Operation manual
Rotary head template sewing machine

TEXI FREE 360 LF

HD texi®

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SAFETY PRECAUTION

This instruction manual contains important guidelines regarding correct, safe and economical method of use of the machine.

Following recommendations contained in this manual will decrease work down-time, increase machine reliability and durability, and will make work safer.

This instruction manual must always be available at the workplace. The machine can be serviced only by an employee trained in Industrial Safety, after reading this instruction manual.

The supplier is not responsible for damages caused by improper use or by usage of this product for functions other than those it has been designed for.

To minimize the risk of fire, electric shock, or injury, observe the following precautions:

-Keep the workplace clean.
-Pay attention to the machine's work environment; do not subject it to atmospheric conditions.
-Do not install the machine in rooms that are dusty, where aerosols are sprayed, or to which oxygen is supplied.
-Keep the workplace well lit.
-Be careful of danger of electric shock.
-Pay attention to clothing. Let-down hair or loose clothing can be caught by the machine's mobile elements.
-Take care not to damage the power supply cable.
-When the machine is not in use, disconnect it from the power grid.
-Take care not to turn-on the machine accidentally.
-In case of even the slightest damage, always check if the damaged part requires replacement.
-Never install on the machine attachments and accessories other than those recommended by the manufacturer and supplier.
-Do not perform machine modifications independently.
-Do not leave near the machine unattended bystanders or children.

Electric installation:

- Check if the supply voltage in the electric socket corresponds to the data on the machine's rating plate 1-phase voltage 230V 50Hz.
- Check the correctness of electric connections in the plug and electric socket,observing electric shock safety countermeasures.
- Do not use extension power cords.
- Apply the valid electrical and Industrial Safety norms.

ATTENTION!

All work related to the electrical installation must be carried out by a qualified electrician.

Before starting work:

- Using machine without any of the safeguarding parts (finger guard, eye guard, etc.) is dangerous to an operator.
- During work, only the items necessary for sewing should be found on the machine's work table.
- Before connecting the machine to the power grid, always release the pedal and the start button.
- Do not use blunt or bent needles.
- Do not touch any of the machine's mobile elements, such as the needle, needle bar, thread tensioner or take-up, or hook, during its operation.
- Turn machine off before: replacing needle, threading, installing attachments, changing the bobbin or bobbin case.
- If you notice any abnormalities in the machine's function, turn it off immediately and inform a mechanic or our superior.
- After finishing work, turn the machine off and remove the plug from the electric socket. In case of power grid failure, disconnect the machine from the power grid.

This machine is not a toy!

We hope that you will use this machine with pleasure for a long time.

USER'S MANUAL

The lockstitch machine TEXI, model TEXI FREE 360 LF are high speed pattern sewing machines wioth rotary and lift head designed for sewing garments, upholstery and leather materials.

ATTENTION!

The machine is not to be used for other materials than those for which it has been designed.

Non-observance of this rule places the user at risk and can cause irreversible damage to the machine.

Before use, the user should become acquainted with this instruction manual, general safety precautions and maintenance instructions.

1. Before starting work

1. After turning-on the machine and during its operation, do not touch the needle or put fingers into the thread take-up guard.
2. During sewing, do not put fingers into the needle guard.
3. Turn power off before tilting the machine head or uninstalling parts.
4. Turn machine off before leaving it unattended.
5. Do not allow hair, loose clothing, fingers or any objects to be in the vicinity of the pulley during machine run.
6. Do not clean the machine with paint thinner.

I. PARTS NAME

1. Control panel
2. Machine head
3. Green: switch button to start sewing
   Red: switch button for clamp frame
4. Winder
5. Red: Emergency stop switch
6. Power switch
7. Safety cover
8. Y Drive
9. X Drive

Technical Specification

Model	TEXI FREE 360 LF
Stitch type	Single-needle lockstitch
Max.sewing speed	2000 rpm
Sewing area	1500 mm x 840 mm
Needle pitch	0.05 - 12.7 mm
Max. stitch count	20,000 stitches/pattern
Presser foot driver	R-Driven by pulse motor, P-Pneumatic
Hook type	2 times rotary hook
Scavenging device	Standard configuration
Pitch device	Standard configuration
Data storage way	Flash memory (sew pattern with CF card)
Motor	AC servo motor 750W
Weight	500-800 kg
Power	Single phase 220V
Air pressure	0.5 Mpa 1.17/min

II. INSTALLATION

WARNING!

- Sewing machine must be installed by a trained technician
- All cables shall be fixed at least 25mm away from the moving parts
- Do not bend the cable too much or fasten it too tight with pins. It may cause fire or electric shock.
- Install safety cover over the head and motor
- The plug must be grounded. If the connection to the ground wire is not strong, it may cause electric shock or misoperation.
- Please do not connect the power supply until the installation is completed. If the switch is touched by mistake, the operation of the sewing machine may lead to injury.

Product inspection and model specification

When you received the machine, please check below details:

• Check whether the items listed in the table of accessories are consistent with the accessories received withthe machine.
• Check whether the machine that you received is the one that you ordered by checking the name plate.
• Check whether there are visual damage.
• Check whether screws are fallen off or loosen.

Accessories included with the machine:

- Needle
- Spring of lower thread
- Bobbin
- Chips for scanning code
- Wrench 8x10
- Hexagonal wrench 2.5
- Hexagonal wrench 3
- Hexagonal wrench 4
- Screwdrivers - 2 types
- Oiler
- Oil tank asm
- Clip frame template
- Screw flat M5x16
- Positioning pin

Note: the accessories may vary. Please refer to the accessories box came with the machine.

2.1. Adjust the level of the machine

Tool required: leveling device

Leveling: measure with a leveling device to ensure the level of the machine

2.2. Install X-Axis drive

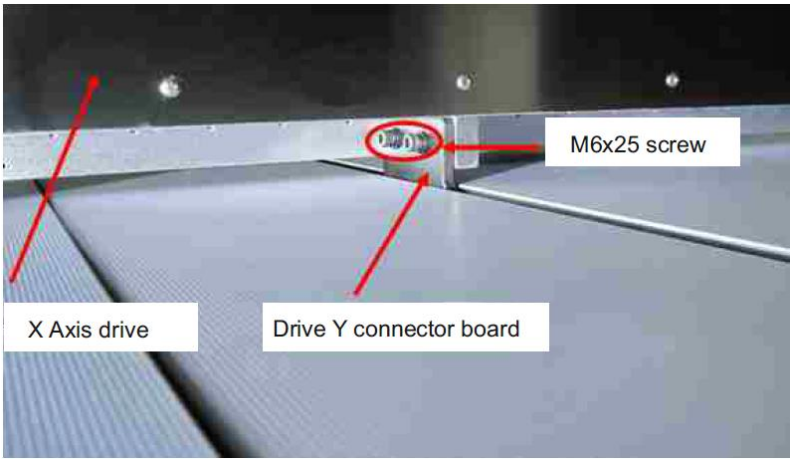
Tool required:

- Hexagon socket wrench
- M6x25 screws

(Note: screw type 4 screws, belt type 8 screw)

Installation method:

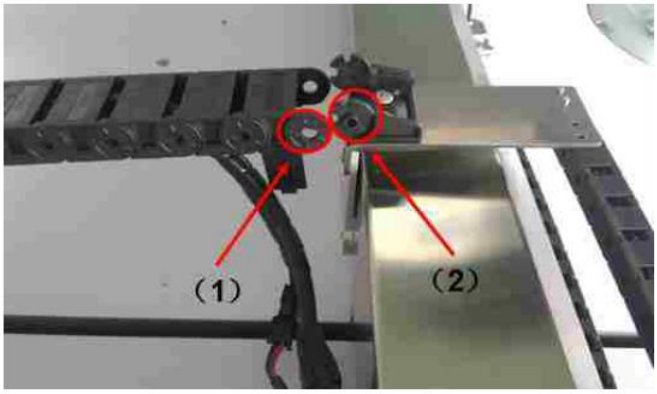
Install the random M6x25 screws in the Y-direction drive connecting plate



2.3. Install Y-turn tank chain

Buckle (2) on the X drive into the black card slot (1) in front of the Y tank chain.

The completed installation shown on picture on the right side.



2.4. Install Auxiliary Board

Required tools: 2 auxiliary boards and 4 sets of table board support

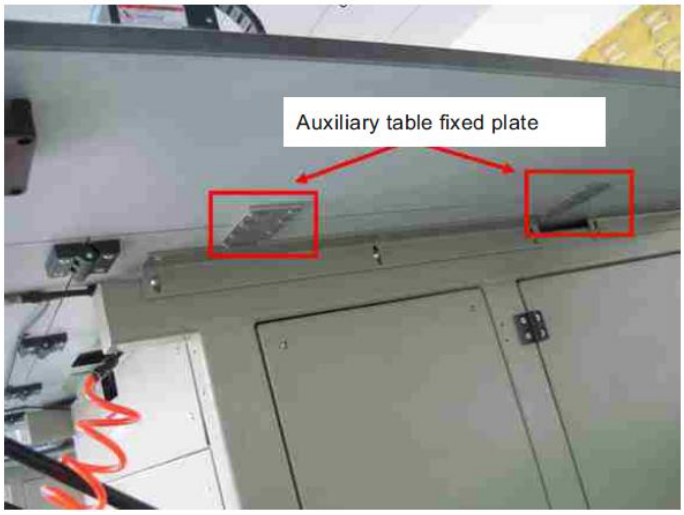
Note: as the auxiliary board is heavy, please arrange more than 3 people to install it for safety, in case of injury!

