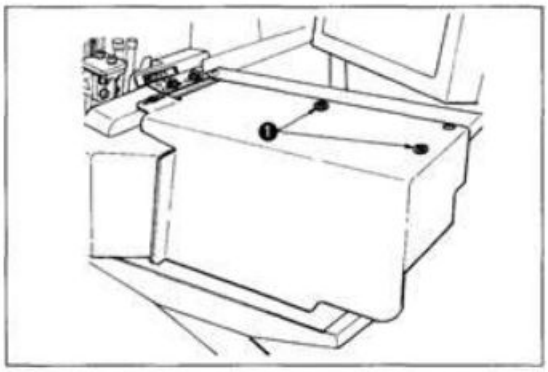
1. Tighten the fixing screw ③, and move the rear take-up rod connecting seat ④ up and down.

2. Loosen the fixing screw ⑤, and move the rear take-up rod mounting base ⑥ back and forth.

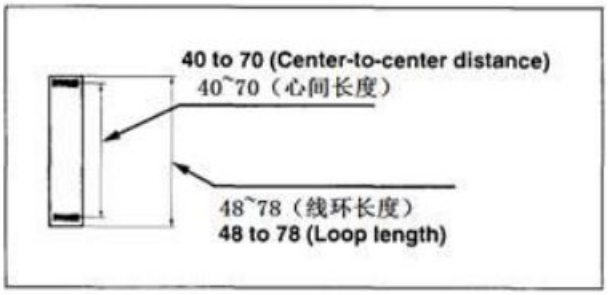
3. Adjust the position in the same way as (1).

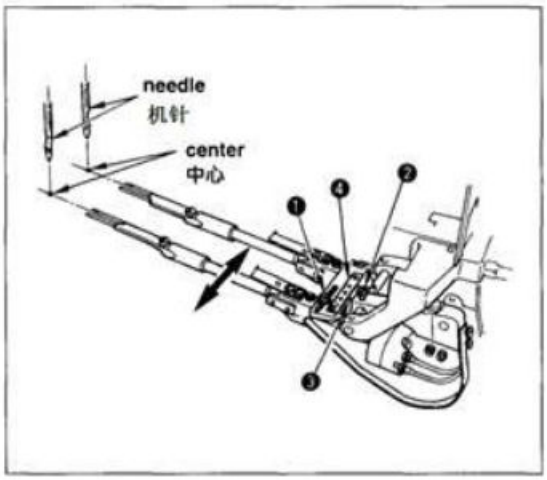
4. After adjustment, tighten fixing screws ③ and ⑤.

6.1.6Adjustment of fork



Loosen the hand nut to open the acrylic window.





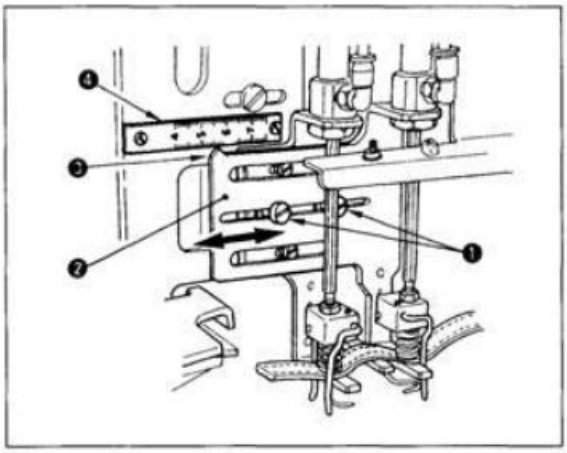
1. Movement of front fork shaft

Loosen the fixing screws ① and ②, align the indicator mark ③ with the dial ④ (belt ring length), and then tighten it.

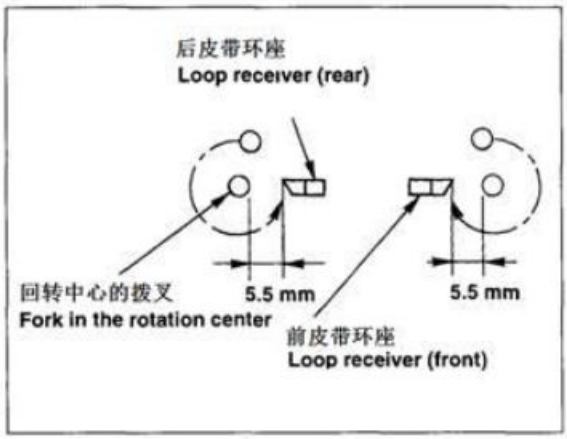
At this time, the fork and needle should be centered.

2. Move back to acrylic window and tighten hand nut.

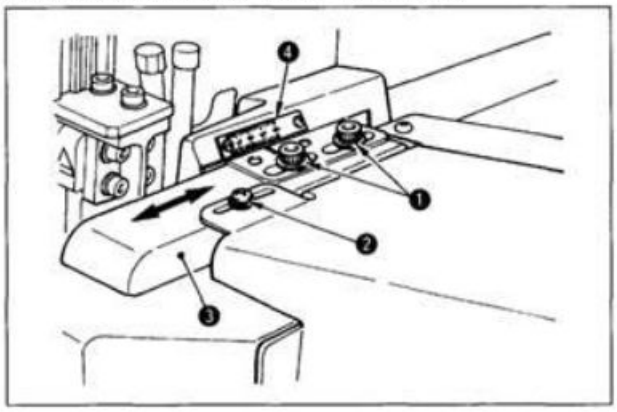
6.1.7Adjustment of trouser loop seat



Loosen the fixing screw ①, move the leg claw seat (front) ② of the trouser loop, and align the pointer ③ with the dial ④ (Trouser loop length). After alignment, tighten the set screws ①. At this time, adjust the gap between the shift fork and the trouser loop claw seat by about 5.5mm.

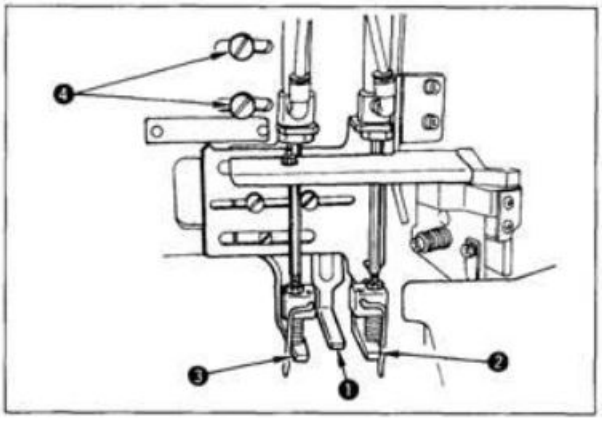


6.1.8Adjustment of belt ring seat



Loosen the screws ① and ②, move the guide rail ③ of the cutter device, and align the marking with the scale ④.

6.1.9Adjustment of paddle



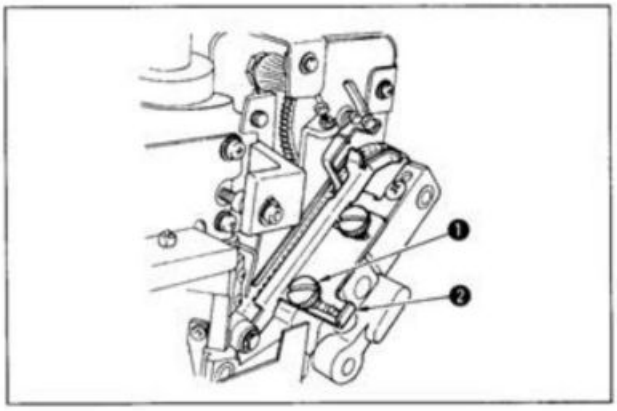
Move the paddle ① to the central position of the front ② and the rear ③ of the trouser loop claw seat, and tighten the screw ④.

6.1.10Adjustment of length redundancy of trouser loop

Touch screen a main interface----  ----Enter a value (the initial value is 30).