Instruction:

First, please lift up the folding part of the main table board and fix it with the table board support frame (as shown in the figure below), and then install the auxiliary table board.

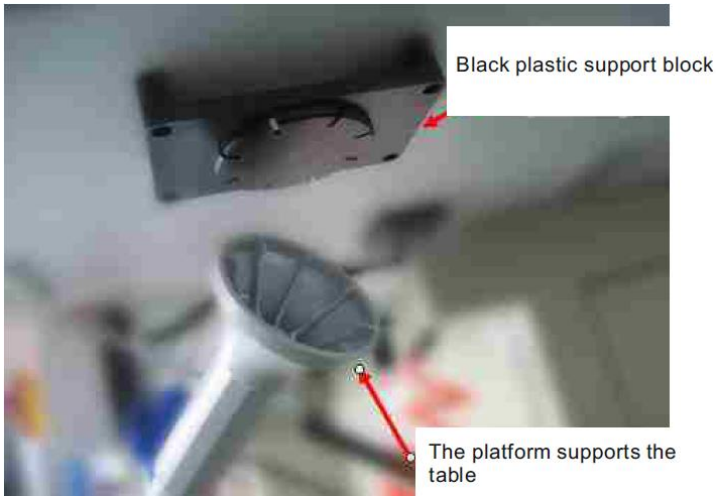
(1) two persons are responsible for lifting the auxiliary board and placing one side of the auxiliary board on the auxiliary board fixed plate installed on the main board, and the front end is on the same waterline with the front end of the main board, and one person is responsible for installing self-tapping 5x16 screws

(note: 32 screws are required for installation, 38 screws are provided on the vehicle, and 6 screws are reserved)



(2) Install the platform support, with the black base facing down. Align the platform support head with the black support plastic block at the bottom of the auxiliary plate.
Adjust the direction to combine the clamping slots, and then adjust the length of the platform support to an appropriate length.

Note: lengthening is from left to right, shortening from right to left.

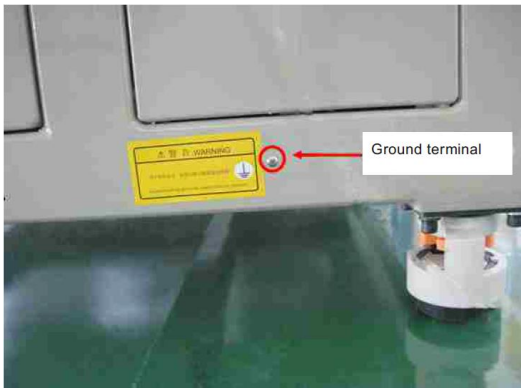


2.5. Connect the ground wire

Note: the cable must be grounded. If the connection line is not secured, it is causing electric shock or misoperation.

Tools required:
Screwdriver

Connection method:
At the right side of the machine frame, there is a ground wire connection port at the lower right corner. Losen the M5 screw, connect the ground wire to the port, tighten the screw and the ground wire is completed.



Note: To ensure safety, please ground properly.

2.6. Connect the hose

Extend the air inlet pipe of the air compressor into the inlet pipe hole on the right upper right part of the frame and connect to the inlet pipe interface of the big air meter. The inlet port of the big air meter has the function of self-locking and can automatically clamp the inlet pipe.

Note: Please first reduce the airpipe to facilitate the connection of the air pipe. The air force is large. Please be careful of injuries.

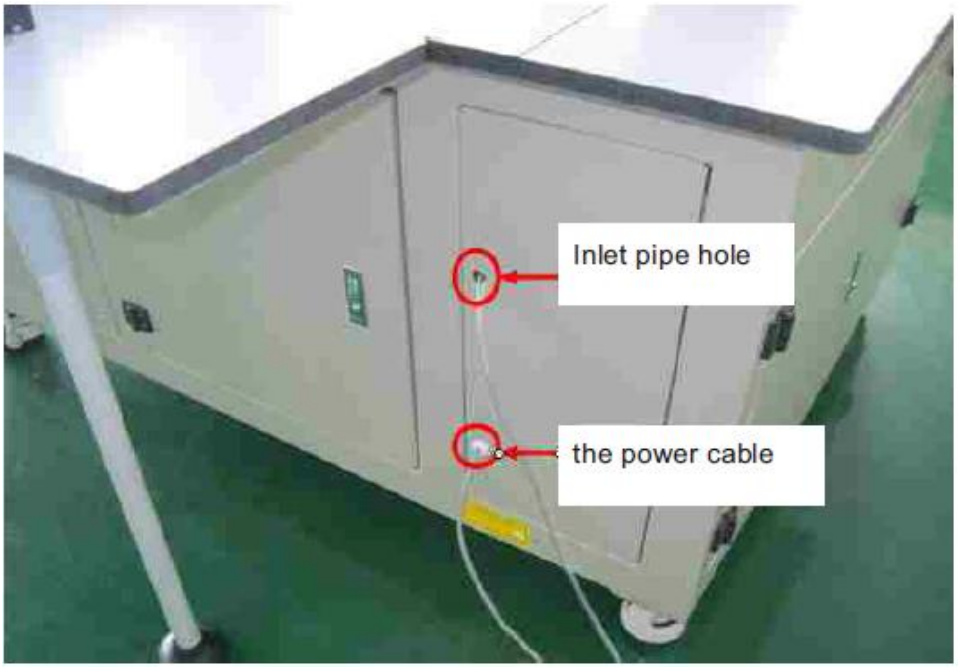
Adjust the air pressure after the connection.

Please ensure the air pressure is within the normal range, otherwise it will affect the normal operation of the machine or shorten the service life of the cylinder.

The normal range of a large barometer is 0.6mpa-0.8mpa, while the normal range of a small barometer is 0.4mpa. (please refer to page xx for the specific adjustment method of air pressure)

Removal method:

To remove the air pipe, please first reduce the air pipe, and then press the black washer on the air pipe interface to remove the air pipe.



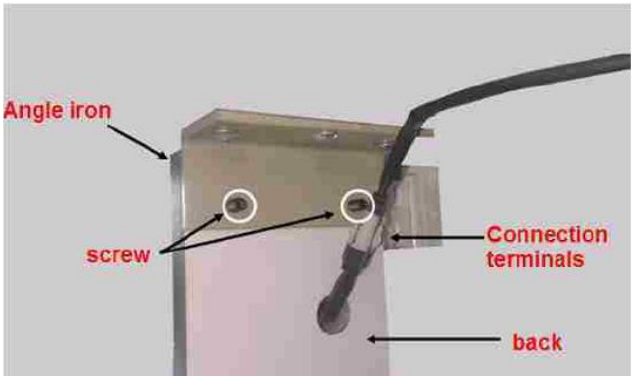
2.7. Installation of the coiler

Tools required: winding machine, hexagon socket M6x30 screws (2), hexagon socket screwdriver

Installation method :

(1) place the wire winding device at the connecting Angle iron on the bottom of the main board and fix it with screws.

(2) power on, insert the 5557-2 rubber shell on the winder into the rubber shell on the bottom of the main platform.

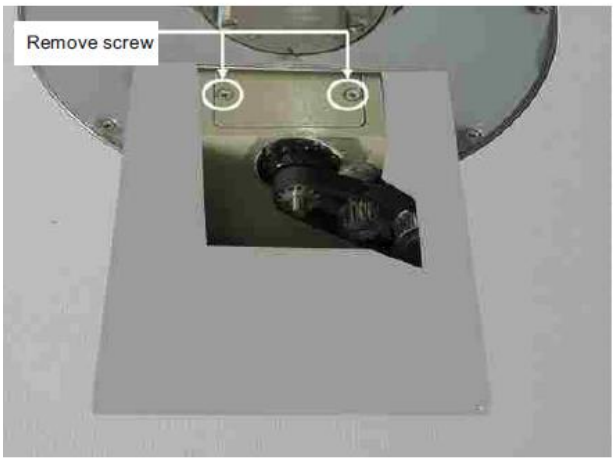


2.8. Refiling oil

Do not plug in before refueling is completed. If tit is coincidentally switched on, the operation of the sewing machine will lead to injury.

When using lubricating oil and grease, be sure to wear protective glasses and gloves, etc., in case the lubricating oil falls into the eyes or gets on the skin, which is the cause of inflammation.

Keep the oil out of reach of children!



Instruction:

The machine must be lubricated regularly, and the oil must be replenished when the machine is first used or has not been used for a long time.

When the oil level drops to about 1/3 of the oil window indication, please be sure to add oil.

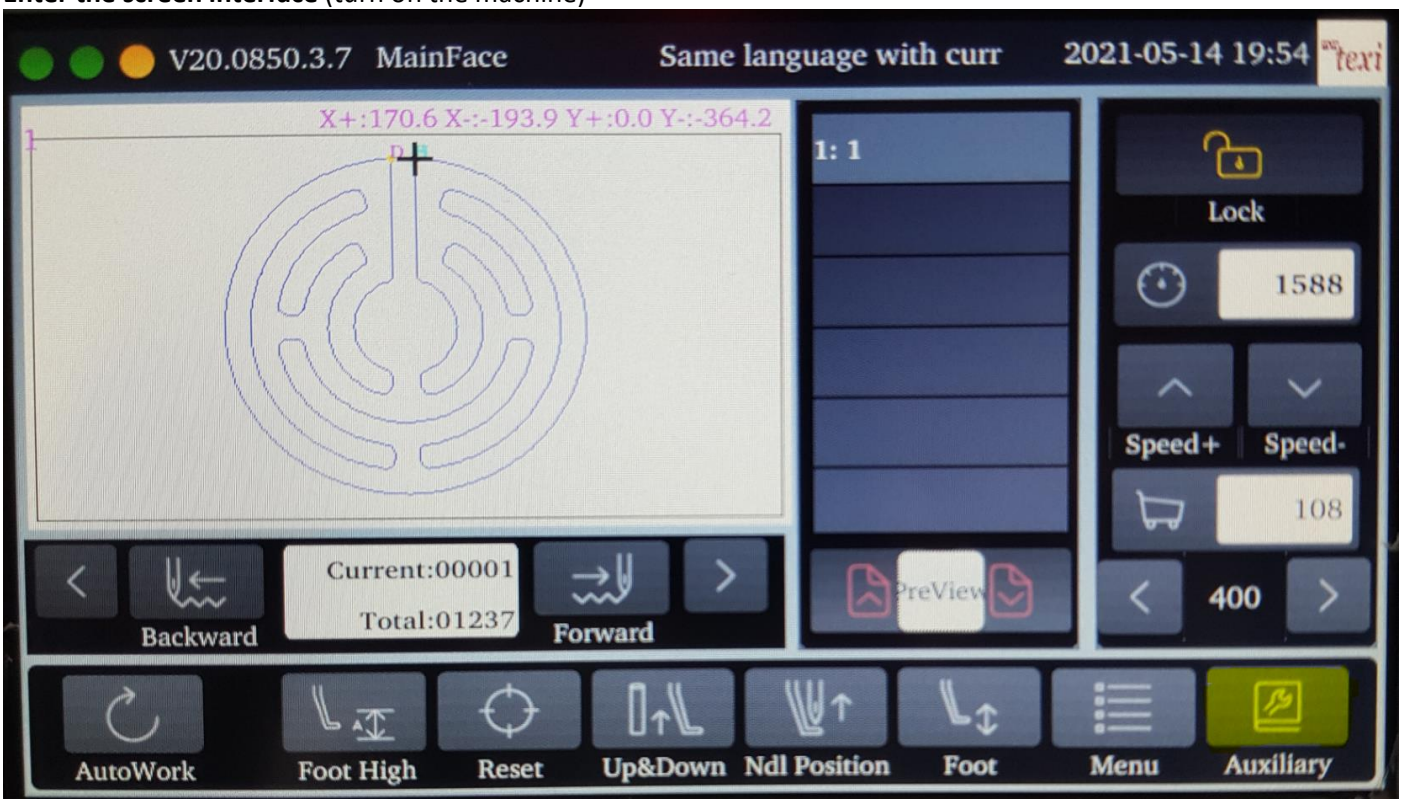
If the oil level drops below 1/3 of the oil window indication, it may be the cause of machine burns and other faults.

The oil window is located on the right side of the hook box.

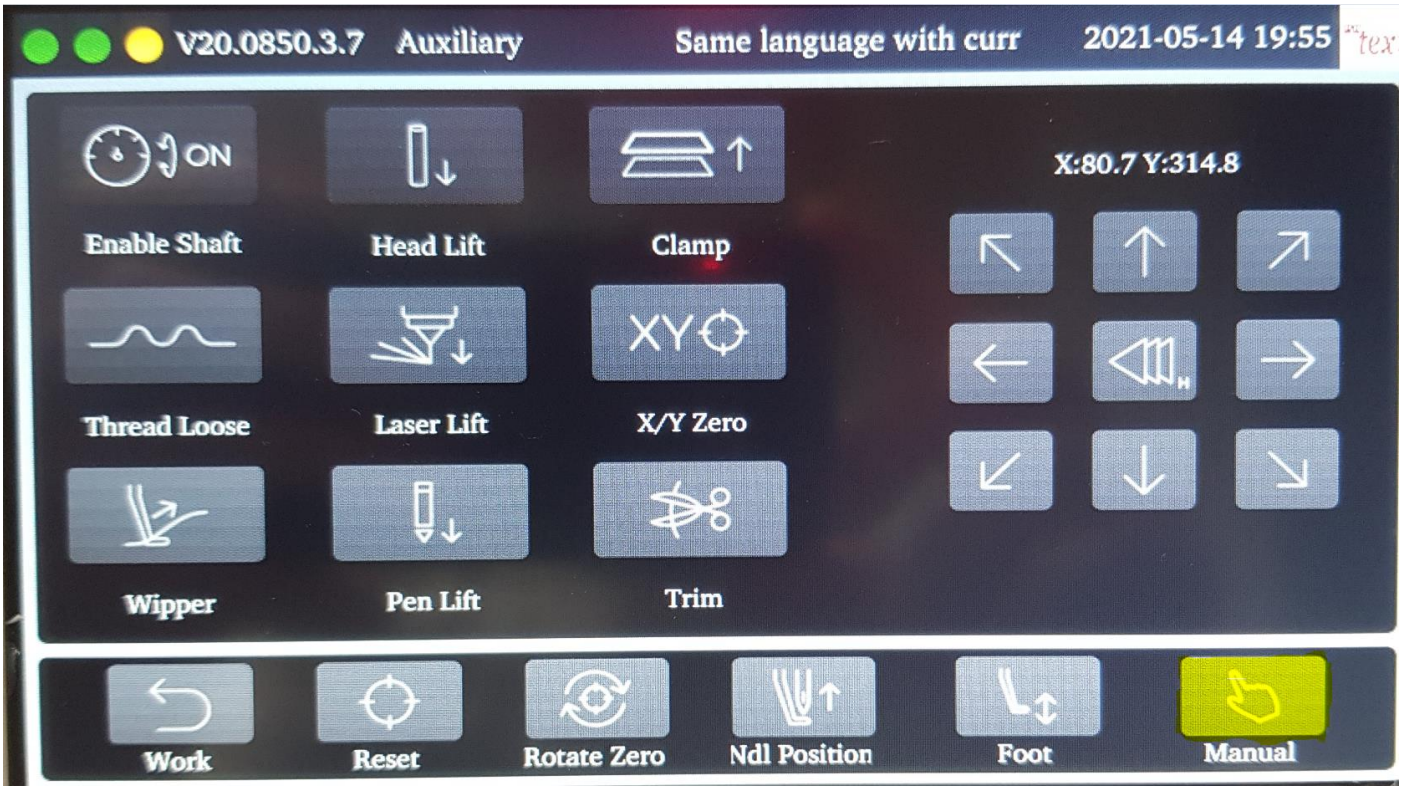
Remove the safety cover and adjust the hook box to the position as shown

Adjustment:

Enter the screen interface (turn on the machine)



Press the "auxiliary function" button to enter the next step.



Press the "manual" button to enter the next step.

Press the "R -";Or "R+" button to adjust the position of the hook box to the position shown in the picture above.
Remove the screws and remove the panel for oil filling.
Observe the amount of oil from the oil window.
Put the iron plate on the back cover and tighten the screw after oil filling.

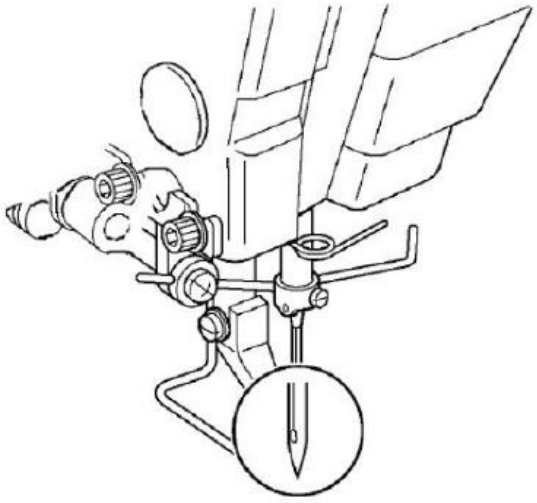
2.9. Power on

Power on the machine and check whether the machine runs normally.

III. Preparation before sewing

3.1. Install the needle

Note: please switch off the power supply when installing the needle to avoid accident and injury.