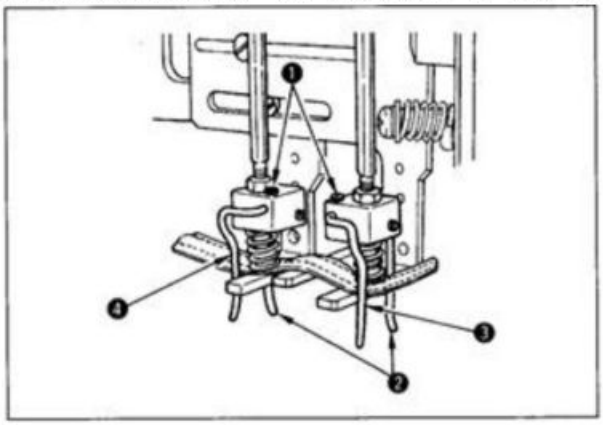
6.2. Width adjustment of trouser loop

6.2.1Adjustment of the width of the belt feeding position



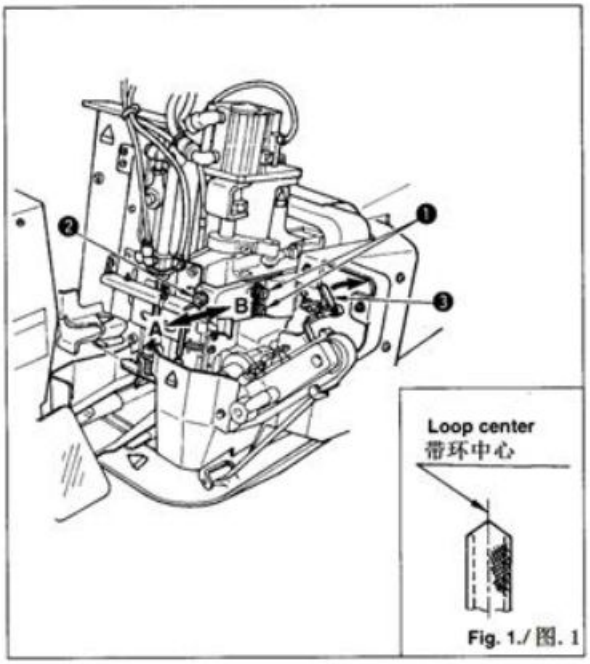
Loosen the fixing screw ①, adjust the width guide ② of the trouser loop, move to the position with a gap of about 1mm from the width of the trouser loop, and then tighten the fixing screw ①.

6.2.2Adjustment of the long claw of the trouser loop



Loosen the fixing screw ①, move the leg claws ③ and ④ to make the leg meet the leg claw B ②.

6.2.3Adjustment of belt cutting position



Loosen the fixing screw ①, turn the adjusting screw ②, move it in direction a or B, adjust it as shown in figure-1, and move the trouser loop to the center of the belt ring.

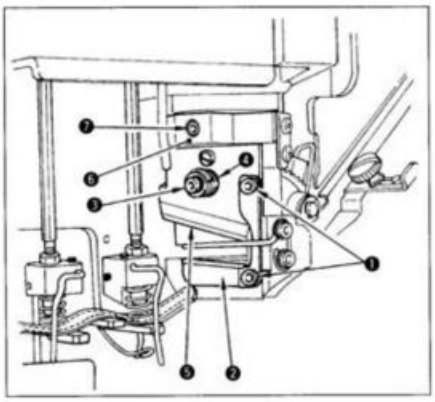
Pull the band ring detection paddle ③ forward to send the band ring forward for a certain amount. Press the main interface of touch screen a to cut off the trouser loop.

6.2.4Adjustment of reinforcement joint length

Touch screen a main interface----  ----  ---Enter value - Press  Key to return to pattern parameter interface - Press  。

6.3. Disassembly and assembly of cutter

6.3.1Dismounting cutter



Remove the fixing screw ① with the ring and remove the belt ring seat ②.

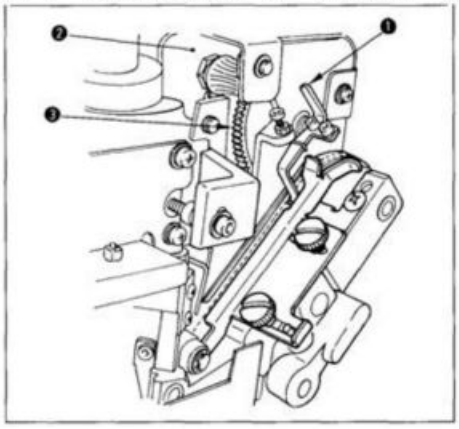
Remove the cutter presser foot spring for fixing screw ③, the cutter presser foot spring ④ and the moving knife ⑤.

The installation shall be carried out in the reverse order.

6.3.2adjustment

When installing the moving knife ⑤, make the upper plane of the moving knife align with the moving knife holder ⑥ (the clearance is 0mm); then tighten the set screw ⑦, move the moving knife holder ⑥ to adjust.

6.4. Adjustment of trouser loop joint detection



1） Press in the a main interface  to enter the pattern parameter adjustment interface, and press  to enter the joint height setting screen;

2）Install the trouser loop and press  to drive the normal trouser loop and the joint part to the lower part of the detection rod ①;

3） Input automatically according to the maximum value of detection, or manually;

4） Press the Enter key  to return to the pattern parameter interface 

After that, the parameter is modified successfully.

5） Press  in the a main interface to enter the pattern parameter adjustment interface, and press  to enter the cloth setting screen;

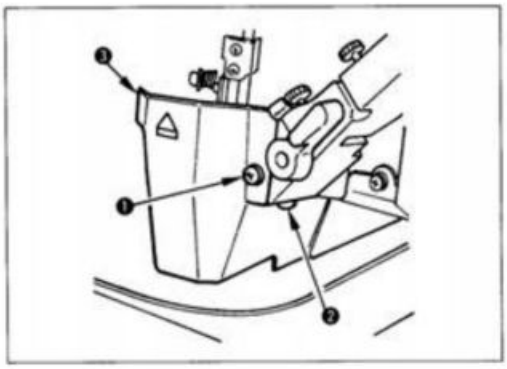
6） Install the trouser loop and press  to drive the normal trouser loop and the joint part to the lower part of the detection rod ①;

7） Input automatically according to the maximum value of detection, or manually;

8） Press the Enter key  to return to the pattern parameter interface  After that, the parameter is modified successfully.

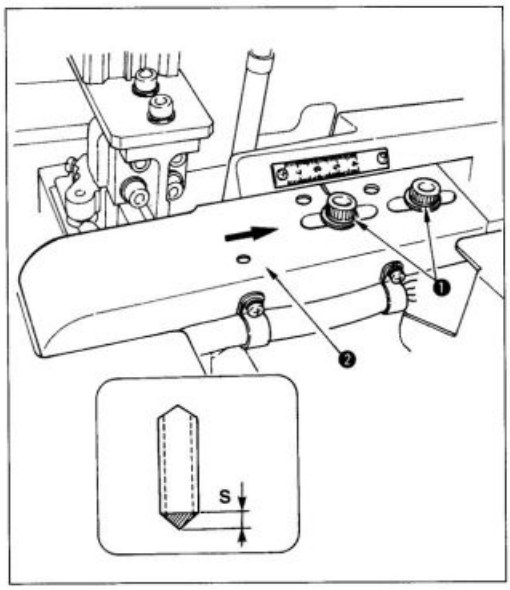
6.5. Adjustment of belt cutting

6.5.1Removal of cutter cover



Loosen the screws ① and ②, and remove the cutter cover ③.

6.5.2 Movement of cutter unit

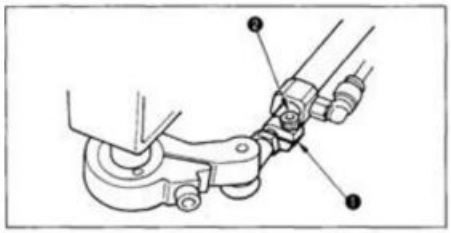


Loosen the screw ①, and move the cutting cloth length (s mm) from the connecting frame ② of the cutter device to the inner side.

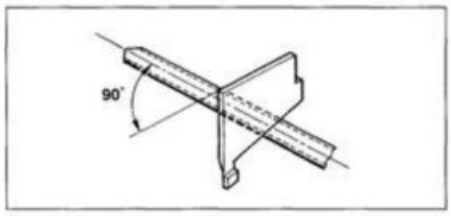
The size of s varies with the width of the loop.

Loop width 带环	9	10	11	12	13	14	15	16	17	19	20
Dimension "S" S尺寸	3.3	3.7	4.1	4.4	4.8	5.2	5.5	5.9	6.3	7.0	7.4

6.5.3Adjustment of flat cut and bevel cut

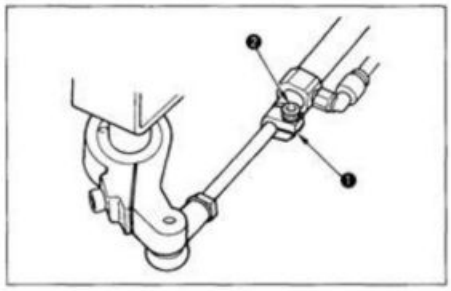


1) Loosen the fixing screw ② of the cylinder stroke adjusting block ①.



2) Move the cutter 90 ° vertically to align with the trouser loop.

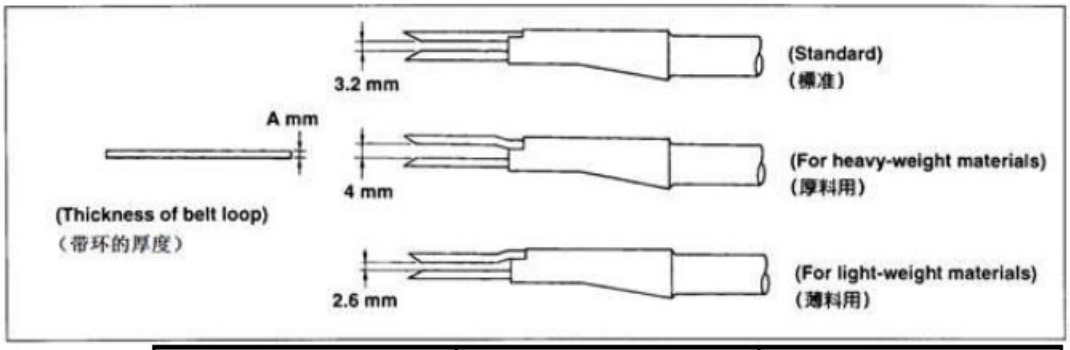
3) Push the cylinder stroke adjusting block ① to the top of the cylinder, and then tighten the fixing screw ②.