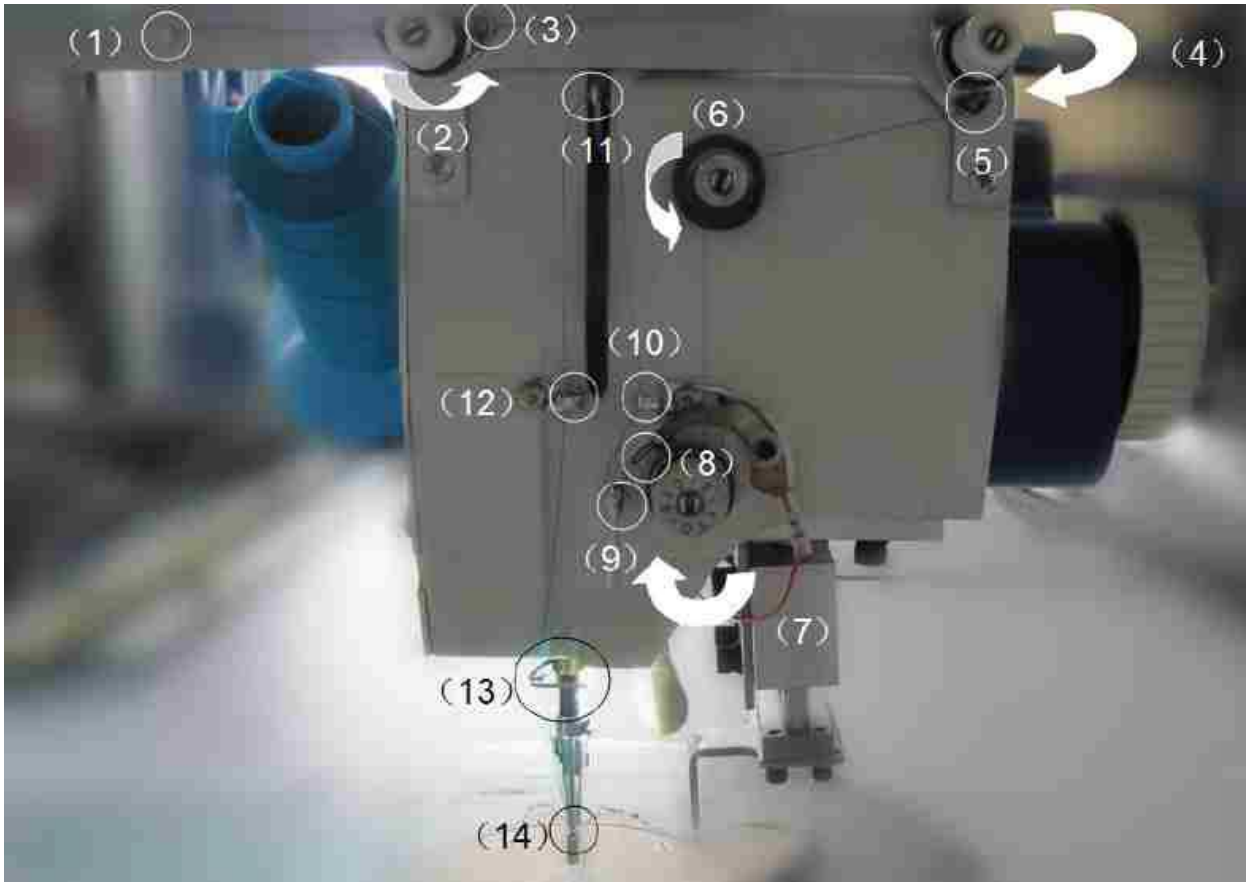


Tools required: screwdriver

Installation method :
(1) loosen the screw
(2) directly facing the long groove of the machine needle, insert it straight to the bottom and tighten the stop screw firmly.

3.2. Threading

Please follow below picture.

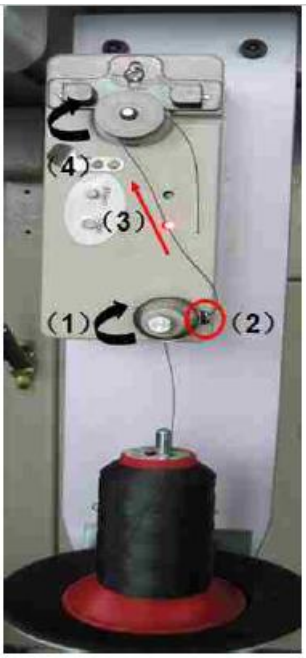


* through the thread hole (1)
* press the arrow (2) to wind the clamping spring half a circle and then pass through the thread hole (3)
* press the arrow (4) to wind the spring of the wire clamp for half a circle and then pass through the thread hole (5).
* wind the clamping spring half a circle in the direction of the arrow (6)
* press the arrow (7) to wind the clamping spring half a circle and then pass through the pointing spring (8). Through the iron bar (9) and then through the guide (10). Through the take-up pole (11) and then pull down through the guide (12). Wind into (13) and then through the pinhole (14).

Thread to complete.

Note: After passing through the needle, the length of thread remaining from the needle hole is about 45mm. If it is too long, the thread will knot. If it is too short, the thread will come off at the starting position. You can adjust the sensitivity of thread breakage detection sensor through the parameter settings.

3.3. Bobbin Winding Method

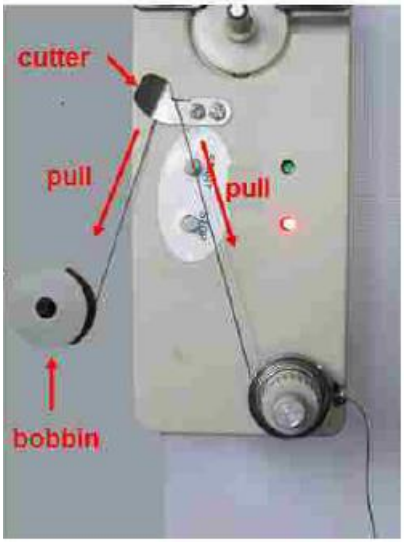


Do not touch any moving parts or place objects against moving parts during winding, as this may cause injury to personnel or damage to the machine

(1) place the bobbin on the bobbin spool on the bobbin winder.

(2) pull the bottom line out and press the direction of arrow (1) to wrap half a circle around the wire clip spring, then pass through the thread hole (2), then press the direction of arrow (3) to pull the line onto the bobbin, press the direction of arrow (4) to wrap the line in the bobbin several times, and then press the "START" button to START winding the bobbin.

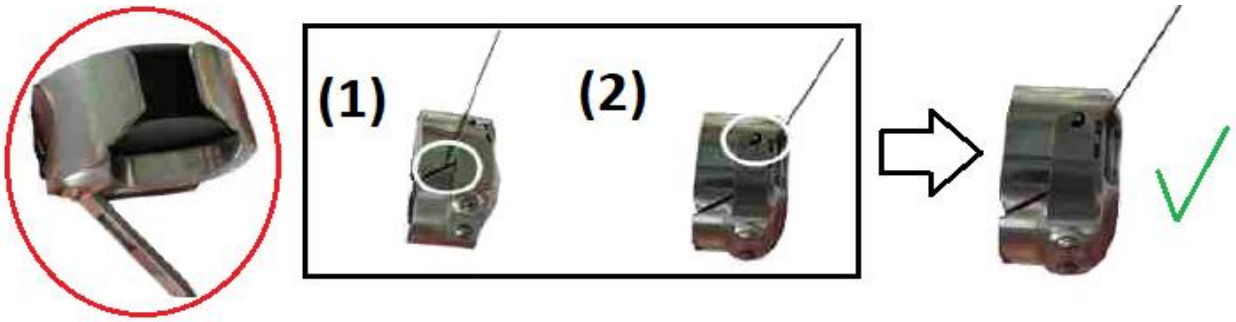
(3) when the winding amount reaches the specified amount (80-90% of the outer diameter of the bobbin), the winding will automatically stop, the bobbin will be removed, the line hook will be on the cutting knife, pulling the bobbin downward to cut the line.



3.4. Method for mounting and taking bobbin sleeve

When installing the bobbin sleeve, please cut off the power supply.When the switch is touched by mistake, the operation of the sewing machine may cause injuries.

(1) Press the button of "shuttle change", and the safety cover will pop up and move away.
(2) Pick up the iron sheet on the shuttle shell and pull out the shuttle shell.
(3) Bobbin
- Pull the bottom line out of the card slot as shown in figure (1)
- Pass the drawn wire under the iron sheet as shown in figure (2).

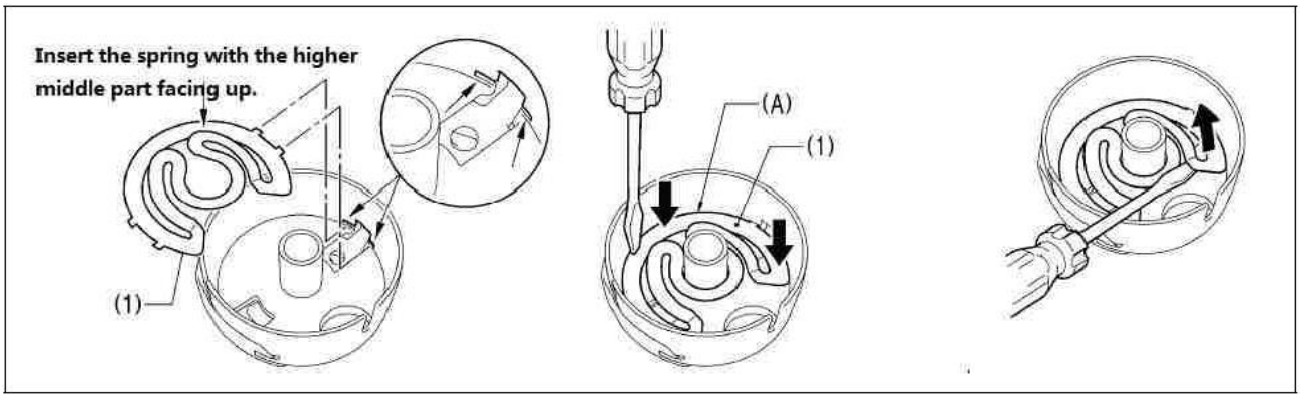


Above is the finished installation drawing
(4) when installing the bobbin, the sound of "clatch" indicates successful installation.

3.5. Install anti-air rotation spring

Note: some shuttle shells have been installed with bobbin stop spring.

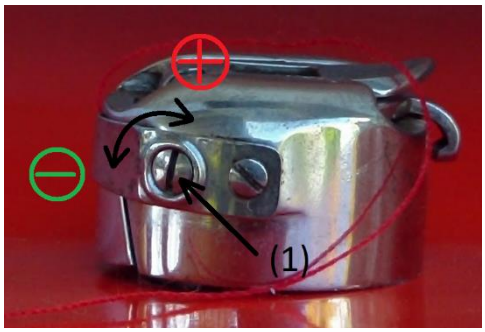
If the following conditions occur, the use of bobbin stop spring can improve the operating conditions.
* tie a knot in the bobbin
* the thread is not evenly tightened at the initial sewing position
* insert the protrusion part of the bobbin stop spring (1) into.
* press down the bobbin stop spring (1) to make it firm. In the slot of the bobbin sleeve, bobbin stop spring can be inserted to seize, and the spring shall not exceed the inner edge of the bobbin sleeve (1).



3.6. Adjustment of sewing tension

Adjust the lower thread tension:

Rotating the adjusting screw (1) of bobbin case:
* Tighten - clockwise
* Loosen - counterclockwise



Adjust the top thread tension:

Upper thread tension is usually higher than bottom thread.

There is four tensioners available on head to adjust upper thread tension. According to the sewing products, the digital tension regulator should be used to adjust the tension precise. If the main tensioners are not enough for your product, use sub-tensioners (1) and (2) to reach the needed tension value.

Finish the adjustments and make sure that upper thread end shows out of the needle for 40-50mm, to avoid it slipping out of the needle in beginning of sewing.

IV. SEWING
4.1. Sewing method

（1）Adjust the machine
* turn on the power switch
* press the "reset" button on the LCD screen
* place the template and press the clipbox key
* select the desired pattern and press the start switch.

（2）LCD Screen Operation

Touch screen adjustment. If there is any deviation in the click position of the touch screen, run the relevant software to adjust the click position. The operation steps are as follows:
* Insert the thin object into the small hole on the back cover of the operating screen, and make the key in the small hole under pressed state, and then power up.After a few seconds, the screen shows the correction screen.
* According to the screen prompt, click "+" on the screen with the special pen for the touch screen. When clicking, the pen point should be aligned with the center of "+".
* Automatically enter the operating system after the completion of calibration, you can click the screen to check whether the cursor position is correct.

System adjustment:

Check before power on:
Before power on, the control system should carefully check whether the wiring is wrong, whether the connector contact is reliable, and confirm whether the power supply meets the requirementsAC 220V (200V~240V), capacity: 1.5 kVA ~ 2.5 kVA (determined according to system power).

After the first power on of the control system, the following operation should be carried out to confirm whether the operating state of the sewing machine system is correct.
Enter the spindle detection screen of output signal detection, make the servo motor turn forward, and observe whether the rotation direction is clockwise Rotation, if not, the "spindle motor" setting in the system parameters should be reversed.

4.2. Use method of pause switch

If you need to stop the machine or there is a problem in the operation of the machine, please press the emergency stop switch. After the problem is solved, press the start switch to continue sewing.

V. MAINTENANCE
5.1. Clean the hook

Press the "hook" button to remove the safety cover and remove the bobbin case.
Remove the cotton scraps and thread ends around the bobbin, on the upper part of the bobbin lead and on the bobbin track.

5.2. Clean the regulator

* if there is water in the bottle in regulator (1), fold the air pipe in half and turn the drainage knob in the direction of arrow to drain water.
* tighten drainage knob after draining.
* open the air pipe

5.3. Check the needle

Please check whether the needle is broken, bent, damaged or dull before sewing.
Do not sew with damaged needle to not damage the material and machine.

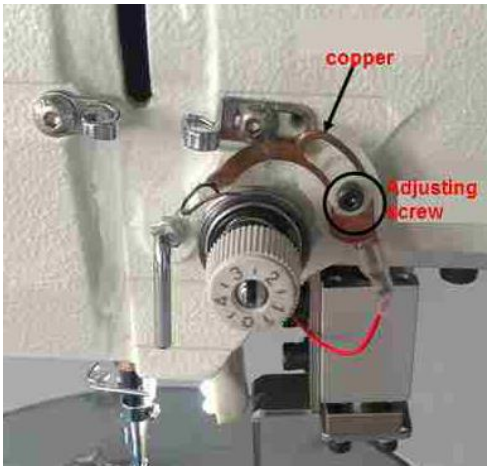
5.4. Check the threading

Check whether upper and lower threads were threaded in a right way. (For threading instruction please refer to **3.2 Threading section**)
Clear the threading guides and tensioners from thread waste and other trash that can appear within time during sewing operations.

VI. ADJUSTMENT

6.1. Thread breakage detection sensor sensitivity adjustment

Loosen the adjusting screw, adjust the copper sheet to the proper position, and tighten the screw.



Note: depending on the thickness of the stitches and the fabric, sometimes the broken thread may not be very sensitive. Please turn the adjusting screw to adjust.

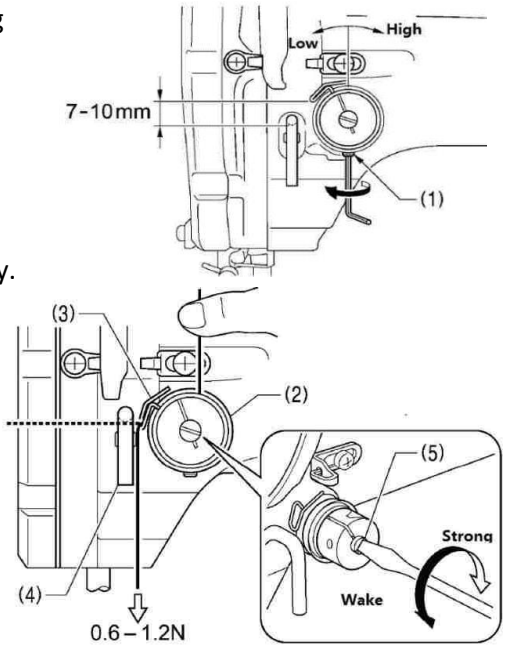
6.2. Thread take-up spring

Height of thread take-up spring (mm): 7~10 thread take-up spring strength(N): 0.6~1.2

Note: If the coiling spring cannot be adjusted correctly, the residual quantity of coiling after each tangent may vary in length

Height of thread take-up spring:
Loosen the stop screw (1) and turn the regulator to adjust the whole body.

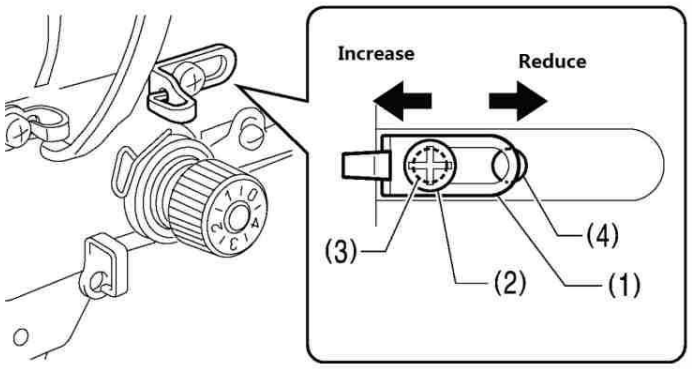
Thread take-up spring strength:
Use a screwdriver to turn the clamp rod (2) for adjustment



6.3. Adjustment of shell line guide

The position of the shell line guide R (1) is to install the screw (2) into the screw hole (3) on the left side and completely close to the right side. Loosen the screw (2) and move the housing line guide R (1) for adjustment.