4) Adjustment of trouser loop pull out

Touch screen -- a main interface---  ---Enter password 6004 - Press  ---Press  ---Input value(increase or decrease the value to adjust the cutting amount)

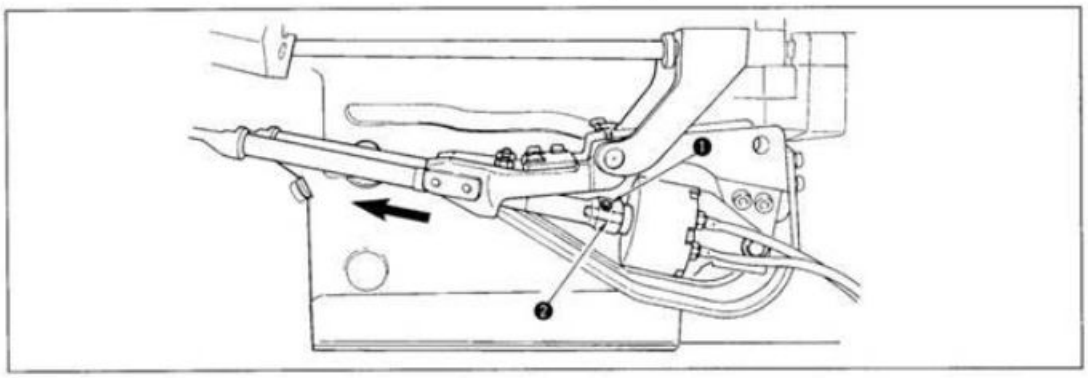
6.6. Adjustment of fork



Thickness of trouser loop a	Type of fork	Map number
1.6~2.3mm	Standard (factory specification)	Drawing No.: 02600421403200
2.0~3.1mm	Thickness used	Drawing No.: 02600421403201
1.0~1.8mm	Thin material use	Drawing No.: 02600421403202

Remarks: one set of shift fork for thick material and thin material is in the accessory box. Because the fork is a consumable, please contact us if necessary.

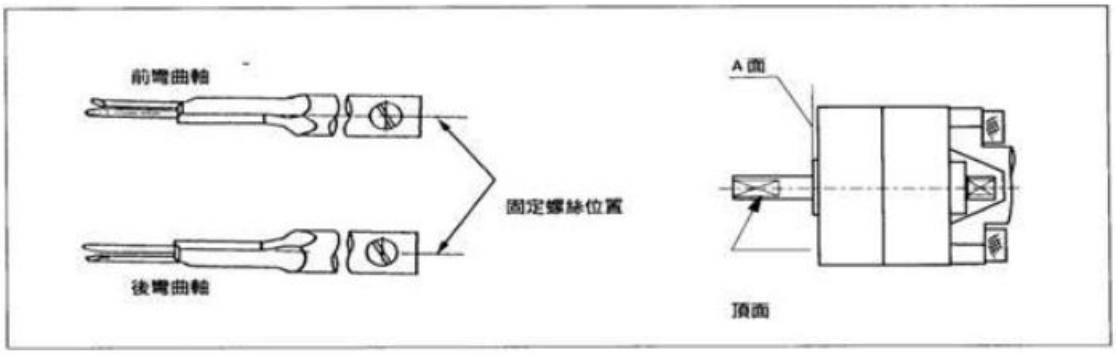
6.7. Replacement method of trouser loop paddle shaft



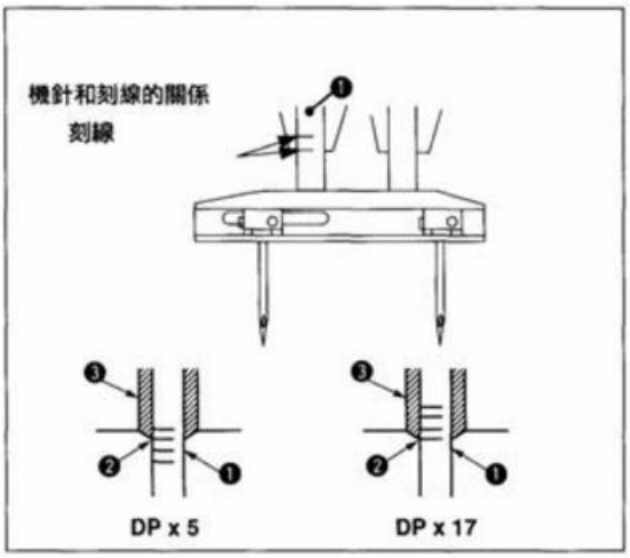
1) Turn the power switch (1) to the off state, turn off the power and turn off the air; 2) loosen the fixed screw ① of the bending shaft;

3) Move the paddle shaft in the direction of the arrow;

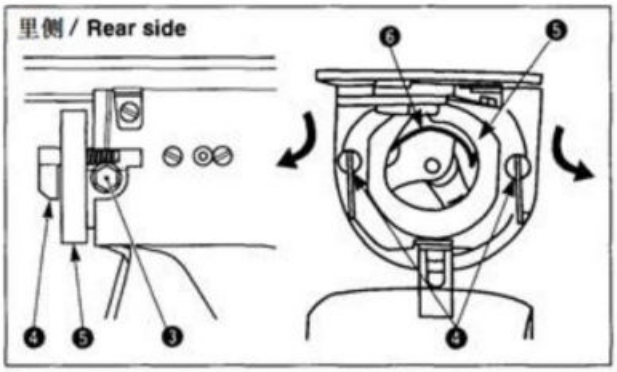
4) During installation, please distinguish the front and rear paddle shafts according to the following figure, put the paddle shaft against face a, and then fix the screw ① to ensure that it is firmly fixed to the flat wire surface at the end of the cylinder shaft.

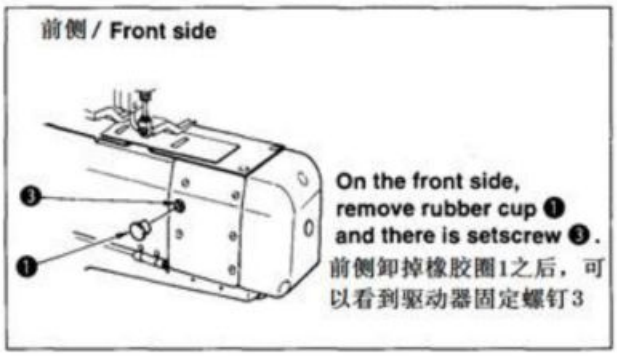


6.8. Adjustment of shuttle

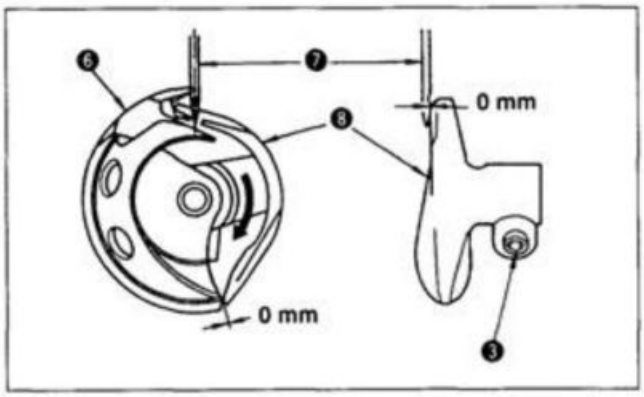


1) Rotate the manual wheel of the head by hand. When the needle bar ① rises, align the lower marking ② with the lower end of the lower shaft sleeve ③ of the front needle bar;

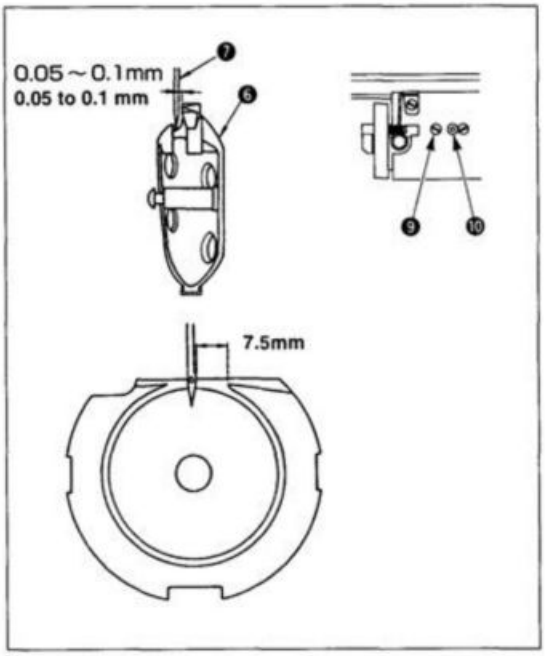




2) Loosen the set screw ③ of the shuttle, open the shuttle presser foot hook ④ left and right, and remove the shuttle presser foot ⑤
(note) do not let shuttle 6 fall at this time.