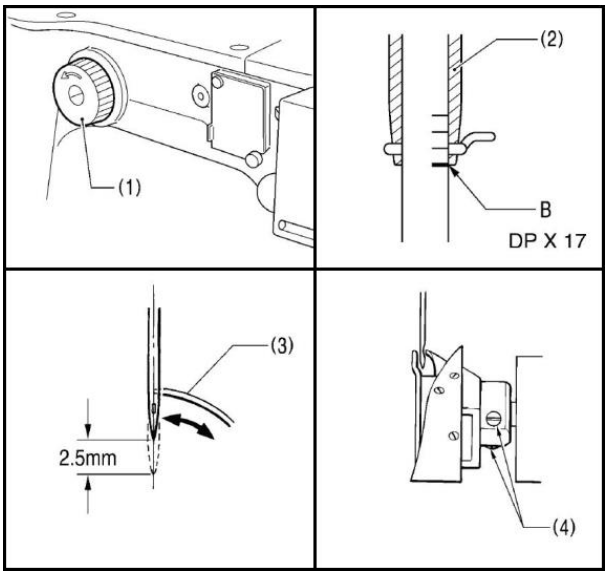
** when sewing thick materials, thread breakage or poor thread collection occurs, move the housing to the left to guide R (1) (line quantity of thread take-up pole increased)



* when sewing thin material, thread breakage or poor thread collection occurs, install the screw (2) into the screw hole (4) on the right side, and move the shell thread guide R (1) to adjust (quantity of thread take-up pole is reduced).

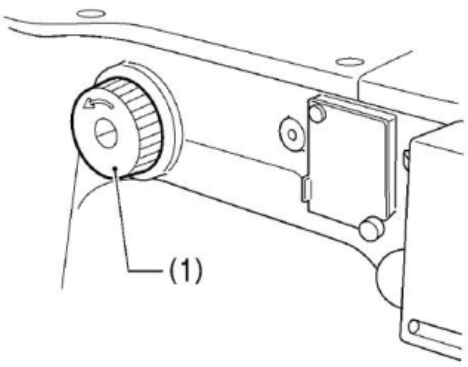
6.4. Adjustment of needle and hook synchronization

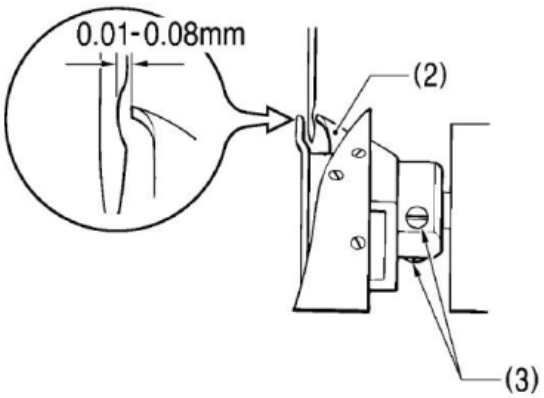
According to the direction of the arrow, rotate the hand wheel (1) with your hands, and make the needle rod start to rise from the lowest position until the baseline (baseline B) at the bottom of the needle rod is aligned with the lower end of the needle rod shaft sleeve (2).
Then loosen the two stop screws (4) and move the hook so that the hook tip (3) is aligned with the needle center.



6.5. Machine needle gap adjustment

Rotate the handwheel (1) in the direction of the arrow to align the hook tip (2) with the needle center, then loosen the two stop screws (3) and move the hook back and forth for adjustment, so that the space between the needle and the hook tip (2) is 0.01~0.08mm.



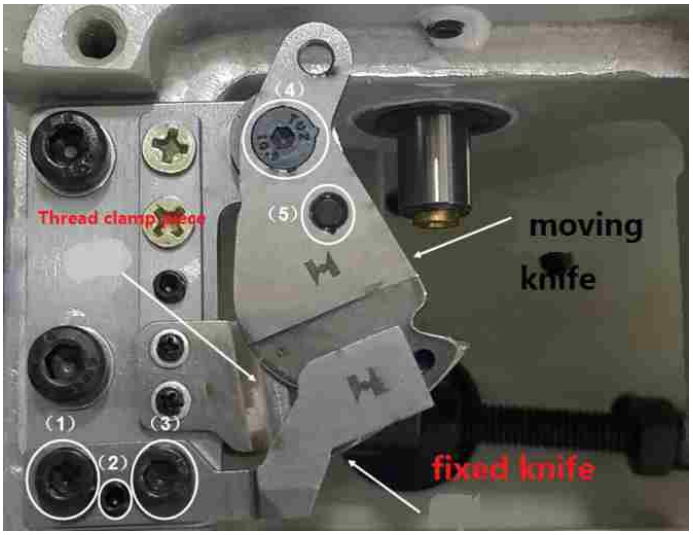


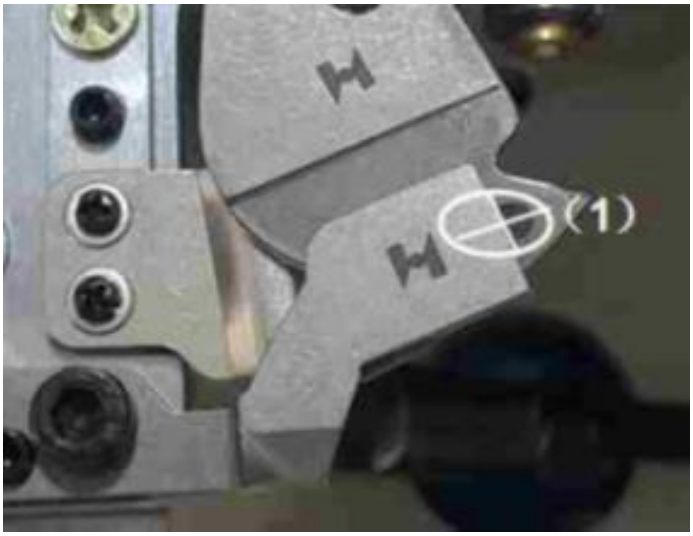
6.6. The replacement method of moving and fixed knives

* replace the moving tool: remove the screw (4), remove the moving tool, take a new moving tool, align the positioning pin (5), and tighten the screw (4)
** replace the fixed knife: remove the screw (1) (2) (3) and take the fixed knife.
Take a new fixed knife, pay attention to adjust the fixed knife blade center point position and the position of the central hole of the knife blade.(as shown in the figure)

Tighten the screw (1) (2) (3).

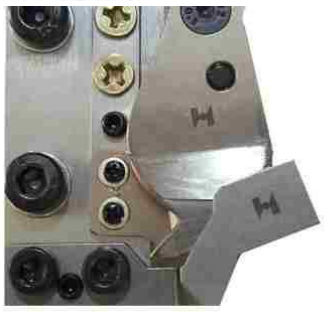
Note: (2) for the top wire, can be used to adjust the height of the fixed knife, clockwise high, counterclockwise low.





6.7. Adjustment of the moving knife and the fixed knife

Operating position:
During the operation, the left side of the knife is basically horizontal

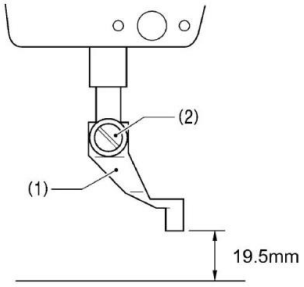


Closing position:
Stroke from opening to closing is 25mm.When closing the knife, the moving knife exceeds the fixed knife by about 2mm.

Adjust the top wire (2) on the fixed knife to adjust the occlusion of the fixed knife and the moving knife.

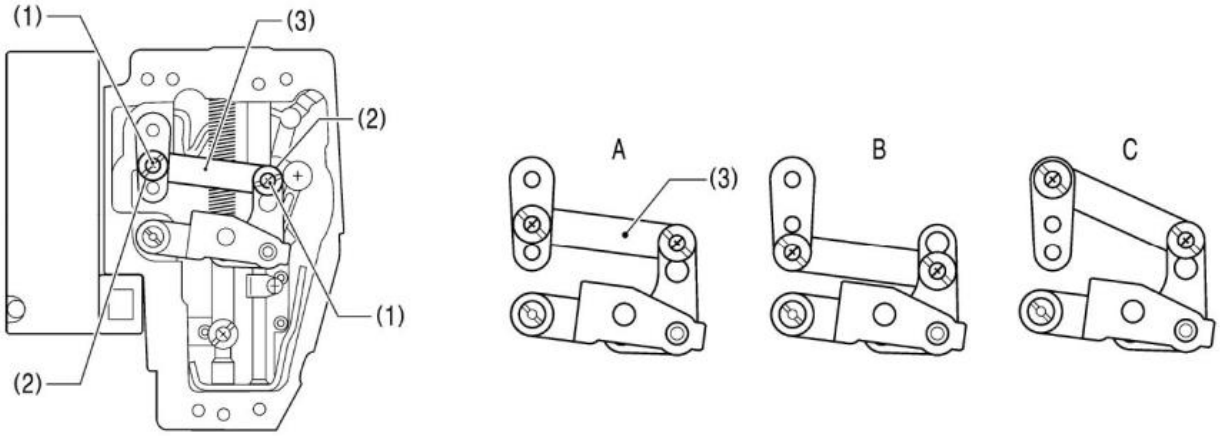
Feed clockwise, tighten counterclockwise.
The thread clamp can be manually adjusted to adjust the tightness of the bottom line.