3) Align the tip of the shuttle (6) with the center of the needle (7), and put the shuttle (8) against the needle at the front end face to prevent the needle from bending. Adjust the gap between the front end face of the shuttle and the needle to 0mm, and then tighten the set screw (3).



Inside side

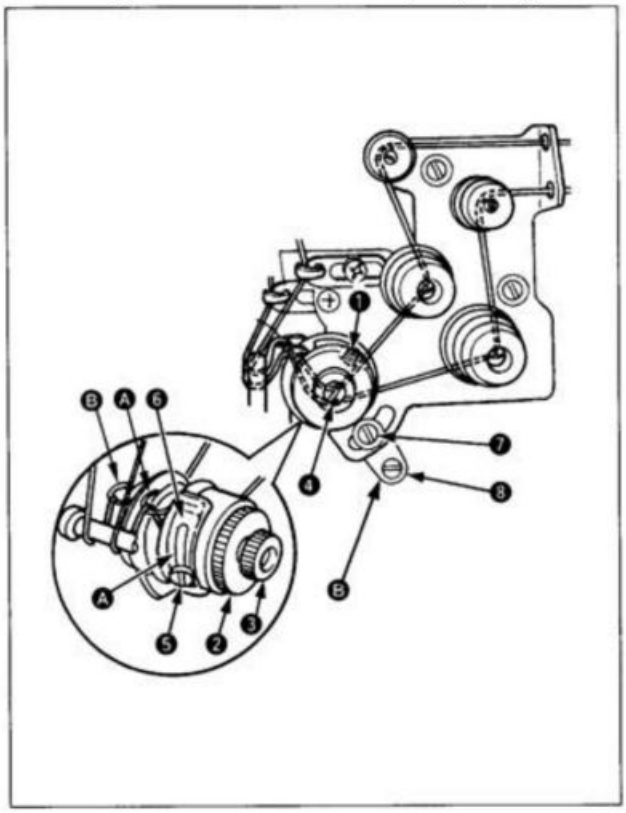
4) Loosen the fixing screw ⑨ of the shuttle bed, rotate the adjustment shaft of the shuttle bed (10) left and right, and move the front and rear positions to make the shuttle tip clearance between the needle (7) and the middle shuttle (6) 0.05 ~ 0.1mm.

5) After adjusting the front and back position of the shuttle bed, adjust the rotation direction. After the clearance between the needle and the shuttle bed is 7.5mm, tighten the fixing screw ⑨ of the shuttle bed.

Outside

Please refer to the adjustment of front shuttle bed on page p12.

6.9. Adjustment of take-up spring



(1) Adjustment of take-up spring a (front side)

1) Loosen screw ①

2) Turn the button ② to the right to increase the pressure and to the left to decrease the pressure.

3) After adjustment, tighten the screw ①.

(2) Adjustment of thread take-up spring B (rear side)

1) Loosen the adjusting nut ③ of take-up spring.

2) Turn the thread take-up spring guide presser foot ④ to the right to increase the pressure, and turn it to the left to decrease the pressure.

3) After adjustment, please tighten the adjusting nut ③ of take-up spring.

(3) Adjustment front side of thread take-up spring stroke

1) Loosen the fixing screw ⑤ of the take-up spring adjusting plate.

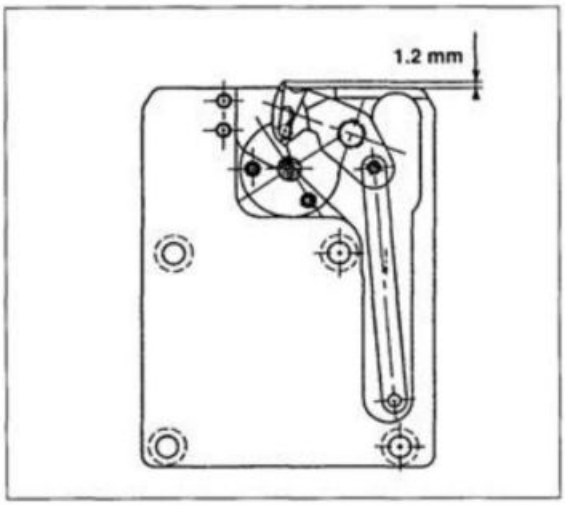
2) Move thread take-up spring plate ⑥. Turn the stroke clockwise to program, and move the stroke counterclockwise to shorten.

(4) Back side of thread take-up spring stroke adjustment

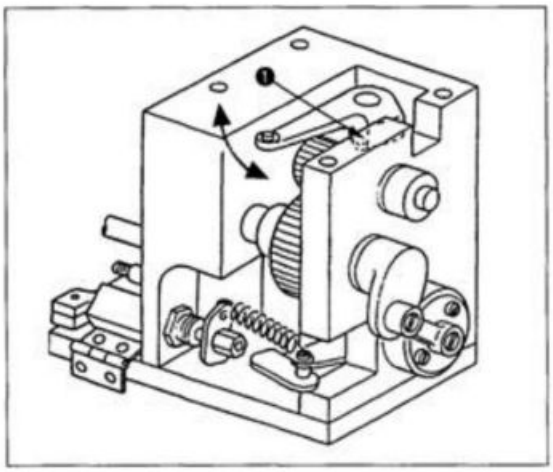
1) Loosen fixing screw ⑦ of thread take-up spring adjusting plate.

2) Move the thread take-up spring adjusting plate ⑧. Turn the stroke clockwise to program, and move the stroke counterclockwise to shorten.

6.10. Adjustment of moving and fixed knives

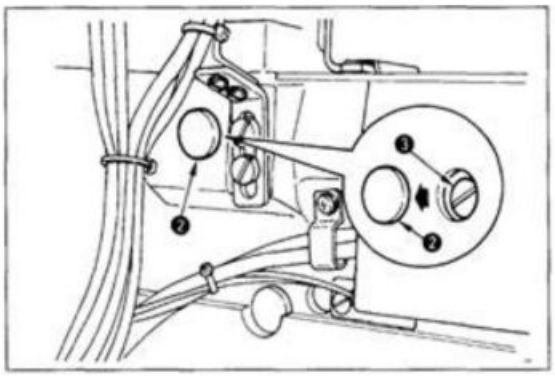


1) Adjust the distance from the front end of the needle plate to the front end of the moving knife to 1.2mm.



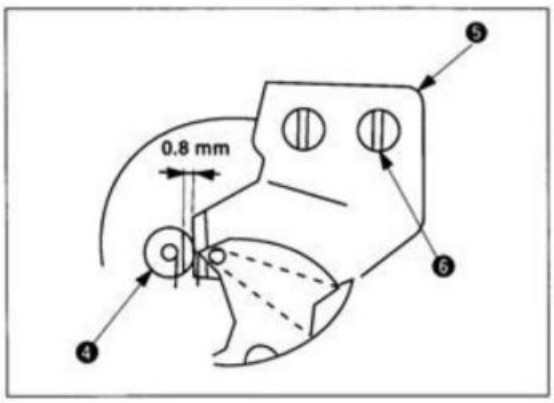
2)Front side

Loosen the tangent crank fixing screw ① and move it towards the direction of the arrow to cut the thread.



3)Back side

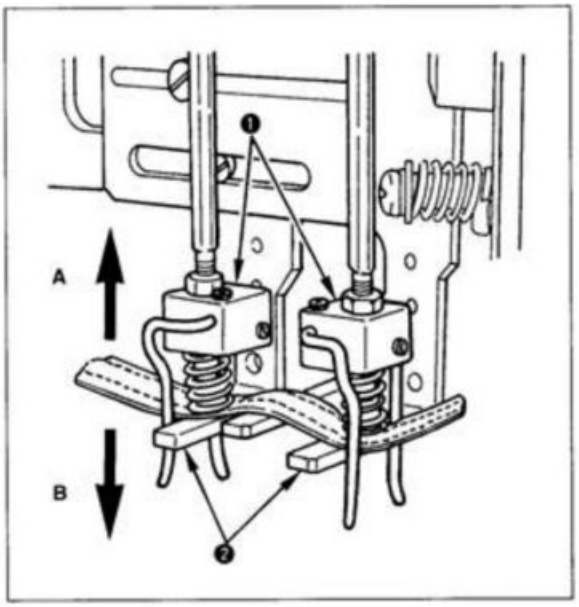
Remove the rubber plug ② on the side of the sewing machine base, and loosen the tangent connection fixing screw ③ for adjustment.



4) Loosen the set screw ⑥, and adjust the clearance between the needle hole guide plate ④ and the fixed knife ⑤ to 0.8mm.

(adjust both front and rear)

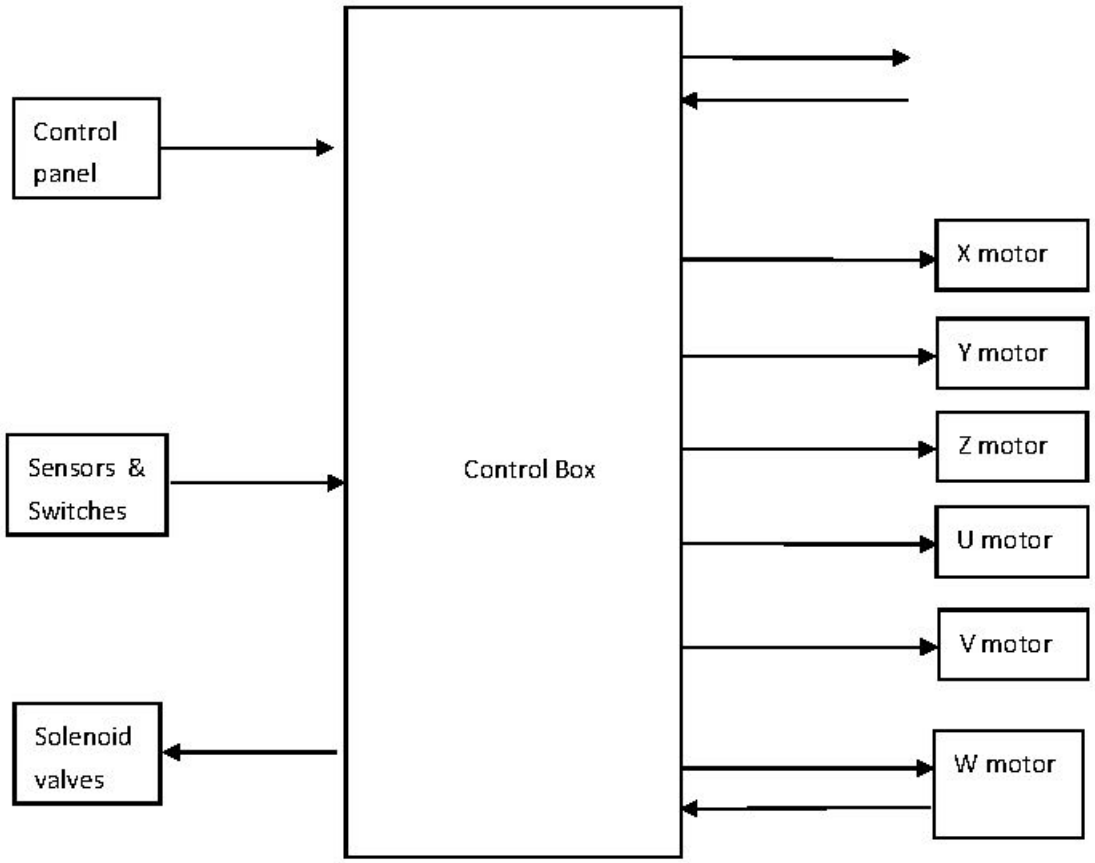
6.11. Release the adjustment function of the pressing trouser loop of the dragon claw

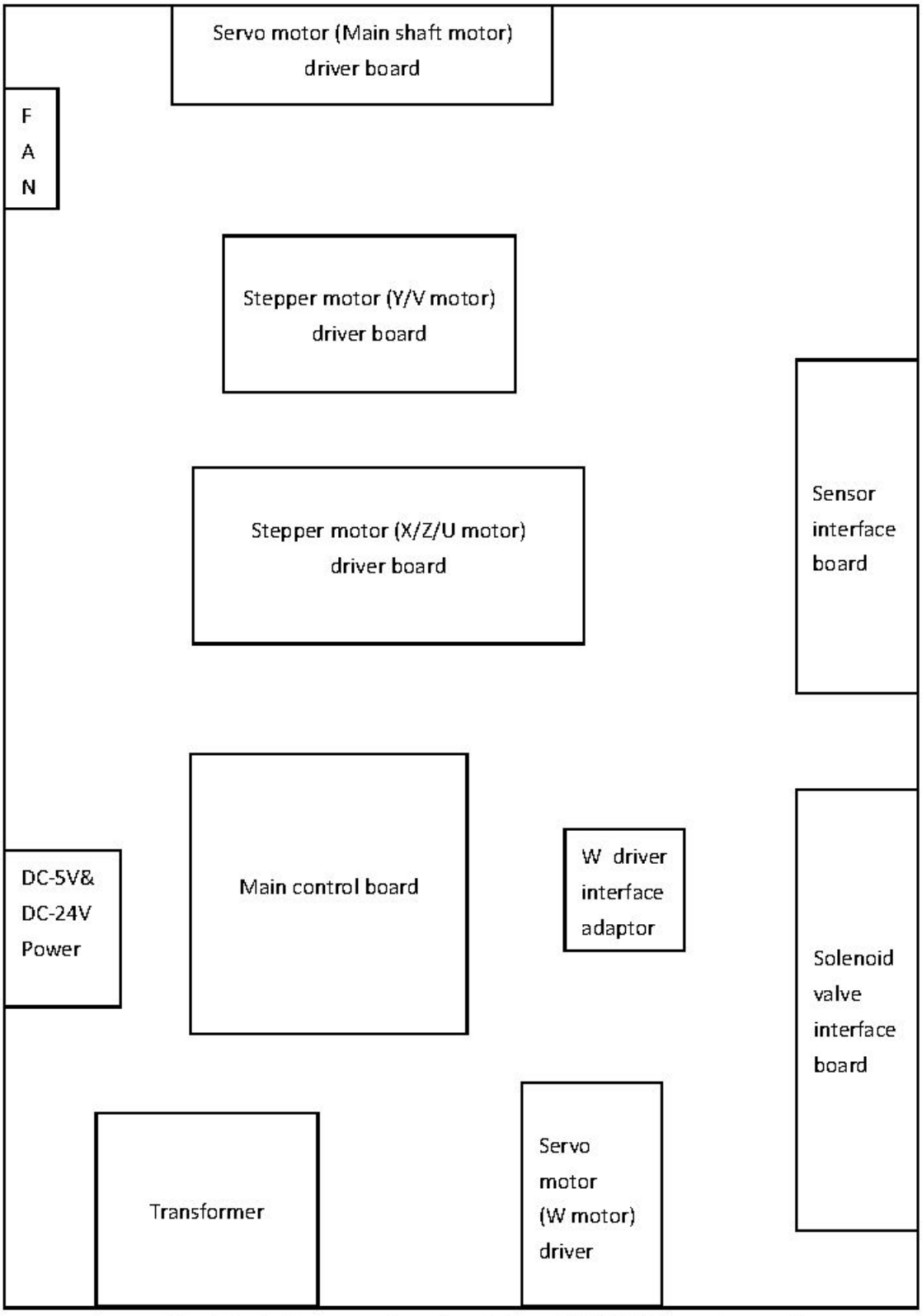


When adjusting the machine, if there are trouser loops in the machine, it is necessary to discharge the trouser loops. Enter the sewing interface B —— press  ----The long claws of the trouser loop ① rise in the direction of a, and the trouser loop can be arranged out.