6.8. Mounting position of the intermittent foot



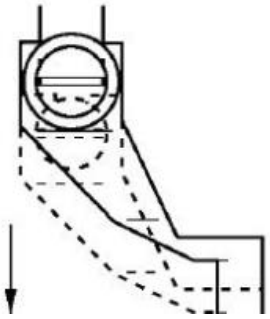
The distance between the bottom of the intermittent presser foot (1) and the surface of the needle plate is 19.5mm when the intermittent presser foot (1) is raised at the stop position with the screw (2).

6.9. Adjust intermittent foot position



* remove two screws (1) and two step screws (2), and remove the intermittent connecting rod (3).
* the mounting position of the intermittent connecting rod (3) can be changed to any position between A and C in the figure above.

In each installation position, as shown in the following table, when the position of the intermittent foot connecting rod is adjusted, the stroke of the intermittent foot can be adjusted within the range shown in the table below.

Position	The stroke range of the intermittent foot	
A	2~4.5mm	
B	4.5~10mm	
C	0mm（Intermittent pressure foot can not move up and down	

6.10. Adjust regulator position

Pull up the steering wheel of the regulator (2) and then turn back to adjust the air pressure to the specified range value. After the adjustment is completed, press down the steering wheel (2) to lock it. If there is water in the bottle in regulator (1), turn the drain cock (3) in the direction of the arrow to drain the water.

Note: please fold the trachea in half during mediation

VII. LIST OF ERROR CODES

7.1. Driver alarm list

Alarm	Alarm Name	Abnormal alarm action content	Indication	Servo state switch
AL001	Over current	When the current value of the mainloop exceeds the motor'sinstantaneous maximum current valueby 1.5 times, the motor will operate	ALM	Servo Off
AL002	Over voltage	Operation when the voltage of main circuit is higher than the specification value	ALM	Servo Off
AL003	Low voltage	Operation when the voltage of main circuit is lower than the specification value	ALM	Servo Off
AL006	Over load	Motor and driver operate underover load	ALM	Servo Off
AL009	Position controlerror is too large	Action when the error of position control is greater than the allowable value	ALM	Servo Off
AL011	Position detector abnormal	The position detector ACTS when it generates abnormal pulse signal	ALM	Servo Off
AL081	The position error of two axes of the gantry is too large	When the gantry function is started, two axes are not selected as the gantry operation axis, and an exception is displayed	ALM	Servo Off

7.2. Alarm reason and solution:

AL001：Over current

Alarm Reason	Alarm check	Alarm solution
Driver output short circuit	Check the wiring state of motor and driver or whether the wire body is short circuit	Eliminate short circuit condition and prevent metal conductor from being exposed
Abnormal motor wiring	Check the connection sequence of motor to driver	Rewiring according to the wiring sequence in the instruction
IGBT abnormal	Abnormal fin temperature	Send back to dealer or original factory for overhaul
Abnormal control parameter setting	Whether the set value is much larger than the factory default value	Restore to the original factory default value, and then modify by volume
Control command setting exception	Check that control input commands have changed too dramatically	Correction of input command change rate or enable filtering function

AL002：Over voltage

Alarm Reason	Alarm Check	Alarm solution
The input voltage of the main circuit is higher than the rated allowable voltage	Use a voltmeter to determine whether the input voltage of the main circuit is within the rated permissible voltage	Use the correct voltage source or tandem voltage transformer regulator
Power input error (incorrect power system)	Use voltage and determine whether the power supply system conforms to the specification definition	Use the correct voltage source or tandem voltage transformer
Driver hardware failure	This error occurs when the voltage and the measured input voltage of the main circuit are within the rated permissible voltage	Send back to dealer or original factory for overhaul

AL003：Low Voltage

Alarm reason	Alarm check	Alarm Solution
The input voltage of the main circuit is lower than the rated allowable voltage	Check the main circuit input voltage wiring is normal	Reconfirm the voltage connection
No input voltage source in main circuit	Use a voltmeter to determine that the main circuit voltage whether is normal	Reconfirm the power switch
Power input error (incorrect power system)	Use a voltmeter to determine whether the power supply system conforms to the specification	Use the correct voltage source or tandem transformer

AL006：Over Load

Alarm reason	Alarm check	Alarm solution
Exceed drive rating for continuous use	Can be set to 11 by the driver state display p0-02, monitoring the average torque [%] has been more than 100%	Increase motor capacity or reduce load
Improper setting of control system parameters	1. Whether the mechanical system is pendulous 2. The acceleration and deceleration setting constant is too fast	3. Adjust the gain value of the control loop 4. Acceleration and deceleration setting time slows down
Wrong connection of motor and position detector	Check the wiring of U, V, W and position detector	Correct connection
The position detector of the motor is defective	Send back to dealer or original factory for overhaul	

AL009：Position control error is too large

Alarm Reason	Alarm Check	Alarm Solution
The maximum position error parameter is set too small	Confirm the setting value of the maximum position error parameter p2-35 (position control error is too large for warning conditions)	Increase the setting value of p2-35 (position control error is too large)
The gain value is set too low	Verify that the set value is appropriate	Adjust the gain value correctly
Torque limit is too low	Confirm torque limit value	Adjust torque limit value correctly
Excessive external load	Check external load	Reduce external load or re-evaluate motor capacity

AL011：Position detector abnormal

Alarm reason	Alarm check	Alarm solution
Wrong connection of position detector	Make sure the wiring is following the recommended wiring in the instruction	Correct connection
Position detector is loose	Interface between CN2 and the location checker on the view drive	Re-installation
Bad connection of position detector	Check whether the connection between CN2 on the driver and the position detector of the servo motor is loose	Re-connection
Position detector damaged	Motor abnormalities	Change the motor

AL081：The position error of two axes of the gantry is too large

Alarm Reason	Alarm check	Alarm solution
The two axes selected by the gantry function, the position error of the two axes in the movement exceeds the set value of p2-59.	1.Check whether the p2-59 parameter setting is too small 2. Whether the connector is loose or whether there is a problem with the connection of the gantry mechanism.	1. Increase the value of p2-59 2.Check whether the connection and mechanism are loose

VIII. Display alarm list

Appendix 1 Error report of spindle drive

No	Alarm name	Running state	Cause of occurrence	Processing method
1	Over current	·System operation process	The current flowing through the converter is greater than the specified value.	Check whether U, V and W are connected correctly; If the resistance values between the motors U, V, W and ground wire, and the pairings of U, V and W differ greatly, please replace the motors; Check capacity match between motor and driver.
2	The primary voltage Under voltage	· When the servo driver is powered on · System operation process	The voltage of the main power converter is lower than the specified value。	Increase the capacity of main power transformer and increase the voltage of main power; Check the switching on sequence of main power supply and control power supply
3	The primary voltage Over voltage	· When the servo driver is powered on · System operation process	The input voltage of the main power supply is greater than the specified acceptable range, so that the dc bus voltage in the driver is greater than the specified value.	Measure end - to - end voltage (between R, S and T) as specified. Check the release resistance for damage.
4	Main loop power supply is out of phase	· When the servo driver is powered on · System operation process	R, T no power input, or insufficient power input.	Confirm access to AC220 three-phase power or AC220 single-phase power supply at RPU T end
5	Overload protection	System acceleration and deceleration process In the course of system operation	Servo drive multiple sampling to large current.	Prolonging the acceleration and deceleration time; Replace drive, increase drive and motor capacity; 8 - Reduce the load.
8	motor overspeed protection	· System acceleration and deceleration process	The motor runs longer than the rated speed of the motor.	The target command speed is reduced; Reducing the value of the parameter NO. 43[speed command input gain];

				Confirm input pulse frequency × electron gear = 500KHz.
9	Position out of tolerance protection	· System acceleration and deceleration process	The position deviation pulse number is greater than the value of parameter no.53 [position deviation is too large to set].	Increase the value of parameter no.11 [position loop gain]; Reduce load and speed; Increase the value of parameter no.53 [position deviation is too large to set].
10	Position deviation counter overflow	· System acceleration and deceleration process	The absolute value of the position deviation counter exceeds 2^{31}	Confirm input pulse frequency electronic gear 500KHz; Check the mechanical part of the load; Check the encoder connection.
11	Instruction pulse frequency anomaly	· System acceleration and deceleration process	The instruction pulse at the entry of the position deviation counter is greater than 500kpps	Set the appropriate command pulse input frequency; Adjust the values of parameters 31 and 32, reduce the multiplier factor, and make the instruction pulse frequency less than 500 KPPS.(instruction pulse frequency = input instruction frequency x division frequency
12	Serial communicati on error	· Communication in operation	The data received by the servo driver is found inconsistent with the data sent by the upper computer after CRT verification	Check the communication line; Check the baud rate, serial port and other parameters set correctly; Driver internal communication chip failure.
13	Overspeed	· System acceleration and deceleration process	The acceleration or deceleration frequency set by the upper computer is too fast.	Set appropriate acceleration and deceleration constants in the upper controller.
15	Speed amplifier saturation failure	· System acceleration and deceleration process	The speed amplifier is saturated for a long time.	Check the mechanical part of the load; Reduce the load; Replacement of high-capacity drivers and motors; Check the encoder and its wiring; Extend the acceleration and deceleration time.
16	EEPROM Parameter error	· When the servo driver is powered on · Parameter management operation	Data stored in an EEPROM storage area is corrupted.	Reset the parameters or write the default parameters once. If this alarm occurs frequently, the drive may fail
18	EEPROM Communicati on error	· When the servo driver is powered on · Parameter management operation procedure	EEPROM, in which the check code is corrupted, yields the wrong data.	If this alarm occurs frequently, the drive may fail.
19	Wrong driver type selection	· When the servo driver is powered on	The drive model is not in the given range.	Reset drive motor model selection parameters.
20	IPM broken	· When the servo driver is powered on	The driver's power module is damaged.	The alarm message appears indicating that the drive is damaged.