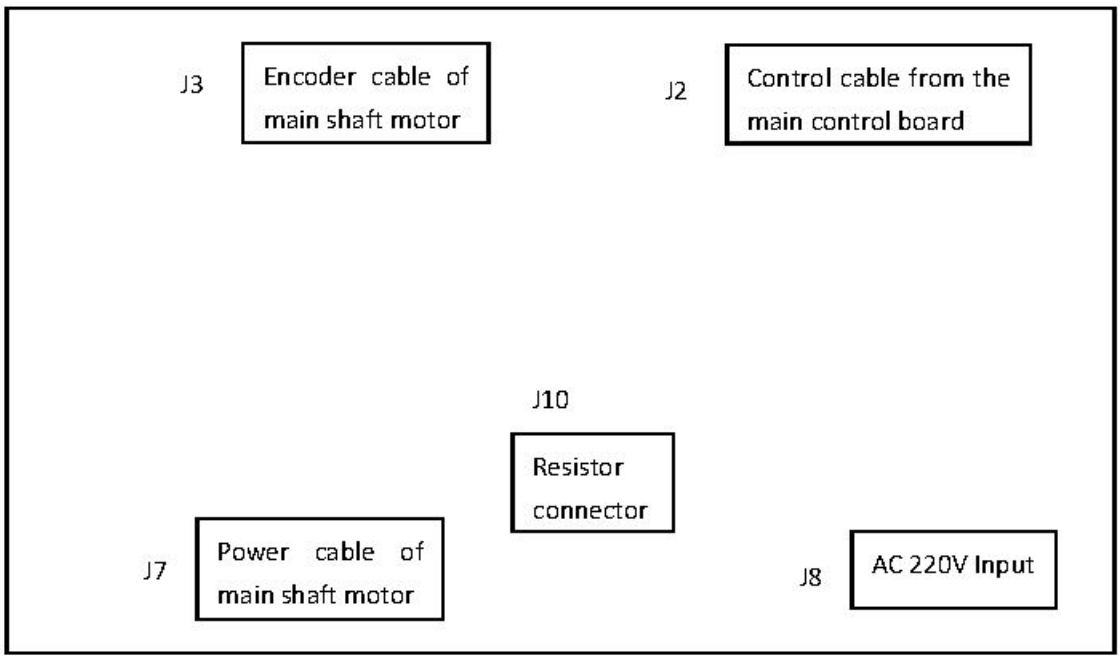
7、 Electrical wiring

The block diagram of the MB6004B sewing control system

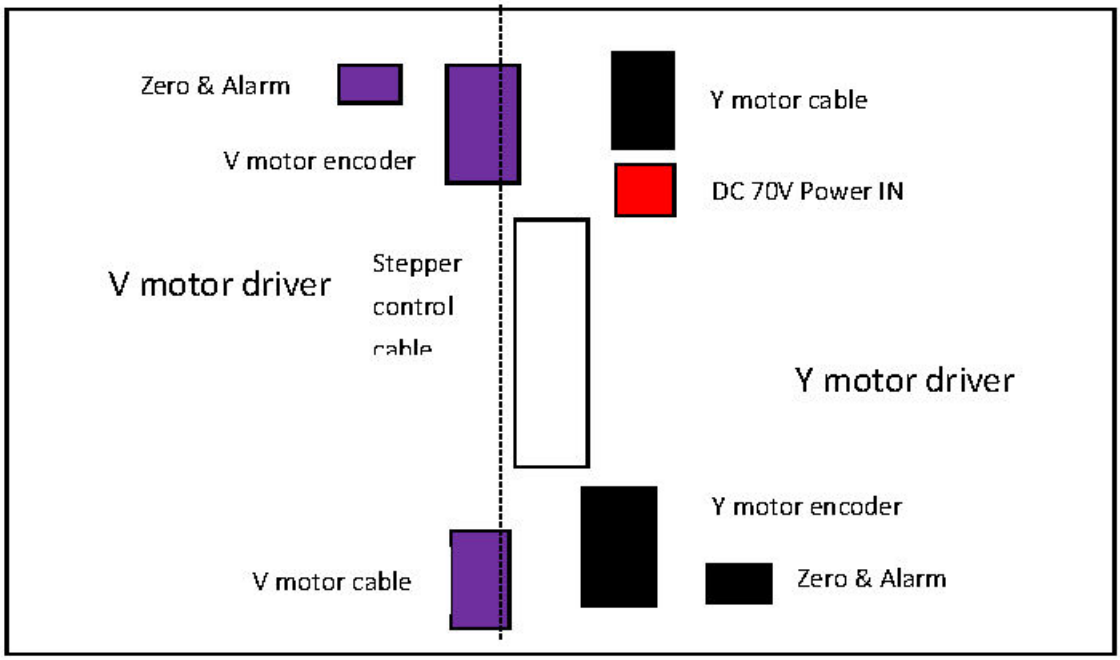




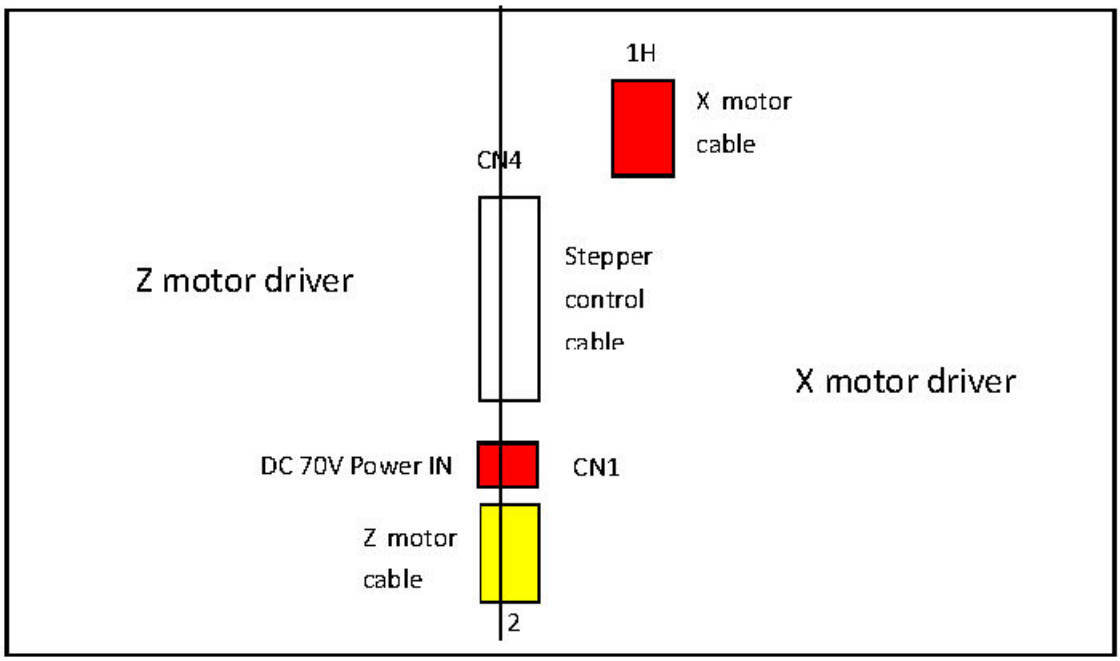
The block diagram of control box of MB6004B sewing machine



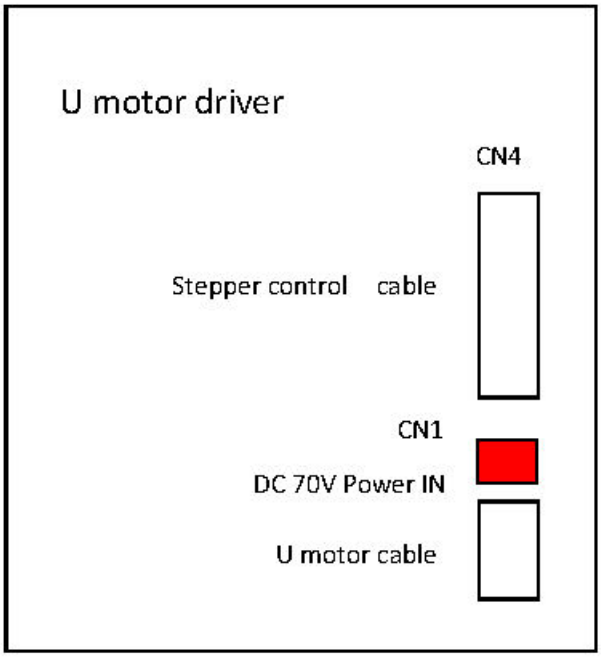
The interface connectors in the main shaft motor driver board



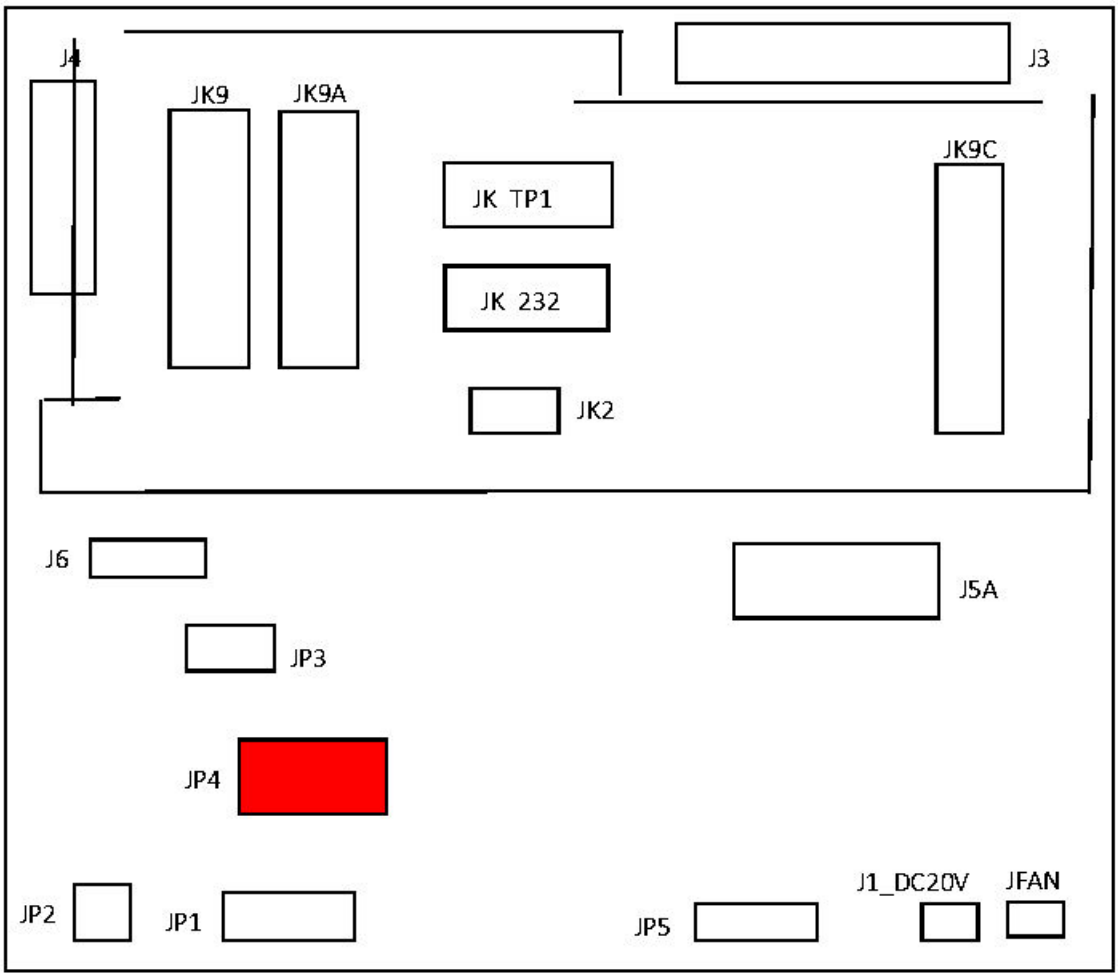
The interface connectors in the stepper motor Y&V driver board



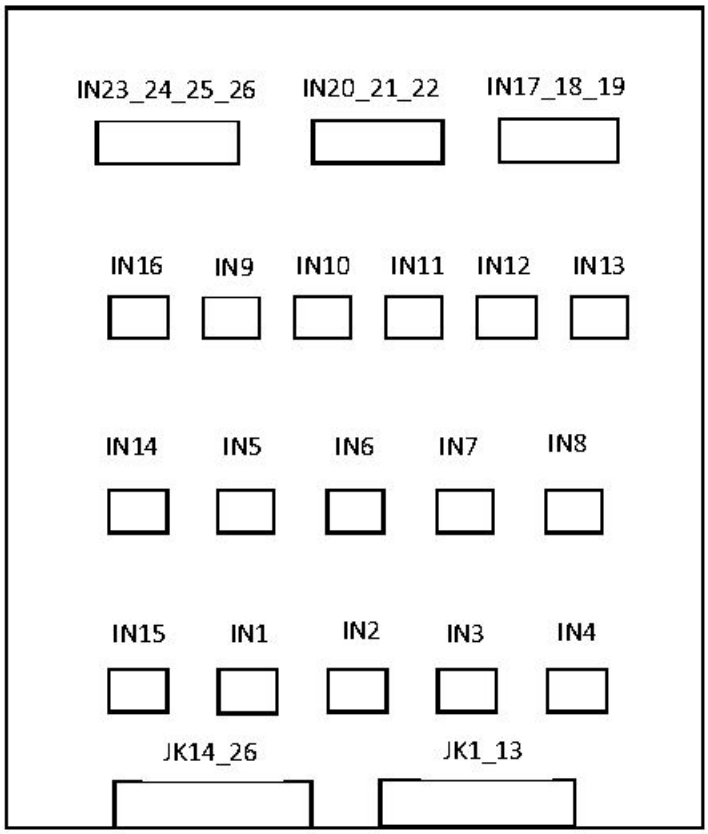
The interface connectors in the stepper motor X&Z driver board



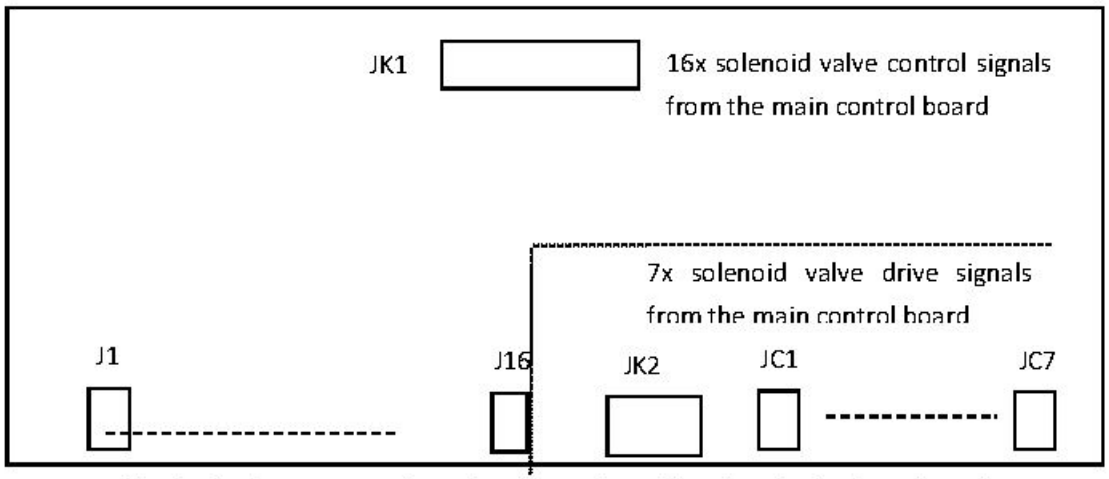
The interface connectors in the stepper motor U driver board



The interface connectors in the main control board



The interface connectors in the sensor interface board



The interface connectors in the solenoid valve interface board

The descriptions of the connectors in the sensor interface board.

Connector ID	Function description	Connector type	Wires or signals
IN1	Connect to the X motor origin sensor	JST-3P	24V- | Signal | 24V+ - S +
IN2	Connect to the Y motor origin sensor	JST-3P	24V- | Signal | 24V+ - S +
IN9	Connect to the Z motor origin sensor	JST-3P	24V- | Signal | 24V+
IN4	Connect to the air pressure switch	JST-4P	24V- | Signal | 24V+ - S +
IN6	Connect to the V motor origin sensor	JST-3P	24V- | Signal | 24V+

The descriptions of the connectors in the main control board.

Connector ID	Function description	Connector type	Wires or signals
JP1	Supply power to the main control board	63080-3P	1: FG; 2: LINE-L; 3: LINE-N LIN-L: AC 220V, brown wire LINE-N: AC 220V, blue wire FG: Ground, yellow&green wire
JP2	Connect to the DC-5V power module and supply the DC 5Volts voltage to the main control board.	5557-4P	DC 5V+ | LINE-L DC 5V- | LINE-N
JP3	Supply the AC 220V power to the main shaft motor driver board.	VH3.96-3P	1: LINE-L; 2: FG; 3: LINE-N
JP4	Connect to the transformer	5557-10P	L, N, V1 V2, V2, V1 V1: AC 22V for the solenoids V2: AC 55V for the stepper driver
JP5	Supply DC 70V power to the	VH3.96-2	Red wire: DC 70V+

<table>
<tr><td></td><td>stepper driver board</td><td>P</td><td>Black wire:DC 70V-</td></tr>
<tr><td>JFAN,
J1_DC20V</td><td>Supply DC 24V voltage to the fan and other devices.</td><td>JST-2P</td><td><table><tr><td>DC 24V+</td><td>DC 24V-</td></tr><tr><td>+</td><td>-</td></tr></table></td></tr>
<tr><td>J5A</td><td>Connect to the solenoids valve interface board.</td><td>5557-14P</td><td><table><tr><td>7</td><td>6-</td><td>5-</td><td>4-</td><td>3-</td><td>2-</td><td>1-</td></tr><tr><td>7</td><td>6+</td><td>5+</td><td>4+</td><td>3+</td><td>2+</td><td>1+</td></tr></table></td></tr>
<tr><td>J3</td><td>Connect the control signals to the main shaft motor driver.</td><td>IDC-20P</td><td><table><tr><td>Pin ID</td><td>Signal</td></tr><tr><td>1</td><td>5V+ for encoder</td></tr><tr><td>2</td><td>Encoder out A</td></tr><tr><td>3</td><td>Encoder out Z</td></tr><tr><td>4</td><td>Encoder out B</td></tr><tr><td>6</td><td>5V- for encoder</td></tr><tr><td>11</td><td>Pulse- to driver</td></tr><tr><td>13</td><td>Sign- to driver</td></tr><tr><td>15</td><td>ServoOn- to driver</td></tr><tr><td>16</td><td>Alarm from driver</td></tr><tr><td>10, 12, 14</td><td>COM+(5V) for pulse-, sign-, etc.</td></tr></table></td></tr>
<tr><td>J4</td><td>Connect the control signals to the stepper motor driver.</td><td>IDC-16P</td><td><table><tr><td>Pin ID</td><td>Signal</td></tr><tr><td>1</td><td>U pulse-</td></tr><tr><td>2</td><td>U sign-</td></tr><tr><td>3</td><td>W sign-</td></tr><tr><td>4</td><td>Y pulse-</td></tr><tr><td>5</td><td>Y sign-</td></tr><tr><td>6</td><td>W pulse-</td></tr><tr><td>7</td><td>COM-</td></tr><tr><td>8</td><td>V sign-</td></tr><tr><td>9</td><td>Z sign-</td></tr><tr><td>10</td><td>Z pulse-</td></tr><tr><td>11</td><td>COM+(5V)</td></tr><tr><td>12</td><td>COM+(5V)</td></tr><tr><td>13</td><td>X pulse-</td></tr><tr><td>14</td><td>X sign-</td></tr><tr><td>15</td><td>V pulse-</td></tr><tr><td>16</td><td>COM-</td></tr></table></td></tr>
<tr><td>JK_TP1</td><td>Connect to the control panel.</td><td>DB9 male</td><td><table><tr><td>Pin ID</td><td>Signal</td></tr><tr><td>1</td><td>5V+</td></tr><tr><td>2</td><td>TXD</td></tr><tr><td>3</td><td>RXD</td></tr></table></td></tr>
</table>

			5 | 5V-
JK_232	Connect to the computer for software updatation.	DB9 female	Pin ID | Signal 2 | TXD 3 | RXD 5 | GND
JK9C	Connect to the solenoid valve interface board.	IDC26	
JK9, JK9A	Connect to the sensor interface board.	DB15	
JK2	Connect to the alarm signal of W motor driver.	5557-3P	
J6	Connect to the material testing sensor.	JST-6P	

The descriptions of the connectors in the stepper motor driver board.