21	Abnormal detection by current V phase	· When the servo driver is powered on	The current sampling is incorrect due to power instability, current sensor damage and AD sampling circuit damage.	Power failure or internal damage to servo drive.
22	Abnormal detec on by current W phase			
23	Driving forbidden anomaly	· System running process	Both clockwise and counterclockwise travel limits are disconnected.	Check the wiring and power supply that make up the circuit Verify the value of the parameter NO.06
24	PWM broken	· System running process	PWM output waveform is abnormal due to power or IPM module damage.	Check the drive input power and any nearby interference sources. If this happens frequently, the drive may fail.
25	Encoder AB pulse loss	· System running process	A, B phase pulse is not detected between the driver and the encoder, or an error data is sent by the encoder.	Check encoder wiring Do not tie the wiring of the encoder and the motor together to connect the shield to the body. Extension of acceleration and deceleration time.
26	Encoder Z-pulse loss	· System running process	Z pulse signal generated by each turn of the motor shaft is not detected.	Please check the cable connection and do not bind the encoder signal wire to the motor input wire. Extend acceleration and deceleration time. Replace servo motor.
27	Encoder UVW signal error	·Servo driver power on ·System running process	The detected encoder UGV W signal is invalid, both 0 or 1.	Check encoder cables Replacement of servo motor Replace the servo drive
28	Encoder U/V/W signal illegal coding	· System running process	Motor encoder signal error.	Check that the drive matches the motor Check the encoder connection Check the grounding of motor and driver
29	Other faults	· Servo driver power on · System running process	The drive has failed due to large noise or other causes and cannot function properly。	Reconnecting the power after power off does not eliminate this fault many times, indicating that the drive may be damaged.
30				
31				

IX. TROUBLESHOOTING

Problems	Cause	Measure	Refer
Turn on the power and press the start switch. The sewing machine will not start.	The head switch doesn't work.	Make sure the power cord of the nose switch is off Adjusting the position of the head switch If the head switch fails, replace the new switch	P. P.
The following components do not work *Foot press *Wire sweeper *tangential cylinder *pick-up link	Closed air cock The air pressure is too low Speed controller is too tight (for foot and hoisting rod)	Open the air cock Adjust the regulator so that the air pressure is within the specified range Foot press: adjust the speed controller, close the speed controller, then return to the state of 4 laps. Adjust the speed controller, close the speed controller, and then return to the state of 6 turns	P. P. P. P..
The plank cannot rise to its maximum height.	The position of the press foot shaft is not correct.	Adjust the position of the press foot shaft lever	P.
Foot pressure is weak	The air pressure is too low	Adjust the regulator so that the air pressure pressure is within the normal range value	P.
The pressure on the foot is uneven before and after pressing the foot.	Press the foot to tilt	To adjust the inclination of a plank.	P.
The wire sweeping action of wire sweeping device is abnormal	The wire wiper interferes with the needle The position of wire wiper is the not correct	Adjust the height of the wiper Adjust the working area of the wiper Adjust the working area of the wiper	P. P. P.
Winding the thread to one side when winding the thread	The height of wire clamp winding wire the for is incorrect	To adjust the height of wire clamps for winding	P.
Bottom thread volume is not correct	The position of the shuttle-core presser is incorrect.	Adjusting the position of Shuttle Core pressure Rod device	P.
Unstitching at beginning of sewing the	Machine needle is too thick The residual amount on thread is too short. The bottom thread drawn from the shuttle is too short Sewing starts too fast	Selection of Needles suitable for Sewing conditions When the stitches pass through the needle, the length of the stitches from the pinhole to the end of the thread is about 45mm When the wire is shearing, the residual length of the upper thread is about 45mm, and the auxiliary clamp is adjusted. Increase the stroke of the connecting rod: if the adjusting coupler cannot prevent the wire from being pulled out, the stroke of the connecting rod should also be adjusted The length of the bottom thread being about 30-50mm. Adjust the starting speed	P. P. P. P. P. P.

Appear jump needle	Hook-tip damage Machine needle is too fine Machine needle is too thick Needle bending The installation method of machine needle is not correct The gap between the needle and the tip of the spindle is too large The meeting of the machine needle and the rotating shuttle is not correct. Uneven cloth (fold)	Replace the component Selecting a suitable sewing needle Replace the needle The direction of the correct mounting of the machine needle Adjusting needle clearance Adjusting speed regulation Replace pinhole plate with smaller pinhole diameter Use of thin feeder sheets * recommended thickness: 1.5mm The foot pressing and the feeding board can keep the possible shape near the sewing place. Adjust the intermittent height of the intermittent presser foot	*
Thread break	The thread more thick than the needle The needle install not right Improper lead wear Hook, hook positioner, pinhole plate, machine needle, thread, etc. Damage and burr The meeting of the machine needle and the rotating hook is not correct. The upper thread tension is too large Over tension of wire spring Thermal melting fracture thread	Choose the fitness thread and needle The direction of the correct mounting of the machine needle Correct threading thread through the track Use grinding and polishing to modify or replace parts Adjust the speed Attenuate tension of the upper thread To reduce the tension the spring Using thread cooling device	
Bottom thread break	Pinhole plate, bobbin case damaged Bottom thread tension is too large	Use grinding and polishing to modify or replace parts Weakening bottom thread tension	
Needle break	Needle bending Machine needle is too fine The needle touched the tip of the spindle The meeting of the machine needle and the rotating shuttle is not correct. It is too late to deliver the cloth	Replacement needle Selecting a sewing needle suitable Adjusting clearance needle Adjusting regulation speed Early delivery time (needle to hook timing)	
Thread not cuted	The blade of the moving knife is unfavorable The blade of a fixed knife is unfavorable Moving knife can't hook up the thread	Change the moving knife Change the fixed knife Adjusting regulation speed Adjust the standby position of the moving knife	

	As a result of the needle jumping at the last stitch of sewing, the movable knife can not be brought top thread	Please refer to [appear needle jumping] item	
The bottom thread is not cut.	Bottom thread tension is too weak	To strengthen the bottom thread tension	
The top thread is not tight enough 	Machine needle is too fine The aperture of the pinhole plate is too small The material is too thin The aperture of the intermittent foot is too small The folding part of the outer and inner shuttles has too little oil or no oil The folding part of the outer and inner shuttles has too little oil or no oil Bottom thread tension is too large Top thread tension is too weak Too weak tension of wire spring The lead-in is not properly released from the shuttle positioner The cloth delivery time is too early The height of the intermittent foot is low		
The bottom thread is not tight enough 	Bottom thread tension is too weak The top thread tension is too large	To strengthen the bottom thread tension Weakening bottom thread tension. Please adjust the bottom thread tension first, and then the upper thread tension	
Tension inhomogeneity of sewing initial position thread	Lock core idling	Use of anti-aircraft rotary spring	
Poor sewing of fabric at the beginning of sewing	Length of the thread end is too long	When the wire is shearing, the residual length of the upper thread is about 45mm, and the auxiliary clamp is adjusted. Lower the travel of the pick-up link * if the adjuster does not improve the surface of the seam, the stroke of the connecting rod should also be adjusted.	

X. Ask your supplier about:

	**Machine needle with tip adjusted to sewed material:** R - round, standard tip for most fabrics SPI - very slim, acute tip, for a precise piercing of densely woven materials SES - light ball point, especially suitable for jersey, tricot, elastic woven materials SUK - medium ball point, best corsetry, jeans, coarse knitted fabrics, and also elastic materials
	**SPIRIT 2** Non-toxic, non-staining, odourless, colourless oil, neutral for plastics. Perfect for lubricating sewing machines (lockstitch, overlock, interlock, etc), needles, knitting cams and other precise mechanism in the textile industry.
	**SPIRIT 37** Silicon fluid modified especially for textile industry. Used for preparation of sewing thread and yarn, lubrication of knitting machines needles. Colourless and odourless. Applied with brush, sprinkle or through immersion.
	**TWE6** Tweezers

CE DECLARATION OF CONFORMITY

Distributor:
Strima Sp. z o.o.
Swadzim, st. Poznańska 54
62-080 Tarnowo Podgórne, Polska

We declare, that the following product:

Template lockstitch machine, model:

TEXI FREE 360 LF
(JH-CGJ15090-XZ-S-SF-TT)

which this declaration relates, complies with the following directives:

Machinery directive 2006/42/EC

Harmonized norm used: EN ISO 12100:2010
EN ISO 10821:2005/A1:2009
EN 60204-31:2013