Connector ID	Function description	Connector type	Wires or signals
CN1	Supply DC 70V power to the stepper driver board	VH3.96-2P	Red wire: DC 70V+ Black wire:DC 70V-
	Motor cable	VH3.96-4P	1 : A+ 2 : A- 3 : B+ 4 : B-
CN4	Connect the control signals to the stepper motor driver.	IDC-16P	Pin ID | Signal 1 | U pulse- 2 | U sign- 3 | W sign- 4 | Y pulse- 5 | Y sign- 6 | W pulse- 7 | COM- 8 | V sign- 9 | Z sign- 10 | Z pulse- 11 | COM+(5V) 12 | COM+(5V) 13 | X pulse-

			14 X sign- 15 V pulse- 16 COM-
JE(only for Y & V driver)	Motor encoder	5557-8P	GND 5V Z- Z+ B- B+ A- A+

The descriptions of the connectors in the main shaft motor driver board.

Connector ID	Function description	Connector type	Wires or signals
J8	Supply the AC 220V power to the main shaft motor driver board.	63080-3P	3 2 1 N L FG L: brown wire N: blue wire FG: yellow&green wire
J7	Connect to the main shaft motor	63080-4P	4 3 2 1 U V W FG
J3	Connect to the encoder cable of the main shaft motor	5557-10P	5V- V A Z 5V+ U W B
J2	Connect to the control cable from the main control board	IDC-20P	Pin ID: Signal 1: 5V+ for encoder 2: Encoder out A 3: Encoder out Z 4: Encoder out B 6: 5V- for encoder 11: Pulse- to driver 13: Sign- to driver 15: ServoOn- to driver 16: Alarm from driver 10, 12, 14: COM+(5V) for pulse-, sign-, etc.
J10	Connect to the leak resistor	VH3.96-2P	The resistance is 150 ohm.

8、 Optional device

8.1. Accessories for widened (20mm) trouser loop:

1	02600421500601	Front trouser loop dragon claw seat	1
2	02600421500701	Back trouser loop dragon claw seat	1
3	02600421600601	Trouser loop feed lower guide	1
4	02600421601101	Feed roller assembly	1
5	02600421602201	Guide spring frame	1
6	02600422700401	Left paddle upper pressing plate	1
7	02600422700501	Right paddle upper pressing plate	1
8	02600421601104	Feeding roller copper sleeve	2
9	050201503043	Bearing (fc-6k)	1

9、 Accessories box details

Serial number	Appendix name	Specifications	Number
1	Operation manual		1
2	Parts Manual		1
3	Touch screen interface operation instructions		1
4	A screwdriver	3.4X70	1
5	Small flathead screwdriver	2X52	1
5	inner hexagon spanner	1.5—5mm	1
6	Cylindrical oil pot	160ml	1
7	Shuttle core		2
8	Rack assembly		1
9	Fork for thick material		2
10	Fork for sheet metal		2
11	Machine needle		1package

10、 Common problems and Solutions

10.1 Phenomena, causes and solutions in sewing

Serial number	Phenomenon	reason	resolvent
1	Take off thread when starting sewing	1.Needle skipping when sewing 2.Face line length after tangent is too short 3.Bottom line short	Adjust the clearance between needle and rotary hook to 0.05-0.1mm Reduce the initial sewing speed Reduce first line tension Reinforced take-up spring Reduce the stroke of take-up spring Reduce thread tension Adjust the jacking time of tension plate
2	Many broken lines	1.There are scars on the shuttle and shuttle carrier 2.Poor machining of machine pinhole 3.Presser foot touching needle 4.In the groove of the large rotary hook, the thread head enters 5.Too strong thread tension 6.Too strong thread take-up spring 7.There are scars on the guide 8.Suture weakness	Remove and grind with a fine or file With the replacement pin Adjust the position of presser foot Remove the thread. Reduce the thread tension Weakening thread take-up spring Grind or replace with a file Reduce sewing speed
3	Many broken needles	1.Needle bending 2.Presser foot touching needle 3.The needle is too thin. 4.Shuttle bent the needle	Replacement of needle Adjust the position of presser foot Change the needle according to the situation of sewing products Adjust the position of needle and shuttle
4	Continuous shearing	1.Final needle jumping 2.The initial position of the moving knife is not good 3.Fixed knife is not sharp	Adjusting the synchronization of needle and shuttle Adjust the initial position of the moving tool Replacing fixed knife
5	More needle jumping	1.Poor adjustment of needle and shuttle 2.The gap between the needle and the middle shuttle is too large 3.Needle bending 4.Shuttle bent the needle 5.Installation of change needle	Adjust the position of needle and shuttle Adjust the position of needle and shuttle Replacement of needle Adjust the position of the shuttle Adjust the long groove of the needle slightly to the right

6	Tight wiring	1. Insufficient thread tension 2. Floating of the second tensioner 3. The feeding synchronization is not good	Strengthen the tension of the upper thread Adjust the floating amount of the line tension Adjust the feeding synchronization time

10.2Adverse phenomena, causes and Solutions

Serial number	Phenomenon	reason	resolvent
1	Continuous cutting of trouser loop	1. The knife is not quick to cut the trouser loop 2. Bad coordination between moving and fixed knives 3. The air cylinder does not operate when the knife moves 4. Sensor deviation of moving knife cylinder	Grind or replace Confirm whether the fixing screw of the moving knife is loose Confirm the action of air cylinder and solenoid valve, and confirm the air pipe Whether there is leakage Confirm the action of the sensor and adjust the position
2	The trouser loops are not beautifully cut	1. Blade wear 2. Bad fixed knife installation 3. There is a gap in the blade	Grind the blade or replace it
3	The center of trouser loop is not cross cut	1. The position of the cross cutting knife cutting the trouser loop is not correct	Refer to page P18 of adjustment item after changing the width of trouser loop
4	Belt conveyor underpants loop blocked	1. The width of the belt conveyor is inconsistent with the trouser loop 2. Moving knife does not rise completely	Turn off the power and pull out the blocked trouser loop Adjust the width of the belt conveyor to fit (joint) Confirm whether the air pipe is damaged
5	Too much or too little bending of trouser loop	1. Front side bending amount Poor adjustment of trouser loop pulling device 2. Back side bending amount Incorrect data of adjustment screen	Adjust the trouser loop pulling device Change data

6	The connector cannot be detected, and the trouser loop Sew together	1. Incorrect value of adjustment screen   2. Connector test data set value is incorrect	Adjust the value of the front end of the connector  Adjust the value of the rear end of the connector  Input the joint test data again P17 pages
7	The gripper can't hold the trouser loop	1. Incorrect pull out data of trouser loop  2. Test connector data set value is incorrect	Change value  Confirm whether the trouser loop is hooked, and eliminate the inappropriate Part
8	The gripper cannot set the trouser loop Pull out	1. Incorrect data setting of trouser loop pull out  2. Loop of trousers is hooked	Adjust the value of the changed screen Confirm whether the trouser loop is hooked and exclude the unsuitable part
9	Reinforcement position and trouser loop position offset	The dragon claw of the trouser loop can't press the trouser loop. The position of the dragon claw is incorrect	The control of adjusting the long claw of trouser loop Refer to p16 for adjustment after change of trouser loop width
10	Reinforcement position and trouser loop position offset	Due to the characteristics of the fabric, the reinforcement position is not correct	Adjust settings 

11、 Daily maintenance requirements

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

Serial number	project	time				Key points description
		Daily	weekly	monthly	Half a year	
1	Dust removal	√				Remove dust from equipment surface and parts
2	Come on	√				P7-p8 oil filling requirements
3	Cleaning up oil pollution		√			Clean the greasy dirt on the table board, needle board and shuttle core
4	Tracheal interface			√		The air pipe interface is tight without air leakage
5	Eye protector			√		Check fastening of screws
6	A sensor				√	Check whether the sensitivity is accurate and whether the position changes
7	Sliding parts				√	Check the lubrication of sliding parts and add lubricant if necessary
8	Electric control panel				√	Cooling fan operates normally, clean dust in time

12、 Intellectual product protection statement

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